

UT	Sun				Venus				Moon A: 36%				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 58.8 +00.2	N 04 21.3 +01.0	143 49.9 -00.5	N 18 07.0 +01.0	52 27.7 -27.9	N 21 59.0 -09.0	00						
01	193 59.0 +00.2	N 04 22.3 +00.9	158 49.4 -00.5	N 18 08.0 +00.9	66 59.8 -27.9	N 21 50.0 -09.2	01						
02	208 59.2 +00.1	N 04 23.2 +01.0	173 48.9 -00.5	N 18 08.9 +01.0	81 31.9 -27.8	N 21 40.8 -09.2	02						
03	223 59.3 +00.2	N 04 24.2 +01.0	188 48.4 -00.5	N 18 09.9 +01.0	96 04.1 -27.7	N 21 31.6 -09.2	03						
04	238 59.5 +00.2	N 04 25.2 +00.9	203 47.9 -00.5	N 18 10.9 +00.9	110 36.4 -27.7	N 21 22.4 -09.4	04						
05	253 59.7 +00.2	N 04 26.1 +01.0	218 47.4 -00.4	N 18 11.8 +01.0	125 08.7 -27.7	N 21 13.0 -09.5	05						
06	268 59.9 +00.2	N 04 27.1 +01.0	233 47.0 -00.5	N 18 12.8 +01.0	139 41.0 -27.6	N 21 03.5 -09.6	06						
07	284 00.1 +00.2	N 04 28.1 +00.9	248 46.5 -00.5	N 18 13.8 +00.9	154 13.4 -27.5	N 20 53.9 -09.6	07						
08	299 00.3 +00.2	N 04 29.0 +01.0	263 46.0 -00.5	N 18 14.7 +01.0	168 45.9 -27.5	N 20 44.3 -09.8	08						
09	314 00.5 +00.2	N 04 30.0 +01.0	278 45.5 -00.5	N 18 15.7 +00.9	183 18.4 -27.4	N 20 34.5 -09.8	09						
10	329 00.7 +00.1	N 04 31.0 +00.9	293 45.0 -00.5	N 18 16.6 +01.0	197 51.0 -27.3	N 20 24.7 -10.0	10						
11	344 00.8 +00.2	N 04 31.9 +01.0	308 44.5 -00.5	N 18 17.6 +00.9	212 23.7 -27.3	N 20 14.7 -10.0	11						
12	359 01.0 +00.2	N 04 32.9 +01.0	323 44.0 -00.5	N 18 18.5 +01.0	226 56.4 -27.3	N 20 04.7 -10.1	12						
13	14 01.2 +00.2	N 04 33.9 +00.9	338 43.5 -00.5	N 18 19.5 +00.9	241 29.1 -27.2	N 19 54.6 -10.2	13						
14	29 01.4 +00.2	N 04 34.8 +01.0	353 43.0 -00.5	N 18 20.4 +01.0	256 01.9 -27.1	N 19 44.4 -10.2	14						
15	44 01.6 +00.2	N 04 35.8 +01.0	8 42.5 -00.4	N 18 21.4 +00.9	270 34.8 -27.1	N 19 34.2 -10.4	15						
16	59 01.8 +00.2	N 04 36.8 +00.9	23 42.1 -00.5	N 18 22.3 +01.0	285 07.7 -27.1	N 19 23.8 -10.4	16						
17	74 02.0 +00.1	N 04 37.7 +01.0	38 41.6 -00.5	N 18 23.3 +01.0	299 40.6 -27.0	N 19 13.4 -10.5	17						
18	89 02.1 +00.2	N 04 38.7 +00.9	53 41.1 -00.5	N 18 24.3 +00.9	314 13.6 -26.9	N 19 02.9 -10.7	18						
19	104 02.3 +00.2	N 04 39.6 +01.0	68 40.6 -00.5	N 18 25.2 +00.9	328 46.7 -26.9	N 18 52.2 -10.6	19						
20	119 02.5 +00.2	N 04 40.6 +01.0	83 40.1 -00.5	N 18 26.1 +01.0	343 19.8 -26.8	N 18 41.6 -10.8	20						
21	134 02.7 +00.2	N 04 41.6 +00.9	98 39.6 -00.5	N 18 27.1 +00.9	357 53.0 -26.8	N 18 30.8 -10.8	21						
22	149 02.9 +00.2	N 04 42.5 +01.0	113 39.1 -00.5	N 18 28.0 +01.0	12 26.2 -26.8	N 18 20.0 -11.0	22						
23	164 03.1 +00.2	N 04 43.5 +01.0	128 38.6 -00.5	N 18 29.0 +00.9	26 59.4 -26.6	N 18 09.0 -11.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'8 14'8 14'8 14'8 14'8 14'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'2 54'2 54'2 54'2 54'3 54'3								
	SHA 350° 350° 350° 349° 349° 349°		SHA 315° 314° 314° 314° 314° 314°		SHA 222° 220° 218° 216° 214° 212°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 14:25		Greenwich Culmination Time: 21:08								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	95 33.2 +01.1	N 25 28.0 +00.0	171 02.6 +01.9	N 06 29.8 +00.2	213 55.4 +02.2	S 11 44.6 +00.0	00						
01	110 34.3 +01.1	N 25 28.0 -00.1	186 04.5 +01.9	N 06 30.0 +00.3	228 57.6 +02.2	S 11 44.6 -00.1	01						
02	125 35.4 +01.1	N 25 27.9 +00.0	201 06.4 +01.9	N 06 30.3 +00.2	243 59.8 +02.3	S 11 44.5 -00.1	02						
03	140 36.5 +01.1	N 25 27.9 -00.1	216 08.3 +02.0	N 06 30.5 +00.2	259 02.1 +02.2	S 11 44.4 -00.1	03						
04	155 37.6 +01.0	N 25 27.8 +00.0	231 10.3 +01.9	N 06 30.7 +00.2	274 04.3 +02.2	S 11 44.3 -00.1	04						
05	170 38.6 +01.1	N 25 27.8 -00.1	246 12.2 +01.9	N 06 30.9 +00.3	289 06.5 +02.2	S 11 44.2 -00.1	05						
06	185 39.7 +01.1	N 25 27.7 -00.1	261 14.1 +01.9	N 06 31.2 +00.2	304 08.7 +02.2	S 11 44.1 -00.1	06						
07	200 40.8 +01.1	N 25 27.6 +00.0	276 16.0 +01.9	N 06 31.4 +00.2	319 10.9 +02.2	S 11 44.0 -00.1	07						
08	215 41.9 +01.1	N 25 27.6 -00.1	291 17.9 +01.9	N 06 31.6 +00.3	334 13.1 +02.3	S 11 43.9 +00.0	08						
09	230 43.0 +01.0	N 25 27.5 +00.0	306 19.8 +01.9	N 06 31.9 +00.2	349 15.4 +02.2	S 11 43.9 -00.1	09						
10	245 44.0 +01.1	N 25 27.5 -00.1	321 21.7 +01.9	N 06 32.1 +00.2	4 17.6 +02.2	S 11 43.8 -00.1	10						
11	260 45.1 +01.1	N 25 27.4 -00.1	336 23.6 +01.9	N 06 32.3 +00.2	19 19.8 +02.2	S 11 43.7 -00.1	11						
12	275 46.2 +01.1	N 25 27.3 +00.0	351 25.5 +01.9	N 06 32.5 +00.3	34 22.0 +02.2	S 11 43.6 -00.1	12						
13	290 47.3 +01.1	N 25 27.3 -00.1	6 27.4 +01.9	N 06 32.8 +00.2	49 24.2 +02.2	S 11 43.5 -00.1	13						
14	305 48.4 +01.1	N 25 27.2 +00.0	21 29.3 +01.9	N 06 33.0 +00.2	64 26.4 +02.3	S 11 43.4 -00.1	14						
15	320 49.5 +01.0	N 25 27.2 -00.1	36 31.2 +01.9	N 06 33.2 +00.3	79 28.7 +02.2	S 11 43.3 -00.1	15						
16	335 50.5 +01.1	N 25 27.1 -00.1	51 33.1 +01.9	N 06 33.5 +00.2	94 30.9 +02.2	S 11 43.2 +00.0	16						
17	350 51.6 +01.1	N 25 27.0 +00.0	66 35.0 +01.9	N 06 33.7 +00.2	109 33.1 +02.2	S 11 43.2 -00.1	17						
18	5 52.7 +01.1	N 25 27.0 -00.1	81 36.9 +01.9	N 06 33.9 +00.2	124 35.3 +02.2	S 11 43.1 -00.1	18						
19	20 53.8 +01.1	N 25 26.9 +00.0	96 38.8 +01.9	N 06 34.1 +00.3	139 37.5 +02.2	S 11 43.0 -00.1	19						
20	35 54.9 +01.0	N 25 26.9 -00.1	111 40.7 +01.9	N 06 34.4 +00.2	154 39.7 +02.3	S 11 42.9 -00.1	20						
21	50 55.9 +01.1	N 25 26.8 -00.1	126 42.6 +01.9	N 06 34.6 +00.2	169 42.0 +02.2	S 11 42.8 -00.1	21						
22	65 57.0 +01.1	N 25 26.7 +00.0	141 44.5 +01.9	N 06 34.8 +00.3	184 44.2 +02.2	S 11 42.7 -00.1	22						
23	80 58.1 +01.1	N 25 26.7 -00.1	156 46.4 +01.9	N 06 35.1 +00.2	199 46.4 +02.2	S 11 42.6 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 266° 266° 266° 266° 266° 266°		SHA 342° 342° 342° 342° 342° 342°		SHA 025° 025° 025° 025° 025° 025°								
	Greenwich Culmination Time: 17:36		Greenwich Culmination Time: 12:34		Greenwich Culmination Time: 09:42								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 03.3 +00.1	N 04 44.5 +00.9	143 38.1 -00.5	N 18 29.9 +01.0	41 32.8 -26.7	N 17 58.0 -11.0	00						
01	194 03.4 +00.2	N 04 45.4 +01.0	158 37.6 -00.5	N 18 30.9 +00.9	56 06.1 -26.6	N 17 47.0 -11.2	01						
02	209 03.6 +00.2	N 04 46.4 +01.0	173 37.1 -00.5	N 18 31.8 +01.0	70 39.5 -26.5	N 17 35.8 -11.2	02						
03	224 03.8 +00.2	N 04 47.4 +00.9	188 36.6 -00.5	N 18 32.8 +00.9	85 13.0 -26.5	N 17 24.6 -11.3	03						
04	239 04.0 +00.2	N 04 48.3 +01.0	203 36.1 -00.5	N 18 33.7 +01.0	99 46.5 -26.5	N 17 13.3 -11.4	04						
05	254 04.2 +00.2	N 04 49.3 +00.9	218 35.6 -00.5	N 18 34.7 +00.9	114 20.0 -26.4	N 17 01.9 -11.5	05						
06	269 04.4 +00.1	N 04 50.2 +01.0	233 35.1 -00.4	N 18 35.6 +00.9	128 53.6 -26.3	N 16 50.4 -11.5	06						
07	284 04.5 +00.2	N 04 51.2 +01.0	248 34.7 -00.5	N 18 36.5 +01.0	143 27.3 -26.4	N 16 38.9 -11.6	07						
08	299 04.7 +00.2	N 04 52.2 +00.9	263 34.2 -00.5	N 18 37.5 +00.9	158 00.9 -26.2	N 16 27.3 -11.7	08						
09	314 04.9 +00.2	N 04 53.1 +01.0	278 33.7 -00.5	N 18 38.4 +01.0	172 34.7 -26.3	N 16 15.6 -11.7	09						
10	329 05.1 +00.2	N 04 54.1 +00.9	293 33.2 -00.5	N 18 39.4 +00.9	187 08.4 -26.2	N 16 03.9 -11.8	10						
11	344 05.3 +00.2	N 04 55.0 +01.0	308 32.7 -00.5	N 18 40.3 +00.9	201 42.2 -26.1	N 15 52.1 -11.9	11						
12	359 05.5 +00.2	N 04 56.0 +01.0	323 32.2 -00.5	N 18 41.2 +01.0	216 16.1 -26.1	N 15 40.2 -11.9	12						
13	14 05.7 +00.1	N 04 57.0 +00.9	338 31.7 -00.5	N 18 42.2 +00.9	230 50.0 -26.1	N 15 28.3 -12.0	13						
14	29 05.8 +00.2	N 04 57.9 +01.0	353 31.2 -00.5	N 18 43.1 +00.9	245 23.9 -26.0	N 15 16.3 -12.1	14						
15	44 06.0 +00.2	N 04 58.9 +01.0	8 30.7 -00.5	N 18 44.0 +01.0	259 57.9 -26.0	N 15 04.2 -12.2	15						
16	59 06.2 +00.2	N 04 59.9 +00.9	23 30.2 -00.5	N 18 45.0 +00.9	274 31.9 -26.0	N 14 52.0 -12.2	16						
17	74 06.4 +00.2	N 05 00.8 +01.0	38 29.7 -00.5	N 18 45.9 +00.9	289 05.9 -25.9	N 14 39.8 -12.3	17						
18	89 06.6 +00.2	N 05 01.8 +00.9	53 29.2 -00.5	N 18 46.8 +01.0	303 40.0 -25.9	N 14 27.5 -12.3	18						
19	104 06.8 +00.1	N 05 02.7 +01.0	68 28.7 -00.5	N 18 47.8 +00.9	318 14.1 -25.8	N 14 15.2 -12.4	19						
20	119 06.9 +00.2	N 05 03.7 +01.0	83 28.2 -00.5	N 18 48.7 +00.9	332 48.3 -25.8	N 14 02.8 -12.5	20						
21	134 07.1 +00.2	N 05 04.7 +00.9	98 27.7 -00.5	N 18 49.6 +00.9	347 22.5 -25.8	N 13 50.3 -12.5	21						
22	149 07.3 +00.2	N 05 05.6 +01.0	113 27.2 -00.5	N 18 50.5 +01.0	1 56.7 -25.8	N 13 37.8 -12.6	22						
23	164 07.5 +00.2	N 05 06.6 +00.9	128 26.7 -00.5	N 18 51.5 +00.9	16 30.9 -25.7	N 13 25.2 -12.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'8 14'8 14'8 14'8 14'9 14'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'3 54'4 54'4 54'5 54'5 54'6								
	SHA 349° 349° 349° 348° 348° 348°		SHA 313° 313° 313° 313° 313° 312°		SHA 210° 209° 207° 205° 203° 201°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 14:25		Greenwich Culmination Time: 21:51								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	95 59.2 +01.0	N 25 26.6 -00.1	171 48.3 +01.9	N 06 35.3 +00.2	214 48.6 +02.2	S 11 42.5 +00.0	00						
01	111 00.2 +01.1	N 25 26.5 +00.0	186 50.2 +02.0	N 06 35.5 +00.2	229 50.8 +02.2	S 11 42.5 -00.1	01						
02	126 01.3 +01.1	N 25 26.5 -00.1	201 52.2 +01.9	N 06 35.7 +00.3	244 53.0 +02.3	S 11 42.4 -00.1	02						
03	141 02.4 +01.1	N 25 26.4 +00.0	216 54.1 +01.9	N 06 36.0 +00.2	259 55.3 +02.2	S 11 42.3 -00.1	03						
04	156 03.5 +01.1	N 25 26.4 -00.1	231 56.0 +01.9	N 06 36.2 +00.2	274 57.5 +02.2	S 11 42.2 -00.1	04						
05	171 04.6 +01.0	N 25 26.3 -00.1	246 57.9 +01.9	N 06 36.4 +00.3	289 59.7 +02.2	S 11 42.1 -00.1	05						
06	186 05.6 +01.1	N 25 26.2 +00.0	261 59.8 +01.9	N 06 36.7 +00.2	305 01.9 +02.2	S 11 42.0 -00.1	06						
07	201 06.7 +01.1	N 25 26.2 -00.1	277 01.7 +01.9	N 06 36.9 +00.2	320 04.1 +02.2	S 11 41.9 -00.1	07						
08	216 07.8 +01.1	N 25 26.1 -00.1	292 03.6 +01.9	N 06 37.1 +00.2	335 06.3 +02.3	S 11 41.8 +00.0	08						
09	231 08.9 +01.0	N 25 26.0 +00.0	307 05.5 +01.9	N 06 37.3 +00.3	350 08.6 +02.2	S 11 41.8 -00.1	09						
10	246 09.9 +01.1	N 25 26.0 -00.1	322 07.4 +01.9	N 06 37.6 +00.2	5 10.8 +02.2	S 11 41.7 -00.1	10						
11	261 11.0 +01.1	N 25 25.9 +00.0	337 09.3 +01.9	N 06 37.8 +00.2	20 13.0 +02.2	S 11 41.6 -00.1	11						
12	276 12.1 +01.1	N 25 25.9 -00.1	352 11.2 +01.9	N 06 38.0 +00.3	35 15.2 +02.2	S 11 41.5 -00.1	12						
13	291 13.2 +01.0	N 25 25.8 -00.1	7 13.1 +01.9	N 06 38.3 +00.2	50 17.4 +02.3	S 11 41.4 -00.1	13						
14	306 14.2 +01.1	N 25 25.7 +00.0	22 15.0 +01.9	N 06 38.5 +00.2	65 19.7 +02.2	S 11 41.3 -00.1	14						
15	321 15.3 +01.1	N 25 25.7 -00.1	37 16.9 +01.9	N 06 38.7 +00.2	80 21.9 +02.2	S 11 41.2 -00.1	15						
16	336 16.4 +01.1	N 25 25.6 -00.1	52 18.8 +01.9	N 06 38.9 +00.3	95 24.1 +02.2	S 11 41.1 +00.0	16						
17	351 17.5 +01.0	N 25 25.5 +00.0	67 20.7 +01.9	N 06 39.2 +00.2	110 26.3 +02.2	S 11 41.1 -00.1	17						
18	6 18.5 +01.1	N 25 25.5 -00.1	82 22.6 +01.9	N 06 39.4 +00.2	125 28.5 +02.3	S 11 41.0 -00.1	18						
19	21 19.6 +01.1	N 25 25.4 -00.1	97 24.5 +01.9	N 06 39.6 +00.3	140 30.8 +02.2	S 11 40.9 -00.1	19						
20	36 20.7 +01.1	N 25 25.3 +00.0	112 26.4 +01.9	N 06 39.9 +00.2	155 33.0 +02.2	S 11 40.8 -00.1	20						
21	51 21.8 +01.0	N 25 25.3 -00.1	127 28.3 +01.9	N 06 40.1 +00.2	170 35.2 +02.2	S 11 40.7 -00.1	21						
22	66 22.8 +01.1	N 25 25.2 -00.1	142 30.2 +01.9	N 06 40.3 +00.2	185 37.4 +02.2	S 11 40.6 -00.1	22						
23	81 23.9 +01.1	N 25 25.1 +00.0	157 32.1 +01.9	N 06 40.5 +00.3	200 39.6 +02.2	S 11 40.5 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 266° 266° 266° 266° 265° 265°		SHA 342° 342° 342° 342° 342° 342°		SHA 025° 025° 025° 025° 025° 025°								
	Greenwich Culmination Time: 17:34		Greenwich Culmination Time: 12:31		Greenwich Culmination Time: 09:39								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 42%				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	179 07.7 +00.2	N 05 07.5 +01.0	143 26.2 -00.5	N 18 52.4 +00.9	31 05.2 -25.6	N 13 12.6 -12.7	00						
01	194 07.9 +00.2	N 05 08.5 +01.0	158 25.7 -00.5	N 18 53.3 +01.0	45 39.6 -25.7	N 12 59.9 -12.8	01						
02	209 08.1 +00.1	N 05 09.5 +00.9	173 25.2 -00.5	N 18 54.3 +00.9	60 13.9 -25.6	N 12 47.1 -12.8	02						
03	224 08.2 +00.2	N 05 10.4 +01.0	188 24.7 -00.5	N 18 55.2 +00.9	74 48.3 -25.6	N 12 34.3 -12.9	03						
04	239 08.4 +00.2	N 05 11.4 +00.9	203 24.2 -00.6	N 18 56.1 +00.9	89 22.7 -25.6	N 12 21.4 -12.9	04						
05	254 08.6 +00.2	N 05 12.3 +01.0	218 23.6 -00.5	N 18 57.0 +00.9	103 57.1 -25.5	N 12 08.5 -13.0	05						
06	269 08.8 +00.2	N 05 13.3 +00.9	233 23.1 -00.5	N 18 57.9 +01.0	118 31.6 -25.5	N 11 55.5 -13.1	06						
07	284 09.0 +00.2	N 05 14.2 +01.0	248 22.6 -00.5	N 18 58.9 +00.9	133 06.1 -25.5	N 11 42.4 -13.0	07						
08	299 09.2 +00.1	N 05 15.2 +01.0	263 22.1 -00.5	N 18 59.8 +00.9	147 40.6 -25.4	N 11 29.4 -13.2	08						
09	314 09.3 +00.2	N 05 16.2 +00.9	278 21.6 -00.5	N 19 00.7 +00.9	162 15.2 -25.4	N 11 16.2 -13.2	09						
10	329 09.5 +00.2	N 05 17.1 +01.0	293 21.1 -00.5	N 19 01.6 +00.9	176 49.8 -25.5	N 11 03.0 -13.3	10						
11	344 09.7 +00.2	N 05 18.1 +00.9	308 20.6 -00.5	N 19 02.5 +01.0	191 24.3 -25.3	N 10 49.7 -13.3	11						
12	359 09.9 +00.2	N 05 19.0 +01.0	323 20.1 -00.5	N 19 03.5 +00.9	205 59.0 -25.4	N 10 36.4 -13.3	12						
13	14 10.1 +00.2	N 05 20.0 +00.9	338 19.6 -00.5	N 19 04.4 +00.9	220 33.6 -25.3	N 10 23.1 -13.4	13						
14	29 10.3 +00.1	N 05 20.9 +01.0	353 19.1 -00.5	N 19 05.3 +00.9	235 08.3 -25.4	N 10 09.7 -13.5	14						
15	44 10.4 +00.2	N 05 21.9 +01.0	8 18.6 -00.5	N 19 06.2 +00.9	249 42.9 -25.3	N 09 56.2 -13.5	15						
16	59 10.6 +00.2	N 05 22.9 +00.9	23 18.1 -00.5	N 19 07.1 +00.9	264 17.6 -25.2	N 09 42.7 -13.5	16						
17	74 10.8 +00.2	N 05 23.8 +01.0	38 17.6 -00.5	N 19 08.0 +00.9	278 52.4 -25.3	N 09 29.2 -13.6	17						
18	89 11.0 +00.2	N 05 24.8 +00.9	53 17.1 -00.5	N 19 08.9 +01.0	293 27.1 -25.2	N 09 15.6 -13.6	18						
19	104 11.2 +00.2	N 05 25.7 +01.0	68 16.6 -00.6	N 19 09.9 +00.9	308 01.9 -25.3	N 09 02.0 -13.7	19						
20	119 11.4 +00.1	N 05 26.7 +00.9	83 16.0 -00.5	N 19 10.8 +00.9	322 36.6 -25.2	N 08 48.3 -13.7	20						
21	134 11.5 +00.2	N 05 27.6 +01.0	98 15.5 -00.5	N 19 11.7 +00.9	337 11.4 -25.2	N 08 34.6 -13.8	21						
22	149 11.7 +00.2	N 05 28.6 +01.0	113 15.0 -00.5	N 19 12.6 +00.9	351 46.2 -25.2	N 08 20.8 -13.8	22						
23	164 11.9 +00.2	N 05 29.6 +00.9	128 14.5 -00.5	N 19 13.5 +00.9	6 21.0 -25.2	N 08 07.0 -13.9	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'9 14'9 14'9 14'9 14'9 15'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'6 54'7 54'7 54'8 54'9 54'9								
	SHA 348° 348° 348° 348° 347° 347°		SHA 312° 312° 312° 312° 311° 311°		SHA 199° 197° 195° 193° 192° 190°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 14:26		Greenwich Culmination Time: 22:33								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	96 25.0 +01.1	N 25 25.1 -00.1	172 34.0 +01.9	N 06 40.8 +00.2	215 41.8 +02.3	S 11 40.4 +00.0	00						
01	111 26.1 +01.0	N 25 25.0 -00.1	187 35.9 +01.9	N 06 41.0 +00.2	230 44.1 +02.2	S 11 40.4 -00.1	01						
02	126 27.1 +01.1	N 25 24.9 +00.0	202 37.8 +01.9	N 06 41.2 +00.3	245 46.3 +02.2	S 11 40.3 -00.1	02						
03	141 28.2 +01.1	N 25 24.9 -00.1	217 39.7 +02.0	N 06 41.5 +00.2	260 48.5 +02.2	S 11 40.2 -00.1	03						
04	156 29.3 +01.0	N 25 24.8 -00.1	232 41.7 +01.9	N 06 41.7 +00.2	275 50.7 +02.2	S 11 40.1 -00.1	04						
05	171 30.3 +01.1	N 25 24.7 +00.0	247 43.6 +01.9	N 06 41.9 +00.2	290 52.9 +02.3	S 11 40.0 -00.1	05						
06	186 31.4 +01.1	N 25 24.7 -00.1	262 45.5 +01.9	N 06 42.1 +00.3	305 55.2 +02.2	S 11 39.9 -00.1	06						
07	201 32.5 +01.1	N 25 24.6 -00.1	277 47.4 +01.9	N 06 42.4 +00.2	320 57.4 +02.2	S 11 39.8 +00.0	07						
08	216 33.6 +01.0	N 25 24.5 +00.0	292 49.3 +01.9	N 06 42.6 +00.2	335 59.6 +02.2	S 11 39.8 -00.1	08						
09	231 34.6 +01.1	N 25 24.5 -00.1	307 51.2 +01.9	N 06 42.8 +00.3	351 01.8 +02.2	S 11 39.7 -00.1	09						
10	246 35.7 +01.1	N 25 24.4 -00.1	322 53.1 +01.9	N 06 43.1 +00.2	6 04.0 +02.3	S 11 39.6 -00.1	10						
11	261 36.8 +01.0	N 25 24.3 -00.1	337 55.0 +01.9	N 06 43.3 +00.2	21 06.3 +02.2	S 11 39.5 -00.1	11						
12	276 37.8 +01.1	N 25 24.2 +00.0	352 56.9 +01.9	N 06 43.5 +00.2	36 08.5 +02.2	S 11 39.4 -00.1	12						
13	291 38.9 +01.1	N 25 24.2 -00.1	7 58.8 +01.9	N 06 43.7 +00.3	51 10.7 +02.2	S 11 39.3 -00.1	13						
14	306 40.0 +01.1	N 25 24.1 -00.1	23 00.7 +01.9	N 06 44.0 +00.2	66 12.9 +02.2	S 11 39.2 +00.0	14						
15	321 41.1 +01.0	N 25 24.0 +00.0	38 02.6 +01.9	N 06 44.2 +00.2	81 15.1 +02.3	S 11 39.2 -00.1	15						
16	336 42.1 +01.1	N 25 24.0 -00.1	53 04.5 +01.9	N 06 44.4 +00.3	96 17.4 +02.2	S 11 39.1 -00.1	16						
17	351 43.2 +01.1	N 25 23.9 -00.1	68 06.4 +01.9	N 06 44.7 +00.2	111 19.6 +02.2	S 11 39.0 -00.1	17						
18	6 44.3 +01.0	N 25 23.8 +00.0	83 08.3 +01.9	N 06 44.9 +00.2	126 21.8 +02.2	S 11 38.9 -00.1	18						
19	21 45.3 +01.1	N 25 23.8 -00.1	98 10.2 +01.9	N 06 45.1 +00.2	141 24.0 +02.2	S 11 38.8 -00.1	19						
20	36 46.4 +01.1	N 25 23.7 -00.1	113 12.1 +01.9	N 06 45.3 +00.3	156 26.2 +02.3	S 11 38.7 -00.1	20						
21	51 47.5 +01.0	N 25 23.6 -00.1	128 14.0 +01.9	N 06 45.6 +00.2	171 28.5 +02.2	S 11 38.6 +00.0	21						
22	66 48.5 +01.1	N 25 23.5 +00.0	143 15.9 +01.9	N 06 45.8 +00.2	186 30.7 +02.2	S 11 38.6 -00.1	22						
23	81 49.6 +01.1	N 25 23.5 -00.1	158 17.8 +01.9	N 06 46.0 +00.3	201 32.9 +02.2	S 11 38.5 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 265° 265° 265° 265° 265° 265°		SHA 341° 341° 341° 341° 341° 341°		SHA 025° 025° 025° 025° 025° 025°								
	Greenwich Culmination Time: 17:33		Greenwich Culmination Time: 12:28		Greenwich Culmination Time: 09:35								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 45%				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	179 12.1 +00.2	N 05 30.5 +01.0	143 14.0 -00.5	N 19 14.4 +00.9	20 55.8 -25.1	N 07 53.1 -13.9	00					00	
01	194 12.3 +00.2	N 05 31.5 +00.9	158 13.5 -00.5	N 19 15.3 +00.9	35 30.7 -25.2	N 07 39.2 -13.9	01					01	
02	209 12.5 +00.1	N 05 32.4 +01.0	173 13.0 -00.5	N 19 16.2 +00.9	50 05.5 -25.1	N 07 25.3 -14.0	02					02	
03	224 12.6 +00.2	N 05 33.4 +00.9	188 12.5 -00.5	N 19 17.1 +00.9	64 40.4 -25.2	N 07 11.3 -14.0	03					03	
04	239 12.8 +00.2	N 05 34.3 +01.0	203 12.0 -00.6	N 19 18.0 +00.9	79 15.2 -25.1	N 06 57.3 -14.0	04					04	
05	254 13.0 +00.2	N 05 35.3 +00.9	218 11.4 -00.5	N 19 18.9 +00.9	93 50.1 -25.1	N 06 43.3 -14.1	05					05	
06	269 13.2 +00.2	N 05 36.2 +01.0	233 10.9 -00.5	N 19 19.8 +00.9	108 25.0 -25.1	N 06 29.2 -14.1	06					06	
07	284 13.4 +00.1	N 05 37.2 +00.9	248 10.4 -00.5	N 19 20.7 +00.9	122 59.9 -25.1	N 06 15.1 -14.1	07					07	
08	299 13.5 +00.2	N 05 38.1 +01.0	263 09.9 -00.5	N 19 21.6 +00.9	137 34.8 -25.2	N 06 01.0 -14.2	08					08	
09	314 13.7 +00.2	N 05 39.1 +01.0	278 09.4 -00.5	N 19 22.5 +00.9	152 09.6 -25.1	N 05 46.8 -14.2	09					09	
10	329 13.9 +00.2	N 05 40.1 +00.9	293 08.9 -00.5	N 19 23.4 +00.9	166 44.5 -25.1	N 05 32.6 -14.3	10					10	
11	344 14.1 +00.2	N 05 41.0 +01.0	308 08.4 -00.5	N 19 24.3 +00.9	181 19.4 -25.1	N 05 18.3 -14.3	11					11	
12	359 14.3 +00.2	N 05 42.0 +00.9	323 07.9 -00.6	N 19 25.2 +00.9	195 54.3 -25.1	N 05 04.0 -14.3	12					12	
13	14 14.5 +00.1	N 05 42.9 +01.0	338 07.3 -00.5	N 19 26.1 +00.9	210 29.2 -25.1	N 04 49.7 -14.3	13					13	
14	29 14.6 +00.2	N 05 43.9 +00.9	353 06.8 -00.5	N 19 27.0 +00.9	225 04.1 -25.1	N 04 35.4 -14.4	14					14	
15	44 14.8 +00.2	N 05 44.8 +01.0	8 06.3 -00.5	N 19 27.9 +00.9	239 39.0 -25.1	N 04 21.0 -14.4	15					15	
16	59 15.0 +00.2	N 05 45.8 +00.9	23 05.8 -00.5	N 19 28.8 +00.9	254 13.9 -25.1	N 04 06.6 -14.4	16					16	
17	74 15.2 +00.2	N 05 46.7 +01.0	38 05.3 -00.5	N 19 29.7 +00.9	268 48.8 -25.1	N 03 52.2 -14.4	17					17	
18	89 15.4 +00.1	N 05 47.7 +00.9	53 04.8 -00.6	N 19 30.6 +00.9	283 23.7 -25.2	N 03 37.8 -14.5	18					18	
19	104 15.5 +00.2	N 05 48.6 +01.0	68 04.2 -00.5	N 19 31.5 +00.9	297 58.5 -25.1	N 03 23.3 -14.5	19					19	
20	119 15.7 +00.2	N 05 49.6 +00.9	83 03.7 -00.5	N 19 32.4 +00.9	312 33.4 -25.1	N 03 08.8 -14.5	20					20	
21	134 15.9 +00.2	N 05 50.5 +01.0	98 03.2 -00.5	N 19 33.3 +00.8	327 08.3 -25.2	N 02 54.3 -14.6	21					21	
22	149 16.1 +00.2	N 05 51.5 +00.9	113 02.7 -00.5	N 19 34.1 +00.9	341 43.1 -25.2	N 02 39.7 -14.5	22					22	
23	164 16.3 +00.2	N 05 52.4 +01.0	128 02.2 -00.6	N 19 35.0 +00.9	356 17.9 -25.1	N 02 25.2 -14.6	23					23	
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'0 15'0 15'0 15'0 15'1 15'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'0 55'1 55'2 55'2 55'3 55'4								
	SHA 347° 347° 347° 347° 346° 346°		SHA 311° 311° 311° 310° 310° 310°		SHA 188° 186° 184° 182° 181° 179°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 14:27		Greenwich Culmination Time: 23:15								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	96 50.7 +01.0	N 25 23.4 -00.1	173 19.7 +01.9	N 06 46.3 +00.2	216 35.1 +02.3	S 11 38.4 -00.1	00					00	
01	111 51.7 +01.1	N 25 23.3 +00.0	188 21.6 +01.9	N 06 46.5 +00.2	231 37.4 +02.2	S 11 38.3 -00.1	01					01	
02	126 52.8 +01.1	N 25 23.3 -00.1	203 23.5 +01.9	N 06 46.7 +00.2	246 39.6 +02.2	S 11 38.2 -00.1	02					02	
03	141 53.9 +01.0	N 25 23.2 -00.1	218 25.4 +01.9	N 06 46.9 +00.3	261 41.8 +02.2	S 11 38.1 -00.1	03					03	
04	156 54.9 +01.1	N 25 23.1 -00.1	233 27.3 +01.9	N 06 47.2 +00.2	276 44.0 +02.2	S 11 38.0 -00.1	04					04	
05	171 56.0 +01.1	N 25 23.0 +00.0	248 29.2 +01.9	N 06 47.4 +00.2	291 46.2 +02.3	S 11 37.9 +00.0	05					05	
06	186 57.1 +01.0	N 25 23.0 -00.1	263 31.1 +01.9	N 06 47.6 +00.3	306 48.5 +02.2	S 11 37.9 -00.1	06					06	
07	201 58.1 +01.1	N 25 22.9 -00.1	278 33.0 +01.9	N 06 47.9 +00.2	321 50.7 +02.2	S 11 37.8 -00.1	07					07	
08	216 59.2 +01.1	N 25 22.8 -00.1	293 34.9 +01.9	N 06 48.1 +00.2	336 52.9 +02.2	S 11 37.7 -00.1	08					08	
09	232 00.3 +01.0	N 25 22.7 +00.0	308 36.8 +01.9	N 06 48.3 +00.2	351 55.1 +02.2	S 11 37.6 -00.1	09					09	
10	247 01.3 +01.1	N 25 22.7 -00.1	323 38.7 +01.9	N 06 48.5 +00.3	6 57.3 +02.3	S 11 37.5 -00.1	10					10	
11	262 02.4 +01.1	N 25 22.6 -00.1	338 40.6 +02.0	N 06 48.8 +00.2	21 59.6 +02.2	S 11 37.4 +00.0	11					11	
12	277 03.5 +01.0	N 25 22.5 +00.0	353 42.6 +01.9	N 06 49.0 +00.2	37 01.8 +02.2	S 11 37.4 -00.1	12					12	
13	292 04.5 +01.1	N 25 22.5 -00.1	8 44.5 +01.9	N 06 49.2 +00.3	52 04.0 +02.2	S 11 37.3 -00.1	13					13	
14	307 05.6 +01.1	N 25 22.4 -00.1	23 46.4 +01.9	N 06 49.5 +00.2	67 06.2 +02.3	S 11 37.2 -00.1	14					14	
15	322 06.7 +01.0	N 25 22.3 -00.1	38 48.3 +01.9	N 06 49.7 +00.2	82 08.5 +02.2	S 11 37.1 -00.1	15					15	
16	337 07.7 +01.1	N 25 22.2 +00.0	53 50.2 +01.9	N 06 49.9 +00.2	97 10.7 +02.2	S 11 37.0 -00.1	16					16	
17	352 08.8 +01.1	N 25 22.2 -00.1	68 52.1 +01.9	N 06 50.1 +00.3	112 12.9 +02.2	S 11 36.9 -00.1	17					17	
18	7 09.9 +01.0	N 25 22.1 -00.1	83 54.0 +01.9	N 06 50.4 +00.2	127 15.1 +02.3	S 11 36.8 +00.0	18					18	
19	22 10.9 +01.1	N 25 22.0 -00.1	98 55.9 +01.9	N 06 50.6 +00.2	142 17.4 +02.2	S 11 36.8 -00.1	19					19	
20	37 12.0 +01.0	N 25 21.9 -00.1	113 57.8 +01.9	N 06 50.8 +00.3	157 19.6 +02.2	S 11 36.7 -00.1	20					20	
21	52 13.0 +01.1	N 25 21.8 +00.0	128 59.7 +01.9	N 06 51.1 +00.2	172 21.8 +02.2	S 11 36.6 -00.1	21					21	
22	67 14.1 +01.1	N 25 21.8 -00.1	144 01.6 +01.9	N 06 51.3 +00.2	187 24.0 +02.2	S 11 36.5 -00.1	22					22	
23	82 15.2 +01.0	N 25 21.7 -00.1	159 03.5 +01.9	N 06 51.5 +00.2	202 26.2 +02.3	S 11 36.4 -00.1	23					23	
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 265° 265° 265° 264° 264° 264°		SHA 341° 341° 341° 341° 341° 341°		SHA 025° 025° 024° 024° 024° 024°								
	Greenwich Culmination Time: 17:31		Greenwich Culmination Time: 12:25		Greenwich Culmination Time: 09:32								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 16.5 +00.1	N 05 53.4 +00.9	143 01.6 -00.5	N 19 35.9 +00.9	10 52.8 -25.2	N 02 10.6 -14.6	00					00	
01	194 16.6 +00.2	N 05 54.3 +01.0	158 01.1 -00.5	N 19 36.8 +00.9	25 27.6 -25.2	N 01 56.0 -14.7	01					01	
02	209 16.8 +00.2	N 05 55.3 +00.9	173 00.6 -00.5	N 19 37.7 +00.9	40 02.4 -25.2	N 01 41.3 -14.6	02					02	
03	224 17.0 +00.2	N 05 56.2 +01.0	188 00.1 -00.5	N 19 38.6 +00.9	54 37.2 -25.3	N 01 26.7 -14.7	03					03	
04	239 17.2 +00.2	N 05 57.2 +00.9	202 59.6 -00.6	N 19 39.5 +00.8	69 11.9 -25.2	N 01 12.0 -14.6	04					04	
05	254 17.4 +00.1	N 05 58.1 +01.0	217 59.0 -00.5	N 19 40.3 +00.9	83 46.7 -25.3	N 00 57.4 -14.7	05					05	
06	269 17.5 +00.2	N 05 59.1 +00.9	232 58.5 -00.5	N 19 41.2 +00.9	98 21.4 -25.3	N 00 42.7 -14.7	06					06	
07	284 17.7 +00.2	N 06 00.0 +01.0	247 58.0 -00.5	N 19 42.1 +00.9	112 56.1 -25.3	N 00 28.0 -14.7	07					07	
08	299 17.9 +00.2	N 06 01.0 +00.9	262 57.5 -00.5	N 19 43.0 +00.9	127 30.8 -25.3	N 00 13.3 -14.8	08					08	
09	314 18.1 +00.2	N 06 01.9 +01.0	277 57.0 -00.6	N 19 43.9 +00.8	142 05.5 -25.3	S 00 01.5 +14.7	09					09	
10	329 18.3 +00.1	N 06 02.9 +00.9	292 56.4 -00.5	N 19 44.7 +00.9	156 40.2 -25.4	S 00 16.2 +14.8	10					10	
11	344 18.4 +00.2	N 06 03.8 +01.0	307 55.9 -00.5	N 19 45.6 +00.9	171 14.8 -25.4	S 00 31.0 +14.7	11					11	
12	359 18.6 +00.2	N 06 04.8 +00.9	322 55.4 -00.5	N 19 46.5 +00.9	185 49.4 -25.4	S 00 45.7 +14.8	12					12	
13	14 18.8 +00.2	N 06 05.7 +01.0	337 54.9 -00.6	N 19 47.4 +00.9	200 24.0 -25.4	S 01 00.5 +14.8	13					13	
14	29 19.0 +00.2	N 06 06.7 +00.9	352 54.3 -00.5	N 19 48.3 +00.8	214 58.6 -25.5	S 01 15.3 +14.8	14					14	
15	44 19.2 +00.1	N 06 07.6 +01.0	7 53.8 -00.5	N 19 49.1 +00.9	229 33.1 -25.5	S 01 30.1 +14.7	15					15	
16	59 19.3 +00.2	N 06 08.6 +00.9	22 53.3 -00.5	N 19 50.0 +00.9	244 07.6 -25.5	S 01 44.8 +14.8	16					16	
17	74 19.5 +00.2	N 06 09.5 +01.0	37 52.8 -00.6	N 19 50.9 +00.8	258 42.1 -25.6	S 01 59.6 +14.8	17					17	
18	89 19.7 +00.2	N 06 10.5 +00.9	52 52.2 -00.5	N 19 51.7 +00.9	273 16.5 -25.6	S 02 14.4 +14.8	18					18	
19	104 19.9 +00.2	N 06 11.4 +01.0	67 51.7 -00.5	N 19 52.6 +00.9	287 50.9 -25.6	S 02 29.2 +14.8	19					19	
20	119 20.1 +00.1	N 06 12.4 +00.9	82 51.2 -00.5	N 19 53.5 +00.9	302 25.3 -25.6	S 02 44.0 +14.8	20					20	
21	134 20.2 +00.2	N 06 13.3 +01.0	97 50.7 -00.6	N 19 54.4 +00.8	316 59.7 -25.7	S 02 58.8 +14.9	21					21	
22	149 20.4 +00.2	N 06 14.3 +00.9	112 50.1 -00.5	N 19 55.2 +00.9	331 34.0 -25.7	S 03 13.7 +14.8	22					22	
23	164 20.6 +00.2	N 06 15.2 +01.0	127 49.6 -00.5	N 19 56.1 +00.9	346 08.3 -25.8	S 03 28.5 +14.8	23					23	
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'1 15'1 15'2 15'2 15'2 15'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'5 55'6 55'6 55'7 55'8 55'9								
	SHA 346° 346° 346° 346° 346° 345°		SHA 310° 310° 309° 309° 309° 309°		SHA 177° 175° 173° 171° 169° 168°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 14:28		Greenwich Culmination Time: 23:57								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	97 16.2 +01.1	N 25 21.6 -00.1	174 05.4 +01.9	N 06 51.7 +00.3	217 28.5 +02.2	S 11 36.3 -00.1	00					00	
01	112 17.3 +01.1	N 25 21.5 +00.0	189 07.3 +01.9	N 06 52.0 +00.2	232 30.7 +02.2	S 11 36.2 +00.0	01					01	
02	127 18.4 +01.0	N 25 21.5 -00.1	204 09.2 +01.9	N 06 52.2 +00.2	247 32.9 +02.2	S 11 36.2 -00.1	02					02	
03	142 19.4 +01.1	N 25 21.4 -00.1	219 11.1 +01.9	N 06 52.4 +00.3	262 35.1 +02.3	S 11 36.1 -00.1	03					03	
04	157 20.5 +01.1	N 25 21.3 -00.1	234 13.0 +01.9	N 06 52.7 +00.2	277 37.4 +02.2	S 11 36.0 -00.1	04					04	
05	172 21.6 +01.0	N 25 21.2 +00.0	249 14.9 +01.9	N 06 52.9 +00.2	292 39.6 +02.2	S 11 35.9 -00.1	05					05	
06	187 22.6 +01.1	N 25 21.2 -00.1	264 16.8 +01.9	N 06 53.1 +00.2	307 41.8 +02.2	S 11 35.8 -00.1	06					06	
07	202 23.7 +01.0	N 25 21.1 -00.1	279 18.7 +01.9	N 06 53.3 +00.3	322 44.0 +02.3	S 11 35.7 -00.1	07					07	
08	217 24.7 +01.1	N 25 21.0 -00.1	294 20.6 +01.9	N 06 53.6 +00.2	337 46.3 +02.2	S 11 35.6 +00.0	08					08	
09	232 25.8 +01.1	N 25 20.9 -00.1	309 22.5 +01.9	N 06 53.8 +00.2	352 48.5 +02.2	S 11 35.6 -00.1	09					09	
10	247 26.9 +01.0	N 25 20.8 +00.0	324 24.4 +01.9	N 06 54.0 +00.2	7 50.7 +02.2	S 11 35.5 -00.1	10					10	
11	262 27.9 +01.1	N 25 20.8 -00.1	339 26.3 +01.9	N 06 54.2 +00.3	22 52.9 +02.3	S 11 35.4 -00.1	11					11	
12	277 29.0 +01.0	N 25 20.7 -00.1	354 28.2 +01.9	N 06 54.5 +00.2	37 55.2 +02.2	S 11 35.3 -00.1	12					12	
13	292 30.0 +01.1	N 25 20.6 -00.1	9 30.1 +01.9	N 06 54.7 +00.2	52 57.4 +02.2	S 11 35.2 -00.1	13					13	
14	307 31.1 +01.1	N 25 20.5 -00.1	24 32.0 +01.9	N 06 54.9 +00.3	67 59.6 +02.2	S 11 35.1 +00.0	14					14	
15	322 32.2 +01.0	N 25 20.4 +00.0	39 33.9 +01.9	N 06 55.2 +00.2	83 01.8 +02.2	S 11 35.1 -00.1	15					15	
16	337 33.2 +01.1	N 25 20.4 -00.1	54 35.8 +01.9	N 06 55.4 +00.2	98 04.0 +02.3	S 11 35.0 -00.1	16					16	
17	352 34.3 +01.0	N 25 20.3 -00.1	69 37.7 +01.9	N 06 55.6 +00.2	113 06.3 +02.2	S 11 34.9 -00.1	17					17	
18	7 35.3 +01.1	N 25 20.2 -00.1	84 39.6 +01.9	N 06 55.8 +00.3	128 08.5 +02.2	S 11 34.8 -00.1	18					18	
19	22 36.4 +01.1	N 25 20.1 -00.1	99 41.5 +01.9	N 06 56.1 +00.2	143 10.7 +02.2	S 11 34.7 -00.1	19					19	
20	37 37.5 +01.0	N 25 20.0 +00.0	114 43.4 +01.9	N 06 56.3 +00.2	158 12.9 +02.3	S 11 34.6 -00.1	20					20	
21	52 38.5 +01.1	N 25 20.0 -00.1	129 45.3 +01.9	N 06 56.5 +00.3	173 15.2 +02.2	S 11 34.5 +00.0	21					21	
22	67 39.6 +01.0	N 25 19.9 -00.1	144 47.2 +01.9	N 06 56.8 +00.2	188 17.4 +02.2	S 11 34.5 -00.1	22					22	
23	82 40.6 +01.1	N 25 19.8 -00.1	159 49.1 +01.9	N 06 57.0 +00.2	203 19.6 +02.2	S 11 34.4 -00.1	23					23	
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 264° 264° 264° 264° 264° 264°		SHA 341° 341° 341° 341° 341° 341°		SHA 024° 024° 024° 024° 024° 024°								
	Greenwich Culmination Time: 17:29		Greenwich Culmination Time: 12:22		Greenwich Culmination Time: 09:28								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 20.8 +00.2	N 06 16.2 +00.9	142 49.1 -00.5	N 19 57.0 +00.8	0 42.5 -25.8	S 03 43.3 +14.7	00						
01	194 21.0 +00.1	N 06 17.1 +01.0	157 48.6 -00.6	N 19 57.8 +00.9	15 16.7 -25.8	S 03 58.0 +14.8	01						
02	209 21.1 +00.2	N 06 18.1 +00.9	172 48.0 -00.5	N 19 58.7 +00.9	29 50.9 -25.9	S 04 12.8 +14.8	02						
03	224 21.3 +00.2	N 06 19.0 +00.9	187 47.5 -00.5	N 19 59.6 +00.8	44 25.0 -25.9	S 04 27.6 +14.8	03						
04	239 21.5 +00.2	N 06 19.9 +01.0	202 47.0 -00.6	N 20 00.4 +00.9	58 59.1 -26.0	S 04 42.4 +14.8	04						
05	254 21.7 +00.1	N 06 20.9 +00.9	217 46.4 -00.5	N 20 01.3 +00.8	73 33.1 -26.0	S 04 57.2 +14.7	05						
06	269 21.8 +00.2	N 06 21.8 +01.0	232 45.9 -00.5	N 20 02.1 +00.9	88 07.1 -26.0	S 05 11.9 +14.8	06						
07	284 22.0 +00.2	N 06 22.8 +00.9	247 45.4 -00.5	N 20 03.0 +00.9	102 41.1 -26.1	S 05 26.7 +14.7	07						
08	299 22.2 +00.2	N 06 23.7 +01.0	262 44.9 -00.6	N 20 03.9 +00.8	117 15.0 -26.1	S 05 41.4 +14.8	08						
09	314 22.4 +00.2	N 06 24.7 +00.9	277 44.3 -00.5	N 20 04.7 +00.9	131 48.9 -26.2	S 05 56.2 +14.7	09						
10	329 22.6 +00.1	N 06 25.6 +01.0	292 43.8 -00.5	N 20 05.6 +00.8	146 22.7 -26.2	S 06 10.9 +14.7	10						
11	344 22.7 +00.2	N 06 26.6 +00.9	307 43.3 -00.6	N 20 06.4 +00.9	160 56.5 -26.3	S 06 25.6 +14.7	11						
12	359 22.9 +00.2	N 06 27.5 +01.0	322 42.7 -00.5	N 20 07.3 +00.8	175 30.2 -26.4	S 06 40.3 +14.6	12						
13	14 23.1 +00.2	N 06 28.5 +00.9	337 42.2 -00.5	N 20 08.1 +00.9	190 03.8 -26.3	S 06 54.9 +14.7	13						
14	29 23.3 +00.2	N 06 29.4 +00.9	352 41.7 -00.6	N 20 09.0 +00.9	204 37.5 -26.5	S 07 09.6 +14.6	14						
15	44 23.5 +00.1	N 06 30.3 +01.0	7 41.1 -00.5	N 20 09.9 +00.8	219 11.0 -26.5	S 07 24.2 +14.7	15						
16	59 23.6 +00.2	N 06 31.3 +00.9	22 40.6 -00.5	N 20 10.7 +00.9	233 44.5 -26.5	S 07 38.9 +14.5	16						
17	74 23.8 +00.2	N 06 32.2 +01.0	37 40.1 -00.6	N 20 11.6 +00.8	248 18.0 -26.6	S 07 53.4 +14.6	17						
18	89 24.0 +00.2	N 06 33.2 +00.9	52 39.5 -00.5	N 20 12.4 +00.9	262 51.4 -26.7	S 08 08.0 +14.6	18						
19	104 24.2 +00.1	N 06 34.1 +01.0	67 39.0 -00.5	N 20 13.3 +00.8	277 24.7 -26.7	S 08 22.6 +14.5	19						
20	119 24.3 +00.2	N 06 35.1 +00.9	82 38.5 -00.6	N 20 14.1 +00.9	291 58.0 -26.7	S 08 37.1 +14.5	20						
21	134 24.5 +00.2	N 06 36.0 +00.9	97 37.9 -00.5	N 20 15.0 +00.8	306 31.3 -26.9	S 08 51.6 +14.5	21						
22	149 24.7 +00.2	N 06 36.9 +01.0	112 37.4 -00.5	N 20 15.8 +00.9	321 04.4 -26.9	S 09 06.1 +14.4	22						
23	164 24.9 +00.2	N 06 37.9 +00.9	127 36.9 -00.6	N 20 16.7 +00.8	335 37.5 -26.9	S 09 20.5 +14.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'3 15'3 15'3 15'3 15'3 15'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 56'0 56'1 56'2 56'2 56'3 56'4								
	SHA 345° 345° 345° 345° 345° 344°		SHA 309° 308° 308° 308° 308° 308°		SHA 166° 164° 162° 160° 158° 156°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 14:29		Greenwich Culmination Time: -1:00								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	97 41.7 +01.0	N 25 19.7 -00.1	174 51.0 +01.9	N 06 57.2 +00.2	218 21.8 +02.3	S 11 34.3 -00.1	00						
01	112 42.7 +01.1	N 25 19.6 -00.1	189 52.9 +01.9	N 06 57.4 +00.3	233 24.1 +02.2	S 11 34.2 -00.1	01						
02	127 43.8 +01.1	N 25 19.5 +00.0	204 54.8 +01.9	N 06 57.7 +00.2	248 26.3 +02.2	S 11 34.1 -00.1	02						
03	142 44.9 +01.0	N 25 19.5 -00.1	219 56.7 +01.9	N 06 57.9 +00.2	263 28.5 +02.3	S 11 34.0 +00.0	03						
04	157 45.9 +01.1	N 25 19.4 -00.1	234 58.6 +01.9	N 06 58.1 +00.2	278 30.8 +02.2	S 11 34.0 -00.1	04						
05	172 47.0 +01.0	N 25 19.3 -00.1	250 00.5 +01.9	N 06 58.3 +00.3	293 33.0 +02.2	S 11 33.9 -00.1	05						
06	187 48.0 +01.1	N 25 19.2 -00.1	265 02.4 +02.0	N 06 58.6 +00.2	308 35.2 +02.2	S 11 33.8 -00.1	06						
07	202 49.1 +01.1	N 25 19.1 +00.0	280 04.4 +01.9	N 06 58.8 +00.2	323 37.4 +02.3	S 11 33.7 -00.1	07						
08	217 50.2 +01.0	N 25 19.1 -00.1	295 06.3 +01.9	N 06 59.0 +00.3	338 39.7 +02.2	S 11 33.6 -00.1	08						
09	232 51.2 +01.1	N 25 19.0 -00.1	310 08.2 +01.9	N 06 59.3 +00.2	353 41.9 +02.2	S 11 33.5 -00.1	09						
10	247 52.3 +01.0	N 25 18.9 -00.1	325 10.1 +01.9	N 06 59.5 +00.2	8 44.1 +02.2	S 11 33.4 +00.0	10						
11	262 53.3 +01.1	N 25 18.8 -00.1	340 12.0 +01.9	N 06 59.7 +00.2	23 46.3 +02.3	S 11 33.4 -00.1	11						
12	277 54.4 +01.0	N 25 18.7 -00.1	355 13.9 +01.9	N 06 59.9 +00.3	38 48.6 +02.2	S 11 33.3 -00.1	12						
13	292 55.4 +01.1	N 25 18.6 -00.1	10 15.8 +01.9	N 07 00.2 +00.2	53 50.8 +02.2	S 11 33.2 -00.1	13						
14	307 56.5 +01.0	N 25 18.5 +00.0	25 17.7 +01.9	N 07 00.4 +00.2	68 53.0 +02.2	S 11 33.1 -00.1	14						
15	322 57.5 +01.1	N 25 18.5 -00.1	40 19.6 +01.9	N 07 00.6 +00.3	83 55.2 +02.3	S 11 33.0 -00.1	15						
16	337 58.6 +01.1	N 25 18.4 -00.1	55 21.5 +01.9	N 07 00.9 +00.2	98 57.5 +02.2	S 11 32.9 +00.0	16						
17	352 59.7 +01.0	N 25 18.3 -00.1	70 23.4 +01.9	N 07 01.1 +00.2	113 59.7 +02.2	S 11 32.9 -00.1	17						
18	8 00.7 +01.1	N 25 18.2 -00.1	85 25.3 +01.9	N 07 01.3 +00.2	129 01.9 +02.2	S 11 32.8 -00.1	18						
19	23 01.8 +01.0	N 25 18.1 -00.1	100 27.2 +01.9	N 07 01.5 +00.3	144 04.1 +02.3	S 11 32.7 -00.1	19						
20	38 02.8 +01.1	N 25 18.0 -00.1	115 29.1 +01.9	N 07 01.8 +00.2	159 06.4 +02.2	S 11 32.6 -00.1	20						
21	53 03.9 +01.0	N 25 17.9 +00.0	130 31.0 +01.9	N 07 02.0 +00.2	174 08.6 +02.2	S 11 32.5 -00.1	21						
22	68 04.9 +01.1	N 25 17.9 -00.1	145 32.9 +01.9	N 07 02.2 +00.2	189 10.8 +02.3	S 11 32.4 +00.0	22						
23	83 06.0 +01.0	N 25 17.8 -00.1	160 34.8 +01.9	N 07 02.4 +00.3	204 13.1 +02.2	S 11 32.4 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 264° 264° 263° 263° 263° 263°		SHA 341° 341° 341° 341° 341° 341°		SHA 024° 024° 024° 024° 024° 024°								
	Greenwich Culmination Time: 17:27		Greenwich Culmination Time: 12:19		Greenwich Culmination Time: 09:25								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 25.1 +00.1	N 06 38.8 +01.0	142 36.3 -00.5	N 20 17.5 +00.8	350 10.6 -27.0	S 09 34.9 +14.4	00						
01	194 25.2 +00.2	N 06 39.8 +00.9	157 35.8 -00.5	N 20 18.3 +00.9	4 43.6 -27.1	S 09 49.3 +14.3	01						
02	209 25.4 +00.2	N 06 40.7 +01.0	172 35.3 -00.6	N 20 19.2 +00.8	19 16.5 -27.2	S 10 03.6 +14.4	02						
03	224 25.6 +00.2	N 06 41.7 +00.9	187 34.7 -00.5	N 20 20.0 +00.9	33 49.3 -27.2	S 10 18.0 +14.2	03						
04	239 25.8 +00.1	N 06 42.6 +00.9	202 34.2 -00.6	N 20 20.9 +00.8	48 22.1 -27.3	S 10 32.2 +14.3	04						
05	254 25.9 +00.2	N 06 43.5 +01.0	217 33.6 -00.5	N 20 21.7 +00.9	62 54.8 -27.3	S 10 46.5 +14.2	05						
06	269 26.1 +00.2	N 06 44.5 +00.9	232 33.1 -00.5	N 20 22.6 +00.8	77 27.5 -27.5	S 11 00.7 +14.2	06						
07	284 26.3 +00.2	N 06 45.4 +01.0	247 32.6 -00.6	N 20 23.4 +00.8	92 00.0 -27.5	S 11 14.9 +14.1	07						
08	299 26.5 +00.1	N 06 46.4 +00.9	262 32.0 -00.5	N 20 24.2 +00.9	106 32.5 -27.5	S 11 29.0 +14.1	08						
09	314 26.6 +00.2	N 06 47.3 +00.9	277 31.5 -00.5	N 20 25.1 +00.8	121 05.0 -27.7	S 11 43.1 +14.1	09						
10	329 26.8 +00.2	N 06 48.2 +01.0	292 31.0 -00.6	N 20 25.9 +00.8	135 37.3 -27.7	S 11 57.2 +14.0	10						
11	344 27.0 +00.2	N 06 49.2 +00.9	307 30.4 -00.5	N 20 26.7 +00.9	150 09.6 -27.8	S 12 11.2 +13.9	11						
12	359 27.2 +00.1	N 06 50.1 +01.0	322 29.9 -00.6	N 20 27.6 +00.8	164 41.8 -27.8	S 12 25.1 +13.9	12						
13	14 27.3 +00.2	N 06 51.1 +00.9	337 29.3 -00.5	N 20 28.4 +00.8	179 14.0 -28.0	S 12 39.0 +13.9	13						
14	29 27.5 +00.2	N 06 52.0 +00.9	352 28.8 -00.5	N 20 29.2 +00.9	193 46.0 -28.0	S 12 52.9 +13.8	14						
15	44 27.7 +00.2	N 06 52.9 +01.0	7 28.3 -00.6	N 20 30.1 +00.8	208 18.0 -28.1	S 13 06.7 +13.8	15						
16	59 27.9 +00.1	N 06 53.9 +00.9	22 27.7 -00.5	N 20 30.9 +00.8	222 49.9 -28.1	S 13 20.5 +13.7	16						
17	74 28.0 +00.2	N 06 54.8 +01.0	37 27.2 -00.6	N 20 31.7 +00.9	237 21.8 -28.3	S 13 34.2 +13.7	17						
18	89 28.2 +00.2	N 06 55.8 +00.9	52 26.6 -00.5	N 20 32.6 +00.8	251 53.5 -28.3	S 13 47.9 +13.6	18						
19	104 28.4 +00.2	N 06 56.7 +00.9	67 26.1 -00.6	N 20 33.4 +00.8	266 25.2 -28.4	S 14 01.5 +13.6	19						
20	119 28.6 +00.1	N 06 57.6 +01.0	82 25.5 -00.5	N 20 34.2 +00.9	280 56.8 -28.5	S 14 15.1 +13.5	20						
21	134 28.7 +00.2	N 06 58.6 +00.9	97 25.0 -00.5	N 20 35.1 +00.8	295 28.3 -28.6	S 14 28.6 +13.4	21						
22	149 28.9 +00.2	N 06 59.5 +00.9	112 24.5 -00.6	N 20 35.9 +00.8	309 59.7 -28.7	S 14 42.0 +13.4	22						
23	164 29.1 +00.2	N 07 00.4 +01.0	127 23.9 -00.5	N 20 36.7 +00.8	324 31.0 -28.8	S 14 55.4 +13.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'4 15'4 15'4 15'5 15'5 15'5								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 56'5 56'6 56'7 56'8 56'8 56'9								
	SHA 344° 344° 344° 344° 344° 344°		SHA 307° 307° 307° 307° 307° 306°		SHA 154° 152° 150° 148° 146° 144°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 14:30		Greenwich Culmination Time: 00:40								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	98 07.0 +01.1	N 25 17.7 -00.1	175 36.7 +01.9	N 07 02.7 +00.2	219 15.3 +02.2	S 11 32.3 -00.1	00						
01	113 08.1 +01.0	N 25 17.6 -00.1	190 38.6 +01.9	N 07 02.9 +00.2	234 17.5 +02.2	S 11 32.2 -00.1	01						
02	128 09.1 +01.1	N 25 17.5 -00.1	205 40.5 +01.9	N 07 03.1 +00.3	249 19.7 +02.3	S 11 32.1 -00.1	02						
03	143 10.2 +01.0	N 25 17.4 -00.1	220 42.4 +01.9	N 07 03.4 +00.2	264 22.0 +02.2	S 11 32.0 -00.1	03						
04	158 11.2 +01.1	N 25 17.3 -00.1	235 44.3 +01.9	N 07 03.6 +00.2	279 24.2 +02.2	S 11 31.9 +00.0	04						
05	173 12.3 +01.0	N 25 17.2 +00.0	250 46.2 +01.9	N 07 03.8 +00.2	294 26.4 +02.2	S 11 31.9 -00.1	05						
06	188 13.3 +01.1	N 25 17.2 -00.1	265 48.1 +01.9	N 07 04.0 +00.3	309 28.6 +02.3	S 11 31.8 -00.1	06						
07	203 14.4 +01.1	N 25 17.1 -00.1	280 50.0 +01.9	N 07 04.3 +00.2	324 30.9 +02.2	S 11 31.7 -00.1	07						
08	218 15.5 +01.0	N 25 17.0 -00.1	295 51.9 +01.9	N 07 04.5 +00.2	339 33.1 +02.2	S 11 31.6 -00.1	08						
09	233 16.5 +01.1	N 25 16.9 -00.1	310 53.8 +01.9	N 07 04.7 +00.2	354 35.3 +02.3	S 11 31.5 -00.1	09						
10	248 17.6 +01.0	N 25 16.8 -00.1	325 55.7 +01.9	N 07 04.9 +00.3	9 37.6 +02.2	S 11 31.4 +00.0	10						
11	263 18.6 +01.1	N 25 16.7 -00.1	340 57.6 +01.9	N 07 05.2 +00.2	24 39.8 +02.2	S 11 31.4 -00.1	11						
12	278 19.7 +01.0	N 25 16.6 -00.1	355 59.5 +01.9	N 07 05.4 +00.2	39 42.0 +02.2	S 11 31.3 -00.1	12						
13	293 20.7 +01.1	N 25 16.5 -00.1	11 01.4 +01.9	N 07 05.6 +00.3	54 44.2 +02.3	S 11 31.2 -00.1	13						
14	308 21.8 +01.0	N 25 16.4 +00.0	26 03.3 +01.9	N 07 05.9 +00.2	69 46.5 +02.2	S 11 31.1 -00.1	14						
15	323 22.8 +01.1	N 25 16.4 -00.1	41 05.2 +01.9	N 07 06.1 +00.2	84 48.7 +02.2	S 11 31.0 -00.1	15						
16	338 23.9 +01.0	N 25 16.3 -00.1	56 07.1 +01.9	N 07 06.3 +00.2	99 50.9 +02.3	S 11 30.9 +00.0	16						
17	353 24.9 +01.1	N 25 16.2 -00.1	71 09.0 +01.9	N 07 06.5 +00.3	114 53.2 +02.2	S 11 30.9 -00.1	17						
18	8 26.0 +01.0	N 25 16.1 -00.1	86 10.9 +01.9	N 07 06.8 +00.2	129 55.4 +02.2	S 11 30.8 -00.1	18						
19	23 27.0 +01.1	N 25 16.0 -00.1	101 12.8 +01.9	N 07 07.0 +00.2	144 57.6 +02.3	S 11 30.7 -00.1	19						
20	38 28.1 +01.0	N 25 15.9 -00.1	116 14.7 +01.9	N 07 07.2 +00.2	159 59.9 +02.2	S 11 30.6 -00.1	20						
21	53 29.1 +01.1	N 25 15.8 -00.1	131 16.6 +01.9	N 07 07.4 +00.3	175 02.1 +02.2	S 11 30.5 -00.1	21						
22	68 30.2 +01.0	N 25 15.7 -00.1	146 18.5 +01.9	N 07 07.7 +00.2	190 04.3 +02.2	S 11 30.4 +00.0	22						
23	83 31.2 +01.1	N 25 15.6 -00.1	161 20.4 +01.9	N 07 07.9 +00.2	205 06.5 +02.3	S 11 30.4 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 263° 263° 263° 263° 263° 263°		SHA 341° 341° 341° 340° 340° 340°		SHA 024° 024° 024° 024° 024° 024°								
	Greenwich Culmination Time: 17:26		Greenwich Culmination Time: 12:15		Greenwich Culmination Time: 09:21								

UT	Sun				Venus				Moon				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	179 29.3 +00.1	N 07 01.4 +00.9	142 23.4 -00.6	N 20 37.5 +00.9	339 02.2 -28.8	S 15 08.7 +13.3	00										
01	194 29.4 +00.2	N 07 02.3 +01.0	157 22.8 -00.5	N 20 38.4 +00.8	353 33.4 -28.9	S 15 22.0 +13.1	01										
02	209 29.6 +00.2	N 07 03.3 +00.9	172 22.3 -00.6	N 20 39.2 +00.8	8 04.5 -29.0	S 15 35.1 +13.2	02										
03	224 29.8 +00.2	N 07 04.2 +00.9	187 21.7 -00.5	N 20 40.0 +00.8	22 35.5 -29.1	S 15 48.3 +13.0	03										
04	239 30.0 +00.1	N 07 05.1 +01.0	202 21.2 -00.6	N 20 40.8 +00.8	37 06.4 -29.2	S 16 01.3 +13.0	04										
05	254 30.1 +00.2	N 07 06.1 +00.9	217 20.6 -00.5	N 20 41.6 +00.9	51 37.2 -29.3	S 16 14.3 +13.0	05										
06	269 30.3 +00.2	N 07 07.0 +00.9	232 20.1 -00.5	N 20 42.5 +00.8	66 07.9 -29.4	S 16 27.3 +12.8	06										
07	284 30.5 +00.2	N 07 07.9 +01.0	247 19.6 -00.6	N 20 43.3 +00.8	80 38.5 -29.5	S 16 40.1 +12.8	07										
08	299 30.7 +00.1	N 07 08.9 +00.9	262 19.0 -00.5	N 20 44.1 +00.8	95 09.0 -29.5	S 16 52.9 +12.7	08										
09	314 30.8 +00.2	N 07 09.8 +00.9	277 18.5 -00.6	N 20 44.9 +00.8	109 39.5 -29.7	S 17 05.6 +12.6	09										
10	329 31.0 +00.2	N 07 10.7 +01.0	292 17.9 -00.5	N 20 45.7 +00.8	124 09.8 -29.8	S 17 18.2 +12.6	10										
11	344 31.2 +00.2	N 07 11.7 +00.9	307 17.4 -00.6	N 20 46.5 +00.9	138 40.0 -29.8	S 17 30.8 +12.4	11										
12	359 31.4 +00.1	N 07 12.6 +00.9	322 16.8 -00.5	N 20 47.4 +00.8	153 10.2 -29.9	S 17 43.2 +12.4	12										
13	14 31.5 +00.2	N 07 13.5 +01.0	337 16.3 -00.6	N 20 48.2 +00.8	167 40.3 -30.1	S 17 55.6 +12.4	13										
14	29 31.7 +00.2	N 07 14.5 +00.9	352 15.7 -00.5	N 20 49.0 +00.8	182 10.2 -30.1	S 18 08.0 +12.2	14										
15	44 31.9 +00.2	N 07 15.4 +00.9	7 15.2 -00.6	N 20 49.8 +00.8	196 40.1 -30.3	S 18 20.2 +12.1	15										
16	59 32.1 +00.1	N 07 16.3 +01.0	22 14.6 -00.5	N 20 50.6 +00.8	211 09.8 -30.3	S 18 32.3 +12.1	16										
17	74 32.2 +00.2	N 07 17.3 +00.9	37 14.1 -00.6	N 20 51.4 +00.8	225 39.5 -30.4	S 18 44.4 +12.0	17										
18	89 32.4 +00.2	N 07 18.2 +01.0	52 13.5 -00.5	N 20 52.2 +00.8	240 09.1 -30.5	S 18 56.4 +11.8	18										
19	104 32.6 +00.1	N 07 19.2 +00.9	67 13.0 -00.6	N 20 53.0 +00.8	254 38.6 -30.7	S 19 08.2 +11.8	19										
20	119 32.7 +00.2	N 07 20.1 +00.9	82 12.4 -00.5	N 20 53.8 +00.8	269 07.9 -30.7	S 19 20.0 +11.7	20										
21	134 32.9 +00.2	N 07 21.0 +00.9	97 11.9 -00.6	N 20 54.6 +00.8	283 37.2 -30.8	S 19 31.7 +11.6	21										
22	149 33.1 +00.2	N 07 21.9 +01.0	112 11.3 -00.5	N 20 55.4 +00.8	298 06.4 -31.0	S 19 43.3 +11.5	22										
23	164 33.3 +00.1	N 07 22.9 +00.9	127 10.8 -00.6	N 20 56.2 +00.8	312 35.4 -31.0	S 19 54.8 +11.5	23										
	UT 02 06 10 14 18 22	SD 16'0 16'0 16'0 16'0 16'0 16'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 343° 343° 343° 343° 343° 343°	Greenwich Culmination Time: 12:01		UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 306° 306° 306° 306° 305° 305°	Greenwich Culmination Time: 14:30		UT 02 06 10 14 18 22	SD 15'5 15'6 15'6 15'6 15'6 15'6	HP 57'0 57'1 57'2 57'3 57'3 57'4	SHA 142° 140° 138° 136° 133° 131°	Greenwich Culmination Time: 01:26

UT	Mars				Jupiter				Saturn				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	98 32.3 +01.0	N 25 15.5 -00.1	176 22.3 +01.9	N 07 08.1 +00.3	220 08.8 +02.2	S 11 30.3 -00.1	00										
01	113 33.3 +01.1	N 25 15.4 -00.1	191 24.2 +01.9	N 07 08.4 +00.2	235 11.0 +02.2	S 11 30.2 -00.1	01										
02	128 34.4 +01.0	N 25 15.3 +00.0	206 26.1 +01.9	N 07 08.6 +00.2	250 13.2 +02.3	S 11 30.1 -00.1	02										
03	143 35.4 +01.1	N 25 15.3 -00.1	221 28.0 +01.9	N 07 08.8 +00.2	265 15.5 +02.2	S 11 30.0 -00.1	03										
04	158 36.5 +01.0	N 25 15.2 -00.1	236 29.9 +01.9	N 07 09.0 +00.3	280 17.7 +02.2	S 11 29.9 +00.0	04										
05	173 37.5 +01.1	N 25 15.1 -00.1	251 31.8 +01.9	N 07 09.3 +00.2	295 19.9 +02.2	S 11 29.9 -00.1	05										
06	188 38.6 +01.0	N 25 15.0 -00.1	266 33.7 +01.9	N 07 09.5 +00.2	310 22.1 +02.3	S 11 29.8 -00.1	06										
07	203 39.6 +01.1	N 25 14.9 -00.1	281 35.6 +01.9	N 07 09.7 +00.2	325 24.4 +02.2	S 11 29.7 -00.1	07										
08	218 40.7 +01.0	N 25 14.8 -00.1	296 37.5 +01.9	N 07 09.9 +00.3	340 26.6 +02.2	S 11 29.6 -00.1	08										
09	233 41.7 +01.0	N 25 14.7 -00.1	311 39.4 +01.9	N 07 10.2 +00.2	355 28.8 +02.3	S 11 29.5 +00.0	09										
10	248 42.7 +01.1	N 25 14.6 -00.1	326 41.3 +01.9	N 07 10.4 +00.2	10 31.1 +02.2	S 11 29.5 -00.1	10										
11	263 43.8 +01.0	N 25 14.5 -00.1	341 43.2 +01.9	N 07 10.6 +00.3	25 33.3 +02.2	S 11 29.4 -00.1	11										
12	278 44.8 +01.1	N 25 14.4 -00.1	356 45.1 +01.9	N 07 10.9 +00.2	40 35.5 +02.3	S 11 29.3 -00.1	12										
13	293 45.9 +01.0	N 25 14.3 -00.1	11 47.0 +01.9	N 07 11.1 +00.2	55 37.8 +02.2	S 11 29.2 -00.1	13										
14	308 46.9 +01.1	N 25 14.2 -00.1	26 48.9 +01.9	N 07 11.3 +00.2	70 40.0 +02.2	S 11 29.1 -00.1	14										
15	323 48.0 +01.0	N 25 14.1 -00.1	41 50.8 +01.9	N 07 11.5 +00.3	85 42.2 +02.3	S 11 29.0 +00.0	15										
16	338 49.0 +01.1	N 25 14.0 -00.1	56 52.7 +01.9	N 07 11.8 +00.2	100 44.5 +02.2	S 11 29.0 -00.1	16										
17	353 50.1 +01.0	N 25 13.9 -00.1	71 54.6 +01.9	N 07 12.0 +00.2	115 46.7 +02.2	S 11 28.9 -00.1	17										
18	8 51.1 +01.1	N 25 13.8 -00.1	86 56.5 +01.9	N 07 12.2 +00.2	130 48.9 +02.2	S 11 28.8 -00.1	18										
19	23 52.2 +01.0	N 25 13.7 -00.1	101 58.4 +01.9	N 07 12.4 +00.3	145 51.1 +02.3	S 11 28.7 -00.1	19										
20	38 53.2 +01.1	N 25 13.6 +00.0	117 00.3 +01.9	N 07 12.7 +00.2	160 53.4 +02.2	S 11 28.6 -00.1	20										
21	53 54.3 +01.0	N 25 13.6 -00.1	132 02.2 +01.9	N 07 12.9 +00.2	175 55.6 +02.2	S 11 28.5 +00.0	21										
22	68 55.3 +01.0	N 25 13.5 -00.1	147 04.1 +01.9	N 07 13.1 +00.2	190 57.8 +02.3	S 11 28.5 -00.1	22										
23	83 56.3 +01.1	N 25 13.4 -00.1	162 06.0 +01.9	N 07 13.3 +00.3	206 00.1 +02.2	S 11 28.4 -00.1	23										
	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 262° 262° 262° 262° 262° 262°	Greenwich Culmination Time: 17:24		UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 340° 340° 340° 340° 340° 340°	Greenwich Culmination Time: 12:12		UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 024° 024° 024° 024° 024° 024°	Greenwich Culmination Time: 09:18

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 33.4 +00.2	N 07 23.8 +00.9	142 10.2 -00.5	N 20 57.0 +00.8	327 04.4 -31.1	S 20 06.3 +11.3	00						
01	194 33.6 +00.2	N 07 24.7 +01.0	157 09.7 -00.6	N 20 57.8 +00.8	341 33.3 -31.3	S 20 17.6 +11.2	01						
02	209 33.8 +00.1	N 07 25.7 +00.9	172 09.1 -00.5	N 20 58.6 +00.8	356 02.0 -31.3	S 20 28.8 +11.1	02						
03	224 33.9 +00.2	N 07 26.6 +00.9	187 08.6 -00.6	N 20 59.4 +00.8	10 30.7 -31.5	S 20 39.9 +11.0	03						
04	239 34.1 +00.2	N 07 27.5 +01.0	202 08.0 -00.5	N 21 00.2 +00.8	24 59.2 -31.5	S 20 50.9 +10.9	04						
05	254 34.3 +00.2	N 07 28.5 +00.9	217 07.5 -00.6	N 21 01.0 +00.8	39 27.7 -31.6	S 21 01.8 +10.8	05						
06	269 34.5 +00.1	N 07 29.4 +00.9	232 06.9 -00.5	N 21 01.8 +00.8	53 56.1 -31.8	S 21 12.6 +10.7	06						
07	284 34.6 +00.2	N 07 30.3 +01.0	247 06.4 -00.6	N 21 02.6 +00.8	68 24.3 -31.9	S 21 23.3 +10.6	07						
08	299 34.8 +00.2	N 07 31.3 +00.9	262 05.8 -00.6	N 21 03.4 +00.8	82 52.4 -31.9	S 21 33.9 +10.4	08						
09	314 35.0 +00.1	N 07 32.2 +00.9	277 05.2 -00.5	N 21 04.2 +00.8	97 20.5 -32.1	S 21 44.3 +10.4	09						
10	329 35.1 +00.2	N 07 33.1 +01.0	292 04.7 -00.6	N 21 05.0 +00.8	111 48.4 -32.1	S 21 54.7 +10.2	10						
11	344 35.3 +00.2	N 07 34.1 +00.9	307 04.1 -00.5	N 21 05.8 +00.8	126 16.3 -32.3	S 22 04.9 +10.2	11						
12	359 35.5 +00.2	N 07 35.0 +00.9	322 03.6 -00.6	N 21 06.6 +00.8	140 44.0 -32.4	S 22 15.1 +10.0	12						
13	14 35.7 +00.1	N 07 35.9 +00.9	337 03.0 -00.5	N 21 07.4 +00.8	155 11.6 -32.5	S 22 25.1 +09.8	13						
14	29 35.8 +00.2	N 07 36.8 +01.0	352 02.5 -00.6	N 21 08.2 +00.8	169 39.1 -32.5	S 22 34.9 +09.8	14						
15	44 36.0 +00.2	N 07 37.8 +00.9	7 01.9 -00.5	N 21 09.0 +00.8	184 06.6 -32.7	S 22 44.7 +09.7	15						
16	59 36.2 +00.1	N 07 38.7 +00.9	22 01.4 -00.6	N 21 09.8 +00.8	198 33.9 -32.8	S 22 54.4 +09.5	16						
17	74 36.3 +00.2	N 07 39.6 +01.0	37 00.8 -00.6	N 21 10.6 +00.7	213 01.1 -32.9	S 23 03.9 +09.4	17						
18	89 36.5 +00.2	N 07 40.6 +00.9	52 00.2 -00.5	N 21 11.3 +00.8	227 28.2 -33.0	S 23 13.3 +09.3	18						
19	104 36.7 +00.2	N 07 41.5 +00.9	66 59.7 -00.6	N 21 12.1 +00.8	241 55.2 -33.1	S 23 22.6 +09.1	19						
20	119 36.9 +00.1	N 07 42.4 +00.9	81 59.1 -00.5	N 21 12.9 +00.8	256 22.1 -33.2	S 23 31.7 +09.0	20						
21	134 37.0 +00.2	N 07 43.3 +01.0	96 58.6 -00.6	N 21 13.7 +00.8	270 48.9 -33.3	S 23 40.7 +08.9	21						
22	149 37.2 +00.2	N 07 44.3 +00.9	111 58.0 -00.6	N 21 14.5 +00.8	285 15.6 -33.4	S 23 49.6 +08.7	22						
23	164 37.4 +00.1	N 07 45.2 +00.9	126 57.4 -00.5	N 21 15.3 +00.7	299 42.2 -33.5	S 23 58.3 +08.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'7 15'7 15'7 15'7 15'7 15'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 57'5 57'6 57'6 57'7 57'8 57'9								
	SHA 342° 342° 342° 342° 342° 342°		SHA 305° 305° 305° 304° 304° 304°		SHA 129° 127° 124° 122° 120° 117°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 14:31		Greenwich Culmination Time: 02:16								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	98 57.4 +01.0	N 25 13.3 -00.1	177 07.9 +01.9	N 07 13.6 +00.2	221 02.3 +02.2	S 11 28.3 -00.1	00						
01	113 58.4 +01.1	N 25 13.2 -00.1	192 09.8 +01.9	N 07 13.8 +00.2	236 04.5 +02.3	S 11 28.2 -00.1	01						
02	128 59.5 +01.0	N 25 13.1 -00.1	207 11.7 +01.9	N 07 14.0 +00.3	251 06.8 +02.2	S 11 28.1 +00.0	02						
03	144 00.5 +01.1	N 25 13.0 -00.1	222 13.6 +01.9	N 07 14.3 +00.2	266 09.0 +02.2	S 11 28.1 -00.1	03						
04	159 01.6 +01.0	N 25 12.9 -00.1	237 15.5 +01.9	N 07 14.5 +00.2	281 11.2 +02.3	S 11 28.0 -00.1	04						
05	174 02.6 +01.1	N 25 12.8 -00.1	252 17.4 +01.9	N 07 14.7 +00.2	296 13.5 +02.2	S 11 27.9 -00.1	05						
06	189 03.7 +01.0	N 25 12.7 -00.1	267 19.3 +01.9	N 07 14.9 +00.3	311 15.7 +02.2	S 11 27.8 -00.1	06						
07	204 04.7 +01.0	N 25 12.6 -00.1	282 21.2 +01.9	N 07 15.2 +00.2	326 17.9 +02.3	S 11 27.7 -00.1	07						
08	219 05.7 +01.1	N 25 12.5 -00.1	297 23.1 +01.9	N 07 15.4 +00.2	341 20.2 +02.2	S 11 27.6 +00.0	08						
09	234 06.8 +01.0	N 25 12.4 -00.1	312 25.0 +01.9	N 07 15.6 +00.2	356 22.4 +02.2	S 11 27.6 -00.1	09						
10	249 07.8 +01.1	N 25 12.3 -00.1	327 26.9 +01.9	N 07 15.8 +00.3	11 24.6 +02.3	S 11 27.5 -00.1	10						
11	264 08.9 +01.0	N 25 12.2 -00.1	342 28.8 +01.9	N 07 16.1 +00.2	26 26.9 +02.2	S 11 27.4 -00.1	11						
12	279 09.9 +01.1	N 25 12.1 -00.1	357 30.7 +01.9	N 07 16.3 +00.2	41 29.1 +02.2	S 11 27.3 -00.1	12						
13	294 11.0 +01.0	N 25 12.0 -00.1	12 32.6 +01.9	N 07 16.5 +00.2	56 31.3 +02.3	S 11 27.2 +00.0	13						
14	309 12.0 +01.0	N 25 11.9 -00.1	27 34.5 +01.9	N 07 16.7 +00.3	71 33.6 +02.2	S 11 27.2 -00.1	14						
15	324 13.0 +01.1	N 25 11.8 -00.1	42 36.4 +01.9	N 07 17.0 +00.2	86 35.8 +02.2	S 11 27.1 -00.1	15						
16	339 14.1 +01.0	N 25 11.7 -00.1	57 38.3 +01.9	N 07 17.2 +00.2	101 38.0 +02.3	S 11 27.0 -00.1	16						
17	354 15.1 +01.1	N 25 11.6 -00.1	72 40.2 +01.9	N 07 17.4 +00.3	116 40.3 +02.2	S 11 26.9 -00.1	17						
18	9 16.2 +01.0	N 25 11.5 -00.1	87 42.1 +01.9	N 07 17.7 +00.2	131 42.5 +02.2	S 11 26.8 +00.0	18						
19	24 17.2 +01.1	N 25 11.4 -00.1	102 44.0 +01.9	N 07 17.9 +00.2	146 44.7 +02.3	S 11 26.8 -00.1	19						
20	39 18.3 +01.0	N 25 11.3 -00.1	117 45.9 +01.9	N 07 18.1 +00.2	161 47.0 +02.2	S 11 26.7 -00.1	20						
21	54 19.3 +01.0	N 25 11.2 -00.1	132 47.8 +01.9	N 07 18.3 +00.3	176 49.2 +02.2	S 11 26.6 -00.1	21						
22	69 20.3 +01.1	N 25 11.1 -00.1	147 49.7 +01.9	N 07 18.6 +00.2	191 51.4 +02.3	S 11 26.5 -00.1	22						
23	84 21.4 +01.0	N 25 11.0 -00.1	162 51.6 +01.9	N 07 18.8 +00.2	206 53.7 +02.2	S 11 26.4 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 262° 262° 262° 262° 262° 261°		SHA 340° 340° 340° 340° 340° 340°		SHA 024° 024° 024° 024° 024° 024°								
	Greenwich Culmination Time: 17:22		Greenwich Culmination Time: 12:09		Greenwich Culmination Time: 09:14								

UT	Sun				Venus				Moon				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	179 37.5 +00.2	N 07 46.1 +01.0	141 56.9 -00.6	N 21 16.0 +00.8	314 08.7 -33.6	S 24 07.0 +08.4	00							
01	194 37.7 +00.2	N 07 47.1 +00.9	156 56.3 -00.5	N 21 16.8 +00.8	328 35.1 -33.7	S 24 15.4 +08.4	01							
02	209 37.9 +00.1	N 07 48.0 +00.9	171 55.8 -00.6	N 21 17.6 +00.8	343 01.4 -33.8	S 24 23.8 +08.2	02							
03	224 38.0 +00.2	N 07 48.9 +00.9	186 55.2 -00.6	N 21 18.4 +00.8	357 27.6 -33.9	S 24 32.0 +08.0	03							
04	239 38.2 +00.2	N 07 49.8 +01.0	201 54.6 -00.5	N 21 19.2 +00.7	11 53.7 -33.9	S 24 40.0 +08.0	04							
05	254 38.4 +00.1	N 07 50.8 +00.9	216 54.1 -00.6	N 21 19.9 +00.8	26 19.8 -34.1	S 24 48.0 +07.7	05							
06	269 38.5 +00.2	N 07 51.7 +00.9	231 53.5 -00.5	N 21 20.7 +00.8	40 45.7 -34.2	S 24 55.7 +07.7	06							
07	284 38.7 +00.2	N 07 52.6 +00.9	246 53.0 -00.6	N 21 21.5 +00.7	55 11.5 -34.3	S 25 03.4 +07.4	07							
08	299 38.9 +00.2	N 07 53.5 +01.0	261 52.4 -00.6	N 21 22.2 +00.8	69 37.2 -34.4	S 25 10.8 +07.4	08							
09	314 39.1 +00.1	N 07 54.5 +00.9	276 51.8 -00.5	N 21 23.0 +00.8	84 02.8 -34.4	S 25 18.2 +07.2	09							
10	329 39.2 +00.2	N 07 55.4 +00.9	291 51.3 -00.6	N 21 23.8 +00.8	98 28.4 -34.6	S 25 25.4 +07.0	10							
11	344 39.4 +00.2	N 07 56.3 +00.9	306 50.7 -00.5	N 21 24.6 +00.7	112 53.8 -34.7	S 25 32.4 +06.9	11							
12	359 39.6 +00.1	N 07 57.2 +01.0	321 50.2 -00.6	N 21 25.3 +00.8	127 19.1 -34.7	S 25 39.3 +06.7	12							
13	14 39.7 +00.2	N 07 58.2 +00.9	336 49.6 -00.6	N 21 26.1 +00.8	141 44.4 -34.8	S 25 46.0 +06.6	13							
14	29 39.9 +00.2	N 07 59.1 +00.9	351 49.0 -00.5	N 21 26.9 +00.7	156 09.6 -35.0	S 25 52.6 +06.4	14							
15	44 40.1 +00.1	N 08 00.0 +00.9	6 48.5 -00.6	N 21 27.6 +00.8	170 34.6 -35.0	S 25 59.0 +06.3	15							
16	59 40.2 +00.2	N 08 00.9 +01.0	21 47.9 -00.6	N 21 28.4 +00.8	184 59.6 -35.1	S 26 05.3 +06.1	16							
17	74 40.4 +00.2	N 08 01.9 +00.9	36 47.3 -00.5	N 21 29.2 +00.7	199 24.5 -35.1	S 26 11.4 +06.0	17							
18	89 40.6 +00.1	N 08 02.8 +00.9	51 46.8 -00.6	N 21 29.9 +00.8	213 49.4 -35.3	S 26 17.4 +05.7	18							
19	104 40.7 +00.2	N 08 03.7 +00.9	66 46.2 -00.6	N 21 30.7 +00.8	228 14.1 -35.3	S 26 23.1 +05.7	19							
20	119 40.9 +00.2	N 08 04.6 +00.9	81 45.6 -00.5	N 21 31.5 +00.7	242 38.8 -35.4	S 26 28.8 +05.4	20							
21	134 41.1 +00.1	N 08 05.5 +01.0	96 45.1 -00.6	N 21 32.2 +00.8	257 03.4 -35.5	S 26 34.2 +05.3	21							
22	149 41.2 +00.2	N 08 06.5 +00.9	111 44.5 -00.6	N 21 33.0 +00.7	271 27.9 -35.6	S 26 39.5 +05.2	22							
23	164 41.4 +00.2	N 08 07.4 +00.9	126 43.9 -00.5	N 21 33.7 +00.8	285 52.3 -35.7	S 26 44.7 +04.9	23							
UT 02 06 10 14 18 22	SD 16'0 16'0 16'0 16'0 16'0 16'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 342° 341° 341° 341° 341° 341°	Greenwich Culmination Time: 12:01	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 304° 304° 303° 303° 303° 303°	Greenwich Culmination Time: 14:32	UT 02 06 10 14 18 22	SD 15'8 15'8 15'8 15'8 15'9 15'9	HP 57'9 58'0 58'1 58'2 58'2 58'3	SHA 115° 113° 110° 108° 105° 103°	Greenwich Culmination Time: 03:10

UT	Mars				Jupiter				Saturn				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	99 22.4 +01.1	N 25 10.9 -00.1	177 53.5 +01.9	N 07 19.0 +00.2	221 55.9 +02.2	S 11 26.3 +00.0	00							
01	114 23.5 +01.0	N 25 10.8 -00.1	192 55.4 +01.9	N 07 19.2 +00.3	236 58.1 +02.3	S 11 26.3 -00.1	01							
02	129 24.5 +01.0	N 25 10.7 -00.1	207 57.3 +01.9	N 07 19.5 +00.2	252 00.4 +02.2	S 11 26.2 -00.1	02							
03	144 25.5 +01.1	N 25 10.6 -00.2	222 59.2 +01.9	N 07 19.7 +00.2	267 02.6 +02.2	S 11 26.1 -00.1	03							
04	159 26.6 +01.0	N 25 10.4 -00.1	238 01.1 +01.9	N 07 19.9 +00.2	282 04.8 +02.3	S 11 26.0 -00.1	04							
05	174 27.6 +01.1	N 25 10.3 -00.1	253 03.0 +01.9	N 07 20.1 +00.3	297 07.1 +02.2	S 11 25.9 +00.0	05							
06	189 28.7 +01.0	N 25 10.2 -00.1	268 04.9 +01.9	N 07 20.4 +00.2	312 09.3 +02.2	S 11 25.9 -00.1	06							
07	204 29.7 +01.0	N 25 10.1 -00.1	283 06.8 +01.9	N 07 20.6 +00.2	327 11.5 +02.3	S 11 25.8 -00.1	07							
08	219 30.7 +01.1	N 25 10.0 -00.1	298 08.7 +01.9	N 07 20.8 +00.2	342 13.8 +02.2	S 11 25.7 -00.1	08							
09	234 31.8 +01.0	N 25 09.9 -00.1	313 10.6 +01.9	N 07 21.0 +00.3	357 16.0 +02.2	S 11 25.6 -00.1	09							
10	249 32.8 +01.1	N 25 09.8 -00.1	328 12.5 +01.9	N 07 21.3 +00.2	12 18.2 +02.3	S 11 25.5 +00.0	10							
11	264 33.9 +01.0	N 25 09.7 -00.1	343 14.4 +01.9	N 07 21.5 +00.2	27 20.5 +02.2	S 11 25.5 -00.1	11							
12	279 34.9 +01.0	N 25 09.6 -00.1	358 16.3 +01.9	N 07 21.7 +00.3	42 22.7 +02.2	S 11 25.4 -00.1	12							
13	294 35.9 +01.1	N 25 09.5 -00.1	13 18.2 +01.9	N 07 22.0 +00.2	57 24.9 +02.3	S 11 25.3 -00.1	13							
14	309 37.0 +01.0	N 25 09.4 -00.1	28 20.1 +01.9	N 07 22.2 +00.2	72 27.2 +02.2	S 11 25.2 -00.1	14							
15	324 38.0 +01.0	N 25 09.3 -00.1	43 22.0 +01.9	N 07 22.4 +00.2	87 29.4 +02.3	S 11 25.1 +00.0	15							
16	339 39.0 +01.1	N 25 09.2 -00.1	58 23.9 +01.9	N 07 22.6 +00.3	102 31.7 +02.2	S 11 25.1 -00.1	16							
17	354 40.1 +01.0	N 25 09.1 -00.1	73 25.8 +01.9	N 07 22.9 +00.2	117 33.9 +02.2	S 11 25.0 -00.1	17							
18	9 41.1 +01.1	N 25 09.0 -00.1	88 27.7 +01.9	N 07 23.1 +00.2	132 36.1 +02.3	S 11 24.9 -00.1	18							
19	24 42.2 +01.0	N 25 08.9 -00.1	103 29.6 +01.9	N 07 23.3 +00.2	147 38.4 +02.2	S 11 24.8 -00.1	19							
20	39 43.2 +01.0	N 25 08.8 -00.1	118 31.5 +01.9	N 07 23.5 +00.3	162 40.6 +02.2	S 11 24.7 -00.1	20							
21	54 44.2 +01.1	N 25 08.7 -00.2	133 33.4 +01.9	N 07 23.8 +00.2	177 42.8 +02.3	S 11 24.6 +00.0	21							
22	69 45.3 +01.0	N 25 08.5 -00.1	148 35.3 +01.9	N 07 24.0 +00.2	192 45.1 +02.2	S 11 24.6 -00.1	22							
23	84 46.3 +01.0	N 25 08.4 -00.1	163 37.2 +01.9	N 07 24.2 +00.2	207 47.3 +02.2	S 11 24.5 -00.1	23							
UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 261° 261° 261° 261° 261° 261°	Greenwich Culmination Time: 17:21	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 340° 340° 340° 340° 340° 340°	Greenwich Culmination Time: 12:06	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 024° 024° 024° 024° 024° 024°	Greenwich Culmination Time: 09:10

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179	41.6 +00.1	N 08 08.3 +00.9		141	43.4 -00.6	N 21 34.5 +00.8		300	16.6 -35.7	S 26 49.6 +04.8		00
01	194	41.7 +00.2	N 08 09.2 +01.0		156	42.8 -00.6	N 21 35.3 +00.7		314	40.9 -35.8	S 26 54.4 +04.7		01
02	209	41.9 +00.2	N 08 10.2 +00.9		171	42.2 -00.5	N 21 36.0 +00.8		329	05.1 -35.9	S 26 59.1 +04.4		02
03	224	42.1 +00.1	N 08 11.1 +00.9		186	41.7 -00.6	N 21 36.8 +00.7		343	29.2 -35.9	S 27 03.5 +04.3		03
04	239	42.2 +00.2	N 08 12.0 +00.9		201	41.1 -00.6	N 21 37.5 +00.8		357	53.3 -36.0	S 27 07.8 +04.1		04
05	254	42.4 +00.2	N 08 12.9 +00.9		216	40.5 -00.5	N 21 38.3 +00.7		12	17.3 -36.1	S 27 11.9 +03.9		05
06	269	42.6 +00.1	N 08 13.8 +01.0		231	40.0 -00.6	N 21 39.0 +00.8		26	41.2 -36.1	S 27 15.8 +03.8		06
07	284	42.7 +00.2	N 08 14.8 +00.9		246	39.4 -00.6	N 21 39.8 +00.7		41	05.1 -36.2	S 27 19.6 +03.6		07
08	299	42.9 +00.2	N 08 15.7 +00.9		261	38.8 -00.5	N 21 40.5 +00.8		55	28.9 -36.3	S 27 23.2 +03.4		08
09	314	43.1 +00.1	N 08 16.6 +00.9		276	38.3 -00.6	N 21 41.3 +00.7		69	52.6 -36.3	S 27 26.6 +03.3		09
10	329	43.2 +00.2	N 08 17.5 +00.9		291	37.7 -00.6	N 21 42.0 +00.8		84	16.3 -36.3	S 27 29.9 +03.0		10
11	344	43.4 +00.1	N 08 18.4 +00.9		306	37.1 -00.6	N 21 42.8 +00.7		98	40.0 -36.5	S 27 32.9 +02.9		11
12	359	43.5 +00.2	N 08 19.3 +01.0		321	36.5 -00.5	N 21 43.5 +00.8		113	03.5 -36.4	S 27 35.8 +02.7		12
13	14	43.7 +00.2	N 08 20.3 +00.9		336	36.0 -00.6	N 21 44.3 +00.7		127	27.1 -36.6	S 27 38.5 +02.5		13
14	29	43.9 +00.1	N 08 21.2 +00.9		351	35.4 -00.6	N 21 45.0 +00.8		141	50.5 -36.5	S 27 41.0 +02.4		14
15	44	44.0 +00.2	N 08 22.1 +00.9		6	34.8 -00.5	N 21 45.8 +00.7		156	14.0 -36.6	S 27 43.4 +02.1		15
16	59	44.2 +00.2	N 08 23.0 +00.9		21	34.3 -00.6	N 21 46.5 +00.7		170	37.4 -36.7	S 27 45.5 +02.0		16
17	74	44.4 +00.1	N 08 23.9 +01.0		36	33.7 -00.6	N 21 47.2 +00.8		185	00.7 -36.7	S 27 47.5 +01.8		17
18	89	44.5 +00.2	N 08 24.9 +00.9		51	33.1 -00.6	N 21 48.0 +00.7		199	24.0 -36.7	S 27 49.3 +01.6		18
19	104	44.7 +00.2	N 08 25.8 +00.9		66	32.5 -00.5	N 21 48.7 +00.8		213	47.3 -36.8	S 27 50.9 +01.4		19
20	119	44.9 +00.1	N 08 26.7 +00.9		81	32.0 -00.6	N 21 49.5 +00.7		228	10.5 -36.8	S 27 52.3 +01.3		20
21	134	45.0 +00.2	N 08 27.6 +00.9		96	31.4 -00.6	N 21 50.2 +00.7		242	33.7 -36.9	S 27 53.6 +01.0		21
22	149	45.2 +00.2	N 08 28.5 +00.9		111	30.8 -00.6	N 21 50.9 +00.8		256	56.8 -36.8	S 27 54.6 +00.9		22
23	164	45.4 +00.1	N 08 29.4 +01.0		126	30.2 -00.5	N 21 51.7 +00.7		271	20.0 -36.9	S 27 55.5 +00.7		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 16'0 16'0 16'0 16'0 16'0 16'0				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 15'9 15'9 15'9 16'0 16'0 16'0				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 58'4 58'4 58'5 58'6 58'6 58'7				
	SHA 341° 341° 340° 340° 340° 340°				SHA 303° 302° 302° 302° 302° 302°				SHA 100° 097° 095° 092° 090° 087°				
	Greenwich Culmination Time: 12:01				Greenwich Culmination Time: 14:33				Greenwich Culmination Time: 04:08				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	99	47.3 +01.1	N 25 08.3 -00.1		178	39.1 +01.9	N 07 24.4 +00.3		222	49.5 +02.3	S 11 24.4 -00.1		00
01	114	48.4 +01.0	N 25 08.2 -00.1		193	41.0 +01.9	N 07 24.7 +00.2		237	51.8 +02.2	S 11 24.3 -00.1		01
02	129	49.4 +01.0	N 25 08.1 -00.1		208	42.9 +01.9	N 07 24.9 +00.2		252	54.0 +02.2	S 11 24.2 +00.0		02
03	144	50.4 +01.1	N 25 08.0 -00.1		223	44.8 +01.9	N 07 25.1 +00.2		267	56.2 +02.3	S 11 24.2 -00.1		03
04	159	51.5 +01.0	N 25 07.9 -00.1		238	46.7 +01.9	N 07 25.3 +00.3		282	58.5 +02.2	S 11 24.1 -00.1		04
05	174	52.5 +01.1	N 25 07.8 -00.1		253	48.6 +01.9	N 07 25.6 +00.2		298	00.7 +02.3	S 11 24.0 -00.1		05
06	189	53.6 +01.0	N 25 07.7 -00.1		268	50.5 +01.9	N 07 25.8 +00.2		313	03.0 +02.2	S 11 23.9 -00.1		06
07	204	54.6 +01.0	N 25 07.6 -00.1		283	52.4 +01.9	N 07 26.0 +00.2		328	05.2 +02.2	S 11 23.8 +00.0		07
08	219	55.6 +01.1	N 25 07.5 -00.1		298	54.3 +01.9	N 07 26.2 +00.3		343	07.4 +02.3	S 11 23.8 -00.1		08
09	234	56.7 +01.0	N 25 07.4 -00.2		313	56.2 +01.9	N 07 26.5 +00.2		358	09.7 +02.2	S 11 23.7 -00.1		09
10	249	57.7 +01.0	N 25 07.2 -00.1		328	58.1 +01.9	N 07 26.7 +00.2		13	11.9 +02.2	S 11 23.6 -00.1		10
11	264	58.7 +01.1	N 25 07.1 -00.1		344	00.0 +01.9	N 07 26.9 +00.2		28	14.1 +02.3	S 11 23.5 -00.1		11
12	279	59.8 +01.0	N 25 07.0 -00.1		359	01.9 +01.9	N 07 27.1 +00.3		43	16.4 +02.2	S 11 23.4 +00.0		12
13	295	00.8 +01.0	N 25 06.9 -00.1		14	03.8 +01.9	N 07 27.4 +00.2		58	18.6 +02.3	S 11 23.4 -00.1		13
14	310	01.8 +01.1	N 25 06.8 -00.1		29	05.7 +01.9	N 07 27.6 +00.2		73	20.9 +02.2	S 11 23.3 -00.1		14
15	325	02.9 +01.0	N 25 06.7 -00.1		44	07.6 +01.9	N 07 27.8 +00.3		88	23.1 +02.2	S 11 23.2 -00.1		15
16	340	03.9 +01.0	N 25 06.6 -00.1		59	09.5 +01.9	N 07 28.1 +00.2		103	25.3 +02.3	S 11 23.1 -00.1		16
17	355	04.9 +01.1	N 25 06.5 -00.1		74	11.4 +01.9	N 07 28.3 +00.2		118	27.6 +02.2	S 11 23.0 +00.0		17
18	10	06.0 +01.0	N 25 06.4 -00.2		89	13.3 +01.9	N 07 28.5 +00.2		133	29.8 +02.2	S 11 23.0 -00.1		18
19	25	07.0 +01.0	N 25 06.2 -00.1		104	15.2 +01.9	N 07 28.7 +00.3		148	32.0 +02.3	S 11 22.9 -00.1		19
20	40	08.0 +01.1	N 25 06.1 -00.1		119	17.1 +01.9	N 07 29.0 +00.2		163	34.3 +02.2	S 11 22.8 -00.1		20
21	55	09.1 +01.0	N 25 06.0 -00.1		134	19.0 +01.9	N 07 29.2 +00.2		178	36.5 +02.3	S 11 22.7 -00.1		21
22	70	10.1 +01.0	N 25 05.9 -00.1		149	20.9 +01.9	N 07 29.4 +00.2		193	38.8 +02.2	S 11 22.6 +00.0		22
23	85	11.1 +01.1	N 25 05.8 -00.1		164	22.8 +01.9	N 07 29.6 +00.3		208	41.0 +02.2	S 11 22.6 -00.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'1 00'1 00'1 00'1 00'1 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 261° 261° 261° 261° 260° 260°				SHA 340° 340° 340° 340° 340° 339°				SHA 024° 024° 024° 024° 024° 024°				
	Greenwich Culmination Time: 17:19				Greenwich Culmination Time: 12:03				Greenwich Culmination Time: 09:07				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 45.5 +00.2	N 08 30.4 +00.9	141 29.7 -00.6	N 21 52.4 +00.7	285 43.1 -37.0	S 27 56.2 +00.5	00						
01	194 45.7 +00.1	N 08 31.3 +00.9	156 29.1 -00.6	N 21 53.1 +00.8	300 06.1 -36.9	S 27 56.7 +00.3	01						
02	209 45.8 +00.2	N 08 32.2 +00.9	171 28.5 -00.6	N 21 53.9 +00.7	314 29.2 -37.0	S 27 57.0 +00.1	02						
03	224 46.0 +00.2	N 08 33.1 +00.9	186 27.9 -00.5	N 21 54.6 +00.7	328 52.2 -37.0	S 27 57.1 +00.0	03						
04	239 46.2 +00.1	N 08 34.0 +00.9	201 27.4 -00.6	N 21 55.3 +00.8	343 15.2 -37.0	S 27 57.1 -00.3	04						
05	254 46.3 +00.2	N 08 34.9 +00.9	216 26.8 -00.6	N 21 56.1 +00.7	357 38.2 -37.0	S 27 56.8 -00.4	05						
06	269 46.5 +00.2	N 08 35.8 +01.0	231 26.2 -00.6	N 21 56.8 +00.7	12 01.2 -37.0	S 27 56.4 -00.6	06						
07	284 46.7 +00.1	N 08 36.8 +00.9	246 25.6 -00.5	N 21 57.5 +00.8	26 24.2 -37.0	S 27 55.8 -00.9	07						
08	299 46.8 +00.2	N 08 37.7 +00.9	261 25.1 -00.6	N 21 58.3 +00.7	40 47.2 -37.1	S 27 54.9 -01.0	08						
09	314 47.0 +00.1	N 08 38.6 +00.9	276 24.5 -00.6	N 21 59.0 +00.7	55 10.1 -37.0	S 27 53.9 -01.2	09						
10	329 47.1 +00.2	N 08 39.5 +00.9	291 23.9 -00.6	N 21 59.7 +00.7	69 33.1 -37.1	S 27 52.7 -01.3	10						
11	344 47.3 +00.2	N 08 40.4 +00.9	306 23.3 -00.5	N 22 00.4 +00.8	83 56.0 -37.0	S 27 51.4 -01.6	11						
12	359 47.5 +00.1	N 08 41.3 +00.9	321 22.8 -00.6	N 22 01.2 +00.7	98 19.0 -37.1	S 27 49.8 -01.8	12						
13	14 47.6 +00.2	N 08 42.2 +01.0	336 22.2 -00.6	N 22 01.9 +00.7	112 41.9 -37.0	S 27 48.0 -01.9	13						
14	29 47.8 +00.1	N 08 43.2 +00.9	351 21.6 -00.6	N 22 02.6 +00.7	127 04.9 -37.0	S 27 46.1 -02.1	14						
15	44 47.9 +00.2	N 08 44.1 +00.9	6 21.0 -00.6	N 22 03.3 +00.7	141 27.9 -37.0	S 27 44.0 -02.3	15						
16	59 48.1 +00.2	N 08 45.0 +00.9	21 20.4 -00.5	N 22 04.0 +00.8	155 50.9 -37.1	S 27 41.7 -02.5	16						
17	74 48.3 +00.1	N 08 45.9 +00.9	36 19.9 -00.6	N 22 04.8 +00.7	170 13.8 -37.0	S 27 39.2 -02.7	17						
18	89 48.4 +00.2	N 08 46.8 +00.9	51 19.3 -00.6	N 22 05.5 +00.7	184 36.8 -36.9	S 27 36.5 -02.9	18						
19	104 48.6 +00.2	N 08 47.7 +00.9	66 18.7 -00.6	N 22 06.2 +00.7	198 59.9 -37.0	S 27 33.6 -03.1	19						
20	119 48.8 +00.1	N 08 48.6 +00.9	81 18.1 -00.6	N 22 06.9 +00.7	213 22.9 -36.9	S 27 30.5 -03.2	20						
21	134 48.9 +00.2	N 08 49.5 +00.9	96 17.5 -00.5	N 22 07.6 +00.7	227 46.0 -36.9	S 27 27.3 -03.5	21						
22	149 49.1 +00.1	N 08 50.4 +01.0	111 17.0 -00.6	N 22 08.3 +00.8	242 09.1 -36.9	S 27 23.8 -03.6	22						
23	164 49.2 +00.2	N 08 51.4 +00.9	126 16.4 -00.6	N 22 09.1 +00.7	256 32.2 -36.9	S 27 20.2 -03.8	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'0 16'0 16'0 16'0 16'1 16'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 58'7 58'8 58'9 58'9 59'0 59'0								
	SHA 340° 340° 339° 339° 339° 339°		SHA 301° 301° 301° 301° 301° 300°		SHA 084° 082° 079° 077° 074° 071°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 14:34		Greenwich Culmination Time: 05:09								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	100 12.2 +01.0	N 25 05.7 -00.1	179 24.7 +01.9	N 07 29.9 +00.2	223 43.2 +02.3	S 11 22.5 -00.1	00						
01	115 13.2 +01.0	N 25 05.6 -00.1	194 26.6 +01.9	N 07 30.1 +00.2	238 45.5 +02.2	S 11 22.4 -00.1	01						
02	130 14.2 +01.1	N 25 05.5 -00.2	209 28.5 +01.9	N 07 30.3 +00.2	253 47.7 +02.3	S 11 22.3 +00.0	02						
03	145 15.3 +01.0	N 25 05.3 -00.1	224 30.4 +01.9	N 07 30.5 +00.3	268 50.0 +02.2	S 11 22.3 -00.1	03						
04	160 16.3 +01.0	N 25 05.2 -00.1	239 32.3 +01.9	N 07 30.8 +00.2	283 52.2 +02.2	S 11 22.2 -00.1	04						
05	175 17.3 +01.1	N 25 05.1 -00.1	254 34.2 +01.9	N 07 31.0 +00.2	298 54.4 +02.3	S 11 22.1 -00.1	05						
06	190 18.4 +01.0	N 25 05.0 -00.1	269 36.1 +01.9	N 07 31.2 +00.2	313 56.7 +02.2	S 11 22.0 -00.1	06						
07	205 19.4 +01.0	N 25 04.9 -00.1	284 38.0 +01.9	N 07 31.4 +00.3	328 58.9 +02.2	S 11 21.9 +00.0	07						
08	220 20.4 +01.1	N 25 04.8 -00.1	299 39.9 +01.9	N 07 31.7 +00.2	344 01.1 +02.3	S 11 21.9 -00.1	08						
09	235 21.5 +01.0	N 25 04.7 -00.2	314 41.8 +01.9	N 07 31.9 +00.2	359 03.4 +02.2	S 11 21.8 -00.1	09						
10	250 22.5 +01.0	N 25 04.5 -00.1	329 43.7 +01.9	N 07 32.1 +00.2	14 05.6 +02.3	S 11 21.7 -00.1	10						
11	265 23.5 +01.1	N 25 04.4 -00.1	344 45.6 +01.9	N 07 32.3 +00.3	29 07.9 +02.2	S 11 21.6 -00.1	11						
12	280 24.6 +01.0	N 25 04.3 -00.1	359 47.5 +01.9	N 07 32.6 +00.2	44 10.1 +02.2	S 11 21.5 +00.0	12						
13	295 25.6 +01.0	N 25 04.2 -00.1	14 49.4 +01.9	N 07 32.8 +00.2	59 12.3 +02.3	S 11 21.5 -00.1	13						
14	310 26.6 +01.0	N 25 04.1 -00.1	29 51.3 +01.9	N 07 33.0 +00.2	74 14.6 +02.2	S 11 21.4 -00.1	14						
15	325 27.6 +01.1	N 25 04.0 -00.2	44 53.2 +01.9	N 07 33.2 +00.3	89 16.8 +02.3	S 11 21.3 -00.1	15						
16	340 28.7 +01.0	N 25 03.8 -00.1	59 55.1 +01.9	N 07 33.5 +00.2	104 19.1 +02.2	S 11 21.2 -00.1	16						
17	355 29.7 +01.0	N 25 03.7 -00.1	74 57.0 +01.9	N 07 33.7 +00.2	119 21.3 +02.2	S 11 21.1 +00.0	17						
18	10 30.7 +01.1	N 25 03.6 -00.1	89 58.9 +01.9	N 07 33.9 +00.2	134 23.5 +02.3	S 11 21.1 -00.1	18						
19	25 31.8 +01.0	N 25 03.5 -00.1	105 00.8 +01.9	N 07 34.1 +00.3	149 25.8 +02.2	S 11 21.0 -00.1	19						
20	40 32.8 +01.0	N 25 03.4 -00.1	120 02.7 +01.9	N 07 34.4 +00.2	164 28.0 +02.3	S 11 20.9 -00.1	20						
21	55 33.8 +01.1	N 25 03.3 -00.2	135 04.6 +01.9	N 07 34.6 +00.2	179 30.3 +02.2	S 11 20.8 +00.0	21						
22	70 34.9 +01.0	N 25 03.1 -00.1	150 06.5 +01.9	N 07 34.8 +00.2	194 32.5 +02.3	S 11 20.8 -00.1	22						
23	85 35.9 +01.0	N 25 03.0 -00.1	165 08.4 +01.9	N 07 35.0 +00.3	209 34.8 +02.2	S 11 20.7 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 260° 260° 260° 260° 260° 260°		SHA 339° 339° 339° 339° 339° 339°		SHA 024° 024° 024° 024° 024° 024°								
	Greenwich Culmination Time: 17:17		Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 09:03								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 49.4 +00.2	N 08 52.3 +00.9	141 15.8 -00.6	N 22 09.8 +00.7	270 55.3 -36.8	S 27 16.4 -04.0	00						
01	194 49.6 +00.1	N 08 53.2 +00.9	156 15.2 -00.6	N 22 10.5 +00.7	285 18.5 -36.8	S 27 12.4 -04.2	01						
02	209 49.7 +00.2	N 08 54.1 +00.9	171 14.6 -00.6	N 22 11.2 +00.7	299 41.7 -36.8	S 27 08.2 -04.4	02						
03	224 49.9 +00.1	N 08 55.0 +00.9	186 14.0 -00.5	N 22 11.9 +00.7	314 04.9 -36.7	S 27 03.8 -04.5	03						
04	239 50.0 +00.2	N 08 55.9 +00.9	201 13.5 -00.6	N 22 12.6 +00.7	328 28.2 -36.7	S 26 59.3 -04.7	04						
05	254 50.2 +00.1	N 08 56.8 +00.9	216 12.9 -00.6	N 22 13.3 +00.7	342 51.5 -36.6	S 26 54.6 -04.9	05						
06	269 50.3 +00.2	N 08 57.7 +00.9	231 12.3 -00.6	N 22 14.0 +00.7	357 14.9 -36.7	S 26 49.7 -05.1	06						
07	284 50.5 +00.2	N 08 58.6 +00.9	246 11.7 -00.6	N 22 14.7 +00.7	11 38.2 -36.5	S 26 44.6 -05.3	07						
08	299 50.7 +00.1	N 08 59.5 +00.9	261 11.1 -00.6	N 22 15.4 +00.7	26 01.7 -36.5	S 26 39.3 -05.4	08						
09	314 50.8 +00.2	N 09 00.4 +01.0	276 10.5 -00.5	N 22 16.1 +00.7	40 25.2 -36.5	S 26 33.9 -05.7	09						
10	329 51.0 +00.1	N 09 01.4 +00.9	291 10.0 -00.6	N 22 16.8 +00.7	54 48.7 -36.4	S 26 28.2 -05.8	10						
11	344 51.1 +00.2	N 09 02.3 +00.9	306 09.4 -00.6	N 22 17.5 +00.7	69 12.3 -36.4	S 26 22.4 -06.0	11						
12	359 51.3 +00.2	N 09 03.2 +00.9	321 08.8 -00.6	N 22 18.2 +00.7	83 35.9 -36.3	S 26 16.4 -06.1	12						
13	14 51.5 +00.1	N 09 04.1 +00.9	336 08.2 -00.6	N 22 18.9 +00.7	97 59.6 -36.3	S 26 10.3 -06.4	13						
14	29 51.6 +00.2	N 09 05.0 +00.9	351 07.6 -00.6	N 22 19.6 +00.7	112 23.3 -36.2	S 26 03.9 -06.5	14						
15	44 51.8 +00.1	N 09 05.9 +00.9	6 07.0 -00.6	N 22 20.3 +00.7	126 47.1 -36.1	S 25 57.4 -06.7	15						
16	59 51.9 +00.2	N 09 06.8 +00.9	21 06.4 -00.5	N 22 21.0 +00.7	141 11.0 -36.1	S 25 50.7 -06.8	16						
17	74 52.1 +00.1	N 09 07.7 +00.9	36 05.9 -00.6	N 22 21.7 +00.7	155 34.9 -36.0	S 25 43.9 -07.0	17						
18	89 52.2 +00.2	N 09 08.6 +00.9	51 05.3 -00.6	N 22 22.4 +00.7	169 58.9 -36.0	S 25 36.9 -07.2	18						
19	104 52.4 +00.2	N 09 09.5 +00.9	66 04.7 -00.6	N 22 23.1 +00.7	184 22.9 -35.9	S 25 29.7 -07.4	19						
20	119 52.6 +00.1	N 09 10.4 +00.9	81 04.1 -00.6	N 22 23.8 +00.7	198 47.0 -35.8	S 25 22.3 -07.5	20						
21	134 52.7 +00.2	N 09 11.3 +00.9	96 03.5 -00.6	N 22 24.5 +00.7	213 11.2 -35.8	S 25 14.8 -07.7	21						
22	149 52.9 +00.1	N 09 12.2 +00.9	111 02.9 -00.6	N 22 25.2 +00.7	227 35.4 -35.7	S 25 07.1 -07.9	22						
23	164 53.0 +00.2	N 09 13.1 +00.9	126 02.3 -00.6	N 22 25.9 +00.7	241 59.7 -35.7	S 24 59.2 -08.0	23						
UT 02 06 10 14 18 22 SD 16'0 16'0 16'0 16'0 16'0 16'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 339° 339° 339° 338° 338° 338° Greenwich Culmination Time: 12:00				UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 300° 300° 300° 300° 299° 299° Greenwich Culmination Time: 14:35				UT 02 06 10 14 18 22 SD 16'1 16'1 16'1 16'1 16'1 16'2 HP 59'1 59'1 59'2 59'2 59'2 59'3 SHA 069° 066° 063° 061° 058° 056° Greenwich Culmination Time: 06:11					
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	100 36.9 +01.0	N 25 02.9 -00.1	180 10.3 +01.9	N 07 35.3 +00.2	224 37.0 +02.2	S 11 20.6 -00.1	00						
01	115 37.9 +01.1	N 25 02.8 -00.1	195 12.2 +01.9	N 07 35.5 +00.2	239 39.2 +02.3	S 11 20.5 -00.1	01						
02	130 39.0 +01.0	N 25 02.7 -00.2	210 14.1 +01.9	N 07 35.7 +00.2	254 41.5 +02.2	S 11 20.4 +00.0	02						
03	145 40.0 +01.0	N 25 02.5 -00.1	225 16.0 +01.9	N 07 35.9 +00.3	269 43.7 +02.3	S 11 20.4 -00.1	03						
04	160 41.0 +01.1	N 25 02.4 -00.1	240 17.9 +01.9	N 07 36.2 +00.2	284 46.0 +02.2	S 11 20.3 -00.1	04						
05	175 42.1 +01.0	N 25 02.3 -00.1	255 19.8 +01.9	N 07 36.4 +00.2	299 48.2 +02.2	S 11 20.2 -00.1	05						
06	190 43.1 +01.0	N 25 02.2 -00.1	270 21.7 +01.9	N 07 36.6 +00.2	314 50.4 +02.3	S 11 20.1 -00.1	06						
07	205 44.1 +01.0	N 25 02.1 -00.2	285 23.6 +01.9	N 07 36.8 +00.3	329 52.7 +02.2	S 11 20.0 +00.0	07						
08	220 45.1 +01.1	N 25 01.9 -00.1	300 25.5 +01.9	N 07 37.1 +00.2	344 54.9 +02.3	S 11 20.0 -00.1	08						
09	235 46.2 +01.0	N 25 01.8 -00.1	315 27.4 +01.9	N 07 37.3 +00.2	359 57.2 +02.2	S 11 19.9 -00.1	09						
10	250 47.2 +01.0	N 25 01.7 -00.1	330 29.3 +01.9	N 07 37.5 +00.2	14 59.4 +02.2	S 11 19.8 -00.1	10						
11	265 48.2 +01.0	N 25 01.6 -00.1	345 31.2 +01.9	N 07 37.7 +00.3	30 01.6 +02.3	S 11 19.7 +00.0	11						
12	280 49.2 +01.1	N 25 01.5 -00.2	0 33.1 +01.9	N 07 38.0 +00.2	45 03.9 +02.2	S 11 19.7 -00.1	12						
13	295 50.3 +01.0	N 25 01.3 -00.1	15 35.0 +01.9	N 07 38.2 +00.2	60 06.1 +02.3	S 11 19.6 -00.1	13						
14	310 51.3 +01.0	N 25 01.2 -00.1	30 36.9 +01.9	N 07 38.4 +00.2	75 08.4 +02.2	S 11 19.5 -00.1	14						
15	325 52.3 +01.1	N 25 01.1 -00.1	45 38.8 +01.9	N 07 38.6 +00.3	90 10.6 +02.3	S 11 19.4 -00.1	15						
16	340 53.4 +01.0	N 25 01.0 -00.1	60 40.7 +01.9	N 07 38.9 +00.2	105 12.9 +02.2	S 11 19.3 +00.0	16						
17	355 54.4 +01.0	N 25 00.9 -00.2	75 42.6 +01.9	N 07 39.1 +00.2	120 15.1 +02.2	S 11 19.3 -00.1	17						
18	10 55.4 +01.0	N 25 00.7 -00.1	90 44.5 +01.9	N 07 39.3 +00.2	135 17.3 +02.3	S 11 19.2 -00.1	18						
19	25 56.4 +01.1	N 25 00.6 -00.1	105 46.4 +01.9	N 07 39.5 +00.3	150 19.6 +02.2	S 11 19.1 -00.1	19						
20	40 57.5 +01.0	N 25 00.5 -00.1	120 48.3 +01.9	N 07 39.8 +00.2	165 21.8 +02.3	S 11 19.0 +00.0	20						
21	55 58.5 +01.0	N 25 00.4 -00.2	135 50.2 +01.9	N 07 40.0 +00.2	180 24.1 +02.2	S 11 19.0 -00.1	21						
22	70 59.5 +01.0	N 25 00.2 -00.1	150 52.1 +01.9	N 07 40.2 +00.2	195 26.3 +02.3	S 11 18.9 -00.1	22						
23	86 00.5 +01.1	N 25 00.1 -00.1	165 54.0 +01.9	N 07 40.4 +00.3	210 28.6 +02.2	S 11 18.8 -00.1	23						
UT 02 06 10 14 18 22 SD 00'0 00'0 00'0 00'0 00'0 00'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 260° 260° 259° 259° 259° 259° Greenwich Culmination Time: 17:16				UT 02 06 10 14 18 22 SD 00'3 00'3 00'3 00'3 00'3 00'3 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 339° 339° 339° 339° 339° 339° Greenwich Culmination Time: 11:57				UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 024° 024° 024° 024° 024° 024° Greenwich Culmination Time: 09:00					

UT	Sun				Venus				Moon				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	179 53.2 +00.1	N 09 14.0 +00.9	141 01.7 -00.5	N 22 26.6 +00.6	256 24.0 -35.5	S 24 51.2 -08.2	00							
01	194 53.3 +00.2	N 09 14.9 +00.9	156 01.2 -00.6	N 22 27.2 +00.7	270 48.5 -35.5	S 24 43.0 -08.4	01							
02	209 53.5 +00.2	N 09 15.8 +00.9	171 00.6 -00.6	N 22 27.9 +00.7	285 13.0 -35.4	S 24 34.6 -08.5	02							
03	224 53.7 +00.1	N 09 16.7 +00.9	185 60.0 -00.6	N 22 28.6 +00.7	299 37.6 -35.4	S 24 26.1 -08.7	03							
04	239 53.8 +00.2	N 09 17.6 +00.9	200 59.4 -00.6	N 22 29.3 +00.7	314 02.2 -35.2	S 24 17.4 -08.8	04							
05	254 54.0 +00.1	N 09 18.5 +00.9	215 58.8 -00.6	N 22 30.0 +00.7	328 27.0 -35.2	S 24 08.6 -09.0	05							
06	269 54.1 +00.2	N 09 19.4 +00.9	230 58.2 -00.6	N 22 30.7 +00.7	342 51.8 -35.2	S 23 59.6 -09.2	06							
07	284 54.3 +00.1	N 09 20.3 +00.9	245 57.6 -00.6	N 22 31.4 +00.6	357 16.6 -35.0	S 23 50.4 -09.3	07							
08	299 54.4 +00.2	N 09 21.2 +00.9	260 57.0 -00.6	N 22 32.0 +00.7	11 41.6 -35.0	S 23 41.1 -09.4	08							
09	314 54.6 +00.1	N 09 22.1 +01.0	275 56.4 -00.6	N 22 32.7 +00.7	26 06.6 -34.8	S 23 31.7 -09.6	09							
10	329 54.7 +00.2	N 09 23.1 +00.9	290 55.8 -00.5	N 22 33.4 +00.7	40 31.8 -34.9	S 23 22.1 -09.8	10							
11	344 54.9 +00.1	N 09 24.0 +00.9	305 55.3 -00.6	N 22 34.1 +00.6	54 56.9 -34.7	S 23 12.3 -09.9	11							
12	359 55.0 +00.2	N 09 24.9 +00.9	320 54.7 -00.6	N 22 34.7 +00.7	69 22.2 -34.6	S 23 02.4 -10.1	12							
13	14 55.2 +00.2	N 09 25.8 +00.9	335 54.1 -00.6	N 22 35.4 +00.7	83 47.6 -34.6	S 22 52.3 -10.2	13							
14	29 55.4 +00.1	N 09 26.7 +00.9	350 53.5 -00.6	N 22 36.1 +00.7	98 13.0 -34.5	S 22 42.1 -10.3	14							
15	44 55.5 +00.2	N 09 27.6 +00.9	5 52.9 -00.6	N 22 36.8 +00.6	112 38.5 -34.4	S 22 31.8 -10.5	15							
16	59 55.7 +00.1	N 09 28.5 +00.9	20 52.3 -00.6	N 22 37.4 +00.7	127 04.1 -34.3	S 22 21.3 -10.6	16							
17	74 55.8 +00.2	N 09 29.4 +00.9	35 51.7 -00.6	N 22 38.1 +00.7	141 29.8 -34.2	S 22 10.7 -10.8	17							
18	89 56.0 +00.1	N 09 30.3 +00.8	50 51.1 -00.6	N 22 38.8 +00.7	155 55.6 -34.2	S 21 59.9 -10.9	18							
19	104 56.1 +00.2	N 09 31.1 +00.9	65 50.5 -00.6	N 22 39.5 +00.6	170 21.4 -34.0	S 21 49.0 -11.1	19							
20	119 56.3 +00.1	N 09 32.0 +00.9	80 49.9 -00.6	N 22 40.1 +00.7	184 47.4 -34.0	S 21 37.9 -11.2	20							
21	134 56.4 +00.2	N 09 32.9 +00.9	95 49.3 -00.6	N 22 40.8 +00.7	199 13.4 -33.9	S 21 26.7 -11.3	21							
22	149 56.6 +00.1	N 09 33.8 +00.9	110 48.7 -00.6	N 22 41.5 +00.6	213 39.5 -33.8	S 21 15.4 -11.4	22							
23	164 56.7 +00.2	N 09 34.7 +00.9	125 48.1 -00.6	N 22 42.1 +00.7	228 05.7 -33.7	S 21 04.0 -11.6	23							
UT 02 06 10 14 18 22	SD 16'0 15'9 15'9 15'9 15'9 15'9	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 338° 338° 338° 337° 337° 337°	Greenwich Culmination Time: 12:00	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 299° 299° 299° 298° 298° 298°	Greenwich Culmination Time: 14:36	UT 02 06 10 14 18 22	SD 16'2 16'2 16'2 16'2 16'2 16'2	HP 59'3 59'4 59'4 59'4 59'4 59'5	SHA 053° 051° 048° 046° 043° 041°	Greenwich Culmination Time: 07:11

UT	Mars				Jupiter				Saturn				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	101 01.6 +01.0	N 24 60.0 -00.1	180 55.9 +01.9	N 07 40.7 +00.2	225 30.8 +02.2	S 11 18.7 -00.1	00							
01	116 02.6 +01.0	N 24 59.9 -00.2	195 57.8 +01.9	N 07 40.9 +00.2	240 33.0 +02.3	S 11 18.6 +00.0	01							
02	131 03.6 +01.0	N 24 59.7 -00.1	210 59.7 +01.9	N 07 41.1 +00.2	255 35.3 +02.2	S 11 18.6 -00.1	02							
03	146 04.6 +01.1	N 24 59.6 -00.1	226 01.6 +01.9	N 07 41.3 +00.3	270 37.5 +02.3	S 11 18.5 -00.1	03							
04	161 05.7 +01.0	N 24 59.5 -00.1	241 03.5 +01.9	N 07 41.6 +00.2	285 39.8 +02.2	S 11 18.4 -00.1	04							
05	176 06.7 +01.0	N 24 59.4 -00.2	256 05.4 +01.9	N 07 41.8 +00.2	300 42.0 +02.3	S 11 18.3 +00.0	05							
06	191 07.7 +01.0	N 24 59.2 -00.1	271 07.3 +01.9	N 07 42.0 +00.2	315 44.3 +02.2	S 11 18.3 -00.1	06							
07	206 08.7 +01.1	N 24 59.1 -00.1	286 09.2 +01.9	N 07 42.2 +00.3	330 46.5 +02.3	S 11 18.2 -00.1	07							
08	221 09.8 +01.0	N 24 59.0 -00.1	301 11.1 +01.9	N 07 42.5 +00.2	345 48.8 +02.2	S 11 18.1 -00.1	08							
09	236 10.8 +01.0	N 24 58.9 -00.2	316 13.0 +01.9	N 07 42.7 +00.2	0 51.0 +02.2	S 11 18.0 -00.1	09							
10	251 11.8 +01.0	N 24 58.7 -00.1	331 14.9 +01.9	N 07 42.9 +00.2	15 53.2 +02.3	S 11 17.9 +00.0	10							
11	266 12.8 +01.0	N 24 58.6 -00.1	346 16.8 +01.9	N 07 43.1 +00.3	30 55.5 +02.2	S 11 17.9 -00.1	11							
12	281 13.8 +01.1	N 24 58.5 -00.1	1 18.7 +01.9	N 07 43.4 +00.2	45 57.7 +02.3	S 11 17.8 -00.1	12							
13	296 14.9 +01.0	N 24 58.4 -00.2	16 20.6 +01.9	N 07 43.6 +00.2	60 60.0 +02.2	S 11 17.7 -00.1	13							
14	311 15.9 +01.0	N 24 58.2 -00.1	31 22.5 +01.9	N 07 43.8 +00.2	76 02.2 +02.3	S 11 17.6 +00.0	14							
15	326 16.9 +01.0	N 24 58.1 -00.1	46 24.4 +01.9	N 07 44.0 +00.3	91 04.5 +02.2	S 11 17.6 -00.1	15							
16	341 17.9 +01.1	N 24 58.0 -00.1	61 26.3 +01.9	N 07 44.3 +00.2	106 06.7 +02.3	S 11 17.5 -00.1	16							
17	356 19.0 +01.0	N 24 57.9 -00.2	76 28.2 +01.9	N 07 44.5 +00.2	121 09.0 +02.2	S 11 17.4 -00.1	17							
18	11 20.0 +01.0	N 24 57.7 -00.1	91 30.1 +01.9	N 07 44.7 +00.2	136 11.2 +02.2	S 11 17.3 +00.0	18							
19	26 21.0 +01.0	N 24 57.6 -00.1	106 32.0 +01.9	N 07 44.9 +00.3	151 13.4 +02.3	S 11 17.3 -00.1	19							
20	41 22.0 +01.1	N 24 57.5 -00.2	121 33.9 +01.9	N 07 45.2 +00.2	166 15.7 +02.2	S 11 17.2 -00.1	20							
21	56 23.1 +01.0	N 24 57.3 -00.1	136 35.8 +01.9	N 07 45.4 +00.2	181 17.9 +02.3	S 11 17.1 -00.1	21							
22	71 24.1 +01.0	N 24 57.2 -00.1	151 37.7 +01.9	N 07 45.6 +00.2	196 20.2 +02.2	S 11 17.0 -00.1	22							
23	86 25.1 +01.0	N 24 57.1 -00.1	166 39.6 +01.9	N 07 45.8 +00.3	211 22.4 +02.3	S 11 16.9 +00.0	23							
UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 259° 259° 259° 259° 259° 259°	Greenwich Culmination Time: 17:14	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 339° 339° 339° 339° 339° 339°	Greenwich Culmination Time: 11:54	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 024° 024° 024° 024° 024° 024°	Greenwich Culmination Time: 08:56

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 56.9 +00.1	N 09 35.6 +00.9	140 47.5 -00.6	N 22 42.8 +00.7	242 32.0 -33.7	S 20 52.4 -11.7	00						
01	194 57.0 +00.2	N 09 36.5 +00.9	155 46.9 -00.5	N 22 43.5 +00.6	256 58.3 -33.5	S 20 40.7 -11.9	01						
02	209 57.2 +00.1	N 09 37.4 +00.9	170 46.4 -00.6	N 22 44.1 +00.7	271 24.8 -33.5	S 20 28.8 -11.9	02						
03	224 57.3 +00.2	N 09 38.3 +00.9	185 45.8 -00.6	N 22 44.8 +00.6	285 51.3 -33.4	S 20 16.9 -12.1	03						
04	239 57.5 +00.2	N 09 39.2 +00.9	200 45.2 -00.6	N 22 45.4 +00.7	300 17.9 -33.3	S 20 04.8 -12.2	04						
05	254 57.7 +00.1	N 09 40.1 +00.9	215 44.6 -00.6	N 22 46.1 +00.7	314 44.6 -33.2	S 19 52.6 -12.4	05						
06	269 57.8 +00.2	N 09 41.0 +00.9	230 44.0 -00.6	N 22 46.8 +00.6	329 11.4 -33.2	S 19 40.2 -12.4	06						
07	284 58.0 +00.1	N 09 41.9 +00.9	245 43.4 -00.6	N 22 47.4 +00.7	343 38.2 -33.0	S 19 27.8 -12.6	07						
08	299 58.1 +00.2	N 09 42.8 +00.9	260 42.8 -00.6	N 22 48.1 +00.6	358 05.2 -33.0	S 19 15.2 -12.7	08						
09	314 58.3 +00.1	N 09 43.7 +00.9	275 42.2 -00.6	N 22 48.7 +00.7	12 32.2 -32.9	S 19 02.5 -12.8	09						
10	329 58.4 +00.2	N 09 44.6 +00.9	290 41.6 -00.6	N 22 49.4 +00.6	26 59.3 -32.8	S 18 49.7 -12.9	10						
11	344 58.6 +00.1	N 09 45.5 +00.9	305 41.0 -00.6	N 22 50.0 +00.7	41 26.5 -32.7	S 18 36.8 -13.0	11						
12	359 58.7 +00.2	N 09 46.4 +00.9	320 40.4 -00.6	N 22 50.7 +00.6	55 53.8 -32.6	S 18 23.8 -13.2	12						
13	14 58.9 +00.1	N 09 47.3 +00.9	335 39.8 -00.6	N 22 51.3 +00.7	70 21.2 -32.6	S 18 10.6 -13.2	13						
14	29 59.0 +00.2	N 09 48.2 +00.9	350 39.2 -00.6	N 22 52.0 +00.6	84 48.6 -32.4	S 17 57.4 -13.4	14						
15	44 59.2 +00.1	N 09 49.1 +00.9	5 38.6 -00.6	N 22 52.6 +00.7	99 16.2 -32.4	S 17 44.0 -13.4	15						
16	59 59.3 +00.2	N 09 50.0 +00.9	20 38.0 -00.6	N 22 53.3 +00.6	113 43.8 -32.3	S 17 30.6 -13.6	16						
17	74 59.5 +00.1	N 09 50.9 +00.8	35 37.4 -00.6	N 22 53.9 +00.7	128 11.5 -32.2	S 17 17.0 -13.6	17						
18	89 59.6 +00.2	N 09 51.7 +00.9	50 36.8 -00.6	N 22 54.6 +00.6	142 39.3 -32.2	S 17 03.4 -13.8	18						
19	104 59.8 +00.1	N 09 52.6 +00.9	65 36.2 -00.6	N 22 55.2 +00.7	157 07.1 -32.0	S 16 49.6 -13.9	19						
20	119 59.9 +00.2	N 09 53.5 +00.9	80 35.6 -00.6	N 22 55.9 +00.6	171 35.1 -32.0	S 16 35.7 -13.9	20						
21	135 00.1 +00.1	N 09 54.4 +00.9	95 35.0 -00.6	N 22 56.5 +00.7	186 03.1 -31.9	S 16 21.8 -14.1	21						
22	150 00.2 +00.2	N 09 55.3 +00.9	110 34.4 -00.6	N 22 57.2 +00.6	200 31.2 -31.9	S 16 07.7 -14.1	22						
23	165 00.4 +00.1	N 09 56.2 +00.9	125 33.8 -00.6	N 22 57.8 +00.6	214 59.3 -31.7	S 15 53.6 -14.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'2 16'2 16'2 16'2 16'2 16'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 59'5 59'5 59'5 59'5 59'6 59'6								
	SHA 337° 337° 337° 337° 336° 336°		SHA 298° 298° 297° 297° 297° 297°		SHA 038° 036° 034° 031° 029° 027°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 14:37		Greenwich Culmination Time: 08:07								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	101 26.1 +01.0	N 24 57.0 -00.2	181 41.5 +01.9	N 07 46.1 +00.2	226 24.7 +02.2	S 11 16.9 -00.1	00						
01	116 27.1 +01.1	N 24 56.8 -00.1	196 43.4 +01.9	N 07 46.3 +00.2	241 26.9 +02.3	S 11 16.8 -00.1	01						
02	131 28.2 +01.0	N 24 56.7 -00.1	211 45.3 +01.9	N 07 46.5 +00.2	256 29.2 +02.2	S 11 16.7 -00.1	02						
03	146 29.2 +01.0	N 24 56.6 -00.2	226 47.2 +01.9	N 07 46.7 +00.3	271 31.4 +02.3	S 11 16.6 +00.0	03						
04	161 30.2 +01.0	N 24 56.4 -00.1	241 49.1 +01.9	N 07 47.0 +00.2	286 33.7 +02.2	S 11 16.6 -00.1	04						
05	176 31.2 +01.0	N 24 56.3 -00.1	256 51.0 +01.9	N 07 47.2 +00.2	301 35.9 +02.2	S 11 16.5 -00.1	05						
06	191 32.2 +01.1	N 24 56.2 -00.1	271 52.9 +01.9	N 07 47.4 +00.2	316 38.1 +02.3	S 11 16.4 -00.1	06						
07	206 33.3 +01.0	N 24 56.1 -00.2	286 54.8 +01.9	N 07 47.6 +00.3	331 40.4 +02.2	S 11 16.3 +00.0	07						
08	221 34.3 +01.0	N 24 55.9 -00.1	301 56.7 +01.9	N 07 47.9 +00.2	346 42.6 +02.3	S 11 16.3 -00.1	08						
09	236 35.3 +01.0	N 24 55.8 -00.1	316 58.6 +01.9	N 07 48.1 +00.2	1 44.9 +02.2	S 11 16.2 -00.1	09						
10	251 36.3 +01.0	N 24 55.7 -00.2	332 00.5 +01.9	N 07 48.3 +00.2	16 47.1 +02.3	S 11 16.1 -00.1	10						
11	266 37.3 +01.1	N 24 55.5 -00.1	347 02.4 +01.9	N 07 48.5 +00.3	31 49.4 +02.2	S 11 16.0 +00.0	11						
12	281 38.4 +01.0	N 24 55.4 -00.1	2 04.3 +01.9	N 07 48.8 +00.2	46 51.6 +02.3	S 11 16.0 -00.1	12						
13	296 39.4 +01.0	N 24 55.3 -00.2	17 06.2 +01.9	N 07 49.0 +00.2	61 53.9 +02.2	S 11 15.9 -00.1	13						
14	311 40.4 +01.0	N 24 55.1 -00.1	32 08.1 +01.9	N 07 49.2 +00.2	76 56.1 +02.3	S 11 15.8 -00.1	14						
15	326 41.4 +01.0	N 24 55.0 -00.1	47 10.0 +01.9	N 07 49.4 +00.3	91 58.4 +02.2	S 11 15.7 -00.1	15						
16	341 42.4 +01.1	N 24 54.9 -00.2	62 11.9 +01.9	N 07 49.7 +00.2	107 00.6 +02.3	S 11 15.6 +00.0	16						
17	356 43.5 +01.0	N 24 54.7 -00.1	77 13.8 +01.9	N 07 49.9 +00.2	122 02.9 +02.2	S 11 15.6 -00.1	17						
18	11 44.5 +01.0	N 24 54.6 -00.1	92 15.7 +01.9	N 07 50.1 +00.2	137 05.1 +02.3	S 11 15.5 -00.1	18						
19	26 45.5 +01.0	N 24 54.5 -00.2	107 17.6 +01.9	N 07 50.3 +00.2	152 07.4 +02.2	S 11 15.4 -00.1	19						
20	41 46.5 +01.0	N 24 54.3 -00.1	122 19.5 +01.9	N 07 50.5 +00.3	167 09.6 +02.3	S 11 15.3 +00.0	20						
21	56 47.5 +01.1	N 24 54.2 -00.1	137 21.4 +01.9	N 07 50.8 +00.2	182 11.9 +02.2	S 11 15.3 -00.1	21						
22	71 48.6 +01.0	N 24 54.1 -00.2	152 23.3 +01.9	N 07 51.0 +00.2	197 14.1 +02.2	S 11 15.2 -00.1	22						
23	86 49.6 +01.0	N 24 53.9 -00.1	167 25.2 +01.9	N 07 51.2 +00.2	212 16.3 +02.3	S 11 15.1 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 258° 258° 258° 258° 258° 258°		SHA 339° 339° 339° 339° 339° 339°		SHA 024° 023° 023° 023° 023° 023°								
	Greenwich Culmination Time: 17:13		Greenwich Culmination Time: 11:51		Greenwich Culmination Time: 08:53								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 00.5 +00.2	N 09 57.1 +00.9	140 33.2 -00.6	N 22 58.4 +00.7	229 27.6 -31.7	S 15 39.4 -14.4	00						
01	195 00.7 +00.1	N 09 58.0 +00.9	155 32.6 -00.6	N 22 59.1 +00.6	243 55.9 -31.6	S 15 25.0 -14.4	01						
02	210 00.8 +00.2	N 09 58.9 +00.9	170 32.0 -00.6	N 22 59.7 +00.6	258 24.3 -31.5	S 15 10.6 -14.5	02						
03	225 01.0 +00.1	N 09 59.8 +00.9	185 31.4 -00.6	N 23 00.3 +00.7	272 52.8 -31.5	S 14 56.1 -14.5	03						
04	240 01.1 +00.1	N 10 00.7 +00.8	200 30.8 -00.6	N 23 01.0 +00.6	287 21.3 -31.3	S 14 41.6 -14.7	04						
05	255 01.2 +00.2	N 10 01.5 +00.9	215 30.2 -00.6	N 23 01.6 +00.7	301 50.0 -31.3	S 14 26.9 -14.8	05						
06	270 01.4 +00.1	N 10 02.4 +00.9	230 29.6 -00.6	N 23 02.3 +00.6	316 18.7 -31.3	S 14 12.1 -14.8	06						
07	285 01.5 +00.2	N 10 03.3 +00.9	245 29.0 -00.6	N 23 02.9 +00.6	330 47.4 -31.1	S 13 57.3 -14.9	07						
08	300 01.7 +00.1	N 10 04.2 +00.9	260 28.4 -00.6	N 23 03.5 +00.7	345 16.3 -31.1	S 13 42.4 -15.0	08						
09	315 01.8 +00.2	N 10 05.1 +00.9	275 27.8 -00.6	N 23 04.2 +00.6	359 45.2 -31.0	S 13 27.4 -15.0	09						
10	330 02.0 +00.1	N 10 06.0 +00.9	290 27.2 -00.6	N 23 04.8 +00.6	14 14.2 -31.0	S 13 12.4 -15.1	10						
11	345 02.1 +00.2	N 10 06.9 +00.9	305 26.6 -00.6	N 23 05.4 +00.6	28 43.2 -30.9	S 12 57.3 -15.2	11						
12	0 02.3 +00.1	N 10 07.8 +00.8	320 26.0 -00.7	N 23 06.0 +00.7	43 12.3 -30.8	S 12 42.1 -15.3	12						
13	15 02.4 +00.2	N 10 08.6 +00.9	335 25.3 -00.6	N 23 06.7 +00.6	57 41.5 -30.7	S 12 26.8 -15.3	13						
14	30 02.6 +00.1	N 10 09.5 +00.9	350 24.7 -00.6	N 23 07.3 +00.6	72 10.8 -30.7	S 12 11.5 -15.4	14						
15	45 02.7 +00.2	N 10 10.4 +00.9	5 24.1 -00.6	N 23 07.9 +00.6	86 40.1 -30.6	S 11 56.1 -15.5	15						
16	60 02.9 +00.1	N 10 11.3 +00.9	20 23.5 -00.6	N 23 08.5 +00.7	101 09.5 -30.6	S 11 40.6 -15.5	16						
17	75 03.0 +00.2	N 10 12.2 +00.9	35 22.9 -00.6	N 23 09.2 +00.6	115 38.9 -30.5	S 11 25.1 -15.6	17						
18	90 03.2 +00.1	N 10 13.1 +00.9	50 22.3 -00.6	N 23 09.8 +00.6	130 08.4 -30.4	S 11 09.5 -15.7	18						
19	105 03.3 +00.1	N 10 14.0 +00.8	65 21.7 -00.6	N 23 10.4 +00.6	144 38.0 -30.4	S 10 53.8 -15.7	19						
20	120 03.4 +00.2	N 10 14.8 +00.9	80 21.1 -00.6	N 23 11.0 +00.6	159 07.6 -30.3	S 10 38.1 -15.7	20						
21	135 03.6 +00.1	N 10 15.7 +00.9	95 20.5 -00.6	N 23 11.6 +00.7	173 37.3 -30.3	S 10 22.4 -15.8	21						
22	150 03.7 +00.2	N 10 16.6 +00.9	110 19.9 -00.6	N 23 12.3 +00.6	188 07.0 -30.2	S 10 06.6 -15.9	22						
23	165 03.9 +00.1	N 10 17.5 +00.9	125 19.3 -00.6	N 23 12.9 +00.6	202 36.8 -30.1	S 09 50.7 -15.9	23						
	UT 02 06 10 14 18 22 SD 15'9 15'9 15'9 15'9 15'9 15'9 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 336° 336° 336° 336° 335° 335° Greenwich Culmination Time: 11:59	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 297° 296° 296° 296° 296° 296° Greenwich Culmination Time: 14:38	UT 02 06 10 14 18 22 SD 16'2 16'2 16'2 16'2 16'2 16'2 HP 59'6 59'6 59'6 59'5 59'5 59'5 SHA 024° 022° 020° 018° 016° 013° Greenwich Culmination Time: 09:01										
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	101 50.6 +01.0	N 24 53.8 -00.1	182 27.1 +01.9	N 07 51.4 +00.3	227 18.6 +02.2	S 11 15.0 +00.0	00						
01	116 51.6 +01.0	N 24 53.7 -00.2	197 29.0 +01.9	N 07 51.7 +00.2	242 20.8 +02.3	S 11 15.0 -00.1	01						
02	131 52.6 +01.0	N 24 53.5 -00.1	212 30.9 +01.9	N 07 51.9 +00.2	257 23.1 +02.2	S 11 14.9 -00.1	02						
03	146 53.6 +01.1	N 24 53.4 -00.1	227 32.8 +01.9	N 07 52.1 +00.2	272 25.3 +02.3	S 11 14.8 -00.1	03						
04	161 54.7 +01.0	N 24 53.3 -00.2	242 34.7 +01.9	N 07 52.3 +00.3	287 27.6 +02.2	S 11 14.7 +00.0	04						
05	176 55.7 +01.0	N 24 53.1 -00.1	257 36.6 +01.9	N 07 52.6 +00.2	302 29.8 +02.3	S 11 14.7 -00.1	05						
06	191 56.7 +01.0	N 24 53.0 -00.2	272 38.5 +01.9	N 07 52.8 +00.2	317 32.1 +02.2	S 11 14.6 -00.1	06						
07	206 57.7 +01.0	N 24 52.8 -00.1	287 40.4 +01.9	N 07 53.0 +00.2	332 34.3 +02.3	S 11 14.5 -00.1	07						
08	221 58.7 +01.0	N 24 52.7 -00.1	302 42.3 +01.9	N 07 53.2 +00.3	347 36.6 +02.2	S 11 14.4 +00.0	08						
09	236 59.7 +01.1	N 24 52.6 -00.2	317 44.2 +01.9	N 07 53.5 +00.2	2 38.8 +02.3	S 11 14.4 -00.1	09						
10	252 00.8 +01.0	N 24 52.4 -00.1	332 46.1 +01.9	N 07 53.7 +00.2	17 41.1 +02.2	S 11 14.3 -00.1	10						
11	267 01.8 +01.0	N 24 52.3 -00.1	347 48.0 +01.9	N 07 53.9 +00.2	32 43.3 +02.3	S 11 14.2 -00.1	11						
12	282 02.8 +01.0	N 24 52.2 -00.2	2 49.9 +01.9	N 07 54.1 +00.2	47 45.6 +02.2	S 11 14.1 +00.0	12						
13	297 03.8 +01.0	N 24 52.0 -00.1	17 51.8 +01.9	N 07 54.3 +00.3	62 47.8 +02.3	S 11 14.1 -00.1	13						
14	312 04.8 +01.0	N 24 51.9 -00.1	32 53.7 +01.9	N 07 54.6 +00.2	77 50.1 +02.2	S 11 14.0 -00.1	14						
15	327 05.8 +01.1	N 24 51.8 -00.2	47 55.6 +01.9	N 07 54.8 +00.2	92 52.3 +02.3	S 11 13.9 -00.1	15						
16	342 06.9 +01.0	N 24 51.6 -00.1	62 57.5 +01.9	N 07 55.0 +00.2	107 54.6 +02.2	S 11 13.8 +00.0	16						
17	357 07.9 +01.0	N 24 51.5 -00.2	77 59.4 +01.9	N 07 55.2 +00.3	122 56.8 +02.3	S 11 13.8 -00.1	17						
18	12 08.9 +01.0	N 24 51.3 -00.1	93 01.3 +01.9	N 07 55.5 +00.2	137 59.1 +02.2	S 11 13.7 -00.1	18						
19	27 09.9 +01.0	N 24 51.2 -00.1	108 03.2 +01.9	N 07 55.7 +00.2	153 01.3 +02.3	S 11 13.6 -00.1	19						
20	42 10.9 +01.0	N 24 51.1 -00.2	123 05.1 +01.9	N 07 55.9 +00.2	168 03.6 +02.2	S 11 13.5 +00.0	20						
21	57 11.9 +01.1	N 24 50.9 -00.1	138 07.0 +01.9	N 07 56.1 +00.3	183 05.8 +02.3	S 11 13.5 -00.1	21						
22	72 13.0 +01.0	N 24 50.8 -00.2	153 08.9 +01.9	N 07 56.4 +00.2	198 08.1 +02.2	S 11 13.4 -00.1	22						
23	87 14.0 +01.0	N 24 50.6 -00.1	168 10.8 +01.9	N 07 56.6 +00.2	213 10.3 +02.3	S 11 13.3 -00.1	23						
	UT 02 06 10 14 18 22 SD 00'0 00'0 00'0 00'0 00'0 00'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 258° 258° 258° 258° 258° 257° Greenwich Culmination Time: 17:11	UT 02 06 10 14 18 22 SD 00'3 00'3 00'3 00'3 00'3 00'3 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 339° 339° 338° 338° 338° 338° Greenwich Culmination Time: 11:48	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 023° 023° 023° 023° 023° 023° Greenwich Culmination Time: 08:49										

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 04.0 +00.2	N 10	18.4 +00.9	140 18.7 -00.6	N 23	13.5 +00.6	217 06.7 -30.1	S 09	34.8 -16.0	00			
01	195 04.2 +00.1	N 10	19.3 +00.9	155 18.1 -00.6	N 23	14.1 +00.6	231 36.6 -30.0	S 09	18.8 -16.0	01			
02	210 04.3 +00.2	N 10	20.2 +00.8	170 17.5 -00.6	N 23	14.7 +00.6	246 06.6 -30.0	S 09	02.8 -16.0	02			
03	225 04.5 +00.1	N 10	21.0 +00.9	185 16.9 -00.6	N 23	15.3 +00.6	260 36.6 -30.0	S 08	46.8 -16.1	03			
04	240 04.6 +00.2	N 10	21.9 +00.9	200 16.3 -00.7	N 23	15.9 +00.7	275 06.6 -29.8	S 08	30.7 -16.2	04			
05	255 04.8 +00.1	N 10	22.8 +00.9	215 15.6 -00.6	N 23	16.6 +00.6	289 36.8 -29.9	S 08	14.5 -16.2	05			
06	270 04.9 +00.1	N 10	23.7 +00.9	230 15.0 -00.6	N 23	17.2 +00.6	304 06.9 -29.8	S 07	58.3 -16.2	06			
07	285 05.0 +00.2	N 10	24.6 +00.8	245 14.4 -00.6	N 23	17.8 +00.6	318 37.1 -29.7	S 07	42.1 -16.3	07			
08	300 05.2 +00.1	N 10	25.4 +00.9	260 13.8 -00.6	N 23	18.4 +00.6	333 07.4 -29.7	S 07	25.8 -16.3	08			
09	315 05.3 +00.2	N 10	26.3 +00.9	275 13.2 -00.6	N 23	19.0 +00.6	347 37.7 -29.6	S 07	09.5 -16.3	09			
10	330 05.5 +00.1	N 10	27.2 +00.9	290 12.6 -00.6	N 23	19.6 +00.6	2 08.1 -29.7	S 06	53.2 -16.3	10			
11	345 05.6 +00.2	N 10	28.1 +00.9	305 12.0 -00.6	N 23	20.2 +00.6	16 38.4 -29.5	S 06	36.9 -16.4	11			
12	0 05.8 +00.1	N 10	29.0 +00.8	320 11.4 -00.6	N 23	20.8 +00.6	31 08.9 -29.5	S 06	20.5 -16.5	12			
13	15 05.9 +00.1	N 10	29.8 +00.9	335 10.8 -00.6	N 23	21.4 +00.6	45 39.4 -29.5	S 06	04.0 -16.4	13			
14	30 06.0 +00.2	N 10	30.7 +00.9	350 10.2 -00.6	N 23	22.0 +00.6	60 09.9 -29.5	S 05	47.6 -16.5	14			
15	45 06.2 +00.1	N 10	31.6 +00.9	5 09.6 -00.7	N 23	22.6 +00.6	74 40.4 -29.4	S 05	31.1 -16.5	15			
16	60 06.3 +00.2	N 10	32.5 +00.9	20 08.9 -00.6	N 23	23.2 +00.6	89 11.0 -29.3	S 05	14.6 -16.5	16			
17	75 06.5 +00.1	N 10	33.4 +00.8	35 08.3 -00.6	N 23	23.8 +00.6	103 41.7 -29.4	S 04	58.1 -16.5	17			
18	90 06.6 +00.1	N 10	34.2 +00.9	50 07.7 -00.6	N 23	24.4 +00.6	118 12.3 -29.3	S 04	41.6 -16.6	18			
19	105 06.7 +00.2	N 10	35.1 +00.9	65 07.1 -00.6	N 23	25.0 +00.6	132 43.0 -29.2	S 04	25.0 -16.6	19			
20	120 06.9 +00.1	N 10	36.0 +00.9	80 06.5 -00.6	N 23	25.6 +00.6	147 13.8 -29.3	S 04	08.4 -16.6	20			
21	135 07.0 +00.2	N 10	36.9 +00.9	95 05.9 -00.6	N 23	26.2 +00.6	161 44.5 -29.2	S 03	51.8 -16.6	21			
22	150 07.2 +00.1	N 10	37.8 +00.8	110 05.3 -00.6	N 23	26.8 +00.6	176 15.3 -29.1	S 03	35.2 -16.6	22			
23	165 07.3 +00.2	N 10	38.6 +00.9	125 04.7 -00.7	N 23	27.4 +00.6	190 46.2 -29.2	S 03	18.6 -16.6	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 15'9 15'9 15'9 15'9 15'9 15'9			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'2 16'2 16'2 16'2 16'2 16'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 59'5 59'5 59'4 59'4 59'4 59'3						
	SHA 335° 335° 335° 335° 335° 334°			SHA 295° 295° 295° 295° 295° 294°			SHA 011° 009° 007° 005° 003° 000°						
	Greenwich Culmination Time: 11:59			Greenwich Culmination Time: 14:39			Greenwich Culmination Time: 09:51						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	102 15.0 +01.0	N 24	50.5 -00.1	183 12.7 +01.9	N 07	56.8 +00.2	228 12.6 +02.2	S 11	13.2 +00.0	00			
01	117 16.0 +01.0	N 24	50.4 -00.2	198 14.6 +01.9	N 07	57.0 +00.3	243 14.8 +02.3	S 11	13.2 -00.1	01			
02	132 17.0 +01.0	N 24	50.2 -00.1	213 16.5 +01.9	N 07	57.3 +00.2	258 17.1 +02.2	S 11	13.1 -00.1	02			
03	147 18.0 +01.0	N 24	50.1 -00.2	228 18.4 +01.9	N 07	57.5 +00.2	273 19.3 +02.3	S 11	13.0 -00.1	03			
04	162 19.0 +01.1	N 24	49.9 -00.1	243 20.3 +01.9	N 07	57.7 +00.2	288 21.6 +02.2	S 11	12.9 +00.0	04			
05	177 20.1 +01.0	N 24	49.8 -00.1	258 22.2 +01.9	N 07	57.9 +00.2	303 23.8 +02.3	S 11	12.9 -00.1	05			
06	192 21.1 +01.0	N 24	49.7 -00.2	273 24.1 +01.9	N 07	58.1 +00.3	318 26.1 +02.2	S 11	12.8 -00.1	06			
07	207 22.1 +01.0	N 24	49.5 -00.1	288 26.0 +01.9	N 07	58.4 +00.2	333 28.3 +02.3	S 11	12.7 -00.1	07			
08	222 23.1 +01.0	N 24	49.4 -00.2	303 27.9 +01.9	N 07	58.6 +00.2	348 30.6 +02.2	S 11	12.6 +00.0	08			
09	237 24.1 +01.0	N 24	49.2 -00.1	318 29.8 +01.9	N 07	58.8 +00.2	3 32.8 +02.3	S 11	12.6 -00.1	09			
10	252 25.1 +01.0	N 24	49.1 -00.2	333 31.7 +01.9	N 07	59.0 +00.3	18 35.1 +02.2	S 11	12.5 -00.1	10			
11	267 26.1 +01.1	N 24	48.9 -00.1	348 33.6 +01.9	N 07	59.3 +00.2	33 37.3 +02.3	S 11	12.4 -00.1	11			
12	282 27.2 +01.0	N 24	48.8 -00.1	3 35.5 +01.9	N 07	59.5 +00.2	48 39.6 +02.3	S 11	12.3 +00.0	12			
13	297 28.2 +01.0	N 24	48.7 -00.2	18 37.4 +01.9	N 07	59.7 +00.2	63 41.9 +02.2	S 11	12.3 -00.1	13			
14	312 29.2 +01.0	N 24	48.5 -00.1	33 39.3 +01.9	N 07	59.9 +00.3	78 44.1 +02.3	S 11	12.2 -00.1	14			
15	327 30.2 +01.0	N 24	48.4 -00.2	48 41.2 +01.9	N 08	00.2 +00.2	93 46.4 +02.2	S 11	12.1 -00.1	15			
16	342 31.2 +01.0	N 24	48.2 -00.1	63 43.1 +01.9	N 08	00.4 +00.2	108 48.6 +02.3	S 11	12.0 +00.0	16			
17	357 32.2 +01.0	N 24	48.1 -00.2	78 45.0 +01.9	N 08	00.6 +00.2	123 50.9 +02.2	S 11	12.0 -00.1	17			
18	12 33.2 +01.0	N 24	47.9 -00.1	93 46.9 +01.9	N 08	00.8 +00.2	138 53.1 +02.3	S 11	11.9 -00.1	18			
19	27 34.2 +01.1	N 24	47.8 -00.1	108 48.8 +01.9	N 08	01.0 +00.3	153 55.4 +02.2	S 11	11.8 +00.0	19			
20	42 35.3 +01.0	N 24	47.7 -00.2	123 50.7 +01.8	N 08	01.3 +00.2	168 57.6 +02.3	S 11	11.8 -00.1	20			
21	57 36.3 +01.0	N 24	47.5 -00.1	138 52.5 +01.9	N 08	01.5 +00.2	183 59.9 +02.2	S 11	11.7 -00.1	21			
22	72 37.3 +01.0	N 24	47.4 -00.2	153 54.4 +01.9	N 08	01.7 +00.2	199 02.1 +02.3	S 11	11.6 -00.1	22			
23	87 38.3 +01.0	N 24	47.2 -00.1	168 56.3 +01.9	N 08	01.9 +00.3	214 04.4 +02.2	S 11	11.5 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 257° 257° 257° 257° 257° 257°			SHA 338° 338° 338° 338° 338° 338°			SHA 023° 023° 023° 023° 023° 023°						
	Greenwich Culmination Time: 17:09			Greenwich Culmination Time: 11:45			Greenwich Culmination Time: 08:45						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 07.5 +00.1	N 10	39.5 +00.9	140 04.0 -00.6	N 23	28.0 +00.6	205 17.0 -29.1	S 03	02.0 -16.7	00			
01	195 07.6 +00.1	N 10	40.4 +00.9	155 03.4 -00.6	N 23	28.6 +00.5	219 47.9 -29.1	S 02	45.3 -16.6	01			
02	210 07.7 +00.2	N 10	41.3 +00.8	170 02.8 -00.6	N 23	29.1 +00.6	234 18.8 -29.1	S 02	28.7 -16.7	02			
03	225 07.9 +00.1	N 10	42.1 +00.9	185 02.2 -00.6	N 23	29.7 +00.6	248 49.7 -29.0	S 02	12.0 -16.7	03			
04	240 08.0 +00.2	N 10	43.0 +00.9	200 01.6 -00.6	N 23	30.3 +00.6	263 20.7 -29.0	S 01	55.3 -16.6	04			
05	255 08.2 +00.1	N 10	43.9 +00.9	215 01.0 -00.6	N 23	30.9 +00.6	277 51.7 -29.0	S 01	38.7 -16.7	05			
06	270 08.3 +00.1	N 10	44.8 +00.8	230 00.4 -00.6	N 23	31.5 +00.6	292 22.7 -29.0	S 01	22.0 -16.7	06			
07	285 08.4 +00.2	N 10	45.6 +00.9	244 59.8 -00.7	N 23	32.1 +00.5	306 53.7 -29.0	S 01	05.3 -16.6	07			
08	300 08.6 +00.1	N 10	46.5 +00.9	259 59.1 -00.6	N 23	32.6 +00.6	321 24.7 -28.9	S 00	48.7 -16.7	08			
09	315 08.7 +00.2	N 10	47.4 +00.9	274 58.5 -00.6	N 23	33.2 +00.6	335 55.8 -28.9	S 00	32.0 -16.6	09			
10	330 08.9 +00.1	N 10	48.3 +00.8	289 57.9 -00.6	N 23	33.8 +00.6	350 26.9 -29.0	S 00	15.4 -16.7	10			
11	345 09.0 +00.1	N 10	49.1 +00.9	304 57.3 -00.6	N 23	34.4 +00.6	4 57.9 -28.9	N 00	01.3 +16.6	11			
12	0 09.1 +00.2	N 10	50.0 +00.9	319 56.7 -00.6	N 23	35.0 +00.5	19 29.0 -28.8	N 00	17.9 +16.7	12			
13	15 09.3 +00.1	N 10	50.9 +00.8	334 56.1 -00.6	N 23	35.5 +00.6	34 00.2 -28.9	N 00	34.6 +16.6	13			
14	30 09.4 +00.1	N 10	51.7 +00.9	349 55.5 -00.7	N 23	36.1 +00.6	48 31.3 -28.9	N 00	51.2 +16.6	14			
15	45 09.5 +00.2	N 10	52.6 +00.9	4 54.8 -00.6	N 23	36.7 +00.6	63 02.4 -28.8	N 01	07.8 +16.6	15			
16	60 09.7 +00.1	N 10	53.5 +00.9	19 54.2 -00.6	N 23	37.3 +00.5	77 33.6 -28.9	N 01	24.4 +16.6	16			
17	75 09.8 +00.2	N 10	54.4 +00.8	34 53.6 -00.6	N 23	37.8 +00.6	92 04.7 -28.8	N 01	41.0 +16.6	17			
18	90 10.0 +00.1	N 10	55.2 +00.9	49 53.0 -00.6	N 23	38.4 +00.6	106 35.9 -28.8	N 01	57.6 +16.5	18			
19	105 10.1 +00.1	N 10	56.1 +00.9	64 52.4 -00.6	N 23	39.0 +00.6	121 07.1 -28.8	N 02	14.1 +16.5	19			
20	120 10.2 +00.2	N 10	57.0 +00.8	79 51.8 -00.7	N 23	39.6 +00.5	135 38.3 -28.9	N 02	30.6 +16.5	20			
21	135 10.4 +00.1	N 10	57.8 +00.9	94 51.1 -00.6	N 23	40.1 +00.6	150 09.4 -28.8	N 02	47.1 +16.5	21			
22	150 10.5 +00.1	N 10	58.7 +00.9	109 50.5 -00.6	N 23	40.7 +00.6	164 40.6 -28.8	N 03	03.6 +16.5	22			
23	165 10.6 +00.2	N 10	59.6 +00.9	124 49.9 -00.6	N 23	41.3 +00.5	179 11.8 -28.8	N 03	20.1 +16.4	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 15'9 15'9 15'9 15'9 15'9 15'9			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'1 16'1 16'1 16'1 16'1 16'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 59'3 59'2 59'2 59'1 59'0 59'0						
	SHA 334° 334° 334° 334° 334° 333°			SHA 294° 294° 294° 293° 293° 293°			SHA 358° 356° 354° 352° 350° 348°						
	Greenwich Culmination Time: 11:59			Greenwich Culmination Time: 14:40			Greenwich Culmination Time: 10:39						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	102 39.3 +01.0	N 24	47.1 -00.2	183 58.2 +01.9	N 08	02.2 +00.2	229 06.6 +02.3	S 11	11.5 -00.1	00			
01	117 40.3 +01.0	N 24	46.9 -00.1	199 00.1 +01.9	N 08	02.4 +00.2	244 08.9 +02.2	S 11	11.4 -00.1	01			
02	132 41.3 +01.0	N 24	46.8 -00.2	214 02.0 +01.9	N 08	02.6 +00.2	259 11.1 +02.3	S 11	11.3 -00.1	02			
03	147 42.3 +01.0	N 24	46.6 -00.1	229 03.9 +01.9	N 08	02.8 +00.2	274 13.4 +02.2	S 11	11.2 +00.0	03			
04	162 43.3 +01.1	N 24	46.5 -00.2	244 05.8 +01.9	N 08	03.0 +00.3	289 15.6 +02.3	S 11	11.2 -00.1	04			
05	177 44.4 +01.0	N 24	46.3 -00.1	259 07.7 +01.9	N 08	03.3 +00.2	304 17.9 +02.3	S 11	11.1 -00.1	05			
06	192 45.4 +01.0	N 24	46.2 -00.2	274 09.6 +01.9	N 08	03.5 +00.2	319 20.2 +02.2	S 11	11.0 -00.1	06			
07	207 46.4 +01.0	N 24	46.0 -00.1	289 11.5 +01.9	N 08	03.7 +00.2	334 22.4 +02.3	S 11	10.9 +00.0	07			
08	222 47.4 +01.0	N 24	45.9 -00.1	304 13.4 +01.9	N 08	03.9 +00.3	349 24.7 +02.2	S 11	10.9 -00.1	08			
09	237 48.4 +01.0	N 24	45.8 -00.2	319 15.3 +01.9	N 08	04.2 +00.2	4 26.9 +02.3	S 11	10.8 -00.1	09			
10	252 49.4 +01.0	N 24	45.6 -00.1	334 17.2 +01.9	N 08	04.4 +00.2	19 29.2 +02.2	S 11	10.7 -00.1	10			
11	267 50.4 +01.0	N 24	45.5 -00.2	349 19.1 +01.9	N 08	04.6 +00.2	34 31.4 +02.3	S 11	10.6 +00.0	11			
12	282 51.4 +01.0	N 24	45.3 -00.1	4 21.0 +01.9	N 08	04.8 +00.3	49 33.7 +02.2	S 11	10.6 -00.1	12			
13	297 52.4 +01.0	N 24	45.2 -00.2	19 22.9 +01.9	N 08	05.1 +00.2	64 35.9 +02.3	S 11	10.5 -00.1	13			
14	312 53.4 +01.1	N 24	45.0 -00.1	34 24.8 +01.9	N 08	05.3 +00.2	79 38.2 +02.2	S 11	10.4 +00.0	14			
15	327 54.5 +01.0	N 24	44.9 -00.2	49 26.7 +01.9	N 08	05.5 +00.2	94 40.4 +02.3	S 11	10.4 -00.1	15			
16	342 55.5 +01.0	N 24	44.7 -00.1	64 28.6 +01.9	N 08	05.7 +00.2	109 42.7 +02.3	S 11	10.3 -00.1	16			
17	357 56.5 +01.0	N 24	44.6 -00.2	79 30.5 +01.9	N 08	05.9 +00.3	124 45.0 +02.2	S 11	10.2 -00.1	17			
18	12 57.5 +01.0	N 24	44.4 -00.1	94 32.4 +01.9	N 08	06.2 +00.2	139 47.2 +02.3	S 11	10.1 +00.0	18			
19	27 58.5 +01.0	N 24	44.3 -00.2	109 34.3 +01.9	N 08	06.4 +00.2	154 49.5 +02.2	S 11	10.1 -00.1	19			
20	42 59.5 +01.0	N 24	44.1 -00.1	124 36.2 +01.9	N 08	06.6 +00.2	169 51.7 +02.3	S 11	10.0 -00.1	20			
21	58 00.5 +01.0	N 24	44.0 -00.2	139 38.1 +01.9	N 08	06.8 +00.3	184 54.0 +02.2	S 11	09.9 -00.1	21			
22	73 01.5 +01.0	N 24	43.8 -00.1	154 40.0 +01.9	N 08	07.1 +00.2	199 56.2 +02.3	S 11	09.8 +00.0	22			
23	88 02.5 +01.0	N 24	43.7 -00.2	169 41.9 +01.9	N 08	07.3 +00.2	214 58.5 +02.2	S 11	09.8 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 257° 257° 257° 256° 256° 256°			SHA 338° 338° 338° 338° 338° 338°			SHA 023° 023° 023° 023° 023° 023°						
	Greenwich Culmination Time: 17:08			Greenwich Culmination Time: 11:42			Greenwich Culmination Time: 08:42						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 10.8 +00.1	N 11 00.5 +00.8	139 49.3 -00.6	N 23 41.8 +00.6	193 43.0 -28.8	N 03 36.5 +16.4	00						
01	195 10.9 +00.1	N 11 01.3 +00.9	154 48.7 -00.6	N 23 42.4 +00.6	208 14.2 -28.8	N 03 52.9 +16.4	01						
02	210 11.0 +00.2	N 11 02.2 +00.9	169 48.1 -00.7	N 23 43.0 +00.5	222 45.4 -28.9	N 04 09.3 +16.3	02						
03	225 11.2 +00.1	N 11 03.1 +00.8	184 47.4 -00.6	N 23 43.5 +00.6	237 16.5 -28.8	N 04 25.6 +16.4	03						
04	240 11.3 +00.2	N 11 03.9 +00.9	199 46.8 -00.6	N 23 44.1 +00.5	251 47.7 -28.8	N 04 42.0 +16.2	04						
05	255 11.5 +00.1	N 11 04.8 +00.9	214 46.2 -00.6	N 23 44.6 +00.6	266 18.9 -28.8	N 04 58.2 +16.3	05						
06	270 11.6 +00.1	N 11 05.7 +00.8	229 45.6 -00.6	N 23 45.2 +00.6	280 50.1 -28.9	N 05 14.5 +16.2	06						
07	285 11.7 +00.2	N 11 06.5 +00.9	244 45.0 -00.7	N 23 45.8 +00.5	295 21.2 -28.8	N 05 30.7 +16.2	07						
08	300 11.9 +00.1	N 11 07.4 +00.9	259 44.3 -00.6	N 23 46.3 +00.6	309 52.4 -28.9	N 05 46.9 +16.1	08						
09	315 12.0 +00.1	N 11 08.3 +00.8	274 43.7 -00.6	N 23 46.9 +00.5	324 23.5 -28.8	N 06 03.0 +16.1	09						
10	330 12.1 +00.2	N 11 09.1 +00.9	289 43.1 -00.6	N 23 47.4 +00.6	338 54.7 -28.9	N 06 19.1 +16.0	10						
11	345 12.3 +00.1	N 11 10.0 +00.9	304 42.5 -00.6	N 23 48.0 +00.5	353 25.8 -28.9	N 06 35.1 +16.0	11						
12	0 12.4 +00.1	N 11 10.9 +00.8	319 41.9 -00.7	N 23 48.5 +00.6	7 56.9 -28.9	N 06 51.1 +16.0	12						
13	15 12.5 +00.2	N 11 11.7 +00.9	334 41.2 -00.6	N 23 49.1 +00.5	22 28.0 -28.9	N 07 07.1 +15.9	13						
14	30 12.7 +00.1	N 11 12.6 +00.9	349 40.6 -00.6	N 23 49.6 +00.6	36 59.1 -28.9	N 07 23.0 +15.9	14						
15	45 12.8 +00.1	N 11 13.5 +00.8	4 40.0 -00.6	N 23 50.2 +00.5	51 30.2 -29.0	N 07 38.9 +15.8	15						
16	60 12.9 +00.2	N 11 14.3 +00.9	19 39.4 -00.6	N 23 50.7 +00.6	66 01.2 -28.9	N 07 54.7 +15.7	16						
17	75 13.1 +00.1	N 11 15.2 +00.8	34 38.8 -00.7	N 23 51.3 +00.5	80 32.3 -29.0	N 08 10.4 +15.7	17						
18	90 13.2 +00.1	N 11 16.0 +00.9	49 38.1 -00.6	N 23 51.8 +00.6	95 03.3 -29.0	N 08 26.1 +15.7	18						
19	105 13.3 +00.2	N 11 16.9 +00.9	64 37.5 -00.6	N 23 52.4 +00.5	109 34.3 -29.0	N 08 41.8 +15.6	19						
20	120 13.5 +00.1	N 11 17.8 +00.8	79 36.9 -00.6	N 23 52.9 +00.6	124 05.3 -29.0	N 08 57.4 +15.5	20						
21	135 13.6 +00.1	N 11 18.6 +00.9	94 36.3 -00.6	N 23 53.5 +00.5	138 36.3 -29.1	N 09 12.9 +15.5	21						
22	150 13.7 +00.2	N 11 19.5 +00.9	109 35.7 -00.7	N 23 54.0 +00.5	153 07.2 -29.1	N 09 28.4 +15.5	22						
23	165 13.9 +00.1	N 11 20.4 +00.8	124 35.0 -00.6	N 23 54.5 +00.6	167 38.1 -29.1	N 09 43.9 +15.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'0 16'0 16'0 16'0 16'0 15'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 58'9 58'8 58'7 58'6 58'5 58'5								
	SHA 333° 333° 333° 333° 333° 332°		SHA 293° 293° 292° 292° 292° 292°		SHA 346° 344° 342° 340° 337° 335°								
	Greenwich Culmination Time: 11:59		Greenwich Culmination Time: 14:41		Greenwich Culmination Time: 11:27								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	103 03.5 +01.0	N 24 43.5 -00.1	184 43.8 +01.9	N 08 07.5 +00.2	230 00.7 +02.3	S 11 09.7 -00.1	00						
01	118 04.5 +01.1	N 24 43.4 -00.2	199 45.7 +01.9	N 08 07.7 +00.2	245 03.0 +02.3	S 11 09.6 +00.0	01						
02	133 05.6 +01.0	N 24 43.2 -00.1	214 47.6 +01.9	N 08 07.9 +00.3	260 05.3 +02.2	S 11 09.6 -00.1	02						
03	148 06.6 +01.0	N 24 43.1 -00.2	229 49.5 +01.9	N 08 08.2 +00.2	275 07.5 +02.3	S 11 09.5 -00.1	03						
04	163 07.6 +01.0	N 24 42.9 -00.1	244 51.4 +01.9	N 08 08.4 +00.2	290 09.8 +02.2	S 11 09.4 -00.1	04						
05	178 08.6 +01.0	N 24 42.8 -00.2	259 53.3 +01.9	N 08 08.6 +00.2	305 12.0 +02.3	S 11 09.3 +00.0	05						
06	193 09.6 +01.0	N 24 42.6 -00.1	274 55.2 +01.9	N 08 08.8 +00.3	320 14.3 +02.2	S 11 09.3 -00.1	06						
07	208 10.6 +01.0	N 24 42.5 -00.2	289 57.1 +01.9	N 08 09.1 +00.2	335 16.5 +02.3	S 11 09.2 -00.1	07						
08	223 11.6 +01.0	N 24 42.3 -00.2	304 59.0 +01.9	N 08 09.3 +00.2	350 18.8 +02.2	S 11 09.1 -00.1	08						
09	238 12.6 +01.0	N 24 42.1 -00.1	320 00.9 +01.9	N 08 09.5 +00.2	5 21.0 +02.3	S 11 09.0 +00.0	09						
10	253 13.6 +01.0	N 24 42.0 -00.2	335 02.8 +01.9	N 08 09.7 +00.2	20 23.3 +02.3	S 11 09.0 -00.1	10						
11	268 14.6 +01.0	N 24 41.8 -00.1	350 04.7 +01.9	N 08 09.9 +00.3	35 25.6 +02.2	S 11 08.9 -00.1	11						
12	283 15.6 +01.0	N 24 41.7 -00.2	5 06.6 +01.9	N 08 10.2 +00.2	50 27.8 +02.3	S 11 08.8 +00.0	12						
13	298 16.6 +01.0	N 24 41.5 -00.1	20 08.5 +01.9	N 08 10.4 +00.2	65 30.1 +02.2	S 11 08.8 -00.1	13						
14	313 17.6 +01.1	N 24 41.4 -00.2	35 10.4 +01.9	N 08 10.6 +00.2	80 32.3 +02.3	S 11 08.7 -00.1	14						
15	328 18.7 +01.0	N 24 41.2 -00.1	50 12.3 +01.9	N 08 10.8 +00.2	95 34.6 +02.2	S 11 08.6 -00.1	15						
16	343 19.7 +01.0	N 24 41.1 -00.2	65 14.2 +01.9	N 08 11.0 +00.3	110 36.8 +02.3	S 11 08.5 +00.0	16						
17	358 20.7 +01.0	N 24 40.9 -00.1	80 16.1 +01.9	N 08 11.3 +00.2	125 39.1 +02.3	S 11 08.5 -00.1	17						
18	13 21.7 +01.0	N 24 40.8 -00.2	95 18.0 +01.9	N 08 11.5 +00.2	140 41.4 +02.2	S 11 08.4 -00.1	18						
19	28 22.7 +01.0	N 24 40.6 -00.2	110 19.9 +01.9	N 08 11.7 +00.2	155 43.6 +02.3	S 11 08.3 +00.0	19						
20	43 23.7 +01.0	N 24 40.4 -00.1	125 21.8 +01.9	N 08 11.9 +00.3	170 45.9 +02.2	S 11 08.3 -00.1	20						
21	58 24.7 +01.0	N 24 40.3 -00.2	140 23.7 +01.9	N 08 12.2 +00.2	185 48.1 +02.3	S 11 08.2 -00.1	21						
22	73 25.7 +01.0	N 24 40.1 -00.1	155 25.6 +01.9	N 08 12.4 +00.2	200 50.4 +02.3	S 11 08.1 -00.1	22						
23	88 26.7 +01.0	N 24 40.0 -00.2	170 27.5 +01.9	N 08 12.6 +00.2	215 52.7 +02.2	S 11 08.0 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 256° 256° 256° 256° 256° 256°		SHA 338° 338° 338° 338° 338° 338°		SHA 023° 023° 023° 023° 023° 023°								
	Greenwich Culmination Time: 17:06		Greenwich Culmination Time: 11:39		Greenwich Culmination Time: 08:38								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 14.0 +00.1	N 11 21.2 +00.9	139 34.4 -00.6	N 23 55.1 +00.5	182 09.0 -29.1	N 09 59.2 +15.3	00						
01	195 14.1 +00.2	N 11 22.1 +00.8	154 33.8 -00.6	N 23 55.6 +00.6	196 39.9 -29.2	N 10 14.5 +15.3	01						
02	210 14.3 +00.1	N 11 22.9 +00.9	169 33.2 -00.7	N 23 56.2 +00.5	211 10.7 -29.1	N 10 29.8 +15.2	02						
03	225 14.4 +00.1	N 11 23.8 +00.9	184 32.5 -00.6	N 23 56.7 +00.5	225 41.6 -29.2	N 10 45.0 +15.1	03						
04	240 14.5 +00.2	N 11 24.7 +00.8	199 31.9 -00.6	N 23 57.2 +00.6	240 12.4 -29.3	N 11 00.1 +15.0	04						
05	255 14.7 +00.1	N 11 25.5 +00.9	214 31.3 -00.6	N 23 57.8 +00.5	254 43.1 -29.2	N 11 15.1 +15.0	05						
06	270 14.8 +00.1	N 11 26.4 +00.8	229 30.7 -00.6	N 23 58.3 +00.5	269 13.9 -29.3	N 11 30.1 +14.9	06						
07	285 14.9 +00.2	N 11 27.2 +00.9	244 30.1 -00.7	N 23 58.8 +00.6	283 44.6 -29.3	N 11 45.0 +14.8	07						
08	300 15.1 +00.1	N 11 28.1 +00.9	259 29.4 -00.6	N 23 59.4 +00.5	298 15.3 -29.3	N 11 59.8 +14.8	08						
09	315 15.2 +00.1	N 11 29.0 +00.8	274 28.8 -00.6	N 23 59.9 +00.5	312 46.0 -29.4	N 12 14.6 +14.7	09						
10	330 15.3 +00.1	N 11 29.8 +00.9	289 28.2 -00.6	N 24 00.4 +00.5	327 16.6 -29.4	N 12 29.3 +14.6	10						
11	345 15.4 +00.2	N 11 30.7 +00.8	304 27.6 -00.7	N 24 00.9 +00.6	341 47.2 -29.5	N 12 43.9 +14.5	11						
12	0 15.6 +00.1	N 11 31.5 +00.9	319 26.9 -00.6	N 24 01.5 +00.5	356 17.7 -29.4	N 12 58.4 +14.5	12						
13	15 15.7 +00.1	N 11 32.4 +00.8	334 26.3 -00.6	N 24 02.0 +00.5	10 48.3 -29.5	N 13 12.9 +14.3	13						
14	30 15.8 +00.2	N 11 33.2 +00.9	349 25.7 -00.6	N 24 02.5 +00.5	25 18.8 -29.6	N 13 27.2 +14.3	14						
15	45 16.0 +00.1	N 11 34.1 +00.9	4 25.1 -00.7	N 24 03.0 +00.6	39 49.2 -29.5	N 13 41.5 +14.2	15						
16	60 16.1 +00.1	N 11 35.0 +00.8	19 24.4 -00.6	N 24 03.6 +00.5	54 19.7 -29.6	N 13 55.7 +14.2	16						
17	75 16.2 +00.1	N 11 35.8 +00.9	34 23.8 -00.6	N 24 04.1 +00.5	68 50.1 -29.7	N 14 09.9 +14.0	17						
18	90 16.3 +00.2	N 11 36.7 +00.8	49 23.2 -00.6	N 24 04.6 +00.5	83 20.4 -29.7	N 14 23.9 +14.0	18						
19	105 16.5 +00.1	N 11 37.5 +00.9	64 22.6 -00.7	N 24 05.1 +00.5	97 50.7 -29.7	N 14 37.9 +13.9	19						
20	120 16.6 +00.1	N 11 38.4 +00.8	79 21.9 -00.6	N 24 05.6 +00.6	112 21.0 -29.7	N 14 51.8 +13.7	20						
21	135 16.7 +00.2	N 11 39.2 +00.9	94 21.3 -00.6	N 24 06.2 +00.5	126 51.3 -29.8	N 15 05.5 +13.7	21						
22	150 16.9 +00.1	N 11 40.1 +00.8	109 20.7 -00.6	N 24 06.7 +00.5	141 21.5 -29.9	N 15 19.2 +13.6	22						
23	165 17.0 +00.1	N 11 40.9 +00.9	124 20.1 -00.7	N 24 07.2 +00.5	155 51.6 -29.8	N 15 32.8 +13.5	23						
UT	02 06 10 14 18 22	UT	02 06 10 14 18 22	UT	02 06 10 14 18 22								
SD	15'9 15'9 15'9 15'9 15'9 15'9	SD	00'1 00'1 00'1 00'1 00'1 00'1	SD	15'9 15'9 15'8 15'8 15'8 15'8								
HP	00'1 00'1 00'1 00'1 00'1 00'1	HP	00'1 00'1 00'1 00'1 00'1 00'1	HP	58'4 58'3 58'2 58'1 57'9 57'8								
SHA	332° 332° 332° 332° 332° 332°	SHA	292° 291° 291° 291° 291° 291°	SHA	333° 331° 329° 327° 325° 323°								
Greenwich Culmination Time: 11:58			Greenwich Culmination Time: 14:42			Greenwich Culmination Time: 12:15							

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	103 27.7 +01.0	N 24 39.8 -00.1	185 29.4 +01.9	N 08 12.8 +00.2	230 54.9 +02.3	S 11 08.0 -00.1	00						
01	118 28.7 +01.0	N 24 39.7 -00.2	200 31.3 +01.9	N 08 13.0 +00.3	245 57.2 +02.2	S 11 07.9 -00.1	01						
02	133 29.7 +01.0	N 24 39.5 -00.2	215 33.2 +01.9	N 08 13.3 +00.2	260 59.4 +02.3	S 11 07.8 +00.0	02						
03	148 30.7 +01.0	N 24 39.3 -00.1	230 35.1 +01.9	N 08 13.5 +00.2	276 01.7 +02.2	S 11 07.8 -00.1	03						
04	163 31.7 +01.0	N 24 39.2 -00.2	245 37.0 +01.9	N 08 13.7 +00.2	291 03.9 +02.3	S 11 07.7 -00.1	04						
05	178 32.7 +01.0	N 24 39.0 -00.1	260 38.9 +01.9	N 08 13.9 +00.3	306 06.2 +02.3	S 11 07.6 -00.1	05						
06	193 33.7 +01.0	N 24 38.9 -00.2	275 40.8 +01.9	N 08 14.2 +00.2	321 08.5 +02.2	S 11 07.5 +00.0	06						
07	208 34.7 +01.0	N 24 38.7 -00.1	290 42.7 +01.9	N 08 14.4 +00.2	336 10.7 +02.3	S 11 07.5 -00.1	07						
08	223 35.7 +01.0	N 24 38.6 -00.2	305 44.6 +01.9	N 08 14.6 +00.2	351 13.0 +02.2	S 11 07.4 -00.1	08						
09	238 36.7 +01.1	N 24 38.4 -00.2	320 46.5 +01.9	N 08 14.8 +00.2	6 15.2 +02.3	S 11 07.3 +00.0	09						
10	253 37.8 +01.0	N 24 38.2 -00.1	335 48.4 +01.9	N 08 15.0 +00.3	21 17.5 +02.3	S 11 07.3 -00.1	10						
11	268 38.8 +01.0	N 24 38.1 -00.2	350 50.3 +01.9	N 08 15.3 +00.2	36 19.8 +02.2	S 11 07.2 -00.1	11						
12	283 39.8 +01.0	N 24 37.9 -00.1	5 52.2 +01.9	N 08 15.5 +00.2	51 22.0 +02.3	S 11 07.1 -00.1	12						
13	298 40.8 +01.0	N 24 37.8 -00.2	20 54.1 +01.9	N 08 15.7 +00.2	66 24.3 +02.2	S 11 07.0 +00.0	13						
14	313 41.8 +01.0	N 24 37.6 -00.2	35 56.0 +01.9	N 08 15.9 +00.2	81 26.5 +02.3	S 11 07.0 -00.1	14						
15	328 42.8 +01.0	N 24 37.4 -00.1	50 57.9 +01.9	N 08 16.1 +00.3	96 28.8 +02.3	S 11 06.9 -00.1	15						
16	343 43.8 +01.0	N 24 37.3 -00.2	65 59.8 +01.9	N 08 16.4 +00.2	111 31.1 +02.2	S 11 06.8 +00.0	16						
17	358 44.8 +01.0	N 24 37.1 -00.1	81 01.7 +01.9	N 08 16.6 +00.2	126 33.3 +02.3	S 11 06.8 -00.1	17						
18	13 45.8 +01.0	N 24 37.0 -00.2	96 03.6 +01.9	N 08 16.8 +00.2	141 35.6 +02.2	S 11 06.7 -00.1	18						
19	28 46.8 +01.0	N 24 36.8 -00.2	111 05.5 +01.9	N 08 17.0 +00.2	156 37.8 +02.3	S 11 06.6 -00.1	19						
20	43 47.8 +01.0	N 24 36.6 -00.1	126 07.4 +01.9	N 08 17.2 +00.3	171 40.1 +02.3	S 11 06.5 +00.0	20						
21	58 48.8 +01.0	N 24 36.5 -00.2	141 09.3 +01.9	N 08 17.5 +00.2	186 42.4 +02.2	S 11 06.5 -00.1	21						
22	73 49.8 +01.0	N 24 36.3 -00.1	156 11.2 +01.9	N 08 17.7 +00.2	201 44.6 +02.3	S 11 06.4 -00.1	22						
23	88 50.8 +01.0	N 24 36.2 -00.2	171 13.1 +01.9	N 08 17.9 +00.2	216 46.9 +02.2	S 11 06.3 +00.0	23						
UT	02 06 10 14 18 22	UT	02 06 10 14 18 22	UT	02 06 10 14 18 22								
SD	00'0 00'0 00'0 00'0 00'0 00'0	SD	00'3 00'3 00'3 00'3 00'3 00'3	SD	00'1 00'1 00'1 00'1 00'1 00'1								
HP	00'1 00'1 00'1 00'1 00'1 00'1	HP	00'0 00'0 00'0 00'0 00'0 00'0	HP	00'0 00'0 00'0 00'0 00'0 00'0								
SHA	256° 255° 255° 255° 255° 255°	SHA	338° 338° 338° 338° 337° 337°	SHA	023° 023° 023° 023° 023° 023°								
Greenwich Culmination Time: 17:05			Greenwich Culmination Time: 11:36			Greenwich Culmination Time: 08:35							

Sun					Venus					Moon					A: 04%					
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	180	17.1 +00.1	N 11 41.8 +00.8		139	19.4 -00.6	N 24 07.7 +00.5		170	21.8 -29.9	N 15 46.3 +13.5		00							
01	195	17.2 +00.2	N 11 42.6 +00.9		154	18.8 -00.6	N 24 08.2 +00.5		184	51.9 -30.0	N 15 59.8 +13.3		01							
02	210	17.4 +00.1	N 11 43.5 +00.9		169	18.2 -00.6	N 24 08.7 +00.5		199	21.9 -30.0	N 16 13.1 +13.2		02							
03	225	17.5 +00.1	N 11 44.4 +00.8		184	17.6 -00.7	N 24 09.2 +00.6		213	51.9 -30.0	N 16 26.3 +13.2		03							
04	240	17.6 +00.2	N 11 45.2 +00.9		199	16.9 -00.6	N 24 09.8 +00.5		228	21.9 -30.1	N 16 39.5 +13.0		04							
05	255	17.8 +00.1	N 11 46.1 +00.8		214	16.3 -00.6	N 24 10.3 +00.5		242	51.8 -30.1	N 16 52.5 +12.9		05							
06	270	17.9 +00.1	N 11 46.9 +00.9		229	15.7 -00.6	N 24 10.8 +00.5		257	21.7 -30.1	N 17 05.4 +12.9		06							
07	285	18.0 +00.1	N 11 47.8 +00.8		244	15.1 -00.7	N 24 11.3 +00.5		271	51.6 -30.2	N 17 18.3 +12.7		07							
08	300	18.1 +00.2	N 11 48.6 +00.9		259	14.4 -00.6	N 24 11.8 +00.5		286	21.4 -30.3	N 17 31.0 +12.6		08							
09	315	18.3 +00.1	N 11 49.5 +00.8		274	13.8 -00.6	N 24 12.3 +00.5		300	51.1 -30.2	N 17 43.6 +12.6		09							
10	330	18.4 +00.1	N 11 50.3 +00.9		289	13.2 -00.7	N 24 12.8 +00.5		315	20.9 -30.4	N 17 56.2 +12.4		10							
11	345	18.5 +00.1	N 11 51.2 +00.8		304	12.5 -00.6	N 24 13.3 +00.5		329	50.5 -30.3	N 18 08.6 +12.3		11							
12	0	18.6 +00.2	N 11 52.0 +00.9		319	11.9 -00.6	N 24 13.8 +00.5		344	20.2 -30.4	N 18 20.9 +12.2		12							
13	15	18.8 +00.1	N 11 52.9 +00.8		334	11.3 -00.6	N 24 14.3 +00.5		358	49.8 -30.5	N 18 33.1 +12.1		13							
14	30	18.9 +00.1	N 11 53.7 +00.9		349	10.7 -00.7	N 24 14.8 +00.5		13	19.3 -30.5	N 18 45.2 +12.0		14							
15	45	19.0 +00.1	N 11 54.6 +00.8		4	10.0 -00.6	N 24 15.3 +00.5		27	48.8 -30.5	N 18 57.2 +11.9		15							
16	60	19.1 +00.2	N 11 55.4 +00.9		19	09.4 -00.6	N 24 15.8 +00.5		42	18.3 -30.6	N 19 09.1 +11.8		16							
17	75	19.3 +00.1	N 11 56.3 +00.8		34	08.8 -00.6	N 24 16.3 +00.5		56	47.7 -30.6	N 19 20.9 +11.6		17							
18	90	19.4 +00.1	N 11 57.1 +00.9		49	08.2 -00.7	N 24 16.8 +00.5		71	17.1 -30.7	N 19 32.5 +11.6		18							
19	105	19.5 +00.1	N 11 58.0 +00.8		64	07.5 -00.6	N 24 17.3 +00.5		85	46.4 -30.7	N 19 44.1 +11.4		19							
20	120	19.6 +00.2	N 11 58.8 +00.8		79	06.9 -00.6	N 24 17.8 +00.5		100	15.7 -30.7	N 19 55.5 +11.4		20							
21	135	19.8 +00.1	N 11 59.6 +00.9		94	06.3 -00.7	N 24 18.3 +00.4		114	45.0 -30.8	N 20 06.9 +11.2		21							
22	150	19.9 +00.1	N 12 00.5 +00.8		109	05.6 -00.6	N 24 18.7 +00.5		129	14.2 -30.9	N 20 18.1 +11.0		22							
23	165	20.0 +00.1	N 12 01.3 +00.9		124	05.0 -00.6	N 24 19.2 +00.5		143	43.3 -30.9	N 20 29.1 +11.0		23							
UT	02	06	10	14	18	22			UT	02	06	10	14	18	22					
SD	15'9	15'9	15'9	15'9	15'9	15'9			SD	00'1	00'1	00'1	00'1	00'1	00'1					
HP	00'1	00'1	00'1	00'1	00'1	00'1			HP	00'1	00'1	00'1	00'1	00'1	00'1					
SHA	331°	331°	331°	331°	331°	331°			SHA	290°	290°	290°	290°	290°	289°					
Greenwich Culmination Time: 11:58							Greenwich Culmination Time: 14:43							Greenwich Culmination Time: 13:04						

Mars					Jupiter					Saturn										
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	103	51.8 +01.0	N 24 36.0 -00.2		186	15.0 +01.9	N 08 18.1 +00.3		231	49.1 +02.3	S 11 06.3 -00.1		00							
01	118	52.8 +01.0	N 24 35.8 -00.1		201	16.9 +01.9	N 08 18.4 +00.2		246	51.4 +02.3	S 11 06.2 -00.1		01							
02	133	53.8 +01.0	N 24 35.7 -00.2		216	18.8 +01.9	N 08 18.6 +00.2		261	53.7 +02.2	S 11 06.1 -00.1		02							
03	148	54.8 +01.0	N 24 35.5 -00.2		231	20.7 +01.9	N 08 18.8 +00.2		276	55.9 +02.3	S 11 06.0 +00.0		03							
04	163	55.8 +01.0	N 24 35.3 -00.1		246	22.6 +01.9	N 08 19.0 +00.2		291	58.2 +02.3	S 11 06.0 -00.1		04							
05	178	56.8 +01.0	N 24 35.2 -00.2		261	24.5 +01.9	N 08 19.2 +00.3		307	00.5 +02.2	S 11 05.9 -00.1		05							
06	193	57.8 +01.0	N 24 35.0 -00.1		276	26.4 +01.9	N 08 19.5 +00.2		322	02.7 +02.3	S 11 05.8 +00.0		06							
07	208	58.8 +01.0	N 24 34.9 -00.2		291	28.3 +01.9	N 08 19.7 +00.2		337	05.0 +02.2	S 11 05.8 -00.1		07							
08	223	59.8 +01.0	N 24 34.7 -00.2		306	30.2 +01.9	N 08 19.9 +00.2		352	07.2 +02.3	S 11 05.7 -00.1		08							
09	239	00.8 +01.0	N 24 34.5 -00.1		321	32.1 +01.9	N 08 20.1 +00.2		7	09.5 +02.3	S 11 05.6 +00.0		09							
10	254	01.8 +01.0	N 24 34.4 -00.2		336	34.0 +01.9	N 08 20.3 +00.3		22	11.8 +02.2	S 11 05.6 -00.1		10							
11	269	02.8 +01.0	N 24 34.2 -00.2		351	35.9 +01.9	N 08 20.6 +00.2		37	14.0 +02.3	S 11 05.5 -00.1		11							
12	284	03.8 +01.0	N 24 34.0 -00.1		6	37.8 +01.9	N 08 20.8 +00.2		52	16.3 +02.3	S 11 05.4 -00.1		12							
13	299	04.8 +01.0	N 24 33.9 -00.2		21	39.7 +01.9	N 08 21.0 +00.2		67	18.6 +02.2	S 11 05.3 +00.0		13							
14	314	05.8 +01.0	N 24 33.7 -00.2		36	41.6 +01.9	N 08 21.2 +00.2		82	20.8 +02.3	S 11 05.3 -00.1		14							
15	329	06.8 +01.0	N 24 33.5 -00.1		51	43.5 +01.9	N 08 21.4 +00.3		97	23.1 +02.2	S 11 05.2 -00.1		15							
16	344	07.8 +01.0	N 24 33.4 -00.2		66	45.4 +01.9	N 08 21.7 +00.2		112	25.3 +02.3	S 11 05.1 +00.0		16							
17	359	08.8 +01.0	N 24 33.2 -00.2		81	47.3 +01.9	N 08 21.9 +00.2		127	27.6 +02.3	S 11 05.1 -00.1		17							
18	14	09.8 +01.0	N 24 33.0 -00.1		96	49.2 +01.9	N 08 22.1 +00.2		142	29.9 +02.2	S 11 05.0 -00.1		18							
19	29	10.8 +01.0	N 24 32.9 -00.2		111	51.1 +01.9	N 08 22.3 +00.2		157	32.1 +02.3	S 11 04.9 +00.0		19							
20	44	11.8 +01.0	N 24 32.7 -00.2		126	53.0 +01.9	N 08 22.5 +00.3		172	34.4 +02.3	S 11 04.9 -00.1		20							
21	59	12.8 +01.0	N 24 32.5 -00.1		141	54.9 +01.9	N 08 22.8 +00.2		187	36.7 +02.2	S 11 04.8 -00.1		21							
22	74	13.8 +01.0	N 24 32.4 -00.2		156	56.8 +01.9	N 08 23.0 +00.2		202	38.9 +02.3	S 11 04.7 -00.1		22							
23	89	14.8 +01.0	N 24 32.2 -00.2		171	58.7 +01.9	N 08 23.2 +00.2		217	41.2 +02.2	S 11 04.6 +00.0		23							
UT	02	06	10	14	18	22			UT	02	06	10	14	18	22					
SD	00'0	00'0	00'0	00'0	00'0	00'0			SD	00'3	00'3	00'3	00'3	00'3	00'3					
HP	00'1	00'1	00'1	00'1	00'1	00'1			HP	00'0	00'0	00'0	00'0	00'0	00'0					
SHA	255°	255°	255°	255°	255°	255°			SHA	337°	337°	337°	337°	337°	337°					
Greenwich Culmination Time: 17:03							Greenwich Culmination Time: 11:33							Greenwich Culmination Time: 08:31						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	20.1 +00.2	N 12 02.2 +00.8		139	04.4 -00.6	N 24 19.7 +00.5		158	12.4 -30.9	N 20 40.1 +10.9		00
01	195	20.3 +00.1	N 12 03.0 +00.9		154	03.8 -00.7	N 24 20.2 +00.5		172	41.5 -30.9	N 20 51.0 +10.7		01
02	210	20.4 +00.1	N 12 03.9 +00.8		169	03.1 -00.6	N 24 20.7 +00.5		187	10.6 -31.1	N 21 01.7 +10.6		02
03	225	20.5 +00.1	N 12 04.7 +00.9		184	02.5 -00.6	N 24 21.2 +00.5		201	39.5 -31.0	N 21 12.3 +10.5		03
04	240	20.6 +00.1	N 12 05.6 +00.8		199	01.9 -00.7	N 24 21.7 +00.5		216	08.5 -31.1	N 21 22.8 +10.4		04
05	255	20.7 +00.2	N 12 06.4 +00.8		214	01.2 -00.6	N 24 22.2 +00.4		230	37.4 -31.2	N 21 33.2 +10.2		05
06	270	20.9 +00.1	N 12 07.2 +00.9		229	00.6 -00.6	N 24 22.6 +00.5		245	06.2 -31.1	N 21 43.4 +10.1		06
07	285	21.0 +00.1	N 12 08.1 +00.8		243	60.0 -00.7	N 24 23.1 +00.5		259	35.1 -31.3	N 21 53.5 +10.0		07
08	300	21.1 +00.1	N 12 08.9 +00.9		258	59.3 -00.6	N 24 23.6 +00.5		274	03.8 -31.2	N 22 03.5 +09.9		08
09	315	21.2 +00.2	N 12 09.8 +00.8		273	58.7 -00.6	N 24 24.1 +00.4		288	32.6 -31.3	N 22 13.4 +09.7		09
10	330	21.4 +00.1	N 12 10.6 +00.9		288	58.1 -00.6	N 24 24.5 +00.5		303	01.3 -31.4	N 22 23.1 +09.6		10
11	345	21.5 +00.1	N 12 11.5 +00.8		303	57.5 -00.7	N 24 25.0 +00.5		317	29.9 -31.4	N 22 32.7 +09.5		11
12	0	21.6 +00.1	N 12 12.3 +00.8		318	56.8 -00.6	N 24 25.5 +00.5		331	58.5 -31.4	N 22 42.2 +09.4		12
13	15	21.7 +00.1	N 12 13.1 +00.9		333	56.2 -00.6	N 24 26.0 +00.4		346	27.1 -31.5	N 22 51.6 +09.2		13
14	30	21.8 +00.2	N 12 14.0 +00.8		348	55.6 -00.7	N 24 26.4 +00.5		0	55.6 -31.5	N 23 00.8 +09.1		14
15	45	22.0 +00.1	N 12 14.8 +00.9		3	54.9 -00.6	N 24 26.9 +00.5		15	24.1 -31.5	N 23 09.9 +09.0		15
16	60	22.1 +00.1	N 12 15.7 +00.8		18	54.3 -00.6	N 24 27.4 +00.5		29	52.6 -31.6	N 23 18.9 +08.8		16
17	75	22.2 +00.1	N 12 16.5 +00.8		33	53.7 -00.7	N 24 27.9 +00.4		44	21.0 -31.6	N 23 27.7 +08.7		17
18	90	22.3 +00.1	N 12 17.3 +00.9		48	53.0 -00.6	N 24 28.3 +00.5		58	49.4 -31.7	N 23 36.4 +08.5		18
19	105	22.4 +00.2	N 12 18.2 +00.8		63	52.4 -00.6	N 24 28.8 +00.5		73	17.7 -31.7	N 23 44.9 +08.5		19
20	120	22.6 +00.1	N 12 19.0 +00.9		78	51.8 -00.7	N 24 29.3 +00.4		87	46.0 -31.7	N 23 53.4 +08.3		20
21	135	22.7 +00.1	N 12 19.9 +00.8		93	51.1 -00.6	N 24 29.7 +00.5		102	14.3 -31.8	N 24 01.7 +08.1		21
22	150	22.8 +00.1	N 12 20.7 +00.8		108	50.5 -00.6	N 24 30.2 +00.5		116	42.5 -31.8	N 24 09.8 +08.0		22
23	165	22.9 +00.1	N 12 21.5 +00.9		123	49.9 -00.7	N 24 30.7 +00.4		131	10.7 -31.8	N 24 17.8 +07.9		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'9 15'9 15'9 15'9 15'9 15'9				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 15'5 15'5 15'5 15'4 15'4 15'4				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 57'0 56'9 56'8 56'7 56'5 56'4				
	SHA 330° 330° 330° 330° 330° 330°				SHA 289° 289° 289° 289° 288° 288°				SHA 307° 305° 303° 301° 298° 296°				
	Greenwich Culmination Time: 11:58				Greenwich Culmination Time: 14:44				Greenwich Culmination Time: 13:56				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	104	15.8 +01.0	N 24 32.0 -00.1		187	00.6 +01.9	N 08 23.4 +00.2		232	43.4 +02.3	S 11 04.6 -00.1		00
01	119	16.8 +01.0	N 24 31.9 -00.2		202	02.5 +01.9	N 08 23.6 +00.3		247	45.7 +02.3	S 11 04.5 -00.1		01
02	134	17.8 +01.0	N 24 31.7 -00.2		217	04.4 +01.9	N 08 23.9 +00.2		262	48.0 +02.2	S 11 04.4 +00.0		02
03	149	18.8 +01.0	N 24 31.5 -00.1		232	06.3 +01.9	N 08 24.1 +00.2		277	50.2 +02.3	S 11 04.4 -00.1		03
04	164	19.8 +01.0	N 24 31.4 -00.2		247	08.2 +01.9	N 08 24.3 +00.2		292	52.5 +02.3	S 11 04.3 -00.1		04
05	179	20.8 +01.0	N 24 31.2 -00.2		262	10.1 +01.9	N 08 24.5 +00.2		307	54.8 +02.2	S 11 04.2 +00.0		05
06	194	21.8 +01.0	N 24 31.0 -00.1		277	12.0 +01.9	N 08 24.7 +00.3		322	57.0 +02.3	S 11 04.2 -00.1		06
07	209	22.8 +01.0	N 24 30.9 -00.2		292	13.9 +01.9	N 08 25.0 +00.2		337	59.3 +02.3	S 11 04.1 -00.1		07
08	224	23.8 +01.0	N 24 30.7 -00.2		307	15.8 +01.9	N 08 25.2 +00.2		353	01.6 +02.2	S 11 04.0 -00.1		08
09	239	24.8 +01.0	N 24 30.5 -00.2		322	17.7 +01.9	N 08 25.4 +00.2		8	03.8 +02.3	S 11 03.9 +00.0		09
10	254	25.8 +01.0	N 24 30.3 -00.1		337	19.6 +01.9	N 08 25.6 +00.2		23	06.1 +02.3	S 11 03.9 -00.1		10
11	269	26.8 +01.0	N 24 30.2 -00.2		352	21.5 +01.9	N 08 25.8 +00.3		38	08.4 +02.2	S 11 03.8 -00.1		11
12	284	27.8 +01.0	N 24 30.0 -00.2		7	23.4 +01.9	N 08 26.1 +00.2		53	10.6 +02.3	S 11 03.7 +00.0		12
13	299	28.8 +01.0	N 24 29.8 -00.1		22	25.3 +01.9	N 08 26.3 +00.2		68	12.9 +02.3	S 11 03.7 -00.1		13
14	314	29.8 +01.0	N 24 29.7 -00.2		37	27.2 +01.9	N 08 26.5 +00.2		83	15.2 +02.2	S 11 03.6 -00.1		14
15	329	30.8 +01.0	N 24 29.5 -00.2		52	29.1 +01.9	N 08 26.7 +00.2		98	17.4 +02.3	S 11 03.5 +00.0		15
16	344	31.8 +01.0	N 24 29.3 -00.2		67	31.0 +01.9	N 08 26.9 +00.3		113	19.7 +02.2	S 11 03.5 -00.1		16
17	359	32.8 +01.0	N 24 29.1 -00.1		82	32.9 +01.9	N 08 27.2 +00.2		128	21.9 +02.3	S 11 03.4 -00.1		17
18	14	33.8 +01.0	N 24 29.0 -00.2		97	34.8 +01.9	N 08 27.4 +00.2		143	24.2 +02.3	S 11 03.3 +00.0		18
19	29	34.8 +01.0	N 24 28.8 -00.2		112	36.7 +01.9	N 08 27.6 +00.2		158	26.5 +02.2	S 11 03.3 -00.1		19
20	44	35.8 +01.0	N 24 28.6 -00.1		127	38.6 +01.9	N 08 27.8 +00.2		173	28.7 +02.3	S 11 03.2 -00.1		20
21	59	36.8 +01.0	N 24 28.5 -00.2		142	40.5 +01.9	N 08 28.0 +00.3		188	31.0 +02.3	S 11 03.1 +00.0		21
22	74	37.8 +01.0	N 24 28.3 -00.2		157	42.4 +01.9	N 08 28.3 +00.2		203	33.3 +02.2	S 11 03.1 -00.1		22
23	89	38.8 +01.0	N 24 28.1 -00.2		172	44.3 +01.9	N 08 28.5 +00.2		218	35.5 +02.3	S 11 03.0 -00.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 254° 254° 254° 254° 254° 254°				SHA 337° 337° 337° 337° 337° 337°				SHA 023° 023° 023° 023° 023° 023°				
	Greenwich Culmination Time: 17:01				Greenwich Culmination Time: 11:30				Greenwich Culmination Time: 08:27				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	23.0 +00.1	N 12 22.4 +00.8		138	49.2 -00.6	N 24 31.1 +00.5		145	38.9 -31.8	N 24 25.7 +07.8		00
01	195	23.1 +00.2	N 12 23.2 +00.8		153	48.6 -00.6	N 24 31.6 +00.4		160	07.1 -31.9	N 24 33.5 +07.6		01
02	210	23.3 +00.1	N 12 24.0 +00.9		168	48.0 -00.6	N 24 32.0 +00.5		174	35.2 -32.0	N 24 41.1 +07.4		02
03	225	23.4 +00.1	N 12 24.9 +00.8		183	47.4 -00.7	N 24 32.5 +00.4		189	03.2 -31.9	N 24 48.5 +07.4		03
04	240	23.5 +00.1	N 12 25.7 +00.8		198	46.7 -00.6	N 24 32.9 +00.5		203	31.3 -32.0	N 24 55.9 +07.2		04
05	255	23.6 +00.1	N 12 26.5 +00.9		213	46.1 -00.6	N 24 33.4 +00.5		217	59.3 -32.0	N 25 03.1 +07.0		05
06	270	23.7 +00.2	N 12 27.4 +00.8		228	45.5 -00.7	N 24 33.9 +00.4		232	27.3 -32.1	N 25 10.1 +06.9		06
07	285	23.9 +00.1	N 12 28.2 +00.9		243	44.8 -00.6	N 24 34.3 +00.5		246	55.2 -32.0	N 25 17.0 +06.8		07
08	300	24.0 +00.1	N 12 29.1 +00.8		258	44.2 -00.6	N 24 34.8 +00.4		261	23.2 -32.1	N 25 23.8 +06.6		08
09	315	24.1 +00.1	N 12 29.9 +00.8		273	43.6 -00.7	N 24 35.2 +00.5		275	51.1 -32.2	N 25 30.4 +06.5		09
10	330	24.2 +00.1	N 12 30.7 +00.9		288	42.9 -00.6	N 24 35.7 +00.4		290	18.9 -32.1	N 25 36.9 +06.3		10
11	345	24.3 +00.1	N 12 31.6 +00.8		303	42.3 -00.6	N 24 36.1 +00.5		304	46.8 -32.2	N 25 43.2 +06.2		11
12	0	24.4 +00.2	N 12 32.4 +00.8		318	41.7 -00.7	N 24 36.6 +00.4		319	14.6 -32.2	N 25 49.4 +06.1		12
13	15	24.6 +00.1	N 12 33.2 +00.9		333	41.0 -00.6	N 24 37.0 +00.5		333	42.4 -32.2	N 25 55.5 +05.9		13
14	30	24.7 +00.1	N 12 34.1 +00.8		348	40.4 -00.6	N 24 37.5 +00.4		348	10.2 -32.2	N 26 01.4 +05.8		14
15	45	24.8 +00.1	N 12 34.9 +00.8		3	39.8 -00.7	N 24 37.9 +00.5		2	38.0 -32.3	N 26 07.2 +05.6		15
16	60	24.9 +00.1	N 12 35.7 +00.8		18	39.1 -00.6	N 24 38.4 +00.4		17	05.7 -32.2	N 26 12.8 +05.5		16
17	75	25.0 +00.1	N 12 36.5 +00.9		33	38.5 -00.6	N 24 38.8 +00.4		31	33.5 -32.3	N 26 18.3 +05.3		17
18	90	25.1 +00.1	N 12 37.4 +00.8		48	37.9 -00.7	N 24 39.2 +00.5		46	01.2 -32.3	N 26 23.6 +05.2		18
19	105	25.2 +00.2	N 12 38.2 +00.8		63	37.2 -00.6	N 24 39.7 +00.4		60	28.9 -32.3	N 26 28.8 +05.0		19
20	120	25.4 +00.1	N 12 39.0 +00.9		78	36.6 -00.6	N 24 40.1 +00.5		74	56.6 -32.4	N 26 33.8 +04.9		20
21	135	25.5 +00.1	N 12 39.9 +00.8		93	36.0 -00.7	N 24 40.6 +00.4		89	24.2 -32.3	N 26 38.7 +04.8		21
22	150	25.6 +00.1	N 12 40.7 +00.8		108	35.3 -00.6	N 24 41.0 +00.4		103	51.9 -32.4	N 26 43.5 +04.6		22
23	165	25.7 +00.1	N 12 41.5 +00.9		123	34.7 -00.6	N 24 41.4 +00.5		118	19.5 -32.3	N 26 48.1 +04.4		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'9 15'9 15'9 15'9 15'9 15'9				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 15'3 15'3 15'3 15'2 15'2 15'2				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 56'3 56'2 56'1 56'0 55'9 55'8				
	SHA 330° 329° 329° 329° 329° 329°				SHA 288° 288° 288° 287° 287° 287°				SHA 294° 291° 289° 287° 284° 282°				
	Greenwich Culmination Time: 11:58				Greenwich Culmination Time: 14:45				Greenwich Culmination Time: 14:49				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	104	39.8 +01.0	N 24 27.9 -00.1		187	46.2 +01.9	N 08 28.7 +00.2		233	37.8 +02.3	S 11 02.9 -00.1		00
01	119	40.8 +01.0	N 24 27.8 -00.2		202	48.1 +01.9	N 08 28.9 +00.2		248	40.1 +02.2	S 11 02.8 +00.0		01
02	134	41.8 +01.0	N 24 27.6 -00.2		217	50.0 +01.9	N 08 29.1 +00.3		263	42.3 +02.3	S 11 02.8 -00.1		02
03	149	42.8 +01.0	N 24 27.4 -00.2		232	51.9 +01.9	N 08 29.4 +00.2		278	44.6 +02.3	S 11 02.7 -00.1		03
04	164	43.8 +01.0	N 24 27.2 -00.1		247	53.8 +01.9	N 08 29.6 +00.2		293	46.9 +02.2	S 11 02.6 +00.0		04
05	179	44.8 +01.0	N 24 27.1 -00.2		262	55.7 +01.9	N 08 29.8 +00.2		308	49.1 +02.3	S 11 02.6 -00.1		05
06	194	45.8 +01.0	N 24 26.9 -00.2		277	57.6 +01.9	N 08 30.0 +00.2		323	51.4 +02.3	S 11 02.5 -00.1		06
07	209	46.8 +01.0	N 24 26.7 -00.2		292	59.5 +01.9	N 08 30.2 +00.3		338	53.7 +02.2	S 11 02.4 +00.0		07
08	224	47.8 +01.0	N 24 26.5 -00.1		308	01.4 +01.9	N 08 30.5 +00.2		353	55.9 +02.3	S 11 02.4 -00.1		08
09	239	48.8 +01.0	N 24 26.4 -00.2		323	03.3 +01.9	N 08 30.7 +00.2		8	58.2 +02.3	S 11 02.3 -00.1		09
10	254	49.8 +01.0	N 24 26.2 -00.2		338	05.2 +01.9	N 08 30.9 +00.2		24	00.5 +02.3	S 11 02.2 +00.0		10
11	269	50.8 +01.0	N 24 26.0 -00.2		353	07.1 +01.9	N 08 31.1 +00.2		39	02.8 +02.2	S 11 02.2 -00.1		11
12	284	51.8 +01.0	N 24 25.8 -00.1		8	09.0 +01.9	N 08 31.3 +00.3		54	05.0 +02.3	S 11 02.1 -00.1		12
13	299	52.8 +01.0	N 24 25.7 -00.2		23	10.9 +01.9	N 08 31.6 +00.2		69	07.3 +02.3	S 11 02.0 +00.0		13
14	314	53.8 +00.9	N 24 25.5 -00.2		38	12.8 +01.9	N 08 31.8 +00.2		84	09.6 +02.2	S 11 02.0 -00.1		14
15	329	54.7 +01.0	N 24 25.3 -00.2		53	14.7 +01.9	N 08 32.0 +00.2		99	11.8 +02.3	S 11 01.9 -00.1		15
16	344	55.7 +01.0	N 24 25.1 -00.1		68	16.6 +01.9	N 08 32.2 +00.2		114	14.1 +02.3	S 11 01.8 +00.0		16
17	359	56.7 +01.0	N 24 25.0 -00.2		83	18.5 +01.9	N 08 32.4 +00.3		129	16.4 +02.2	S 11 01.8 -00.1		17
18	14	57.7 +01.0	N 24 24.8 -00.2		98	20.4 +01.9	N 08 32.7 +00.2		144	18.6 +02.3	S 11 01.7 -00.1		18
19	29	58.7 +01.0	N 24 24.6 -00.2		113	22.3 +01.9	N 08 32.9 +00.2		159	20.9 +02.3	S 11 01.6 +00.0		19
20	44	59.7 +01.0	N 24 24.4 -00.2		128	24.2 +01.9	N 08 33.1 +00.2		174	23.2 +02.2	S 11 01.6 -00.1		20
21	60	00.7 +01.0	N 24 24.2 -00.1		143	26.1 +01.9	N 08 33.3 +00.2		189	25.4 +02.3	S 11 01.5 -00.1		21
22	75	01.7 +01.0	N 24 24.1 -00.2		158	28.0 +01.9	N 08 33.5 +00.3		204	27.7 +02.3	S 11 01.4 -00.1		22
23	90	02.7 +01.0	N 24 23.9 -00.2		173	29.9 +01.9	N 08 33.8 +00.2		219	30.0 +02.2	S 11 01.3 +00.0		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 254° 254° 254° 254° 253° 253°				SHA 337° 337° 337° 337° 337° 337°				SHA 023° 023° 023° 023° 023° 023°				
	Greenwich Culmination Time: 17:00				Greenwich Culmination Time: 11:27				Greenwich Culmination Time: 08:24				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 25.8 +00.1	N 12 42.4 +00.8	138 34.1 -00.7	N 24 41.9 +00.4	132 47.2 -32.4	N 26 52.5 +04.3	00						
01	195 25.9 +00.1	N 12 43.2 +00.8	153 33.4 -00.6	N 24 42.3 +00.4	147 14.8 -32.4	N 26 56.8 +04.2	01						
02	210 26.0 +00.2	N 12 44.0 +00.8	168 32.8 -00.6	N 24 42.7 +00.5	161 42.4 -32.4	N 27 01.0 +04.0	02						
03	225 26.2 +00.1	N 12 44.8 +00.9	183 32.2 -00.7	N 24 43.2 +00.4	176 10.0 -32.4	N 27 05.0 +03.9	03						
04	240 26.3 +00.1	N 12 45.7 +00.8	198 31.5 -00.6	N 24 43.6 +00.4	190 37.6 -32.4	N 27 08.9 +03.7	04						
05	255 26.4 +00.1	N 12 46.5 +00.8	213 30.9 -00.6	N 24 44.0 +00.5	205 05.2 -32.4	N 27 12.6 +03.6	05						
06	270 26.5 +00.1	N 12 47.3 +00.8	228 30.3 -00.7	N 24 44.5 +00.4	219 32.8 -32.4	N 27 16.2 +03.4	06						
07	285 26.6 +00.1	N 12 48.1 +00.9	243 29.6 -00.6	N 24 44.9 +00.4	234 00.4 -32.4	N 27 19.6 +03.3	07						
08	300 26.7 +00.1	N 12 49.0 +00.8	258 29.0 -00.6	N 24 45.3 +00.4	248 28.0 -32.4	N 27 22.9 +03.1	08						
09	315 26.8 +00.1	N 12 49.8 +00.8	273 28.4 -00.7	N 24 45.7 +00.5	262 55.6 -32.4	N 27 26.0 +03.0	09						
10	330 26.9 +00.2	N 12 50.6 +00.8	288 27.7 -00.6	N 24 46.2 +00.4	277 23.2 -32.4	N 27 29.0 +02.8	10						
11	345 27.1 +00.1	N 12 51.4 +00.9	303 27.1 -00.7	N 24 46.6 +00.4	291 50.8 -32.4	N 27 31.8 +02.7	11						
12	0 27.2 +00.1	N 12 52.3 +00.8	318 26.4 -00.6	N 24 47.0 +00.4	306 18.4 -32.3	N 27 34.5 +02.5	12						
13	15 27.3 +00.1	N 12 53.1 +00.8	333 25.8 -00.6	N 24 47.4 +00.4	320 46.1 -32.4	N 27 37.0 +02.4	13						
14	30 27.4 +00.1	N 12 53.9 +00.8	348 25.2 -00.7	N 24 47.8 +00.5	335 13.7 -32.4	N 27 39.4 +02.3	14						
15	45 27.5 +00.1	N 12 54.7 +00.9	3 24.5 -00.6	N 24 48.3 +00.4	349 41.3 -32.4	N 27 41.7 +02.1	15						
16	60 27.6 +00.1	N 12 55.6 +00.8	18 23.9 -00.6	N 24 48.7 +00.4	4 08.9 -32.3	N 27 43.8 +01.9	16						
17	75 27.7 +00.1	N 12 56.4 +00.8	33 23.3 -00.7	N 24 49.1 +00.4	18 36.6 -32.3	N 27 45.7 +01.8	17						
18	90 27.8 +00.1	N 12 57.2 +00.8	48 22.6 -00.6	N 24 49.5 +00.4	33 04.3 -32.4	N 27 47.5 +01.7	18						
19	105 27.9 +00.2	N 12 58.0 +00.8	63 22.0 -00.6	N 24 49.9 +00.4	47 31.9 -32.3	N 27 49.2 +01.5	19						
20	120 28.1 +00.1	N 12 58.8 +00.9	78 21.4 -00.7	N 24 50.3 +00.4	61 59.6 -32.3	N 27 50.7 +01.3	20						
21	135 28.2 +00.1	N 12 59.7 +00.8	93 20.7 -00.6	N 24 50.7 +00.5	76 27.3 -32.3	N 27 52.0 +01.2	21						
22	150 28.3 +00.1	N 13 00.5 +00.8	108 20.1 -00.6	N 24 51.2 +00.4	90 55.0 -32.2	N 27 53.2 +01.1	22						
23	165 28.4 +00.1	N 13 01.3 +00.8	123 19.5 -00.7	N 24 51.6 +00.4	105 22.8 -32.2	N 27 54.3 +00.9	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	15'9 15'9 15'9 15'9 15'9 15'9		SD	00'1 00'1 00'1 00'1 00'1 00'1		SD	15'2 15'1 15'1 15'1 15'1 15'0						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	55'6 55'5 55'4 55'3 55'2 55'2						
SHA	329° 328° 328° 328° 328° 328°		SHA	287° 286° 286° 286° 286° 286°		SHA	280° 278° 275° 273° 271° 268°						
Greenwich Culmination Time: 11:58				Greenwich Culmination Time: 14:46				Greenwich Culmination Time: 15:42					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	105 03.7 +01.0	N 24 23.7 -00.2	188 31.8 +01.9	N 08 34.0 +00.2	234 32.2 +02.3	S 11 01.3 -00.1	00						
01	120 04.7 +01.0	N 24 23.5 -00.1	203 33.7 +01.9	N 08 34.2 +00.2	249 34.5 +02.3	S 11 01.2 -00.1	01						
02	135 05.7 +01.0	N 24 23.4 -00.2	218 35.6 +01.9	N 08 34.4 +00.2	264 36.8 +02.3	S 11 01.1 +00.0	02						
03	150 06.7 +01.0	N 24 23.2 -00.2	233 37.5 +01.9	N 08 34.6 +00.2	279 39.1 +02.2	S 11 01.1 -00.1	03						
04	165 07.7 +01.0	N 24 23.0 -00.2	248 39.4 +01.9	N 08 34.8 +00.3	294 41.3 +02.3	S 11 01.0 -00.1	04						
05	180 08.7 +01.0	N 24 22.8 -00.2	263 41.3 +01.9	N 08 35.1 +00.2	309 43.6 +02.3	S 11 00.9 +00.0	05						
06	195 09.7 +01.0	N 24 22.6 -00.1	278 43.2 +01.9	N 08 35.3 +00.2	324 45.9 +02.2	S 11 00.9 -00.1	06						
07	210 10.7 +01.0	N 24 22.5 -00.2	293 45.1 +01.9	N 08 35.5 +00.2	339 48.1 +02.3	S 11 00.8 -00.1	07						
08	225 11.7 +01.0	N 24 22.3 -00.2	308 47.0 +01.9	N 08 35.7 +00.2	354 50.4 +02.3	S 11 00.7 +00.0	08						
09	240 12.7 +01.0	N 24 22.1 -00.2	323 48.9 +01.9	N 08 35.9 +00.3	9 52.7 +02.2	S 11 00.7 -00.1	09						
10	255 13.7 +00.9	N 24 21.9 -00.2	338 50.8 +01.9	N 08 36.2 +00.2	24 54.9 +02.3	S 11 00.6 -00.1	10						
11	270 14.6 +01.0	N 24 21.7 -00.2	353 52.7 +01.9	N 08 36.4 +00.2	39 57.2 +02.3	S 11 00.5 +00.0	11						
12	285 15.6 +01.0	N 24 21.5 -00.1	8 54.6 +01.9	N 08 36.6 +00.2	54 59.5 +02.3	S 11 00.5 -00.1	12						
13	300 16.6 +01.0	N 24 21.4 -00.2	23 56.5 +01.9	N 08 36.8 +00.2	70 01.8 +02.2	S 11 00.4 -00.1	13						
14	315 17.6 +01.0	N 24 21.2 -00.2	38 58.4 +01.9	N 08 37.0 +00.3	85 04.0 +02.3	S 11 00.3 +00.0	14						
15	330 18.6 +01.0	N 24 21.0 -00.2	54 00.3 +01.9	N 08 37.3 +00.2	100 06.3 +02.3	S 11 00.3 -00.1	15						
16	345 19.6 +01.0	N 24 20.8 -00.2	69 02.2 +01.9	N 08 37.5 +00.2	115 08.6 +02.2	S 11 00.2 -00.1	16						
17	0 20.6 +01.0	N 24 20.6 -00.1	84 04.1 +01.9	N 08 37.7 +00.2	130 10.8 +02.3	S 11 00.1 +00.0	17						
18	15 21.6 +01.0	N 24 20.5 -00.2	99 06.0 +01.9	N 08 37.9 +00.2	145 13.1 +02.3	S 11 00.1 -00.1	18						
19	30 22.6 +01.0	N 24 20.3 -00.2	114 07.9 +01.9	N 08 38.1 +00.2	160 15.4 +02.3	S 11 00.0 -00.1	19						
20	45 23.6 +01.0	N 24 20.1 -00.2	129 09.8 +01.9	N 08 38.3 +00.3	175 17.7 +02.2	S 10 59.9 +00.0	20						
21	60 24.6 +01.0	N 24 19.9 -00.2	144 11.7 +01.9	N 08 38.6 +00.2	190 19.9 +02.3	S 10 59.9 -00.1	21						
22	75 25.6 +01.0	N 24 19.7 -00.2	159 13.6 +01.9	N 08 38.8 +00.2	205 22.2 +02.3	S 10 59.8 -00.1	22						
23	90 26.6 +01.0	N 24 19.5 -00.1	174 15.5 +01.9	N 08 39.0 +00.2	220 24.5 +02.2	S 10 59.7 +00.0	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	00'0 00'0 00'0 00'0 00'0 00'0		SD	00'3 00'3 00'3 00'3 00'3 00'3		SD	00'1 00'1 00'1 00'1 00'1 00'1						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'0 00'0 00'0 00'0 00'0 00'0		HP	00'0 00'0 00'0 00'0 00'0 00'0						
SHA	253° 253° 253° 253° 253° 253°		SHA	337° 337° 337° 337° 337° 337°		SHA	023° 023° 023° 023° 023° 023°						
Greenwich Culmination Time: 16:58				Greenwich Culmination Time: 11:24				Greenwich Culmination Time: 08:20					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 18%				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	180 28.5 +00.1	N 13	02.1 +00.8	138 18.8 -00.6	N 24	52.0 +00.4	119 50.6 -32.3	N 27	55.2 +00.8	00			
01	195 28.6 +00.1	N 13	02.9 +00.9	153 18.2 -00.6	N 24	52.4 +00.4	134 18.3 -32.2	N 27	56.0 +00.6	01			
02	210 28.7 +00.1	N 13	03.8 +00.8	168 17.6 -00.7	N 24	52.8 +00.4	148 46.1 -32.1	N 27	56.6 +00.5	02			
03	225 28.8 +00.1	N 13	04.6 +00.8	183 16.9 -00.6	N 24	53.2 +00.4	163 14.0 -32.2	N 27	57.1 +00.4	03			
04	240 28.9 +00.1	N 13	05.4 +00.8	198 16.3 -00.7	N 24	53.6 +00.4	177 41.8 -32.1	N 27	57.5 +00.2	04			
05	255 29.0 +00.1	N 13	06.2 +00.8	213 15.6 -00.6	N 24	54.0 +00.4	192 09.7 -32.1	N 27	57.7 +00.0	05			
06	270 29.1 +00.2	N 13	07.0 +00.8	228 15.0 -00.6	N 24	54.4 +00.4	206 37.6 -32.1	N 27	57.7 -00.1	06			
07	285 29.3 +00.1	N 13	07.8 +00.9	243 14.4 -00.7	N 24	54.8 +00.4	221 05.5 -32.0	N 27	57.6 -00.2	07			
08	300 29.4 +00.1	N 13	08.7 +00.8	258 13.7 -00.6	N 24	55.2 +00.4	235 33.5 -32.0	N 27	57.4 -00.4	08			
09	315 29.5 +00.1	N 13	09.5 +00.8	273 13.1 -00.6	N 24	55.6 +00.4	250 01.5 -32.0	N 27	57.0 -00.5	09			
10	330 29.6 +00.1	N 13	10.3 +00.8	288 12.5 -00.7	N 24	56.0 +00.4	264 29.5 -31.9	N 27	56.5 -00.6	10			
11	345 29.7 +00.1	N 13	11.1 +00.8	303 11.8 -00.6	N 24	56.4 +00.4	278 57.6 -31.9	N 27	55.9 -00.8	11			
12	0 29.8 +00.1	N 13	11.9 +00.8	318 11.2 -00.6	N 24	56.8 +00.4	293 25.7 -31.9	N 27	55.1 -01.0	12			
13	15 29.9 +00.1	N 13	12.7 +00.9	333 10.6 -00.7	N 24	57.2 +00.4	307 53.8 -31.8	N 27	54.1 -01.1	13			
14	30 30.0 +00.1	N 13	13.6 +00.8	348 09.9 -00.6	N 24	57.6 +00.4	322 22.0 -31.8	N 27	53.0 -01.2	14			
15	45 30.1 +00.1	N 13	14.4 +00.8	3 09.3 -00.6	N 24	58.0 +00.4	336 50.2 -31.8	N 27	51.8 -01.4	15			
16	60 30.2 +00.1	N 13	15.2 +00.8	18 08.7 -00.7	N 24	58.4 +00.4	351 18.4 -31.7	N 27	50.4 -01.5	16			
17	75 30.3 +00.1	N 13	16.0 +00.8	33 08.0 -00.6	N 24	58.8 +00.3	5 46.7 -31.6	N 27	48.9 -01.6	17			
18	90 30.4 +00.1	N 13	16.8 +00.8	48 07.4 -00.7	N 24	59.1 +00.4	20 15.1 -31.7	N 27	47.3 -01.8	18			
19	105 30.5 +00.1	N 13	17.6 +00.8	63 06.7 -00.6	N 24	59.5 +00.4	34 43.4 -31.6	N 27	45.5 -01.9	19			
20	120 30.6 +00.1	N 13	18.4 +00.8	78 06.1 -00.6	N 24	59.9 +00.4	49 11.8 -31.5	N 27	43.6 -02.1	20			
21	135 30.7 +00.1	N 13	19.2 +00.9	93 05.5 -00.7	N 25	00.3 +00.4	63 40.3 -31.5	N 27	41.5 -02.2	21			
22	150 30.8 +00.2	N 13	20.1 +00.8	108 04.8 -00.6	N 25	00.7 +00.4	78 08.8 -31.5	N 27	39.3 -02.3	22			
23	165 31.0 +00.1	N 13	20.9 +00.8	123 04.2 -00.6	N 25	01.1 +00.3	92 37.3 -31.4	N 27	37.0 -02.5	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 15'9 15'9 15'9 15'9 15'9 15'9			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'0 15'0 15'0 14'9 14'9 14'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 55'1 55'0 54'9 54'8 54'8 54'7						
	SHA 328° 327° 327° 327° 327° 327°			SHA 285° 285° 285° 285° 285° 284°			SHA 266° 264° 261° 259° 257° 254°						
	Greenwich Culmination Time: 11:58			Greenwich Culmination Time: 14:47			Greenwich Culmination Time: 16:36						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	105 27.6 +01.0	N 24	19.4 -00.2	189 17.4 +01.9	N 08	39.2 +00.2	235 26.7 +02.3	S 10	59.7 -00.1	00			
01	120 28.6 +00.9	N 24	19.2 -00.2	204 19.3 +01.9	N 08	39.4 +00.3	250 29.0 +02.3	S 10	59.6 -00.1	01			
02	135 29.5 +01.0	N 24	19.0 -00.2	219 21.2 +01.9	N 08	39.7 +00.2	265 31.3 +02.3	S 10	59.5 +00.0	02			
03	150 30.5 +01.0	N 24	18.8 -00.2	234 23.1 +01.9	N 08	39.9 +00.2	280 33.6 +02.2	S 10	59.5 -00.1	03			
04	165 31.5 +01.0	N 24	18.6 -00.2	249 25.0 +01.9	N 08	40.1 +00.2	295 35.8 +02.3	S 10	59.4 -00.1	04			
05	180 32.5 +01.0	N 24	18.4 -00.2	264 26.9 +01.9	N 08	40.3 +00.2	310 38.1 +02.3	S 10	59.3 +00.0	05			
06	195 33.5 +01.0	N 24	18.2 -00.1	279 28.8 +01.9	N 08	40.5 +00.2	325 40.4 +02.2	S 10	59.3 -00.1	06			
07	210 34.5 +01.0	N 24	18.1 -00.2	294 30.7 +01.9	N 08	40.7 +00.3	340 42.6 +02.3	S 10	59.2 -00.1	07			
08	225 35.5 +01.0	N 24	17.9 -00.2	309 32.6 +01.9	N 08	41.0 +00.2	355 44.9 +02.3	S 10	59.1 +00.0	08			
09	240 36.5 +01.0	N 24	17.7 -00.2	324 34.5 +01.9	N 08	41.2 +00.2	10 47.2 +02.3	S 10	59.1 -00.1	09			
10	255 37.5 +01.0	N 24	17.5 -00.2	339 36.4 +01.9	N 08	41.4 +00.2	25 49.5 +02.2	S 10	59.0 -00.1	10			
11	270 38.5 +01.0	N 24	17.3 -00.2	354 38.3 +01.9	N 08	41.6 +00.2	40 51.7 +02.3	S 10	58.9 +00.0	11			
12	285 39.5 +01.0	N 24	17.1 -00.2	9 40.2 +01.9	N 08	41.8 +00.3	55 54.0 +02.3	S 10	58.9 -00.1	12			
13	300 40.5 +01.0	N 24	16.9 -00.2	24 42.1 +01.9	N 08	42.1 +00.2	70 56.3 +02.3	S 10	58.8 -00.1	13			
14	315 41.5 +00.9	N 24	16.7 -00.1	39 44.0 +01.9	N 08	42.3 +00.2	85 58.6 +02.2	S 10	58.7 +00.0	14			
15	330 42.4 +01.0	N 24	16.6 -00.2	54 45.9 +01.9	N 08	42.5 +00.2	101 00.8 +02.3	S 10	58.7 -00.1	15			
16	345 43.4 +01.0	N 24	16.4 -00.2	69 47.8 +01.9	N 08	42.7 +00.2	116 03.1 +02.3	S 10	58.6 +00.0	16			
17	0 44.4 +01.0	N 24	16.2 -00.2	84 49.7 +01.9	N 08	42.9 +00.2	131 05.4 +02.3	S 10	58.6 -00.1	17			
18	15 45.4 +01.0	N 24	16.0 -00.2	99 51.6 +01.9	N 08	43.1 +00.3	146 07.7 +02.2	S 10	58.5 -00.1	18			
19	30 46.4 +01.0	N 24	15.8 -00.2	114 53.5 +01.9	N 08	43.4 +00.2	161 09.9 +02.3	S 10	58.4 +00.0	19			
20	45 47.4 +01.0	N 24	15.6 -00.2	129 55.4 +01.9	N 08	43.6 +00.2	176 12.2 +02.3	S 10	58.4 -00.1	20			
21	60 48.4 +01.0	N 24	15.4 -00.2	144 57.3 +01.9	N 08	43.8 +00.2	191 14.5 +02.3	S 10	58.3 -00.1	21			
22	75 49.4 +01.0	N 24	15.2 -00.2	159 59.2 +01.9	N 08	44.0 +00.2	206 16.8 +02.2	S 10	58.2 +00.0	22			
23	90 50.4 +01.0	N 24	15.0 -00.1	175 01.1 +01.9	N 08	44.2 +00.2	221 19.0 +02.3	S 10	58.2 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 253° 253° 252° 252° 252° 252°			SHA 337° 336° 336° 336° 336° 336°			SHA 023° 023° 023° 023° 023° 023°						
	Greenwich Culmination Time: 16:57			Greenwich Culmination Time: 11:21			Greenwich Culmination Time: 08:16						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	31.1 +00.1	N 13 21.7 +00.8		138	03.6 -00.7	N 25 01.4 +00.4		107	05.9 -31.3	N 27 34.5 -02.6		00
01	195	31.2 +00.1	N 13 22.5 +00.8		153	02.9 -00.6	N 25 01.8 +00.4		121	34.6 -31.3	N 27 31.9 -02.7		01
02	210	31.3 +00.1	N 13 23.3 +00.8		168	02.3 -00.6	N 25 02.2 +00.4		136	03.3 -31.3	N 27 29.2 -02.9		02
03	225	31.4 +00.1	N 13 24.1 +00.8		183	01.7 -00.7	N 25 02.6 +00.4		150	32.0 -31.2	N 27 26.3 -03.0		03
04	240	31.5 +00.1	N 13 24.9 +00.8		198	01.0 -00.6	N 25 03.0 +00.3		165	00.8 -31.2	N 27 23.3 -03.1		04
05	255	31.6 +00.1	N 13 25.7 +00.8		213	00.4 -00.6	N 25 03.3 +00.4		179	29.6 -31.1	N 27 20.2 -03.3		05
06	270	31.7 +00.1	N 13 26.5 +00.8		227	59.8 -00.7	N 25 03.7 +00.4		193	58.5 -31.0	N 27 16.9 -03.4		06
07	285	31.8 +00.1	N 13 27.3 +00.8		242	59.1 -00.6	N 25 04.1 +00.4		208	27.5 -31.0	N 27 13.5 -03.5		07
08	300	31.9 +00.1	N 13 28.1 +00.9		257	58.5 -00.7	N 25 04.5 +00.3		222	56.5 -31.0	N 27 10.0 -03.6		08
09	315	32.0 +00.1	N 13 29.0 +00.8		272	57.8 -00.6	N 25 04.8 +00.4		237	25.5 -30.9	N 27 06.4 -03.8		09
10	330	32.1 +00.1	N 13 29.8 +00.8		287	57.2 -00.6	N 25 05.2 +00.4		251	54.6 -30.8	N 27 02.6 -04.0		10
11	345	32.2 +00.1	N 13 30.6 +00.8		302	56.6 -00.7	N 25 05.6 +00.3		266	23.8 -30.8	N 26 58.6 -04.0		11
12	0	32.3 +00.1	N 13 31.4 +00.8		317	55.9 -00.6	N 25 05.9 +00.4		280	53.0 -30.7	N 26 54.6 -04.2		12
13	15	32.4 +00.1	N 13 32.2 +00.8		332	55.3 -00.6	N 25 06.3 +00.4		295	22.3 -30.7	N 26 50.4 -04.3		13
14	30	32.5 +00.1	N 13 33.0 +00.8		347	54.7 -00.7	N 25 06.7 +00.3		309	51.6 -30.6	N 26 46.1 -04.4		14
15	45	32.6 +00.1	N 13 33.8 +00.8		2	54.0 -00.6	N 25 07.0 +00.4		324	21.0 -30.5	N 26 41.7 -04.6		15
16	60	32.7 +00.1	N 13 34.6 +00.8		17	53.4 -00.6	N 25 07.4 +00.4		338	50.5 -30.5	N 26 37.1 -04.6		16
17	75	32.8 +00.1	N 13 35.4 +00.8		32	52.8 -00.7	N 25 07.8 +00.3		353	20.0 -30.4	N 26 32.5 -04.8		17
18	90	32.9 +00.1	N 13 36.2 +00.8		47	52.1 -00.6	N 25 08.1 +00.4		7	49.6 -30.4	N 26 27.7 -05.0		18
19	105	33.0 +00.1	N 13 37.0 +00.8		62	51.5 -00.7	N 25 08.5 +00.3		22	19.2 -30.3	N 26 22.7 -05.0		19
20	120	33.1 +00.1	N 13 37.8 +00.8		77	50.8 -00.6	N 25 08.8 +00.4		36	48.9 -30.2	N 26 17.7 -05.2		20
21	135	33.2 +00.1	N 13 38.6 +00.8		92	50.2 -00.6	N 25 09.2 +00.4		51	18.7 -30.2	N 26 12.5 -05.3		21
22	150	33.3 +00.1	N 13 39.4 +00.8		107	49.6 -00.7	N 25 09.6 +00.3		65	48.5 -30.1	N 26 07.2 -05.4		22
23	165	33.4 +00.1	N 13 40.2 +00.8		122	48.9 -00.6	N 25 09.9 +00.4		80	18.4 -30.1	N 26 01.8 -05.5		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'9 15'9 15'9 15'9 15'9 15'9				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 14'9 14'9 14'9 14'8 14'8 14'8				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 54'6 54'6 54'5 54'5 54'4 54'4				
	SHA 327° 327° 326° 326° 326° 326°				SHA 284° 284° 284° 284° 283° 283°				SHA 252° 250° 248° 246° 243° 241°				
	Greenwich Culmination Time: 11:57				Greenwich Culmination Time: 14:48				Greenwich Culmination Time: 17:27				

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	105	51.4 +01.0	N 24 14.9 -00.2		190	03.0 +01.9	N 08 44.4 +00.3		236	21.3 +02.3	S 10 58.1 -00.1		00
01	120	52.4 +00.9	N 24 14.7 -00.2		205	04.9 +01.9	N 08 44.7 +00.2		251	23.6 +02.3	S 10 58.0 +00.0		01
02	135	53.3 +01.0	N 24 14.5 -00.2		220	06.8 +01.9	N 08 44.9 +00.2		266	25.9 +02.2	S 10 58.0 -00.1		02
03	150	54.3 +01.0	N 24 14.3 -00.2		235	08.7 +01.9	N 08 45.1 +00.2		281	28.1 +02.3	S 10 57.9 -00.1		03
04	165	55.3 +01.0	N 24 14.1 -00.2		250	10.6 +01.9	N 08 45.3 +00.2		296	30.4 +02.3	S 10 57.8 +00.0		04
05	180	56.3 +01.0	N 24 13.9 -00.2		265	12.5 +01.9	N 08 45.5 +00.3		311	32.7 +02.3	S 10 57.8 -00.1		05
06	195	57.3 +01.0	N 24 13.7 -00.2		280	14.4 +01.9	N 08 45.8 +00.2		326	35.0 +02.2	S 10 57.7 -00.1		06
07	210	58.3 +01.0	N 24 13.5 -00.2		295	16.3 +01.9	N 08 46.0 +00.2		341	37.2 +02.3	S 10 57.6 +00.0		07
08	225	59.3 +01.0	N 24 13.3 -00.2		310	18.2 +01.9	N 08 46.2 +00.2		356	39.5 +02.3	S 10 57.6 -00.1		08
09	241	00.3 +01.0	N 24 13.1 -00.2		325	20.1 +01.9	N 08 46.4 +00.2		11	41.8 +02.3	S 10 57.5 -00.1		09
10	256	01.3 +01.0	N 24 12.9 -00.2		340	22.0 +01.9	N 08 46.6 +00.2		26	44.1 +02.2	S 10 57.4 +00.0		10
11	271	02.3 +01.0	N 24 12.7 -00.1		355	23.9 +01.9	N 08 46.8 +00.3		41	46.3 +02.3	S 10 57.4 -00.1		11
12	286	03.3 +00.9	N 24 12.6 -00.2		10	25.8 +01.9	N 08 47.1 +00.2		56	48.6 +02.3	S 10 57.3 -00.1		12
13	301	04.2 +01.0	N 24 12.4 -00.2		25	27.7 +01.9	N 08 47.3 +00.2		71	50.9 +02.3	S 10 57.2 +00.0		13
14	316	05.2 +01.0	N 24 12.2 -00.2		40	29.6 +01.9	N 08 47.5 +00.2		86	53.2 +02.2	S 10 57.2 -00.1		14
15	331	06.2 +01.0	N 24 12.0 -00.2		55	31.5 +01.9	N 08 47.7 +00.2		101	55.4 +02.3	S 10 57.1 +00.0		15
16	346	07.2 +01.0	N 24 11.8 -00.2		70	33.4 +01.9	N 08 47.9 +00.2		116	57.7 +02.3	S 10 57.1 -00.1		16
17	1	08.2 +01.0	N 24 11.6 -00.2		85	35.3 +01.9	N 08 48.1 +00.3		131	60.0 +02.3	S 10 57.0 -00.1		17
18	16	09.2 +01.0	N 24 11.4 -00.2		100	37.2 +01.9	N 08 48.4 +00.2		147	02.3 +02.3	S 10 56.9 +00.0		18
19	31	10.2 +01.0	N 24 11.2 -00.2		115	39.1 +01.9	N 08 48.6 +00.2		162	04.6 +02.2	S 10 56.9 -00.1		19
20	46	11.2 +01.0	N 24 11.0 -00.2		130	41.0 +01.9	N 08 48.8 +00.2		177	06.8 +02.3	S 10 56.8 -00.1		20
21	61	12.2 +00.9	N 24 10.8 -00.2		145	42.9 +01.9	N 08 49.0 +00.2		192	09.1 +02.3	S 10 56.7 +00.0		21
22	76	13.1 +01.0	N 24 10.6 -00.2		160	44.8 +01.9	N 08 49.2 +00.2		207	11.4 +02.3	S 10 56.7 -00.1		22
23	91	14.1 +01.0	N 24 10.4 -00.2		175	46.7 +01.9	N 08 49.4 +00.3		222	13.7 +02.2	S 10 56.6 -00.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 252° 252° 252° 252° 252° 252°				SHA 336° 336° 336° 336° 336° 336°				SHA 023° 023° 023° 023° 023° 023°				
	Greenwich Culmination Time: 16:55				Greenwich Culmination Time: 11:18				Greenwich Culmination Time: 08:13				

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 33.5 +00.1	N 13 41.0 +00.8	137 48.3 -00.6	N 25 10.3 +00.3	94 48.3 -30.0	N 25 56.3 -05.6	00						
01	195 33.6 +00.1	N 13 41.8 +00.8	152 47.7 -00.7	N 25 10.6 +00.4	109 18.3 -29.9	N 25 50.7 -05.8	01						
02	210 33.7 +00.1	N 13 42.6 +00.8	167 47.0 -00.6	N 25 11.0 +00.3	123 48.4 -29.9	N 25 44.9 -05.9	02						
03	225 33.8 +00.1	N 13 43.4 +00.8	182 46.4 -00.6	N 25 11.3 +00.4	138 18.5 -29.8	N 25 39.0 -06.0	03						
04	240 33.9 +00.1	N 13 44.2 +00.8	197 45.8 -00.7	N 25 11.7 +00.3	152 48.7 -29.7	N 25 33.0 -06.1	04						
05	255 34.0 +00.1	N 13 45.0 +00.8	212 45.1 -00.6	N 25 12.0 +00.4	167 19.0 -29.7	N 25 26.9 -06.2	05						
06	270 34.1 +00.1	N 13 45.8 +00.8	227 44.5 -00.7	N 25 12.4 +00.3	181 49.3 -29.6	N 25 20.7 -06.4	06						
07	285 34.2 +00.1	N 13 46.6 +00.8	242 43.8 -00.6	N 25 12.7 +00.4	196 19.7 -29.5	N 25 14.3 -06.4	07						
08	300 34.3 +00.1	N 13 47.4 +00.8	257 43.2 -00.6	N 25 13.1 +00.3	210 50.2 -29.5	N 25 07.9 -06.6	08						
09	315 34.4 +00.1	N 13 48.2 +00.8	272 42.6 -00.7	N 25 13.4 +00.4	225 20.7 -29.4	N 25 01.3 -06.7	09						
10	330 34.5 +00.1	N 13 49.0 +00.8	287 41.9 -00.6	N 25 13.8 +00.3	239 51.3 -29.3	N 24 54.6 -06.8	10						
11	345 34.6 +00.1	N 13 49.8 +00.8	302 41.3 -00.6	N 25 14.1 +00.3	254 22.0 -29.3	N 24 47.8 -06.9	11						
12	0 34.7 +00.1	N 13 50.6 +00.8	317 40.7 -00.7	N 25 14.4 +00.4	268 52.7 -29.2	N 24 40.9 -07.0	12						
13	15 34.8 +00.1	N 13 51.4 +00.8	332 40.0 -00.6	N 25 14.8 +00.3	283 23.5 -29.2	N 24 33.9 -07.1	13						
14	30 34.9 +00.1	N 13 52.2 +00.8	347 39.4 -00.6	N 25 15.1 +00.4	297 54.3 -29.0	N 24 26.8 -07.2	14						
15	45 35.0 +00.1	N 13 53.0 +00.8	2 38.8 -00.7	N 25 15.5 +00.3	312 25.3 -29.1	N 24 19.6 -07.3	15						
16	60 35.1 +00.1	N 13 53.8 +00.8	17 38.1 -00.6	N 25 15.8 +00.3	326 56.2 -28.9	N 24 12.3 -07.5	16						
17	75 35.2 +00.1	N 13 54.6 +00.8	32 37.5 -00.7	N 25 16.1 +00.4	341 27.3 -28.9	N 24 04.8 -07.5	17						
18	90 35.3 +00.0	N 13 55.4 +00.8	47 36.8 -00.6	N 25 16.5 +00.3	355 58.4 -28.8	N 23 57.3 -07.7	18						
19	105 35.3 +00.1	N 13 56.2 +00.8	62 36.2 -00.6	N 25 16.8 +00.3	10 29.6 -28.7	N 23 49.6 -07.7	19						
20	120 35.4 +00.1	N 13 57.0 +00.7	77 35.6 -00.7	N 25 17.1 +00.4	25 00.9 -28.7	N 23 41.9 -07.9	20						
21	135 35.5 +00.1	N 13 57.7 +00.8	92 34.9 -00.6	N 25 17.5 +00.3	39 32.2 -28.6	N 23 34.0 -08.0	21						
22	150 35.6 +00.1	N 13 58.5 +00.8	107 34.3 -00.6	N 25 17.8 +00.3	54 03.6 -28.6	N 23 26.0 -08.0	22						
23	165 35.7 +00.1	N 13 59.3 +00.8	122 33.7 -00.7	N 25 18.1 +00.3	68 35.0 -28.5	N 23 18.0 -08.2	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	15'9 15'9 15'9 15'9 15'9 15'9		SD	00'1 00'1 00'1 00'1 00'1 00'1		SD	14'8 14'8 14'8 14'8 14'8 14'8						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	54'3 54'3 54'3 54'3 54'2 54'2						
SHA	326° 326° 325° 325° 325° 325°		SHA	283° 283° 283° 282° 282° 282°		SHA	239° 237° 235° 233° 231° 228°						
Greenwich Culmination Time: 11:57				Greenwich Culmination Time: 14:49				Greenwich Culmination Time: 18:16					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	106 15.1 +01.0	N 24 10.2 -00.2	190 48.6 +01.9	N 08 49.7 +00.2	237 15.9 +02.3	S 10 56.5 +00.0	00						
01	121 16.1 +01.0	N 24 10.0 -00.2	205 50.5 +01.9	N 08 49.9 +00.2	252 18.2 +02.3	S 10 56.5 -00.1	01						
02	136 17.1 +01.0	N 24 09.8 -00.2	220 52.4 +01.9	N 08 50.1 +00.2	267 20.5 +02.3	S 10 56.4 -00.1	02						
03	151 18.1 +01.0	N 24 09.6 -00.2	235 54.3 +01.9	N 08 50.3 +00.2	282 22.8 +02.3	S 10 56.3 +00.0	03						
04	166 19.1 +01.0	N 24 09.4 -00.2	250 56.2 +01.9	N 08 50.5 +00.2	297 25.1 +02.2	S 10 56.3 -00.1	04						
05	181 20.1 +01.0	N 24 09.2 -00.2	265 58.1 +01.9	N 08 50.7 +00.3	312 27.3 +02.3	S 10 56.2 +00.0	05						
06	196 21.1 +00.9	N 24 09.0 -00.2	281 00.0 +01.9	N 08 51.0 +00.2	327 29.6 +02.3	S 10 56.2 -00.1	06						
07	211 22.0 +01.0	N 24 08.8 -00.2	296 01.9 +01.9	N 08 51.2 +00.2	342 31.9 +02.3	S 10 56.1 -00.1	07						
08	226 23.0 +01.0	N 24 08.6 -00.2	311 03.8 +01.9	N 08 51.4 +00.2	357 34.2 +02.2	S 10 56.0 +00.0	08						
09	241 24.0 +01.0	N 24 08.4 -00.1	326 05.7 +01.9	N 08 51.6 +00.2	12 36.4 +02.3	S 10 56.0 -00.1	09						
10	256 25.0 +01.0	N 24 08.3 -00.2	341 07.6 +01.9	N 08 51.8 +00.2	27 38.7 +02.3	S 10 55.9 -00.1	10						
11	271 26.0 +01.0	N 24 08.1 -00.2	356 09.5 +01.9	N 08 52.0 +00.3	42 41.0 +02.3	S 10 55.8 +00.0	11						
12	286 27.0 +01.0	N 24 07.9 -00.2	11 11.4 +01.9	N 08 52.3 +00.2	57 43.3 +02.3	S 10 55.8 -00.1	12						
13	301 28.0 +01.0	N 24 07.7 -00.2	26 13.3 +02.0	N 08 52.5 +00.2	72 45.6 +02.2	S 10 55.7 -00.1	13						
14	316 29.0 +00.9	N 24 07.5 -00.2	41 15.3 +01.9	N 08 52.7 +00.2	87 47.8 +02.3	S 10 55.6 +00.0	14						
15	331 29.9 +01.0	N 24 07.3 -00.2	56 17.2 +01.9	N 08 52.9 +00.2	102 50.1 +02.3	S 10 55.6 -00.1	15						
16	346 30.9 +01.0	N 24 07.1 -00.2	71 19.1 +01.9	N 08 53.1 +00.2	117 52.4 +02.3	S 10 55.5 +00.0	16						
17	1 31.9 +01.0	N 24 06.9 -00.2	86 21.0 +01.9	N 08 53.3 +00.3	132 54.7 +02.3	S 10 55.5 -00.1	17						
18	16 32.9 +01.0	N 24 06.7 -00.2	101 22.9 +01.9	N 08 53.6 +00.2	147 57.0 +02.2	S 10 55.4 -00.1	18						
19	31 33.9 +01.0	N 24 06.5 -00.2	116 24.8 +01.9	N 08 53.8 +00.2	162 59.2 +02.3	S 10 55.3 +00.0	19						
20	46 34.9 +01.0	N 24 06.3 -00.2	131 26.7 +01.9	N 08 54.0 +00.2	178 01.5 +02.3	S 10 55.3 -00.1	20						
21	61 35.9 +01.0	N 24 06.1 -00.2	146 28.6 +01.9	N 08 54.2 +00.2	193 03.8 +02.3	S 10 55.2 -00.1	21						
22	76 36.9 +00.9	N 24 05.9 -00.2	161 30.5 +01.9	N 08 54.4 +00.2	208 06.1 +02.3	S 10 55.1 +00.0	22						
23	91 37.8 +01.0	N 24 05.7 -00.2	176 32.4 +01.9	N 08 54.6 +00.3	223 08.4 +02.2	S 10 55.1 -00.1	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	00'0 00'0 00'0 00'0 00'0 00'0		SD	00'3 00'3 00'3 00'3 00'3 00'3		SD	00'1 00'1 00'1 00'1 00'1 00'1						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'0 00'0 00'0 00'0 00'0 00'0		HP	00'0 00'0 00'0 00'0 00'0 00'0						
SHA	251° 251° 251° 251° 251° 251°		SHA	336° 336° 336° 336° 336° 336°		SHA	023° 023° 023° 022° 022° 022°						
Greenwich Culmination Time: 16:53				Greenwich Culmination Time: 11:15				Greenwich Culmination Time: 08:09					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 35.8 +00.1	N 14 00.1 +00.8	137 33.0 -00.6	N 25 18.4 +00.4	83 06.5 -28.4	N 23 09.8 -08.2	00						
01	195 35.9 +00.1	N 14 00.9 +00.8	152 32.4 -00.6	N 25 18.8 +00.3	97 38.1 -28.3	N 23 01.6 -08.4	01						
02	210 36.0 +00.1	N 14 01.7 +00.8	167 31.8 -00.7	N 25 19.1 +00.3	112 09.8 -28.3	N 22 53.2 -08.5	02						
03	225 36.1 +00.1	N 14 02.5 +00.8	182 31.1 -00.6	N 25 19.4 +00.3	126 41.5 -28.3	N 22 44.7 -08.5	03						
04	240 36.2 +00.1	N 14 03.3 +00.8	197 30.5 -00.6	N 25 19.7 +00.4	141 13.2 -28.1	N 22 36.2 -08.7	04						
05	255 36.3 +00.1	N 14 04.1 +00.8	212 29.9 -00.7	N 25 20.1 +00.3	155 45.1 -28.1	N 22 27.5 -08.7	05						
06	270 36.4 +00.1	N 14 04.9 +00.7	227 29.2 -00.6	N 25 20.4 +00.3	170 17.0 -28.0	N 22 18.8 -08.9	06						
07	285 36.5 +00.1	N 14 05.6 +00.8	242 28.6 -00.6	N 25 20.7 +00.3	184 49.0 -28.0	N 22 09.9 -08.9	07						
08	300 36.6 +00.1	N 14 06.4 +00.8	257 28.0 -00.7	N 25 21.0 +00.3	199 21.0 -27.9	N 22 01.0 -09.0	08						
09	315 36.7 +00.1	N 14 07.2 +00.8	272 27.3 -00.6	N 25 21.3 +00.4	213 53.1 -27.9	N 21 52.0 -09.2	09						
10	330 36.8 +00.0	N 14 08.0 +00.8	287 26.7 -00.7	N 25 21.7 +00.3	228 25.2 -27.7	N 21 42.8 -09.2	10						
11	345 36.8 +00.1	N 14 08.8 +00.8	302 26.0 -00.6	N 25 22.0 +00.3	242 57.5 -27.7	N 21 33.6 -09.3	11						
12	0 36.9 +00.1	N 14 09.6 +00.8	317 25.4 -00.6	N 25 22.3 +00.3	257 29.8 -27.7	N 21 24.3 -09.4	12						
13	15 37.0 +00.1	N 14 10.4 +00.8	332 24.8 -00.7	N 25 22.6 +00.3	272 02.1 -27.6	N 21 14.9 -09.5	13						
14	30 37.1 +00.1	N 14 11.2 +00.7	347 24.1 -00.6	N 25 22.9 +00.3	286 34.5 -27.5	N 21 05.4 -09.6	14						
15	45 37.2 +00.1	N 14 11.9 +00.8	2 23.5 -00.6	N 25 23.2 +00.3	301 07.0 -27.5	N 20 55.8 -09.6	15						
16	60 37.3 +00.1	N 14 12.7 +00.8	17 22.9 -00.7	N 25 23.5 +00.3	315 39.5 -27.4	N 20 46.2 -09.8	16						
17	75 37.4 +00.1	N 14 13.5 +00.8	32 22.2 -00.6	N 25 23.8 +00.3	330 12.1 -27.4	N 20 36.4 -09.8	17						
18	90 37.5 +00.1	N 14 14.3 +00.8	47 21.6 -00.6	N 25 24.1 +00.3	344 44.7 -27.2	N 20 26.6 -10.0	18						
19	105 37.6 +00.1	N 14 15.1 +00.8	62 21.0 -00.7	N 25 24.4 +00.4	359 17.5 -27.3	N 20 16.6 -10.0	19						
20	120 37.7 +00.1	N 14 15.9 +00.7	77 20.3 -00.6	N 25 24.8 +00.3	13 50.2 -27.2	N 20 06.6 -10.1	20						
21	135 37.8 +00.0	N 14 16.6 +00.8	92 19.7 -00.6	N 25 25.1 +00.3	28 23.0 -27.1	N 19 56.5 -10.2	21						
22	150 37.8 +00.1	N 14 17.4 +00.8	107 19.1 -00.7	N 25 25.4 +00.3	42 55.9 -27.0	N 19 46.3 -10.2	22						
23	165 37.9 +00.1	N 14 18.2 +00.8	122 18.4 -00.6	N 25 25.7 +00.3	57 28.9 -27.0	N 19 36.1 -10.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'8 14'8 14'8 14'8 14'8 14'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'2 54'2 54'2 54'2 54'2 54'2								
	SHA 325° 325° 324° 324° 324° 324°		SHA 282° 282° 281° 281° 281° 281°		SHA 226° 224° 222° 220° 218° 216°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 14:50		Greenwich Culmination Time: 19:02								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	106 38.8 +01.0	N 24 05.5 -00.2	191 34.3 +01.9	N 08 54.9 +00.2	238 10.6 +02.3	S 10 55.0 +00.0	00						
01	121 39.8 +01.0	N 24 05.3 -00.2	206 36.2 +01.9	N 08 55.1 +00.2	253 12.9 +02.3	S 10 55.0 -00.1	01						
02	136 40.8 +01.0	N 24 05.1 -00.3	221 38.1 +01.9	N 08 55.3 +00.2	268 15.2 +02.3	S 10 54.9 -00.1	02						
03	151 41.8 +01.0	N 24 04.8 -00.2	236 40.0 +01.9	N 08 55.5 +00.2	283 17.5 +02.3	S 10 54.8 +00.0	03						
04	166 42.8 +01.0	N 24 04.6 -00.2	251 41.9 +01.9	N 08 55.7 +00.2	298 19.8 +02.2	S 10 54.8 -00.1	04						
05	181 43.8 +01.0	N 24 04.4 -00.2	266 43.8 +01.9	N 08 55.9 +00.2	313 22.0 +02.3	S 10 54.7 -00.1	05						
06	196 44.8 +00.9	N 24 04.2 -00.2	281 45.7 +01.9	N 08 56.1 +00.3	328 24.3 +02.3	S 10 54.6 +00.0	06						
07	211 45.7 +01.0	N 24 04.0 -00.2	296 47.6 +01.9	N 08 56.4 +00.2	343 26.6 +02.3	S 10 54.6 -00.1	07						
08	226 46.7 +01.0	N 24 03.8 -00.2	311 49.5 +01.9	N 08 56.6 +00.2	358 28.9 +02.3	S 10 54.5 +00.0	08						
09	241 47.7 +01.0	N 24 03.6 -00.2	326 51.4 +01.9	N 08 56.8 +00.2	13 31.2 +02.3	S 10 54.5 -00.1	09						
10	256 48.7 +01.0	N 24 03.4 -00.2	341 53.3 +01.9	N 08 57.0 +00.2	28 33.5 +02.2	S 10 54.4 -00.1	10						
11	271 49.7 +01.0	N 24 03.2 -00.2	356 55.2 +01.9	N 08 57.2 +00.2	43 35.7 +02.3	S 10 54.3 +00.0	11						
12	286 50.7 +01.0	N 24 03.0 -00.2	11 57.1 +01.9	N 08 57.4 +00.3	58 38.0 +02.3	S 10 54.3 -00.1	12						
13	301 51.7 +00.9	N 24 02.8 -00.2	26 59.0 +01.9	N 08 57.7 +00.2	73 40.3 +02.3	S 10 54.2 -00.1	13						
14	316 52.6 +01.0	N 24 02.6 -00.2	42 00.9 +01.9	N 08 57.9 +00.2	88 42.6 +02.3	S 10 54.1 +00.0	14						
15	331 53.6 +01.0	N 24 02.4 -00.2	57 02.8 +01.9	N 08 58.1 +00.2	103 44.9 +02.3	S 10 54.1 -00.1	15						
16	346 54.6 +01.0	N 24 02.2 -00.2	72 04.7 +01.9	N 08 58.3 +00.2	118 47.2 +02.2	S 10 54.0 +00.0	16						
17	1 55.6 +01.0	N 24 02.0 -00.2	87 06.6 +01.9	N 08 58.5 +00.2	133 49.4 +02.3	S 10 54.0 -00.1	17						
18	16 56.6 +01.0	N 24 01.8 -00.2	102 08.5 +01.9	N 08 58.7 +00.3	148 51.7 +02.3	S 10 53.9 -00.1	18						
19	31 57.6 +01.0	N 24 01.6 -00.2	117 10.4 +01.9	N 08 59.0 +00.2	163 54.0 +02.3	S 10 53.8 +00.0	19						
20	46 58.6 +00.9	N 24 01.4 -00.2	132 12.3 +01.9	N 08 59.2 +00.2	178 56.3 +02.3	S 10 53.8 -00.1	20						
21	61 59.5 +01.0	N 24 01.2 -00.2	147 14.2 +01.9	N 08 59.4 +00.2	193 58.6 +02.3	S 10 53.7 -00.1	21						
22	77 00.5 +01.0	N 24 01.0 -00.2	162 16.1 +01.9	N 08 59.6 +00.2	209 00.9 +02.2	S 10 53.6 +00.0	22						
23	92 01.5 +01.0	N 24 00.8 -00.2	177 18.0 +01.9	N 08 59.8 +00.2	224 03.1 +02.3	S 10 53.6 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 251° 251° 251° 251° 250° 250°		SHA 336° 336° 336° 336° 336° 336°		SHA 022° 022° 022° 022° 022° 022°								
	Greenwich Culmination Time: 16:52		Greenwich Culmination Time: 11:12		Greenwich Culmination Time: 08:06								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	38.0 +00.1	N 14 19.0 +00.8		137	17.8 -00.6	N 25 26.0 +00.3		72	01.9 -27.0	N 19 25.7 -10.4		00
01	195	38.1 +00.1	N 14 19.8 +00.8		152	17.2 -00.7	N 25 26.3 +00.3		86	34.9 -26.9	N 19 15.3 -10.5		01
02	210	38.2 +00.1	N 14 20.6 +00.7		167	16.5 -00.6	N 25 26.6 +00.3		101	08.0 -26.8	N 19 04.8 -10.6		02
03	225	38.3 +00.1	N 14 21.3 +00.8		182	15.9 -00.6	N 25 26.9 +00.2		115	41.2 -26.8	N 18 54.2 -10.7		03
04	240	38.4 +00.1	N 14 22.1 +00.8		197	15.3 -00.7	N 25 27.1 +00.3		130	14.4 -26.7	N 18 43.5 -10.7		04
05	255	38.5 +00.0	N 14 22.9 +00.8		212	14.6 -00.6	N 25 27.4 +00.3		144	47.7 -26.7	N 18 32.8 -10.8		05
06	270	38.5 +00.1	N 14 23.7 +00.8		227	14.0 -00.6	N 25 27.7 +00.3		159	21.0 -26.6	N 18 22.0 -10.9		06
07	285	38.6 +00.1	N 14 24.5 +00.7		242	13.4 -00.7	N 25 28.0 +00.3		173	54.4 -26.6	N 18 11.1 -11.0		07
08	300	38.7 +00.1	N 14 25.2 +00.8		257	12.7 -00.6	N 25 28.3 +00.3		188	27.8 -26.5	N 18 00.1 -11.1		08
09	315	38.8 +00.1	N 14 26.0 +00.8		272	12.1 -00.6	N 25 28.6 +00.3		203	01.3 -26.5	N 17 49.0 -11.1		09
10	330	38.9 +00.1	N 14 26.8 +00.8		287	11.5 -00.7	N 25 28.9 +00.3		217	34.8 -26.4	N 17 37.9 -11.2		10
11	345	39.0 +00.1	N 14 27.6 +00.7		302	10.8 -00.6	N 25 29.2 +00.3		232	08.4 -26.4	N 17 26.7 -11.3		11
12	0	39.1 +00.1	N 14 28.3 +00.8		317	10.2 -00.6	N 25 29.5 +00.3		246	42.0 -26.3	N 17 15.4 -11.3		12
13	15	39.2 +00.0	N 14 29.1 +00.8		332	09.6 -00.7	N 25 29.8 +00.2		261	15.7 -26.3	N 17 04.1 -11.4		13
14	30	39.2 +00.1	N 14 29.9 +00.8		347	08.9 -00.6	N 25 30.0 +00.3		275	49.4 -26.2	N 16 52.7 -11.5		14
15	45	39.3 +00.1	N 14 30.7 +00.7		2	08.3 -00.6	N 25 30.3 +00.3		290	23.2 -26.2	N 16 41.2 -11.6		15
16	60	39.4 +00.1	N 14 31.4 +00.8		17	07.7 -00.7	N 25 30.6 +00.3		304	57.0 -26.1	N 16 29.6 -11.6		16
17	75	39.5 +00.1	N 14 32.2 +00.8		32	07.0 -00.6	N 25 30.9 +00.3		319	30.9 -26.1	N 16 18.0 -11.7		17
18	90	39.6 +00.1	N 14 33.0 +00.8		47	06.4 -00.6	N 25 31.2 +00.2		334	04.8 -26.1	N 16 06.3 -11.8		18
19	105	39.7 +00.1	N 14 33.8 +00.7		62	05.8 -00.7	N 25 31.4 +00.3		348	38.7 -26.0	N 15 54.5 -11.8		19
20	120	39.8 +00.0	N 14 34.5 +00.8		77	05.1 -00.6	N 25 31.7 +00.3		3	12.7 -25.9	N 15 42.7 -11.9		20
21	135	39.8 +00.1	N 14 35.3 +00.8		92	04.5 -00.6	N 25 32.0 +00.3		17	46.8 -25.9	N 15 30.8 -12.0		21
22	150	39.9 +00.1	N 14 36.1 +00.8		107	03.9 -00.7	N 25 32.3 +00.2		32	20.9 -25.9	N 15 18.8 -12.0		22
23	165	40.0 +00.1	N 14 36.9 +00.7		122	03.2 -00.6	N 25 32.5 +00.3		46	55.0 -25.9	N 15 06.8 -12.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'9 15'9 15'9 15'9 15'9 15'9				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 14'8 14'8 14'8 14'8 14'8 14'8				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 54'3 54'3 54'3 54'4 54'4 54'4				
	SHA 324° 324° 324° 323° 323° 323°				SHA 280° 280° 280° 280° 280° 279°				SHA 214° 212° 210° 209° 207° 205°				
	Greenwich Culmination Time: 11:57				Greenwich Culmination Time: 14:51				Greenwich Culmination Time: 19:46				

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	107	02.5 +01.0	N 24 00.6 -00.3		192	19.9 +01.9	N 09 00.0 +00.2		239	05.4 +02.3	S 10 53.5 +00.0		00
01	122	03.5 +01.0	N 24 00.3 -00.2		207	21.8 +01.9	N 09 00.2 +00.3		254	07.7 +02.3	S 10 53.5 -00.1		01
02	137	04.5 +01.0	N 24 00.1 -00.2		222	23.7 +01.9	N 09 00.5 +00.2		269	10.0 +02.3	S 10 53.4 -00.1		02
03	152	05.5 +00.9	N 23 59.9 -00.2		237	25.6 +01.9	N 09 00.7 +00.2		284	12.3 +02.3	S 10 53.3 +00.0		03
04	167	06.4 +01.0	N 23 59.7 -00.2		252	27.5 +01.9	N 09 00.9 +00.2		299	14.6 +02.2	S 10 53.3 -00.1		04
05	182	07.4 +01.0	N 23 59.5 -00.2		267	29.4 +01.9	N 09 01.1 +00.2		314	16.8 +02.3	S 10 53.2 -00.1		05
06	197	08.4 +01.0	N 23 59.3 -00.2		282	31.3 +01.9	N 09 01.3 +00.2		329	19.1 +02.3	S 10 53.1 +00.0		06
07	212	09.4 +01.0	N 23 59.1 -00.2		297	33.2 +01.9	N 09 01.5 +00.2		344	21.4 +02.3	S 10 53.1 -00.1		07
08	227	10.4 +01.0	N 23 58.9 -00.2		312	35.1 +01.9	N 09 01.7 +00.3		359	23.7 +02.3	S 10 53.0 +00.0		08
09	242	11.4 +01.0	N 23 58.7 -00.2		327	37.0 +01.9	N 09 02.0 +00.2		14	26.0 +02.3	S 10 53.0 -00.1		09
10	257	12.4 +00.9	N 23 58.5 -00.2		342	38.9 +02.0	N 09 02.2 +00.2		29	28.3 +02.2	S 10 52.9 -00.1		10
11	272	13.3 +01.0	N 23 58.3 -00.3		357	40.9 +01.9	N 09 02.4 +00.2		44	30.5 +02.3	S 10 52.8 +00.0		11
12	287	14.3 +01.0	N 23 58.0 -00.2		12	42.8 +01.9	N 09 02.6 +00.2		59	32.8 +02.3	S 10 52.8 -00.1		12
13	302	15.3 +01.0	N 23 57.8 -00.2		27	44.7 +01.9	N 09 02.8 +00.2		74	35.1 +02.3	S 10 52.7 +00.0		13
14	317	16.3 +01.0	N 23 57.6 -00.2		42	46.6 +01.9	N 09 03.0 +00.3		89	37.4 +02.3	S 10 52.7 -00.1		14
15	332	17.3 +01.0	N 23 57.4 -00.2		57	48.5 +01.9	N 09 03.3 +00.2		104	39.7 +02.3	S 10 52.6 -00.1		15
16	347	18.3 +00.9	N 23 57.2 -00.2		72	50.4 +01.9	N 09 03.5 +00.2		119	42.0 +02.3	S 10 52.5 +00.0		16
17	2	19.2 +01.0	N 23 57.0 -00.2		87	52.3 +01.9	N 09 03.7 +00.2		134	44.3 +02.2	S 10 52.5 -00.1		17
18	17	20.2 +01.0	N 23 56.8 -00.2		102	54.2 +01.9	N 09 03.9 +00.2		149	46.5 +02.3	S 10 52.4 +00.0		18
19	32	21.2 +01.0	N 23 56.6 -00.2		117	56.1 +01.9	N 09 04.1 +00.2		164	48.8 +02.3	S 10 52.4 -00.1		19
20	47	22.2 +01.0	N 23 56.4 -00.2		132	58.0 +01.9	N 09 04.3 +00.2		179	51.1 +02.3	S 10 52.3 -00.1		20
21	62	23.2 +01.0	N 23 56.2 -00.3		147	59.9 +01.9	N 09 04.5 +00.3		194	53.4 +02.3	S 10 52.2 +00.0		21
22	77	24.2 +01.0	N 23 55.9 -00.2		163	01.8 +01.9	N 09 04.8 +00.2		209	55.7 +02.3	S 10 52.2 -00.1		22
23	92	25.2 +00.9	N 23 55.7 -00.2		178	03.7 +01.9	N 09 05.0 +00.2		224	58.0 +02.3	S 10 52.1 -00.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 250° 250° 250° 250° 250° 250°				SHA 336° 336° 336° 336° 335° 335°				SHA 022° 022° 022° 022° 022° 022°				
	Greenwich Culmination Time: 16:50				Greenwich Culmination Time: 11:09				Greenwich Culmination Time: 08:02				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 40.1 +00.1	N 14 37.6 +00.8	137 02.6 -00.6	N 25 32.8 +00.3	61 29.1 -25.8	N 14 54.7 -12.2	00						
01	195 40.2 +00.1	N 14 38.4 +00.8	152 02.0 -00.7	N 25 33.1 +00.3	76 03.3 -25.7	N 14 42.5 -12.2	01						
02	210 40.3 +00.0	N 14 39.2 +00.7	167 01.3 -00.6	N 25 33.4 +00.2	90 37.6 -25.8	N 14 30.3 -12.3	02						
03	225 40.3 +00.1	N 14 39.9 +00.8	182 00.7 -00.6	N 25 33.6 +00.3	105 11.8 -25.7	N 14 18.0 -12.3	03						
04	240 40.4 +00.1	N 14 40.7 +00.8	197 00.1 -00.7	N 25 33.9 +00.3	119 46.1 -25.6	N 14 05.7 -12.4	04						
05	255 40.5 +00.1	N 14 41.5 +00.7	211 59.4 -00.6	N 25 34.2 +00.2	134 20.5 -25.6	N 13 53.3 -12.5	05						
06	270 40.6 +00.1	N 14 42.2 +00.8	226 58.8 -00.6	N 25 34.4 +00.3	148 54.9 -25.6	N 13 40.8 -12.5	06						
07	285 40.7 +00.1	N 14 43.0 +00.8	241 58.2 -00.7	N 25 34.7 +00.3	163 29.3 -25.6	N 13 28.3 -12.6	07						
08	300 40.8 +00.0	N 14 43.8 +00.8	256 57.5 -00.6	N 25 35.0 +00.2	178 03.7 -25.5	N 13 15.7 -12.7	08						
09	315 40.8 +00.1	N 14 44.6 +00.7	271 56.9 -00.6	N 25 35.2 +00.3	192 38.2 -25.5	N 13 03.0 -12.7	09						
10	330 40.9 +00.1	N 14 45.3 +00.8	286 56.3 -00.6	N 25 35.5 +00.2	207 12.7 -25.4	N 12 50.3 -12.7	10						
11	345 41.0 +00.1	N 14 46.1 +00.8	301 55.7 -00.7	N 25 35.7 +00.3	221 47.3 -25.5	N 12 37.6 -12.9	11						
12	0 41.1 +00.1	N 14 46.9 +00.7	316 55.0 -00.6	N 25 36.0 +00.3	236 21.8 -25.4	N 12 24.7 -12.8	12						
13	15 41.2 +00.0	N 14 47.6 +00.8	331 54.4 -00.6	N 25 36.3 +00.2	250 56.4 -25.4	N 12 11.9 -13.0	13						
14	30 41.2 +00.1	N 14 48.4 +00.8	346 53.8 -00.7	N 25 36.5 +00.3	265 31.0 -25.3	N 11 58.9 -13.0	14						
15	45 41.3 +00.1	N 14 49.2 +00.7	1 53.1 -00.6	N 25 36.8 +00.2	280 05.7 -25.3	N 11 45.9 -13.0	15						
16	60 41.4 +00.1	N 14 49.9 +00.8	16 52.5 -00.6	N 25 37.0 +00.3	294 40.4 -25.3	N 11 32.9 -13.1	16						
17	75 41.5 +00.1	N 14 50.7 +00.7	31 51.9 -00.7	N 25 37.3 +00.2	309 15.1 -25.3	N 11 19.8 -13.1	17						
18	90 41.6 +00.0	N 14 51.4 +00.8	46 51.2 -00.6	N 25 37.5 +00.3	323 49.8 -25.3	N 11 06.7 -13.2	18						
19	105 41.6 +00.1	N 14 52.2 +00.8	61 50.6 -00.6	N 25 37.8 +00.2	338 24.5 -25.2	N 10 53.5 -13.3	19						
20	120 41.7 +00.1	N 14 53.0 +00.7	76 50.0 -00.7	N 25 38.0 +00.3	352 59.3 -25.2	N 10 40.2 -13.2	20						
21	135 41.8 +00.1	N 14 53.7 +00.8	91 49.3 -00.6	N 25 38.3 +00.2	7 34.1 -25.2	N 10 27.0 -13.4	21						
22	150 41.9 +00.1	N 14 54.5 +00.8	106 48.7 -00.6	N 25 38.5 +00.3	22 08.9 -25.2	N 10 13.6 -13.4	22						
23	165 42.0 +00.0	N 14 55.3 +00.7	121 48.1 -00.6	N 25 38.8 +00.2	36 43.7 -25.1	N 10 00.2 -13.4	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	15'9 15'9 15'9 15'9 15'9 15'9		SD	00'1 00'1 00'1 00'1 00'1 00'1		SD	14'8 14'9 14'9 14'9 14'9 14'9						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	54'5 54'5 54'6 54'7 54'7 54'8						
SHA	323° 323° 323° 322° 322° 322°		SHA	279° 279° 279° 279° 278° 278°		SHA	203° 201° 199° 197° 195° 194°						
Greenwich Culmination Time: 11:57				Greenwich Culmination Time: 14:52				Greenwich Culmination Time: 20:28					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	107 26.1 +01.0	N 23 55.5 -00.2	193 05.6 +01.9	N 09 05.2 +00.2	240 00.3 +02.2	S 10 52.0 +00.0	00						
01	122 27.1 +01.0	N 23 55.3 -00.2	208 07.5 +01.9	N 09 05.4 +00.2	255 02.5 +02.3	S 10 52.0 -00.1	01						
02	137 28.1 +01.0	N 23 55.1 -00.2	223 09.4 +01.9	N 09 05.6 +00.2	270 04.8 +02.3	S 10 51.9 +00.0	02						
03	152 29.1 +01.0	N 23 54.9 -00.2	238 11.3 +01.9	N 09 05.8 +00.2	285 07.1 +02.3	S 10 51.9 -00.1	03						
04	167 30.1 +01.0	N 23 54.7 -00.3	253 13.2 +01.9	N 09 06.0 +00.3	300 09.4 +02.3	S 10 51.8 -00.1	04						
05	182 31.1 +00.9	N 23 54.4 -00.2	268 15.1 +01.9	N 09 06.3 +00.2	315 11.7 +02.3	S 10 51.7 +00.0	05						
06	197 32.0 +01.0	N 23 54.2 -00.2	283 17.0 +01.9	N 09 06.5 +00.2	330 14.0 +02.3	S 10 51.7 -00.1	06						
07	212 33.0 +01.0	N 23 54.0 -00.2	298 18.9 +01.9	N 09 06.7 +00.2	345 16.3 +02.3	S 10 51.6 +00.0	07						
08	227 34.0 +01.0	N 23 53.8 -00.2	313 20.8 +01.9	N 09 06.9 +00.2	0 18.6 +02.2	S 10 51.6 -00.1	08						
09	242 35.0 +01.0	N 23 53.6 -00.2	328 22.7 +01.9	N 09 07.1 +00.2	15 20.8 +02.3	S 10 51.5 -00.1	09						
10	257 36.0 +01.0	N 23 53.4 -00.2	343 24.6 +01.9	N 09 07.3 +00.2	30 23.1 +02.3	S 10 51.4 +00.0	10						
11	272 37.0 +00.9	N 23 53.2 -00.3	358 26.5 +01.9	N 09 07.5 +00.3	45 25.4 +02.3	S 10 51.4 -00.1	11						
12	287 37.9 +01.0	N 23 52.9 -00.2	13 28.4 +01.9	N 09 07.8 +00.2	60 27.7 +02.3	S 10 51.3 +00.0	12						
13	302 38.9 +01.0	N 23 52.7 -00.2	28 30.3 +01.9	N 09 08.0 +00.2	75 30.0 +02.3	S 10 51.3 -00.1	13						
14	317 39.9 +01.0	N 23 52.5 -00.2	43 32.2 +01.9	N 09 08.2 +00.2	90 32.3 +02.3	S 10 51.2 -00.1	14						
15	332 40.9 +01.0	N 23 52.3 -00.2	58 34.1 +01.9	N 09 08.4 +00.2	105 34.6 +02.3	S 10 51.1 +00.0	15						
16	347 41.9 +01.0	N 23 52.1 -00.2	73 36.0 +01.9	N 09 08.6 +00.2	120 36.9 +02.3	S 10 51.1 -00.1	16						
17	2 42.9 +00.9	N 23 51.9 -00.3	88 37.9 +02.0	N 09 08.8 +00.2	135 39.2 +02.2	S 10 51.0 +00.0	17						
18	17 43.8 +01.0	N 23 51.6 -00.2	103 39.9 +01.9	N 09 09.0 +00.2	150 41.4 +02.3	S 10 51.0 -00.1	18						
19	32 44.8 +01.0	N 23 51.4 -00.2	118 41.8 +01.9	N 09 09.2 +00.3	165 43.7 +02.3	S 10 50.9 -00.1	19						
20	47 45.8 +01.0	N 23 51.2 -00.2	133 43.7 +01.9	N 09 09.5 +00.2	180 46.0 +02.3	S 10 50.8 +00.0	20						
21	62 46.8 +01.0	N 23 51.0 -00.2	148 45.6 +01.9	N 09 09.7 +00.2	195 48.3 +02.3	S 10 50.8 -00.1	21						
22	77 47.8 +01.0	N 23 50.8 -00.2	163 47.5 +01.9	N 09 09.9 +00.2	210 50.6 +02.3	S 10 50.7 +00.0	22						
23	92 48.8 +00.9	N 23 50.6 -00.3	178 49.4 +01.9	N 09 10.1 +00.2	225 52.9 +02.3	S 10 50.7 -00.1	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	00'0 00'0 00'0 00'0 00'0 00'0		SD	00'3 00'3 00'3 00'3 00'3 00'3		SD	00'1 00'1 00'1 00'1 00'1 00'1						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'0 00'0 00'0 00'0 00'0 00'0		HP	00'0 00'0 00'0 00'0 00'0 00'0						
SHA	250° 250° 250° 249° 249° 249°		SHA	335° 335° 335° 335° 335° 335°		SHA	022° 022° 022° 022° 022° 022°						
Greenwich Culmination Time: 16:49				Greenwich Culmination Time: 11:06				Greenwich Culmination Time: 07:58					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 42.0 +00.1	N 14 56.0 +00.8	136 47.5 -00.7	N 25 39.0 +00.3	51 18.6 -25.1	N 09 46.8 -13.5	00						00
01	195 42.1 +00.1	N 14 56.8 +00.7	151 46.8 -00.6	N 25 39.3 +00.2	65 53.5 -25.2	N 09 33.3 -13.5	01						01
02	210 42.2 +00.1	N 14 57.5 +00.8	166 46.2 -00.6	N 25 39.5 +00.3	80 28.3 -25.1	N 09 19.8 -13.6	02						02
03	225 42.3 +00.1	N 14 58.3 +00.8	181 45.6 -00.7	N 25 39.8 +00.2	95 03.2 -25.1	N 09 06.2 -13.6	03						03
04	240 42.4 +00.0	N 14 59.1 +00.7	196 44.9 -00.6	N 25 40.0 +00.2	109 38.1 -25.0	N 08 52.6 -13.7	04						04
05	255 42.4 +00.1	N 14 59.8 +00.8	211 44.3 -00.6	N 25 40.2 +00.3	124 13.1 -25.1	N 08 38.9 -13.7	05						05
06	270 42.5 +00.1	N 15 00.6 +00.7	226 43.7 -00.6	N 25 40.5 +00.2	138 48.0 -25.1	N 08 25.2 -13.8	06						06
07	285 42.6 +00.1	N 15 01.3 +00.8	241 43.1 -00.7	N 25 40.7 +00.2	153 22.9 -25.0	N 08 11.4 -13.7	07						07
08	300 42.7 +00.0	N 15 02.1 +00.8	256 42.4 -00.6	N 25 40.9 +00.3	167 57.9 -25.0	N 07 57.7 -13.9	08						08
09	315 42.7 +00.1	N 15 02.9 +00.7	271 41.8 -00.6	N 25 41.2 +00.2	182 32.9 -25.1	N 07 43.8 -13.9	09						09
10	330 42.8 +00.1	N 15 03.6 +00.8	286 41.2 -00.7	N 25 41.4 +00.2	197 07.8 -25.0	N 07 29.9 -13.9	10						10
11	345 42.9 +00.1	N 15 04.4 +00.7	301 40.5 -00.6	N 25 41.6 +00.3	211 42.8 -25.0	N 07 16.0 -13.9	11						11
12	0 43.0 +00.0	N 15 05.1 +00.8	316 39.9 -00.6	N 25 41.9 +00.2	226 17.8 -25.0	N 07 02.1 -14.0	12						12
13	15 43.0 +00.1	N 15 05.9 +00.7	331 39.3 -00.6	N 25 42.1 +00.2	240 52.8 -25.0	N 06 48.1 -14.0	13						13
14	30 43.1 +00.1	N 15 06.6 +00.8	346 38.7 -00.7	N 25 42.3 +00.3	255 27.8 -25.0	N 06 34.1 -14.1	14						14
15	45 43.2 +00.1	N 15 07.4 +00.7	1 38.0 -00.6	N 25 42.6 +00.2	270 02.8 -25.0	N 06 20.0 -14.1	15						15
16	60 43.3 +00.0	N 15 08.1 +00.8	16 37.4 -00.6	N 25 42.8 +00.2	284 37.8 -25.0	N 06 05.9 -14.1	16						16
17	75 43.3 +00.1	N 15 08.9 +00.8	31 36.8 -00.6	N 25 43.0 +00.2	299 12.8 -25.0	N 05 51.8 -14.2	17						17
18	90 43.4 +00.1	N 15 09.7 +00.7	46 36.2 -00.7	N 25 43.2 +00.3	313 47.8 -25.0	N 05 37.6 -14.2	18						18
19	105 43.5 +00.1	N 15 10.4 +00.8	61 35.5 -00.6	N 25 43.5 +00.2	328 22.8 -25.0	N 05 23.4 -14.3	19						19
20	120 43.6 +00.0	N 15 11.2 +00.7	76 34.9 -00.6	N 25 43.7 +00.2	342 57.8 -25.0	N 05 09.1 -14.2	20						20
21	135 43.6 +00.1	N 15 11.9 +00.8	91 34.3 -00.7	N 25 43.9 +00.2	357 32.8 -25.1	N 04 54.9 -14.3	21						21
22	150 43.7 +00.1	N 15 12.7 +00.7	106 33.6 -00.6	N 25 44.1 +00.2	12 07.7 -25.0	N 04 40.6 -14.4	22						22
23	165 43.8 +00.1	N 15 13.4 +00.8	121 33.0 -00.6	N 25 44.3 +00.3	26 42.7 -25.0	N 04 26.2 -14.3	23						23
UT 02 06 10 14 18 22 SD 15'9 15'9 15'9 15'9 15'9 15'9 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 322° 322° 322° 321° 321° 321° Greenwich Culmination Time: 11:57				UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'2 00'2 SHA 278° 278° 278° 277° 277° 277° Greenwich Culmination Time: 14:53				UT 02 06 10 14 18 22 SD 14'9 15'0 15'0 15'0 15'0 15'1 HP 54'9 54'9 55'0 55'1 55'2 55'3 SHA 192° 190° 188° 186° 184° 183° Greenwich Culmination Time: 21:10					
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	107 49.7 +01.0	N 23 50.3 -00.2	193 51.3 +01.9	N 09 10.3 +00.2	240 55.2 +02.3	S 10 50.6 -00.1	00						00
01	122 50.7 +01.0	N 23 50.1 -00.2	208 53.2 +01.9	N 09 10.5 +00.2	255 57.5 +02.3	S 10 50.5 +00.0	01						01
02	137 51.7 +01.0	N 23 49.9 -00.2	223 55.1 +01.9	N 09 10.7 +00.3	270 59.8 +02.2	S 10 50.5 -00.1	02						02
03	152 52.7 +01.0	N 23 49.7 -00.2	238 57.0 +01.9	N 09 11.0 +00.2	286 02.0 +02.3	S 10 50.4 +00.0	03						03
04	167 53.7 +00.9	N 23 49.5 -00.3	253 58.9 +01.9	N 09 11.2 +00.2	301 04.3 +02.3	S 10 50.4 -00.1	04						04
05	182 54.6 +01.0	N 23 49.2 -00.2	269 00.8 +01.9	N 09 11.4 +00.2	316 06.6 +02.3	S 10 50.3 +00.0	05						05
06	197 55.6 +01.0	N 23 49.0 -00.2	284 02.7 +01.9	N 09 11.6 +00.2	331 08.9 +02.3	S 10 50.3 -00.1	06						06
07	212 56.6 +01.0	N 23 48.8 -00.2	299 04.6 +01.9	N 09 11.8 +00.2	346 11.2 +02.3	S 10 50.2 -00.1	07						07
08	227 57.6 +01.0	N 23 48.6 -00.2	314 06.5 +01.9	N 09 12.0 +00.2	1 13.5 +02.3	S 10 50.1 +00.0	08						08
09	242 58.6 +01.0	N 23 48.4 -00.3	329 08.4 +01.9	N 09 12.2 +00.3	16 15.8 +02.3	S 10 50.1 -00.1	09						09
10	257 59.6 +00.9	N 23 48.1 -00.2	344 10.3 +01.9	N 09 12.5 +00.2	31 18.1 +02.3	S 10 50.0 +00.0	10						10
11	273 00.5 +01.0	N 23 47.9 -00.2	359 12.2 +01.9	N 09 12.7 +00.2	46 20.4 +02.3	S 10 50.0 -00.1	11						11
12	288 01.5 +01.0	N 23 47.7 -00.2	14 14.1 +01.9	N 09 12.9 +00.2	61 22.7 +02.3	S 10 49.9 -00.1	12						12
13	303 02.5 +01.0	N 23 47.5 -00.2	29 16.0 +01.9	N 09 13.1 +00.2	76 25.0 +02.2	S 10 49.8 +00.0	13						13
14	318 03.5 +01.0	N 23 47.3 -00.3	44 17.9 +01.9	N 09 13.3 +00.2	91 27.2 +02.3	S 10 49.8 -00.1	14						14
15	333 04.5 +01.0	N 23 47.0 -00.2	59 19.8 +01.9	N 09 13.5 +00.2	106 29.5 +02.3	S 10 49.7 +00.0	15						15
16	348 05.5 +00.9	N 23 46.8 -00.2	74 21.7 +01.9	N 09 13.7 +00.2	121 31.8 +02.3	S 10 49.7 -00.1	16						16
17	3 06.4 +01.0	N 23 46.6 -00.2	89 23.6 +01.9	N 09 13.9 +00.3	136 34.1 +02.3	S 10 49.6 -00.1	17						17
18	18 07.4 +01.0	N 23 46.4 -00.3	104 25.5 +01.9	N 09 14.2 +00.2	151 36.4 +02.3	S 10 49.5 +00.0	18						18
19	33 08.4 +01.0	N 23 46.1 -00.2	119 27.4 +02.0	N 09 14.4 +00.2	166 38.7 +02.3	S 10 49.5 -00.1	19						19
20	48 09.4 +01.0	N 23 45.9 -00.2	134 29.4 +01.9	N 09 14.6 +00.2	181 41.0 +02.3	S 10 49.4 +00.0	20						20
21	63 10.4 +00.9	N 23 45.7 -00.2	149 31.3 +01.9	N 09 14.8 +00.2	196 43.3 +02.3	S 10 49.4 -00.1	21						21
22	78 11.3 +01.0	N 23 45.5 -00.2	164 33.2 +01.9	N 09 15.0 +00.2	211 45.6 +02.3	S 10 49.3 +00.0	22						22
23	93 12.3 +01.0	N 23 45.3 -00.3	179 35.1 +01.9	N 09 15.2 +00.2	226 47.9 +02.3	S 10 49.3 -00.1	23						23
UT 02 06 10 14 18 22 SD 00'0 00'0 00'0 00'0 00'0 00'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 249° 249° 249° 249° 249° 249° Greenwich Culmination Time: 16:47				UT 02 06 10 14 18 22 SD 00'3 00'3 00'3 00'3 00'3 00'3 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 335° 335° 335° 335° 335° 335° Greenwich Culmination Time: 11:03				UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 022° 022° 022° 022° 022° 022° Greenwich Culmination Time: 07:55					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 43.9 +00.0	N 15 14.2 +00.7	136 32.4 -00.6	N 25 44.6 +00.2	41 17.7 -25.0	N 04 11.9 -14.4	00						00
01	195 43.9 +00.1	N 15 14.9 +00.8	151 31.8 -00.7	N 25 44.8 +00.2	55 52.7 -25.1	N 03 57.5 -14.4	01						01
02	210 44.0 +00.1	N 15 15.7 +00.7	166 31.1 -00.6	N 25 45.0 +00.2	70 27.6 -25.0	N 03 43.1 -14.5	02						02
03	225 44.1 +00.0	N 15 16.4 +00.8	181 30.5 -00.6	N 25 45.2 +00.2	85 02.6 -25.1	N 03 28.6 -14.5	03						03
04	240 44.1 +00.1	N 15 17.2 +00.7	196 29.9 -00.6	N 25 45.4 +00.2	99 37.5 -25.1	N 03 14.1 -14.5	04						04
05	255 44.2 +00.1	N 15 17.9 +00.8	211 29.3 -00.7	N 25 45.6 +00.2	114 12.4 -25.1	N 02 59.6 -14.5	05						05
06	270 44.3 +00.1	N 15 18.7 +00.7	226 28.6 -00.6	N 25 45.8 +00.3	128 47.3 -25.1	N 02 45.1 -14.5	06						06
07	285 44.4 +00.0	N 15 19.4 +00.8	241 28.0 -00.6	N 25 46.1 +00.2	143 22.2 -25.1	N 02 30.6 -14.6	07						07
08	300 44.4 +00.1	N 15 20.2 +00.7	256 27.4 -00.6	N 25 46.3 +00.2	157 57.1 -25.1	N 02 16.0 -14.6	08						08
09	315 44.5 +00.1	N 15 20.9 +00.7	271 26.8 -00.7	N 25 46.5 +00.2	172 32.0 -25.2	N 02 01.4 -14.6	09						09
10	330 44.6 +00.0	N 15 21.6 +00.8	286 26.1 -00.6	N 25 46.7 +00.2	187 06.8 -25.2	N 01 46.8 -14.6	10						10
11	345 44.6 +00.1	N 15 22.4 +00.7	301 25.5 -00.6	N 25 46.9 +00.2	201 41.6 -25.2	N 01 32.2 -14.7	11						11
12	0 44.7 +00.1	N 15 23.1 +00.8	316 24.9 -00.6	N 25 47.1 +00.2	216 16.4 -25.2	N 01 17.5 -14.7	12						12
13	15 44.8 +00.1	N 15 23.9 +00.7	331 24.3 -00.6	N 25 47.3 +00.2	230 51.2 -25.2	N 01 02.8 -14.7	13						13
14	30 44.9 +00.0	N 15 24.6 +00.8	346 23.7 -00.7	N 25 47.5 +00.2	245 26.0 -25.3	N 00 48.1 -14.7	14						14
15	45 44.9 +00.1	N 15 25.4 +00.7	1 23.0 -00.6	N 25 47.7 +00.2	260 00.7 -25.3	N 00 33.4 -14.7	15						15
16	60 45.0 +00.1	N 15 26.1 +00.8	16 22.4 -00.6	N 25 47.9 +00.2	274 35.4 -25.3	N 00 18.7 -14.8	16						16
17	75 45.1 +00.0	N 15 26.9 +00.7	31 21.8 -00.6	N 25 48.1 +00.2	289 10.1 -25.3	N 00 03.9 -14.7	17						17
18	90 45.1 +00.1	N 15 27.6 +00.7	46 21.2 -00.7	N 25 48.3 +00.2	303 44.8 -25.4	S 00 10.8 +14.8	18						18
19	105 45.2 +00.1	N 15 28.3 +00.8	61 20.5 -00.6	N 25 48.5 +00.2	318 19.4 -25.4	S 00 25.6 +14.8	19						19
20	120 45.3 +00.0	N 15 29.1 +00.7	76 19.9 -00.6	N 25 48.7 +00.2	332 54.0 -25.4	S 00 40.4 +14.8	20						20
21	135 45.3 +00.1	N 15 29.8 +00.8	91 19.3 -00.6	N 25 48.9 +00.2	347 28.6 -25.5	S 00 55.2 +14.8	21						21
22	150 45.4 +00.1	N 15 30.6 +00.7	106 18.7 -00.6	N 25 49.1 +00.2	2 03.1 -25.5	S 01 10.0 +14.8	22						22
23	165 45.5 +00.0	N 15 31.3 +00.8	121 18.1 -00.7	N 25 49.3 +00.1	16 37.6 -25.5	S 01 24.8 +14.8	23						23
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'1 15'1 15'1 15'2 15'2 15'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 55'4 55'5 55'5 55'6 55'7 55'8								
	SHA 321° 321° 321° 321° 320° 320°		SHA 277° 277° 276° 276° 276° 276°		SHA 181° 179° 177° 175° 173° 171°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 14:54		Greenwich Culmination Time: 21:51								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	108 13.3 +01.0	N 23 45.0 -00.2	194 37.0 +01.9	N 09 15.4 +00.2	241 50.2 +02.3	S 10 49.2 -00.1	00						00
01	123 14.3 +01.0	N 23 44.8 -00.2	209 38.9 +01.9	N 09 15.6 +00.3	256 52.5 +02.3	S 10 49.1 +00.0	01						01
02	138 15.3 +00.9	N 23 44.6 -00.2	224 40.8 +01.9	N 09 15.9 +00.2	271 54.8 +02.2	S 10 49.1 -00.1	02						02
03	153 16.2 +01.0	N 23 44.4 -00.3	239 42.7 +01.9	N 09 16.1 +00.2	286 57.0 +02.3	S 10 49.0 +00.0	03						03
04	168 17.2 +01.0	N 23 44.1 -00.2	254 44.6 +01.9	N 09 16.3 +00.2	301 59.3 +02.3	S 10 49.0 -00.1	04						04
05	183 18.2 +01.0	N 23 43.9 -00.2	269 46.5 +01.9	N 09 16.5 +00.2	317 01.6 +02.3	S 10 48.9 -00.1	05						05
06	198 19.2 +01.0	N 23 43.7 -00.2	284 48.4 +01.9	N 09 16.7 +00.2	332 03.9 +02.3	S 10 48.8 +00.0	06						06
07	213 20.2 +01.0	N 23 43.5 -00.3	299 50.3 +01.9	N 09 16.9 +00.2	347 06.2 +02.3	S 10 48.8 -00.1	07						07
08	228 21.2 +00.9	N 23 43.2 -00.2	314 52.2 +01.9	N 09 17.1 +00.2	2 08.5 +02.3	S 10 48.7 +00.0	08						08
09	243 22.1 +01.0	N 23 43.0 -00.2	329 54.1 +01.9	N 09 17.3 +00.3	17 10.8 +02.3	S 10 48.7 -00.1	09						09
10	258 23.1 +01.0	N 23 42.8 -00.2	344 56.0 +01.9	N 09 17.6 +00.2	32 13.1 +02.3	S 10 48.6 +00.0	10						10
11	273 24.1 +01.0	N 23 42.6 -00.3	359 57.9 +01.9	N 09 17.8 +00.2	47 15.4 +02.3	S 10 48.6 -00.1	11						11
12	288 25.1 +01.0	N 23 42.3 -00.2	14 59.8 +01.9	N 09 18.0 +00.2	62 17.7 +02.3	S 10 48.5 -00.1	12						12
13	303 26.1 +00.9	N 23 42.1 -00.2	30 01.7 +01.9	N 09 18.2 +00.2	77 20.0 +02.3	S 10 48.4 +00.0	13						13
14	318 27.0 +01.0	N 23 41.9 -00.3	45 03.6 +01.9	N 09 18.4 +00.2	92 22.3 +02.3	S 10 48.4 -00.1	14						14
15	333 28.0 +01.0	N 23 41.6 -00.2	60 05.5 +01.9	N 09 18.6 +00.2	107 24.6 +02.3	S 10 48.3 +00.0	15						15
16	348 29.0 +01.0	N 23 41.4 -00.2	75 07.4 +01.9	N 09 18.8 +00.2	122 26.9 +02.3	S 10 48.3 -00.1	16						16
17	3 30.0 +01.0	N 23 41.2 -00.2	90 09.3 +02.0	N 09 19.0 +00.3	137 29.2 +02.3	S 10 48.2 +00.0	17						17
18	18 31.0 +00.9	N 23 41.0 -00.3	105 11.3 +01.9	N 09 19.3 +00.2	152 31.5 +02.2	S 10 48.2 -00.1	18						18
19	33 31.9 +01.0	N 23 40.7 -00.2	120 13.2 +01.9	N 09 19.5 +00.2	167 33.7 +02.3	S 10 48.1 -00.1	19						19
20	48 32.9 +01.0	N 23 40.5 -00.2	135 15.1 +01.9	N 09 19.7 +00.2	182 36.0 +02.3	S 10 48.0 +00.0	20						20
21	63 33.9 +01.0	N 23 40.3 -00.3	150 17.0 +01.9	N 09 19.9 +00.2	197 38.3 +02.3	S 10 48.0 -00.1	21						21
22	78 34.9 +01.0	N 23 40.0 -00.2	165 18.9 +01.9	N 09 20.1 +00.2	212 40.6 +02.3	S 10 47.9 +00.0	22						22
23	93 35.9 +00.9	N 23 39.8 -00.2	180 20.8 +01.9	N 09 20.3 +00.2	227 42.9 +02.3	S 10 47.9 -00.1	23						23
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 249° 248° 248° 248° 248° 248°		SHA 335° 335° 335° 335° 335° 335°		SHA 022° 022° 022° 022° 022° 022°								
	Greenwich Culmination Time: 16:46		Greenwich Culmination Time: 11:00		Greenwich Culmination Time: 07:51								

UT	Sun				Venus				Moon A: 42%				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 45.5 +00.1	N 15 32.1 +00.7	136 17.4 -00.6	N 25 49.4 +00.2	31 12.1 -25.6	S 01 39.6 +14.8	00						
01	195 45.6 +00.1	N 15 32.8 +00.7	151 16.8 -00.6	N 25 49.6 +00.2	45 46.5 -25.6	S 01 54.4 +14.9	01						
02	210 45.7 +00.0	N 15 33.5 +00.8	166 16.2 -00.6	N 25 49.8 +00.2	60 20.9 -25.6	S 02 09.3 +14.8	02						
03	225 45.7 +00.1	N 15 34.3 +00.7	181 15.6 -00.7	N 25 50.0 +00.2	74 55.3 -25.7	S 02 24.1 +14.9	03						
04	240 45.8 +00.1	N 15 35.0 +00.7	196 14.9 -00.6	N 25 50.2 +00.2	89 29.6 -25.7	S 02 39.0 +14.9	04						
05	255 45.9 +00.0	N 15 35.7 +00.8	211 14.3 -00.6	N 25 50.4 +00.2	104 03.9 -25.7	S 02 53.9 +14.8	05						
06	270 45.9 +00.1	N 15 36.5 +00.7	226 13.7 -00.6	N 25 50.6 +00.1	118 38.2 -25.8	S 03 08.7 +14.9	06						
07	285 46.0 +00.1	N 15 37.2 +00.8	241 13.1 -00.6	N 25 50.7 +00.2	133 12.4 -25.9	S 03 23.6 +14.8	07						
08	300 46.1 +00.0	N 15 38.0 +00.7	256 12.5 -00.7	N 25 50.9 +00.2	147 46.5 -25.9	S 03 38.4 +14.9	08						
09	315 46.1 +00.1	N 15 38.7 +00.7	271 11.8 -00.6	N 25 51.1 +00.2	162 20.6 -25.9	S 03 53.3 +14.9	09						
10	330 46.2 +00.1	N 15 39.4 +00.8	286 11.2 -00.6	N 25 51.3 +00.2	176 54.7 -26.0	S 04 08.2 +14.8	10						
11	345 46.3 +00.0	N 15 40.2 +00.7	301 10.6 -00.6	N 25 51.5 +00.1	191 28.7 -26.0	S 04 23.0 +14.9	11						
12	0 46.3 +00.1	N 15 40.9 +00.7	316 10.0 -00.6	N 25 51.6 +00.2	206 02.7 -26.1	S 04 37.9 +14.8	12						
13	15 46.4 +00.1	N 15 41.6 +00.8	331 09.4 -00.7	N 25 51.8 +00.2	220 36.6 -26.1	S 04 52.7 +14.9	13						
14	30 46.5 +00.0	N 15 42.4 +00.7	346 08.7 -00.6	N 25 52.0 +00.2	235 10.5 -26.2	S 05 07.6 +14.8	14						
15	45 46.5 +00.1	N 15 43.1 +00.7	1 08.1 -00.6	N 25 52.2 +00.1	249 44.3 -26.2	S 05 22.4 +14.9	15						
16	60 46.6 +00.1	N 15 43.8 +00.8	16 07.5 -00.6	N 25 52.3 +00.2	264 18.1 -26.3	S 05 37.3 +14.8	16						
17	75 46.7 +00.0	N 15 44.6 +00.7	31 06.9 -00.6	N 25 52.5 +00.2	278 51.8 -26.3	S 05 52.1 +14.8	17						
18	90 46.7 +00.1	N 15 45.3 +00.7	46 06.3 -00.6	N 25 52.7 +00.1	293 25.5 -26.4	S 06 06.9 +14.8	18						
19	105 46.8 +00.0	N 15 46.0 +00.8	61 05.7 -00.7	N 25 52.8 +00.2	307 59.1 -26.5	S 06 21.7 +14.8	19						
20	120 46.8 +00.1	N 15 46.8 +00.7	76 05.0 -00.6	N 25 53.0 +00.2	322 32.6 -26.5	S 06 36.5 +14.8	20						
21	135 46.9 +00.1	N 15 47.5 +00.7	91 04.4 -00.6	N 25 53.2 +00.1	337 06.1 -26.5	S 06 51.3 +14.8	21						
22	150 47.0 +00.0	N 15 48.2 +00.8	106 03.8 -00.6	N 25 53.3 +00.2	351 39.6 -26.7	S 07 06.1 +14.7	22						
23	165 47.0 +00.1	N 15 49.0 +00.7	121 03.2 -00.6	N 25 53.5 +00.2	6 12.9 -26.6	S 07 20.8 +14.8	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	15'9 15'9 15'9 15'9 15'9 15'9		SD	00'1 00'1 00'1 00'1 00'1 00'1		SD	15'2 15'3 15'3 15'3 15'4 15'4						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'2 00'2 00'2 00'2 00'2 00'2		HP	56'0 56'1 56'2 56'3 56'4 56'5						
SHA	320° 320° 320° 320° 319° 319°		SHA	276° 275° 275° 275° 275° 275°		SHA	170° 168° 166° 164° 162° 160°						
Greenwich Culmination Time: 11:56			Greenwich Culmination Time: 14:55			Greenwich Culmination Time: 22:34							

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	108 36.8 +01.0	N 23 39.6 -00.2	195 22.7 +01.9	N 09 20.5 +00.2	242 45.2 +02.3	S 10 47.8 +00.0	00						
01	123 37.8 +01.0	N 23 39.4 -00.3	210 24.6 +01.9	N 09 20.7 +00.3	257 47.5 +02.3	S 10 47.8 -00.1	01						
02	138 38.8 +01.0	N 23 39.1 -00.2	225 26.5 +01.9	N 09 21.0 +00.2	272 49.8 +02.3	S 10 47.7 -00.1	02						
03	153 39.8 +01.0	N 23 38.9 -00.2	240 28.4 +01.9	N 09 21.2 +00.2	287 52.1 +02.3	S 10 47.6 +00.0	03						
04	168 40.8 +00.9	N 23 38.7 -00.3	255 30.3 +01.9	N 09 21.4 +00.2	302 54.4 +02.3	S 10 47.6 -00.1	04						
05	183 41.7 +01.0	N 23 38.4 -00.2	270 32.2 +01.9	N 09 21.6 +00.2	317 56.7 +02.3	S 10 47.5 +00.0	05						
06	198 42.7 +01.0	N 23 38.2 -00.2	285 34.1 +01.9	N 09 21.8 +00.2	332 59.0 +02.3	S 10 47.5 -00.1	06						
07	213 43.7 +01.0	N 23 38.0 -00.3	300 36.0 +01.9	N 09 22.0 +00.2	348 01.3 +02.3	S 10 47.4 +00.0	07						
08	228 44.7 +01.0	N 23 37.7 -00.2	315 37.9 +01.9	N 09 22.2 +00.2	3 03.6 +02.3	S 10 47.4 -00.1	08						
09	243 45.7 +00.9	N 23 37.5 -00.2	330 39.8 +01.9	N 09 22.4 +00.2	18 05.9 +02.3	S 10 47.3 -00.1	09						
10	258 46.6 +01.0	N 23 37.3 -00.3	345 41.7 +01.9	N 09 22.6 +00.3	33 08.2 +02.3	S 10 47.2 +00.0	10						
11	273 47.6 +01.0	N 23 37.0 -00.2	0 43.6 +01.9	N 09 22.9 +00.2	48 10.5 +02.3	S 10 47.2 -00.1	11						
12	288 48.6 +01.0	N 23 36.8 -00.2	15 45.5 +02.0	N 09 23.1 +00.2	63 12.8 +02.3	S 10 47.1 +00.0	12						
13	303 49.6 +01.0	N 23 36.6 -00.2	30 47.5 +01.9	N 09 23.3 +00.2	78 15.1 +02.3	S 10 47.1 -00.1	13						
14	318 50.6 +00.9	N 23 36.4 -00.3	45 49.4 +01.9	N 09 23.5 +00.2	93 17.4 +02.3	S 10 47.0 +00.0	14						
15	333 51.5 +01.0	N 23 36.1 -00.2	60 51.3 +01.9	N 09 23.7 +00.2	108 19.7 +02.3	S 10 47.0 -00.1	15						
16	348 52.5 +01.0	N 23 35.9 -00.2	75 53.2 +01.9	N 09 23.9 +00.2	123 22.0 +02.3	S 10 46.9 +00.0	16						
17	3 53.5 +01.0	N 23 35.7 -00.3	90 55.1 +01.9	N 09 24.1 +00.2	138 24.3 +02.3	S 10 46.9 -00.1	17						
18	18 54.5 +01.0	N 23 35.4 -00.2	105 57.0 +01.9	N 09 24.3 +00.2	153 26.6 +02.3	S 10 46.8 -00.1	18						
19	33 55.5 +00.9	N 23 35.2 -00.3	120 58.9 +01.9	N 09 24.5 +00.3	168 28.9 +02.3	S 10 46.7 +00.0	19						
20	48 56.4 +01.0	N 23 34.9 -00.2	136 00.8 +01.9	N 09 24.8 +00.2	183 31.2 +02.3	S 10 46.7 -00.1	20						
21	63 57.4 +01.0	N 23 34.7 -00.2	151 02.7 +01.9	N 09 25.0 +00.2	198 33.5 +02.3	S 10 46.6 +00.0	21						
22	78 58.4 +01.0	N 23 34.5 -00.3	166 04.6 +01.9	N 09 25.2 +00.2	213 35.8 +02.3	S 10 46.6 -00.1	22						
23	93 59.4 +00.9	N 23 34.2 -00.2	181 06.5 +01.9	N 09 25.4 +00.2	228 38.1 +02.3	S 10 46.5 +00.0	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	00'0 00'0 00'0 00'0 00'0 00'0		SD	00'3 00'3 00'3 00'3 00'3 00'3		SD	00'1 00'1 00'1 00'1 00'1 00'1						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'0 00'0 00'0 00'0 00'0 00'0		HP	00'0 00'0 00'0 00'0 00'0 00'0						
SHA	248° 248° 248° 248° 248° 247°		SHA	335° 335° 335° 335° 335° 335°		SHA	022° 022° 022° 022° 022° 022°						
Greenwich Culmination Time: 16:44			Greenwich Culmination Time: 10:57			Greenwich Culmination Time: 07:47							

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	180 47.1 +00.1	N 15 49.7 +00.7	136 02.6 -00.6	N 25 53.7 +00.1	20 46.3 -26.8	S 07 35.6 +14.7	00								
01	195 47.2 +00.0	N 15 50.4 +00.7	151 02.0 -00.7	N 25 53.8 +00.2	35 19.5 -26.8	S 07 50.3 +14.7	01								
02	210 47.2 +00.1	N 15 51.1 +00.8	166 01.3 -00.6	N 25 54.0 +00.1	49 52.7 -26.9	S 08 05.0 +14.7	02								
03	225 47.3 +00.0	N 15 51.9 +00.7	181 00.7 -00.6	N 25 54.1 +00.2	64 25.8 -26.9	S 08 19.7 +14.6	03								
04	240 47.3 +00.1	N 15 52.6 +00.7	196 00.1 -00.6	N 25 54.3 +00.2	78 58.9 -27.1	S 08 34.3 +14.7	04								
05	255 47.4 +00.1	N 15 53.3 +00.8	210 59.5 -00.6	N 25 54.5 +00.1	93 31.8 -27.1	S 08 49.0 +14.6	05								
06	270 47.5 +00.0	N 15 54.1 +00.7	225 58.9 -00.6	N 25 54.6 +00.2	108 04.7 -27.1	S 09 03.6 +14.6	06								
07	285 47.5 +00.1	N 15 54.8 +00.7	240 58.3 -00.6	N 25 54.8 +00.1	122 37.6 -27.2	S 09 18.2 +14.5	07								
08	300 47.6 +00.0	N 15 55.5 +00.7	255 57.7 -00.7	N 25 54.9 +00.2	137 10.4 -27.3	S 09 32.7 +14.6	08								
09	315 47.6 +00.1	N 15 56.2 +00.8	270 57.0 -00.6	N 25 55.1 +00.1	151 43.1 -27.4	S 09 47.3 +14.5	09								
10	330 47.7 +00.1	N 15 57.0 +00.7	285 56.4 -00.6	N 25 55.2 +00.2	166 15.7 -27.4	S 10 01.8 +14.5	10								
11	345 47.8 +00.0	N 15 57.7 +00.7	300 55.8 -00.6	N 25 55.4 +00.1	180 48.3 -27.6	S 10 16.3 +14.4	11								
12	0 47.8 +00.1	N 15 58.4 +00.7	315 55.2 -00.6	N 25 55.5 +00.2	195 20.7 -27.6	S 10 30.7 +14.4	12								
13	15 47.9 +00.0	N 15 59.1 +00.7	330 54.6 -00.6	N 25 55.7 +00.1	209 53.1 -27.6	S 10 45.1 +14.4	13								
14	30 47.9 +00.1	N 15 59.8 +00.8	345 54.0 -00.6	N 25 55.8 +00.2	224 25.5 -27.8	S 10 59.5 +14.4	14								
15	45 48.0 +00.1	N 16 00.6 +00.7	0 53.4 -00.7	N 25 56.0 +00.1	238 57.7 -27.8	S 11 13.9 +14.3	15								
16	60 48.1 +00.0	N 16 01.3 +00.7	15 52.7 -00.6	N 25 56.1 +00.2	253 29.9 -28.0	S 11 28.2 +14.2	16								
17	75 48.1 +00.1	N 16 02.0 +00.7	30 52.1 -00.6	N 25 56.3 +00.1	268 01.9 -27.9	S 11 42.4 +14.3	17								
18	90 48.2 +00.0	N 16 02.7 +00.8	45 51.5 -00.6	N 25 56.4 +00.1	282 34.0 -28.1	S 11 56.7 +14.1	18								
19	105 48.2 +00.1	N 16 03.5 +00.7	60 50.9 -00.6	N 25 56.5 +00.2	297 05.9 -28.2	S 12 10.8 +14.2	19								
20	120 48.3 +00.0	N 16 04.2 +00.7	75 50.3 -00.6	N 25 56.7 +00.1	311 37.7 -28.2	S 12 25.0 +14.1	20								
21	135 48.3 +00.1	N 16 04.9 +00.7	90 49.7 -00.6	N 25 56.8 +00.2	326 09.5 -28.4	S 12 39.1 +14.0	21								
22	150 48.4 +00.1	N 16 05.6 +00.7	105 49.1 -00.6	N 25 57.0 +00.1	340 41.1 -28.4	S 12 53.1 +14.1	22								
23	165 48.5 +00.0	N 16 06.3 +00.8	120 48.5 -00.6	N 25 57.1 +00.1	355 12.7 -28.5	S 13 07.2 +13.9	23								
	UT 02 06 10 14 18 22	SD 15'9 15'9 15'9 15'9 15'9 15'9	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 319° 319° 319° 319° 318° 318°	Greenwich Culmination Time: 11:56	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'2 00'2 00'2 00'2 00'2 00'2	SHA 274° 274° 274° 274° 273° 273°	Greenwich Culmination Time: 14:56	UT 02 06 10 14 18 22	SD 15'4 15'4 15'5 15'5 15'5 15'6	HP 56'6 56'7 56'8 56'9 57'0 57'1	SHA 158° 156° 154° 152° 150° 148°	Greenwich Culmination Time: 23:19
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	109 00.3 +01.0	N 23 34.0 -00.2	196 08.4 +01.9	N 09 25.6 +00.2	243 40.4 +02.3	S 10 46.5 -00.1	00								
01	124 01.3 +01.0	N 23 33.8 -00.3	211 10.3 +01.9	N 09 25.8 +00.2	258 42.7 +02.3	S 10 46.4 -00.1	01								
02	139 02.3 +01.0	N 23 33.5 -00.2	226 12.2 +01.9	N 09 26.0 +00.2	273 45.0 +02.3	S 10 46.3 +00.0	02								
03	154 03.3 +01.0	N 23 33.3 -00.2	241 14.1 +01.9	N 09 26.2 +00.2	288 47.3 +02.3	S 10 46.3 -00.1	03								
04	169 04.3 +00.9	N 23 33.1 -00.3	256 16.0 +01.9	N 09 26.4 +00.3	303 49.6 +02.3	S 10 46.2 +00.0	04								
05	184 05.2 +01.0	N 23 32.8 -00.2	271 17.9 +02.0	N 09 26.7 +00.2	318 51.9 +02.3	S 10 46.2 -00.1	05								
06	199 06.2 +01.0	N 23 32.6 -00.2	286 19.9 +01.9	N 09 26.9 +00.2	333 54.2 +02.3	S 10 46.1 +00.0	06								
07	214 07.2 +01.0	N 23 32.4 -00.3	301 21.8 +01.9	N 09 27.1 +00.2	348 56.5 +02.3	S 10 46.1 -00.1	07								
08	229 08.2 +01.0	N 23 32.1 -00.2	316 23.7 +01.9	N 09 27.3 +00.2	3 58.8 +02.3	S 10 46.0 +00.0	08								
09	244 09.2 +00.9	N 23 31.9 -00.3	331 25.6 +01.9	N 09 27.5 +00.2	19 01.1 +02.3	S 10 46.0 -00.1	09								
10	259 10.1 +01.0	N 23 31.6 -00.2	346 27.5 +01.9	N 09 27.7 +00.2	34 03.4 +02.3	S 10 45.9 -00.1	10								
11	274 11.1 +01.0	N 23 31.4 -00.2	1 29.4 +01.9	N 09 27.9 +00.2	49 05.7 +02.3	S 10 45.8 +00.0	11								
12	289 12.1 +01.0	N 23 31.2 -00.3	16 31.3 +01.9	N 09 28.1 +00.2	64 08.0 +02.3	S 10 45.8 -00.1	12								
13	304 13.1 +01.0	N 23 30.9 -00.2	31 33.2 +01.9	N 09 28.3 +00.2	79 10.3 +02.3	S 10 45.7 +00.0	13								
14	319 14.1 +00.9	N 23 30.7 -00.2	46 35.1 +01.9	N 09 28.5 +00.3	94 12.6 +02.3	S 10 45.7 -00.1	14								
15	334 15.0 +01.0	N 23 30.5 -00.3	61 37.0 +01.9	N 09 28.8 +00.2	109 14.9 +02.3	S 10 45.6 +00.0	15								
16	349 16.0 +01.0	N 23 30.2 -00.2	76 38.9 +01.9	N 09 29.0 +00.2	124 17.2 +02.3	S 10 45.6 -00.1	16								
17	4 17.0 +01.0	N 23 30.0 -00.3	91 40.8 +01.9	N 09 29.2 +00.2	139 19.5 +02.3	S 10 45.5 +00.0	17								
18	19 18.0 +00.9	N 23 29.7 -00.2	106 42.7 +01.9	N 09 29.4 +00.2	154 21.8 +02.3	S 10 45.5 -00.1	18								
19	34 18.9 +01.0	N 23 29.5 -00.2	121 44.6 +01.9	N 09 29.6 +00.2	169 24.1 +02.3	S 10 45.4 +00.0	19								
20	49 19.9 +01.0	N 23 29.3 -00.3	136 46.5 +01.9	N 09 29.8 +00.2	184 26.4 +02.3	S 10 45.4 -00.1	20								
21	64 20.9 +01.0	N 23 29.0 -00.2	151 48.4 +02.0	N 09 30.0 +00.2	199 28.7 +02.3	S 10 45.3 -00.1	21								
22	79 21.9 +01.0	N 23 28.8 -00.3	166 50.4 +01.9	N 09 30.2 +00.2	214 31.0 +02.3	S 10 45.2 +00.0	22								
23	94 22.9 +00.9	N 23 28.5 -00.2	181 52.3 +01.9	N 09 30.4 +00.3	229 33.3 +02.3	S 10 45.2 -00.1	23								
	UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 247° 247° 247° 247° 247° 247°	Greenwich Culmination Time: 16:42	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 334° 334° 334° 334° 334° 334°	Greenwich Culmination Time: 10:54	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 022° 022° 022° 022° 022° 022°	Greenwich Culmination Time: 07:44

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 48.5 +00.1	N 16 07.1 +00.7	135 47.9 -00.7	N 25 57.2 +00.2	9 44.2 -28.6	S 13 21.1 +13.9	00						
01	195 48.6 +00.0	N 16 07.8 +00.7	150 47.2 -00.6	N 25 57.4 +00.1	24 15.6 -28.7	S 13 35.0 +13.9	01						
02	210 48.6 +00.1	N 16 08.5 +00.7	165 46.6 -00.6	N 25 57.5 +00.1	38 46.9 -28.8	S 13 48.9 +13.8	02						
03	225 48.7 +00.0	N 16 09.2 +00.7	180 46.0 -00.6	N 25 57.6 +00.2	53 18.1 -28.9	S 14 02.7 +13.8	03						
04	240 48.7 +00.1	N 16 09.9 +00.7	195 45.4 -00.6	N 25 57.8 +00.1	67 49.2 -28.9	S 14 16.5 +13.7	04						
05	255 48.8 +00.0	N 16 10.6 +00.8	210 44.8 -00.6	N 25 57.9 +00.1	82 20.3 -29.1	S 14 30.2 +13.6	05						
06	270 48.8 +00.1	N 16 11.4 +00.7	225 44.2 -00.6	N 25 58.0 +00.1	96 51.2 -29.2	S 14 43.8 +13.6	06						
07	285 48.9 +00.0	N 16 12.1 +00.7	240 43.6 -00.6	N 25 58.1 +00.2	111 22.0 -29.2	S 14 57.4 +13.5	07						
08	300 48.9 +00.1	N 16 12.8 +00.7	255 43.0 -00.6	N 25 58.3 +00.1	125 52.8 -29.4	S 15 10.9 +13.5	08						
09	315 49.0 +00.1	N 16 13.5 +00.7	270 42.4 -00.6	N 25 58.4 +00.1	140 23.4 -29.4	S 15 24.4 +13.4	09						
10	330 49.1 +00.0	N 16 14.2 +00.7	285 41.8 -00.6	N 25 58.5 +00.1	154 54.0 -29.6	S 15 37.8 +13.3	10						
11	345 49.1 +00.1	N 16 14.9 +00.7	300 41.2 -00.7	N 25 58.6 +00.2	169 24.4 -29.6	S 15 51.1 +13.3	11						
12	0 49.2 +00.0	N 16 15.6 +00.7	315 40.5 -00.6	N 25 58.8 +00.1	183 54.8 -29.8	S 16 04.4 +13.1	12						
13	15 49.2 +00.1	N 16 16.3 +00.8	330 39.9 -00.6	N 25 58.9 +00.1	198 25.0 -29.8	S 16 17.5 +13.2	13						
14	30 49.3 +00.0	N 16 17.1 +00.7	345 39.3 -00.6	N 25 59.0 +00.1	212 55.2 -30.0	S 16 30.7 +13.0	14						
15	45 49.3 +00.1	N 16 17.8 +00.7	0 38.7 -00.6	N 25 59.1 +00.1	227 25.2 -30.0	S 16 43.7 +13.0	15						
16	60 49.4 +00.0	N 16 18.5 +00.7	15 38.1 -00.6	N 25 59.2 +00.1	241 55.2 -30.2	S 16 56.7 +12.9	16						
17	75 49.4 +00.1	N 16 19.2 +00.7	30 37.5 -00.6	N 25 59.3 +00.2	256 25.0 -30.2	S 17 09.6 +12.8	17						
18	90 49.5 +00.0	N 16 19.9 +00.7	45 36.9 -00.6	N 25 59.5 +00.1	270 54.8 -30.4	S 17 22.4 +12.8	18						
19	105 49.5 +00.1	N 16 20.6 +00.7	60 36.3 -00.6	N 25 59.6 +00.1	285 24.4 -30.5	S 17 35.2 +12.7	19						
20	120 49.6 +00.0	N 16 21.3 +00.7	75 35.7 -00.6	N 25 59.7 +00.1	299 53.9 -30.5	S 17 47.9 +12.6	20						
21	135 49.6 +00.1	N 16 22.0 +00.7	90 35.1 -00.6	N 25 59.8 +00.1	314 23.4 -30.7	S 18 00.5 +12.5	21						
22	150 49.7 +00.0	N 16 22.7 +00.7	105 34.5 -00.6	N 25 59.9 +00.1	328 52.7 -30.8	S 18 13.0 +12.4	22						
23	165 49.7 +00.1	N 16 23.4 +00.8	120 33.9 -00.6	N 26 00.0 +00.1	343 21.9 -30.9	S 18 25.4 +12.3	23						
UT	02 06 10 14 18 22	SD 15'9 15'9 15'9 15'9 15'9 15'9	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 318° 318° 318° 318° 317° 317°	Greenwich Culmination Time: 11:56								
UT	02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'2 00'2 00'2 00'2 00'2 00'2	SHA 273° 273° 273° 272° 272° 272°	Greenwich Culmination Time: 14:57								
UT	02 06 10 14 18 22	SD 15'6 15'6 15'7 15'7 15'7 15'7	HP 57'2 57'3 57'5 57'6 57'7 57'8	SHA 146° 144° 142° 140° 138° 135°	Greenwich Culmination Time: -1:00								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	109 23.8 +01.0	N 23 28.3 -00.2	196 54.2 +01.9	N 09 30.7 +00.2	244 35.6 +02.3	S 10 45.1 +00.0	00						
01	124 24.8 +01.0	N 23 28.1 -00.3	211 56.1 +01.9	N 09 30.9 +00.2	259 37.9 +02.3	S 10 45.1 -00.1	01						
02	139 25.8 +01.0	N 23 27.8 -00.2	226 58.0 +01.9	N 09 31.1 +00.2	274 40.2 +02.3	S 10 45.0 +00.0	02						
03	154 26.8 +00.9	N 23 27.6 -00.3	241 59.9 +01.9	N 09 31.3 +00.2	289 42.5 +02.3	S 10 45.0 -00.1	03						
04	169 27.7 +01.0	N 23 27.3 -00.2	257 01.8 +01.9	N 09 31.5 +00.2	304 44.8 +02.3	S 10 44.9 +00.0	04						
05	184 28.7 +01.0	N 23 27.1 -00.3	272 03.7 +01.9	N 09 31.7 +00.2	319 47.1 +02.3	S 10 44.9 -00.1	05						
06	199 29.7 +01.0	N 23 26.8 -00.2	287 05.6 +01.9	N 09 31.9 +00.2	334 49.4 +02.3	S 10 44.8 +00.0	06						
07	214 30.7 +01.0	N 23 26.6 -00.2	302 07.5 +01.9	N 09 32.1 +00.2	349 51.7 +02.3	S 10 44.8 -00.1	07						
08	229 31.7 +00.9	N 23 26.4 -00.3	317 09.4 +01.9	N 09 32.3 +00.2	4 54.0 +02.3	S 10 44.7 -00.1	08						
09	244 32.6 +01.0	N 23 26.1 -00.2	332 11.3 +01.9	N 09 32.5 +00.3	19 56.3 +02.3	S 10 44.6 +00.0	09						
10	259 33.6 +01.0	N 23 25.9 -00.3	347 13.2 +01.9	N 09 32.8 +00.2	34 58.6 +02.3	S 10 44.6 -00.1	10						
11	274 34.6 +01.0	N 23 25.6 -00.2	2 15.1 +01.9	N 09 33.0 +00.2	50 00.9 +02.3	S 10 44.5 +00.0	11						
12	289 35.6 +00.9	N 23 25.4 -00.3	17 17.0 +02.0	N 09 33.2 +00.2	65 03.2 +02.3	S 10 44.5 -00.1	12						
13	304 36.5 +01.0	N 23 25.1 -00.2	32 19.0 +01.9	N 09 33.4 +00.2	80 05.5 +02.3	S 10 44.4 +00.0	13						
14	319 37.5 +01.0	N 23 24.9 -00.2	47 20.9 +01.9	N 09 33.6 +00.2	95 07.8 +02.3	S 10 44.4 -00.1	14						
15	334 38.5 +01.0	N 23 24.7 -00.3	62 22.8 +01.9	N 09 33.8 +00.2	110 10.1 +02.3	S 10 44.3 +00.0	15						
16	349 39.5 +01.0	N 23 24.4 -00.2	77 24.7 +01.9	N 09 34.0 +00.2	125 12.4 +02.3	S 10 44.3 -00.1	16						
17	4 40.5 +00.9	N 23 24.2 -00.3	92 26.6 +01.9	N 09 34.2 +00.2	140 14.7 +02.3	S 10 44.2 +00.0	17						
18	19 41.4 +01.0	N 23 23.9 -00.2	107 28.5 +01.9	N 09 34.4 +00.2	155 17.0 +02.3	S 10 44.2 -00.1	18						
19	34 42.4 +01.0	N 23 23.7 -00.3	122 30.4 +01.9	N 09 34.6 +00.2	170 19.3 +02.3	S 10 44.1 +00.0	19						
20	49 43.4 +01.0	N 23 23.4 -00.2	137 32.3 +01.9	N 09 34.8 +00.3	185 21.6 +02.3	S 10 44.1 -00.1	20						
21	64 44.4 +00.9	N 23 23.2 -00.3	152 34.2 +01.9	N 09 35.1 +00.2	200 23.9 +02.3	S 10 44.0 -00.1	21						
22	79 45.3 +01.0	N 23 22.9 -00.2	167 36.1 +01.9	N 09 35.3 +00.2	215 26.2 +02.3	S 10 43.9 +00.0	22						
23	94 46.3 +01.0	N 23 22.7 -00.3	182 38.0 +01.9	N 09 35.5 +00.2	230 28.5 +02.3	S 10 43.9 -00.1	23						
UT	02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 247° 247° 247° 246° 246° 246°	Greenwich Culmination Time: 16:41								
UT	02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 334° 334° 334° 334° 334° 334°	Greenwich Culmination Time: 10:51								
UT	02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 022° 022° 022° 022° 022° 022°	Greenwich Culmination Time: 07:40								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 49.8 +00.0	N 16 24.2 +00.7	135 33.3 -00.6	N 26 00.1 +00.1	357 51.0 -31.0	S 18 37.7 +12.3	00						
01	195 49.8 +00.1	N 16 24.9 +00.7	150 32.7 -00.6	N 26 00.2 +00.1	12 20.0 -31.1	S 18 50.0 +12.1	01						
02	210 49.9 +00.0	N 16 25.6 +00.7	165 32.1 -00.6	N 26 00.3 +00.1	26 48.9 -31.3	S 19 02.1 +12.1	02						
03	225 49.9 +00.1	N 16 26.3 +00.7	180 31.5 -00.6	N 26 00.4 +00.1	41 17.6 -31.3	S 19 14.2 +12.0	03						
04	240 50.0 +00.0	N 16 27.0 +00.7	195 30.9 -00.6	N 26 00.5 +00.1	55 46.3 -31.4	S 19 26.2 +11.9	04						
05	255 50.0 +00.1	N 16 27.7 +00.7	210 30.3 -00.6	N 26 00.6 +00.1	70 14.9 -31.6	S 19 38.1 +11.7	05						
06	270 50.1 +00.0	N 16 28.4 +00.7	225 29.7 -00.6	N 26 00.7 +00.1	84 43.3 -31.7	S 19 49.8 +11.7	06						
07	285 50.1 +00.1	N 16 29.1 +00.7	240 29.1 -00.6	N 26 00.8 +00.1	99 11.6 -31.7	S 20 01.5 +11.6	07						
08	300 50.2 +00.0	N 16 29.8 +00.7	255 28.5 -00.6	N 26 00.9 +00.1	113 39.9 -31.9	S 20 13.1 +11.5	08						
09	315 50.2 +00.1	N 16 30.5 +00.7	270 27.9 -00.6	N 26 01.0 +00.1	128 08.0 -32.0	S 20 24.6 +11.4	09						
10	330 50.3 +00.0	N 16 31.2 +00.7	285 27.3 -00.6	N 26 01.1 +00.1	142 36.0 -32.1	S 20 36.0 +11.2	10						
11	345 50.3 +00.1	N 16 31.9 +00.7	300 26.7 -00.6	N 26 01.2 +00.1	157 03.9 -32.2	S 20 47.2 +11.2	11						
12	0 50.4 +00.0	N 16 32.6 +00.7	315 26.1 -00.6	N 26 01.3 +00.1	171 31.7 -32.4	S 20 58.4 +11.1	12						
13	15 50.4 +00.1	N 16 33.3 +00.7	330 25.5 -00.6	N 26 01.4 +00.1	185 59.3 -32.4	S 21 09.5 +10.9	13						
14	30 50.5 +00.0	N 16 34.0 +00.7	345 24.9 -00.6	N 26 01.5 +00.1	200 26.9 -32.6	S 21 20.4 +10.8	14						
15	45 50.5 +00.1	N 16 34.7 +00.7	0 24.3 -00.6	N 26 01.6 +00.1	214 54.3 -32.7	S 21 31.2 +10.8	15						
16	60 50.6 +00.0	N 16 35.4 +00.7	15 23.7 -00.6	N 26 01.7 +00.1	229 21.6 -32.7	S 21 42.0 +10.6	16						
17	75 50.6 +00.0	N 16 36.1 +00.7	30 23.1 -00.6	N 26 01.8 +00.1	243 48.9 -32.9	S 21 52.6 +10.4	17						
18	90 50.6 +00.1	N 16 36.8 +00.7	45 22.5 -00.6	N 26 01.9 +00.1	258 16.0 -33.0	S 22 03.0 +10.4	18						
19	105 50.7 +00.0	N 16 37.5 +00.7	60 21.9 -00.6	N 26 02.0 +00.0	272 43.0 -33.2	S 22 13.4 +10.2	19						
20	120 50.7 +00.1	N 16 38.2 +00.7	75 21.3 -00.6	N 26 02.0 +00.1	287 09.8 -33.2	S 22 23.6 +10.2	20						
21	135 50.8 +00.0	N 16 38.9 +00.7	90 20.7 -00.6	N 26 02.1 +00.1	301 36.6 -33.3	S 22 33.8 +10.0	21						
22	150 50.8 +00.1	N 16 39.6 +00.7	105 20.1 -00.6	N 26 02.2 +00.1	316 03.3 -33.5	S 22 43.8 +09.8	22						
23	165 50.9 +00.0	N 16 40.3 +00.7	120 19.5 -00.6	N 26 02.3 +00.1	330 29.8 -33.5	S 22 53.6 +09.8	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'8 15'8 15'8 15'8 15'9 15'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 57'9 57'9 58'0 58'1 58'2 58'3								
	SHA 317° 317° 317° 317° 317° 316°		SHA 272° 272° 271° 271° 271° 271°		SHA 133° 131° 129° 126° 124° 122°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 14:58		Greenwich Culmination Time: 00:08								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	109 47.3 +01.0	N 23 22.4 -00.2	197 39.9 +01.9	N 09 35.7 +00.2	245 30.8 +02.4	S 10 43.8 +00.0	00						
01	124 48.3 +01.0	N 23 22.2 -00.2	212 41.8 +02.0	N 09 35.9 +00.2	260 33.2 +02.3	S 10 43.8 -00.1	01						
02	139 49.3 +00.9	N 23 22.0 -00.3	227 43.8 +01.9	N 09 36.1 +00.2	275 35.5 +02.3	S 10 43.7 +00.0	02						
03	154 50.2 +01.0	N 23 21.7 -00.2	242 45.7 +01.9	N 09 36.3 +00.2	290 37.8 +02.3	S 10 43.7 -00.1	03						
04	169 51.2 +01.0	N 23 21.5 -00.3	257 47.6 +01.9	N 09 36.5 +00.2	305 40.1 +02.3	S 10 43.6 +00.0	04						
05	184 52.2 +01.0	N 23 21.2 -00.2	272 49.5 +01.9	N 09 36.7 +00.2	320 42.4 +02.3	S 10 43.6 -00.1	05						
06	199 53.2 +00.9	N 23 21.0 -00.3	287 51.4 +01.9	N 09 36.9 +00.2	335 44.7 +02.3	S 10 43.5 +00.0	06						
07	214 54.1 +01.0	N 23 20.7 -00.2	302 53.3 +01.9	N 09 37.1 +00.3	350 47.0 +02.3	S 10 43.5 -00.1	07						
08	229 55.1 +01.0	N 23 20.5 -00.3	317 55.2 +01.9	N 09 37.4 +00.2	5 49.3 +02.3	S 10 43.4 +00.0	08						
09	244 56.1 +01.0	N 23 20.2 -00.2	332 57.1 +01.9	N 09 37.6 +00.2	20 51.6 +02.3	S 10 43.4 -00.1	09						
10	259 57.1 +00.9	N 23 20.0 -00.3	347 59.0 +01.9	N 09 37.8 +00.2	35 53.9 +02.3	S 10 43.3 +00.0	10						
11	274 58.0 +01.0	N 23 19.7 -00.2	3 00.9 +01.9	N 09 38.0 +00.2	50 56.2 +02.3	S 10 43.3 -00.1	11						
12	289 59.0 +01.0	N 23 19.5 -00.3	18 02.8 +01.9	N 09 38.2 +00.2	65 58.5 +02.3	S 10 43.2 -00.1	12						
13	304 60.0 +01.0	N 23 19.2 -00.2	33 04.7 +01.9	N 09 38.4 +00.2	81 00.8 +02.3	S 10 43.1 +00.0	13						
14	320 01.0 +01.0	N 23 19.0 -00.3	48 06.6 +02.0	N 09 38.6 +00.2	96 03.1 +02.3	S 10 43.1 -00.1	14						
15	335 02.0 +00.9	N 23 18.7 -00.2	63 08.6 +01.9	N 09 38.8 +00.2	111 05.4 +02.3	S 10 43.0 +00.0	15						
16	350 02.9 +01.0	N 23 18.5 -00.3	78 10.5 +01.9	N 09 39.0 +00.2	126 07.7 +02.4	S 10 43.0 -00.1	16						
17	5 03.9 +01.0	N 23 18.2 -00.2	93 12.4 +01.9	N 09 39.2 +00.2	141 10.1 +02.3	S 10 42.9 +00.0	17						
18	20 04.9 +01.0	N 23 18.0 -00.3	108 14.3 +01.9	N 09 39.4 +00.2	156 12.4 +02.3	S 10 42.9 -00.1	18						
19	35 05.9 +00.9	N 23 17.7 -00.2	123 16.2 +01.9	N 09 39.6 +00.3	171 14.7 +02.3	S 10 42.8 +00.0	19						
20	50 06.8 +01.0	N 23 17.5 -00.3	138 18.1 +01.9	N 09 39.9 +00.2	186 17.0 +02.3	S 10 42.8 -00.1	20						
21	65 07.8 +01.0	N 23 17.2 -00.2	153 20.0 +01.9	N 09 40.1 +00.2	201 19.3 +02.3	S 10 42.7 +00.0	21						
22	80 08.8 +01.0	N 23 17.0 -00.3	168 21.9 +01.9	N 09 40.3 +00.2	216 21.6 +02.3	S 10 42.7 -00.1	22						
23	95 09.8 +00.9	N 23 16.7 -00.2	183 23.8 +01.9	N 09 40.5 +00.2	231 23.9 +02.3	S 10 42.6 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 246° 246° 246° 246° 246° 246°		SHA 334° 334° 334° 334° 334° 334°		SHA 022° 022° 022° 022° 022° 022°								
	Greenwich Culmination Time: 16:39		Greenwich Culmination Time: 10:47		Greenwich Culmination Time: 07:36								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	50.9 +00.1	N 16 41.0 +00.7		135	18.9 -00.6	N 26 02.4 +00.0		344	56.3 -33.7	S 23 03.4 +09.6		00
01	195	51.0 +00.0	N 16 41.7 +00.7		150	18.3 -00.6	N 26 02.4 +00.1		359	22.6 -33.8	S 23 13.0 +09.4		01
02	210	51.0 +00.1	N 16 42.4 +00.7		165	17.7 -00.6	N 26 02.5 +00.1		13	48.8 -33.9	S 23 22.4 +09.4		02
03	225	51.1 +00.0	N 16 43.1 +00.7		180	17.1 -00.6	N 26 02.6 +00.1		28	14.9 -34.0	S 23 31.8 +09.2		03
04	240	51.1 +00.0	N 16 43.8 +00.7		195	16.5 -00.6	N 26 02.7 +00.0		42	40.9 -34.1	S 23 41.0 +09.1		04
05	255	51.1 +00.1	N 16 44.5 +00.6		210	15.9 -00.6	N 26 02.7 +00.1		57	06.8 -34.2	S 23 50.1 +08.9		05
06	270	51.2 +00.0	N 16 45.1 +00.7		225	15.3 -00.6	N 26 02.8 +00.1		71	32.6 -34.3	S 23 59.0 +08.8		06
07	285	51.2 +00.1	N 16 45.8 +00.7		240	14.7 -00.6	N 26 02.9 +00.1		85	58.3 -34.5	S 24 07.8 +08.6		07
08	300	51.3 +00.0	N 16 46.5 +00.7		255	14.1 -00.6	N 26 03.0 +00.0		100	23.8 -34.5	S 24 16.4 +08.5		08
09	315	51.3 +00.0	N 16 47.2 +00.7		270	13.5 -00.6	N 26 03.0 +00.1		114	49.3 -34.6	S 24 24.9 +08.4		09
10	330	51.3 +00.1	N 16 47.9 +00.7		285	12.9 -00.6	N 26 03.1 +00.1		129	14.7 -34.8	S 24 33.3 +08.2		10
11	345	51.4 +00.0	N 16 48.6 +00.7		300	12.3 -00.6	N 26 03.2 +00.0		143	39.9 -34.8	S 24 41.5 +08.1		11
12	0	51.4 +00.1	N 16 49.3 +00.7		315	11.7 -00.5	N 26 03.2 +00.1		158	05.1 -35.0	S 24 49.6 +07.9		12
13	15	51.5 +00.0	N 16 50.0 +00.7		330	11.2 -00.6	N 26 03.3 +00.1		172	30.1 -35.0	S 24 57.5 +07.7		13
14	30	51.5 +00.1	N 16 50.7 +00.7		345	10.6 -00.6	N 26 03.4 +00.0		186	55.1 -35.1	S 25 05.2 +07.7		14
15	45	51.6 +00.0	N 16 51.4 +00.6		0	10.0 -00.6	N 26 03.4 +00.1		201	20.0 -35.3	S 25 12.9 +07.4		15
16	60	51.6 +00.0	N 16 52.0 +00.7		15	09.4 -00.6	N 26 03.5 +00.1		215	44.7 -35.3	S 25 20.3 +07.3		16
17	75	51.6 +00.1	N 16 52.7 +00.7		30	08.8 -00.6	N 26 03.6 +00.0		230	09.4 -35.5	S 25 27.6 +07.1		17
18	90	51.7 +00.0	N 16 53.4 +00.7		45	08.2 -00.6	N 26 03.6 +00.1		244	33.9 -35.5	S 25 34.7 +07.0		18
19	105	51.7 +00.1	N 16 54.1 +00.7		60	07.6 -00.6	N 26 03.7 +00.0		258	58.4 -35.6	S 25 41.7 +06.8		19
20	120	51.8 +00.0	N 16 54.8 +00.7		75	07.0 -00.6	N 26 03.7 +00.1		273	22.8 -35.7	S 25 48.5 +06.7		20
21	135	51.8 +00.0	N 16 55.5 +00.7		90	06.4 -00.6	N 26 03.8 +00.0		287	47.1 -35.8	S 25 55.2 +06.5		21
22	150	51.8 +00.1	N 16 56.2 +00.6		105	05.8 -00.5	N 26 03.8 +00.1		302	11.3 -35.9	S 26 01.7 +06.3		22
23	165	51.9 +00.0	N 16 56.8 +00.7		120	05.3 -00.6	N 26 03.9 +00.0		316	35.4 -36.0	S 26 08.0 +06.2		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'9 15'9 15'9 15'9 15'9 15'9				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 15'9 15'9 15'9 16'0 16'0 16'0				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 58'4 58'5 58'5 58'6 58'7 58'7				
	SHA 316° 316° 316° 316° 316° 315°				SHA 271° 270° 270° 270° 270° 270°				SHA 119° 117° 114° 112° 109° 107°				
	Greenwich Culmination Time: 11:56				Greenwich Culmination Time: 14:59				Greenwich Culmination Time: 01:02				

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	110	10.7 +01.0	N 23 16.5 -00.3		198	25.7 +01.9	N 09 40.7 +00.2		246	26.2 +02.3	S 10 42.6 -00.1		00
01	125	11.7 +01.0	N 23 16.2 -00.2		213	27.6 +01.9	N 09 40.9 +00.2		261	28.5 +02.3	S 10 42.5 +00.0		01
02	140	12.7 +01.0	N 23 16.0 -00.3		228	29.5 +02.0	N 09 41.1 +00.2		276	30.8 +02.3	S 10 42.5 -00.1		02
03	155	13.7 +00.9	N 23 15.7 -00.3		243	31.5 +01.9	N 09 41.3 +00.2		291	33.1 +02.3	S 10 42.4 +00.0		03
04	170	14.6 +01.0	N 23 15.4 -00.2		258	33.4 +01.9	N 09 41.5 +00.2		306	35.4 +02.4	S 10 42.4 -00.1		04
05	185	15.6 +01.0	N 23 15.2 -00.3		273	35.3 +01.9	N 09 41.7 +00.2		321	37.8 +02.3	S 10 42.3 +00.0		05
06	200	16.6 +01.0	N 23 14.9 -00.2		288	37.2 +01.9	N 09 41.9 +00.2		336	40.1 +02.3	S 10 42.3 -00.1		06
07	215	17.6 +01.0	N 23 14.7 -00.3		303	39.1 +01.9	N 09 42.1 +00.3		351	42.4 +02.3	S 10 42.2 +00.0		07
08	230	18.6 +00.9	N 23 14.4 -00.2		318	41.0 +01.9	N 09 42.4 +00.2		6	44.7 +02.3	S 10 42.2 -00.1		08
09	245	19.5 +01.0	N 23 14.2 -00.3		333	42.9 +01.9	N 09 42.6 +00.2		21	47.0 +02.3	S 10 42.1 +00.0		09
10	260	20.5 +01.0	N 23 13.9 -00.2		348	44.8 +01.9	N 09 42.8 +00.2		36	49.3 +02.3	S 10 42.1 -00.1		10
11	275	21.5 +01.0	N 23 13.7 -00.3		3	46.7 +01.9	N 09 43.0 +00.2		51	51.6 +02.3	S 10 42.0 -00.1		11
12	290	22.5 +00.9	N 23 13.4 -00.2		18	48.6 +01.9	N 09 43.2 +00.2		66	53.9 +02.3	S 10 41.9 +00.0		12
13	305	23.4 +01.0	N 23 13.2 -00.3		33	50.5 +01.9	N 09 43.4 +00.2		81	56.2 +02.3	S 10 41.9 -00.1		13
14	320	24.4 +01.0	N 23 12.9 -00.3		48	52.4 +02.0	N 09 43.6 +00.2		96	58.5 +02.3	S 10 41.8 +00.0		14
15	335	25.4 +01.0	N 23 12.6 -00.2		63	54.4 +01.9	N 09 43.8 +00.2		112	00.8 +02.4	S 10 41.8 -00.1		15
16	350	26.4 +00.9	N 23 12.4 -00.3		78	56.3 +01.9	N 09 44.0 +00.2		127	03.2 +02.3	S 10 41.7 +00.0		16
17	5	27.3 +01.0	N 23 12.1 -00.2		93	58.2 +01.9	N 09 44.2 +00.2		142	05.5 +02.3	S 10 41.7 -00.1		17
18	20	28.3 +01.0	N 23 11.9 -00.3		109	00.1 +01.9	N 09 44.4 +00.2		157	07.8 +02.3	S 10 41.6 +00.0		18
19	35	29.3 +01.0	N 23 11.6 -00.2		124	02.0 +01.9	N 09 44.6 +00.2		172	10.1 +02.3	S 10 41.6 -00.1		19
20	50	30.3 +00.9	N 23 11.4 -00.3		139	03.9 +01.9	N 09 44.8 +00.3		187	12.4 +02.3	S 10 41.5 +00.0		20
21	65	31.2 +01.0	N 23 11.1 -00.2		154	05.8 +01.9	N 09 45.1 +00.2		202	14.7 +02.3	S 10 41.5 -00.1		21
22	80	32.2 +01.0	N 23 10.9 -00.3		169	07.7 +01.9	N 09 45.3 +00.2		217	17.0 +02.3	S 10 41.4 +00.0		22
23	95	33.2 +01.0	N 23 10.6 -00.3		184	09.6 +01.9	N 09 45.5 +00.2		232	19.3 +02.3	S 10 41.4 -00.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 246° 245° 245° 245° 245° 245°				SHA 334° 334° 334° 334° 334° 334°				SHA 022° 022° 022° 022° 022° 022°				
	Greenwich Culmination Time: 16:38				Greenwich Culmination Time: 10:44				Greenwich Culmination Time: 07:33				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 51.9 +00.0	N 16 57.5 +00.7	135 04.7 -00.6	N 26 03.9 +00.1	330 59.4 -36.0	S 26 14.2 +06.0	00						
01	195 51.9 +00.1	N 16 58.2 +00.7	150 04.1 -00.6	N 26 04.0 +00.1	345 23.4 -36.2	S 26 20.2 +05.8	01						
02	210 52.0 +00.0	N 16 58.9 +00.7	165 03.5 -00.6	N 26 04.1 +00.0	359 47.2 -36.2	S 26 26.0 +05.6	02						
03	225 52.0 +00.1	N 16 59.6 +00.7	180 02.9 -00.6	N 26 04.1 +00.1	14 11.0 -36.3	S 26 31.6 +05.5	03						
04	240 52.1 +00.0	N 17 00.3 +00.6	195 02.3 -00.6	N 26 04.2 +00.0	28 34.7 -36.4	S 26 37.1 +05.3	04						
05	255 52.1 +00.0	N 17 00.9 +00.7	210 01.7 -00.6	N 26 04.2 +00.0	42 58.3 -36.4	S 26 42.4 +05.1	05						
06	270 52.1 +00.1	N 17 01.6 +00.7	225 01.1 -00.5	N 26 04.2 +00.1	57 21.9 -36.6	S 26 47.5 +05.0	06						
07	285 52.2 +00.0	N 17 02.3 +00.7	240 00.6 -00.6	N 26 04.3 +00.0	71 45.3 -36.6	S 26 52.5 +04.8	07						
08	300 52.2 +00.0	N 17 03.0 +00.7	254 60.0 -00.6	N 26 04.3 +00.1	86 08.7 -36.7	S 26 57.3 +04.6	08						
09	315 52.2 +00.1	N 17 03.7 +00.6	269 59.4 -00.6	N 26 04.4 +00.0	100 32.0 -36.7	S 27 01.9 +04.4	09						
10	330 52.3 +00.0	N 17 04.3 +00.7	284 58.8 -00.6	N 26 04.4 +00.1	114 55.3 -36.8	S 27 06.3 +04.2	10						
11	345 52.3 +00.1	N 17 05.0 +00.7	299 58.2 -00.6	N 26 04.5 +00.0	129 18.5 -36.9	S 27 10.5 +04.1	11						
12	0 52.4 +00.0	N 17 05.7 +00.7	314 57.6 -00.6	N 26 04.5 +00.0	143 41.6 -36.9	S 27 14.6 +03.9	12						
13	15 52.4 +00.0	N 17 06.4 +00.7	329 57.0 -00.5	N 26 04.5 +00.1	158 04.7 -37.0	S 27 18.5 +03.7	13						
14	30 52.4 +00.1	N 17 07.1 +00.6	344 56.5 -00.6	N 26 04.6 +00.0	172 27.7 -37.0	S 27 22.2 +03.5	14						
15	45 52.5 +00.0	N 17 07.7 +00.7	359 55.9 -00.6	N 26 04.6 +00.0	186 50.7 -37.1	S 27 25.7 +03.3	15						
16	60 52.5 +00.0	N 17 08.4 +00.7	14 55.3 -00.6	N 26 04.6 +00.1	201 13.6 -37.2	S 27 29.0 +03.1	16						
17	75 52.5 +00.1	N 17 09.1 +00.7	29 54.7 -00.6	N 26 04.7 +00.0	215 36.4 -37.2	S 27 32.1 +03.0	17						
18	90 52.6 +00.0	N 17 09.8 +00.6	44 54.1 -00.5	N 26 04.7 +00.0	229 59.2 -37.2	S 27 35.1 +02.8	18						
19	105 52.6 +00.0	N 17 10.4 +00.7	59 53.6 -00.6	N 26 04.7 +00.1	244 22.0 -37.3	S 27 37.9 +02.5	19						
20	120 52.6 +00.1	N 17 11.1 +00.7	74 53.0 -00.6	N 26 04.8 +00.0	258 44.7 -37.4	S 27 40.4 +02.4	20						
21	135 52.7 +00.0	N 17 11.8 +00.7	89 52.4 -00.6	N 26 04.8 +00.0	273 07.3 -37.4	S 27 42.8 +02.2	21						
22	150 52.7 +00.0	N 17 12.5 +00.6	104 51.8 -00.6	N 26 04.8 +00.1	287 29.9 -37.4	S 27 45.0 +02.1	22						
23	165 52.7 +00.1	N 17 13.1 +00.7	119 51.2 -00.5	N 26 04.9 +00.0	301 52.5 -37.4	S 27 47.1 +01.8	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'2 00'2 00'2 00'2 00'2		SD 16'0 16'0 16'1 16'1 16'1 16'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 58'8 58'9 58'9 59'0 59'0 59'1								
	SHA 315° 315° 315° 315° 315° 314°		SHA 269° 269° 269° 269° 269° 268°		SHA 104° 102° 099° 096° 094° 091°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 15:00		Greenwich Culmination Time: 02:00								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	110 34.2 +00.9	N 23 10.3 -00.2	199 11.5 +01.9	N 09 45.7 +00.2	247 21.6 +02.4	S 10 41.3 +00.0	00						
01	125 35.1 +01.0	N 23 10.1 -00.3	214 13.4 +02.0	N 09 45.9 +00.2	262 24.0 +02.3	S 10 41.3 -00.1	01						
02	140 36.1 +01.0	N 23 09.8 -00.2	229 15.4 +01.9	N 09 46.1 +00.2	277 26.3 +02.3	S 10 41.2 +00.0	02						
03	155 37.1 +01.0	N 23 09.6 -00.3	244 17.3 +01.9	N 09 46.3 +00.2	292 28.6 +02.3	S 10 41.2 -00.1	03						
04	170 38.1 +00.9	N 23 09.3 -00.3	259 19.2 +01.9	N 09 46.5 +00.2	307 30.9 +02.3	S 10 41.1 +00.0	04						
05	185 39.0 +01.0	N 23 09.0 -00.2	274 21.1 +01.9	N 09 46.7 +00.2	322 33.2 +02.3	S 10 41.1 -00.1	05						
06	200 40.0 +01.0	N 23 08.8 -00.3	289 23.0 +01.9	N 09 46.9 +00.2	337 35.5 +02.3	S 10 41.0 +00.0	06						
07	215 41.0 +01.0	N 23 08.5 -00.2	304 24.9 +01.9	N 09 47.1 +00.2	352 37.8 +02.3	S 10 41.0 -00.1	07						
08	230 42.0 +00.9	N 23 08.3 -00.3	319 26.8 +01.9	N 09 47.3 +00.2	7 40.1 +02.3	S 10 40.9 +00.0	08						
09	245 42.9 +01.0	N 23 08.0 -00.3	334 28.7 +01.9	N 09 47.5 +00.3	22 42.4 +02.4	S 10 40.9 -00.1	09						
10	260 43.9 +01.0	N 23 07.7 -00.2	349 30.6 +01.9	N 09 47.8 +00.2	37 44.8 +02.3	S 10 40.8 +00.0	10						
11	275 44.9 +01.0	N 23 07.5 -00.3	4 32.5 +02.0	N 09 48.0 +00.2	52 47.1 +02.3	S 10 40.8 -00.1	11						
12	290 45.9 +00.9	N 23 07.2 -00.2	19 34.5 +01.9	N 09 48.2 +00.2	67 49.4 +02.3	S 10 40.7 +00.0	12						
13	305 46.8 +01.0	N 23 07.0 -00.3	34 36.4 +01.9	N 09 48.4 +00.2	82 51.7 +02.3	S 10 40.7 -00.1	13						
14	320 47.8 +01.0	N 23 06.7 -00.3	49 38.3 +01.9	N 09 48.6 +00.2	97 54.0 +02.3	S 10 40.6 +00.0	14						
15	335 48.8 +01.0	N 23 06.4 -00.2	64 40.2 +01.9	N 09 48.8 +00.2	112 56.3 +02.3	S 10 40.6 -00.1	15						
16	350 49.8 +00.9	N 23 06.2 -00.3	79 42.1 +01.9	N 09 49.0 +00.2	127 58.6 +02.4	S 10 40.5 +00.0	16						
17	5 50.7 +01.0	N 23 05.9 -00.2	94 44.0 +01.9	N 09 49.2 +00.2	143 01.0 +02.3	S 10 40.5 -00.1	17						
18	20 51.7 +01.0	N 23 05.7 -00.3	109 45.9 +01.9	N 09 49.4 +00.2	158 03.3 +02.3	S 10 40.4 +00.0	18						
19	35 52.7 +01.0	N 23 05.4 -00.3	124 47.8 +01.9	N 09 49.6 +00.2	173 05.6 +02.3	S 10 40.4 -00.1	19						
20	50 53.7 +00.9	N 23 05.1 -00.2	139 49.7 +01.9	N 09 49.8 +00.2	188 07.9 +02.3	S 10 40.3 +00.0	20						
21	65 54.6 +01.0	N 23 04.9 -00.3	154 51.6 +02.0	N 09 50.0 +00.2	203 10.2 +02.3	S 10 40.3 -00.1	21						
22	80 55.6 +01.0	N 23 04.6 -00.3	169 53.6 +01.9	N 09 50.2 +00.2	218 12.5 +02.3	S 10 40.2 +00.0	22						
23	95 56.6 +01.0	N 23 04.3 -00.2	184 55.5 +01.9	N 09 50.4 +00.2	233 14.8 +02.4	S 10 40.2 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 245° 245° 245° 245° 245° 244°		SHA 334° 334° 334° 333° 333° 333°		SHA 022° 022° 022° 022° 022° 022°								
	Greenwich Culmination Time: 16:36		Greenwich Culmination Time: 10:41		Greenwich Culmination Time: 07:29								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	52.8 +00.0	N 17 13.8	+00.7	134	50.7 -00.6	N 26 04.9	+00.0	316	15.1 -37.5	S 27 48.9	+01.6	00
01	195	52.8 +00.0	N 17 14.5	+00.6	149	50.1 -00.6	N 26 04.9	+00.0	330	37.6 -37.5	S 27 50.5	+01.4	01
02	210	52.8 +00.1	N 17 15.1	+00.7	164	49.5 -00.6	N 26 04.9	+00.1	345	00.1 -37.6	S 27 51.9	+01.3	02
03	225	52.9 +00.0	N 17 15.8	+00.7	179	48.9 -00.6	N 26 05.0	+00.0	359	22.5 -37.5	S 27 53.2	+01.0	03
04	240	52.9 +00.0	N 17 16.5	+00.7	194	48.3 -00.5	N 26 05.0	+00.0	13	45.0 -37.6	S 27 54.2	+00.9	04
05	255	52.9 +00.0	N 17 17.2	+00.6	209	47.8 -00.6	N 26 05.0	+00.0	28	07.4 -37.6	S 27 55.1	+00.7	05
06	270	52.9 +00.1	N 17 17.8	+00.7	224	47.2 -00.6	N 26 05.0	+00.0	42	29.8 -37.6	S 27 55.8	+00.4	06
07	285	53.0 +00.0	N 17 18.5	+00.7	239	46.6 -00.6	N 26 05.0	+00.0	56	52.2 -37.7	S 27 56.2	+00.3	07
08	300	53.0 +00.0	N 17 19.2	+00.6	254	46.0 -00.5	N 26 05.0	+00.1	71	14.5 -37.6	S 27 56.5	+00.1	08
09	315	53.0 +00.1	N 17 19.8	+00.7	269	45.5 -00.6	N 26 05.1	+00.0	85	36.9 -37.7	S 27 56.6	-00.1	09
10	330	53.1 +00.0	N 17 20.5	+00.7	284	44.9 -00.6	N 26 05.1	+00.0	99	59.2 -37.6	S 27 56.5	-00.3	10
11	345	53.1 +00.0	N 17 21.2	+00.6	299	44.3 -00.6	N 26 05.1	+00.0	114	21.6 -37.7	S 27 56.2	-00.5	11
12	0	53.1 +00.1	N 17 21.8	+00.7	314	43.7 -00.5	N 26 05.1	+00.0	128	43.9 -37.6	S 27 55.7	-00.7	12
13	15	53.2 +00.0	N 17 22.5	+00.7	329	43.2 -00.6	N 26 05.1	+00.0	143	06.3 -37.7	S 27 55.0	-00.9	13
14	30	53.2 +00.0	N 17 23.2	+00.6	344	42.6 -00.6	N 26 05.1	+00.0	157	28.6 -37.7	S 27 54.1	-01.0	14
15	45	53.2 +00.0	N 17 23.8	+00.7	359	42.0 -00.6	N 26 05.1	+00.0	171	50.9 -37.6	S 27 53.1	-01.3	15
16	60	53.2 +00.1	N 17 24.5	+00.7	14	41.4 -00.5	N 26 05.1	+00.0	186	13.3 -37.6	S 27 51.8	-01.5	16
17	75	53.3 +00.0	N 17 25.2	+00.6	29	40.9 -00.6	N 26 05.1	+00.1	200	35.7 -37.7	S 27 50.3	-01.6	17
18	90	53.3 +00.0	N 17 25.8	+00.7	44	40.3 -00.6	N 26 05.2	+00.0	214	58.0 -37.6	S 27 48.7	-01.9	18
19	105	53.3 +00.1	N 17 26.5	+00.6	59	39.7 -00.5	N 26 05.2	+00.0	229	20.4 -37.6	S 27 46.8	-02.0	19
20	120	53.4 +00.0	N 17 27.1	+00.7	74	39.2 -00.6	N 26 05.2	+00.0	243	42.8 -37.5	S 27 44.8	-02.3	20
21	135	53.4 +00.0	N 17 27.8	+00.7	89	38.6 -00.6	N 26 05.2	+00.0	258	05.3 -37.6	S 27 42.5	-02.4	21
22	150	53.4 +00.0	N 17 28.5	+00.6	104	38.0 -00.6	N 26 05.2	+00.0	272	27.7 -37.5	S 27 40.1	-02.6	22
23	165	53.4 +00.1	N 17 29.1	+00.7	119	37.4 -00.5	N 26 05.2	+00.0	286	50.2 -37.5	S 27 37.5	-02.8	23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 16'1 16'1 16'1 16'1 16'1 16'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 59'1 59'1 59'2 59'2 59'2 59'3				
	SHA 314° 314° 314° 314° 314° 313°				SHA 268° 268° 268° 268° 267° 267°				SHA 088° 086° 083° 080° 078° 075°				
	Greenwich Culmination Time: 11:56				Greenwich Culmination Time: 15:01				Greenwich Culmination Time: 03:02				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	110	57.6 +01.0	N 23 04.1	-00.3	199	57.4 +01.9	N 09 50.6	+00.3	248	17.2 +02.3	S 10 40.1	+00.0	00
01	125	58.6 +00.9	N 23 03.8	-00.2	214	59.3 +01.9	N 09 50.9	+00.2	263	19.5 +02.3	S 10 40.1	-00.1	01
02	140	59.5 +01.0	N 23 03.6	-00.3	230	01.2 +01.9	N 09 51.1	+00.2	278	21.8 +02.3	S 10 40.0	+00.0	02
03	156	00.5 +01.0	N 23 03.3	-00.3	245	03.1 +01.9	N 09 51.3	+00.2	293	24.1 +02.3	S 10 40.0	-00.1	03
04	171	01.5 +01.0	N 23 03.0	-00.2	260	05.0 +01.9	N 09 51.5	+00.2	308	26.4 +02.3	S 10 39.9	+00.0	04
05	186	02.5 +00.9	N 23 02.8	-00.3	275	06.9 +01.9	N 09 51.7	+00.2	323	28.7 +02.3	S 10 39.9	-00.1	05
06	201	03.4 +01.0	N 23 02.5	-00.3	290	08.8 +01.9	N 09 51.9	+00.2	338	31.0 +02.4	S 10 39.8	+00.0	06
07	216	04.4 +01.0	N 23 02.2	-00.2	305	10.7 +02.0	N 09 52.1	+00.2	353	33.4 +02.3	S 10 39.8	-00.1	07
08	231	05.4 +00.9	N 23 02.0	-00.3	320	12.7 +01.9	N 09 52.3	+00.2	8	35.7 +02.3	S 10 39.7	+00.0	08
09	246	06.3 +01.0	N 23 01.7	-00.3	335	14.6 +01.9	N 09 52.5	+00.2	23	38.0 +02.3	S 10 39.7	-00.1	09
10	261	07.3 +01.0	N 23 01.4	-00.2	350	16.5 +01.9	N 09 52.7	+00.2	38	40.3 +02.3	S 10 39.6	+00.0	10
11	276	08.3 +01.0	N 23 01.2	-00.3	5	18.4 +01.9	N 09 52.9	+00.2	53	42.6 +02.3	S 10 39.6	-00.1	11
12	291	09.3 +00.9	N 23 00.9	-00.3	20	20.3 +01.9	N 09 53.1	+00.2	68	44.9 +02.4	S 10 39.5	+00.0	12
13	306	10.2 +01.0	N 23 00.6	-00.2	35	22.2 +01.9	N 09 53.3	+00.2	83	47.3 +02.3	S 10 39.5	-00.1	13
14	321	11.2 +01.0	N 23 00.4	-00.3	50	24.1 +01.9	N 09 53.5	+00.2	98	49.6 +02.3	S 10 39.4	+00.0	14
15	336	12.2 +01.0	N 23 00.1	-00.3	65	26.0 +01.9	N 09 53.7	+00.2	113	51.9 +02.3	S 10 39.4	-00.1	15
16	351	13.2 +00.9	N 22 59.8	-00.2	80	27.9 +02.0	N 09 53.9	+00.2	128	54.2 +02.3	S 10 39.3	+00.0	16
17	6	14.1 +01.0	N 22 59.6	-00.3	95	29.9 +01.9	N 09 54.1	+00.3	143	56.5 +02.3	S 10 39.3	-00.1	17
18	21	15.1 +01.0	N 22 59.3	-00.3	110	31.8 +01.9	N 09 54.4	+00.2	158	58.8 +02.4	S 10 39.2	+00.0	18
19	36	16.1 +01.0	N 22 59.0	-00.2	125	33.7 +01.9	N 09 54.6	+00.2	174	01.2 +02.3	S 10 39.2	-00.1	19
20	51	17.1 +00.9	N 22 58.8	-00.3	140	35.6 +01.9	N 09 54.8	+00.2	189	03.5 +02.3	S 10 39.1	+00.0	20
21	66	18.0 +01.0	N 22 58.5	-00.3	155	37.5 +01.9	N 09 55.0	+00.2	204	05.8 +02.3	S 10 39.1	+00.0	21
22	81	19.0 +01.0	N 22 58.2	-00.2	170	39.4 +01.9	N 09 55.2	+00.2	219	08.1 +02.3	S 10 39.1	-00.1	22
23	96	20.0 +01.0	N 22 58.0	-00.3	185	41.3 +01.9	N 09 55.4	+00.2	234	10.4 +02.3	S 10 39.0	+00.0	23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 244° 244° 244° 244° 244° 244°				SHA 333° 333° 333° 333° 333° 333°				SHA 022° 022° 022° 022° 022° 022°				
	Greenwich Culmination Time: 16:35				Greenwich Culmination Time: 10:38				Greenwich Culmination Time: 07:25				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	53.5 +00.0	N 17 29.8	+00.6	134	36.9 -00.6	N 26 05.2	+00.0	301	12.7 -37.5	S 27 34.7	-03.0	00
01	195	53.5 +00.0	N 17 30.4	+00.7	149	36.3 -00.6	N 26 05.2	+00.0	315	35.2 -37.4	S 27 31.7	-03.2	01
02	210	53.5 +00.0	N 17 31.1	+00.7	164	35.7 -00.5	N 26 05.2	+00.0	329	57.8 -37.4	S 27 28.5	-03.4	02
03	225	53.5 +00.1	N 17 31.8	+00.6	179	35.2 -00.6	N 26 05.2	-00.1	344	20.4 -37.3	S 27 25.1	-03.6	03
04	240	53.6 +00.0	N 17 32.4	+00.7	194	34.6 -00.6	N 26 05.1	+00.0	358	43.1 -37.3	S 27 21.5	-03.7	04
05	255	53.6 +00.0	N 17 33.1	+00.6	209	34.0 -00.5	N 26 05.1	+00.0	13	05.8 -37.3	S 27 17.8	-04.0	05
06	270	53.6 +00.0	N 17 33.7	+00.7	224	33.5 -00.6	N 26 05.1	+00.0	27	28.5 -37.2	S 27 13.8	-04.1	06
07	285	53.6 +00.1	N 17 34.4	+00.7	239	32.9 -00.6	N 26 05.1	+00.0	41	51.3 -37.2	S 27 09.7	-04.3	07
08	300	53.7 +00.0	N 17 35.1	+00.6	254	32.3 -00.5	N 26 05.1	+00.0	56	14.1 -37.1	S 27 05.4	-04.5	08
09	315	53.7 +00.0	N 17 35.7	+00.7	269	31.8 -00.6	N 26 05.1	+00.0	70	37.0 -37.1	S 27 00.9	-04.7	09
10	330	53.7 +00.0	N 17 36.4	+00.6	284	31.2 -00.6	N 26 05.1	+00.0	84	59.9 -37.0	S 26 56.2	-04.9	10
11	345	53.7 +00.1	N 17 37.0	+00.7	299	30.6 -00.5	N 26 05.1	+00.0	99	22.9 -37.0	S 26 51.3	-05.0	11
12	0	53.8 +00.0	N 17 37.7	+00.6	314	30.1 -00.6	N 26 05.1	-00.1	113	45.9 -36.9	S 26 46.3	-05.3	12
13	15	53.8 +00.0	N 17 38.3	+00.7	329	29.5 -00.6	N 26 05.0	+00.0	128	09.0 -36.9	S 26 41.0	-05.4	13
14	30	53.8 +00.0	N 17 39.0	+00.6	344	28.9 -00.5	N 26 05.0	+00.0	142	32.1 -36.8	S 26 35.6	-05.6	14
15	45	53.8 +00.0	N 17 39.6	+00.7	359	28.4 -00.6	N 26 05.0	+00.0	156	55.3 -36.7	S 26 30.0	-05.8	15
16	60	53.8 +00.1	N 17 40.3	+00.6	14	27.8 -00.5	N 26 05.0	+00.0	171	18.6 -36.6	S 26 24.2	-05.9	16
17	75	53.9 +00.0	N 17 40.9	+00.7	29	27.3 -00.6	N 26 05.0	-00.1	185	42.0 -36.6	S 26 18.3	-06.2	17
18	90	53.9 +00.0	N 17 41.6	+00.6	44	26.7 -00.6	N 26 04.9	+00.0	200	05.4 -36.6	S 26 12.1	-06.3	18
19	105	53.9 +00.0	N 17 42.2	+00.7	59	26.1 -00.5	N 26 04.9	+00.0	214	28.8 -36.4	S 26 05.8	-06.5	19
20	120	53.9 +00.1	N 17 42.9	+00.6	74	25.6 -00.6	N 26 04.9	+00.0	228	52.4 -36.4	S 25 59.3	-06.6	20
21	135	54.0 +00.0	N 17 43.5	+00.7	89	25.0 -00.6	N 26 04.9	-00.1	243	16.0 -36.3	S 25 52.7	-06.8	21
22	150	54.0 +00.0	N 17 44.2	+00.6	104	24.4 -00.5	N 26 04.8	+00.0	257	39.7 -36.2	S 25 45.9	-07.0	22
23	165	54.0 +00.0	N 17 44.8	+00.7	119	23.9 -00.6	N 26 04.8	+00.0	272	03.5 -36.2	S 25 38.9	-07.2	23
	UT 02 06 10 14 18 22												
	SD 15'8 15'8 15'8 15'8 15'8 15'8												
	HP 00'1 00'1 00'1 00'1 00'1 00'1												
	SHA 313° 313° 313° 313° 313° 312°												
	Greenwich Culmination Time: 11:56												
					UT 02 06 10 14 18 22								
					SD 00'2 00'2 00'2 00'2 00'2 00'2								
					HP 00'2 00'2 00'2 00'2 00'2 00'2								
					SHA 267° 267° 267° 266° 266° 266°								
					Greenwich Culmination Time: 15:02								
									UT 02 06 10 14 18 22				
					SD 16'1 16'2 16'2 16'2 16'2 16'2								
					HP 59'3 59'3 59'3 59'3 59'3 59'3								
					SHA 072° 070° 067° 064° 062° 059°								
					Greenwich Culmination Time: 04:05								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	111	21.0 +00.9	N 22 57.7	-00.3	200	43.2 +01.9	N 09 55.6	+00.2	249	12.7 +02.4	S 10 39.0	-00.1	00
01	126	21.9 +01.0	N 22 57.4	-00.2	215	45.1 +02.0	N 09 55.8	+00.2	264	15.1 +02.3	S 10 38.9	+00.0	01
02	141	22.9 +01.0	N 22 57.2	-00.3	230	47.1 +01.9	N 09 56.0	+00.2	279	17.4 +02.3	S 10 38.9	-00.1	02
03	156	23.9 +01.0	N 22 56.9	-00.3	245	49.0 +01.9	N 09 56.2	+00.2	294	19.7 +02.3	S 10 38.8	+00.0	03
04	171	24.9 +00.9	N 22 56.6	-00.2	260	50.9 +01.9	N 09 56.4	+00.2	309	22.0 +02.3	S 10 38.8	-00.1	04
05	186	25.8 +01.0	N 22 56.4	-00.3	275	52.8 +01.9	N 09 56.6	+00.2	324	24.3 +02.4	S 10 38.7	+00.0	05
06	201	26.8 +01.0	N 22 56.1	-00.3	290	54.7 +01.9	N 09 56.8	+00.2	339	26.7 +02.3	S 10 38.7	-00.1	06
07	216	27.8 +01.0	N 22 55.8	-00.3	305	56.6 +01.9	N 09 57.0	+00.2	354	29.0 +02.3	S 10 38.6	+00.0	07
08	231	28.8 +00.9	N 22 55.5	-00.2	320	58.5 +01.9	N 09 57.2	+00.2	9	31.3 +02.3	S 10 38.6	-00.1	08
09	246	29.7 +01.0	N 22 55.3	-00.3	336	00.4 +01.9	N 09 57.4	+00.2	24	33.6 +02.3	S 10 38.5	+00.0	09
10	261	30.7 +01.0	N 22 55.0	-00.3	351	02.3 +02.0	N 09 57.6	+00.2	39	35.9 +02.3	S 10 38.5	-00.1	10
11	276	31.7 +01.0	N 22 54.7	-00.2	6	04.3 +01.9	N 09 57.8	+00.2	54	38.2 +02.4	S 10 38.4	+00.0	11
12	291	32.7 +00.9	N 22 54.5	-00.3	21	06.2 +01.9	N 09 58.0	+00.3	69	40.6 +02.3	S 10 38.4	-00.1	12
13	306	33.6 +01.0	N 22 54.2	-00.3	36	08.1 +01.9	N 09 58.3	+00.2	84	42.9 +02.3	S 10 38.3	+00.0	13
14	321	34.6 +01.0	N 22 53.9	-00.3	51	10.0 +01.9	N 09 58.5	+00.2	99	45.2 +02.3	S 10 38.3	-00.1	14
15	336	35.6 +01.0	N 22 53.6	-00.2	66	11.9 +01.9	N 09 58.7	+00.2	114	47.5 +02.3	S 10 38.2	+00.0	15
16	351	36.6 +00.9	N 22 53.4	-00.3	81	13.8 +01.9	N 09 58.9	+00.2	129	49.8 +02.4	S 10 38.2	-00.1	16
17	6	37.5 +01.0	N 22 53.1	-00.3	96	15.7 +01.9	N 09 59.1	+00.2	144	52.2 +02.3	S 10 38.1	+00.0	17
18	21	38.5 +01.0	N 22 52.8	-00.3	111	17.6 +02.0	N 09 59.3	+00.2	159	54.5 +02.3	S 10 38.1	-00.1	18
19	36	39.5 +01.0	N 22 52.5	-00.2	126	19.6 +01.9	N 09 59.5	+00.2	174	56.8 +02.3	S 10 38.0	+00.0	19
20	51	40.5 +00.9	N 22 52.3	-00.3	141	21.5 +01.9	N 09 59.7	+00.2	189	59.1 +02.3	S 10 38.0	+00.0	20
21	66	41.4 +01.0	N 22 52.0	-00.3	156	23.4 +01.9	N 09 59.9	+00.2	205	01.4 +02.4	S 10 38.0	-00.1	21
22	81	42.4 +01.0	N 22 51.7	-00.2	171	25.3 +01.9	N 10 00.1	+00.2	220	03.8 +02.3	S 10 37.9	+00.0	22
23	96	43.4 +00.9	N 22 51.5	-00.3	186	27.2 +01.9	N 10 00.3	+00.2	235	06.1 +02.3	S 10 37.9	-00.1	23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 244° 244° 244° 243° 243° 243°				SHA 333° 333° 333° 333° 333° 333°				SHA 022° 022° 022° 022° 022° 022°				
	Greenwich Culmination Time: 16:33								Greenwich Culmination Time: 07:22				

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UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 54.0 +00.0	N 17 45.5 +00.6	134 23.3 -00.5	N 26 04.8 +00.0	286 27.3 -36.0	S 25 31.7 -07.3	00						
01	195 54.0 +00.1	N 17 46.1 +00.7	149 22.8 -00.6	N 26 04.8 -00.1	300 51.3 -36.0	S 25 24.4 -07.6	01						
02	210 54.1 +00.0	N 17 46.8 +00.6	164 22.2 -00.5	N 26 04.7 +00.0	315 15.3 -36.0	S 25 16.8 -07.6	02						
03	225 54.1 +00.0	N 17 47.4 +00.7	179 21.7 -00.6	N 26 04.7 +00.0	329 39.3 -35.8	S 25 09.2 -07.9	03						
04	240 54.1 +00.0	N 17 48.1 +00.6	194 21.1 -00.6	N 26 04.7 -00.1	344 03.5 -35.7	S 25 01.3 -07.9	04						
05	255 54.1 +00.0	N 17 48.7 +00.7	209 20.5 -00.5	N 26 04.6 +00.0	358 27.8 -35.7	S 24 53.4 -08.2	05						
06	270 54.1 +00.1	N 17 49.4 +00.6	224 20.0 -00.6	N 26 04.6 +00.0	12 52.1 -35.6	S 24 45.2 -08.3	06						
07	285 54.2 +00.0	N 17 50.0 +00.6	239 19.4 -00.5	N 26 04.6 -00.1	27 16.5 -35.5	S 24 36.9 -08.5	07						
08	300 54.2 +00.0	N 17 50.6 +00.7	254 18.9 -00.6	N 26 04.5 +00.0	41 41.0 -35.4	S 24 28.4 -08.6	08						
09	315 54.2 +00.0	N 17 51.3 +00.6	269 18.3 -00.5	N 26 04.5 +00.0	56 05.6 -35.3	S 24 19.8 -08.8	09						
10	330 54.2 +00.0	N 17 51.9 +00.7	284 17.8 -00.6	N 26 04.5 -00.1	70 30.3 -35.2	S 24 11.0 -09.0	10						
11	345 54.2 +00.0	N 17 52.6 +00.6	299 17.2 -00.5	N 26 04.4 +00.0	84 55.1 -35.1	S 24 02.0 -09.1	11						
12	0 54.2 +00.1	N 17 53.2 +00.7	314 16.7 -00.6	N 26 04.4 -00.1	99 20.0 -35.1	S 23 52.9 -09.2	12						
13	15 54.3 +00.0	N 17 53.9 +00.6	329 16.1 -00.6	N 26 04.3 +00.0	113 44.9 -34.9	S 23 43.7 -09.4	13						
14	30 54.3 +00.0	N 17 54.5 +00.6	344 15.5 -00.5	N 26 04.3 -00.1	128 10.0 -34.9	S 23 34.3 -09.6	14						
15	45 54.3 +00.0	N 17 55.1 +00.7	359 15.0 -00.6	N 26 04.2 +00.0	142 35.1 -34.7	S 23 24.7 -09.6	15						
16	60 54.3 +00.0	N 17 55.8 +00.6	14 14.4 -00.5	N 26 04.2 -00.1	157 00.4 -34.7	S 23 15.1 -09.9	16						
17	75 54.3 +00.0	N 17 56.4 +00.7	29 13.9 -00.6	N 26 04.1 +00.0	171 25.7 -34.6	S 23 05.2 -10.0	17						
18	90 54.3 +00.1	N 17 57.1 +00.6	44 13.3 -00.5	N 26 04.1 -00.1	185 51.1 -34.4	S 22 55.2 -10.1	18						
19	105 54.4 +00.0	N 17 57.7 +00.6	59 12.8 -00.6	N 26 04.0 +00.0	200 16.7 -34.4	S 22 45.1 -10.2	19						
20	120 54.4 +00.0	N 17 58.3 +00.7	74 12.2 -00.5	N 26 04.0 -00.1	214 42.3 -34.3	S 22 34.9 -10.5	20						
21	135 54.4 +00.0	N 17 59.0 +00.6	89 11.7 -00.6	N 26 03.9 +00.0	229 08.0 -34.2	S 22 24.4 -10.5	21						
22	150 54.4 +00.0	N 17 59.6 +00.6	104 11.1 -00.5	N 26 03.9 -00.1	243 33.8 -34.1	S 22 13.9 -10.7	22						
23	165 54.4 +00.0	N 18 00.2 +00.7	119 10.6 -00.6	N 26 03.8 +00.0	257 59.7 -34.0	S 22 03.2 -10.8	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'2 16'2 16'2 16'2 16'2 16'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 59'3 59'3 59'3 59'3 59'3 59'3								
	SHA 312° 312° 312° 312° 312° 311°		SHA 266° 266° 265° 265° 265° 265°		SHA 057° 054° 052° 049° 047° 044°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 15:03		Greenwich Culmination Time: 05:06								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	111 44.3 +01.0	N 22 51.2 -00.3	201 29.1 +01.9	N 10 00.5 +00.2	250 08.4 +02.3	S 10 37.8 +00.0	00						
01	126 45.3 +01.0	N 22 50.9 -00.3	216 31.0 +01.9	N 10 00.7 +00.2	265 10.7 +02.4	S 10 37.8 -00.1	01						
02	141 46.3 +01.0	N 22 50.6 -00.2	231 32.9 +01.9	N 10 00.9 +00.2	280 13.1 +02.3	S 10 37.7 +00.0	02						
03	156 47.3 +00.9	N 22 50.4 -00.3	246 34.8 +02.0	N 10 01.1 +00.2	295 15.4 +02.3	S 10 37.7 -00.1	03						
04	171 48.2 +01.0	N 22 50.1 -00.3	261 36.8 +01.9	N 10 01.3 +00.2	310 17.7 +02.3	S 10 37.6 +00.0	04						
05	186 49.2 +01.0	N 22 49.8 -00.3	276 38.7 +01.9	N 10 01.5 +00.2	325 20.0 +02.3	S 10 37.6 -00.1	05						
06	201 50.2 +01.0	N 22 49.5 -00.3	291 40.6 +01.9	N 10 01.7 +00.2	340 22.3 +02.4	S 10 37.5 +00.0	06						
07	216 51.2 +00.9	N 22 49.2 -00.2	306 42.5 +01.9	N 10 01.9 +00.2	355 24.7 +02.3	S 10 37.5 -00.1	07						
08	231 52.1 +01.0	N 22 49.0 -00.3	321 44.4 +01.9	N 10 02.1 +00.2	10 27.0 +02.3	S 10 37.4 +00.0	08						
09	246 53.1 +01.0	N 22 48.7 -00.3	336 46.3 +01.9	N 10 02.3 +00.2	25 29.3 +02.3	S 10 37.4 -00.1	09						
10	261 54.1 +01.0	N 22 48.4 -00.3	351 48.2 +01.9	N 10 02.5 +00.3	40 31.6 +02.3	S 10 37.3 +00.0	10						
11	276 55.1 +00.9	N 22 48.1 -00.2	6 50.1 +02.0	N 10 02.8 +00.2	55 33.9 +02.4	S 10 37.3 +00.0	11						
12	291 56.0 +01.0	N 22 47.9 -00.3	21 52.1 +01.9	N 10 03.0 +00.2	70 36.3 +02.3	S 10 37.3 -00.1	12						
13	306 57.0 +01.0	N 22 47.6 -00.3	36 54.0 +01.9	N 10 03.2 +00.2	85 38.6 +02.3	S 10 37.2 +00.0	13						
14	321 58.0 +01.0	N 22 47.3 -00.3	51 55.9 +01.9	N 10 03.4 +00.2	100 40.9 +02.3	S 10 37.2 -00.1	14						
15	336 59.0 +00.9	N 22 47.0 -00.2	66 57.8 +01.9	N 10 03.6 +00.2	115 43.2 +02.4	S 10 37.1 +00.0	15						
16	351 59.9 +01.0	N 22 46.8 -00.3	81 59.7 +01.9	N 10 03.8 +00.2	130 45.6 +02.3	S 10 37.1 -00.1	16						
17	7 00.9 +01.0	N 22 46.5 -00.3	97 01.6 +01.9	N 10 04.0 +00.2	145 47.9 +02.3	S 10 37.0 +00.0	17						
18	22 01.9 +00.9	N 22 46.2 -00.3	112 03.5 +02.0	N 10 04.2 +00.2	160 50.2 +02.3	S 10 37.0 -00.1	18						
19	37 02.8 +01.0	N 22 45.9 -00.3	127 05.5 +01.9	N 10 04.4 +00.2	175 52.5 +02.4	S 10 36.9 +00.0	19						
20	52 03.8 +01.0	N 22 45.6 -00.2	142 07.4 +01.9	N 10 04.6 +00.2	190 54.9 +02.3	S 10 36.9 -00.1	20						
21	67 04.8 +01.0	N 22 45.4 -00.3	157 09.3 +01.9	N 10 04.8 +00.2	205 57.2 +02.3	S 10 36.8 +00.0	21						
22	82 05.8 +00.9	N 22 45.1 -00.3	172 11.2 +01.9	N 10 05.0 +00.2	220 59.5 +02.3	S 10 36.8 -00.1	22						
23	97 06.7 +01.0	N 22 44.8 -00.3	187 13.1 +01.9	N 10 05.2 +00.2	236 01.8 +02.4	S 10 36.7 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 243° 243° 243° 243° 243° 243°		SHA 333° 333° 333° 333° 333° 333°		SHA 022° 022° 022° 022° 022° 022°								
	Greenwich Culmination Time: 16:31		Greenwich Culmination Time: 10:32		Greenwich Culmination Time: 07:18								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 54.4 +00.0	N 18 00.9 +00.6	134 10.0 -00.5	N 26 03.8 -00.1	272 25.7 -33.9	S 21 52.4 -10.9	00						
01	195 54.4 +00.1	N 18 01.5 +00.6	149 09.5 -00.6	N 26 03.7 +00.0	286 51.8 -33.8	S 21 41.5 -11.1	01						
02	210 54.5 +00.0	N 18 02.1 +00.7	164 08.9 -00.5	N 26 03.7 -00.1	301 18.0 -33.7	S 21 30.4 -11.2	02						
03	225 54.5 +00.0	N 18 02.8 +00.6	179 08.4 -00.5	N 26 03.6 +00.0	315 44.3 -33.6	S 21 19.2 -11.3	03						
04	240 54.5 +00.0	N 18 03.4 +00.6	194 07.9 -00.6	N 26 03.6 -00.1	330 10.7 -33.5	S 21 07.9 -11.5	04						
05	255 54.5 +00.0	N 18 04.0 +00.7	209 07.3 -00.5	N 26 03.5 -00.1	344 37.2 -33.4	S 20 56.4 -11.5	05						
06	270 54.5 +00.0	N 18 04.7 +00.6	224 06.8 -00.6	N 26 03.4 +00.0	359 03.8 -33.3	S 20 44.9 -11.7	06						
07	285 54.5 +00.0	N 18 05.3 +00.6	239 06.2 -00.5	N 26 03.4 -00.1	13 30.5 -33.3	S 20 33.2 -11.8	07						
08	300 54.5 +00.0	N 18 05.9 +00.7	254 05.7 -00.6	N 26 03.3 -00.1	27 57.2 -33.1	S 20 21.4 -12.0	08						
09	315 54.5 +00.1	N 18 06.6 +00.6	269 05.1 -00.5	N 26 03.2 +00.0	42 24.1 -33.0	S 20 09.4 -12.0	09						
10	330 54.6 +00.0	N 18 07.2 +00.6	284 04.6 -00.6	N 26 03.2 -00.1	56 51.1 -32.9	S 19 57.4 -12.2	10						
11	345 54.6 +00.0	N 18 07.8 +00.7	299 04.0 -00.5	N 26 03.1 -00.1	71 18.2 -32.9	S 19 45.2 -12.3	11						
12	0 54.6 +00.0	N 18 08.5 +00.6	314 03.5 -00.5	N 26 03.0 +00.0	85 45.3 -32.7	S 19 32.9 -12.4	12						
13	15 54.6 +00.0	N 18 09.1 +00.6	329 03.0 -00.6	N 26 03.0 -00.1	100 12.6 -32.7	S 19 20.5 -12.5	13						
14	30 54.6 +00.0	N 18 09.7 +00.6	344 02.4 -00.5	N 26 02.9 -00.1	114 39.9 -32.5	S 19 08.0 -12.6	14						
15	45 54.6 +00.0	N 18 10.3 +00.7	359 01.9 -00.6	N 26 02.8 +00.0	129 07.4 -32.5	S 18 55.4 -12.7	15						
16	60 54.6 +00.0	N 18 11.0 +00.6	14 01.3 -00.5	N 26 02.8 -00.1	143 34.9 -32.3	S 18 42.7 -12.8	16						
17	75 54.6 +00.0	N 18 11.6 +00.6	29 00.8 -00.5	N 26 02.7 -00.1	158 02.6 -32.3	S 18 29.9 -13.0	17						
18	90 54.6 +00.0	N 18 12.2 +00.7	44 00.3 -00.6	N 26 02.6 -00.1	172 30.3 -32.2	S 18 16.9 -13.0	18						
19	105 54.6 +00.1	N 18 12.9 +00.6	58 59.7 -00.5	N 26 02.5 +00.0	186 58.1 -32.1	S 18 03.9 -13.1	19						
20	120 54.7 +00.0	N 18 13.5 +00.6	73 59.2 -00.6	N 26 02.5 -00.1	201 26.0 -32.0	S 17 50.8 -13.2	20						
21	135 54.7 +00.0	N 18 14.1 +00.6	88 58.6 -00.5	N 26 02.4 -00.1	215 54.0 -31.9	S 17 37.6 -13.4	21						
22	150 54.7 +00.0	N 18 14.7 +00.7	103 58.1 -00.5	N 26 02.3 -00.1	230 22.1 -31.8	S 17 24.2 -13.4	22						
23	165 54.7 +00.0	N 18 15.4 +00.6	118 57.6 -00.6	N 26 02.2 -00.1	244 50.3 -31.7	S 17 10.8 -13.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'2 16'2 16'1 16'1 16'1 16'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 59'3 59'3 59'3 59'3 59'2 59'2								
	SHA 311° 311° 311° 311° 311° 310°		SHA 265° 264° 264° 264° 264° 264°		SHA 042° 039° 037° 035° 032° 030°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 15:03		Greenwich Culmination Time: 06:03								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	112 07.7 +01.0	N 22 44.5 -00.3	202 15.0 +01.9	N 10 05.4 +00.2	251 04.2 +02.3	S 10 36.7 +00.0	00						
01	127 08.7 +01.0	N 22 44.2 -00.2	217 16.9 +01.9	N 10 05.6 +00.2	266 06.5 +02.3	S 10 36.7 -00.1	01						
02	142 09.7 +00.9	N 22 44.0 -00.3	232 18.8 +02.0	N 10 05.8 +00.2	281 08.8 +02.3	S 10 36.6 +00.0	02						
03	157 10.6 +01.0	N 22 43.7 -00.3	247 20.8 +01.9	N 10 06.0 +00.2	296 11.1 +02.4	S 10 36.6 -00.1	03						
04	172 11.6 +01.0	N 22 43.4 -00.3	262 22.7 +01.9	N 10 06.2 +00.2	311 13.5 +02.3	S 10 36.5 +00.0	04						
05	187 12.6 +01.0	N 22 43.1 -00.3	277 24.6 +01.9	N 10 06.4 +00.2	326 15.8 +02.3	S 10 36.5 -00.1	05						
06	202 13.6 +00.9	N 22 42.8 -00.2	292 26.5 +01.9	N 10 06.6 +00.2	341 18.1 +02.3	S 10 36.4 +00.0	06						
07	217 14.5 +01.0	N 22 42.6 -00.3	307 28.4 +01.9	N 10 06.8 +00.2	356 20.4 +02.4	S 10 36.4 -00.1	07						
08	232 15.5 +01.0	N 22 42.3 -00.3	322 30.3 +01.9	N 10 07.0 +00.2	11 22.8 +02.3	S 10 36.3 +00.0	08						
09	247 16.5 +00.9	N 22 42.0 -00.3	337 32.2 +02.0	N 10 07.2 +00.2	26 25.1 +02.3	S 10 36.3 -00.1	09						
10	262 17.4 +01.0	N 22 41.7 -00.3	352 34.2 +01.9	N 10 07.4 +00.2	41 27.4 +02.3	S 10 36.2 +00.0	10						
11	277 18.4 +01.0	N 22 41.4 -00.3	7 36.1 +01.9	N 10 07.6 +00.2	56 29.7 +02.4	S 10 36.2 +00.0	11						
12	292 19.4 +01.0	N 22 41.1 -00.2	22 38.0 +01.9	N 10 07.8 +00.2	71 32.1 +02.3	S 10 36.2 -00.1	12						
13	307 20.4 +00.9	N 22 40.9 -00.3	37 39.9 +01.9	N 10 08.0 +00.2	86 34.4 +02.3	S 10 36.1 +00.0	13						
14	322 21.3 +01.0	N 22 40.6 -00.3	52 41.8 +01.9	N 10 08.2 +00.2	101 36.7 +02.3	S 10 36.1 -00.1	14						
15	337 22.3 +01.0	N 22 40.3 -00.3	67 43.7 +01.9	N 10 08.4 +00.2	116 39.0 +02.4	S 10 36.0 +00.0	15						
16	352 23.3 +01.0	N 22 40.0 -00.3	82 45.6 +02.0	N 10 08.6 +00.3	131 41.4 +02.3	S 10 36.0 -00.1	16						
17	7 24.3 +00.9	N 22 39.7 -00.3	97 47.6 +01.9	N 10 08.9 +00.2	146 43.7 +02.3	S 10 35.9 +00.0	17						
18	22 25.2 +01.0	N 22 39.4 -00.2	112 49.5 +01.9	N 10 09.1 +00.2	161 46.0 +02.3	S 10 35.9 -00.1	18						
19	37 26.2 +01.0	N 22 39.2 -00.3	127 51.4 +01.9	N 10 09.3 +00.2	176 48.3 +02.4	S 10 35.8 +00.0	19						
20	52 27.2 +01.0	N 22 38.9 -00.3	142 53.3 +01.9	N 10 09.5 +00.2	191 50.7 +02.3	S 10 35.8 +00.0	20						
21	67 28.2 +00.9	N 22 38.6 -00.3	157 55.2 +01.9	N 10 09.7 +00.2	206 53.0 +02.3	S 10 35.8 -00.1	21						
22	82 29.1 +01.0	N 22 38.3 -00.3	172 57.1 +01.9	N 10 09.9 +00.2	221 55.3 +02.4	S 10 35.7 +00.0	22						
23	97 30.1 +01.0	N 22 38.0 -00.3	187 59.0 +02.0	N 10 10.1 +00.2	236 57.7 +02.3	S 10 35.7 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 243° 242° 242° 242° 242° 242°		SHA 333° 333° 333° 333° 333° 333°		SHA 022° 022° 022° 022° 022° 022°								
	Greenwich Culmination Time: 16:30		Greenwich Culmination Time: 10:29		Greenwich Culmination Time: 07:14								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 54.7 +00.0	N 18 16.0 +00.6	133 57.0 -00.5	N 26 02.1 +00.0	259 18.6 -31.6	S 16 57.3 -13.6	00						
01	195 54.7 +00.0	N 18 16.6 +00.6	148 56.5 -00.5	N 26 02.1 -00.1	273 47.0 -31.6	S 16 43.7 -13.7	01						
02	210 54.7 +00.0	N 18 17.2 +00.6	163 56.0 -00.6	N 26 02.0 -00.1	288 15.4 -31.4	S 16 30.0 -13.8	02						
03	225 54.7 +00.0	N 18 17.8 +00.7	178 55.4 -00.5	N 26 01.9 -00.1	302 44.0 -31.4	S 16 16.2 -13.9	03						
04	240 54.7 +00.0	N 18 18.5 +00.6	193 54.9 -00.5	N 26 01.8 -00.1	317 12.6 -31.3	S 16 02.3 -13.9	04						
05	255 54.7 +00.0	N 18 19.1 +00.6	208 54.4 -00.6	N 26 01.7 -00.1	331 41.3 -31.2	S 15 48.4 -14.1	05						
06	270 54.7 +00.0	N 18 19.7 +00.6	223 53.8 -00.5	N 26 01.6 -00.1	346 10.1 -31.1	S 15 34.3 -14.1	06						
07	285 54.7 +00.0	N 18 20.3 +00.6	238 53.3 -00.5	N 26 01.5 -00.1	0 39.0 -31.0	S 15 20.2 -14.2	07						
08	300 54.7 +00.0	N 18 20.9 +00.7	253 52.8 -00.6	N 26 01.4 +00.0	15 08.0 -31.0	S 15 06.0 -14.3	08						
09	315 54.7 +00.1	N 18 21.6 +00.6	268 52.2 -00.5	N 26 01.4 -00.1	29 37.0 -30.8	S 14 51.7 -14.3	09						
10	330 54.8 +00.0	N 18 22.2 +00.6	283 51.7 -00.5	N 26 01.3 -00.1	44 06.2 -30.8	S 14 37.4 -14.5	10						
11	345 54.8 +00.0	N 18 22.8 +00.6	298 51.2 -00.6	N 26 01.2 -00.1	58 35.4 -30.7	S 14 22.9 -14.5	11						
12	0 54.8 +00.0	N 18 23.4 +00.6	313 50.6 -00.5	N 26 01.1 -00.1	73 04.7 -30.6	S 14 08.4 -14.5	12						
13	15 54.8 +00.0	N 18 24.0 +00.6	328 50.1 -00.5	N 26 01.0 -00.1	87 34.1 -30.6	S 13 53.9 -14.7	13						
14	30 54.8 +00.0	N 18 24.6 +00.7	343 49.6 -00.5	N 26 00.9 -00.1	102 03.5 -30.5	S 13 39.2 -14.7	14						
15	45 54.8 +00.0	N 18 25.3 +00.6	358 49.1 -00.6	N 26 00.8 -00.1	116 33.0 -30.4	S 13 24.5 -14.8	15						
16	60 54.8 +00.0	N 18 25.9 +00.6	13 48.5 -00.5	N 26 00.7 -00.1	131 02.6 -30.3	S 13 09.7 -14.9	16						
17	75 54.8 +00.0	N 18 26.5 +00.6	28 48.0 -00.5	N 26 00.6 -00.1	145 32.3 -30.3	S 12 54.8 -14.9	17						
18	90 54.8 +00.0	N 18 27.1 +00.6	43 47.5 -00.5	N 26 00.5 -00.1	160 02.0 -30.1	S 12 39.9 -15.0	18						
19	105 54.8 +00.0	N 18 27.7 +00.6	58 47.0 -00.6	N 26 00.4 -00.1	174 31.9 -30.1	S 12 24.9 -15.0	19						
20	120 54.8 +00.0	N 18 28.3 +00.6	73 46.4 -00.5	N 26 00.3 -00.1	189 01.8 -30.1	S 12 09.9 -15.1	20						
21	135 54.8 +00.0	N 18 28.9 +00.6	88 45.9 -00.5	N 26 00.2 -00.1	203 31.7 -29.9	S 11 54.8 -15.1	21						
22	150 54.8 +00.0	N 18 29.5 +00.7	103 45.4 -00.5	N 26 00.1 -00.1	218 01.8 -29.9	S 11 39.7 -15.3	22						
23	165 54.8 +00.0	N 18 30.2 +00.6	118 44.9 -00.6	N 25 60.0 -00.1	232 31.9 -29.9	S 11 24.4 -15.2	23						
UT	02 06 10 14 18 22	UT	02 06 10 14 18 22	UT	02 06 10 14 18 22								
SD	15'8 15'8 15'8 15'8 15'8 15'8	SD	00'2 00'2 00'2 00'2 00'2 00'2	SD	16'1 16'1 16'1 16'1 16'1 16'1								
HP	00'1 00'1 00'1 00'1 00'1 00'1	HP	00'2 00'2 00'2 00'2 00'2 00'2	HP	59'2 59'2 59'1 59'1 59'1 59'0								
SHA	310° 310° 310° 310° 310° 310°	SHA	263° 263° 263° 263° 263° 262°	SHA	028° 025° 023° 021° 019° 017°								
Greenwich Culmination Time: 11:56			Greenwich Culmination Time: 15:04			Greenwich Culmination Time: 06:57							

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	112 31.1 +00.9	N 22 37.7 -00.3	203 01.0 +01.9	N 10 10.3 +00.2	251 60.0 +02.3	S 10 35.6 +00.0	00						
01	127 32.0 +01.0	N 22 37.4 -00.2	218 02.9 +01.9	N 10 10.5 +00.2	267 02.3 +02.3	S 10 35.6 -00.1	01						
02	142 33.0 +01.0	N 22 37.2 -00.3	233 04.8 +01.9	N 10 10.7 +00.2	282 04.6 +02.4	S 10 35.5 +00.0	02						
03	157 34.0 +01.0	N 22 36.9 -00.3	248 06.7 +01.9	N 10 10.9 +00.2	297 07.0 +02.3	S 10 35.5 -00.1	03						
04	172 35.0 +00.9	N 22 36.6 -00.3	263 08.6 +01.9	N 10 11.1 +00.2	312 09.3 +02.3	S 10 35.4 +00.0	04						
05	187 35.9 +01.0	N 22 36.3 -00.3	278 10.5 +01.9	N 10 11.3 +00.2	327 11.6 +02.3	S 10 35.4 +00.0	05						
06	202 36.9 +01.0	N 22 36.0 -00.3	293 12.4 +02.0	N 10 11.5 +00.2	342 13.9 +02.4	S 10 35.4 -00.1	06						
07	217 37.9 +01.0	N 22 35.7 -00.3	308 14.4 +01.9	N 10 11.7 +00.2	357 16.3 +02.3	S 10 35.3 +00.0	07						
08	232 38.9 +00.9	N 22 35.4 -00.2	323 16.3 +01.9	N 10 11.9 +00.2	12 18.6 +02.3	S 10 35.3 -00.1	08						
09	247 39.8 +01.0	N 22 35.2 -00.3	338 18.2 +01.9	N 10 12.1 +00.2	27 20.9 +02.4	S 10 35.2 +00.0	09						
10	262 40.8 +01.0	N 22 34.9 -00.3	353 20.1 +01.9	N 10 12.3 +00.2	42 23.3 +02.3	S 10 35.2 -00.1	10						
11	277 41.8 +00.9	N 22 34.6 -00.3	8 22.0 +01.9	N 10 12.5 +00.2	57 25.6 +02.3	S 10 35.1 +00.0	11						
12	292 42.7 +01.0	N 22 34.3 -00.3	23 23.9 +01.9	N 10 12.7 +00.2	72 27.9 +02.4	S 10 35.1 -00.1	12						
13	307 43.7 +01.0	N 22 34.0 -00.3	38 25.8 +02.0	N 10 12.9 +00.2	87 30.3 +02.3	S 10 35.0 +00.0	13						
14	322 44.7 +01.0	N 22 33.7 -00.3	53 27.8 +01.9	N 10 13.1 +00.2	102 32.6 +02.3	S 10 35.0 +00.0	14						
15	337 45.7 +00.9	N 22 33.4 -00.3	68 29.7 +01.9	N 10 13.3 +00.2	117 34.9 +02.3	S 10 35.0 -00.1	15						
16	352 46.6 +01.0	N 22 33.1 -00.3	83 31.6 +01.9	N 10 13.5 +00.2	132 37.2 +02.4	S 10 34.9 +00.0	16						
17	7 47.6 +01.0	N 22 32.8 -00.2	98 33.5 +01.9	N 10 13.7 +00.2	147 39.6 +02.3	S 10 34.9 -00.1	17						
18	22 48.6 +01.0	N 22 32.6 -00.3	113 35.4 +01.9	N 10 13.9 +00.2	162 41.9 +02.3	S 10 34.8 +00.0	18						
19	37 49.6 +00.9	N 22 32.3 -00.3	128 37.3 +02.0	N 10 14.1 +00.2	177 44.2 +02.4	S 10 34.8 -00.1	19						
20	52 50.5 +01.0	N 22 32.0 -00.3	143 39.3 +01.9	N 10 14.3 +00.2	192 46.6 +02.3	S 10 34.7 +00.0	20						
21	67 51.5 +01.0	N 22 31.7 -00.3	158 41.2 +01.9	N 10 14.5 +00.2	207 48.9 +02.3	S 10 34.7 +00.0	21						
22	82 52.5 +00.9	N 22 31.4 -00.3	173 43.1 +01.9	N 10 14.7 +00.2	222 51.2 +02.4	S 10 34.7 -00.1	22						
23	97 53.4 +01.0	N 22 31.1 -00.3	188 45.0 +01.9	N 10 14.9 +00.2	237 53.6 +02.3	S 10 34.6 +00.0	23						
UT	02 06 10 14 18 22	UT	02 06 10 14 18 22	UT	02 06 10 14 18 22								
SD	00'0 00'0 00'0 00'0 00'0 00'0	SD	00'3 00'3 00'3 00'3 00'3 00'3	SD	00'1 00'1 00'1 00'1 00'1 00'1								
HP	00'1 00'1 00'1 00'1 00'1 00'1	HP	00'0 00'0 00'0 00'0 00'0 00'0	HP	00'0 00'0 00'0 00'0 00'0 00'0								
SHA	242° 242° 242° 242° 242° 241°	SHA	333° 332° 332° 332° 332° 332°	SHA	022° 021° 021° 021° 021° 021°								
Greenwich Culmination Time: 16:28			Greenwich Culmination Time: 10:26			Greenwich Culmination Time: 07:10							

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 54.8 +00.0	N 18 30.8 +00.6	133 44.3 -00.5	N 25 59.9 -00.2	247 02.0 -29.8	S 11 09.2 -15.4	00						
01	195 54.8 +00.0	N 18 31.4 +00.6	148 43.8 -00.5	N 25 59.7 -00.1	261 32.2 -29.7	S 10 53.8 -15.3	01						
02	210 54.8 +00.0	N 18 32.0 +00.6	163 43.3 -00.5	N 25 59.6 -00.1	276 02.5 -29.6	S 10 38.5 -15.4	02						
03	225 54.8 +00.0	N 18 32.6 +00.6	178 42.8 -00.6	N 25 59.5 -00.1	290 32.9 -29.6	S 10 23.1 -15.5	03						
04	240 54.8 +00.0	N 18 33.2 +00.6	193 42.2 -00.5	N 25 59.4 -00.1	305 03.3 -29.5	S 10 07.6 -15.5	04						
05	255 54.8 +00.0	N 18 33.8 +00.6	208 41.7 -00.5	N 25 59.3 -00.1	319 33.8 -29.5	S 09 52.1 -15.6	05						
06	270 54.8 +00.0	N 18 34.4 +00.6	223 41.2 -00.5	N 25 59.2 -00.1	334 04.3 -29.4	S 09 36.5 -15.6	06						
07	285 54.8 +00.0	N 18 35.0 +00.6	238 40.7 -00.5	N 25 59.1 -00.2	348 34.9 -29.3	S 09 20.9 -15.7	07						
08	300 54.8 +00.0	N 18 35.6 +00.6	253 40.2 -00.6	N 25 58.9 -00.1	3 05.6 -29.3	S 09 05.2 -15.7	08						
09	315 54.8 +00.0	N 18 36.2 +00.6	268 39.6 -00.5	N 25 58.8 -00.1	17 36.3 -29.2	S 08 49.5 -15.7	09						
10	330 54.8 +00.0	N 18 36.8 +00.6	283 39.1 -00.5	N 25 58.7 -00.1	32 07.1 -29.2	S 08 33.8 -15.8	10						
11	345 54.8 +00.0	N 18 37.4 +00.6	298 38.6 -00.5	N 25 58.6 -00.1	46 37.9 -29.1	S 08 18.0 -15.8	11						
12	0 54.8 +00.0	N 18 38.0 +00.6	313 38.1 -00.5	N 25 58.5 -00.2	61 08.8 -29.1	S 08 02.2 -15.8	12						
13	15 54.8 +00.0	N 18 38.6 +00.6	328 37.6 -00.5	N 25 58.3 -00.1	75 39.7 -29.0	S 07 46.4 -15.9	13						
14	30 54.8 +00.0	N 18 39.2 +00.7	343 37.1 -00.6	N 25 58.2 -00.1	90 10.7 -29.0	S 07 30.5 -15.9	14						
15	45 54.8 +00.0	N 18 39.9 +00.6	358 36.5 -00.5	N 25 58.1 -00.1	104 41.7 -29.0	S 07 14.6 -15.9	15						
16	60 54.8 +00.0	N 18 40.5 +00.6	13 36.0 -00.5	N 25 58.0 -00.1	119 12.7 -28.8	S 06 58.7 -16.0	16						
17	75 54.8 +00.0	N 18 41.1 +00.6	28 35.5 -00.5	N 25 57.9 -00.2	133 43.9 -28.9	S 06 42.7 -16.0	17						
18	90 54.8 +00.0	N 18 41.7 +00.6	43 35.0 -00.5	N 25 57.7 -00.1	148 15.0 -28.8	S 06 26.7 -16.0	18						
19	105 54.8 +00.0	N 18 42.3 +00.6	58 34.5 -00.5	N 25 57.6 -00.1	162 46.2 -28.7	S 06 10.7 -16.1	19						
20	120 54.8 +00.0	N 18 42.9 +00.6	73 34.0 -00.5	N 25 57.5 -00.2	177 17.5 -28.8	S 05 54.6 -16.0	20						
21	135 54.8 +00.0	N 18 43.5 +00.5	88 33.5 -00.5	N 25 57.3 -00.1	191 48.7 -28.6	S 05 38.6 -16.1	21						
22	150 54.8 +00.0	N 18 44.0 +00.6	103 33.0 -00.5	N 25 57.2 -00.1	206 20.1 -28.7	S 05 22.5 -16.1	22						
23	165 54.8 +00.0	N 18 44.6 +00.6	118 32.5 -00.6	N 25 57.1 -00.2	220 51.4 -28.6	S 05 06.4 -16.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'1 16'1 16'1 16'0 16'0 16'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 59'0 59'0 58'9 58'9 58'8 58'8								
	SHA 309° 309° 309° 309° 309° 309°		SHA 262° 262° 262° 262° 261° 261°		SHA 014° 012° 010° 008° 006° 004°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 15:05		Greenwich Culmination Time: 07:47								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	112 54.4 +01.0	N 22 30.8 -00.3	203 46.9 +01.9	N 10 15.1 +00.2	252 55.9 +02.3	S 10 34.6 -00.1	00						
01	127 55.4 +01.0	N 22 30.5 -00.3	218 48.8 +01.9	N 10 15.3 +00.2	267 58.2 +02.3	S 10 34.5 +00.0	01						
02	142 56.4 +00.9	N 22 30.2 -00.3	233 50.7 +02.0	N 10 15.5 +00.2	283 00.5 +02.4	S 10 34.5 -00.1	02						
03	157 57.3 +01.0	N 22 29.9 -00.3	248 52.7 +01.9	N 10 15.7 +00.2	298 02.9 +02.3	S 10 34.4 +00.0	03						
04	172 58.3 +01.0	N 22 29.6 -00.2	263 54.6 +01.9	N 10 15.9 +00.2	313 05.2 +02.3	S 10 34.4 +00.0	04						
05	187 59.3 +01.0	N 22 29.4 -00.3	278 56.5 +01.9	N 10 16.1 +00.2	328 07.5 +02.4	S 10 34.4 -00.1	05						
06	203 00.3 +00.9	N 22 29.1 -00.3	293 58.4 +01.9	N 10 16.3 +00.2	343 09.9 +02.3	S 10 34.3 +00.0	06						
07	218 01.2 +01.0	N 22 28.8 -00.3	309 00.3 +01.9	N 10 16.5 +00.2	358 12.2 +02.3	S 10 34.3 -00.1	07						
08	233 02.2 +01.0	N 22 28.5 -00.3	324 02.2 +02.0	N 10 16.7 +00.2	13 14.5 +02.4	S 10 34.2 +00.0	08						
09	248 03.2 +00.9	N 22 28.2 -00.3	339 04.2 +01.9	N 10 16.9 +00.2	28 16.9 +02.3	S 10 34.2 -00.1	09						
10	263 04.1 +01.0	N 22 27.9 -00.3	354 06.1 +01.9	N 10 17.1 +00.2	43 19.2 +02.3	S 10 34.1 +00.0	10						
11	278 05.1 +01.0	N 22 27.6 -00.3	9 08.0 +01.9	N 10 17.3 +00.2	58 21.5 +02.4	S 10 34.1 +00.0	11						
12	293 06.1 +01.0	N 22 27.3 -00.3	24 09.9 +01.9	N 10 17.5 +00.2	73 23.9 +02.3	S 10 34.1 -00.1	12						
13	308 07.1 +00.9	N 22 27.0 -00.3	39 11.8 +01.9	N 10 17.7 +00.2	88 26.2 +02.3	S 10 34.0 +00.0	13						
14	323 08.0 +01.0	N 22 26.7 -00.3	54 13.7 +02.0	N 10 17.9 +00.2	103 28.5 +02.4	S 10 34.0 -00.1	14						
15	338 09.0 +01.0	N 22 26.4 -00.3	69 15.7 +01.9	N 10 18.1 +00.2	118 30.9 +02.3	S 10 33.9 +00.0	15						
16	353 10.0 +00.9	N 22 26.1 -00.3	84 17.6 +01.9	N 10 18.3 +00.2	133 33.2 +02.3	S 10 33.9 +00.0	16						
17	8 10.9 +01.0	N 22 25.8 -00.3	99 19.5 +01.9	N 10 18.5 +00.2	148 35.5 +02.4	S 10 33.9 -00.1	17						
18	23 11.9 +01.0	N 22 25.5 -00.3	114 21.4 +01.9	N 10 18.7 +00.2	163 37.9 +02.3	S 10 33.8 +00.0	18						
19	38 12.9 +01.0	N 22 25.2 -00.3	129 23.3 +01.9	N 10 18.9 +00.2	178 40.2 +02.3	S 10 33.8 -00.1	19						
20	53 13.9 +00.9	N 22 24.9 -00.3	144 25.2 +02.0	N 10 19.1 +00.2	193 42.5 +02.4	S 10 33.7 +00.0	20						
21	68 14.8 +01.0	N 22 24.6 -00.2	159 27.2 +01.9	N 10 19.3 +00.2	208 44.9 +02.3	S 10 33.7 -00.1	21						
22	83 15.8 +01.0	N 22 24.4 -00.3	174 29.1 +01.9	N 10 19.5 +00.2	223 47.2 +02.3	S 10 33.6 +00.0	22						
23	98 16.8 +01.0	N 22 24.1 -00.3	189 31.0 +01.9	N 10 19.7 +00.2	238 49.5 +02.4	S 10 33.6 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 241° 241° 241° 241° 241° 241°		SHA 332° 332° 332° 332° 332° 332°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 16:27		Greenwich Culmination Time: 10:23		Greenwich Culmination Time: 07:07								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 54.8 +00.0	N 18 45.2 +00.6	133 31.9 -00.5	N 25 56.9 -00.1	235 22.8 -28.5	S 04 50.2 -16.1	00						
01	195 54.8 +00.0	N 18 45.8 +00.6	148 31.4 -00.5	N 25 56.8 -00.1	249 54.3 -28.6	S 04 34.1 -16.2	01						
02	210 54.8 -00.1	N 18 46.4 +00.6	163 30.9 -00.5	N 25 56.7 -00.2	264 25.7 -28.5	S 04 17.9 -16.2	02						
03	225 54.7 +00.0	N 18 47.0 +00.6	178 30.4 -00.5	N 25 56.5 -00.1	278 57.2 -28.4	S 04 01.7 -16.2	03						
04	240 54.7 +00.0	N 18 47.6 +00.6	193 29.9 -00.5	N 25 56.4 -00.2	293 28.8 -28.5	S 03 45.5 -16.2	04						
05	255 54.7 +00.0	N 18 48.2 +00.6	208 29.4 -00.5	N 25 56.2 -00.1	308 00.3 -28.4	S 03 29.3 -16.2	05						
06	270 54.7 +00.0	N 18 48.8 +00.6	223 28.9 -00.5	N 25 56.1 -00.1	322 31.9 -28.3	S 03 13.1 -16.2	06						
07	285 54.7 +00.0	N 18 49.4 +00.6	238 28.4 -00.5	N 25 56.0 -00.2	337 03.6 -28.4	S 02 56.9 -16.2	07						
08	300 54.7 +00.0	N 18 50.0 +00.6	253 27.9 -00.5	N 25 55.8 -00.1	351 35.2 -28.3	S 02 40.7 -16.3	08						
09	315 54.7 +00.0	N 18 50.6 +00.6	268 27.4 -00.5	N 25 55.7 -00.2	6 06.9 -28.3	S 02 24.4 -16.2	09						
10	330 54.7 +00.0	N 18 51.2 +00.6	283 26.9 -00.5	N 25 55.5 -00.1	20 38.6 -28.3	S 02 08.2 -16.3	10						
11	345 54.7 +00.0	N 18 51.8 +00.6	298 26.4 -00.5	N 25 55.4 -00.2	35 10.3 -28.3	S 01 51.9 -16.2	11						
12	0 54.7 +00.0	N 18 52.4 +00.6	313 25.9 -00.5	N 25 55.2 -00.1	49 42.0 -28.2	S 01 35.7 -16.3	12						
13	15 54.7 +00.0	N 18 53.0 +00.5	328 25.4 -00.5	N 25 55.1 -00.2	64 13.8 -28.2	S 01 19.4 -16.2	13						
14	30 54.7 +00.0	N 18 53.5 +00.6	343 24.9 -00.5	N 25 54.9 -00.1	78 45.6 -28.2	S 01 03.2 -16.3	14						
15	45 54.7 +00.0	N 18 54.1 +00.6	358 24.4 -00.5	N 25 54.8 -00.2	93 17.4 -28.2	S 00 46.9 -16.2	15						
16	60 54.7 +00.0	N 18 54.7 +00.6	13 23.9 -00.5	N 25 54.6 -00.1	107 49.2 -28.2	S 00 30.7 -16.3	16						
17	75 54.7 -00.1	N 18 55.3 +00.6	28 23.4 -00.5	N 25 54.5 -00.2	122 21.0 -28.1	S 00 14.4 -16.2	17						
18	90 54.6 +00.0	N 18 55.9 +00.6	43 22.9 -00.5	N 25 54.3 -00.1	136 52.9 -28.2	N 00 01.8 +16.2	18						
19	105 54.6 +00.0	N 18 56.5 +00.6	58 22.4 -00.5	N 25 54.2 -00.2	151 24.7 -28.1	N 00 18.0 +16.3	19						
20	120 54.6 +00.0	N 18 57.1 +00.6	73 21.9 -00.5	N 25 54.0 -00.1	165 56.6 -28.1	N 00 34.3 +16.2	20						
21	135 54.6 +00.0	N 18 57.7 +00.5	88 21.4 -00.5	N 25 53.9 -00.2	180 28.5 -28.1	N 00 50.5 +16.2	21						
22	150 54.6 +00.0	N 18 58.2 +00.6	103 20.9 -00.5	N 25 53.7 -00.1	195 00.4 -28.1	N 01 06.7 +16.2	22						
23	165 54.6 +00.0	N 18 58.8 +00.6	118 20.4 -00.5	N 25 53.6 -00.2	209 32.3 -28.1	N 01 22.9 +16.1	23						
UT 02 06 10 14 18 22	SD 15'8 15'8 15'8 15'8 15'8 15'8	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 308° 308° 308° 308° 308° 308°	Greenwich Culmination Time: 11:56									
UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'2 00'2 00'2 00'2 00'2 00'2	SHA 261° 261° 261° 260° 260° 260°	Greenwich Culmination Time: 15:06									
UT 02 06 10 14 18 22	SD 16'0 16'0 16'0 16'0 15'9 15'9	HP 58'7 58'7 58'6 58'6 58'5 58'4	SHA 002° 360° 358° 356° 354° 352°	Greenwich Culmination Time: 08:34									

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	113 17.8 +00.9	N 22 23.8 -00.3	204 32.9 +01.9	N 10 19.9 +00.2	253 51.9 +02.3	S 10 33.6 -00.1	00						
01	128 18.7 +01.0	N 22 23.5 -00.3	219 34.8 +01.9	N 10 20.1 +00.2	268 54.2 +02.3	S 10 33.5 +00.0	01						
02	143 19.7 +01.0	N 22 23.2 -00.3	234 36.7 +02.0	N 10 20.3 +00.2	283 56.5 +02.4	S 10 33.5 -00.1	02						
03	158 20.7 +00.9	N 22 22.9 -00.3	249 38.7 +01.9	N 10 20.5 +00.2	298 58.9 +02.3	S 10 33.4 +00.0	03						
04	173 21.6 +01.0	N 22 22.6 -00.3	264 40.6 +01.9	N 10 20.7 +00.2	314 01.2 +02.3	S 10 33.4 +00.0	04						
05	188 22.6 +01.0	N 22 22.3 -00.3	279 42.5 +01.9	N 10 20.9 +00.2	329 03.5 +02.4	S 10 33.4 -00.1	05						
06	203 23.6 +01.0	N 22 22.0 -00.3	294 44.4 +01.9	N 10 21.1 +00.2	344 05.9 +02.3	S 10 33.3 +00.0	06						
07	218 24.6 +00.9	N 22 21.7 -00.3	309 46.3 +01.9	N 10 21.3 +00.2	359 08.2 +02.4	S 10 33.3 -00.1	07						
08	233 25.5 +01.0	N 22 21.4 -00.3	324 48.2 +02.0	N 10 21.5 +00.2	14 10.6 +02.3	S 10 33.2 +00.0	08						
09	248 26.5 +01.0	N 22 21.1 -00.3	339 50.2 +01.9	N 10 21.7 +00.2	29 12.9 +02.3	S 10 33.2 -00.1	09						
10	263 27.5 +00.9	N 22 20.8 -00.3	354 52.1 +01.9	N 10 21.9 +00.2	44 15.2 +02.4	S 10 33.1 +00.0	10						
11	278 28.4 +01.0	N 22 20.5 -00.3	9 54.0 +01.9	N 10 22.1 +00.2	59 17.6 +02.3	S 10 33.1 +00.0	11						
12	293 29.4 +01.0	N 22 20.2 -00.3	24 55.9 +01.9	N 10 22.3 +00.2	74 19.9 +02.3	S 10 33.1 -00.1	12						
13	308 30.4 +01.0	N 22 19.9 -00.3	39 57.8 +01.9	N 10 22.5 +00.2	89 22.2 +02.4	S 10 33.0 +00.0	13						
14	323 31.4 +00.9	N 22 19.6 -00.3	54 59.7 +02.0	N 10 22.7 +00.2	104 24.6 +02.3	S 10 33.0 -00.1	14						
15	338 32.3 +01.0	N 22 19.3 -00.3	70 01.7 +01.9	N 10 22.9 +00.2	119 26.9 +02.3	S 10 32.9 +00.0	15						
16	353 33.3 +01.0	N 22 19.0 -00.3	85 03.6 +01.9	N 10 23.1 +00.2	134 29.2 +02.4	S 10 32.9 +00.0	16						
17	8 34.3 +01.0	N 22 18.7 -00.3	100 05.5 +01.9	N 10 23.3 +00.2	149 31.6 +02.3	S 10 32.9 -00.1	17						
18	23 35.3 +00.9	N 22 18.4 -00.3	115 07.4 +01.9	N 10 23.5 +00.2	164 33.9 +02.4	S 10 32.8 +00.0	18						
19	38 36.2 +01.0	N 22 18.1 -00.3	130 09.3 +02.0	N 10 23.7 +00.2	179 36.3 +02.3	S 10 32.8 -00.1	19						
20	53 37.2 +01.0	N 22 17.8 -00.3	145 11.3 +01.9	N 10 23.9 +00.2	194 38.6 +02.3	S 10 32.7 +00.0	20						
21	68 38.2 +00.9	N 22 17.5 -00.3	160 13.2 +01.9	N 10 24.1 +00.2	209 40.9 +02.4	S 10 32.7 +00.0	21						
22	83 39.1 +01.0	N 22 17.2 -00.3	175 15.1 +01.9	N 10 24.3 +00.2	224 43.3 +02.3	S 10 32.7 -00.1	22						
23	98 40.1 +01.0	N 22 16.9 -00.3	190 17.0 +01.9	N 10 24.5 +00.2	239 45.6 +02.3	S 10 32.6 +00.0	23						
UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 241° 241° 241° 240° 240° 240°	Greenwich Culmination Time: 16:25									
UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 332° 332° 332° 332° 332° 332°	Greenwich Culmination Time: 10:20									
UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 021° 021° 021° 021° 021° 021°	Greenwich Culmination Time: 07:03									

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 54.6 +00.0	N 18 59.4 +00.6	133 19.9 -00.5	N 25 53.4 -00.2	224 04.2 -28.1	N 01 39.0 +16.2	00						
01	195 54.6 +00.0	N 18 60.0 +00.6	148 19.4 -00.5	N 25 53.2 -00.1	238 36.1 -28.1	N 01 55.2 +16.1	01						
02	210 54.6 -00.1	N 19 00.6 +00.6	163 18.9 -00.5	N 25 53.1 -00.2	253 08.0 -28.1	N 02 11.3 +16.2	02						
03	225 54.5 +00.0	N 19 01.2 +00.5	178 18.4 -00.5	N 25 52.9 -00.2	267 39.9 -28.0	N 02 27.5 +16.1	03						
04	240 54.5 +00.0	N 19 01.7 +00.6	193 17.9 -00.5	N 25 52.7 -00.1	282 11.9 -28.1	N 02 43.6 +16.0	04						
05	255 54.5 +00.0	N 19 02.3 +00.6	208 17.4 -00.5	N 25 52.6 -00.2	296 43.8 -28.1	N 02 59.6 +16.1	05						
06	270 54.5 +00.0	N 19 02.9 +00.6	223 16.9 -00.5	N 25 52.4 -00.2	311 15.7 -28.1	N 03 15.7 +16.1	06						
07	285 54.5 +00.0	N 19 03.5 +00.6	238 16.4 -00.5	N 25 52.2 -00.1	325 47.6 -28.1	N 03 31.8 +16.0	07						
08	300 54.5 +00.0	N 19 04.1 +00.5	253 15.9 -00.4	N 25 52.1 -00.2	340 19.5 -28.0	N 03 47.8 +16.0	08						
09	315 54.5 +00.0	N 19 04.6 +00.6	268 15.5 -00.5	N 25 51.9 -00.2	354 51.5 -28.1	N 04 03.8 +15.9	09						
10	330 54.5 +00.0	N 19 05.2 +00.6	283 15.0 -00.5	N 25 51.7 -00.1	9 23.4 -28.1	N 04 19.7 +15.9	10						
11	345 54.5 -00.1	N 19 05.8 +00.6	298 14.5 -00.5	N 25 51.6 -00.2	23 55.3 -28.1	N 04 35.6 +16.0	11						
12	0 54.4 +00.0	N 19 06.4 +00.5	313 14.0 -00.5	N 25 51.4 -00.2	38 27.2 -28.2	N 04 51.6 +15.8	12						
13	15 54.4 +00.0	N 19 06.9 +00.6	328 13.5 -00.5	N 25 51.2 -00.2	52 59.0 -28.1	N 05 07.4 +15.9	13						
14	30 54.4 +00.0	N 19 07.5 +00.6	343 13.0 -00.5	N 25 51.0 -00.1	67 30.9 -28.1	N 05 23.3 +15.8	14						
15	45 54.4 +00.0	N 19 08.1 +00.6	358 12.5 -00.5	N 25 50.9 -00.2	82 02.8 -28.2	N 05 39.1 +15.7	15						
16	60 54.4 +00.0	N 19 08.7 +00.5	13 12.0 -00.4	N 25 50.7 -00.2	96 34.6 -28.1	N 05 54.8 +15.8	16						
17	75 54.4 +00.0	N 19 09.2 +00.6	28 11.6 -00.5	N 25 50.5 -00.2	111 06.5 -28.2	N 06 10.6 +15.7	17						
18	90 54.4 -00.1	N 19 09.8 +00.6	43 11.1 -00.5	N 25 50.3 -00.1	125 38.3 -28.2	N 06 26.3 +15.6	18						
19	105 54.3 +00.0	N 19 10.4 +00.6	58 10.6 -00.5	N 25 50.2 -00.2	140 10.1 -28.2	N 06 41.9 +15.7	19						
20	120 54.3 +00.0	N 19 11.0 +00.5	73 10.1 -00.5	N 25 50.0 -00.2	154 41.9 -28.2	N 06 57.6 +15.5	20						
21	135 54.3 +00.0	N 19 11.5 +00.6	88 09.6 -00.5	N 25 49.8 -00.2	169 13.7 -28.3	N 07 13.1 +15.6	21						
22	150 54.3 +00.0	N 19 12.1 +00.6	103 09.1 -00.4	N 25 49.6 -00.2	183 45.4 -28.2	N 07 28.7 +15.4	22						
23	165 54.3 +00.0	N 19 12.7 +00.5	118 08.7 -00.5	N 25 49.4 -00.2	198 17.2 -28.3	N 07 44.1 +15.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'9 15'9 15'9 15'9 15'8 15'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 58'4 58'3 58'3 58'2 58'1 58'0								
	SHA 307° 307° 307° 307° 307° 307°		SHA 260° 260° 259° 259° 259° 259°		SHA 350° 348° 346° 343° 341° 339°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 15:07		Greenwich Culmination Time: 09:21								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	113 41.1 +01.0	N 22 16.6 -00.3	205 18.9 +01.9	N 10 24.7 +00.2	254 47.9 +02.4	S 10 32.6 -00.1	00						
01	128 42.1 +00.9	N 22 16.3 -00.3	220 20.8 +02.0	N 10 24.9 +00.2	269 50.3 +02.3	S 10 32.5 +00.0	01						
02	143 43.0 +01.0	N 22 16.0 -00.3	235 22.8 +01.9	N 10 25.1 +00.2	284 52.6 +02.4	S 10 32.5 +00.0	02						
03	158 44.0 +01.0	N 22 15.7 -00.3	250 24.7 +01.9	N 10 25.3 +00.2	299 55.0 +02.3	S 10 32.5 -00.1	03						
04	173 45.0 +00.9	N 22 15.4 -00.3	265 26.6 +01.9	N 10 25.5 +00.2	314 57.3 +02.3	S 10 32.4 +00.0	04						
05	188 45.9 +01.0	N 22 15.1 -00.3	280 28.5 +01.9	N 10 25.7 +00.2	329 59.6 +02.4	S 10 32.4 -00.1	05						
06	203 46.9 +01.0	N 22 14.8 -00.4	295 30.4 +02.0	N 10 25.9 +00.2	345 02.0 +02.3	S 10 32.3 +00.0	06						
07	218 47.9 +01.0	N 22 14.4 -00.3	310 32.4 +01.9	N 10 26.1 +00.2	0 04.3 +02.4	S 10 32.3 +00.0	07						
08	233 48.9 +00.9	N 22 14.1 -00.3	325 34.3 +01.9	N 10 26.3 +00.2	15 06.7 +02.3	S 10 32.3 -00.1	08						
09	248 49.8 +01.0	N 22 13.8 -00.3	340 36.2 +01.9	N 10 26.5 +00.2	30 09.0 +02.3	S 10 32.2 +00.0	09						
10	263 50.8 +01.0	N 22 13.5 -00.3	355 38.1 +01.9	N 10 26.7 +00.2	45 11.3 +02.4	S 10 32.2 -00.1	10						
11	278 51.8 +00.9	N 22 13.2 -00.3	10 40.0 +02.0	N 10 26.9 +00.2	60 13.7 +02.3	S 10 32.1 +00.0	11						
12	293 52.7 +01.0	N 22 12.9 -00.3	25 42.0 +01.9	N 10 27.1 +00.2	75 16.0 +02.4	S 10 32.1 +00.0	12						
13	308 53.7 +01.0	N 22 12.6 -00.3	40 43.9 +01.9	N 10 27.3 +00.2	90 18.4 +02.3	S 10 32.1 -00.1	13						
14	323 54.7 +01.0	N 22 12.3 -00.3	55 45.8 +01.9	N 10 27.5 +00.2	105 20.7 +02.3	S 10 32.0 +00.0	14						
15	338 55.7 +00.9	N 22 12.0 -00.3	70 47.7 +01.9	N 10 27.7 +00.2	120 23.0 +02.4	S 10 32.0 -00.1	15						
16	353 56.6 +01.0	N 22 11.7 -00.3	85 49.6 +01.9	N 10 27.9 +00.2	135 25.4 +02.3	S 10 31.9 +00.0	16						
17	8 57.6 +01.0	N 22 11.4 -00.3	100 51.5 +02.0	N 10 28.1 +00.2	150 27.7 +02.4	S 10 31.9 +00.0	17						
18	23 58.6 +00.9	N 22 11.1 -00.3	115 53.5 +01.9	N 10 28.3 +00.2	165 30.1 +02.3	S 10 31.9 -00.1	18						
19	38 59.5 +01.0	N 22 10.8 -00.3	130 55.4 +01.9	N 10 28.5 +00.2	180 32.4 +02.3	S 10 31.8 +00.0	19						
20	54 00.5 +01.0	N 22 10.5 -00.3	145 57.3 +01.9	N 10 28.7 +00.2	195 34.7 +02.4	S 10 31.8 -00.1	20						
21	69 01.5 +01.0	N 22 10.2 -00.3	160 59.2 +01.9	N 10 28.9 +00.2	210 37.1 +02.3	S 10 31.7 +00.0	21						
22	84 02.5 +00.9	N 22 09.9 -00.3	176 01.1 +02.0	N 10 29.1 +00.2	225 39.4 +02.4	S 10 31.7 +00.0	22						
23	99 03.4 +01.0	N 22 09.6 -00.4	191 03.1 +01.9	N 10 29.3 +00.2	240 41.8 +02.3	S 10 31.7 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 240° 240° 240° 240° 240° 240°		SHA 332° 332° 332° 332° 332° 332°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 16:24		Greenwich Culmination Time: 10:17		Greenwich Culmination Time: 06:59								

Sun					Venus					Moon					A: 92%					
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	180 54.3 -00.1		N 19 13.2 +00.6		133 08.2 -00.5		N 25 49.2 -00.1		212 48.9 -28.3		N 07 59.6 +15.4		00							
01	195 54.2 +00.0		N 19 13.8 +00.6		148 07.7 -00.5		N 25 49.1 -00.2		227 20.6 -28.3		N 08 15.0 +15.3		01							
02	210 54.2 +00.0		N 19 14.4 +00.6		163 07.2 -00.5		N 25 48.9 -00.2		241 52.3 -28.4		N 08 30.3 +15.3		02							
03	225 54.2 +00.0		N 19 15.0 +00.5		178 06.7 -00.4		N 25 48.7 -00.2		256 23.9 -28.4		N 08 45.6 +15.3		03							
04	240 54.2 +00.0		N 19 15.5 +00.6		193 06.3 -00.5		N 25 48.5 -00.2		270 55.5 -28.4		N 09 00.9 +15.2		04							
05	255 54.2 +00.0		N 19 16.1 +00.6		208 05.8 -00.5		N 25 48.3 -00.2		285 27.1 -28.4		N 09 16.1 +15.1		05							
06	270 54.2 -00.1		N 19 16.7 +00.5		223 05.3 -00.5		N 25 48.1 -00.2		299 58.7 -28.5		N 09 31.2 +15.1		06							
07	285 54.1 +00.0		N 19 17.2 +00.6		238 04.8 -00.4		N 25 47.9 -00.2		314 30.2 -28.4		N 09 46.3 +15.1		07							
08	300 54.1 +00.0		N 19 17.8 +00.6		253 04.4 -00.5		N 25 47.7 -00.2		329 01.8 -28.5		N 10 01.4 +14.9		08							
09	315 54.1 +00.0		N 19 18.4 +00.5		268 03.9 -00.5		N 25 47.5 -00.2		343 33.3 -28.6		N 10 16.3 +15.0		09							
10	330 54.1 +00.0		N 19 18.9 +00.6		283 03.4 -00.5		N 25 47.3 -00.2		358 04.7 -28.6		N 10 31.3 +14.8		10							
11	345 54.1 -00.1		N 19 19.5 +00.5		298 02.9 -00.4		N 25 47.1 -00.2		12 36.1 -28.6		N 10 46.1 +14.8		11							
12	0 54.0 +00.0		N 19 20.0 +00.6		313 02.5 -00.5		N 25 46.9 -00.2		27 07.5 -28.6		N 11 00.9 +14.8		12							
13	15 54.0 +00.0		N 19 20.6 +00.6		328 02.0 -00.5		N 25 46.7 -00.2		41 38.9 -28.7		N 11 15.7 +14.6		13							
14	30 54.0 +00.0		N 19 21.2 +00.5		343 01.5 -00.4		N 25 46.5 -00.2		56 10.2 -28.7		N 11 30.3 +14.6		14							
15	45 54.0 +00.0		N 19 21.7 +00.6		358 01.1 -00.5		N 25 46.3 -00.2		70 41.5 -28.7		N 11 44.9 +14.6		15							
16	60 54.0 -00.1		N 19 22.3 +00.6		13 00.6 -00.5		N 25 46.1 -00.2		85 12.8 -28.8		N 11 59.5 +14.5		16							
17	75 53.9 +00.0		N 19 22.9 +00.5		28 00.1 -00.4		N 25 45.9 -00.2		99 44.0 -28.8		N 12 14.0 +14.4		17							
18	90 53.9 +00.0		N 19 23.4 +00.6		42 59.7 -00.5		N 25 45.7 -00.2		114 15.2 -28.9		N 12 28.4 +14.3		18							
19	105 53.9 +00.0		N 19 24.0 +00.5		57 59.2 -00.5		N 25 45.5 -00.2		128 46.3 -28.9		N 12 42.7 +14.3		19							
20	120 53.9 +00.0		N 19 24.5 +00.6		72 58.7 -00.4		N 25 45.3 -00.2		143 17.4 -28.9		N 12 57.0 +14.2		20							
21	135 53.9 -00.1		N 19 25.1 +00.6		87 58.3 -00.5		N 25 45.1 -00.2		157 48.5 -28.9		N 13 11.2 +14.1		21							
22	150 53.8 +00.0		N 19 25.7 +00.5		102 57.8 -00.5		N 25 44.9 -00.2		172 19.6 -29.1		N 13 25.3 +14.0		22							
23	165 53.8 +00.0		N 19 26.2 +00.6		117 57.3 -00.4		N 25 44.7 -00.2		186 50.5 -29.0		N 13 39.3 +14.0		23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22							
SD	15'8	15'8	15'8	15'8	15'8	15'8	SD	00'2	00'2	00'2	00'2	00'2	00'2							
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'2	00'2	00'2	00'2	00'2	00'2							
SHA	306°	306°	306°	306°	306°	306°	SHA	259°	258°	258°	258°	258°	258°							
Greenwich Culmination Time: 11:56							Greenwich Culmination Time: 15:07							Greenwich Culmination Time: 10:07						

Mars					Jupiter					Saturn					UT					
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	114 04.4 +01.0		N 22 09.2 -00.3		206 05.0 +01.9		N 10 29.5 +00.2		255 44.1 +02.3		S 10 31.6 +00.0		00							
01	129 05.4 +00.9		N 22 08.9 -00.3		221 06.9 +01.9		N 10 29.7 +00.2		270 46.4 +02.4		S 10 31.6 +00.0		01							
02	144 06.3 +01.0		N 22 08.6 -00.3		236 08.8 +01.9		N 10 29.9 +00.2		285 48.8 +02.3		S 10 31.6 -00.1		02							
03	159 07.3 +01.0		N 22 08.3 -00.3		251 10.7 +02.0		N 10 30.1 +00.2		300 51.1 +02.4		S 10 31.5 +00.0		03							
04	174 08.3 +01.0		N 22 08.0 -00.3		266 12.7 +01.9		N 10 30.3 +00.2		315 53.5 +02.3		S 10 31.5 -00.1		04							
05	189 09.3 +00.9		N 22 07.7 -00.3		281 14.6 +01.9		N 10 30.5 +00.2		330 55.8 +02.4		S 10 31.4 +00.0		05							
06	204 10.2 +01.0		N 22 07.4 -00.3		296 16.5 +01.9		N 10 30.7 +00.2		345 58.2 +02.3		S 10 31.4 +00.0		06							
07	219 11.2 +01.0		N 22 07.1 -00.3		311 18.4 +01.9		N 10 30.9 +00.2		1 00.5 +02.3		S 10 31.4 -00.1		07							
08	234 12.2 +01.0		N 22 06.8 -00.3		326 20.3 +02.0		N 10 31.1 +00.2		16 02.8 +02.4		S 10 31.3 +00.0		08							
09	249 13.2 +00.9		N 22 06.5 -00.3		341 22.3 +01.9		N 10 31.3 +00.2		31 05.2 +02.3		S 10 31.3 -00.1		09							
10	264 14.1 +01.0		N 22 06.2 -00.4		356 24.2 +01.9		N 10 31.5 +00.2		46 07.5 +02.4		S 10 31.2 +00.0		10							
11	279 15.1 +01.0		N 22 05.8 -00.3		11 26.1 +01.9		N 10 31.7 +00.2		61 09.9 +02.3		S 10 31.2 +00.0		11							
12	294 16.1 +00.9		N 22 05.5 -00.3		26 28.0 +01.9		N 10 31.9 +00.2		76 12.2 +02.4		S 10 31.2 -00.1		12							
13	309 17.0 +01.0		N 22 05.2 -00.3		41 29.9 +02.0		N 10 32.1 +00.2		91 14.6 +02.3		S 10 31.1 +00.0		13							
14	324 18.0 +01.0		N 22 04.9 -00.3		56 31.9 +01.9		N 10 32.3 +00.2		106 16.9 +02.3		S 10 31.1 +00.0		14							
15	339 19.0 +01.0		N 22 04.6 -00.3		71 33.8 +01.9		N 10 32.5 +00.2		121 19.2 +02.4		S 10 31.1 -00.1		15							
16	354 20.0 +00.9		N 22 04.3 -00.3		86 35.7 +01.9		N 10 32.7 +00.2		136 21.6 +02.3		S 10 31.0 +00.0		16							
17	9 20.9 +01.0		N 22 04.0 -00.3		101 37.6 +01.9		N 10 32.9 +00.2		151 23.9 +02.4		S 10 31.0 -00.1		17							
18	24 21.9 +01.0		N 22 03.7 -00.3		116 39.5 +02.0		N 10 33.1 +00.2		166 26.3 +02.3		S 10 30.9 +00.0		18							
19	39 22.9 +00.9		N 22 03.4 -00.4		131 41.5 +01.9		N 10 33.3 +00.1		181 28.6 +02.4		S 10 30.9 +00.0		19							
20	54 23.8 +01.0		N 22 03.0 -00.3		146 43.4 +01.9		N 10 33.4 +00.2		196 31.0 +02.3		S 10 30.9 -00.1		20							
21	69 24.8 +01.0		N 22 02.7 -00.3		161 45.3 +01.9		N 10 33.6 +00.2		211 33.3 +02.3		S 10 30.8 +00.0		21							
22	84 25.8 +01.0		N 22 02.4 -00.3		176 47.2 +01.9		N 10 33.8 +00.2		226 35.6 +02.4		S 10 30.8 +00.0		22							
23	99 26.8 +00.9		N 22 02.1 -00.3		191 49.1 +02.0		N 10 34.0 +00.2		241 38.0 +02.3		S 10 30.8 -00.1		23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22							
SD	00'0	00'0	00'0	00'0	00'0	00'0	SD	00'3	00'3	00'3	00'3	00'3	00'3							
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0							
SHA	240°	239°	239°	239°	239°	239°	SHA	332°	332°	332°	331°	331°	331°							
Greenwich Culmination Time: 16:22							Greenwich Culmination Time: 10:14							Greenwich Culmination Time: 06:55						

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UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 53.8 +00.0	N 19 26.8 +00.5	132 56.9 -00.5	N 25 44.5 -00.2	201 21.5 -29.1	N 13 53.3 +13.9	00						
01	195 53.8 -00.1	N 19 27.3 +00.6	147 56.4 -00.5	N 25 44.3 -00.3	215 52.4 -29.1	N 14 07.2 +13.8	01						
02	210 53.7 +00.0	N 19 27.9 +00.5	162 55.9 -00.4	N 25 44.0 -00.2	230 23.3 -29.2	N 14 21.0 +13.8	02						
03	225 53.7 +00.0	N 19 28.4 +00.6	177 55.5 -00.5	N 25 43.8 -00.2	244 54.1 -29.2	N 14 34.8 +13.6	03						
04	240 53.7 +00.0	N 19 29.0 +00.5	192 55.0 -00.5	N 25 43.6 -00.2	259 24.9 -29.3	N 14 48.4 +13.6	04						
05	255 53.7 -00.1	N 19 29.5 +00.6	207 54.5 -00.4	N 25 43.4 -00.2	273 55.6 -29.3	N 15 02.0 +13.5	05						
06	270 53.6 +00.0	N 19 30.1 +00.5	222 54.1 -00.5	N 25 43.2 -00.2	288 26.3 -29.4	N 15 15.5 +13.4	06						
07	285 53.6 +00.0	N 19 30.6 +00.6	237 53.6 -00.4	N 25 43.0 -00.3	302 56.9 -29.4	N 15 28.9 +13.3	07						
08	300 53.6 +00.0	N 19 31.2 +00.5	252 53.2 -00.5	N 25 42.7 -00.2	317 27.5 -29.4	N 15 42.2 +13.2	08						
09	315 53.6 -00.1	N 19 31.7 +00.6	267 52.7 -00.4	N 25 42.5 -00.2	331 58.1 -29.5	N 15 55.4 +13.2	09						
10	330 53.5 +00.0	N 19 32.3 +00.6	282 52.3 -00.5	N 25 42.3 -00.2	346 28.6 -29.6	N 16 08.6 +13.1	10						
11	345 53.5 +00.0	N 19 32.9 +00.5	297 51.8 -00.5	N 25 42.1 -00.2	0 59.0 -29.6	N 16 21.7 +12.9	11						
12	0 53.5 +00.0	N 19 33.4 +00.6	312 51.3 -00.4	N 25 41.9 -00.3	15 29.4 -29.6	N 16 34.6 +12.9	12						
13	15 53.5 -00.1	N 19 34.0 +00.5	327 50.9 -00.5	N 25 41.6 -00.2	29 59.8 -29.7	N 16 47.5 +12.8	13						
14	30 53.4 +00.0	N 19 34.5 +00.5	342 50.4 -00.4	N 25 41.4 -00.2	44 30.1 -29.7	N 17 00.3 +12.7	14						
15	45 53.4 +00.0	N 19 35.0 +00.6	357 50.0 -00.5	N 25 41.2 -00.2	59 00.4 -29.8	N 17 13.0 +12.6	15						
16	60 53.4 +00.0	N 19 35.6 +00.5	12 49.5 -00.4	N 25 41.0 -00.3	73 30.6 -29.9	N 17 25.6 +12.5	16						
17	75 53.4 -00.1	N 19 36.1 +00.6	27 49.1 -00.5	N 25 40.7 -00.2	88 00.7 -29.9	N 17 38.1 +12.4	17						
18	90 53.3 +00.0	N 19 36.7 +00.5	42 48.6 -00.4	N 25 40.5 -00.2	102 30.8 -29.9	N 17 50.5 +12.3	18						
19	105 53.3 +00.0	N 19 37.2 +00.6	57 48.2 -00.5	N 25 40.3 -00.3	117 00.9 -30.0	N 18 02.8 +12.2	19						
20	120 53.3 +00.0	N 19 37.8 +00.5	72 47.7 -00.4	N 25 40.0 -00.2	131 30.9 -30.0	N 18 15.0 +12.1	20						
21	135 53.3 -00.1	N 19 38.3 +00.6	87 47.3 -00.5	N 25 39.8 -00.2	146 00.9 -30.1	N 18 27.1 +12.0	21						
22	150 53.2 +00.0	N 19 38.9 +00.5	102 46.8 -00.4	N 25 39.6 -00.3	160 30.8 -30.2	N 18 39.1 +11.9	22						
23	165 53.2 +00.0	N 19 39.4 +00.6	117 46.4 -00.5	N 25 39.3 -00.2	175 00.6 -30.2	N 18 51.0 +11.8	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'7 15'6 15'6 15'6 15'6 15'5								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 57'5 57'4 57'3 57'2 57'1 57'1								
	SHA 305° 305° 305° 305° 305° 305°		SHA 257° 257° 257° 257° 257° 256°		SHA 325° 323° 321° 319° 316° 314°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 15:08		Greenwich Culmination Time: 10:55								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	114 27.7 +01.0	N 22 01.8 -00.3	206 51.1 +01.9	N 10 34.2 +00.2	256 40.3 +02.4	S 10 30.7 +00.0	00						
01	129 28.7 +01.0	N 22 01.5 -00.3	221 53.0 +01.9	N 10 34.4 +00.2	271 42.7 +02.3	S 10 30.7 -00.1	01						
02	144 29.7 +00.9	N 22 01.2 -00.3	236 54.9 +01.9	N 10 34.6 +00.2	286 45.0 +02.4	S 10 30.6 +00.0	02						
03	159 30.6 +01.0	N 22 00.9 -00.4	251 56.8 +02.0	N 10 34.8 +00.2	301 47.4 +02.3	S 10 30.6 +00.0	03						
04	174 31.6 +01.0	N 22 00.5 -00.3	266 58.8 +01.9	N 10 35.0 +00.2	316 49.7 +02.4	S 10 30.6 -00.1	04						
05	189 32.6 +01.0	N 22 00.2 -00.3	282 00.7 +01.9	N 10 35.2 +00.2	331 52.1 +02.3	S 10 30.5 +00.0	05						
06	204 33.6 +00.9	N 21 59.9 -00.3	297 02.6 +01.9	N 10 35.4 +00.2	346 54.4 +02.4	S 10 30.5 +00.0	06						
07	219 34.5 +01.0	N 21 59.6 -00.3	312 04.5 +01.9	N 10 35.6 +00.2	1 56.8 +02.3	S 10 30.5 -00.1	07						
08	234 35.5 +01.0	N 21 59.3 -00.3	327 06.4 +02.0	N 10 35.8 +00.2	16 59.1 +02.3	S 10 30.4 +00.0	08						
09	249 36.5 +00.9	N 21 59.0 -00.3	342 08.4 +01.9	N 10 36.0 +00.2	32 01.4 +02.4	S 10 30.4 -00.1	09						
10	264 37.4 +01.0	N 21 58.7 -00.4	357 10.3 +01.9	N 10 36.2 +00.2	47 03.8 +02.3	S 10 30.3 +00.0	10						
11	279 38.4 +01.0	N 21 58.3 -00.3	12 12.2 +01.9	N 10 36.4 +00.2	62 06.1 +02.4	S 10 30.3 +00.0	11						
12	294 39.4 +01.0	N 21 58.0 -00.3	27 14.1 +01.9	N 10 36.6 +00.2	77 08.5 +02.3	S 10 30.3 -00.1	12						
13	309 40.4 +00.9	N 21 57.7 -00.3	42 16.0 +02.0	N 10 36.8 +00.2	92 10.8 +02.4	S 10 30.2 +00.0	13						
14	324 41.3 +01.0	N 21 57.4 -00.3	57 18.0 +01.9	N 10 37.0 +00.2	107 13.2 +02.3	S 10 30.2 +00.0	14						
15	339 42.3 +01.0	N 21 57.1 -00.3	72 19.9 +01.9	N 10 37.2 +00.2	122 15.5 +02.4	S 10 30.2 -00.1	15						
16	354 43.3 +00.9	N 21 56.8 -00.4	87 21.8 +01.9	N 10 37.4 +00.2	137 17.9 +02.3	S 10 30.1 +00.0	16						
17	9 44.2 +01.0	N 21 56.4 -00.3	102 23.7 +02.0	N 10 37.6 +00.2	152 20.2 +02.4	S 10 30.1 +00.0	17						
18	24 45.2 +01.0	N 21 56.1 -00.3	117 25.7 +01.9	N 10 37.8 +00.2	167 22.6 +02.3	S 10 30.1 -00.1	18						
19	39 46.2 +01.0	N 21 55.8 -00.3	132 27.6 +01.9	N 10 38.0 +00.2	182 24.9 +02.4	S 10 30.0 +00.0	19						
20	54 47.2 +00.9	N 21 55.5 -00.3	147 29.5 +01.9	N 10 38.2 +00.2	197 27.3 +02.3	S 10 30.0 -00.1	20						
21	69 48.1 +01.0	N 21 55.2 -00.4	162 31.4 +01.9	N 10 38.4 +00.2	212 29.6 +02.4	S 10 29.9 +00.0	21						
22	84 49.1 +01.0	N 21 54.8 -00.3	177 33.3 +02.0	N 10 38.6 +00.2	227 32.0 +02.3	S 10 29.9 +00.0	22						
23	99 50.1 +00.9	N 21 54.5 -00.3	192 35.3 +01.9	N 10 38.8 +00.2	242 34.3 +02.4	S 10 29.9 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 239° 239° 239° 239° 239° 238°		SHA 331° 331° 331° 331° 331° 331°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 16:21		Greenwich Culmination Time: 10:11		Greenwich Culmination Time: 06:52								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 53.2 -00.1	N 19 40.0 +00.5	132 45.9 -00.4	N 25 39.1 -00.2	189 30.4 -30.2	N 19 02.8 +11.7	00						
01	195 53.1 +00.0	N 19 40.5 +00.5	147 45.5 -00.5	N 25 38.9 -00.3	204 00.2 -30.3	N 19 14.5 +11.5	01						
02	210 53.1 +00.0	N 19 41.0 +00.6	162 45.0 -00.4	N 25 38.6 -00.2	218 29.9 -30.4	N 19 26.0 +11.5	02						
03	225 53.1 +00.0	N 19 41.6 +00.5	177 44.6 -00.5	N 25 38.4 -00.3	232 59.5 -30.4	N 19 37.5 +11.4	03						
04	240 53.1 -00.1	N 19 42.1 +00.6	192 44.1 -00.4	N 25 38.1 -00.2	247 29.1 -30.4	N 19 48.9 +11.2	04						
05	255 53.0 +00.0	N 19 42.7 +00.5	207 43.7 -00.4	N 25 37.9 -00.2	261 58.7 -30.5	N 20 00.1 +11.2	05						
06	270 53.0 +00.0	N 19 43.2 +00.5	222 43.3 -00.5	N 25 37.7 -00.3	276 28.2 -30.6	N 20 11.3 +11.0	06						
07	285 53.0 -00.1	N 19 43.7 +00.6	237 42.8 -00.4	N 25 37.4 -00.2	290 57.6 -30.6	N 20 22.3 +10.9	07						
08	300 52.9 +00.0	N 19 44.3 +00.5	252 42.4 -00.5	N 25 37.2 -00.3	305 27.0 -30.7	N 20 33.2 +10.9	08						
09	315 52.9 +00.0	N 19 44.8 +00.5	267 41.9 -00.4	N 25 36.9 -00.2	319 56.3 -30.7	N 20 44.1 +10.7	09						
10	330 52.9 -00.1	N 19 45.3 +00.6	282 41.5 -00.5	N 25 36.7 -00.3	334 25.6 -30.7	N 20 54.8 +10.5	10						
11	345 52.8 +00.0	N 19 45.9 +00.5	297 41.0 -00.4	N 25 36.4 -00.2	348 54.9 -30.9	N 21 05.3 +10.5	11						
12	0 52.8 +00.0	N 19 46.4 +00.6	312 40.6 -00.4	N 25 36.2 -00.3	3 24.0 -30.8	N 21 15.8 +10.3	12						
13	15 52.8 +00.0	N 19 47.0 +00.5	327 40.2 -00.5	N 25 35.9 -00.2	17 53.2 -30.9	N 21 26.1 +10.3	13						
14	30 52.8 -00.1	N 19 47.5 +00.5	342 39.7 -00.4	N 25 35.7 -00.3	32 22.3 -31.0	N 21 36.4 +10.1	14						
15	45 52.7 +00.0	N 19 48.0 +00.6	357 39.3 -00.4	N 25 35.4 -00.2	46 51.3 -31.0	N 21 46.5 +10.0	15						
16	60 52.7 +00.0	N 19 48.6 +00.5	12 38.9 -00.5	N 25 35.2 -00.3	61 20.3 -31.1	N 21 56.5 +09.8	16						
17	75 52.7 -00.1	N 19 49.1 +00.5	27 38.4 -00.4	N 25 34.9 -00.2	75 49.2 -31.1	N 22 06.3 +09.8	17						
18	90 52.6 +00.0	N 19 49.6 +00.6	42 38.0 -00.4	N 25 34.7 -00.3	90 18.1 -31.2	N 22 16.1 +09.6	18						
19	105 52.6 +00.0	N 19 50.2 +00.5	57 37.6 -00.5	N 25 34.4 -00.2	104 46.9 -31.2	N 22 25.7 +09.5	19						
20	120 52.6 -00.1	N 19 50.7 +00.5	72 37.1 -00.4	N 25 34.2 -00.3	119 15.7 -31.3	N 22 35.2 +09.3	20						
21	135 52.5 +00.0	N 19 51.2 +00.5	87 36.7 -00.4	N 25 33.9 -00.2	133 44.4 -31.3	N 22 44.5 +09.3	21						
22	150 52.5 +00.0	N 19 51.7 +00.6	102 36.3 -00.5	N 25 33.7 -00.3	148 13.1 -31.4	N 22 53.8 +09.1	22						
23	165 52.5 -00.1	N 19 52.3 +00.5	117 35.8 -00.4	N 25 33.4 -00.3	162 41.7 -31.4	N 23 02.9 +09.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'5 15'5 15'5 15'4 15'4 15'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 57'0 56'9 56'8 56'7 56'6 56'5								
	SHA 304° 304° 304° 304° 304° 304°		SHA 256° 256° 256° 256° 255° 255°		SHA 312° 310° 308° 305° 303° 301°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 15:09		Greenwich Culmination Time: 11:45								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	114 51.0 +01.0	N 21 54.2 -00.3	207 37.2 +01.9	N 10 39.0 +00.1	257 36.7 +02.3	S 10 29.8 +00.0	00						
01	129 52.0 +01.0	N 21 53.9 -00.3	222 39.1 +01.9	N 10 39.1 +00.2	272 39.0 +02.4	S 10 29.8 +00.0	01						
02	144 53.0 +01.0	N 21 53.6 -00.3	237 41.0 +02.0	N 10 39.3 +00.2	287 41.4 +02.3	S 10 29.8 -00.1	02						
03	159 54.0 +00.9	N 21 53.3 -00.4	252 43.0 +01.9	N 10 39.5 +00.2	302 43.7 +02.4	S 10 29.7 +00.0	03						
04	174 54.9 +01.0	N 21 52.9 -00.3	267 44.9 +01.9	N 10 39.7 +00.2	317 46.1 +02.3	S 10 29.7 +00.0	04						
05	189 55.9 +01.0	N 21 52.6 -00.3	282 46.8 +01.9	N 10 39.9 +00.2	332 48.4 +02.4	S 10 29.7 -00.1	05						
06	204 56.9 +00.9	N 21 52.3 -00.3	297 48.7 +01.9	N 10 40.1 +00.2	347 50.8 +02.3	S 10 29.6 +00.0	06						
07	219 57.8 +01.0	N 21 52.0 -00.3	312 50.6 +02.0	N 10 40.3 +00.2	2 53.1 +02.4	S 10 29.6 -00.1	07						
08	234 58.8 +01.0	N 21 51.7 -00.4	327 52.6 +01.9	N 10 40.5 +00.2	17 55.5 +02.3	S 10 29.5 +00.0	08						
09	249 59.8 +01.0	N 21 51.3 -00.3	342 54.5 +01.9	N 10 40.7 +00.2	32 57.8 +02.4	S 10 29.5 +00.0	09						
10	265 00.8 +00.9	N 21 51.0 -00.3	357 56.4 +01.9	N 10 40.9 +00.2	48 00.2 +02.3	S 10 29.5 -00.1	10						
11	280 01.7 +01.0	N 21 50.7 -00.3	12 58.3 +02.0	N 10 41.1 +00.2	63 02.5 +02.4	S 10 29.4 +00.0	11						
12	295 02.7 +01.0	N 21 50.4 -00.4	28 00.3 +01.9	N 10 41.3 +00.2	78 04.9 +02.3	S 10 29.4 +00.0	12						
13	310 03.7 +00.9	N 21 50.0 -00.3	43 02.2 +01.9	N 10 41.5 +00.2	93 07.2 +02.4	S 10 29.4 -00.1	13						
14	325 04.6 +01.0	N 21 49.7 -00.3	58 04.1 +01.9	N 10 41.7 +00.2	108 09.6 +02.3	S 10 29.3 +00.0	14						
15	340 05.6 +01.0	N 21 49.4 -00.3	73 06.0 +02.0	N 10 41.9 +00.2	123 11.9 +02.4	S 10 29.3 +00.0	15						
16	355 06.6 +01.0	N 21 49.1 -00.3	88 08.0 +01.9	N 10 42.1 +00.2	138 14.3 +02.3	S 10 29.3 -00.1	16						
17	10 07.6 +00.9	N 21 48.8 -00.4	103 09.9 +01.9	N 10 42.3 +00.2	153 16.6 +02.4	S 10 29.2 +00.0	17						
18	25 08.5 +01.0	N 21 48.4 -00.3	118 11.8 +01.9	N 10 42.5 +00.2	168 19.0 +02.3	S 10 29.2 +00.0	18						
19	40 09.5 +01.0	N 21 48.1 -00.3	133 13.7 +02.0	N 10 42.7 +00.2	183 21.3 +02.4	S 10 29.2 -00.1	19						
20	55 10.5 +00.9	N 21 47.8 -00.3	148 15.7 +01.9	N 10 42.9 +00.2	198 23.7 +02.3	S 10 29.1 +00.0	20						
21	70 11.4 +01.0	N 21 47.5 -00.4	163 17.6 +01.9	N 10 43.1 +00.1	213 26.0 +02.4	S 10 29.1 +00.0	21						
22	85 12.4 +01.0	N 21 47.1 -00.3	178 19.5 +01.9	N 10 43.2 +00.2	228 28.4 +02.3	S 10 29.1 -00.1	22						
23	100 13.4 +01.0	N 21 46.8 -00.3	193 21.4 +01.9	N 10 43.4 +00.2	243 30.7 +02.4	S 10 29.0 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 238° 238° 238° 238° 238° 238°		SHA 331° 331° 331° 331° 331° 331°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 16:19		Greenwich Culmination Time: 10:08		Greenwich Culmination Time: 06:48								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 02%				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 52.4 +00.0	N 19 52.8 +00.5	132 35.4 -00.4	N 25 33.1 -00.2	177 10.3 -31.5	N 23 11.9 +08.8	00						
01	195 52.4 +00.0	N 19 53.3 +00.6	147 35.0 -00.5	N 25 32.9 -00.3	191 38.8 -31.5	N 23 20.7 +08.8	01						
02	210 52.4 -00.1	N 19 53.9 +00.5	162 34.5 -00.4	N 25 32.6 -00.3	206 07.3 -31.5	N 23 29.5 +08.6	02						
03	225 52.3 +00.0	N 19 54.4 +00.5	177 34.1 -00.4	N 25 32.3 -00.2	220 35.8 -31.6	N 23 38.1 +08.4	03						
04	240 52.3 +00.0	N 19 54.9 +00.5	192 33.7 -00.4	N 25 32.1 -00.3	235 04.2 -31.6	N 23 46.5 +08.4	04						
05	255 52.3 -00.1	N 19 55.4 +00.6	207 33.3 -00.5	N 25 31.8 -00.3	249 32.6 -31.7	N 23 54.9 +08.2	05						
06	270 52.2 +00.0	N 19 56.0 +00.5	222 32.8 -00.4	N 25 31.5 -00.2	264 00.9 -31.8	N 24 03.1 +08.0	06						
07	285 52.2 -00.1	N 19 56.5 +00.5	237 32.4 -00.4	N 25 31.3 -00.3	278 29.1 -31.7	N 24 11.1 +08.0	07						
08	300 52.1 +00.0	N 19 57.0 +00.5	252 32.0 -00.4	N 25 31.0 -00.3	292 57.4 -31.8	N 24 19.1 +07.8	08						
09	315 52.1 +00.0	N 19 57.5 +00.6	267 31.6 -00.5	N 25 30.7 -00.2	307 25.6 -31.9	N 24 26.9 +07.6	09						
10	330 52.1 -00.1	N 19 58.1 +00.5	282 31.1 -00.4	N 25 30.5 -00.3	321 53.7 -31.9	N 24 34.5 +07.5	10						
11	345 52.0 +00.0	N 19 58.6 +00.5	297 30.7 -00.4	N 25 30.2 -00.3	336 21.8 -31.9	N 24 42.0 +07.4	11						
12	0 52.0 +00.0	N 19 59.1 +00.5	312 30.3 -00.4	N 25 29.9 -00.2	350 49.9 -32.0	N 24 49.4 +07.3	12						
13	15 52.0 -00.1	N 19 59.6 +00.5	327 29.9 -00.4	N 25 29.7 -00.3	5 17.9 -32.0	N 24 56.7 +07.1	13						
14	30 51.9 +00.0	N 20 00.1 +00.6	342 29.5 -00.5	N 25 29.4 -00.3	19 45.9 -32.0	N 25 03.8 +07.0	14						
15	45 51.9 +00.0	N 20 00.7 +00.5	357 29.0 -00.4	N 25 29.1 -00.3	34 13.9 -32.1	N 25 10.8 +06.8	15						
16	60 51.9 -00.1	N 20 01.2 +00.5	12 28.6 -00.4	N 25 28.8 -00.3	48 41.8 -32.1	N 25 17.6 +06.7	16						
17	75 51.8 +00.0	N 20 01.7 +00.5	27 28.2 -00.4	N 25 28.5 -00.2	63 09.7 -32.1	N 25 24.3 +06.6	17						
18	90 51.8 -00.1	N 20 02.2 +00.5	42 27.8 -00.4	N 25 28.3 -00.3	77 37.6 -32.2	N 25 30.9 +06.4	18						
19	105 51.7 +00.0	N 20 02.7 +00.6	57 27.4 -00.4	N 25 28.0 -00.3	92 05.4 -32.2	N 25 37.3 +06.2	19						
20	120 51.7 +00.0	N 20 03.3 +00.5	72 27.0 -00.5	N 25 27.7 -00.3	106 33.2 -32.3	N 25 43.5 +06.2	20						
21	135 51.7 -00.1	N 20 03.8 +00.5	87 26.5 -00.4	N 25 27.4 -00.3	121 00.9 -32.2	N 25 49.7 +05.9	21						
22	150 51.6 +00.0	N 20 04.3 +00.5	102 26.1 -00.4	N 25 27.1 -00.2	135 28.7 -32.3	N 25 55.6 +05.9	22						
23	165 51.6 -00.1	N 20 04.8 +00.5	117 25.7 -00.4	N 25 26.9 -00.3	149 56.4 -32.4	N 26 01.5 +05.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'4 15'3 15'3 15'3 15'3 15'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 56'4 56'3 56'2 56'1 56'0 55'9								
	SHA 303° 303° 303° 303° 303° 303°		SHA 255° 255° 255° 255° 254° 254°		SHA 299° 296° 294° 292° 289° 287°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 15:10		Greenwich Culmination Time: 12:38								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	115 14.4 +00.9	N 21 46.5 -00.3	208 23.3 +02.0	N 10 43.6 +00.2	258 33.1 +02.3	S 10 29.0 +00.0	00						
01	130 15.3 +01.0	N 21 46.2 -00.4	223 25.3 +01.9	N 10 43.8 +00.2	273 35.4 +02.4	S 10 29.0 -00.1	01						
02	145 16.3 +01.0	N 21 45.8 -00.3	238 27.2 +01.9	N 10 44.0 +00.2	288 37.8 +02.3	S 10 28.9 +00.0	02						
03	160 17.3 +00.9	N 21 45.5 -00.3	253 29.1 +01.9	N 10 44.2 +00.2	303 40.1 +02.4	S 10 28.9 +00.0	03						
04	175 18.2 +01.0	N 21 45.2 -00.3	268 31.0 +02.0	N 10 44.4 +00.2	318 42.5 +02.3	S 10 28.9 -00.1	04						
05	190 19.2 +01.0	N 21 44.9 -00.4	283 33.0 +01.9	N 10 44.6 +00.2	333 44.8 +02.4	S 10 28.8 +00.0	05						
06	205 20.2 +01.0	N 21 44.5 -00.3	298 34.9 +01.9	N 10 44.8 +00.2	348 47.2 +02.3	S 10 28.8 -00.1	06						
07	220 21.2 +00.9	N 21 44.2 -00.3	313 36.8 +01.9	N 10 45.0 +00.2	3 49.5 +02.4	S 10 28.7 +00.0	07						
08	235 22.1 +01.0	N 21 43.9 -00.3	328 38.7 +02.0	N 10 45.2 +00.2	18 51.9 +02.3	S 10 28.7 +00.0	08						
09	250 23.1 +01.0	N 21 43.6 -00.4	343 40.7 +01.9	N 10 45.4 +00.2	33 54.2 +02.4	S 10 28.7 -00.1	09						
10	265 24.1 +00.9	N 21 43.2 -00.3	358 42.6 +01.9	N 10 45.6 +00.2	48 56.6 +02.3	S 10 28.6 +00.0	10						
11	280 25.0 +01.0	N 21 42.9 -00.3	13 44.5 +01.9	N 10 45.8 +00.2	63 58.9 +02.4	S 10 28.6 +00.0	11						
12	295 26.0 +01.0	N 21 42.6 -00.3	28 46.4 +02.0	N 10 46.0 +00.2	79 01.3 +02.4	S 10 28.6 -00.1	12						
13	310 27.0 +01.0	N 21 42.3 -00.4	43 48.4 +01.9	N 10 46.2 +00.2	94 03.7 +02.3	S 10 28.5 +00.0	13						
14	325 28.0 +00.9	N 21 41.9 -00.3	58 50.3 +01.9	N 10 46.4 +00.2	109 06.0 +02.4	S 10 28.5 +00.0	14						
15	340 28.9 +01.0	N 21 41.6 -00.3	73 52.2 +01.9	N 10 46.6 +00.1	124 08.4 +02.3	S 10 28.5 -00.1	15						
16	355 29.9 +01.0	N 21 41.3 -00.4	88 54.1 +02.0	N 10 46.7 +00.2	139 10.7 +02.4	S 10 28.4 +00.0	16						
17	10 30.9 +00.9	N 21 40.9 -00.3	103 56.1 +01.9	N 10 46.9 +00.2	154 13.1 +02.3	S 10 28.4 +00.0	17						
18	25 31.8 +01.0	N 21 40.6 -00.3	118 58.0 +01.9	N 10 47.1 +00.2	169 15.4 +02.4	S 10 28.4 -00.1	18						
19	40 32.8 +01.0	N 21 40.3 -00.3	133 59.9 +01.9	N 10 47.3 +00.2	184 17.8 +02.3	S 10 28.3 +00.0	19						
20	55 33.8 +01.0	N 21 40.0 -00.4	149 01.8 +02.0	N 10 47.5 +00.2	199 20.1 +02.4	S 10 28.3 +00.0	20						
21	70 34.8 +00.9	N 21 39.6 -00.3	164 03.8 +01.9	N 10 47.7 +00.2	214 22.5 +02.3	S 10 28.3 -00.1	21						
22	85 35.7 +01.0	N 21 39.3 -00.3	179 05.7 +01.9	N 10 47.9 +00.2	229 24.8 +02.4	S 10 28.2 +00.0	22						
23	100 36.7 +01.0	N 21 39.0 -00.4	194 07.6 +01.9	N 10 48.1 +00.2	244 27.2 +02.4	S 10 28.2 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 238° 238° 238° 237° 237° 237°		SHA 331° 331° 331° 331° 331° 331°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 16:17		Greenwich Culmination Time: 10:05		Greenwich Culmination Time: 06:44								

UT	Sun				Venus				Moon				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	180 51.5 +00.0	N 20 05.3 +00.5	132 25.3 -00.4	N 25 26.6 -00.3	164 24.0 -32.3	N 26 07.2 +05.5	00							
01	195 51.5 +00.0	N 20 05.8 +00.5	147 24.9 -00.4	N 25 26.3 -00.3	178 51.7 -32.4	N 26 12.7 +05.4	01							
02	210 51.5 -00.1	N 20 06.3 +00.6	162 24.5 -00.4	N 25 26.0 -00.3	193 19.3 -32.4	N 26 18.1 +05.3	02							
03	225 51.4 +00.0	N 20 06.9 +00.5	177 24.1 -00.4	N 25 25.7 -00.3	207 46.9 -32.4	N 26 23.4 +05.1	03							
04	240 51.4 -00.1	N 20 07.4 +00.5	192 23.7 -00.4	N 25 25.4 -00.3	222 14.5 -32.4	N 26 28.5 +05.0	04							
05	255 51.3 +00.0	N 20 07.9 +00.5	207 23.3 -00.4	N 25 25.1 -00.3	236 42.1 -32.5	N 26 33.5 +04.8	05							
06	270 51.3 +00.0	N 20 08.4 +00.5	222 22.9 -00.5	N 25 24.8 -00.2	251 09.6 -32.4	N 26 38.3 +04.7	06							
07	285 51.3 -00.1	N 20 08.9 +00.5	237 22.4 -00.4	N 25 24.6 -00.3	265 37.2 -32.5	N 26 43.0 +04.5	07							
08	300 51.2 +00.0	N 20 09.4 +00.5	252 22.0 -00.4	N 25 24.3 -00.3	280 04.7 -32.5	N 26 47.5 +04.4	08							
09	315 51.2 -00.1	N 20 09.9 +00.5	267 21.6 -00.4	N 25 24.0 -00.3	294 32.2 -32.6	N 26 51.9 +04.3	09							
10	330 51.1 +00.0	N 20 10.4 +00.5	282 21.2 -00.4	N 25 23.7 -00.3	308 59.6 -32.5	N 26 56.2 +04.0	10							
11	345 51.1 +00.0	N 20 10.9 +00.5	297 20.8 -00.4	N 25 23.4 -00.3	323 27.1 -32.6	N 27 00.2 +04.0	11							
12	0 51.1 -00.1	N 20 11.4 +00.5	312 20.4 -00.4	N 25 23.1 -00.3	337 54.5 -32.5	N 27 04.2 +03.8	12							
13	15 51.0 +00.0	N 20 11.9 +00.6	327 20.0 -00.4	N 25 22.8 -00.3	352 22.0 -32.6	N 27 08.0 +03.6	13							
14	30 51.0 -00.1	N 20 12.5 +00.5	342 19.6 -00.4	N 25 22.5 -00.3	6 49.4 -32.5	N 27 11.6 +03.5	14							
15	45 50.9 +00.0	N 20 13.0 +00.5	357 19.2 -00.4	N 25 22.2 -00.3	21 16.9 -32.6	N 27 15.1 +03.4	15							
16	60 50.9 -00.1	N 20 13.5 +00.5	12 18.8 -00.4	N 25 21.9 -00.3	35 44.3 -32.6	N 27 18.5 +03.2	16							
17	75 50.8 +00.0	N 20 14.0 +00.5	27 18.4 -00.4	N 25 21.6 -00.3	50 11.7 -32.6	N 27 21.7 +03.0	17							
18	90 50.8 -00.1	N 20 14.5 +00.5	42 18.0 -00.4	N 25 21.3 -00.3	64 39.1 -32.6	N 27 24.7 +02.9	18							
19	105 50.7 +00.0	N 20 15.0 +00.5	57 17.6 -00.4	N 25 21.0 -00.3	79 06.5 -32.6	N 27 27.6 +02.8	19							
20	120 50.7 +00.0	N 20 15.5 +00.5	72 17.2 -00.4	N 25 20.7 -00.3	93 33.9 -32.6	N 27 30.4 +02.6	20							
21	135 50.7 -00.1	N 20 16.0 +00.5	87 16.8 -00.3	N 25 20.4 -00.3	108 01.3 -32.5	N 27 33.0 +02.4	21							
22	150 50.6 +00.0	N 20 16.5 +00.5	102 16.5 -00.4	N 25 20.1 -00.4	122 28.8 -32.6	N 27 35.4 +02.3	22							
23	165 50.6 -00.1	N 20 17.0 +00.5	117 16.1 -00.4	N 25 19.7 -00.3	136 56.2 -32.6	N 27 37.7 +02.2	23							
UT 02 06 10 14 18 22	SD 15'8 15'8 15'8 15'8 15'8 15'8	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 302° 302° 302° 302° 302° 302°	Greenwich Culmination Time: 11:56	UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'2 00'2 00'2 00'2 00'2 00'2	SHA 254° 254° 254° 253° 253° 253°	Greenwich Culmination Time: 15:10	UT 02 06 10 14 18 22	SD 15'2 15'2 15'2 15'1 15'1 15'1	HP 55'8 55'8 55'7 55'6 55'5 55'4	SHA 285° 283° 280° 278° 276° 273°	Greenwich Culmination Time: 13:31

UT	Mars				Jupiter				Saturn				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	115 37.7 +00.9	N 21 38.6 -00.3	209 09.5 +02.0	N 10 48.3 +00.2	259 29.6 +02.3	S 10 28.2 -00.1	00							
01	130 38.6 +01.0	N 21 38.3 -00.3	224 11.5 +01.9	N 10 48.5 +00.2	274 31.9 +02.4	S 10 28.1 +00.0	01							
02	145 39.6 +01.0	N 21 38.0 -00.3	239 13.4 +01.9	N 10 48.7 +00.2	289 34.3 +02.3	S 10 28.1 +00.0	02							
03	160 40.6 +01.0	N 21 37.7 -00.4	254 15.3 +01.9	N 10 48.9 +00.2	304 36.6 +02.4	S 10 28.1 -00.1	03							
04	175 41.6 +00.9	N 21 37.3 -00.3	269 17.2 +02.0	N 10 49.1 +00.2	319 39.0 +02.3	S 10 28.0 +00.0	04							
05	190 42.5 +01.0	N 21 37.0 -00.3	284 19.2 +01.9	N 10 49.3 +00.2	334 41.3 +02.4	S 10 28.0 +00.0	05							
06	205 43.5 +01.0	N 21 36.7 -00.4	299 21.1 +01.9	N 10 49.5 +00.1	349 43.7 +02.4	S 10 28.0 -00.1	06							
07	220 44.5 +00.9	N 21 36.3 -00.3	314 23.0 +02.0	N 10 49.6 +00.2	4 46.1 +02.3	S 10 27.9 +00.0	07							
08	235 45.4 +01.0	N 21 36.0 -00.3	329 25.0 +01.9	N 10 49.8 +00.2	19 48.4 +02.4	S 10 27.9 +00.0	08							
09	250 46.4 +01.0	N 21 35.7 -00.4	344 26.9 +01.9	N 10 50.0 +00.2	34 50.8 +02.3	S 10 27.9 -00.1	09							
10	265 47.4 +01.0	N 21 35.3 -00.3	359 28.8 +01.9	N 10 50.2 +00.2	49 53.1 +02.4	S 10 27.8 +00.0	10							
11	280 48.4 +00.9	N 21 35.0 -00.3	14 30.7 +02.0	N 10 50.4 +00.2	64 55.5 +02.3	S 10 27.8 +00.0	11							
12	295 49.3 +01.0	N 21 34.7 -00.4	29 32.7 +01.9	N 10 50.6 +00.2	79 57.8 +02.4	S 10 27.8 -00.1	12							
13	310 50.3 +01.0	N 21 34.3 -00.3	44 34.6 +01.9	N 10 50.8 +00.2	95 00.2 +02.4	S 10 27.7 +00.0	13							
14	325 51.3 +00.9	N 21 34.0 -00.3	59 36.5 +01.9	N 10 51.0 +00.2	110 02.6 +02.3	S 10 27.7 +00.0	14							
15	340 52.2 +01.0	N 21 33.7 -00.4	74 38.4 +02.0	N 10 51.2 +00.2	125 04.9 +02.4	S 10 27.7 +00.0	15							
16	355 53.2 +01.0	N 21 33.3 -00.3	89 40.4 +01.9	N 10 51.4 +00.2	140 07.3 +02.3	S 10 27.7 -00.1	16							
17	10 54.2 +01.0	N 21 33.0 -00.3	104 42.3 +01.9	N 10 51.6 +00.2	155 09.6 +02.4	S 10 27.6 +00.0	17							
18	25 55.2 +00.9	N 21 32.7 -00.4	119 44.2 +01.9	N 10 51.8 +00.2	170 12.0 +02.3	S 10 27.6 +00.0	18							
19	40 56.1 +01.0	N 21 32.3 -00.3	134 46.1 +02.0	N 10 52.0 +00.2	185 14.3 +02.4	S 10 27.6 -00.1	19							
20	55 57.1 +01.0	N 21 32.0 -00.3	149 48.1 +01.9	N 10 52.2 +00.1	200 16.7 +02.4	S 10 27.5 +00.0	20							
21	70 58.1 +01.0	N 21 31.7 -00.4	164 50.0 +01.9	N 10 52.3 +00.2	215 19.1 +02.3	S 10 27.5 +00.0	21							
22	85 59.1 +00.9	N 21 31.3 -00.3	179 51.9 +02.0	N 10 52.5 +00.2	230 21.4 +02.4	S 10 27.5 -00.1	22							
23	101 00.0 +01.0	N 21 31.0 -00.3	194 53.9 +01.9	N 10 52.7 +00.2	245 23.8 +02.3	S 10 27.4 +00.0	23							
UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 237° 237° 237° 237° 237° 237°	Greenwich Culmination Time: 16:16	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 331° 331° 331° 331° 331° 331°	Greenwich Culmination Time: 10:02	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 021° 021° 021° 021° 021° 021°	Greenwich Culmination Time: 06:40

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	50.5 +00.0	N 20 17.5 +00.5		132	15.7 -00.4	N 25 19.4 -00.3		151	23.6 -32.6	N 27 39.9 +02.0		00
01	195	50.5 -00.1	N 20 18.0 +00.5		147	15.3 -00.4	N 25 19.1 -00.3		165	51.0 -32.5	N 27 41.9 +01.9		01
02	210	50.4 +00.0	N 20 18.5 +00.5		162	14.9 -00.4	N 25 18.8 -00.3		180	18.5 -32.6	N 27 43.8 +01.7		02
03	225	50.4 -00.1	N 20 19.0 +00.5		177	14.5 -00.4	N 25 18.5 -00.3		194	45.9 -32.5	N 27 45.5 +01.6		03
04	240	50.3 +00.0	N 20 19.5 +00.5		192	14.1 -00.4	N 25 18.2 -00.3		209	13.4 -32.5	N 27 47.1 +01.4		04
05	255	50.3 +00.0	N 20 20.0 +00.5		207	13.7 -00.4	N 25 17.9 -00.3		223	40.9 -32.6	N 27 48.5 +01.2		05
06	270	50.3 -00.1	N 20 20.5 +00.5		222	13.3 -00.4	N 25 17.6 -00.3		238	08.3 -32.5	N 27 49.7 +01.2		06
07	285	50.2 +00.0	N 20 21.0 +00.5		237	12.9 -00.3	N 25 17.3 -00.4		252	35.8 -32.4	N 27 50.9 +00.9		07
08	300	50.2 -00.1	N 20 21.5 +00.5		252	12.6 -00.4	N 25 16.9 -00.3		267	03.4 -32.5	N 27 51.8 +00.9		08
09	315	50.1 +00.0	N 20 22.0 +00.5		267	12.2 -00.4	N 25 16.6 -00.3		281	30.9 -32.4	N 27 52.7 +00.6		09
10	330	50.1 -00.1	N 20 22.5 +00.4		282	11.8 -00.4	N 25 16.3 -00.3		295	58.5 -32.5	N 27 53.3 +00.6		10
11	345	50.0 +00.0	N 20 22.9 +00.5		297	11.4 -00.4	N 25 16.0 -00.3		310	26.0 -32.4	N 27 53.9 +00.3		11
12	0	50.0 -00.1	N 20 23.4 +00.5		312	11.0 -00.4	N 25 15.7 -00.4		324	53.6 -32.3	N 27 54.2 +00.3		12
13	15	49.9 +00.0	N 20 23.9 +00.5		327	10.6 -00.3	N 25 15.3 -00.3		339	21.3 -32.4	N 27 54.5 +00.1		13
14	30	49.9 -00.1	N 20 24.4 +00.5		342	10.3 -00.4	N 25 15.0 -00.3		353	48.9 -32.3	N 27 54.6 -00.1		14
15	45	49.8 +00.0	N 20 24.9 +00.5		357	09.9 -00.4	N 25 14.7 -00.3		8	16.6 -32.3	N 27 54.5 -00.2		15
16	60	49.8 -00.1	N 20 25.4 +00.5		12	09.5 -00.4	N 25 14.4 -00.4		22	44.3 -32.3	N 27 54.3 -00.3		16
17	75	49.7 +00.0	N 20 25.9 +00.5		27	09.1 -00.4	N 25 14.0 -00.3		37	12.0 -32.2	N 27 54.0 -00.5		17
18	90	49.7 -00.1	N 20 26.4 +00.5		42	08.7 -00.3	N 25 13.7 -00.3		51	39.8 -32.2	N 27 53.5 -00.7		18
19	105	49.6 +00.0	N 20 26.9 +00.5		57	08.4 -00.4	N 25 13.4 -00.3		66	07.6 -32.2	N 27 52.8 -00.7		19
20	120	49.6 -00.1	N 20 27.4 +00.4		72	08.0 -00.4	N 25 13.1 -00.4		80	35.4 -32.1	N 27 52.1 -01.0		20
21	135	49.5 +00.0	N 20 27.8 +00.5		87	07.6 -00.4	N 25 12.7 -00.3		95	03.3 -32.1	N 27 51.1 -01.0		21
22	150	49.5 -00.1	N 20 28.3 +00.5		102	07.2 -00.3	N 25 12.4 -00.3		109	31.2 -32.0	N 27 50.1 -01.2		22
23	165	49.4 +00.0	N 20 28.8 +00.5		117	06.9 -00.4	N 25 12.1 -00.4		123	59.2 -32.1	N 27 48.9 -01.4		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 15'1 15'0 15'0 15'0 15'0 15'0				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 55'3 55'2 55'2 55'1 55'0 54'9				
	SHA 301° 301° 301° 301° 301° 301°				SHA 253° 253° 252° 252° 252° 252°				SHA 271° 269° 266° 264° 262° 259°				
	Greenwich Culmination Time: 11:56				Greenwich Culmination Time: 15:11				Greenwich Culmination Time: 14:25				

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	116	01.0 +01.0	N 21 30.7 -00.4		209	55.8 +01.9	N 10 52.9 +00.2		260	26.1 +02.4	S 10 27.4 +00.0		00
01	131	02.0 +00.9	N 21 30.3 -00.3		224	57.7 +01.9	N 10 53.1 +00.2		275	28.5 +02.4	S 10 27.4 -00.1		01
02	146	02.9 +01.0	N 21 30.0 -00.3		239	59.6 +02.0	N 10 53.3 +00.2		290	30.9 +02.3	S 10 27.3 +00.0		02
03	161	03.9 +01.0	N 21 29.7 -00.4		255	01.6 +01.9	N 10 53.5 +00.2		305	33.2 +02.4	S 10 27.3 +00.0		03
04	176	04.9 +01.0	N 21 29.3 -00.3		270	03.5 +01.9	N 10 53.7 +00.2		320	35.6 +02.3	S 10 27.3 -00.1		04
05	191	05.9 +00.9	N 21 29.0 -00.4		285	05.4 +01.9	N 10 53.9 +00.2		335	37.9 +02.4	S 10 27.2 +00.0		05
06	206	06.8 +01.0	N 21 28.6 -00.3		300	07.3 +02.0	N 10 54.1 +00.2		350	40.3 +02.4	S 10 27.2 +00.0		06
07	221	07.8 +01.0	N 21 28.3 -00.3		315	09.3 +01.9	N 10 54.3 +00.2		5	42.7 +02.3	S 10 27.2 -00.1		07
08	236	08.8 +00.9	N 21 28.0 -00.4		330	11.2 +01.9	N 10 54.5 +00.2		20	45.0 +02.4	S 10 27.1 +00.0		08
09	251	09.7 +01.0	N 21 27.6 -00.3		345	13.1 +02.0	N 10 54.7 +00.1		35	47.4 +02.3	S 10 27.1 +00.0		09
10	266	10.7 +01.0	N 21 27.3 -00.3		0	15.1 +01.9	N 10 54.8 +00.2		50	49.7 +02.4	S 10 27.1 +00.0		10
11	281	11.7 +01.0	N 21 27.0 -00.4		15	17.0 +01.9	N 10 55.0 +00.2		65	52.1 +02.4	S 10 27.1 -00.1		11
12	296	12.7 +00.9	N 21 26.6 -00.3		30	18.9 +01.9	N 10 55.2 +00.2		80	54.5 +02.3	S 10 27.0 +00.0		12
13	311	13.6 +01.0	N 21 26.3 -00.4		45	20.8 +02.0	N 10 55.4 +00.2		95	56.8 +02.4	S 10 27.0 +00.0		13
14	326	14.6 +01.0	N 21 25.9 -00.3		60	22.8 +01.9	N 10 55.6 +00.2		110	59.2 +02.3	S 10 27.0 -00.1		14
15	341	15.6 +00.9	N 21 25.6 -00.3		75	24.7 +01.9	N 10 55.8 +00.2		126	01.5 +02.4	S 10 26.9 +00.0		15
16	356	16.5 +01.0	N 21 25.3 -00.4		90	26.6 +02.0	N 10 56.0 +00.2		141	03.9 +02.4	S 10 26.9 +00.0		16
17	11	17.5 +01.0	N 21 24.9 -00.3		105	28.6 +01.9	N 10 56.2 +00.2		156	06.3 +02.3	S 10 26.9 -00.1		17
18	26	18.5 +01.0	N 21 24.6 -00.3		120	30.5 +01.9	N 10 56.4 +00.2		171	08.6 +02.4	S 10 26.8 +00.0		18
19	41	19.5 +00.9	N 21 24.3 -00.4		135	32.4 +01.9	N 10 56.6 +00.2		186	11.0 +02.4	S 10 26.8 +00.0		19
20	56	20.4 +01.0	N 21 23.9 -00.3		150	34.3 +02.0	N 10 56.8 +00.2		201	13.4 +02.3	S 10 26.8 -00.1		20
21	71	21.4 +01.0	N 21 23.6 -00.4		165	36.3 +01.9	N 10 57.0 +00.1		216	15.7 +02.4	S 10 26.7 +00.0		21
22	86	22.4 +00.9	N 21 23.2 -00.3		180	38.2 +01.9	N 10 57.1 +00.2		231	18.1 +02.3	S 10 26.7 +00.0		22
23	101	23.3 +01.0	N 21 22.9 -00.3		195	40.1 +02.0	N 10 57.3 +00.2		246	20.4 +02.4	S 10 26.7 +00.0		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 237° 237° 236° 236° 236° 236°				SHA 331° 331° 330° 330° 330° 330°				SHA 021° 021° 021° 021° 021° 021°				
	Greenwich Culmination Time: 16:14				Greenwich Culmination Time: 09:58				Greenwich Culmination Time: 06:37				

Sun					Venus					Moon					A: 13%
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT		
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "			
00	180 49.4 -00.1	N 20 29.3 +00.5	132 06.5 -00.4	N 25 11.7 -00.3	138 27.1 -31.9	N 27 47.5 -01.5	00								
01	195 49.3 +00.0	N 20 29.8 +00.5	147 06.1 -00.3	N 25 11.4 -00.3	152 55.2 -32.0	N 27 46.0 -01.6	01								
02	210 49.3 -00.1	N 20 30.3 +00.5	162 05.8 -00.4	N 25 11.1 -00.4	167 23.2 -31.9	N 27 44.4 -01.8	02								
03	225 49.2 +00.0	N 20 30.8 +00.4	177 05.4 -00.4	N 25 10.7 -00.3	181 51.3 -31.8	N 27 42.6 -01.9	03								
04	240 49.2 -00.1	N 20 31.2 +00.5	192 05.0 -00.3	N 25 10.4 -00.3	196 19.5 -31.8	N 27 40.7 -02.1	04								
05	255 49.1 +00.0	N 20 31.7 +00.5	207 04.7 -00.4	N 25 10.1 -00.4	210 47.7 -31.8	N 27 38.6 -02.2	05								
06	270 49.1 -00.1	N 20 32.2 +00.5	222 04.3 -00.4	N 25 09.7 -00.3	225 15.9 -31.7	N 27 36.4 -02.3	06								
07	285 49.0 +00.0	N 20 32.7 +00.5	237 03.9 -00.3	N 25 09.4 -00.4	239 44.2 -31.7	N 27 34.1 -02.5	07								
08	300 49.0 -00.1	N 20 33.2 +00.4	252 03.6 -00.4	N 25 09.0 -00.3	254 12.5 -31.6	N 27 31.6 -02.6	08								
09	315 48.9 +00.0	N 20 33.6 +00.5	267 03.2 -00.4	N 25 08.7 -00.3	268 40.9 -31.5	N 27 29.0 -02.7	09								
10	330 48.9 -00.1	N 20 34.1 +00.5	282 02.8 -00.3	N 25 08.4 -00.4	283 09.4 -31.6	N 27 26.3 -02.9	10								
11	345 48.8 +00.0	N 20 34.6 +00.5	297 02.5 -00.4	N 25 08.0 -00.3	297 37.8 -31.4	N 27 23.4 -03.0	11								
12	0 48.8 -00.1	N 20 35.1 +00.5	312 02.1 -00.4	N 25 07.7 -00.4	312 06.4 -31.4	N 27 20.4 -03.1	12								
13	15 48.7 -00.1	N 20 35.6 +00.4	327 01.7 -00.3	N 25 07.3 -00.3	326 35.0 -31.4	N 27 17.3 -03.3	13								
14	30 48.6 +00.0	N 20 36.0 +00.5	342 01.4 -00.4	N 25 07.0 -00.4	341 03.6 -31.3	N 27 14.0 -03.4	14								
15	45 48.6 -00.1	N 20 36.5 +00.5	357 01.0 -00.3	N 25 06.6 -00.3	355 32.3 -31.2	N 27 10.6 -03.6	15								
16	60 48.5 +00.0	N 20 37.0 +00.5	12 00.7 -00.4	N 25 06.3 -00.4	10 01.1 -31.2	N 27 07.0 -03.7	16								
17	75 48.5 -00.1	N 20 37.5 +00.4	27 00.3 -00.4	N 25 05.9 -00.3	24 29.9 -31.1	N 27 03.3 -03.8	17								
18	90 48.4 +00.0	N 20 37.9 +00.5	41 59.9 -00.3	N 25 05.6 -00.4	38 58.8 -31.1	N 26 59.5 -03.9	18								
19	105 48.4 -00.1	N 20 38.4 +00.5	56 59.6 -00.4	N 25 05.2 -00.3	53 27.7 -31.0	N 26 55.6 -04.1	19								
20	120 48.3 +00.0	N 20 38.9 +00.5	71 59.2 -00.3	N 25 04.9 -00.4	67 56.7 -30.9	N 26 51.5 -04.2	20								
21	135 48.3 -00.1	N 20 39.4 +00.4	86 58.9 -00.4	N 25 04.5 -00.3	82 25.8 -30.9	N 26 47.3 -04.3	21								
22	150 48.2 +00.0	N 20 39.8 +00.5	101 58.5 -00.3	N 25 04.2 -00.4	96 54.9 -30.8	N 26 43.0 -04.5	22								
23	165 48.2 -00.1	N 20 40.3 +00.5	116 58.2 -00.4	N 25 03.8 -00.3	111 24.1 -30.8	N 26 38.5 -04.6	23								
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22								
SD	15'8 15'8 15'8 15'8 15'8 15'8		SD	00'2 00'2 00'2 00'2 00'2 00'2		SD	14'9 14'9 14'9 14'9 14'9 14'9								
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'2 00'2 00'2 00'2 00'2 00'2		HP	54'9 54'8 54'7 54'7 54'6 54'5								
SHA	300° 300° 300° 300° 300° 300°		SHA	252° 251° 251° 251° 251° 251°		SHA	257° 255° 252° 250° 248° 246°								
Greenwich Culmination Time: 11:56			Greenwich Culmination Time: 15:11			Greenwich Culmination Time: 15:18									

Mars					Jupiter					Saturn					
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT		
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "			
00	116 24.3 +01.0	N 21 22.6 -00.4	210 42.1 +01.9	N 10 57.5 +00.2	261 22.8 +02.4	S 10 26.7 -00.1	00								
01	131 25.3 +01.0	N 21 22.2 -00.3	225 44.0 +01.9	N 10 57.7 +00.2	276 25.2 +02.3	S 10 26.6 +00.0	01								
02	146 26.3 +00.9	N 21 21.9 -00.4	240 45.9 +01.9	N 10 57.9 +00.2	291 27.5 +02.4	S 10 26.6 +00.0	02								
03	161 27.2 +01.0	N 21 21.5 -00.3	255 47.8 +02.0	N 10 58.1 +00.2	306 29.9 +02.4	S 10 26.6 -00.1	03								
04	176 28.2 +01.0	N 21 21.2 -00.4	270 49.8 +01.9	N 10 58.3 +00.2	321 32.3 +02.3	S 10 26.5 +00.0	04								
05	191 29.2 +01.0	N 21 20.8 -00.3	285 51.7 +01.9	N 10 58.5 +00.2	336 34.6 +02.4	S 10 26.5 +00.0	05								
06	206 30.2 +00.9	N 21 20.5 -00.3	300 53.6 +02.0	N 10 58.7 +00.2	351 37.0 +02.3	S 10 26.5 -00.1	06								
07	221 31.1 +01.0	N 21 20.2 -00.4	315 55.6 +01.9	N 10 58.9 +00.2	6 39.3 +02.4	S 10 26.4 +00.0	07								
08	236 32.1 +01.0	N 21 19.8 -00.3	330 57.5 +01.9	N 10 59.1 +00.1	21 41.7 +02.4	S 10 26.4 +00.0	08								
09	251 33.1 +00.9	N 21 19.5 -00.4	345 59.4 +01.9	N 10 59.2 +00.2	36 44.1 +02.3	S 10 26.4 +00.0	09								
10	266 34.0 +01.0	N 21 19.1 -00.3	1 01.3 +02.0	N 10 59.4 +00.2	51 46.4 +02.4	S 10 26.4 -00.1	10								
11	281 35.0 +01.0	N 21 18.8 -00.3	16 03.3 +01.9	N 10 59.6 +00.2	66 48.8 +02.4	S 10 26.3 +00.0	11								
12	296 36.0 +01.0	N 21 18.5 -00.4	31 05.2 +01.9	N 10 59.8 +00.2	81 51.2 +02.3	S 10 26.3 +00.0	12								
13	311 37.0 +00.9	N 21 18.1 -00.3	46 07.1 +02.0	N 11 00.0 +00.2	96 53.5 +02.4	S 10 26.3 -00.1	13								
14	326 37.9 +01.0	N 21 17.8 -00.4	61 09.1 +01.9	N 11 00.2 +00.2	111 55.9 +02.4	S 10 26.2 +00.0	14								
15	341 38.9 +01.0	N 21 17.4 -00.3	76 11.0 +01.9	N 11 00.4 +00.2	126 58.3 +02.3	S 10 26.2 +00.0	15								
16	356 39.9 +00.9	N 21 17.1 -00.4	91 12.9 +02.0	N 11 00.6 +00.2	142 00.6 +02.4	S 10 26.2 -00.1	16								
17	11 40.8 +01.0	N 21 16.7 -00.3	106 14.9 +01.9	N 11 00.8 +00.2	157 03.0 +02.4	S 10 26.1 +00.0	17								
18	26 41.8 +01.0	N 21 16.4 -00.4	121 16.8 +01.9	N 11 01.0 +00.1	172 05.4 +02.3	S 10 26.1 +00.0	18								
19	41 42.8 +01.0	N 21 16.0 -00.3	136 18.7 +01.9	N 11 01.1 +00.2	187 07.7 +02.4	S 10 26.1 +00.0	19								
20	56 43.8 +00.9	N 21 15.7 -00.3	151 20.6 +02.0	N 11 01.3 +00.2	202 10.1 +02.4	S 10 26.1 -00.1	20								
21	71 44.7 +01.0	N 21 15.4 -00.4	166 22.6 +01.9	N 11 01.5 +00.2	217 12.5 +02.3	S 10 26.0 +00.0	21								
22	86 45.7 +01.0	N 21 15.0 -00.3	181 24.5 +01.9	N 11 01.7 +00.2	232 14.8 +02.4	S 10 26.0 +00.0	22								
23	101 46.7 +01.0	N 21 14.7 -00.4	196 26.4 +02.0	N 11 01.9 +00.2	247 17.2 +02.4	S 10 26.0 -00.1	23								
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22								
SD	00'0 00'0 00'0 00'0 00'0 00'0		SD	00'3 00'3 00'3 00'3 00'3 00'3		SD	00'1 00'1 00'1 00'1 00'1 00'1								
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'0 00'0 00'0 00'0 00'0 00'0		HP	00'0 00'0 00'0 00'0 00'0 00'0								
SHA	236° 236° 236° 236° 236° 236°		SHA	330° 330° 330° 330° 330° 330°		SHA	021° 021° 021° 021° 021° 021°								
Greenwich Culmination Time: 16:13			Greenwich Culmination Time: 09:55			Greenwich Culmination Time: 06:33									

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UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 48.1 -00.1	N 20 40.8 +00.4	131 57.8 -00.3	N 25 03.5 -00.4	125 53.3 -30.7	N 26 33.9 -04.7	00						
01	195 48.0 +00.0	N 20 41.2 +00.5	146 57.5 -00.4	N 25 03.1 -00.3	140 22.6 -30.6	N 26 29.2 -04.8	01						
02	210 48.0 -00.1	N 20 41.7 +00.5	161 57.1 -00.3	N 25 02.8 -00.4	154 52.0 -30.6	N 26 24.4 -04.9	02						
03	225 47.9 +00.0	N 20 42.2 +00.4	176 56.8 -00.4	N 25 02.4 -00.4	169 21.4 -30.5	N 26 19.5 -05.1	03						
04	240 47.9 -00.1	N 20 42.6 +00.5	191 56.4 -00.3	N 25 02.0 -00.3	183 50.9 -30.4	N 26 14.4 -05.2	04						
05	255 47.8 +00.0	N 20 43.1 +00.5	206 56.1 -00.4	N 25 01.7 -00.4	198 20.5 -30.4	N 26 09.2 -05.4	05						
06	270 47.8 -00.1	N 20 43.6 +00.4	221 55.7 -00.3	N 25 01.3 -00.3	212 50.1 -30.3	N 26 03.8 -05.4	06						
07	285 47.7 +00.0	N 20 44.0 +00.5	236 55.4 -00.4	N 25 01.0 -00.4	227 19.8 -30.2	N 25 58.4 -05.6	07						
08	300 47.7 -00.1	N 20 44.5 +00.5	251 55.0 -00.3	N 25 00.6 -00.4	241 49.6 -30.2	N 25 52.8 -05.6	08						
09	315 47.6 -00.1	N 20 45.0 +00.4	266 54.7 -00.3	N 25 00.2 -00.3	256 19.4 -30.1	N 25 47.2 -05.8	09						
10	330 47.5 +00.0	N 20 45.4 +00.5	281 54.4 -00.4	N 24 59.9 -00.4	270 49.3 -30.0	N 25 41.4 -06.0	10						
11	345 47.5 -00.1	N 20 45.9 +00.5	296 54.0 -00.3	N 24 59.5 -00.4	285 19.3 -30.0	N 25 35.4 -06.0	11						
12	0 47.4 +00.0	N 20 46.4 +00.4	311 53.7 -00.4	N 24 59.1 -00.3	299 49.3 -29.9	N 25 29.4 -06.2	12						
13	15 47.4 -00.1	N 20 46.8 +00.5	326 53.3 -00.3	N 24 58.8 -00.4	314 19.4 -29.8	N 25 23.2 -06.2	13						
14	30 47.3 -00.1	N 20 47.3 +00.5	341 53.0 -00.3	N 24 58.4 -00.4	328 49.6 -29.8	N 25 17.0 -06.4	14						
15	45 47.2 +00.0	N 20 47.8 +00.4	356 52.7 -00.4	N 24 58.0 -00.4	343 19.8 -29.7	N 25 10.6 -06.5	15						
16	60 47.2 -00.1	N 20 48.2 +00.5	11 52.3 -00.3	N 24 57.6 -00.3	357 50.1 -29.6	N 25 04.1 -06.6	16						
17	75 47.1 +00.0	N 20 48.7 +00.4	26 52.0 -00.3	N 24 57.3 -00.4	12 20.5 -29.5	N 24 57.5 -06.7	17						
18	90 47.1 -00.1	N 20 49.1 +00.5	41 51.7 -00.4	N 24 56.9 -00.4	26 51.0 -29.5	N 24 50.8 -06.9	18						
19	105 47.0 -00.1	N 20 49.6 +00.5	56 51.3 -00.3	N 24 56.5 -00.3	41 21.5 -29.4	N 24 43.9 -06.9	19						
20	120 46.9 +00.0	N 20 50.1 +00.4	71 51.0 -00.3	N 24 56.2 -00.4	55 52.1 -29.3	N 24 37.0 -07.0	20						
21	135 46.9 -00.1	N 20 50.5 +00.5	86 50.7 -00.4	N 24 55.8 -00.4	70 22.8 -29.3	N 24 30.0 -07.2	21						
22	150 46.8 +00.0	N 20 51.0 +00.4	101 50.3 -00.3	N 24 55.4 -00.4	84 53.5 -29.1	N 24 22.8 -07.3	22						
23	165 46.8 -00.1	N 20 51.4 +00.5	116 50.0 -00.3	N 24 55.0 -00.4	99 24.4 -29.2	N 24 15.5 -07.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 14'8 14'8 14'8 14'8 14'8 14'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 54'5 54'4 54'4 54'4 54'3 54'3								
	SHA 299° 299° 299° 299° 299° 299°		SHA 251° 250° 250° 250° 250° 250°		SHA 243° 241° 239° 237° 235° 233°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 15:12		Greenwich Culmination Time: 16:08								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	116 47.7 +00.9	N 21 14.3 -00.3	211 28.4 +01.9	N 11 02.1 +00.2	262 19.6 +02.3	S 10 25.9 +00.0	00						
01	131 48.6 +01.0	N 21 14.0 -00.4	226 30.3 +01.9	N 11 02.3 +00.2	277 21.9 +02.4	S 10 25.9 +00.0	01						
02	146 49.6 +01.0	N 21 13.6 -00.3	241 32.2 +02.0	N 11 02.5 +00.2	292 24.3 +02.4	S 10 25.9 +00.0	02						
03	161 50.6 +00.9	N 21 13.3 -00.4	256 34.2 +01.9	N 11 02.7 +00.2	307 26.7 +02.3	S 10 25.9 -00.1	03						
04	176 51.5 +01.0	N 21 12.9 -00.3	271 36.1 +01.9	N 11 02.9 +00.1	322 29.0 +02.4	S 10 25.8 +00.0	04						
05	191 52.5 +01.0	N 21 12.6 -00.4	286 38.0 +02.0	N 11 03.0 +00.2	337 31.4 +02.4	S 10 25.8 +00.0	05						
06	206 53.5 +01.0	N 21 12.2 -00.3	301 40.0 +01.9	N 11 03.2 +00.2	352 33.8 +02.3	S 10 25.8 -00.1	06						
07	221 54.5 +00.9	N 21 11.9 -00.4	316 41.9 +01.9	N 11 03.4 +00.2	7 36.1 +02.4	S 10 25.7 +00.0	07						
08	236 55.4 +01.0	N 21 11.5 -00.3	331 43.8 +01.9	N 11 03.6 +00.2	22 38.5 +02.4	S 10 25.7 +00.0	08						
09	251 56.4 +01.0	N 21 11.2 -00.4	346 45.7 +02.0	N 11 03.8 +00.2	37 40.9 +02.3	S 10 25.7 +00.0	09						
10	266 57.4 +00.9	N 21 10.8 -00.3	1 47.7 +01.9	N 11 04.0 +00.2	52 43.2 +02.4	S 10 25.7 -00.1	10						
11	281 58.3 +01.0	N 21 10.5 -00.3	16 49.6 +01.9	N 11 04.2 +00.2	67 45.6 +02.4	S 10 25.6 +00.0	11						
12	296 59.3 +01.0	N 21 10.2 -00.4	31 51.5 +02.0	N 11 04.4 +00.2	82 48.0 +02.3	S 10 25.6 +00.0	12						
13	312 00.3 +01.0	N 21 09.8 -00.3	46 53.5 +01.9	N 11 04.6 +00.2	97 50.3 +02.4	S 10 25.6 -00.1	13						
14	327 01.3 +00.9	N 21 09.5 -00.4	61 55.4 +01.9	N 11 04.8 +00.1	112 52.7 +02.4	S 10 25.5 +00.0	14						
15	342 02.2 +01.0	N 21 09.1 -00.3	76 57.3 +02.0	N 11 04.9 +00.2	127 55.1 +02.3	S 10 25.5 +00.0	15						
16	357 03.2 +01.0	N 21 08.8 -00.4	91 59.3 +01.9	N 11 05.1 +00.2	142 57.4 +02.4	S 10 25.5 +00.0	16						
17	12 04.2 +01.0	N 21 08.4 -00.3	107 01.2 +01.9	N 11 05.3 +00.2	157 59.8 +02.4	S 10 25.5 -00.1	17						
18	27 05.2 +00.9	N 21 08.1 -00.4	122 03.1 +02.0	N 11 05.5 +00.2	173 02.2 +02.3	S 10 25.4 +00.0	18						
19	42 06.1 +01.0	N 21 07.7 -00.3	137 05.1 +01.9	N 11 05.7 +00.2	188 04.5 +02.4	S 10 25.4 +00.0	19						
20	57 07.1 +01.0	N 21 07.4 -00.4	152 07.0 +01.9	N 11 05.9 +00.2	203 06.9 +02.4	S 10 25.4 +00.0	20						
21	72 08.1 +00.9	N 21 07.0 -00.3	167 08.9 +02.0	N 11 06.1 +00.2	218 09.3 +02.4	S 10 25.4 -00.1	21						
22	87 09.0 +01.0	N 21 06.7 -00.4	182 10.9 +01.9	N 11 06.3 +00.2	233 11.7 +02.3	S 10 25.3 +00.0	22						
23	102 10.0 +01.0	N 21 06.3 -00.3	197 12.8 +01.9	N 11 06.5 +00.1	248 14.0 +02.4	S 10 25.3 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 235° 235° 235° 235° 235° 235°		SHA 330° 330° 330° 330° 330° 330°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 16:11		Greenwich Culmination Time: 09:52		Greenwich Culmination Time: 06:29								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 46.7 -00.1	N 20 51.9 +00.4	131 49.7 -00.4	N 24 54.6 -00.3	113 55.2 -29.0	N 24 08.2 -07.5	00						
01	195 46.6 +00.0	N 20 52.3 +00.5	146 49.3 -00.3	N 24 54.3 -00.4	128 26.2 -29.0	N 24 00.7 -07.6	01						
02	210 46.6 -00.1	N 20 52.8 +00.4	161 49.0 -00.3	N 24 53.9 -00.4	142 57.2 -28.9	N 23 53.1 -07.7	02						
03	225 46.5 +00.0	N 20 53.2 +00.5	176 48.7 -00.3	N 24 53.5 -00.4	157 28.3 -28.8	N 23 45.4 -07.8	03						
04	240 46.5 -00.1	N 20 53.7 +00.5	191 48.4 -00.4	N 24 53.1 -00.4	171 59.5 -28.7	N 23 37.6 -07.9	04						
05	255 46.4 -00.1	N 20 54.2 +00.4	206 48.0 -00.3	N 24 52.7 -00.3	186 30.8 -28.7	N 23 29.7 -08.0	05						
06	270 46.3 +00.0	N 20 54.6 +00.5	221 47.7 -00.3	N 24 52.4 -00.4	201 02.1 -28.6	N 23 21.7 -08.0	06						
07	285 46.3 -00.1	N 20 55.1 +00.4	236 47.4 -00.3	N 24 52.0 -00.4	215 33.5 -28.6	N 23 13.7 -08.2	07						
08	300 46.2 -00.1	N 20 55.5 +00.5	251 47.1 -00.4	N 24 51.6 -00.4	230 04.9 -28.5	N 23 05.5 -08.3	08						
09	315 46.1 +00.0	N 20 56.0 +00.4	266 46.7 -00.3	N 24 51.2 -00.4	244 36.4 -28.4	N 22 57.2 -08.4	09						
10	330 46.1 -00.1	N 20 56.4 +00.5	281 46.4 -00.3	N 24 50.8 -00.4	259 08.0 -28.3	N 22 48.8 -08.5	10						
11	345 46.0 +00.0	N 20 56.9 +00.4	296 46.1 -00.3	N 24 50.4 -00.4	273 39.7 -28.2	N 22 40.3 -08.6	11						
12	0 46.0 -00.1	N 20 57.3 +00.4	311 45.8 -00.3	N 24 50.0 -00.4	288 11.5 -28.2	N 22 31.7 -08.7	12						
13	15 45.9 -00.1	N 20 57.7 +00.5	326 45.5 -00.4	N 24 49.6 -00.3	302 43.3 -28.1	N 22 23.0 -08.7	13						
14	30 45.8 +00.0	N 20 58.2 +00.4	341 45.1 -00.3	N 24 49.3 -00.4	317 15.2 -28.1	N 22 14.3 -08.9	14						
15	45 45.8 -00.1	N 20 58.6 +00.5	356 44.8 -00.3	N 24 48.9 -00.4	331 47.1 -28.0	N 22 05.4 -09.0	15						
16	60 45.7 -00.1	N 20 59.1 +00.4	11 44.5 -00.3	N 24 48.5 -00.4	346 19.1 -27.9	N 21 56.4 -09.0	16						
17	75 45.6 +00.0	N 20 59.5 +00.5	26 44.2 -00.3	N 24 48.1 -00.4	0 51.2 -27.8	N 21 47.4 -09.1	17						
18	90 45.6 -00.1	N 20 60.0 +00.4	41 43.9 -00.3	N 24 47.7 -00.4	15 23.4 -27.8	N 21 38.3 -09.3	18						
19	105 45.5 -00.1	N 21 00.4 +00.5	56 43.6 -00.3	N 24 47.3 -00.4	29 55.6 -27.7	N 21 29.0 -09.3	19						
20	120 45.4 +00.0	N 21 00.9 +00.4	71 43.3 -00.3	N 24 46.9 -00.4	44 27.9 -27.6	N 21 19.7 -09.4	20						
21	135 45.4 -00.1	N 21 01.3 +00.4	86 43.0 -00.4	N 24 46.5 -00.4	59 00.3 -27.6	N 21 10.3 -09.5	21						
22	150 45.3 +00.0	N 21 01.7 +00.5	101 42.6 -00.3	N 24 46.1 -00.4	73 32.7 -27.5	N 21 00.8 -09.6	22						
23	165 45.3 -00.1	N 21 02.2 +00.4	116 42.3 -00.3	N 24 45.7 -00.4	88 05.2 -27.4	N 20 51.2 -09.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 14'8 14'8 14'8 14'8 14'8 14'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 54'3 54'2 54'2 54'2 54'2 54'2								
	SHA 298° 298° 298° 298° 298° 298°		SHA 249° 249° 249° 249° 249° 248°		SHA 231° 228° 226° 224° 222° 220°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 15:13		Greenwich Culmination Time: 16:56								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	117 11.0 +01.0	N 21 06.0 -00.4	212 14.7 +02.0	N 11 06.6 +00.2	263 16.4 +02.4	S 10 25.3 -00.1	00						
01	132 12.0 +00.9	N 21 05.6 -00.3	227 16.7 +01.9	N 11 06.8 +00.2	278 18.8 +02.3	S 10 25.2 +00.0	01						
02	147 12.9 +01.0	N 21 05.3 -00.4	242 18.6 +01.9	N 11 07.0 +00.2	293 21.1 +02.4	S 10 25.2 +00.0	02						
03	162 13.9 +01.0	N 21 04.9 -00.4	257 20.5 +02.0	N 11 07.2 +00.2	308 23.5 +02.4	S 10 25.2 +00.0	03						
04	177 14.9 +01.0	N 21 04.5 -00.3	272 22.5 +01.9	N 11 07.4 +00.2	323 25.9 +02.3	S 10 25.2 -00.1	04						
05	192 15.9 +00.9	N 21 04.2 -00.4	287 24.4 +01.9	N 11 07.6 +00.2	338 28.2 +02.4	S 10 25.1 +00.0	05						
06	207 16.8 +01.0	N 21 03.8 -00.3	302 26.3 +02.0	N 11 07.8 +00.2	353 30.6 +02.4	S 10 25.1 +00.0	06						
07	222 17.8 +01.0	N 21 03.5 -00.4	317 28.3 +01.9	N 11 08.0 +00.1	8 33.0 +02.4	S 10 25.1 +00.0	07						
08	237 18.8 +00.9	N 21 03.1 -00.3	332 30.2 +01.9	N 11 08.1 +00.2	23 35.4 +02.3	S 10 25.1 -00.1	08						
09	252 19.7 +01.0	N 21 02.8 -00.4	347 32.1 +02.0	N 11 08.3 +00.2	38 37.7 +02.4	S 10 25.0 +00.0	09						
10	267 20.7 +01.0	N 21 02.4 -00.3	2 34.1 +01.9	N 11 08.5 +00.2	53 40.1 +02.4	S 10 25.0 +00.0	10						
11	282 21.7 +01.0	N 21 02.1 -00.4	17 36.0 +01.9	N 11 08.7 +00.2	68 42.5 +02.3	S 10 25.0 -00.1	11						
12	297 22.7 +00.9	N 21 01.7 -00.3	32 37.9 +02.0	N 11 08.9 +00.2	83 44.8 +02.4	S 10 24.9 +00.0	12						
13	312 23.6 +01.0	N 21 01.4 -00.4	47 39.9 +01.9	N 11 09.1 +00.2	98 47.2 +02.4	S 10 24.9 +00.0	13						
14	327 24.6 +01.0	N 21 01.0 -00.3	62 41.8 +01.9	N 11 09.3 +00.2	113 49.6 +02.4	S 10 24.9 +00.0	14						
15	342 25.6 +01.0	N 21 00.7 -00.4	77 43.7 +02.0	N 11 09.5 +00.2	128 52.0 +02.3	S 10 24.9 -00.1	15						
16	357 26.6 +00.9	N 21 00.3 -00.3	92 45.7 +01.9	N 11 09.7 +00.1	143 54.3 +02.4	S 10 24.8 +00.0	16						
17	12 27.5 +01.0	N 20 60.0 -00.4	107 47.6 +01.9	N 11 09.8 +00.2	158 56.7 +02.4	S 10 24.8 +00.0	17						
18	27 28.5 +01.0	N 20 59.6 -00.4	122 49.5 +02.0	N 11 10.0 +00.2	173 59.1 +02.4	S 10 24.8 +00.0	18						
19	42 29.5 +00.9	N 20 59.2 -00.3	137 51.5 +01.9	N 11 10.2 +00.2	189 01.5 +02.3	S 10 24.8 -00.1	19						
20	57 30.4 +01.0	N 20 58.9 -00.4	152 53.4 +01.9	N 11 10.4 +00.2	204 03.8 +02.4	S 10 24.7 +00.0	20						
21	72 31.4 +01.0	N 20 58.5 -00.3	167 55.3 +02.0	N 11 10.6 +00.2	219 06.2 +02.4	S 10 24.7 +00.0	21						
22	87 32.4 +01.0	N 20 58.2 -00.4	182 57.3 +01.9	N 11 10.8 +00.2	234 08.6 +02.3	S 10 24.7 +00.0	22						
23	102 33.4 +00.9	N 20 57.8 -00.3	197 59.2 +01.9	N 11 11.0 +00.2	249 10.9 +02.4	S 10 24.7 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 235° 235° 235° 235° 234° 234°		SHA 330° 330° 330° 330° 330° 330°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 16:10		Greenwich Culmination Time: 09:49		Greenwich Culmination Time: 06:25								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	45.2 -00.1	N 21 02.6 +00.5		131	42.0 -00.3	N 24 45.3 -00.4		102	37.8 -27.4	N 20 41.6 -09.8		00
01	195	45.1 +00.0	N 21 03.1 +00.4		146	41.7 -00.3	N 24 44.9 -00.4		117	10.4 -27.3	N 20 31.8 -09.8		01
02	210	45.1 -00.1	N 21 03.5 +00.4		161	41.4 -00.3	N 24 44.5 -00.4		131	43.1 -27.3	N 20 22.0 -10.0		02
03	225	45.0 -00.1	N 21 03.9 +00.5		176	41.1 -00.3	N 24 44.1 -00.4		146	15.8 -27.1	N 20 12.0 -10.0		03
04	240	44.9 +00.0	N 21 04.4 +00.4		191	40.8 -00.3	N 24 43.7 -00.4		160	48.7 -27.1	N 20 02.0 -10.0		04
05	255	44.9 -00.1	N 21 04.8 +00.5		206	40.5 -00.3	N 24 43.3 -00.4		175	21.6 -27.1	N 19 52.0 -10.2		05
06	270	44.8 -00.1	N 21 05.3 +00.4		221	40.2 -00.3	N 24 42.9 -00.4		189	54.5 -27.0	N 19 41.8 -10.3		06
07	285	44.7 +00.0	N 21 05.7 +00.4		236	39.9 -00.3	N 24 42.5 -00.4		204	27.5 -26.9	N 19 31.5 -10.3		07
08	300	44.7 -00.1	N 21 06.1 +00.5		251	39.6 -00.3	N 24 42.1 -00.5		219	00.6 -26.9	N 19 21.2 -10.4		08
09	315	44.6 -00.1	N 21 06.6 +00.4		266	39.3 -00.3	N 24 41.6 -00.4		233	33.7 -26.8	N 19 10.8 -10.5		09
10	330	44.5 +00.0	N 21 07.0 +00.4		281	39.0 -00.3	N 24 41.2 -00.4		248	06.9 -26.7	N 19 00.3 -10.5		10
11	345	44.5 -00.1	N 21 07.4 +00.5		296	38.7 -00.3	N 24 40.8 -00.4		262	40.2 -26.7	N 18 49.8 -10.7		11
12	0	44.4 -00.1	N 21 07.9 +00.4		311	38.4 -00.3	N 24 40.4 -00.4		277	13.5 -26.6	N 18 39.1 -10.7		12
13	15	44.3 -00.1	N 21 08.3 +00.4		326	38.1 -00.3	N 24 40.0 -00.4		291	46.9 -26.6	N 18 28.4 -10.8		13
14	30	44.2 +00.0	N 21 08.7 +00.5		341	37.8 -00.3	N 24 39.6 -00.4		306	20.3 -26.5	N 18 17.6 -10.8		14
15	45	44.2 -00.1	N 21 09.2 +00.4		356	37.5 -00.3	N 24 39.2 -00.4		320	53.8 -26.4	N 18 06.8 -11.0		15
16	60	44.1 -00.1	N 21 09.6 +00.4		11	37.2 -00.2	N 24 38.8 -00.5		335	27.4 -26.4	N 17 55.8 -11.0		16
17	75	44.0 +00.0	N 21 10.0 +00.5		26	37.0 -00.3	N 24 38.3 -00.4		350	01.0 -26.4	N 17 44.8 -11.1		17
18	90	44.0 -00.1	N 21 10.5 +00.4		41	36.7 -00.3	N 24 37.9 -00.4		4	34.6 -26.3	N 17 33.7 -11.1		18
19	105	43.9 -00.1	N 21 10.9 +00.4		56	36.4 -00.3	N 24 37.5 -00.4		19	08.3 -26.2	N 17 22.6 -11.2		19
20	120	43.8 +00.0	N 21 11.3 +00.4		71	36.1 -00.3	N 24 37.1 -00.4		33	42.1 -26.2	N 17 11.4 -11.3		20
21	135	43.8 -00.1	N 21 11.7 +00.5		86	35.8 -00.3	N 24 36.7 -00.5		48	15.9 -26.1	N 17 00.1 -11.4		21
22	150	43.7 -00.1	N 21 12.2 +00.4		101	35.5 -00.3	N 24 36.2 -00.4		62	49.8 -26.1	N 16 48.7 -11.4		22
23	165	43.6 -00.1	N 21 12.6 +00.4		116	35.2 -00.3	N 24 35.8 -00.4		77	23.7 -26.0	N 16 37.3 -11.5		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 14'8 14'8 14'8 14'8 14'8 14'8				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 54'2 54'2 54'2 54'2 54'2 54'2				
	SHA 297° 297° 297° 297° 297° 297°				SHA 248° 248° 248° 248° 248° 247°				SHA 218° 216° 214° 212° 211° 209°				
	Greenwich Culmination Time: 11:57				Greenwich Culmination Time: 15:13				Greenwich Culmination Time: 17:41				

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	117	34.3 +01.0	N 20 57.5 -00.4		213	01.1 +02.0	N 11 11.2 +00.1		264	13.3 +02.4	S 10 24.6 +00.0		00
01	132	35.3 +01.0	N 20 57.1 -00.4		228	03.1 +01.9	N 11 11.3 +00.2		279	15.7 +02.4	S 10 24.6 +00.0		01
02	147	36.3 +01.0	N 20 56.7 -00.3		243	05.0 +01.9	N 11 11.5 +00.2		294	18.1 +02.3	S 10 24.6 +00.0		02
03	162	37.3 +00.9	N 20 56.4 -00.4		258	06.9 +02.0	N 11 11.7 +00.2		309	20.4 +02.4	S 10 24.6 -00.1		03
04	177	38.2 +01.0	N 20 56.0 -00.3		273	08.9 +01.9	N 11 11.9 +00.2		324	22.8 +02.4	S 10 24.5 +00.0		04
05	192	39.2 +01.0	N 20 55.7 -00.4		288	10.8 +01.9	N 11 12.1 +00.2		339	25.2 +02.4	S 10 24.5 +00.0		05
06	207	40.2 +01.0	N 20 55.3 -00.3		303	12.7 +02.0	N 11 12.3 +00.2		354	27.6 +02.3	S 10 24.5 +00.0		06
07	222	41.2 +00.9	N 20 55.0 -00.4		318	14.7 +01.9	N 11 12.5 +00.1		9	29.9 +02.4	S 10 24.5 -00.1		07
08	237	42.1 +01.0	N 20 54.6 -00.4		333	16.6 +01.9	N 11 12.6 +00.2		24	32.3 +02.4	S 10 24.4 +00.0		08
09	252	43.1 +01.0	N 20 54.2 -00.3		348	18.5 +02.0	N 11 12.8 +00.2		39	34.7 +02.4	S 10 24.4 +00.0		09
10	267	44.1 +00.9	N 20 53.9 -00.4		3	20.5 +01.9	N 11 13.0 +00.2		54	37.1 +02.3	S 10 24.4 +00.0		10
11	282	45.0 +01.0	N 20 53.5 -00.3		18	22.4 +01.9	N 11 13.2 +00.2		69	39.4 +02.4	S 10 24.4 -00.1		11
12	297	46.0 +01.0	N 20 53.2 -00.4		33	24.3 +02.0	N 11 13.4 +00.2		84	41.8 +02.4	S 10 24.3 +00.0		12
13	312	47.0 +01.0	N 20 52.8 -00.4		48	26.3 +01.9	N 11 13.6 +00.2		99	44.2 +02.4	S 10 24.3 +00.0		13
14	327	48.0 +00.9	N 20 52.4 -00.3		63	28.2 +02.0	N 11 13.8 +00.2		114	46.6 +02.3	S 10 24.3 +00.0		14
15	342	48.9 +01.0	N 20 52.1 -00.4		78	30.2 +01.9	N 11 14.0 +00.1		129	48.9 +02.4	S 10 24.3 -00.1		15
16	357	49.9 +01.0	N 20 51.7 -00.3		93	32.1 +01.9	N 11 14.1 +00.2		144	51.3 +02.4	S 10 24.2 +00.0		16
17	12	50.9 +01.0	N 20 51.4 -00.4		108	34.0 +02.0	N 11 14.3 +00.2		159	53.7 +02.4	S 10 24.2 +00.0		17
18	27	51.9 +00.9	N 20 51.0 -00.4		123	36.0 +01.9	N 11 14.5 +00.2		174	56.1 +02.4	S 10 24.2 +00.0		18
19	42	52.8 +01.0	N 20 50.6 -00.3		138	37.9 +01.9	N 11 14.7 +00.2		189	58.5 +02.3	S 10 24.2 -00.1		19
20	57	53.8 +01.0	N 20 50.3 -00.4		153	39.8 +02.0	N 11 14.9 +00.2		205	00.8 +02.4	S 10 24.1 +00.0		20
21	72	54.8 +01.0	N 20 49.9 -00.3		168	41.8 +01.9	N 11 15.1 +00.2		220	03.2 +02.4	S 10 24.1 +00.0		21
22	87	55.8 +00.9	N 20 49.6 -00.4		183	43.7 +01.9	N 11 15.3 +00.1		235	05.6 +02.4	S 10 24.1 +00.0		22
23	102	56.7 +01.0	N 20 49.2 -00.4		198	45.6 +02.0	N 11 15.4 +00.2		250	08.0 +02.3	S 10 24.1 -00.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 234° 234° 234° 234° 234° 234°				SHA 330° 330° 330° 330° 330° 330°				SHA 021° 021° 021° 021° 021° 021°				
	Greenwich Culmination Time: 16:08				Greenwich Culmination Time: 09:46				Greenwich Culmination Time: 06:22				

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UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	43.5 +00.0	N 21 13.0	+00.4	131	34.9 -00.2	N 24 35.4	-00.4	91	57.7 -26.0	N 16 25.8	-11.6	00
01	195	43.5 -00.1	N 21 13.4	+00.5	146	34.7 -00.3	N 24 35.0	-00.4	106	31.7 -25.9	N 16 14.2	-11.6	01
02	210	43.4 -00.1	N 21 13.9	+00.4	161	34.4 -00.3	N 24 34.6	-00.5	121	05.8 -25.9	N 16 02.6	-11.7	02
03	225	43.3 +00.0	N 21 14.3	+00.4	176	34.1 -00.3	N 24 34.1	-00.4	135	39.9 -25.8	N 15 50.9	-11.7	03
04	240	43.3 -00.1	N 21 14.7	+00.4	191	33.8 -00.3	N 24 33.7	-00.4	150	14.1 -25.8	N 15 39.2	-11.9	04
05	255	43.2 -00.1	N 21 15.1	+00.5	206	33.5 -00.2	N 24 33.3	-00.4	164	48.3 -25.7	N 15 27.3	-11.8	05
06	270	43.1 +00.0	N 21 15.6	+00.4	221	33.3 -00.3	N 24 32.9	-00.5	179	22.6 -25.7	N 15 15.5	-12.0	06
07	285	43.1 -00.1	N 21 16.0	+00.4	236	33.0 -00.3	N 24 32.4	-00.4	193	56.9 -25.7	N 15 03.5	-12.0	07
08	300	43.0 -00.1	N 21 16.4	+00.4	251	32.7 -00.3	N 24 32.0	-00.4	208	31.2 -25.6	N 14 51.5	-12.1	08
09	315	42.9 -00.1	N 21 16.8	+00.4	266	32.4 -00.2	N 24 31.6	-00.5	223	05.6 -25.5	N 14 39.4	-12.1	09
10	330	42.8 +00.0	N 21 17.2	+00.5	281	32.2 -00.3	N 24 31.1	-00.4	237	40.1 -25.6	N 14 27.3	-12.2	10
11	345	42.8 -00.1	N 21 17.7	+00.4	296	31.9 -00.3	N 24 30.7	-00.4	252	14.5 -25.4	N 14 15.1	-12.2	11
12	0	42.7 -00.1	N 21 18.1	+00.4	311	31.6 -00.3	N 24 30.3	-00.5	266	49.1 -25.5	N 14 02.9	-12.3	12
13	15	42.6 -00.1	N 21 18.5	+00.4	326	31.3 -00.2	N 24 29.8	-00.4	281	23.6 -25.4	N 13 50.6	-12.4	13
14	30	42.5 +00.0	N 21 18.9	+00.4	341	31.1 -00.3	N 24 29.4	-00.4	295	58.2 -25.3	N 13 38.2	-12.4	14
15	45	42.5 -00.1	N 21 19.3	+00.4	356	30.8 -00.3	N 24 29.0	-00.5	310	32.9 -25.4	N 13 25.8	-12.5	15
16	60	42.4 -00.1	N 21 19.7	+00.4	11	30.5 -00.2	N 24 28.5	-00.4	325	07.5 -25.3	N 13 13.3	-12.5	16
17	75	42.3 -00.1	N 21 20.1	+00.5	26	30.3 -00.3	N 24 28.1	-00.5	339	42.2 -25.2	N 13 00.8	-12.6	17
18	90	42.2 +00.0	N 21 20.6	+00.4	41	30.0 -00.3	N 24 27.6	-00.4	354	17.0 -25.2	N 12 48.2	-12.6	18
19	105	42.2 -00.1	N 21 21.0	+00.4	56	29.7 -00.2	N 24 27.2	-00.4	8	51.8 -25.2	N 12 35.6	-12.7	19
20	120	42.1 -00.1	N 21 21.4	+00.4	71	29.5 -00.3	N 24 26.8	-00.5	23	26.6 -25.2	N 12 22.9	-12.8	20
21	135	42.0 -00.1	N 21 21.8	+00.4	86	29.2 -00.3	N 24 26.3	-00.4	38	01.4 -25.1	N 12 10.1	-12.8	21
22	150	41.9 +00.0	N 21 22.2	+00.4	101	28.9 -00.2	N 24 25.9	-00.5	52	36.3 -25.1	N 11 57.3	-12.8	22
23	165	41.9 -00.1	N 21 22.6	+00.4	116	28.7 -00.3	N 24 25.4	-00.4	67	11.2 -25.1	N 11 44.5	-12.9	23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 14'8 14'8 14'8 14'8 14'8 14'8				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 54'3 54'3 54'3 54'4 54'4 54'5				
	SHA 296° 296° 296° 296° 296° 296°				SHA 247° 247° 247° 247° 246° 246°				SHA 207° 205° 203° 201° 199° 197°				
	Greenwich Culmination Time: 11:57				Greenwich Culmination Time: 15:13				Greenwich Culmination Time: 18:23				

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	117	57.7 +01.0	N 20 48.8	-00.3	213	47.6 +01.9	N 11 15.6	+00.2	265	10.3 +02.4	S 10 24.0	+00.0	00
01	132	58.7 +01.0	N 20 48.5	-00.4	228	49.5 +01.9	N 11 15.8	+00.2	280	12.7 +02.4	S 10 24.0	+00.0	01
02	147	59.7 +00.9	N 20 48.1	-00.3	243	51.4 +02.0	N 11 16.0	+00.2	295	15.1 +02.4	S 10 24.0	+00.0	02
03	163	00.6 +01.0	N 20 47.8	-00.4	258	53.4 +01.9	N 11 16.2	+00.2	310	17.5 +02.3	S 10 24.0	-00.1	03
04	178	01.6 +01.0	N 20 47.4	-00.4	273	55.3 +02.0	N 11 16.4	+00.2	325	19.8 +02.4	S 10 23.9	+00.0	04
05	193	02.6 +00.9	N 20 47.0	-00.3	288	57.3 +01.9	N 11 16.6	+00.1	340	22.2 +02.4	S 10 23.9	+00.0	05
06	208	03.5 +01.0	N 20 46.7	-00.4	303	59.2 +01.9	N 11 16.7	+00.2	355	24.6 +02.4	S 10 23.9	+00.0	06
07	223	04.5 +01.0	N 20 46.3	-00.4	319	01.1 +02.0	N 11 16.9	+00.2	10	27.0 +02.4	S 10 23.9	-00.1	07
08	238	05.5 +01.0	N 20 45.9	-00.3	334	03.1 +01.9	N 11 17.1	+00.2	25	29.4 +02.3	S 10 23.8	+00.0	08
09	253	06.5 +00.9	N 20 45.6	-00.4	349	05.0 +01.9	N 11 17.3	+00.2	40	31.7 +02.4	S 10 23.8	+00.0	09
10	268	07.4 +01.0	N 20 45.2	-00.3	4	06.9 +02.0	N 11 17.5	+00.2	55	34.1 +02.4	S 10 23.8	+00.0	10
11	283	08.4 +01.0	N 20 44.9	-00.4	19	08.9 +01.9	N 11 17.7	+00.2	70	36.5 +02.4	S 10 23.8	-00.1	11
12	298	09.4 +01.0	N 20 44.5	-00.4	34	10.8 +02.0	N 11 17.9	+00.1	85	38.9 +02.4	S 10 23.7	+00.0	12
13	313	10.4 +00.9	N 20 44.1	-00.3	49	12.8 +01.9	N 11 18.0	+00.2	100	41.3 +02.3	S 10 23.7	+00.0	13
14	328	11.3 +01.0	N 20 43.8	-00.4	64	14.7 +01.9	N 11 18.2	+00.2	115	43.6 +02.4	S 10 23.7	+00.0	14
15	343	12.3 +01.0	N 20 43.4	-00.4	79	16.6 +02.0	N 11 18.4	+00.2	130	46.0 +02.4	S 10 23.7	-00.1	15
16	358	13.3 +01.0	N 20 43.0	-00.3	94	18.6 +01.9	N 11 18.6	+00.2	145	48.4 +02.4	S 10 23.6	+00.0	16
17	13	14.3 +00.9	N 20 42.7	-00.4	109	20.5 +01.9	N 11 18.8	+00.2	160	50.8 +02.4	S 10 23.6	+00.0	17
18	28	15.2 +01.0	N 20 42.3	-00.4	124	22.4 +02.0	N 11 19.0	+00.2	175	53.2 +02.3	S 10 23.6	+00.0	18
19	43	16.2 +01.0	N 20 41.9	-00.3	139	24.4 +01.9	N 11 19.2	+00.1	190	55.5 +02.4	S 10 23.6	+00.0	19
20	58	17.2 +01.0	N 20 41.6	-00.4	154	26.3 +02.0	N 11 19.3	+00.2	205	57.9 +02.4	S 10 23.6	-00.1	20
21	73	18.2 +00.9	N 20 41.2	-00.4	169	28.3 +01.9	N 11 19.5	+00.2	221	00.3 +02.4	S 10 23.5	+00.0	21
22	88	19.1 +01.0	N 20 40.8	-00.3	184	30.2 +01.9	N 11 19.7	+00.2	236	02.7 +02.4	S 10 23.5	+00.0	22
23	103	20.1 +01.0	N 20 40.5	-00.4	199	32.1 +02.0	N 11 19.9	+00.2	251	05.1 +02.3	S 10 23.5	+00.0	23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 234° 234° 233° 233° 233° 233°				SHA 329° 329° 329° 329° 329° 329°				SHA 021° 021° 021° 021° 021° 021°				
	Greenwich Culmination Time: 16:07				Greenwich Culmination Time: 09:43				Greenwich Culmination Time: 06:18				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	41.8 -00.1	N 21 23.0	+00.4	131	28.4 -00.2	N 24 25.0	-00.4	81	46.1 -25.0	N 11 31.6	-12.9	00
01	195	41.7 -00.1	N 21 23.4	+00.5	146	28.2 -00.3	N 24 24.6	-00.5	96	21.1 -25.0	N 11 18.7	-13.0	01
02	210	41.6 +00.0	N 21 23.9	+00.4	161	27.9 -00.3	N 24 24.1	-00.4	110	56.1 -25.0	N 11 05.7	-13.1	02
03	225	41.6 -00.1	N 21 24.3	+00.4	176	27.6 -00.2	N 24 23.7	-00.5	125	31.1 -25.0	N 10 52.6	-13.1	03
04	240	41.5 -00.1	N 21 24.7	+00.4	191	27.4 -00.3	N 24 23.2	-00.4	140	06.1 -24.9	N 10 39.5	-13.1	04
05	255	41.4 -00.1	N 21 25.1	+00.4	206	27.1 -00.2	N 24 22.8	-00.5	154	41.2 -25.0	N 10 26.4	-13.2	05
06	270	41.3 +00.0	N 21 25.5	+00.4	221	26.9 -00.3	N 24 22.3	-00.4	169	16.2 -24.8	N 10 13.2	-13.2	06
07	285	41.3 -00.1	N 21 25.9	+00.4	236	26.6 -00.2	N 24 21.9	-00.5	183	51.4 -24.9	N 09 60.0	-13.3	07
08	300	41.2 -00.1	N 21 26.3	+00.4	251	26.4 -00.3	N 24 21.4	-00.4	198	26.5 -24.9	N 09 46.7	-13.3	08
09	315	41.1 -00.1	N 21 26.7	+00.4	266	26.1 -00.2	N 24 21.0	-00.5	213	01.6 -24.8	N 09 33.4	-13.4	09
10	330	41.0 +00.0	N 21 27.1	+00.4	281	25.9 -00.3	N 24 20.5	-00.4	227	36.8 -24.8	N 09 20.0	-13.4	10
11	345	41.0 -00.1	N 21 27.5	+00.4	296	25.6 -00.2	N 24 20.1	-00.5	242	12.0 -24.8	N 09 06.6	-13.4	11
12	0	40.9 -00.1	N 21 27.9	+00.4	311	25.4 -00.3	N 24 19.6	-00.5	256	47.2 -24.8	N 08 53.2	-13.5	12
13	15	40.8 -00.1	N 21 28.3	+00.4	326	25.1 -00.2	N 24 19.1	-00.4	271	22.4 -24.8	N 08 39.7	-13.6	13
14	30	40.7 -00.1	N 21 28.7	+00.4	341	24.9 -00.3	N 24 18.7	-00.5	285	57.6 -24.7	N 08 26.1	-13.5	14
15	45	40.6 +00.0	N 21 29.1	+00.4	356	24.6 -00.2	N 24 18.2	-00.4	300	32.9 -24.8	N 08 12.6	-13.6	15
16	60	40.6 -00.1	N 21 29.5	+00.4	11	24.4 -00.2	N 24 17.8	-00.5	315	08.1 -24.7	N 07 59.0	-13.7	16
17	75	40.5 -00.1	N 21 29.9	+00.4	26	24.2 -00.3	N 24 17.3	-00.4	329	43.4 -24.8	N 07 45.3	-13.7	17
18	90	40.4 -00.1	N 21 30.3	+00.4	41	23.9 -00.2	N 24 16.9	-00.5	344	18.6 -24.7	N 07 31.6	-13.7	18
19	105	40.3 +00.0	N 21 30.7	+00.4	56	23.7 -00.3	N 24 16.4	-00.5	358	53.9 -24.7	N 07 17.9	-13.8	19
20	120	40.3 -00.1	N 21 31.1	+00.4	71	23.4 -00.2	N 24 15.9	-00.4	13	29.2 -24.7	N 07 04.1	-13.8	20
21	135	40.2 -00.1	N 21 31.5	+00.4	86	23.2 -00.2	N 24 15.5	-00.5	28	04.5 -24.7	N 06 50.3	-13.8	21
22	150	40.1 -00.1	N 21 31.9	+00.4	101	23.0 -00.3	N 24 15.0	-00.4	42	39.8 -24.7	N 06 36.5	-13.9	22
23	165	40.0 -00.1	N 21 32.3	+00.4	116	22.7 -00.2	N 24 14.6	-00.5	57	15.1 -24.7	N 06 22.6	-13.9	23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 14'9 14'9 14'9 14'9 14'9 15'0				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 54'5 54'6 54'7 54'7 54'8 54'9				
	SHA 295° 295° 295° 295° 295° 294°				SHA 246° 246° 246° 246° 245° 245°				SHA 196° 194° 192° 190° 188° 186°				
	Greenwich Culmination Time: 11:57				Greenwich Culmination Time: 15:14				Greenwich Culmination Time: 19:04				

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	118	21.1 +01.0	N 20 40.1	-00.4	214	34.1 +01.9	N 11 20.1	+00.2	266	07.4 +02.4	S 10 23.5	-00.1	00
01	133	22.1 +00.9	N 20 39.7	-00.3	229	36.0 +01.9	N 11 20.3	+00.1	281	09.8 +02.4	S 10 23.4	+00.0	01
02	148	23.0 +01.0	N 20 39.4	-00.4	244	37.9 +02.0	N 11 20.4	+00.2	296	12.2 +02.4	S 10 23.4	+00.0	02
03	163	24.0 +01.0	N 20 39.0	-00.4	259	39.9 +01.9	N 11 20.6	+00.2	311	14.6 +02.4	S 10 23.4	+00.0	03
04	178	25.0 +01.0	N 20 38.6	-00.3	274	41.8 +02.0	N 11 20.8	+00.2	326	17.0 +02.3	S 10 23.4	+00.0	04
05	193	26.0 +00.9	N 20 38.3	-00.4	289	43.8 +01.9	N 11 21.0	+00.2	341	19.3 +02.4	S 10 23.4	-00.1	05
06	208	26.9 +01.0	N 20 37.9	-00.4	304	45.7 +01.9	N 11 21.2	+00.2	356	21.7 +02.4	S 10 23.3	+00.0	06
07	223	27.9 +01.0	N 20 37.5	-00.3	319	47.6 +02.0	N 11 21.4	+00.2	11	24.1 +02.4	S 10 23.3	+00.0	07
08	238	28.9 +01.0	N 20 37.2	-00.4	334	49.6 +01.9	N 11 21.6	+00.1	26	26.5 +02.4	S 10 23.3	+00.0	08
09	253	29.9 +00.9	N 20 36.8	-00.4	349	51.5 +02.0	N 11 21.7	+00.2	41	28.9 +02.4	S 10 23.3	-00.1	09
10	268	30.8 +01.0	N 20 36.4	-00.4	4	53.5 +01.9	N 11 21.9	+00.2	56	31.3 +02.3	S 10 23.2	+00.0	10
11	283	31.8 +01.0	N 20 36.0	-00.3	19	55.4 +01.9	N 11 22.1	+00.2	71	33.6 +02.4	S 10 23.2	+00.0	11
12	298	32.8 +00.9	N 20 35.7	-00.4	34	57.3 +02.0	N 11 22.3	+00.2	86	36.0 +02.4	S 10 23.2	+00.0	12
13	313	33.7 +01.0	N 20 35.3	-00.4	49	59.3 +01.9	N 11 22.5	+00.2	101	38.4 +02.4	S 10 23.2	+00.0	13
14	328	34.7 +01.0	N 20 34.9	-00.3	65	01.2 +02.0	N 11 22.7	+00.1	116	40.8 +02.4	S 10 23.2	-00.1	14
15	343	35.7 +01.0	N 20 34.6	-00.4	80	03.2 +01.9	N 11 22.8	+00.2	131	43.2 +02.4	S 10 23.1	+00.0	15
16	358	36.7 +00.9	N 20 34.2	-00.4	95	05.1 +01.9	N 11 23.0	+00.2	146	45.6 +02.3	S 10 23.1	+00.0	16
17	13	37.6 +01.0	N 20 33.8	-00.3	110	07.0 +02.0	N 11 23.2	+00.2	161	47.9 +02.4	S 10 23.1	+00.0	17
18	28	38.6 +01.0	N 20 33.5	-00.4	125	09.0 +01.9	N 11 23.4	+00.2	176	50.3 +02.4	S 10 23.1	-00.1	18
19	43	39.6 +01.0	N 20 33.1	-00.4	140	10.9 +02.0	N 11 23.6	+00.2	191	52.7 +02.4	S 10 23.0	+00.0	19
20	58	40.6 +00.9	N 20 32.7	-00.4	155	12.9 +01.9	N 11 23.8	+00.1	206	55.1 +02.4	S 10 23.0	+00.0	20
21	73	41.5 +01.0	N 20 32.3	-00.3	170	14.8 +01.9	N 11 23.9	+00.2	221	57.5 +02.4	S 10 23.0	+00.0	21
22	88	42.5 +01.0	N 20 32.0	-00.4	185	16.7 +02.0	N 11 24.1	+00.2	236	59.9 +02.3	S 10 23.0	+00.0	22
23	103	43.5 +01.0	N 20 31.6	-00.4	200	18.7 +01.9	N 11 24.3	+00.2	252	02.2 +02.4	S 10 23.0	-00.1	23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 233° 233° 233° 233° 233° 233°				SHA 329° 329° 329° 329° 329° 329°				SHA 021° 021° 021° 021° 021° 021°				
	Greenwich Culmination Time: 16:05				Greenwich Culmination Time: 09:40				Greenwich Culmination Time: 06:14				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 39.9 +00.0	N 21 32.7 +00.4	131 22.5 -00.2	N 24 14.1 -00.5	71 50.4 -24.6	N 06 08.7 -13.9	00						
01	195 39.9 -00.1	N 21 33.1 +00.4	146 22.3 -00.3	N 24 13.6 -00.4	86 25.8 -24.7	N 05 54.8 -14.0	01						
02	210 39.8 -00.1	N 21 33.5 +00.4	161 22.0 -00.2	N 24 13.2 -00.5	101 01.1 -24.7	N 05 40.8 -14.0	02						
03	225 39.7 -00.1	N 21 33.9 +00.3	176 21.8 -00.2	N 24 12.7 -00.5	115 36.4 -24.7	N 05 26.8 -14.1	03						
04	240 39.6 -00.1	N 21 34.2 +00.4	191 21.6 -00.3	N 24 12.2 -00.5	130 11.7 -24.7	N 05 12.7 -14.0	04						
05	255 39.5 +00.0	N 21 34.6 +00.4	206 21.3 -00.2	N 24 11.7 -00.4	144 47.0 -24.7	N 04 58.7 -14.1	05						
06	270 39.5 -00.1	N 21 35.0 +00.4	221 21.1 -00.2	N 24 11.3 -00.5	159 22.3 -24.7	N 04 44.6 -14.1	06						
07	285 39.4 -00.1	N 21 35.4 +00.4	236 20.9 -00.3	N 24 10.8 -00.5	173 57.6 -24.7	N 04 30.5 -14.2	07						
08	300 39.3 -00.1	N 21 35.8 +00.4	251 20.6 -00.2	N 24 10.3 -00.4	188 32.9 -24.7	N 04 16.3 -14.2	08						
09	315 39.2 -00.1	N 21 36.2 +00.4	266 20.4 -00.2	N 24 09.9 -00.5	203 08.2 -24.7	N 04 02.1 -14.2	09						
10	330 39.1 -00.1	N 21 36.6 +00.4	281 20.2 -00.2	N 24 09.4 -00.5	217 43.5 -24.7	N 03 47.9 -14.2	10						
11	345 39.0 +00.0	N 21 37.0 +00.4	296 20.0 -00.3	N 24 08.9 -00.5	232 18.8 -24.8	N 03 33.7 -14.3	11						
12	0 39.0 -00.1	N 21 37.4 +00.3	311 19.7 -00.2	N 24 08.4 -00.4	246 54.0 -24.7	N 03 19.4 -14.3	12						
13	15 38.9 -00.1	N 21 37.7 +00.4	326 19.5 -00.2	N 24 08.0 -00.5	261 29.3 -24.8	N 03 05.1 -14.3	13						
14	30 38.8 -00.1	N 21 38.1 +00.4	341 19.3 -00.2	N 24 07.5 -00.5	276 04.5 -24.8	N 02 50.8 -14.4	14						
15	45 38.7 -00.1	N 21 38.5 +00.4	356 19.1 -00.2	N 24 07.0 -00.5	290 39.7 -24.7	N 02 36.4 -14.3	15						
16	60 38.6 +00.0	N 21 38.9 +00.4	11 18.9 -00.3	N 24 06.5 -00.4	305 15.0 -24.8	N 02 22.1 -14.4	16						
17	75 38.6 -00.1	N 21 39.3 +00.4	26 18.6 -00.2	N 24 06.1 -00.5	319 50.2 -24.9	N 02 07.7 -14.4	17						
18	90 38.5 -00.1	N 21 39.7 +00.3	41 18.4 -00.2	N 24 05.6 -00.5	334 25.3 -24.8	N 01 53.3 -14.4	18						
19	105 38.4 -00.1	N 21 40.0 +00.4	56 18.2 -00.2	N 24 05.1 -00.5	349 00.5 -24.9	N 01 38.9 -14.5	19						
20	120 38.3 -00.1	N 21 40.4 +00.4	71 18.0 -00.2	N 24 04.6 -00.5	3 35.6 -24.9	N 01 24.4 -14.5	20						
21	135 38.2 -00.1	N 21 40.8 +00.4	86 17.8 -00.2	N 24 04.1 -00.5	18 10.7 -24.9	N 01 09.9 -14.4	21						
22	150 38.1 +00.0	N 21 41.2 +00.4	101 17.6 -00.2	N 24 03.6 -00.4	32 45.8 -24.9	N 00 55.5 -14.5	22						
23	165 38.1 -00.1	N 21 41.6 +00.3	116 17.4 -00.2	N 24 03.2 -00.5	47 20.9 -25.0	N 00 41.0 -14.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'0 15'0 15'0 15'0 15'1 15'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 55'0 55'0 55'1 55'2 55'3 55'4								
	SHA 294° 294° 294° 294° 294° 293°		SHA 245° 245° 245° 244° 244° 244°		SHA 185° 183° 181° 179° 177° 176°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 15:14		Greenwich Culmination Time: 19:45								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	118 44.5 +00.9	N 20 31.2 -00.3	215 20.6 +02.0	N 11 24.5 +00.2	267 04.6 +02.4	S 10 22.9 +00.0	00						
01	133 45.4 +01.0	N 20 30.9 -00.4	230 22.6 +01.9	N 11 24.7 +00.2	282 07.0 +02.4	S 10 22.9 +00.0	01						
02	148 46.4 +01.0	N 20 30.5 -00.4	245 24.5 +01.9	N 11 24.9 +00.1	297 09.4 +02.4	S 10 22.9 +00.0	02						
03	163 47.4 +01.0	N 20 30.1 -00.4	260 26.4 +02.0	N 11 25.0 +00.2	312 11.8 +02.4	S 10 22.9 -00.1	03						
04	178 48.4 +00.9	N 20 29.7 -00.3	275 28.4 +01.9	N 11 25.2 +00.2	327 14.2 +02.4	S 10 22.8 +00.0	04						
05	193 49.3 +01.0	N 20 29.4 -00.4	290 30.3 +02.0	N 11 25.4 +00.2	342 16.6 +02.3	S 10 22.8 +00.0	05						
06	208 50.3 +01.0	N 20 29.0 -00.4	305 32.3 +01.9	N 11 25.6 +00.2	357 18.9 +02.4	S 10 22.8 +00.0	06						
07	223 51.3 +01.0	N 20 28.6 -00.4	320 34.2 +01.9	N 11 25.8 +00.2	12 21.3 +02.4	S 10 22.8 +00.0	07						
08	238 52.3 +00.9	N 20 28.2 -00.3	335 36.1 +02.0	N 11 26.0 +00.1	27 23.7 +02.4	S 10 22.8 -00.1	08						
09	253 53.2 +01.0	N 20 27.9 -00.4	350 38.1 +01.9	N 11 26.1 +00.2	42 26.1 +02.4	S 10 22.7 +00.0	09						
10	268 54.2 +01.0	N 20 27.5 -00.4	5 40.0 +02.0	N 11 26.3 +00.2	57 28.5 +02.4	S 10 22.7 +00.0	10						
11	283 55.2 +01.0	N 20 27.1 -00.4	20 42.0 +01.9	N 11 26.5 +00.2	72 30.9 +02.4	S 10 22.7 +00.0	11						
12	298 56.2 +01.0	N 20 26.7 -00.3	35 43.9 +01.9	N 11 26.7 +00.2	87 33.3 +02.4	S 10 22.7 +00.0	12						
13	313 57.2 +00.9	N 20 26.4 -00.4	50 45.8 +02.0	N 11 26.9 +00.2	102 35.7 +02.3	S 10 22.7 -00.1	13						
14	328 58.1 +01.0	N 20 26.0 -00.4	65 47.8 +01.9	N 11 27.1 +00.1	117 38.0 +02.4	S 10 22.6 +00.0	14						
15	343 59.1 +01.0	N 20 25.6 -00.4	80 49.7 +02.0	N 11 27.2 +00.2	132 40.4 +02.4	S 10 22.6 +00.0	15						
16	359 00.1 +01.0	N 20 25.2 -00.3	95 51.7 +01.9	N 11 27.4 +00.2	147 42.8 +02.4	S 10 22.6 +00.0	16						
17	14 01.1 +00.9	N 20 24.9 -00.4	110 53.6 +02.0	N 11 27.6 +00.2	162 45.2 +02.4	S 10 22.6 +00.0	17						
18	29 02.0 +01.0	N 20 24.5 -00.4	125 55.6 +01.9	N 11 27.8 +00.2	177 47.6 +02.4	S 10 22.6 -00.1	18						
19	44 03.0 +01.0	N 20 24.1 -00.4	140 57.5 +01.9	N 11 28.0 +00.2	192 50.0 +02.4	S 10 22.5 +00.0	19						
20	59 04.0 +01.0	N 20 23.7 -00.3	155 59.4 +02.0	N 11 28.2 +00.1	207 52.4 +02.4	S 10 22.5 +00.0	20						
21	74 05.0 +00.9	N 20 23.4 -00.4	171 01.4 +01.9	N 11 28.3 +00.2	222 54.8 +02.3	S 10 22.5 +00.0	21						
22	89 05.9 +01.0	N 20 23.0 -00.4	186 03.3 +02.0	N 11 28.5 +00.2	237 57.1 +02.4	S 10 22.5 +00.0	22						
23	104 06.9 +01.0	N 20 22.6 -00.4	201 05.3 +01.9	N 11 28.7 +00.2	252 59.5 +02.4	S 10 22.5 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 232° 232° 232° 232° 232° 232°		SHA 329° 329° 329° 329° 329° 329°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 16:03		Greenwich Culmination Time: 09:37		Greenwich Culmination Time: 06:10								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 38.0 -00.1	N 21 41.9 +00.4	131 17.2 -00.3	N 24 02.7 -00.5	61 55.9 -24.9	N 00 26.4 -14.5	00	00	26.4	-14.5	00		
01	195 37.9 -00.1	N 21 42.3 +00.4	146 16.9 -00.2	N 24 02.2 -00.5	76 31.0 -25.1	N 00 11.9 -14.6	01	00	11.9	-14.6	01		
02	210 37.8 -00.1	N 21 42.7 +00.4	161 16.7 -00.2	N 24 01.7 -00.5	91 05.9 -25.0	S 00 02.7 +14.5	02	00	02.7	+14.5	02		
03	225 37.7 -00.1	N 21 43.1 +00.4	176 16.5 -00.2	N 24 01.2 -00.5	105 40.9 -25.1	S 00 17.2 +14.6	03	00	17.2	+14.6	03		
04	240 37.6 -00.1	N 21 43.5 +00.3	191 16.3 -00.2	N 24 00.7 -00.5	120 15.8 -25.1	S 00 31.8 +14.6	04	00	31.8	+14.6	04		
05	255 37.5 +00.0	N 21 43.8 +00.4	206 16.1 -00.2	N 24 00.2 -00.5	134 50.7 -25.1	S 00 46.4 +14.6	05	00	46.4	+14.6	05		
06	270 37.5 -00.1	N 21 44.2 +00.4	221 15.9 -00.2	N 23 59.7 -00.4	149 25.6 -25.2	S 01 01.0 +14.6	06	01	01.0	+14.6	06		
07	285 37.4 -00.1	N 21 44.6 +00.4	236 15.7 -00.2	N 23 59.3 -00.5	164 00.4 -25.2	S 01 15.6 +14.7	07	01	15.6	+14.7	07		
08	300 37.3 -00.1	N 21 45.0 +00.3	251 15.5 -00.2	N 23 58.8 -00.5	178 35.2 -25.2	S 01 30.3 +14.6	08	01	30.3	+14.6	08		
09	315 37.2 -00.1	N 21 45.3 +00.4	266 15.3 -00.2	N 23 58.3 -00.5	193 10.0 -25.3	S 01 44.9 +14.7	09	01	44.9	+14.7	09		
10	330 37.1 -00.1	N 21 45.7 +00.4	281 15.1 -00.2	N 23 57.8 -00.5	207 44.7 -25.3	S 01 59.6 +14.6	10	01	59.6	+14.6	10		
11	345 37.0 -00.1	N 21 46.1 +00.3	296 14.9 -00.2	N 23 57.3 -00.5	222 19.4 -25.3	S 02 14.2 +14.7	11	02	14.2	+14.7	11		
12	0 36.9 +00.0	N 21 46.4 +00.4	311 14.7 -00.2	N 23 56.8 -00.5	236 54.1 -25.4	S 02 28.9 +14.6	12	02	28.9	+14.6	12		
13	15 36.9 -00.1	N 21 46.8 +00.4	326 14.5 -00.2	N 23 56.3 -00.5	251 28.7 -25.5	S 02 43.5 +14.7	13	02	43.5	+14.7	13		
14	30 36.8 -00.1	N 21 47.2 +00.4	341 14.3 -00.2	N 23 55.8 -00.5	266 03.2 -25.4	S 02 58.2 +14.7	14	02	58.2	+14.7	14		
15	45 36.7 -00.1	N 21 47.6 +00.3	356 14.1 -00.2	N 23 55.3 -00.5	280 37.8 -25.6	S 03 12.9 +14.7	15	03	12.9	+14.7	15		
16	60 36.6 -00.1	N 21 47.9 +00.4	11 13.9 -00.1	N 23 54.8 -00.5	295 12.2 -25.5	S 03 27.6 +14.7	16	03	27.6	+14.7	16		
17	75 36.5 -00.1	N 21 48.3 +00.4	26 13.8 -00.2	N 23 54.3 -00.5	309 46.7 -25.7	S 03 42.3 +14.7	17	03	42.3	+14.7	17		
18	90 36.4 -00.1	N 21 48.7 +00.3	41 13.6 -00.2	N 23 53.8 -00.5	324 21.0 -25.6	S 03 57.0 +14.6	18	03	57.0	+14.6	18		
19	105 36.3 -00.1	N 21 49.0 +00.4	56 13.4 -00.2	N 23 53.3 -00.5	338 55.4 -25.7	S 04 11.6 +14.7	19	04	11.6	+14.7	19		
20	120 36.2 +00.0	N 21 49.4 +00.4	71 13.2 -00.2	N 23 52.8 -00.5	353 29.7 -25.8	S 04 26.3 +14.7	20	04	26.3	+14.7	20		
21	135 36.2 -00.1	N 21 49.8 +00.3	86 13.0 -00.2	N 23 52.3 -00.5	8 03.9 -25.8	S 04 41.0 +14.7	21	04	41.0	+14.7	21		
22	150 36.1 -00.1	N 21 50.1 +00.4	101 12.8 -00.2	N 23 51.8 -00.5	22 38.1 -25.9	S 04 55.7 +14.7	22	04	55.7	+14.7	22		
23	165 36.0 -00.1	N 21 50.5 +00.3	116 12.6 -00.2	N 23 51.3 -00.5	37 12.2 -25.9	S 05 10.4 +14.7	23	05	10.4	+14.7	23		
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'1 15'2 15'2 15'2 15'3 15'3				SD 15'1 15'2 15'2 15'2 15'3 15'3				
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 55'5 55'6 55'8 55'9 56'0 56'1				HP 55'5 55'6 55'8 55'9 56'0 56'1				
	SHA 293° 293° 293° 293° 293° 292°		SHA 244° 244° 244° 243° 243° 243°		SHA 174° 172° 170° 168° 166° 164°				SHA 174° 172° 170° 168° 166° 164°				
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 15:15		Greenwich Culmination Time: 20:26				Greenwich Culmination Time: 20:26				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	119 07.9 +01.0	N 20 22.2 -00.3	216 07.2 +01.9	N 11 28.9 +00.2	268 01.9 +02.4	S 10 22.4 +00.0	00	10	22.4	+00.0	00		
01	134 08.9 +00.9	N 20 21.9 -00.4	231 09.1 +02.0	N 11 29.1 +00.1	283 04.3 +02.4	S 10 22.4 +00.0	01	10	22.4	+00.0	01		
02	149 09.8 +01.0	N 20 21.5 -00.4	246 11.1 +01.9	N 11 29.2 +00.2	298 06.7 +02.4	S 10 22.4 +00.0	02	10	22.4	+00.0	02		
03	164 10.8 +01.0	N 20 21.1 -00.4	261 13.0 +02.0	N 11 29.4 +00.2	313 09.1 +02.4	S 10 22.4 +00.0	03	10	22.4	+00.0	03		
04	179 11.8 +01.0	N 20 20.7 -00.4	276 15.0 +01.9	N 11 29.6 +00.2	328 11.5 +02.4	S 10 22.4 -00.1	04	10	22.4	-00.1	04		
05	194 12.8 +00.9	N 20 20.3 -00.3	291 16.9 +02.0	N 11 29.8 +00.2	343 13.9 +02.4	S 10 22.3 +00.0	05	10	22.3	+00.0	05		
06	209 13.7 +01.0	N 20 20.0 -00.4	306 18.9 +01.9	N 11 30.0 +00.2	358 16.3 +02.3	S 10 22.3 +00.0	06	10	22.3	+00.0	06		
07	224 14.7 +01.0	N 20 19.6 -00.4	321 20.8 +01.9	N 11 30.2 +00.1	13 18.6 +02.4	S 10 22.3 +00.0	07	10	22.3	+00.0	07		
08	239 15.7 +01.0	N 20 19.2 -00.4	336 22.7 +02.0	N 11 30.3 +00.2	28 21.0 +02.4	S 10 22.3 +00.0	08	10	22.3	+00.0	08		
09	254 16.7 +00.9	N 20 18.8 -00.3	351 24.7 +01.9	N 11 30.5 +00.2	43 23.4 +02.4	S 10 22.3 -00.1	09	10	22.3	-00.1	09		
10	269 17.6 +01.0	N 20 18.5 -00.4	6 26.6 +02.0	N 11 30.7 +00.2	58 25.8 +02.4	S 10 22.2 +00.0	10	10	22.2	+00.0	10		
11	284 18.6 +01.0	N 20 18.1 -00.4	21 28.6 +01.9	N 11 30.9 +00.2	73 28.2 +02.4	S 10 22.2 +00.0	11	10	22.2	+00.0	11		
12	299 19.6 +01.0	N 20 17.7 -00.4	36 30.5 +02.0	N 11 31.1 +00.1	88 30.6 +02.4	S 10 22.2 +00.0	12	10	22.2	+00.0	12		
13	314 20.6 +00.9	N 20 17.3 -00.4	51 32.5 +01.9	N 11 31.2 +00.2	103 33.0 +02.4	S 10 22.2 +00.0	13	10	22.2	+00.0	13		
14	329 21.5 +01.0	N 20 16.9 -00.3	66 34.4 +01.9	N 11 31.4 +00.2	118 35.4 +02.4	S 10 22.2 -00.1	14	10	22.2	-00.1	14		
15	344 22.5 +01.0	N 20 16.6 -00.4	81 36.3 +02.0	N 11 31.6 +00.2	133 37.8 +02.4	S 10 22.1 +00.0	15	10	22.1	+00.0	15		
16	359 23.5 +01.0	N 20 16.2 -00.4	96 38.3 +01.9	N 11 31.8 +00.2	148 40.2 +02.3	S 10 22.1 +00.0	16	10	22.1	+00.0	16		
17	14 24.5 +00.9	N 20 15.8 -00.4	111 40.2 +02.0	N 11 32.0 +00.1	163 42.5 +02.4	S 10 22.1 +00.0	17	10	22.1	+00.0	17		
18	29 25.4 +01.0	N 20 15.4 -00.4	126 42.2 +01.9	N 11 32.1 +00.2	178 44.9 +02.4	S 10 22.1 +00.0	18	10	22.1	+00.0	18		
19	44 26.4 +01.0	N 20 15.0 -00.4	141 44.1 +02.0	N 11 32.3 +00.2	193 47.3 +02.4	S 10 22.1 +00.0	19	10	22.1	+00.0	19		
20	59 27.4 +01.0	N 20 14.6 -00.3	156 46.1 +01.9	N 11 32.5 +00.2	208 49.7 +02.4	S 10 22.1 -00.1	20	10	22.1	-00.1	20		
21	74 28.4 +01.0	N 20 14.3 -00.4	171 48.0 +02.0	N 11 32.7 +00.2	223 52.1 +02.4	S 10 22.0 +00.0	21	10	22.0	+00.0	21		
22	89 29.4 +00.9	N 20 13.9 -00.4	186 50.0 +01.9	N 11 32.9 +00.2	238 54.5 +02.4	S 10 22.0 +00.0	22	10	22.0	+00.0	22		
23	104 30.3 +01.0	N 20 13.5 -00.4	201 51.9 +01.9	N 11 33.1 +00.1	253 56.9 +02.4	S 10 22.0 +00.0	23	10	22.0	+00.0	23		
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 232° 232° 232° 232° 231° 231°		SHA 329° 329° 329° 329° 329° 329°		SHA 021° 021° 021° 021° 021° 021°				SHA 021° 021° 021° 021° 021° 021°				
	Greenwich Culmination Time: 16:02		Greenwich Culmination Time: 09:34		Greenwich Culmination Time: 06:06				Greenwich Culmination Time: 06:06				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 35.9 -00.1	N 21 50.8 +00.4	131 12.4 -00.1	N 23 50.8 -00.5	51 46.3 -26.0	S 05 25.1 +14.6	00						
01	195 35.8 -00.1	N 21 51.2 +00.4	146 12.3 -00.2	N 23 50.3 -00.5	66 20.3 -26.1	S 05 39.7 +14.7	01						
02	210 35.7 -00.1	N 21 51.6 +00.3	161 12.1 -00.2	N 23 49.8 -00.5	80 54.2 -26.1	S 05 54.4 +14.7	02						
03	225 35.6 -00.1	N 21 51.9 +00.4	176 11.9 -00.2	N 23 49.3 -00.5	95 28.1 -26.1	S 06 09.1 +14.6	03						
04	240 35.5 -00.1	N 21 52.3 +00.3	191 11.7 -00.2	N 23 48.8 -00.6	110 02.0 -26.2	S 06 23.7 +14.7	04						
05	255 35.4 +00.0	N 21 52.6 +00.4	206 11.5 -00.1	N 23 48.2 -00.5	124 35.8 -26.3	S 06 38.4 +14.6	05						
06	270 35.4 -00.1	N 21 53.0 +00.4	221 11.4 -00.2	N 23 47.7 -00.5	139 09.5 -26.4	S 06 53.0 +14.6	06						
07	285 35.3 -00.1	N 21 53.4 +00.3	236 11.2 -00.2	N 23 47.2 -00.5	153 43.1 -26.4	S 07 07.6 +14.6	07						
08	300 35.2 -00.1	N 21 53.7 +00.4	251 11.0 -00.2	N 23 46.7 -00.5	168 16.7 -26.5	S 07 22.2 +14.6	08						
09	315 35.1 -00.1	N 21 54.1 +00.3	266 10.8 -00.1	N 23 46.2 -00.5	182 50.2 -26.5	S 07 36.8 +14.6	09						
10	330 35.0 -00.1	N 21 54.4 +00.4	281 10.7 -00.2	N 23 45.7 -00.5	197 23.7 -26.7	S 07 51.4 +14.6	10						
11	345 34.9 -00.1	N 21 54.8 +00.3	296 10.5 -00.2	N 23 45.2 -00.5	211 57.0 -26.6	S 08 06.0 +14.5	11						
12	0 34.8 -00.1	N 21 55.1 +00.4	311 10.3 -00.1	N 23 44.7 -00.6	226 30.4 -26.8	S 08 20.5 +14.6	12						
13	15 34.7 -00.1	N 21 55.5 +00.4	326 10.2 -00.2	N 23 44.1 -00.5	241 03.6 -26.8	S 08 35.1 +14.5	13						
14	30 34.6 -00.1	N 21 55.9 +00.3	341 10.0 -00.2	N 23 43.6 -00.5	255 36.8 -27.0	S 08 49.6 +14.5	14						
15	45 34.5 +00.0	N 21 56.2 +00.4	356 09.8 -00.1	N 23 43.1 -00.5	270 09.8 -26.9	S 09 04.1 +14.4	15						
16	60 34.5 -00.1	N 21 56.6 +00.3	11 09.7 -00.2	N 23 42.6 -00.5	284 42.9 -27.1	S 09 18.5 +14.5	16						
17	75 34.4 -00.1	N 21 56.9 +00.4	26 09.5 -00.2	N 23 42.1 -00.5	299 15.8 -27.2	S 09 33.0 +14.4	17						
18	90 34.3 -00.1	N 21 57.3 +00.3	41 09.3 -00.1	N 23 41.6 -00.6	313 48.6 -27.2	S 09 47.4 +14.4	18						
19	105 34.2 -00.1	N 21 57.6 +00.4	56 09.2 -00.2	N 23 41.0 -00.5	328 21.4 -27.3	S 10 01.8 +14.4	19						
20	120 34.1 -00.1	N 21 58.0 +00.3	71 09.0 -00.2	N 23 40.5 -00.5	342 54.1 -27.4	S 10 16.2 +14.3	20						
21	135 34.0 -00.1	N 21 58.3 +00.4	86 08.8 -00.1	N 23 40.0 -00.5	357 26.7 -27.4	S 10 30.5 +14.3	21						
22	150 33.9 -00.1	N 21 58.7 +00.3	101 08.7 -00.2	N 23 39.5 -00.6	11 59.3 -27.6	S 10 44.8 +14.3	22						
23	165 33.8 -00.1	N 21 59.0 +00.4	116 08.5 -00.1	N 23 38.9 -00.5	26 31.7 -27.6	S 10 59.1 +14.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'3 15'4 15'4 15'4 15'5 15'5								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 56'2 56'4 56'5 56'6 56'7 56'9								
	SHA 292° 292° 292° 292° 292° 291°		SHA 243° 243° 243° 242° 242° 242°		SHA 163° 161° 159° 157° 155° 153°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 15:15		Greenwich Culmination Time: 21:10								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	119 31.3 +01.0	N 20 13.1 -00.4	216 53.8 +02.0	N 11 33.2 +00.2	268 59.3 +02.4	S 10 22.0 +00.0	00						
01	134 32.3 +01.0	N 20 12.7 -00.3	231 55.8 +01.9	N 11 33.4 +00.2	284 01.7 +02.4	S 10 22.0 -00.1	01						
02	149 33.3 +00.9	N 20 12.4 -00.4	246 57.7 +02.0	N 11 33.6 +00.2	299 04.1 +02.4	S 10 21.9 +00.0	02						
03	164 34.2 +01.0	N 20 12.0 -00.4	261 59.7 +01.9	N 11 33.8 +00.2	314 06.5 +02.4	S 10 21.9 +00.0	03						
04	179 35.2 +01.0	N 20 11.6 -00.4	277 01.6 +02.0	N 11 34.0 +00.1	329 08.9 +02.4	S 10 21.9 +00.0	04						
05	194 36.2 +01.0	N 20 11.2 -00.4	292 03.6 +01.9	N 11 34.1 +00.2	344 11.3 +02.3	S 10 21.9 +00.0	05						
06	209 37.2 +00.9	N 20 10.8 -00.4	307 05.5 +02.0	N 11 34.3 +00.2	359 13.6 +02.4	S 10 21.9 +00.0	06						
07	224 38.1 +01.0	N 20 10.4 -00.4	322 07.5 +01.9	N 11 34.5 +00.2	14 16.0 +02.4	S 10 21.9 -00.1	07						
08	239 39.1 +01.0	N 20 10.0 -00.3	337 09.4 +01.9	N 11 34.7 +00.2	29 18.4 +02.4	S 10 21.8 +00.0	08						
09	254 40.1 +01.0	N 20 09.7 -00.4	352 11.3 +02.0	N 11 34.9 +00.1	44 20.8 +02.4	S 10 21.8 +00.0	09						
10	269 41.1 +01.0	N 20 09.3 -00.4	7 13.3 +01.9	N 11 35.0 +00.2	59 23.2 +02.4	S 10 21.8 +00.0	10						
11	284 42.1 +00.9	N 20 08.9 -00.4	22 15.2 +02.0	N 11 35.2 +00.2	74 25.6 +02.4	S 10 21.8 +00.0	11						
12	299 43.0 +01.0	N 20 08.5 -00.4	37 17.2 +01.9	N 11 35.4 +00.2	89 28.0 +02.4	S 10 21.8 -00.1	12						
13	314 44.0 +01.0	N 20 08.1 -00.4	52 19.1 +02.0	N 11 35.6 +00.2	104 30.4 +02.4	S 10 21.7 +00.0	13						
14	329 45.0 +01.0	N 20 07.7 -00.3	67 21.1 +01.9	N 11 35.8 +00.1	119 32.8 +02.4	S 10 21.7 +00.0	14						
15	344 46.0 +00.9	N 20 07.4 -00.4	82 23.0 +02.0	N 11 35.9 +00.2	134 35.2 +02.4	S 10 21.7 +00.0	15						
16	359 46.9 +01.0	N 20 07.0 -00.4	97 25.0 +01.9	N 11 36.1 +00.2	149 37.6 +02.4	S 10 21.7 +00.0	16						
17	14 47.9 +01.0	N 20 06.6 -00.4	112 26.9 +02.0	N 11 36.3 +00.2	164 40.0 +02.4	S 10 21.7 +00.0	17						
18	29 48.9 +01.0	N 20 06.2 -00.4	127 28.9 +01.9	N 11 36.5 +00.2	179 42.4 +02.4	S 10 21.7 -00.1	18						
19	44 49.9 +00.9	N 20 05.8 -00.4	142 30.8 +02.0	N 11 36.7 +00.1	194 44.8 +02.4	S 10 21.6 +00.0	19						
20	59 50.8 +01.0	N 20 05.4 -00.4	157 32.8 +01.9	N 11 36.8 +00.2	209 47.2 +02.4	S 10 21.6 +00.0	20						
21	74 51.8 +01.0	N 20 05.0 -00.3	172 34.7 +01.9	N 11 37.0 +00.2	224 49.6 +02.4	S 10 21.6 +00.0	21						
22	89 52.8 +01.0	N 20 04.7 -00.4	187 36.6 +02.0	N 11 37.2 +00.2	239 52.0 +02.4	S 10 21.6 +00.0	22						
23	104 53.8 +01.0	N 20 04.3 -00.4	202 38.6 +01.9	N 11 37.4 +00.2	254 54.4 +02.4	S 10 21.6 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 231° 231° 231° 231° 231° 231°		SHA 329° 329° 329° 329° 329° 328°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 16:00		Greenwich Culmination Time: 09:31		Greenwich Culmination Time: 06:03								

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UT	Sun				Venus				Moon				UT			
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec				
00	180	33.7	-00.1	N 21 59.4	+00.3	131	08.4	-00.2	N 23 38.4	-00.5	41	04.1	-27.7	S 11 13.4	+14.2	00
01	195	33.6	-00.1	N 21 59.7	+00.3	146	08.2	-00.1	N 23 37.9	-00.5	55	36.4	-27.9	S 11 27.6	+14.2	01
02	210	33.5	-00.1	N 22 00.0	+00.4	161	08.1	-00.2	N 23 37.4	-00.6	70	08.5	-27.9	S 11 41.8	+14.1	02
03	225	33.4	-00.1	N 22 00.4	+00.3	176	07.9	-00.1	N 23 36.8	-00.5	84	40.6	-28.0	S 11 55.9	+14.1	03
04	240	33.3	+00.0	N 22 00.7	+00.4	191	07.8	-00.2	N 23 36.3	-00.5	99	12.6	-28.0	S 12 10.0	+14.1	04
05	255	33.3	-00.1	N 22 01.1	+00.3	206	07.6	-00.1	N 23 35.8	-00.5	113	44.6	-28.2	S 12 24.1	+14.0	05
06	270	33.2	-00.1	N 22 01.4	+00.4	221	07.5	-00.2	N 23 35.3	-00.6	128	16.4	-28.3	S 12 38.1	+14.0	06
07	285	33.1	-00.1	N 22 01.8	+00.3	236	07.3	-00.1	N 23 34.7	-00.5	142	48.1	-28.4	S 12 52.1	+14.0	07
08	300	33.0	-00.1	N 22 02.1	+00.3	251	07.2	-00.2	N 23 34.2	-00.5	157	19.7	-28.4	S 13 06.1	+13.9	08
09	315	32.9	-00.1	N 22 02.4	+00.4	266	07.0	-00.1	N 23 33.7	-00.6	171	51.3	-28.6	S 13 20.0	+13.8	09
10	330	32.8	-00.1	N 22 02.8	+00.3	281	06.9	-00.2	N 23 33.1	-00.5	186	22.7	-28.6	S 13 33.8	+13.9	10
11	345	32.7	-00.1	N 22 03.1	+00.4	296	06.7	-00.1	N 23 32.6	-00.5	200	54.1	-28.8	S 13 47.7	+13.7	11
12	0	32.6	-00.1	N 22 03.5	+00.3	311	06.6	-00.2	N 23 32.1	-00.6	215	25.3	-28.9	S 14 01.4	+13.7	12
13	15	32.5	-00.1	N 22 03.8	+00.3	326	06.4	-00.1	N 23 31.5	-00.5	229	56.4	-28.9	S 14 15.1	+13.7	13
14	30	32.4	-00.1	N 22 04.1	+00.4	341	06.3	-00.1	N 23 31.0	-00.5	244	27.5	-29.1	S 14 28.8	+13.6	14
15	45	32.3	-00.1	N 22 04.5	+00.3	356	06.2	-00.2	N 23 30.5	-00.6	258	58.4	-29.2	S 14 42.4	+13.6	15
16	60	32.2	-00.1	N 22 04.8	+00.4	11	06.0	-00.1	N 23 29.9	-00.5	273	29.2	-29.3	S 14 56.0	+13.5	16
17	75	32.1	-00.1	N 22 05.2	+00.3	26	05.9	-00.2	N 23 29.4	-00.5	287	59.9	-29.3	S 15 09.5	+13.4	17
18	90	32.0	-00.1	N 22 05.5	+00.3	41	05.7	-00.1	N 23 28.9	-00.6	302	30.6	-29.5	S 15 22.9	+13.4	18
19	105	31.9	-00.1	N 22 05.8	+00.4	56	05.6	-00.1	N 23 28.3	-00.5	317	01.1	-29.6	S 15 36.3	+13.3	19
20	120	31.8	-00.1	N 22 06.2	+00.3	71	05.5	-00.2	N 23 27.8	-00.6	331	31.5	-29.7	S 15 49.6	+13.3	20
21	135	31.7	-00.1	N 22 06.5	+00.3	86	05.3	-00.1	N 23 27.2	-00.5	346	01.8	-29.9	S 16 02.9	+13.2	21
22	150	31.6	-00.1	N 22 06.8	+00.4	101	05.2	-00.1	N 23 26.7	-00.6	0	31.9	-29.9	S 16 16.1	+13.1	22
23	165	31.5	-00.1	N 22 07.2	+00.3	116	05.1	-00.1	N 23 26.1	-00.5	15	02.0	-30.0	S 16 29.2	+13.0	23
	UT 02 06 10 14 18 22					UT 02 06 10 14 18 22										
	SD 15'8 15'8 15'8 15'8 15'8 15'8					SD 00'2 00'2 00'2 00'2 00'2 00'2										
	HP 00'1 00'1 00'1 00'1 00'1 00'1					HP 00'2 00'2 00'2 00'2 00'2 00'2										
	SHA 291° 291° 291° 291° 291° 290°					SHA 242° 242° 241° 241° 241° 241°										
	Greenwich Culmination Time: 11:57					Greenwich Culmination Time: 15:15										
UT	Mars				Jupiter				Saturn				UT			
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec				
00	119	54.8	+00.9	N 20 03.9	-00.4	217	40.5	+02.0	N 11 37.6	+00.1	269	56.8	+02.4	S 10 21.6	-00.1	00
01	134	55.7	+01.0	N 20 03.5	-00.4	232	42.5	+01.9	N 11 37.7	+00.2	284	59.2	+02.3	S 10 21.5	+00.0	01
02	149	56.7	+01.0	N 20 03.1	-00.4	247	44.4	+02.0	N 11 37.9	+00.2	300	01.5	+02.4	S 10 21.5	+00.0	02
03	164	57.7	+01.0	N 20 02.7	-00.4	262	46.4	+01.9	N 11 38.1	+00.2	315	03.9	+02.4	S 10 21.5	+00.0	03
04	179	58.7	+00.9	N 20 02.3	-00.4	277	48.3	+02.0	N 11 38.3	+00.2	330	06.3	+02.4	S 10 21.5	+00.0	04
05	194	59.6	+01.0	N 20 01.9	-00.4	292	50.3	+01.9	N 11 38.5	+00.1	345	08.7	+02.4	S 10 21.5	+00.0	05
06	210	00.6	+01.0	N 20 01.5	-00.3	307	52.2	+02.0	N 11 38.6	+00.2	0	11.1	+02.4	S 10 21.5	-00.1	06
07	225	01.6	+01.0	N 20 01.2	-00.4	322	54.2	+01.9	N 11 38.8	+00.2	15	13.5	+02.4	S 10 21.4	+00.0	07
08	240	02.6	+01.0	N 20 00.8	-00.4	337	56.1	+02.0	N 11 39.0	+00.2	30	15.9	+02.4	S 10 21.4	+00.0	08
09	255	03.6	+00.9	N 20 00.4	-00.4	352	58.1	+01.9	N 11 39.2	+00.1	45	18.3	+02.4	S 10 21.4	+00.0	09
10	270	04.5	+01.0	N 19 60.0	-00.4	8	00.0	+02.0	N 11 39.3	+00.2	60	20.7	+02.4	S 10 21.4	+00.0	10
11	285	05.5	+01.0	N 19 59.6	-00.4	23	02.0	+01.9	N 11 39.5	+00.2	75	23.1	+02.4	S 10 21.4	+00.0	11
12	300	06.5	+01.0	N 19 59.2	-00.4	38	03.9	+02.0	N 11 39.7	+00.2	90	25.5	+02.4	S 10 21.4	-00.1	12
13	315	07.5	+00.9	N 19 58.8	-00.4	53	05.9	+01.9	N 11 39.9	+00.2	105	27.9	+02.4	S 10 21.3	+00.0	13
14	330	08.4	+01.0	N 19 58.4	-00.4	68	07.8	+01.9	N 11 40.1	+00.1	120	30.3	+02.4	S 10 21.3	+00.0	14
15	345	09.4	+01.0	N 19 58.0	-00.4	83	09.7	+02.0	N 11 40.2	+00.2	135	32.7	+02.4	S 10 21.3	+00.0	15
16	0	10.4	+01.0	N 19 57.6	-00.3	98	11.7	+01.9	N 11 40.4	+00.2	150	35.1	+02.4	S 10 21.3	+00.0	16
17	15	11.4	+01.0	N 19 57.3	-00.4	113	13.6	+02.0	N 11 40.6	+00.2	165	37.5	+02.4	S 10 21.3	+00.0	17
18	30	12.4	+00.9	N 19 56.9	-00.4	128	15.6	+01.9	N 11 40.8	+00.2	180	39.9	+02.4	S 10 21.3	-00.1	18
19	45	13.3	+01.0	N 19 56.5	-00.4	143	17.5	+02.0	N 11 41.0	+00.1	195	42.3	+02.4	S 10 21.2	+00.0	19
20	60	14.3	+01.0	N 19 56.1	-00.4	158	19.5	+01.9	N 11 41.1	+00.2	210	44.7	+02.4	S 10 21.2	+00.0	20
21	75	15.3	+01.0	N 19 55.7	-00.4	173	21.4	+02.0	N 11 41.3	+00.2	225	47.1	+02.4	S 10 21.2	+00.0	21
22	90	16.3	+00.9	N 19 55.3	-00.4	188	23.4	+01.9	N 11 41.5	+00.2	240	49.5	+02.4	S 10 21.2	+00.0	22
23	105	17.2	+01.0	N 19 54.9	-00.4	203	25.3	+02.0	N 11 41.7	+00.1	255	51.9	+02.4	S 10 21.2	+00.0	23
	UT 02 06 10 14 18 22					UT 02 06 10 14 18 22										
	SD 00'0 00'0 00'0 00'0 00'0 00'0					SD 00'3 00'3 00'3 00'3 00'3 00'3										
	HP 00'1 00'1 00'1 00'1 00'1 00'1					HP 00'0 00'0 00'0 00'0 00'0 00'0										
	SHA 231° 231° 230° 230° 230° 230°					SHA 328° 328° 328° 328° 328° 328°										
	Greenwich Culmination Time: 15:59					Greenwich Culmination Time: 09:28										

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UT	Sun				Venus				Moon				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	180 31.4 -00.1	N 22 07.5 +00.3	131 05.0 -00.2	N 23 25.6 -00.5	29 32.0 -30.2	S 16 42.2 +13.0	00							
01	195 31.3 +00.0	N 22 07.8 +00.3	146 04.8 -00.1	N 23 25.1 -00.6	44 01.8 -30.3	S 16 55.2 +12.9	01							
02	210 31.3 -00.1	N 22 08.1 +00.4	161 04.7 -00.1	N 23 24.5 -00.5	58 31.5 -30.4	S 17 08.1 +12.9	02							
03	225 31.2 -00.1	N 22 08.5 +00.3	176 04.6 -00.2	N 23 24.0 -00.6	73 01.1 -30.5	S 17 21.0 +12.8	03							
04	240 31.1 -00.1	N 22 08.8 +00.3	191 04.4 -00.1	N 23 23.4 -00.5	87 30.6 -30.6	S 17 33.8 +12.7	04							
05	255 31.0 -00.1	N 22 09.1 +00.4	206 04.3 -00.1	N 23 22.9 -00.6	102 00.0 -30.7	S 17 46.5 +12.6	05							
06	270 30.9 -00.1	N 22 09.5 +00.3	221 04.2 -00.1	N 23 22.3 -00.5	116 29.3 -30.9	S 17 59.1 +12.5	06							
07	285 30.8 -00.1	N 22 09.8 +00.3	236 04.1 -00.1	N 23 21.8 -00.6	130 58.4 -31.0	S 18 11.6 +12.5	07							
08	300 30.7 -00.1	N 22 10.1 +00.3	251 04.0 -00.2	N 23 21.2 -00.5	145 27.4 -31.1	S 18 24.1 +12.3	08							
09	315 30.6 -00.1	N 22 10.4 +00.4	266 03.8 -00.1	N 23 20.7 -00.6	159 56.3 -31.2	S 18 36.4 +12.3	09							
10	330 30.5 -00.1	N 22 10.8 +00.3	281 03.7 -00.1	N 23 20.1 -00.5	174 25.1 -31.3	S 18 48.7 +12.2	10							
11	345 30.4 -00.1	N 22 11.1 +00.3	296 03.6 -00.1	N 23 19.6 -00.6	188 53.8 -31.5	S 19 00.9 +12.1	11							
12	0 30.3 -00.1	N 22 11.4 +00.3	311 03.5 -00.1	N 23 19.0 -00.5	203 22.3 -31.6	S 19 13.0 +12.0	12							
13	15 30.2 -00.1	N 22 11.7 +00.3	326 03.4 -00.1	N 23 18.5 -00.6	217 50.7 -31.7	S 19 25.0 +12.0	13							
14	30 30.1 -00.1	N 22 12.0 +00.4	341 03.3 -00.1	N 23 17.9 -00.5	232 19.0 -31.8	S 19 37.0 +11.8	14							
15	45 30.0 -00.1	N 22 12.4 +00.3	356 03.2 -00.2	N 23 17.4 -00.6	246 47.2 -31.9	S 19 48.8 +11.7	15							
16	60 29.9 -00.1	N 22 12.7 +00.3	11 03.0 -00.1	N 23 16.8 -00.5	261 15.3 -32.1	S 20 00.5 +11.7	16							
17	75 29.8 -00.1	N 22 13.0 +00.3	26 02.9 -00.1	N 23 16.3 -00.6	275 43.2 -32.2	S 20 12.2 +11.5	17							
18	90 29.7 -00.1	N 22 13.3 +00.3	41 02.8 -00.1	N 23 15.7 -00.6	290 11.0 -32.3	S 20 23.7 +11.5	18							
19	105 29.6 -00.1	N 22 13.6 +00.4	56 02.7 -00.1	N 23 15.1 -00.5	304 38.7 -32.5	S 20 35.2 +11.3	19							
20	120 29.5 -00.1	N 22 14.0 +00.3	71 02.6 -00.1	N 23 14.6 -00.6	319 06.2 -32.6	S 20 46.5 +11.2	20							
21	135 29.4 -00.1	N 22 14.3 +00.3	86 02.5 -00.1	N 23 14.0 -00.5	333 33.6 -32.7	S 20 57.7 +11.1	21							
22	150 29.3 -00.1	N 22 14.6 +00.3	101 02.4 -00.1	N 23 13.5 -00.6	348 00.9 -32.8	S 21 08.8 +11.0	22							
23	165 29.2 -00.1	N 22 14.9 +00.3	116 02.3 -00.1	N 23 12.9 -00.6	2 28.1 -33.0	S 21 19.8 +10.9	23							
UT 02 06 10 14 18 22	SD 15'8 15'8 15'8 15'8 15'8 15'8	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 290° 290° 290° 290° 290° 289°	Greenwich Culmination Time: 11:57	UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'2 00'2 00'2 00'2 00'2 00'2	SHA 241° 241° 240° 240° 240° 240°	Greenwich Culmination Time: 15:15	UT 02 06 10 14 18 22	SD 15'7 15'8 15'8 15'9 15'9 15'9	HP 57'8 57'9 58'1 58'2 58'3 58'4	SHA 138° 136° 134° 132° 129° 127°	Greenwich Culmination Time: 22:49

UT	Mars				Jupiter				Saturn				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	120 18.2 +01.0	N 19 54.5 -00.4	218 27.3 +01.9	N 11 41.8 +00.2	270 54.3 +02.4	S 10 21.2 +00.0	00							
01	135 19.2 +01.0	N 19 54.1 -00.4	233 29.2 +02.0	N 11 42.0 +00.2	285 56.7 +02.4	S 10 21.2 -00.1	01							
02	150 20.2 +01.0	N 19 53.7 -00.4	248 31.2 +01.9	N 11 42.2 +00.2	300 59.1 +02.4	S 10 21.1 +00.0	02							
03	165 21.2 +00.9	N 19 53.3 -00.4	263 33.1 +02.0	N 11 42.4 +00.2	316 01.5 +02.4	S 10 21.1 +00.0	03							
04	180 22.1 +01.0	N 19 52.9 -00.4	278 35.1 +01.9	N 11 42.6 +00.1	331 03.9 +02.4	S 10 21.1 +00.0	04							
05	195 23.1 +01.0	N 19 52.5 -00.3	293 37.0 +02.0	N 11 42.7 +00.2	346 06.3 +02.4	S 10 21.1 +00.0	05							
06	210 24.1 +01.0	N 19 52.2 -00.4	308 39.0 +01.9	N 11 42.9 +00.2	1 08.7 +02.4	S 10 21.1 +00.0	06							
07	225 25.1 +00.9	N 19 51.8 -00.4	323 40.9 +02.0	N 11 43.1 +00.2	16 11.1 +02.4	S 10 21.1 -00.1	07							
08	240 26.0 +01.0	N 19 51.4 -00.4	338 42.9 +01.9	N 11 43.3 +00.1	31 13.5 +02.4	S 10 21.0 +00.0	08							
09	255 27.0 +01.0	N 19 51.0 -00.4	353 44.8 +02.0	N 11 43.4 +00.2	46 15.9 +02.4	S 10 21.0 +00.0	09							
10	270 28.0 +01.0	N 19 50.6 -00.4	8 46.8 +01.9	N 11 43.6 +00.2	61 18.3 +02.4	S 10 21.0 +00.0	10							
11	285 29.0 +01.0	N 19 50.2 -00.4	23 48.7 +02.0	N 11 43.8 +00.2	76 20.7 +02.4	S 10 21.0 +00.0	11							
12	300 30.0 +00.9	N 19 49.8 -00.4	38 50.7 +01.9	N 11 44.0 +00.2	91 23.1 +02.4	S 10 21.0 +00.0	12							
13	315 30.9 +01.0	N 19 49.4 -00.4	53 52.6 +02.0	N 11 44.2 +00.1	106 25.5 +02.4	S 10 21.0 +00.0	13							
14	330 31.9 +01.0	N 19 49.0 -00.4	68 54.6 +01.9	N 11 44.3 +00.2	121 27.9 +02.4	S 10 21.0 -00.1	14							
15	345 32.9 +01.0	N 19 48.6 -00.4	83 56.5 +02.0	N 11 44.5 +00.2	136 30.3 +02.4	S 10 20.9 +00.0	15							
16	0 33.9 +01.0	N 19 48.2 -00.4	98 58.5 +01.9	N 11 44.7 +00.2	151 32.7 +02.4	S 10 20.9 +00.0	16							
17	15 34.9 +00.9	N 19 47.8 -00.4	114 00.4 +02.0	N 11 44.9 +00.1	166 35.1 +02.4	S 10 20.9 +00.0	17							
18	30 35.8 +01.0	N 19 47.4 -00.4	129 02.4 +01.9	N 11 45.0 +00.2	181 37.5 +02.4	S 10 20.9 +00.0	18							
19	45 36.8 +01.0	N 19 47.0 -00.4	144 04.3 +02.0	N 11 45.2 +00.2	196 39.9 +02.4	S 10 20.9 +00.0	19							
20	60 37.8 +01.0	N 19 46.6 -00.4	159 06.3 +01.9	N 11 45.4 +00.2	211 42.3 +02.4	S 10 20.9 +00.0	20							
21	75 38.8 +00.9	N 19 46.2 -00.4	174 08.2 +02.0	N 11 45.6 +00.1	226 44.7 +02.4	S 10 20.9 -00.1	21							
22	90 39.7 +01.0	N 19 45.8 -00.4	189 10.2 +01.9	N 11 45.7 +00.2	241 47.1 +02.4	S 10 20.8 +00.0	22							
23	105 40.7 +01.0	N 19 45.4 -00.4	204 12.1 +02.0	N 11 45.9 +00.2	256 49.5 +02.5	S 10 20.8 +00.0	23							
UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 230° 230° 230° 230° 230° 230°	Greenwich Culmination Time: 15:57	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 328° 328° 328° 328° 328° 328°	Greenwich Culmination Time: 09:24	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 021° 021° 021° 021° 021° 021°	Greenwich Culmination Time: 05:55

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 29.1 -00.1	N 22 15.2 +00.3	131 02.2 -00.1	N 23 12.3 -00.5	16 55.1 -33.0	S 21 30.7 +10.8	00						
01	195 29.0 -00.1	N 22 15.5 +00.4	146 02.1 -00.1	N 23 11.8 -00.6	31 22.1 -33.2	S 21 41.5 +10.7	01						
02	210 28.9 -00.1	N 22 15.9 +00.3	161 02.0 -00.1	N 23 11.2 -00.5	45 48.9 -33.4	S 21 52.2 +10.5	02						
03	225 28.8 -00.1	N 22 16.2 +00.3	176 01.9 -00.1	N 23 10.7 -00.6	60 15.5 -33.4	S 22 02.7 +10.5	03						
04	240 28.7 -00.1	N 22 16.5 +00.3	191 01.8 -00.1	N 23 10.1 -00.6	74 42.1 -33.6	S 22 13.2 +10.3	04						
05	255 28.6 -00.1	N 22 16.8 +00.3	206 01.7 -00.1	N 23 09.5 -00.5	89 08.5 -33.7	S 22 23.5 +10.1	05						
06	270 28.5 -00.1	N 22 17.1 +00.3	221 01.6 -00.1	N 23 09.0 -00.6	103 34.8 -33.9	S 22 33.6 +10.1	06						
07	285 28.4 -00.1	N 22 17.4 +00.3	236 01.5 -00.1	N 23 08.4 -00.6	118 00.9 -33.9	S 22 43.7 +09.9	07						
08	300 28.3 -00.1	N 22 17.7 +00.3	251 01.4 +00.0	N 23 07.8 -00.5	132 27.0 -34.1	S 22 53.6 +09.8	08						
09	315 28.2 -00.1	N 22 18.0 +00.3	266 01.4 -00.1	N 23 07.3 -00.6	146 52.9 -34.2	S 23 03.4 +09.7	09						
10	330 28.1 -00.1	N 22 18.3 +00.3	281 01.3 -00.1	N 23 06.7 -00.6	161 18.7 -34.4	S 23 13.1 +09.5	10						
11	345 28.0 -00.1	N 22 18.6 +00.4	296 01.2 -00.1	N 23 06.1 -00.6	175 44.3 -34.4	S 23 22.6 +09.5	11						
12	0 27.9 -00.1	N 22 19.0 +00.3	311 01.1 -00.1	N 23 05.5 -00.5	190 09.9 -34.6	S 23 32.1 +09.2	12						
13	15 27.8 -00.1	N 22 19.3 +00.3	326 01.0 -00.1	N 23 05.0 -00.6	204 35.3 -34.7	S 23 41.3 +09.1	13						
14	30 27.7 -00.1	N 22 19.6 +00.3	341 00.9 -00.1	N 23 04.4 -00.6	219 00.6 -34.8	S 23 50.4 +09.0	14						
15	45 27.6 -00.1	N 22 19.9 +00.3	356 00.8 +00.0	N 23 03.8 -00.5	233 25.8 -35.0	S 23 59.4 +08.9	15						
16	60 27.5 -00.2	N 22 20.2 +00.3	11 00.8 -00.1	N 23 03.3 -00.6	247 50.8 -35.0	S 24 08.3 +08.7	16						
17	75 27.3 -00.1	N 22 20.5 +00.3	26 00.7 -00.1	N 23 02.7 -00.6	262 15.8 -35.2	S 24 17.0 +08.5	17						
18	90 27.2 -00.1	N 22 20.8 +00.3	41 00.6 -00.1	N 23 02.1 -00.6	276 40.6 -35.3	S 24 25.5 +08.4	18						
19	105 27.1 -00.1	N 22 21.1 +00.3	56 00.5 -00.1	N 23 01.5 -00.5	291 05.3 -35.5	S 24 33.9 +08.3	19						
20	120 27.0 -00.1	N 22 21.4 +00.3	71 00.4 +00.0	N 23 01.0 -00.6	305 29.8 -35.5	S 24 42.2 +08.1	20						
21	135 26.9 -00.1	N 22 21.7 +00.3	86 00.4 -00.1	N 23 00.4 -00.6	319 54.3 -35.7	S 24 50.3 +07.9	21						
22	150 26.8 -00.1	N 22 22.0 +00.3	101 00.3 -00.1	N 22 59.8 -00.6	334 18.6 -35.7	S 24 58.2 +07.8	22						
23	165 26.7 -00.1	N 22 22.3 +00.3	116 00.2 +00.0	N 22 59.2 -00.6	348 42.9 -35.9	S 25 06.0 +07.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'0 16'0 16'0 16'0 16'1 16'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 58'6 58'7 58'8 58'9 59'0 59'1								
	SHA 289° 289° 289° 289° 289° 288°		SHA 240° 240° 239° 239° 239° 239°		SHA 125° 122° 120° 117° 115° 112°								
	Greenwich Culmination Time: 11:58		Greenwich Culmination Time: 15:15		Greenwich Culmination Time: 23:47								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	120 41.7 +01.0	N 19 45.0 -00.4	219 14.1 +01.9	N 11 46.1 +00.2	271 52.0 +02.4	S 10 20.8 +00.0	00						
01	135 42.7 +01.0	N 19 44.6 -00.4	234 16.0 +02.0	N 11 46.3 +00.2	286 54.4 +02.4	S 10 20.8 +00.0	01						
02	150 43.7 +00.9	N 19 44.2 -00.4	249 18.0 +01.9	N 11 46.5 +00.1	301 56.8 +02.4	S 10 20.8 +00.0	02						
03	165 44.6 +01.0	N 19 43.8 -00.4	264 19.9 +02.0	N 11 46.6 +00.2	316 59.2 +02.4	S 10 20.8 +00.0	03						
04	180 45.6 +01.0	N 19 43.4 -00.4	279 21.9 +01.9	N 11 46.8 +00.2	332 01.6 +02.4	S 10 20.8 -00.1	04						
05	195 46.6 +01.0	N 19 43.0 -00.4	294 23.8 +02.0	N 11 47.0 +00.2	347 04.0 +02.4	S 10 20.7 +00.0	05						
06	210 47.6 +01.0	N 19 42.6 -00.4	309 25.8 +01.9	N 11 47.2 +00.1	2 06.4 +02.4	S 10 20.7 +00.0	06						
07	225 48.6 +00.9	N 19 42.2 -00.4	324 27.7 +02.0	N 11 47.3 +00.2	17 08.8 +02.4	S 10 20.7 +00.0	07						
08	240 49.5 +01.0	N 19 41.8 -00.4	339 29.7 +01.9	N 11 47.5 +00.2	32 11.2 +02.4	S 10 20.7 +00.0	08						
09	255 50.5 +01.0	N 19 41.4 -00.4	354 31.6 +02.0	N 11 47.7 +00.2	47 13.6 +02.4	S 10 20.7 +00.0	09						
10	270 51.5 +01.0	N 19 41.0 -00.4	9 33.6 +01.9	N 11 47.9 +00.1	62 16.0 +02.4	S 10 20.7 +00.0	10						
11	285 52.5 +01.0	N 19 40.6 -00.4	24 35.5 +02.0	N 11 48.0 +00.2	77 18.4 +02.4	S 10 20.7 +00.0	11						
12	300 53.5 +00.9	N 19 40.2 -00.4	39 37.5 +02.0	N 11 48.2 +00.2	92 20.8 +02.4	S 10 20.7 -00.1	12						
13	315 54.4 +01.0	N 19 39.8 -00.4	54 39.5 +01.9	N 11 48.4 +00.2	107 23.2 +02.4	S 10 20.6 +00.0	13						
14	330 55.4 +01.0	N 19 39.4 -00.4	69 41.4 +02.0	N 11 48.6 +00.1	122 25.6 +02.4	S 10 20.6 +00.0	14						
15	345 56.4 +01.0	N 19 39.0 -00.4	84 43.4 +01.9	N 11 48.7 +00.2	137 28.0 +02.4	S 10 20.6 +00.0	15						
16	0 57.4 +01.0	N 19 38.6 -00.4	99 45.3 +02.0	N 11 48.9 +00.2	152 30.4 +02.4	S 10 20.6 +00.0	16						
17	15 58.4 +00.9	N 19 38.2 -00.4	114 47.3 +01.9	N 11 49.1 +00.2	167 32.8 +02.4	S 10 20.6 +00.0	17						
18	30 59.3 +01.0	N 19 37.8 -00.4	129 49.2 +02.0	N 11 49.3 +00.1	182 35.2 +02.5	S 10 20.6 +00.0	18						
19	46 00.3 +01.0	N 19 37.4 -00.4	144 51.2 +01.9	N 11 49.4 +00.2	197 37.7 +02.4	S 10 20.6 +00.0	19						
20	61 01.3 +01.0	N 19 37.0 -00.4	159 53.1 +02.0	N 11 49.6 +00.2	212 40.1 +02.4	S 10 20.6 -00.1	20						
21	76 02.3 +01.0	N 19 36.6 -00.4	174 55.1 +01.9	N 11 49.8 +00.2	227 42.5 +02.4	S 10 20.5 +00.0	21						
22	91 03.3 +00.9	N 19 36.2 -00.4	189 57.0 +02.0	N 11 50.0 +00.1	242 44.9 +02.4	S 10 20.5 +00.0	22						
23	106 04.2 +01.0	N 19 35.8 -00.4	204 59.0 +01.9	N 11 50.1 +00.2	257 47.3 +02.4	S 10 20.5 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 229° 229° 229° 229° 229° 229°		SHA 328° 328° 328° 328° 328° 328°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 15:56		Greenwich Culmination Time: 09:21		Greenwich Culmination Time: 05:51								

UT	Sun				Venus				Moon				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	180 26.6 -00.1	N 22 22.6 +00.3	131 00.2 -00.1	N 22 58.6 -00.5	3 07.0 -36.0	S 25 13.7 +07.4	00							
01	195 26.5 -00.1	N 22 22.9 +00.3	146 00.1 -00.1	N 22 58.1 -00.6	17 31.0 -36.1	S 25 21.1 +07.4	01							
02	210 26.4 -00.1	N 22 23.2 +00.3	161 00.0 -00.1	N 22 57.5 -00.6	31 54.9 -36.2	S 25 28.5 +07.1	02							
03	225 26.3 -00.1	N 22 23.5 +00.3	175 59.9 +00.0	N 22 56.9 -00.6	46 18.7 -36.3	S 25 35.6 +07.0	03							
04	240 26.2 -00.1	N 22 23.8 +00.3	190 59.9 -00.1	N 22 56.3 -00.6	60 42.4 -36.5	S 25 42.6 +06.8	04							
05	255 26.1 -00.1	N 22 24.1 +00.3	205 59.8 -00.1	N 22 55.7 -00.5	75 05.9 -36.5	S 25 49.4 +06.7	05							
06	270 26.0 -00.1	N 22 24.4 +00.3	220 59.7 +00.0	N 22 55.2 -00.6	89 29.4 -36.6	S 25 56.1 +06.5	06							
07	285 25.9 -00.1	N 22 24.7 +00.2	235 59.7 -00.1	N 22 54.6 -00.6	103 52.8 -36.8	S 26 02.6 +06.3	07							
08	300 25.8 -00.1	N 22 24.9 +00.3	250 59.6 +00.0	N 22 54.0 -00.6	118 16.0 -36.8	S 26 08.9 +06.1	08							
09	315 25.7 -00.1	N 22 25.2 +00.3	265 59.6 -00.1	N 22 53.4 -00.6	132 39.2 -36.9	S 26 15.0 +06.0	09							
10	330 25.6 -00.1	N 22 25.5 +00.3	280 59.5 -00.1	N 22 52.8 -00.6	147 02.3 -37.1	S 26 21.0 +05.8	10							
11	345 25.5 -00.1	N 22 25.8 +00.3	295 59.4 +00.0	N 22 52.2 -00.6	161 25.2 -37.1	S 26 26.8 +05.6	11							
12	0 25.4 -00.1	N 22 26.1 +00.3	310 59.4 -00.1	N 22 51.6 -00.6	175 48.1 -37.2	S 26 32.4 +05.4	12							
13	15 25.3 -00.2	N 22 26.4 +00.3	325 59.3 +00.0	N 22 51.0 -00.5	190 10.9 -37.3	S 26 37.8 +05.2	13							
14	30 25.1 -00.1	N 22 26.7 +00.3	340 59.3 -00.1	N 22 50.5 -00.6	204 33.6 -37.4	S 26 43.0 +05.1	14							
15	45 25.0 -00.1	N 22 27.0 +00.3	355 59.2 +00.0	N 22 49.9 -00.6	218 56.2 -37.4	S 26 48.1 +04.9	15							
16	60 24.9 -00.1	N 22 27.3 +00.3	10 59.2 -00.1	N 22 49.3 -00.6	233 18.8 -37.6	S 26 53.0 +04.7	16							
17	75 24.8 -00.1	N 22 27.6 +00.2	25 59.1 +00.0	N 22 48.7 -00.6	247 41.2 -37.6	S 26 57.7 +04.5	17							
18	90 24.7 -00.1	N 22 27.8 +00.3	40 59.1 -00.1	N 22 48.1 -00.6	262 03.6 -37.7	S 27 02.2 +04.3	18							
19	105 24.6 -00.1	N 22 28.1 +00.3	55 59.0 +00.0	N 22 47.5 -00.6	276 25.9 -37.8	S 27 06.5 +04.2	19							
20	120 24.5 -00.1	N 22 28.4 +00.3	70 59.0 -00.1	N 22 46.9 -00.6	290 48.1 -37.9	S 27 10.7 +03.9	20							
21	135 24.4 -00.1	N 22 28.7 +00.3	85 58.9 +00.0	N 22 46.3 -00.6	305 10.2 -37.9	S 27 14.6 +03.8	21							
22	150 24.3 -00.1	N 22 29.0 +00.3	100 58.9 -00.1	N 22 45.7 -00.6	319 32.3 -38.0	S 27 18.4 +03.6	22							
23	165 24.2 -00.1	N 22 29.3 +00.2	115 58.8 +00.0	N 22 45.1 -00.6	333 54.3 -38.1	S 27 22.0 +03.3	23							
UT 02 06 10 14 18 22	SD 15'8 15'8 15'8 15'8 15'8 15'8	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 288° 288° 288° 288° 287° 287°	Greenwich Culmination Time: 11:58	UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'2 00'2 00'2 00'2 00'2 00'2	SHA 239° 239° 238° 238° 238° 238°	Greenwich Culmination Time: 15:16	UT 02 06 10 14 18 22	SD 16'1 16'2 16'2 16'2 16'2 16'2	HP 59'2 59'3 59'4 59'5 59'6 59'6	SHA 110° 107° 104° 102° 099° 096°	Greenwich Culmination Time: -1:00

UT	Mars				Jupiter				Saturn				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	121 05.2 +01.0	N 19 35.4 -00.4	220 00.9 +02.0	N 11 50.3 +00.2	272 49.7 +02.4	S 10 20.5 +00.0	00							
01	136 06.2 +01.0	N 19 35.0 -00.4	235 02.9 +01.9	N 11 50.5 +00.2	287 52.1 +02.4	S 10 20.5 +00.0	01							
02	151 07.2 +01.0	N 19 34.6 -00.4	250 04.8 +02.0	N 11 50.7 +00.1	302 54.5 +02.4	S 10 20.5 +00.0	02							
03	166 08.2 +00.9	N 19 34.2 -00.4	265 06.8 +01.9	N 11 50.8 +00.2	317 56.9 +02.4	S 10 20.5 +00.0	03							
04	181 09.1 +01.0	N 19 33.8 -00.4	280 08.7 +02.0	N 11 51.0 +00.2	332 59.3 +02.4	S 10 20.5 -00.1	04							
05	196 10.1 +01.0	N 19 33.4 -00.4	295 10.7 +02.0	N 11 51.2 +00.2	348 01.7 +02.4	S 10 20.4 +00.0	05							
06	211 11.1 +01.0	N 19 33.0 -00.4	310 12.7 +01.9	N 11 51.4 +00.1	3 04.1 +02.4	S 10 20.4 +00.0	06							
07	226 12.1 +01.0	N 19 32.6 -00.4	325 14.6 +02.0	N 11 51.5 +00.2	18 06.5 +02.5	S 10 20.4 +00.0	07							
08	241 13.1 +00.9	N 19 32.2 -00.4	340 16.6 +01.9	N 11 51.7 +00.2	33 09.0 +02.4	S 10 20.4 +00.0	08							
09	256 14.0 +01.0	N 19 31.8 -00.4	355 18.5 +02.0	N 11 51.9 +00.2	48 11.4 +02.4	S 10 20.4 +00.0	09							
10	271 15.0 +01.0	N 19 31.4 -00.4	10 20.5 +01.9	N 11 52.1 +00.1	63 13.8 +02.4	S 10 20.4 +00.0	10							
11	286 16.0 +01.0	N 19 31.0 -00.4	25 22.4 +02.0	N 11 52.2 +00.2	78 16.2 +02.4	S 10 20.4 +00.0	11							
12	301 17.0 +01.0	N 19 30.6 -00.4	40 24.4 +01.9	N 11 52.4 +00.2	93 18.6 +02.4	S 10 20.4 -00.1	12							
13	316 18.0 +00.9	N 19 30.2 -00.4	55 26.3 +02.0	N 11 52.6 +00.2	108 21.0 +02.4	S 10 20.3 +00.0	13							
14	331 18.9 +01.0	N 19 29.8 -00.4	70 28.3 +01.9	N 11 52.8 +00.1	123 23.4 +02.4	S 10 20.3 +00.0	14							
15	346 19.9 +01.0	N 19 29.4 -00.4	85 30.2 +02.0	N 11 52.9 +00.2	138 25.8 +02.4	S 10 20.3 +00.0	15							
16	1 20.9 +01.0	N 19 29.0 -00.4	100 32.2 +02.0	N 11 53.1 +00.2	153 28.2 +02.4	S 10 20.3 +00.0	16							
17	16 21.9 +01.0	N 19 28.6 -00.5	115 34.2 +01.9	N 11 53.3 +00.2	168 30.6 +02.4	S 10 20.3 +00.0	17							
18	31 22.9 +00.9	N 19 28.1 -00.4	130 36.1 +02.0	N 11 53.5 +00.1	183 33.0 +02.5	S 10 20.3 +00.0	18							
19	46 23.8 +01.0	N 19 27.7 -00.4	145 38.1 +01.9	N 11 53.6 +00.2	198 35.5 +02.4	S 10 20.3 +00.0	19							
20	61 24.8 +01.0	N 19 27.3 -00.4	160 40.0 +02.0	N 11 53.8 +00.2	213 37.9 +02.4	S 10 20.3 +00.0	20							
21	76 25.8 +01.0	N 19 26.9 -00.4	175 42.0 +01.9	N 11 54.0 +00.2	228 40.3 +02.4	S 10 20.3 -00.1	21							
22	91 26.8 +01.0	N 19 26.5 -00.4	190 43.9 +02.0	N 11 54.2 +00.1	243 42.7 +02.4	S 10 20.2 +00.0	22							
23	106 27.8 +00.9	N 19 26.1 -00.4	205 45.9 +01.9	N 11 54.3 +00.2	258 45.1 +02.4	S 10 20.2 +00.0	23							
UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 229° 229° 229° 229° 228° 228°	Greenwich Culmination Time: 15:54	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 328° 328° 328° 328° 328° 328°	Greenwich Culmination Time: 09:18	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 021° 021° 021° 021° 021° 021°	Greenwich Culmination Time: 05:47

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 55%				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	180 24.1 -00.1	N 22 29.5 +00.3	130 58.8 +00.0	N 22 44.5 -00.6	348 16.2 -38.1	S 27 25.3 +03.2	00						
01	195 24.0 -00.1	N 22 29.8 +00.3	145 58.8 -00.1	N 22 43.9 -00.6	2 38.1 -38.2	S 27 28.5 +03.0	01						
02	210 23.9 -00.1	N 22 30.1 +00.3	160 58.7 +00.0	N 22 43.3 -00.6	16 59.9 -38.2	S 27 31.5 +02.8	02						
03	225 23.8 -00.2	N 22 30.4 +00.3	175 58.7 -00.1	N 22 42.7 -00.6	31 21.7 -38.3	S 27 34.3 +02.6	03						
04	240 23.6 -00.1	N 22 30.7 +00.2	190 58.6 +00.0	N 22 42.1 -00.6	45 43.4 -38.4	S 27 36.9 +02.4	04						
05	255 23.5 -00.1	N 22 30.9 +00.3	205 58.6 +00.0	N 22 41.5 -00.6	60 05.0 -38.4	S 27 39.3 +02.2	05						
06	270 23.4 -00.1	N 22 31.2 +00.3	220 58.6 -00.1	N 22 40.9 -00.6	74 26.6 -38.4	S 27 41.5 +02.0	06						
07	285 23.3 -00.1	N 22 31.5 +00.3	235 58.5 +00.0	N 22 40.3 -00.6	88 48.2 -38.5	S 27 43.5 +01.8	07						
08	300 23.2 -00.1	N 22 31.8 +00.3	250 58.5 +00.0	N 22 39.7 -00.6	103 09.7 -38.5	S 27 45.3 +01.6	08						
09	315 23.1 -00.1	N 22 32.1 +00.2	265 58.5 -00.1	N 22 39.1 -00.6	117 31.2 -38.6	S 27 46.9 +01.4	09						
10	330 23.0 -00.1	N 22 32.3 +00.3	280 58.4 +00.0	N 22 38.5 -00.6	131 52.6 -38.5	S 27 48.3 +01.1	10						
11	345 22.9 -00.1	N 22 32.6 +00.3	295 58.4 +00.0	N 22 37.9 -00.6	146 14.1 -38.7	S 27 49.4 +01.0	11						
12	0 22.8 -00.1	N 22 32.9 +00.3	310 58.4 +00.0	N 22 37.3 -00.6	160 35.4 -38.6	S 27 50.4 +00.8	12						
13	15 22.7 -00.1	N 22 33.2 +00.2	325 58.4 -00.1	N 22 36.7 -00.6	174 56.8 -38.7	S 27 51.2 +00.6	13						
14	30 22.6 -00.2	N 22 33.4 +00.3	340 58.3 +00.0	N 22 36.1 -00.6	189 18.1 -38.7	S 27 51.8 +00.4	14						
15	45 22.4 -00.1	N 22 33.7 +00.3	355 58.3 +00.0	N 22 35.5 -00.6	203 39.4 -38.7	S 27 52.2 +00.2	15						
16	60 22.3 -00.1	N 22 34.0 +00.2	10 58.3 +00.0	N 22 34.9 -00.6	218 00.7 -38.7	S 27 52.4 -00.1	16						
17	75 22.2 -00.1	N 22 34.2 +00.3	25 58.3 +00.0	N 22 34.3 -00.6	232 22.0 -38.7	S 27 52.3 -00.2	17						
18	90 22.1 -00.1	N 22 34.5 +00.3	40 58.3 -00.1	N 22 33.7 -00.6	246 43.3 -38.8	S 27 52.1 -00.4	18						
19	105 22.0 -00.1	N 22 34.8 +00.2	55 58.2 +00.0	N 22 33.1 -00.6	261 04.5 -38.7	S 27 51.7 -00.7	19						
20	120 21.9 -00.1	N 22 35.0 +00.3	70 58.2 +00.0	N 22 32.5 -00.7	275 25.8 -38.8	S 27 51.0 -00.8	20						
21	135 21.8 -00.1	N 22 35.3 +00.3	85 58.2 +00.0	N 22 31.8 -00.6	289 47.0 -38.7	S 27 50.2 -01.1	21						
22	150 21.7 -00.1	N 22 35.6 +00.2	100 58.2 +00.0	N 22 31.2 -00.6	304 08.3 -38.8	S 27 49.1 -01.2	22						
23	165 21.6 -00.2	N 22 35.8 +00.3	115 58.2 +00.0	N 22 30.6 -00.6	318 29.5 -38.7	S 27 47.9 -01.5	23						
	UT 02 06 10 14 18 22 SD 15'8 15'8 15'8 15'8 15'8 15'8 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 287° 287° 287° 287° 286° 286° Greenwich Culmination Time: 11:58	UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 238° 238° 237° 237° 237° 237° Greenwich Culmination Time: 15:16	UT 02 06 10 14 18 22 SD 16'3 16'3 16'3 16'3 16'3 16'3 HP 59'7 59'8 59'8 59'9 59'9 60'0 SHA 094° 091° 088° 086° 083° 080° Greenwich Culmination Time: 00:48										
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	121 28.7 +01.0	N 19 25.7 -00.4	220 47.8 +02.0	N 11 54.5 +00.2	273 47.5 +02.4	S 10 20.2 +00.0	00						
01	136 29.7 +01.0	N 19 25.3 -00.4	235 49.8 +02.0	N 11 54.7 +00.2	288 49.9 +02.4	S 10 20.2 +00.0	01						
02	151 30.7 +01.0	N 19 24.9 -00.4	250 51.8 +01.9	N 11 54.9 +00.1	303 52.3 +02.4	S 10 20.2 +00.0	02						
03	166 31.7 +01.0	N 19 24.5 -00.4	265 53.7 +02.0	N 11 55.0 +00.2	318 54.7 +02.5	S 10 20.2 +00.0	03						
04	181 32.7 +00.9	N 19 24.1 -00.4	280 55.7 +01.9	N 11 55.2 +00.2	333 57.2 +02.4	S 10 20.2 +00.0	04						
05	196 33.6 +01.0	N 19 23.7 -00.4	295 57.6 +02.0	N 11 55.4 +00.2	348 59.6 +02.4	S 10 20.2 +00.0	05						
06	211 34.6 +01.0	N 19 23.3 -00.5	310 59.6 +01.9	N 11 55.6 +00.1	4 02.0 +02.4	S 10 20.2 -00.1	06						
07	226 35.6 +01.0	N 19 22.8 -00.4	326 01.5 +02.0	N 11 55.7 +00.2	19 04.4 +02.4	S 10 20.1 +00.0	07						
08	241 36.6 +01.0	N 19 22.4 -00.4	341 03.5 +01.9	N 11 55.9 +00.2	34 06.8 +02.4	S 10 20.1 +00.0	08						
09	256 37.6 +01.0	N 19 22.0 -00.4	356 05.4 +02.0	N 11 56.1 +00.1	49 09.2 +02.4	S 10 20.1 +00.0	09						
10	271 38.6 +00.9	N 19 21.6 -00.4	11 07.4 +02.0	N 11 56.2 +00.2	64 11.6 +02.4	S 10 20.1 +00.0	10						
11	286 39.5 +01.0	N 19 21.2 -00.4	26 09.4 +01.9	N 11 56.4 +00.2	79 14.0 +02.5	S 10 20.1 +00.0	11						
12	301 40.5 +01.0	N 19 20.8 -00.4	41 11.3 +02.0	N 11 56.6 +00.2	94 16.5 +02.4	S 10 20.1 +00.0	12						
13	316 41.5 +01.0	N 19 20.4 -00.4	56 13.3 +01.9	N 11 56.8 +00.1	109 18.9 +02.4	S 10 20.1 +00.0	13						
14	331 42.5 +01.0	N 19 20.0 -00.4	71 15.2 +02.0	N 11 56.9 +00.2	124 21.3 +02.4	S 10 20.1 +00.0	14						
15	346 43.5 +00.9	N 19 19.6 -00.4	86 17.2 +01.9	N 11 57.1 +00.2	139 23.7 +02.4	S 10 20.1 +00.0	15						
16	1 44.4 +01.0	N 19 19.2 -00.5	101 19.1 +02.0	N 11 57.3 +00.2	154 26.1 +02.4	S 10 20.1 -00.1	16						
17	16 45.4 +01.0	N 19 18.7 -00.4	116 21.1 +02.0	N 11 57.5 +00.1	169 28.5 +02.4	S 10 20.0 +00.0	17						
18	31 46.4 +01.0	N 19 18.3 -00.4	131 23.1 +01.9	N 11 57.6 +00.2	184 30.9 +02.5	S 10 20.0 +00.0	18						
19	46 47.4 +01.0	N 19 17.9 -00.4	146 25.0 +02.0	N 11 57.8 +00.2	199 33.4 +02.4	S 10 20.0 +00.0	19						
20	61 48.4 +01.0	N 19 17.5 -00.4	161 27.0 +01.9	N 11 58.0 +00.2	214 35.8 +02.4	S 10 20.0 +00.0	20						
21	76 49.4 +00.9	N 19 17.1 -00.4	176 28.9 +02.0	N 11 58.2 +00.1	229 38.2 +02.4	S 10 20.0 +00.0	21						
22	91 50.3 +01.0	N 19 16.7 -00.4	191 30.9 +01.9	N 11 58.3 +00.2	244 40.6 +02.4	S 10 20.0 +00.0	22						
23	106 51.3 +01.0	N 19 16.3 -00.4	206 32.8 +02.0	N 11 58.5 +00.2	259 43.0 +02.4	S 10 20.0 +00.0	23						
	UT 02 06 10 14 18 22 SD 00'0 00'0 00'0 00'0 00'0 00'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 228° 228° 228° 228° 228° 228° Greenwich Culmination Time: 15:53	UT 02 06 10 14 18 22 SD 00'3 00'3 00'3 00'3 00'3 00'3 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 328° 328° 328° 328° 327° 327° Greenwich Culmination Time: 09:15	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 021° 021° 021° 021° 021° 021° Greenwich Culmination Time: 05:43										

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 21.4 -00.1	N 22 36.1 +00.3	130 58.2 +00.0	N 22 30.0 -00.6	332 50.8 -38.7	S 27 46.4 -01.7	00						
01	195 21.3 -00.1	N 22 36.4 +00.2	145 58.2 -00.1	N 22 29.4 -00.6	347 12.1 -38.8	S 27 44.7 -01.8	01						
02	210 21.2 -00.1	N 22 36.6 +00.3	160 58.1 +00.0	N 22 28.8 -00.6	1 33.3 -38.7	S 27 42.9 -02.1	02						
03	225 21.1 -00.1	N 22 36.9 +00.3	175 58.1 +00.0	N 22 28.2 -00.6	15 54.6 -38.6	S 27 40.8 -02.3	03						
04	240 21.0 -00.1	N 22 37.2 +00.2	190 58.1 +00.0	N 22 27.6 -00.7	30 16.0 -38.7	S 27 38.5 -02.4	04						
05	255 20.9 -00.1	N 22 37.4 +00.3	205 58.1 +00.0	N 22 26.9 -00.6	44 37.3 -38.6	S 27 36.1 -02.7	05						
06	270 20.8 -00.1	N 22 37.7 +00.3	220 58.1 +00.0	N 22 26.3 -00.6	58 58.7 -38.6	S 27 33.4 -02.9	06						
07	285 20.7 -00.1	N 22 38.0 +00.2	235 58.1 +00.0	N 22 25.7 -00.6	73 20.1 -38.6	S 27 30.5 -03.1	07						
08	300 20.6 -00.2	N 22 38.2 +00.3	250 58.1 +00.0	N 22 25.1 -00.6	87 41.5 -38.5	S 27 27.4 -03.3	08						
09	315 20.4 -00.1	N 22 38.5 +00.2	265 58.1 +00.0	N 22 24.5 -00.7	102 03.0 -38.5	S 27 24.1 -03.5	09						
10	330 20.3 -00.1	N 22 38.7 +00.3	280 58.1 +00.0	N 22 23.8 -00.6	116 24.5 -38.5	S 27 20.6 -03.6	10						
11	345 20.2 -00.1	N 22 39.0 +00.3	295 58.1 +00.0	N 22 23.2 -00.6	130 46.0 -38.4	S 27 17.0 -03.9	11						
12	0 20.1 -00.1	N 22 39.3 +00.2	310 58.1 +00.0	N 22 22.6 -00.6	145 07.6 -38.4	S 27 13.1 -04.1	12						
13	15 20.0 -00.1	N 22 39.5 +00.3	325 58.1 +00.0	N 22 22.0 -00.6	159 29.2 -38.3	S 27 09.0 -04.3	13						
14	30 19.9 -00.1	N 22 39.8 +00.2	340 58.1 +00.0	N 22 21.4 -00.7	173 50.9 -38.3	S 27 04.7 -04.5	14						
15	45 19.8 -00.2	N 22 40.0 +00.3	355 58.1 +00.1	N 22 20.7 -00.6	188 12.6 -38.2	S 27 00.2 -04.6	15						
16	60 19.6 -00.1	N 22 40.3 +00.2	10 58.2 +00.0	N 22 20.1 -00.6	202 34.4 -38.1	S 26 55.6 -04.9	16						
17	75 19.5 -00.1	N 22 40.5 +00.3	25 58.2 +00.0	N 22 19.5 -00.6	216 56.3 -38.1	S 26 50.7 -05.0	17						
18	90 19.4 -00.1	N 22 40.8 +00.2	40 58.2 +00.0	N 22 18.9 -00.7	231 18.2 -38.1	S 26 45.7 -05.3	18						
19	105 19.3 -00.1	N 22 41.0 +00.3	55 58.2 +00.0	N 22 18.2 -00.6	245 40.1 -37.9	S 26 40.4 -05.4	19						
20	120 19.2 -00.1	N 22 41.3 +00.2	70 58.2 +00.0	N 22 17.6 -00.6	260 02.2 -37.9	S 26 35.0 -05.7	20						
21	135 19.1 -00.1	N 22 41.5 +00.3	85 58.2 +00.0	N 22 17.0 -00.6	274 24.3 -37.9	S 26 29.3 -05.8	21						
22	150 19.0 -00.2	N 22 41.8 +00.2	100 58.2 +00.1	N 22 16.4 -00.7	288 46.4 -37.8	S 26 23.5 -06.0	22						
23	165 18.8 -00.1	N 22 42.0 +00.3	115 58.3 +00.0	N 22 15.7 -00.6	303 08.6 -37.6	S 26 17.5 -06.2	23						
	UT 02 06 10 14 18 22 SD 15'8 15'8 15'8 15'8 15'8 15'8 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 286° 286° 286° 286° 285° 285° Greenwich Culmination Time: 11:58	UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 237° 237° 236° 236° 236° 236° Greenwich Culmination Time: 15:16	UT 02 06 10 14 18 22 SD 16'3 16'4 16'4 16'4 16'4 16'4 HP 60'0 60'0 60'0 60'1 60'1 60'1 SHA 077° 075° 072° 069° 066° 064° Greenwich Culmination Time: 01:53										
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	121 52.3 +01.0	N 19 15.9 -00.5	221 34.8 +02.0	N 11 58.7 +00.1	274 45.4 +02.4	S 10 20.0 +00.0	00						
01	136 53.3 +01.0	N 19 15.4 -00.4	236 36.8 +01.9	N 11 58.8 +00.2	289 47.8 +02.5	S 10 20.0 +00.0	01						
02	151 54.3 +00.9	N 19 15.0 -00.4	251 38.7 +02.0	N 11 59.0 +00.2	304 50.3 +02.4	S 10 20.0 +00.0	02						
03	166 55.2 +01.0	N 19 14.6 -00.4	266 40.7 +01.9	N 11 59.2 +00.2	319 52.7 +02.4	S 10 20.0 -00.1	03						
04	181 56.2 +01.0	N 19 14.2 -00.4	281 42.6 +02.0	N 11 59.4 +00.1	334 55.1 +02.4	S 10 19.9 +00.0	04						
05	196 57.2 +01.0	N 19 13.8 -00.4	296 44.6 +02.0	N 11 59.5 +00.2	349 57.5 +02.4	S 10 19.9 +00.0	05						
06	211 58.2 +01.0	N 19 13.4 -00.4	311 46.6 +01.9	N 11 59.7 +00.2	4 59.9 +02.4	S 10 19.9 +00.0	06						
07	226 59.2 +01.0	N 19 13.0 -00.4	326 48.5 +02.0	N 11 59.9 +00.1	20 02.3 +02.5	S 10 19.9 +00.0	07						
08	242 00.2 +00.9	N 19 12.6 -00.5	341 50.5 +01.9	N 12 00.0 +00.2	35 04.8 +02.4	S 10 19.9 +00.0	08						
09	257 01.1 +01.0	N 19 12.1 -00.4	356 52.4 +02.0	N 12 00.2 +00.2	50 07.2 +02.4	S 10 19.9 +00.0	09						
10	272 02.1 +01.0	N 19 11.7 -00.4	11 54.4 +02.0	N 12 00.4 +00.2	65 09.6 +02.4	S 10 19.9 +00.0	10						
11	287 03.1 +01.0	N 19 11.3 -00.4	26 56.4 +01.9	N 12 00.6 +00.1	80 12.0 +02.4	S 10 19.9 +00.0	11						
12	302 04.1 +01.0	N 19 10.9 -00.4	41 58.3 +02.0	N 12 00.7 +00.2	95 14.4 +02.4	S 10 19.9 +00.0	12						
13	317 05.1 +00.9	N 19 10.5 -00.4	57 00.3 +01.9	N 12 00.9 +00.2	110 16.8 +02.5	S 10 19.9 +00.0	13						
14	332 06.0 +01.0	N 19 10.1 -00.4	72 02.2 +02.0	N 12 01.1 +00.1	125 19.3 +02.4	S 10 19.9 -00.1	14						
15	347 07.0 +01.0	N 19 09.7 -00.5	87 04.2 +01.9	N 12 01.2 +00.2	140 21.7 +02.4	S 10 19.8 +00.0	15						
16	2 08.0 +01.0	N 19 09.2 -00.4	102 06.1 +02.0	N 12 01.4 +00.2	155 24.1 +02.4	S 10 19.8 +00.0	16						
17	17 09.0 +01.0	N 19 08.8 -00.4	117 08.1 +02.0	N 12 01.6 +00.2	170 26.5 +02.4	S 10 19.8 +00.0	17						
18	32 10.0 +01.0	N 19 08.4 -00.4	132 10.1 +01.9	N 12 01.8 +00.1	185 28.9 +02.4	S 10 19.8 +00.0	18						
19	47 11.0 +00.9	N 19 08.0 -00.4	147 12.0 +02.0	N 12 01.9 +00.2	200 31.3 +02.5	S 10 19.8 +00.0	19						
20	62 11.9 +01.0	N 19 07.6 -00.4	162 14.0 +01.9	N 12 02.1 +00.2	215 33.8 +02.4	S 10 19.8 +00.0	20						
21	77 12.9 +01.0	N 19 07.2 -00.5	177 15.9 +02.0	N 12 02.3 +00.1	230 36.2 +02.4	S 10 19.8 +00.0	21						
22	92 13.9 +01.0	N 19 06.7 -00.4	192 17.9 +02.0	N 12 02.4 +00.2	245 38.6 +02.4	S 10 19.8 +00.0	22						
23	107 14.9 +01.0	N 19 06.3 -00.4	207 19.9 +01.9	N 12 02.6 +00.2	260 41.0 +02.4	S 10 19.8 +00.0	23						
	UT 02 06 10 14 18 22 SD 00'0 00'0 00'0 00'0 00'0 00'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 228° 228° 227° 227° 227° 227° Greenwich Culmination Time: 15:51	UT 02 06 10 14 18 22 SD 00'3 00'3 00'3 00'3 00'3 00'3 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 327° 327° 327° 327° 327° 327° Greenwich Culmination Time: 09:12	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 021° 021° 021° 021° 021° 021° Greenwich Culmination Time: 05:40										

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	18.7 -00.1	N 22 42.3 +00.2		130	58.3 +00.0	N 22 15.1 -00.6		317	31.0 -37.7	S 26 11.3 -06.4		00
01	195	18.6 -00.1	N 22 42.5 +00.3		145	58.3 +00.0	N 22 14.5 -00.7		331	53.3 -37.5	S 26 04.9 -06.5		01
02	210	18.5 -00.1	N 22 42.8 +00.2		160	58.3 +00.0	N 22 13.8 -00.6		346	15.8 -37.5	S 25 58.4 -06.8		02
03	225	18.4 -00.1	N 22 43.0 +00.3		175	58.3 +00.1	N 22 13.2 -00.6		0	38.3 -37.3	S 25 51.6 -06.9		03
04	240	18.3 -00.1	N 22 43.3 +00.2		190	58.4 +00.0	N 22 12.6 -00.6		15	01.0 -37.3	S 25 44.7 -07.1		04
05	255	18.2 -00.2	N 22 43.5 +00.3		205	58.4 +00.0	N 22 12.0 -00.7		29	23.7 -37.3	S 25 37.6 -07.3		05
06	270	18.0 -00.1	N 22 43.8 +00.2		220	58.4 +00.0	N 22 11.3 -00.6		43	46.4 -37.1	S 25 30.3 -07.5		06
07	285	17.9 -00.1	N 22 44.0 +00.3		235	58.4 +00.1	N 22 10.7 -00.6		58	09.3 -37.0	S 25 22.8 -07.6		07
08	300	17.8 -00.1	N 22 44.3 +00.2		250	58.5 +00.0	N 22 10.1 -00.7		72	32.3 -37.0	S 25 15.2 -07.8		08
09	315	17.7 -00.1	N 22 44.5 +00.2		265	58.5 +00.0	N 22 09.4 -00.6		86	55.3 -36.8	S 25 07.4 -08.0		09
10	330	17.6 -00.1	N 22 44.7 +00.3		280	58.5 +00.1	N 22 08.8 -00.7		101	18.5 -36.8	S 24 59.4 -08.1		10
11	345	17.5 -00.2	N 22 45.0 +00.2		295	58.6 +00.0	N 22 08.1 -00.6		115	41.7 -36.6	S 24 51.3 -08.4		11
12	0	17.3 -00.1	N 22 45.2 +00.3		310	58.6 +00.0	N 22 07.5 -00.6		130	05.1 -36.6	S 24 42.9 -08.5		12
13	15	17.2 -00.1	N 22 45.5 +00.2		325	58.6 +00.1	N 22 06.9 -00.7		144	28.5 -36.5	S 24 34.4 -08.6		13
14	30	17.1 -00.1	N 22 45.7 +00.3		340	58.7 +00.0	N 22 06.2 -00.6		158	52.0 -36.4	S 24 25.8 -08.8		14
15	45	17.0 -00.1	N 22 46.0 +00.2		355	58.7 +00.1	N 22 05.6 -00.6		173	15.6 -36.2	S 24 17.0 -09.0		15
16	60	16.9 -00.1	N 22 46.2 +00.2		10	58.8 +00.0	N 22 05.0 -00.7		187	39.4 -36.2	S 24 08.0 -09.2		16
17	75	16.8 -00.2	N 22 46.4 +00.3		25	58.8 +00.0	N 22 04.3 -00.6		202	03.2 -36.1	S 23 58.8 -09.3		17
18	90	16.6 -00.1	N 22 46.7 +00.2		40	58.8 +00.1	N 22 03.7 -00.7		216	27.1 -35.9	S 23 49.5 -09.4		18
19	105	16.5 -00.1	N 22 46.9 +00.2		55	58.9 +00.0	N 22 03.0 -00.6		230	51.2 -35.9	S 23 40.1 -09.6		19
20	120	16.4 -00.1	N 22 47.1 +00.3		70	58.9 +00.1	N 22 02.4 -00.6		245	15.3 -35.8	S 23 30.5 -09.8		20
21	135	16.3 -00.1	N 22 47.4 +00.2		85	59.0 +00.0	N 22 01.8 -00.7		259	39.5 -35.6	S 23 20.7 -09.9		21
22	150	16.2 -00.1	N 22 47.6 +00.2		100	59.0 +00.1	N 22 01.1 -00.6		274	03.9 -35.6	S 23 10.8 -10.1		22
23	165	16.1 -00.2	N 22 47.8 +00.3		115	59.1 +00.0	N 22 00.5 -00.7		288	28.3 -35.4	S 23 00.7 -10.2		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 16'4 16'4 16'4 16'4 16'3 16'3				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 60'1 60'1 60'0 60'0 60'0 60'0				
	SHA 285° 285° 285° 285° 284° 284°				SHA 236° 236° 235° 235° 235° 235°				SHA 061° 058° 056° 053° 051° 048°				
	Greenwich Culmination Time: 11:58				Greenwich Culmination Time: 15:16				Greenwich Culmination Time: 02:57				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	122	15.9 +01.0	N 19 05.9 -00.4		222	21.8 +02.0	N 12 02.8 +00.2		275	43.4 +02.5	S 10 19.8 +00.0		00
01	137	16.9 +00.9	N 19 05.5 -00.4		237	23.8 +02.0	N 12 03.0 +00.1		290	45.9 +02.4	S 10 19.8 +00.0		01
02	152	17.8 +01.0	N 19 05.1 -00.4		252	25.8 +01.9	N 12 03.1 +00.2		305	48.3 +02.4	S 10 19.8 -00.1		02
03	167	18.8 +01.0	N 19 04.7 -00.5		267	27.7 +02.0	N 12 03.3 +00.2		320	50.7 +02.4	S 10 19.7 +00.0		03
04	182	19.8 +01.0	N 19 04.2 -00.4		282	29.7 +01.9	N 12 03.5 +00.1		335	53.1 +02.4	S 10 19.7 +00.0		04
05	197	20.8 +01.0	N 19 03.8 -00.4		297	31.6 +02.0	N 12 03.6 +00.2		350	55.5 +02.5	S 10 19.7 +00.0		05
06	212	21.8 +01.0	N 19 03.4 -00.4		312	33.6 +02.0	N 12 03.8 +00.2		5	58.0 +02.4	S 10 19.7 +00.0		06
07	227	22.8 +00.9	N 19 03.0 -00.4		327	35.6 +01.9	N 12 04.0 +00.2		21	00.4 +02.4	S 10 19.7 +00.0		07
08	242	23.7 +01.0	N 19 02.6 -00.5		342	37.5 +02.0	N 12 04.2 +00.1		36	02.8 +02.4	S 10 19.7 +00.0		08
09	257	24.7 +01.0	N 19 02.1 -00.4		357	39.5 +01.9	N 12 04.3 +00.2		51	05.2 +02.4	S 10 19.7 +00.0		09
10	272	25.7 +01.0	N 19 01.7 -00.4		12	41.4 +02.0	N 12 04.5 +00.2		66	07.6 +02.5	S 10 19.7 +00.0		10
11	287	26.7 +01.0	N 19 01.3 -00.4		27	43.4 +02.0	N 12 04.7 +00.1		81	10.1 +02.4	S 10 19.7 +00.0		11
12	302	27.7 +01.0	N 19 00.9 -00.4		42	45.4 +01.9	N 12 04.8 +00.2		96	12.5 +02.4	S 10 19.7 +00.0		12
13	317	28.7 +00.9	N 19 00.5 -00.5		57	47.3 +02.0	N 12 05.0 +00.2		111	14.9 +02.4	S 10 19.7 +00.0		13
14	332	29.6 +01.0	N 19 00.0 -00.4		72	49.3 +02.0	N 12 05.2 +00.2		126	17.3 +02.4	S 10 19.7 +00.0		14
15	347	30.6 +01.0	N 18 59.6 -00.4		87	51.3 +01.9	N 12 05.4 +00.1		141	19.7 +02.5	S 10 19.7 +00.0		15
16	2	31.6 +01.0	N 18 59.2 -00.4		102	53.2 +02.0	N 12 05.5 +00.2		156	22.2 +02.4	S 10 19.7 -00.1		16
17	17	32.6 +01.0	N 18 58.8 -00.4		117	55.2 +01.9	N 12 05.7 +00.2		171	24.6 +02.4	S 10 19.6 +00.0		17
18	32	33.6 +01.0	N 18 58.4 -00.5		132	57.1 +02.0	N 12 05.9 +00.1		186	27.0 +02.4	S 10 19.6 +00.0		18
19	47	34.6 +00.9	N 18 57.9 -00.4		147	59.1 +02.0	N 12 06.0 +00.2		201	29.4 +02.4	S 10 19.6 +00.0		19
20	62	35.5 +01.0	N 18 57.5 -00.4		163	01.1 +01.9	N 12 06.2 +00.2		216	31.8 +02.5	S 10 19.6 +00.0		20
21	77	36.5 +01.0	N 18 57.1 -00.4		178	03.0 +02.0	N 12 06.4 +00.1		231	34.3 +02.4	S 10 19.6 +00.0		21
22	92	37.5 +01.0	N 18 56.7 -00.4		193	05.0 +02.0	N 12 06.5 +00.2		246	36.7 +02.4	S 10 19.6 +00.0		22
23	107	38.5 +01.0	N 18 56.3 -00.5		208	07.0 +01.9	N 12 06.7 +00.2		261	39.1 +02.4	S 10 19.6 +00.0		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 227° 227° 227° 227° 227° 227°				SHA 327° 327° 327° 327° 327° 327°				SHA 021° 021° 021° 021° 021° 021°				
	Greenwich Culmination Time: 15:49				Greenwich Culmination Time: 09:09				Greenwich Culmination Time: 05:36				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 15.9 -00.1	N 22 48.1 +00.2	130 59.1 +00.1	N 21 59.8 -00.6	302 52.9 -35.3	S 22 50.5 -10.3	00						
01	195 15.8 -00.1	N 22 48.3 +00.2	145 59.2 +00.0	N 21 59.2 -00.7	317 17.6 -35.2	S 22 40.2 -10.5	01						
02	210 15.7 -00.1	N 22 48.5 +00.3	160 59.2 +00.1	N 21 58.5 -00.6	331 42.4 -35.1	S 22 29.7 -10.7	02						
03	225 15.6 -00.1	N 22 48.8 +00.2	175 59.3 +00.0	N 21 57.9 -00.7	346 07.3 -35.0	S 22 19.0 -10.8	03						
04	240 15.5 -00.1	N 22 49.0 +00.2	190 59.3 +00.1	N 21 57.2 -00.6	0 32.3 -34.9	S 22 08.2 -10.9	04						
05	255 15.4 -00.2	N 22 49.2 +00.3	205 59.4 +00.1	N 21 56.6 -00.7	14 57.4 -34.8	S 21 57.3 -11.0	05						
06	270 15.2 -00.1	N 22 49.5 +00.2	220 59.5 +00.0	N 21 55.9 -00.6	29 22.6 -34.7	S 21 46.3 -11.2	06						
07	285 15.1 -00.1	N 22 49.7 +00.2	235 59.5 +00.1	N 21 55.3 -00.7	43 47.9 -34.5	S 21 35.1 -11.4	07						
08	300 15.0 -00.1	N 22 49.9 +00.2	250 59.6 +00.0	N 21 54.6 -00.6	58 13.4 -34.5	S 21 23.7 -11.4	08						
09	315 14.9 -00.1	N 22 50.1 +00.3	265 59.6 +00.1	N 21 54.0 -00.7	72 38.9 -34.3	S 21 12.3 -11.6	09						
10	330 14.8 -00.2	N 22 50.4 +00.2	280 59.7 +00.1	N 21 53.3 -00.6	87 04.6 -34.3	S 21 00.7 -11.7	10						
11	345 14.6 -00.1	N 22 50.6 +00.2	295 59.8 +00.0	N 21 52.7 -00.7	101 30.3 -34.1	S 20 49.0 -11.9	11						
12	0 14.5 -00.1	N 22 50.8 +00.2	310 59.8 +00.1	N 21 52.0 -00.6	115 56.2 -34.0	S 20 37.1 -11.9	12						
13	15 14.4 -00.1	N 22 51.0 +00.3	325 59.9 +00.1	N 21 51.4 -00.7	130 22.2 -33.9	S 20 25.2 -12.1	13						
14	30 14.3 -00.1	N 22 51.3 +00.2	340 60.0 +00.0	N 21 50.7 -00.6	144 48.3 -33.8	S 20 13.1 -12.2	14						
15	45 14.2 -00.2	N 22 51.5 +00.2	356 00.0 +00.1	N 21 50.1 -00.7	159 14.5 -33.6	S 20 00.9 -12.3	15						
16	60 14.0 -00.1	N 22 51.7 +00.2	11 00.1 +00.1	N 21 49.4 -00.6	173 40.9 -33.6	S 19 48.6 -12.5	16						
17	75 13.9 -00.1	N 22 51.9 +00.2	26 00.2 +00.1	N 21 48.8 -00.7	188 07.3 -33.4	S 19 36.1 -12.5	17						
18	90 13.8 -00.1	N 22 52.1 +00.3	41 00.3 +00.0	N 21 48.1 -00.6	202 33.9 -33.4	S 19 23.6 -12.7	18						
19	105 13.7 -00.1	N 22 52.4 +00.2	56 00.3 +00.1	N 21 47.5 -00.7	217 00.5 -33.2	S 19 10.9 -12.7	19						
20	120 13.6 -00.2	N 22 52.6 +00.2	71 00.4 +00.1	N 21 46.8 -00.6	231 27.3 -33.1	S 18 58.2 -12.9	20						
21	135 13.4 -00.1	N 22 52.8 +00.2	86 00.5 +00.1	N 21 46.2 -00.7	245 54.2 -33.0	S 18 45.3 -13.0	21						
22	150 13.3 -00.1	N 22 53.0 +00.2	101 00.6 +00.1	N 21 45.5 -00.7	260 21.2 -33.0	S 18 32.3 -13.1	22						
23	165 13.2 -00.1	N 22 53.2 +00.3	116 00.7 +00.0	N 21 44.8 -00.6	274 48.2 -32.7	S 18 19.2 -13.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'3 16'3 16'3 16'3 16'3 16'3								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 59'9 59'9 59'9 59'8 59'8 59'7								
	SHA 284° 284° 284° 284° 283° 283°		SHA 235° 235° 234° 234° 234° 234°		SHA 046° 043° 041° 038° 036° 033°								
	Greenwich Culmination Time: 11:59		Greenwich Culmination Time: 15:15		Greenwich Culmination Time: 03:57								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	122 39.5 +01.0	N 18 55.8 -00.4	223 08.9 +02.0	N 12 06.9 +00.1	276 41.5 +02.5	S 10 19.6 +00.0	00						
01	137 40.5 +00.9	N 18 55.4 -00.4	238 10.9 +01.9	N 12 07.0 +00.2	291 44.0 +02.4	S 10 19.6 +00.0	01						
02	152 41.4 +01.0	N 18 55.0 -00.4	253 12.8 +02.0	N 12 07.2 +00.2	306 46.4 +02.4	S 10 19.6 +00.0	02						
03	167 42.4 +01.0	N 18 54.6 -00.5	268 14.8 +02.0	N 12 07.4 +00.2	321 48.8 +02.4	S 10 19.6 +00.0	03						
04	182 43.4 +01.0	N 18 54.1 -00.4	283 16.8 +01.9	N 12 07.6 +00.1	336 51.2 +02.5	S 10 19.6 +00.0	04						
05	197 44.4 +01.0	N 18 53.7 -00.4	298 18.7 +02.0	N 12 07.7 +00.2	351 53.7 +02.4	S 10 19.6 +00.0	05						
06	212 45.4 +01.0	N 18 53.3 -00.4	313 20.7 +02.0	N 12 07.9 +00.2	6 56.1 +02.4	S 10 19.6 +00.0	06						
07	227 46.4 +00.9	N 18 52.9 -00.5	328 22.7 +01.9	N 12 08.1 +00.1	21 58.5 +02.4	S 10 19.6 +00.0	07						
08	242 47.3 +01.0	N 18 52.4 -00.4	343 24.6 +02.0	N 12 08.2 +00.2	37 00.9 +02.4	S 10 19.6 -00.1	08						
09	257 48.3 +01.0	N 18 52.0 -00.4	358 26.6 +02.0	N 12 08.4 +00.2	52 03.3 +02.5	S 10 19.5 +00.0	09						
10	272 49.3 +01.0	N 18 51.6 -00.4	13 28.6 +01.9	N 12 08.6 +00.1	67 05.8 +02.4	S 10 19.5 +00.0	10						
11	287 50.3 +01.0	N 18 51.2 -00.5	28 30.5 +02.0	N 12 08.7 +00.2	82 08.2 +02.4	S 10 19.5 +00.0	11						
12	302 51.3 +01.0	N 18 50.7 -00.4	43 32.5 +01.9	N 12 08.9 +00.2	97 10.6 +02.4	S 10 19.5 +00.0	12						
13	317 52.3 +00.9	N 18 50.3 -00.4	58 34.4 +02.0	N 12 09.1 +00.1	112 13.0 +02.5	S 10 19.5 +00.0	13						
14	332 53.2 +01.0	N 18 49.9 -00.4	73 36.4 +02.0	N 12 09.2 +00.2	127 15.5 +02.4	S 10 19.5 +00.0	14						
15	347 54.2 +01.0	N 18 49.5 -00.5	88 38.4 +01.9	N 12 09.4 +00.2	142 17.9 +02.4	S 10 19.5 +00.0	15						
16	2 55.2 +01.0	N 18 49.0 -00.4	103 40.3 +02.0	N 12 09.6 +00.2	157 20.3 +02.4	S 10 19.5 +00.0	16						
17	17 56.2 +01.0	N 18 48.6 -00.4	118 42.3 +02.0	N 12 09.8 +00.1	172 22.7 +02.5	S 10 19.5 +00.0	17						
18	32 57.2 +01.0	N 18 48.2 -00.4	133 44.3 +01.9	N 12 09.9 +00.2	187 25.2 +02.4	S 10 19.5 +00.0	18						
19	47 58.2 +01.0	N 18 47.8 -00.5	148 46.2 +02.0	N 12 10.1 +00.2	202 27.6 +02.4	S 10 19.5 +00.0	19						
20	62 59.2 +00.9	N 18 47.3 -00.4	163 48.2 +02.0	N 12 10.3 +00.1	217 30.0 +02.5	S 10 19.5 +00.0	20						
21	78 00.1 +01.0	N 18 46.9 -00.4	178 50.2 +01.9	N 12 10.4 +00.2	232 32.5 +02.4	S 10 19.5 +00.0	21						
22	93 01.1 +01.0	N 18 46.5 -00.4	193 52.1 +02.0	N 12 10.6 +00.2	247 34.9 +02.4	S 10 19.5 +00.0	22						
23	108 02.1 +01.0	N 18 46.1 -00.5	208 54.1 +02.0	N 12 10.8 +00.1	262 37.3 +02.4	S 10 19.5 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 226° 226° 226° 226° 226° 226°		SHA 327° 327° 327° 327° 327° 327°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 15:48		Greenwich Culmination Time: 09:06		Greenwich Culmination Time: 05:32								

UT	Sun				Venus				Moon				UT			
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec				
00	180	13.1	-00.1	N 22 53.5	+00.2	131	00.7	+00.1	N 21 44.2	-00.7	289	15.5	-32.7	S 18 06.1	-13.3	00
01	195	13.0	-00.2	N 22 53.7	+00.2	146	00.8	+00.1	N 21 43.5	-00.6	303	42.8	-32.6	S 17 52.8	-13.4	01
02	210	12.8	-00.1	N 22 53.9	+00.2	161	00.9	+00.1	N 21 42.9	-00.7	318	10.2	-32.5	S 17 39.4	-13.5	02
03	225	12.7	-00.1	N 22 54.1	+00.2	176	01.0	+00.1	N 21 42.2	-00.7	332	37.7	-32.4	S 17 25.9	-13.6	03
04	240	12.6	-00.1	N 22 54.3	+00.2	191	01.1	+00.1	N 21 41.5	-00.6	347	05.3	-32.2	S 17 12.3	-13.6	04
05	255	12.5	-00.1	N 22 54.5	+00.2	206	01.2	+00.1	N 21 40.9	-00.7	1	33.1	-32.2	S 16 58.7	-13.8	05
06	270	12.4	-00.2	N 22 54.7	+00.2	221	01.3	+00.1	N 21 40.2	-00.7	16	00.9	-32.1	S 16 44.9	-13.8	06
07	285	12.2	-00.1	N 22 54.9	+00.3	236	01.4	+00.1	N 21 39.5	-00.6	30	28.8	-31.9	S 16 31.1	-13.9	07
08	300	12.1	-00.1	N 22 55.2	+00.2	251	01.5	+00.1	N 21 38.9	-00.7	44	56.9	-31.9	S 16 17.2	-14.1	08
09	315	12.0	-00.1	N 22 55.4	+00.2	266	01.6	+00.0	N 21 38.2	-00.6	59	25.0	-31.8	S 16 03.1	-14.1	09
10	330	11.9	-00.2	N 22 55.6	+00.2	281	01.6	+00.1	N 21 37.6	-00.7	73	53.2	-31.6	S 15 49.0	-14.1	10
11	345	11.7	-00.1	N 22 55.8	+00.2	296	01.7	+00.1	N 21 36.9	-00.7	88	21.6	-31.6	S 15 34.9	-14.3	11
12	0	11.6	-00.1	N 22 56.0	+00.2	311	01.8	+00.1	N 21 36.2	-00.6	102	50.0	-31.4	S 15 20.6	-14.3	12
13	15	11.5	-00.1	N 22 56.2	+00.2	326	01.9	+00.1	N 21 35.6	-00.7	117	18.6	-31.4	S 15 06.3	-14.4	13
14	30	11.4	-00.1	N 22 56.4	+00.2	341	02.0	+00.2	N 21 34.9	-00.7	131	47.2	-31.3	S 14 51.9	-14.5	14
15	45	11.3	-00.2	N 22 56.6	+00.2	356	02.2	+00.1	N 21 34.2	-00.6	146	15.9	-31.2	S 14 37.4	-14.6	15
16	60	11.1	-00.1	N 22 56.8	+00.2	11	02.3	+00.1	N 21 33.6	-00.7	160	44.7	-31.1	S 14 22.8	-14.6	16
17	75	11.0	-00.1	N 22 57.0	+00.2	26	02.4	+00.1	N 21 32.9	-00.7	175	13.6	-30.9	S 14 08.2	-14.7	17
18	90	10.9	-00.1	N 22 57.2	+00.2	41	02.5	+00.1	N 21 32.2	-00.7	189	42.7	-30.9	S 13 53.5	-14.7	18
19	105	10.8	-00.2	N 22 57.4	+00.2	56	02.6	+00.1	N 21 31.5	-00.6	204	11.8	-30.9	S 13 38.8	-14.9	19
20	120	10.6	-00.1	N 22 57.6	+00.2	71	02.7	+00.1	N 21 30.9	-00.7	218	40.9	-30.7	S 13 23.9	-14.9	20
21	135	10.5	-00.1	N 22 57.8	+00.2	86	02.8	+00.1	N 21 30.2	-00.7	233	10.2	-30.6	S 13 09.0	-14.9	21
22	150	10.4	-00.1	N 22 58.0	+00.2	101	02.9	+00.1	N 21 29.5	-00.6	247	39.6	-30.6	S 12 54.1	-15.0	22
23	165	10.3	-00.1	N 22 58.2	+00.2	116	03.0	+00.1	N 21 28.9	-00.7	262	09.0	-30.4	S 12 39.1	-15.1	23
	UT 02 06 10 14 18 22					UT 02 06 10 14 18 22										
	SD 15'8 15'8 15'8 15'8 15'8 15'8					SD 00'2 00'2 00'2 00'2 00'2 00'2										
	HP 00'1 00'1 00'1 00'1 00'1 00'1					HP 00'2 00'2 00'2 00'2 00'2 00'2										
	SHA 283° 283° 283° 283° 282° 282°					SHA 234° 234° 234° 233° 233° 233°										
	Greenwich Culmination Time: 11:59					Greenwich Culmination Time: 15:15										
UT	Mars				Jupiter				Saturn				UT			
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec				
00	123	03.1	+01.0	N 18 45.6	-00.4	223	56.1	+01.9	N 12 10.9	+00.2	277	39.7	+02.5	S 10 19.5	+00.0	00
01	138	04.1	+01.0	N 18 45.2	-00.4	238	58.0	+02.0	N 12 11.1	+00.2	292	42.2	+02.4	S 10 19.5	+00.0	01
02	153	05.1	+00.9	N 18 44.8	-00.4	253	60.0	+02.0	N 12 11.3	+00.1	307	44.6	+02.4	S 10 19.5	+00.0	02
03	168	06.0	+01.0	N 18 44.4	-00.5	269	02.0	+01.9	N 12 11.4	+00.2	322	47.0	+02.4	S 10 19.5	+00.0	03
04	183	07.0	+01.0	N 18 43.9	-00.4	284	03.9	+02.0	N 12 11.6	+00.2	337	49.4	+02.5	S 10 19.5	-00.1	04
05	198	08.0	+01.0	N 18 43.5	-00.4	299	05.9	+02.0	N 12 11.8	+00.1	352	51.9	+02.4	S 10 19.4	+00.0	05
06	213	09.0	+01.0	N 18 43.1	-00.5	314	07.9	+01.9	N 12 11.9	+00.2	7	54.3	+02.4	S 10 19.4	+00.0	06
07	228	10.0	+01.0	N 18 42.6	-00.4	329	09.8	+02.0	N 12 12.1	+00.2	22	56.7	+02.4	S 10 19.4	+00.0	07
08	243	11.0	+01.0	N 18 42.2	-00.4	344	11.8	+02.0	N 12 12.3	+00.1	37	59.1	+02.5	S 10 19.4	+00.0	08
09	258	12.0	+00.9	N 18 41.8	-00.4	359	13.8	+01.9	N 12 12.4	+00.2	53	01.6	+02.4	S 10 19.4	+00.0	09
10	273	12.9	+01.0	N 18 41.4	-00.5	14	15.7	+02.0	N 12 12.6	+00.2	68	04.0	+02.4	S 10 19.4	+00.0	10
11	288	13.9	+01.0	N 18 40.9	-00.4	29	17.7	+02.0	N 12 12.8	+00.1	83	06.4	+02.5	S 10 19.4	+00.0	11
12	303	14.9	+01.0	N 18 40.5	-00.4	44	19.7	+01.9	N 12 12.9	+00.2	98	08.9	+02.4	S 10 19.4	+00.0	12
13	318	15.9	+01.0	N 18 40.1	-00.5	59	21.6	+02.0	N 12 13.1	+00.2	113	11.3	+02.4	S 10 19.4	+00.0	13
14	333	16.9	+01.0	N 18 39.6	-00.4	74	23.6	+02.0	N 12 13.3	+00.1	128	13.7	+02.4	S 10 19.4	+00.0	14
15	348	17.9	+00.9	N 18 39.2	-00.4	89	25.6	+01.9	N 12 13.4	+00.2	143	16.1	+02.5	S 10 19.4	+00.0	15
16	3	18.8	+01.0	N 18 38.8	-00.4	104	27.5	+02.0	N 12 13.6	+00.2	158	18.6	+02.4	S 10 19.4	+00.0	16
17	18	19.8	+01.0	N 18 38.4	-00.5	119	29.5	+02.0	N 12 13.8	+00.2	173	21.0	+02.4	S 10 19.4	+00.0	17
18	33	20.8	+01.0	N 18 37.9	-00.4	134	31.5	+01.9	N 12 14.0	+00.1	188	23.4	+02.5	S 10 19.4	+00.0	18
19	48	21.8	+01.0	N 18 37.5	-00.4	149	33.4	+02.0	N 12 14.1	+00.2	203	25.9	+02.4	S 10 19.4	+00.0	19
20	63	22.8	+01.0	N 18 37.1	-00.5	164	35.4	+02.0	N 12 14.3	+00.2	218	28.3	+02.4	S 10 19.4	+00.0	20
21	78	23.8	+01.0	N 18 36.6	-00.4	179	37.4	+01.9	N 12 14.5	+00.1	233	30.7	+02.5	S 10 19.4	+00.0	21
22	93	24.8	+00.9	N 18 36.2	-00.4	194	39.3	+02.0	N 12 14.6	+00.2	248	33.2	+02.4	S 10 19.4	+00.0	22
23	108	25.7	+01.0	N 18 35.8	-00.5	209	41.3	+02.0	N 12 14.8	+00.2	263	35.6	+02.4	S 10 19.4	+00.0	23
	UT 02 06 10 14 18 22					UT 02 06 10 14 18 22										
	SD 00'0 00'0 00'0 00'0 00'0 00'0					SD 00'3 00'3 00'3 00'3 00'3 00'3										
	HP 00'1 00'1 00'1 00'1 00'1 00'1					HP 00'0 00'0 00'0 00'0 00'0 00'0										
	SHA 226° 226° 226° 226° 226° 225°					SHA 327° 327° 327° 327° 327° 327°										
	Greenwich Culmination Time: 15:46					Greenwich Culmination Time: 09:03										

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UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 74%				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	180 10.2 -00.2	N 22	58.4 +00.2	131 03.1 +00.2	N 21	28.2 -00.7	276 38.6 -30.4	S 12	24.0 -15.1	00			
01	195 10.0 -00.1	N 22	58.6 +00.2	146 03.3 +00.1	N 21	27.5 -00.7	291 08.2 -30.3	S 12	08.9 -15.2	01			
02	210 09.9 -00.1	N 22	58.8 +00.2	161 03.4 +00.1	N 21	26.8 -00.6	305 37.9 -30.2	S 11	53.7 -15.2	02			
03	225 09.8 -00.1	N 22	59.0 +00.2	176 03.5 +00.1	N 21	26.2 -00.7	320 07.7 -30.1	S 11	38.5 -15.3	03			
04	240 09.7 -00.2	N 22	59.2 +00.2	191 03.6 +00.1	N 21	25.5 -00.7	334 37.6 -30.1	S 11	23.2 -15.3	04			
05	255 09.5 -00.1	N 22	59.4 +00.2	206 03.7 +00.2	N 21	24.8 -00.7	349 07.5 -30.0	S 11	07.9 -15.4	05			
06	270 09.4 -00.1	N 22	59.6 +00.2	221 03.9 +00.1	N 21	24.1 -00.6	3 37.5 -29.8	S 10	52.5 -15.5	06			
07	285 09.3 -00.1	N 22	59.8 +00.2	236 04.0 +00.1	N 21	23.5 -00.7	18 07.7 -29.9	S 10	37.0 -15.4	07			
08	300 09.2 -00.2	N 22	60.0 +00.2	251 04.1 +00.1	N 21	22.8 -00.7	32 37.8 -29.7	S 10	21.6 -15.5	08			
09	315 09.0 -00.1	N 23	00.2 +00.2	266 04.2 +00.2	N 21	22.1 -00.7	47 08.1 -29.7	S 10	06.1 -15.6	09			
10	330 08.9 -00.1	N 23	00.4 +00.2	281 04.4 +00.1	N 21	21.4 -00.7	61 38.4 -29.6	S 09	50.5 -15.6	10			
11	345 08.8 -00.1	N 23	00.6 +00.2	296 04.5 +00.1	N 21	20.7 -00.6	76 08.8 -29.5	S 09	34.9 -15.6	11			
12	0 08.7 -00.2	N 23	00.8 +00.2	311 04.6 +00.2	N 21	20.1 -00.7	90 39.3 -29.5	S 09	19.3 -15.7	12			
13	15 08.5 -00.1	N 23	01.0 +00.1	326 04.8 +00.1	N 21	19.4 -00.7	105 09.8 -29.4	S 09	03.6 -15.7	13			
14	30 08.4 -00.1	N 23	01.1 +00.2	341 04.9 +00.1	N 21	18.7 -00.7	119 40.4 -29.3	S 08	47.9 -15.8	14			
15	45 08.3 -00.1	N 23	01.3 +00.2	356 05.0 +00.2	N 21	18.0 -00.7	134 11.1 -29.2	S 08	32.1 -15.7	15			
16	60 08.2 -00.2	N 23	01.5 +00.2	11 05.2 +00.1	N 21	17.3 -00.6	148 41.9 -29.2	S 08	16.4 -15.8	16			
17	75 08.0 -00.1	N 23	01.7 +00.2	26 05.3 +00.2	N 21	16.7 -00.7	163 12.7 -29.2	S 08	00.6 -15.9	17			
18	90 07.9 -00.1	N 23	01.9 +00.2	41 05.5 +00.1	N 21	16.0 -00.7	177 43.5 -29.1	S 07	44.7 -15.8	18			
19	105 07.8 -00.1	N 23	02.1 +00.2	56 05.6 +00.1	N 21	15.3 -00.7	192 14.4 -29.0	S 07	28.9 -15.9	19			
20	120 07.7 -00.2	N 23	02.3 +00.2	71 05.7 +00.2	N 21	14.6 -00.7	206 45.4 -28.9	S 07	13.0 -16.0	20			
21	135 07.5 -00.1	N 23	02.5 +00.1	86 05.9 +00.1	N 21	13.9 -00.7	221 16.5 -28.9	S 06	57.0 -15.9	21			
22	150 07.4 -00.1	N 23	02.6 +00.2	101 06.0 +00.2	N 21	13.2 -00.7	235 47.6 -28.9	S 06	41.1 -16.0	22			
23	165 07.3 -00.1	N 23	02.8 +00.2	116 06.2 +00.1	N 21	12.5 -00.6	250 18.7 -28.7	S 06	25.1 -15.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 15'8 15'8 15'8 15'8 15'8 15'8			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 16'1 16'1 16'1 16'1 16'1 16'0						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 59'3 59'2 59'1 59'0 59'0 58'9						
	SHA 282° 282° 282° 281° 281° 281°			SHA 233° 233° 233° 232° 232° 232°			SHA 017° 015° 013° 011° 009° 007°						
	Greenwich Culmination Time: 11:59			Greenwich Culmination Time: 15:15			Greenwich Culmination Time: 05:44						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	123 26.7 +01.0	N 18	35.3 -00.4	224 43.3 +01.9	N 12	15.0 +00.1	278 38.0 +02.4	S 10	19.4 +00.0	00			
01	138 27.7 +01.0	N 18	34.9 -00.4	239 45.2 +02.0	N 12	15.1 +00.2	293 40.4 +02.5	S 10	19.4 +00.0	01			
02	153 28.7 +01.0	N 18	34.5 -00.5	254 47.2 +02.0	N 12	15.3 +00.2	308 42.9 +02.4	S 10	19.4 +00.0	02			
03	168 29.7 +01.0	N 18	34.0 -00.4	269 49.2 +01.9	N 12	15.5 +00.1	323 45.3 +02.4	S 10	19.4 +00.0	03			
04	183 30.7 +01.0	N 18	33.6 -00.4	284 51.1 +02.0	N 12	15.6 +00.2	338 47.7 +02.5	S 10	19.4 +00.0	04			
05	198 31.7 +00.9	N 18	33.2 -00.5	299 53.1 +02.0	N 12	15.8 +00.2	353 50.2 +02.4	S 10	19.4 +00.0	05			
06	213 32.6 +01.0	N 18	32.7 -00.4	314 55.1 +01.9	N 12	16.0 +00.1	8 52.6 +02.4	S 10	19.4 +00.0	06			
07	228 33.6 +01.0	N 18	32.3 -00.4	329 57.0 +02.0	N 12	16.1 +00.2	23 55.0 +02.5	S 10	19.4 +00.0	07			
08	243 34.6 +01.0	N 18	31.9 -00.5	344 59.0 +02.0	N 12	16.3 +00.1	38 57.5 +02.4	S 10	19.4 -00.1	08			
09	258 35.6 +01.0	N 18	31.4 -00.4	0 01.0 +02.0	N 12	16.4 +00.2	53 59.9 +02.4	S 10	19.3 +00.0	09			
10	273 36.6 +01.0	N 18	31.0 -00.4	15 03.0 +01.9	N 12	16.6 +00.2	69 02.3 +02.5	S 10	19.3 +00.0	10			
11	288 37.6 +01.0	N 18	30.6 -00.5	30 04.9 +02.0	N 12	16.8 +00.1	84 04.8 +02.4	S 10	19.3 +00.0	11			
12	303 38.6 +00.9	N 18	30.1 -00.4	45 06.9 +02.0	N 12	16.9 +00.2	99 07.2 +02.4	S 10	19.3 +00.0	12			
13	318 39.5 +01.0	N 18	29.7 -00.4	60 08.9 +01.9	N 12	17.1 +00.2	114 09.6 +02.5	S 10	19.3 +00.0	13			
14	333 40.5 +01.0	N 18	29.3 -00.5	75 10.8 +02.0	N 12	17.3 +00.1	129 12.1 +02.4	S 10	19.3 +00.0	14			
15	348 41.5 +01.0	N 18	28.8 -00.4	90 12.8 +02.0	N 12	17.4 +00.2	144 14.5 +02.4	S 10	19.3 +00.0	15			
16	3 42.5 +01.0	N 18	28.4 -00.4	105 14.8 +01.9	N 12	17.6 +00.2	159 16.9 +02.5	S 10	19.3 +00.0	16			
17	18 43.5 +01.0	N 18	28.0 -00.5	120 16.7 +02.0	N 12	17.8 +00.1	174 19.4 +02.4	S 10	19.3 +00.0	17			
18	33 44.5 +01.0	N 18	27.5 -00.4	135 18.7 +02.0	N 12	17.9 +00.2	189 21.8 +02.4	S 10	19.3 +00.0	18			
19	48 45.5 +00.9	N 18	27.1 -00.4	150 20.7 +02.0	N 12	18.1 +00.2	204 24.2 +02.5	S 10	19.3 +00.0	19			
20	63 46.4 +01.0	N 18	26.7 -00.5	165 22.7 +01.9	N 12	18.3 +00.1	219 26.7 +02.4	S 10	19.3 +00.0	20			
21	78 47.4 +01.0	N 18	26.2 -00.4	180 24.6 +02.0	N 12	18.4 +00.2	234 29.1 +02.4	S 10	19.3 +00.0	21			
22	93 48.4 +01.0	N 18	25.8 -00.4	195 26.6 +02.0	N 12	18.6 +00.2	249 31.5 +02.5	S 10	19.3 +00.0	22			
23	108 49.4 +01.0	N 18	25.4 -00.5	210 28.6 +01.9	N 12	18.8 +00.1	264 34.0 +02.4	S 10	19.3 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 225° 225° 225° 225° 225° 225°			SHA 327° 327° 327° 327° 326° 326°			SHA 021° 021° 021° 021° 021° 021°						
	Greenwich Culmination Time: 15:45			Greenwich Culmination Time: 08:59			Greenwich Culmination Time: 05:24						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 07.2 -00.2	N 23 03.0 +00.2	131 06.3 +00.2	N 21 11.9 -00.7	264 50.0 -28.8	S 06 09.2 -16.0	00						
01	195 07.0 -00.1	N 23 03.2 +00.2	146 06.5 +00.1	N 21 11.2 -00.7	279 21.2 -28.7	S 05 53.2 -16.1	01						
02	210 06.9 -00.1	N 23 03.4 +00.1	161 06.6 +00.2	N 21 10.5 -00.7	293 52.5 -28.6	S 05 37.1 -16.0	02						
03	225 06.8 -00.1	N 23 03.5 +00.2	176 06.8 +00.1	N 21 09.8 -00.7	308 23.9 -28.6	S 05 21.1 -16.0	03						
04	240 06.7 -00.2	N 23 03.7 +00.2	191 06.9 +00.2	N 21 09.1 -00.7	322 55.3 -28.5	S 05 05.1 -16.1	04						
05	255 06.5 -00.1	N 23 03.9 +00.2	206 07.1 +00.2	N 21 08.4 -00.7	337 26.8 -28.5	S 04 49.0 -16.1	05						
06	270 06.4 -00.1	N 23 04.1 +00.2	221 07.3 +00.1	N 21 07.7 -00.7	351 58.3 -28.4	S 04 32.9 -16.1	06						
07	285 06.3 -00.2	N 23 04.3 +00.1	236 07.4 +00.2	N 21 07.0 -00.7	6 29.9 -28.4	S 04 16.8 -16.0	07						
08	300 06.1 -00.1	N 23 04.4 +00.2	251 07.6 +00.1	N 21 06.3 -00.7	21 01.5 -28.4	S 04 00.8 -16.2	08						
09	315 06.0 -00.1	N 23 04.6 +00.2	266 07.7 +00.2	N 21 05.6 -00.6	35 33.1 -28.3	S 03 44.6 -16.1	09						
10	330 05.9 -00.1	N 23 04.8 +00.2	281 07.9 +00.2	N 21 05.0 -00.7	50 04.8 -28.3	S 03 28.5 -16.1	10						
11	345 05.8 -00.2	N 23 05.0 +00.1	296 08.1 +00.1	N 21 04.3 -00.7	64 36.5 -28.2	S 03 12.4 -16.1	11						
12	0 05.6 -00.1	N 23 05.1 +00.2	311 08.2 +00.2	N 21 03.6 -00.7	79 08.3 -28.3	S 02 56.3 -16.1	12						
13	15 05.5 -00.1	N 23 05.3 +00.2	326 08.4 +00.2	N 21 02.9 -00.7	93 40.0 -28.1	S 02 40.2 -16.1	13						
14	30 05.4 -00.1	N 23 05.5 +00.2	341 08.6 +00.1	N 21 02.2 -00.7	108 11.9 -28.2	S 02 24.1 -16.2	14						
15	45 05.3 -00.2	N 23 05.7 +00.1	356 08.7 +00.2	N 21 01.5 -00.7	122 43.7 -28.1	S 02 07.9 -16.1	15						
16	60 05.1 -00.1	N 23 05.8 +00.2	11 08.9 +00.2	N 21 00.8 -00.7	137 15.6 -28.0	S 01 51.8 -16.1	16						
17	75 05.0 -00.1	N 23 06.0 +00.2	26 09.1 +00.2	N 21 00.1 -00.7	151 47.6 -28.1	S 01 35.7 -16.1	17						
18	90 04.9 -00.2	N 23 06.2 +00.1	41 09.3 +00.1	N 20 59.4 -00.7	166 19.5 -28.0	S 01 19.6 -16.1	18						
19	105 04.7 -00.1	N 23 06.3 +00.2	56 09.4 +00.2	N 20 58.7 -00.7	180 51.5 -28.0	S 01 03.5 -16.1	19						
20	120 04.6 -00.1	N 23 06.5 +00.2	71 09.6 +00.2	N 20 58.0 -00.7	195 23.5 -28.0	S 00 47.4 -16.1	20						
21	135 04.5 -00.1	N 23 06.7 +00.1	86 09.8 +00.2	N 20 57.3 -00.7	209 55.5 -27.9	S 00 31.3 -16.1	21						
22	150 04.4 -00.2	N 23 06.8 +00.2	101 10.0 +00.2	N 20 56.6 -00.7	224 27.6 -27.9	S 00 15.2 -16.1	22						
23	165 04.2 -00.1	N 23 07.0 +00.2	116 10.2 +00.1	N 20 55.9 -00.7	238 59.7 -27.9	N 00 00.9 +16.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'0 16'0 16'0 16'0 15'9 15'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 58'8 58'7 58'6 58'5 58'5 58'4								
	SHA 281° 281° 281° 280° 280° 280°		SHA 232° 232° 232° 231° 231° 231°		SHA 005° 003° 001° 359° 357° 354°								
	Greenwich Culmination Time: 11:59		Greenwich Culmination Time: 15:15		Greenwich Culmination Time: 06:33								
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	123 50.4 +01.0	N 18 24.9 -00.4	225 30.5 +02.0	N 12 18.9 +00.2	279 36.4 +02.4	S 10 19.3 +00.0	00						
01	138 51.4 +01.0	N 18 24.5 -00.5	240 32.5 +02.0	N 12 19.1 +00.2	294 38.8 +02.5	S 10 19.3 +00.0	01						
02	153 52.4 +01.0	N 18 24.0 -00.4	255 34.5 +01.9	N 12 19.3 +00.1	309 41.3 +02.4	S 10 19.3 +00.0	02						
03	168 53.4 +00.9	N 18 23.6 -00.4	270 36.4 +02.0	N 12 19.4 +00.2	324 43.7 +02.4	S 10 19.3 +00.0	03						
04	183 54.3 +01.0	N 18 23.2 -00.5	285 38.4 +02.0	N 12 19.6 +00.2	339 46.1 +02.5	S 10 19.3 +00.0	04						
05	198 55.3 +01.0	N 18 22.7 -00.4	300 40.4 +02.0	N 12 19.8 +00.1	354 48.6 +02.4	S 10 19.3 +00.0	05						
06	213 56.3 +01.0	N 18 22.3 -00.4	315 42.4 +01.9	N 12 19.9 +00.2	9 51.0 +02.4	S 10 19.3 +00.0	06						
07	228 57.3 +01.0	N 18 21.9 -00.5	330 44.3 +02.0	N 12 20.1 +00.2	24 53.4 +02.5	S 10 19.3 +00.0	07						
08	243 58.3 +01.0	N 18 21.4 -00.4	345 46.3 +02.0	N 12 20.3 +00.1	39 55.9 +02.4	S 10 19.3 +00.0	08						
09	258 59.3 +01.0	N 18 21.0 -00.5	0 48.3 +02.0	N 12 20.4 +00.2	54 58.3 +02.4	S 10 19.3 +00.0	09						
10	274 00.3 +00.9	N 18 20.5 -00.4	15 50.3 +01.9	N 12 20.6 +00.1	70 00.7 +02.5	S 10 19.3 +00.0	10						
11	289 01.2 +01.0	N 18 20.1 -00.4	30 52.2 +02.0	N 12 20.7 +00.2	85 03.2 +02.4	S 10 19.3 +00.0	11						
12	304 02.2 +01.0	N 18 19.7 -00.5	45 54.2 +02.0	N 12 20.9 +00.2	100 05.6 +02.5	S 10 19.3 +00.0	12						
13	319 03.2 +01.0	N 18 19.2 -00.4	60 56.2 +01.9	N 12 21.1 +00.1	115 08.1 +02.4	S 10 19.3 +00.0	13						
14	334 04.2 +01.0	N 18 18.8 -00.5	75 58.1 +02.0	N 12 21.2 +00.2	130 10.5 +02.4	S 10 19.3 +00.0	14						
15	349 05.2 +01.0	N 18 18.3 -00.4	91 00.1 +02.0	N 12 21.4 +00.2	145 12.9 +02.5	S 10 19.3 +00.0	15						
16	4 06.2 +01.0	N 18 17.9 -00.4	106 02.1 +02.0	N 12 21.6 +00.1	160 15.4 +02.4	S 10 19.3 +00.0	16						
17	19 07.2 +01.0	N 18 17.5 -00.5	121 04.1 +01.9	N 12 21.7 +00.2	175 17.8 +02.4	S 10 19.3 +00.0	17						
18	34 08.2 +00.9	N 18 17.0 -00.4	136 06.0 +02.0	N 12 21.9 +00.2	190 20.2 +02.5	S 10 19.3 +00.0	18						
19	49 09.1 +01.0	N 18 16.6 -00.5	151 08.0 +02.0	N 12 22.1 +00.1	205 22.7 +02.4	S 10 19.3 +00.0	19						
20	64 10.1 +01.0	N 18 16.1 -00.4	166 10.0 +02.0	N 12 22.2 +00.2	220 25.1 +02.5	S 10 19.3 +00.0	20						
21	79 11.1 +01.0	N 18 15.7 -00.4	181 12.0 +01.9	N 12 22.4 +00.2	235 27.6 +02.4	S 10 19.3 +00.0	21						
22	94 12.1 +01.0	N 18 15.3 -00.5	196 13.9 +02.0	N 12 22.6 +00.1	250 30.0 +02.4	S 10 19.3 +00.0	22						
23	109 13.1 +01.0	N 18 14.8 -00.4	211 15.9 +02.0	N 12 22.7 +00.2	265 32.4 +02.5	S 10 19.3 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 225° 225° 225° 224° 224° 224°		SHA 326° 326° 326° 326° 326° 326°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 15:43		Greenwich Culmination Time: 08:56		Greenwich Culmination Time: 05:20								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 04.1 -00.1	N 23 07.2 +00.1	131 10.3 +00.2	N 20 55.2 -00.7	253 31.8 -27.9	N 00 16.9 +16.1	00	00	00	00			
01	195 04.0 -00.2	N 23 07.3 +00.2	146 10.5 +00.2	N 20 54.5 -00.7	268 03.9 -27.8	N 00 33.0 +16.0	01	00	00	00			
02	210 03.8 -00.1	N 23 07.5 +00.2	161 10.7 +00.2	N 20 53.8 -00.7	282 36.1 -27.9	N 00 49.0 +16.0	02	00	00	00			
03	225 03.7 -00.1	N 23 07.7 +00.1	176 10.9 +00.2	N 20 53.1 -00.7	297 08.2 -27.8	N 01 05.0 +16.1	03	01	00	00			
04	240 03.6 -00.1	N 23 07.8 +00.2	191 11.1 +00.2	N 20 52.4 -00.7	311 40.4 -27.8	N 01 21.1 +15.9	04	01	01	00			
05	255 03.5 -00.2	N 23 08.0 +00.2	206 11.3 +00.2	N 20 51.7 -00.7	326 12.6 -27.8	N 01 37.0 +16.0	05	01	01	00			
06	270 03.3 -00.1	N 23 08.2 +00.1	221 11.5 +00.2	N 20 51.0 -00.7	340 44.8 -27.8	N 01 53.0 +16.0	06	01	01	00			
07	285 03.2 -00.1	N 23 08.3 +00.2	236 11.7 +00.2	N 20 50.3 -00.7	355 17.0 -27.8	N 02 09.0 +15.9	07	02	01	00			
08	300 03.1 -00.2	N 23 08.5 +00.1	251 11.9 +00.2	N 20 49.6 -00.7	9 49.2 -27.7	N 02 24.9 +15.9	08	02	02	00			
09	315 02.9 -00.1	N 23 08.6 +00.2	266 12.1 +00.2	N 20 48.9 -00.7	24 21.5 -27.8	N 02 40.8 +15.9	09	02	02	00			
10	330 02.8 -00.1	N 23 08.8 +00.1	281 12.3 +00.2	N 20 48.2 -00.7	38 53.7 -27.7	N 02 56.7 +15.8	10	02	03	00			
11	345 02.7 -00.1	N 23 08.9 +00.2	296 12.5 +00.2	N 20 47.5 -00.7	53 26.0 -27.8	N 03 12.5 +15.9	11	03	03	00			
12	0 02.6 -00.2	N 23 09.1 +00.2	311 12.7 +00.2	N 20 46.8 -00.7	67 58.2 -27.7	N 03 28.4 +15.8	12	03	04	00			
13	15 02.4 -00.1	N 23 09.3 +00.1	326 12.9 +00.2	N 20 46.1 -00.7	82 30.5 -27.7	N 03 44.2 +15.7	13	03	04	00			
14	30 02.3 -00.1	N 23 09.4 +00.2	341 13.1 +00.2	N 20 45.4 -00.8	97 02.8 -27.8	N 03 59.9 +15.8	14	03	05	00			
15	45 02.2 -00.2	N 23 09.6 +00.1	356 13.3 +00.2	N 20 44.6 -00.7	111 35.0 -27.7	N 04 15.7 +15.7	15	04	05	00			
16	60 02.0 -00.1	N 23 09.7 +00.2	11 13.5 +00.2	N 20 43.9 -00.7	126 07.3 -27.7	N 04 31.4 +15.7	16	04	06	00			
17	75 01.9 -00.1	N 23 09.9 +00.1	26 13.7 +00.2	N 20 43.2 -00.7	140 39.6 -27.8	N 04 47.1 +15.6	17	04	06	00			
18	90 01.8 -00.1	N 23 10.0 +00.2	41 13.9 +00.2	N 20 42.5 -00.7	155 11.8 -27.7	N 05 02.7 +15.6	18	05	07	00			
19	105 01.7 -00.2	N 23 10.2 +00.1	56 14.1 +00.2	N 20 41.8 -00.7	169 44.1 -27.7	N 05 18.3 +15.6	19	05	07	00			
20	120 01.5 -00.1	N 23 10.3 +00.2	71 14.3 +00.2	N 20 41.1 -00.7	184 16.4 -27.8	N 05 33.9 +15.5	20	05	08	00			
21	135 01.4 -00.1	N 23 10.5 +00.1	86 14.5 +00.2	N 20 40.4 -00.7	198 48.6 -27.7	N 05 49.4 +15.6	21	05	08	00			
22	150 01.3 -00.2	N 23 10.6 +00.2	101 14.7 +00.3	N 20 39.7 -00.7	213 20.9 -27.8	N 06 05.0 +15.4	22	06	09	00			
23	165 01.1 -00.1	N 23 10.8 +00.1	116 15.0 +00.2	N 20 39.0 -00.7	227 53.1 -27.8	N 06 20.4 +15.4	23	06	09	00			
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'9 15'9 15'8 15'8 15'8 15'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 58'3 58'2 58'1 58'0 57'9 57'8								
	SHA 280° 280° 280° 279° 279° 279°		SHA 231° 231° 231° 231° 230° 230°		SHA 352° 350° 348° 346° 344° 342°								
	Greenwich Culmination Time: 11:59		Greenwich Culmination Time: 15:15		Greenwich Culmination Time: 07:19								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	124 14.1 +01.0	N 18 14.4 -00.5	226 17.9 +01.9	N 12 22.9 +00.1	280 34.9 +02.4	S 10 19.3 +00.0	00	00	00	00			
01	139 15.1 +01.0	N 18 13.9 -00.4	241 19.8 +02.0	N 12 23.0 +00.2	295 37.3 +02.4	S 10 19.3 +00.0	01	00	00	00			
02	154 16.1 +00.9	N 18 13.5 -00.4	256 21.8 +02.0	N 12 23.2 +00.2	310 39.7 +02.5	S 10 19.3 +00.0	02	00	00	00			
03	169 17.0 +01.0	N 18 13.1 -00.5	271 23.8 +02.0	N 12 23.4 +00.1	325 42.2 +02.4	S 10 19.3 +00.0	03	00	00	00			
04	184 18.0 +01.0	N 18 12.6 -00.4	286 25.8 +01.9	N 12 23.5 +00.2	340 44.6 +02.5	S 10 19.3 +00.0	04	00	00	00			
05	199 19.0 +01.0	N 18 12.2 -00.5	301 27.7 +02.0	N 12 23.7 +00.2	355 47.1 +02.4	S 10 19.3 +00.0	05	00	00	00			
06	214 20.0 +01.0	N 18 11.7 -00.4	316 29.7 +02.0	N 12 23.9 +00.1	10 49.5 +02.4	S 10 19.3 +00.0	06	00	00	00			
07	229 21.0 +01.0	N 18 11.3 -00.5	331 31.7 +02.0	N 12 24.0 +00.2	25 51.9 +02.5	S 10 19.3 +00.0	07	00	00	00			
08	244 22.0 +01.0	N 18 10.8 -00.4	346 33.7 +01.9	N 12 24.2 +00.2	40 54.4 +02.4	S 10 19.3 +00.0	08	00	00	00			
09	259 23.0 +01.0	N 18 10.4 -00.4	1 35.6 +02.0	N 12 24.4 +00.1	55 56.8 +02.5	S 10 19.3 +00.0	09	00	00	00			
10	274 24.0 +00.9	N 18 10.0 -00.5	16 37.6 +02.0	N 12 24.5 +00.2	70 59.3 +02.4	S 10 19.3 +00.0	10	00	00	00			
11	289 24.9 +01.0	N 18 09.5 -00.4	31 39.6 +02.0	N 12 24.7 +00.1	86 01.7 +02.4	S 10 19.3 +00.0	11	00	00	00			
12	304 25.9 +01.0	N 18 09.1 -00.5	46 41.6 +01.9	N 12 24.8 +00.2	101 04.1 +02.5	S 10 19.3 +00.0	12	00	00	00			
13	319 26.9 +01.0	N 18 08.6 -00.4	61 43.5 +02.0	N 12 25.0 +00.2	116 06.6 +02.4	S 10 19.3 +00.0	13	00	00	00			
14	334 27.9 +01.0	N 18 08.2 -00.5	76 45.5 +02.0	N 12 25.2 +00.1	131 09.0 +02.5	S 10 19.3 +00.0	14	00	00	00			
15	349 28.9 +01.0	N 18 07.7 -00.4	91 47.5 +02.0	N 12 25.3 +00.2	146 11.5 +02.4	S 10 19.3 +00.0	15	00	00	00			
16	4 29.9 +01.0	N 18 07.3 -00.4	106 49.5 +01.9	N 12 25.5 +00.2	161 13.9 +02.4	S 10 19.3 +00.0	16	00	00	00			
17	19 30.9 +01.0	N 18 06.9 -00.5	121 51.4 +02.0	N 12 25.7 +00.1	176 16.3 +02.5	S 10 19.3 +00.0	17	00	00	00			
18	34 31.9 +00.9	N 18 06.4 -00.4	136 53.4 +02.0	N 12 25.8 +00.2	191 18.8 +02.4	S 10 19.3 +00.0	18	00	00	00			
19	49 32.8 +01.0	N 18 06.0 -00.5	151 55.4 +02.0	N 12 26.0 +00.1	206 21.2 +02.5	S 10 19.3 +00.0	19	00	00	00			
20	64 33.8 +01.0	N 18 05.5 -00.4	166 57.4 +01.9	N 12 26.1 +00.2	221 23.7 +02.4	S 10 19.3 +00.0	20	00	00	00			
21	79 34.8 +01.0	N 18 05.1 -00.5	181 59.3 +02.0	N 12 26.3 +00.2	236 26.1 +02.4	S 10 19.3 +00.0	21	00	00	00			
22	94 35.8 +01.0	N 18 04.6 -00.4	197 01.3 +02.0	N 12 26.5 +00.1	251 28.5 +02.5	S 10 19.3 +00.0	22	00	00	00			
23	109 36.8 +01.0	N 18 04.2 -00.5	212 03.3 +02.0	N 12 26.6 +00.2	266 31.0 +02.4	S 10 19.3 +00.0	23	00	00	00			
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 224° 224° 224° 224° 224° 224°		SHA 326° 326° 326° 326° 326° 326°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 15:42		Greenwich Culmination Time: 08:53		Greenwich Culmination Time: 05:16								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 01.0 -00.1	N 23 10.9 +00.2	131 15.2 +00.2	N 20 38.3 -00.8	242 25.3 -27.7	N 06 35.8 +15.4	00						
01	195 00.9 -00.2	N 23 11.1 +00.1	146 15.4 +00.2	N 20 37.5 -00.7	256 57.6 -27.8	N 06 51.2 +15.4	01						
02	210 00.7 -00.1	N 23 11.2 +00.2	161 15.6 +00.2	N 20 36.8 -00.7	271 29.8 -27.8	N 07 06.6 +15.3	02						
03	225 00.6 -00.1	N 23 11.4 +00.1	176 15.8 +00.3	N 20 36.1 -00.7	286 02.0 -27.9	N 07 21.9 +15.2	03						
04	240 00.5 -00.2	N 23 11.5 +00.2	191 16.1 +00.2	N 20 35.4 -00.7	300 34.1 -27.8	N 07 37.1 +15.2	04						
05	255 00.3 -00.1	N 23 11.7 +00.1	206 16.3 +00.2	N 20 34.7 -00.7	315 06.3 -27.8	N 07 52.3 +15.2	05						
06	270 00.2 -00.1	N 23 11.8 +00.2	221 16.5 +00.2	N 20 34.0 -00.7	329 38.5 -27.9	N 08 07.5 +15.1	06						
07	285 00.1 -00.1	N 23 12.0 +00.1	236 16.7 +00.3	N 20 33.3 -00.8	344 10.6 -27.9	N 08 22.6 +15.0	07						
08	299 60.0 -00.2	N 23 12.1 +00.1	251 17.0 +00.2	N 20 32.5 -00.7	358 42.7 -27.9	N 08 37.6 +15.1	08						
09	314 59.8 -00.1	N 23 12.2 +00.2	266 17.2 +00.2	N 20 31.8 -00.7	13 14.8 -27.9	N 08 52.7 +14.9	09						
10	329 59.7 -00.1	N 23 12.4 +00.1	281 17.4 +00.3	N 20 31.1 -00.7	27 46.9 -27.9	N 09 07.6 +14.9	10						
11	344 59.6 -00.2	N 23 12.5 +00.2	296 17.7 +00.2	N 20 30.4 -00.7	42 19.0 -28.0	N 09 22.5 +14.9	11						
12	359 59.4 -00.1	N 23 12.7 +00.1	311 17.9 +00.2	N 20 29.7 -00.8	56 51.0 -28.0	N 09 37.4 +14.8	12						
13	14 59.3 -00.1	N 23 12.8 +00.1	326 18.1 +00.3	N 20 28.9 -00.7	71 23.0 -28.0	N 09 52.2 +14.7	13						
14	29 59.2 -00.2	N 23 12.9 +00.2	341 18.4 +00.2	N 20 28.2 -00.7	85 55.0 -28.0	N 10 06.9 +14.7	14						
15	44 59.0 -00.1	N 23 13.1 +00.1	356 18.6 +00.3	N 20 27.5 -00.7	100 27.0 -28.1	N 10 21.6 +14.6	15						
16	59 58.9 -00.1	N 23 13.2 +00.2	11 18.9 +00.2	N 20 26.8 -00.7	114 58.9 -28.1	N 10 36.2 +14.6	16						
17	74 58.8 -00.2	N 23 13.4 +00.1	26 19.1 +00.3	N 20 26.1 -00.8	129 30.8 -28.1	N 10 50.8 +14.5	17						
18	89 58.6 -00.1	N 23 13.5 +00.1	41 19.4 +00.2	N 20 25.3 -00.7	144 02.7 -28.2	N 11 05.3 +14.4	18						
19	104 58.5 -00.1	N 23 13.6 +00.2	56 19.6 +00.3	N 20 24.6 -00.7	158 34.5 -28.2	N 11 19.7 +14.4	19						
20	119 58.4 -00.2	N 23 13.8 +00.1	71 19.9 +00.2	N 20 23.9 -00.7	173 06.3 -28.2	N 11 34.1 +14.3	20						
21	134 58.2 -00.1	N 23 13.9 +00.1	86 20.1 +00.3	N 20 23.2 -00.7	187 38.1 -28.2	N 11 48.4 +14.3	21						
22	149 58.1 -00.1	N 23 14.0 +00.2	101 20.4 +00.2	N 20 22.5 -00.8	202 09.9 -28.3	N 12 02.7 +14.2	22						
23	164 58.0 -00.2	N 23 14.2 +00.1	116 20.6 +00.3	N 20 21.7 -00.7	216 41.6 -28.3	N 12 16.9 +14.1	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	15'7 15'7 15'7 15'7 15'7 15'7		SD	00'2 00'2 00'2 00'2 00'2 00'2		SD	15'7 15'7 15'7 15'7 15'6 15'6						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'2 00'2 00'2 00'2 00'2 00'2		HP	57'8 57'7 57'6 57'5 57'4 57'3						
SHA	279° 279° 279° 278° 278° 278°		SHA	230° 230° 230° 230° 230° 229°		SHA	340° 338° 336° 334° 332° 330°						
Greenwich Culmination Time: 12:00				Greenwich Culmination Time: 15:14				Greenwich Culmination Time: 08:05					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	124 37.8 +01.0	N 18 03.7 -00.4	227 05.3 +02.0	N 12 26.8 +00.2	281 33.4 +02.5	S 10 19.3 +00.0	00						
01	139 38.8 +01.0	N 18 03.3 -00.5	242 07.3 +01.9	N 12 27.0 +00.1	296 35.9 +02.4	S 10 19.3 +00.0	01						
02	154 39.8 +01.0	N 18 02.8 -00.4	257 09.2 +02.0	N 12 27.1 +00.2	311 38.3 +02.5	S 10 19.3 +00.0	02						
03	169 40.8 +00.9	N 18 02.4 -00.5	272 11.2 +02.0	N 12 27.3 +00.1	326 40.8 +02.4	S 10 19.3 +00.0	03						
04	184 41.7 +01.0	N 18 01.9 -00.4	287 13.2 +02.0	N 12 27.4 +00.2	341 43.2 +02.4	S 10 19.3 +00.0	04						
05	199 42.7 +01.0	N 18 01.5 -00.4	302 15.2 +01.9	N 12 27.6 +00.2	356 45.6 +02.5	S 10 19.3 +00.0	05						
06	214 43.7 +01.0	N 18 01.1 -00.5	317 17.1 +02.0	N 12 27.8 +00.1	11 48.1 +02.4	S 10 19.3 +00.0	06						
07	229 44.7 +01.0	N 18 00.6 -00.4	332 19.1 +02.0	N 12 27.9 +00.2	26 50.5 +02.5	S 10 19.3 +00.0	07						
08	244 45.7 +01.0	N 18 00.2 -00.5	347 21.1 +02.0	N 12 28.1 +00.1	41 53.0 +02.4	S 10 19.3 +00.0	08						
09	259 46.7 +01.0	N 17 59.7 -00.4	2 23.1 +01.9	N 12 28.2 +00.2	56 55.4 +02.5	S 10 19.3 +00.0	09						
10	274 47.7 +01.0	N 17 59.3 -00.5	17 25.0 +02.0	N 12 28.4 +00.2	71 57.9 +02.4	S 10 19.3 +00.0	10						
11	289 48.7 +01.0	N 17 58.8 -00.4	32 27.0 +02.0	N 12 28.6 +00.1	87 00.3 +02.4	S 10 19.3 +00.0	11						
12	304 49.7 +00.9	N 17 58.4 -00.5	47 29.0 +02.0	N 12 28.7 +00.2	102 02.7 +02.5	S 10 19.3 +00.0	12						
13	319 50.6 +01.0	N 17 57.9 -00.4	62 31.0 +02.0	N 12 28.9 +00.2	117 05.2 +02.4	S 10 19.3 +00.0	13						
14	334 51.6 +01.0	N 17 57.5 -00.5	77 33.0 +01.9	N 12 29.1 +00.1	132 07.6 +02.5	S 10 19.3 +00.0	14						
15	349 52.6 +01.0	N 17 57.0 -00.4	92 34.9 +02.0	N 12 29.2 +00.2	147 10.1 +02.4	S 10 19.3 +00.0	15						
16	4 53.6 +01.0	N 17 56.6 -00.5	107 36.9 +02.0	N 12 29.4 +00.1	162 12.5 +02.5	S 10 19.3 +00.0	16						
17	19 54.6 +01.0	N 17 56.1 -00.4	122 38.9 +02.0	N 12 29.5 +00.2	177 15.0 +02.4	S 10 19.3 +00.0	17						
18	34 55.6 +01.0	N 17 55.7 -00.5	137 40.9 +02.0	N 12 29.7 +00.2	192 17.4 +02.5	S 10 19.3 +00.0	18						
19	49 56.6 +01.0	N 17 55.2 -00.4	152 42.9 +01.9	N 12 29.9 +00.1	207 19.9 +02.4	S 10 19.3 +00.1	19						
20	64 57.6 +01.0	N 17 54.8 -00.5	167 44.8 +02.0	N 12 30.0 +00.2	222 22.3 +02.5	S 10 19.4 +00.0	20						
21	79 58.6 +00.9	N 17 54.3 -00.4	182 46.8 +02.0	N 12 30.2 +00.1	237 24.8 +02.4	S 10 19.4 +00.0	21						
22	94 59.5 +01.0	N 17 53.9 -00.5	197 48.8 +02.0	N 12 30.3 +00.2	252 27.2 +02.4	S 10 19.4 +00.0	22						
23	110 00.5 +01.0	N 17 53.4 -00.4	212 50.8 +01.9	N 12 30.5 +00.2	267 29.6 +02.5	S 10 19.4 +00.0	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	00'0 00'0 00'0 00'0 00'0 00'0		SD	00'3 00'3 00'3 00'3 00'3 00'3		SD	00'1 00'1 00'1 00'1 00'1 00'1						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'0 00'0 00'0 00'0 00'0 00'0		HP	00'0 00'0 00'0 00'0 00'0 00'0						
SHA	224° 223° 223° 223° 223° 223°		SHA	326° 326° 326° 326° 326° 326°		SHA	021° 021° 021° 021° 021° 021°						
Greenwich Culmination Time: 15:40				Greenwich Culmination Time: 08:50				Greenwich Culmination Time: 05:12					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 57.8 -00.1	N 23 14.3 +00.1	131 20.9 +00.2	N 20 21.0 -00.7	231 13.3 -28.3	N 12 31.0 +14.1	00						
01	194 57.7 -00.1	N 23 14.4 +00.1	146 21.1 +00.3	N 20 20.3 -00.7	245 45.0 -28.4	N 12 45.1 +13.9	01						
02	209 57.6 -00.2	N 23 14.5 +00.2	161 21.4 +00.2	N 20 19.6 -00.8	260 16.6 -28.4	N 12 59.0 +13.9	02						
03	224 57.4 -00.1	N 23 14.7 +00.1	176 21.6 +00.3	N 20 18.8 -00.7	274 48.2 -28.5	N 13 12.9 +13.9	03						
04	239 57.3 -00.1	N 23 14.8 +00.1	191 21.9 +00.3	N 20 18.1 -00.7	289 19.7 -28.5	N 13 26.8 +13.8	04						
05	254 57.2 -00.1	N 23 14.9 +00.2	206 22.2 +00.2	N 20 17.4 -00.7	303 51.2 -28.5	N 13 40.6 +13.7	05						
06	269 57.1 -00.2	N 23 15.1 +00.1	221 22.4 +00.3	N 20 16.7 -00.8	318 22.7 -28.6	N 13 54.3 +13.6	06						
07	284 56.9 -00.1	N 23 15.2 +00.1	236 22.7 +00.2	N 20 15.9 -00.7	332 54.1 -28.6	N 14 07.9 +13.5	07						
08	299 56.8 -00.1	N 23 15.3 +00.1	251 22.9 +00.3	N 20 15.2 -00.7	347 25.5 -28.7	N 14 21.4 +13.5	08						
09	314 56.7 -00.2	N 23 15.4 +00.2	266 23.2 +00.3	N 20 14.5 -00.8	1 56.8 -28.7	N 14 34.9 +13.4	09						
10	329 56.5 -00.1	N 23 15.6 +00.1	281 23.5 +00.3	N 20 13.7 -00.7	16 28.1 -28.7	N 14 48.3 +13.3	10						
11	344 56.4 -00.1	N 23 15.7 +00.1	296 23.8 +00.2	N 20 13.0 -00.7	30 59.4 -28.8	N 15 01.6 +13.2	11						
12	359 56.3 -00.2	N 23 15.8 +00.1	311 24.0 +00.3	N 20 12.3 -00.7	45 30.6 -28.8	N 15 14.8 +13.1	12						
13	14 56.1 -00.1	N 23 15.9 +00.2	326 24.3 +00.3	N 20 11.6 -00.8	60 01.8 -28.9	N 15 27.9 +13.1	13						
14	29 56.0 -00.1	N 23 16.1 +00.1	341 24.6 +00.2	N 20 10.8 -00.7	74 32.9 -28.9	N 15 41.0 +13.0	14						
15	44 55.9 -00.2	N 23 16.2 +00.1	356 24.8 +00.3	N 20 10.1 -00.7	89 04.0 -29.0	N 15 54.0 +12.9	15						
16	59 55.7 -00.1	N 23 16.3 +00.1	11 25.1 +00.3	N 20 09.4 -00.8	103 35.0 -29.0	N 16 06.9 +12.8	16						
17	74 55.6 -00.1	N 23 16.4 +00.1	26 25.4 +00.3	N 20 08.6 -00.7	118 06.0 -29.0	N 16 19.7 +12.7	17						
18	89 55.5 -00.2	N 23 16.5 +00.2	41 25.7 +00.3	N 20 07.9 -00.7	132 37.0 -29.1	N 16 32.4 +12.7	18						
19	104 55.3 -00.1	N 23 16.7 +00.1	56 26.0 +00.3	N 20 07.2 -00.8	147 07.9 -29.2	N 16 45.1 +12.5	19						
20	119 55.2 -00.1	N 23 16.8 +00.1	71 26.3 +00.2	N 20 06.4 -00.7	161 38.7 -29.2	N 16 57.6 +12.5	20						
21	134 55.1 -00.2	N 23 16.9 +00.1	86 26.5 +00.3	N 20 05.7 -00.7	176 09.5 -29.2	N 17 10.1 +12.3	21						
22	149 54.9 -00.1	N 23 17.0 +00.1	101 26.8 +00.3	N 20 05.0 -00.8	190 40.3 -29.3	N 17 22.4 +12.3	22						
23	164 54.8 -00.1	N 23 17.1 +00.1	116 27.1 +00.3	N 20 04.2 -00.7	205 11.0 -29.4	N 17 34.7 +12.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'6 15'6 15'5 15'5 15'5 15'5								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 57'2 57'1 57'1 57'0 56'9 56'8								
	SHA 278° 278° 277° 277° 277° 277°		SHA 229° 229° 229° 229° 229° 229°		SHA 328° 326° 324° 322° 320° 318°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 15:14		Greenwich Culmination Time: 08:51								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	125 01.5 +01.0	N 17 53.0 -00.5	227 52.7 +02.0	N 12 30.7 +00.1	282 32.1 +02.4	S 10 19.4 +00.0	00						
01	140 02.5 +01.0	N 17 52.5 -00.4	242 54.7 +02.0	N 12 30.8 +00.2	297 34.5 +02.5	S 10 19.4 +00.0	01						
02	155 03.5 +01.0	N 17 52.1 -00.5	257 56.7 +02.0	N 12 31.0 +00.1	312 37.0 +02.4	S 10 19.4 +00.0	02						
03	170 04.5 +01.0	N 17 51.6 -00.4	272 58.7 +02.0	N 12 31.1 +00.2	327 39.4 +02.5	S 10 19.4 +00.0	03						
04	185 05.5 +01.0	N 17 51.2 -00.5	288 00.7 +01.9	N 12 31.3 +00.2	342 41.9 +02.4	S 10 19.4 +00.0	04						
05	200 06.5 +01.0	N 17 50.7 -00.4	303 02.6 +02.0	N 12 31.5 +00.1	357 44.3 +02.5	S 10 19.4 +00.0	05						
06	215 07.5 +00.9	N 17 50.3 -00.5	318 04.6 +02.0	N 12 31.6 +00.2	12 46.8 +02.4	S 10 19.4 +00.0	06						
07	230 08.4 +01.0	N 17 49.8 -00.4	333 06.6 +02.0	N 12 31.8 +00.1	27 49.2 +02.5	S 10 19.4 +00.0	07						
08	245 09.4 +01.0	N 17 49.4 -00.5	348 08.6 +02.0	N 12 31.9 +00.2	42 51.7 +02.4	S 10 19.4 +00.0	08						
09	260 10.4 +01.0	N 17 48.9 -00.4	3 10.6 +01.9	N 12 32.1 +00.2	57 54.1 +02.5	S 10 19.4 +00.0	09						
10	275 11.4 +01.0	N 17 48.5 -00.5	18 12.5 +02.0	N 12 32.3 +00.1	72 56.6 +02.4	S 10 19.4 +00.0	10						
11	290 12.4 +01.0	N 17 48.0 -00.4	33 14.5 +02.0	N 12 32.4 +00.2	87 59.0 +02.5	S 10 19.4 +00.0	11						
12	305 13.4 +01.0	N 17 47.6 -00.5	48 16.5 +02.0	N 12 32.6 +00.1	103 01.5 +02.4	S 10 19.4 +00.0	12						
13	320 14.4 +01.0	N 17 47.1 -00.5	63 18.5 +02.0	N 12 32.7 +00.2	118 03.9 +02.5	S 10 19.4 +00.0	13						
14	335 15.4 +01.0	N 17 46.6 -00.4	78 20.5 +02.0	N 12 32.9 +00.2	133 06.4 +02.4	S 10 19.4 +00.0	14						
15	350 16.4 +01.0	N 17 46.2 -00.5	93 22.5 +01.9	N 12 33.1 +00.1	148 08.8 +02.4	S 10 19.4 +00.0	15						
16	5 17.4 +00.9	N 17 45.7 -00.4	108 24.4 +02.0	N 12 33.2 +00.2	163 11.2 +02.5	S 10 19.4 +00.0	16						
17	20 18.3 +01.0	N 17 45.3 -00.5	123 26.4 +02.0	N 12 33.4 +00.1	178 13.7 +02.4	S 10 19.4 +00.0	17						
18	35 19.3 +01.0	N 17 44.8 -00.4	138 28.4 +02.0	N 12 33.5 +00.2	193 16.1 +02.5	S 10 19.4 +00.0	18						
19	50 20.3 +01.0	N 17 44.4 -00.5	153 30.4 +02.0	N 12 33.7 +00.2	208 18.6 +02.4	S 10 19.4 +00.0	19						
20	65 21.3 +01.0	N 17 43.9 -00.4	168 32.4 +01.9	N 12 33.9 +00.1	223 21.0 +02.5	S 10 19.4 +00.0	20						
21	80 22.3 +01.0	N 17 43.5 -00.5	183 34.3 +02.0	N 12 34.0 +00.2	238 23.5 +02.4	S 10 19.4 +00.0	21						
22	95 23.3 +01.0	N 17 43.0 -00.4	198 36.3 +02.0	N 12 34.2 +00.1	253 25.9 +02.5	S 10 19.4 +00.0	22						
23	110 24.3 +01.0	N 17 42.6 -00.5	213 38.3 +02.0	N 12 34.3 +00.2	268 28.4 +02.4	S 10 19.4 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 223° 223° 223° 223° 223° 222°		SHA 326° 326° 326° 326° 326° 326°		SHA 020° 020° 020° 020° 020° 020°								
	Greenwich Culmination Time: 15:38		Greenwich Culmination Time: 08:47		Greenwich Culmination Time: 05:09								

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UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 54.7 -00.2	N 23 17.2 +00.1	131 27.4 +00.3	N 20 03.5 -00.7	219 41.6 -29.4	N 17 46.9 +12.1	00						
01	194 54.5 -00.1	N 23 17.3 +00.2	146 27.7 +00.3	N 20 02.8 -00.8	234 12.2 -29.4	N 17 59.0 +12.0	01						
02	209 54.4 -00.1	N 23 17.5 +00.1	161 28.0 +00.3	N 20 02.0 -00.7	248 42.8 -29.5	N 18 11.0 +11.8	02						
03	224 54.3 -00.2	N 23 17.6 +00.1	176 28.3 +00.3	N 20 01.3 -00.8	263 13.3 -29.6	N 18 22.8 +11.8	03						
04	239 54.1 -00.1	N 23 17.7 +00.1	191 28.6 +00.3	N 20 00.5 -00.7	277 43.7 -29.6	N 18 34.6 +11.7	04						
05	254 54.0 -00.2	N 23 17.8 +00.1	206 28.9 +00.3	N 19 59.8 -00.7	292 14.1 -29.6	N 18 46.3 +11.6	05						
06	269 53.8 -00.1	N 23 17.9 +00.1	221 29.2 +00.3	N 19 59.1 -00.8	306 44.5 -29.7	N 18 57.9 +11.5	06						
07	284 53.7 -00.1	N 23 18.0 +00.1	236 29.5 +00.3	N 19 58.3 -00.7	321 14.8 -29.8	N 19 09.4 +11.4	07						
08	299 53.6 -00.2	N 23 18.1 +00.1	251 29.8 +00.3	N 19 57.6 -00.7	335 45.0 -29.8	N 19 20.8 +11.3	08						
09	314 53.4 -00.1	N 23 18.2 +00.1	266 30.1 +00.3	N 19 56.9 -00.8	350 15.2 -29.9	N 19 32.1 +11.2	09						
10	329 53.3 -00.1	N 23 18.3 +00.1	281 30.4 +00.3	N 19 56.1 -00.7	4 45.3 -29.9	N 19 43.3 +11.1	10						
11	344 53.2 -00.2	N 23 18.4 +00.1	296 30.7 +00.3	N 19 55.4 -00.8	19 15.4 -30.0	N 19 54.4 +11.0	11						
12	359 53.0 -00.1	N 23 18.5 +00.2	311 31.0 +00.3	N 19 54.6 -00.7	33 45.4 -30.0	N 20 05.4 +10.9	12						
13	14 52.9 -00.1	N 23 18.7 +00.1	326 31.3 +00.3	N 19 53.9 -00.7	48 15.4 -30.1	N 20 16.3 +10.7	13						
14	29 52.8 -00.2	N 23 18.8 +00.1	341 31.6 +00.3	N 19 53.2 -00.8	62 45.3 -30.1	N 20 27.0 +10.7	14						
15	44 52.6 -00.1	N 23 18.9 +00.1	356 31.9 +00.4	N 19 52.4 -00.7	77 15.2 -30.2	N 20 37.7 +10.5	15						
16	59 52.5 -00.1	N 23 19.0 +00.1	11 32.3 +00.3	N 19 51.7 -00.8	91 45.0 -30.3	N 20 48.2 +10.5	16						
17	74 52.4 -00.2	N 23 19.1 +00.1	26 32.6 +00.3	N 19 50.9 -00.7	106 14.7 -30.3	N 20 58.7 +10.3	17						
18	89 52.2 -00.1	N 23 19.2 +00.1	41 32.9 +00.3	N 19 50.2 -00.8	120 44.4 -30.3	N 21 09.0 +10.2	18						
19	104 52.1 -00.1	N 23 19.3 +00.1	56 33.2 +00.3	N 19 49.4 -00.7	135 14.1 -30.4	N 21 19.2 +10.1	19						
20	119 52.0 -00.2	N 23 19.4 +00.1	71 33.5 +00.4	N 19 48.7 -00.7	149 43.7 -30.5	N 21 29.3 +10.0	20						
21	134 51.8 -00.1	N 23 19.5 +00.1	86 33.9 +00.3	N 19 48.0 -00.8	164 13.2 -30.5	N 21 39.3 +09.9	21						
22	149 51.7 -00.1	N 23 19.6 +00.1	101 34.2 +00.3	N 19 47.2 -00.7	178 42.7 -30.5	N 21 49.2 +09.7	22						
23	164 51.6 -00.2	N 23 19.7 +00.1	116 34.5 +00.3	N 19 46.5 -00.8	193 12.2 -30.7	N 21 58.9 +09.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'5 15'4 15'4 15'4 15'4 15'3								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 56'7 56'6 56'5 56'5 56'4 56'3								
	SHA 277° 277° 276° 276° 276° 276°		SHA 228° 228° 228° 228° 228° 228°		SHA 316° 313° 311° 309° 307° 305°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 15:13		Greenwich Culmination Time: 09:40								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	125 25.3 +01.0	N 17 42.1 -00.5	228 40.3 +02.0	N 12 34.5 +00.2	283 30.8 +02.5	S 10 19.5 +00.0	00						
01	140 26.3 +01.0	N 17 41.6 -00.4	243 42.3 +02.0	N 12 34.7 +00.1	298 33.3 +02.4	S 10 19.5 +00.0	01						
02	155 27.3 +00.9	N 17 41.2 -00.5	258 44.3 +01.9	N 12 34.8 +00.2	313 35.7 +02.5	S 10 19.5 +00.0	02						
03	170 28.2 +01.0	N 17 40.7 -00.4	273 46.2 +02.0	N 12 35.0 +00.1	328 38.2 +02.4	S 10 19.5 +00.0	03						
04	185 29.2 +01.0	N 17 40.3 -00.5	288 48.2 +02.0	N 12 35.1 +00.2	343 40.6 +02.5	S 10 19.5 +00.0	04						
05	200 30.2 +01.0	N 17 39.8 -00.4	303 50.2 +02.0	N 12 35.3 +00.2	358 43.1 +02.4	S 10 19.5 +00.0	05						
06	215 31.2 +01.0	N 17 39.4 -00.5	318 52.2 +02.0	N 12 35.5 +00.1	13 45.5 +02.5	S 10 19.5 +00.0	06						
07	230 32.2 +01.0	N 17 38.9 -00.4	333 54.2 +02.0	N 12 35.6 +00.2	28 48.0 +02.4	S 10 19.5 +00.0	07						
08	245 33.2 +01.0	N 17 38.5 -00.5	348 56.2 +01.9	N 12 35.8 +00.1	43 50.4 +02.5	S 10 19.5 +00.0	08						
09	260 34.2 +01.0	N 17 38.0 -00.5	3 58.1 +02.0	N 12 35.9 +00.2	58 52.9 +02.5	S 10 19.5 +00.0	09						
10	275 35.2 +01.0	N 17 37.5 -00.4	19 00.1 +02.0	N 12 36.1 +00.1	73 55.4 +02.4	S 10 19.5 +00.0	10						
11	290 36.2 +01.0	N 17 37.1 -00.5	34 02.1 +02.0	N 12 36.2 +00.2	88 57.8 +02.5	S 10 19.5 +00.0	11						
12	305 37.2 +00.9	N 17 36.6 -00.4	49 04.1 +02.0	N 12 36.4 +00.2	104 00.3 +02.4	S 10 19.5 +00.0	12						
13	320 38.1 +01.0	N 17 36.2 -00.5	64 06.1 +02.0	N 12 36.6 +00.1	119 02.7 +02.5	S 10 19.5 +00.0	13						
14	335 39.1 +01.0	N 17 35.7 -00.4	79 08.1 +01.9	N 12 36.7 +00.2	134 05.2 +02.4	S 10 19.5 +00.0	14						
15	350 40.1 +01.0	N 17 35.3 -00.5	94 10.0 +02.0	N 12 36.9 +00.1	149 07.6 +02.5	S 10 19.5 +00.0	15						
16	5 41.1 +01.0	N 17 34.8 -00.5	109 12.0 +02.0	N 12 37.0 +00.2	164 10.1 +02.4	S 10 19.5 +00.0	16						
17	20 42.1 +01.0	N 17 34.3 -00.4	124 14.0 +02.0	N 12 37.2 +00.1	179 12.5 +02.5	S 10 19.5 +00.0	17						
18	35 43.1 +01.0	N 17 33.9 -00.5	139 16.0 +02.0	N 12 37.3 +00.2	194 15.0 +02.4	S 10 19.5 +00.0	18						
19	50 44.1 +01.0	N 17 33.4 -00.4	154 18.0 +02.0	N 12 37.5 +00.2	209 17.4 +02.5	S 10 19.5 +00.1	19						
20	65 45.1 +01.0	N 17 33.0 -00.5	169 20.0 +01.9	N 12 37.7 +00.1	224 19.9 +02.4	S 10 19.6 +00.0	20						
21	80 46.1 +01.0	N 17 32.5 -00.5	184 21.9 +02.0	N 12 37.8 +00.2	239 22.3 +02.5	S 10 19.6 +00.0	21						
22	95 47.1 +01.0	N 17 32.0 -00.4	199 23.9 +02.0	N 12 38.0 +00.1	254 24.8 +02.4	S 10 19.6 +00.0	22						
23	110 48.1 +00.9	N 17 31.6 -00.5	214 25.9 +02.0	N 12 38.1 +00.2	269 27.2 +02.5	S 10 19.6 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 222° 222° 222° 222° 222° 222°		SHA 326° 326° 326° 326° 326° 325°		SHA 020° 020° 020° 020° 020° 020°								
	Greenwich Culmination Time: 15:37		Greenwich Culmination Time: 08:44		Greenwich Culmination Time: 05:05								

UT	Sun				Venus				Moon				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	179 51.4 -00.1	N 23 19.8 +00.1	131 34.8 +00.4	N 19 45.7 -00.7	207 41.5 -30.6	N 22 08.5 +09.6	00							
01	194 51.3 -00.1	N 23 19.9 +00.1	146 35.2 +00.3	N 19 45.0 -00.8	222 10.9 -30.7	N 22 18.1 +09.4	01							
02	209 51.2 -00.2	N 23 20.0 +00.0	161 35.5 +00.3	N 19 44.2 -00.7	236 40.2 -30.8	N 22 27.5 +09.2	02							
03	224 51.0 -00.1	N 23 20.0 +00.1	176 35.8 +00.4	N 19 43.5 -00.8	251 09.4 -30.8	N 22 36.7 +09.2	03							
04	239 50.9 -00.2	N 23 20.1 +00.1	191 36.2 +00.3	N 19 42.7 -00.7	265 38.6 -30.9	N 22 45.9 +09.0	04							
05	254 50.7 -00.1	N 23 20.2 +00.1	206 36.5 +00.3	N 19 42.0 -00.8	280 07.7 -31.0	N 22 54.9 +08.9	05							
06	269 50.6 -00.1	N 23 20.3 +00.1	221 36.8 +00.4	N 19 41.2 -00.7	294 36.7 -30.9	N 23 03.8 +08.8	06							
07	284 50.5 -00.2	N 23 20.4 +00.1	236 37.2 +00.3	N 19 40.5 -00.8	309 05.8 -31.1	N 23 12.6 +08.7	07							
08	299 50.3 -00.1	N 23 20.5 +00.1	251 37.5 +00.4	N 19 39.7 -00.7	323 34.7 -31.0	N 23 21.3 +08.5	08							
09	314 50.2 -00.1	N 23 20.6 +00.1	266 37.9 +00.3	N 19 39.0 -00.8	338 03.7 -31.2	N 23 29.8 +08.5	09							
10	329 50.1 -00.2	N 23 20.7 +00.1	281 38.2 +00.3	N 19 38.2 -00.7	352 32.5 -31.1	N 23 38.3 +08.2	10							
11	344 49.9 -00.1	N 23 20.8 +00.1	296 38.5 +00.4	N 19 37.5 -00.8	7 01.4 -31.3	N 23 46.5 +08.2	11							
12	359 49.8 -00.1	N 23 20.9 +00.1	311 38.9 +00.3	N 19 36.7 -00.7	21 30.1 -31.2	N 23 54.7 +08.0	12							
13	14 49.7 -00.2	N 23 21.0 +00.0	326 39.2 +00.4	N 19 36.0 -00.8	35 58.9 -31.4	N 24 02.7 +07.9	13							
14	29 49.5 -00.1	N 23 21.0 +00.1	341 39.6 +00.3	N 19 35.2 -00.7	50 27.5 -31.3	N 24 10.6 +07.8	14							
15	44 49.4 -00.1	N 23 21.1 +00.1	356 39.9 +00.4	N 19 34.5 -00.8	64 56.2 -31.4	N 24 18.4 +07.7	15							
16	59 49.3 -00.2	N 23 21.2 +00.1	11 40.3 +00.3	N 19 33.7 -00.7	79 24.8 -31.5	N 24 26.1 +07.5	16							
17	74 49.1 -00.1	N 23 21.3 +00.1	26 40.6 +00.4	N 19 33.0 -00.8	93 53.3 -31.5	N 24 33.6 +07.4	17							
18	89 49.0 -00.1	N 23 21.4 +00.1	41 41.0 +00.4	N 19 32.2 -00.7	108 21.8 -31.6	N 24 41.0 +07.2	18							
19	104 48.9 -00.2	N 23 21.5 +00.1	56 41.4 +00.3	N 19 31.5 -00.8	122 50.2 -31.5	N 24 48.2 +07.1	19							
20	119 48.7 -00.1	N 23 21.6 +00.0	71 41.7 +00.4	N 19 30.7 -00.7	137 18.7 -31.7	N 24 55.3 +07.0	20							
21	134 48.6 -00.2	N 23 21.6 +00.1	86 42.1 +00.3	N 19 30.0 -00.8	151 47.0 -31.6	N 25 02.3 +06.8	21							
22	149 48.4 -00.1	N 23 21.7 +00.1	101 42.4 +00.4	N 19 29.2 -00.8	166 15.4 -31.8	N 25 09.1 +06.8	22							
23	164 48.3 -00.1	N 23 21.8 +00.1	116 42.8 +00.4	N 19 28.4 -00.7	180 43.6 -31.7	N 25 15.9 +06.5	23							
UT 02 06 10 14 18 22	SD 15'7 15'7 15'7 15'7 15'7 15'7	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 276° 276° 275° 275° 275° 275°	Greenwich Culmination Time: 12:00	UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'2 00'2 00'2 00'2 00'2 00'2	SHA 228° 227° 227° 227° 227° 227°	Greenwich Culmination Time: 15:13	UT 02 06 10 14 18 22	SD 15'3 15'3 15'3 15'2 15'2 15'2	HP 56'2 56'1 56'0 56'0 55'9 55'8	SHA 303° 300° 298° 296° 294° 291°	Greenwich Culmination Time: 10:30

UT	Mars				Jupiter				Saturn				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	125 49.0 +01.0	N 17 31.1 -00.4	229 27.9 +02.0	N 12 38.3 +00.2	284 29.7 +02.4	S 10 19.6 +00.0	00							
01	140 50.0 +01.0	N 17 30.7 -00.5	244 29.9 +02.0	N 12 38.5 +00.1	299 32.1 +02.5	S 10 19.6 +00.0	01							
02	155 51.0 +01.0	N 17 30.2 -00.5	259 31.9 +02.0	N 12 38.6 +00.2	314 34.6 +02.5	S 10 19.6 +00.0	02							
03	170 52.0 +01.0	N 17 29.7 -00.4	274 33.9 +01.9	N 12 38.8 +00.1	329 37.1 +02.4	S 10 19.6 +00.0	03							
04	185 53.0 +01.0	N 17 29.3 -00.5	289 35.8 +02.0	N 12 38.9 +00.2	344 39.5 +02.5	S 10 19.6 +00.0	04							
05	200 54.0 +01.0	N 17 28.8 -00.4	304 37.8 +02.0	N 12 39.1 +00.1	359 42.0 +02.4	S 10 19.6 +00.0	05							
06	215 55.0 +01.0	N 17 28.4 -00.5	319 39.8 +02.0	N 12 39.2 +00.2	14 44.4 +02.5	S 10 19.6 +00.0	06							
07	230 56.0 +01.0	N 17 27.9 -00.5	334 41.8 +02.0	N 12 39.4 +00.2	29 46.9 +02.4	S 10 19.6 +00.0	07							
08	245 57.0 +01.0	N 17 27.4 -00.4	349 43.8 +02.0	N 12 39.6 +00.1	44 49.3 +02.5	S 10 19.6 +00.0	08							
09	260 58.0 +01.0	N 17 27.0 -00.5	4 45.8 +02.0	N 12 39.7 +00.2	59 51.8 +02.4	S 10 19.6 +00.0	09							
10	275 59.0 +01.0	N 17 26.5 -00.5	19 47.8 +02.0	N 12 39.9 +00.1	74 54.2 +02.5	S 10 19.6 +00.0	10							
11	290 60.0 +00.9	N 17 26.0 -00.4	34 49.8 +01.9	N 12 40.0 +00.2	89 56.7 +02.4	S 10 19.6 +00.1	11							
12	306 00.9 +01.0	N 17 25.6 -00.5	49 51.7 +02.0	N 12 40.2 +00.1	104 59.1 +02.5	S 10 19.7 +00.0	12							
13	321 01.9 +01.0	N 17 25.1 -00.4	64 53.7 +02.0	N 12 40.3 +00.2	120 01.6 +02.5	S 10 19.7 +00.0	13							
14	336 02.9 +01.0	N 17 24.7 -00.5	79 55.7 +02.0	N 12 40.5 +00.2	135 04.1 +02.4	S 10 19.7 +00.0	14							
15	351 03.9 +01.0	N 17 24.2 -00.5	94 57.7 +02.0	N 12 40.7 +00.1	150 06.5 +02.5	S 10 19.7 +00.0	15							
16	6 04.9 +01.0	N 17 23.7 -00.4	109 59.7 +02.0	N 12 40.8 +00.2	165 09.0 +02.4	S 10 19.7 +00.0	16							
17	21 05.9 +01.0	N 17 23.3 -00.5	125 01.7 +02.0	N 12 41.0 +00.1	180 11.4 +02.5	S 10 19.7 +00.0	17							
18	36 06.9 +01.0	N 17 22.8 -00.5	140 03.7 +02.0	N 12 41.1 +00.2	195 13.9 +02.4	S 10 19.7 +00.0	18							
19	51 07.9 +01.0	N 17 22.3 -00.4	155 05.7 +01.9	N 12 41.3 +00.1	210 16.3 +02.5	S 10 19.7 +00.0	19							
20	66 08.9 +01.0	N 17 21.9 -00.5	170 07.6 +02.0	N 12 41.4 +00.2	225 18.8 +02.5	S 10 19.7 +00.0	20							
21	81 09.9 +01.0	N 17 21.4 -00.4	185 09.6 +02.0	N 12 41.6 +00.1	240 21.3 +02.4	S 10 19.7 +00.0	21							
22	96 10.9 +01.0	N 17 21.0 -00.5	200 11.6 +02.0	N 12 41.7 +00.2	255 23.7 +02.5	S 10 19.7 +00.0	22							
23	111 11.9 +00.9	N 17 20.5 -00.5	215 13.6 +02.0	N 12 41.9 +00.2	270 26.2 +02.4	S 10 19.7 +00.0	23							
UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 222° 222° 222° 221° 221° 221°	Greenwich Culmination Time: 15:35	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 325° 325° 325° 325° 325° 325°	Greenwich Culmination Time: 08:40	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 020° 020° 020° 020° 020° 020°	Greenwich Culmination Time: 05:01

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 48.2 -00.2	N 23 21.9 +00.1	131 43.2 +00.3	N 19 27.7 -00.8	195 11.9 -31.8	N 25 22.4 +06.5	00						
01	194 48.0 -00.1	N 23 22.0 +00.0	146 43.5 +00.4	N 19 26.9 -00.7	209 40.1 -31.8	N 25 28.9 +06.3	01						
02	209 47.9 -00.1	N 23 22.0 +00.1	161 43.9 +00.4	N 19 26.2 -00.8	224 08.3 -31.9	N 25 35.2 +06.1	02						
03	224 47.8 -00.2	N 23 22.1 +00.1	176 44.3 +00.3	N 19 25.4 -00.7	238 36.4 -31.9	N 25 41.3 +06.0	03						
04	239 47.6 -00.1	N 23 22.2 +00.1	191 44.6 +00.4	N 19 24.7 -00.8	253 04.5 -31.9	N 25 47.3 +05.9	04						
05	254 47.5 -00.1	N 23 22.3 +00.0	206 45.0 +00.4	N 19 23.9 -00.7	267 32.6 -32.0	N 25 53.2 +05.8	05						
06	269 47.4 -00.2	N 23 22.3 +00.1	221 45.4 +00.4	N 19 23.2 -00.8	282 00.6 -32.0	N 25 59.0 +05.6	06						
07	284 47.2 -00.1	N 23 22.4 +00.1	236 45.8 +00.4	N 19 22.4 -00.8	296 28.6 -32.0	N 26 04.6 +05.4	07						
08	299 47.1 -00.2	N 23 22.5 +00.1	251 46.2 +00.3	N 19 21.6 -00.7	310 56.6 -32.1	N 26 10.0 +05.4	08						
09	314 46.9 -00.1	N 23 22.6 +00.0	266 46.5 +00.4	N 19 20.9 -00.8	325 24.5 -32.1	N 26 15.4 +05.1	09						
10	329 46.8 -00.1	N 23 22.6 +00.1	281 46.9 +00.4	N 19 20.1 -00.7	339 52.4 -32.1	N 26 20.5 +05.1	10						
11	344 46.7 -00.2	N 23 22.7 +00.1	296 47.3 +00.4	N 19 19.4 -00.8	354 20.3 -32.2	N 26 25.6 +04.9	11						
12	359 46.5 -00.1	N 23 22.8 +00.1	311 47.7 +00.4	N 19 18.6 -00.8	8 48.1 -32.1	N 26 30.5 +04.7	12						
13	14 46.4 -00.1	N 23 22.9 +00.0	326 48.1 +00.4	N 19 17.8 -00.7	23 16.0 -32.2	N 26 35.2 +04.6	13						
14	29 46.3 -00.2	N 23 22.9 +00.1	341 48.5 +00.3	N 19 17.1 -00.8	37 43.8 -32.2	N 26 39.8 +04.5	14						
15	44 46.1 -00.1	N 23 23.0 +00.1	356 48.8 +00.4	N 19 16.3 -00.7	52 11.6 -32.3	N 26 44.3 +04.3	15						
16	59 46.0 -00.1	N 23 23.1 +00.0	11 49.2 +00.4	N 19 15.6 -00.8	66 39.3 -32.2	N 26 48.6 +04.2	16						
17	74 45.9 -00.2	N 23 23.1 +00.1	26 49.6 +00.4	N 19 14.8 -00.8	81 07.1 -32.3	N 26 52.8 +04.0	17						
18	89 45.7 -00.1	N 23 23.2 +00.1	41 50.0 +00.4	N 19 14.0 -00.7	95 34.8 -32.3	N 26 56.8 +03.9	18						
19	104 45.6 -00.2	N 23 23.3 +00.0	56 50.4 +00.4	N 19 13.3 -00.8	110 02.5 -32.3	N 27 00.7 +03.8	19						
20	119 45.4 -00.1	N 23 23.3 +00.1	71 50.8 +00.4	N 19 12.5 -00.8	124 30.2 -32.4	N 27 04.5 +03.6	20						
21	134 45.3 -00.1	N 23 23.4 +00.1	86 51.2 +00.4	N 19 11.7 -00.7	138 57.8 -32.3	N 27 08.1 +03.4	21						
22	149 45.2 -00.2	N 23 23.5 +00.0	101 51.6 +00.4	N 19 11.0 -00.8	153 25.5 -32.4	N 27 11.5 +03.3	22						
23	164 45.0 -00.1	N 23 23.5 +00.1	116 52.0 +00.4	N 19 10.2 -00.8	167 53.1 -32.3	N 27 14.8 +03.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'2 15'2 15'1 15'1 15'1 15'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 55'7 55'6 55'6 55'5 55'4 55'3								
	SHA 275° 275° 274° 274° 274° 274°		SHA 227° 227° 226° 226° 226° 226°		SHA 289° 287° 284° 282° 280° 278°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 15:12		Greenwich Culmination Time: 11:23								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	126 12.8 +01.0	N 17 20.0 -00.4	230 15.6 +02.0	N 12 42.1 +00.1	285 28.6 +02.5	S 10 19.7 +00.0	00						
01	141 13.8 +01.0	N 17 19.6 -00.5	245 17.6 +02.0	N 12 42.2 +00.2	300 31.1 +02.4	S 10 19.7 +00.1	01						
02	156 14.8 +01.0	N 17 19.1 -00.5	260 19.6 +02.0	N 12 42.4 +00.1	315 33.5 +02.5	S 10 19.8 +00.0	02						
03	171 15.8 +01.0	N 17 18.6 -00.4	275 21.6 +01.9	N 12 42.5 +00.2	330 36.0 +02.5	S 10 19.8 +00.0	03						
04	186 16.8 +01.0	N 17 18.2 -00.5	290 23.5 +02.0	N 12 42.7 +00.1	345 38.5 +02.4	S 10 19.8 +00.0	04						
05	201 17.8 +01.0	N 17 17.7 -00.5	305 25.5 +02.0	N 12 42.8 +00.2	0 40.9 +02.5	S 10 19.8 +00.0	05						
06	216 18.8 +01.0	N 17 17.2 -00.4	320 27.5 +02.0	N 12 43.0 +00.1	15 43.4 +02.4	S 10 19.8 +00.0	06						
07	231 19.8 +01.0	N 17 16.8 -00.5	335 29.5 +02.0	N 12 43.1 +00.2	30 45.8 +02.5	S 10 19.8 +00.0	07						
08	246 20.8 +01.0	N 17 16.3 -00.5	350 31.5 +02.0	N 12 43.3 +00.2	45 48.3 +02.5	S 10 19.8 +00.0	08						
09	261 21.8 +01.0	N 17 15.8 -00.4	5 33.5 +02.0	N 12 43.5 +00.1	60 50.8 +02.4	S 10 19.8 +00.0	09						
10	276 22.8 +01.0	N 17 15.4 -00.5	20 35.5 +02.0	N 12 43.6 +00.2	75 53.2 +02.5	S 10 19.8 +00.0	10						
11	291 23.8 +01.0	N 17 14.9 -00.5	35 37.5 +02.0	N 12 43.8 +00.1	90 55.7 +02.4	S 10 19.8 +00.0	11						
12	306 24.8 +00.9	N 17 14.4 -00.4	50 39.5 +02.0	N 12 43.9 +00.2	105 58.1 +02.5	S 10 19.8 +00.0	12						
13	321 25.7 +01.0	N 17 14.0 -00.5	65 41.5 +01.9	N 12 44.1 +00.1	121 00.6 +02.5	S 10 19.8 +00.1	13						
14	336 26.7 +01.0	N 17 13.5 -00.5	80 43.4 +02.0	N 12 44.2 +00.2	136 03.1 +02.4	S 10 19.9 +00.0	14						
15	351 27.7 +01.0	N 17 13.0 -00.4	95 45.4 +02.0	N 12 44.4 +00.1	151 05.5 +02.5	S 10 19.9 +00.0	15						
16	6 28.7 +01.0	N 17 12.6 -00.5	110 47.4 +02.0	N 12 44.5 +00.2	166 08.0 +02.4	S 10 19.9 +00.0	16						
17	21 29.7 +01.0	N 17 12.1 -00.5	125 49.4 +02.0	N 12 44.7 +00.2	181 10.4 +02.5	S 10 19.9 +00.0	17						
18	36 30.7 +01.0	N 17 11.6 -00.4	140 51.4 +02.0	N 12 44.9 +00.1	196 12.9 +02.5	S 10 19.9 +00.0	18						
19	51 31.7 +01.0	N 17 11.2 -00.5	155 53.4 +02.0	N 12 45.0 +00.2	211 15.4 +02.4	S 10 19.9 +00.0	19						
20	66 32.7 +01.0	N 17 10.7 -00.5	170 55.4 +02.0	N 12 45.2 +00.1	226 17.8 +02.5	S 10 19.9 +00.0	20						
21	81 33.7 +01.0	N 17 10.2 -00.4	185 57.4 +02.0	N 12 45.3 +00.2	241 20.3 +02.4	S 10 19.9 +00.0	21						
22	96 34.7 +01.0	N 17 09.8 -00.5	200 59.4 +02.0	N 12 45.5 +00.1	256 22.7 +02.5	S 10 19.9 +00.0	22						
23	111 35.7 +01.0	N 17 09.3 -00.5	216 01.4 +02.0	N 12 45.6 +00.2	271 25.2 +02.5	S 10 19.9 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 221° 221° 221° 221° 221° 221°		SHA 325° 325° 325° 325° 325° 325°		SHA 020° 020° 020° 020° 020° 020°								
	Greenwich Culmination Time: 15:34		Greenwich Culmination Time: 08:37		Greenwich Culmination Time: 04:57								

Sun					Venus					Moon					A: 01%					
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	179	44.9	-00.1	N 23 23.6	+00.0	131	52.4	+00.4	N 19 09.4	-00.7	182	20.8	-32.4	N 27 18.0	+03.0	00				
01	194	44.8	-00.2	N 23 23.6	+00.1	146	52.8	+00.4	N 19 08.7	-00.8	196	48.4	-32.4	N 27 21.0	+02.9	01				
02	209	44.6	-00.1	N 23 23.7	+00.1	161	53.2	+00.5	N 19 07.9	-00.7	211	16.0	-32.4	N 27 23.9	+02.7	02				
03	224	44.5	-00.2	N 23 23.8	+00.0	176	53.7	+00.4	N 19 07.2	-00.8	225	43.6	-32.4	N 27 26.6	+02.6	03				
04	239	44.3	-00.1	N 23 23.8	+00.1	191	54.1	+00.4	N 19 06.4	-00.8	240	11.2	-32.4	N 27 29.2	+02.4	04				
05	254	44.2	-00.1	N 23 23.9	+00.0	206	54.5	+00.4	N 19 05.6	-00.7	254	38.8	-32.4	N 27 31.6	+02.3	05				
06	269	44.1	-00.2	N 23 23.9	+00.1	221	54.9	+00.4	N 19 04.9	-00.8	269	06.4	-32.4	N 27 33.9	+02.1	06				
07	284	43.9	-00.1	N 23 24.0	+00.1	236	55.3	+00.4	N 19 04.1	-00.8	283	34.0	-32.4	N 27 36.0	+02.0	07				
08	299	43.8	-00.1	N 23 24.1	+00.0	251	55.7	+00.4	N 19 03.3	-00.8	298	01.6	-32.4	N 27 38.0	+01.9	08				
09	314	43.7	-00.2	N 23 24.1	+00.1	266	56.1	+00.5	N 19 02.5	-00.7	312	29.2	-32.4	N 27 39.9	+01.6	09				
10	329	43.5	-00.1	N 23 24.2	+00.0	281	56.6	+00.4	N 19 01.8	-00.8	326	56.8	-32.4	N 27 41.5	+01.6	10				
11	344	43.4	-00.1	N 23 24.2	+00.1	296	57.0	+00.4	N 19 01.0	-00.8	341	24.4	-32.4	N 27 43.1	+01.4	11				
12	359	43.3	-00.2	N 23 24.3	+00.0	311	57.4	+00.4	N 19 00.2	-00.7	355	52.0	-32.3	N 27 44.5	+01.2	12				
13	14	43.1	-00.1	N 23 24.3	+00.1	326	57.8	+00.5	N 18 59.5	-00.8	10	19.7	-32.4	N 27 45.7	+01.2	13				
14	29	43.0	-00.2	N 23 24.4	+00.0	341	58.3	+00.4	N 18 58.7	-00.8	24	47.3	-32.4	N 27 46.9	+00.9	14				
15	44	42.8	-00.1	N 23 24.4	+00.1	356	58.7	+00.4	N 18 57.9	-00.7	39	14.9	-32.3	N 27 47.8	+00.8	15				
16	59	42.7	-00.1	N 23 24.5	+00.0	11	59.1	+00.5	N 18 57.2	-00.8	53	42.6	-32.4	N 27 48.6	+00.7	16				
17	74	42.6	-00.2	N 23 24.5	+00.1	26	59.6	+00.4	N 18 56.4	-00.8	68	10.2	-32.3	N 27 49.3	+00.5	17				
18	89	42.4	-00.1	N 23 24.6	+00.0	41	60.0	+00.4	N 18 55.6	-00.7	82	37.9	-32.3	N 27 49.8	+00.4	18				
19	104	42.3	-00.1	N 23 24.6	+00.1	57	00.4	+00.5	N 18 54.9	-00.8	97	05.6	-32.2	N 27 50.2	+00.2	19				
20	119	42.2	-00.2	N 23 24.7	+00.0	72	00.9	+00.4	N 18 54.1	-00.8	111	33.4	-32.3	N 27 50.4	+00.1	20				
21	134	42.0	-00.1	N 23 24.7	+00.1	87	01.3	+00.4	N 18 53.3	-00.8	126	01.1	-32.2	N 27 50.5	-00.1	21				
22	149	41.9	-00.2	N 23 24.8	+00.0	102	01.7	+00.5	N 18 52.5	-00.7	140	28.9	-32.3	N 27 50.4	-00.2	22				
23	164	41.7	-00.1	N 23 24.8	+00.1	117	02.2	+00.4	N 18 51.8	-00.8	154	56.6	-32.2	N 27 50.2	-00.3	23				
UT	02	06	10	14	18	22														
SD	15'7	15'7	15'7	15'7	15'7	15'7	SD	00'2	00'2	00'2	00'2	00'2	00'2	SD	15'1	15'0	15'0	15'0	15'0	15'0
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'2	00'2	00'2	00'2	00'2	00'2	HP	55'3	55'2	55'1	55'1	55'0	54'9
SHA	274°	274°	273°	273°	273°	273°	SHA	226°	226°	226°	225°	225°	225°	SHA	275°	273°	271°	268°	266°	264°
Greenwich Culmination Time: 12:01							Greenwich Culmination Time: 15:12							Greenwich Culmination Time: 12:17						

Mars					Jupiter					Saturn										
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	126	36.7	+01.0	N 17 08.8	-00.4	231	03.4	+01.9	N 12 45.8	+00.1	286	27.7	+02.4	S 10 19.9	+00.1	00				
01	141	37.7	+01.0	N 17 08.4	-00.5	246	05.3	+02.0	N 12 45.9	+00.2	301	30.1	+02.5	S 10 20.0	+00.0	01				
02	156	38.7	+00.9	N 17 07.9	-00.5	261	07.3	+02.0	N 12 46.1	+00.1	316	32.6	+02.5	S 10 20.0	+00.0	02				
03	171	39.6	+01.0	N 17 07.4	-00.4	276	09.3	+02.0	N 12 46.2	+00.2	331	35.1	+02.4	S 10 20.0	+00.0	03				
04	186	40.6	+01.0	N 17 07.0	-00.5	291	11.3	+02.0	N 12 46.4	+00.1	346	37.5	+02.5	S 10 20.0	+00.0	04				
05	201	41.6	+01.0	N 17 06.5	-00.5	306	13.3	+02.0	N 12 46.5	+00.2	1	40.0	+02.4	S 10 20.0	+00.0	05				
06	216	42.6	+01.0	N 17 06.0	-00.5	321	15.3	+02.0	N 12 46.7	+00.2	16	42.4	+02.5	S 10 20.0	+00.0	06				
07	231	43.6	+01.0	N 17 05.5	-00.4	336	17.3	+02.0	N 12 46.9	+00.1	31	44.9	+02.5	S 10 20.0	+00.0	07				
08	246	44.6	+01.0	N 17 05.1	-00.5	351	19.3	+02.0	N 12 47.0	+00.2	46	47.4	+02.4	S 10 20.0	+00.0	08				
09	261	45.6	+01.0	N 17 04.6	-00.5	6	21.3	+02.0	N 12 47.2	+00.1	61	49.8	+02.5	S 10 20.0	+00.0	09				
10	276	46.6	+01.0	N 17 04.1	-00.4	21	23.3	+02.0	N 12 47.3	+00.2	76	52.3	+02.5	S 10 20.0	+00.0	10				
11	291	47.6	+01.0	N 17 03.7	-00.5	36	25.3	+02.0	N 12 47.5	+00.1	91	54.8	+02.4	S 10 20.0	+00.1	11				
12	306	48.6	+01.0	N 17 03.2	-00.5	51	27.3	+02.0	N 12 47.6	+00.2	106	57.2	+02.5	S 10 20.1	+00.0	12				
13	321	49.6	+01.0	N 17 02.7	-00.5	66	29.3	+02.0	N 12 47.8	+00.1	121	59.7	+02.4	S 10 20.1	+00.0	13				
14	336	50.6	+01.0	N 17 02.2	-00.4	81	31.3	+01.9	N 12 47.9	+00.2	137	02.1	+02.5	S 10 20.1	+00.0	14				
15	351	51.6	+01.0	N 17 01.8	-00.5	96	33.2	+02.0	N 12 48.1	+00.1	152	04.6	+02.5	S 10 20.1	+00.0	15				
16	6	52.6	+01.0	N 17 01.3	-00.5	111	35.2	+02.0	N 12 48.2	+00.2	167	07.1	+02.4	S 10 20.1	+00.0	16				
17	21	53.6	+01.0	N 17 00.8	-00.4	126	37.2	+02.0	N 12 48.4	+00.1	182	09.5	+02.5	S 10 20.1	+00.0	17				
18	36	54.6	+00.9	N 17 00.4	-00.5	141	39.2	+02.0	N 12 48.5	+00.2	197	12.0	+02.5	S 10 20.1	+00.0	18				
19	51	55.5	+01.0	N 16 59.9	-00.5	156	41.2	+02.0	N 12 48.7	+00.2	212	14.5	+02.4	S 10 20.1	+00.0	19				
20	66	56.5	+01.0	N 16 59.4	-00.5	171	43.2	+02.0	N 12 48.9	+00.1	227	16.9	+02.5	S 10 20.1	+00.0	20				
21	81	57.5	+01.0	N 16 58.9	-00.4	186	45.2	+02.0	N 12 49.0	+00.2	242	19.4	+02.5	S 10 20.1	+00.1	21				
22	96	58.5	+01.0	N 16 58.5	-00.5	201	47.2	+02.0	N 12 49.2	+00.1	257	21.9	+02.4	S 10 20.2	+00.0	22				
23	111	59.5	+01.0	N 16 58.0	-00.5	216	49.2	+02.0	N 12 49.3	+00.2	272	24.3	+02.5	S 10 20.2	+00.0	23				
UT	02	06	10	14	18	22														
SD	00'0	00'0	00'0	00'0	00'0	00'0	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD	00'1	00'1	00'1	00'1	00'1	00'1
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	221°	220°	220°	220°	220°	220°	SHA	325°	325°	325°	325°	325°	325°	SHA	020°	020°	020°	020°	020°	020°
Greenwich Culmination Time: 15:32							Greenwich Culmination Time: 08:34							Greenwich Culmination Time: 04:53						

Sun					Venus					Moon					A: 04%
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT		
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "			
00	179 41.6 -00.1		N 23 24.9 +00.0		132 02.6 +00.5		N 18 51.0 -00.8		169 24.4 -32.1		N 27 49.9 -00.5		00		
01	194 41.5 -00.2		N 23 24.9 +00.1		147 03.1 +00.4		N 18 50.2 -00.8		183 52.3 -32.2		N 27 49.4 -00.6		01		
02	209 41.3 -00.1		N 23 25.0 +00.0		162 03.5 +00.5		N 18 49.4 -00.7		198 20.1 -32.1		N 27 48.8 -00.8		02		
03	224 41.2 -00.1		N 23 25.0 +00.1		177 04.0 +00.4		N 18 48.7 -00.8		212 48.0 -32.0		N 27 48.0 -00.9		03		
04	239 41.1 -00.2		N 23 25.1 +00.0		192 04.4 +00.5		N 18 47.9 -00.8		227 16.0 -32.1		N 27 47.1 -01.1		04		
05	254 40.9 -00.1		N 23 25.1 +00.0		207 04.9 +00.4		N 18 47.1 -00.8		241 43.9 -32.0		N 27 46.0 -01.2		05		
06	269 40.8 -00.2		N 23 25.1 +00.1		222 05.3 +00.5		N 18 46.3 -00.7		256 11.9 -32.0		N 27 44.8 -01.4		06		
07	284 40.6 -00.1		N 23 25.2 +00.0		237 05.8 +00.5		N 18 45.6 -00.8		270 39.9 -31.9		N 27 43.4 -01.5		07		
08	299 40.5 -00.1		N 23 25.2 +00.1		252 06.3 +00.4		N 18 44.8 -00.8		285 08.0 -32.0		N 27 41.9 -01.6		08		
09	314 40.4 -00.2		N 23 25.3 +00.0		267 06.7 +00.5		N 18 44.0 -00.8		299 36.0 -31.8		N 27 40.3 -01.8		09		
10	329 40.2 -00.1		N 23 25.3 +00.0		282 07.2 +00.4		N 18 43.2 -00.7		314 04.2 -31.9		N 27 38.5 -01.9		10		
11	344 40.1 -00.1		N 23 25.3 +00.1		297 07.6 +00.5		N 18 42.5 -00.8		328 32.3 -31.7		N 27 36.6 -02.0		11		
12	359 40.0 -00.2		N 23 25.4 +00.0		312 08.1 +00.5		N 18 41.7 -00.8		343 00.6 -31.8		N 27 34.6 -02.2		12		
13	14 39.8 -00.1		N 23 25.4 +00.0		327 08.6 +00.4		N 18 40.9 -00.8		357 28.8 -31.7		N 27 32.4 -02.4		13		
14	29 39.7 -00.2		N 23 25.4 +00.1		342 09.0 +00.5		N 18 40.1 -00.7		11 57.1 -31.7		N 27 30.0 -02.4		14		
15	44 39.5 -00.1		N 23 25.5 +00.0		357 09.5 +00.5		N 18 39.4 -00.8		26 25.4 -31.6		N 27 27.6 -02.6		15		
16	59 39.4 -00.1		N 23 25.5 +00.0		12 10.0 +00.5		N 18 38.6 -00.8		40 53.8 -31.6		N 27 25.0 -02.8		16		
17	74 39.3 -00.2		N 23 25.5 +00.1		27 10.5 +00.4		N 18 37.8 -00.8		55 22.2 -31.5		N 27 22.2 -02.9		17		
18	89 39.1 -00.1		N 23 25.6 +00.0		42 10.9 +00.5		N 18 37.0 -00.8		69 50.7 -31.4		N 27 19.3 -03.0		18		
19	104 39.0 -00.1		N 23 25.6 +00.0		57 11.4 +00.5		N 18 36.2 -00.7		84 19.3 -31.5		N 27 16.3 -03.1		19		
20	119 38.9 -00.2		N 23 25.6 +00.1		72 11.9 +00.5		N 18 35.5 -00.8		98 47.8 -31.3		N 27 13.2 -03.3		20		
21	134 38.7 -00.1		N 23 25.7 +00.0		87 12.4 +00.4		N 18 34.7 -00.8		113 16.5 -31.4		N 27 09.9 -03.4		21		
22	149 38.6 -00.2		N 23 25.7 +00.0		102 12.8 +00.5		N 18 33.9 -00.8		127 45.1 -31.2		N 27 06.5 -03.6		22		
23	164 38.4 -00.1		N 23 25.7 +00.1		117 13.3 +00.5		N 18 33.1 -00.8		142 13.9 -31.2		N 27 02.9 -03.7		23		
UT	02	06	10	14	18	22			UT	02	06	10	14	18	22
SD	15'7	15'7	15'7	15'7	15'7	15'7			SD	00'2	00'2	00'2	00'2	00'2	00'2
HP	00'1	00'1	00'1	00'1	00'1	00'1			HP	00'2	00'2	00'2	00'2	00'2	00'3
SHA	273°	272°	272°	272°	272°	272°			SHA	225°	225°	225°	225°	224°	224°
Greenwich Culmination Time: 12:01									Greenwich Culmination Time: 15:11						

Mars					Jupiter					Saturn					
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT		
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "			
00	127 00.5 +01.0		N 16 57.5 -00.5		231 51.2 +02.0		N 12 49.5 +00.1		287 26.8 +02.5		S 10 20.2 +00.0		00		
01	142 01.5 +01.0		N 16 57.0 -00.4		246 53.2 +02.0		N 12 49.6 +00.2		302 29.3 +02.4		S 10 20.2 +00.0		01		
02	157 02.5 +01.0		N 16 56.6 -00.5		261 55.2 +02.0		N 12 49.8 +00.1		317 31.7 +02.5		S 10 20.2 +00.0		02		
03	172 03.5 +01.0		N 16 56.1 -00.5		276 57.2 +02.0		N 12 49.9 +00.2		332 34.2 +02.5		S 10 20.2 +00.0		03		
04	187 04.5 +01.0		N 16 55.6 -00.4		291 59.2 +02.0		N 12 50.1 +00.1		347 36.7 +02.4		S 10 20.2 +00.0		04		
05	202 05.5 +01.0		N 16 55.2 -00.5		307 01.2 +02.0		N 12 50.2 +00.2		2 39.1 +02.5		S 10 20.2 +00.0		05		
06	217 06.5 +01.0		N 16 54.7 -00.5		322 03.2 +02.0		N 12 50.4 +00.1		17 41.6 +02.5		S 10 20.2 +00.1		06		
07	232 07.5 +01.0		N 16 54.2 -00.5		337 05.2 +02.0		N 12 50.5 +00.2		32 44.1 +02.4		S 10 20.3 +00.0		07		
08	247 08.5 +01.0		N 16 53.7 -00.4		352 07.2 +02.0		N 12 50.7 +00.1		47 46.5 +02.5		S 10 20.3 +00.0		08		
09	262 09.5 +01.0		N 16 53.3 -00.5		7 09.2 +02.0		N 12 50.8 +00.2		62 49.0 +02.5		S 10 20.3 +00.0		09		
10	277 10.5 +01.0		N 16 52.8 -00.5		22 11.2 +02.0		N 12 51.0 +00.1		77 51.5 +02.4		S 10 20.3 +00.0		10		
11	292 11.5 +00.9		N 16 52.3 -00.5		37 13.2 +01.9		N 12 51.1 +00.2		92 53.9 +02.5		S 10 20.3 +00.0		11		
12	307 12.4 +01.0		N 16 51.8 -00.4		52 15.1 +02.0		N 12 51.3 +00.1		107 56.4 +02.5		S 10 20.3 +00.0		12		
13	322 13.4 +01.0		N 16 51.4 -00.5		67 17.1 +02.0		N 12 51.4 +00.2		122 58.9 +02.4		S 10 20.3 +00.0		13		
14	337 14.4 +01.0		N 16 50.9 -00.5		82 19.1 +02.0		N 12 51.6 +00.1		138 01.3 +02.5		S 10 20.3 +00.0		14		
15	352 15.4 +01.0		N 16 50.4 -00.5		97 21.1 +02.0		N 12 51.7 +00.2		153 03.8 +02.5		S 10 20.3 +00.1		15		
16	7 16.4 +01.0		N 16 49.9 -00.5		112 23.1 +02.0		N 12 51.9 +00.1		168 06.3 +02.4		S 10 20.4 +00.0		16		
17	22 17.4 +01.0		N 16 49.4 -00.4		127 25.1 +02.0		N 12 52.0 +00.2		183 08.7 +02.5		S 10 20.4 +00.0		17		
18	37 18.4 +01.0		N 16 49.0 -00.5		142 27.1 +02.0		N 12 52.2 +00.2		198 11.2 +02.5		S 10 20.4 +00.0		18		
19	52 19.4 +01.0		N 16 48.5 -00.5		157 29.1 +02.0		N 12 52.4 +00.1		213 13.7 +02.4		S 10 20.4 +00.0		19		
20	67 20.4 +01.0		N 16 48.0 -00.5		172 31.1 +02.0		N 12 52.5 +00.2		228 16.1 +02.5		S 10 20.4 +00.0		20		
21	82 21.4 +01.0		N 16 47.5 -00.4		187 33.1 +02.0		N 12 52.7 +00.1		243 18.6 +02.5		S 10 20.4 +00.0		21		
22	97 22.4 +01.0		N 16 47.1 -00.5		202 35.1 +02.0		N 12 52.8 +00.2		258 21.1 +02.4		S 10 20.4 +00.0		22		
23	112 23.4 +01.0		N 16 46.6 -00.5		217 37.1 +02.0		N 12 53.0 +00.1		273 23.5 +02.5		S 10 20.4 +00.1		23		
UT	02	06	10	14	18	22			UT	02	06	10	14	18	22
SD	00'0	00'0	00'0	00'0	00'0	00'0			SD	00'3	00'3	00'3	00'3	00'3	00'3
HP	00'1	00'1	00'1	00'1	00'1	00'1			HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	220°	220°	220°	220°	220°	220°			SHA	020°	020°	020°	020°	020°	020°
Greenwich Culmination Time: 15:30									Greenwich Culmination Time: 08:31						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 38.3 -00.1	N 23 25.8 +00.0	132 13.8 +00.5	N 18 32.3 -00.7	156 42.7 -31.2	N 26 59.2 -03.8	00						
01	194 38.2 -00.2	N 23 25.8 +00.0	147 14.3 +00.5	N 18 31.6 -00.8	171 11.5 -31.1	N 26 55.4 -03.9	01						
02	209 38.0 -00.1	N 23 25.8 +00.0	162 14.8 +00.5	N 18 30.8 -00.8	185 40.4 -31.0	N 26 51.5 -04.1	02						
03	224 37.9 -00.1	N 23 25.8 +00.1	177 15.3 +00.5	N 18 30.0 -00.8	200 09.4 -31.0	N 26 47.4 -04.2	03						
04	239 37.8 -00.2	N 23 25.9 +00.0	192 15.8 +00.5	N 18 29.2 -00.8	214 38.4 -30.9	N 26 43.2 -04.3	04						
05	254 37.6 -00.1	N 23 25.9 +00.0	207 16.3 +00.5	N 18 28.4 -00.8	229 07.5 -30.9	N 26 38.9 -04.5	05						
06	269 37.5 -00.2	N 23 25.9 +00.0	222 16.8 +00.5	N 18 27.6 -00.7	243 36.6 -30.8	N 26 34.4 -04.6	06						
07	284 37.3 -00.1	N 23 25.9 +00.1	237 17.3 +00.5	N 18 26.9 -00.8	258 05.8 -30.8	N 26 29.8 -04.7	07						
08	299 37.2 -00.1	N 23 26.0 +00.0	252 17.8 +00.5	N 18 26.1 -00.8	272 35.0 -30.6	N 26 25.1 -04.9	08						
09	314 37.1 -00.2	N 23 26.0 +00.0	267 18.3 +00.5	N 18 25.3 -00.8	287 04.4 -30.7	N 26 20.2 -04.9	09						
10	329 36.9 -00.1	N 23 26.0 +00.0	282 18.8 +00.5	N 18 24.5 -00.8	301 33.7 -30.5	N 26 15.3 -05.1	10						
11	344 36.8 -00.1	N 23 26.0 +00.0	297 19.3 +00.5	N 18 23.7 -00.8	316 03.2 -30.5	N 26 10.2 -05.2	11						
12	359 36.7 -00.2	N 23 26.0 +00.1	312 19.8 +00.5	N 18 22.9 -00.7	330 32.7 -30.4	N 26 05.0 -05.4	12						
13	14 36.5 -00.1	N 23 26.1 +00.0	327 20.3 +00.5	N 18 22.2 -00.8	345 02.3 -30.4	N 25 59.6 -05.4	13						
14	29 36.4 -00.1	N 23 26.1 +00.0	342 20.8 +00.5	N 18 21.4 -00.8	359 31.9 -30.3	N 25 54.2 -05.6	14						
15	44 36.3 -00.2	N 23 26.1 +00.0	357 21.3 +00.5	N 18 20.6 -00.8	14 01.6 -30.2	N 25 48.6 -05.7	15						
16	59 36.1 -00.1	N 23 26.1 +00.0	12 21.8 +00.5	N 18 19.8 -00.8	28 31.4 -30.1	N 25 42.9 -05.8	16						
17	74 36.0 -00.2	N 23 26.1 +00.0	27 22.3 +00.5	N 18 19.0 -00.8	43 01.3 -30.1	N 25 37.1 -05.9	17						
18	89 35.8 -00.1	N 23 26.1 +00.1	42 22.8 +00.6	N 18 18.2 -00.8	57 31.2 -30.1	N 25 31.2 -06.1	18						
19	104 35.7 -00.1	N 23 26.2 +00.0	57 23.4 +00.5	N 18 17.4 -00.7	72 01.1 -29.9	N 25 25.1 -06.1	19						
20	119 35.6 -00.2	N 23 26.2 +00.0	72 23.9 +00.5	N 18 16.7 -00.8	86 31.2 -29.9	N 25 19.0 -06.3	20						
21	134 35.4 -00.1	N 23 26.2 +00.0	87 24.4 +00.5	N 18 15.9 -00.8	101 01.3 -29.8	N 25 12.7 -06.4	21						
22	149 35.3 -00.1	N 23 26.2 +00.0	102 24.9 +00.6	N 18 15.1 -00.8	115 31.5 -29.7	N 25 06.3 -06.5	22						
23	164 35.2 -00.2	N 23 26.2 +00.0	117 25.5 +00.5	N 18 14.3 -00.8	130 01.8 -29.7	N 24 59.8 -06.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 14'9 14'8 14'8 14'8 14'8 14'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'3 00'3 00'3 00'3 00'3 00'3		HP 54'5 54'5 54'4 54'4 54'3 54'3								
	SHA 272° 271° 271° 271° 271° 271°		SHA 224° 224° 224° 224° 224° 224°		SHA 248° 245° 243° 241° 239° 237°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 15:10		Greenwich Culmination Time: 14:01								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	127 24.4 +01.0	N 16 46.1 -00.5	232 39.1 +02.0	N 12 53.1 +00.2	288 26.0 +02.5	S 10 20.5 +00.0	00						
01	142 25.4 +01.0	N 16 45.6 -00.4	247 41.1 +02.0	N 12 53.3 +00.1	303 28.5 +02.5	S 10 20.5 +00.0	01						
02	157 26.4 +01.0	N 16 45.2 -00.5	262 43.1 +02.0	N 12 53.4 +00.2	318 31.0 +02.4	S 10 20.5 +00.0	02						
03	172 27.4 +01.0	N 16 44.7 -00.5	277 45.1 +02.0	N 12 53.6 +00.1	333 33.4 +02.5	S 10 20.5 +00.0	03						
04	187 28.4 +01.0	N 16 44.2 -00.5	292 47.1 +02.0	N 12 53.7 +00.2	348 35.9 +02.5	S 10 20.5 +00.0	04						
05	202 29.4 +01.0	N 16 43.7 -00.5	307 49.1 +02.0	N 12 53.9 +00.1	3 38.4 +02.4	S 10 20.5 +00.0	05						
06	217 30.4 +01.0	N 16 43.2 -00.4	322 51.1 +02.0	N 12 54.0 +00.2	18 40.8 +02.5	S 10 20.5 +00.0	06						
07	232 31.4 +00.9	N 16 42.8 -00.5	337 53.1 +02.0	N 12 54.2 +00.1	33 43.3 +02.5	S 10 20.5 +00.1	07						
08	247 32.3 +01.0	N 16 42.3 -00.5	352 55.1 +02.0	N 12 54.3 +00.2	48 45.8 +02.4	S 10 20.6 +00.0	08						
09	262 33.3 +01.0	N 16 41.8 -00.5	7 57.1 +02.0	N 12 54.5 +00.1	63 48.2 +02.5	S 10 20.6 +00.0	09						
10	277 34.3 +01.0	N 16 41.3 -00.5	22 59.1 +02.0	N 12 54.6 +00.2	78 50.7 +02.5	S 10 20.6 +00.0	10						
11	292 35.3 +01.0	N 16 40.8 -00.4	38 01.1 +02.0	N 12 54.8 +00.1	93 53.2 +02.5	S 10 20.6 +00.0	11						
12	307 36.3 +01.0	N 16 40.4 -00.5	53 03.1 +02.0	N 12 54.9 +00.2	108 55.7 +02.4	S 10 20.6 +00.0	12						
13	322 37.3 +01.0	N 16 39.9 -00.5	68 05.1 +02.0	N 12 55.1 +00.1	123 58.1 +02.5	S 10 20.6 +00.0	13						
14	337 38.3 +01.0	N 16 39.4 -00.5	83 07.1 +02.0	N 12 55.2 +00.2	139 00.6 +02.5	S 10 20.6 +00.0	14						
15	352 39.3 +01.0	N 16 38.9 -00.5	98 09.1 +02.0	N 12 55.4 +00.1	154 03.1 +02.5	S 10 20.6 +00.1	15						
16	7 40.3 +01.0	N 16 38.4 -00.4	113 11.1 +02.0	N 12 55.5 +00.2	169 05.6 +02.4	S 10 20.7 +00.0	16						
17	22 41.3 +01.0	N 16 38.0 -00.5	128 13.1 +02.0	N 12 55.7 +00.1	184 08.0 +02.5	S 10 20.7 +00.0	17						
18	37 42.3 +01.0	N 16 37.5 -00.5	143 15.1 +02.0	N 12 55.8 +00.2	199 10.5 +02.5	S 10 20.7 +00.0	18						
19	52 43.3 +01.0	N 16 37.0 -00.5	158 17.1 +02.0	N 12 56.0 +00.1	214 13.0 +02.4	S 10 20.7 +00.0	19						
20	67 44.3 +01.0	N 16 36.5 -00.5	173 19.1 +02.0	N 12 56.1 +00.2	229 15.4 +02.5	S 10 20.7 +00.0	20						
21	82 45.3 +01.0	N 16 36.0 -00.4	188 21.1 +02.0	N 12 56.3 +00.1	244 17.9 +02.5	S 10 20.7 +00.0	21						
22	97 46.3 +01.0	N 16 35.6 -00.5	203 23.1 +02.0	N 12 56.4 +00.2	259 20.4 +02.5	S 10 20.7 +00.0	22						
23	112 47.3 +01.0	N 16 35.1 -00.5	218 25.1 +02.0	N 12 56.6 +00.1	274 22.9 +02.4	S 10 20.7 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 219° 219° 219° 219° 219° 219°		SHA 325° 325° 325° 325° 325° 325°		SHA 020° 020° 020° 020° 020° 020°								
	Greenwich Culmination Time: 15:29		Greenwich Culmination Time: 08:28		Greenwich Culmination Time: 04:45								

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UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 35.0 -00.1	N 23 26.2 +00.0	132 26.0 +00.5	N 18 13.5 -00.8	144 32.1 -29.6	N 24 53.1 -06.7	00						
01	194 34.9 -00.2	N 23 26.2 +00.0	147 26.5 +00.5	N 18 12.7 -00.8	159 02.5 -29.5	N 24 46.4 -06.8	01						
02	209 34.7 -00.1	N 23 26.2 +00.1	162 27.0 +00.6	N 18 11.9 -00.8	173 33.0 -29.5	N 24 39.6 -07.0	02						
03	224 34.6 -00.1	N 23 26.3 +00.0	177 27.6 +00.5	N 18 11.1 -00.7	188 03.5 -29.4	N 24 32.6 -07.1	03						
04	239 34.5 -00.2	N 23 26.3 +00.0	192 28.1 +00.5	N 18 10.4 -00.8	202 34.1 -29.3	N 24 25.5 -07.1	04						
05	254 34.3 -00.1	N 23 26.3 +00.0	207 28.6 +00.6	N 18 09.6 -00.8	217 04.8 -29.2	N 24 18.4 -07.3	05						
06	269 34.2 -00.1	N 23 26.3 +00.0	222 29.2 +00.5	N 18 08.8 -00.8	231 35.6 -29.2	N 24 11.1 -07.4	06						
07	284 34.1 -00.2	N 23 26.3 +00.0	237 29.7 +00.6	N 18 08.0 -00.8	246 06.4 -29.1	N 24 03.7 -07.5	07						
08	299 33.9 -00.1	N 23 26.3 +00.0	252 30.3 +00.5	N 18 07.2 -00.8	260 37.3 -29.0	N 23 56.2 -07.6	08						
09	314 33.8 -00.2	N 23 26.3 +00.0	267 30.8 +00.6	N 18 06.4 -00.8	275 08.3 -28.9	N 23 48.6 -07.7	09						
10	329 33.6 -00.1	N 23 26.3 +00.0	282 31.4 +00.5	N 18 05.6 -00.8	289 39.4 -28.9	N 23 40.9 -07.8	10						
11	344 33.5 -00.1	N 23 26.3 +00.0	297 31.9 +00.6	N 18 04.8 -00.8	304 10.5 -28.8	N 23 33.1 -07.9	11						
12	359 33.4 -00.2	N 23 26.3 +00.0	312 32.5 +00.5	N 18 04.0 -00.8	318 41.7 -28.7	N 23 25.2 -08.0	12						
13	14 33.2 -00.1	N 23 26.3 +00.0	327 33.0 +00.6	N 18 03.2 -00.7	333 13.0 -28.7	N 23 17.2 -08.1	13						
14	29 33.1 -00.1	N 23 26.3 +00.0	342 33.6 +00.5	N 18 02.5 -00.8	347 44.3 -28.6	N 23 09.1 -08.2	14						
15	44 33.0 -00.2	N 23 26.3 +00.0	357 34.1 +00.6	N 18 01.7 -00.8	2 15.7 -28.5	N 23 00.9 -08.4	15						
16	59 32.8 -00.1	N 23 26.3 +00.0	12 34.7 +00.5	N 18 00.9 -00.8	16 47.2 -28.4	N 22 52.5 -08.4	16						
17	74 32.7 -00.2	N 23 26.3 +00.0	27 35.2 +00.6	N 18 00.1 -00.8	31 18.8 -28.4	N 22 44.1 -08.5	17						
18	89 32.5 -00.1	N 23 26.3 +00.0	42 35.8 +00.5	N 17 59.3 -00.8	45 50.4 -28.3	N 22 35.6 -08.6	18						
19	104 32.4 -00.1	N 23 26.3 +00.0	57 36.3 +00.6	N 17 58.5 -00.8	60 22.1 -28.2	N 22 27.0 -08.6	19						
20	119 32.3 -00.2	N 23 26.3 +00.0	72 36.9 +00.6	N 17 57.7 -00.8	74 53.9 -28.1	N 22 18.4 -08.8	20						
21	134 32.1 -00.1	N 23 26.3 +00.0	87 37.5 +00.5	N 17 56.9 -00.8	89 25.8 -28.1	N 22 09.6 -08.9	21						
22	149 32.0 -00.1	N 23 26.3 +00.0	102 38.0 +00.6	N 17 56.1 -00.8	103 57.7 -28.0	N 22 00.7 -09.0	22						
23	164 31.9 -00.2	N 23 26.3 +00.0	117 38.6 +00.6	N 17 55.3 -00.8	118 29.7 -27.9	N 21 51.7 -09.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 14'8 14'8 14'8 14'8 14'7 14'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'3 00'3 00'3 00'3 00'3 00'3		HP 54'2 54'2 54'2 54'2 54'1 54'1								
	SHA 271° 270° 270° 270° 270° 270°		SHA 223° 223° 223° 223° 223° 223°		SHA 235° 232° 230° 228° 226° 224°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 15:09		Greenwich Culmination Time: 14:50								
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	127 48.3 +01.0	N 16 34.6 -00.5	233 27.1 +02.0	N 12 56.7 +00.2	289 25.3 +02.5	S 10 20.8 +00.0	00						
01	142 49.3 +01.0	N 16 34.1 -00.5	248 29.1 +02.0	N 12 56.9 +00.1	304 27.8 +02.5	S 10 20.8 +00.0	01						
02	157 50.3 +01.0	N 16 33.6 -00.5	263 31.1 +02.0	N 12 57.0 +00.2	319 30.3 +02.5	S 10 20.8 +00.0	02						
03	172 51.3 +01.0	N 16 33.1 -00.4	278 33.1 +02.0	N 12 57.2 +00.1	334 32.8 +02.4	S 10 20.8 +00.0	03						
04	187 52.3 +01.0	N 16 32.7 -00.5	293 35.1 +02.0	N 12 57.3 +00.2	349 35.2 +02.5	S 10 20.8 +00.0	04						
05	202 53.3 +01.0	N 16 32.2 -00.5	308 37.1 +02.0	N 12 57.5 +00.1	4 37.7 +02.5	S 10 20.8 +00.0	05						
06	217 54.3 +01.0	N 16 31.7 -00.5	323 39.1 +02.0	N 12 57.6 +00.2	19 40.2 +02.5	S 10 20.8 +00.1	06						
07	232 55.3 +01.0	N 16 31.2 -00.5	338 41.1 +02.0	N 12 57.8 +00.1	34 42.7 +02.4	S 10 20.9 +00.0	07						
08	247 56.3 +00.9	N 16 30.7 -00.5	353 43.1 +02.0	N 12 57.9 +00.2	49 45.1 +02.5	S 10 20.9 +00.0	08						
09	262 57.2 +01.0	N 16 30.2 -00.4	8 45.1 +02.0	N 12 58.1 +00.1	64 47.6 +02.5	S 10 20.9 +00.0	09						
10	277 58.2 +01.0	N 16 29.8 -00.5	23 47.1 +02.0	N 12 58.2 +00.2	79 50.1 +02.5	S 10 20.9 +00.0	10						
11	292 59.2 +01.0	N 16 29.3 -00.5	38 49.1 +02.1	N 12 58.4 +00.1	94 52.6 +02.4	S 10 20.9 +00.0	11						
12	308 00.2 +01.0	N 16 28.8 -00.5	53 51.2 +02.0	N 12 58.5 +00.1	109 55.0 +02.5	S 10 20.9 +00.0	12						
13	323 01.2 +01.0	N 16 28.3 -00.5	68 53.2 +02.0	N 12 58.6 +00.2	124 57.5 +02.5	S 10 20.9 +00.1	13						
14	338 02.2 +01.0	N 16 27.8 -00.5	83 55.2 +02.0	N 12 58.8 +00.1	139 60.0 +02.5	S 10 21.0 +00.0	14						
15	353 03.2 +01.0	N 16 27.3 -00.4	98 57.2 +02.0	N 12 58.9 +00.2	155 02.5 +02.4	S 10 21.0 +00.0	15						
16	8 04.2 +01.0	N 16 26.9 -00.5	113 59.2 +02.0	N 12 59.1 +00.1	170 04.9 +02.5	S 10 21.0 +00.0	16						
17	23 05.2 +01.0	N 16 26.4 -00.5	129 01.2 +02.0	N 12 59.2 +00.2	185 07.4 +02.5	S 10 21.0 +00.0	17						
18	38 06.2 +01.0	N 16 25.9 -00.5	144 03.2 +02.0	N 12 59.4 +00.1	200 09.9 +02.5	S 10 21.0 +00.0	18						
19	53 07.2 +01.0	N 16 25.4 -00.5	159 05.2 +02.0	N 12 59.5 +00.2	215 12.4 +02.4	S 10 21.0 +00.0	19						
20	68 08.2 +01.0	N 16 24.9 -00.5	174 07.2 +02.0	N 12 59.7 +00.1	230 14.8 +02.5	S 10 21.0 +00.1	20						
21	83 09.2 +01.0	N 16 24.4 -00.5	189 09.2 +02.0	N 12 59.8 +00.2	245 17.3 +02.5	S 10 21.1 +00.0	21						
22	98 10.2 +01.0	N 16 23.9 -00.4	204 11.2 +02.0	N 12 60.0 +00.1	260 19.8 +02.5	S 10 21.1 +00.0	22						
23	113 11.2 +01.0	N 16 23.5 -00.5	219 13.2 +02.0	N 13 00.1 +00.2	275 22.3 +02.4	S 10 21.1 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 219° 219° 219° 219° 218° 218°		SHA 325° 324° 324° 324° 324° 324°		SHA 020° 020° 020° 020° 020° 020°								
	Greenwich Culmination Time: 15:27		Greenwich Culmination Time: 08:25		Greenwich Culmination Time: 04:41								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 31.7 -00.1	N 23 26.3 +00.0	132 39.2 +00.5	N 17 54.5 -00.8	133 01.8 -27.9	N 21 42.7 -09.2	00						
01	194 31.6 -00.1	N 23 26.3 +00.0	147 39.7 +00.6	N 17 53.7 -00.8	147 33.9 -27.7	N 21 33.5 -09.2	01						
02	209 31.5 -00.2	N 23 26.3 +00.0	162 40.3 +00.6	N 17 52.9 -00.8	162 06.2 -27.8	N 21 24.3 -09.4	02						
03	224 31.3 -00.1	N 23 26.3 -00.1	177 40.9 +00.6	N 17 52.1 -00.7	176 38.4 -27.6	N 21 14.9 -09.4	03						
04	239 31.2 -00.2	N 23 26.2 +00.0	192 41.5 +00.6	N 17 51.4 -00.8	191 10.8 -27.6	N 21 05.5 -09.5	04						
05	254 31.0 -00.1	N 23 26.2 +00.0	207 42.1 +00.5	N 17 50.6 -00.8	205 43.2 -27.5	N 20 56.0 -09.6	05						
06	269 30.9 -00.1	N 23 26.2 +00.0	222 42.6 +00.6	N 17 49.8 -00.8	220 15.7 -27.4	N 20 46.4 -09.6	06						
07	284 30.8 -00.2	N 23 26.2 +00.0	237 43.2 +00.6	N 17 49.0 -00.8	234 48.3 -27.4	N 20 36.8 -09.8	07						
08	299 30.6 -00.1	N 23 26.2 +00.0	252 43.8 +00.6	N 17 48.2 -00.8	249 20.9 -27.3	N 20 27.0 -09.8	08						
09	314 30.5 -00.1	N 23 26.2 +00.0	267 44.4 +00.6	N 17 47.4 -00.8	263 53.6 -27.2	N 20 17.2 -09.9	09						
10	329 30.4 -00.2	N 23 26.2 +00.0	282 45.0 +00.6	N 17 46.6 -00.8	278 26.4 -27.2	N 20 07.3 -10.1	10						
11	344 30.2 -00.1	N 23 26.2 -00.1	297 45.6 +00.6	N 17 45.8 -00.8	292 59.2 -27.1	N 19 57.2 -10.0	11						
12	359 30.1 -00.1	N 23 26.1 +00.0	312 46.2 +00.6	N 17 45.0 -00.8	307 32.1 -27.0	N 19 47.2 -10.2	12						
13	14 30.0 -00.2	N 23 26.1 +00.0	327 46.8 +00.5	N 17 44.2 -00.8	322 05.1 -26.9	N 19 37.0 -10.2	13						
14	29 29.8 -00.1	N 23 26.1 +00.0	342 47.3 +00.6	N 17 43.4 -00.8	336 38.2 -26.9	N 19 26.8 -10.4	14						
15	44 29.7 -00.2	N 23 26.1 +00.0	357 47.9 +00.6	N 17 42.6 -00.8	351 11.3 -26.9	N 19 16.4 -10.4	15						
16	59 29.5 -00.1	N 23 26.1 +00.0	12 48.5 +00.6	N 17 41.8 -00.8	5 44.4 -26.7	N 19 06.0 -10.4	16						
17	74 29.4 -00.1	N 23 26.1 -00.1	27 49.1 +00.7	N 17 41.0 -00.8	20 17.7 -26.7	N 18 55.6 -10.6	17						
18	89 29.3 -00.2	N 23 26.0 +00.0	42 49.8 +00.6	N 17 40.2 -00.8	34 51.0 -26.7	N 18 45.0 -10.6	18						
19	104 29.1 -00.1	N 23 26.0 +00.0	57 50.4 +00.6	N 17 39.4 -00.8	49 24.3 -26.5	N 18 34.4 -10.7	19						
20	119 29.0 -00.1	N 23 26.0 +00.0	72 51.0 +00.6	N 17 38.6 -00.8	63 57.8 -26.5	N 18 23.7 -10.8	20						
21	134 28.9 -00.2	N 23 26.0 +00.0	87 51.6 +00.6	N 17 37.8 -00.8	78 31.3 -26.5	N 18 12.9 -10.8	21						
22	149 28.7 -00.1	N 23 26.0 -00.1	102 52.2 +00.6	N 17 37.0 -00.8	93 04.8 -26.4	N 18 02.1 -10.9	22						
23	164 28.6 -00.1	N 23 25.9 +00.0	117 52.8 +00.6	N 17 36.2 -00.8	107 38.4 -26.3	N 17 51.2 -11.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 14'7 14'7 14'7 14'7 14'7 14'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'3 00'3 00'3 00'3 00'3 00'3		HP 54'1 54'1 54'1 54'1 54'1 54'1								
	SHA 270° 269° 269° 269° 269° 269°		SHA 223° 223° 222° 222° 222° 222°		SHA 222° 220° 218° 216° 214° 212°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 15:08		Greenwich Culmination Time: 15:36								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	128 12.2 +01.0	N 16 23.0 -00.5	234 15.2 +02.0	N 13 00.3 +00.1	290 24.7 +02.5	S 10 21.1 +00.0	00						
01	143 13.2 +01.0	N 16 22.5 -00.5	249 17.2 +02.0	N 13 00.4 +00.2	305 27.2 +02.5	S 10 21.1 +00.0	01						
02	158 14.2 +01.0	N 16 22.0 -00.5	264 19.2 +02.0	N 13 00.6 +00.1	320 29.7 +02.5	S 10 21.1 +00.1	02						
03	173 15.2 +01.0	N 16 21.5 -00.5	279 21.2 +02.0	N 13 00.7 +00.2	335 32.2 +02.5	S 10 21.2 +00.0	03						
04	188 16.2 +01.0	N 16 21.0 -00.5	294 23.2 +02.0	N 13 00.9 +00.1	350 34.7 +02.4	S 10 21.2 +00.0	04						
05	203 17.2 +01.0	N 16 20.5 -00.5	309 25.2 +02.0	N 13 01.0 +00.2	5 37.1 +02.5	S 10 21.2 +00.0	05						
06	218 18.2 +01.0	N 16 20.0 -00.4	324 27.2 +02.0	N 13 01.2 +00.1	20 39.6 +02.5	S 10 21.2 +00.0	06						
07	233 19.2 +01.0	N 16 19.6 -00.5	339 29.2 +02.1	N 13 01.3 +00.2	35 42.1 +02.5	S 10 21.2 +00.0	07						
08	248 20.2 +01.0	N 16 19.1 -00.5	354 31.3 +02.0	N 13 01.5 +00.1	50 44.6 +02.4	S 10 21.2 +00.0	08						
09	263 21.2 +01.0	N 16 18.6 -00.5	9 33.3 +02.0	N 13 01.6 +00.2	65 47.0 +02.5	S 10 21.2 +00.1	09						
10	278 22.2 +01.0	N 16 18.1 -00.5	24 35.3 +02.0	N 13 01.8 +00.1	80 49.5 +02.5	S 10 21.3 +00.0	10						
11	293 23.2 +01.0	N 16 17.6 -00.5	39 37.3 +02.0	N 13 01.9 +00.1	95 52.0 +02.5	S 10 21.3 +00.0	11						
12	308 24.2 +01.0	N 16 17.1 -00.5	54 39.3 +02.0	N 13 02.0 +00.2	110 54.5 +02.5	S 10 21.3 +00.0	12						
13	323 25.2 +01.0	N 16 16.6 -00.5	69 41.3 +02.0	N 13 02.2 +00.1	125 57.0 +02.4	S 10 21.3 +00.0	13						
14	338 26.2 +01.0	N 16 16.1 -00.4	84 43.3 +02.0	N 13 02.3 +00.2	140 59.4 +02.5	S 10 21.3 +00.0	14						
15	353 27.2 +01.0	N 16 15.7 -00.5	99 45.3 +02.0	N 13 02.5 +00.1	156 01.9 +02.5	S 10 21.3 +00.1	15						
16	8 28.2 +01.0	N 16 15.2 -00.5	114 47.3 +02.0	N 13 02.6 +00.2	171 04.4 +02.5	S 10 21.4 +00.0	16						
17	23 29.2 +01.0	N 16 14.7 -00.5	129 49.3 +02.0	N 13 02.8 +00.1	186 06.9 +02.5	S 10 21.4 +00.0	17						
18	38 30.2 +01.0	N 16 14.2 -00.5	144 51.3 +02.0	N 13 02.9 +00.2	201 09.4 +02.4	S 10 21.4 +00.0	18						
19	53 31.2 +01.0	N 16 13.7 -00.5	159 53.3 +02.0	N 13 03.1 +00.1	216 11.8 +02.5	S 10 21.4 +00.0	19						
20	68 32.2 +01.0	N 16 13.2 -00.5	174 55.3 +02.0	N 13 03.2 +00.2	231 14.3 +02.5	S 10 21.4 +00.0	20						
21	83 33.2 +01.0	N 16 12.7 -00.5	189 57.3 +02.1	N 13 03.4 +00.1	246 16.8 +02.5	S 10 21.4 +00.1	21						
22	98 34.2 +01.0	N 16 12.2 -00.5	204 59.4 +02.0	N 13 03.5 +00.2	261 19.3 +02.5	S 10 21.5 +00.0	22						
23	113 35.2 +00.9	N 16 11.7 -00.5	220 01.4 +02.0	N 13 03.7 +00.1	276 21.8 +02.4	S 10 21.5 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 218° 218° 218° 218° 218° 218°		SHA 324° 324° 324° 324° 324° 324°		SHA 020° 020° 020° 020° 020° 020°								
	Greenwich Culmination Time: 15:26		Greenwich Culmination Time: 08:21		Greenwich Culmination Time: 04:37								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 28.5 -00.2	N 23 25.9 +00.0	132 53.4 +00.6	N 17 35.4 -00.8	122 12.1 -26.3	N 17 40.2 -11.0	00						
01	194 28.3 -00.1	N 23 25.9 +00.0	147 54.0 +00.6	N 17 34.6 -00.8	136 45.8 -26.2	N 17 29.2 -11.2	01						
02	209 28.2 -00.2	N 23 25.9 -00.1	162 54.6 +00.7	N 17 33.8 -00.8	151 19.6 -26.1	N 17 18.0 -11.2	02						
03	224 28.0 -00.1	N 23 25.8 +00.0	177 55.3 +00.6	N 17 33.0 -00.8	165 53.5 -26.1	N 17 06.8 -11.2	03						
04	239 27.9 -00.1	N 23 25.8 +00.0	192 55.9 +00.6	N 17 32.2 -00.8	180 27.4 -26.1	N 16 55.6 -11.3	04						
05	254 27.8 -00.2	N 23 25.8 +00.0	207 56.5 +00.6	N 17 31.4 -00.8	195 01.3 -25.9	N 16 44.3 -11.4	05						
06	269 27.6 -00.1	N 23 25.8 -00.1	222 57.1 +00.7	N 17 30.6 -00.8	209 35.4 -26.0	N 16 32.9 -11.5	06						
07	284 27.5 -00.1	N 23 25.7 +00.0	237 57.8 +00.6	N 17 29.8 -00.8	224 09.4 -25.8	N 16 21.4 -11.5	07						
08	299 27.4 -00.2	N 23 25.7 +00.0	252 58.4 +00.6	N 17 29.0 -00.8	238 43.6 -25.8	N 16 09.9 -11.6	08						
09	314 27.2 -00.1	N 23 25.7 -00.1	267 59.0 +00.7	N 17 28.2 -00.8	253 17.8 -25.8	N 15 58.3 -11.6	09						
10	329 27.1 -00.1	N 23 25.6 +00.0	282 59.7 +00.6	N 17 27.4 -00.8	267 52.0 -25.7	N 15 46.7 -11.7	10						
11	344 27.0 -00.2	N 23 25.6 +00.0	298 00.3 +00.6	N 17 26.6 -00.8	282 26.3 -25.7	N 15 35.0 -11.8	11						
12	359 26.8 -00.1	N 23 25.6 -00.1	313 00.9 +00.7	N 17 25.8 -00.8	297 00.6 -25.6	N 15 23.2 -11.8	12						
13	14 26.7 -00.1	N 23 25.5 +00.0	328 01.6 +00.6	N 17 25.0 -00.8	311 35.0 -25.5	N 15 11.4 -11.9	13						
14	29 26.6 -00.2	N 23 25.5 +00.0	343 02.2 +00.6	N 17 24.2 -00.8	326 09.5 -25.5	N 14 59.5 -11.9	14						
15	44 26.4 -00.1	N 23 25.5 -00.1	358 02.8 +00.7	N 17 23.4 -00.8	340 44.0 -25.5	N 14 47.6 -12.0	15						
16	59 26.3 -00.2	N 23 25.4 +00.0	13 03.5 +00.6	N 17 22.6 -00.8	355 18.5 -25.4	N 14 35.6 -12.1	16						
17	74 26.1 -00.1	N 23 25.4 +00.0	28 04.1 +00.7	N 17 21.8 -00.8	9 53.1 -25.4	N 14 23.5 -12.1	17						
18	89 26.0 -00.1	N 23 25.4 -00.1	43 04.8 +00.6	N 17 21.0 -00.8	24 27.7 -25.3	N 14 11.4 -12.1	18						
19	104 25.9 -00.2	N 23 25.3 +00.0	58 05.4 +00.7	N 17 20.2 -00.8	39 02.4 -25.3	N 13 59.3 -12.3	19						
20	119 25.7 -00.1	N 23 25.3 +00.0	73 06.1 +00.6	N 17 19.4 -00.8	53 37.1 -25.2	N 13 47.0 -12.2	20						
21	134 25.6 -00.1	N 23 25.3 -00.1	88 06.7 +00.7	N 17 18.6 -00.8	68 11.9 -25.2	N 13 34.8 -12.4	21						
22	149 25.5 -00.2	N 23 25.2 +00.0	103 07.4 +00.7	N 17 17.8 -00.8	82 46.7 -25.2	N 13 22.4 -12.4	22						
23	164 25.3 -00.1	N 23 25.2 -00.1	118 08.1 +00.6	N 17 17.0 -00.8	97 21.5 -25.1	N 13 10.0 -12.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'2 00'2 00'2 00'3 00'3 00'3		SD 14'7 14'7 14'7 14'7 14'7 14'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'3 00'3 00'3 00'3 00'3 00'3		HP 54'1 54'1 54'1 54'1 54'1 54'2								
	SHA 268° 268° 268° 268° 268° 268°		SHA 222° 222° 222° 222° 221° 221°		SHA 210° 208° 207° 205° 203° 201°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 15:07		Greenwich Culmination Time: 16:19								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	128 36.1 +01.0	N 16 11.2 -00.4	235 03.4 +02.0	N 13 03.8 +00.2	291 24.2 +02.5	S 10 21.5 +00.0	00						
01	143 37.1 +01.0	N 16 10.8 -00.5	250 05.4 +02.0	N 13 04.0 +00.1	306 26.7 +02.5	S 10 21.5 +00.0	01						
02	158 38.1 +01.0	N 16 10.3 -00.5	265 07.4 +02.0	N 13 04.1 +00.1	321 29.2 +02.5	S 10 21.5 +00.0	02						
03	173 39.1 +01.0	N 16 09.8 -00.5	280 09.4 +02.0	N 13 04.2 +00.2	336 31.7 +02.5	S 10 21.5 +00.1	03						
04	188 40.1 +01.0	N 16 09.3 -00.5	295 11.4 +02.0	N 13 04.4 +00.1	351 34.2 +02.5	S 10 21.6 +00.0	04						
05	203 41.1 +01.0	N 16 08.8 -00.5	310 13.4 +02.0	N 13 04.5 +00.2	6 36.7 +02.4	S 10 21.6 +00.0	05						
06	218 42.1 +01.0	N 16 08.3 -00.5	325 15.4 +02.0	N 13 04.7 +00.1	21 39.1 +02.5	S 10 21.6 +00.0	06						
07	233 43.1 +01.0	N 16 07.8 -00.5	340 17.4 +02.0	N 13 04.8 +00.2	36 41.6 +02.5	S 10 21.6 +00.0	07						
08	248 44.1 +01.0	N 16 07.3 -00.5	355 19.4 +02.1	N 13 05.0 +00.1	51 44.1 +02.5	S 10 21.6 +00.0	08						
09	263 45.1 +01.0	N 16 06.8 -00.5	10 21.5 +02.0	N 13 05.1 +00.2	66 46.6 +02.5	S 10 21.6 +00.1	09						
10	278 46.1 +01.0	N 16 06.3 -00.5	25 23.5 +02.0	N 13 05.3 +00.1	81 49.1 +02.4	S 10 21.7 +00.0	10						
11	293 47.1 +01.0	N 16 05.8 -00.5	40 25.5 +02.0	N 13 05.4 +00.2	96 51.5 +02.5	S 10 21.7 +00.0	11						
12	308 48.1 +01.0	N 16 05.3 -00.4	55 27.5 +02.0	N 13 05.6 +00.1	111 54.0 +02.5	S 10 21.7 +00.0	12						
13	323 49.1 +01.0	N 16 04.9 -00.5	70 29.5 +02.0	N 13 05.7 +00.1	126 56.5 +02.5	S 10 21.7 +00.0	13						
14	338 50.1 +01.0	N 16 04.4 -00.5	85 31.5 +02.0	N 13 05.8 +00.2	141 59.0 +02.5	S 10 21.7 +00.1	14						
15	353 51.1 +01.0	N 16 03.9 -00.5	100 33.5 +02.0	N 13 06.0 +00.1	157 01.5 +02.5	S 10 21.8 +00.0	15						
16	8 52.1 +01.0	N 16 03.4 -00.5	115 35.5 +02.0	N 13 06.1 +00.2	172 04.0 +02.4	S 10 21.8 +00.0	16						
17	23 53.1 +01.0	N 16 02.9 -00.5	130 37.5 +02.1	N 13 06.3 +00.1	187 06.4 +02.5	S 10 21.8 +00.0	17						
18	38 54.1 +01.0	N 16 02.4 -00.5	145 39.6 +02.0	N 13 06.4 +00.2	202 08.9 +02.5	S 10 21.8 +00.0	18						
19	53 55.1 +01.0	N 16 01.9 -00.5	160 41.6 +02.0	N 13 06.6 +00.1	217 11.4 +02.5	S 10 21.8 +00.0	19						
20	68 56.1 +01.0	N 16 01.4 -00.5	175 43.6 +02.0	N 13 06.7 +00.2	232 13.9 +02.5	S 10 21.8 +00.1	20						
21	83 57.1 +01.0	N 16 00.9 -00.5	190 45.6 +02.0	N 13 06.9 +00.1	247 16.4 +02.5	S 10 21.9 +00.0	21						
22	98 58.1 +01.0	N 16 00.4 -00.5	205 47.6 +02.0	N 13 07.0 +00.1	262 18.9 +02.5	S 10 21.9 +00.0	22						
23	113 59.1 +01.0	N 15 59.9 -00.5	220 49.6 +02.0	N 13 07.1 +00.2	277 21.4 +02.4	S 10 21.9 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 218° 218° 217° 217° 217° 217°		SHA 324° 324° 324° 324° 324° 324°		SHA 020° 020° 021° 021° 021° 021°								
	Greenwich Culmination Time: 15:24		Greenwich Culmination Time: 08:18		Greenwich Culmination Time: 04:33								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 25.2 -00.1	N 23 25.1 +00.0	133 08.7 +00.7	N 17 16.2 -00.8	111 56.4 -25.0	N 12 57.6 -12.5	00						
01	194 25.1 -00.2	N 23 25.1 +00.0	148 09.4 +00.6	N 17 15.4 -00.8	126 31.4 -25.1	N 12 45.1 -12.5	01						
02	209 24.9 -00.1	N 23 25.1 -00.1	163 10.0 +00.7	N 17 14.6 -00.9	141 06.3 -25.0	N 12 32.6 -12.6	02						
03	224 24.8 -00.1	N 23 25.0 +00.0	178 10.7 +00.7	N 17 13.7 -00.8	155 41.3 -24.9	N 12 20.0 -12.6	03						
04	239 24.7 -00.2	N 23 25.0 -00.1	193 11.4 +00.6	N 17 12.9 -00.8	170 16.4 -24.9	N 12 07.4 -12.7	04						
05	254 24.5 -00.1	N 23 24.9 +00.0	208 12.0 +00.7	N 17 12.1 -00.8	184 51.5 -24.9	N 11 54.7 -12.7	05						
06	269 24.4 -00.1	N 23 24.9 -00.1	223 12.7 +00.7	N 17 11.3 -00.8	199 26.6 -24.9	N 11 42.0 -12.8	06						
07	284 24.3 -00.2	N 23 24.8 +00.0	238 13.4 +00.7	N 17 10.5 -00.8	214 01.7 -24.8	N 11 29.2 -12.8	07						
08	299 24.1 -00.1	N 23 24.8 -00.1	253 14.1 +00.6	N 17 09.7 -00.8	228 36.9 -24.8	N 11 16.4 -12.9	08						
09	314 24.0 -00.1	N 23 24.7 +00.0	268 14.7 +00.7	N 17 08.9 -00.8	243 12.1 -24.7	N 11 03.5 -12.9	09						
10	329 23.9 -00.2	N 23 24.7 -00.1	283 15.4 +00.7	N 17 08.1 -00.8	257 47.4 -24.7	N 10 50.6 -13.0	10						
11	344 23.7 -00.1	N 23 24.6 +00.0	298 16.1 +00.7	N 17 07.3 -00.8	272 22.7 -24.7	N 10 37.6 -13.0	11						
12	359 23.6 -00.2	N 23 24.6 -00.1	313 16.8 +00.7	N 17 06.5 -00.8	286 58.0 -24.7	N 10 24.6 -13.0	12						
13	14 23.4 -00.1	N 23 24.5 +00.0	328 17.5 +00.7	N 17 05.7 -00.8	301 33.3 -24.6	N 10 11.6 -13.1	13						
14	29 23.3 -00.1	N 23 24.5 -00.1	343 18.2 +00.6	N 17 04.9 -00.8	316 08.7 -24.7	N 09 58.5 -13.1	14						
15	44 23.2 -00.2	N 23 24.4 +00.0	358 18.8 +00.7	N 17 04.1 -00.8	330 44.0 -24.5	N 09 45.4 -13.2	15						
16	59 23.0 -00.1	N 23 24.4 -00.1	13 19.5 +00.7	N 17 03.3 -00.8	345 19.5 -24.6	N 09 32.2 -13.2	16						
17	74 22.9 -00.1	N 23 24.3 +00.0	28 20.2 +00.7	N 17 02.5 -00.8	359 54.9 -24.5	N 09 19.0 -13.3	17						
18	89 22.8 -00.2	N 23 24.3 -00.1	43 20.9 +00.7	N 17 01.7 -00.8	14 30.4 -24.6	N 09 05.7 -13.3	18						
19	104 22.6 -00.1	N 23 24.2 +00.0	58 21.6 +00.7	N 17 00.9 -00.9	29 05.8 -24.5	N 08 52.4 -13.3	19						
20	119 22.5 -00.1	N 23 24.2 -00.1	73 22.3 +00.7	N 17 00.0 -00.8	43 41.3 -24.4	N 08 39.1 -13.3	20						
21	134 22.4 -00.2	N 23 24.1 +00.0	88 23.0 +00.7	N 16 59.2 -00.8	58 16.9 -24.5	N 08 25.8 -13.4	21						
22	149 22.2 -00.1	N 23 24.1 -00.1	103 23.7 +00.7	N 16 58.4 -00.8	72 52.4 -24.4	N 08 12.4 -13.5	22						
23	164 22.1 -00.1	N 23 24.0 +00.0	118 24.4 +00.7	N 16 57.6 -00.8	87 28.0 -24.4	N 07 58.9 -13.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 14'8 14'8 14'8 14'8 14'8 14'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'3 00'3 00'3 00'3 00'3 00'3		HP 54'2 54'2 54'3 54'3 54'4 54'4								
	SHA 267° 267° 267° 267° 267° 267°		SHA 221° 221° 221° 221° 221° 221°		SHA 199° 197° 195° 194° 192° 190°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 15:06		Greenwich Culmination Time: 17:00								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	129 00.1 +01.0	N 15 59.4 -00.5	235 51.6 +02.0	N 13 07.3 +00.1	292 23.8 +02.5	S 10 21.9 +00.0	00						
01	144 01.1 +01.0	N 15 58.9 -00.5	250 53.6 +02.0	N 13 07.4 +00.2	307 26.3 +02.5	S 10 21.9 +00.1	01						
02	159 02.1 +01.0	N 15 58.4 -00.5	265 55.6 +02.1	N 13 07.6 +00.1	322 28.8 +02.5	S 10 22.0 +00.0	02						
03	174 03.1 +01.0	N 15 57.9 -00.5	280 57.7 +02.0	N 13 07.7 +00.2	337 31.3 +02.5	S 10 22.0 +00.0	03						
04	189 04.1 +01.0	N 15 57.4 -00.5	295 59.7 +02.0	N 13 07.9 +00.1	352 33.8 +02.5	S 10 22.0 +00.0	04						
05	204 05.1 +01.0	N 15 56.9 -00.5	311 01.7 +02.0	N 13 08.0 +00.2	7 36.3 +02.5	S 10 22.0 +00.0	05						
06	219 06.1 +01.0	N 15 56.4 -00.5	326 03.7 +02.0	N 13 08.2 +00.1	22 38.8 +02.4	S 10 22.0 +00.0	06						
07	234 07.1 +01.0	N 15 55.9 -00.4	341 05.7 +02.0	N 13 08.3 +00.1	37 41.2 +02.5	S 10 22.0 +00.1	07						
08	249 08.1 +01.0	N 15 55.5 -00.5	356 07.7 +02.0	N 13 08.4 +00.2	52 43.7 +02.5	S 10 22.1 +00.0	08						
09	264 09.1 +01.0	N 15 55.0 -00.5	11 09.7 +02.1	N 13 08.6 +00.1	67 46.2 +02.5	S 10 22.1 +00.0	09						
10	279 10.1 +01.0	N 15 54.5 -00.5	26 11.8 +02.0	N 13 08.7 +00.2	82 48.7 +02.5	S 10 22.1 +00.0	10						
11	294 11.1 +01.0	N 15 54.0 -00.5	41 13.8 +02.0	N 13 08.9 +00.1	97 51.2 +02.5	S 10 22.1 +00.0	11						
12	309 12.1 +01.0	N 15 53.5 -00.5	56 15.8 +02.0	N 13 09.0 +00.2	112 53.7 +02.5	S 10 22.1 +00.1	12						
13	324 13.1 +01.0	N 15 53.0 -00.5	71 17.8 +02.0	N 13 09.2 +00.1	127 56.2 +02.4	S 10 22.2 +00.0	13						
14	339 14.1 +01.0	N 15 52.5 -00.5	86 19.8 +02.0	N 13 09.3 +00.1	142 58.6 +02.5	S 10 22.2 +00.0	14						
15	354 15.1 +01.0	N 15 52.0 -00.5	101 21.8 +02.0	N 13 09.4 +00.2	158 01.1 +02.5	S 10 22.2 +00.0	15						
16	9 16.1 +01.0	N 15 51.5 -00.5	116 23.8 +02.1	N 13 09.6 +00.1	173 03.6 +02.5	S 10 22.2 +00.0	16						
17	24 17.1 +01.0	N 15 51.0 -00.5	131 25.9 +02.0	N 13 09.7 +00.2	188 06.1 +02.5	S 10 22.2 +00.1	17						
18	39 18.1 +01.0	N 15 50.5 -00.5	146 27.9 +02.0	N 13 09.9 +00.1	203 08.6 +02.5	S 10 22.3 +00.0	18						
19	54 19.1 +01.0	N 15 50.0 -00.5	161 29.9 +02.0	N 13 10.0 +00.2	218 11.1 +02.5	S 10 22.3 +00.0	19						
20	69 20.1 +01.0	N 15 49.5 -00.5	176 31.9 +02.0	N 13 10.2 +00.1	233 13.6 +02.5	S 10 22.3 +00.0	20						
21	84 21.1 +01.0	N 15 49.0 -00.5	191 33.9 +02.0	N 13 10.3 +00.1	248 16.1 +02.4	S 10 22.3 +00.0	21						
22	99 22.1 +01.0	N 15 48.5 -00.5	206 35.9 +02.0	N 13 10.4 +00.2	263 18.5 +02.5	S 10 22.3 +00.1	22						
23	114 23.1 +01.0	N 15 48.0 -00.5	221 37.9 +02.1	N 13 10.6 +00.1	278 21.0 +02.5	S 10 22.4 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 217° 217° 217° 217° 217° 217°		SHA 324° 324° 324° 324° 324° 324°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 15:22		Greenwich Culmination Time: 08:15		Greenwich Culmination Time: 04:29								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 22.0 -00.2	N 23 24.0 -00.1	133 25.1 +00.7	N 16 56.8 -00.8	102 03.6 -24.5	N 07 45.5 -13.6	00						
01	194 21.8 -00.1	N 23 23.9 -00.1	148 25.8 +00.7	N 16 56.0 -00.8	116 39.1 -24.3	N 07 31.9 -13.5	01						
02	209 21.7 -00.1	N 23 23.8 +00.0	163 26.5 +00.8	N 16 55.2 -00.8	131 14.8 -24.4	N 07 18.4 -13.6	02						
03	224 21.6 -00.2	N 23 23.8 -00.1	178 27.3 +00.7	N 16 54.4 -00.8	145 50.4 -24.4	N 07 04.8 -13.6	03						
04	239 21.4 -00.1	N 23 23.7 +00.0	193 28.0 +00.7	N 16 53.6 -00.8	160 26.0 -24.4	N 06 51.2 -13.6	04						
05	254 21.3 -00.1	N 23 23.7 -00.1	208 28.7 +00.7	N 16 52.8 -00.8	175 01.6 -24.3	N 06 37.6 -13.7	05						
06	269 21.2 -00.2	N 23 23.6 -00.1	223 29.4 +00.7	N 16 52.0 -00.8	189 37.3 -24.3	N 06 23.9 -13.7	06						
07	284 21.0 -00.1	N 23 23.5 +00.0	238 30.1 +00.7	N 16 51.2 -00.9	204 13.0 -24.4	N 06 10.2 -13.7	07						
08	299 20.9 -00.1	N 23 23.5 -00.1	253 30.8 +00.8	N 16 50.3 -00.8	218 48.6 -24.3	N 05 56.5 -13.8	08						
09	314 20.8 -00.2	N 23 23.4 -00.1	268 31.6 +00.7	N 16 49.5 -00.8	233 24.3 -24.3	N 05 42.7 -13.8	09						
10	329 20.6 -00.1	N 23 23.3 +00.0	283 32.3 +00.7	N 16 48.7 -00.8	247 60.0 -24.3	N 05 28.9 -13.8	10						
11	344 20.5 -00.1	N 23 23.3 -00.1	298 33.0 +00.7	N 16 47.9 -00.8	262 35.7 -24.3	N 05 15.1 -13.8	11						
12	359 20.4 -00.2	N 23 23.2 -00.1	313 33.7 +00.8	N 16 47.1 -00.8	277 11.4 -24.3	N 05 01.3 -13.9	12						
13	14 20.2 -00.1	N 23 23.1 +00.0	328 34.5 +00.7	N 16 46.3 -00.8	291 47.1 -24.3	N 04 47.4 -13.9	13						
14	29 20.1 -00.1	N 23 23.1 -00.1	343 35.2 +00.7	N 16 45.5 -00.8	306 22.8 -24.3	N 04 33.5 -13.9	14						
15	44 20.0 -00.2	N 23 23.0 -00.1	358 35.9 +00.8	N 16 44.7 -00.8	320 58.5 -24.4	N 04 19.6 -14.0	15						
16	59 19.8 -00.1	N 23 22.9 +00.0	13 36.7 +00.7	N 16 43.9 -00.8	335 34.1 -24.3	N 04 05.6 -14.0	16						
17	74 19.7 -00.1	N 23 22.9 -00.1	28 37.4 +00.8	N 16 43.1 -00.9	350 09.8 -24.3	N 03 51.6 -13.9	17						
18	89 19.6 -00.2	N 23 22.8 -00.1	43 38.2 +00.7	N 16 42.2 -00.8	4 45.5 -24.3	N 03 37.7 -14.1	18						
19	104 19.4 -00.1	N 23 22.7 -00.1	58 38.9 +00.8	N 16 41.4 -00.8	19 21.2 -24.3	N 03 23.6 -14.0	19						
20	119 19.3 -00.1	N 23 22.6 +00.0	73 39.7 +00.7	N 16 40.6 -00.8	33 56.9 -24.4	N 03 09.6 -14.1	20						
21	134 19.2 -00.2	N 23 22.6 -00.1	88 40.4 +00.8	N 16 39.8 -00.8	48 32.5 -24.3	N 02 55.5 -14.1	21						
22	149 19.0 -00.1	N 23 22.5 -00.1	103 41.2 +00.7	N 16 39.0 -00.8	63 08.2 -24.4	N 02 41.4 -14.1	22						
23	164 18.9 -00.1	N 23 22.4 -00.1	118 41.9 +00.8	N 16 38.2 -00.8	77 43.8 -24.3	N 02 27.3 -14.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 14'8 14'9 14'9 14'9 14'9 14'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'3 00'3 00'3 00'3 00'3 00'3		HP 54'5 54'5 54'6 54'7 54'8 54'8								
	SHA 266° 266° 266° 266° 266° 266°		SHA 220° 220° 220° 220° 220° 220°		SHA 188° 186° 185° 183° 181° 179°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 15:05		Greenwich Culmination Time: 17:40								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	129 24.1 +01.0	N 15 47.5 -00.5	236 40.0 +02.0	N 13 10.7 +00.2	293 23.5 +02.5	S 10 22.4 +00.0	00						
01	144 25.1 +01.0	N 15 47.0 -00.5	251 42.0 +02.0	N 13 10.9 +00.1	308 26.0 +02.5	S 10 22.4 +00.0	01						
02	159 26.1 +01.0	N 15 46.5 -00.5	266 44.0 +02.0	N 13 11.0 +00.2	323 28.5 +02.5	S 10 22.4 +00.0	02						
03	174 27.1 +01.0	N 15 46.0 -00.5	281 46.0 +02.0	N 13 11.2 +00.1	338 31.0 +02.5	S 10 22.4 +00.0	03						
04	189 28.1 +01.0	N 15 45.5 -00.5	296 48.0 +02.0	N 13 11.3 +00.1	353 33.5 +02.5	S 10 22.4 +00.1	04						
05	204 29.1 +01.0	N 15 45.0 -00.5	311 50.0 +02.1	N 13 11.4 +00.2	8 36.0 +02.5	S 10 22.5 +00.0	05						
06	219 30.1 +01.0	N 15 44.5 -00.5	326 52.1 +02.0	N 13 11.6 +00.1	23 38.5 +02.5	S 10 22.5 +00.0	06						
07	234 31.1 +01.0	N 15 44.0 -00.5	341 54.1 +02.0	N 13 11.7 +00.2	38 41.0 +02.4	S 10 22.5 +00.0	07						
08	249 32.1 +01.0	N 15 43.5 -00.5	356 56.1 +02.0	N 13 11.9 +00.1	53 43.4 +02.5	S 10 22.5 +00.1	08						
09	264 33.1 +01.0	N 15 43.0 -00.5	11 58.1 +02.0	N 13 12.0 +00.2	68 45.9 +02.5	S 10 22.6 +00.0	09						
10	279 34.1 +01.0	N 15 42.5 -00.5	27 00.1 +02.0	N 13 12.2 +00.1	83 48.4 +02.5	S 10 22.6 +00.0	10						
11	294 35.1 +01.0	N 15 42.0 -00.5	42 02.1 +02.1	N 13 12.3 +00.1	98 50.9 +02.5	S 10 22.6 +00.0	11						
12	309 36.1 +01.0	N 15 41.5 -00.5	57 04.2 +02.0	N 13 12.4 +00.2	113 53.4 +02.5	S 10 22.6 +00.0	12						
13	324 37.1 +01.0	N 15 41.0 -00.5	72 06.2 +02.0	N 13 12.6 +00.1	128 55.9 +02.5	S 10 22.6 +00.1	13						
14	339 38.1 +01.0	N 15 40.5 -00.5	87 08.2 +02.0	N 13 12.7 +00.2	143 58.4 +02.5	S 10 22.7 +00.0	14						
15	354 39.1 +01.0	N 15 40.0 -00.5	102 10.2 +02.0	N 13 12.9 +00.1	159 00.9 +02.5	S 10 22.7 +00.0	15						
16	9 40.1 +01.0	N 15 39.5 -00.5	117 12.2 +02.1	N 13 13.0 +00.1	174 03.4 +02.5	S 10 22.7 +00.0	16						
17	24 41.1 +01.0	N 15 39.0 -00.5	132 14.3 +02.0	N 13 13.1 +00.2	189 05.9 +02.5	S 10 22.7 +00.0	17						
18	39 42.1 +01.0	N 15 38.5 -00.5	147 16.3 +02.0	N 13 13.3 +00.1	204 08.4 +02.4	S 10 22.7 +00.1	18						
19	54 43.1 +01.0	N 15 38.0 -00.5	162 18.3 +02.0	N 13 13.4 +00.2	219 10.8 +02.5	S 10 22.8 +00.0	19						
20	69 44.1 +01.0	N 15 37.5 -00.5	177 20.3 +02.0	N 13 13.6 +00.1	234 13.3 +02.5	S 10 22.8 +00.0	20						
21	84 45.1 +01.0	N 15 37.0 -00.5	192 22.3 +02.1	N 13 13.7 +00.2	249 15.8 +02.5	S 10 22.8 +00.0	21						
22	99 46.1 +01.0	N 15 36.5 -00.5	207 24.4 +02.0	N 13 13.9 +00.1	264 18.3 +02.5	S 10 22.8 +00.0	22						
23	114 47.1 +01.0	N 15 36.0 -00.5	222 26.4 +02.0	N 13 14.0 +00.1	279 20.8 +02.5	S 10 22.8 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 216° 216° 216° 216° 216° 216°		SHA 324° 324° 324° 324° 324° 324°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 15:21		Greenwich Culmination Time: 08:12		Greenwich Culmination Time: 04:25								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 18.8 -00.2	N 23 22.3 +00.0	133 42.7 +00.7	N 16 37.4 -00.8	92 19.5 -24.4	N 02 13.2 -14.1	00						
01	194 18.6 -00.1	N 23 22.3 -00.1	148 43.4 +00.8	N 16 36.6 -00.8	106 55.1 -24.4	N 01 59.1 -14.2	01						
02	209 18.5 -00.1	N 23 22.2 -00.1	163 44.2 +00.7	N 16 35.8 -00.9	121 30.7 -24.4	N 01 44.9 -14.2	02						
03	224 18.4 -00.1	N 23 22.1 -00.1	178 44.9 +00.8	N 16 34.9 -00.8	136 06.3 -24.4	N 01 30.7 -14.2	03						
04	239 18.3 -00.2	N 23 22.0 +00.0	193 45.7 +00.8	N 16 34.1 -00.8	150 41.9 -24.4	N 01 16.5 -14.2	04						
05	254 18.1 -00.1	N 23 22.0 -00.1	208 46.5 +00.7	N 16 33.3 -00.8	165 17.5 -24.5	N 01 02.3 -14.2	05						
06	269 18.0 -00.1	N 23 21.9 -00.1	223 47.2 +00.8	N 16 32.5 -00.8	179 53.0 -24.5	N 00 48.1 -14.3	06						
07	284 17.9 -00.2	N 23 21.8 -00.1	238 48.0 +00.8	N 16 31.7 -00.8	194 28.5 -24.5	N 00 33.8 -14.2	07						
08	299 17.7 -00.1	N 23 21.7 -00.1	253 48.8 +00.7	N 16 30.9 -00.8	209 04.0 -24.5	N 00 19.6 -14.3	08						
09	314 17.6 -00.1	N 23 21.6 +00.0	268 49.5 +00.8	N 16 30.1 -00.8	223 39.5 -24.5	N 00 05.3 -14.3	09						
10	329 17.5 -00.2	N 23 21.6 -00.1	283 50.3 +00.8	N 16 29.3 -00.8	238 15.0 -24.6	S 00 09.0 +14.3	10						
11	344 17.3 -00.1	N 23 21.5 -00.1	298 51.1 +00.8	N 16 28.5 -00.9	252 50.4 -24.6	S 00 23.3 +14.3	11						
12	359 17.2 -00.1	N 23 21.4 -00.1	313 51.9 +00.7	N 16 27.6 -00.8	267 25.8 -24.6	S 00 37.6 +14.3	12						
13	14 17.1 -00.2	N 23 21.3 -00.1	328 52.6 +00.8	N 16 26.8 -00.8	282 01.2 -24.6	S 00 51.9 +14.3	13						
14	29 16.9 -00.1	N 23 21.2 -00.1	343 53.4 +00.8	N 16 26.0 -00.8	296 36.6 -24.7	S 01 06.2 +14.4	14						
15	44 16.8 -00.1	N 23 21.1 +00.0	358 54.2 +00.8	N 16 25.2 -00.8	311 11.9 -24.7	S 01 20.6 +14.3	15						
16	59 16.7 -00.2	N 23 21.1 -00.1	13 55.0 +00.8	N 16 24.4 -00.8	325 47.2 -24.7	S 01 34.9 +14.4	16						
17	74 16.5 -00.1	N 23 21.0 -00.1	28 55.8 +00.8	N 16 23.6 -00.8	340 22.5 -24.8	S 01 49.3 +14.3	17						
18	89 16.4 -00.1	N 23 20.9 -00.1	43 56.6 +00.8	N 16 22.8 -00.9	354 57.7 -24.8	S 02 03.6 +14.4	18						
19	104 16.3 -00.2	N 23 20.8 -00.1	58 57.4 +00.8	N 16 21.9 -00.8	9 32.9 -24.8	S 02 18.0 +14.4	19						
20	119 16.1 -00.1	N 23 20.7 -00.1	73 58.2 +00.8	N 16 21.1 -00.8	24 08.1 -24.9	S 02 32.4 +14.4	20						
21	134 16.0 -00.1	N 23 20.6 -00.1	88 59.0 +00.8	N 16 20.3 -00.8	38 43.2 -24.9	S 02 46.8 +14.3	21						
22	149 15.9 -00.1	N 23 20.5 -00.1	103 59.8 +00.8	N 16 19.5 -00.8	53 18.3 -25.0	S 03 01.1 +14.4	22						
23	164 15.8 -00.2	N 23 20.4 -00.1	119 00.6 +00.8	N 16 18.7 -00.8	67 53.3 -25.0	S 03 15.5 +14.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 15'0 15'0 15'0 15'0 15'1 15'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'3 00'3 00'3 00'3 00'3 00'3		HP 54'9 55'0 55'1 55'2 55'3 55'4								
	SHA 265° 265° 265° 265° 265° 264°		SHA 220° 220° 220° 219° 219° 219°		SHA 178° 176° 174° 172° 170° 169°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 15:04		Greenwich Culmination Time: 18:20								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	129 48.1 +01.0	N 15 35.5 -00.5	237 28.4 +02.0	N 13 14.1 +00.2	294 23.3 +02.5	S 10 22.9 +00.0	00						
01	144 49.1 +01.1	N 15 35.0 -00.5	252 30.4 +02.0	N 13 14.3 +00.1	309 25.8 +02.5	S 10 22.9 +00.0	01						
02	159 50.2 +01.0	N 15 34.5 -00.5	267 32.4 +02.0	N 13 14.4 +00.2	324 28.3 +02.5	S 10 22.9 +00.0	02						
03	174 51.2 +01.0	N 15 34.0 -00.5	282 34.4 +02.1	N 13 14.6 +00.1	339 30.8 +02.5	S 10 22.9 +00.0	03						
04	189 52.2 +01.0	N 15 33.5 -00.6	297 36.5 +02.0	N 13 14.7 +00.1	354 33.3 +02.5	S 10 22.9 +00.1	04						
05	204 53.2 +01.0	N 15 32.9 -00.5	312 38.5 +02.0	N 13 14.8 +00.2	9 35.8 +02.5	S 10 23.0 +00.0	05						
06	219 54.2 +01.0	N 15 32.4 -00.5	327 40.5 +02.0	N 13 15.0 +00.1	24 38.3 +02.5	S 10 23.0 +00.0	06						
07	234 55.2 +01.0	N 15 31.9 -00.5	342 42.5 +02.1	N 13 15.1 +00.2	39 40.8 +02.5	S 10 23.0 +00.0	07						
08	249 56.2 +01.0	N 15 31.4 -00.5	357 44.6 +02.0	N 13 15.3 +00.1	54 43.3 +02.4	S 10 23.0 +00.1	08						
09	264 57.2 +01.0	N 15 30.9 -00.5	12 46.6 +02.0	N 13 15.4 +00.1	69 45.7 +02.5	S 10 23.1 +00.0	09						
10	279 58.2 +01.0	N 15 30.4 -00.5	27 48.6 +02.0	N 13 15.5 +00.2	84 48.2 +02.5	S 10 23.1 +00.0	10						
11	294 59.2 +01.0	N 15 29.9 -00.5	42 50.6 +02.0	N 13 15.7 +00.1	99 50.7 +02.5	S 10 23.1 +00.0	11						
12	310 00.2 +01.0	N 15 29.4 -00.5	57 52.6 +02.1	N 13 15.8 +00.2	114 53.2 +02.5	S 10 23.1 +00.0	12						
13	325 01.2 +01.0	N 15 28.9 -00.5	72 54.7 +02.0	N 13 16.0 +00.1	129 55.7 +02.5	S 10 23.1 +00.1	13						
14	340 02.2 +01.0	N 15 28.4 -00.5	87 56.7 +02.0	N 13 16.1 +00.1	144 58.2 +02.5	S 10 23.2 +00.0	14						
15	355 03.2 +01.0	N 15 27.9 -00.5	102 58.7 +02.0	N 13 16.2 +00.2	160 00.7 +02.5	S 10 23.2 +00.0	15						
16	10 04.2 +01.0	N 15 27.4 -00.5	118 00.7 +02.0	N 13 16.4 +00.1	175 03.2 +02.5	S 10 23.2 +00.0	16						
17	25 05.2 +01.0	N 15 26.9 -00.5	133 02.7 +02.1	N 13 16.5 +00.2	190 05.7 +02.5	S 10 23.2 +00.1	17						
18	40 06.2 +01.0	N 15 26.4 -00.5	148 04.8 +02.0	N 13 16.7 +00.1	205 08.2 +02.5	S 10 23.3 +00.0	18						
19	55 07.2 +01.0	N 15 25.9 -00.5	163 06.8 +02.0	N 13 16.8 +00.1	220 10.7 +02.5	S 10 23.3 +00.0	19						
20	70 08.2 +01.0	N 15 25.4 -00.5	178 08.8 +02.0	N 13 16.9 +00.2	235 13.2 +02.5	S 10 23.3 +00.0	20						
21	85 09.2 +01.0	N 15 24.9 -00.5	193 10.8 +02.1	N 13 17.1 +00.1	250 15.7 +02.5	S 10 23.3 +00.0	21						
22	100 10.2 +01.0	N 15 24.4 -00.5	208 12.9 +02.0	N 13 17.2 +00.2	265 18.2 +02.5	S 10 23.3 +00.1	22						
23	115 11.2 +01.0	N 15 23.9 -00.6	223 14.9 +02.0	N 13 17.4 +00.1	280 20.7 +02.5	S 10 23.4 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 216° 216° 216° 216° 216° 215°		SHA 324° 324° 324° 324° 323° 323°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 15:19		Greenwich Culmination Time: 08:09		Greenwich Culmination Time: 04:21								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 15.6 -00.1	N 23 20.3 -00.1	134 01.4 +00.8	N 16 17.9 -00.8	82 28.3 -25.0	S 03 29.9 +14.4	00						
01	194 15.5 -00.1	N 23 20.2 +00.0	149 02.2 +00.8	N 16 17.1 -00.8	97 03.3 -25.1	S 03 44.3 +14.4	01						
02	209 15.4 -00.2	N 23 20.2 -00.1	164 03.0 +00.8	N 16 16.3 -00.9	111 38.2 -25.1	S 03 58.7 +14.4	02						
03	224 15.2 -00.1	N 23 20.1 -00.1	179 03.8 +00.8	N 16 15.4 -00.8	126 13.1 -25.2	S 04 13.1 +14.4	03						
04	239 15.1 -00.1	N 23 20.0 -00.1	194 04.6 +00.8	N 16 14.6 -00.8	140 47.9 -25.2	S 04 27.5 +14.3	04						
05	254 15.0 -00.2	N 23 19.9 -00.1	209 05.4 +00.8	N 16 13.8 -00.8	155 22.7 -25.3	S 04 41.8 +14.4	05						
06	269 14.8 -00.1	N 23 19.8 -00.1	224 06.2 +00.8	N 16 13.0 -00.8	169 57.4 -25.3	S 04 56.2 +14.4	06						
07	284 14.7 -00.1	N 23 19.7 -00.1	239 07.0 +00.8	N 16 12.2 -00.8	184 32.1 -25.4	S 05 10.6 +14.4	07						
08	299 14.6 -00.1	N 23 19.6 -00.1	254 07.8 +00.9	N 16 11.4 -00.8	199 06.7 -25.4	S 05 25.0 +14.3	08						
09	314 14.5 -00.2	N 23 19.5 -00.1	269 08.7 +00.8	N 16 10.6 -00.9	213 41.3 -25.5	S 05 39.3 +14.4	09						
10	329 14.3 -00.1	N 23 19.4 -00.1	284 09.5 +00.8	N 16 09.7 -00.8	228 15.8 -25.5	S 05 53.7 +14.4	10						
11	344 14.2 -00.1	N 23 19.3 -00.1	299 10.3 +00.8	N 16 08.9 -00.8	242 50.3 -25.6	S 06 08.1 +14.3	11						
12	359 14.1 -00.2	N 23 19.2 -00.1	314 11.1 +00.9	N 16 08.1 -00.8	257 24.7 -25.6	S 06 22.4 +14.3	12						
13	14 13.9 -00.1	N 23 19.1 -00.1	329 12.0 +00.8	N 16 07.3 -00.8	271 59.1 -25.7	S 06 36.7 +14.4	13						
14	29 13.8 -00.1	N 23 19.0 -00.1	344 12.8 +00.8	N 16 06.5 -00.8	286 33.4 -25.8	S 06 51.1 +14.3	14						
15	44 13.7 -00.2	N 23 18.9 -00.1	359 13.6 +00.9	N 16 05.7 -00.8	301 07.6 -25.8	S 07 05.4 +14.3	15						
16	59 13.5 -00.1	N 23 18.8 -00.1	14 14.5 +00.8	N 16 04.9 -00.9	315 41.8 -25.9	S 07 19.7 +14.3	16						
17	74 13.4 -00.1	N 23 18.7 -00.1	29 15.3 +00.9	N 16 04.0 -00.8	330 15.9 -26.0	S 07 34.0 +14.3	17						
18	89 13.3 -00.1	N 23 18.6 -00.1	44 16.2 +00.8	N 16 03.2 -00.8	344 49.9 -26.0	S 07 48.3 +14.2	18						
19	104 13.2 -00.2	N 23 18.5 -00.2	59 17.0 +00.8	N 16 02.4 -00.8	359 23.9 -26.1	S 08 02.5 +14.3	19						
20	119 13.0 -00.1	N 23 18.3 -00.1	74 17.8 +00.9	N 16 01.6 -00.8	13 57.8 -26.2	S 08 16.8 +14.2	20						
21	134 12.9 -00.1	N 23 18.2 -00.1	89 18.7 +00.8	N 16 00.8 -00.8	28 31.6 -26.2	S 08 31.0 +14.2	21						
22	149 12.8 -00.2	N 23 18.1 -00.1	104 19.5 +00.9	N 15 60.0 -00.8	43 05.4 -26.3	S 08 45.2 +14.2	22						
23	164 12.6 -00.1	N 23 18.0 -00.1	119 20.4 +00.8	N 15 59.2 -00.9	57 39.1 -26.4	S 08 59.4 +14.2	23						
UT	02 06 10 14 18 22	UT	02 06 10 14 18 22	UT	02 06 10 14 18 22								
SD	15'7 15'7 15'7 15'7 15'7 15'7	SD	00'3 00'3 00'3 00'3 00'3 00'3	SD	15'1 15'2 15'2 15'2 15'3 15'3								
HP	00'1 00'1 00'1 00'1 00'1 00'1	HP	00'3 00'3 00'3 00'3 00'3 00'3	HP	55'5 55'6 55'8 55'9 56'0 56'1								
SHA	264° 264° 264° 264° 264° 263°	SHA	219° 219° 219° 219° 219° 219°	SHA	167° 165° 163° 161° 159° 157°								
Greenwich Culmination Time: 12:03			Greenwich Culmination Time: 15:03			Greenwich Culmination Time: 19:02							

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	130 12.2 +01.0	N 15 23.3 -00.5	238 16.9 +02.0	N 13 17.5 +00.1	295 23.2 +02.5	S 10 23.4 +00.0	00						
01	145 13.2 +01.0	N 15 22.8 -00.5	253 18.9 +02.1	N 13 17.6 +00.2	310 25.7 +02.5	S 10 23.4 +00.0	01						
02	160 14.2 +01.0	N 15 22.3 -00.5	268 21.0 +02.0	N 13 17.8 +00.1	325 28.2 +02.5	S 10 23.4 +00.1	02						
03	175 15.2 +01.0	N 15 21.8 -00.5	283 23.0 +02.0	N 13 17.9 +00.2	340 30.7 +02.5	S 10 23.5 +00.0	03						
04	190 16.2 +01.0	N 15 21.3 -00.5	298 25.0 +02.0	N 13 18.1 +00.1	355 33.2 +02.5	S 10 23.5 +00.0	04						
05	205 17.2 +01.0	N 15 20.8 -00.5	313 27.0 +02.1	N 13 18.2 +00.1	10 35.7 +02.5	S 10 23.5 +00.0	05						
06	220 18.2 +01.0	N 15 20.3 -00.5	328 29.1 +02.0	N 13 18.3 +00.2	25 38.2 +02.5	S 10 23.5 +00.0	06						
07	235 19.2 +01.0	N 15 19.8 -00.5	343 31.1 +02.0	N 13 18.5 +00.1	40 40.7 +02.5	S 10 23.5 +00.1	07						
08	250 20.2 +01.0	N 15 19.3 -00.5	358 33.1 +02.0	N 13 18.6 +00.1	55 43.2 +02.5	S 10 23.6 +00.0	08						
09	265 21.2 +01.0	N 15 18.8 -00.5	13 35.1 +02.0	N 13 18.7 +00.2	70 45.7 +02.4	S 10 23.6 +00.0	09						
10	280 22.2 +01.0	N 15 18.3 -00.5	28 37.1 +02.1	N 13 18.9 +00.1	85 48.1 +02.5	S 10 23.6 +00.0	10						
11	295 23.2 +01.0	N 15 17.8 -00.6	43 39.2 +02.0	N 13 19.0 +00.2	100 50.6 +02.5	S 10 23.6 +00.1	11						
12	310 24.2 +01.0	N 15 17.2 -00.5	58 41.2 +02.0	N 13 19.2 +00.1	115 53.1 +02.5	S 10 23.7 +00.0	12						
13	325 25.2 +01.0	N 15 16.7 -00.5	73 43.2 +02.1	N 13 19.3 +00.1	130 55.6 +02.5	S 10 23.7 +00.0	13						
14	340 26.2 +01.0	N 15 16.2 -00.5	88 45.3 +02.0	N 13 19.4 +00.2	145 58.1 +02.5	S 10 23.7 +00.0	14						
15	355 27.2 +01.1	N 15 15.7 -00.5	103 47.3 +02.0	N 13 19.6 +00.1	161 00.6 +02.5	S 10 23.7 +00.1	15						
16	10 28.3 +01.0	N 15 15.2 -00.5	118 49.3 +02.0	N 13 19.7 +00.1	176 03.1 +02.5	S 10 23.8 +00.0	16						
17	25 29.3 +01.0	N 15 14.7 -00.5	133 51.3 +02.1	N 13 19.8 +00.2	191 05.6 +02.5	S 10 23.8 +00.0	17						
18	40 30.3 +01.0	N 15 14.2 -00.5	148 53.4 +02.0	N 13 20.0 +00.1	206 08.1 +02.5	S 10 23.8 +00.0	18						
19	55 31.3 +01.0	N 15 13.7 -00.5	163 55.4 +02.0	N 13 20.1 +00.2	221 10.6 +02.5	S 10 23.8 +00.1	19						
20	70 32.3 +01.0	N 15 13.2 -00.5	178 57.4 +02.0	N 13 20.3 +00.1	236 13.1 +02.5	S 10 23.9 +00.0	20						
21	85 33.3 +01.0	N 15 12.7 -00.6	193 59.4 +02.1	N 13 20.4 +00.1	251 15.6 +02.5	S 10 23.9 +00.0	21						
22	100 34.3 +01.0	N 15 12.1 -00.5	209 01.5 +02.0	N 13 20.5 +00.2	266 18.1 +02.5	S 10 23.9 +00.0	22						
23	115 35.3 +01.0	N 15 11.6 -00.5	224 03.5 +02.0	N 13 20.7 +00.1	281 20.6 +02.5	S 10 23.9 +00.1	23						
UT	02 06 10 14 18 22	UT	02 06 10 14 18 22	UT	02 06 10 14 18 22								
SD	00'0 00'0 00'0 00'0 00'0 00'0	SD	00'3 00'3 00'3 00'3 00'3 00'3	SD	00'1 00'1 00'1 00'1 00'1 00'1								
HP	00'1 00'1 00'1 00'1 00'1 00'1	HP	00'0 00'0 00'0 00'0 00'0 00'0	HP	00'0 00'0 00'0 00'0 00'0 00'0								
SHA	215° 215° 215° 215° 215° 215°	SHA	323° 323° 323° 323° 323° 323°	SHA	021° 021° 021° 021° 021° 021°								
Greenwich Culmination Time: 15:18			Greenwich Culmination Time: 08:05			Greenwich Culmination Time: 04:17							

UT	Sun				Venus				Moon A: 31%				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179	12.5 -00.1	N 23 17.9 -00.1		134	21.2 +00.9	N 15 58.3 -00.8		72	12.7 -26.4	S 09 13.6 +14.1		00
01	194	12.4 -00.1	N 23 17.8 -00.1		149	22.1 +00.9	N 15 57.5 -00.8		86	46.3 -26.6	S 09 27.7 +14.2		01
02	209	12.3 -00.2	N 23 17.7 -00.1		164	23.0 +00.8	N 15 56.7 -00.8		101	19.7 -26.6	S 09 41.9 +14.1		02
03	224	12.1 -00.1	N 23 17.6 -00.1		179	23.8 +00.9	N 15 55.9 -00.8		115	53.1 -26.7	S 09 56.0 +14.0		03
04	239	12.0 -00.1	N 23 17.5 -00.1		194	24.7 +00.8	N 15 55.1 -00.8		130	26.4 -26.7	S 10 10.0 +14.1		04
05	254	11.9 -00.2	N 23 17.4 -00.2		209	25.5 +00.9	N 15 54.3 -00.8		144	59.7 -26.9	S 10 24.1 +14.0		05
06	269	11.7 -00.1	N 23 17.2 -00.1		224	26.4 +00.9	N 15 53.5 -00.9		159	32.8 -26.9	S 10 38.1 +14.0		06
07	284	11.6 -00.1	N 23 17.1 -00.1		239	27.3 +00.8	N 15 52.6 -00.8		174	05.9 -27.0	S 10 52.1 +14.0		07
08	299	11.5 -00.1	N 23 17.0 -00.1		254	28.1 +00.9	N 15 51.8 -00.8		188	38.9 -27.1	S 11 06.1 +13.9		08
09	314	11.4 -00.2	N 23 16.9 -00.1		269	29.0 +00.9	N 15 51.0 -00.8		203	11.8 -27.2	S 11 20.0 +14.0		09
10	329	11.2 -00.1	N 23 16.8 -00.1		284	29.9 +00.9	N 15 50.2 -00.8		217	44.6 -27.2	S 11 34.0 +13.8		10
11	344	11.1 -00.1	N 23 16.7 -00.2		299	30.8 +00.8	N 15 49.4 -00.8		232	17.4 -27.4	S 11 47.8 +13.9		11
12	359	11.0 -00.2	N 23 16.5 -00.1		314	31.6 +00.9	N 15 48.6 -00.9		246	50.0 -27.4	S 12 01.7 +13.8		12
13	14	10.8 -00.1	N 23 16.4 -00.1		329	32.5 +00.9	N 15 47.7 -00.8		261	22.6 -27.6	S 12 15.5 +13.8		13
14	29	10.7 -00.1	N 23 16.3 -00.1		344	33.4 +00.9	N 15 46.9 -00.8		275	55.0 -27.6	S 12 29.3 +13.7		14
15	44	10.6 -00.1	N 23 16.2 -00.1		359	34.3 +00.9	N 15 46.1 -00.8		290	27.4 -27.7	S 12 43.0 +13.7		15
16	59	10.5 -00.2	N 23 16.1 -00.2		14	35.2 +00.9	N 15 45.3 -00.8		304	59.7 -27.9	S 12 56.7 +13.7		16
17	74	10.3 -00.1	N 23 15.9 -00.1		29	36.1 +00.9	N 15 44.5 -00.8		319	31.8 -27.9	S 13 10.4 +13.6		17
18	89	10.2 -00.1	N 23 15.8 -00.1		44	37.0 +00.8	N 15 43.7 -00.8		334	03.9 -28.0	S 13 24.0 +13.6		18
19	104	10.1 -00.1	N 23 15.7 -00.1		59	37.8 +00.9	N 15 42.9 -00.9		348	35.9 -28.1	S 13 37.6 +13.5		19
20	119	10.0 -00.2	N 23 15.6 -00.1		74	38.7 +00.9	N 15 42.0 -00.8		3	07.8 -28.2	S 13 51.1 +13.5		20
21	134	09.8 -00.1	N 23 15.5 -00.2		89	39.6 +00.9	N 15 41.2 -00.8		17	39.6 -28.4	S 14 04.6 +13.4		21
22	149	09.7 -00.1	N 23 15.3 -00.1		104	40.5 +00.9	N 15 40.4 -00.8		32	11.2 -28.4	S 14 18.0 +13.4		22
23	164	09.6 -00.1	N 23 15.2 -00.1		119	41.4 +00.9	N 15 39.6 -00.8		46	42.8 -28.5	S 14 31.4 +13.4		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'7 15'7 15'7 15'7 15'7 15'7				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 15'3 15'4 15'4 15'4 15'5 15'5				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'3 00'3 00'3 00'3 00'3 00'3				HP 56'3 56'4 56'5 56'7 56'8 57'0				
	SHA 263° 263° 263° 263° 263° 262°				SHA 218° 218° 218° 218° 218° 218°				SHA 155° 153° 151° 150° 147° 145°				
	Greenwich Culmination Time: 12:03				Greenwich Culmination Time: 15:01				Greenwich Culmination Time: 19:47				

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	130	36.3 +01.0	N 15 11.1 -00.5		239	05.5 +02.0	N 13 20.8 +00.2		296	23.1 +02.5	S 10 24.0 +00.0		00
01	145	37.3 +01.0	N 15 10.6 -00.5		254	07.5 +02.1	N 13 21.0 +00.1		311	25.6 +02.5	S 10 24.0 +00.0		01
02	160	38.3 +01.0	N 15 10.1 -00.5		269	09.6 +02.0	N 13 21.1 +00.1		326	28.1 +02.5	S 10 24.0 +00.0		02
03	175	39.3 +01.0	N 15 09.6 -00.5		284	11.6 +02.0	N 13 21.2 +00.2		341	30.6 +02.5	S 10 24.0 +00.0		03
04	190	40.3 +01.0	N 15 09.1 -00.5		299	13.6 +02.1	N 13 21.4 +00.1		356	33.1 +02.5	S 10 24.0 +00.1		04
05	205	41.3 +01.0	N 15 08.6 -00.5		314	15.7 +02.0	N 13 21.5 +00.1		11	35.6 +02.5	S 10 24.1 +00.0		05
06	220	42.3 +01.0	N 15 08.1 -00.6		329	17.7 +02.0	N 13 21.6 +00.2		26	38.1 +02.5	S 10 24.1 +00.0		06
07	235	43.3 +01.0	N 15 07.5 -00.5		344	19.7 +02.0	N 13 21.8 +00.1		41	40.6 +02.5	S 10 24.1 +00.0		07
08	250	44.3 +01.0	N 15 07.0 -00.5		359	21.7 +02.1	N 13 21.9 +00.1		56	43.1 +02.5	S 10 24.1 +00.1		08
09	265	45.3 +01.0	N 15 06.5 -00.5		14	23.8 +02.0	N 13 22.0 +00.2		71	45.6 +02.5	S 10 24.2 +00.0		09
10	280	46.3 +01.0	N 15 06.0 -00.5		29	25.8 +02.0	N 13 22.2 +00.1		86	48.1 +02.6	S 10 24.2 +00.0		10
11	295	47.3 +01.0	N 15 05.5 -00.5		44	27.8 +02.1	N 13 22.3 +00.2		101	50.7 +02.5	S 10 24.2 +00.0		11
12	310	48.3 +01.0	N 15 05.0 -00.5		59	29.9 +02.0	N 13 22.5 +00.1		116	53.2 +02.5	S 10 24.2 +00.1		12
13	325	49.3 +01.0	N 15 04.5 -00.5		74	31.9 +02.0	N 13 22.6 +00.1		131	55.7 +02.5	S 10 24.3 +00.0		13
14	340	50.3 +01.0	N 15 04.0 -00.6		89	33.9 +02.0	N 13 22.7 +00.2		146	58.2 +02.5	S 10 24.3 +00.0		14
15	355	51.3 +01.0	N 15 03.4 -00.5		104	35.9 +02.1	N 13 22.9 +00.1		162	00.7 +02.5	S 10 24.3 +00.0		15
16	10	52.3 +01.1	N 15 02.9 -00.5		119	38.0 +02.0	N 13 23.0 +00.1		177	03.2 +02.5	S 10 24.3 +00.1		16
17	25	53.4 +01.0	N 15 02.4 -00.5		134	40.0 +02.0	N 13 23.1 +00.2		192	05.7 +02.5	S 10 24.4 +00.0		17
18	40	54.4 +01.0	N 15 01.9 -00.5		149	42.0 +02.1	N 13 23.3 +00.1		207	08.2 +02.5	S 10 24.4 +00.0		18
19	55	55.4 +01.0	N 15 01.4 -00.5		164	44.1 +02.0	N 13 23.4 +00.1		222	10.7 +02.5	S 10 24.4 +00.0		19
20	70	56.4 +01.0	N 15 00.9 -00.5		179	46.1 +02.0	N 13 23.5 +00.2		237	13.2 +02.5	S 10 24.4 +00.1		20
21	85	57.4 +01.0	N 15 00.4 -00.6		194	48.1 +02.1	N 13 23.7 +00.1		252	15.7 +02.5	S 10 24.5 +00.0		21
22	100	58.4 +01.0	N 14 59.8 -00.5		209	50.2 +02.0	N 13 23.8 +00.2		267	18.2 +02.5	S 10 24.5 +00.0		22
23	115	59.4 +01.0	N 14 59.3 -00.5		224	52.2 +02.0	N 13 24.0 +00.1		282	20.7 +02.5	S 10 24.5 +00.0		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 215° 215° 215° 214° 214° 214°				SHA 323° 323° 323° 323° 323° 323°				SHA 021° 021° 021° 021° 021° 021°				
	Greenwich Culmination Time: 15:16				Greenwich Culmination Time: 08:02				Greenwich Culmination Time: 04:13				

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UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 09.5 -00.2	N 23 15.1 -00.1	134 42.3 +01.0	N 15 38.8 -00.8	61 14.3 -28.7	S 14 44.8 +13.2	00						
01	194 09.3 -00.1	N 23 15.0 -00.2	149 43.3 +00.9	N 15 38.0 -00.9	75 45.6 -28.7	S 14 58.0 +13.3	01						
02	209 09.2 -00.1	N 23 14.8 -00.1	164 44.2 +00.9	N 15 37.1 -00.8	90 16.9 -28.8	S 15 11.3 +13.2	02						
03	224 09.1 -00.2	N 23 14.7 -00.1	179 45.1 +00.9	N 15 36.3 -00.8	104 48.1 -29.0	S 15 24.5 +13.1	03						
04	239 08.9 -00.1	N 23 14.6 -00.2	194 46.0 +00.9	N 15 35.5 -00.8	119 19.1 -29.1	S 15 37.6 +13.1	04						
05	254 08.8 -00.1	N 23 14.4 -00.1	209 46.9 +00.9	N 15 34.7 -00.8	133 50.0 -29.2	S 15 50.7 +13.0	05						
06	269 08.7 -00.1	N 23 14.3 -00.1	224 47.8 +00.9	N 15 33.9 -00.8	148 20.8 -29.3	S 16 03.7 +12.9	06						
07	284 08.6 -00.2	N 23 14.2 -00.2	239 48.7 +01.0	N 15 33.1 -00.9	162 51.5 -29.4	S 16 16.6 +12.9	07						
08	299 08.4 -00.1	N 23 14.0 -00.1	254 49.7 +00.9	N 15 32.2 -00.8	177 22.1 -29.5	S 16 29.5 +12.9	08						
09	314 08.3 -00.1	N 23 13.9 -00.1	269 50.6 +00.9	N 15 31.4 -00.8	191 52.6 -29.6	S 16 42.4 +12.7	09						
10	329 08.2 -00.1	N 23 13.8 -00.2	284 51.5 +00.9	N 15 30.6 -00.8	206 23.0 -29.8	S 16 55.1 +12.7	10						
11	344 08.1 -00.2	N 23 13.6 -00.1	299 52.4 +01.0	N 15 29.8 -00.8	220 53.2 -29.9	S 17 07.8 +12.6	11						
12	359 07.9 -00.1	N 23 13.5 -00.1	314 53.4 +00.9	N 15 29.0 -00.8	235 23.3 -30.0	S 17 20.4 +12.6	12						
13	14 07.8 -00.1	N 23 13.4 -00.2	329 54.3 +00.9	N 15 28.2 -00.8	249 53.3 -30.1	S 17 33.0 +12.5	13						
14	29 07.7 -00.1	N 23 13.2 -00.1	344 55.2 +01.0	N 15 27.4 -00.9	264 23.2 -30.2	S 17 45.5 +12.4	14						
15	44 07.6 -00.2	N 23 13.1 -00.1	359 56.2 +00.9	N 15 26.5 -00.8	278 53.0 -30.4	S 17 57.9 +12.4	15						
16	59 07.4 -00.1	N 23 13.0 -00.2	14 57.1 +01.0	N 15 25.7 -00.8	293 22.6 -30.5	S 18 10.3 +12.2	16						
17	74 07.3 -00.1	N 23 12.8 -00.1	29 58.1 +00.9	N 15 24.9 -00.8	307 52.1 -30.6	S 18 22.5 +12.2	17						
18	89 07.2 -00.1	N 23 12.7 -00.2	44 59.0 +00.9	N 15 24.1 -00.8	322 21.5 -30.7	S 18 34.7 +12.1	18						
19	104 07.1 -00.2	N 23 12.5 -00.1	59 59.9 +01.0	N 15 23.3 -00.8	336 50.8 -30.8	S 18 46.8 +12.0	19						
20	119 06.9 -00.1	N 23 12.4 -00.1	75 00.9 +00.9	N 15 22.5 -00.9	351 20.0 -31.0	S 18 58.8 +12.0	20						
21	134 06.8 -00.1	N 23 12.3 -00.2	90 01.8 +01.0	N 15 21.6 -00.8	5 49.0 -31.1	S 19 10.8 +11.8	21						
22	149 06.7 -00.1	N 23 12.1 -00.1	105 02.8 +01.0	N 15 20.8 -00.8	20 17.9 -31.3	S 19 22.6 +11.8	22						
23	164 06.6 -00.2	N 23 12.0 -00.2	120 03.8 +00.9	N 15 20.0 -00.8	34 46.6 -31.4	S 19 34.4 +11.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 15'6 15'6 15'6 15'7 15'7 15'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'3 00'3 00'3 00'3 00'3 00'3		HP 57'1 57'3 57'4 57'6 57'7 57'9								
	SHA 262° 262° 262° 262° 262° 261°		SHA 218° 218° 218° 218° 217° 217°		SHA 143° 141° 139° 137° 135° 133°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 15:00		Greenwich Culmination Time: 20:35								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	131 00.4 +01.0	N 14 58.8 -00.5	239 54.2 +02.0	N 13 24.1 +00.1	297 23.2 +02.5	S 10 24.5 +00.1	00						
01	146 01.4 +01.0	N 14 58.3 -00.5	254 56.2 +02.1	N 13 24.2 +00.2	312 25.7 +02.5	S 10 24.6 +00.0	01						
02	161 02.4 +01.0	N 14 57.8 -00.5	269 58.3 +02.0	N 13 24.4 +00.1	327 28.2 +02.5	S 10 24.6 +00.0	02						
03	176 03.4 +01.0	N 14 57.3 -00.6	285 00.3 +02.0	N 13 24.5 +00.1	342 30.7 +02.5	S 10 24.6 +00.1	03						
04	191 04.4 +01.0	N 14 56.7 -00.5	300 02.3 +02.1	N 13 24.6 +00.2	357 33.2 +02.5	S 10 24.7 +00.0	04						
05	206 05.4 +01.0	N 14 56.2 -00.5	315 04.4 +02.0	N 13 24.8 +00.1	12 35.7 +02.5	S 10 24.7 +00.0	05						
06	221 06.4 +01.0	N 14 55.7 -00.5	330 06.4 +02.0	N 13 24.9 +00.1	27 38.2 +02.5	S 10 24.7 +00.0	06						
07	236 07.4 +01.0	N 14 55.2 -00.5	345 08.4 +02.1	N 13 25.0 +00.2	42 40.7 +02.5	S 10 24.7 +00.1	07						
08	251 08.4 +01.0	N 14 54.7 -00.5	0 10.5 +02.0	N 13 25.2 +00.1	57 43.2 +02.5	S 10 24.8 +00.0	08						
09	266 09.4 +01.0	N 14 54.2 -00.5	15 12.5 +02.0	N 13 25.3 +00.1	72 45.7 +02.5	S 10 24.8 +00.0	09						
10	281 10.4 +01.0	N 14 53.7 -00.6	30 14.5 +02.1	N 13 25.4 +00.2	87 48.2 +02.5	S 10 24.8 +00.0	10						
11	296 11.4 +01.1	N 14 53.1 -00.5	45 16.6 +02.0	N 13 25.6 +00.1	102 50.7 +02.6	S 10 24.8 +00.1	11						
12	311 12.5 +01.0	N 14 52.6 -00.5	60 18.6 +02.0	N 13 25.7 +00.1	117 53.3 +02.5	S 10 24.9 +00.0	12						
13	326 13.5 +01.0	N 14 52.1 -00.5	75 20.6 +02.1	N 13 25.8 +00.2	132 55.8 +02.5	S 10 24.9 +00.0	13						
14	341 14.5 +01.0	N 14 51.6 -00.5	90 22.7 +02.0	N 13 26.0 +00.1	147 58.3 +02.5	S 10 24.9 +00.0	14						
15	356 15.5 +01.0	N 14 51.1 -00.6	105 24.7 +02.0	N 13 26.1 +00.2	163 00.8 +02.5	S 10 24.9 +00.1	15						
16	11 16.5 +01.0	N 14 50.5 -00.5	120 26.7 +02.1	N 13 26.3 +00.1	178 03.3 +02.5	S 10 25.0 +00.0	16						
17	26 17.5 +01.0	N 14 50.0 -00.5	135 28.8 +02.0	N 13 26.4 +00.1	193 05.8 +02.5	S 10 25.0 +00.0	17						
18	41 18.5 +01.0	N 14 49.5 -00.5	150 30.8 +02.0	N 13 26.5 +00.2	208 08.3 +02.5	S 10 25.0 +00.0	18						
19	56 19.5 +01.0	N 14 49.0 -00.5	165 32.8 +02.1	N 13 26.7 +00.1	223 10.8 +02.5	S 10 25.0 +00.1	19						
20	71 20.5 +01.0	N 14 48.5 -00.5	180 34.9 +02.0	N 13 26.8 +00.1	238 13.3 +02.5	S 10 25.1 +00.0	20						
21	86 21.5 +01.0	N 14 48.0 -00.6	195 36.9 +02.0	N 13 26.9 +00.2	253 15.8 +02.5	S 10 25.1 +00.0	21						
22	101 22.5 +01.0	N 14 47.4 -00.5	210 38.9 +02.1	N 13 27.1 +00.1	268 18.3 +02.5	S 10 25.1 +00.1	22						
23	116 23.5 +01.0	N 14 46.9 -00.5	225 41.0 +02.0	N 13 27.2 +00.1	283 20.8 +02.5	S 10 25.2 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 214° 214° 214° 214° 214° 214°		SHA 323° 323° 323° 323° 323° 323°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 15:14		Greenwich Culmination Time: 07:59		Greenwich Culmination Time: 04:09								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 06.4 -00.1	N 23 11.8 -00.1	135 04.7 +01.0	N 15 19.2 -00.8	49 15.2 -31.5	S 19 46.1 +11.6	00						
01	194 06.3 -00.1	N 23 11.7 -00.1	150 05.7 +00.9	N 15 18.4 -00.8	63 43.7 -31.6	S 19 57.7 +11.5	01						
02	209 06.2 -00.1	N 23 11.6 -00.2	165 06.6 +01.0	N 15 17.6 -00.8	78 12.1 -31.8	S 20 09.2 +11.4	02						
03	224 06.1 -00.1	N 23 11.4 -00.1	180 07.6 +01.0	N 15 16.8 -00.9	92 40.3 -31.8	S 20 20.6 +11.3	03						
04	239 06.0 -00.2	N 23 11.3 -00.2	195 08.6 +00.9	N 15 15.9 -00.8	107 08.5 -32.1	S 20 31.9 +11.2	04						
05	254 05.8 -00.1	N 23 11.1 -00.1	210 09.5 +01.0	N 15 15.1 -00.8	121 36.4 -32.1	S 20 43.1 +11.1	05						
06	269 05.7 -00.1	N 23 11.0 -00.2	225 10.5 +01.0	N 15 14.3 -00.8	136 04.3 -32.3	S 20 54.2 +11.0	06						
07	284 05.6 -00.1	N 23 10.8 -00.1	240 11.5 +01.0	N 15 13.5 -00.8	150 32.0 -32.5	S 21 05.2 +10.9	07						
08	299 05.5 -00.2	N 23 10.7 -00.2	255 12.5 +00.9	N 15 12.7 -00.8	164 59.5 -32.5	S 21 16.1 +10.9	08						
09	314 05.3 -00.1	N 23 10.5 -00.1	270 13.4 +01.0	N 15 11.9 -00.8	179 27.0 -32.7	S 21 27.0 +10.6	09						
10	329 05.2 -00.1	N 23 10.4 -00.2	285 14.4 +01.0	N 15 11.1 -00.9	193 54.3 -32.8	S 21 37.6 +10.6	10						
11	344 05.1 -00.1	N 23 10.2 -00.1	300 15.4 +01.0	N 15 10.2 -00.8	208 21.5 -33.0	S 21 48.2 +10.5	11						
12	359 05.0 -00.2	N 23 10.1 -00.2	315 16.4 +01.0	N 15 09.4 -00.8	222 48.5 -33.1	S 21 58.7 +10.4	12						
13	14 04.8 -00.1	N 23 09.9 -00.1	330 17.4 +01.0	N 15 08.6 -00.8	237 15.4 -33.2	S 22 09.1 +10.2	13						
14	29 04.7 -00.1	N 23 09.8 -00.2	345 18.4 +00.9	N 15 07.8 -00.8	251 42.2 -33.4	S 22 19.3 +10.1	14						
15	44 04.6 -00.1	N 23 09.6 -00.1	0 19.3 +01.0	N 15 07.0 -00.8	266 08.8 -33.5	S 22 29.4 +10.0	15						
16	59 04.5 -00.1	N 23 09.5 -00.2	15 20.3 +01.0	N 15 06.2 -00.9	280 35.3 -33.7	S 22 39.4 +09.9	16						
17	74 04.4 -00.2	N 23 09.3 -00.2	30 21.3 +01.0	N 15 05.3 -00.8	295 01.6 -33.7	S 22 49.3 +09.8	17						
18	89 04.2 -00.1	N 23 09.1 -00.1	45 22.3 +01.0	N 15 04.5 -00.8	309 27.9 -34.0	S 22 59.1 +09.6	18						
19	104 04.1 -00.1	N 23 09.0 -00.2	60 23.3 +01.0	N 15 03.7 -00.8	323 53.9 -34.0	S 23 08.7 +09.5	19						
20	119 04.0 -00.1	N 23 08.8 -00.1	75 24.3 +01.0	N 15 02.9 -00.8	338 19.9 -34.2	S 23 18.2 +09.4	20						
21	134 03.9 -00.2	N 23 08.7 -00.2	90 25.3 +01.0	N 15 02.1 -00.8	352 45.7 -34.3	S 23 27.6 +09.3	21						
22	149 03.7 -00.1	N 23 08.5 -00.1	105 26.3 +01.1	N 15 01.3 -00.8	7 11.4 -34.5	S 23 36.9 +09.1	22						
23	164 03.6 -00.1	N 23 08.4 -00.2	120 27.4 +01.0	N 15 00.5 -00.9	21 36.9 -34.6	S 23 46.0 +09.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 15'8 15'9 15'9 15'9 16'0 16'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'3 00'3 00'3 00'3 00'3 00'3		HP 58'0 58'2 58'3 58'5 58'6 58'8								
	SHA 261° 261° 261° 261° 261° 260°		SHA 217° 217° 217° 217° 217° 217°		SHA 130° 128° 126° 123° 121° 118°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 14:58		Greenwich Culmination Time: 21:30								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	131 24.5 +01.0	N 14 46.4 -00.5	240 43.0 +02.0	N 13 27.3 +00.2	298 23.3 +02.5	S 10 25.2 +00.0	00						
01	146 25.5 +01.0	N 14 45.9 -00.5	255 45.0 +02.1	N 13 27.5 +00.1	313 25.8 +02.6	S 10 25.2 +00.0	01						
02	161 26.5 +01.0	N 14 45.4 -00.6	270 47.1 +02.0	N 13 27.6 +00.1	328 28.4 +02.5	S 10 25.2 +00.1	02						
03	176 27.5 +01.0	N 14 44.8 -00.5	285 49.1 +02.1	N 13 27.7 +00.2	343 30.9 +02.5	S 10 25.3 +00.0	03						
04	191 28.5 +01.1	N 14 44.3 -00.5	300 51.2 +02.0	N 13 27.9 +00.1	358 33.4 +02.5	S 10 25.3 +00.0	04						
05	206 29.6 +01.0	N 14 43.8 -00.5	315 53.2 +02.0	N 13 28.0 +00.1	13 35.9 +02.5	S 10 25.3 +00.0	05						
06	221 30.6 +01.0	N 14 43.3 -00.5	330 55.2 +02.1	N 13 28.1 +00.2	28 38.4 +02.5	S 10 25.3 +00.1	06						
07	236 31.6 +01.0	N 14 42.8 -00.6	345 57.3 +02.0	N 13 28.3 +00.1	43 40.9 +02.5	S 10 25.4 +00.0	07						
08	251 32.6 +01.0	N 14 42.2 -00.5	0 59.3 +02.0	N 13 28.4 +00.1	58 43.4 +02.5	S 10 25.4 +00.0	08						
09	266 33.6 +01.0	N 14 41.7 -00.5	16 01.3 +02.1	N 13 28.5 +00.2	73 45.9 +02.5	S 10 25.4 +00.1	09						
10	281 34.6 +01.0	N 14 41.2 -00.5	31 03.4 +02.0	N 13 28.7 +00.1	88 48.4 +02.5	S 10 25.5 +00.0	10						
11	296 35.6 +01.0	N 14 40.7 -00.5	46 05.4 +02.0	N 13 28.8 +00.1	103 50.9 +02.5	S 10 25.5 +00.0	11						
12	311 36.6 +01.0	N 14 40.2 -00.6	61 07.4 +02.1	N 13 28.9 +00.2	118 53.4 +02.5	S 10 25.5 +00.0	12						
13	326 37.6 +01.0	N 14 39.6 -00.5	76 09.5 +02.0	N 13 29.1 +00.1	133 55.9 +02.6	S 10 25.5 +00.1	13						
14	341 38.6 +01.0	N 14 39.1 -00.5	91 11.5 +02.1	N 13 29.2 +00.1	148 58.5 +02.5	S 10 25.6 +00.0	14						
15	356 39.6 +01.0	N 14 38.6 -00.5	106 13.6 +02.0	N 13 29.3 +00.2	164 01.0 +02.5	S 10 25.6 +00.0	15						
16	11 40.6 +01.0	N 14 38.1 -00.5	121 15.6 +02.0	N 13 29.5 +00.1	179 03.5 +02.5	S 10 25.6 +00.0	16						
17	26 41.6 +01.0	N 14 37.6 -00.6	136 17.6 +02.1	N 13 29.6 +00.1	194 06.0 +02.5	S 10 25.6 +00.1	17						
18	41 42.6 +01.0	N 14 37.0 -00.5	151 19.7 +02.0	N 13 29.7 +00.2	209 08.5 +02.5	S 10 25.7 +00.0	18						
19	56 43.6 +01.1	N 14 36.5 -00.5	166 21.7 +02.0	N 13 29.9 +00.1	224 11.0 +02.5	S 10 25.7 +00.0	19						
20	71 44.7 +01.0	N 14 36.0 -00.5	181 23.7 +02.1	N 13 30.0 +00.1	239 13.5 +02.5	S 10 25.7 +00.1	20						
21	86 45.7 +01.0	N 14 35.5 -00.6	196 25.8 +02.0	N 13 30.1 +00.2	254 16.0 +02.5	S 10 25.8 +00.0	21						
22	101 46.7 +01.0	N 14 34.9 -00.5	211 27.8 +02.1	N 13 30.3 +00.1	269 18.5 +02.6	S 10 25.8 +00.0	22						
23	116 47.7 +01.0	N 14 34.4 -00.5	226 29.9 +02.0	N 13 30.4 +00.1	284 21.1 +02.5	S 10 25.8 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 214° 213° 213° 213° 213° 213°		SHA 323° 323° 323° 323° 323° 323°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 15:13		Greenwich Culmination Time: 07:56		Greenwich Culmination Time: 04:05								