

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 01.6 +00.2	N 04 38.3 +00.9	135 27.3 +00.1	N 23 05.9 +00.7	92 39.3 -32.8	N 23 36.7 +01.1	00						
01	194 01.8 +00.2	N 04 39.2 +01.0	150 27.4 +00.0	N 23 06.6 +00.7	107 06.5 -32.9	N 23 37.8 +01.1	01						
02	209 02.0 +00.1	N 04 40.2 +00.9	165 27.4 +00.1	N 23 07.3 +00.7	121 33.6 -33.0	N 23 38.9 +00.9	02						
03	224 02.1 +00.2	N 04 41.1 +01.0	180 27.5 +00.1	N 23 08.0 +00.7	136 00.6 -33.0	N 23 39.8 +00.8	03						
04	239 02.3 +00.2	N 04 42.1 +01.0	195 27.6 +00.0	N 23 08.7 +00.7	150 27.6 -33.1	N 23 40.6 +00.6	04						
05	254 02.5 +00.2	N 04 43.1 +00.9	210 27.6 +00.1	N 23 09.4 +00.7	164 54.5 -33.1	N 23 41.2 +00.5	05						
06	269 02.7 +00.2	N 04 44.0 +01.0	225 27.7 +00.0	N 23 10.1 +00.7	179 21.4 -33.2	N 23 41.7 +00.4	06						
07	284 02.9 +00.2	N 04 45.0 +01.0	240 27.7 +00.1	N 23 10.8 +00.7	193 48.2 -33.2	N 23 42.1 +00.2	07						
08	299 03.1 +00.2	N 04 46.0 +00.9	255 27.8 +00.1	N 23 11.5 +00.7	208 15.0 -33.3	N 23 42.3 +00.1	08						
09	314 03.3 +00.1	N 04 46.9 +01.0	270 27.9 +00.0	N 23 12.2 +00.7	222 41.7 -33.3	N 23 42.4 +00.0	09						
10	329 03.4 +00.2	N 04 47.9 +00.9	285 27.9 +00.1	N 23 12.9 +00.7	237 08.4 -33.3	N 23 42.4 -00.2	10						
11	344 03.6 +00.2	N 04 48.8 +01.0	300 28.0 +00.1	N 23 13.6 +00.7	251 35.1 -33.4	N 23 42.2 -00.3	11						
12	359 03.8 +00.2	N 04 49.8 +01.0	315 28.1 +00.0	N 23 14.3 +00.7	266 01.7 -33.4	N 23 41.9 -00.5	12						
13	14 04.0 +00.2	N 04 50.8 +00.9	330 28.1 +00.1	N 23 15.0 +00.7	280 28.3 -33.5	N 23 41.4 -00.6	13						
14	29 04.2 +00.2	N 04 51.7 +01.0	345 28.2 +00.1	N 23 15.7 +00.7	294 54.8 -33.5	N 23 40.8 -00.7	14						
15	44 04.4 +00.2	N 04 52.7 +01.0	0 28.3 +00.0	N 23 16.4 +00.7	309 21.3 -33.6	N 23 40.1 -00.9	15						
16	59 04.6 +00.1	N 04 53.7 +00.9	15 28.3 +00.1	N 23 17.1 +00.7	323 47.7 -33.5	N 23 39.2 -01.0	16						
17	74 04.7 +00.2	N 04 54.6 +01.0	30 28.4 +00.1	N 23 17.8 +00.7	338 14.2 -33.7	N 23 38.2 -01.1	17						
18	89 04.9 +00.2	N 04 55.6 +00.9	45 28.5 +00.1	N 23 18.5 +00.7	352 40.5 -33.6	N 23 37.1 -01.3	18						
19	104 05.1 +00.2	N 04 56.5 +01.0	60 28.6 +00.0	N 23 19.2 +00.7	7 06.9 -33.7	N 23 35.8 -01.5	19						
20	119 05.3 +00.2	N 04 57.5 +01.0	75 28.6 +00.1	N 23 19.9 +00.7	21 33.2 -33.7	N 23 34.3 -01.5	20						
21	134 05.5 +00.2	N 04 58.5 +00.9	90 28.7 +00.1	N 23 20.6 +00.7	35 59.5 -33.8	N 23 32.8 -01.7	21						
22	149 05.7 +00.1	N 04 59.4 +01.0	105 28.8 +00.1	N 23 21.3 +00.7	50 25.7 -33.8	N 23 31.1 -01.9	22						
23	164 05.8 +00.2	N 05 00.4 +00.9	120 28.9 +00.0	N 23 22.0 +00.7	64 51.9 -33.8	N 23 29.2 -02.0	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 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'5 15'5 15'5 15'6 15'6 15'7								
	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 56'8 56'9 57'1 57'2 57'3 57'5								
	SHA 349° 349° 349° 349° 349° 348°		SHA 306° 305° 305° 305° 305° 305°		SHA 262° 259° 257° 255° 252° 250°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 14:58		Greenwich Culmination Time: 18:30								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	246 33.2 +00.6	S 20 55.2 -00.3	253 29.7 +02.1	S 21 18.0 -00.1	246 54.9 +02.3	S 20 03.8 +00.0	00						
01	261 33.8 +00.7	S 20 54.9 -00.3	268 31.8 +02.1	S 21 17.9 +00.0	261 57.2 +02.3	S 20 03.8 -00.1	01						
02	276 34.5 +00.6	S 20 54.6 -00.4	283 33.9 +02.2	S 21 17.9 -00.1	276 59.5 +02.3	S 20 03.7 +00.0	02						
03	291 35.1 +00.7	S 20 54.2 -00.3	298 36.1 +02.1	S 21 17.8 +00.0	292 01.8 +02.3	S 20 03.7 +00.0	03						
04	306 35.8 +00.6	S 20 53.9 -00.3	313 38.2 +02.1	S 21 17.8 -00.1	307 04.1 +02.3	S 20 03.7 +00.0	04						
05	321 36.4 +00.6	S 20 53.6 -00.4	328 40.3 +02.2	S 21 17.7 +00.0	322 06.4 +02.3	S 20 03.7 -00.1	05						
06	336 37.0 +00.7	S 20 53.2 -00.3	343 42.5 +02.1	S 21 17.7 -00.1	337 08.7 +02.3	S 20 03.6 +00.0	06						
07	351 37.7 +00.6	S 20 52.9 -00.3	358 44.6 +02.1	S 21 17.6 +00.0	352 11.0 +02.3	S 20 03.6 +00.0	07						
08	6 38.3 +00.6	S 20 52.6 -00.4	13 46.7 +02.2	S 21 17.6 -00.1	7 13.3 +02.3	S 20 03.6 -00.1	08						
09	21 38.9 +00.7	S 20 52.2 -00.3	28 48.9 +02.1	S 21 17.5 +00.0	22 15.6 +02.3	S 20 03.5 +00.0	09						
10	36 39.6 +00.6	S 20 51.9 -00.3	43 51.0 +02.2	S 21 17.5 -00.1	37 17.9 +02.3	S 20 03.5 +00.0	10						
11	51 40.2 +00.7	S 20 51.6 -00.4	58 53.2 +02.1	S 21 17.4 +00.0	52 20.2 +02.3	S 20 03.5 -00.1	11						
12	66 40.9 +00.6	S 20 51.2 -00.3	73 55.3 +02.1	S 21 17.4 -00.1	67 22.5 +02.3	S 20 03.4 +00.0	12						
13	81 41.5 +00.6	S 20 50.9 -00.3	88 57.4 +02.2	S 21 17.3 +00.0	82 24.8 +02.3	S 20 03.4 +00.0	13						
14	96 42.1 +00.7	S 20 50.6 -00.4	103 59.6 +02.1	S 21 17.3 -00.1	97 27.1 +02.3	S 20 03.4 +00.0	14						
15	111 42.8 +00.6	S 20 50.2 -00.3	119 01.7 +02.1	S 21 17.2 +00.0	112 29.4 +02.3	S 20 03.4 -00.1	15						
16	126 43.4 +00.7	S 20 49.9 -00.3	134 03.8 +02.2	S 21 17.2 -00.1	127 31.7 +02.3	S 20 03.3 +00.0	16						
17	141 44.1 +00.6	S 20 49.6 -00.4	149 06.0 +02.1	S 21 17.1 +00.0	142 34.0 +02.4	S 20 03.3 +00.0	17						
18	156 44.7 +00.6	S 20 49.2 -00.3	164 08.1 +02.2	S 21 17.1 +00.0	157 36.4 +02.3	S 20 03.3 -00.1	18						
19	171 45.3 +00.7	S 20 48.9 -00.3	179 10.3 +02.1	S 21 17.1 -00.1	172 38.7 +02.3	S 20 03.2 +00.0	19						
20	186 46.0 +00.6	S 20 48.6 -00.4	194 12.4 +02.1	S 21 17.0 +00.0	187 41.0 +02.3	S 20 03.2 +00.0	20						
21	201 46.6 +00.7	S 20 48.2 -00.3	209 14.5 +02.2	S 21 17.0 -00.1	202 43.3 +02.3	S 20 03.2 +00.0	21						
22	216 47.3 +00.6	S 20 47.9 -00.3	224 16.7 +02.1	S 21 16.9 +00.0	217 45.6 +02.3	S 20 03.2 -00.1	22						
23	231 47.9 +00.6	S 20 47.6 -00.4	239 18.8 +02.2	S 21 16.9 -00.1	232 47.9 +02.3	S 20 03.1 +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 00'1 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 057° 057° 056° 056° 056° 056°		SHA 064° 064° 064° 064° 064° 064°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 07:33		Greenwich Culmination Time: 07:05		Greenwich Culmination Time: 07:31								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	179 06.0 +00.2	N 05 01.3 +01.0	135 28.9 +00.1	N 23 22.7 +00.7	79 18.1 -33.8	N 23 27.2 -02.1	00								
01	194 06.2 +00.2	N 05 02.3 +01.0	150 29.0 +00.1	N 23 23.4 +00.7	93 44.3 -33.9	N 23 25.1 -02.3	01								
02	209 06.4 +00.2	N 05 03.3 +00.9	165 29.1 +00.1	N 23 24.1 +00.7	108 10.4 -33.9	N 23 22.8 -02.5	02								
03	224 06.6 +00.2	N 05 04.2 +01.0	180 29.2 +00.0	N 23 24.8 +00.7	122 36.5 -33.9	N 23 20.3 -02.5	03								
04	239 06.8 +00.2	N 05 05.2 +00.9	195 29.2 +00.1	N 23 25.5 +00.6	137 02.6 -34.0	N 23 17.8 -02.7	04								
05	254 07.0 +00.1	N 05 06.1 +01.0	210 29.3 +00.1	N 23 26.1 +00.7	151 28.6 -34.0	N 23 15.1 -02.9	05								
06	269 07.1 +00.2	N 05 07.1 +01.0	225 29.4 +00.1	N 23 26.8 +00.7	165 54.6 -34.0	N 23 12.2 -03.0	06								
07	284 07.3 +00.2	N 05 08.1 +00.9	240 29.5 +00.0	N 23 27.5 +00.7	180 20.6 -34.0	N 23 09.2 -03.1	07								
08	299 07.5 +00.2	N 05 09.0 +01.0	255 29.5 +00.1	N 23 28.2 +00.7	194 46.6 -34.0	N 23 06.1 -03.3	08								
09	314 07.7 +00.2	N 05 10.0 +00.9	270 29.6 +00.1	N 23 28.9 +00.7	209 12.6 -34.1	N 23 02.8 -03.5	09								
10	329 07.9 +00.2	N 05 10.9 +01.0	285 29.7 +00.1	N 23 29.6 +00.7	223 38.5 -34.0	N 22 59.3 -03.6	10								
11	344 08.1 +00.1	N 05 11.9 +01.0	300 29.8 +00.1	N 23 30.3 +00.6	238 04.5 -34.1	N 22 55.7 -03.7	11								
12	359 08.2 +00.2	N 05 12.9 +00.9	315 29.9 +00.1	N 23 30.9 +00.7	252 30.4 -34.1	N 22 52.0 -03.8	12								
13	14 08.4 +00.2	N 05 13.8 +01.0	330 30.0 +00.0	N 23 31.6 +00.7	266 56.3 -34.1	N 22 48.2 -04.1	13								
14	29 08.6 +00.2	N 05 14.8 +00.9	345 30.0 +00.1	N 23 32.3 +00.7	281 22.2 -34.2	N 22 44.1 -04.1	14								
15	44 08.8 +00.2	N 05 15.7 +01.0	0 30.1 +00.1	N 23 33.0 +00.7	295 48.0 -34.1	N 22 40.0 -04.3	15								
16	59 09.0 +00.2	N 05 16.7 +01.0	15 30.2 +00.1	N 23 33.7 +00.6	310 13.9 -34.2	N 22 35.7 -04.5	16								
17	74 09.2 +00.1	N 05 17.7 +00.9	30 30.3 +00.1	N 23 34.3 +00.7	324 39.7 -34.1	N 22 31.2 -04.6	17								
18	89 09.3 +00.2	N 05 18.6 +01.0	45 30.4 +00.1	N 23 35.0 +00.7	339 05.6 -34.2	N 22 26.6 -04.7	18								
19	104 09.5 +00.2	N 05 19.6 +00.9	60 30.5 +00.1	N 23 35.7 +00.7	353 31.4 -34.2	N 22 21.9 -04.9	19								
20	119 09.7 +00.2	N 05 20.5 +01.0	75 30.6 +00.1	N 23 36.4 +00.6	7 57.2 -34.2	N 22 17.0 -05.0	20								
21	134 09.9 +00.2	N 05 21.5 +00.9	90 30.7 +00.0	N 23 37.0 +00.7	22 23.0 -34.2	N 22 12.0 -05.2	21								
22	149 10.1 +00.2	N 05 22.4 +01.0	105 30.7 +00.1	N 23 37.7 +00.7	36 48.8 -34.2	N 22 06.8 -05.3	22								
23	164 10.3 +00.1	N 05 23.4 +01.0	120 30.8 +00.1	N 23 38.4 +00.6	51 14.6 -34.2	N 22 01.5 -05.4	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 348° 348° 348° 348° 348° 347°	Greenwich Culmination Time: 12:03	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 305° 304° 304° 304° 304° 304°	Greenwich Culmination Time: 14:57	UT 02 06 10 14 18 22	SD 15'7 15'7 15'8 15'8 15'9 15'9	HP 57'6 57'8 57'9 58'1 58'2 58'4	SHA 247° 245° 242° 240° 238° 235°	Greenwich Culmination Time: 19:26
UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	246 48.5 +00.7	S 20 47.2 -00.3	254 21.0 +02.1	S 21 16.8 +00.0	247 50.2 +02.3	S 20 03.1 +00.0	00								
01	261 49.2 +00.6	S 20 46.9 -00.4	269 23.1 +02.2	S 21 16.8 -00.1	262 52.5 +02.3	S 20 03.1 -00.1	01								
02	276 49.8 +00.7	S 20 46.5 -00.3	284 25.3 +02.1	S 21 16.7 +00.0	277 54.8 +02.3	S 20 03.0 +00.0	02								
03	291 50.5 +00.6	S 20 46.2 -00.3	299 27.4 +02.1	S 21 16.7 -00.1	292 57.1 +02.3	S 20 03.0 +00.0	03								
04	306 51.1 +00.6	S 20 45.9 -00.4	314 29.5 +02.2	S 21 16.6 +00.0	307 59.4 +02.3	S 20 03.0 -00.1	04								
05	321 51.7 +00.7	S 20 45.5 -00.3	329 31.7 +02.1	S 21 16.6 -00.1	323 01.7 +02.3	S 20 02.9 +00.0	05								
06	336 52.4 +00.6	S 20 45.2 -00.4	344 33.8 +02.2	S 21 16.5 +00.0	338 04.0 +02.3	S 20 02.9 +00.0	06								
07	351 53.0 +00.7	S 20 44.8 -00.3	359 36.0 +02.1	S 21 16.5 -00.1	353 06.3 +02.3	S 20 02.9 +00.0	07								
08	6 53.7 +00.6	S 20 44.5 -00.3	14 38.1 +02.2	S 21 16.4 +00.0	8 08.6 +02.3	S 20 02.9 -00.1	08								
09	21 54.3 +00.6	S 20 44.2 -00.4	29 40.3 +02.1	S 21 16.4 -00.1	23 10.9 +02.3	S 20 02.8 +00.0	09								
10	36 54.9 +00.7	S 20 43.8 -00.3	44 42.4 +02.1	S 21 16.3 +00.0	38 13.2 +02.4	S 20 02.8 +00.0	10								
11	51 55.6 +00.6	S 20 43.5 -00.4	59 44.5 +02.2	S 21 16.3 -00.1	53 15.6 +02.3	S 20 02.8 -00.1	11								
12	66 56.2 +00.7	S 20 43.1 -00.3	74 46.7 +02.1	S 21 16.2 +00.0	68 17.9 +02.3	S 20 02.7 +00.0	12								
13	81 56.9 +00.6	S 20 42.8 -00.3	89 48.8 +02.2	S 21 16.2 -00.1	83 20.2 +02.3	S 20 02.7 +00.0	13								
14	96 57.5 +00.7	S 20 42.5 -00.4	104 51.0 +02.1	S 21 16.1 +00.0	98 22.5 +02.3	S 20 02.7 +00.0	14								
15	111 58.2 +00.6	S 20 42.1 -00.3	119 53.1 +02.2	S 21 16.1 -00.1	113 24.8 +02.3	S 20 02.7 -00.1	15								
16	126 58.8 +00.6	S 20 41.8 -00.4	134 55.3 +02.1	S 21 16.0 +00.0	128 27.1 +02.3	S 20 02.6 +00.0	16								
17	141 59.4 +00.7	S 20 41.4 -00.3	149 57.4 +02.2	S 21 16.0 -00.1	143 29.4 +02.3	S 20 02.6 +00.0	17								
18	157 00.1 +00.6	S 20 41.1 -00.3	164 59.6 +02.1	S 21 15.9 +00.0	158 31.7 +02.3	S 20 02.6 -00.1	18								
19	172 00.7 +00.7	S 20 40.8 -00.4	180 01.7 +02.1	S 21 15.9 -00.1	173 34.0 +02.3	S 20 02.5 +00.0	19								
20	187 01.4 +00.6	S 20 40.4 -00.3	195 03.8 +02.2	S 21 15.8 +00.0	188 36.3 +02.3	S 20 02.5 +00.0	20								
21	202 02.0 +00.7	S 20 40.1 -00.4	210 06.0 +02.1	S 21 15.8 -00.1	203 38.6 +02.3	S 20 02.5 +00.0	21								
22	217 02.7 +00.6	S 20 39.7 -00.3	225 08.1 +02.2	S 21 15.7 +00.0	218 40.9 +02.4	S 20 02.5 -00.1	22								
23	232 03.3 +00.6	S 20 39.4 -00.4	240 10.3 +02.1	S 21 15.7 -00.1	233 43.3 +02.3	S 20 02.4 +00.0	23								
	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 056° 056° 056° 056° 055° 055°	Greenwich Culmination Time: 07:32	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 064° 064° 063° 063° 063° 063°	Greenwich Culmination Time: 07:01	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 057° 057° 057° 057° 057° 057°	Greenwich Culmination Time: 07:27

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 10.4 +00.2	N 05 24.4 +00.9	135 30.9 +00.1	N 23 39.0 +00.7	65 40.4 -34.2	N 21 56.1 -05.6	00						
01	194 10.6 +00.2	N 05 25.3 +01.0	150 31.0 +00.1	N 23 39.7 +00.7	80 06.2 -34.2	N 21 50.5 -05.8	01						
02	209 10.8 +00.2	N 05 26.3 +00.9	165 31.1 +00.1	N 23 40.4 +00.7	94 32.0 -34.2	N 21 44.7 -05.9	02						
03	224 11.0 +00.2	N 05 27.2 +01.0	180 31.2 +00.1	N 23 41.1 +00.6	108 57.8 -34.2	N 21 38.8 -06.0	03						
04	239 11.2 +00.2	N 05 28.2 +00.9	195 31.3 +00.1	N 23 41.7 +00.7	123 23.6 -34.2	N 21 32.8 -06.2	04						
05	254 11.4 +00.1	N 05 29.1 +01.0	210 31.4 +00.1	N 23 42.4 +00.7	137 49.4 -34.2	N 21 26.6 -06.3	05						
06	269 11.5 +00.2	N 05 30.1 +00.9	225 31.5 +00.1	N 23 43.1 +00.6	152 15.2 -34.2	N 21 20.3 -06.4	06						
07	284 11.7 +00.2	N 05 31.0 +01.0	240 31.6 +00.1	N 23 43.7 +00.7	166 41.0 -34.2	N 21 13.9 -06.6	07						
08	299 11.9 +00.2	N 05 32.0 +01.0	255 31.7 +00.1	N 23 44.4 +00.6	181 06.8 -34.2	N 21 07.3 -06.7	08						
09	314 12.1 +00.2	N 05 33.0 +00.9	270 31.8 +00.1	N 23 45.0 +00.7	195 32.6 -34.2	N 21 00.6 -06.9	09						
10	329 12.3 +00.1	N 05 33.9 +01.0	285 31.9 +00.1	N 23 45.7 +00.7	209 58.4 -34.2	N 20 53.7 -07.0	10						
11	344 12.4 +00.2	N 05 34.9 +00.9	300 32.0 +00.1	N 23 46.4 +00.6	224 24.2 -34.2	N 20 46.7 -07.2	11						
12	359 12.6 +00.2	N 05 35.8 +01.0	315 32.1 +00.1	N 23 47.0 +00.7	238 50.0 -34.1	N 20 39.5 -07.3	12						
13	14 12.8 +00.2	N 05 36.8 +00.9	330 32.2 +00.1	N 23 47.7 +00.6	253 15.9 -34.2	N 20 32.2 -07.4	13						
14	29 13.0 +00.2	N 05 37.7 +01.0	345 32.3 +00.1	N 23 48.3 +00.7	267 41.7 -34.1	N 20 24.8 -07.6	14						
15	44 13.2 +00.2	N 05 38.7 +00.9	0 32.4 +00.1	N 23 49.0 +00.7	282 07.6 -34.2	N 20 17.2 -07.7	15						
16	59 13.4 +00.1	N 05 39.6 +01.0	15 32.5 +00.1	N 23 49.7 +00.6	296 33.4 -34.1	N 20 09.5 -07.8	16						
17	74 13.5 +00.2	N 05 40.6 +00.9	30 32.6 +00.1	N 23 50.3 +00.7	310 59.3 -34.1	N 20 01.7 -08.0	17						
18	89 13.7 +00.2	N 05 41.5 +01.0	45 32.7 +00.1	N 23 51.0 +00.6	325 25.2 -34.1	N 19 53.7 -08.1	18						
19	104 13.9 +00.2	N 05 42.5 +00.9	60 32.8 +00.1	N 23 51.6 +00.7	339 51.1 -34.1	N 19 45.6 -08.3	19						
20	119 14.1 +00.2	N 05 43.4 +01.0	75 32.9 +00.1	N 23 52.3 +00.6	354 17.0 -34.1	N 19 37.3 -08.3	20						
21	134 14.3 +00.2	N 05 44.4 +01.0	90 33.0 +00.1	N 23 52.9 +00.7	8 42.9 -34.0	N 19 29.0 -08.6	21						
22	149 14.5 +00.1	N 05 45.4 +00.9	105 33.1 +00.1	N 23 53.6 +00.6	23 08.9 -34.1	N 19 20.4 -08.6	22						
23	164 14.6 +00.2	N 05 46.3 +01.0	120 33.2 +00.1	N 23 54.2 +00.7	37 34.8 -34.0	N 19 11.8 -08.8	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 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'0 16'0 16'0 16'1 16'1 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 58'6 58'7 58'9 59'0 59'2 59'3								
	SHA 347° 347° 347° 347° 347° 347°		SHA 304° 303° 303° 303° 303° 303°		SHA 233° 230° 228° 225° 223° 220°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 14:57		Greenwich Culmination Time: 20:23								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	247 03.9 +00.7	S 20 39.0 -00.3	255 12.4 +02.2	S 21 15.6 +00.0	248 45.6 +02.3	S 20 02.4 +00.0	00						
01	262 04.6 +00.6	S 20 38.7 -00.4	270 14.6 +02.1	S 21 15.6 -00.1	263 47.9 +02.3	S 20 02.4 -00.1	01						
02	277 05.2 +00.7	S 20 38.3 -00.3	285 16.7 +02.2	S 21 15.5 +00.0	278 50.2 +02.3	S 20 02.3 +00.0	02						
03	292 05.9 +00.6	S 20 38.0 -00.3	300 18.9 +02.1	S 21 15.5 -00.1	293 52.5 +02.3	S 20 02.3 +00.0	03						
04	307 06.5 +00.7	S 20 37.7 -00.4	315 21.0 +02.2	S 21 15.4 +00.0	308 54.8 +02.3	S 20 02.3 -00.1	04						
05	322 07.2 +00.6	S 20 37.3 -00.3	330 23.2 +02.1	S 21 15.4 +00.0	323 57.1 +02.3	S 20 02.2 +00.0	05						
06	337 07.8 +00.7	S 20 37.0 -00.4	345 25.3 +02.2	S 21 15.4 -00.1	338 59.4 +02.3	S 20 02.2 +00.0	06						
07	352 08.5 +00.6	S 20 36.6 -00.3	0 27.5 +02.1	S 21 15.3 +00.0	354 01.7 +02.3	S 20 02.2 +00.0	07						
08	7 09.1 +00.6	S 20 36.3 -00.4	15 29.6 +02.2	S 21 15.3 -00.1	9 04.0 +02.4	S 20 02.2 -00.1	08						
09	22 09.7 +00.7	S 20 35.9 -00.3	30 31.8 +02.1	S 21 15.2 +00.0	24 06.4 +02.3	S 20 02.1 +00.0	09						
10	37 10.4 +00.6	S 20 35.6 -00.4	45 33.9 +02.2	S 21 15.2 -00.1	39 08.7 +02.3	S 20 02.1 +00.0	10						
11	52 11.0 +00.7	S 20 35.2 -00.3	60 36.1 +02.1	S 21 15.1 +00.0	54 11.0 +02.3	S 20 02.1 +00.0	11						
12	67 11.7 +00.6	S 20 34.9 -00.4	75 38.2 +02.2	S 21 15.1 -00.1	69 13.3 +02.3	S 20 02.1 -00.1	12						
13	82 12.3 +00.7	S 20 34.5 -00.3	90 40.4 +02.1	S 21 15.0 +00.0	84 15.6 +02.3	S 20 02.0 +00.0	13						
14	97 13.0 +00.6	S 20 34.2 -00.4	105 42.5 +02.2	S 21 15.0 -00.1	99 17.9 +02.3	S 20 02.0 +00.0	14						
15	112 13.6 +00.7	S 20 33.8 -00.3	120 44.7 +02.1	S 21 14.9 +00.0	114 20.2 +02.3	S 20 02.0 -00.1	15						
16	127 14.3 +00.6	S 20 33.5 -00.4	135 46.8 +02.2	S 21 14.9 -00.1	129 22.5 +02.3	S 20 01.9 +00.0	16						
17	142 14.9 +00.7	S 20 33.1 -00.3	150 49.0 +02.1	S 21 14.8 +00.0	144 24.8 +02.4	S 20 01.9 +00.0	17						
18	157 15.6 +00.6	S 20 32.8 -00.4	165 51.1 +02.2	S 21 14.8 -00.1	159 27.2 +02.3	S 20 01.9 +00.0	18						
19	172 16.2 +00.6	S 20 32.4 -00.3	180 53.3 +02.1	S 21 14.7 +00.0	174 29.5 +02.3	S 20 01.9 -00.1	19						
20	187 16.8 +00.7	S 20 32.1 -00.4	195 55.4 +02.2	S 21 14.7 -00.1	189 31.8 +02.3	S 20 01.8 +00.0	20						
21	202 17.5 +00.6	S 20 31.7 -00.3	210 57.6 +02.2	S 21 14.6 +00.0	204 34.1 +02.3	S 20 01.8 +00.0	21						
22	217 18.1 +00.7	S 20 31.4 -00.4	225 59.8 +02.1	S 21 14.6 -00.1	219 36.4 +02.3	S 20 01.8 -00.1	22						
23	232 18.8 +00.6	S 20 31.0 -00.3	241 01.9 +02.2	S 21 14.5 +00.0	234 38.7 +02.3	S 20 01.7 +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 00'1 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 055° 055° 055° 055° 055° 055°		SHA 063° 063° 063° 063° 063° 063°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 07:31		Greenwich Culmination Time: 06:58		Greenwich Culmination Time: 07:23								

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 14.8 +00.2	N 05 47.3 +00.9	135 33.3 +00.2	N 23 54.9 +00.6	52 00.8 -34.0	N 19 03.0 -08.9	00						00
01	194 15.0 +00.2	N 05 48.2 +01.0	150 33.5 +00.1	N 23 55.5 +00.7	66 26.8 -34.0	N 18 54.1 -09.0	01						01
02	209 15.2 +00.2	N 05 49.2 +00.9	165 33.6 +00.1	N 23 56.2 +00.6	80 52.8 -34.0	N 18 45.1 -09.2	02						02
03	224 15.4 +00.1	N 05 50.1 +01.0	180 33.7 +00.1	N 23 56.8 +00.7	95 18.8 -33.9	N 18 35.9 -09.3	03						03
04	239 15.5 +00.2	N 05 51.1 +00.9	195 33.8 +00.1	N 23 57.5 +00.6	109 44.9 -34.0	N 18 26.6 -09.4	04						04
05	254 15.7 +00.2	N 05 52.0 +01.0	210 33.9 +00.1	N 23 58.1 +00.7	124 10.9 -33.9	N 18 17.2 -09.6	05						05
06	269 15.9 +00.2	N 05 53.0 +00.9	225 34.0 +00.1	N 23 58.8 +00.6	138 37.0 -33.9	N 18 07.6 -09.7	06						06
07	284 16.1 +00.2	N 05 53.9 +01.0	240 34.1 +00.2	N 23 59.4 +00.7	153 03.1 -33.9	N 17 57.9 -09.8	07						07
08	299 16.3 +00.1	N 05 54.9 +00.9	255 34.3 +00.1	N 24 00.1 +00.6	167 29.2 -33.8	N 17 48.1 -09.9	08						08
09	314 16.4 +00.2	N 05 55.8 +01.0	270 34.4 +00.1	N 24 00.7 +00.6	181 55.4 -33.9	N 17 38.2 -10.1	09						09
10	329 16.6 +00.2	N 05 56.8 +00.9	285 34.5 +00.1	N 24 01.3 +00.7	196 21.5 -33.8	N 17 28.1 -10.2	10						10
11	344 16.8 +00.2	N 05 57.7 +01.0	300 34.6 +00.1	N 24 02.0 +00.6	210 47.7 -33.8	N 17 17.9 -10.3	11						11
12	359 17.0 +00.2	N 05 58.7 +00.9	315 34.7 +00.1	N 24 02.6 +00.7	225 13.9 -33.7	N 17 07.6 -10.4	12						12
13	14 17.2 +00.2	N 05 59.6 +01.0	330 34.8 +00.2	N 24 03.3 +00.6	239 40.2 -33.8	N 16 57.2 -10.5	13						13
14	29 17.4 +00.1	N 06 00.6 +00.9	345 35.0 +00.1	N 24 03.9 +00.6	254 06.4 -33.7	N 16 46.7 -10.7	14						14
15	44 17.5 +00.2	N 06 01.5 +01.0	0 35.1 +00.1	N 24 04.5 +00.7	268 32.7 -33.7	N 16 36.0 -10.8	15						15
16	59 17.7 +00.2	N 06 02.5 +00.9	15 35.2 +00.1	N 24 05.2 +00.6	282 59.0 -33.7	N 16 25.2 -10.9	16						16
17	74 17.9 +00.2	N 06 03.4 +01.0	30 35.3 +00.2	N 24 05.8 +00.6	297 25.3 -33.6	N 16 14.3 -11.0	17						17
18	89 18.1 +00.2	N 06 04.4 +00.9	45 35.5 +00.1	N 24 06.4 +00.7	311 51.7 -33.7	N 16 03.3 -11.1	18						18
19	104 18.3 +00.1	N 06 05.3 +01.0	60 35.6 +00.1	N 24 07.1 +00.6	326 18.0 -33.6	N 15 52.2 -11.2	19						19
20	119 18.4 +00.2	N 06 06.3 +00.9	75 35.7 +00.1	N 24 07.7 +00.6	340 44.4 -33.5	N 15 41.0 -11.4	20						20
21	134 18.6 +00.2	N 06 07.2 +01.0	90 35.8 +00.2	N 24 08.3 +00.7	355 10.9 -33.6	N 15 29.6 -11.5	21						21
22	149 18.8 +00.2	N 06 08.2 +00.9	105 36.0 +00.1	N 24 09.0 +00.6	9 37.3 -33.5	N 15 18.1 -11.5	22						22
23	164 19.0 +00.2	N 06 09.1 +01.0	120 36.1 +00.1	N 24 09.6 +00.6	24 03.8 -33.5	N 15 06.6 -11.7	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 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'2 16'2 16'3 16'3 16'4 16'4								
	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 59'5 59'6 59'8 59'9 60'0 60'2								
	SHA 346° 346° 346° 346° 346° 346°		SHA 303° 303° 302° 302° 302° 302°		SHA 218° 216° 213° 211° 208° 206°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 14:57		Greenwich Culmination Time: 21:20								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	247 19.4 +00.7	S 20 30.7 -00.4	256 04.1 +02.1	S 21 14.5 -00.1	249 41.0 +02.3	S 20 01.7 +00.0	00						00
01	262 20.1 +00.6	S 20 30.3 -00.3	271 06.2 +02.2	S 21 14.4 +00.0	264 43.3 +02.4	S 20 01.7 +00.0	01						01
02	277 20.7 +00.7	S 20 30.0 -00.4	286 08.4 +02.1	S 21 14.4 +00.0	279 45.7 +02.3	S 20 01.7 -00.1	02						02
03	292 21.4 +00.6	S 20 29.6 -00.3	301 10.5 +02.2	S 21 14.4 -00.1	294 48.0 +02.3	S 20 01.6 +00.0	03						03
04	307 22.0 +00.7	S 20 29.3 -00.4	316 12.7 +02.1	S 21 14.3 +00.0	309 50.3 +02.3	S 20 01.6 +00.0	04						04
05	322 22.7 +00.6	S 20 28.9 -00.3	331 14.8 +02.2	S 21 14.3 -00.1	324 52.6 +02.3	S 20 01.6 -00.1	05						05
06	337 23.3 +00.7	S 20 28.6 -00.4	346 17.0 +02.1	S 21 14.2 +00.0	339 54.9 +02.3	S 20 01.5 +00.0	06						06
07	352 24.0 +00.6	S 20 28.2 -00.3	1 19.1 +02.2	S 21 14.2 -00.1	354 57.2 +02.3	S 20 01.5 +00.0	07						07
08	7 24.6 +00.7	S 20 27.9 -00.4	16 21.3 +02.2	S 21 14.1 +00.0	9 59.5 +02.3	S 20 01.5 +00.0	08						08
09	22 25.3 +00.6	S 20 27.5 -00.3	31 23.5 +02.1	S 21 14.1 -00.1	25 01.8 +02.4	S 20 01.5 -00.1	09						09
10	37 25.9 +00.7	S 20 27.2 -00.4	46 25.6 +02.2	S 21 14.0 +00.0	40 04.2 +02.3	S 20 01.4 +00.0	10						10
11	52 26.6 +00.6	S 20 26.8 -00.4	61 27.8 +02.1	S 21 14.0 -00.1	55 06.5 +02.3	S 20 01.4 +00.0	11						11
12	67 27.2 +00.6	S 20 26.4 -00.3	76 29.9 +02.2	S 21 13.9 +00.0	70 08.8 +02.3	S 20 01.4 +00.0	12						12
13	82 27.8 +00.7	S 20 26.1 -00.4	91 32.1 +02.1	S 21 13.9 -00.1	85 11.1 +02.3	S 20 01.4 -00.1	13						13
14	97 28.5 +00.6	S 20 25.7 -00.3	106 34.2 +02.2	S 21 13.8 +00.0	100 13.4 +02.3	S 20 01.3 +00.0	14						14
15	112 29.1 +00.7	S 20 25.4 -00.4	121 36.4 +02.2	S 21 13.8 -00.1	115 15.7 +02.4	S 20 01.3 +00.0	15						15
16	127 29.8 +00.6	S 20 25.0 -00.3	136 38.6 +02.1	S 21 13.7 +00.0	130 18.1 +02.3	S 20 01.3 -00.1	16						16
17	142 30.4 +00.7	S 20 24.7 -00.4	151 40.7 +02.2	S 21 13.7 +00.0	145 20.4 +02.3	S 20 01.2 +00.0	17						17
18	157 31.1 +00.6	S 20 24.3 -00.3	166 42.9 +02.1	S 21 13.7 -00.1	160 22.7 +02.3	S 20 01.2 +00.0	18						18
19	172 31.7 +00.7	S 20 24.0 -00.4	181 45.0 +02.2	S 21 13.6 +00.0	175 25.0 +02.3	S 20 01.2 +00.0	19						19
20	187 32.4 +00.6	S 20 23.6 -00.4	196 47.2 +02.2	S 21 13.6 -00.1	190 27.3 +02.3	S 20 01.2 -00.1	20						20
21	202 33.0 +00.7	S 20 23.2 -00.3	211 49.4 +02.1	S 21 13.5 +00.0	205 29.6 +02.3	S 20 01.1 +00.0	21						21
22	217 33.7 +00.6	S 20 22.9 -00.4	226 51.5 +02.2	S 21 13.5 -00.1	220 31.9 +02.4	S 20 01.1 +00.0	22						22
23	232 34.3 +00.7	S 20 22.5 -00.3	241 53.7 +02.1	S 21 13.4 +00.0	235 34.3 +02.3	S 20 01.1 -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 054° 054° 054° 054° 054° 054°		SHA 063° 063° 063° 063° 063° 063°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 07:30		Greenwich Culmination Time: 06:54		Greenwich Culmination Time: 07:20								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 19.2 +00.1	N 06	10.1 +00.9	135 36.2 +00.1	N 24	10.2 +00.7	38 30.3 -33.5	N 14	54.9 -11.8	00			
01	194 19.3 +00.2	N 06	11.0 +01.0	150 36.3 +00.2	N 24	10.9 +00.6	52 56.8 -33.5	N 14	43.1 -11.9	01			
02	209 19.5 +00.2	N 06	12.0 +00.9	165 36.5 +00.1	N 24	11.5 +00.6	67 23.3 -33.4	N 14	31.2 -12.0	02			
03	224 19.7 +00.2	N 06	12.9 +01.0	180 36.6 +00.1	N 24	12.1 +00.6	81 49.9 -33.4	N 14	19.2 -12.1	03			
04	239 19.9 +00.2	N 06	13.9 +00.9	195 36.7 +00.2	N 24	12.7 +00.7	96 16.5 -33.4	N 14	07.1 -12.2	04			
05	254 20.1 +00.1	N 06	14.8 +00.9	210 36.9 +00.1	N 24	13.4 +00.6	110 43.1 -33.4	N 13	54.9 -12.3	05			
06	269 20.2 +00.2	N 06	15.7 +01.0	225 37.0 +00.1	N 24	14.0 +00.6	125 09.7 -33.3	N 13	42.6 -12.4	06			
07	284 20.4 +00.2	N 06	16.7 +00.9	240 37.1 +00.2	N 24	14.6 +00.6	139 36.4 -33.3	N 13	30.2 -12.5	07			
08	299 20.6 +00.2	N 06	17.6 +01.0	255 37.3 +00.1	N 24	15.2 +00.6	154 03.1 -33.3	N 13	17.7 -12.6	08			
09	314 20.8 +00.1	N 06	18.6 +00.9	270 37.4 +00.1	N 24	15.8 +00.7	168 29.8 -33.3	N 13	05.1 -12.7	09			
10	329 20.9 +00.2	N 06	19.5 +01.0	285 37.5 +00.2	N 24	16.5 +00.6	182 56.5 -33.2	N 12	52.4 -12.8	10			
11	344 21.1 +00.2	N 06	20.5 +00.9	300 37.7 +00.1	N 24	17.1 +00.6	197 23.3 -33.2	N 12	39.6 -12.8	11			
12	359 21.3 +00.2	N 06	21.4 +01.0	315 37.8 +00.2	N 24	17.7 +00.6	211 50.1 -33.2	N 12	26.8 -13.0	12			
13	14 21.5 +00.2	N 06	22.4 +00.9	330 38.0 +00.1	N 24	18.3 +00.6	226 16.9 -33.2	N 12	13.8 -13.1	13			
14	29 21.7 +00.1	N 06	23.3 +01.0	345 38.1 +00.1	N 24	18.9 +00.6	240 43.7 -33.1	N 12	00.7 -13.1	14			
15	44 21.8 +00.2	N 06	24.3 +00.9	0 38.2 +00.2	N 24	19.5 +00.7	255 10.6 -33.1	N 11	47.6 -13.3	15			
16	59 22.0 +00.2	N 06	25.2 +00.9	15 38.4 +00.1	N 24	20.2 +00.6	269 37.5 -33.1	N 11	34.3 -13.3	16			
17	74 22.2 +00.2	N 06	26.1 +01.0	30 38.5 +00.2	N 24	20.8 +00.6	284 04.4 -33.1	N 11	21.0 -13.4	17			
18	89 22.4 +00.2	N 06	27.1 +00.9	45 38.7 +00.1	N 24	21.4 +00.6	298 31.3 -33.0	N 11	07.6 -13.5	18			
19	104 22.6 +00.1	N 06	28.0 +01.0	60 38.8 +00.2	N 24	22.0 +00.6	312 58.3 -33.1	N 10	54.1 -13.5	19			
20	119 22.7 +00.2	N 06	29.0 +00.9	75 39.0 +00.1	N 24	22.6 +00.6	327 25.2 -33.0	N 10	40.6 -13.7	20			
21	134 22.9 +00.2	N 06	29.9 +01.0	90 39.1 +00.2	N 24	23.2 +00.6	341 52.2 -32.9	N 10	26.9 -13.7	21			
22	149 23.1 +00.2	N 06	30.9 +00.9	105 39.3 +00.1	N 24	23.8 +00.6	356 19.3 -33.0	N 10	13.2 -13.8	22			
23	164 23.3 +00.1	N 06	31.8 +01.0	120 39.4 +00.2	N 24	24.4 +00.6	10 46.3 -32.9	N 09	59.4 -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 00'2 00'2 00'2 00'2 00'2 00'2			SD 16'4 16'5 16'5 16'5 16'6 16'6						
	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 60'3 60'4 60'5 60'7 60'8 60'9						
	SHA 345° 345° 345° 345° 345° 345°			SHA 302° 302° 301° 301° 301° 301°			SHA 204° 201° 199° 196° 194° 192°						
	Greenwich Culmination Time: 12:02			Greenwich Culmination Time: 14:57			Greenwich Culmination Time: 22:15						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	247 35.0 +00.6	S 20	22.2 -00.4	256 55.8 +02.2	S 21	13.4 -00.1	250 36.6 +02.3	S 20	01.0 +00.0	00			
01	262 35.6 +00.7	S 20	21.8 -00.3	271 58.0 +02.2	S 21	13.3 +00.0	265 38.9 +02.3	S 20	01.0 +00.0	01			
02	277 36.3 +00.6	S 20	21.5 -00.4	287 00.2 +02.1	S 21	13.3 -00.1	280 41.2 +02.3	S 20	01.0 +00.0	02			
03	292 36.9 +00.7	S 20	21.1 -00.4	302 02.3 +02.2	S 21	13.2 +00.0	295 43.5 +02.3	S 20	01.0 -00.1	03			
04	307 37.6 +00.6	S 20	20.7 -00.3	317 04.5 +02.1	S 21	13.2 -00.1	310 45.8 +02.4	S 20	00.9 +00.0	04			
05	322 38.2 +00.7	S 20	20.4 -00.4	332 06.6 +02.2	S 21	13.1 +00.0	325 48.2 +02.3	S 20	00.9 +00.0	05			
06	337 38.9 +00.6	S 20	20.0 -00.3	347 08.8 +02.2	S 21	13.1 +00.0	340 50.5 +02.3	S 20	00.9 +00.0	06			
07	352 39.5 +00.7	S 20	19.7 -00.4	2 11.0 +02.1	S 21	13.1 -00.1	355 52.8 +02.3	S 20	00.9 -00.1	07			
08	7 40.2 +00.6	S 20	19.3 -00.4	17 13.1 +02.2	S 21	13.0 +00.0	10 55.1 +02.3	S 20	00.8 +00.0	08			
09	22 40.8 +00.7	S 20	18.9 -00.3	32 15.3 +02.2	S 21	13.0 -00.1	25 57.4 +02.4	S 20	00.8 +00.0	09			
10	37 41.5 +00.6	S 20	18.6 -00.4	47 17.5 +02.1	S 21	12.9 +00.0	40 59.8 +02.3	S 20	00.8 -00.1	10			
11	52 42.1 +00.7	S 20	18.2 -00.3	62 19.6 +02.2	S 21	12.9 -00.1	56 02.1 +02.3	S 20	00.7 +00.0	11			
12	67 42.8 +00.6	S 20	17.9 -00.4	77 21.8 +02.1	S 21	12.8 +00.0	71 04.4 +02.3	S 20	00.7 +00.0	12			
13	82 43.4 +00.7	S 20	17.5 -00.4	92 23.9 +02.2	S 21	12.8 -00.1	86 06.7 +02.3	S 20	00.7 +00.0	13			
14	97 44.1 +00.7	S 20	17.1 -00.3	107 26.1 +02.2	S 21	12.7 +00.0	101 09.0 +02.3	S 20	00.7 -00.1	14			
15	112 44.8 +00.6	S 20	16.8 -00.4	122 28.3 +02.1	S 21	12.7 -00.1	116 11.3 +02.4	S 20	00.6 +00.0	15			
16	127 45.4 +00.7	S 20	16.4 -00.4	137 30.4 +02.2	S 21	12.6 +00.0	131 13.7 +02.3	S 20	00.6 +00.0	16			
17	142 46.1 +00.6	S 20	16.0 -00.3	152 32.6 +02.2	S 21	12.6 -00.1	146 16.0 +02.3	S 20	00.6 +00.0	17			
18	157 46.7 +00.7	S 20	15.7 -00.4	167 34.8 +02.1	S 21	12.5 +00.0	161 18.3 +02.3	S 20	00.6 -00.1	18			
19	172 47.4 +00.6	S 20	15.3 -00.3	182 36.9 +02.2	S 21	12.5 +00.0	176 20.6 +02.3	S 20	00.5 +00.0	19			
20	187 48.0 +00.7	S 20	15.0 -00.4	197 39.1 +02.2	S 21	12.5 -00.1	191 22.9 +02.4	S 20	00.5 +00.0	20			
21	202 48.7 +00.6	S 20	14.6 -00.4	212 41.3 +02.1	S 21	12.4 +00.0	206 25.3 +02.3	S 20	00.5 +00.0	21			
22	217 49.3 +00.7	S 20	14.2 -00.3	227 43.4 +02.2	S 21	12.4 -00.1	221 27.6 +02.3	S 20	00.5 -00.1	22			
23	232 50.0 +00.6	S 20	13.9 -00.4	242 45.6 +02.2	S 21	12.3 +00.0	236 29.9 +02.3	S 20	00.4 +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 00'1 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 054° 054° 054° 053° 053° 053°			SHA 063° 063° 063° 063° 063° 063°			SHA 057° 057° 057° 057° 057° 057°						
	Greenwich Culmination Time: 07:29			Greenwich Culmination Time: 06:51			Greenwich Culmination Time: 07:16						

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 23.4 +00.2	N 06 32.8 +00.9	135 39.6 +00.1	N 24 25.0 +00.7	25 13.4 -33.0	N 09 45.5 -13.9	00						
01	194 23.6 +00.2	N 06 33.7 +00.9	150 39.7 +00.2	N 24 25.7 +00.6	39 40.4 -32.9	N 09 31.6 -14.0	01						
02	209 23.8 +00.2	N 06 34.6 +01.0	165 39.9 +00.1	N 24 26.3 +00.6	54 07.5 -32.8	N 09 17.6 -14.1	02						
03	224 24.0 +00.2	N 06 35.6 +00.9	180 40.0 +00.2	N 24 26.9 +00.6	68 34.7 -32.9	N 09 03.5 -14.1	03						
04	239 24.2 +00.1	N 06 36.5 +01.0	195 40.2 +00.1	N 24 27.5 +00.6	83 01.8 -32.8	N 08 49.4 -14.3	04						
05	254 24.3 +00.2	N 06 37.5 +00.9	210 40.3 +00.2	N 24 28.1 +00.6	97 29.0 -32.9	N 08 35.1 -14.2	05						
06	269 24.5 +00.2	N 06 38.4 +01.0	225 40.5 +00.1	N 24 28.7 +00.6	111 56.1 -32.8	N 08 20.9 -14.4	06						
07	284 24.7 +00.2	N 06 39.4 +00.9	240 40.6 +00.2	N 24 29.3 +00.6	126 23.3 -32.8	N 08 06.5 -14.4	07						
08	299 24.9 +00.1	N 06 40.3 +00.9	255 40.8 +00.1	N 24 29.9 +00.6	140 50.5 -32.7	N 07 52.1 -14.5	08						
09	314 25.0 +00.2	N 06 41.2 +01.0	270 40.9 +00.2	N 24 30.5 +00.6	155 17.8 -32.8	N 07 37.6 -14.5	09						
10	329 25.2 +00.2	N 06 42.2 +00.9	285 41.1 +00.2	N 24 31.1 +00.6	169 45.0 -32.7	N 07 23.1 -14.6	10						
11	344 25.4 +00.2	N 06 43.1 +01.0	300 41.3 +00.1	N 24 31.7 +00.6	184 12.3 -32.7	N 07 08.5 -14.6	11						
12	359 25.6 +00.2	N 06 44.1 +00.9	315 41.4 +00.2	N 24 32.3 +00.6	198 39.6 -32.7	N 06 53.9 -14.7	12						
13	14 25.8 +00.1	N 06 45.0 +00.9	330 41.6 +00.1	N 24 32.9 +00.6	213 06.9 -32.7	N 06 39.2 -14.7	13						
14	29 25.9 +00.2	N 06 45.9 +01.0	345 41.7 +00.2	N 24 33.5 +00.6	227 34.2 -32.7	N 06 24.5 -14.8	14						
15	44 26.1 +00.2	N 06 46.9 +00.9	0 41.9 +00.2	N 24 34.1 +00.5	242 01.5 -32.7	N 06 09.7 -14.8	15						
16	59 26.3 +00.2	N 06 47.8 +01.0	15 42.1 +00.1	N 24 34.6 +00.6	256 28.8 -32.6	N 05 54.9 -14.9	16						
17	74 26.5 +00.1	N 06 48.8 +00.9	30 42.2 +00.2	N 24 35.2 +00.6	270 56.2 -32.7	N 05 40.0 -14.9	17						
18	89 26.6 +00.2	N 06 49.7 +00.9	45 42.4 +00.2	N 24 35.8 +00.6	285 23.5 -32.6	N 05 25.1 -15.0	18						
19	104 26.8 +00.2	N 06 50.6 +01.0	60 42.6 +00.1	N 24 36.4 +00.6	299 50.9 -32.6	N 05 10.1 -15.0	19						
20	119 27.0 +00.2	N 06 51.6 +00.9	75 42.7 +00.2	N 24 37.0 +00.6	314 18.3 -32.6	N 04 55.1 -15.0	20						
21	134 27.2 +00.1	N 06 52.5 +01.0	90 42.9 +00.2	N 24 37.6 +00.6	328 45.7 -32.6	N 04 40.1 -15.1	21						
22	149 27.3 +00.2	N 06 53.5 +00.9	105 43.1 +00.1	N 24 38.2 +00.6	343 13.1 -32.6	N 04 25.0 -15.1	22						
23	164 27.5 +00.2	N 06 54.4 +00.9	120 43.2 +00.2	N 24 38.8 +00.6	357 40.5 -32.6	N 04 09.9 -15.1	23						
	UT 02 06 10 14 18 22	SD 16'0 16'0 16'0 16'0 16'0 16'0	UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	UT 02 06 10 14 18 22	SD 16'6 16'6 16'6 16'7 16'7 16'7							
	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 60'9 61'0 61'1 61'2 61'2 61'3									
	SHA 345° 344° 344° 344° 344° 344°	SHA 301° 301° 301° 300° 300° 300°		SHA 189° 187° 185° 182° 180° 178°									
	Greenwich Culmination Time: 12:02	Greenwich Culmination Time: 14:57		Greenwich Culmination Time: 23:09									

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	247 50.6 +00.7	S 20 13.5 -00.4	257 47.8 +02.1	S 21 12.3 -00.1	251 32.2 +02.3	S 20 00.4 +00.0	00						
01	262 51.3 +00.6	S 20 13.1 -00.3	272 49.9 +02.2	S 21 12.2 +00.0	266 34.5 +02.4	S 20 00.4 -00.1	01						
02	277 51.9 +00.7	S 20 12.8 -00.4	287 52.1 +02.2	S 21 12.2 -00.1	281 36.9 +02.3	S 20 00.3 +00.0	02						
03	292 52.6 +00.6	S 20 12.4 -00.4	302 54.3 +02.1	S 21 12.1 +00.0	296 39.2 +02.3	S 20 00.3 +00.0	03						
04	307 53.2 +00.7	S 20 12.0 -00.3	317 56.4 +02.2	S 21 12.1 -00.1	311 41.5 +02.3	S 20 00.3 +00.0	04						
05	322 53.9 +00.6	S 20 11.7 -00.4	332 58.6 +02.2	S 21 12.0 +00.0	326 43.8 +02.3	S 20 00.3 -00.1	05						
06	337 54.5 +00.7	S 20 11.3 -00.4	348 00.8 +02.1	S 21 12.0 +00.0	341 46.1 +02.4	S 20 00.2 +00.0	06						
07	352 55.2 +00.7	S 20 10.9 -00.3	3 02.9 +02.2	S 21 12.0 -00.1	356 48.5 +02.3	S 20 00.2 +00.0	07						
08	7 55.9 +00.6	S 20 10.6 -00.4	18 05.1 +02.2	S 21 11.9 +00.0	11 50.8 +02.3	S 20 00.2 +00.0	08						
09	22 56.5 +00.7	S 20 10.2 -00.4	33 07.3 +02.2	S 21 11.9 -00.1	26 53.1 +02.3	S 20 00.2 -00.1	09						
10	37 57.2 +00.6	S 20 09.8 -00.3	48 09.5 +02.1	S 21 11.8 +00.0	41 55.4 +02.4	S 20 00.1 +00.0	10						
11	52 57.8 +00.7	S 20 09.5 -00.4	63 11.6 +02.2	S 21 11.8 -00.1	56 57.8 +02.3	S 20 00.1 +00.0	11						
12	67 58.5 +00.6	S 20 09.1 -00.4	78 13.8 +02.2	S 21 11.7 +00.0	72 00.1 +02.3	S 20 00.1 +00.0	12						
13	82 59.1 +00.7	S 20 08.7 -00.3	93 16.0 +02.1	S 21 11.7 -00.1	87 02.4 +02.3	S 20 00.1 -00.1	13						
14	97 59.8 +00.6	S 20 08.4 -00.4	108 18.1 +02.2	S 21 11.6 +00.0	102 04.7 +02.3	S 20 00.0 +00.0	14						
15	113 00.4 +00.7	S 20 08.0 -00.4	123 20.3 +02.2	S 21 11.6 +00.0	117 07.0 +02.4	S 20 00.0 +00.0	15						
16	128 01.1 +00.6	S 20 07.6 -00.4	138 22.5 +02.2	S 21 11.6 -00.1	132 09.4 +02.3	S 19 60.0 +00.0	16						
17	143 01.7 +00.7	S 20 07.2 -00.3	153 24.7 +02.1	S 21 11.5 +00.0	147 11.7 +02.3	S 19 60.0 -00.1	17						
18	158 02.4 +00.7	S 20 06.9 -00.4	168 26.8 +02.2	S 21 11.5 -00.1	162 14.0 +02.3	S 19 59.9 +00.0	18						
19	173 03.1 +00.6	S 20 06.5 -00.4	183 29.0 +02.2	S 21 11.4 +00.0	177 16.3 +02.4	S 19 59.9 +00.0	19						
20	188 03.7 +00.7	S 20 06.1 -00.3	198 31.2 +02.1	S 21 11.4 -00.1	192 18.7 +02.3	S 19 59.9 +00.0	20						
21	203 04.4 +00.6	S 20 05.8 -00.4	213 33.3 +02.2	S 21 11.3 +00.0	207 21.0 +02.3	S 19 59.9 -00.1	21						
22	218 05.0 +00.7	S 20 05.4 -00.4	228 35.5 +02.2	S 21 11.3 -00.1	222 23.3 +02.3	S 19 59.8 +00.0	22						
23	233 05.7 +00.6	S 20 05.0 -00.3	243 37.7 +02.2	S 21 11.2 +00.0	237 25.6 +02.4	S 19 59.8 +00.0	23						
	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	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	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 053° 053° 053° 053° 053° 052°	SHA 063° 063° 063° 063° 063° 063°		SHA 057° 057° 057° 057° 057° 057°									
	Greenwich Culmination Time: 07:28	Greenwich Culmination Time: 06:47		Greenwich Culmination Time: 07:12									

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 27.7 +00.2	N 06 55.3 +01.0	135 43.4 +00.2	N 24 39.4 +00.5	12 07.9 -32.5	N 03 54.8 -15.2	00										
01	194 27.9 +00.1	N 06 56.3 +00.9	150 43.6 +00.2	N 24 39.9 +00.6	26 35.4 -32.6	N 03 39.6 -15.2	01										
02	209 28.0 +00.2	N 06 57.2 +01.0	165 43.8 +00.1	N 24 40.5 +00.6	41 02.8 -32.6	N 03 24.4 -15.2	02										
03	224 28.2 +00.2	N 06 58.2 +00.9	180 43.9 +00.2	N 24 41.1 +00.6	55 30.2 -32.5	N 03 09.2 -15.3	03										
04	239 28.4 +00.2	N 06 59.1 +00.9	195 44.1 +00.2	N 24 41.7 +00.6	69 57.7 -32.6	N 02 53.9 -15.2	04										
05	254 28.6 +00.1	N 07 00.0 +01.0	210 44.3 +00.2	N 24 42.3 +00.6	84 25.1 -32.5	N 02 38.7 -15.3	05										
06	269 28.7 +00.2	N 07 01.0 +00.9	225 44.5 +00.1	N 24 42.9 +00.5	98 52.6 -32.5	N 02 23.4 -15.3	06										
07	284 28.9 +00.2	N 07 01.9 +00.9	240 44.6 +00.2	N 24 43.4 +00.6	113 20.1 -32.6	N 02 08.1 -15.4	07										
08	299 29.1 +00.2	N 07 02.8 +01.0	255 44.8 +00.2	N 24 44.0 +00.6	127 47.5 -32.5	N 01 52.7 -15.3	08										
09	314 29.3 +00.1	N 07 03.8 +00.9	270 45.0 +00.2	N 24 44.6 +00.6	142 15.0 -32.5	N 01 37.4 -15.4	09										
10	329 29.4 +00.2	N 07 04.7 +00.9	285 45.2 +00.2	N 24 45.2 +00.5	156 42.5 -32.6	N 01 22.0 -15.4	10										
11	344 29.6 +00.2	N 07 05.6 +01.0	300 45.4 +00.2	N 24 45.7 +00.6	171 09.9 -32.5	N 01 06.6 -15.3	11										
12	359 29.8 +00.2	N 07 06.6 +00.9	315 45.6 +00.1	N 24 46.3 +00.6	185 37.4 -32.5	N 00 51.3 -15.4	12										
13	14 30.0 +00.1	N 07 07.5 +01.0	330 45.7 +00.2	N 24 46.9 +00.6	200 04.9 -32.5	N 00 35.9 -15.4	13										
14	29 30.1 +00.2	N 07 08.5 +00.9	345 45.9 +00.2	N 24 47.5 +00.5	214 32.4 -32.6	N 00 20.5 -15.4	14										
15	44 30.3 +00.2	N 07 09.4 +00.9	0 46.1 +00.2	N 24 48.0 +00.6	228 59.8 -32.5	N 00 05.1 -15.4	15										
16	59 30.5 +00.2	N 07 10.3 +01.0	15 46.3 +00.2	N 24 48.6 +00.6	243 27.3 -32.5	S 00 10.3 +15.4	16										
17	74 30.7 +00.1	N 07 11.3 +00.9	30 46.5 +00.2	N 24 49.2 +00.5	257 54.8 -32.6	S 00 25.7 +15.4	17										
18	89 30.8 +00.2	N 07 12.2 +00.9	45 46.7 +00.2	N 24 49.7 +00.6	272 22.2 -32.5	S 00 41.1 +15.4	18										
19	104 31.0 +00.2	N 07 13.1 +01.0	60 46.9 +00.1	N 24 50.3 +00.6	286 49.7 -32.6	S 00 56.5 +15.4	19										
20	119 31.2 +00.2	N 07 14.1 +00.9	75 47.0 +00.2	N 24 50.9 +00.6	301 17.1 -32.5	S 01 11.9 +15.4	20										
21	134 31.4 +00.1	N 07 15.0 +00.9	90 47.2 +00.2	N 24 51.5 +00.5	315 44.6 -32.6	S 01 27.3 +15.4	21										
22	149 31.5 +00.2	N 07 15.9 +01.0	105 47.4 +00.2	N 24 52.0 +00.6	330 12.0 -32.5	S 01 42.7 +15.3	22										
23	164 31.7 +00.2	N 07 16.9 +00.9	120 47.6 +00.2	N 24 52.6 +00.5	344 39.5 -32.6	S 01 58.0 +15.4	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 344° 344° 343° 343° 343° 343°	Greenwich Culmination Time: 12:02		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 300° 300° 300° 299° 299° 299°	Greenwich Culmination Time: 14:56		UT 02 06 10 14 18 22	SD 16'7 16'7 16'7 16'7 16'7 16'7	HP 61'3 61'4 61'4 61'4 61'4 61'4	SHA 175° 173° 171° 168° 166° 164°	Greenwich Culmination Time: -1:00
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	248 06.3 +00.7	S 20 04.7 -00.4	258 39.9 +02.1	S 21 11.2 +00.0	252 28.0 +02.3	S 19 59.8 -00.1	00										
01	263 07.0 +00.6	S 20 04.3 -00.4	273 42.0 +02.2	S 21 11.2 -00.1	267 30.3 +02.3	S 19 59.7 +00.0	01										
02	278 07.6 +00.7	S 20 03.9 -00.4	288 44.2 +02.2	S 21 11.1 +00.0	282 32.6 +02.3	S 19 59.7 +00.0	02										
03	293 08.3 +00.7	S 20 03.5 -00.3	303 46.4 +02.2	S 21 11.1 -00.1	297 34.9 +02.3	S 19 59.7 +00.0	03										
04	308 09.0 +00.6	S 20 03.2 -00.4	318 48.6 +02.1	S 21 11.0 +00.0	312 37.2 +02.4	S 19 59.7 -00.1	04										
05	323 09.6 +00.7	S 20 02.8 -00.4	333 50.7 +02.2	S 21 11.0 -00.1	327 39.6 +02.3	S 19 59.6 +00.0	05										
06	338 10.3 +00.6	S 20 02.4 -00.4	348 52.9 +02.2	S 21 10.9 +00.0	342 41.9 +02.3	S 19 59.6 +00.0	06										
07	353 10.9 +00.7	S 20 02.0 -00.3	3 55.1 +02.2	S 21 10.9 -00.1	357 44.2 +02.3	S 19 59.6 +00.0	07										
08	8 11.6 +00.6	S 20 01.7 -00.4	18 57.3 +02.1	S 21 10.8 +00.0	12 46.5 +02.4	S 19 59.6 -00.1	08										
09	23 12.2 +00.7	S 20 01.3 -00.4	33 59.4 +02.2	S 21 10.8 +00.0	27 48.9 +02.3	S 19 59.5 +00.0	09										
10	38 12.9 +00.7	S 20 00.9 -00.4	49 01.6 +02.2	S 21 10.8 -00.1	42 51.2 +02.3	S 19 59.5 +00.0	10										
11	53 13.6 +00.6	S 20 00.5 -00.3	64 03.8 +02.2	S 21 10.7 +00.0	57 53.5 +02.4	S 19 59.5 +00.0	11										
12	68 14.2 +00.7	S 20 00.2 -00.4	79 06.0 +02.1	S 21 10.7 -00.1	72 55.9 +02.3	S 19 59.5 -00.1	12										
13	83 14.9 +00.6	S 19 59.8 -00.4	94 08.1 +02.2	S 21 10.6 +00.0	87 58.2 +02.3	S 19 59.4 +00.0	13										
14	98 15.5 +00.7	S 19 59.4 -00.4	109 10.3 +02.2	S 21 10.6 -00.1	103 00.5 +02.3	S 19 59.4 +00.0	14										
15	113 16.2 +00.7	S 19 59.0 -00.3	124 12.5 +02.2	S 21 10.5 +00.0	118 02.8 +02.4	S 19 59.4 +00.0	15										
16	128 16.9 +00.6	S 19 58.7 -00.4	139 14.7 +02.2	S 21 10.5 -00.1	133 05.2 +02.3	S 19 59.4 -00.1	16										
17	143 17.5 +00.7	S 19 58.3 -00.4	154 16.9 +02.1	S 21 10.4 +00.0	148 07.5 +02.3	S 19 59.3 +00.0	17										
18	158 18.2 +00.6	S 19 57.9 -00.4	169 19.0 +02.2	S 21 10.4 +00.0	163 09.8 +02.3	S 19 59.3 +00.0	18										
19	173 18.8 +00.7	S 19 57.5 -00.3	184 21.2 +02.2	S 21 10.4 -00.1	178 12.1 +02.4	S 19 59.3 +00.0	19										
20	188 19.5 +00.6	S 19 57.2 -00.4	199 23.4 +02.2	S 21 10.3 +00.0	193 14.5 +02.3	S 19 59.3 -00.1	20										
21	203 20.1 +00.7	S 19 56.8 -00.4	214 25.6 +02.2	S 21 10.3 -00.1	208 16.8 +02.3	S 19 59.2 +00.0	21										
22	218 20.8 +00.7	S 19 56.4 -00.4	229 27.8 +02.1	S 21 10.2 +00.0	223 19.1 +02.3	S 19 59.2 +00.0	22										
23	233 21.5 +00.6	S 19 56.0 -00.4	244 29.9 +02.2	S 21 10.2 -00.1	238 21.4 +02.4	S 19 59.2 +00.0	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 052° 052° 052° 052° 052° 052°	Greenwich Culmination Time: 07:27		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 063° 063° 063° 063° 063° 063°	Greenwich Culmination Time: 06:44		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 057° 057° 057° 057° 057° 057°	Greenwich Culmination Time: 07:09

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 31.9 +00.2	N 07 17.8 +00.9	135 47.8 +00.2	N 24 53.1 +00.6	359 06.9 -32.6	S 02 13.4 +15.3	00						
01	194 32.1 +00.1	N 07 18.7 +01.0	150 48.0 +00.2	N 24 53.7 +00.6	13 34.3 -32.6	S 02 28.7 +15.3	01						
02	209 32.2 +00.2	N 07 19.7 +00.9	165 48.2 +00.2	N 24 54.3 +00.5	28 01.7 -32.6	S 02 44.0 +15.3	02						
03	224 32.4 +00.2	N 07 20.6 +00.9	180 48.4 +00.2	N 24 54.8 +00.6	42 29.1 -32.6	S 02 59.3 +15.3	03						
04	239 32.6 +00.1	N 07 21.5 +01.0	195 48.6 +00.2	N 24 55.4 +00.6	56 56.5 -32.6	S 03 14.6 +15.3	04						
05	254 32.7 +00.2	N 07 22.5 +00.9	210 48.8 +00.2	N 24 56.0 +00.5	71 23.9 -32.6	S 03 29.9 +15.2	05						
06	269 32.9 +00.2	N 07 23.4 +00.9	225 49.0 +00.2	N 24 56.5 +00.6	85 51.3 -32.7	S 03 45.1 +15.2	06						
07	284 33.1 +00.2	N 07 24.3 +01.0	240 49.2 +00.2	N 24 57.1 +00.5	100 18.6 -32.6	S 04 00.3 +15.2	07						
08	299 33.3 +00.1	N 07 25.3 +00.9	255 49.4 +00.2	N 24 57.6 +00.6	114 46.0 -32.7	S 04 15.5 +15.1	08						
09	314 33.4 +00.2	N 07 26.2 +00.9	270 49.6 +00.2	N 24 58.2 +00.5	129 13.3 -32.7	S 04 30.6 +15.1	09						
10	329 33.6 +00.2	N 07 27.1 +01.0	285 49.8 +00.2	N 24 58.7 +00.6	143 40.6 -32.7	S 04 45.7 +15.1	10						
11	344 33.8 +00.2	N 07 28.1 +00.9	300 50.0 +00.2	N 24 59.3 +00.5	158 07.9 -32.7	S 05 00.8 +15.0	11						
12	359 34.0 +00.1	N 07 29.0 +00.9	315 50.2 +00.2	N 24 59.8 +00.6	172 35.2 -32.7	S 05 15.8 +15.0	12						
13	14 34.1 +00.2	N 07 29.9 +00.9	330 50.4 +00.3	N 25 00.4 +00.5	187 02.5 -32.8	S 05 30.8 +15.0	13						
14	29 34.3 +00.2	N 07 30.8 +01.0	345 50.7 +00.2	N 25 00.9 +00.6	201 29.7 -32.7	S 05 45.8 +14.9	14						
15	44 34.5 +00.1	N 07 31.8 +00.9	0 50.9 +00.2	N 25 01.5 +00.6	215 57.0 -32.8	S 06 00.7 +14.9	15						
16	59 34.6 +00.2	N 07 32.7 +00.9	15 51.1 +00.2	N 25 02.1 +00.5	230 24.2 -32.8	S 06 15.6 +14.9	16						
17	74 34.8 +00.2	N 07 33.6 +01.0	30 51.3 +00.2	N 25 02.6 +00.5	244 51.4 -32.8	S 06 30.5 +14.7	17						
18	89 35.0 +00.2	N 07 34.6 +00.9	45 51.5 +00.2	N 25 03.1 +00.6	259 18.6 -32.8	S 06 45.2 +14.8	18						
19	104 35.2 +00.1	N 07 35.5 +00.9	60 51.7 +00.2	N 25 03.7 +00.5	273 45.8 -32.9	S 06 60.0 +14.7	19						
20	119 35.3 +00.2	N 07 36.4 +01.0	75 51.9 +00.2	N 25 04.2 +00.6	288 12.9 -32.9	S 07 14.7 +14.6	20						
21	134 35.5 +00.2	N 07 37.4 +00.9	90 52.1 +00.3	N 25 04.8 +00.5	302 40.0 -32.9	S 07 29.3 +14.6	21						
22	149 35.7 +00.1	N 07 38.3 +00.9	105 52.4 +00.2	N 25 05.3 +00.6	317 07.1 -32.9	S 07 43.9 +14.5	22						
23	164 35.8 +00.2	N 07 39.2 +00.9	120 52.6 +00.2	N 25 05.9 +00.5	331 34.2 -32.9	S 07 58.4 +14.5	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 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'7 16'7 16'7 16'7 16'7 16'7								
	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 61'4 61'4 61'3 61'3 61'2 61'2								
	SHA 343° 343° 342° 342° 342° 342°		SHA 299° 299° 299° 299° 298° 298°		SHA 161° 159° 157° 154° 152° 150°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 14:56		Greenwich Culmination Time: 00:03								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	248 22.1 +00.7	S 19 55.6 -00.3	259 32.1 +02.2	S 21 10.1 +00.0	253 23.8 +02.3	S 19 59.2 -00.1	00						
01	263 22.8 +00.6	S 19 55.3 -00.4	274 34.3 +02.2	S 21 10.1 +00.0	268 26.1 +02.3	S 19 59.1 +00.0	01						
02	278 23.4 +00.7	S 19 54.9 -00.4	289 36.5 +02.2	S 21 10.1 -00.1	283 28.4 +02.4	S 19 59.1 +00.0	02						
03	293 24.1 +00.7	S 19 54.5 -00.4	304 38.7 +02.1	S 21 10.0 +00.0	298 30.8 +02.3	S 19 59.1 +00.0	03						
04	308 24.8 +00.6	S 19 54.1 -00.3	319 40.8 +02.2	S 21 10.0 -00.1	313 33.1 +02.3	S 19 59.1 -00.1	04						
05	323 25.4 +00.7	S 19 53.8 -00.4	334 43.0 +02.2	S 21 09.9 +00.0	328 35.4 +02.3	S 19 59.0 +00.0	05						
06	338 26.1 +00.6	S 19 53.4 -00.4	349 45.2 +02.2	S 21 09.9 -00.1	343 37.7 +02.4	S 19 59.0 +00.0	06						
07	353 26.7 +00.7	S 19 53.0 -00.4	4 47.4 +02.2	S 21 09.8 +00.0	358 40.1 +02.3	S 19 59.0 +00.0	07						
08	8 27.4 +00.7	S 19 52.6 -00.4	19 49.6 +02.2	S 21 09.8 +00.0	13 42.4 +02.3	S 19 59.0 -00.1	08						
09	23 28.1 +00.6	S 19 52.2 -00.3	34 51.8 +02.1	S 21 09.8 -00.1	28 44.7 +02.4	S 19 58.9 +00.0	09						
10	38 28.7 +00.7	S 19 51.9 -00.4	49 53.9 +02.2	S 21 09.7 +00.0	43 47.1 +02.3	S 19 58.9 +00.0	10						
11	53 29.4 +00.7	S 19 51.5 -00.4	64 56.1 +02.2	S 21 09.7 -00.1	58 49.4 +02.3	S 19 58.9 +00.0	11						
12	68 30.1 +00.6	S 19 51.1 -00.4	79 58.3 +02.2	S 21 09.6 +00.0	73 51.7 +02.3	S 19 58.9 -00.1	12						
13	83 30.7 +00.7	S 19 50.7 -00.4	95 00.5 +02.2	S 21 09.6 -00.1	88 54.0 +02.4	S 19 58.8 +00.0	13						
14	98 31.4 +00.6	S 19 50.3 -00.4	110 02.7 +02.2	S 21 09.5 +00.0	103 56.4 +02.3	S 19 58.8 +00.0	14						
15	113 32.0 +00.7	S 19 49.9 -00.3	125 04.9 +02.1	S 21 09.5 +00.0	118 58.7 +02.3	S 19 58.8 +00.0	15						
16	128 32.7 +00.7	S 19 49.6 -00.4	140 07.0 +02.2	S 21 09.5 -00.1	134 01.0 +02.4	S 19 58.8 -00.1	16						
17	143 33.4 +00.6	S 19 49.2 -00.4	155 09.2 +02.2	S 21 09.4 +00.0	149 03.4 +02.3	S 19 58.7 +00.0	17						
18	158 34.0 +00.7	S 19 48.8 -00.4	170 11.4 +02.2	S 21 09.4 -00.1	164 05.7 +02.3	S 19 58.7 +00.0	18						
19	173 34.7 +00.6	S 19 48.4 -00.4	185 13.6 +02.2	S 21 09.3 +00.0	179 08.0 +02.4	S 19 58.7 +00.0	19						
20	188 35.3 +00.7	S 19 48.0 -00.4	200 15.8 +02.2	S 21 09.3 -00.1	194 10.4 +02.3	S 19 58.7 -00.1	20						
21	203 36.0 +00.7	S 19 47.6 -00.3	215 18.0 +02.2	S 21 09.2 +00.0	209 12.7 +02.3	S 19 58.6 +00.0	21						
22	218 36.7 +00.6	S 19 47.3 -00.4	230 20.2 +02.1	S 21 09.2 +00.0	224 15.0 +02.4	S 19 58.6 +00.0	22						
23	233 37.3 +00.7	S 19 46.9 -00.4	245 22.3 +02.2	S 21 09.2 -00.1	239 17.4 +02.3	S 19 58.6 +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 00'1 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 052° 051° 051° 051° 051° 051°		SHA 063° 063° 063° 063° 063° 063°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 07:26		Greenwich Culmination Time: 06:40		Greenwich Culmination Time: 07:05								



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 36.0 +00.2	N 07 40.1 +01.0	135 52.8 +00.2	N 25 06.4 +00.6	346 01.3 -33.0	S 08 12.9 +14.4	00						
01	194 36.2 +00.2	N 07 41.1 +00.9	150 53.0 +00.2	N 25 07.0 +00.5	0 28.3 -32.9	S 08 27.3 +14.3	01						
02	209 36.4 +00.1	N 07 42.0 +00.9	165 53.2 +00.3	N 25 07.5 +00.5	14 55.4 -33.0	S 08 41.6 +14.3	02						
03	224 36.5 +00.2	N 07 42.9 +00.9	180 53.5 +00.2	N 25 08.0 +00.6	29 22.4 -33.1	S 08 55.9 +14.2	03						
04	239 36.7 +00.2	N 07 43.8 +01.0	195 53.7 +00.2	N 25 08.6 +00.5	43 49.3 -33.0	S 09 10.1 +14.2	04						
05	254 36.9 +00.1	N 07 44.8 +00.9	210 53.9 +00.2	N 25 09.1 +00.6	58 16.3 -33.1	S 09 24.3 +14.1	05						
06	269 37.0 +00.2	N 07 45.7 +00.9	225 54.1 +00.3	N 25 09.7 +00.5	72 43.2 -33.1	S 09 38.4 +14.0	06						
07	284 37.2 +00.2	N 07 46.6 +01.0	240 54.4 +00.2	N 25 10.2 +00.5	87 10.1 -33.1	S 09 52.4 +13.9	07						
08	299 37.4 +00.1	N 07 47.6 +00.9	255 54.6 +00.2	N 25 10.7 +00.6	101 37.0 -33.1	S 10 06.3 +13.9	08						
09	314 37.5 +00.2	N 07 48.5 +00.9	270 54.8 +00.3	N 25 11.3 +00.5	116 03.9 -33.2	S 10 20.2 +13.8	09						
10	329 37.7 +00.2	N 07 49.4 +00.9	285 55.1 +00.2	N 25 11.8 +00.5	130 30.7 -33.2	S 10 34.0 +13.7	10						
11	344 37.9 +00.2	N 07 50.3 +01.0	300 55.3 +00.2	N 25 12.3 +00.6	144 57.5 -33.2	S 10 47.7 +13.6	11						
12	359 38.1 +00.1	N 07 51.3 +00.9	315 55.5 +00.3	N 25 12.9 +00.5	159 24.3 -33.3	S 11 01.3 +13.6	12						
13	14 38.2 +00.2	N 07 52.2 +00.9	330 55.8 +00.2	N 25 13.4 +00.5	173 51.0 -33.2	S 11 14.9 +13.4	13						
14	29 38.4 +00.2	N 07 53.1 +00.9	345 56.0 +00.2	N 25 13.9 +00.5	188 17.8 -33.3	S 11 28.3 +13.4	14						
15	44 38.6 +00.1	N 07 54.0 +01.0	0 56.2 +00.3	N 25 14.4 +00.6	202 44.5 -33.4	S 11 41.7 +13.3	15						
16	59 38.7 +00.2	N 07 55.0 +00.9	15 56.5 +00.2	N 25 15.0 +00.5	217 11.1 -33.3	S 11 55.0 +13.3	16						
17	74 38.9 +00.2	N 07 55.9 +00.9	30 56.7 +00.2	N 25 15.5 +00.5	231 37.8 -33.4	S 12 08.3 +13.1	17						
18	89 39.1 +00.1	N 07 56.8 +00.9	45 56.9 +00.3	N 25 16.0 +00.6	246 04.4 -33.4	S 12 21.4 +13.0	18						
19	104 39.2 +00.2	N 07 57.7 +01.0	60 57.2 +00.2	N 25 16.6 +00.5	260 31.0 -33.4	S 12 34.4 +13.0	19						
20	119 39.4 +00.2	N 07 58.7 +00.9	75 57.4 +00.3	N 25 17.1 +00.5	274 57.6 -33.5	S 12 47.4 +12.8	20						
21	134 39.6 +00.1	N 07 59.6 +00.9	90 57.7 +00.2	N 25 17.6 +00.5	289 24.1 -33.5	S 13 00.2 +12.8	21						
22	149 39.7 +00.2	N 08 00.5 +00.9	105 57.9 +00.2	N 25 18.1 +00.5	303 50.6 -33.5	S 13 13.0 +12.7	22						
23	164 39.9 +00.2	N 08 01.4 +00.9	120 58.2 +00.2	N 25 18.6 +00.6	318 17.1 -33.5	S 13 25.7 +12.5	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 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'6 16'6 16'6 16'6 16'6 16'5								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'3		HP 61'1 61'0 60'9 60'9 60'8 60'6								
	SHA 342° 342° 342° 341° 341° 341°		SHA 298° 298° 298° 298° 298° 297°		SHA 147° 145° 142° 140° 138° 135°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 14:56		Greenwich Culmination Time: 00:58								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	248 38.0 +00.7	S 19 46.5 -00.4	260 24.5 +02.2	S 21 09.1 +00.0	254 19.7 +02.3	S 19 58.6 -00.1	00						
01	263 38.7 +00.6	S 19 46.1 -00.4	275 26.7 +02.2	S 21 09.1 -00.1	269 22.0 +02.3	S 19 58.5 +00.0	01						
02	278 39.3 +00.7	S 19 45.7 -00.4	290 28.9 +02.2	S 21 09.0 +00.0	284 24.3 +02.4	S 19 58.5 +00.0	02						
03	293 40.0 +00.6	S 19 45.3 -00.4	305 31.1 +02.2	S 21 09.0 -00.1	299 26.7 +02.3	S 19 58.5 +00.0	03						
04	308 40.6 +00.7	S 19 44.9 -00.3	320 33.3 +02.2	S 21 08.9 +00.0	314 29.0 +02.3	S 19 58.5 -00.1	04						
05	323 41.3 +00.7	S 19 44.6 -00.4	335 35.5 +02.2	S 21 08.9 +00.0	329 31.3 +02.4	S 19 58.4 +00.0	05						
06	338 42.0 +00.6	S 19 44.2 -00.4	350 37.7 +02.1	S 21 08.9 -00.1	344 33.7 +02.3	S 19 58.4 +00.0	06						
07	353 42.6 +00.7	S 19 43.8 -00.4	5 39.8 +02.2	S 21 08.8 +00.0	359 36.0 +02.3	S 19 58.4 +00.0	07						
08	8 43.3 +00.7	S 19 43.4 -00.4	20 42.0 +02.2	S 21 08.8 -00.1	14 38.3 +02.4	S 19 58.4 +00.0	08						
09	23 44.0 +00.6	S 19 43.0 -00.4	35 44.2 +02.2	S 21 08.7 +00.0	29 40.7 +02.3	S 19 58.4 -00.1	09						
10	38 44.6 +00.7	S 19 42.6 -00.4	50 46.4 +02.2	S 21 08.7 -00.1	44 43.0 +02.3	S 19 58.3 +00.0	10						
11	53 45.3 +00.7	S 19 42.2 -00.3	65 48.6 +02.2	S 21 08.6 +00.0	59 45.3 +02.4	S 19 58.3 +00.0	11						
12	68 46.0 +00.6	S 19 41.9 -00.4	80 50.8 +02.2	S 21 08.6 +00.0	74 47.7 +02.3	S 19 58.3 +00.0	12						
13	83 46.6 +00.7	S 19 41.5 -00.4	95 53.0 +02.2	S 21 08.6 -00.1	89 50.0 +02.3	S 19 58.3 -00.1	13						
14	98 47.3 +00.7	S 19 41.1 -00.4	110 55.2 +02.2	S 21 08.5 +00.0	104 52.3 +02.4	S 19 58.2 +00.0	14						
15	113 48.0 +00.6	S 19 40.7 -00.4	125 57.4 +02.2	S 21 08.5 -00.1	119 54.7 +02.3	S 19 58.2 +00.0	15						
16	128 48.6 +00.7	S 19 40.3 -00.4	140 59.6 +02.2	S 21 08.4 +00.0	134 57.0 +02.3	S 19 58.2 +00.0	16						
17	143 49.3 +00.7	S 19 39.9 -00.4	156 01.8 +02.1	S 21 08.4 +00.0	149 59.3 +02.4	S 19 58.2 -00.1	17						
18	158 50.0 +00.6	S 19 39.5 -00.4	171 03.9 +02.2	S 21 08.4 -00.1	165 01.7 +02.3	S 19 58.1 +00.0	18						
19	173 50.6 +00.7	S 19 39.1 -00.4	186 06.1 +02.2	S 21 08.3 +00.0	180 04.0 +02.3	S 19 58.1 +00.0	19						
20	188 51.3 +00.6	S 19 38.7 -00.4	201 08.3 +02.2	S 21 08.3 -00.1	195 06.3 +02.4	S 19 58.1 +00.0	20						
21	203 51.9 +00.7	S 19 38.3 -00.3	216 10.5 +02.2	S 21 08.2 +00.0	210 08.7 +02.3	S 19 58.1 -00.1	21						
22	218 52.6 +00.7	S 19 38.0 -00.4	231 12.7 +02.2	S 21 08.2 -00.1	225 11.0 +02.3	S 19 58.0 +00.0	22						
23	233 53.3 +00.6	S 19 37.6 -00.4	246 14.9 +02.2	S 21 08.1 +00.0	240 13.3 +02.4	S 19 58.0 +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 00'1 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 051° 051° 051° 051° 050° 050°		SHA 063° 063° 063° 063° 063° 063°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 07:25		Greenwich Culmination Time: 06:37		Greenwich Culmination Time: 07:01								

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 40.1 +00.1	N 08 02.3 +01.0	135 58.4 +00.3	N 25 19.2 +00.5	332 43.6 -33.6	S 13 38.2 +12.5	00						
01	194 40.2 +00.2	N 08 03.3 +00.9	150 58.7 +00.2	N 25 19.7 +00.5	347 10.0 -33.6	S 13 50.7 +12.4	01						
02	209 40.4 +00.2	N 08 04.2 +00.9	165 58.9 +00.2	N 25 20.2 +00.5	1 36.4 -33.6	S 14 03.1 +12.2	02						
03	224 40.6 +00.1	N 08 05.1 +00.9	180 59.1 +00.3	N 25 20.7 +00.5	16 02.8 -33.7	S 14 15.3 +12.2	03						
04	239 40.7 +00.2	N 08 06.0 +01.0	195 59.4 +00.3	N 25 21.2 +00.6	30 29.1 -33.7	S 14 27.5 +12.1	04						
05	254 40.9 +00.2	N 08 07.0 +00.9	210 59.7 +00.2	N 25 21.8 +00.5	44 55.4 -33.7	S 14 39.6 +11.9	05						
06	269 41.1 +00.2	N 08 07.9 +00.9	225 59.9 +00.3	N 25 22.3 +00.5	59 21.7 -33.7	S 14 51.5 +11.9	06						
07	284 41.3 +00.1	N 08 08.8 +00.9	241 00.2 +00.2	N 25 22.8 +00.5	73 48.0 -33.8	S 15 03.4 +11.7	07						
08	299 41.4 +00.2	N 08 09.7 +00.9	256 00.4 +00.3	N 25 23.3 +00.5	88 14.2 -33.8	S 15 15.1 +11.6	08						
09	314 41.6 +00.2	N 08 10.6 +01.0	271 00.7 +00.2	N 25 23.8 +00.5	102 40.4 -33.8	S 15 26.7 +11.6	09						
10	329 41.8 +00.1	N 08 11.6 +00.9	286 00.9 +00.3	N 25 24.3 +00.5	117 06.6 -33.8	S 15 38.3 +11.4	10						
11	344 41.9 +00.2	N 08 12.5 +00.9	301 01.2 +00.2	N 25 24.8 +00.5	131 32.8 -33.9	S 15 49.7 +11.3	11						
12	359 42.1 +00.2	N 08 13.4 +00.9	316 01.4 +00.3	N 25 25.3 +00.6	145 58.9 -33.9	S 16 01.0 +11.1	12						
13	14 42.3 +00.1	N 08 14.3 +00.9	331 01.7 +00.3	N 25 25.9 +00.5	160 25.0 -33.9	S 16 12.1 +11.1	13						
14	29 42.4 +00.2	N 08 15.2 +01.0	346 02.0 +00.2	N 25 26.4 +00.5	174 51.1 -33.9	S 16 23.2 +11.0	14						
15	44 42.6 +00.1	N 08 16.2 +00.9	1 02.2 +00.3	N 25 26.9 +00.5	189 17.2 -34.0	S 16 34.2 +10.8	15						
16	59 42.7 +00.2	N 08 17.1 +00.9	16 02.5 +00.3	N 25 27.4 +00.5	203 43.2 -34.0	S 16 45.0 +10.7	16						
17	74 42.9 +00.2	N 08 18.0 +00.9	31 02.8 +00.2	N 25 27.9 +00.5	218 09.2 -34.0	S 16 55.7 +10.6	17						
18	89 43.1 +00.1	N 08 18.9 +00.9	46 03.0 +00.3	N 25 28.4 +00.5	232 35.2 -34.0	S 17 06.3 +10.4	18						
19	104 43.2 +00.2	N 08 19.8 +01.0	61 03.3 +00.3	N 25 28.9 +00.5	247 01.2 -34.1	S 17 16.7 +10.4	19						
20	119 43.4 +00.2	N 08 20.8 +00.9	76 03.6 +00.2	N 25 29.4 +00.5	261 27.1 -34.1	S 17 27.1 +10.2	20						
21	134 43.6 +00.1	N 08 21.7 +00.9	91 03.8 +00.3	N 25 29.9 +00.5	275 53.0 -34.1	S 17 37.3 +10.1	21						
22	149 43.7 +00.2	N 08 22.6 +00.9	106 04.1 +00.3	N 25 30.4 +00.5	290 18.9 -34.1	S 17 47.4 +10.0	22						
23	164 43.9 +00.2	N 08 23.5 +00.9	121 04.4 +00.3	N 25 30.9 +00.5	304 44.8 -34.2	S 17 57.4 +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 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'5 16'5 16'4 16'4 16'4 16'3								
	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 60'5 60'4 60'3 60'2 60'0 59'9								
	SHA 341° 341° 341° 340° 340° 340°		SHA 297° 297° 297° 297° 297° 296°		SHA 133° 130° 128° 126° 123° 121°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 14:55		Greenwich Culmination Time: 01:53								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	248 53.9 +00.7	S 19 37.2 -00.4	261 17.1 +02.2	S 21 08.1 +00.0	255 15.7 +02.3	S 19 58.0 +00.0	00						
01	263 54.6 +00.7	S 19 36.8 -00.4	276 19.3 +02.2	S 21 08.1 -00.1	270 18.0 +02.4	S 19 58.0 -00.1	01						
02	278 55.3 +00.6	S 19 36.4 -00.4	291 21.5 +02.2	S 21 08.0 +00.0	285 20.4 +02.3	S 19 57.9 +00.0	02						
03	293 55.9 +00.7	S 19 36.0 -00.4	306 23.7 +02.2	S 21 08.0 -00.1	300 22.7 +02.3	S 19 57.9 +00.0	03						
04	308 56.6 +00.7	S 19 35.6 -00.4	321 25.9 +02.2	S 21 07.9 +00.0	315 25.0 +02.4	S 19 57.9 +00.0	04						
05	323 57.3 +00.6	S 19 35.2 -00.4	336 28.1 +02.2	S 21 07.9 +00.0	330 27.4 +02.3	S 19 57.9 +00.0	05						
06	338 57.9 +00.7	S 19 34.8 -00.4	351 30.3 +02.2	S 21 07.9 -00.1	345 29.7 +02.3	S 19 57.9 -00.1	06						
07	353 58.6 +00.7	S 19 34.4 -00.4	6 32.5 +02.2	S 21 07.8 +00.0	0 32.0 +02.4	S 19 57.8 +00.0	07						
08	8 59.3 +00.6	S 19 34.0 -00.4	21 34.7 +02.2	S 21 07.8 -00.1	15 34.4 +02.3	S 19 57.8 +00.0	08						
09	23 59.9 +00.7	S 19 33.6 -00.4	36 36.9 +02.2	S 21 07.7 +00.0	30 36.7 +02.3	S 19 57.8 +00.0	09						
10	39 00.6 +00.7	S 19 33.2 -00.3	51 39.1 +02.2	S 21 07.7 +00.0	45 39.0 +02.4	S 19 57.8 -00.1	10						
11	54 01.3 +00.6	S 19 32.9 -00.4	66 41.3 +02.2	S 21 07.7 -00.1	60 41.4 +02.3	S 19 57.7 +00.0	11						
12	69 01.9 +00.7	S 19 32.5 -00.4	81 43.5 +02.2	S 21 07.6 +00.0	75 43.7 +02.4	S 19 57.7 +00.0	12						
13	84 02.6 +00.7	S 19 32.1 -00.4	96 45.7 +02.2	S 21 07.6 -00.1	90 46.1 +02.3	S 19 57.7 +00.0	13						
14	99 03.3 +00.7	S 19 31.7 -00.4	111 47.9 +02.2	S 21 07.5 +00.0	105 48.4 +02.3	S 19 57.7 -00.1	14						
15	114 04.0 +00.6	S 19 31.3 -00.4	126 50.1 +02.1	S 21 07.5 -00.1	120 50.7 +02.4	S 19 57.6 +00.0	15						
16	129 04.6 +00.7	S 19 30.9 -00.4	141 52.2 +02.2	S 21 07.4 +00.0	135 53.1 +02.3	S 19 57.6 +00.0	16						
17	144 05.3 +00.7	S 19 30.5 -00.4	156 54.4 +02.2	S 21 07.4 +00.0	150 55.4 +02.3	S 19 57.6 +00.0	17						
18	159 06.0 +00.6	S 19 30.1 -00.4	171 56.6 +02.2	S 21 07.4 -00.1	165 57.7 +02.4	S 19 57.6 +00.0	18						
19	174 06.6 +00.7	S 19 29.7 -00.4	186 58.8 +02.2	S 21 07.3 +00.0	181 00.1 +02.3	S 19 57.6 -00.1	19						
20	189 07.3 +00.7	S 19 29.3 -00.4	202 01.0 +02.2	S 21 07.3 -00.1	196 02.4 +02.4	S 19 57.5 +00.0	20						
21	204 08.0 +00.6	S 19 28.9 -00.4	217 03.2 +02.2	S 21 07.2 +00.0	211 04.8 +02.3	S 19 57.5 +00.0	21						
22	219 08.6 +00.7	S 19 28.5 -00.4	232 05.4 +02.2	S 21 07.2 +00.0	226 07.1 +02.3	S 19 57.5 +00.0	22						
23	234 09.3 +00.7	S 19 28.1 -00.4	247 07.6 +02.2	S 21 07.2 -00.1	241 09.4 +02.4	S 19 57.5 -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 050° 050° 050° 050° 050° 050°		SHA 063° 063° 063° 063° 063° 063°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 07:24		Greenwich Culmination Time: 06:33		Greenwich Culmination Time: 06:57								

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 44.1 +00.1	N 08 24.4 +00.9	136 04.7 +00.2	N 25 31.4 +00.5	319 10.6 -34.2	S 18 07.2 +09.7	00						
01	194 44.2 +00.2	N 08 25.3 +01.0	151 04.9 +00.3	N 25 31.9 +00.5	333 36.4 -34.1	S 18 16.9 +09.6	01						
02	209 44.4 +00.2	N 08 26.3 +00.9	166 05.2 +00.3	N 25 32.4 +00.5	348 02.3 -34.3	S 18 26.5 +09.5	02						
03	224 44.6 +00.1	N 08 27.2 +00.9	181 05.5 +00.3	N 25 32.9 +00.5	2 28.0 -34.2	S 18 36.0 +09.3	03						
04	239 44.7 +00.2	N 08 28.1 +00.9	196 05.8 +00.2	N 25 33.4 +00.5	16 53.8 -34.2	S 18 45.3 +09.2	04						
05	254 44.9 +00.2	N 08 29.0 +00.9	211 06.0 +00.3	N 25 33.9 +00.5	31 19.6 -34.3	S 18 54.5 +09.1	05						
06	269 45.1 +00.1	N 08 29.9 +00.9	226 06.3 +00.3	N 25 34.4 +00.5	45 45.3 -34.3	S 19 03.6 +08.9	06						
07	284 45.2 +00.2	N 08 30.8 +00.9	241 06.6 +00.3	N 25 34.9 +00.5	60 11.0 -34.3	S 19 12.5 +08.8	07						
08	299 45.4 +00.2	N 08 31.7 +01.0	256 06.9 +00.3	N 25 35.4 +00.4	74 36.7 -34.3	S 19 21.3 +08.7	08						
09	314 45.6 +00.1	N 08 32.7 +00.9	271 07.2 +00.3	N 25 35.8 +00.5	89 02.4 -34.3	S 19 30.0 +08.5	09						
10	329 45.7 +00.2	N 08 33.6 +00.9	286 07.5 +00.2	N 25 36.3 +00.5	103 28.1 -34.4	S 19 38.5 +08.4	10						
11	344 45.9 +00.1	N 08 34.5 +00.9	301 07.7 +00.3	N 25 36.8 +00.5	117 53.7 -34.3	S 19 46.9 +08.2	11						
12	359 46.0 +00.2	N 08 35.4 +00.9	316 08.0 +00.3	N 25 37.3 +00.5	132 19.4 -34.4	S 19 55.1 +08.2	12						
13	14 46.2 +00.2	N 08 36.3 +00.9	331 08.3 +00.3	N 25 37.8 +00.5	146 45.0 -34.4	S 20 03.3 +07.9	13						
14	29 46.4 +00.1	N 08 37.2 +00.9	346 08.6 +00.3	N 25 38.3 +00.5	161 10.6 -34.4	S 20 11.2 +07.9	14						
15	44 46.5 +00.2	N 08 38.1 +01.0	1 08.9 +00.3	N 25 38.8 +00.5	175 36.2 -34.4	S 20 19.1 +07.7	15						
16	59 46.7 +00.2	N 08 39.1 +00.9	16 09.2 +00.3	N 25 39.3 +00.4	190 01.8 -34.4	S 20 26.8 +07.6	16						
17	74 46.9 +00.1	N 08 40.0 +00.9	31 09.5 +00.3	N 25 39.7 +00.5	204 27.4 -34.4	S 20 34.4 +07.4	17						
18	89 47.0 +00.2	N 08 40.9 +00.9	46 09.8 +00.3	N 25 40.2 +00.5	218 53.0 -34.4	S 20 41.8 +07.3	18						
19	104 47.2 +00.1	N 08 41.8 +00.9	61 10.1 +00.3	N 25 40.7 +00.5	233 18.6 -34.5	S 20 49.1 +07.1	19						
20	119 47.3 +00.2	N 08 42.7 +00.9	76 10.4 +00.3	N 25 41.2 +00.5	247 44.1 -34.4	S 20 56.2 +07.0	20						
21	134 47.5 +00.2	N 08 43.6 +00.9	91 10.7 +00.3	N 25 41.7 +00.4	262 09.7 -34.5	S 21 03.2 +06.8	21						
22	149 47.7 +00.1	N 08 44.5 +00.9	106 11.0 +00.3	N 25 42.1 +00.5	276 35.2 -34.4	S 21 10.0 +06.8	22						
23	164 47.8 +00.2	N 08 45.4 +01.0	121 11.3 +00.3	N 25 42.6 +00.5	291 00.8 -34.5	S 21 16.8 +06.5	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 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'3 16'2 16'2 16'1 16'1 16'1								
	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 59'7 59'6 59'4 59'3 59'1 58'9								
	SHA 340° 340° 340° 340° 339° 339°		SHA 296° 296° 296° 296° 296° 296°		SHA 118° 116° 113° 111° 108° 106°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 14:55		Greenwich Culmination Time: 02:49								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	249 10.0 +00.6	S 19 27.7 -00.4	262 09.8 +02.2	S 21 07.1 +00.0	256 11.8 +02.3	S 19 57.4 +00.0	00						
01	264 10.6 +00.7	S 19 27.3 -00.4	277 12.0 +02.3	S 21 07.1 -00.1	271 14.1 +02.4	S 19 57.4 +00.0	01						
02	279 11.3 +00.7	S 19 26.9 -00.4	292 14.3 +02.2	S 21 07.0 +00.0	286 16.5 +02.3	S 19 57.4 +00.0	02						
03	294 12.0 +00.7	S 19 26.5 -00.4	307 16.5 +02.2	S 21 07.0 +00.0	301 18.8 +02.3	S 19 57.4 -00.1	03						
04	309 12.7 +00.6	S 19 26.1 -00.4	322 18.7 +02.2	S 21 07.0 -00.1	316 21.1 +02.4	S 19 57.3 +00.0	04						
05	324 13.3 +00.7	S 19 25.7 -00.4	337 20.9 +02.2	S 21 06.9 +00.0	331 23.5 +02.3	S 19 57.3 +00.0	05						
06	339 14.0 +00.7	S 19 25.3 -00.4	352 23.1 +02.2	S 21 06.9 -00.1	346 25.8 +02.4	S 19 57.3 +00.0	06						
07	354 14.7 +00.6	S 19 24.9 -00.4	7 25.3 +02.2	S 21 06.8 +00.0	1 28.2 +02.3	S 19 57.3 +00.0	07						
08	9 15.3 +00.7	S 19 24.5 -00.4	22 27.5 +02.2	S 21 06.8 +00.0	16 30.5 +02.3	S 19 57.3 -00.1	08						
09	24 16.0 +00.7	S 19 24.1 -00.4	37 29.7 +02.2	S 21 06.8 -00.1	31 32.8 +02.4	S 19 57.2 +00.0	09						
10	39 16.7 +00.6	S 19 23.7 -00.4	52 31.9 +02.2	S 21 06.7 +00.0	46 35.2 +02.3	S 19 57.2 +00.0	10						
11	54 17.3 +00.7	S 19 23.3 -00.4	67 34.1 +02.2	S 21 06.7 -00.1	61 37.5 +02.4	S 19 57.2 +00.0	11						
12	69 18.0 +00.7	S 19 22.9 -00.4	82 36.3 +02.2	S 21 06.6 +00.0	76 39.9 +02.3	S 19 57.2 -00.1	12						
13	84 18.7 +00.7	S 19 22.5 -00.4	97 38.5 +02.2	S 21 06.6 +00.0	91 42.2 +02.3	S 19 57.1 +00.0	13						
14	99 19.4 +00.6	S 19 22.1 -00.4	112 40.7 +02.2	S 21 06.6 -00.1	106 44.5 +02.4	S 19 57.1 +00.0	14						
15	114 20.0 +00.7	S 19 21.7 -00.4	127 42.9 +02.2	S 21 06.5 +00.0	121 46.9 +02.3	S 19 57.1 +00.0	15						
16	129 20.7 +00.7	S 19 21.3 -00.4	142 45.1 +02.2	S 21 06.5 -00.1	136 49.2 +02.4	S 19 57.1 +00.0	16						
17	144 21.4 +00.6	S 19 20.9 -00.4	157 47.3 +02.2	S 21 06.4 +00.0	151 51.6 +02.3	S 19 57.1 -00.1	17						
18	159 22.0 +00.7	S 19 20.5 -00.4	172 49.5 +02.2	S 21 06.4 +00.0	166 53.9 +02.3	S 19 57.0 +00.0	18						
19	174 22.7 +00.7	S 19 20.1 -00.4	187 51.7 +02.2	S 21 06.4 -00.1	181 56.2 +02.4	S 19 57.0 +00.0	19						
20	189 23.4 +00.7	S 19 19.7 -00.4	202 53.9 +02.2	S 21 06.3 +00.0	196 58.6 +02.3	S 19 57.0 +00.0	20						
21	204 24.1 +00.6	S 19 19.3 -00.4	217 56.1 +02.2	S 21 06.3 -00.1	212 00.9 +02.4	S 19 57.0 -00.1	21						
22	219 24.7 +00.7	S 19 18.9 -00.4	232 58.3 +02.2	S 21 06.2 +00.0	227 03.3 +02.3	S 19 56.9 +00.0	22						
23	234 25.4 +00.7	S 19 18.5 -00.4	248 00.5 +02.3	S 21 06.2 +00.0	242 05.6 +02.4	S 19 56.9 +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 00'1 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 049° 049° 049° 049° 049° 049°		SHA 062° 062° 062° 062° 062° 062°		SHA 057° 057° 057° 056° 056° 056°								
	Greenwich Culmination Time: 07:23		Greenwich Culmination Time: 06:30		Greenwich Culmination Time: 06:54								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 48.0 +00.2	N 08 46.4 +00.9	136 11.6 +00.3	N 25 43.1 +00.5	305 26.3 -34.4	S 21 23.3 +06.4	00						
01	194 48.2 +00.1	N 08 47.3 +00.9	151 11.9 +00.3	N 25 43.6 +00.4	319 51.9 -34.5	S 21 29.7 +06.3	01						
02	209 48.3 +00.2	N 08 48.2 +00.9	166 12.2 +00.3	N 25 44.0 +00.5	334 17.4 -34.4	S 21 36.0 +06.2	02						
03	224 48.5 +00.1	N 08 49.1 +00.9	181 12.5 +00.3	N 25 44.5 +00.5	348 43.0 -34.5	S 21 42.2 +06.0	03						
04	239 48.6 +00.2	N 08 50.0 +00.9	196 12.8 +00.3	N 25 45.0 +00.5	3 08.5 -34.4	S 21 48.2 +05.8	04						
05	254 48.8 +00.2	N 08 50.9 +00.9	211 13.1 +00.3	N 25 45.5 +00.4	17 34.1 -34.5	S 21 54.0 +05.7	05						
06	269 49.0 +00.1	N 08 51.8 +00.9	226 13.4 +00.4	N 25 45.9 +00.5	31 59.6 -34.4	S 21 59.7 +05.6	06						
07	284 49.1 +00.2	N 08 52.7 +00.9	241 13.8 +00.3	N 25 46.4 +00.5	46 25.2 -34.4	S 22 05.3 +05.4	07						
08	299 49.3 +00.1	N 08 53.6 +00.9	256 14.1 +00.3	N 25 46.9 +00.5	60 50.8 -34.5	S 22 10.7 +05.2	08						
09	314 49.4 +00.2	N 08 54.5 +01.0	271 14.4 +00.3	N 25 47.4 +00.4	75 16.3 -34.4	S 22 15.9 +05.2	09						
10	329 49.6 +00.2	N 08 55.5 +00.9	286 14.7 +00.3	N 25 47.8 +00.5	89 41.9 -34.4	S 22 21.1 +04.9	10						
11	344 49.8 +00.1	N 08 56.4 +00.9	301 15.0 +00.3	N 25 48.3 +00.5	104 07.5 -34.4	S 22 26.0 +04.8	11						
12	359 49.9 +00.2	N 08 57.3 +00.9	316 15.3 +00.4	N 25 48.8 +00.4	118 33.1 -34.4	S 22 30.8 +04.7	12						
13	14 50.1 +00.1	N 08 58.2 +00.9	331 15.7 +00.3	N 25 49.2 +00.5	132 58.7 -34.3	S 22 35.5 +04.6	13						
14	29 50.2 +00.2	N 08 59.1 +00.9	346 16.0 +00.3	N 25 49.7 +00.4	147 24.4 -34.4	S 22 40.1 +04.3	14						
15	44 50.4 +00.2	N 08 60.0 +00.9	1 16.3 +00.3	N 25 50.1 +00.5	161 50.0 -34.3	S 22 44.4 +04.3	15						
16	59 50.6 +00.1	N 09 00.9 +00.9	16 16.6 +00.4	N 25 50.6 +00.5	176 15.7 -34.4	S 22 48.7 +04.1	16						
17	74 50.7 +00.2	N 09 01.8 +00.9	31 17.0 +00.3	N 25 51.1 +00.4	190 41.3 -34.3	S 22 52.8 +03.9	17						
18	89 50.9 +00.1	N 09 02.7 +00.9	46 17.3 +00.3	N 25 51.5 +00.5	205 07.0 -34.3	S 22 56.7 +03.8	18						
19	104 51.0 +00.2	N 09 03.6 +00.9	61 17.6 +00.3	N 25 52.0 +00.5	219 32.7 -34.2	S 23 00.5 +03.7	19						
20	119 51.2 +00.2	N 09 04.5 +00.9	76 17.9 +00.4	N 25 52.5 +00.4	233 58.5 -34.3	S 23 04.2 +03.5	20						
21	134 51.4 +00.1	N 09 05.4 +00.9	91 18.3 +00.3	N 25 52.9 +00.5	248 24.2 -34.2	S 23 07.7 +03.3	21						
22	149 51.5 +00.2	N 09 06.3 +00.9	106 18.6 +00.3	N 25 53.4 +00.4	262 50.0 -34.2	S 23 11.0 +03.2	22						
23	164 51.7 +00.1	N 09 07.2 +00.9	121 18.9 +00.4	N 25 53.8 +00.5	277 15.8 -34.2	S 23 14.2 +03.1	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 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'0 16'0 15'9 15'9 15'8 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 58'8 58'6 58'5 58'3 58'1 58'0								
	SHA 339° 339° 339° 339° 338° 338°		SHA 295° 295° 295° 295° 295° 295°		SHA 104° 101° 099° 096° 094° 091°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 14:54		Greenwich Culmination Time: 03:46								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	249 26.1 +00.7	S 19 18.1 -00.4	263 02.8 +02.2	S 21 06.2 -00.1	257 08.0 +02.3	S 19 56.9 +00.0	00						
01	264 26.8 +00.6	S 19 17.7 -00.4	278 05.0 +02.2	S 21 06.1 +00.0	272 10.3 +02.3	S 19 56.9 +00.0	01						
02	279 27.4 +00.7	S 19 17.3 -00.4	293 07.2 +02.2	S 21 06.1 -00.1	287 12.6 +02.4	S 19 56.9 -00.1	02						
03	294 28.1 +00.7	S 19 16.9 -00.4	308 09.4 +02.2	S 21 06.0 +00.0	302 15.0 +02.3	S 19 56.8 +00.0	03						
04	309 28.8 +00.7	S 19 16.5 -00.4	323 11.6 +02.2	S 21 06.0 +00.0	317 17.3 +02.4	S 19 56.8 +00.0	04						
05	324 29.5 +00.6	S 19 16.1 -00.5	338 13.8 +02.2	S 21 06.0 -00.1	332 19.7 +02.3	S 19 56.8 +00.0	05						
06	339 30.1 +00.7	S 19 15.6 -00.4	353 16.0 +02.2	S 21 05.9 +00.0	347 22.0 +02.4	S 19 56.8 -00.1	06						
07	354 30.8 +00.7	S 19 15.2 -00.4	8 18.2 +02.2	S 21 05.9 +00.0	2 24.4 +02.3	S 19 56.7 +00.0	07						
08	9 31.5 +00.6	S 19 14.8 -00.4	23 20.4 +02.2	S 21 05.9 -00.1	17 26.7 +02.4	S 19 56.7 +00.0	08						
09	24 32.1 +00.7	S 19 14.4 -00.4	38 22.6 +02.2	S 21 05.8 +00.0	32 29.1 +02.3	S 19 56.7 +00.0	09						
10	39 32.8 +00.7	S 19 14.0 -00.4	53 24.8 +02.3	S 21 05.8 -00.1	47 31.4 +02.3	S 19 56.7 +00.0	10						
11	54 33.5 +00.7	S 19 13.6 -00.4	68 27.1 +02.2	S 21 05.7 +00.0	62 33.7 +02.4	S 19 56.7 -00.1	11						
12	69 34.2 +00.6	S 19 13.2 -00.4	83 29.3 +02.2	S 21 05.7 +00.0	77 36.1 +02.3	S 19 56.6 +00.0	12						
13	84 34.8 +00.7	S 19 12.8 -00.4	98 31.5 +02.2	S 21 05.7 -00.1	92 38.4 +02.4	S 19 56.6 +00.0	13						
14	99 35.5 +00.7	S 19 12.4 -00.4	113 33.7 +02.2	S 21 05.6 +00.0	107 40.8 +02.3	S 19 56.6 +00.0	14						
15	114 36.2 +00.7	S 19 12.0 -00.4	128 35.9 +02.2	S 21 05.6 -00.1	122 43.1 +02.4	S 19 56.6 +00.0	15						
16	129 36.9 +00.6	S 19 11.6 -00.4	143 38.1 +02.2	S 21 05.5 +00.0	137 45.5 +02.3	S 19 56.6 -00.1	16						
17	144 37.5 +00.7	S 19 11.2 -00.4	158 40.3 +02.2	S 21 05.5 +00.0	152 47.8 +02.4	S 19 56.5 +00.0	17						
18	159 38.2 +00.7	S 19 10.8 -00.4	173 42.5 +02.3	S 21 05.5 -00.1	167 50.2 +02.3	S 19 56.5 +00.0	18						
19	174 38.9 +00.7	S 19 10.4 -00.5	188 44.8 +02.2	S 21 05.4 +00.0	182 52.5 +02.4	S 19 56.5 +00.0	19						
20	189 39.6 +00.6	S 19 09.9 -00.4	203 47.0 +02.2	S 21 05.4 +00.0	197 54.9 +02.3	S 19 56.5 -00.1	20						
21	204 40.2 +00.7	S 19 09.5 -00.4	218 49.2 +02.2	S 21 05.4 -00.1	212 57.2 +02.3	S 19 56.4 +00.0	21						
22	219 40.9 +00.7	S 19 09.1 -00.4	233 51.4 +02.2	S 21 05.3 +00.0	227 59.5 +02.4	S 19 56.4 +00.0	22						
23	234 41.6 +00.7	S 19 08.7 -00.4	248 53.6 +02.2	S 21 05.3 -00.1	243 01.9 +02.3	S 19 56.4 +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 00'1 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 049° 049° 048° 048° 048° 048°		SHA 062° 062° 062° 062° 062° 062°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 07:21		Greenwich Culmination Time: 06:26		Greenwich Culmination Time: 06:50								

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 51.8 +00.2	N 09 08.1 +01.0	136 19.3 +00.3	N 25 54.3 +00.4	291 41.6 -34.2	S 23 17.3 +02.9	00										
01	194 52.0 +00.1	N 09 09.1 +00.9	151 19.6 +00.3	N 25 54.7 +00.5	306 07.4 -34.1	S 23 20.2 +02.8	01										
02	209 52.1 +00.2	N 09 10.0 +00.9	166 19.9 +00.4	N 25 55.2 +00.4	320 33.3 -34.1	S 23 23.0 +02.6	02										
03	224 52.3 +00.2	N 09 10.9 +00.9	181 20.3 +00.3	N 25 55.6 +00.5	334 59.2 -34.1	S 23 25.6 +02.5	03										
04	239 52.5 +00.1	N 09 11.8 +00.9	196 20.6 +00.4	N 25 56.1 +00.4	349 25.1 -34.0	S 23 28.1 +02.4	04										
05	254 52.6 +00.2	N 09 12.7 +00.9	211 21.0 +00.3	N 25 56.5 +00.5	3 51.1 -34.0	S 23 30.5 +02.2	05										
06	269 52.8 +00.1	N 09 13.6 +00.9	226 21.3 +00.3	N 25 57.0 +00.4	18 17.1 -34.0	S 23 32.7 +02.0	06										
07	284 52.9 +00.2	N 09 14.5 +00.9	241 21.6 +00.4	N 25 57.4 +00.5	32 43.1 -33.9	S 23 34.7 +01.9	07										
08	299 53.1 +00.1	N 09 15.4 +00.9	256 22.0 +00.3	N 25 57.9 +00.4	47 09.2 -33.9	S 23 36.6 +01.8	08										
09	314 53.2 +00.2	N 09 16.3 +00.9	271 22.3 +00.4	N 25 58.3 +00.5	61 35.3 -33.9	S 23 38.4 +01.6	09										
10	329 53.4 +00.2	N 09 17.2 +00.9	286 22.7 +00.3	N 25 58.8 +00.4	76 01.4 -33.8	S 23 40.0 +01.5	10										
11	344 53.6 +00.1	N 09 18.1 +00.9	301 23.0 +00.4	N 25 59.2 +00.5	90 27.6 -33.8	S 23 41.5 +01.3	11										
12	359 53.7 +00.2	N 09 19.0 +00.9	316 23.4 +00.3	N 25 59.7 +00.4	104 53.8 -33.8	S 23 42.8 +01.2	12										
13	14 53.9 +00.1	N 09 19.9 +00.9	331 23.7 +00.4	N 26 00.1 +00.5	119 20.0 -33.7	S 23 44.0 +01.0	13										
14	29 54.0 +00.2	N 09 20.8 +00.9	346 24.1 +00.4	N 26 00.6 +00.4	133 46.3 -33.7	S 23 45.0 +01.0	14										
15	44 54.2 +00.1	N 09 21.7 +00.9	1 24.5 +00.3	N 26 01.0 +00.4	148 12.6 -33.6	S 23 46.0 +00.7	15										
16	59 54.3 +00.2	N 09 22.6 +00.9	16 24.8 +00.4	N 26 01.4 +00.5	162 39.0 -33.6	S 23 46.7 +00.6	16										
17	74 54.5 +00.1	N 09 23.5 +00.9	31 25.2 +00.3	N 26 01.9 +00.4	177 05.4 -33.5	S 23 47.3 +00.5	17										
18	89 54.6 +00.2	N 09 24.4 +00.9	46 25.5 +00.4	N 26 02.3 +00.5	191 31.9 -33.5	S 23 47.8 +00.4	18										
19	104 54.8 +00.2	N 09 25.3 +00.9	61 25.9 +00.3	N 26 02.8 +00.4	205 58.4 -33.5	S 23 48.2 +00.2	19										
20	119 55.0 +00.1	N 09 26.2 +00.9	76 26.2 +00.4	N 26 03.2 +00.4	220 24.9 -33.4	S 23 48.4 +00.1	20										
21	134 55.1 +00.2	N 09 27.1 +00.9	91 26.6 +00.4	N 26 03.6 +00.5	234 51.5 -33.3	S 23 48.5 -00.1	21										
22	149 55.3 +00.1	N 09 28.0 +00.9	106 27.0 +00.3	N 26 04.1 +00.4	249 18.2 -33.3	S 23 48.4 -00.2	22										
23	164 55.4 +00.2	N 09 28.9 +00.9	121 27.3 +00.4	N 26 04.5 +00.4	263 44.9 -33.3	S 23 48.2 -00.4	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° 338° 338° 337°	Greenwich Culmination Time: 12:00		UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'3 00'3	HP 00'3 00'3 00'3 00'3 00'3 00'3	SHA 295° 294° 294° 294° 294° 294°	Greenwich Culmination Time: 14:54		UT 02 06 10 14 18 22	SD 15'8 15'7 15'7 15'6 15'6 15'5	HP 57'8 57'7 57'5 57'3 57'2 57'0	SHA 089° 086° 084° 082° 079° 077°	Greenwich Culmination Time: 04:43

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	249 42.3 +00.7	S 19 08.3 -00.4	263 55.8 +02.2	S 21 05.2 +00.0	258 04.2 +02.4	S 19 56.4 +00.0	00										
01	264 43.0 +00.6	S 19 07.9 -00.4	278 58.0 +02.3	S 21 05.2 +00.0	273 06.6 +02.3	S 19 56.4 -00.1	01										
02	279 43.6 +00.7	S 19 07.5 -00.4	294 00.3 +02.2	S 21 05.2 -00.1	288 08.9 +02.4	S 19 56.3 +00.0	02										
03	294 44.3 +00.7	S 19 07.1 -00.4	309 02.5 +02.2	S 21 05.1 +00.0	303 11.3 +02.3	S 19 56.3 +00.0	03										
04	309 45.0 +00.7	S 19 06.7 -00.5	324 04.7 +02.2	S 21 05.1 -00.1	318 13.6 +02.4	S 19 56.3 +00.0	04										
05	324 45.7 +00.6	S 19 06.2 -00.4	339 06.9 +02.2	S 21 05.0 +00.0	333 16.0 +02.3	S 19 56.3 +00.0	05										
06	339 46.3 +00.7	S 19 05.8 -00.4	354 09.1 +02.2	S 21 05.0 +00.0	348 18.3 +02.4	S 19 56.3 -00.1	06										
07	354 47.0 +00.7	S 19 05.4 -00.4	9 11.3 +02.3	S 21 05.0 -00.1	3 20.7 +02.3	S 19 56.2 +00.0	07										
08	9 47.7 +00.7	S 19 05.0 -00.4	24 13.6 +02.2	S 21 04.9 +00.0	18 23.0 +02.4	S 19 56.2 +00.0	08										
09	24 48.4 +00.7	S 19 04.6 -00.4	39 15.8 +02.2	S 21 04.9 +00.0	33 25.4 +02.3	S 19 56.2 +00.0	09										
10	39 49.1 +00.6	S 19 04.2 -00.4	54 18.0 +02.2	S 21 04.9 -00.1	48 27.7 +02.4	S 19 56.2 -00.1	10										
11	54 49.7 +00.7	S 19 03.8 -00.4	69 20.2 +02.2	S 21 04.8 +00.0	63 30.1 +02.3	S 19 56.1 +00.0	11										
12	69 50.4 +00.7	S 19 03.4 -00.5	84 22.4 +02.2	S 21 04.8 -00.1	78 32.4 +02.4	S 19 56.1 +00.0	12										
13	84 51.1 +00.7	S 19 02.9 -00.4	99 24.6 +02.3	S 21 04.7 +00.0	93 34.8 +02.3	S 19 56.1 +00.0	13										
14	99 51.8 +00.6	S 19 02.5 -00.4	114 26.9 +02.2	S 21 04.7 +00.0	108 37.1 +02.4	S 19 56.1 +00.0	14										
15	114 52.4 +00.7	S 19 02.1 -00.4	129 29.1 +02.2	S 21 04.7 -00.1	123 39.5 +02.3	S 19 56.1 -00.1	15										
16	129 53.1 +00.7	S 19 01.7 -00.4	144 31.3 +02.2	S 21 04.6 +00.0	138 41.8 +02.4	S 19 56.0 +00.0	16										
17	144 53.8 +00.7	S 19 01.3 -00.4	159 33.5 +02.2	S 21 04.6 +00.0	153 44.2 +02.3	S 19 56.0 +00.0	17										
18	159 54.5 +00.7	S 19 00.9 -00.4	174 35.7 +02.3	S 21 04.6 -00.1	168 46.5 +02.4	S 19 56.0 +00.0	18										
19	174 55.2 +00.6	S 19 00.5 -00.5	189 38.0 +02.2	S 21 04.5 +00.0	183 48.9 +02.3	S 19 56.0 +00.0	19										
20	189 55.8 +00.7	S 19 00.0 -00.4	204 40.2 +02.2	S 21 04.5 -00.1	198 51.2 +02.4	S 19 56.0 -00.1	20										
21	204 56.5 +00.7	S 18 59.6 -00.4	219 42.4 +02.2	S 21 04.4 +00.0	213 53.6 +02.3	S 19 55.9 +00.0	21										
22	219 57.2 +00.7	S 18 59.2 -00.4	234 44.6 +02.3	S 21 04.4 +00.0	228 55.9 +02.4	S 19 55.9 +00.0	22										
23	234 57.9 +00.7	S 18 58.8 -00.4	249 46.9 +02.2	S 21 04.4 -00.1	243 58.3 +02.3	S 19 55.9 +00.0	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 048° 048° 048° 048° 048° 047°	Greenwich Culmination Time: 07:20		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 062° 062° 062° 062° 062° 062°	Greenwich Culmination Time: 06:23		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 056° 056° 056° 056° 056° 056°	Greenwich Culmination Time: 06:46

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 55.6 +00.1	N 09 29.8 +00.9	136 27.7 +00.4	N 26 04.9 +00.5	278 11.6 -33.2	S 23 47.8 -00.4	00						
01	194 55.7 +00.2	N 09 30.7 +00.9	151 28.1 +00.4	N 26 05.4 +00.4	292 38.4 -33.1	S 23 47.4 -00.7	01						
02	209 55.9 +00.1	N 09 31.6 +00.9	166 28.5 +00.3	N 26 05.8 +00.4	307 05.3 -33.1	S 23 46.7 -00.7	02						
03	224 56.0 +00.2	N 09 32.5 +00.9	181 28.8 +00.4	N 26 06.2 +00.5	321 32.2 -33.1	S 23 46.0 -00.9	03						
04	239 56.2 +00.1	N 09 33.4 +00.9	196 29.2 +00.4	N 26 06.7 +00.4	335 59.1 -32.9	S 23 45.1 -01.0	04						
05	254 56.3 +00.2	N 09 34.3 +00.9	211 29.6 +00.3	N 26 07.1 +00.4	350 26.2 -33.0	S 23 44.1 -01.2	05						
06	269 56.5 +00.2	N 09 35.2 +00.9	226 29.9 +00.4	N 26 07.5 +00.4	4 53.2 -32.8	S 23 42.9 -01.2	06						
07	284 56.7 +00.1	N 09 36.1 +00.9	241 30.3 +00.4	N 26 07.9 +00.5	19 20.4 -32.8	S 23 41.7 -01.5	07						
08	299 56.8 +00.2	N 09 37.0 +00.9	256 30.7 +00.4	N 26 08.4 +00.4	33 47.6 -32.8	S 23 40.2 -01.5	08						
09	314 57.0 +00.1	N 09 37.9 +00.9	271 31.1 +00.4	N 26 08.8 +00.4	48 14.8 -32.7	S 23 38.7 -01.7	09						
10	329 57.1 +00.2	N 09 38.8 +00.9	286 31.5 +00.3	N 26 09.2 +00.4	62 42.1 -32.6	S 23 37.0 -01.8	10						
11	344 57.3 +00.1	N 09 39.7 +00.8	301 31.8 +00.4	N 26 09.6 +00.5	77 09.5 -32.6	S 23 35.2 -01.9	11						
12	359 57.4 +00.2	N 09 40.5 +00.9	316 32.2 +00.4	N 26 10.1 +00.4	91 36.9 -32.5	S 23 33.3 -02.1	12						
13	14 57.6 +00.1	N 09 41.4 +00.9	331 32.6 +00.4	N 26 10.5 +00.4	106 04.4 -32.4	S 23 31.2 -02.2	13						
14	29 57.7 +00.2	N 09 42.3 +00.9	346 33.0 +00.4	N 26 10.9 +00.4	120 32.0 -32.4	S 23 29.0 -02.3	14						
15	44 57.9 +00.1	N 09 43.2 +00.9	1 33.4 +00.4	N 26 11.3 +00.5	134 59.6 -32.3	S 23 26.7 -02.4	15						
16	59 58.0 +00.2	N 09 44.1 +00.9	16 33.8 +00.4	N 26 11.8 +00.4	149 27.3 -32.3	S 23 24.3 -02.6	16						
17	74 58.2 +00.1	N 09 45.0 +00.9	31 34.2 +00.4	N 26 12.2 +00.4	163 55.0 -32.2	S 23 21.7 -02.7	17						
18	89 58.3 +00.2	N 09 45.9 +00.9	46 34.6 +00.4	N 26 12.6 +00.4	178 22.8 -32.1	S 23 19.0 -02.8	18						
19	104 58.5 +00.1	N 09 46.8 +00.9	61 35.0 +00.4	N 26 13.0 +00.4	192 50.7 -32.0	S 23 16.2 -02.9	19						
20	119 58.6 +00.2	N 09 47.7 +00.9	76 35.4 +00.4	N 26 13.4 +00.4	207 18.7 -32.0	S 23 13.3 -03.1	20						
21	134 58.8 +00.1	N 09 48.6 +00.9	91 35.8 +00.4	N 26 13.8 +00.4	221 46.7 -31.9	S 23 10.2 -03.2	21						
22	149 58.9 +00.2	N 09 49.5 +00.9	106 36.2 +00.4	N 26 14.2 +00.5	236 14.8 -31.9	S 23 07.0 -03.3	22						
23	164 59.1 +00.1	N 09 50.4 +00.9	121 36.6 +00.4	N 26 14.7 +00.4	250 42.9 -31.8	S 23 03.7 -03.4	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 00'3 00'3 00'3 00'3 00'3 00'3		SD 15'5 15'5 15'4 15'4 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 56'9 56'7 56'6 56'4 56'3 56'2								
	SHA 337° 337° 337° 337° 337° 336°		SHA 294° 294° 293° 293° 293° 293°		SHA 074° 072° 070° 067° 065° 063°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 14:53		Greenwich Culmination Time: 05:39								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	249 58.6 +00.6	S 18 58.4 -00.4	264 49.1 +02.2	S 21 04.3 +00.0	259 00.6 +02.4	S 19 55.9 +00.0	00						
01	264 59.2 +00.7	S 18 58.0 -00.4	279 51.3 +02.2	S 21 04.3 +00.0	274 03.0 +02.3	S 19 55.9 -00.1	01						
02	279 59.9 +00.7	S 18 57.6 -00.5	294 53.5 +02.2	S 21 04.3 -00.1	289 05.3 +02.4	S 19 55.8 +00.0	02						
03	295 00.6 +00.7	S 18 57.1 -00.4	309 55.7 +02.3	S 21 04.2 +00.0	304 07.7 +02.3	S 19 55.8 +00.0	03						
04	310 01.3 +00.7	S 18 56.7 -00.4	324 58.0 +02.2	S 21 04.2 -00.1	319 10.0 +02.4	S 19 55.8 +00.0	04						
05	325 02.0 +00.6	S 18 56.3 -00.4	340 00.2 +02.2	S 21 04.1 +00.0	334 12.4 +02.3	S 19 55.8 +00.0	05						
06	340 02.6 +00.7	S 18 55.9 -00.4	355 02.4 +02.2	S 21 04.1 +00.0	349 14.7 +02.4	S 19 55.8 -00.1	06						
07	355 03.3 +00.7	S 18 55.5 -00.5	10 04.6 +02.3	S 21 04.1 -00.1	4 17.1 +02.3	S 19 55.7 +00.0	07						
08	10 04.0 +00.7	S 18 55.0 -00.4	25 06.9 +02.2	S 21 04.0 +00.0	19 19.4 +02.4	S 19 55.7 +00.0	08						
09	25 04.7 +00.7	S 18 54.6 -00.4	40 09.1 +02.2	S 21 04.0 +00.0	34 21.8 +02.3	S 19 55.7 +00.0	09						
10	40 05.4 +00.6	S 18 54.2 -00.4	55 11.3 +02.2	S 21 04.0 -00.1	49 24.1 +02.4	S 19 55.7 +00.0	10						
11	55 06.0 +00.7	S 18 53.8 -00.4	70 13.5 +02.3	S 21 03.9 +00.0	64 26.5 +02.3	S 19 55.7 -00.1	11						
12	70 06.7 +00.7	S 18 53.4 -00.5	85 15.8 +02.2	S 21 03.9 +00.0	79 28.8 +02.4	S 19 55.6 +00.0	12						
13	85 07.4 +00.7	S 18 52.9 -00.4	100 18.0 +02.2	S 21 03.9 -00.1	94 31.2 +02.3	S 19 55.6 +00.0	13						
14	100 08.1 +00.7	S 18 52.5 -00.4	115 20.2 +02.2	S 21 03.8 +00.0	109 33.5 +02.4	S 19 55.6 +00.0	14						
15	115 08.8 +00.7	S 18 52.1 -00.4	130 22.4 +02.3	S 21 03.8 -00.1	124 35.9 +02.3	S 19 55.6 +00.0	15						
16	130 09.5 +00.6	S 18 51.7 -00.4	145 24.7 +02.2	S 21 03.7 +00.0	139 38.2 +02.4	S 19 55.6 -00.1	16						
17	145 10.1 +00.7	S 18 51.3 -00.5	160 26.9 +02.2	S 21 03.7 +00.0	154 40.6 +02.3	S 19 55.5 +00.0	17						
18	160 10.8 +00.7	S 18 50.8 -00.4	175 29.1 +02.2	S 21 03.7 -00.1	169 42.9 +02.4	S 19 55.5 +00.0	18						
19	175 11.5 +00.7	S 18 50.4 -00.4	190 31.3 +02.3	S 21 03.6 +00.0	184 45.3 +02.4	S 19 55.5 +00.0	19						
20	190 12.2 +00.7	S 18 50.0 -00.4	205 33.6 +02.2	S 21 03.6 +00.0	199 47.7 +02.3	S 19 55.5 +00.0	20						
21	205 12.9 +00.7	S 18 49.6 -00.4	220 35.8 +02.2	S 21 03.6 -00.1	214 50.0 +02.4	S 19 55.5 -00.1	21						
22	220 13.6 +00.6	S 18 49.2 -00.5	235 38.0 +02.3	S 21 03.5 +00.0	229 52.4 +02.3	S 19 55.4 +00.0	22						
23	235 14.2 +00.7	S 18 48.7 -00.4	250 40.3 +02.2	S 21 03.5 +00.0	244 54.7 +02.4	S 19 55.4 +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 00'1 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 047° 047° 047° 047° 047° 047°		SHA 062° 062° 062° 062° 062° 062°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 07:19		Greenwich Culmination Time: 06:19		Greenwich Culmination Time: 06:42								

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 59.2 +00.2	N 09 51.3 +00.9	136 37.0 +00.4	N 26 15.1 +00.4	265 11.1 -31.7	S 23 00.3 -03.5	00						
01	194 59.4 +00.1	N 09 52.2 +00.9	151 37.4 +00.4	N 26 15.5 +00.4	279 39.4 -31.6	S 22 56.8 -03.7	01						
02	209 59.5 +00.2	N 09 53.1 +00.8	166 37.8 +00.4	N 26 15.9 +00.4	294 07.8 -31.6	S 22 53.1 -03.7	02						
03	224 59.7 +00.1	N 09 53.9 +00.9	181 38.2 +00.4	N 26 16.3 +00.4	308 36.2 -31.5	S 22 49.4 -03.9	03						
04	239 59.8 +00.2	N 09 54.8 +00.9	196 38.6 +00.4	N 26 16.7 +00.4	323 04.7 -31.4	S 22 45.5 -04.0	04						
05	254 60.0 +00.1	N 09 55.7 +00.9	211 39.0 +00.4	N 26 17.1 +00.4	337 33.3 -31.4	S 22 41.5 -04.1	05						
06	270 00.1 +00.2	N 09 56.6 +00.9	226 39.4 +00.4	N 26 17.5 +00.4	352 01.9 -31.2	S 22 37.4 -04.3	06						
07	285 00.3 +00.1	N 09 57.5 +00.9	241 39.8 +00.4	N 26 17.9 +00.4	6 30.7 -31.3	S 22 33.1 -04.3	07						
08	300 00.4 +00.2	N 09 58.4 +00.9	256 40.2 +00.5	N 26 18.3 +00.4	20 59.4 -31.1	S 22 28.8 -04.5	08						
09	315 00.6 +00.1	N 09 59.3 +00.9	271 40.7 +00.4	N 26 18.7 +00.4	35 28.3 -31.1	S 22 24.3 -04.5	09						
10	330 00.7 +00.2	N 10 00.2 +00.9	286 41.1 +00.4	N 26 19.1 +00.4	49 57.2 -31.0	S 22 19.8 -04.7	10						
11	345 00.9 +00.1	N 10 01.1 +00.9	301 41.5 +00.4	N 26 19.5 +00.4	64 26.2 -30.9	S 22 15.1 -04.8	11						
12	0 01.0 +00.2	N 10 02.0 +00.8	316 41.9 +00.4	N 26 19.9 +00.4	78 55.3 -30.8	S 22 10.3 -04.9	12						
13	15 01.2 +00.1	N 10 02.8 +00.9	331 42.3 +00.5	N 26 20.3 +00.4	93 24.5 -30.8	S 22 05.4 -05.0	13						
14	30 01.3 +00.2	N 10 03.7 +00.9	346 42.8 +00.4	N 26 20.7 +00.4	107 53.7 -30.7	S 22 00.4 -05.1	14						
15	45 01.5 +00.1	N 10 04.6 +00.9	1 43.2 +00.4	N 26 21.1 +00.4	122 23.0 -30.6	S 21 55.3 -05.2	15						
16	60 01.6 +00.2	N 10 05.5 +00.9	16 43.6 +00.4	N 26 21.5 +00.4	136 52.4 -30.6	S 21 50.1 -05.3	16						
17	75 01.8 +00.1	N 10 06.4 +00.9	31 44.0 +00.5	N 26 21.9 +00.4	151 21.8 -30.5	S 21 44.8 -05.4	17						
18	90 01.9 +00.2	N 10 07.3 +00.9	46 44.5 +00.4	N 26 22.3 +00.4	165 51.3 -30.4	S 21 39.4 -05.5	18						
19	105 02.1 +00.1	N 10 08.2 +00.9	61 44.9 +00.4	N 26 22.7 +00.4	180 20.9 -30.3	S 21 33.9 -05.6	19						
20	120 02.2 +00.2	N 10 09.1 +00.8	76 45.3 +00.5	N 26 23.1 +00.4	194 50.6 -30.2	S 21 28.3 -05.8	20						
21	135 02.4 +00.1	N 10 09.9 +00.9	91 45.8 +00.4	N 26 23.5 +00.4	209 20.4 -30.2	S 21 22.5 -05.8	21						
22	150 02.5 +00.2	N 10 10.8 +00.9	106 46.2 +00.4	N 26 23.9 +00.4	223 50.2 -30.1	S 21 16.7 -05.9	22						
23	165 02.7 +00.1	N 10 11.7 +00.9	121 46.6 +00.5	N 26 24.3 +00.4	238 20.1 -30.0	S 21 10.8 -06.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 15'3 15'2 15'2 15'2 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 56'0 55'9 55'8 55'7 55'6 55'4								
	SHA 336° 336° 336° 336° 336° 336°		SHA 293° 293° 293° 293° 292° 292°		SHA 060° 058° 056° 054° 052° 049°								
	Greenwich Culmination Time: 11:59		Greenwich Culmination Time: 14:53		Greenwich Culmination Time: 06:33								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	250 14.9 +00.7	S 18 48.3 -00.4	265 42.5 +02.2	S 21 03.5 -00.1	259 57.1 +02.3	S 19 55.4 +00.0	00						
01	265 15.6 +00.7	S 18 47.9 -00.4	280 44.7 +02.2	S 21 03.4 +00.0	274 59.4 +02.4	S 19 55.4 +00.0	01						
02	280 16.3 +00.7	S 18 47.5 -00.5	295 46.9 +02.3	S 21 03.4 +00.0	290 01.8 +02.3	S 19 55.4 -00.1	02						
03	295 17.0 +00.7	S 18 47.0 -00.4	310 49.2 +02.2	S 21 03.4 -00.1	305 04.1 +02.4	S 19 55.3 +00.0	03						
04	310 17.7 +00.6	S 18 46.6 -00.4	325 51.4 +02.2	S 21 03.3 +00.0	320 06.5 +02.3	S 19 55.3 +00.0	04						
05	325 18.3 +00.7	S 18 46.2 -00.4	340 53.6 +02.3	S 21 03.3 -00.1	335 08.8 +02.4	S 19 55.3 +00.0	05						
06	340 19.0 +00.7	S 18 45.8 -00.4	355 55.9 +02.2	S 21 03.2 +00.0	350 11.2 +02.4	S 19 55.3 +00.0	06						
07	355 19.7 +00.7	S 18 45.4 -00.5	10 58.1 +02.2	S 21 03.2 +00.0	5 13.6 +02.3	S 19 55.3 -00.1	07						
08	10 20.4 +00.7	S 18 44.9 -00.4	26 00.3 +02.3	S 21 03.2 -00.1	20 15.9 +02.4	S 19 55.2 +00.0	08						
09	25 21.1 +00.7	S 18 44.5 -00.4	41 02.6 +02.2	S 21 03.1 +00.0	35 18.3 +02.3	S 19 55.2 +00.0	09						
10	40 21.8 +00.7	S 18 44.1 -00.4	56 04.8 +02.2	S 21 03.1 +00.0	50 20.6 +02.4	S 19 55.2 +00.0	10						
11	55 22.5 +00.6	S 18 43.7 -00.5	71 07.0 +02.3	S 21 03.1 -00.1	65 23.0 +02.3	S 19 55.2 +00.0	11						
12	70 23.1 +00.7	S 18 43.2 -00.4	86 09.3 +02.2	S 21 03.0 +00.0	80 25.3 +02.4	S 19 55.2 +00.0	12						
13	85 23.8 +00.7	S 18 42.8 -00.4	101 11.5 +02.2	S 21 03.0 +00.0	95 27.7 +02.4	S 19 55.2 -00.1	13						
14	100 24.5 +00.7	S 18 42.4 -00.4	116 13.7 +02.3	S 21 03.0 -00.1	110 30.1 +02.3	S 19 55.1 +00.0	14						
15	115 25.2 +00.7	S 18 42.0 -00.5	131 16.0 +02.2	S 21 02.9 +00.0	125 32.4 +02.4	S 19 55.1 +00.0	15						
16	130 25.9 +00.7	S 18 41.5 -00.4	146 18.2 +02.2	S 21 02.9 +00.0	140 34.8 +02.3	S 19 55.1 +00.0	16						
17	145 26.6 +00.7	S 18 41.1 -00.4	161 20.4 +02.3	S 21 02.9 -00.1	155 37.1 +02.4	S 19 55.1 +00.0	17						
18	160 27.3 +00.6	S 18 40.7 -00.5	176 22.7 +02.2	S 21 02.8 +00.0	170 39.5 +02.3	S 19 55.1 -00.1	18						
19	175 27.9 +00.7	S 18 40.2 -00.4	191 24.9 +02.2	S 21 02.8 +00.0	185 41.8 +02.4	S 19 55.0 +00.0	19						
20	190 28.6 +00.7	S 18 39.8 -00.4	206 27.1 +02.3	S 21 02.8 -00.1	200 44.2 +02.4	S 19 55.0 +00.0	20						
21	205 29.3 +00.7	S 18 39.4 -00.4	221 29.4 +02.2	S 21 02.7 +00.0	215 46.6 +02.3	S 19 55.0 +00.0	21						
22	220 30.0 +00.7	S 18 39.0 -00.5	236 31.6 +02.2	S 21 02.7 -00.1	230 48.9 +02.4	S 19 55.0 +00.0	22						
23	235 30.7 +00.7	S 18 38.5 -00.4	251 33.8 +02.3	S 21 02.6 +00.0	245 51.3 +02.3	S 19 55.0 -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 00'1 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 047° 046° 046° 046° 046° 046°		SHA 062° 062° 062° 062° 062° 062°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 07:18		Greenwich Culmination Time: 06:16		Greenwich Culmination Time: 06:39								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	
00	180 02.8 +00.1	N 10	12.6 +00.9	136 47.1 +00.4	N 26	24.7 +00.4	252 50.1 -30.0	S 21	04.8 -06.1	00			
01	195 02.9 +00.2	N 10	13.5 +00.9	151 47.5 +00.5	N 26	25.1 +00.4	267 20.1 -29.9	S 20	58.7 -06.3	01			
02	210 03.1 +00.1	N 10	14.4 +00.8	166 48.0 +00.4	N 26	25.5 +00.4	281 50.2 -29.8	S 20	52.4 -06.3	02			
03	225 03.2 +00.2	N 10	15.2 +00.9	181 48.4 +00.5	N 26	25.9 +00.3	296 20.4 -29.7	S 20	46.1 -06.4	03			
04	240 03.4 +00.1	N 10	16.1 +00.9	196 48.9 +00.4	N 26	26.2 +00.4	310 50.7 -29.7	S 20	39.7 -06.5	04			
05	255 03.5 +00.2	N 10	17.0 +00.9	211 49.3 +00.5	N 26	26.6 +00.4	325 21.0 -29.5	S 20	33.2 -06.5	05			
06	270 03.7 +00.1	N 10	17.9 +00.9	226 49.8 +00.4	N 26	27.0 +00.4	339 51.5 -29.5	S 20	26.7 -06.7	06			
07	285 03.8 +00.2	N 10	18.8 +00.9	241 50.2 +00.5	N 26	27.4 +00.4	354 22.0 -29.5	S 20	20.0 -06.8	07			
08	300 04.0 +00.1	N 10	19.7 +00.8	256 50.7 +00.4	N 26	27.8 +00.4	8 52.5 -29.3	S 20	13.2 -06.9	08			
09	315 04.1 +00.2	N 10	20.5 +00.9	271 51.1 +00.5	N 26	28.2 +00.3	23 23.2 -29.3	S 20	06.3 -06.9	09			
10	330 04.3 +00.1	N 10	21.4 +00.9	286 51.6 +00.4	N 26	28.5 +00.4	37 53.9 -29.2	S 19	59.4 -07.0	10			
11	345 04.4 +00.2	N 10	22.3 +00.9	301 52.0 +00.5	N 26	28.9 +00.4	52 24.7 -29.2	S 19	52.4 -07.2	11			
12	0 04.6 +00.1	N 10	23.2 +00.9	316 52.5 +00.4	N 26	29.3 +00.4	66 55.5 -29.0	S 19	45.2 -07.2	12			
13	15 04.7 +00.1	N 10	24.1 +00.9	331 52.9 +00.5	N 26	29.7 +00.4	81 26.5 -29.0	S 19	38.0 -07.3	13			
14	30 04.8 +00.2	N 10	25.0 +00.8	346 53.4 +00.5	N 26	30.1 +00.3	95 57.5 -28.9	S 19	30.7 -07.4	14			
15	45 05.0 +00.1	N 10	25.8 +00.9	1 53.9 +00.4	N 26	30.4 +00.4	110 28.6 -28.9	S 19	23.3 -07.4	15			
16	60 05.1 +00.2	N 10	26.7 +00.9	16 54.3 +00.5	N 26	30.8 +00.4	124 59.7 -28.8	S 19	15.9 -07.6	16			
17	75 05.3 +00.1	N 10	27.6 +00.9	31 54.8 +00.5	N 26	31.2 +00.4	139 30.9 -28.7	S 19	08.3 -07.6	17			
18	90 05.4 +00.2	N 10	28.5 +00.9	46 55.3 +00.4	N 26	31.6 +00.3	154 02.2 -28.6	S 19	00.7 -07.7	18			
19	105 05.6 +00.1	N 10	29.4 +00.8	61 55.7 +00.5	N 26	31.9 +00.4	168 33.6 -28.5	S 18	53.0 -07.8	19			
20	120 05.7 +00.1	N 10	30.2 +00.9	76 56.2 +00.5	N 26	32.3 +00.4	183 05.1 -28.5	S 18	45.2 -07.9	20			
21	135 05.8 +00.2	N 10	31.1 +00.9	91 56.7 +00.5	N 26	32.7 +00.3	197 36.6 -28.5	S 18	37.3 -07.9	21			
22	150 06.0 +00.1	N 10	32.0 +00.9	106 57.2 +00.4	N 26	33.0 +00.4	212 08.1 -28.3	S 18	29.4 -08.1	22			
23	165 06.1 +00.2	N 10	32.9 +00.9	121 57.6 +00.5	N 26	33.4 +00.4	226 39.8 -28.3	S 18	21.3 -08.1	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 00'3 00'3 00'3 00'3 00'3 00'3				SD 15'1 15'0 15'0 15'0 15'0 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 55'3 55'2 55'1 55'0 54'9 54'9					
	SHA 335° 335° 335° 335° 335° 335°			SHA 292° 292° 292° 292° 292° 291°				SHA 047° 045° 043° 041° 039° 037°					
	Greenwich Culmination Time: 11:59			Greenwich Culmination Time: 14:52				Greenwich Culmination Time: 07:23					

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	
00	250 31.4 +00.7	S 18	38.1 -00.4	266 36.1 +02.2	S 21	02.6 +00.0	260 53.6 +02.4	S 19	54.9 +00.0	00			
01	265 32.1 +00.7	S 18	37.7 -00.4	281 38.3 +02.2	S 21	02.6 -00.1	275 56.0 +02.4	S 19	54.9 +00.0	01			
02	280 32.8 +00.6	S 18	37.3 -00.5	296 40.5 +02.3	S 21	02.5 +00.0	290 58.4 +02.3	S 19	54.9 +00.0	02			
03	295 33.4 +00.7	S 18	36.8 -00.4	311 42.8 +02.2	S 21	02.5 +00.0	306 00.7 +02.4	S 19	54.9 +00.0	03			
04	310 34.1 +00.7	S 18	36.4 -00.4	326 45.0 +02.3	S 21	02.5 -00.1	321 03.1 +02.3	S 19	54.9 +00.0	04			
05	325 34.8 +00.7	S 18	36.0 -00.5	341 47.3 +02.2	S 21	02.4 +00.0	336 05.4 +02.4	S 19	54.9 -00.1	05			
06	340 35.5 +00.7	S 18	35.5 -00.4	356 49.5 +02.2	S 21	02.4 +00.0	351 07.8 +02.3	S 19	54.8 +00.0	06			
07	355 36.2 +00.7	S 18	35.1 -00.4	11 51.7 +02.3	S 21	02.4 -00.1	6 10.1 +02.4	S 19	54.8 +00.0	07			
08	10 36.9 +00.7	S 18	34.7 -00.5	26 54.0 +02.2	S 21	02.3 +00.0	21 12.5 +02.4	S 19	54.8 +00.0	08			
09	25 37.6 +00.7	S 18	34.2 -00.4	41 56.2 +02.3	S 21	02.3 +00.0	36 14.9 +02.3	S 19	54.8 +00.0	09			
10	40 38.3 +00.7	S 18	33.8 -00.4	56 58.5 +02.2	S 21	02.3 -00.1	51 17.2 +02.4	S 19	54.8 -00.1	10			
11	55 39.0 +00.6	S 18	33.4 -00.4	72 00.7 +02.2	S 21	02.2 +00.0	66 19.6 +02.4	S 19	54.7 +00.0	11			
12	70 39.6 +00.7	S 18	33.0 -00.5	87 02.9 +02.3	S 21	02.2 +00.0	81 22.0 +02.3	S 19	54.7 +00.0	12			
13	85 40.3 +00.7	S 18	32.5 -00.4	102 05.2 +02.2	S 21	02.2 -00.1	96 24.3 +02.4	S 19	54.7 +00.0	13			
14	100 41.0 +00.7	S 18	32.1 -00.4	117 07.4 +02.3	S 21	02.1 +00.0	111 26.7 +02.3	S 19	54.7 +00.0	14			
15	115 41.7 +00.7	S 18	31.7 -00.5	132 09.7 +02.2	S 21	02.1 +00.0	126 29.0 +02.4	S 19	54.7 -00.1	15			
16	130 42.4 +00.7	S 18	31.2 -00.4	147 11.9 +02.2	S 21	02.1 -00.1	141 31.4 +02.4	S 19	54.6 +00.0	16			
17	145 43.1 +00.7	S 18	30.8 -00.4	162 14.1 +02.3	S 21	02.0 +00.0	156 33.8 +02.3	S 19	54.6 +00.0	17			
18	160 43.8 +00.7	S 18	30.4 -00.5	177 16.4 +02.2	S 21	02.0 +00.0	171 36.1 +02.4	S 19	54.6 +00.0	18			
19	175 44.5 +00.7	S 18	29.9 -00.4	192 18.6 +02.3	S 21	02.0 -00.1	186 38.5 +02.3	S 19	54.6 +00.0	19			
20	190 45.2 +00.7	S 18	29.5 -00.4	207 20.9 +02.2	S 21	01.9 +00.0	201 40.8 +02.4	S 19	54.6 +00.0	20			
21	205 45.9 +00.6	S 18	29.1 -00.5	222 23.1 +02.3	S 21	01.9 +00.0	216 43.2 +02.4	S 19	54.6 -00.1	21			
22	220 46.5 +00.7	S 18	28.6 -00.4	237 25.4 +02.2	S 21	01.9 -00.1	231 45.6 +02.3	S 19	54.5 +00.0	22			
23	235 47.2 +00.7	S 18	28.2 -00.4	252 27.6 +02.2	S 21	01.8 +00.0	246 47.9 +02.4	S 19	54.5 +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 00'1 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 046° 046° 046° 046° 045° 045°			SHA 062° 062° 062° 062° 062° 062°				SHA 056° 056° 056° 056° 056° 056°					
	Greenwich Culmination Time: 07:17			Greenwich Culmination Time: 06:12				Greenwich Culmination Time: 06:35					



UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 06.3 +00.1	N 10	33.8 +00.8	136 58.1 +00.5	N 26	33.8 +00.3	241 11.5 -28.2	S 18	13.2 -08.1	00			
01	195 06.4 +00.2	N 10	34.6 +00.9	151 58.6 +00.5	N 26	34.1 +00.4	255 43.3 -28.1	S 18	05.1 -08.3	01			
02	210 06.6 +00.1	N 10	35.5 +00.9	166 59.1 +00.5	N 26	34.5 +00.4	270 15.2 -28.1	S 17	56.8 -08.3	02			
03	225 06.7 +00.1	N 10	36.4 +00.9	181 59.6 +00.4	N 26	34.9 +00.3	284 47.1 -28.0	S 17	48.5 -08.4	03			
04	240 06.8 +00.2	N 10	37.3 +00.8	197 00.0 +00.5	N 26	35.2 +00.4	299 19.1 -27.9	S 17	40.1 -08.5	04			
05	255 07.0 +00.1	N 10	38.1 +00.9	212 00.5 +00.5	N 26	35.6 +00.4	313 51.2 -27.9	S 17	31.6 -08.6	05			
06	270 07.1 +00.2	N 10	39.0 +00.9	227 01.0 +00.5	N 26	36.0 +00.3	328 23.3 -27.8	S 17	23.0 -08.6	06			
07	285 07.3 +00.1	N 10	39.9 +00.9	242 01.5 +00.5	N 26	36.3 +00.4	342 55.5 -27.7	S 17	14.4 -08.7	07			
08	300 07.4 +00.1	N 10	40.8 +00.8	257 02.0 +00.5	N 26	36.7 +00.4	357 27.8 -27.7	S 17	05.7 -08.7	08			
09	315 07.5 +00.2	N 10	41.6 +00.9	272 02.5 +00.5	N 26	37.1 +00.3	12 00.1 -27.6	S 16	57.0 -08.8	09			
10	330 07.7 +00.1	N 10	42.5 +00.9	287 03.0 +00.5	N 26	37.4 +00.4	26 32.5 -27.5	S 16	48.2 -08.9	10			
11	345 07.8 +00.2	N 10	43.4 +00.9	302 03.5 +00.5	N 26	37.8 +00.3	41 05.0 -27.5	S 16	39.3 -09.0	11			
12	0 08.0 +00.1	N 10	44.3 +00.8	317 04.0 +00.5	N 26	38.1 +00.4	55 37.5 -27.4	S 16	30.3 -09.0	12			
13	15 08.1 +00.2	N 10	45.1 +00.9	332 04.5 +00.5	N 26	38.5 +00.3	70 10.1 -27.4	S 16	21.3 -09.1	13			
14	30 08.3 +00.1	N 10	46.0 +00.9	347 05.0 +00.5	N 26	38.8 +00.4	84 42.7 -27.3	S 16	12.2 -09.2	14			
15	45 08.4 +00.1	N 10	46.9 +00.9	2 05.5 +00.5	N 26	39.2 +00.3	99 15.4 -27.2	S 16	03.0 -09.2	15			
16	60 08.5 +00.2	N 10	47.8 +00.8	17 06.0 +00.5	N 26	39.5 +00.4	113 48.2 -27.2	S 15	53.8 -09.3	16			
17	75 08.7 +00.1	N 10	48.6 +00.9	32 06.5 +00.5	N 26	39.9 +00.4	128 21.0 -27.1	S 15	44.5 -09.3	17			
18	90 08.8 +00.2	N 10	49.5 +00.9	47 07.0 +00.5	N 26	40.3 +00.3	142 53.9 -27.0	S 15	35.2 -09.4	18			
19	105 09.0 +00.1	N 10	50.4 +00.8	62 07.5 +00.5	N 26	40.6 +00.4	157 26.9 -27.0	S 15	25.8 -09.5	19			
20	120 09.1 +00.1	N 10	51.2 +00.9	77 08.0 +00.5	N 26	41.0 +00.3	171 59.9 -26.9	S 15	16.3 -09.5	20			
21	135 09.2 +00.2	N 10	52.1 +00.9	92 08.5 +00.6	N 26	41.3 +00.4	186 33.0 -26.9	S 15	06.8 -09.6	21			
22	150 09.4 +00.1	N 10	53.0 +00.9	107 09.1 +00.5	N 26	41.7 +00.3	201 06.1 -26.8	S 14	57.2 -09.6	22			
23	165 09.5 +00.1	N 10	53.9 +00.8	122 09.6 +00.5	N 26	42.0 +00.3	215 39.3 -26.7	S 14	47.6 -09.7	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 15'9 15'9 15'9 15'9 15'9 15'9			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 14'9 14'9 14'9 14'9 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 54'8 54'7 54'6 54'5 54'5 54'4						
	SHA 334° 334° 334° 334° 334° 334°			SHA 291° 291° 291° 291° 291° 291°			SHA 035° 033° 031° 029° 027° 025°						
	Greenwich Culmination Time: 11:59			Greenwich Culmination Time: 14:51			Greenwich Culmination Time: 08:10						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	250 47.9 +00.7	S 18	27.8 -00.5	267 29.8 +02.3	S 21	01.8 +00.0	261 50.3 +02.4	S 19	54.5 +00.0	00			
01	265 48.6 +00.7	S 18	27.3 -00.4	282 32.1 +02.2	S 21	01.8 -00.1	276 52.7 +02.3	S 19	54.5 +00.0	01			
02	280 49.3 +00.7	S 18	26.9 -00.4	297 34.3 +02.3	S 21	01.7 +00.0	291 55.0 +02.4	S 19	54.5 +00.0	02			
03	295 50.0 +00.7	S 18	26.5 -00.5	312 36.6 +02.2	S 21	01.7 +00.0	306 57.4 +02.3	S 19	54.5 -00.1	03			
04	310 50.7 +00.7	S 18	26.0 -00.4	327 38.8 +02.3	S 21	01.7 -00.1	321 59.7 +02.4	S 19	54.4 +00.0	04			
05	325 51.4 +00.7	S 18	25.6 -00.4	342 41.1 +02.2	S 21	01.6 +00.0	337 02.1 +02.4	S 19	54.4 +00.0	05			
06	340 52.1 +00.7	S 18	25.2 -00.5	357 43.3 +02.3	S 21	01.6 +00.0	352 04.5 +02.3	S 19	54.4 +00.0	06			
07	355 52.8 +00.7	S 18	24.7 -00.4	12 45.6 +02.2	S 21	01.6 -00.1	7 06.8 +02.4	S 19	54.4 +00.0	07			
08	10 53.5 +00.7	S 18	24.3 -00.5	27 47.8 +02.2	S 21	01.5 +00.0	22 09.2 +02.4	S 19	54.4 -00.1	08			
09	25 54.2 +00.6	S 18	23.8 -00.4	42 50.0 +02.3	S 21	01.5 +00.0	37 11.6 +02.3	S 19	54.3 +00.0	09			
10	40 54.8 +00.7	S 18	23.4 -00.4	57 52.3 +02.2	S 21	01.5 -00.1	52 13.9 +02.4	S 19	54.3 +00.0	10			
11	55 55.5 +00.7	S 18	23.0 -00.5	72 54.5 +02.3	S 21	01.4 +00.0	67 16.3 +02.4	S 19	54.3 +00.0	11			
12	70 56.2 +00.7	S 18	22.5 -00.4	87 56.8 +02.2	S 21	01.4 +00.0	82 18.7 +02.3	S 19	54.3 +00.0	12			
13	85 56.9 +00.7	S 18	22.1 -00.4	102 59.0 +02.3	S 21	01.4 -00.1	97 21.0 +02.4	S 19	54.3 +00.0	13			
14	100 57.6 +00.7	S 18	21.7 -00.5	118 01.3 +02.2	S 21	01.3 +00.0	112 23.4 +02.3	S 19	54.3 -00.1	14			
15	115 58.3 +00.7	S 18	21.2 -00.4	133 03.5 +02.3	S 21	01.3 +00.0	127 25.7 +02.4	S 19	54.2 +00.0	15			
16	130 59.0 +00.7	S 18	20.8 -00.5	148 05.8 +02.2	S 21	01.3 -00.1	142 28.1 +02.4	S 19	54.2 +00.0	16			
17	145 59.7 +00.7	S 18	20.3 -00.4	163 08.0 +02.3	S 21	01.2 +00.0	157 30.5 +02.3	S 19	54.2 +00.0	17			
18	161 00.4 +00.7	S 18	19.9 -00.4	178 10.3 +02.2	S 21	01.2 +00.0	172 32.8 +02.4	S 19	54.2 +00.0	18			
19	176 01.1 +00.7	S 18	19.5 -00.5	193 12.5 +02.3	S 21	01.2 -00.1	187 35.2 +02.4	S 19	54.2 +00.0	19			
20	191 01.8 +00.7	S 18	19.0 -00.4	208 14.8 +02.2	S 21	01.1 +00.0	202 37.6 +02.3	S 19	54.2 -00.1	20			
21	206 02.5 +00.7	S 18	18.6 -00.4	223 17.0 +02.3	S 21	01.1 +00.0	217 39.9 +02.4	S 19	54.1 +00.0	21			
22	221 03.2 +00.7	S 18	18.2 -00.5	238 19.3 +02.2	S 21	01.1 -00.1	232 42.3 +02.4	S 19	54.1 +00.0	22			
23	236 03.9 +00.7	S 18	17.7 -00.4	253 21.5 +02.3	S 21	01.0 +00.0	247 44.7 +02.3	S 19	54.1 +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 00'1 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 045° 045° 045° 045° 045° 045°			SHA 062° 062° 062° 062° 062° 062°			SHA 056° 056° 056° 056° 056° 056°						
	Greenwich Culmination Time: 07:16			Greenwich Culmination Time: 06:09			Greenwich Culmination Time: 06:31						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float: right;">A: 87%</span>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	180 09.6 +00.2	N 10	54.7 +00.9	137 10.1 +00.5	N 26	42.3 +00.4	230 12.6 -26.7	S 14	37.9 -09.8	00			
01	195 09.8 +00.1	N 10	55.6 +00.9	152 10.6 +00.5	N 26	42.7 +00.3	244 45.9 -26.7	S 14	28.1 -09.8	01			
02	210 09.9 +00.2	N 10	56.5 +00.8	167 11.1 +00.6	N 26	43.0 +00.4	259 19.2 -26.5	S 14	18.3 -09.8	02			
03	225 10.1 +00.1	N 10	57.3 +00.9	182 11.7 +00.5	N 26	43.4 +00.3	273 52.7 -26.6	S 14	08.5 -10.0	03			
04	240 10.2 +00.1	N 10	58.2 +00.9	197 12.2 +00.5	N 26	43.7 +00.4	288 26.1 -26.4	S 13	58.5 -09.9	04			
05	255 10.3 +00.2	N 10	59.1 +00.9	212 12.7 +00.6	N 26	44.1 +00.3	302 59.7 -26.5	S 13	48.6 -10.1	05			
06	270 10.5 +00.1	N 10	60.0 +00.8	227 13.3 +00.5	N 26	44.4 +00.3	317 33.2 -26.3	S 13	38.5 -10.0	06			
07	285 10.6 +00.1	N 11	00.8 +00.9	242 13.8 +00.5	N 26	44.7 +00.4	332 06.9 -26.3	S 13	28.5 -10.2	07			
08	300 10.7 +00.2	N 11	01.7 +00.9	257 14.3 +00.6	N 26	45.1 +00.3	346 40.6 -26.3	S 13	18.3 -10.1	08			
09	315 10.9 +00.1	N 11	02.6 +00.8	272 14.9 +00.5	N 26	45.4 +00.4	1 14.3 -26.2	S 13	08.2 -10.3	09			
10	330 11.0 +00.2	N 11	03.4 +00.9	287 15.4 +00.5	N 26	45.8 +00.3	15 48.1 -26.2	S 12	57.9 -10.2	10			
11	345 11.2 +00.1	N 11	04.3 +00.9	302 15.9 +00.6	N 26	46.1 +00.3	30 21.9 -26.1	S 12	47.7 -10.4	11			
12	0 11.3 +00.1	N 11	05.2 +00.8	317 16.5 +00.5	N 26	46.4 +00.4	44 55.8 -26.1	S 12	37.3 -10.3	12			
13	15 11.4 +00.2	N 11	06.0 +00.9	332 17.0 +00.6	N 26	46.8 +00.3	59 29.7 -26.0	S 12	27.0 -10.4	13			
14	30 11.6 +00.1	N 11	06.9 +00.9	347 17.6 +00.5	N 26	47.1 +00.3	74 03.7 -25.9	S 12	16.6 -10.5	14			
15	45 11.7 +00.1	N 11	07.8 +00.8	2 18.1 +00.5	N 26	47.4 +00.4	88 37.8 -26.0	S 12	06.1 -10.5	15			
16	60 11.8 +00.2	N 11	08.6 +00.9	17 18.6 +00.6	N 26	47.8 +00.3	103 11.8 -25.9	S 11	55.6 -10.6	16			
17	75 12.0 +00.1	N 11	09.5 +00.9	32 19.2 +00.5	N 26	48.1 +00.3	117 45.9 -25.8	S 11	45.0 -10.6	17			
18	90 12.1 +00.1	N 11	10.4 +00.8	47 19.7 +00.6	N 26	48.4 +00.4	132 20.1 -25.8	S 11	34.4 -10.6	18			
19	105 12.2 +00.2	N 11	11.2 +00.9	62 20.3 +00.6	N 26	48.8 +00.3	146 54.3 -25.7	S 11	23.8 -10.7	19			
20	120 12.4 +00.1	N 11	12.1 +00.8	77 20.9 +00.5	N 26	49.1 +00.3	161 28.6 -25.7	S 11	13.1 -10.7	20			
21	135 12.5 +00.1	N 11	12.9 +00.9	92 21.4 +00.6	N 26	49.4 +00.3	176 02.9 -25.7	S 11	02.4 -10.8	21			
22	150 12.6 +00.2	N 11	13.8 +00.9	107 22.0 +00.5	N 26	49.7 +00.4	190 37.2 -25.6	S 10	51.6 -10.8	22			
23	165 12.8 +00.1	N 11	14.7 +00.8	122 22.5 +00.6	N 26	50.1 +00.3	205 11.6 -25.6	S 10	40.8 -10.8	23			
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>						
	SD 15'9 15'9 15'9 15'9 15'9 15'9			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 14'8 14'8 14'8 14'8 14'8 14'7						
	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 54'4 54'3 54'3 54'2 54'2 54'1						
	SHA 334° 333° 333° 333° 333° 333°			SHA 291° 290° 290° 290° 290° 290°			SHA 023° 021° 019° 017° 015° 013°						
	Greenwich Culmination Time: 11:59			Greenwich Culmination Time: 14:50			Greenwich Culmination Time: 08:54						

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	251 04.6 +00.7	S 18	17.3 -00.5	268 23.8 +02.2	S 21	01.0 +00.0	262 47.0 +02.4	S 19	54.1 +00.0	00			
01	266 05.3 +00.7	S 18	16.8 -00.4	283 26.0 +02.3	S 21	01.0 -00.1	277 49.4 +02.4	S 19	54.1 +00.0	01			
02	281 06.0 +00.7	S 18	16.4 -00.4	298 28.3 +02.2	S 21	00.9 +00.0	292 51.8 +02.3	S 19	54.1 -00.1	02			
03	296 06.7 +00.6	S 18	16.0 -00.5	313 30.5 +02.3	S 21	00.9 +00.0	307 54.1 +02.4	S 19	54.0 +00.0	03			
04	311 07.3 +00.7	S 18	15.5 -00.4	328 32.8 +02.2	S 21	00.9 -00.1	322 56.5 +02.4	S 19	54.0 +00.0	04			
05	326 08.0 +00.7	S 18	15.1 -00.5	343 35.0 +02.3	S 21	00.8 +00.0	337 58.9 +02.3	S 19	54.0 +00.0	05			
06	341 08.7 +00.7	S 18	14.6 -00.4	358 37.3 +02.2	S 21	00.8 +00.0	353 01.2 +02.4	S 19	54.0 +00.0	06			
07	356 09.4 +00.7	S 18	14.2 -00.4	13 39.5 +02.3	S 21	00.8 +00.0	8 03.6 +02.4	S 19	54.0 +00.0	07			
08	11 10.1 +00.7	S 18	13.8 -00.5	28 41.8 +02.2	S 21	00.8 -00.1	23 06.0 +02.3	S 19	54.0 -00.1	08			
09	26 10.8 +00.7	S 18	13.3 -00.4	43 44.0 +02.3	S 21	00.7 +00.0	38 08.3 +02.4	S 19	53.9 +00.0	09			
10	41 11.5 +00.7	S 18	12.9 -00.5	58 46.3 +02.3	S 21	00.7 +00.0	53 10.7 +02.4	S 19	53.9 +00.0	10			
11	56 12.2 +00.7	S 18	12.4 -00.4	73 48.6 +02.2	S 21	00.7 -00.1	68 13.1 +02.4	S 19	53.9 +00.0	11			
12	71 12.9 +00.7	S 18	12.0 -00.5	88 50.8 +02.3	S 21	00.6 +00.0	83 15.5 +02.3	S 19	53.9 +00.0	12			
13	86 13.6 +00.7	S 18	11.5 -00.4	103 53.1 +02.2	S 21	00.6 +00.0	98 17.8 +02.4	S 19	53.9 +00.0	13			
14	101 14.3 +00.7	S 18	11.1 -00.4	118 55.3 +02.3	S 21	00.6 -00.1	113 20.2 +02.4	S 19	53.9 -00.1	14			
15	116 15.0 +00.7	S 18	10.7 -00.5	133 57.6 +02.2	S 21	00.5 +00.0	128 22.6 +02.3	S 19	53.8 +00.0	15			
16	131 15.7 +00.7	S 18	10.2 -00.4	148 59.8 +02.3	S 21	00.5 +00.0	143 24.9 +02.4	S 19	53.8 +00.0	16			
17	146 16.4 +00.7	S 18	09.8 -00.5	164 02.1 +02.2	S 21	00.5 -00.1	158 27.3 +02.4	S 19	53.8 +00.0	17			
18	161 17.1 +00.7	S 18	09.3 -00.4	179 04.3 +02.3	S 21	00.4 +00.0	173 29.7 +02.3	S 19	53.8 +00.0	18			
19	176 17.8 +00.7	S 18	08.9 -00.5	194 06.6 +02.3	S 21	00.4 +00.0	188 32.0 +02.4	S 19	53.8 +00.0	19			
20	191 18.5 +00.7	S 18	08.4 -00.4	209 08.9 +02.2	S 21	00.4 -00.1	203 34.4 +02.4	S 19	53.8 -00.1	20			
21	206 19.2 +00.7	S 18	08.0 -00.5	224 11.1 +02.3	S 21	00.3 +00.0	218 36.8 +02.3	S 19	53.7 +00.0	21			
22	221 19.9 +00.7	S 18	07.5 -00.4	239 13.4 +02.2	S 21	00.3 +00.0	233 39.1 +02.4	S 19	53.7 +00.0	22			
23	236 20.6 +00.7	S 18	07.1 -00.4	254 15.6 +02.3	S 21	00.3 -00.1	248 41.5 +02.4	S 19	53.7 +00.0	23			
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>						
	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 044° 044° 044° 044° 044° 044°			SHA 062° 062° 062° 062° 062° 062°			SHA 056° 056° 056° 056° 056° 056°						
	Greenwich Culmination Time: 07:15			Greenwich Culmination Time: 06:05			Greenwich Culmination Time: 06:27						



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 16.1 +00.1	N 11 36.2 +00.8	137 37.2 +00.6	N 26 57.9 +00.3	209 42.2 -24.8	S 05 59.8 -11.6	00						
01	195 16.2 +00.1	N 11 37.0 +00.9	152 37.8 +00.6	N 26 58.2 +00.3	224 17.4 -24.8	S 05 48.2 -11.6	01						
02	210 16.3 +00.2	N 11 37.9 +00.8	167 38.4 +00.6	N 26 58.5 +00.3	238 52.6 -24.8	S 05 36.6 -11.7	02						
03	225 16.5 +00.1	N 11 38.7 +00.9	182 39.0 +00.6	N 26 58.8 +00.3	253 27.8 -24.8	S 05 24.9 -11.6	03						
04	240 16.6 +00.1	N 11 39.6 +00.8	197 39.6 +00.6	N 26 59.1 +00.3	268 03.0 -24.7	S 05 13.3 -11.7	04						
05	255 16.7 +00.1	N 11 40.4 +00.9	212 40.2 +00.6	N 26 59.4 +00.3	282 38.3 -24.7	S 05 01.6 -11.7	05						
06	270 16.8 +00.2	N 11 41.3 +00.8	227 40.8 +00.7	N 26 59.7 +00.3	297 13.6 -24.8	S 04 49.9 -11.7	06						
07	285 17.0 +00.1	N 11 42.1 +00.9	242 41.5 +00.6	N 27 00.0 +00.3	311 48.8 -24.7	S 04 38.2 -11.8	07						
08	300 17.1 +00.1	N 11 43.0 +00.8	257 42.1 +00.6	N 27 00.3 +00.3	326 24.1 -24.6	S 04 26.4 -11.7	08						
09	315 17.2 +00.2	N 11 43.8 +00.9	272 42.7 +00.6	N 27 00.6 +00.3	340 59.5 -24.7	S 04 14.7 -11.8	09						
10	330 17.4 +00.1	N 11 44.7 +00.8	287 43.3 +00.7	N 27 00.9 +00.3	355 34.8 -24.7	S 04 02.9 -11.8	10						
11	345 17.5 +00.1	N 11 45.5 +00.9	302 44.0 +00.6	N 27 01.2 +00.3	10 10.1 -24.6	S 03 51.1 -11.8	11						
12	0 17.6 +00.1	N 11 46.4 +00.8	317 44.6 +00.6	N 27 01.5 +00.3	24 45.5 -24.6	S 03 39.3 -11.8	12						
13	15 17.7 +00.2	N 11 47.2 +00.9	332 45.2 +00.7	N 27 01.8 +00.3	39 20.9 -24.7	S 03 27.5 -11.8	13						
14	30 17.9 +00.1	N 11 48.1 +00.8	347 45.9 +00.6	N 27 02.1 +00.3	53 56.2 -24.6	S 03 15.7 -11.8	14						
15	45 18.0 +00.1	N 11 48.9 +00.9	2 46.5 +00.6	N 27 02.4 +00.3	68 31.6 -24.6	S 03 03.9 -11.9	15						
16	60 18.1 +00.1	N 11 49.8 +00.8	17 47.1 +00.7	N 27 02.7 +00.2	83 07.0 -24.6	S 02 52.0 -11.9	16						
17	75 18.2 +00.2	N 11 50.6 +00.9	32 47.8 +00.6	N 27 02.9 +00.3	97 42.4 -24.6	S 02 40.1 -11.8	17						
18	90 18.4 +00.1	N 11 51.5 +00.8	47 48.4 +00.7	N 27 03.2 +00.3	112 17.8 -24.5	S 02 28.3 -11.9	18						
19	105 18.5 +00.1	N 11 52.3 +00.9	62 49.1 +00.6	N 27 03.5 +00.3	126 53.3 -24.6	S 02 16.4 -11.9	19						
20	120 18.6 +00.1	N 11 53.2 +00.8	77 49.7 +00.7	N 27 03.8 +00.3	141 28.7 -24.6	S 02 04.5 -11.9	20						
21	135 18.7 +00.2	N 11 54.0 +00.9	92 50.4 +00.6	N 27 04.1 +00.3	156 04.1 -24.5	S 01 52.6 -11.9	21						
22	150 18.9 +00.1	N 11 54.9 +00.8	107 51.0 +00.7	N 27 04.4 +00.3	170 39.6 -24.6	S 01 40.7 -12.0	22						
23	165 19.0 +00.1	N 11 55.7 +00.9	122 51.7 +00.6	N 27 04.7 +00.2	185 15.0 -24.6	S 01 28.7 -11.9	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 00'3 00'3 00'3 00'3 00'3 00'3		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 53'9 53'9 53'9 53'9 53'9 53'9								
	SHA 332° 331° 331° 331° 331° 331°		SHA 289° 289° 289° 289° 289° 288°		SHA 000° 358° 357° 355° 353° 351°								
	Greenwich Culmination Time: 11:58		Greenwich Culmination Time: 14:48		Greenwich Culmination Time: 10:18								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	251 38.1 +00.7	S 17 55.9 -00.5	270 12.2 +02.3	S 20 59.5 +00.0	264 40.8 +02.4	S 19 53.3 +00.0	00						
01	266 38.8 +00.7	S 17 55.4 -00.4	285 14.5 +02.2	S 20 59.5 +00.0	279 43.2 +02.4	S 19 53.3 +00.0	01						
02	281 39.5 +00.7	S 17 55.0 -00.5	300 16.7 +02.3	S 20 59.5 -00.1	294 45.6 +02.4	S 19 53.3 +00.0	02						
03	296 40.2 +00.7	S 17 54.5 -00.4	315 19.0 +02.3	S 20 59.4 +00.0	309 48.0 +02.3	S 19 53.3 -00.1	03						
04	311 40.9 +00.7	S 17 54.1 -00.5	330 21.3 +02.2	S 20 59.4 +00.0	324 50.3 +02.4	S 19 53.2 +00.0	04						
05	326 41.6 +00.7	S 17 53.6 -00.4	345 23.5 +02.3	S 20 59.4 -00.1	339 52.7 +02.4	S 19 53.2 +00.0	05						
06	341 42.3 +00.8	S 17 53.2 -00.5	0 25.8 +02.3	S 20 59.3 +00.0	354 55.1 +02.4	S 19 53.2 +00.0	06						
07	356 43.1 +00.7	S 17 52.7 -00.4	15 28.1 +02.2	S 20 59.3 +00.0	9 57.5 +02.3	S 19 53.2 +00.0	07						
08	11 43.8 +00.7	S 17 52.3 -00.5	30 30.3 +02.3	S 20 59.3 +00.0	24 59.8 +02.4	S 19 53.2 +00.0	08						
09	26 44.5 +00.7	S 17 51.8 -00.4	45 32.6 +02.3	S 20 59.3 -00.1	40 02.2 +02.4	S 19 53.2 +00.0	09						
10	41 45.2 +00.7	S 17 51.4 -00.5	60 34.9 +02.2	S 20 59.2 +00.0	55 04.6 +02.4	S 19 53.2 -00.1	10						
11	56 45.9 +00.7	S 17 50.9 -00.4	75 37.1 +02.3	S 20 59.2 +00.0	70 07.0 +02.3	S 19 53.1 +00.0	11						
12	71 46.6 +00.7	S 17 50.5 -00.5	90 39.4 +02.3	S 20 59.2 -00.1	85 09.3 +02.4	S 19 53.1 +00.0	12						
13	86 47.3 +00.7	S 17 50.0 -00.4	105 41.7 +02.2	S 20 59.1 +00.0	100 11.7 +02.4	S 19 53.1 +00.0	13						
14	101 48.0 +00.7	S 17 49.6 -00.5	120 43.9 +02.3	S 20 59.1 +00.0	115 14.1 +02.4	S 19 53.1 +00.0	14						
15	116 48.7 +00.7	S 17 49.1 -00.4	135 46.2 +02.3	S 20 59.1 +00.0	130 16.5 +02.4	S 19 53.1 +00.0	15						
16	131 49.4 +00.7	S 17 48.7 -00.5	150 48.5 +02.3	S 20 59.1 -00.1	145 18.9 +02.3	S 19 53.1 +00.0	16						
17	146 50.1 +00.7	S 17 48.2 -00.5	165 50.8 +02.2	S 20 59.0 +00.0	160 21.2 +02.4	S 19 53.1 -00.1	17						
18	161 50.8 +00.7	S 17 47.7 -00.4	180 53.0 +02.3	S 20 59.0 +00.0	175 23.6 +02.4	S 19 53.0 +00.0	18						
19	176 51.5 +00.7	S 17 47.3 -00.5	195 55.3 +02.3	S 20 59.0 -00.1	190 26.0 +02.4	S 19 53.0 +00.0	19						
20	191 52.2 +00.7	S 17 46.8 -00.4	210 57.6 +02.2	S 20 58.9 +00.0	205 28.4 +02.3	S 19 53.0 +00.0	20						
21	206 52.9 +00.7	S 17 46.4 -00.5	225 59.8 +02.3	S 20 58.9 +00.0	220 30.7 +02.4	S 19 53.0 +00.0	21						
22	221 53.6 +00.7	S 17 45.9 -00.4	241 02.1 +02.3	S 20 58.9 +00.0	235 33.1 +02.4	S 19 53.0 +00.0	22						
23	236 54.3 +00.8	S 17 45.5 -00.5	256 04.4 +02.3	S 20 58.9 -00.1	250 35.5 +02.4	S 19 53.0 +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 00'1 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 043° 043° 043° 043° 043° 042°		SHA 062° 062° 062° 062° 062° 062°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 07:13		Greenwich Culmination Time: 05:58		Greenwich Culmination Time: 06:20								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float:right">A: 95%</span>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	180 19.1 +00.1	N 11	56.6 +00.8	137 52.3 +00.7	N 27	04.9 +00.3	199 50.4 -24.5	S 01	16.8 -11.9	00			
01	195 19.2 +00.2	N 11	57.4 +00.9	152 53.0 +00.6	N 27	05.2 +00.3	214 25.9 -24.6	S 01	04.9 -12.0	01			
02	210 19.4 +00.1	N 11	58.3 +00.8	167 53.6 +00.7	N 27	05.5 +00.3	229 01.3 -24.5	S 00	52.9 -11.9	02			
03	225 19.5 +00.1	N 11	59.1 +00.9	182 54.3 +00.7	N 27	05.8 +00.3	243 36.8 -24.6	S 00	41.0 -11.9	03			
04	240 19.6 +00.1	N 11	60.0 +00.8	197 55.0 +00.6	N 27	06.1 +00.2	258 12.2 -24.6	S 00	29.1 -12.0	04			
05	255 19.7 +00.2	N 12	00.8 +00.9	212 55.6 +00.7	N 27	06.3 +00.3	272 47.6 -24.5	S 00	17.1 -12.0	05			
06	270 19.9 +00.1	N 12	01.7 +00.8	227 56.3 +00.7	N 27	06.6 +00.3	287 23.1 -24.6	S 00	05.1 -11.9	06			
07	285 20.0 +00.1	N 12	02.5 +00.9	242 57.0 +00.6	N 27	06.9 +00.3	301 58.5 -24.6	N 00	06.8 +12.0	07			
08	300 20.1 +00.1	N 12	03.4 +00.8	257 57.6 +00.7	N 27	07.2 +00.2	316 33.9 -24.5	N 00	18.8 +11.9	08			
09	315 20.2 +00.2	N 12	04.2 +00.8	272 58.3 +00.7	N 27	07.4 +00.3	331 09.4 -24.6	N 00	30.7 +12.0	09			
10	330 20.4 +00.1	N 12	05.0 +00.9	287 59.0 +00.7	N 27	07.7 +00.3	345 44.8 -24.6	N 00	42.7 +11.9	10			
11	345 20.5 +00.1	N 12	05.9 +00.8	302 59.7 +00.7	N 27	08.0 +00.2	0 20.2 -24.6	N 00	54.6 +12.0	11			
12	0 20.6 +00.1	N 12	06.7 +00.9	318 00.4 +00.6	N 27	08.2 +00.3	14 55.6 -24.6	N 01	06.6 +12.0	12			
13	15 20.7 +00.2	N 12	07.6 +00.8	333 01.0 +00.7	N 27	08.5 +00.3	29 31.0 -24.6	N 01	18.6 +11.9	13			
14	30 20.9 +00.1	N 12	08.4 +00.9	348 01.7 +00.7	N 27	08.8 +00.3	44 06.4 -24.6	N 01	30.5 +12.0	14			
15	45 21.0 +00.1	N 12	09.3 +00.8	3 02.4 +00.7	N 27	09.1 +00.2	58 41.8 -24.6	N 01	42.5 +11.9	15			
16	60 21.1 +00.1	N 12	10.1 +00.8	18 03.1 +00.7	N 27	09.3 +00.3	73 17.2 -24.7	N 01	54.4 +11.9	16			
17	75 21.2 +00.1	N 12	10.9 +00.9	33 03.8 +00.7	N 27	09.6 +00.2	87 52.5 -24.6	N 02	06.3 +12.0	17			
18	90 21.3 +00.2	N 12	11.8 +00.8	48 04.5 +00.7	N 27	09.8 +00.3	102 27.9 -24.7	N 02	18.3 +11.9	18			
19	105 21.5 +00.1	N 12	12.6 +00.9	63 05.2 +00.7	N 27	10.1 +00.3	117 03.2 -24.7	N 02	30.2 +11.9	19			
20	120 21.6 +00.1	N 12	13.5 +00.8	78 05.9 +00.7	N 27	10.4 +00.2	131 38.5 -24.7	N 02	42.1 +12.0	20			
21	135 21.7 +00.1	N 12	14.3 +00.8	93 06.6 +00.7	N 27	10.6 +00.3	146 13.8 -24.7	N 02	54.1 +11.9	21			
22	150 21.8 +00.1	N 12	15.1 +00.9	108 07.3 +00.7	N 27	10.9 +00.3	160 49.1 -24.7	N 03	06.0 +11.9	22			
23	165 21.9 +00.2	N 12	16.0 +00.8	123 08.0 +00.7	N 27	11.2 +00.2	175 24.4 -24.7	N 03	17.9 +11.8	23			
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>						
	SD 15'9 15'9 15'9 15'9 15'9 15'9			SD 00'3 00'3 00'3 00'3 00'3 00'3			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 53'9 53'9 53'9 54'0 54'0 54'0						
	SHA 331° 331° 330° 330° 330° 330°			SHA 288° 288° 288° 288° 288° 288°			SHA 349° 348° 346° 344° 342° 340°						
	Greenwich Culmination Time: 11:58			Greenwich Culmination Time: 14:47			Greenwich Culmination Time: 10:58						

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	251 55.1 +00.7	S 17	45.0 -00.4	271 06.7 +02.2	S 20	58.8 +00.0	265 37.9 +02.4	S 19	53.0 -00.1	00			
01	266 55.8 +00.7	S 17	44.6 -00.5	286 08.9 +02.3	S 20	58.8 +00.0	280 40.3 +02.3	S 19	52.9 +00.0	01			
02	281 56.5 +00.7	S 17	44.1 -00.5	301 11.2 +02.3	S 20	58.8 -00.1	295 42.6 +02.4	S 19	52.9 +00.0	02			
03	296 57.2 +00.7	S 17	43.6 -00.4	316 13.5 +02.3	S 20	58.7 +00.0	310 45.0 +02.4	S 19	52.9 +00.0	03			
04	311 57.9 +00.7	S 17	43.2 -00.5	331 15.8 +02.2	S 20	58.7 +00.0	325 47.4 +02.4	S 19	52.9 +00.0	04			
05	326 58.6 +00.7	S 17	42.7 -00.4	346 18.0 +02.3	S 20	58.7 +00.0	340 49.8 +02.4	S 19	52.9 +00.0	05			
06	341 59.3 +00.7	S 17	42.3 -00.5	1 20.3 +02.3	S 20	58.7 -00.1	355 52.2 +02.3	S 19	52.9 +00.0	06			
07	357 00.0 +00.7	S 17	41.8 -00.4	16 22.6 +02.3	S 20	58.6 +00.0	10 54.5 +02.4	S 19	52.9 -00.1	07			
08	12 00.7 +00.7	S 17	41.4 -00.5	31 24.9 +02.2	S 20	58.6 +00.0	25 56.9 +02.4	S 19	52.8 +00.0	08			
09	27 01.4 +00.7	S 17	40.9 -00.5	46 27.1 +02.3	S 20	58.6 -00.1	40 59.3 +02.4	S 19	52.8 +00.0	09			
10	42 02.1 +00.7	S 17	40.4 -00.4	61 29.4 +02.3	S 20	58.5 +00.0	56 01.7 +02.4	S 19	52.8 +00.0	10			
11	57 02.8 +00.7	S 17	40.0 -00.5	76 31.7 +02.3	S 20	58.5 +00.0	71 04.1 +02.3	S 19	52.8 +00.0	11			
12	72 03.5 +00.8	S 17	39.5 -00.4	91 34.0 +02.2	S 20	58.5 +00.0	86 06.4 +02.4	S 19	52.8 +00.0	12			
13	87 04.3 +00.7	S 17	39.1 -00.5	106 36.2 +02.3	S 20	58.5 -00.1	101 08.8 +02.4	S 19	52.8 +00.0	13			
14	102 05.0 +00.7	S 17	38.6 -00.5	121 38.5 +02.3	S 20	58.4 +00.0	116 11.2 +02.4	S 19	52.8 -00.1	14			
15	117 05.7 +00.7	S 17	38.1 -00.4	136 40.8 +02.3	S 20	58.4 +00.0	131 13.6 +02.4	S 19	52.7 +00.0	15			
16	132 06.4 +00.7	S 17	37.7 -00.5	151 43.1 +02.3	S 20	58.4 -00.1	146 16.0 +02.3	S 19	52.7 +00.0	16			
17	147 07.1 +00.7	S 17	37.2 -00.4	166 45.4 +02.2	S 20	58.3 +00.0	161 18.3 +02.4	S 19	52.7 +00.0	17			
18	162 07.8 +00.7	S 17	36.8 -00.5	181 47.6 +02.3	S 20	58.3 +00.0	176 20.7 +02.4	S 19	52.7 +00.0	18			
19	177 08.5 +00.7	S 17	36.3 -00.5	196 49.9 +02.3	S 20	58.3 +00.0	191 23.1 +02.4	S 19	52.7 +00.0	19			
20	192 09.2 +00.7	S 17	35.8 -00.4	211 52.2 +02.3	S 20	58.3 -00.1	206 25.5 +02.4	S 19	52.7 +00.0	20			
21	207 09.9 +00.8	S 17	35.4 -00.5	226 54.5 +02.3	S 20	58.2 +00.0	221 27.9 +02.4	S 19	52.7 -00.1	21			
22	222 10.7 +00.7	S 17	34.9 -00.4	241 56.8 +02.2	S 20	58.2 +00.0	236 30.3 +02.3	S 19	52.6 +00.0	22			
23	237 11.4 +00.7	S 17	34.5 -00.5	256 59.0 +02.3	S 20	58.2 +00.0	251 32.6 +02.4	S 19	52.6 +00.0	23			
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>						
	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 042° 042° 042° 042° 042° 042°			SHA 062° 062° 062° 062° 062° 062°			SHA 056° 056° 056° 056° 056° 056°						
	Greenwich Culmination Time: 07:11			Greenwich Culmination Time: 05:54			Greenwich Culmination Time: 06:16						



Table for Sun, Venus, and Moon. Columns include UT, GHA, ddGHA, Dec, dDec for each celestial body. Includes summary rows for UT 02, 06, 10, 14, 18, 22 and Greenwich Culmination Time.

Table for Mars, Jupiter, and Saturn. Columns include UT, GHA, ddGHA, Dec, dDec for each celestial body. Includes summary rows for UT 02, 06, 10, 14, 18, 22 and Greenwich Culmination Time.





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 30.2 +00.1	N 13 16.3 +00.8	139 05.4 +00.9	N 27 27.8 +00.2	158 48.1 -27.9	N 16 32.4 +09.1	00						
01	195 30.3 +00.1	N 13 17.1 +00.8	154 06.3 +00.9	N 27 28.0 +00.2	173 20.2 -27.9	N 16 41.5 +09.1	01						
02	210 30.4 +00.1	N 13 17.9 +00.8	169 07.2 +00.8	N 27 28.2 +00.2	187 52.3 -27.9	N 16 50.6 +09.0	02						
03	225 30.5 +00.1	N 13 18.7 +00.8	184 08.0 +00.9	N 27 28.4 +00.2	202 24.4 -28.0	N 16 59.6 +08.9	03						
04	240 30.6 +00.1	N 13 19.5 +00.9	199 08.9 +00.9	N 27 28.6 +00.2	216 56.4 -28.1	N 17 08.5 +08.8	04						
05	255 30.7 +00.1	N 13 20.4 +00.8	214 09.8 +00.9	N 27 28.8 +00.2	231 28.3 -28.2	N 17 17.3 +08.8	05						
06	270 30.8 +00.1	N 13 21.2 +00.8	229 10.7 +00.9	N 27 29.0 +00.1	246 00.1 -28.2	N 17 26.1 +08.7	06						
07	285 30.9 +00.1	N 13 22.0 +00.8	244 11.6 +00.9	N 27 29.1 +00.2	260 31.9 -28.2	N 17 34.8 +08.6	07						
08	300 31.0 +00.1	N 13 22.8 +00.8	259 12.5 +00.9	N 27 29.3 +00.2	275 03.7 -28.4	N 17 43.4 +08.6	08						
09	315 31.1 +00.1	N 13 23.6 +00.8	274 13.4 +00.9	N 27 29.5 +00.2	289 35.3 -28.4	N 17 52.0 +08.5	09						
10	330 31.2 +00.1	N 13 24.4 +00.8	289 14.3 +00.9	N 27 29.7 +00.2	304 06.9 -28.5	N 18 00.5 +08.4	10						
11	345 31.3 +00.1	N 13 25.2 +00.8	304 15.2 +00.9	N 27 29.9 +00.2	318 38.4 -28.5	N 18 08.9 +08.3	11						
12	0 31.4 +00.2	N 13 26.0 +00.8	319 16.1 +00.9	N 27 30.1 +00.2	333 09.9 -28.6	N 18 17.2 +08.2	12						
13	15 31.6 +00.1	N 13 26.8 +00.8	334 17.0 +00.9	N 27 30.3 +00.1	347 41.3 -28.7	N 18 25.4 +08.2	13						
14	30 31.7 +00.1	N 13 27.6 +00.8	349 17.9 +00.9	N 27 30.4 +00.2	2 12.6 -28.7	N 18 33.6 +08.1	14						
15	45 31.8 +00.1	N 13 28.4 +00.8	4 18.8 +00.9	N 27 30.6 +00.2	16 43.9 -28.8	N 18 41.7 +08.0	15						
16	60 31.9 +00.1	N 13 29.2 +00.9	19 19.7 +00.9	N 27 30.8 +00.2	31 15.1 -28.9	N 18 49.7 +07.9	16						
17	75 32.0 +00.1	N 13 30.1 +00.8	34 20.6 +00.9	N 27 31.0 +00.2	45 46.2 -28.9	N 18 57.6 +07.8	17						
18	90 32.1 +00.1	N 13 30.9 +00.8	49 21.5 +00.9	N 27 31.2 +00.1	60 17.3 -29.0	N 19 05.4 +07.8	18						
19	105 32.2 +00.1	N 13 31.7 +00.8	64 22.4 +01.0	N 27 31.3 +00.2	74 48.3 -29.1	N 19 13.2 +07.7	19						
20	120 32.3 +00.1	N 13 32.5 +00.8	79 23.4 +00.9	N 27 31.5 +00.2	89 19.2 -29.1	N 19 20.9 +07.5	20						
21	135 32.4 +00.1	N 13 33.3 +00.8	94 24.3 +00.9	N 27 31.7 +00.2	103 50.1 -29.2	N 19 28.4 +07.5	21						
22	150 32.5 +00.1	N 13 34.1 +00.8	109 25.2 +01.0	N 27 31.9 +00.2	118 20.9 -29.3	N 19 35.9 +07.4	22						
23	165 32.6 +00.1	N 13 34.9 +00.8	124 26.2 +00.9	N 27 32.1 +00.1	132 51.6 -29.3	N 19 43.3 +07.4	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 00'3 00'3 00'3 00'3 00'3 00'3		SD 14'9 14'9 15'0 15'0 15'0 15'0								
	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 54'7 54'8 54'9 54'9 55'0 55'1								
	SHA 327° 327° 327° 326° 326° 326°		SHA 286° 285° 285° 285° 285° 285°		SHA 304° 302° 300° 298° 296° 294°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 14:42		Greenwich Culmination Time: 13:50								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	253 03.7 +00.8	S 17 00.2 -00.4	274 46.4 +02.3	S 20 56.3 +00.0	269 27.0 +02.4	S 19 51.7 +00.0	00						
01	268 04.5 +00.7	S 16 59.8 -00.5	289 48.7 +02.3	S 20 56.3 +00.0	284 29.4 +02.4	S 19 51.7 +00.0	01						
02	283 05.2 +00.7	S 16 59.3 -00.5	304 51.0 +02.3	S 20 56.3 +00.0	299 31.8 +02.4	S 19 51.7 +00.0	02						
03	298 05.9 +00.7	S 16 58.8 -00.5	319 53.3 +02.3	S 20 56.3 +00.0	314 34.2 +02.4	S 19 51.7 +00.0	03						
04	313 06.6 +00.8	S 16 58.3 -00.5	334 55.6 +02.3	S 20 56.3 -00.1	329 36.6 +02.4	S 19 51.7 +00.0	04						
05	328 07.4 +00.7	S 16 57.8 -00.4	349 57.9 +02.3	S 20 56.2 +00.0	344 39.0 +02.4	S 19 51.7 +00.0	05						
06	343 08.1 +00.7	S 16 57.4 -00.5	5 00.2 +02.3	S 20 56.2 +00.0	359 41.4 +02.4	S 19 51.7 +00.0	06						
07	358 08.8 +00.7	S 16 56.9 -00.5	20 02.5 +02.3	S 20 56.2 +00.0	14 43.8 +02.4	S 19 51.7 -00.1	07						
08	13 09.5 +00.8	S 16 56.4 -00.5	35 04.8 +02.4	S 20 56.2 -00.1	29 46.2 +02.4	S 19 51.6 +00.0	08						
09	28 10.3 +00.7	S 16 55.9 -00.4	50 07.2 +02.3	S 20 56.1 +00.0	44 48.6 +02.4	S 19 51.6 +00.0	09						
10	43 11.0 +00.7	S 16 55.5 -00.5	65 09.5 +02.3	S 20 56.1 +00.0	59 51.0 +02.4	S 19 51.6 +00.0	10						
11	58 11.7 +00.7	S 16 55.0 -00.5	80 11.8 +02.3	S 20 56.1 +00.0	74 53.4 +02.4	S 19 51.6 +00.0	11						
12	73 12.4 +00.8	S 16 54.5 -00.5	95 14.1 +02.3	S 20 56.1 +00.0	89 55.8 +02.4	S 19 51.6 +00.0	12						
13	88 13.2 +00.7	S 16 54.0 -00.5	110 16.4 +02.3	S 20 56.1 -00.1	104 58.2 +02.4	S 19 51.6 +00.0	13						
14	103 13.9 +00.7	S 16 53.5 -00.4	125 18.7 +02.3	S 20 56.0 +00.0	120 00.6 +02.4	S 19 51.6 +00.0	14						
15	118 14.6 +00.7	S 16 53.1 -00.5	140 21.0 +02.3	S 20 56.0 +00.0	135 03.0 +02.4	S 19 51.6 +00.0	15						
16	133 15.3 +00.8	S 16 52.6 -00.5	155 23.3 +02.3	S 20 56.0 +00.0	150 05.4 +02.4	S 19 51.6 +00.0	16						
17	148 16.1 +00.7	S 16 52.1 -00.5	170 25.6 +02.3	S 20 56.0 -00.1	165 07.8 +02.4	S 19 51.6 -00.1	17						
18	163 16.8 +00.7	S 16 51.6 -00.5	185 27.9 +02.3	S 20 55.9 +00.0	180 10.2 +02.4	S 19 51.5 +00.0	18						
19	178 17.5 +00.8	S 16 51.1 -00.4	200 30.2 +02.4	S 20 55.9 +00.0	195 12.6 +02.4	S 19 51.5 +00.0	19						
20	193 18.3 +00.7	S 16 50.7 -00.5	215 32.6 +02.3	S 20 55.9 +00.0	210 15.0 +02.4	S 19 51.5 +00.0	20						
21	208 19.0 +00.7	S 16 50.2 -00.5	230 34.9 +02.3	S 20 55.9 +00.0	225 17.4 +02.4	S 19 51.5 +00.0	21						
22	223 19.7 +00.7	S 16 49.7 -00.5	245 37.2 +02.3	S 20 55.9 -00.1	240 19.8 +02.4	S 19 51.5 +00.0	22						
23	238 20.4 +00.8	S 16 49.2 -00.5	260 39.5 +02.3	S 20 55.8 +00.0	255 22.2 +02.4	S 19 51.5 +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 00'1 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 040° 039° 039° 039° 039° 039°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 07:07		Greenwich Culmination Time: 05:40		Greenwich Culmination Time: 06:01								

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	32.7 +00.1	N 13 35.7 +00.8		139	27.1 +00.9	N 27 32.2 +00.2		147	22.3 -29.4	N 19 50.7 +07.2		00
01	195	32.8 +00.1	N 13 36.5 +00.8		154	28.0 +01.0	N 27 32.4 +00.2		161	52.9 -29.5	N 19 57.9 +07.1		01
02	210	32.9 +00.1	N 13 37.3 +00.8		169	29.0 +00.9	N 27 32.6 +00.1		176	23.4 -29.5	N 20 05.0 +07.1		02
03	225	33.0 +00.1	N 13 38.1 +00.8		184	29.9 +00.9	N 27 32.7 +00.2		190	53.9 -29.6	N 20 12.1 +06.9		03
04	240	33.1 +00.1	N 13 38.9 +00.8		199	30.8 +01.0	N 27 32.9 +00.2		205	24.3 -29.7	N 20 19.0 +06.9		04
05	255	33.2 +00.1	N 13 39.7 +00.8		214	31.8 +00.9	N 27 33.1 +00.2		219	54.6 -29.7	N 20 25.9 +06.8		05
06	270	33.3 +00.1	N 13 40.5 +00.8		229	32.7 +01.0	N 27 33.3 +00.1		234	24.9 -29.8	N 20 32.7 +06.6		06
07	285	33.4 +00.1	N 13 41.3 +00.8		244	33.7 +00.9	N 27 33.4 +00.2		248	55.1 -29.9	N 20 39.3 +06.6		07
08	300	33.5 +00.1	N 13 42.1 +00.8		259	34.6 +01.0	N 27 33.6 +00.2		263	25.2 -29.9	N 20 45.9 +06.5		08
09	315	33.6 +00.1	N 13 42.9 +00.8		274	35.6 +01.0	N 27 33.8 +00.1		277	55.3 -30.0	N 20 52.4 +06.4		09
10	330	33.7 +00.1	N 13 43.7 +00.8		289	36.6 +00.9	N 27 33.9 +00.2		292	25.3 -30.1	N 20 58.8 +06.3		10
11	345	33.8 +00.1	N 13 44.5 +00.8		304	37.5 +01.0	N 27 34.1 +00.1		306	55.2 -30.1	N 21 05.1 +06.1		11
12	0	33.9 +00.1	N 13 45.3 +00.8		319	38.5 +00.9	N 27 34.2 +00.2		321	25.1 -30.2	N 21 11.2 +06.1		12
13	15	34.0 +00.1	N 13 46.1 +00.8		334	39.4 +01.0	N 27 34.4 +00.2		335	54.9 -30.3	N 21 17.3 +06.0		13
14	30	34.1 +00.1	N 13 46.9 +00.8		349	40.4 +01.0	N 27 34.6 +00.1		350	24.6 -30.3	N 21 23.3 +05.9		14
15	45	34.2 +00.1	N 13 47.7 +00.8		4	41.4 +01.0	N 27 34.7 +00.2		4	54.3 -30.4	N 21 29.2 +05.8		15
16	60	34.3 +00.0	N 13 48.5 +00.8		19	42.4 +00.9	N 27 34.9 +00.2		19	23.9 -30.5	N 21 35.0 +05.6		16
17	75	34.3 +00.1	N 13 49.3 +00.8		34	43.3 +01.0	N 27 35.1 +00.1		33	53.4 -30.5	N 21 40.6 +05.6		17
18	90	34.4 +00.1	N 13 50.1 +00.8		49	44.3 +01.0	N 27 35.2 +00.2		48	22.9 -30.6	N 21 46.2 +05.5		18
19	105	34.5 +00.1	N 13 50.9 +00.8		64	45.3 +01.0	N 27 35.4 +00.1		62	52.3 -30.6	N 21 51.7 +05.3		19
20	120	34.6 +00.1	N 13 51.7 +00.8		79	46.3 +01.0	N 27 35.5 +00.2		77	21.7 -30.7	N 21 57.0 +05.3		20
21	135	34.7 +00.1	N 13 52.5 +00.8		94	47.3 +01.0	N 27 35.7 +00.1		91	51.0 -30.8	N 22 02.3 +05.1		21
22	150	34.8 +00.1	N 13 53.3 +00.8		109	48.3 +01.0	N 27 35.8 +00.2		106	20.2 -30.8	N 22 07.4 +05.1		22
23	165	34.9 +00.1	N 13 54.1 +00.8		124	49.3 +01.0	N 27 36.0 +00.1		120	49.4 -30.9	N 22 12.5 +04.9		23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	SD 15'9 15'9 15'9 15'9 15'9 15'9				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 15'0 15'0 15'1 15'1 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 55'1 55'2 55'3 55'4 55'5 55'5				
	SHA 326° 326° 326° 326° 325° 325°				SHA 285° 285° 285° 285° 285° 284°				SHA 292° 290° 288° 285° 283° 281°				
	Greenwich Culmination Time: 11:57				Greenwich Culmination Time: 14:41				Greenwich Culmination Time: 14:39				

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	253	21.2 +00.7	S 16 48.7 -00.5		275	41.8 +02.3	S 20 55.8 +00.0		270	24.6 +02.4	S 19 51.5 +00.0		00
01	268	21.9 +00.7	S 16 48.2 -00.4		290	44.1 +02.3	S 20 55.8 +00.0		285	27.0 +02.4	S 19 51.5 +00.0		01
02	283	22.6 +00.7	S 16 47.8 -00.5		305	46.4 +02.3	S 20 55.8 -00.1		300	29.4 +02.4	S 19 51.5 -00.1		02
03	298	23.3 +00.8	S 16 47.3 -00.5		320	48.7 +02.4	S 20 55.7 +00.0		315	31.8 +02.4	S 19 51.4 +00.0		03
04	313	24.1 +00.7	S 16 46.8 -00.5		335	51.1 +02.3	S 20 55.7 +00.0		330	34.2 +02.4	S 19 51.4 +00.0		04
05	328	24.8 +00.7	S 16 46.3 -00.5		350	53.4 +02.3	S 20 55.7 +00.0		345	36.6 +02.4	S 19 51.4 +00.0		05
06	343	25.5 +00.8	S 16 45.8 -00.4		5	55.7 +02.3	S 20 55.7 +00.0		0	39.0 +02.4	S 19 51.4 +00.0		06
07	358	26.3 +00.7	S 16 45.4 -00.5		20	58.0 +02.3	S 20 55.7 -00.1		15	41.4 +02.4	S 19 51.4 +00.0		07
08	13	27.0 +00.7	S 16 44.9 -00.5		36	00.3 +02.3	S 20 55.6 +00.0		30	43.8 +02.4	S 19 51.4 +00.0		08
09	28	27.7 +00.8	S 16 44.4 -00.5		51	02.6 +02.3	S 20 55.6 +00.0		45	46.2 +02.4	S 19 51.4 +00.0		09
10	43	28.5 +00.7	S 16 43.9 -00.5		66	04.9 +02.4	S 20 55.6 +00.0		60	48.6 +02.4	S 19 51.4 +00.0		10
11	58	29.2 +00.7	S 16 43.4 -00.5		81	07.3 +02.3	S 20 55.6 +00.0		75	51.0 +02.4	S 19 51.4 +00.0		11
12	73	29.9 +00.7	S 16 42.9 -00.4		96	09.6 +02.3	S 20 55.6 -00.1		90	53.4 +02.4	S 19 51.4 +00.0		12
13	88	30.6 +00.8	S 16 42.5 -00.5		111	11.9 +02.3	S 20 55.5 +00.0		105	55.8 +02.4	S 19 51.4 -00.1		13
14	103	31.4 +00.7	S 16 42.0 -00.5		126	14.2 +02.3	S 20 55.5 +00.0		120	58.2 +02.4	S 19 51.3 +00.0		14
15	118	32.1 +00.7	S 16 41.5 -00.5		141	16.5 +02.3	S 20 55.5 +00.0		136	00.6 +02.4	S 19 51.3 +00.0		15
16	133	32.8 +00.8	S 16 41.0 -00.5		156	18.8 +02.4	S 20 55.5 +00.0		151	03.0 +02.4	S 19 51.3 +00.0		16
17	148	33.6 +00.7	S 16 40.5 -00.5		171	21.2 +02.3	S 20 55.5 -00.1		166	05.4 +02.4	S 19 51.3 +00.0		17
18	163	34.3 +00.7	S 16 40.0 -00.5		186	23.5 +02.3	S 20 55.4 +00.0		181	07.8 +02.4	S 19 51.3 +00.0		18
19	178	35.0 +00.8	S 16 39.5 -00.4		201	25.8 +02.3	S 20 55.4 +00.0		196	10.2 +02.4	S 19 51.3 +00.0		19
20	193	35.8 +00.7	S 16 39.1 -00.5		216	28.1 +02.3	S 20 55.4 +00.0		211	12.6 +02.4	S 19 51.3 +00.0		20
21	208	36.5 +00.7	S 16 38.6 -00.5		231	30.4 +02.3	S 20 55.4 -00.1		226	15.0 +02.4	S 19 51.3 +00.0		21
22	223	37.2 +00.8	S 16 38.1 -00.5		246	32.7 +02.4	S 20 55.3 +00.0		241	17.4 +02.4	S 19 51.3 +00.0		22
23	238	38.0 +00.7	S 16 37.6 -00.5		261	35.1 +02.3	S 20 55.3 +00.0		256	19.8 +02.4	S 19 51.3 -00.1		23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	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 039° 039° 039° 038° 038° 038°				SHA 061° 061° 061° 061° 061° 061°				SHA 056° 056° 056° 056° 056° 056°				
	Greenwich Culmination Time: 07:06				Greenwich Culmination Time: 05:36				Greenwich Culmination Time: 05:57				

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 35.0 +00.1	N 13 54.9 +00.8	139 50.3 +01.0	N 27 36.1 +00.2	135 18.5 -31.0	N 22 17.4 +04.8	00						
01	195 35.1 +00.1	N 13 55.7 +00.7	154 51.3 +01.0	N 27 36.3 +00.1	149 47.5 -31.0	N 22 22.2 +04.7	01						
02	210 35.2 +00.1	N 13 56.4 +00.8	169 52.3 +01.0	N 27 36.4 +00.2	164 16.5 -31.1	N 22 26.9 +04.6	02						
03	225 35.3 +00.1	N 13 57.2 +00.8	184 53.3 +01.0	N 27 36.6 +00.1	178 45.4 -31.2	N 22 31.5 +04.5	03						
04	240 35.4 +00.1	N 13 58.0 +00.8	199 54.3 +01.0	N 27 36.7 +00.2	193 14.2 -31.2	N 22 36.0 +04.3	04						
05	255 35.5 +00.1	N 13 58.8 +00.8	214 55.3 +01.0	N 27 36.9 +00.1	207 43.0 -31.2	N 22 40.3 +04.3	05						
06	270 35.6 +00.1	N 13 59.6 +00.8	229 56.3 +01.0	N 27 37.0 +00.2	222 11.8 -31.4	N 22 44.6 +04.1	06						
07	285 35.7 +00.1	N 14 00.4 +00.8	244 57.3 +01.0	N 27 37.2 +00.1	236 40.4 -31.3	N 22 48.7 +04.1	07						
08	300 35.8 +00.1	N 14 01.2 +00.8	259 58.3 +01.0	N 27 37.3 +00.2	251 09.1 -31.5	N 22 52.8 +03.9	08						
09	315 35.9 +00.1	N 14 02.0 +00.8	274 59.3 +01.1	N 27 37.5 +00.1	265 37.6 -31.5	N 22 56.7 +03.7	09						
10	330 36.0 +00.1	N 14 02.8 +00.8	290 00.4 +01.0	N 27 37.6 +00.2	280 06.1 -31.5	N 23 00.4 +03.7	10						
11	345 36.1 +00.1	N 14 03.6 +00.8	305 01.4 +01.0	N 27 37.8 +00.1	294 34.6 -31.6	N 23 04.1 +03.6	11						
12	0 36.2 +00.0	N 14 04.4 +00.7	320 02.4 +01.1	N 27 37.9 +00.1	309 03.0 -31.7	N 23 07.7 +03.4	12						
13	15 36.2 +00.1	N 14 05.1 +00.8	335 03.5 +01.0	N 27 38.0 +00.2	323 31.3 -31.7	N 23 11.1 +03.3	13						
14	30 36.3 +00.1	N 14 05.9 +00.8	350 04.5 +01.0	N 27 38.2 +00.1	337 59.6 -31.8	N 23 14.4 +03.2	14						
15	45 36.4 +00.1	N 14 06.7 +00.8	5 05.5 +01.1	N 27 38.3 +00.2	352 27.8 -31.8	N 23 17.6 +03.1	15						
16	60 36.5 +00.1	N 14 07.5 +00.8	20 06.6 +01.0	N 27 38.5 +00.1	6 56.0 -31.9	N 23 20.7 +02.9	16						
17	75 36.6 +00.1	N 14 08.3 +00.8	35 07.6 +01.1	N 27 38.6 +00.1	21 24.1 -31.9	N 23 23.6 +02.8	17						
18	90 36.7 +00.1	N 14 09.1 +00.8	50 08.7 +01.0	N 27 38.7 +00.2	35 52.2 -32.0	N 23 26.4 +02.7	18						
19	105 36.8 +00.1	N 14 09.9 +00.8	65 09.7 +01.1	N 27 38.9 +00.1	50 20.2 -32.0	N 23 29.1 +02.6	19						
20	120 36.9 +00.1	N 14 10.7 +00.7	80 10.8 +01.0	N 27 39.0 +00.1	64 48.2 -32.1	N 23 31.7 +02.5	20						
21	135 37.0 +00.1	N 14 11.4 +00.8	95 11.8 +01.1	N 27 39.1 +00.2	79 16.1 -32.1	N 23 34.2 +02.3	21						
22	150 37.1 +00.1	N 14 12.2 +00.8	110 12.9 +01.0	N 27 39.3 +00.1	93 44.0 -32.2	N 23 36.5 +02.2	22						
23	165 37.2 +00.1	N 14 13.0 +00.8	125 13.9 +01.1	N 27 39.4 +00.1	108 11.8 -32.2	N 23 38.7 +02.1	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 00'3 00'3 00'3 00'3 00'3 00'3		SD 15'2 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 55'6 55'7 55'8 55'9 56'0 56'1								
	SHA 325° 325° 325° 325° 324° 324°		SHA 284° 284° 284° 284° 284° 284°		SHA 279° 277° 274° 272° 270° 267°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 14:39		Greenwich Culmination Time: 15:31								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	253 38.7 +00.7	S 16 37.1 -00.5	276 37.4 +02.3	S 20 55.3 +00.0	271 22.2 +02.4	S 19 51.2 +00.0	00						
01	268 39.4 +00.8	S 16 36.6 -00.5	291 39.7 +02.3	S 20 55.3 +00.0	286 24.6 +02.4	S 19 51.2 +00.0	01						
02	283 40.2 +00.7	S 16 36.1 -00.4	306 42.0 +02.3	S 20 55.3 -00.1	301 27.0 +02.4	S 19 51.2 +00.0	02						
03	298 40.9 +00.7	S 16 35.7 -00.5	321 44.3 +02.4	S 20 55.2 +00.0	316 29.4 +02.4	S 19 51.2 +00.0	03						
04	313 41.6 +00.8	S 16 35.2 -00.5	336 46.7 +02.3	S 20 55.2 +00.0	331 31.8 +02.4	S 19 51.2 +00.0	04						
05	328 42.4 +00.7	S 16 34.7 -00.5	351 49.0 +02.3	S 20 55.2 +00.0	346 34.2 +02.5	S 19 51.2 +00.0	05						
06	343 43.1 +00.7	S 16 34.2 -00.5	6 51.3 +02.3	S 20 55.2 +00.0	1 36.7 +02.4	S 19 51.2 +00.0	06						
07	358 43.8 +00.8	S 16 33.7 -00.5	21 53.6 +02.4	S 20 55.2 -00.1	16 39.1 +02.4	S 19 51.2 +00.0	07						
08	13 44.6 +00.7	S 16 33.2 -00.5	36 56.0 +02.3	S 20 55.1 +00.0	31 41.5 +02.4	S 19 51.2 +00.0	08						
09	28 45.3 +00.7	S 16 32.7 -00.5	51 58.3 +02.3	S 20 55.1 +00.0	46 43.9 +02.4	S 19 51.2 +00.0	09						
10	43 46.0 +00.8	S 16 32.2 -00.4	67 00.6 +02.3	S 20 55.1 +00.0	61 46.3 +02.4	S 19 51.2 -00.1	10						
11	58 46.8 +00.7	S 16 31.8 -00.5	82 02.9 +02.4	S 20 55.1 +00.0	76 48.7 +02.4	S 19 51.1 +00.0	11						
12	73 47.5 +00.7	S 16 31.3 -00.5	97 05.3 +02.3	S 20 55.1 -00.1	91 51.1 +02.4	S 19 51.1 +00.0	12						
13	88 48.2 +00.8	S 16 30.8 -00.5	112 07.6 +02.3	S 20 55.0 +00.0	106 53.5 +02.4	S 19 51.1 +00.0	13						
14	103 49.0 +00.7	S 16 30.3 -00.5	127 09.9 +02.3	S 20 55.0 +00.0	121 55.9 +02.4	S 19 51.1 +00.0	14						
15	118 49.7 +00.7	S 16 29.8 -00.5	142 12.2 +02.3	S 20 55.0 +00.0	136 58.3 +02.4	S 19 51.1 +00.0	15						
16	133 50.4 +00.8	S 16 29.3 -00.5	157 14.5 +02.4	S 20 55.0 +00.0	152 00.7 +02.4	S 19 51.1 +00.0	16						
17	148 51.2 +00.7	S 16 28.8 -00.5	172 16.9 +02.3	S 20 55.0 +00.0	167 03.1 +02.4	S 19 51.1 +00.0	17						
18	163 51.9 +00.7	S 16 28.3 -00.5	187 19.2 +02.3	S 20 55.0 -00.1	182 05.5 +02.4	S 19 51.1 +00.0	18						
19	178 52.6 +00.8	S 16 27.8 -00.4	202 21.5 +02.4	S 20 54.9 +00.0	197 07.9 +02.4	S 19 51.1 +00.0	19						
20	193 53.4 +00.7	S 16 27.4 -00.5	217 23.9 +02.3	S 20 54.9 +00.0	212 10.3 +02.4	S 19 51.1 +00.0	20						
21	208 54.1 +00.7	S 16 26.9 -00.5	232 26.2 +02.3	S 20 54.9 +00.0	227 12.7 +02.5	S 19 51.1 +00.0	21						
22	223 54.8 +00.8	S 16 26.4 -00.5	247 28.5 +02.3	S 20 54.9 +00.0	242 15.2 +02.4	S 19 51.1 -00.1	22						
23	238 55.6 +00.7	S 16 25.9 -00.5	262 30.8 +02.4	S 20 54.9 -00.1	257 17.6 +02.4	S 19 51.0 +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 00'1 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 038° 038° 038° 038° 038° 038°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 07:05		Greenwich Culmination Time: 05:32		Greenwich Culmination Time: 05:53								

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 37.3 +00.0	N 14 13.8 +00.8			140 15.0 +01.1	N 27 39.5 +00.2			122 39.6 -32.3	N 23 40.8 +01.9			00
01	195 37.3 +00.1	N 14 14.6 +00.8			155 16.1 +01.0	N 27 39.7 +00.1			137 07.3 -32.3	N 23 42.7 +01.9			01
02	210 37.4 +00.1	N 14 15.4 +00.7			170 17.1 +01.1	N 27 39.8 +00.1			151 35.0 -32.3	N 23 44.6 +01.6			02
03	225 37.5 +00.1	N 14 16.1 +00.8			185 18.2 +01.1	N 27 39.9 +00.2			166 02.7 -32.4	N 23 46.2 +01.6			03
04	240 37.6 +00.1	N 14 16.9 +00.8			200 19.3 +01.1	N 27 40.1 +00.1			180 30.3 -32.5	N 23 47.8 +01.4			04
05	255 37.7 +00.1	N 14 17.7 +00.8			215 20.4 +01.0	N 27 40.2 +00.1			194 57.8 -32.5	N 23 49.2 +01.3			05
06	270 37.8 +00.1	N 14 18.5 +00.8			230 21.4 +01.1	N 27 40.3 +00.1			209 25.3 -32.5	N 23 50.5 +01.2			06
07	285 37.9 +00.1	N 14 19.3 +00.8			245 22.5 +01.1	N 27 40.4 +00.2			223 52.8 -32.5	N 23 51.7 +01.1			07
08	300 38.0 +00.1	N 14 20.1 +00.7			260 23.6 +01.1	N 27 40.6 +00.1			238 20.3 -32.6	N 23 52.8 +00.9			08
09	315 38.1 +00.0	N 14 20.8 +00.8			275 24.7 +01.1	N 27 40.7 +00.1			252 47.7 -32.7	N 23 53.7 +00.8			09
10	330 38.1 +00.1	N 14 21.6 +00.8			290 25.8 +01.1	N 27 40.8 +00.1			267 15.0 -32.6	N 23 54.5 +00.6			10
11	345 38.2 +00.1	N 14 22.4 +00.8			305 26.9 +01.1	N 27 40.9 +00.1			281 42.4 -32.8	N 23 55.1 +00.5			11
12	0 38.3 +00.1	N 14 23.2 +00.8			320 28.0 +01.1	N 27 41.0 +00.2			296 09.6 -32.7	N 23 55.6 +00.4			12
13	15 38.4 +00.1	N 14 24.0 +00.7			335 29.1 +01.1	N 27 41.2 +00.1			310 36.9 -32.8	N 23 56.0 +00.3			13
14	30 38.5 +00.1	N 14 24.7 +00.8			350 30.2 +01.1	N 27 41.3 +00.1			325 04.1 -32.8	N 23 56.3 +00.1			14
15	45 38.6 +00.1	N 14 25.5 +00.8			5 31.3 +01.1	N 27 41.4 +00.1			339 31.3 -32.8	N 23 56.4 +00.0			15
16	60 38.7 +00.1	N 14 26.3 +00.8			20 32.4 +01.1	N 27 41.5 +00.1			353 58.5 -32.9	N 23 56.4 -00.2			16
17	75 38.8 +00.0	N 14 27.1 +00.7			35 33.5 +01.1	N 27 41.6 +00.1			8 25.6 -32.9	N 23 56.2 -00.3			17
18	90 38.8 +00.1	N 14 27.8 +00.8			50 34.6 +01.1	N 27 41.7 +00.2			22 52.7 -32.9	N 23 55.9 -00.4			18
19	105 38.9 +00.1	N 14 28.6 +00.8			65 35.7 +01.2	N 27 41.9 +00.1			37 19.8 -33.0	N 23 55.5 -00.6			19
20	120 39.0 +00.1	N 14 29.4 +00.8			80 36.9 +01.1	N 27 42.0 +00.1			51 46.8 -33.0	N 23 54.9 -00.7			20
21	135 39.1 +00.1	N 14 30.2 +00.8			95 38.0 +01.1	N 27 42.1 +00.1			66 13.8 -33.0	N 23 54.2 -00.8			21
22	150 39.2 +00.1	N 14 31.0 +00.7			110 39.1 +01.1	N 27 42.2 +00.1			80 40.8 -33.0	N 23 53.4 -01.0			22
23	165 39.3 +00.1	N 14 31.7 +00.8			125 40.2 +01.2	N 27 42.3 +00.1			95 07.8 -33.1	N 23 52.4 -01.1			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 00'3 00'3 00'3 00'3 00'3 00'3				SD 15'3 15'3 15'4 15'4 15'4 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 56'2 56'3 56'4 56'5 56'6 56'7				
	SHA 324° 324° 324° 324° 323° 323°				SHA 284° 284° 284° 284° 283° 283°				SHA 265° 263° 260° 258° 256° 253°				
	Greenwich Culmination Time: 11:57				Greenwich Culmination Time: 14:37				Greenwich Culmination Time: 16:25				

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	253 56.3 +00.8	S 16 25.4 -00.5			277 33.2 +02.3	S 20 54.8 +00.0			272 20.0 +02.4	S 19 51.0 +00.0			00
01	268 57.1 +00.7	S 16 24.9 -00.5			292 35.5 +02.3	S 20 54.8 +00.0			287 22.4 +02.4	S 19 51.0 +00.0			01
02	283 57.8 +00.7	S 16 24.4 -00.5			307 37.8 +02.3	S 20 54.8 +00.0			302 24.8 +02.4	S 19 51.0 +00.0			02
03	298 58.5 +00.8	S 16 23.9 -00.5			322 40.1 +02.4	S 20 54.8 +00.0			317 27.2 +02.4	S 19 51.0 +00.0			03
04	313 59.3 +00.7	S 16 23.4 -00.5			337 42.5 +02.3	S 20 54.8 -00.1			332 29.6 +02.4	S 19 51.0 +00.0			04
05	329 00.0 +00.7	S 16 22.9 -00.5			352 44.8 +02.3	S 20 54.7 +00.0			347 32.0 +02.4	S 19 51.0 +00.0			05
06	344 00.7 +00.8	S 16 22.4 -00.4			7 47.1 +02.4	S 20 54.7 +00.0			2 34.4 +02.4	S 19 51.0 +00.0			06
07	359 01.5 +00.7	S 16 22.0 -00.5			22 49.5 +02.3	S 20 54.7 +00.0			17 36.8 +02.4	S 19 51.0 +00.0			07
08	14 02.2 +00.8	S 16 21.5 -00.5			37 51.8 +02.3	S 20 54.7 +00.0			32 39.2 +02.4	S 19 51.0 +00.0			08
09	29 03.0 +00.7	S 16 21.0 -00.5			52 54.1 +02.4	S 20 54.7 +00.0			47 41.6 +02.5	S 19 51.0 +00.0			09
10	44 03.7 +00.7	S 16 20.5 -00.5			67 56.5 +02.3	S 20 54.7 -00.1			62 44.1 +02.4	S 19 51.0 +00.0			10
11	59 04.4 +00.8	S 16 20.0 -00.5			82 58.8 +02.3	S 20 54.6 +00.0			77 46.5 +02.4	S 19 51.0 -00.1			11
12	74 05.2 +00.7	S 16 19.5 -00.5			98 01.1 +02.4	S 20 54.6 +00.0			92 48.9 +02.4	S 19 50.9 +00.0			12
13	89 05.9 +00.7	S 16 19.0 -00.5			113 03.5 +02.3	S 20 54.6 +00.0			107 51.3 +02.4	S 19 50.9 +00.0			13
14	104 06.6 +00.8	S 16 18.5 -00.5			128 05.8 +02.3	S 20 54.6 +00.0			122 53.7 +02.4	S 19 50.9 +00.0			14
15	119 07.4 +00.7	S 16 18.0 -00.5			143 08.1 +02.4	S 20 54.6 -00.1			137 56.1 +02.4	S 19 50.9 +00.0			15
16	134 08.1 +00.8	S 16 17.5 -00.5			158 10.5 +02.3	S 20 54.5 +00.0			152 58.5 +02.4	S 19 50.9 +00.0			16
17	149 08.9 +00.7	S 16 17.0 -00.5			173 12.8 +02.3	S 20 54.5 +00.0			168 00.9 +02.4	S 19 50.9 +00.0			17
18	164 09.6 +00.7	S 16 16.5 -00.5			188 15.1 +02.4	S 20 54.5 +00.0			183 03.3 +02.5	S 19 50.9 +00.0			18
19	179 10.3 +00.8	S 16 16.0 -00.5			203 17.5 +02.3	S 20 54.5 +00.0			198 05.8 +02.4	S 19 50.9 +00.0			19
20	194 11.1 +00.7	S 16 15.5 -00.5			218 19.8 +02.3	S 20 54.5 +00.0			213 08.2 +02.4	S 19 50.9 +00.0			20
21	209 11.8 +00.8	S 16 15.0 -00.4			233 22.1 +02.4	S 20 54.5 -00.1			228 10.6 +02.4	S 19 50.9 +00.0			21
22	224 12.6 +00.7	S 16 14.6 -00.5			248 24.5 +02.3	S 20 54.4 +00.0			243 13.0 +02.4	S 19 50.9 +00.0			22
23	239 13.3 +00.7	S 16 14.1 -00.5			263 26.8 +02.3	S 20 54.4 +00.0			258 15.4 +02.4	S 19 50.9 +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 00'1 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 037° 037° 037° 037° 037° 037°				SHA 061° 061° 061° 061° 061° 061°				SHA 056° 056° 056° 056° 056° 056°				
	Greenwich Culmination Time: 07:03				Greenwich Culmination Time: 05:28				Greenwich Culmination Time: 05:49				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A:21%				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	180 39.4 +00.0	N 14 32.5 +00.8	140 41.4 +01.1	N 27 42.4 +00.1	109 34.7 -33.0	N 23 51.3 -01.2	00						
01	195 39.4 +00.1	N 14 33.3 +00.7	155 42.5 +01.2	N 27 42.5 +00.1	124 01.7 -33.1	N 23 50.1 -01.4	01						
02	210 39.5 +00.1	N 14 34.0 +00.8	170 43.7 +01.1	N 27 42.6 +00.1	138 28.6 -33.2	N 23 48.7 -01.5	02						
03	225 39.6 +00.1	N 14 34.8 +00.8	185 44.8 +01.1	N 27 42.7 +00.1	152 55.4 -33.1	N 23 47.2 -01.6	03						
04	240 39.7 +00.1	N 14 35.6 +00.8	200 45.9 +01.2	N 27 42.8 +00.2	167 22.3 -33.2	N 23 45.6 -01.8	04						
05	255 39.8 +00.1	N 14 36.4 +00.7	215 47.1 +01.1	N 27 43.0 +00.1	181 49.1 -33.1	N 23 43.8 -02.0	05						
06	270 39.9 +00.0	N 14 37.1 +00.8	230 48.2 +01.2	N 27 43.1 +00.1	196 16.0 -33.2	N 23 41.8 -02.0	06						
07	285 39.9 +00.1	N 14 37.9 +00.8	245 49.4 +01.1	N 27 43.2 +00.1	210 42.8 -33.2	N 23 39.8 -02.2	07						
08	300 40.0 +00.1	N 14 38.7 +00.8	260 50.5 +01.2	N 27 43.3 +00.1	225 09.6 -33.2	N 23 37.6 -02.4	08						
09	315 40.1 +00.1	N 14 39.5 +00.7	275 51.7 +01.2	N 27 43.4 +00.1	239 36.4 -33.3	N 23 35.2 -02.4	09						
10	330 40.2 +00.1	N 14 40.2 +00.8	290 52.9 +01.1	N 27 43.5 +00.1	254 03.1 -33.2	N 23 32.8 -02.7	10						
11	345 40.3 +00.1	N 14 41.0 +00.8	305 54.0 +01.2	N 27 43.6 +00.1	268 29.9 -33.3	N 23 30.1 -02.7	11						
12	0 40.4 +00.0	N 14 41.8 +00.7	320 55.2 +01.2	N 27 43.7 +00.1	282 56.6 -33.2	N 23 27.4 -02.9	12						
13	15 40.4 +00.1	N 14 42.5 +00.8	335 56.4 +01.2	N 27 43.8 +00.1	297 23.4 -33.3	N 23 24.5 -03.0	13						
14	30 40.5 +00.1	N 14 43.3 +00.8	350 57.6 +01.1	N 27 43.9 +00.1	311 50.1 -33.3	N 23 21.5 -03.2	14						
15	45 40.6 +00.1	N 14 44.1 +00.7	5 58.7 +01.2	N 27 44.0 +00.1	326 16.8 -33.3	N 23 18.3 -03.3	15						
16	60 40.7 +00.1	N 14 44.8 +00.8	20 59.9 +01.2	N 27 44.1 +00.0	340 43.5 -33.3	N 23 15.0 -03.4	16						
17	75 40.8 +00.1	N 14 45.6 +00.8	36 01.1 +01.2	N 27 44.1 +00.1	355 10.2 -33.3	N 23 11.6 -03.6	17						
18	90 40.9 +00.0	N 14 46.4 +00.7	51 02.3 +01.2	N 27 44.2 +00.1	9 36.9 -33.3	N 23 08.0 -03.8	18						
19	105 40.9 +00.1	N 14 47.1 +00.8	66 03.5 +01.2	N 27 44.3 +00.1	24 03.6 -33.3	N 23 04.2 -03.8	19						
20	120 41.0 +00.1	N 14 47.9 +00.8	81 04.7 +01.2	N 27 44.4 +00.1	38 30.3 -33.3	N 23 00.4 -04.0	20						
21	135 41.1 +00.1	N 14 48.7 +00.7	96 05.9 +01.2	N 27 44.5 +00.1	52 57.0 -33.3	N 22 56.4 -04.1	21						
22	150 41.2 +00.1	N 14 49.4 +00.8	111 07.1 +01.2	N 27 44.6 +00.1	67 23.7 -33.3	N 22 52.3 -04.3	22						
23	165 41.3 +00.0	N 14 50.2 +00.8	126 08.3 +01.2	N 27 44.7 +00.1	81 50.4 -33.3	N 22 48.0 -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 00'3 00'3 00'3 00'3 00'3 00'3		SD 15'5 15'5 15'5 15'6 15'6 15'6								
	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 56'8 56'9 57'1 57'2 57'3 57'4								
	SHA 323° 323° 323° 323° 323° 322°		SHA 283° 283° 283° 283° 283° 283°		SHA 251° 249° 246° 244° 241° 239°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 14:36		Greenwich Culmination Time: 17:20								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	254 14.0 +00.8	S 16 13.6 -00.5	278 29.1 +02.4	S 20 54.4 +00.0	273 17.8 +02.4	S 19 50.9 -00.1	00						
01	269 14.8 +00.7	S 16 13.1 -00.5	293 31.5 +02.3	S 20 54.4 +00.0	288 20.2 +02.4	S 19 50.8 +00.0	01						
02	284 15.5 +00.8	S 16 12.6 -00.5	308 33.8 +02.3	S 20 54.4 +00.0	303 22.6 +02.4	S 19 50.8 +00.0	02						
03	299 16.3 +00.7	S 16 12.1 -00.5	323 36.1 +02.4	S 20 54.4 -00.1	318 25.0 +02.5	S 19 50.8 +00.0	03						
04	314 17.0 +00.8	S 16 11.6 -00.5	338 38.5 +02.3	S 20 54.3 +00.0	333 27.5 +02.4	S 19 50.8 +00.0	04						
05	329 17.8 +00.7	S 16 11.1 -00.5	353 40.8 +02.3	S 20 54.3 +00.0	348 29.9 +02.4	S 19 50.8 +00.0	05						
06	344 18.5 +00.7	S 16 10.6 -00.5	8 43.1 +02.4	S 20 54.3 +00.0	3 32.3 +02.4	S 19 50.8 +00.0	06						
07	359 19.2 +00.8	S 16 10.1 -00.5	23 45.5 +02.3	S 20 54.3 +00.0	18 34.7 +02.4	S 19 50.8 +00.0	07						
08	14 20.0 +00.7	S 16 09.6 -00.5	38 47.8 +02.4	S 20 54.3 -00.1	33 37.1 +02.4	S 19 50.8 +00.0	08						
09	29 20.7 +00.8	S 16 09.1 -00.5	53 50.2 +02.3	S 20 54.2 +00.0	48 39.5 +02.4	S 19 50.8 +00.0	09						
10	44 21.5 +00.7	S 16 08.6 -00.5	68 52.5 +02.3	S 20 54.2 +00.0	63 41.9 +02.5	S 19 50.8 +00.0	10						
11	59 22.2 +00.8	S 16 08.1 -00.5	83 54.8 +02.4	S 20 54.2 +00.0	78 44.4 +02.4	S 19 50.8 +00.0	11						
12	74 23.0 +00.7	S 16 07.6 -00.5	98 57.2 +02.3	S 20 54.2 +00.0	93 46.8 +02.4	S 19 50.8 +00.0	12						
13	89 23.7 +00.7	S 16 07.1 -00.5	113 59.5 +02.4	S 20 54.2 +00.0	108 49.2 +02.4	S 19 50.8 +00.0	13						
14	104 24.4 +00.8	S 16 06.6 -00.5	129 01.9 +02.3	S 20 54.2 -00.1	123 51.6 +02.4	S 19 50.8 -00.1	14						
15	119 25.2 +00.7	S 16 06.1 -00.5	144 04.2 +02.3	S 20 54.1 +00.0	138 54.0 +02.4	S 19 50.7 +00.0	15						
16	134 25.9 +00.8	S 16 05.6 -00.5	159 06.5 +02.4	S 20 54.1 +00.0	153 56.4 +02.4	S 19 50.7 +00.0	16						
17	149 26.7 +00.7	S 16 05.1 -00.5	174 08.9 +02.3	S 20 54.1 +00.0	168 58.8 +02.5	S 19 50.7 +00.0	17						
18	164 27.4 +00.8	S 16 04.6 -00.5	189 11.2 +02.4	S 20 54.1 +00.0	184 01.3 +02.4	S 19 50.7 +00.0	18						
19	179 28.2 +00.7	S 16 04.1 -00.5	204 13.6 +02.3	S 20 54.1 +00.0	199 03.7 +02.4	S 19 50.7 +00.0	19						
20	194 28.9 +00.7	S 16 03.6 -00.5	219 15.9 +02.4	S 20 54.1 +00.0	214 06.1 +02.4	S 19 50.7 +00.0	20						
21	209 29.6 +00.8	S 16 03.1 -00.5	234 18.3 +02.3	S 20 54.1 -00.1	229 08.5 +02.4	S 19 50.7 +00.0	21						
22	224 30.4 +00.7	S 16 02.6 -00.5	249 20.6 +02.3	S 20 54.0 +00.0	244 10.9 +02.4	S 19 50.7 +00.0	22						
23	239 31.1 +00.8	S 16 02.1 -00.5	264 22.9 +02.4	S 20 54.0 +00.0	259 13.3 +02.5	S 19 50.7 +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 00'1 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 037° 037° 037° 036° 036° 036°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 07:02		Greenwich Culmination Time: 05:25		Greenwich Culmination Time: 05:45								

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	41.3 +00.1	N 14 51.0	+00.7	141	09.5 +01.2	N 27 44.8	+00.1	96	17.1 -33.3	N 22 43.6	-04.6	00
01	195	41.4 +00.1	N 14 51.7	+00.8	156	10.7 +01.2	N 27 44.9	+00.1	110	43.8 -33.3	N 22 39.0	-04.7	01
02	210	41.5 +00.1	N 14 52.5	+00.8	171	11.9 +01.2	N 27 45.0	+00.0	125	10.5 -33.3	N 22 34.3	-04.8	02
03	225	41.6 +00.0	N 14 53.3	+00.7	186	13.1 +01.2	N 27 45.0	+00.1	139	37.2 -33.3	N 22 29.5	-04.9	03
04	240	41.6 +00.1	N 14 54.0	+00.8	201	14.3 +01.2	N 27 45.1	+00.1	154	03.9 -33.2	N 22 24.6	-05.1	04
05	255	41.7 +00.1	N 14 54.8	+00.7	216	15.5 +01.3	N 27 45.2	+00.1	168	30.7 -33.3	N 22 19.5	-05.3	05
06	270	41.8 +00.1	N 14 55.5	+00.8	231	16.8 +01.2	N 27 45.3	+00.1	182	57.4 -33.3	N 22 14.2	-05.3	06
07	285	41.9 +00.1	N 14 56.3	+00.8	246	18.0 +01.2	N 27 45.4	+00.1	197	24.1 -33.3	N 22 08.9	-05.5	07
08	300	42.0 +00.0	N 14 57.1	+00.7	261	19.2 +01.3	N 27 45.5	+00.0	211	50.8 -33.2	N 22 03.4	-05.7	08
09	315	42.0 +00.1	N 14 57.8	+00.8	276	20.5 +01.2	N 27 45.5	+00.1	226	17.6 -33.3	N 21 57.7	-05.7	09
10	330	42.1 +00.1	N 14 58.6	+00.7	291	21.7 +01.2	N 27 45.6	+00.1	240	44.3 -33.2	N 21 52.0	-05.9	10
11	345	42.2 +00.1	N 14 59.3	+00.8	306	22.9 +01.3	N 27 45.7	+00.1	255	11.1 -33.2	N 21 46.1	-06.1	11
12	0	42.3 +00.1	N 15 00.1	+00.8	321	24.2 +01.2	N 27 45.8	+00.0	269	37.9 -33.2	N 21 40.0	-06.1	12
13	15	42.4 +00.0	N 15 00.9	+00.7	336	25.4 +01.3	N 27 45.8	+00.1	284	04.7 -33.2	N 21 33.9	-06.3	13
14	30	42.4 +00.1	N 15 01.6	+00.8	351	26.7 +01.2	N 27 45.9	+00.1	298	31.5 -33.2	N 21 27.6	-06.5	14
15	45	42.5 +00.1	N 15 02.4	+00.7	6	27.9 +01.3	N 27 46.0	+00.1	312	58.3 -33.2	N 21 21.1	-06.6	15
16	60	42.6 +00.1	N 15 03.1	+00.8	21	29.2 +01.2	N 27 46.1	+00.0	327	25.1 -33.1	N 21 14.5	-06.7	16
17	75	42.7 +00.0	N 15 03.9	+00.7	36	30.4 +01.3	N 27 46.1	+00.1	341	52.0 -33.2	N 21 07.8	-06.8	17
18	90	42.7 +00.1	N 15 04.6	+00.8	51	31.7 +01.3	N 27 46.2	+00.1	356	18.8 -33.1	N 21 01.0	-07.0	18
19	105	42.8 +00.1	N 15 05.4	+00.8	66	33.0 +01.2	N 27 46.3	+00.1	10	45.7 -33.1	N 20 54.0	-07.1	19
20	120	42.9 +00.1	N 15 06.2	+00.7	81	34.2 +01.3	N 27 46.4	+00.0	25	12.6 -33.1	N 20 46.9	-07.2	20
21	135	43.0 +00.0	N 15 06.9	+00.8	96	35.5 +01.3	N 27 46.4	+00.1	39	39.5 -33.1	N 20 39.7	-07.3	21
22	150	43.0 +00.1	N 15 07.7	+00.7	111	36.8 +01.3	N 27 46.5	+00.1	54	06.4 -33.0	N 20 32.4	-07.5	22
23	165	43.1 +00.1	N 15 08.4	+00.8	126	38.1 +01.2	N 27 46.6	+00.0	68	33.4 -33.0	N 20 24.9	-07.6	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 15'7 15'7 15'7 15'8 15'8 15'8				
	HP 00'1 00'1 00'1 00'1 00'1 00'1								HP 57'5 57'7 57'8 57'9 58'0 58'2				
	SHA 322° 322° 322° 322° 322° 321°								SHA 237° 234° 232° 230° 227° 225°				
	Greenwich Culmination Time: 11:57								Greenwich Culmination Time: 14:34				
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	254	31.9 +00.7	S 16 01.6	-00.5	279	25.3 +02.3	S 20 54.0	+00.0	274	15.8 +02.4	S 19 50.7	+00.0	00
01	269	32.6 +00.8	S 16 01.1	-00.5	294	27.6 +02.4	S 20 54.0	+00.0	289	18.2 +02.4	S 19 50.7	+00.0	01
02	284	33.4 +00.7	S 16 00.6	-00.5	309	30.0 +02.3	S 20 54.0	+00.0	304	20.6 +02.4	S 19 50.7	+00.0	02
03	299	34.1 +00.8	S 16 00.1	-00.5	324	32.3 +02.4	S 20 54.0	-00.1	319	23.0 +02.4	S 19 50.7	+00.0	03
04	314	34.9 +00.7	S 15 59.6	-00.5	339	34.7 +02.3	S 20 53.9	+00.0	334	25.4 +02.4	S 19 50.7	+00.0	04
05	329	35.6 +00.8	S 15 59.1	-00.5	354	37.0 +02.3	S 20 53.9	+00.0	349	27.8 +02.5	S 19 50.7	-00.1	05
06	344	36.4 +00.7	S 15 58.6	-00.5	9	39.3 +02.4	S 20 53.9	+00.0	4	30.3 +02.4	S 19 50.6	+00.0	06
07	359	37.1 +00.7	S 15 58.1	-00.5	24	41.7 +02.3	S 20 53.9	+00.0	19	32.7 +02.4	S 19 50.6	+00.0	07
08	14	37.8 +00.8	S 15 57.6	-00.5	39	44.0 +02.4	S 20 53.9	+00.0	34	35.1 +02.4	S 19 50.6	+00.0	08
09	29	38.6 +00.7	S 15 57.1	-00.5	54	46.4 +02.3	S 20 53.9	-00.1	49	37.5 +02.4	S 19 50.6	+00.0	09
10	44	39.3 +00.8	S 15 56.6	-00.5	69	48.7 +02.4	S 20 53.8	+00.0	64	39.9 +02.4	S 19 50.6	+00.0	10
11	59	40.1 +00.7	S 15 56.1	-00.5	84	51.1 +02.3	S 20 53.8	+00.0	79	42.3 +02.5	S 19 50.6	+00.0	11
12	74	40.8 +00.8	S 15 55.6	-00.5	99	53.4 +02.4	S 20 53.8	+00.0	94	44.8 +02.4	S 19 50.6	+00.0	12
13	89	41.6 +00.7	S 15 55.1	-00.5	114	55.8 +02.3	S 20 53.8	+00.0	109	47.2 +02.4	S 19 50.6	+00.0	13
14	104	42.3 +00.8	S 15 54.6	-00.5	129	58.1 +02.4	S 20 53.8	+00.0	124	49.6 +02.4	S 19 50.6	+00.0	14
15	119	43.1 +00.7	S 15 54.1	-00.5	145	00.5 +02.3	S 20 53.8	+00.0	139	52.0 +02.4	S 19 50.6	+00.0	15
16	134	43.8 +00.8	S 15 53.6	-00.5	160	02.8 +02.4	S 20 53.8	-00.1	154	54.4 +02.5	S 19 50.6	+00.0	16
17	149	44.6 +00.7	S 15 53.1	-00.5	175	05.2 +02.3	S 20 53.7	+00.0	169	56.9 +02.4	S 19 50.6	+00.0	17
18	164	45.3 +00.8	S 15 52.6	-00.5	190	07.5 +02.4	S 20 53.7	+00.0	184	59.3 +02.4	S 19 50.6	+00.0	18
19	179	46.1 +00.7	S 15 52.1	-00.5	205	09.9 +02.3	S 20 53.7	+00.0	200	01.7 +02.4	S 19 50.6	+00.0	19
20	194	46.8 +00.8	S 15 51.6	-00.5	220	12.2 +02.4	S 20 53.7	+00.0	215	04.1 +02.4	S 19 50.6	+00.0	20
21	209	47.6 +00.7	S 15 51.1	-00.5	235	14.6 +02.3	S 20 53.7	+00.0	230	06.5 +02.5	S 19 50.6	+00.0	21
22	224	48.3 +00.8	S 15 50.6	-00.5	250	16.9 +02.4	S 20 53.7	+00.0	245	09.0 +02.4	S 19 50.6	-00.1	22
23	239	49.1 +00.7	S 15 50.1	-00.5	265	19.3 +02.3	S 20 53.7	-00.1	260	11.4 +02.4	S 19 50.5	+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 00'1 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 036° 036° 036° 036° 036° 036°				SHA 061° 061° 061° 061° 061° 061°				SHA 056° 056° 056° 056° 056° 056°				
	Greenwich Culmination Time: 07:01				Greenwich Culmination Time: 05:21				Greenwich Culmination Time: 05:42				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	43.2 +00.1	N 15 09.2 +00.7		141	39.3 +01.3	N 27 46.6 +00.1		83	00.4 -33.1	N 20 17.3 -07.8		00
01	195	43.3 +00.0	N 15 09.9 +00.8		156	40.6 +01.3	N 27 46.7 +00.1		97	27.3 -33.0	N 20 09.5 -07.8		01
02	210	43.3 +00.1	N 15 10.7 +00.7		171	41.9 +01.3	N 27 46.8 +00.0		111	54.3 -32.9	N 20 01.7 -08.0		02
03	225	43.4 +00.1	N 15 11.4 +00.8		186	43.2 +01.3	N 27 46.8 +00.1		126	21.4 -33.0	N 19 53.7 -08.1		03
04	240	43.5 +00.1	N 15 12.2 +00.7		201	44.5 +01.3	N 27 46.9 +00.0		140	48.4 -32.9	N 19 45.6 -08.3		04
05	255	43.6 +00.0	N 15 12.9 +00.8		216	45.8 +01.3	N 27 46.9 +00.1		155	15.5 -32.9	N 19 37.3 -08.4		05
06	270	43.6 +00.1	N 15 13.7 +00.7		231	47.1 +01.3	N 27 47.0 +00.1		169	42.6 -32.9	N 19 28.9 -08.4		06
07	285	43.7 +00.1	N 15 14.4 +00.8		246	48.4 +01.3	N 27 47.1 +00.0		184	09.7 -32.9	N 19 20.5 -08.7		07
08	300	43.8 +00.0	N 15 15.2 +00.7		261	49.7 +01.3	N 27 47.1 +00.1		198	36.8 -32.8	N 19 11.8 -08.7		08
09	315	43.8 +00.1	N 15 15.9 +00.8		276	51.0 +01.3	N 27 47.2 +00.0		213	04.0 -32.8	N 19 03.1 -08.9		09
10	330	43.9 +00.1	N 15 16.7 +00.7		291	52.3 +01.4	N 27 47.2 +00.1		227	31.2 -32.8	N 18 54.2 -08.9		10
11	345	44.0 +00.1	N 15 17.4 +00.8		306	53.7 +01.3	N 27 47.3 +00.1		241	58.4 -32.8	N 18 45.3 -09.1		11
12	0	44.1 +00.0	N 15 18.2 +00.7		321	55.0 +01.3	N 27 47.4 +00.0		256	25.6 -32.8	N 18 36.2 -09.2		12
13	15	44.1 +00.1	N 15 18.9 +00.8		336	56.3 +01.3	N 27 47.4 +00.1		270	52.8 -32.7	N 18 27.0 -09.4		13
14	30	44.2 +00.1	N 15 19.7 +00.7		351	57.6 +01.4	N 27 47.5 +00.0		285	20.1 -32.7	N 18 17.6 -09.4		14
15	45	44.3 +00.0	N 15 20.4 +00.8		6	59.0 +01.3	N 27 47.5 +00.1		299	47.4 -32.7	N 18 08.2 -09.6		15
16	60	44.3 +00.1	N 15 21.2 +00.7		22	00.3 +01.3	N 27 47.6 +00.0		314	14.7 -32.6	N 17 58.6 -09.7		16
17	75	44.4 +00.1	N 15 21.9 +00.8		37	01.6 +01.4	N 27 47.6 +00.1		328	42.1 -32.6	N 17 48.9 -09.8		17
18	90	44.5 +00.1	N 15 22.7 +00.7		52	03.0 +01.3	N 27 47.7 +00.0		343	09.5 -32.6	N 17 39.1 -09.9		18
19	105	44.6 +00.0	N 15 23.4 +00.8		67	04.3 +01.4	N 27 47.7 +00.1		357	36.9 -32.6	N 17 29.2 -10.1		19
20	120	44.6 +00.1	N 15 24.2 +00.7		82	05.7 +01.3	N 27 47.8 +00.0		12	04.3 -32.6	N 17 19.1 -10.1		20
21	135	44.7 +00.1	N 15 24.9 +00.8		97	07.0 +01.4	N 27 47.8 +00.1		26	31.7 -32.5	N 17 09.0 -10.3		21
22	150	44.8 +00.0	N 15 25.7 +00.7		112	08.4 +01.3	N 27 47.9 +00.0		40	59.2 -32.5	N 16 58.7 -10.3		22
23	165	44.8 +00.1	N 15 26.4 +00.7		127	09.7 +01.4	N 27 47.9 +00.1		55	26.7 -32.5	N 16 48.4 -10.5		23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	SD 15'9 15'9 15'9 15'9 15'9 15'9				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 15'9 15'9 16'0 16'0 16'0 16'1				
	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 58'3 58'4 58'5 58'7 58'8 58'9				
	SHA 321° 321° 321° 321° 321° 320°				SHA 282° 282° 282° 282° 282° 282°				SHA 222° 220° 218° 215° 213° 211°				
	Greenwich Culmination Time: 11:57				Greenwich Culmination Time: 14:32				Greenwich Culmination Time: 19:09				

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	254	49.8 +00.8	S 15 49.6 -00.5		280	21.6 +02.4	S 20 53.6 +00.0		275	13.8 +02.4	S 19 50.5 +00.0		00
01	269	50.6 +00.7	S 15 49.1 -00.5		295	24.0 +02.3	S 20 53.6 +00.0		290	16.2 +02.4	S 19 50.5 +00.0		01
02	284	51.3 +00.8	S 15 48.6 -00.5		310	26.3 +02.4	S 20 53.6 +00.0		305	18.6 +02.5	S 19 50.5 +00.0		02
03	299	52.1 +00.7	S 15 48.1 -00.5		325	28.7 +02.3	S 20 53.6 +00.0		320	21.1 +02.4	S 19 50.5 +00.0		03
04	314	52.8 +00.8	S 15 47.6 -00.5		340	31.0 +02.4	S 20 53.6 +00.0		335	23.5 +02.4	S 19 50.5 +00.0		04
05	329	53.6 +00.7	S 15 47.1 -00.5		355	33.4 +02.3	S 20 53.6 +00.0		350	25.9 +02.4	S 19 50.5 +00.0		05
06	344	54.3 +00.8	S 15 46.6 -00.6		10	35.7 +02.4	S 20 53.6 -00.1		5	28.3 +02.4	S 19 50.5 +00.0		06
07	359	55.1 +00.7	S 15 46.0 -00.5		25	38.1 +02.4	S 20 53.5 +00.0		20	30.7 +02.5	S 19 50.5 +00.0		07
08	14	55.8 +00.8	S 15 45.5 -00.5		40	40.5 +02.3	S 20 53.5 +00.0		35	33.2 +02.4	S 19 50.5 +00.0		08
09	29	56.6 +00.7	S 15 45.0 -00.5		55	42.8 +02.4	S 20 53.5 +00.0		50	35.6 +02.4	S 19 50.5 +00.0		09
10	44	57.3 +00.8	S 15 44.5 -00.5		70	45.2 +02.3	S 20 53.5 +00.0		65	38.0 +02.4	S 19 50.5 +00.0		10
11	59	58.1 +00.7	S 15 44.0 -00.5		85	47.5 +02.4	S 20 53.5 +00.0		80	40.4 +02.5	S 19 50.5 +00.0		11
12	74	58.8 +00.8	S 15 43.5 -00.5		100	49.9 +02.3	S 20 53.5 +00.0		95	42.9 +02.4	S 19 50.5 +00.0		12
13	89	59.6 +00.7	S 15 43.0 -00.5		115	52.2 +02.4	S 20 53.5 -00.1		110	45.3 +02.4	S 19 50.5 +00.0		13
14	105	00.3 +00.8	S 15 42.5 -00.5		130	54.6 +02.3	S 20 53.4 +00.0		125	47.7 +02.4	S 19 50.5 +00.0		14
15	120	01.1 +00.7	S 15 42.0 -00.5		145	56.9 +02.4	S 20 53.4 +00.0		140	50.1 +02.4	S 19 50.5 +00.0		15
16	135	01.8 +00.8	S 15 41.5 -00.5		160	59.3 +02.4	S 20 53.4 +00.0		155	52.5 +02.5	S 19 50.5 +00.0		16
17	150	02.6 +00.7	S 15 41.0 -00.5		176	01.7 +02.3	S 20 53.4 +00.0		170	55.0 +02.4	S 19 50.5 +00.0		17
18	165	03.3 +00.8	S 15 40.5 -00.5		191	04.0 +02.4	S 20 53.4 +00.0		185	57.4 +02.4	S 19 50.5 -00.1		18
19	180	04.1 +00.7	S 15 40.0 -00.5		206	06.4 +02.3	S 20 53.4 +00.0		200	59.8 +02.4	S 19 50.4 +00.0		19
20	195	04.8 +00.8	S 15 39.5 -00.5		221	08.7 +02.4	S 20 53.4 +00.0		216	02.2 +02.5	S 19 50.4 +00.0		20
21	210	05.6 +00.7	S 15 39.0 -00.5		236	11.1 +02.3	S 20 53.4 -00.1		231	04.7 +02.4	S 19 50.4 +00.0		21
22	225	06.3 +00.8	S 15 38.5 -00.6		251	13.4 +02.4	S 20 53.3 +00.0		246	07.1 +02.4	S 19 50.4 +00.0		22
23	240	07.1 +00.8	S 15 37.9 -00.5		266	15.8 +02.4	S 20 53.3 +00.0		261	09.5 +02.4	S 19 50.4 +00.0		23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	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 035° 035° 035° 035° 035° 035°				SHA 061° 061° 061° 061° 061° 061°				SHA 056° 056° 056° 056° 056° 056°				
	Greenwich Culmination Time: 07:00				Greenwich Culmination Time: 05:17				Greenwich Culmination Time: 05:38				

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 44.9 +00.1	N 15 27.1 +00.8	142 11.1 +01.3	N 27 48.0 +00.0	69 54.2 -32.4	N 16 37.9 -10.6	00							
01	195 45.0 +00.0	N 15 27.9 +00.7	157 12.4 +01.4	N 27 48.0 +00.0	84 21.8 -32.4	N 16 27.3 -10.7	01							
02	210 45.0 +00.1	N 15 28.6 +00.8	172 13.8 +01.4	N 27 48.0 +00.1	98 49.4 -32.4	N 16 16.6 -10.8	02							
03	225 45.1 +00.1	N 15 29.4 +00.7	187 15.2 +01.4	N 27 48.1 +00.0	113 17.0 -32.4	N 16 05.8 -10.9	03							
04	240 45.2 +00.0	N 15 30.1 +00.8	202 16.6 +01.3	N 27 48.1 +00.1	127 44.6 -32.3	N 15 54.9 -11.0	04							
05	255 45.2 +00.1	N 15 30.9 +00.7	217 17.9 +01.4	N 27 48.2 +00.0	142 12.3 -32.4	N 15 43.9 -11.1	05							
06	270 45.3 +00.1	N 15 31.6 +00.7	232 19.3 +01.4	N 27 48.2 +00.0	156 39.9 -32.3	N 15 32.8 -11.2	06							
07	285 45.4 +00.0	N 15 32.3 +00.8	247 20.7 +01.4	N 27 48.2 +00.1	171 07.6 -32.2	N 15 21.6 -11.4	07							
08	300 45.4 +00.1	N 15 33.1 +00.7	262 22.1 +01.4	N 27 48.3 +00.0	185 35.4 -32.3	N 15 10.2 -11.4	08							
09	315 45.5 +00.1	N 15 33.8 +00.7	277 23.5 +01.4	N 27 48.3 +00.0	200 03.1 -32.2	N 14 58.8 -11.5	09							
10	330 45.6 +00.0	N 15 34.5 +00.8	292 24.9 +01.4	N 27 48.3 +00.1	214 30.9 -32.2	N 14 47.3 -11.6	10							
11	345 45.6 +00.1	N 15 35.3 +00.7	307 26.3 +01.4	N 27 48.4 +00.0	228 58.7 -32.2	N 14 35.7 -11.7	11							
12	0 45.7 +00.1	N 15 36.0 +00.8	322 27.7 +01.4	N 27 48.4 +00.1	243 26.5 -32.1	N 14 24.0 -11.9	12							
13	15 45.8 +00.0	N 15 36.8 +00.7	337 29.1 +01.4	N 27 48.5 +00.0	257 54.4 -32.2	N 14 12.1 -11.9	13							
14	30 45.8 +00.1	N 15 37.5 +00.7	352 30.5 +01.4	N 27 48.5 +00.0	272 22.2 -32.1	N 14 00.2 -12.0	14							
15	45 45.9 +00.1	N 15 38.2 +00.8	7 31.9 +01.4	N 27 48.5 +00.0	286 50.1 -32.0	N 13 48.2 -12.1	15							
16	60 46.0 +00.0	N 15 39.0 +00.7	22 33.3 +01.4	N 27 48.5 +00.1	301 18.1 -32.1	N 13 36.1 -12.2	16							
17	75 46.0 +00.1	N 15 39.7 +00.7	37 34.7 +01.4	N 27 48.6 +00.0	315 46.0 -32.0	N 13 23.9 -12.2	17							
18	90 46.1 +00.1	N 15 40.4 +00.8	52 36.1 +01.5	N 27 48.6 +00.0	330 14.0 -32.0	N 13 11.7 -12.4	18							
19	105 46.2 +00.0	N 15 41.2 +00.7	67 37.6 +01.4	N 27 48.6 +00.1	344 42.0 -32.0	N 12 59.3 -12.5	19							
20	120 46.2 +00.1	N 15 41.9 +00.7	82 39.0 +01.4	N 27 48.7 +00.0	359 10.0 -32.0	N 12 46.8 -12.5	20							
21	135 46.3 +00.1	N 15 42.6 +00.8	97 40.4 +01.5	N 27 48.7 +00.0	13 38.0 -32.0	N 12 34.3 -12.7	21							
22	150 46.4 +00.0	N 15 43.4 +00.7	112 41.9 +01.5	N 27 48.7 +00.0	28 06.0 -31.9	N 12 21.6 -12.7	22							
23	165 46.4 +00.1	N 15 44.1 +00.7	127 43.3 +01.5	N 27 48.7 +00.1	42 34.1 -31.9	N 12 08.9 -12.8	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 320° 320° 320° 320° 320° 320°	Greenwich Culmination Time: 11:56	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'3 00'3 00'3 00'4 00'4 00'4	SHA 282° 282° 282° 282° 281° 281°	Greenwich Culmination Time: 14:29	UT 02 06 10 14 18 22	SD 16'1 16'1 16'2 16'2 16'2 16'3	HP 59'1 59'2 59'3 59'4 59'5 59'7	SHA 208° 206° 204° 201° 199° 197°	Greenwich Culmination Time: 20:03

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	255 07.9 +00.7	S 15 37.4 -00.5	281 18.2 +02.3	S 20 53.3 +00.0	276 11.9 +02.5	S 19 50.4 +00.0	00							
01	270 08.6 +00.8	S 15 36.9 -00.5	296 20.5 +02.4	S 20 53.3 +00.0	291 14.4 +02.4	S 19 50.4 +00.0	01							
02	285 09.4 +00.7	S 15 36.4 -00.5	311 22.9 +02.3	S 20 53.3 +00.0	306 16.8 +02.4	S 19 50.4 +00.0	02							
03	300 10.1 +00.8	S 15 35.9 -00.5	326 25.2 +02.4	S 20 53.3 +00.0	321 19.2 +02.4	S 19 50.4 +00.0	03							
04	315 10.9 +00.7	S 15 35.4 -00.5	341 27.6 +02.4	S 20 53.3 -00.1	336 21.6 +02.5	S 19 50.4 +00.0	04							
05	330 11.6 +00.8	S 15 34.9 -00.5	356 30.0 +02.3	S 20 53.2 +00.0	351 24.1 +02.4	S 19 50.4 +00.0	05							
06	345 12.4 +00.7	S 15 34.4 -00.5	11 32.3 +02.4	S 20 53.2 +00.0	6 26.5 +02.4	S 19 50.4 +00.0	06							
07	0 13.1 +00.8	S 15 33.9 -00.5	26 34.7 +02.4	S 20 53.2 +00.0	21 28.9 +02.4	S 19 50.4 +00.0	07							
08	15 13.9 +00.7	S 15 33.4 -00.5	41 37.1 +02.3	S 20 53.2 +00.0	36 31.3 +02.5	S 19 50.4 +00.0	08							
09	30 14.6 +00.8	S 15 32.9 -00.6	56 39.4 +02.4	S 20 53.2 +00.0	51 33.8 +02.4	S 19 50.4 +00.0	09							
10	45 15.4 +00.8	S 15 32.3 -00.5	71 41.8 +02.3	S 20 53.2 +00.0	66 36.2 +02.4	S 19 50.4 +00.0	10							
11	60 16.2 +00.7	S 15 31.8 -00.5	86 44.1 +02.4	S 20 53.2 +00.0	81 38.6 +02.4	S 19 50.4 +00.0	11							
12	75 16.9 +00.8	S 15 31.3 -00.5	101 46.5 +02.4	S 20 53.2 -00.1	96 41.0 +02.5	S 19 50.4 +00.0	12							
13	90 17.7 +00.7	S 15 30.8 -00.5	116 48.9 +02.3	S 20 53.1 +00.0	111 43.5 +02.4	S 19 50.4 +00.0	13							
14	105 18.4 +00.8	S 15 30.3 -00.5	131 51.2 +02.4	S 20 53.1 +00.0	126 45.9 +02.4	S 19 50.4 +00.0	14							
15	120 19.2 +00.7	S 15 29.8 -00.5	146 53.6 +02.4	S 20 53.1 +00.0	141 48.3 +02.5	S 19 50.4 +00.0	15							
16	135 19.9 +00.8	S 15 29.3 -00.5	161 56.0 +02.3	S 20 53.1 +00.0	156 50.8 +02.4	S 19 50.4 +00.0	16							
17	150 20.7 +00.7	S 15 28.8 -00.5	176 58.3 +02.4	S 20 53.1 +00.0	171 53.2 +02.4	S 19 50.4 -00.1	17							
18	165 21.4 +00.8	S 15 28.3 -00.5	192 00.7 +02.4	S 20 53.1 +00.0	186 55.6 +02.4	S 19 50.3 +00.0	18							
19	180 22.2 +00.8	S 15 27.8 -00.6	207 03.1 +02.3	S 20 53.1 +00.0	201 58.0 +02.5	S 19 50.3 +00.0	19							
20	195 23.0 +00.7	S 15 27.2 -00.5	222 05.4 +02.4	S 20 53.1 +00.0	217 00.5 +02.4	S 19 50.3 +00.0	20							
21	210 23.7 +00.8	S 15 26.7 -00.5	237 07.8 +02.4	S 20 53.1 -00.1	232 02.9 +02.4	S 19 50.3 +00.0	21							
22	225 24.5 +00.7	S 15 26.2 -00.5	252 10.2 +02.3	S 20 53.0 +00.0	247 05.3 +02.5	S 19 50.3 +00.0	22							
23	240 25.2 +00.8	S 15 25.7 -00.5	267 12.5 +02.4	S 20 53.0 +00.0	262 07.8 +02.4	S 19 50.3 +00.0	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 035° 035° 034° 034° 034° 034°	Greenwich Culmination Time: 06:59	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 061° 061° 061° 061° 061° 061°	Greenwich Culmination Time: 05:13	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 056° 056° 056° 056° 056° 056°	Greenwich Culmination Time: 05:34

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Table with columns for planet names (Sun, Venus, Moon, Mars, Jupiter, Saturn) and rows for Universal Time (UT) from 00 to 23. Each row contains data for GHA, ddGHA, Dec, and dDec. Summary statistics are provided at the bottom of each planet's section.

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 47.9 +00.1	N 16 02.3 +00.7	143 20.4 +01.6	N 27 49.0 +00.0	44 21.1 -31.6	N 06 27.1 -14.5	00						
01	195 48.0 +00.1	N 16 03.0 +00.7	158 22.0 +01.5	N 27 49.0 +00.0	58 49.5 -31.6	N 06 12.6 -14.5	01						
02	210 48.1 +00.0	N 16 03.7 +00.7	173 23.5 +01.5	N 27 49.0 +00.0	73 17.9 -31.6	N 05 58.1 -14.6	02						
03	225 48.1 +00.1	N 16 04.4 +00.8	188 25.0 +01.6	N 27 49.0 +00.0	87 46.3 -31.6	N 05 43.5 -14.6	03						
04	240 48.2 +00.0	N 16 05.2 +00.7	203 26.6 +01.5	N 27 49.0 +00.0	102 14.7 -31.5	N 05 28.9 -14.6	04						
05	255 48.2 +00.1	N 16 05.9 +00.7	218 28.1 +01.6	N 27 49.0 +00.0	116 43.2 -31.6	N 05 14.3 -14.7	05						
06	270 48.3 +00.0	N 16 06.6 +00.7	233 29.7 +01.5	N 27 49.0 +00.0	131 11.6 -31.6	N 04 59.6 -14.7	06						
07	285 48.3 +00.1	N 16 07.3 +00.7	248 31.2 +01.6	N 27 49.0 +00.0	145 40.0 -31.5	N 04 44.9 -14.8	07						
08	300 48.4 +00.1	N 16 08.0 +00.8	263 32.8 +01.5	N 27 49.0 +00.0	160 08.5 -31.6	N 04 30.1 -14.8	08						
09	315 48.5 +00.0	N 16 08.8 +00.7	278 34.3 +01.6	N 27 49.0 +00.0	174 36.9 -31.6	N 04 15.3 -14.9	09						
10	330 48.5 +00.1	N 16 09.5 +00.7	293 35.9 +01.6	N 27 49.0 +00.0	189 05.3 -31.6	N 04 00.4 -14.8	10						
11	345 48.6 +00.0	N 16 10.2 +00.7	308 37.5 +01.5	N 27 49.0 +00.0	203 33.7 -31.6	N 03 45.6 -15.0	11						
12	0 48.6 +00.1	N 16 10.9 +00.7	323 39.0 +01.6	N 27 49.0 -00.1	218 02.1 -31.5	N 03 30.6 -14.9	12						
13	15 48.7 +00.0	N 16 11.6 +00.7	338 40.6 +01.6	N 27 48.9 +00.0	232 30.6 -31.6	N 03 15.7 -15.0	13						
14	30 48.7 +00.1	N 16 12.3 +00.8	353 42.2 +01.6	N 27 48.9 +00.0	246 59.0 -31.6	N 03 00.7 -15.0	14						
15	45 48.8 +00.0	N 16 13.1 +00.7	8 43.8 +01.6	N 27 48.9 +00.0	261 27.4 -31.6	N 02 45.7 -15.0	15						
16	60 48.8 +00.1	N 16 13.8 +00.7	23 45.4 +01.6	N 27 48.9 +00.0	275 55.8 -31.6	N 02 30.7 -15.0	16						
17	75 48.9 +00.0	N 16 14.5 +00.7	38 47.0 +01.6	N 27 48.9 +00.0	290 24.2 -31.7	N 02 15.7 -15.1	17						
18	90 48.9 +00.1	N 16 15.2 +00.7	53 48.6 +01.5	N 27 48.9 +00.0	304 52.5 -31.6	N 02 00.6 -15.1	18						
19	105 49.0 +00.1	N 16 15.9 +00.7	68 50.1 +01.7	N 27 48.9 -00.1	319 20.9 -31.6	N 01 45.5 -15.1	19						
20	120 49.1 +00.0	N 16 16.6 +00.7	83 51.8 +01.6	N 27 48.8 +00.0	333 49.3 -31.7	N 01 30.4 -15.1	20						
21	135 49.1 +00.1	N 16 17.3 +00.7	98 53.4 +01.6	N 27 48.8 +00.0	348 17.6 -31.6	N 01 15.3 -15.2	21						
22	150 49.2 +00.0	N 16 18.0 +00.8	113 55.0 +01.6	N 27 48.8 +00.0	2 46.0 -31.7	N 01 00.1 -15.1	22						
23	165 49.2 +00.1	N 16 18.8 +00.7	128 56.6 +01.6	N 27 48.8 +00.0	17 14.3 -31.7	N 00 45.0 -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 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 16'4 16'5 16'5 16'5 16'5 16'5								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'4 00'4 00'4 00'4 00'4 00'4		HP 60'4 60'5 60'5 60'6 60'7 60'7								
	SHA 318° 318° 318° 318° 318° 318°		SHA 281° 281° 281° 281° 281° 281°		SHA 181° 179° 176° 174° 172° 170°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 14:25		Greenwich Culmination Time: 21:48								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	255 44.2 +00.8	S 15 12.9 -00.6	283 11.8 +02.4	S 20 52.8 +00.0	278 08.5 +02.5	S 19 50.2 +00.0	00						
01	270 45.0 +00.8	S 15 12.3 -00.5	298 14.2 +02.4	S 20 52.8 -00.1	293 11.0 +02.4	S 19 50.2 +00.0	01						
02	285 45.8 +00.7	S 15 11.8 -00.5	313 16.6 +02.3	S 20 52.7 +00.0	308 13.4 +02.4	S 19 50.2 +00.0	02						
03	300 46.5 +00.8	S 15 11.3 -00.5	328 18.9 +02.4	S 20 52.7 +00.0	323 15.8 +02.5	S 19 50.2 +00.0	03						
04	315 47.3 +00.7	S 15 10.8 -00.5	343 21.3 +02.4	S 20 52.7 +00.0	338 18.3 +02.4	S 19 50.2 +00.0	04						
05	330 48.0 +00.8	S 15 10.3 -00.5	358 23.7 +02.4	S 20 52.7 +00.0	353 20.7 +02.4	S 19 50.2 +00.0	05						
06	345 48.8 +00.8	S 15 09.8 -00.6	13 26.1 +02.4	S 20 52.7 +00.0	8 23.1 +02.5	S 19 50.2 +00.0	06						
07	0 49.6 +00.7	S 15 09.2 -00.5	28 28.5 +02.3	S 20 52.7 +00.0	23 25.6 +02.4	S 19 50.2 +00.0	07						
08	15 50.3 +00.8	S 15 08.7 -00.5	43 30.8 +02.4	S 20 52.7 +00.0	38 28.0 +02.4	S 19 50.2 +00.0	08						
09	30 51.1 +00.8	S 15 08.2 -00.5	58 33.2 +02.4	S 20 52.7 +00.0	53 30.4 +02.5	S 19 50.2 +00.0	09						
10	45 51.9 +00.7	S 15 07.7 -00.5	73 35.6 +02.4	S 20 52.7 +00.0	68 32.9 +02.4	S 19 50.2 +00.0	10						
11	60 52.6 +00.8	S 15 07.2 -00.6	88 38.0 +02.4	S 20 52.7 -00.1	83 35.3 +02.4	S 19 50.2 +00.0	11						
12	75 53.4 +00.8	S 15 06.6 -00.5	103 40.4 +02.3	S 20 52.6 +00.0	98 37.7 +02.5	S 19 50.2 +00.0	12						
13	90 54.2 +00.7	S 15 06.1 -00.5	118 42.7 +02.4	S 20 52.6 +00.0	113 40.2 +02.4	S 19 50.2 +00.0	13						
14	105 54.9 +00.8	S 15 05.6 -00.5	133 45.1 +02.4	S 20 52.6 +00.0	128 42.6 +02.4	S 19 50.2 +00.0	14						
15	120 55.7 +00.8	S 15 05.1 -00.5	148 47.5 +02.4	S 20 52.6 +00.0	143 45.0 +02.5	S 19 50.2 +00.0	15						
16	135 56.5 +00.7	S 15 04.6 -00.5	163 49.9 +02.4	S 20 52.6 +00.0	158 47.5 +02.4	S 19 50.2 +00.0	16						
17	150 57.2 +00.8	S 15 04.1 -00.6	178 52.3 +02.3	S 20 52.6 +00.0	173 49.9 +02.5	S 19 50.2 +00.0	17						
18	165 58.0 +00.7	S 15 03.5 -00.5	193 54.6 +02.4	S 20 52.6 +00.0	188 52.4 +02.4	S 19 50.2 +00.0	18						
19	180 58.7 +00.8	S 15 03.0 -00.5	208 57.0 +02.4	S 20 52.6 +00.0	203 54.8 +02.4	S 19 50.2 +00.0	19						
20	195 59.5 +00.8	S 15 02.5 -00.5	223 59.4 +02.4	S 20 52.6 +00.0	218 57.2 +02.5	S 19 50.2 +00.0	20						
21	211 00.3 +00.7	S 15 02.0 -00.5	239 01.8 +02.4	S 20 52.6 +00.0	233 59.7 +02.4	S 19 50.2 +00.0	21						
22	226 01.0 +00.8	S 15 01.5 -00.6	254 04.2 +02.4	S 20 52.6 -00.1	249 02.1 +02.4	S 19 50.2 +00.0	22						
23	241 01.8 +00.8	S 15 00.9 -00.5	269 06.6 +02.3	S 20 52.5 +00.0	264 04.5 +02.5	S 19 50.2 +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 00'1 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 033° 033° 033° 033° 033° 033°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:56		Greenwich Culmination Time: 05:06		Greenwich Culmination Time: 05:26								

Table with 4 main columns: Sun, Venus, Moon, Mars, Jupiter, Saturn. Each column contains UT, GHA, ddGHA, Dec, dDec, and UT. Includes sub-headers for UT, 02, 06, 10, 14, 18, 22 and SD, HP, SHA. Includes Greenwich Culmination Time.

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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 50.5 +00.0	N 16 36.4 +00.7	144 38.1 +01.7	N 27 47.9 +00.0	18 56.0 -32.2	S 05 33.4 +14.9	00						
01	195 50.5 +00.0	N 16 37.1 +00.7	159 39.8 +01.7	N 27 47.9 +00.0	33 23.8 -32.3	S 05 48.3 +14.9	01						
02	210 50.5 +00.1	N 16 37.8 +00.7	174 41.5 +01.8	N 27 47.9 -00.1	47 51.5 -32.4	S 06 03.2 +14.8	02						
03	225 50.6 +00.0	N 16 38.5 +00.7	189 43.3 +01.7	N 27 47.8 +00.0	62 19.1 -32.4	S 06 18.0 +14.8	03						
04	240 50.6 +00.1	N 16 39.2 +00.6	204 45.0 +01.7	N 27 47.8 -00.1	76 46.7 -32.4	S 06 32.8 +14.8	04						
05	255 50.7 +00.0	N 16 39.8 +00.7	219 46.7 +01.7	N 27 47.7 +00.0	91 14.3 -32.4	S 06 47.6 +14.7	05						
06	270 50.7 +00.1	N 16 40.5 +00.7	234 48.4 +01.8	N 27 47.7 -00.1	105 41.9 -32.5	S 07 02.3 +14.7	06						
07	285 50.8 +00.0	N 16 41.2 +00.7	249 50.2 +01.7	N 27 47.6 +00.0	120 09.4 -32.5	S 07 17.0 +14.6	07						
08	300 50.8 +00.1	N 16 41.9 +00.7	264 51.9 +01.7	N 27 47.6 -00.1	134 36.9 -32.6	S 07 31.6 +14.6	08						
09	315 50.9 +00.0	N 16 42.6 +00.7	279 53.6 +01.8	N 27 47.5 +00.0	149 04.3 -32.6	S 07 46.2 +14.5	09						
10	330 50.9 +00.0	N 16 43.3 +00.7	294 55.4 +01.7	N 27 47.5 -00.1	163 31.7 -32.6	S 08 00.7 +14.5	10						
11	345 50.9 +00.1	N 16 44.0 +00.7	309 57.1 +01.8	N 27 47.4 -00.1	177 59.1 -32.7	S 08 15.2 +14.5	11						
12	0 51.0 +00.0	N 16 44.7 +00.7	324 58.9 +01.8	N 27 47.3 +00.0	192 26.4 -32.7	S 08 29.7 +14.3	12						
13	15 51.0 +00.1	N 16 45.4 +00.7	340 00.7 +01.7	N 27 47.3 -00.1	206 53.7 -32.8	S 08 44.0 +14.4	13						
14	30 51.1 +00.0	N 16 46.1 +00.7	355 02.4 +01.8	N 27 47.2 +00.0	221 20.9 -32.8	S 08 58.4 +14.2	14						
15	45 51.1 +00.1	N 16 46.8 +00.7	10 04.2 +01.8	N 27 47.2 -00.1	235 48.1 -32.8	S 09 12.6 +14.2	15						
16	60 51.2 +00.0	N 16 47.5 +00.7	25 06.0 +01.7	N 27 47.1 -00.1	250 15.3 -32.9	S 09 26.8 +14.2	16						
17	75 51.2 +00.0	N 16 48.2 +00.7	40 07.7 +01.8	N 27 47.0 +00.0	264 42.4 -32.9	S 09 41.0 +14.1	17						
18	90 51.2 +00.1	N 16 48.9 +00.6	55 09.5 +01.8	N 27 47.0 -00.1	279 09.5 -33.0	S 09 55.1 +14.0	18						
19	105 51.3 +00.0	N 16 49.5 +00.7	70 11.3 +01.8	N 27 46.9 +00.0	293 36.5 -33.0	S 10 09.1 +13.9	19						
20	120 51.3 +00.1	N 16 50.2 +00.7	85 13.1 +01.8	N 27 46.9 -00.1	308 03.5 -33.0	S 10 23.0 +13.9	20						
21	135 51.4 +00.0	N 16 50.9 +00.7	100 14.9 +01.8	N 27 46.8 -00.1	322 30.5 -33.1	S 10 36.9 +13.8	21						
22	150 51.4 +00.1	N 16 51.6 +00.7	115 16.7 +01.7	N 27 46.7 +00.0	336 57.4 -33.2	S 10 50.7 +13.8	22						
23	165 51.5 +00.0	N 16 52.3 +00.7	130 18.4 +01.9	N 27 46.7 -00.1	351 24.2 -33.1	S 11 04.5 +13.6	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 00'4 00'4 00'4 00'4 00'4 00'4		SD 16'6 16'6 16'6 16'6 16'6 16'6								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'4 00'4 00'4 00'4 00'4 00'4		HP 60'9 60'9 60'9 60'9 60'9 60'8								
	SHA 316° 316° 316° 316° 316° 316°		SHA 280° 280° 280° 280° 280° 280°		SHA 153° 151° 149° 146° 144° 142°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 14:19		Greenwich Culmination Time: 23:35								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	256 21.0 +00.8	S 14 47.9 -00.5	285 06.2 +02.4	S 20 52.4 -00.1	280 05.5 +02.5	S 19 50.2 +00.0	00						
01	271 21.8 +00.8	S 14 47.4 -00.6	300 08.6 +02.4	S 20 52.3 +00.0	295 08.0 +02.4	S 19 50.2 +00.0	01						
02	286 22.6 +00.7	S 14 46.8 -00.5	315 11.0 +02.4	S 20 52.3 +00.0	310 10.4 +02.4	S 19 50.2 +00.0	02						
03	301 23.3 +00.8	S 14 46.3 -00.5	330 13.4 +02.4	S 20 52.3 +00.0	325 12.8 +02.5	S 19 50.2 +00.0	03						
04	316 24.1 +00.8	S 14 45.8 -00.5	345 15.8 +02.4	S 20 52.3 +00.0	340 15.3 +02.4	S 19 50.2 +00.0	04						
05	331 24.9 +00.7	S 14 45.3 -00.6	0 18.2 +02.4	S 20 52.3 +00.0	355 17.7 +02.5	S 19 50.2 +00.0	05						
06	346 25.6 +00.8	S 14 44.7 -00.5	15 20.6 +02.4	S 20 52.3 +00.0	10 20.2 +02.4	S 19 50.2 +00.0	06						
07	1 26.4 +00.8	S 14 44.2 -00.5	30 23.0 +02.4	S 20 52.3 +00.0	25 22.6 +02.5	S 19 50.2 +00.0	07						
08	16 27.2 +00.8	S 14 43.7 -00.5	45 25.4 +02.4	S 20 52.3 +00.0	40 25.1 +02.4	S 19 50.2 +00.0	08						
09	31 28.0 +00.7	S 14 43.2 -00.6	60 27.8 +02.4	S 20 52.3 +00.0	55 27.5 +02.4	S 19 50.2 +00.0	09						
10	46 28.7 +00.8	S 14 42.6 -00.5	75 30.2 +02.4	S 20 52.3 +00.0	70 29.9 +02.5	S 19 50.2 +00.0	10						
11	61 29.5 +00.8	S 14 42.1 -00.5	90 32.6 +02.4	S 20 52.3 +00.0	85 32.4 +02.4	S 19 50.2 +00.0	11						
12	76 30.3 +00.7	S 14 41.6 -00.5	105 35.0 +02.4	S 20 52.3 +00.0	100 34.8 +02.5	S 19 50.2 +00.0	12						
13	91 31.0 +00.8	S 14 41.1 -00.6	120 37.4 +02.4	S 20 52.3 +00.0	115 37.3 +02.4	S 19 50.2 +00.0	13						
14	106 31.8 +00.8	S 14 40.5 -00.5	135 39.8 +02.4	S 20 52.3 +00.0	130 39.7 +02.5	S 19 50.2 +00.0	14						
15	121 32.6 +00.8	S 14 40.0 -00.5	150 42.2 +02.4	S 20 52.3 +00.0	145 42.2 +02.4	S 19 50.2 +00.0	15						
16	136 33.4 +00.7	S 14 39.5 -00.5	165 44.6 +02.4	S 20 52.3 -00.1	160 44.6 +02.5	S 19 50.2 -00.1	16						
17	151 34.1 +00.8	S 14 39.0 -00.6	180 47.0 +02.4	S 20 52.2 +00.0	175 47.1 +02.4	S 19 50.1 +00.0	17						
18	166 34.9 +00.8	S 14 38.4 -00.5	195 49.4 +02.4	S 20 52.2 +00.0	190 49.5 +02.4	S 19 50.1 +00.0	18						
19	181 35.7 +00.8	S 14 37.9 -00.5	210 51.8 +02.4	S 20 52.2 +00.0	205 51.9 +02.5	S 19 50.1 +00.0	19						
20	196 36.5 +00.7	S 14 37.4 -00.5	225 54.2 +02.4	S 20 52.2 +00.0	220 54.4 +02.4	S 19 50.1 +00.0	20						
21	211 37.2 +00.8	S 14 36.9 -00.6	240 56.6 +02.4	S 20 52.2 +00.0	235 56.8 +02.5	S 19 50.1 +00.0	21						
22	226 38.0 +00.8	S 14 36.3 -00.5	255 59.0 +02.4	S 20 52.2 +00.0	250 59.3 +02.4	S 19 50.1 +00.0	22						
23	241 38.8 +00.8	S 14 35.8 -00.5	271 01.4 +02.4	S 20 52.2 +00.0	266 01.7 +02.5	S 19 50.1 +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 00'1 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 032° 032° 032° 032° 032° 031°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:54		Greenwich Culmination Time: 04:58		Greenwich Culmination Time: 05:18								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float: right;">A: 50%</span>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	180 51.5 +00.0	N 16 53.0 +00.7	145 20.3 +01.8	N 27 46.6 -00.1	5 51.1 -33.3	S 11 18.1 +13.6	00						
01	195 51.5 +00.1	N 16 53.7 +00.7	160 22.1 +01.8	N 27 46.5 +00.0	20 17.8 -33.2	S 11 31.7 +13.5	01						
02	210 51.6 +00.0	N 16 54.4 +00.6	175 23.9 +01.8	N 27 46.5 -00.1	34 44.6 -33.3	S 11 45.2 +13.5	02						
03	225 51.6 +00.1	N 16 55.0 +00.7	190 25.7 +01.8	N 27 46.4 -00.1	49 11.3 -33.4	S 11 58.7 +13.3	03						
04	240 51.7 +00.0	N 16 55.7 +00.7	205 27.5 +01.8	N 27 46.3 -00.1	63 37.9 -33.4	S 12 12.0 +13.3	04						
05	255 51.7 +00.0	N 16 56.4 +00.7	220 29.3 +01.8	N 27 46.2 +00.0	78 04.5 -33.5	S 12 25.3 +13.2	05						
06	270 51.7 +00.1	N 16 57.1 +00.7	235 31.1 +01.9	N 27 46.2 -00.1	92 31.0 -33.5	S 12 38.5 +13.1	06						
07	285 51.8 +00.0	N 16 57.8 +00.7	250 33.0 +01.8	N 27 46.1 -00.1	106 57.5 -33.5	S 12 51.6 +13.0	07						
08	300 51.8 +00.1	N 16 58.5 +00.6	265 34.8 +01.8	N 27 46.0 -00.1	121 24.0 -33.6	S 13 04.6 +12.9	08						
09	315 51.9 +00.0	N 16 59.1 +00.7	280 36.6 +01.9	N 27 45.9 +00.0	135 50.4 -33.6	S 13 17.5 +12.8	09						
10	330 51.9 +00.0	N 16 59.8 +00.7	295 38.5 +01.8	N 27 45.9 -00.1	150 16.8 -33.7	S 13 30.3 +12.8	10						
11	345 51.9 +00.1	N 17 00.5 +00.7	310 40.3 +01.9	N 27 45.8 -00.1	164 43.1 -33.7	S 13 43.1 +12.6	11						
12	0 52.0 +00.0	N 17 01.2 +00.7	325 42.2 +01.8	N 27 45.7 -00.1	179 09.4 -33.8	S 13 55.7 +12.6	12						
13	15 52.0 +00.0	N 17 01.9 +00.7	340 44.0 +01.9	N 27 45.6 -00.1	193 35.6 -33.8	S 14 08.3 +12.4	13						
14	30 52.0 +00.1	N 17 02.6 +00.6	355 45.9 +01.8	N 27 45.5 +00.0	208 01.8 -33.9	S 14 20.7 +12.4	14						
15	45 52.1 +00.0	N 17 03.2 +00.7	10 47.7 +01.9	N 27 45.5 -00.1	222 27.9 -33.9	S 14 33.1 +12.3	15						
16	60 52.1 +00.0	N 17 03.9 +00.7	25 49.6 +01.9	N 27 45.4 -00.1	236 54.0 -33.9	S 14 45.4 +12.1	16						
17	75 52.1 +00.1	N 17 04.6 +00.7	40 51.5 +01.9	N 27 45.3 -00.1	251 20.1 -34.0	S 14 57.5 +12.1	17						
18	90 52.2 +00.0	N 17 05.3 +00.6	55 53.4 +01.8	N 27 45.2 -00.1	265 46.1 -34.1	S 15 09.6 +11.9	18						
19	105 52.2 +00.1	N 17 05.9 +00.7	70 55.2 +01.9	N 27 45.1 -00.1	280 12.0 -34.0	S 15 21.5 +11.8	19						
20	120 52.3 +00.0	N 17 06.6 +00.7	85 57.1 +01.9	N 27 45.0 +00.0	294 38.0 -34.2	S 15 33.3 +11.8	20						
21	135 52.3 +00.0	N 17 07.3 +00.7	100 59.0 +01.9	N 27 45.0 -00.1	309 03.8 -34.1	S 15 45.1 +11.6	21						
22	150 52.3 +00.1	N 17 08.0 +00.6	116 00.9 +01.9	N 27 44.9 -00.1	323 29.7 -34.3	S 15 56.7 +11.5	22						
23	165 52.4 +00.0	N 17 08.6 +00.7	131 02.8 +01.9	N 27 44.8 -00.1	337 55.4 -34.2	S 16 08.2 +11.4	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 15'8 15'8 15'8 15'8 15'8		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 16'6 16'6 16'5 16'5 16'5 16'5								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'4 00'4 00'4 00'4 00'4 00'4		HP 60'8 60'8 60'7 60'6 60'6 60'5								
	SHA 315° 315° 315° 315° 315° 315°		SHA 280° 280° 280° 280° 280° 280°		SHA 139° 137° 135° 132° 130° 127°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 14:16		Greenwich Culmination Time: -1:00								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	256 39.6 +00.7	S 14 35.3 -00.6	286 03.8 +02.4	S 20 52.2 +00.0	281 04.2 +02.4	S 19 50.1 +00.0	00						
01	271 40.3 +00.8	S 14 34.7 -00.5	301 06.2 +02.4	S 20 52.2 +00.0	296 06.6 +02.5	S 19 50.1 +00.0	01						
02	286 41.1 +00.8	S 14 34.2 -00.5	316 08.6 +02.4	S 20 52.2 +00.0	311 09.1 +02.4	S 19 50.1 +00.0	02						
03	301 41.9 +00.8	S 14 33.7 -00.5	331 11.0 +02.4	S 20 52.2 +00.0	326 11.5 +02.5	S 19 50.1 +00.0	03						
04	316 42.7 +00.7	S 14 33.2 -00.6	346 13.4 +02.4	S 20 52.2 +00.0	341 14.0 +02.4	S 19 50.1 +00.0	04						
05	331 43.4 +00.8	S 14 32.6 -00.5	1 15.8 +02.4	S 20 52.2 +00.0	356 16.4 +02.4	S 19 50.1 +00.0	05						
06	346 44.2 +00.8	S 14 32.1 -00.5	16 18.2 +02.4	S 20 52.2 +00.0	11 18.8 +02.5	S 19 50.1 +00.0	06						
07	1 45.0 +00.8	S 14 31.6 -00.6	31 20.6 +02.4	S 20 52.2 +00.0	26 21.3 +02.4	S 19 50.1 +00.0	07						
08	16 45.8 +00.7	S 14 31.0 -00.5	46 23.0 +02.4	S 20 52.2 +00.0	41 23.7 +02.5	S 19 50.1 +00.0	08						
09	31 46.5 +00.8	S 14 30.5 -00.5	61 25.4 +02.4	S 20 52.2 +00.0	56 26.2 +02.4	S 19 50.1 +00.1	09						
10	46 47.3 +00.8	S 14 30.0 -00.5	76 27.8 +02.4	S 20 52.2 +00.0	71 28.6 +02.5	S 19 50.2 +00.0	10						
11	61 48.1 +00.8	S 14 29.5 -00.6	91 30.2 +02.4	S 20 52.2 -00.1	86 31.1 +02.4	S 19 50.2 +00.0	11						
12	76 48.9 +00.7	S 14 28.9 -00.5	106 32.6 +02.4	S 20 52.1 +00.0	101 33.5 +02.5	S 19 50.2 +00.0	12						
13	91 49.6 +00.8	S 14 28.4 -00.5	121 35.0 +02.4	S 20 52.1 +00.0	116 36.0 +02.4	S 19 50.2 +00.0	13						
14	106 50.4 +00.8	S 14 27.9 -00.6	136 37.4 +02.4	S 20 52.1 +00.0	131 38.4 +02.5	S 19 50.2 +00.0	14						
15	121 51.2 +00.8	S 14 27.3 -00.5	151 39.8 +02.4	S 20 52.1 +00.0	146 40.9 +02.4	S 19 50.2 +00.0	15						
16	136 52.0 +00.8	S 14 26.8 -00.5	166 42.2 +02.4	S 20 52.1 +00.0	161 43.3 +02.5	S 19 50.2 +00.0	16						
17	151 52.8 +00.7	S 14 26.3 -00.5	181 44.6 +02.4	S 20 52.1 +00.0	176 45.8 +02.4	S 19 50.2 +00.0	17						
18	166 53.5 +00.8	S 14 25.8 -00.6	196 47.0 +02.4	S 20 52.1 +00.0	191 48.2 +02.5	S 19 50.2 +00.0	18						
19	181 54.3 +00.8	S 14 25.2 -00.5	211 49.4 +02.4	S 20 52.1 +00.0	206 50.7 +02.4	S 19 50.2 +00.0	19						
20	196 55.1 +00.8	S 14 24.7 -00.5	226 51.8 +02.4	S 20 52.1 +00.0	221 53.1 +02.5	S 19 50.2 +00.0	20						
21	211 55.9 +00.7	S 14 24.2 -00.6	241 54.2 +02.4	S 20 52.1 +00.0	236 55.6 +02.4	S 19 50.2 +00.0	21						
22	226 56.6 +00.8	S 14 23.6 -00.5	256 56.6 +02.4	S 20 52.1 +00.0	251 58.0 +02.5	S 19 50.2 +00.0	22						
23	241 57.4 +00.8	S 14 23.1 -00.5	271 59.0 +02.5	S 20 52.1 +00.0	267 00.5 +02.4	S 19 50.2 +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 00'1 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 031° 031° 031° 031° 031° 031°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:53		Greenwich Culmination Time: 04:54		Greenwich Culmination Time: 05:14								

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 52.4 +00.0	N 17 09.3 +00.7	146 04.7 +01.9	N 27 44.7 -00.1	352 21.2 -34.3	S 16 19.6 +11.3	00						
01	195 52.4 +00.1	N 17 10.0 +00.7	161 06.6 +01.9	N 27 44.6 -00.1	6 46.9 -34.4	S 16 30.9 +11.1	01						
02	210 52.5 +00.0	N 17 10.7 +00.6	176 08.5 +01.9	N 27 44.5 -00.1	21 12.5 -34.4	S 16 42.0 +11.1	02						
03	225 52.5 +00.0	N 17 11.3 +00.7	191 10.4 +01.9	N 27 44.4 -00.1	35 38.1 -34.4	S 16 53.1 +10.9	03						
04	240 52.5 +00.1	N 17 12.0 +00.7	206 12.3 +01.9	N 27 44.3 -00.1	50 03.7 -34.5	S 17 04.0 +10.8	04						
05	255 52.6 +00.0	N 17 12.7 +00.7	221 14.2 +02.0	N 27 44.2 -00.1	64 29.2 -34.5	S 17 14.8 +10.7	05						
06	270 52.6 +00.0	N 17 13.4 +00.6	236 16.2 +01.9	N 27 44.1 -00.1	78 54.7 -34.5	S 17 25.5 +10.6	06						
07	285 52.6 +00.1	N 17 14.0 +00.7	251 18.1 +01.9	N 27 44.0 -00.1	93 20.2 -34.6	S 17 36.1 +10.4	07						
08	300 52.7 +00.0	N 17 14.7 +00.7	266 20.0 +01.9	N 27 43.9 -00.1	107 45.6 -34.7	S 17 46.5 +10.3	08						
09	315 52.7 +00.0	N 17 15.4 +00.6	281 21.9 +02.0	N 27 43.8 -00.1	122 10.9 -34.6	S 17 56.8 +10.2	09						
10	330 52.7 +00.1	N 17 16.0 +00.7	296 23.9 +01.9	N 27 43.7 -00.1	136 36.3 -34.8	S 18 07.0 +10.1	10						
11	345 52.8 +00.0	N 17 16.7 +00.7	311 25.8 +02.0	N 27 43.6 -00.1	151 01.5 -34.7	S 18 17.1 +09.9	11						
12	0 52.8 +00.0	N 17 17.4 +00.7	326 27.8 +01.9	N 27 43.5 -00.1	165 26.8 -34.8	S 18 27.0 +09.8	12						
13	15 52.8 +00.1	N 17 18.1 +00.6	341 29.7 +02.0	N 27 43.4 -00.1	179 52.0 -34.8	S 18 36.8 +09.7	13						
14	30 52.9 +00.0	N 17 18.7 +00.7	356 31.7 +01.9	N 27 43.3 -00.1	194 17.2 -34.9	S 18 46.5 +09.5	14						
15	45 52.9 +00.0	N 17 19.4 +00.7	11 33.6 +02.0	N 27 43.2 -00.1	208 42.3 -34.8	S 18 56.0 +09.4	15						
16	60 52.9 +00.1	N 17 20.1 +00.6	26 35.6 +02.0	N 27 43.1 -00.1	223 07.5 -35.0	S 19 05.4 +09.3	16						
17	75 53.0 +00.0	N 17 20.7 +00.7	41 37.6 +01.9	N 27 43.0 -00.1	237 32.5 -34.9	S 19 14.7 +09.1	17						
18	90 53.0 +00.0	N 17 21.4 +00.7	56 39.5 +02.0	N 27 42.9 -00.1	251 57.6 -35.0	S 19 23.8 +09.0	18						
19	105 53.0 +00.0	N 17 22.1 +00.6	71 41.5 +02.0	N 27 42.8 -00.1	266 22.6 -35.0	S 19 32.8 +08.9	19						
20	120 53.0 +00.1	N 17 22.7 +00.7	86 43.5 +02.0	N 27 42.7 -00.1	280 47.6 -35.1	S 19 41.7 +08.7	20						
21	135 53.1 +00.0	N 17 23.4 +00.7	101 45.5 +02.0	N 27 42.6 -00.2	295 12.5 -35.0	S 19 50.4 +08.6	21						
22	150 53.1 +00.0	N 17 24.1 +00.6	116 47.5 +02.0	N 27 42.4 -00.1	309 37.5 -35.1	S 19 59.0 +08.5	22						
23	165 53.1 +00.1	N 17 24.7 +00.7	131 49.5 +02.0	N 27 42.3 -00.1	324 02.4 -35.2	S 20 07.5 +08.3	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 00'4 00'4 00'4 00'4 00'4 00'4		SD 16'5 16'4 16'4 16'4 16'3 16'3								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'4 00'4 00'4 00'4 00'4 00'4		HP 60'4 60'3 60'2 60'1 60'0 59'8								
	SHA 315° 314° 314° 314° 314° 314°		SHA 280° 280° 280° 280° 280° 280°		SHA 125° 122° 120° 117° 115° 112°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 14:13		Greenwich Culmination Time: 00:31								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	256 58.2 +00.8	S 14 22.6 -00.6	287 01.5 +02.4	S 20 52.1 +00.0	282 02.9 +02.5	S 19 50.2 +00.0	00						
01	271 59.0 +00.8	S 14 22.0 -00.5	302 03.9 +02.4	S 20 52.1 +00.0	297 05.4 +02.4	S 19 50.2 +00.0	01						
02	286 59.8 +00.7	S 14 21.5 -00.5	317 06.3 +02.4	S 20 52.1 +00.0	312 07.8 +02.5	S 19 50.2 +00.0	02						
03	302 00.5 +00.8	S 14 21.0 -00.6	332 08.7 +02.4	S 20 52.1 +00.0	327 10.3 +02.4	S 19 50.2 +00.0	03						
04	317 01.3 +00.8	S 14 20.4 -00.5	347 11.1 +02.4	S 20 52.1 +00.0	342 12.7 +02.5	S 19 50.2 +00.0	04						
05	332 02.1 +00.8	S 14 19.9 -00.5	2 13.5 +02.4	S 20 52.1 +00.0	357 15.2 +02.4	S 19 50.2 +00.0	05						
06	347 02.9 +00.8	S 14 19.4 -00.6	17 15.9 +02.4	S 20 52.1 +00.0	12 17.6 +02.5	S 19 50.2 +00.0	06						
07	2 03.7 +00.7	S 14 18.8 -00.5	32 18.3 +02.4	S 20 52.1 +00.0	27 20.1 +02.4	S 19 50.2 +00.0	07						
08	17 04.4 +00.8	S 14 18.3 -00.5	47 20.7 +02.4	S 20 52.1 +00.0	42 22.5 +02.5	S 19 50.2 +00.0	08						
09	32 05.2 +00.8	S 14 17.8 -00.6	62 23.1 +02.5	S 20 52.1 +00.0	57 25.0 +02.4	S 19 50.2 +00.0	09						
10	47 06.0 +00.8	S 14 17.2 -00.5	77 25.6 +02.4	S 20 52.1 +00.0	72 27.4 +02.5	S 19 50.2 +00.0	10						
11	62 06.8 +00.8	S 14 16.7 -00.5	92 28.0 +02.4	S 20 52.1 +00.0	87 29.9 +02.4	S 19 50.2 +00.0	11						
12	77 07.6 +00.7	S 14 16.2 -00.5	107 30.4 +02.4	S 20 52.1 -00.1	102 32.3 +02.5	S 19 50.2 +00.0	12						
13	92 08.3 +00.8	S 14 15.7 -00.6	122 32.8 +02.4	S 20 52.0 +00.0	117 34.8 +02.4	S 19 50.2 +00.0	13						
14	107 09.1 +00.8	S 14 15.1 -00.5	137 35.2 +02.4	S 20 52.0 +00.0	132 37.2 +02.5	S 19 50.2 +00.0	14						
15	122 09.9 +00.8	S 14 14.6 -00.5	152 37.6 +02.4	S 20 52.0 +00.0	147 39.7 +02.4	S 19 50.2 +00.0	15						
16	137 10.7 +00.8	S 14 14.1 -00.6	167 40.0 +02.4	S 20 52.0 +00.0	162 42.1 +02.5	S 19 50.2 +00.0	16						
17	152 11.5 +00.7	S 14 13.5 -00.5	182 42.4 +02.5	S 20 52.0 +00.0	177 44.6 +02.4	S 19 50.2 +00.0	17						
18	167 12.2 +00.8	S 14 13.0 -00.6	197 44.9 +02.4	S 20 52.0 +00.0	192 47.0 +02.5	S 19 50.2 +00.0	18						
19	182 13.0 +00.8	S 14 12.4 -00.5	212 47.3 +02.4	S 20 52.0 +00.0	207 49.5 +02.4	S 19 50.2 +00.0	19						
20	197 13.8 +00.8	S 14 11.9 -00.5	227 49.7 +02.4	S 20 52.0 +00.0	222 51.9 +02.5	S 19 50.2 +00.0	20						
21	212 14.6 +00.8	S 14 11.4 -00.6	242 52.1 +02.4	S 20 52.0 +00.0	237 54.4 +02.5	S 19 50.2 +00.0	21						
22	227 15.4 +00.8	S 14 10.8 -00.5	257 54.5 +02.4	S 20 52.0 +00.0	252 56.9 +02.4	S 19 50.2 +00.0	22						
23	242 16.2 +00.7	S 14 10.3 -00.5	272 56.9 +02.4	S 20 52.0 +00.0	267 59.3 +02.5	S 19 50.2 +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 00'1 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 031° 031° 030° 030° 030° 030°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:51		Greenwich Culmination Time: 04:51		Greenwich Culmination Time: 05:10								



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 53.8 +00.0	N 17 41.1 +00.7	147 40.7 +02.1	N 27 39.2 -00.2	324 19.4 -35.4	S 22 50.7 +04.5	00						
01	195 53.8 +00.0	N 17 41.8 +00.6	162 42.8 +02.1	N 27 39.0 -00.1	338 44.0 -35.3	S 22 55.2 +04.4	01						
02	210 53.8 +00.0	N 17 42.4 +00.7	177 44.9 +02.1	N 27 38.9 -00.2	353 08.7 -35.4	S 22 59.6 +04.3	02						
03	225 53.8 +00.1	N 17 43.1 +00.6	192 47.0 +02.1	N 27 38.7 -00.1	7 33.3 -35.3	S 23 03.9 +04.1	03						
04	240 53.9 +00.0	N 17 43.7 +00.7	207 49.1 +02.1	N 27 38.6 -00.1	21 58.0 -35.4	S 23 08.0 +03.9	04						
05	255 53.9 +00.0	N 17 44.4 +00.6	222 51.2 +02.1	N 27 38.5 -00.2	36 22.6 -35.3	S 23 11.9 +03.8	05						
06	270 53.9 +00.0	N 17 45.0 +00.7	237 53.3 +02.2	N 27 38.3 -00.1	50 47.3 -35.3	S 23 15.7 +03.6	06						
07	285 53.9 +00.0	N 17 45.7 +00.6	252 55.5 +02.1	N 27 38.2 -00.2	65 12.0 -35.3	S 23 19.3 +03.5	07						
08	300 53.9 +00.1	N 17 46.3 +00.7	267 57.6 +02.1	N 27 38.0 -00.1	79 36.7 -35.2	S 23 22.8 +03.3	08						
09	315 54.0 +00.0	N 17 47.0 +00.6	282 59.7 +02.2	N 27 37.9 -00.2	94 01.5 -35.3	S 23 26.1 +03.1	09						
10	330 54.0 +00.0	N 17 47.6 +00.7	298 01.9 +02.1	N 27 37.7 -00.1	108 26.2 -35.2	S 23 29.2 +03.0	10						
11	345 54.0 +00.0	N 17 48.3 +00.6	313 04.0 +02.2	N 27 37.6 -00.2	122 51.0 -35.2	S 23 32.2 +02.9	11						
12	0 54.0 +00.0	N 17 48.9 +00.7	328 06.2 +02.1	N 27 37.4 -00.1	137 15.8 -35.2	S 23 35.1 +02.7	12						
13	15 54.0 +00.1	N 17 49.6 +00.6	343 08.3 +02.2	N 27 37.3 -00.2	151 40.6 -35.1	S 23 37.8 +02.5	13						
14	30 54.1 +00.0	N 17 50.2 +00.6	358 10.5 +02.2	N 27 37.1 -00.1	166 05.5 -35.1	S 23 40.3 +02.4	14						
15	45 54.1 +00.0	N 17 50.8 +00.7	13 12.7 +02.1	N 27 37.0 -00.2	180 30.4 -35.1	S 23 42.7 +02.2	15						
16	60 54.1 +00.0	N 17 51.5 +00.6	28 14.8 +02.2	N 27 36.8 -00.1	194 55.3 -35.1	S 23 44.9 +02.1	16						
17	75 54.1 +00.0	N 17 52.1 +00.7	43 17.0 +02.2	N 27 36.7 -00.2	209 20.2 -35.0	S 23 47.0 +01.9	17						
18	90 54.1 +00.1	N 17 52.8 +00.6	58 19.2 +02.2	N 27 36.5 -00.2	223 45.2 -35.0	S 23 48.9 +01.8	18						
19	105 54.2 +00.0	N 17 53.4 +00.7	73 21.4 +02.1	N 27 36.3 -00.1	238 10.2 -34.9	S 23 50.7 +01.6	19						
20	120 54.2 +00.0	N 17 54.1 +00.6	88 23.5 +02.2	N 27 36.2 -00.2	252 35.3 -34.9	S 23 52.3 +01.4	20						
21	135 54.2 +00.0	N 17 54.7 +00.6	103 25.7 +02.2	N 27 36.0 -00.1	267 00.4 -34.9	S 23 53.7 +01.3	21						
22	150 54.2 +00.0	N 17 55.3 +00.7	118 27.9 +02.2	N 27 35.9 -00.2	281 25.5 -34.8	S 23 55.0 +01.2	22						
23	165 54.2 +00.0	N 17 56.0 +00.6	133 30.1 +02.2	N 27 35.7 -00.2	295 50.7 -34.8	S 23 56.2 +01.0	23						
	UT 02 06 10 14 18 22	SD 15'8 15'8 15'8 15'8 15'8 15'8	UT 02 06 10 14 18 22	SD 00'4 00'4 00'4 00'4 00'4 00'4	UT 02 06 10 14 18 22	SD 16'0 16'0 16'0 15'9 15'9 15'8							
	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'4 00'4 00'4 00'4 00'4 00'4		HP 00'4 00'4 00'4 00'4 00'4 00'4	HP 58'9 58'7 58'6 58'4 58'3 58'1								
	SHA 313° 312° 312° 312° 312° 312°	SHA 279° 279° 279° 279° 279° 279°		SHA 279° 279° 279° 279° 279° 279°	SHA 095° 092° 090° 087° 085° 082°								
	Greenwich Culmination Time: 11:56	Greenwich Culmination Time: 14:07		Greenwich Culmination Time: 02:28									

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	257 35.8 +00.8	S 13 56.9 -00.5	288 57.4 +02.5	S 20 52.0 +00.0	284 00.7 +02.5	S 19 50.2 +00.0	00						
01	272 36.6 +00.8	S 13 56.4 -00.6	303 59.9 +02.4	S 20 52.0 +00.0	299 03.2 +02.4	S 19 50.2 +00.1	01						
02	287 37.4 +00.7	S 13 55.8 -00.5	319 02.3 +02.4	S 20 52.0 +00.0	314 05.6 +02.5	S 19 50.3 +00.0	02						
03	302 38.1 +00.8	S 13 55.3 -00.5	334 04.7 +02.4	S 20 52.0 +00.0	329 08.1 +02.4	S 19 50.3 +00.0	03						
04	317 38.9 +00.8	S 13 54.8 -00.6	349 07.1 +02.5	S 20 52.0 +00.0	344 10.5 +02.5	S 19 50.3 +00.0	04						
05	332 39.7 +00.8	S 13 54.2 -00.5	4 09.6 +02.4	S 20 52.0 +00.0	359 13.0 +02.5	S 19 50.3 +00.0	05						
06	347 40.5 +00.8	S 13 53.7 -00.6	19 12.0 +02.4	S 20 52.0 +00.0	14 15.5 +02.4	S 19 50.3 +00.0	06						
07	2 41.3 +00.8	S 13 53.1 -00.5	34 14.4 +02.4	S 20 52.0 +00.0	29 17.9 +02.5	S 19 50.3 +00.0	07						
08	17 42.1 +00.8	S 13 52.6 -00.5	49 16.8 +02.5	S 20 52.0 +00.0	44 20.4 +02.4	S 19 50.3 +00.0	08						
09	32 42.9 +00.8	S 13 52.1 -00.6	64 19.3 +02.4	S 20 52.0 +00.0	59 22.8 +02.5	S 19 50.3 +00.0	09						
10	47 43.7 +00.8	S 13 51.5 -00.5	79 21.7 +02.4	S 20 52.0 +00.0	74 25.3 +02.5	S 19 50.3 +00.0	10						
11	62 44.5 +00.7	S 13 51.0 -00.6	94 24.1 +02.5	S 20 52.0 +00.0	89 27.8 +02.4	S 19 50.3 +00.0	11						
12	77 45.2 +00.8	S 13 50.4 -00.5	109 26.6 +02.4	S 20 52.0 +00.0	104 30.2 +02.5	S 19 50.3 +00.0	12						
13	92 46.0 +00.8	S 13 49.9 -00.5	124 29.0 +02.4	S 20 52.0 +00.0	119 32.7 +02.4	S 19 50.3 +00.0	13						
14	107 46.8 +00.8	S 13 49.4 -00.6	139 31.4 +02.4	S 20 52.0 +00.0	134 35.1 +02.5	S 19 50.3 +00.0	14						
15	122 47.6 +00.8	S 13 48.8 -00.5	154 33.8 +02.5	S 20 52.0 +00.0	149 37.6 +02.5	S 19 50.3 +00.0	15						
16	137 48.4 +00.8	S 13 48.3 -00.6	169 36.3 +02.4	S 20 52.0 +00.0	164 40.1 +02.4	S 19 50.3 +00.0	16						
17	152 49.2 +00.8	S 13 47.7 -00.5	184 38.7 +02.4	S 20 52.0 +00.0	179 42.5 +02.5	S 19 50.3 +00.0	17						
18	167 50.0 +00.8	S 13 47.2 -00.5	199 41.1 +02.5	S 20 52.0 +00.0	194 45.0 +02.5	S 19 50.3 +00.0	18						
19	182 50.8 +00.8	S 13 46.7 -00.6	214 43.6 +02.4	S 20 52.0 +00.0	209 47.5 +02.4	S 19 50.3 +00.0	19						
20	197 51.6 +00.8	S 13 46.1 -00.5	229 46.0 +02.4	S 20 52.0 +00.0	224 49.9 +02.5	S 19 50.3 +00.0	20						
21	212 52.4 +00.7	S 13 45.6 -00.6	244 48.4 +02.5	S 20 52.0 +00.0	239 52.4 +02.4	S 19 50.3 +00.0	21						
22	227 53.1 +00.8	S 13 45.0 -00.5	259 50.9 +02.4	S 20 52.0 +00.0	254 54.8 +02.5	S 19 50.3 +00.0	22						
23	242 53.9 +00.8	S 13 44.5 -00.5	274 53.3 +02.4	S 20 52.0 +00.0	269 57.3 +02.5	S 19 50.3 +00.0	23						
	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'4	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	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 029° 029° 029° 029° 029° 029°	SHA 061° 061° 061° 061° 061° 061°		SHA 061° 061° 061° 061° 061° 061°	SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:49	Greenwich Culmination Time: 04:43		Greenwich Culmination Time: 05:03									



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 54.2 +00.1	N 17 56.6 +00.7	148 32.3 +02.2	N 27 35.5 -00.1	310 15.9 -34.8	S 23 57.2 +00.9	00						
01	195 54.3 +00.0	N 17 57.3 +00.6	163 34.5 +02.2	N 27 35.4 -00.2	324 41.1 -34.7	S 23 58.1 +00.7	01						
02	210 54.3 +00.0	N 17 57.9 +00.6	178 36.7 +02.3	N 27 35.2 -00.2	339 06.4 -34.6	S 23 58.8 +00.5	02						
03	225 54.3 +00.0	N 17 58.5 +00.7	193 39.0 +02.2	N 27 35.0 -00.1	353 31.8 -34.6	S 23 59.3 +00.4	03						
04	240 54.3 +00.0	N 17 59.2 +00.6	208 41.2 +02.2	N 27 34.9 -00.2	7 57.2 -34.6	S 23 59.7 +00.3	04						
05	255 54.3 +00.0	N 17 59.8 +00.6	223 43.4 +02.2	N 27 34.7 -00.2	22 22.6 -34.5	S 23 60.0 +00.1	05						
06	270 54.3 +00.1	N 18 00.4 +00.7	238 45.6 +02.3	N 27 34.5 -00.1	36 48.1 -34.4	S 24 00.1 +00.0	06						
07	285 54.4 +00.0	N 18 01.1 +00.6	253 47.9 +02.2	N 27 34.4 -00.2	51 13.7 -34.4	S 24 00.1 -00.2	07						
08	300 54.4 +00.0	N 18 01.7 +00.6	268 50.1 +02.2	N 27 34.2 -00.2	65 39.3 -34.4	S 23 59.9 -00.4	08						
09	315 54.4 +00.0	N 18 02.3 +00.7	283 52.3 +02.3	N 27 34.0 -00.2	80 04.9 -34.3	S 23 59.5 -00.4	09						
10	330 54.4 +00.0	N 18 03.0 +00.6	298 54.6 +02.2	N 27 33.8 -00.1	94 30.6 -34.2	S 23 59.1 -00.7	10						
11	345 54.4 +00.0	N 18 03.6 +00.6	313 56.8 +02.3	N 27 33.7 -00.2	108 56.4 -34.2	S 23 58.4 -00.7	11						
12	0 54.4 +00.0	N 18 04.2 +00.7	328 59.1 +02.3	N 27 33.5 -00.2	123 22.2 -34.1	S 23 57.7 -00.9	12						
13	15 54.4 +00.0	N 18 04.9 +00.6	344 01.4 +02.2	N 27 33.3 -00.2	137 48.1 -34.0	S 23 56.8 -01.1	13						
14	30 54.4 +00.1	N 18 05.5 +00.6	359 03.6 +02.3	N 27 33.1 -00.1	152 14.1 -34.0	S 23 55.7 -01.2	14						
15	45 54.5 +00.0	N 18 06.1 +00.7	14 05.9 +02.3	N 27 33.0 -00.2	166 40.1 -33.9	S 23 54.5 -01.3	15						
16	60 54.5 +00.0	N 18 06.8 +00.6	29 08.2 +02.2	N 27 32.8 -00.2	181 06.2 -33.9	S 23 53.2 -01.5	16						
17	75 54.5 +00.0	N 18 07.4 +00.6	44 10.4 +02.3	N 27 32.6 -00.2	195 32.3 -33.8	S 23 51.7 -01.6	17						
18	90 54.5 +00.0	N 18 08.0 +00.6	59 12.7 +02.3	N 27 32.4 -00.2	209 58.5 -33.7	S 23 50.1 -01.7	18						
19	105 54.5 +00.0	N 18 08.6 +00.7	74 15.0 +02.3	N 27 32.2 -00.1	224 24.8 -33.7	S 23 48.4 -01.9	19						
20	120 54.5 +00.0	N 18 09.3 +00.6	89 17.3 +02.3	N 27 32.1 -00.2	238 51.1 -33.6	S 23 46.5 -02.1	20						
21	135 54.5 +00.0	N 18 09.9 +00.6	104 19.6 +02.3	N 27 31.9 -00.2	253 17.5 -33.5	S 23 44.4 -02.1	21						
22	150 54.5 +00.1	N 18 10.5 +00.7	119 21.9 +02.3	N 27 31.7 -00.2	267 44.0 -33.5	S 23 42.3 -02.3	22						
23	165 54.6 +00.0	N 18 11.2 +00.6	134 24.2 +02.3	N 27 31.5 -00.2	282 10.5 -33.3	S 23 40.0 -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 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 15'8 15'7 15'7 15'7 15'6 15'6								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'4 00'4 00'4 00'4 00'4 00'4		HP 58'0 57'8 57'6 57'5 57'3 57'2								
	SHA 312° 311° 311° 311° 311° 311°		SHA 279° 279° 279° 279° 279° 279°		SHA 080° 077° 075° 072° 070° 068°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 14:03		Greenwich Culmination Time: 03:26								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	257 54.7 +00.8	S 13 44.0 -00.6	289 55.7 +02.5	S 20 52.0 +00.0	284 59.8 +02.4	S 19 50.3 +00.0	00						
01	272 55.5 +00.8	S 13 43.4 -00.5	304 58.2 +02.4	S 20 52.0 +00.0	300 02.2 +02.5	S 19 50.3 +00.0	01						
02	287 56.3 +00.8	S 13 42.9 -00.6	320 00.6 +02.4	S 20 52.0 +00.0	315 04.7 +02.5	S 19 50.3 +00.0	02						
03	302 57.1 +00.8	S 13 42.3 -00.5	335 03.0 +02.5	S 20 52.0 +00.0	330 07.2 +02.4	S 19 50.3 +00.0	03						
04	317 57.9 +00.8	S 13 41.8 -00.6	350 05.5 +02.4	S 20 52.0 +00.0	345 09.6 +02.5	S 19 50.3 +00.0	04						
05	332 58.7 +00.8	S 13 41.2 -00.5	5 07.9 +02.4	S 20 52.0 +00.0	0 12.1 +02.4	S 19 50.3 +00.0	05						
06	347 59.5 +00.8	S 13 40.7 -00.5	20 10.3 +02.5	S 20 52.0 +00.0	15 14.5 +02.5	S 19 50.3 +00.0	06						
07	3 00.3 +00.8	S 13 40.2 -00.6	35 12.8 +02.4	S 20 52.0 +00.0	30 17.0 +02.5	S 19 50.3 +00.1	07						
08	18 01.1 +00.8	S 13 39.6 -00.5	50 15.2 +02.4	S 20 52.0 +00.0	45 19.5 +02.4	S 19 50.4 +00.0	08						
09	33 01.9 +00.7	S 13 39.1 -00.6	65 17.6 +02.5	S 20 52.0 +00.0	60 21.9 +02.5	S 19 50.4 +00.0	09						
10	48 02.6 +00.8	S 13 38.5 -00.5	80 20.1 +02.4	S 20 52.0 +00.0	75 24.4 +02.5	S 19 50.4 +00.0	10						
11	63 03.4 +00.8	S 13 38.0 -00.5	95 22.5 +02.4	S 20 52.0 +00.0	90 26.9 +02.4	S 19 50.4 +00.0	11						
12	78 04.2 +00.8	S 13 37.5 -00.6	110 24.9 +02.5	S 20 52.0 +00.0	105 29.3 +02.5	S 19 50.4 +00.0	12						
13	93 05.0 +00.8	S 13 36.9 -00.5	125 27.4 +02.4	S 20 52.0 +00.0	120 31.8 +02.5	S 19 50.4 +00.0	13						
14	108 05.8 +00.8	S 13 36.4 -00.6	140 29.8 +02.5	S 20 52.0 +00.0	135 34.3 +02.4	S 19 50.4 +00.0	14						
15	123 06.6 +00.8	S 13 35.8 -00.5	155 32.3 +02.4	S 20 52.0 +00.0	150 36.7 +02.5	S 19 50.4 +00.0	15						
16	138 07.4 +00.8	S 13 35.3 -00.6	170 34.7 +02.4	S 20 52.0 +00.0	165 39.2 +02.5	S 19 50.4 +00.0	16						
17	153 08.2 +00.8	S 13 34.7 -00.5	185 37.1 +02.5	S 20 52.0 +00.0	180 41.7 +02.4	S 19 50.4 +00.0	17						
18	168 09.0 +00.8	S 13 34.2 -00.6	200 39.6 +02.4	S 20 52.0 +00.0	195 44.1 +02.5	S 19 50.4 +00.0	18						
19	183 09.8 +00.8	S 13 33.6 -00.5	215 42.0 +02.5	S 20 52.0 +00.0	210 46.6 +02.4	S 19 50.4 +00.0	19						
20	198 10.6 +00.8	S 13 33.1 -00.5	230 44.5 +02.4	S 20 52.0 +00.0	225 49.0 +02.5	S 19 50.4 +00.0	20						
21	213 11.4 +00.8	S 13 32.6 -00.6	245 46.9 +02.4	S 20 52.0 +00.0	240 51.5 +02.5	S 19 50.4 +00.0	21						
22	228 12.2 +00.8	S 13 32.0 -00.5	260 49.3 +02.5	S 20 52.0 +00.0	255 54.0 +02.4	S 19 50.4 +00.0	22						
23	243 13.0 +00.8	S 13 31.5 -00.6	275 51.8 +02.4	S 20 52.0 +00.0	270 56.4 +02.5	S 19 50.4 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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 029° 029° 028° 028° 028° 028°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:47		Greenwich Culmination Time: 04:39		Greenwich Culmination Time: 04:59								

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 54.6 +00.0	N 18 11.8 +00.6	149 26.5 +02.3	N 27 31.3 -00.2	296 37.2 -33.4	S 23 37.5 -02.5	00						
01	195 54.6 +00.0	N 18 12.4 +00.6	164 28.8 +02.3	N 27 31.1 -00.2	311 03.8 -33.2	S 23 35.0 -02.7	01						
02	210 54.6 +00.0	N 18 13.0 +00.7	179 31.1 +02.3	N 27 30.9 -00.2	325 30.6 -33.2	S 23 32.3 -02.9	02						
03	225 54.6 +00.0	N 18 13.7 +00.6	194 33.4 +02.4	N 27 30.7 -00.2	339 57.4 -33.0	S 23 29.4 -02.9	03						
04	240 54.6 +00.0	N 18 14.3 +00.6	209 35.8 +02.3	N 27 30.5 -00.1	354 24.4 -33.1	S 23 26.5 -03.1	04						
05	255 54.6 +00.0	N 18 14.9 +00.6	224 38.1 +02.3	N 27 30.4 -00.2	8 51.3 -32.9	S 23 23.4 -03.2	05						
06	270 54.6 +00.0	N 18 15.5 +00.7	239 40.4 +02.4	N 27 30.2 -00.2	23 18.4 -32.8	S 23 20.2 -03.4	06						
07	285 54.6 +00.0	N 18 16.2 +00.6	254 42.8 +02.3	N 27 30.0 -00.2	37 45.6 -32.8	S 23 16.8 -03.4	07						
08	300 54.6 +00.0	N 18 16.8 +00.6	269 45.1 +02.4	N 27 29.8 -00.2	52 12.8 -32.7	S 23 13.4 -03.6	08						
09	315 54.6 +00.1	N 18 17.4 +00.6	284 47.5 +02.3	N 27 29.6 -00.2	66 40.1 -32.6	S 23 09.8 -03.8	09						
10	330 54.7 +00.0	N 18 18.0 +00.6	299 49.8 +02.4	N 27 29.4 -00.2	81 07.5 -32.6	S 23 06.0 -03.8	10						
11	345 54.7 +00.0	N 18 18.6 +00.7	314 52.2 +02.3	N 27 29.2 -00.2	95 34.9 -32.4	S 23 02.2 -04.0	11						
12	0 54.7 +00.0	N 18 19.3 +00.6	329 54.5 +02.4	N 27 29.0 -00.2	110 02.5 -32.4	S 22 58.2 -04.1	12						
13	15 54.7 +00.0	N 18 19.9 +00.6	344 56.9 +02.4	N 27 28.8 -00.2	124 30.1 -32.3	S 22 54.1 -04.2	13						
14	30 54.7 +00.0	N 18 20.5 +00.6	359 59.3 +02.4	N 27 28.6 -00.2	138 57.8 -32.2	S 22 49.9 -04.3	14						
15	45 54.7 +00.0	N 18 21.1 +00.6	15 01.7 +02.3	N 27 28.4 -00.2	153 25.6 -32.2	S 22 45.6 -04.5	15						
16	60 54.7 +00.0	N 18 21.7 +00.6	30 04.0 +02.4	N 27 28.2 -00.3	167 53.4 -32.0	S 22 41.1 -04.5	16						
17	75 54.7 +00.0	N 18 22.3 +00.7	45 06.4 +02.4	N 27 27.9 -00.2	182 21.4 -32.0	S 22 36.6 -04.7	17						
18	90 54.7 +00.0	N 18 23.0 +00.6	60 08.8 +02.4	N 27 27.7 -00.2	196 49.4 -31.9	S 22 31.9 -04.8	18						
19	105 54.7 +00.0	N 18 23.6 +00.6	75 11.2 +02.4	N 27 27.5 -00.2	211 17.5 -31.8	S 22 27.1 -04.9	19						
20	120 54.7 +00.0	N 18 24.2 +00.6	90 13.6 +02.4	N 27 27.3 -00.2	225 45.7 -31.7	S 22 22.2 -05.1	20						
21	135 54.7 +00.0	N 18 24.8 +00.6	105 16.0 +02.4	N 27 27.1 -00.2	240 14.0 -31.6	S 22 17.1 -05.1	21						
22	150 54.7 +00.0	N 18 25.4 +00.6	120 18.4 +02.4	N 27 26.9 -00.2	254 42.4 -31.5	S 22 12.0 -05.2	22						
23	165 54.7 +00.0	N 18 26.0 +00.6	135 20.8 +02.4	N 27 26.7 -00.2	269 10.9 -31.5	S 22 06.8 -05.4	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	00'4 00'4 00'4 00'4 00'4 00'4	SD	15'5 15'5 15'5 15'4 15'4 15'3								
HP	00'1 00'1 00'1 00'1 00'1 00'1	HP	00'4 00'4 00'4 00'4 00'4 00'4	HP	57'0 56'9 56'7 56'6 56'5 56'3								
SHA	311° 310° 310° 310° 310° 310°	SHA	279° 279° 279° 279° 279° 279°	SHA	065° 063° 060° 058° 056° 054°								
Greenwich Culmination Time: 11:56			Greenwich Culmination Time: 14:00			Greenwich Culmination Time: 04:23							

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	258 13.8 +00.8	S 13 30.9 -00.5	290 54.2 +02.5	S 20 52.0 +00.0	285 58.9 +02.5	S 19 50.4 +00.0	00						
01	273 14.6 +00.8	S 13 30.4 -00.6	305 56.7 +02.4	S 20 52.0 +00.0	301 01.4 +02.4	S 19 50.4 +00.0	01						
02	288 15.4 +00.8	S 13 29.8 -00.5	320 59.1 +02.4	S 20 52.0 +00.0	316 03.8 +02.5	S 19 50.4 +00.0	02						
03	303 16.2 +00.8	S 13 29.3 -00.5	336 01.5 +02.5	S 20 52.0 +00.0	331 06.3 +02.5	S 19 50.4 +00.0	03						
04	318 17.0 +00.7	S 13 28.8 -00.6	351 04.0 +02.4	S 20 52.0 +00.0	346 08.8 +02.5	S 19 50.4 +00.0	04						
05	333 17.7 +00.8	S 13 28.2 -00.5	6 06.4 +02.5	S 20 52.0 +00.0	1 11.3 +02.4	S 19 50.4 +00.0	05						
06	348 18.5 +00.8	S 13 27.7 -00.6	21 08.9 +02.4	S 20 52.0 +00.0	16 13.7 +02.5	S 19 50.4 +00.1	06						
07	3 19.3 +00.8	S 13 27.1 -00.5	36 11.3 +02.5	S 20 52.0 +00.0	31 16.2 +02.5	S 19 50.5 +00.0	07						
08	18 20.1 +00.8	S 13 26.6 -00.6	51 13.8 +02.4	S 20 52.0 +00.0	46 18.7 +02.4	S 19 50.5 +00.0	08						
09	33 20.9 +00.8	S 13 26.0 -00.5	66 16.2 +02.4	S 20 52.0 +00.0	61 21.1 +02.5	S 19 50.5 +00.0	09						
10	48 21.7 +00.8	S 13 25.5 -00.6	81 18.6 +02.5	S 20 52.0 +00.0	76 23.6 +02.5	S 19 50.5 +00.0	10						
11	63 22.5 +00.8	S 13 24.9 -00.5	96 21.1 +02.4	S 20 52.0 +00.0	91 26.1 +02.4	S 19 50.5 +00.0	11						
12	78 23.3 +00.8	S 13 24.4 -00.6	111 23.5 +02.5	S 20 52.0 +00.1	106 28.5 +02.5	S 19 50.5 +00.0	12						
13	93 24.1 +00.8	S 13 23.8 -00.5	126 26.0 +02.4	S 20 52.1 +00.0	121 31.0 +02.5	S 19 50.5 +00.0	13						
14	108 24.9 +00.8	S 13 23.3 -00.5	141 28.4 +02.5	S 20 52.1 +00.0	136 33.5 +02.4	S 19 50.5 +00.0	14						
15	123 25.7 +00.8	S 13 22.8 -00.6	156 30.9 +02.4	S 20 52.1 +00.0	151 35.9 +02.5	S 19 50.5 +00.0	15						
16	138 26.5 +00.8	S 13 22.2 -00.5	171 33.3 +02.5	S 20 52.1 +00.0	166 38.4 +02.5	S 19 50.5 +00.0	16						
17	153 27.3 +00.8	S 13 21.7 -00.6	186 35.8 +02.4	S 20 52.1 +00.0	181 40.9 +02.4	S 19 50.5 +00.0	17						
18	168 28.1 +00.8	S 13 21.1 -00.5	201 38.2 +02.5	S 20 52.1 +00.0	196 43.3 +02.5	S 19 50.5 +00.0	18						
19	183 28.9 +00.8	S 13 20.6 -00.6	216 40.7 +02.4	S 20 52.1 +00.0	211 45.8 +02.5	S 19 50.5 +00.0	19						
20	198 29.7 +00.8	S 13 20.0 -00.5	231 43.1 +02.5	S 20 52.1 +00.0	226 48.3 +02.5	S 19 50.5 +00.0	20						
21	213 30.5 +00.8	S 13 19.5 -00.6	246 45.6 +02.4	S 20 52.1 +00.0	241 50.8 +02.4	S 19 50.5 +00.0	21						
22	228 31.3 +00.8	S 13 18.9 -00.5	261 48.0 +02.5	S 20 52.1 +00.0	256 53.2 +02.5	S 19 50.5 +00.0	22						
23	243 32.1 +00.8	S 13 18.4 -00.6	276 50.5 +02.4	S 20 52.1 +00.0	271 55.7 +02.5	S 19 50.5 +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	00'1 00'1 00'1 00'1 00'1 00'1	SD	00'4 00'4 00'4 00'4 00'4 00'4	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	028° 028° 028° 028° 028° 027°	SHA	061° 061° 061° 061° 061° 061°	SHA	056° 056° 056° 056° 056° 056°								
Greenwich Culmination Time: 06:46			Greenwich Culmination Time: 04:35			Greenwich Culmination Time: 04:55							

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 54.7 +00.0	N 18 26.6 +00.7	150 23.2 +02.5	N 27 26.5 -00.2	283 39.4 -31.4	S 22 01.4 -05.5	00						
01	195 54.7 +00.0	N 18 27.3 +00.6	165 25.7 +02.4	N 27 26.3 -00.3	298 08.0 -31.3	S 21 55.9 -05.6	01						
02	210 54.7 +00.1	N 18 27.9 +00.6	180 28.1 +02.4	N 27 26.0 -00.2	312 36.7 -31.2	S 21 50.3 -05.6	02						
03	225 54.8 +00.0	N 18 28.5 +00.6	195 30.5 +02.4	N 27 25.8 -00.2	327 05.5 -31.1	S 21 44.7 -05.8	03						
04	240 54.8 +00.0	N 18 29.1 +00.6	210 32.9 +02.5	N 27 25.6 -00.2	341 34.4 -31.0	S 21 38.9 -05.9	04						
05	255 54.8 +00.0	N 18 29.7 +00.6	225 35.4 +02.4	N 27 25.4 -00.2	356 03.4 -30.9	S 21 33.0 -06.0	05						
06	270 54.8 +00.0	N 18 30.3 +00.6	240 37.8 +02.5	N 27 25.2 -00.3	10 32.5 -30.9	S 21 27.0 -06.1	06						
07	285 54.8 +00.0	N 18 30.9 +00.6	255 40.3 +02.4	N 27 24.9 -00.2	25 01.6 -30.8	S 21 20.9 -06.2	07						
08	300 54.8 +00.0	N 18 31.5 +00.6	270 42.7 +02.5	N 27 24.7 -00.2	39 30.8 -30.6	S 21 14.7 -06.3	08						
09	315 54.8 +00.0	N 18 32.1 +00.7	285 45.2 +02.4	N 27 24.5 -00.2	54 00.2 -30.6	S 21 08.4 -06.5	09						
10	330 54.8 +00.0	N 18 32.8 +00.6	300 47.6 +02.5	N 27 24.3 -00.2	68 29.6 -30.5	S 21 01.9 -06.5	10						
11	345 54.8 +00.0	N 18 33.4 +00.6	315 50.1 +02.5	N 27 24.1 -00.3	82 59.1 -30.5	S 20 55.4 -06.6	11						
12	0 54.8 +00.0	N 18 34.0 +00.6	330 52.6 +02.4	N 27 23.8 -00.2	97 28.6 -30.3	S 20 48.8 -06.7	12						
13	15 54.8 +00.0	N 18 34.6 +00.6	345 55.0 +02.5	N 27 23.6 -00.2	111 58.3 -30.3	S 20 42.1 -06.7	13						
14	30 54.8 +00.0	N 18 35.2 +00.6	0 57.5 +02.5	N 27 23.4 -00.3	126 28.0 -30.1	S 20 35.4 -06.9	14						
15	45 54.8 +00.0	N 18 35.8 +00.6	16 00.0 +02.5	N 27 23.1 -00.2	140 57.9 -30.1	S 20 28.5 -07.0	15						
16	60 54.8 +00.0	N 18 36.4 +00.6	31 02.5 +02.5	N 27 22.9 -00.2	155 27.8 -30.0	S 20 21.5 -07.1	16						
17	75 54.8 +00.0	N 18 37.0 +00.6	46 05.0 +02.5	N 27 22.7 -00.3	169 57.8 -29.9	S 20 14.4 -07.2	17						
18	90 54.8 +00.0	N 18 37.6 +00.6	61 07.5 +02.5	N 27 22.4 -00.2	184 27.9 -29.8	S 20 07.2 -07.2	18						
19	105 54.8 +00.0	N 18 38.2 +00.6	76 10.0 +02.5	N 27 22.2 -00.2	198 58.1 -29.8	S 19 60.0 -07.4	19						
20	120 54.8 +00.0	N 18 38.8 +00.6	91 12.5 +02.5	N 27 22.0 -00.3	213 28.3 -29.6	S 19 52.6 -07.4	20						
21	135 54.8 +00.0	N 18 39.4 +00.6	106 15.0 +02.5	N 27 21.7 -00.2	227 58.7 -29.6	S 19 45.2 -07.5	21						
22	150 54.8 +00.0	N 18 40.0 +00.6	121 17.5 +02.5	N 27 21.5 -00.2	242 29.1 -29.5	S 19 37.7 -07.6	22						
23	165 54.8 +00.0	N 18 40.6 +00.6	136 20.0 +02.6	N 27 21.3 -00.3	256 59.6 -29.4	S 19 30.1 -07.7	23						
UT	02 06 10 14 18 22	SD 15'8 15'8 15'8 15'8 15'8 15'8	UT	02 06 10 14 18 22	SD 00'4 00'4 00'4 00'4 00'4 00'4	UT	02 06 10 14 18 22	SD 15'3 15'3 15'2 15'2 15'2 15'1					
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'4 00'4 00'4 00'4 00'4 00'4		HP 56'2 56'0 55'9 55'8 55'7 55'6		HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 310° 309° 309° 309° 309° 309°		SHA 279° 279° 279° 279° 279° 279°		SHA 051° 049° 047° 045° 043° 040°		SHA 056° 056° 056° 056° 056° 056°						
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 13:56		Greenwich Culmination Time: 05:16								
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	258 32.9 +00.8	S 13 17.8 -00.5	291 52.9 +02.5	S 20 52.1 +00.0	286 58.2 +02.4	S 19 50.5 +00.0	00						
01	273 33.7 +00.8	S 13 17.3 -00.6	306 55.4 +02.4	S 20 52.1 +00.0	302 00.6 +02.5	S 19 50.5 +00.1	01						
02	288 34.5 +00.8	S 13 16.7 -00.5	321 57.8 +02.5	S 20 52.1 +00.0	317 03.1 +02.5	S 19 50.6 +00.0	02						
03	303 35.3 +00.8	S 13 16.2 -00.6	337 00.3 +02.4	S 20 52.1 +00.0	332 05.6 +02.5	S 19 50.6 +00.0	03						
04	318 36.1 +00.8	S 13 15.6 -00.5	352 02.7 +02.5	S 20 52.1 +00.0	347 08.1 +02.4	S 19 50.6 +00.0	04						
05	333 36.9 +00.8	S 13 15.1 -00.6	7 05.2 +02.4	S 20 52.1 +00.0	2 10.5 +02.5	S 19 50.6 +00.0	05						
06	348 37.7 +00.8	S 13 14.5 -00.5	22 07.6 +02.5	S 20 52.1 +00.0	17 13.0 +02.5	S 19 50.6 +00.0	06						
07	3 38.5 +00.8	S 13 14.0 -00.6	37 10.1 +02.4	S 20 52.1 +00.0	32 15.5 +02.4	S 19 50.6 +00.0	07						
08	18 39.3 +00.8	S 13 13.4 -00.5	52 12.5 +02.5	S 20 52.1 +00.0	47 17.9 +02.5	S 19 50.6 +00.0	08						
09	33 40.1 +00.8	S 13 12.9 -00.5	67 15.0 +02.4	S 20 52.1 +00.0	62 20.4 +02.5	S 19 50.6 +00.0	09						
10	48 40.9 +00.8	S 13 12.4 -00.6	82 17.4 +02.5	S 20 52.1 +00.0	77 22.9 +02.5	S 19 50.6 +00.0	10						
11	63 41.7 +00.8	S 13 11.8 -00.5	97 19.9 +02.4	S 20 52.1 +00.0	92 25.4 +02.4	S 19 50.6 +00.0	11						
12	78 42.5 +00.8	S 13 11.3 -00.6	112 22.3 +02.5	S 20 52.1 +00.0	107 27.8 +02.5	S 19 50.6 +00.0	12						
13	93 43.3 +00.8	S 13 10.7 -00.5	127 24.8 +02.4	S 20 52.1 +00.1	122 30.3 +02.5	S 19 50.6 +00.0	13						
14	108 44.1 +00.8	S 13 10.2 -00.6	142 27.2 +02.5	S 20 52.2 +00.0	137 32.8 +02.5	S 19 50.6 +00.0	14						
15	123 44.9 +00.8	S 13 09.6 -00.5	157 29.7 +02.4	S 20 52.2 +00.0	152 35.3 +02.4	S 19 50.6 +00.0	15						
16	138 45.7 +00.8	S 13 09.1 -00.6	172 32.1 +02.5	S 20 52.2 +00.0	167 37.7 +02.5	S 19 50.6 +00.0	16						
17	153 46.5 +00.8	S 13 08.5 -00.5	187 34.6 +02.4	S 20 52.2 +00.0	182 40.2 +02.5	S 19 50.6 +00.0	17						
18	168 47.3 +00.9	S 13 08.0 -00.6	202 37.0 +02.5	S 20 52.2 +00.0	197 42.7 +02.4	S 19 50.6 +00.1	18						
19	183 48.2 +00.8	S 13 07.4 -00.5	217 39.5 +02.5	S 20 52.2 +00.0	212 45.1 +02.5	S 19 50.7 +00.0	19						
20	198 49.0 +00.8	S 13 06.9 -00.6	232 42.0 +02.4	S 20 52.2 +00.0	227 47.6 +02.5	S 19 50.7 +00.0	20						
21	213 49.8 +00.8	S 13 06.3 -00.5	247 44.4 +02.5	S 20 52.2 +00.0	242 50.1 +02.5	S 19 50.7 +00.0	21						
22	228 50.6 +00.8	S 13 05.8 -00.6	262 46.9 +02.4	S 20 52.2 +00.0	257 52.6 +02.4	S 19 50.7 +00.0	22						
23	243 51.4 +00.8	S 13 05.2 -00.5	277 49.3 +02.5	S 20 52.2 +00.0	272 55.0 +02.5	S 19 50.7 +00.0	23						
UT	02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	UT	02 06 10 14 18 22	SD 00'4 00'4 00'4 00'4 00'4 00'4	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		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 027° 027° 027° 027° 027° 027°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°		SHA 056° 056° 056° 056° 056° 056°						
	Greenwich Culmination Time: 06:45		Greenwich Culmination Time: 04:31		Greenwich Culmination Time: 04:51								

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 54.8 +00.0	N 18 41.2 +00.6	151 22.6 +02.5	N 27 21.0 -00.2	271 30.2 -29.3	S 19 22.4 -07.8	00						
01	195 54.8 +00.0	N 18 41.8 +00.6	166 25.1 +02.5	N 27 20.8 -00.3	286 00.9 -29.2	S 19 14.6 -07.8	01						
02	210 54.8 +00.0	N 18 42.4 +00.6	181 27.6 +02.6	N 27 20.5 -00.2	300 31.7 -29.2	S 19 06.8 -08.0	02						
03	225 54.8 +00.0	N 18 43.0 +00.6	196 30.2 +02.5	N 27 20.3 -00.3	315 02.5 -29.0	S 18 58.8 -08.0	03						
04	240 54.8 +00.0	N 18 43.6 +00.6	211 32.7 +02.6	N 27 20.0 -00.2	329 33.5 -29.0	S 18 50.8 -08.1	04						
05	255 54.8 +00.0	N 18 44.2 +00.6	226 35.3 +02.5	N 27 19.8 -00.2	344 04.5 -28.9	S 18 42.7 -08.2	05						
06	270 54.8 +00.0	N 18 44.8 +00.6	241 37.8 +02.6	N 27 19.6 -00.3	358 35.6 -28.8	S 18 34.5 -08.2	06						
07	285 54.8 -00.1	N 18 45.4 +00.6	256 40.4 +02.5	N 27 19.3 -00.2	13 06.8 -28.8	S 18 26.3 -08.4	07						
08	300 54.7 +00.0	N 18 46.0 +00.6	271 42.9 +02.6	N 27 19.1 -00.3	27 38.0 -28.6	S 18 17.9 -08.4	08						
09	315 54.7 +00.0	N 18 46.6 +00.6	286 45.5 +02.6	N 27 18.8 -00.2	42 09.4 -28.6	S 18 09.5 -08.5	09						
10	330 54.7 +00.0	N 18 47.2 +00.6	301 48.1 +02.5	N 27 18.6 -00.3	56 40.8 -28.5	S 18 01.0 -08.5	10						
11	345 54.7 +00.0	N 18 47.8 +00.6	316 50.6 +02.6	N 27 18.3 -00.3	71 12.3 -28.4	S 17 52.5 -08.7	11						
12	0 54.7 +00.0	N 18 48.4 +00.6	331 53.2 +02.6	N 27 18.0 -00.2	85 43.9 -28.4	S 17 43.8 -08.7	12						
13	15 54.7 +00.0	N 18 49.0 +00.5	346 55.8 +02.6	N 27 17.8 -00.3	100 15.5 -28.3	S 17 35.1 -08.7	13						
14	30 54.7 +00.0	N 18 49.5 +00.6	1 58.4 +02.6	N 27 17.5 -00.2	114 47.2 -28.1	S 17 26.4 -08.9	14						
15	45 54.7 +00.0	N 18 50.1 +00.6	17 01.0 +02.6	N 27 17.3 -00.3	129 19.1 -28.2	S 17 17.5 -08.9	15						
16	60 54.7 +00.0	N 18 50.7 +00.6	32 03.6 +02.6	N 27 17.0 -00.2	143 50.9 -28.0	S 17 08.6 -09.0	16						
17	75 54.7 +00.0	N 18 51.3 +00.6	47 06.2 +02.6	N 27 16.8 -00.3	158 22.9 -28.0	S 16 59.6 -09.1	17						
18	90 54.7 +00.0	N 18 51.9 +00.6	62 08.8 +02.6	N 27 16.5 -00.3	172 54.9 -27.8	S 16 50.5 -09.1	18						
19	105 54.7 +00.0	N 18 52.5 +00.6	77 11.4 +02.6	N 27 16.2 -00.2	187 27.1 -27.9	S 16 41.4 -09.2	19						
20	120 54.7 +00.0	N 18 53.1 +00.6	92 14.0 +02.6	N 27 16.0 -00.3	201 59.2 -27.7	S 16 32.2 -09.2	20						
21	135 54.7 +00.0	N 18 53.7 +00.6	107 16.6 +02.6	N 27 15.7 -00.3	216 31.5 -27.7	S 16 23.0 -09.3	21						
22	150 54.7 +00.0	N 18 54.3 +00.6	122 19.2 +02.7	N 27 15.4 -00.2	231 03.8 -27.6	S 16 13.7 -09.4	22						
23	165 54.7 +00.0	N 18 54.9 +00.5	137 21.9 +02.6	N 27 15.2 -00.3	245 36.2 -27.5	S 16 04.3 -09.4	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 00'4 00'4 00'4 00'4 00'4 00'4		SD 15'1 15'1 15'0 15'0 15'0 15'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'4 00'4 00'4 00'4 00'4 00'4		HP 55'4 55'3 55'2 55'1 55'0 54'9								
	SHA 309° 308° 308° 308° 308° 308°		SHA 279° 279° 279° 279° 279° 279°		SHA 038° 036° 034° 032° 030° 028°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 13:52		Greenwich Culmination Time: 06:05								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	258 52.2 +00.8	S 13 04.7 -00.6	292 51.8 +02.4	S 20 52.2 +00.0	287 57.5 +02.5	S 19 50.7 +00.0	00						
01	273 53.0 +00.8	S 13 04.1 -00.5	307 54.2 +02.5	S 20 52.2 +00.0	302 60.0 +02.5	S 19 50.7 +00.0	01						
02	288 53.8 +00.8	S 13 03.6 -00.6	322 56.7 +02.5	S 20 52.2 +00.0	318 02.5 +02.4	S 19 50.7 +00.0	02						
03	303 54.6 +00.8	S 13 03.0 -00.5	337 59.2 +02.4	S 20 52.2 +00.0	333 04.9 +02.5	S 19 50.7 +00.0	03						
04	318 55.4 +00.8	S 13 02.5 -00.6	353 01.6 +02.5	S 20 52.2 +00.0	348 07.4 +02.5	S 19 50.7 +00.0	04						
05	333 56.2 +00.8	S 13 01.9 -00.5	8 04.1 +02.4	S 20 52.2 +00.0	3 09.9 +02.5	S 19 50.7 +00.0	05						
06	348 57.0 +00.8	S 13 01.4 -00.6	23 06.5 +02.5	S 20 52.2 +00.0	18 12.4 +02.5	S 19 50.7 +00.0	06						
07	3 57.8 +00.8	S 13 00.8 -00.5	38 09.0 +02.5	S 20 52.2 +00.0	33 14.9 +02.4	S 19 50.7 +00.0	07						
08	18 58.6 +00.8	S 13 00.3 -00.6	53 11.5 +02.4	S 20 52.2 +00.1	48 17.3 +02.5	S 19 50.7 +00.0	08						
09	33 59.4 +00.8	S 12 59.7 -00.5	68 13.9 +02.5	S 20 52.3 +00.0	63 19.8 +02.5	S 19 50.7 +00.1	09						
10	49 00.2 +00.8	S 12 59.2 -00.6	83 16.4 +02.4	S 20 52.3 +00.0	78 22.3 +02.5	S 19 50.8 +00.0	10						
11	64 01.0 +00.8	S 12 58.6 -00.5	98 18.8 +02.5	S 20 52.3 +00.0	93 24.8 +02.4	S 19 50.8 +00.0	11						
12	79 01.8 +00.8	S 12 58.1 -00.6	113 21.3 +02.5	S 20 52.3 +00.0	108 27.2 +02.5	S 19 50.8 +00.0	12						
13	94 02.6 +00.9	S 12 57.5 -00.6	128 23.8 +02.4	S 20 52.3 +00.0	123 29.7 +02.5	S 19 50.8 +00.0	13						
14	109 03.5 +00.8	S 12 56.9 -00.5	143 26.2 +02.5	S 20 52.3 +00.0	138 32.2 +02.5	S 19 50.8 +00.0	14						
15	124 04.3 +00.8	S 12 56.4 -00.6	158 28.7 +02.5	S 20 52.3 +00.0	153 34.7 +02.4	S 19 50.8 +00.0	15						
16	139 05.1 +00.8	S 12 55.8 -00.5	173 31.2 +02.4	S 20 52.3 +00.0	168 37.1 +02.5	S 19 50.8 +00.0	16						
17	154 05.9 +00.8	S 12 55.3 -00.6	188 33.6 +02.5	S 20 52.3 +00.0	183 39.6 +02.5	S 19 50.8 +00.0	17						
18	169 06.7 +00.8	S 12 54.7 -00.5	203 36.1 +02.4	S 20 52.3 +00.0	198 42.1 +02.5	S 19 50.8 +00.0	18						
19	184 07.5 +00.8	S 12 54.2 -00.6	218 38.5 +02.5	S 20 52.3 +00.0	213 44.6 +02.5	S 19 50.8 +00.0	19						
20	199 08.3 +00.8	S 12 53.6 -00.5	233 41.0 +02.5	S 20 52.3 +00.0	228 47.1 +02.4	S 19 50.8 +00.0	20						
21	214 09.1 +00.8	S 12 53.1 -00.6	248 43.5 +02.4	S 20 52.3 +00.0	243 49.5 +02.5	S 19 50.8 +00.0	21						
22	229 09.9 +00.8	S 12 52.5 -00.5	263 45.9 +02.5	S 20 52.3 +00.0	258 52.0 +02.5	S 19 50.8 +00.0	22						
23	244 10.7 +00.8	S 12 52.0 -00.6	278 48.4 +02.5	S 20 52.3 +00.1	273 54.5 +02.5	S 19 50.8 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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 027° 027° 026° 026° 026° 026°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:44		Greenwich Culmination Time: 04:27		Greenwich Culmination Time: 04:47								

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 54.7 -00.1	N 18 55.4 +00.6	152 24.5 +02.7	N 27 14.9 -00.3	260 08.7 -27.5	S 15 54.9 -09.5	00						
01	195 54.6 +00.0	N 18 56.0 +00.6	167 27.2 +02.6	N 27 14.6 -00.2	274 41.2 -27.3	S 15 45.4 -09.6	01						
02	210 54.6 +00.0	N 18 56.6 +00.6	182 29.8 +02.6	N 27 14.4 -00.3	289 13.9 -27.4	S 15 35.8 -09.6	02						
03	225 54.6 +00.0	N 18 57.2 +00.6	197 32.4 +02.7	N 27 14.1 -00.3	303 46.5 -27.2	S 15 26.2 -09.7	03						
04	240 54.6 +00.0	N 18 57.8 +00.6	212 35.1 +02.7	N 27 13.8 -00.2	318 19.3 -27.2	S 15 16.5 -09.8	04						
05	255 54.6 +00.0	N 18 58.4 +00.6	227 37.8 +02.6	N 27 13.6 -00.3	332 52.1 -27.1	S 15 06.7 -09.7	05						
06	270 54.6 +00.0	N 18 59.0 +00.5	242 40.4 +02.7	N 27 13.3 -00.3	347 25.0 -27.0	S 14 57.0 -09.9	06						
07	285 54.6 +00.0	N 18 59.5 +00.6	257 43.1 +02.6	N 27 13.0 -00.3	1 58.0 -27.0	S 14 47.1 -09.9	07						
08	300 54.6 +00.0	N 19 00.1 +00.6	272 45.7 +02.7	N 27 12.7 -00.2	16 31.0 -26.9	S 14 37.2 -10.0	08						
09	315 54.6 +00.0	N 19 00.7 +00.6	287 48.4 +02.7	N 27 12.5 -00.3	31 04.1 -26.9	S 14 27.2 -10.0	09						
10	330 54.6 -00.1	N 19 01.3 +00.6	302 51.1 +02.7	N 27 12.2 -00.3	45 37.2 -26.8	S 14 17.2 -10.1	10						
11	345 54.5 +00.0	N 19 01.9 +00.5	317 53.8 +02.7	N 27 11.9 -00.3	60 10.4 -26.7	S 14 07.1 -10.1	11						
12	0 54.5 +00.0	N 19 02.4 +00.6	332 56.5 +02.7	N 27 11.6 -00.3	74 43.7 -26.7	S 13 57.0 -10.2	12						
13	15 54.5 +00.0	N 19 03.0 +00.6	347 59.2 +02.7	N 27 11.3 -00.2	89 17.0 -26.6	S 13 46.8 -10.2	13						
14	30 54.5 +00.0	N 19 03.6 +00.6	3 01.9 +02.7	N 27 11.1 -00.3	103 50.4 -26.5	S 13 36.6 -10.2	14						
15	45 54.5 +00.0	N 19 04.2 +00.6	18 04.6 +02.7	N 27 10.8 -00.3	118 23.9 -26.5	S 13 26.4 -10.4	15						
16	60 54.5 +00.0	N 19 04.8 +00.5	33 07.3 +02.7	N 27 10.5 -00.3	132 57.4 -26.4	S 13 16.0 -10.3	16						
17	75 54.5 +00.0	N 19 05.3 +00.6	48 10.0 +02.7	N 27 10.2 -00.3	147 31.0 -26.4	S 13 05.7 -10.5	17						
18	90 54.5 +00.0	N 19 05.9 +00.6	63 12.7 +02.7	N 27 09.9 -00.3	162 04.6 -26.3	S 12 55.2 -10.4	18						
19	105 54.5 -00.1	N 19 06.5 +00.6	78 15.4 +02.8	N 27 09.6 -00.3	176 38.3 -26.3	S 12 44.8 -10.5	19						
20	120 54.4 +00.0	N 19 07.1 +00.5	93 18.2 +02.7	N 27 09.3 -00.3	191 12.0 -26.2	S 12 34.3 -10.6	20						
21	135 54.4 +00.0	N 19 07.6 +00.6	108 20.9 +02.7	N 27 09.0 -00.2	205 45.8 -26.1	S 12 23.7 -10.6	21						
22	150 54.4 +00.0	N 19 08.2 +00.6	123 23.6 +02.8	N 27 08.8 -00.3	220 19.7 -26.1	S 12 13.1 -10.6	22						
23	165 54.4 +00.0	N 19 08.8 +00.6	138 26.4 +02.7	N 27 08.5 -00.3	234 53.6 -26.0	S 12 02.5 -10.7	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° 307° 307° 307° 307° 307° Greenwich Culmination Time: 11:56	UT 02 06 10 14 18 22 SD 00'4 00'4 00'4 00'4 00'4 00'4 HP 00'4 00'4 00'4 00'4 00'4 00'4 SHA 279° 279° 279° 279° 279° 279° Greenwich Culmination Time: 13:47	UT 02 06 10 14 18 22 SD 14'9 14'9 14'9 14'9 14'9 14'8 HP 54'8 54'8 54'7 54'6 54'5 54'5 SHA 026° 024° 022° 020° 018° 016° Greenwich Culmination Time: 06:51										
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	259 11.5 +00.8	S 12 51.4 -00.5	293 50.9 +02.4	S 20 52.4 +00.0	288 57.0 +02.5	S 19 50.9 +00.0	00						
01	274 12.3 +00.8	S 12 50.9 -00.6	308 53.3 +02.5	S 20 52.4 +00.0	303 59.5 +02.4	S 19 50.9 +00.0	01						
02	289 13.1 +00.9	S 12 50.3 -00.5	323 55.8 +02.5	S 20 52.4 +00.0	319 01.9 +02.5	S 19 50.9 +00.0	02						
03	304 14.0 +00.8	S 12 49.8 -00.6	338 58.3 +02.4	S 20 52.4 +00.0	334 04.4 +02.5	S 19 50.9 +00.0	03						
04	319 14.8 +00.8	S 12 49.2 -00.5	354 00.7 +02.5	S 20 52.4 +00.0	349 06.9 +02.5	S 19 50.9 +00.0	04						
05	334 15.6 +00.8	S 12 48.7 -00.6	9 03.2 +02.5	S 20 52.4 +00.0	4 09.4 +02.5	S 19 50.9 +00.0	05						
06	349 16.4 +00.8	S 12 48.1 -00.5	24 05.7 +02.4	S 20 52.4 +00.0	19 11.9 +02.4	S 19 50.9 +00.0	06						
07	4 17.2 +00.8	S 12 47.6 -00.6	39 08.1 +02.5	S 20 52.4 +00.0	34 14.3 +02.5	S 19 50.9 +00.0	07						
08	19 18.0 +00.8	S 12 47.0 -00.6	54 10.6 +02.5	S 20 52.4 +00.0	49 16.8 +02.5	S 19 50.9 +00.0	08						
09	34 18.8 +00.8	S 12 46.4 -00.5	69 13.1 +02.4	S 20 52.4 +00.0	64 19.3 +02.5	S 19 50.9 +00.0	09						
10	49 19.6 +00.8	S 12 45.9 -00.6	84 15.5 +02.5	S 20 52.4 +00.0	79 21.8 +02.5	S 19 50.9 +00.0	10						
11	64 20.4 +00.9	S 12 45.3 -00.5	99 18.0 +02.5	S 20 52.4 +00.0	94 24.3 +02.4	S 19 50.9 +00.0	11						
12	79 21.3 +00.8	S 12 44.8 -00.6	114 20.5 +02.5	S 20 52.4 +00.1	109 26.7 +02.5	S 19 50.9 +00.0	12						
13	94 22.1 +00.8	S 12 44.2 -00.5	129 23.0 +02.4	S 20 52.5 +00.0	124 29.2 +02.5	S 19 50.9 +00.1	13						
14	109 22.9 +00.8	S 12 43.7 -00.6	144 25.4 +02.5	S 20 52.5 +00.0	139 31.7 +02.5	S 19 51.0 +00.0	14						
15	124 23.7 +00.8	S 12 43.1 -00.5	159 27.9 +02.5	S 20 52.5 +00.0	154 34.2 +02.5	S 19 51.0 +00.0	15						
16	139 24.5 +00.8	S 12 42.6 -00.6	174 30.4 +02.4	S 20 52.5 +00.0	169 36.7 +02.4	S 19 51.0 +00.0	16						
17	154 25.3 +00.8	S 12 42.0 -00.5	189 32.8 +02.5	S 20 52.5 +00.0	184 39.1 +02.5	S 19 51.0 +00.0	17						
18	169 26.1 +00.8	S 12 41.5 -00.6	204 35.3 +02.5	S 20 52.5 +00.0	199 41.6 +02.5	S 19 51.0 +00.0	18						
19	184 26.9 +00.8	S 12 40.9 -00.6	219 37.8 +02.5	S 20 52.5 +00.0	214 44.1 +02.5	S 19 51.0 +00.0	19						
20	199 27.7 +00.9	S 12 40.3 -00.5	234 40.3 +02.4	S 20 52.5 +00.0	229 46.6 +02.5	S 19 51.0 +00.0	20						
21	214 28.6 +00.8	S 12 39.8 -00.6	249 42.7 +02.5	S 20 52.5 +00.0	244 49.1 +02.5	S 19 51.0 +00.0	21						
22	229 29.4 +00.8	S 12 39.2 -00.5	264 45.2 +02.5	S 20 52.5 +00.0	259 51.6 +02.4	S 19 51.0 +00.0	22						
23	244 30.2 +00.8	S 12 38.7 -00.6	279 47.7 +02.5	S 20 52.5 +00.0	274 54.0 +02.5	S 19 51.0 +00.0	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 026° 026° 026° 026° 026° 025° Greenwich Culmination Time: 06:42	UT 02 06 10 14 18 22 SD 00'4 00'4 00'4 00'4 00'4 00'4 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 061° 061° 061° 061° 061° 061° Greenwich Culmination Time: 04:23	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 056° 056° 056° 056° 056° 056° Greenwich Culmination Time: 04:43										

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 54.4 +00.0	N 19 09.4 +00.5	153 29.1 +02.8	N 27 08.2 -00.3	249 27.6 -26.0	S 11 51.8 -10.7	00						
01	195 54.4 +00.0	N 19 09.9 +00.6	168 31.9 +02.7	N 27 07.9 -00.3	264 01.6 -26.0	S 11 41.1 -10.8	01						
02	210 54.4 -00.1	N 19 10.5 +00.6	183 34.6 +02.8	N 27 07.6 -00.3	278 35.6 -25.9	S 11 30.3 -10.8	02						
03	225 54.3 +00.0	N 19 11.1 +00.6	198 37.4 +02.7	N 27 07.3 -00.3	293 09.7 -25.8	S 11 19.5 -10.9	03						
04	240 54.3 +00.0	N 19 11.7 +00.5	213 40.1 +02.8	N 27 07.0 -00.3	307 43.9 -25.8	S 11 08.6 -10.9	04						
05	255 54.3 +00.0	N 19 12.2 +00.6	228 42.9 +02.8	N 27 06.7 -00.3	322 18.1 -25.7	S 10 57.7 -10.9	05						
06	270 54.3 +00.0	N 19 12.8 +00.6	243 45.7 +02.7	N 27 06.4 -00.3	336 52.4 -25.7	S 10 46.8 -11.0	06						
07	285 54.3 +00.0	N 19 13.4 +00.5	258 48.4 +02.8	N 27 06.1 -00.3	351 26.7 -25.7	S 10 35.8 -11.0	07						
08	300 54.3 +00.0	N 19 13.9 +00.6	273 51.2 +02.8	N 27 05.8 -00.3	6 01.0 -25.6	S 10 24.8 -11.0	08						
09	315 54.3 -00.1	N 19 14.5 +00.6	288 54.0 +02.8	N 27 05.5 -00.3	20 35.4 -25.5	S 10 13.8 -11.1	09						
10	330 54.2 +00.0	N 19 15.1 +00.5	303 56.8 +02.8	N 27 05.2 -00.4	35 09.9 -25.6	S 10 02.7 -11.1	10						
11	345 54.2 +00.0	N 19 15.6 +00.6	318 59.6 +02.8	N 27 04.8 -00.3	49 44.3 -25.4	S 09 51.6 -11.1	11						
12	0 54.2 +00.0	N 19 16.2 +00.6	334 02.4 +02.8	N 27 04.5 -00.3	64 18.9 -25.5	S 09 40.5 -11.2	12						
13	15 54.2 +00.0	N 19 16.8 +00.5	349 05.2 +02.8	N 27 04.2 -00.3	78 53.4 -25.4	S 09 29.3 -11.2	13						
14	30 54.2 +00.0	N 19 17.3 +00.6	4 08.0 +02.8	N 27 03.9 -00.3	93 28.0 -25.3	S 09 18.1 -11.3	14						
15	45 54.2 -00.1	N 19 17.9 +00.6	19 10.8 +02.8	N 27 03.6 -00.3	108 02.7 -25.3	S 09 06.8 -11.2	15						
16	60 54.1 +00.0	N 19 18.5 +00.5	34 13.6 +02.9	N 27 03.3 -00.3	122 37.4 -25.3	S 08 55.6 -11.3	16						
17	75 54.1 +00.0	N 19 19.0 +00.6	49 16.5 +02.8	N 27 03.0 -00.3	137 12.1 -25.3	S 08 44.3 -11.4	17						
18	90 54.1 +00.0	N 19 19.6 +00.6	64 19.3 +02.8	N 27 02.7 -00.4	151 46.8 -25.2	S 08 32.9 -11.3	18						
19	105 54.1 +00.0	N 19 20.2 +00.5	79 22.1 +02.9	N 27 02.3 -00.3	166 21.6 -25.1	S 08 21.6 -11.4	19						
20	120 54.1 -00.1	N 19 20.7 +00.6	94 25.0 +02.8	N 27 02.0 -00.3	180 56.5 -25.2	S 08 10.2 -11.4	20						
21	135 54.0 +00.0	N 19 21.3 +00.5	109 27.8 +02.8	N 27 01.7 -00.3	195 31.3 -25.1	S 07 58.8 -11.5	21						
22	150 54.0 +00.0	N 19 21.8 +00.6	124 30.6 +02.9	N 27 01.4 -00.3	210 06.2 -25.0	S 07 47.3 -11.5	22						
23	165 54.0 +00.0	N 19 22.4 +00.6	139 33.5 +02.8	N 27 01.1 -00.4	224 41.2 -25.1	S 07 35.8 -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 00'4 00'4 00'4 00'4 00'4 00'4		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 00'4 00'4 00'4 00'4 00'4 00'4		HP 54'4 54'4 54'3 54'3 54'2 54'2								
	SHA 307° 306° 306° 306° 306° 306°		SHA 279° 279° 279° 279° 279° 279°		SHA 014° 012° 011° 009° 007° 005°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 13:43		Greenwich Culmination Time: 07:35								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	259 31.0 +00.8	S 12 38.1 -00.5	294 50.2 +02.4	S 20 52.5 +00.1	289 56.5 +02.5	S 19 51.0 +00.0	00						
01	274 31.8 +00.8	S 12 37.6 -00.6	309 52.6 +02.5	S 20 52.6 +00.0	304 59.0 +02.5	S 19 51.0 +00.1	01						
02	289 32.6 +00.8	S 12 37.0 -00.5	324 55.1 +02.5	S 20 52.6 +00.0	320 01.5 +02.5	S 19 51.1 +00.0	02						
03	304 33.4 +00.9	S 12 36.5 -00.6	339 57.6 +02.5	S 20 52.6 +00.0	335 04.0 +02.5	S 19 51.1 +00.0	03						
04	319 34.3 +00.8	S 12 35.9 -00.5	355 00.1 +02.4	S 20 52.6 +00.0	350 06.5 +02.5	S 19 51.1 +00.0	04						
05	334 35.1 +00.8	S 12 35.4 -00.6	10 02.5 +02.5	S 20 52.6 +00.0	5 09.0 +02.4	S 19 51.1 +00.0	05						
06	349 35.9 +00.8	S 12 34.8 -00.6	25 05.0 +02.5	S 20 52.6 +00.0	20 11.4 +02.5	S 19 51.1 +00.0	06						
07	4 36.7 +00.8	S 12 34.2 -00.5	40 07.5 +02.5	S 20 52.6 +00.0	35 13.9 +02.5	S 19 51.1 +00.0	07						
08	19 37.5 +00.8	S 12 33.7 -00.6	55 10.0 +02.4	S 20 52.6 +00.0	50 16.4 +02.5	S 19 51.1 +00.0	08						
09	34 38.3 +00.8	S 12 33.1 -00.5	70 12.4 +02.5	S 20 52.6 +00.0	65 18.9 +02.5	S 19 51.1 +00.0	09						
10	49 39.1 +00.9	S 12 32.6 -00.6	85 14.9 +02.5	S 20 52.6 +00.0	80 21.4 +02.5	S 19 51.1 +00.0	10						
11	64 40.0 +00.8	S 12 32.0 -00.5	100 17.4 +02.5	S 20 52.6 +00.1	95 23.9 +02.4	S 19 51.1 +00.0	11						
12	79 40.8 +00.8	S 12 31.5 -00.6	115 19.9 +02.5	S 20 52.7 +00.0	110 26.3 +02.5	S 19 51.1 +00.0	12						
13	94 41.6 +00.8	S 12 30.9 -00.6	130 22.4 +02.4	S 20 52.7 +00.0	125 28.8 +02.5	S 19 51.1 +00.1	13						
14	109 42.4 +00.8	S 12 30.3 -00.5	145 24.8 +02.5	S 20 52.7 +00.0	140 31.3 +02.5	S 19 51.2 +00.0	14						
15	124 43.2 +00.8	S 12 29.8 -00.6	160 27.3 +02.5	S 20 52.7 +00.0	155 33.8 +02.5	S 19 51.2 +00.0	15						
16	139 44.0 +00.9	S 12 29.2 -00.5	175 29.8 +02.5	S 20 52.7 +00.0	170 36.3 +02.5	S 19 51.2 +00.0	16						
17	154 44.9 +00.8	S 12 28.7 -00.6	190 32.3 +02.5	S 20 52.7 +00.0	185 38.8 +02.5	S 19 51.2 +00.0	17						
18	169 45.7 +00.8	S 12 28.1 -00.5	205 34.8 +02.4	S 20 52.7 +00.0	200 41.3 +02.4	S 19 51.2 +00.0	18						
19	184 46.5 +00.8	S 12 27.6 -00.6	220 37.2 +02.5	S 20 52.7 +00.0	215 43.7 +02.5	S 19 51.2 +00.0	19						
20	199 47.3 +00.8	S 12 27.0 -00.6	235 39.7 +02.5	S 20 52.7 +00.0	230 46.2 +02.5	S 19 51.2 +00.0	20						
21	214 48.1 +00.8	S 12 26.4 -00.5	250 42.2 +02.5	S 20 52.7 +00.0	245 48.7 +02.5	S 19 51.2 +00.0	21						
22	229 48.9 +00.9	S 12 25.9 -00.6	265 44.7 +02.5	S 20 52.7 +00.1	260 51.2 +02.5	S 19 51.2 +00.0	22						
23	244 49.8 +00.8	S 12 25.3 -00.5	280 47.2 +02.4	S 20 52.8 +00.0	275 53.7 +02.5	S 19 51.2 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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 025° 025° 025° 025° 025° 025°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:41		Greenwich Culmination Time: 04:19		Greenwich Culmination Time: 04:39								

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 19 23.0 +00.5	154 36.3 +02.9	N 27 00.7 -00.3	239 16.1 -25.0	S 07 24.3 -11.5	00						
01	195 54.0 -00.1	N 19 23.5 +00.6	169 39.2 +02.9	N 27 00.4 -00.3	253 51.1 -25.0	S 07 12.8 -11.5	01						
02	210 53.9 +00.0	N 19 24.1 +00.5	184 42.1 +02.8	N 27 00.1 -00.3	268 26.1 -24.9	S 07 01.3 -11.6	02						
03	225 53.9 +00.0	N 19 24.6 +00.6	199 44.9 +02.9	N 26 59.8 -00.4	283 01.2 -24.9	S 06 49.7 -11.6	03						
04	240 53.9 +00.0	N 19 25.2 +00.6	214 47.8 +02.9	N 26 59.4 -00.3	297 36.3 -24.9	S 06 38.1 -11.6	04						
05	255 53.9 +00.0	N 19 25.8 +00.5	229 50.7 +02.9	N 26 59.1 -00.3	312 11.4 -24.9	S 06 26.5 -11.7	05						
06	270 53.9 -00.1	N 19 26.3 +00.6	244 53.6 +02.9	N 26 58.8 -00.4	326 46.5 -24.9	S 06 14.8 -11.6	06						
07	285 53.8 +00.0	N 19 26.9 +00.5	259 56.5 +02.9	N 26 58.4 -00.3	341 21.6 -24.8	S 06 03.2 -11.7	07						
08	300 53.8 +00.0	N 19 27.4 +00.6	274 59.4 +02.8	N 26 58.1 -00.3	355 56.8 -24.8	S 05 51.5 -11.7	08						
09	315 53.8 +00.0	N 19 28.0 +00.5	290 02.2 +02.9	N 26 57.8 -00.4	10 32.0 -24.8	S 05 39.8 -11.8	09						
10	330 53.8 -00.1	N 19 28.5 +00.6	305 05.1 +03.0	N 26 57.4 -00.3	25 07.2 -24.7	S 05 28.0 -11.7	10						
11	345 53.7 +00.0	N 19 29.1 +00.5	320 08.1 +02.9	N 26 57.1 -00.3	39 42.5 -24.7	S 05 16.3 -11.8	11						
12	0 53.7 +00.0	N 19 29.6 +00.6	335 11.0 +02.9	N 26 56.8 -00.4	54 17.8 -24.8	S 05 04.5 -11.8	12						
13	15 53.7 +00.0	N 19 30.2 +00.5	350 13.9 +02.9	N 26 56.4 -00.3	68 53.0 -24.7	S 04 52.7 -11.8	13						
14	30 53.7 +00.0	N 19 30.7 +00.6	5 16.8 +02.9	N 26 56.1 -00.3	83 28.3 -24.6	S 04 40.9 -11.8	14						
15	45 53.7 -00.1	N 19 31.3 +00.6	20 19.7 +02.9	N 26 55.8 -00.4	98 03.7 -24.7	S 04 29.1 -11.8	15						
16	60 53.6 +00.0	N 19 31.9 +00.5	35 22.6 +03.0	N 26 55.4 -00.3	112 39.0 -24.6	S 04 17.3 -11.8	16						
17	75 53.6 +00.0	N 19 32.4 +00.6	50 25.6 +02.9	N 26 55.1 -00.4	127 14.4 -24.7	S 04 05.5 -11.9	17						
18	90 53.6 +00.0	N 19 33.0 +00.5	65 28.5 +03.0	N 26 54.7 -00.3	141 49.7 -24.6	S 03 53.6 -11.9	18						
19	105 53.6 -00.1	N 19 33.5 +00.5	80 31.5 +02.9	N 26 54.4 -00.4	156 25.1 -24.6	S 03 41.7 -11.9	19						
20	120 53.5 +00.0	N 19 34.0 +00.6	95 34.4 +03.0	N 26 54.0 -00.3	171 00.5 -24.6	S 03 29.8 -11.9	20						
21	135 53.5 +00.0	N 19 34.6 +00.5	110 37.4 +02.9	N 26 53.7 -00.4	185 35.9 -24.6	S 03 17.9 -11.9	21						
22	150 53.5 +00.0	N 19 35.1 +00.6	125 40.3 +03.0	N 26 53.3 -00.3	200 11.3 -24.5	S 03 06.0 -11.9	22						
23	165 53.5 -00.1	N 19 35.7 +00.5	140 43.3 +02.9	N 26 53.0 -00.4	214 46.8 -24.6	S 02 54.1 -11.9	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 00'4 00'4 00'4 00'4 00'4 00'4		SD 14'8 14'7 14'7 14'7 14'7 14'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'4 00'4 00'4 00'4 00'4 00'4		HP 54'1 54'1 54'1 54'1 54'1 54'0								
	SHA 306° 306° 305° 305° 305° 305°		SHA 279° 279° 280° 280° 280° 280°		SHA 003° 001° 360° 358° 356° 354°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 13:38		Greenwich Culmination Time: 08:16								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	259 50.6 +00.8	S 12 24.8 -00.6	295 49.6 +02.5	S 20 52.8 +00.0	290 56.2 +02.5	S 19 51.2 +00.1	00						
01	274 51.4 +00.8	S 12 24.2 -00.5	310 52.1 +02.5	S 20 52.8 +00.0	305 58.7 +02.5	S 19 51.3 +00.0	01						
02	289 52.2 +00.8	S 12 23.7 -00.6	325 54.6 +02.5	S 20 52.8 +00.0	321 01.2 +02.5	S 19 51.3 +00.0	02						
03	304 53.0 +00.8	S 12 23.1 -00.6	340 57.1 +02.5	S 20 52.8 +00.0	336 03.7 +02.4	S 19 51.3 +00.0	03						
04	319 53.8 +00.9	S 12 22.5 -00.5	355 59.6 +02.5	S 20 52.8 +00.0	351 06.1 +02.5	S 19 51.3 +00.0	04						
05	334 54.7 +00.8	S 12 22.0 -00.6	11 02.1 +02.4	S 20 52.8 +00.0	6 08.6 +02.5	S 19 51.3 +00.0	05						
06	349 55.5 +00.8	S 12 21.4 -00.5	26 04.5 +02.5	S 20 52.8 +00.0	21 11.1 +02.5	S 19 51.3 +00.0	06						
07	4 56.3 +00.8	S 12 20.9 -00.6	41 07.0 +02.5	S 20 52.8 +00.1	36 13.6 +02.5	S 19 51.3 +00.0	07						
08	19 57.1 +00.8	S 12 20.3 -00.6	56 09.5 +02.5	S 20 52.9 +00.0	51 16.1 +02.5	S 19 51.3 +00.0	08						
09	34 57.9 +00.9	S 12 19.7 -00.5	71 12.0 +02.5	S 20 52.9 +00.0	66 18.6 +02.5	S 19 51.3 +00.0	09						
10	49 58.8 +00.8	S 12 19.2 -00.6	86 14.5 +02.5	S 20 52.9 +00.0	81 21.1 +02.5	S 19 51.3 +00.1	10						
11	64 59.6 +00.8	S 12 18.6 -00.5	101 17.0 +02.5	S 20 52.9 +00.0	96 23.6 +02.5	S 19 51.4 +00.0	11						
12	80 00.4 +00.8	S 12 18.1 -00.6	116 19.5 +02.4	S 20 52.9 +00.0	111 26.1 +02.4	S 19 51.4 +00.0	12						
13	95 01.2 +00.8	S 12 17.5 -00.5	131 21.9 +02.5	S 20 52.9 +00.0	126 28.5 +02.5	S 19 51.4 +00.0	13						
14	110 02.0 +00.9	S 12 17.0 -00.6	146 24.4 +02.5	S 20 52.9 +00.0	141 31.0 +02.5	S 19 51.4 +00.0	14						
15	125 02.9 +00.8	S 12 16.4 -00.6	161 26.9 +02.5	S 20 52.9 +00.0	156 33.5 +02.5	S 19 51.4 +00.0	15						
16	140 03.7 +00.8	S 12 15.8 -00.5	176 29.4 +02.5	S 20 52.9 +00.1	171 36.0 +02.5	S 19 51.4 +00.0	16						
17	155 04.5 +00.8	S 12 15.3 -00.6	191 31.9 +02.5	S 20 53.0 +00.0	186 38.5 +02.5	S 19 51.4 +00.0	17						
18	170 05.3 +00.9	S 12 14.7 -00.5	206 34.4 +02.5	S 20 53.0 +00.0	201 41.0 +02.5	S 19 51.4 +00.0	18						
19	185 06.2 +00.8	S 12 14.2 -00.6	221 36.9 +02.5	S 20 53.0 +00.0	216 43.5 +02.5	S 19 51.4 +00.0	19						
20	200 07.0 +00.8	S 12 13.6 -00.6	236 39.4 +02.5	S 20 53.0 +00.0	231 46.0 +02.5	S 19 51.4 +00.0	20						
21	215 07.8 +00.8	S 12 13.0 -00.5	251 41.9 +02.4	S 20 53.0 +00.0	246 48.5 +02.5	S 19 51.4 +00.1	21						
22	230 08.6 +00.8	S 12 12.5 -00.6	266 44.3 +02.5	S 20 53.0 +00.0	261 51.0 +02.5	S 19 51.5 +00.0	22						
23	245 09.4 +00.9	S 12 11.9 -00.5	281 46.8 +02.5	S 20 53.0 +00.0	276 53.5 +02.4	S 19 51.5 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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 025° 025° 024° 024° 024° 024°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:40		Greenwich Culmination Time: 04:15		Greenwich Culmination Time: 04:35								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 53.4 +00.0	N 19 36.2 +00.6	155 46.2 +03.0	N 26 52.6 -00.3	229 22.2 -24.5	S 02 42.2 -12.0	00						
01	195 53.4 +00.0	N 19 36.8 +00.5	170 49.2 +03.0	N 26 52.3 -00.4	243 57.7 -24.6	S 02 30.2 -12.0	01						
02	210 53.4 +00.0	N 19 37.3 +00.6	185 52.2 +03.0	N 26 51.9 -00.3	258 33.1 -24.5	S 02 18.2 -11.9	02						
03	225 53.4 -00.1	N 19 37.9 +00.5	200 55.2 +02.9	N 26 51.6 -00.4	273 08.6 -24.6	S 02 06.3 -12.0	03						
04	240 53.3 +00.0	N 19 38.4 +00.6	215 58.1 +03.0	N 26 51.2 -00.3	287 44.0 -24.5	S 01 54.3 -12.0	04						
05	255 53.3 +00.0	N 19 39.0 +00.5	231 01.1 +03.0	N 26 50.9 -00.4	302 19.5 -24.5	S 01 42.3 -12.0	05						
06	270 53.3 -00.1	N 19 39.5 +00.5	246 04.1 +03.0	N 26 50.5 -00.4	316 55.0 -24.5	S 01 30.3 -12.0	06						
07	285 53.2 +00.0	N 19 40.0 +00.6	261 07.1 +03.0	N 26 50.1 -00.3	331 30.5 -24.5	S 01 18.3 -12.0	07						
08	300 53.2 +00.0	N 19 40.6 +00.5	276 10.1 +03.0	N 26 49.8 -00.4	346 06.0 -24.6	S 01 06.3 -12.0	08						
09	315 53.2 +00.0	N 19 41.1 +00.6	291 13.1 +03.0	N 26 49.4 -00.3	0 41.4 -24.5	S 00 54.3 -12.0	09						
10	330 53.2 -00.1	N 19 41.7 +00.5	306 16.1 +03.0	N 26 49.1 -00.4	15 16.9 -24.5	S 00 42.3 -12.0	10						
11	345 53.1 +00.0	N 19 42.2 +00.5	321 19.1 +03.1	N 26 48.7 -00.4	29 52.4 -24.5	S 00 30.3 -12.0	11						
12	0 53.1 +00.0	N 19 42.7 +00.6	336 22.2 +03.0	N 26 48.3 -00.3	44 27.9 -24.5	S 00 18.3 -12.0	12						
13	15 53.1 -00.1	N 19 43.3 +00.5	351 25.2 +03.0	N 26 48.0 -00.4	59 03.4 -24.6	S 00 06.3 -12.1	13						
14	30 53.0 +00.0	N 19 43.8 +00.6	6 28.2 +03.1	N 26 47.6 -00.4	73 38.8 -24.5	N 00 05.8 +12.0	14						
15	45 53.0 +00.0	N 19 44.4 +00.5	21 31.3 +03.0	N 26 47.2 -00.4	88 14.3 -24.5	N 00 17.8 +12.0	15						
16	60 53.0 +00.0	N 19 44.9 +00.5	36 34.3 +03.0	N 26 46.8 -00.3	102 49.8 -24.6	N 00 29.8 +12.0	16						
17	75 53.0 -00.1	N 19 45.4 +00.6	51 37.3 +03.1	N 26 46.5 -00.4	117 25.2 -24.5	N 00 41.8 +12.1	17						
18	90 52.9 +00.0	N 19 46.0 +00.5	66 40.4 +03.0	N 26 46.1 -00.4	132 00.7 -24.5	N 00 53.9 +12.0	18						
19	105 52.9 +00.0	N 19 46.5 +00.5	81 43.4 +03.1	N 26 45.7 -00.4	146 36.2 -24.6	N 01 05.9 +12.0	19						
20	120 52.9 -00.1	N 19 47.0 +00.6	96 46.5 +03.0	N 26 45.3 -00.3	161 11.6 -24.6	N 01 17.9 +12.0	20						
21	135 52.8 +00.0	N 19 47.6 +00.5	111 49.5 +03.1	N 26 45.0 -00.4	175 47.0 -24.6	N 01 29.9 +12.0	21						
22	150 52.8 +00.0	N 19 48.1 +00.5	126 52.6 +03.0	N 26 44.6 -00.4	190 22.4 -24.6	N 01 41.9 +12.1	22						
23	165 52.8 -00.1	N 19 48.6 +00.6	141 55.7 +03.0	N 26 44.2 -00.4	204 57.8 -24.6	N 01 54.0 +12.0	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 00'4 00'4 00'4 00'4 00'4 00'4		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 00'4 00'4 00'4 00'4 00'4 00'5		HP 54'0 54'0 54'0 54'0 54'0 54'1								
	SHA 305° 305° 304° 304° 304° 304°		SHA 280° 280° 280° 280° 280° 280°		SHA 352° 351° 349° 347° 345° 343°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 13:34		Greenwich Culmination Time: 08:57								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	260 10.3 +00.8	S 12 11.4 -00.6	296 49.3 +02.5	S 20 53.0 +00.0	291 55.9 +02.5	S 19 51.5 +00.0	00						
01	275 11.1 +00.8	S 12 10.8 -00.6	311 51.8 +02.5	S 20 53.0 +00.1	306 58.4 +02.5	S 19 51.5 +00.0	01						
02	290 11.9 +00.8	S 12 10.2 -00.5	326 54.3 +02.5	S 20 53.1 +00.0	322 00.9 +02.5	S 19 51.5 +00.0	02						
03	305 12.7 +00.9	S 12 09.7 -00.6	341 56.8 +02.5	S 20 53.1 +00.0	337 03.4 +02.5	S 19 51.5 +00.0	03						
04	320 13.6 +00.8	S 12 09.1 -00.5	356 59.3 +02.5	S 20 53.1 +00.0	352 05.9 +02.5	S 19 51.5 +00.0	04						
05	335 14.4 +00.8	S 12 08.6 -00.6	12 01.8 +02.5	S 20 53.1 +00.0	7 08.4 +02.5	S 19 51.5 +00.0	05						
06	350 15.2 +00.8	S 12 08.0 -00.6	27 04.3 +02.5	S 20 53.1 +00.0	22 10.9 +02.5	S 19 51.5 +00.0	06						
07	5 16.0 +00.8	S 12 07.4 -00.5	42 06.8 +02.5	S 20 53.1 +00.0	37 13.4 +02.5	S 19 51.5 +00.1	07						
08	20 16.8 +00.9	S 12 06.9 -00.6	57 09.3 +02.5	S 20 53.1 +00.0	52 15.9 +02.5	S 19 51.6 +00.0	08						
09	35 17.7 +00.8	S 12 06.3 -00.6	72 11.8 +02.5	S 20 53.1 +00.1	67 18.4 +02.5	S 19 51.6 +00.0	09						
10	50 18.5 +00.8	S 12 05.7 -00.5	87 14.3 +02.4	S 20 53.2 +00.0	82 20.9 +02.5	S 19 51.6 +00.0	10						
11	65 19.3 +00.8	S 12 05.2 -00.6	102 16.7 +02.5	S 20 53.2 +00.0	97 23.4 +02.5	S 19 51.6 +00.0	11						
12	80 20.1 +00.9	S 12 04.6 -00.5	117 19.2 +02.5	S 20 53.2 +00.0	112 25.9 +02.5	S 19 51.6 +00.0	12						
13	95 21.0 +00.8	S 12 04.1 -00.6	132 21.7 +02.5	S 20 53.2 +00.0	127 28.4 +02.4	S 19 51.6 +00.0	13						
14	110 21.8 +00.8	S 12 03.5 -00.6	147 24.2 +02.5	S 20 53.2 +00.0	142 30.8 +02.5	S 19 51.6 +00.0	14						
15	125 22.6 +00.8	S 12 02.9 -00.5	162 26.7 +02.5	S 20 53.2 +00.0	157 33.3 +02.5	S 19 51.6 +00.0	15						
16	140 23.4 +00.9	S 12 02.4 -00.6	177 29.2 +02.5	S 20 53.2 +00.0	172 35.8 +02.5	S 19 51.6 +00.1	16						
17	155 24.3 +00.8	S 12 01.8 -00.5	192 31.7 +02.5	S 20 53.2 +00.1	187 38.3 +02.5	S 19 51.7 +00.0	17						
18	170 25.1 +00.8	S 12 01.3 -00.6	207 34.2 +02.5	S 20 53.3 +00.0	202 40.8 +02.5	S 19 51.7 +00.0	18						
19	185 25.9 +00.9	S 12 00.7 -00.6	222 36.7 +02.5	S 20 53.3 +00.0	217 43.3 +02.5	S 19 51.7 +00.0	19						
20	200 26.8 +00.8	S 12 00.1 -00.5	237 39.2 +02.5	S 20 53.3 +00.0	232 45.8 +02.5	S 19 51.7 +00.0	20						
21	215 27.6 +00.8	S 11 59.6 -00.6	252 41.7 +02.5	S 20 53.3 +00.0	247 48.3 +02.5	S 19 51.7 +00.0	21						
22	230 28.4 +00.8	S 11 59.0 -00.6	267 44.2 +02.5	S 20 53.3 +00.0	262 50.8 +02.5	S 19 51.7 +00.0	22						
23	245 29.2 +00.9	S 11 58.4 -00.5	282 46.7 +02.5	S 20 53.3 +00.0	277 53.3 +02.5	S 19 51.7 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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 024° 024° 024° 024° 024° 023°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:38		Greenwich Culmination Time: 04:12		Greenwich Culmination Time: 04:31								



UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float:right">A: 90%</span>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	180 52.7 +00.0	N 19 49.2 +00.5	156 58.7 +03.1	N 26 43.8 -00.4	219 33.2 -24.6	N 02 06.0 +12.0	00						
01	195 52.7 +00.0	N 19 49.7 +00.5	172 01.8 +03.1	N 26 43.4 -00.3	234 08.6 -24.6	N 02 18.0 +12.0	01						
02	210 52.7 -00.1	N 19 50.2 +00.6	187 04.9 +03.1	N 26 43.1 -00.4	248 44.0 -24.6	N 02 30.0 +12.0	02						
03	225 52.6 +00.0	N 19 50.8 +00.5	202 08.0 +03.1	N 26 42.7 -00.4	263 19.4 -24.7	N 02 42.0 +11.9	03						
04	240 52.6 +00.0	N 19 51.3 +00.5	217 11.1 +03.1	N 26 42.3 -00.4	277 54.7 -24.7	N 02 53.9 +12.0	04						
05	255 52.6 -00.1	N 19 51.8 +00.6	232 14.2 +03.1	N 26 41.9 -00.4	292 30.0 -24.7	N 03 05.9 +12.0	05						
06	270 52.5 +00.0	N 19 52.4 +00.5	247 17.3 +03.1	N 26 41.5 -00.4	307 05.3 -24.7	N 03 17.9 +12.0	06						
07	285 52.5 +00.0	N 19 52.9 +00.5	262 20.4 +03.1	N 26 41.1 -00.4	321 40.6 -24.7	N 03 29.9 +11.9	07						
08	300 52.5 -00.1	N 19 53.4 +00.5	277 23.5 +03.1	N 26 40.7 -00.4	336 15.9 -24.8	N 03 41.8 +11.9	08						
09	315 52.4 +00.0	N 19 53.9 +00.6	292 26.6 +03.1	N 26 40.3 -00.3	350 51.1 -24.7	N 03 53.7 +12.0	09						
10	330 52.4 +00.0	N 19 54.5 +00.5	307 29.7 +03.2	N 26 40.0 -00.4	5 26.4 -24.8	N 04 05.7 +11.9	10						
11	345 52.4 -00.1	N 19 55.0 +00.5	322 32.9 +03.1	N 26 39.6 -00.4	20 01.6 -24.9	N 04 17.6 +11.9	11						
12	0 52.3 +00.0	N 19 55.5 +00.5	337 36.0 +03.1	N 26 39.2 -00.4	34 36.7 -24.8	N 04 29.5 +11.9	12						
13	15 52.3 +00.0	N 19 56.0 +00.6	352 39.1 +03.2	N 26 38.8 -00.4	49 11.9 -24.9	N 04 41.4 +11.9	13						
14	30 52.3 -00.1	N 19 56.6 +00.5	7 42.3 +03.1	N 26 38.4 -00.4	63 47.0 -24.9	N 04 53.3 +11.8	14						
15	45 52.2 +00.0	N 19 57.1 +00.5	22 45.4 +03.1	N 26 38.0 -00.4	78 22.1 -24.9	N 05 05.1 +11.9	15						
16	60 52.2 +00.0	N 19 57.6 +00.5	37 48.5 +03.2	N 26 37.6 -00.4	92 57.2 -24.9	N 05 17.0 +11.8	16						
17	75 52.2 -00.1	N 19 58.1 +00.6	52 51.7 +03.1	N 26 37.2 -00.4	107 32.3 -25.0	N 05 28.8 +11.8	17						
18	90 52.1 +00.0	N 19 58.7 +00.5	67 54.8 +03.2	N 26 36.8 -00.4	122 07.3 -25.0	N 05 40.6 +11.8	18						
19	105 52.1 +00.0	N 19 59.2 +00.5	82 58.0 +03.2	N 26 36.4 -00.5	136 42.3 -25.0	N 05 52.4 +11.8	19						
20	120 52.1 -00.1	N 19 59.7 +00.5	98 01.2 +03.1	N 26 35.9 -00.4	151 17.3 -25.1	N 06 04.2 +11.8	20						
21	135 52.0 +00.0	N 20 00.2 +00.5	113 04.3 +03.2	N 26 35.5 -00.4	165 52.2 -25.0	N 06 16.0 +11.7	21						
22	150 52.0 -00.1	N 20 00.7 +00.6	128 07.5 +03.2	N 26 35.1 -00.4	180 27.2 -25.2	N 06 27.7 +11.8	22						
23	165 51.9 +00.0	N 20 01.3 +00.5	143 10.7 +03.2	N 26 34.7 -00.4	195 02.0 -25.1	N 06 39.5 +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 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'4 00'4 00'4 00'4 00'4 00'4				SD 14'7 14'7 14'7 14'8 14'8 14'8					
HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'5 00'5 00'5 00'5 00'5 00'5				HP 54'1 54'1 54'1 54'1 54'2 54'2					
SHA 304° 304° 303° 303° 303° 303°				SHA 280° 280° 280° 280° 280° 280°				SHA 342° 340° 338° 336° 334° 332°					
Greenwich Culmination Time: 11:56				Greenwich Culmination Time: 13:29				Greenwich Culmination Time: 09:37					
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	260 30.1 +00.8	S 11 57.9 -00.6	297 49.2 +02.5	S 20 53.3 +00.0	292 55.8 +02.5	S 19 51.7 +00.0	00						
01	275 30.9 +00.8	S 11 57.3 -00.5	312 51.7 +02.5	S 20 53.3 +00.1	307 58.3 +02.5	S 19 51.7 +00.1	01						
02	290 31.7 +00.8	S 11 56.8 -00.6	327 54.2 +02.5	S 20 53.4 +00.0	323 00.8 +02.5	S 19 51.8 +00.0	02						
03	305 32.5 +00.9	S 11 56.2 -00.6	342 56.7 +02.5	S 20 53.4 +00.0	338 03.3 +02.5	S 19 51.8 +00.0	03						
04	320 33.4 +00.8	S 11 55.6 -00.5	357 59.2 +02.5	S 20 53.4 +00.0	353 05.8 +02.5	S 19 51.8 +00.0	04						
05	335 34.2 +00.8	S 11 55.1 -00.6	13 01.7 +02.5	S 20 53.4 +00.0	8 08.3 +02.5	S 19 51.8 +00.0	05						
06	350 35.0 +00.9	S 11 54.5 -00.6	28 04.2 +02.5	S 20 53.4 +00.0	23 10.8 +02.5	S 19 51.8 +00.0	06						
07	5 35.9 +00.8	S 11 53.9 -00.5	43 06.7 +02.5	S 20 53.4 +00.0	38 13.3 +02.5	S 19 51.8 +00.0	07						
08	20 36.7 +00.8	S 11 53.4 -00.6	58 09.2 +02.5	S 20 53.4 +00.1	53 15.8 +02.5	S 19 51.8 +00.0	08						
09	35 37.5 +00.8	S 11 52.8 -00.5	73 11.7 +02.5	S 20 53.5 +00.0	68 18.3 +02.5	S 19 51.8 +00.0	09						
10	50 38.3 +00.9	S 11 52.3 -00.6	88 14.2 +02.5	S 20 53.5 +00.0	83 20.8 +02.5	S 19 51.8 +00.1	10						
11	65 39.2 +00.8	S 11 51.7 -00.6	103 16.7 +02.5	S 20 53.5 +00.0	98 23.3 +02.5	S 19 51.9 +00.0	11						
12	80 40.0 +00.8	S 11 51.1 -00.5	118 19.2 +02.5	S 20 53.5 +00.0	113 25.8 +02.5	S 19 51.9 +00.0	12						
13	95 40.8 +00.9	S 11 50.6 -00.6	133 21.7 +02.5	S 20 53.5 +00.0	128 28.3 +02.5	S 19 51.9 +00.0	13						
14	110 41.7 +00.8	S 11 50.0 -00.6	148 24.2 +02.5	S 20 53.5 +00.0	143 30.8 +02.5	S 19 51.9 +00.0	14						
15	125 42.5 +00.8	S 11 49.4 -00.5	163 26.7 +02.5	S 20 53.5 +00.1	158 33.3 +02.5	S 19 51.9 +00.0	15						
16	140 43.3 +00.9	S 11 48.9 -00.6	178 29.2 +02.5	S 20 53.6 +00.0	173 35.8 +02.5	S 19 51.9 +00.0	16						
17	155 44.2 +00.8	S 11 48.3 -00.6	193 31.7 +02.6	S 20 53.6 +00.0	188 38.3 +02.5	S 19 51.9 +00.0	17						
18	170 45.0 +00.8	S 11 47.7 -00.5	208 34.3 +02.5	S 20 53.6 +00.0	203 40.8 +02.5	S 19 51.9 +00.0	18						
19	185 45.8 +00.8	S 11 47.2 -00.6	223 36.8 +02.5	S 20 53.6 +00.0	218 43.3 +02.5	S 19 51.9 +00.1	19						
20	200 46.6 +00.9	S 11 46.6 -00.5	238 39.3 +02.5	S 20 53.6 +00.0	233 45.8 +02.5	S 19 52.0 +00.0	20						
21	215 47.5 +00.8	S 11 46.1 -00.6	253 41.8 +02.5	S 20 53.6 +00.0	248 48.3 +02.5	S 19 52.0 +00.0	21						
22	230 48.3 +00.8	S 11 45.5 -00.6	268 44.3 +02.5	S 20 53.6 +00.1	263 50.8 +02.5	S 19 52.0 +00.0	22						
23	245 49.1 +00.9	S 11 44.9 -00.5	283 46.8 +02.5	S 20 53.7 +00.0	278 53.3 +02.5	S 19 52.0 +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 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'4 00'4 00'4 00'4 00'4 00'4				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 023° 023° 023° 023° 023° 023°				SHA 061° 061° 061° 061° 061° 061°				SHA 056° 056° 056° 056° 056° 056°					
Greenwich Culmination Time: 06:37				Greenwich Culmination Time: 04:08				Greenwich Culmination Time: 04:27					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float:right">A: 93%</span>				UT							
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec								
00	180 51.9 +00.0	N 20 01.8 +00.5	158 13.9 +03.1	N 26 34.3 -00.4	209 36.9 -25.2	N 06 51.2 +11.6	00													
01	195 51.9 -00.1	N 20 02.3 +00.5	173 17.0 +03.2	N 26 33.9 -00.4	224 11.7 -25.2	N 07 02.8 +11.7	01													
02	210 51.8 +00.0	N 20 02.8 +00.5	188 20.2 +03.2	N 26 33.5 -00.4	238 46.5 -25.3	N 07 14.5 +11.6	02													
03	225 51.8 +00.0	N 20 03.3 +00.5	203 23.4 +03.2	N 26 33.1 -00.4	253 21.2 -25.3	N 07 26.1 +11.7	03													
04	240 51.8 -00.1	N 20 03.8 +00.6	218 26.6 +03.2	N 26 32.7 -00.5	267 55.9 -25.3	N 07 37.8 +11.5	04													
05	255 51.7 +00.0	N 20 04.4 +00.5	233 29.8 +03.2	N 26 32.2 -00.4	282 30.6 -25.4	N 07 49.3 +11.6	05													
06	270 51.7 -00.1	N 20 04.9 +00.5	248 33.0 +03.2	N 26 31.8 -00.4	297 05.2 -25.4	N 08 00.9 +11.5	06													
07	285 51.6 +00.0	N 20 05.4 +00.5	263 36.2 +03.3	N 26 31.4 -00.4	311 39.8 -25.4	N 08 12.4 +11.6	07													
08	300 51.6 +00.0	N 20 05.9 +00.5	278 39.5 +03.2	N 26 31.0 -00.4	326 14.4 -25.5	N 08 24.0 +11.4	08													
09	315 51.6 -00.1	N 20 06.4 +00.5	293 42.7 +03.2	N 26 30.6 -00.5	340 48.9 -25.5	N 08 35.4 +11.5	09													
10	330 51.5 +00.0	N 20 06.9 +00.5	308 45.9 +03.2	N 26 30.1 -00.4	355 23.4 -25.6	N 08 46.9 +11.4	10													
11	345 51.5 -00.1	N 20 07.4 +00.5	323 49.1 +03.3	N 26 29.7 -00.4	9 57.8 -25.6	N 08 58.3 +11.4	11													
12	0 51.4 +00.0	N 20 07.9 +00.6	338 52.4 +03.2	N 26 29.3 -00.4	24 32.2 -25.6	N 09 09.7 +11.4	12													
13	15 51.4 +00.0	N 20 08.5 +00.5	353 55.6 +03.3	N 26 28.9 -00.5	39 06.6 -25.7	N 09 21.1 +11.3	13													
14	30 51.4 -00.1	N 20 09.0 +00.5	8 58.9 +03.2	N 26 28.4 -00.4	53 40.9 -25.7	N 09 32.4 +11.3	14													
15	45 51.3 +00.0	N 20 09.5 +00.5	24 02.1 +03.2	N 26 28.0 -00.4	68 15.2 -25.8	N 09 43.7 +11.3	15													
16	60 51.3 -00.1	N 20 10.0 +00.5	39 05.3 +03.3	N 26 27.6 -00.5	82 49.4 -25.9	N 09 55.0 +11.2	16													
17	75 51.2 +00.0	N 20 10.5 +00.5	54 08.6 +03.3	N 26 27.1 -00.4	97 23.5 -25.8	N 10 06.2 +11.2	17													
18	90 51.2 -00.1	N 20 11.0 +00.5	69 11.9 +03.2	N 26 26.7 -00.4	111 57.7 -25.9	N 10 17.4 +11.2	18													
19	105 51.1 +00.0	N 20 11.5 +00.5	84 15.1 +03.3	N 26 26.3 -00.5	126 31.8 -26.0	N 10 28.6 +11.1	19													
20	120 51.1 +00.0	N 20 12.0 +00.5	99 18.4 +03.3	N 26 25.8 -00.4	141 05.8 -26.0	N 10 39.7 +11.1	20													
21	135 51.1 -00.1	N 20 12.5 +00.5	114 21.7 +03.2	N 26 25.4 -00.4	155 39.8 -26.1	N 10 50.8 +11.1	21													
22	150 51.0 +00.0	N 20 13.0 +00.5	129 24.9 +03.3	N 26 25.0 -00.5	170 13.7 -26.1	N 11 01.9 +11.0	22													
23	165 51.0 -00.1	N 20 13.5 +00.5	144 28.2 +03.3	N 26 24.5 -00.4	184 47.6 -26.2	N 11 12.9 +10.9	23													
<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>	<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>	<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>
SD	15'8	15'8	15'8	15'8	15'8	15'8	SD	00'4	00'4	00'4	00'4	00'4	00'4	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	00'5	00'5	00'5	00'5	00'5	00'5	HP	54'2	54'3	54'3	54'4	54'4	54'4
SHA	303°	303°	302°	302°	302°	302°	SHA	280°	280°	280°	280°	280°	280°	SHA	331°	329°	327°	325°	323°	321°
Greenwich Culmination Time: 11:56							Greenwich Culmination Time: 13:24							Greenwich Culmination Time: 10:18						

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT							
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec								
00	260 50.0 +00.8	S 11 44.4 -00.6	298 49.3 +02.5	S 20 53.7 +00.0	293 55.8 +02.5	S 19 52.0 +00.0	00													
01	275 50.8 +00.8	S 11 43.8 -00.6	313 51.8 +02.5	S 20 53.7 +00.0	308 58.3 +02.5	S 19 52.0 +00.0	01													
02	290 51.6 +00.9	S 11 43.2 -00.5	328 54.3 +02.5	S 20 53.7 +00.0	324 00.8 +02.5	S 19 52.0 +00.0	02													
03	305 52.5 +00.8	S 11 42.7 -00.6	343 56.8 +02.5	S 20 53.7 +00.0	339 03.3 +02.5	S 19 52.0 +00.1	03													
04	320 53.3 +00.8	S 11 42.1 -00.6	358 59.3 +02.5	S 20 53.7 +00.0	354 05.8 +02.5	S 19 52.1 +00.0	04													
05	335 54.1 +00.9	S 11 41.5 -00.5	14 01.8 +02.5	S 20 53.7 +00.1	9 08.3 +02.5	S 19 52.1 +00.0	05													
06	350 55.0 +00.8	S 11 41.0 -00.6	29 04.3 +02.6	S 20 53.8 +00.0	24 10.8 +02.5	S 19 52.1 +00.0	06													
07	5 55.8 +00.8	S 11 40.4 -00.6	44 06.9 +02.5	S 20 53.8 +00.0	39 13.3 +02.5	S 19 52.1 +00.0	07													
08	20 56.6 +00.9	S 11 39.8 -00.5	59 09.4 +02.5	S 20 53.8 +00.0	54 15.8 +02.5	S 19 52.1 +00.0	08													
09	35 57.5 +00.8	S 11 39.3 -00.6	74 11.9 +02.5	S 20 53.8 +00.0	69 18.3 +02.5	S 19 52.1 +00.0	09													
10	50 58.3 +00.8	S 11 38.7 -00.6	89 14.4 +02.5	S 20 53.8 +00.0	84 20.8 +02.5	S 19 52.1 +00.0	10													
11	65 59.1 +00.9	S 11 38.1 -00.5	104 16.9 +02.5	S 20 53.8 +00.1	99 23.3 +02.5	S 19 52.1 +00.0	11													
12	80 60.0 +00.8	S 11 37.6 -00.6	119 19.4 +02.5	S 20 53.9 +00.0	114 25.8 +02.5	S 19 52.1 +00.1	12													
13	96 00.8 +00.8	S 11 37.0 -00.5	134 21.9 +02.5	S 20 53.9 +00.0	129 28.3 +02.5	S 19 52.2 +00.0	13													
14	111 01.6 +00.9	S 11 36.5 -00.6	149 24.4 +02.5	S 20 53.9 +00.0	144 30.8 +02.5	S 19 52.2 +00.0	14													
15	126 02.5 +00.8	S 11 35.9 -00.6	164 26.9 +02.6	S 20 53.9 +00.0	159 33.3 +02.5	S 19 52.2 +00.0	15													
16	141 03.3 +00.8	S 11 35.3 -00.5	179 29.5 +02.5	S 20 53.9 +00.0	174 35.8 +02.5	S 19 52.2 +00.0	16													
17	156 04.1 +00.9	S 11 34.8 -00.6	194 32.0 +02.5	S 20 53.9 +00.0	189 38.3 +02.5	S 19 52.2 +00.0	17													
18	171 05.0 +00.8	S 11 34.2 -00.6	209 34.5 +02.5	S 20 53.9 +00.1	204 40.8 +02.5	S 19 52.2 +00.0	18													
19	186 05.8 +00.8	S 11 33.6 -00.5	224 37.0 +02.5	S 20 54.0 +00.0	219 43.3 +02.5	S 19 52.2 +00.0	19													
20	201 06.6 +00.9	S 11 33.1 -00.6	239 39.5 +02.5	S 20 54.0 +00.0	234 45.8 +02.5	S 19 52.2 +00.1	20													
21	216 07.5 +00.8	S 11 32.5 -00.6	254 42.0 +02.5	S 20 54.0 +00.0	249 48.3 +02.5	S 19 52.3 +00.0	21													
22	231 08.3 +00.9	S 11 31.9 -00.5	269 44.5 +02.6	S 20 54.0 +00.0	264 50.8 +02.5	S 19 52.3 +00.0	22													
23	246 09.2 +00.8	S 11 31.4 -00.6	284 47.1 +02.5	S 20 54.0 +00.0	279 53.3 +02.5	S 19 52.3 +00.0	23													
<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>	<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>	<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>
SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'4	00'4	00'4	00'4	00'4	00'4	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	023°	023°	022°	022°	022°	022°	SHA	061°	061°	061°	061°	061°	061°	SHA	056°	056°	056°	056°	056°	056°
Greenwich Culmination Time: 06:36							Greenwich Culmination Time: 04:04							Greenwich Culmination Time: 04:23						

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 50.9 +00.0	N 20 14.0 +00.5	159 31.5 +03.3	N 26 24.1 -00.5	199 21.4 -26.2	N 11 23.8 +11.0	00						
01	195 50.9 +00.0	N 20 14.5 +00.5	174 34.8 +03.3	N 26 23.6 -00.4	213 55.2 -26.3	N 11 34.8 +10.9	01						
02	210 50.9 -00.1	N 20 15.0 +00.5	189 38.1 +03.3	N 26 23.2 -00.5	228 28.9 -26.3	N 11 45.7 +10.8	02						
03	225 50.8 +00.0	N 20 15.5 +00.5	204 41.4 +03.3	N 26 22.7 -00.4	243 02.6 -26.4	N 11 56.5 +10.8	03						
04	240 50.8 -00.1	N 20 16.0 +00.5	219 44.7 +03.3	N 26 22.3 -00.5	257 36.2 -26.4	N 12 07.3 +10.8	04						
05	255 50.7 +00.0	N 20 16.5 +00.5	234 48.0 +03.3	N 26 21.8 -00.4	272 09.8 -26.5	N 12 18.1 +10.7	05						
06	270 50.7 -00.1	N 20 17.0 +00.5	249 51.3 +03.3	N 26 21.4 -00.5	286 43.3 -26.5	N 12 28.8 +10.7	06						
07	285 50.6 +00.0	N 20 17.5 +00.5	264 54.6 +03.4	N 26 20.9 -00.4	301 16.8 -26.6	N 12 39.5 +10.6	07						
08	300 50.6 -00.1	N 20 18.0 +00.5	279 58.0 +03.3	N 26 20.5 -00.5	315 50.2 -26.7	N 12 50.1 +10.6	08						
09	315 50.5 +00.0	N 20 18.5 +00.5	295 01.3 +03.3	N 26 20.0 -00.4	330 23.5 -26.7	N 13 00.7 +10.5	09						
10	330 50.5 -00.1	N 20 19.0 +00.5	310 04.6 +03.3	N 26 19.6 -00.5	344 56.8 -26.7	N 13 11.2 +10.5	10						
11	345 50.4 +00.0	N 20 19.5 +00.5	325 07.9 +03.4	N 26 19.1 -00.4	359 30.1 -26.9	N 13 21.7 +10.4	11						
12	0 50.4 +00.0	N 20 20.0 +00.5	340 11.3 +03.3	N 26 18.7 -00.5	14 03.2 -26.9	N 13 32.1 +10.4	12						
13	15 50.4 -00.1	N 20 20.5 +00.5	355 14.6 +03.4	N 26 18.2 -00.4	28 36.3 -26.9	N 13 42.5 +10.3	13						
14	30 50.3 +00.0	N 20 21.0 +00.5	10 18.0 +03.3	N 26 17.8 -00.5	43 09.4 -27.0	N 13 52.8 +10.3	14						
15	45 50.3 -00.1	N 20 21.5 +00.5	25 21.3 +03.4	N 26 17.3 -00.5	57 42.4 -27.1	N 14 03.1 +10.2	15						
16	60 50.2 +00.0	N 20 22.0 +00.5	40 24.7 +03.3	N 26 16.8 -00.4	72 15.3 -27.1	N 14 13.3 +10.2	16						
17	75 50.2 -00.1	N 20 22.5 +00.5	55 28.0 +03.4	N 26 16.4 -00.5	86 48.2 -27.2	N 14 23.5 +10.1	17						
18	90 50.1 +00.0	N 20 23.0 +00.5	70 31.4 +03.4	N 26 15.9 -00.5	101 21.0 -27.2	N 14 33.6 +10.1	18						
19	105 50.1 -00.1	N 20 23.5 +00.5	85 34.8 +03.3	N 26 15.4 -00.4	115 53.8 -27.4	N 14 43.7 +10.0	19						
20	120 50.0 +00.0	N 20 24.0 +00.5	100 38.1 +03.4	N 26 15.0 -00.5	130 26.4 -27.3	N 14 53.7 +09.9	20						
21	135 50.0 -00.1	N 20 24.5 +00.5	115 41.5 +03.4	N 26 14.5 -00.5	144 59.1 -27.5	N 15 03.6 +09.9	21						
22	150 49.9 +00.0	N 20 25.0 +00.5	130 44.9 +03.4	N 26 14.0 -00.4	159 31.6 -27.5	N 15 13.5 +09.8	22						
23	165 49.9 -00.1	N 20 25.5 +00.4	145 48.3 +03.3	N 26 13.6 -00.5	174 04.1 -27.5	N 15 23.3 +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 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'4 00'4 00'4 00'4 00'4 00'4		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 00'5 00'5 00'5 00'5 00'5 00'5		HP 54'5 54'5 54'6 54'7 54'7 54'8								
	SHA 302° 302° 301° 301° 301° 301°		SHA 280° 281° 281° 281° 281° 281°		SHA 319° 317° 315° 313° 312° 310°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 13:18		Greenwich Culmination Time: 11:02								
	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT
00	261 10.0 +00.8	S 11 30.8 -00.6	299 49.6 +02.5	S 20 54.0 +00.1	294 55.8 +02.5	S 19 52.3 +00.0	00						
01	276 10.8 +00.9	S 11 30.2 -00.5	314 52.1 +02.5	S 20 54.1 +00.0	309 58.3 +02.5	S 19 52.3 +00.0	01						
02	291 11.7 +00.8	S 11 29.7 -00.6	329 54.6 +02.5	S 20 54.1 +00.0	325 00.8 +02.5	S 19 52.3 +00.0	02						
03	306 12.5 +00.8	S 11 29.1 -00.6	344 57.1 +02.5	S 20 54.1 +00.0	340 03.3 +02.5	S 19 52.3 +00.1	03						
04	321 13.3 +00.9	S 11 28.5 -00.5	359 59.6 +02.6	S 20 54.1 +00.0	355 05.8 +02.5	S 19 52.4 +00.0	04						
05	336 14.2 +00.8	S 11 28.0 -00.6	15 02.2 +02.5	S 20 54.1 +00.0	10 08.3 +02.5	S 19 52.4 +00.0	05						
06	351 15.0 +00.9	S 11 27.4 -00.6	30 04.7 +02.5	S 20 54.1 +00.1	25 10.8 +02.5	S 19 52.4 +00.0	06						
07	6 15.9 +00.8	S 11 26.8 -00.5	45 07.2 +02.5	S 20 54.2 +00.0	40 13.3 +02.5	S 19 52.4 +00.0	07						
08	21 16.7 +00.8	S 11 26.3 -00.6	60 09.7 +02.5	S 20 54.2 +00.0	55 15.8 +02.6	S 19 52.4 +00.0	08						
09	36 17.5 +00.9	S 11 25.7 -00.6	75 12.2 +02.6	S 20 54.2 +00.0	70 18.4 +02.5	S 19 52.4 +00.0	09						
10	51 18.4 +00.8	S 11 25.1 -00.5	90 14.8 +02.5	S 20 54.2 +00.0	85 20.9 +02.5	S 19 52.4 +00.0	10						
11	66 19.2 +00.8	S 11 24.6 -00.6	105 17.3 +02.5	S 20 54.2 +00.0	100 23.4 +02.5	S 19 52.4 +00.1	11						
12	81 20.0 +00.9	S 11 24.0 -00.6	120 19.8 +02.5	S 20 54.2 +00.1	115 25.9 +02.5	S 19 52.5 +00.0	12						
13	96 20.9 +00.8	S 11 23.4 -00.5	135 22.3 +02.5	S 20 54.3 +00.0	130 28.4 +02.5	S 19 52.5 +00.0	13						
14	111 21.7 +00.9	S 11 22.9 -00.6	150 24.8 +02.6	S 20 54.3 +00.0	145 30.9 +02.5	S 19 52.5 +00.0	14						
15	126 22.6 +00.8	S 11 22.3 -00.6	165 27.4 +02.5	S 20 54.3 +00.0	160 33.4 +02.5	S 19 52.5 +00.0	15						
16	141 23.4 +00.8	S 11 21.7 -00.5	180 29.9 +02.5	S 20 54.3 +00.0	175 35.9 +02.5	S 19 52.5 +00.0	16						
17	156 24.2 +00.9	S 11 21.2 -00.6	195 32.4 +02.5	S 20 54.3 +00.0	190 38.4 +02.5	S 19 52.5 +00.0	17						
18	171 25.1 +00.8	S 11 20.6 -00.6	210 34.9 +02.5	S 20 54.3 +00.1	205 40.9 +02.5	S 19 52.5 +00.0	18						
19	186 25.9 +00.9	S 11 20.0 -00.5	225 37.4 +02.6	S 20 54.4 +00.0	220 43.4 +02.5	S 19 52.5 +00.1	19						
20	201 26.8 +00.8	S 11 19.5 -00.6	240 40.0 +02.5	S 20 54.4 +00.0	235 45.9 +02.5	S 19 52.6 +00.0	20						
21	216 27.6 +00.8	S 11 18.9 -00.6	255 42.5 +02.5	S 20 54.4 +00.0	250 48.4 +02.5	S 19 52.6 +00.0	21						
22	231 28.4 +00.9	S 11 18.3 -00.6	270 45.0 +02.5	S 20 54.4 +00.0	265 50.9 +02.6	S 19 52.6 +00.0	22						
23	246 29.3 +00.8	S 11 17.7 -00.5	285 47.5 +02.6	S 20 54.4 +00.1	280 53.5 +02.5	S 19 52.6 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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 022° 022° 022° 022° 022° 021°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:34		Greenwich Culmination Time: 04:00		Greenwich Culmination Time: 04:19								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 49.8 +00.0	N 20 25.9 +00.5	160 51.6 +03.4	N 26 13.1 -00.5	188 36.6 -27.7	N 15 33.1 +09.7	00						
01	195 49.8 -00.1	N 20 26.4 +00.5	175 55.0 +03.4	N 26 12.6 -00.4	203 08.9 -27.7	N 15 42.8 +09.6	01						
02	210 49.7 +00.0	N 20 26.9 +00.5	190 58.4 +03.4	N 26 12.2 -00.5	217 41.2 -27.7	N 15 52.4 +09.6	02						
03	225 49.7 -00.1	N 20 27.4 +00.5	206 01.8 +03.4	N 26 11.7 -00.5	232 13.5 -27.9	N 16 02.0 +09.5	03						
04	240 49.6 +00.0	N 20 27.9 +00.5	221 05.2 +03.4	N 26 11.2 -00.5	246 45.6 -27.9	N 16 11.5 +09.4	04						
05	255 49.6 -00.1	N 20 28.4 +00.5	236 08.6 +03.5	N 26 10.7 -00.5	261 17.7 -27.9	N 16 20.9 +09.4	05						
06	270 49.5 +00.0	N 20 28.9 +00.5	251 12.1 +03.4	N 26 10.2 -00.4	275 49.8 -28.1	N 16 30.3 +09.3	06						
07	285 49.5 -00.1	N 20 29.4 +00.4	266 15.5 +03.4	N 26 09.8 -00.5	290 21.7 -28.1	N 16 39.6 +09.3	07						
08	300 49.4 +00.0	N 20 29.8 +00.5	281 18.9 +03.4	N 26 09.3 -00.5	304 53.6 -28.1	N 16 48.9 +09.1	08						
09	315 49.4 -00.1	N 20 30.3 +00.5	296 22.3 +03.4	N 26 08.8 -00.5	319 25.5 -28.3	N 16 58.0 +09.1	09						
10	330 49.3 +00.0	N 20 30.8 +00.5	311 25.7 +03.5	N 26 08.3 -00.5	333 57.2 -28.3	N 17 07.1 +09.1	10						
11	345 49.3 -00.1	N 20 31.3 +00.5	326 29.2 +03.4	N 26 07.8 -00.5	348 28.9 -28.4	N 17 16.2 +08.9	11						
12	0 49.2 +00.0	N 20 31.8 +00.5	341 32.6 +03.5	N 26 07.3 -00.4	3 00.5 -28.4	N 17 25.1 +08.9	12						
13	15 49.2 -00.1	N 20 32.3 +00.4	356 36.1 +03.4	N 26 06.9 -00.5	17 32.1 -28.5	N 17 34.0 +08.8	13						
14	30 49.1 +00.0	N 20 32.7 +00.5	11 39.5 +03.5	N 26 06.4 -00.5	32 03.6 -28.6	N 17 42.8 +08.7	14						
15	45 49.1 -00.1	N 20 33.2 +00.5	26 43.0 +03.4	N 26 05.9 -00.5	46 35.0 -28.7	N 17 51.5 +08.7	15						
16	60 49.0 +00.0	N 20 33.7 +00.5	41 46.4 +03.5	N 26 05.4 -00.5	61 06.3 -28.7	N 18 00.2 +08.6	16						
17	75 49.0 -00.1	N 20 34.2 +00.5	56 49.9 +03.4	N 26 04.9 -00.5	75 37.6 -28.8	N 18 08.8 +08.5	17						
18	90 48.9 +00.0	N 20 34.7 +00.4	71 53.3 +03.5	N 26 04.4 -00.5	90 08.8 -28.8	N 18 17.3 +08.4	18						
19	105 48.9 -00.1	N 20 35.1 +00.5	86 56.8 +03.5	N 26 03.9 -00.5	104 40.0 -29.0	N 18 25.7 +08.3	19						
20	120 48.8 +00.0	N 20 35.6 +00.5	102 00.3 +03.4	N 26 03.4 -00.5	119 11.0 -29.0	N 18 34.0 +08.3	20						
21	135 48.8 -00.1	N 20 36.1 +00.5	117 03.7 +03.5	N 26 02.9 -00.5	133 42.0 -29.0	N 18 42.3 +08.1	21						
22	150 48.7 +00.0	N 20 36.6 +00.4	132 07.2 +03.5	N 26 02.4 -00.5	148 13.0 -29.2	N 18 50.4 +08.1	22						
23	165 48.7 -00.1	N 20 37.0 +00.5	147 10.7 +03.5	N 26 01.9 -00.5	162 43.8 -29.2	N 18 58.5 +08.0	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	00'4	00'4	00'4	00'4	00'4	00'4
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'5	00'5	00'5	00'5	00'5	00'5
SHA	301°	301°	300°	300°	300°	300°	SHA	281°	281°	281°	281°	281°	281°
Greenwich Culmination Time: 11:56							Greenwich Culmination Time: 13:13						
A: 99%													
<hr/>													
UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	261 30.1 +00.9	S 11 17.2 -00.6	300 50.1 +02.5	S 20 54.5 +00.0	295 56.0 +02.5	S 19 52.6 +00.0	00						
01	276 31.0 +00.8	S 11 16.6 -00.6	315 52.6 +02.5	S 20 54.5 +00.0	310 58.5 +02.5	S 19 52.6 +00.0	01						
02	291 31.8 +00.9	S 11 16.0 -00.5	330 55.1 +02.5	S 20 54.5 +00.0	326 01.0 +02.5	S 19 52.6 +00.1	02						
03	306 32.7 +00.8	S 11 15.5 -00.6	345 57.6 +02.6	S 20 54.5 +00.0	341 03.5 +02.5	S 19 52.7 +00.0	03						
04	321 33.5 +00.8	S 11 14.9 -00.6	1 00.2 +02.5	S 20 54.5 +00.0	356 06.0 +02.5	S 19 52.7 +00.0	04						
05	336 34.3 +00.9	S 11 14.3 -00.5	16 02.7 +02.5	S 20 54.5 +00.1	11 08.5 +02.5	S 19 52.7 +00.0	05						
06	351 35.2 +00.8	S 11 13.8 -00.6	31 05.2 +02.5	S 20 54.6 +00.0	26 11.0 +02.5	S 19 52.7 +00.0	06						
07	6 36.0 +00.9	S 11 13.2 -00.6	46 07.7 +02.6	S 20 54.6 +00.0	41 13.5 +02.5	S 19 52.7 +00.0	07						
08	21 36.9 +00.8	S 11 12.6 -00.5	61 10.3 +02.5	S 20 54.6 +00.0	56 16.0 +02.5	S 19 52.7 +00.0	08						
09	36 37.7 +00.9	S 11 12.1 -00.6	76 12.8 +02.5	S 20 54.6 +00.0	71 18.5 +02.6	S 19 52.7 +00.1	09						
10	51 38.6 +00.8	S 11 11.5 -00.6	91 15.3 +02.5	S 20 54.6 +00.1	86 21.1 +02.5	S 19 52.8 +00.0	10						
11	66 39.4 +00.8	S 11 10.9 -00.5	106 17.8 +02.6	S 20 54.7 +00.0	101 23.6 +02.5	S 19 52.8 +00.0	11						
12	81 40.2 +00.9	S 11 10.4 -00.6	121 20.4 +02.5	S 20 54.7 +00.0	116 26.1 +02.5	S 19 52.8 +00.0	12						
13	96 41.1 +00.8	S 11 09.8 -00.6	136 22.9 +02.5	S 20 54.7 +00.0	131 28.6 +02.5	S 19 52.8 +00.0	13						
14	111 41.9 +00.9	S 11 09.2 -00.5	151 25.4 +02.6	S 20 54.7 +00.0	146 31.1 +02.5	S 19 52.8 +00.0	14						
15	126 42.8 +00.8	S 11 08.7 -00.6	166 28.0 +02.5	S 20 54.7 +00.1	161 33.6 +02.5	S 19 52.8 +00.0	15						
16	141 43.6 +00.9	S 11 08.1 -00.6	181 30.5 +02.5	S 20 54.8 +00.0	176 36.1 +02.5	S 19 52.8 +00.1	16						
17	156 44.5 +00.8	S 11 07.5 -00.6	196 33.0 +02.6	S 20 54.8 +00.0	191 38.6 +02.5	S 19 52.9 +00.0	17						
18	171 45.3 +00.9	S 11 06.9 -00.5	211 35.6 +02.5	S 20 54.8 +00.0	206 41.1 +02.6	S 19 52.9 +00.0	18						
19	186 46.2 +00.8	S 11 06.4 -00.6	226 38.1 +02.5	S 20 54.8 +00.0	221 43.7 +02.5	S 19 52.9 +00.0	19						
20	201 47.0 +00.8	S 11 05.8 -00.6	241 40.6 +02.5	S 20 54.8 +00.0	236 46.2 +02.5	S 19 52.9 +00.0	20						
21	216 47.8 +00.9	S 11 05.2 -00.5	256 43.1 +02.6	S 20 54.8 +00.1	251 48.7 +02.5	S 19 52.9 +00.0	21						
22	231 48.7 +00.8	S 11 04.7 -00.6	271 45.7 +02.5	S 20 54.9 +00.0	266 51.2 +02.5	S 19 52.9 +00.0	22						
23	246 49.5 +00.9	S 11 04.1 -00.6	286 48.2 +02.5	S 20 54.9 +00.0	281 53.7 +02.5	S 19 52.9 +00.1	23						
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	00'1	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
SHA	021°	021°	021°	021°	021°	021°	SHA	056°	056°	056°	056°	056°	056°
Greenwich Culmination Time: 06:33							Greenwich Culmination Time: 03:56						
Greenwich Culmination Time: 04:15													

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 48.6 -00.1	N 20 37.5 +00.5	162 14.2 +03.5	N 26 01.4 -00.5	177 14.6 -29.3	N 19 06.5 +08.0	00							
01	195 48.5 +00.0	N 20 38.0 +00.5	177 17.7 +03.5	N 26 00.9 -00.5	191 45.3 -29.4	N 19 14.5 +07.8	01							
02	210 48.5 -00.1	N 20 38.5 +00.4	192 21.2 +03.5	N 26 00.4 -00.5	206 15.9 -29.4	N 19 22.3 +07.8	02							
03	225 48.4 +00.0	N 20 38.9 +00.5	207 24.7 +03.5	N 25 59.9 -00.5	220 46.5 -29.5	N 19 30.1 +07.6	03							
04	240 48.4 -00.1	N 20 39.4 +00.5	222 28.2 +03.5	N 25 59.4 -00.5	235 17.0 -29.6	N 19 37.7 +07.6	04							
05	255 48.3 +00.0	N 20 39.9 +00.4	237 31.7 +03.5	N 25 58.9 -00.5	249 47.4 -29.6	N 19 45.3 +07.5	05							
06	270 48.3 -00.1	N 20 40.3 +00.5	252 35.2 +03.5	N 25 58.4 -00.6	264 17.8 -29.7	N 19 52.8 +07.4	06							
07	285 48.2 +00.0	N 20 40.8 +00.5	267 38.7 +03.5	N 25 57.8 -00.5	278 48.1 -29.8	N 20 00.2 +07.3	07							
08	300 48.2 -00.1	N 20 41.3 +00.5	282 42.2 +03.5	N 25 57.3 -00.5	293 18.3 -29.9	N 20 07.5 +07.2	08							
09	315 48.1 -00.1	N 20 41.8 +00.4	297 45.7 +03.5	N 25 56.8 -00.5	307 48.4 -29.9	N 20 14.7 +07.1	09							
10	330 48.0 +00.0	N 20 42.2 +00.5	312 49.2 +03.6	N 25 56.3 -00.5	322 18.5 -30.0	N 20 21.8 +07.0	10							
11	345 48.0 -00.1	N 20 42.7 +00.5	327 52.8 +03.5	N 25 55.8 -00.5	336 48.5 -30.1	N 20 28.8 +06.9	11							
12	0 47.9 +00.0	N 20 43.2 +00.4	342 56.3 +03.5	N 25 55.3 -00.6	351 18.4 -30.1	N 20 35.7 +06.8	12							
13	15 47.9 -00.1	N 20 43.6 +00.5	357 59.8 +03.6	N 25 54.7 -00.5	5 48.3 -30.2	N 20 42.5 +06.8	13							
14	30 47.8 +00.0	N 20 44.1 +00.5	13 03.4 +03.5	N 25 54.2 -00.5	20 18.1 -30.3	N 20 49.3 +06.6	14							
15	45 47.8 -00.1	N 20 44.6 +00.4	28 06.9 +03.6	N 25 53.7 -00.5	34 47.8 -30.3	N 20 55.9 +06.5	15							
16	60 47.7 -00.1	N 20 45.0 +00.5	43 10.5 +03.5	N 25 53.2 -00.5	49 17.5 -30.5	N 21 02.4 +06.4	16							
17	75 47.6 +00.0	N 20 45.5 +00.5	58 14.0 +03.6	N 25 52.7 -00.6	63 47.0 -30.4	N 21 08.8 +06.4	17							
18	90 47.6 -00.1	N 20 46.0 +00.4	73 17.6 +03.5	N 25 52.1 -00.5	78 16.6 -30.6	N 21 15.2 +06.2	18							
19	105 47.5 +00.0	N 20 46.4 +00.5	88 21.1 +03.6	N 25 51.6 -00.5	92 46.0 -30.6	N 21 21.4 +06.1	19							
20	120 47.5 -00.1	N 20 46.9 +00.4	103 24.7 +03.6	N 25 51.1 -00.6	107 15.4 -30.7	N 21 27.5 +06.0	20							
21	135 47.4 +00.0	N 20 47.3 +00.5	118 28.3 +03.5	N 25 50.5 -00.5	121 44.7 -30.8	N 21 33.5 +05.9	21							
22	150 47.4 -00.1	N 20 47.8 +00.5	133 31.8 +03.6	N 25 50.0 -00.5	136 13.9 -30.8	N 21 39.4 +05.8	22							
23	165 47.3 -00.1	N 20 48.3 +00.4	148 35.4 +03.6	N 25 49.5 -00.5	150 43.1 -30.9	N 21 45.2 +05.7	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 300° 299° 299° 299° 299° 299°	Greenwich Culmination Time: 11:56	UT 02 06 10 14 18 22	SD 00'5 00'5 00'5 00'5 00'5 00'5	HP 00'5 00'5 00'5 00'5 00'5 00'5	SHA 281° 281° 281° 281° 281° 282°	Greenwich Culmination Time: 13:07	UT 02 06 10 14 18 22	SD 15'1 15'1 15'1 15'1 15'1 15'2	HP 55'2 55'3 55'4 55'5 55'5 55'6	SHA 295° 293° 291° 289° 286° 284°	Greenwich Culmination Time: 12:35
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	261 50.4 +00.8	S 11 03.5 -00.5	301 50.7 +02.6	S 20 54.9 +00.0	296 56.2 +02.5	S 19 53.0 +00.0	00							
01	276 51.2 +00.9	S 11 03.0 -00.6	316 53.3 +02.5	S 20 54.9 +00.0	311 58.7 +02.5	S 19 53.0 +00.0	01							
02	291 52.1 +00.8	S 11 02.4 -00.6	331 55.8 +02.5	S 20 54.9 +00.1	327 01.2 +02.6	S 19 53.0 +00.0	02							
03	306 52.9 +00.9	S 11 01.8 -00.6	346 58.3 +02.6	S 20 55.0 +00.0	342 03.8 +02.5	S 19 53.0 +00.0	03							
04	321 53.8 +00.8	S 11 01.2 -00.5	2 00.9 +02.5	S 20 55.0 +00.0	357 06.3 +02.5	S 19 53.0 +00.0	04							
05	336 54.6 +00.9	S 11 00.7 -00.6	17 03.4 +02.5	S 20 55.0 +00.0	12 08.8 +02.5	S 19 53.0 +00.0	05							
06	351 55.5 +00.8	S 11 00.1 -00.6	32 05.9 +02.6	S 20 55.0 +00.0	27 11.3 +02.5	S 19 53.0 +00.1	06							
07	6 56.3 +00.9	S 10 59.5 -00.5	47 08.5 +02.5	S 20 55.0 +00.1	42 13.8 +02.5	S 19 53.1 +00.0	07							
08	21 57.2 +00.8	S 10 59.0 -00.6	62 11.0 +02.5	S 20 55.1 +00.0	57 16.3 +02.5	S 19 53.1 +00.0	08							
09	36 58.0 +00.9	S 10 58.4 -00.6	77 13.5 +02.6	S 20 55.1 +00.0	72 18.8 +02.5	S 19 53.1 +00.0	09							
10	51 58.9 +00.8	S 10 57.8 -00.5	92 16.1 +02.5	S 20 55.1 +00.0	87 21.3 +02.6	S 19 53.1 +00.0	10							
11	66 59.7 +00.9	S 10 57.3 -00.6	107 18.6 +02.6	S 20 55.1 +00.0	102 23.9 +02.5	S 19 53.1 +00.0	11							
12	82 00.6 +00.8	S 10 56.7 -00.6	122 21.2 +02.5	S 20 55.1 +00.1	117 26.4 +02.5	S 19 53.1 +00.0	12							
13	97 01.4 +00.9	S 10 56.1 -00.6	137 23.7 +02.5	S 20 55.2 +00.0	132 28.9 +02.5	S 19 53.1 +00.1	13							
14	112 02.3 +00.8	S 10 55.5 -00.5	152 26.2 +02.6	S 20 55.2 +00.0	147 31.4 +02.5	S 19 53.2 +00.0	14							
15	127 03.1 +00.9	S 10 55.0 -00.6	167 28.8 +02.5	S 20 55.2 +00.0	162 33.9 +02.5	S 19 53.2 +00.0	15							
16	142 04.0 +00.8	S 10 54.4 -00.6	182 31.3 +02.5	S 20 55.2 +00.0	177 36.4 +02.6	S 19 53.2 +00.0	16							
17	157 04.8 +00.9	S 10 53.8 -00.5	197 33.8 +02.6	S 20 55.2 +00.1	192 39.0 +02.5	S 19 53.2 +00.0	17							
18	172 05.7 +00.8	S 10 53.3 -00.6	212 36.4 +02.5	S 20 55.3 +00.0	207 41.5 +02.5	S 19 53.2 +00.0	18							
19	187 06.5 +00.9	S 10 52.7 -00.6	227 38.9 +02.6	S 20 55.3 +00.0	222 44.0 +02.5	S 19 53.2 +00.0	19							
20	202 07.4 +00.8	S 10 52.1 -00.6	242 41.5 +02.5	S 20 55.3 +00.0	237 46.5 +02.5	S 19 53.2 +00.1	20							
21	217 08.2 +00.9	S 10 51.5 -00.5	257 44.0 +02.5	S 20 55.3 +00.0	252 49.0 +02.5	S 19 53.3 +00.0	21							
22	232 09.1 +00.8	S 10 51.0 -00.6	272 46.5 +02.6	S 20 55.3 +00.1	267 51.5 +02.5	S 19 53.3 +00.0	22							
23	247 09.9 +00.9	S 10 50.4 -00.6	287 49.1 +02.5	S 20 55.4 +00.0	282 54.0 +02.6	S 19 53.3 +00.0	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 021° 021° 021° 020° 020° 020°	Greenwich Culmination Time: 06:32	UT 02 06 10 14 18 22	SD 00'4 00'4 00'4 00'4 00'4 00'4	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 061° 061° 061° 061° 061° 061°	Greenwich Culmination Time: 03:51	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 056° 056° 056° 056° 056° 056°	Greenwich Culmination Time: 04:11

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 47.2 +00.0		N 20 48.7 +00.5		163 39.0 +03.6		N 25 49.0 -00.6		165 12.2 -30.9		N 21 50.9 +05.6		00
01	195 47.2 -00.1		N 20 49.2 +00.4		178 42.6 +03.6		N 25 48.4 -00.5		179 41.3 -31.0		N 21 56.5 +05.5		01
02	210 47.1 +00.0		N 20 49.6 +00.5		193 46.2 +03.6		N 25 47.9 -00.6		194 10.3 -31.1		N 22 02.0 +05.4		02
03	225 47.1 -00.1		N 20 50.1 +00.5		208 49.8 +03.5		N 25 47.3 -00.5		208 39.2 -31.2		N 22 07.4 +05.2		03
04	240 47.0 -00.1		N 20 50.6 +00.4		223 53.3 +03.6		N 25 46.8 -00.5		223 08.0 -31.2		N 22 12.6 +05.2		04
05	255 46.9 +00.0		N 20 51.0 +00.5		238 56.9 +03.6		N 25 46.3 -00.6		237 36.8 -31.3		N 22 17.8 +05.0		05
06	270 46.9 -00.1		N 20 51.5 +00.4		254 00.5 +03.7		N 25 45.7 -00.5		252 05.5 -31.3		N 22 22.8 +04.9		06
07	285 46.8 +00.0		N 20 51.9 +00.5		269 04.2 +03.6		N 25 45.2 -00.6		266 34.2 -31.4		N 22 27.7 +04.8		07
08	300 46.8 -00.1		N 20 52.4 +00.4		284 07.8 +03.6		N 25 44.6 -00.5		281 02.8 -31.5		N 22 32.5 +04.7		08
09	315 46.7 -00.1		N 20 52.8 +00.5		299 11.4 +03.6		N 25 44.1 -00.6		295 31.3 -31.5		N 22 37.2 +04.6		09
10	330 46.6 +00.0		N 20 53.3 +00.4		314 15.0 +03.6		N 25 43.5 -00.5		309 59.8 -31.6		N 22 41.8 +04.4		10
11	345 46.6 -00.1		N 20 53.7 +00.5		329 18.6 +03.6		N 25 43.0 -00.5		324 28.2 -31.6		N 22 46.2 +04.4		11
12	0 46.5 -00.1		N 20 54.2 +00.4		344 22.2 +03.7		N 25 42.5 -00.6		338 56.6 -31.7		N 22 50.6 +04.2		12
13	15 46.4 +00.0		N 20 54.6 +00.5		359 25.9 +03.6		N 25 41.9 -00.5		353 24.9 -31.8		N 22 54.8 +04.1		13
14	30 46.4 -00.1		N 20 55.1 +00.4		14 29.5 +03.6		N 25 41.4 -00.6		7 53.1 -31.8		N 22 58.9 +04.0		14
15	45 46.3 +00.0		N 20 55.5 +00.5		29 33.1 +03.7		N 25 40.8 -00.6		22 21.3 -31.9		N 23 02.9 +03.9		15
16	60 46.3 -00.1		N 20 56.0 +00.4		44 36.8 +03.6		N 25 40.2 -00.5		36 49.4 -31.9		N 23 06.8 +03.7		16
17	75 46.2 -00.1		N 20 56.4 +00.5		59 40.4 +03.6		N 25 39.7 -00.6		51 17.5 -32.0		N 23 10.5 +03.6		17
18	90 46.1 +00.0		N 20 56.9 +00.4		74 44.0 +03.7		N 25 39.1 -00.5		65 45.5 -32.0		N 23 14.1 +03.5		18
19	105 46.1 -00.1		N 20 57.3 +00.5		89 47.7 +03.6		N 25 38.6 -00.6		80 13.5 -32.1		N 23 17.6 +03.4		19
20	120 46.0 -00.1		N 20 57.8 +00.4		104 51.3 +03.7		N 25 38.0 -00.5		94 41.4 -32.1		N 23 21.0 +03.2		20
21	135 45.9 +00.0		N 20 58.2 +00.5		119 55.0 +03.7		N 25 37.5 -00.6		109 09.3 -32.2		N 23 24.2 +03.2		21
22	150 45.9 -00.1		N 20 58.7 +00.4		134 58.7 +03.6		N 25 36.9 -00.6		123 37.1 -32.3		N 23 27.4 +03.0		22
23	165 45.8 +00.0		N 20 59.1 +00.5		150 02.3 +03.7		N 25 36.3 -00.5		138 04.8 -32.3		N 23 30.4 +02.8		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 299° 298° 298° 298° 298° 298° Greenwich Culmination Time: 11:56		UT 02 06 10 14 18 22 SD 00'5 00'5 00'5 00'5 00'5 00'5 HP 00'5 00'5 00'5 00'5 00'5 00'5 SHA 282° 282° 282° 282° 282° 282° Greenwich Culmination Time: 13:02		UT 02 06 10 14 18 22 SD 15'2 15'2 15'2 15'2 15'3 15'3 HP 55'7 55'8 55'9 55'9 56'0 56'1 SHA 282° 280° 278° 275° 273° 271° Greenwich Culmination Time: 13:27								
UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	262 10.8 +00.8		S 10 49.8 -00.5		302 51.6 +02.6		S 20 55.4 +00.0		297 56.6 +02.5		S 19 53.3 +00.0		00
01	277 11.6 +00.9		S 10 49.3 -00.6		317 54.2 +02.5		S 20 55.4 +00.0		312 59.1 +02.5		S 19 53.3 +00.0		01
02	292 12.5 +00.8		S 10 48.7 -00.6		332 56.7 +02.5		S 20 55.4 +00.1		328 01.6 +02.5		S 19 53.3 +00.1		02
03	307 13.3 +00.9		S 10 48.1 -00.6		347 59.2 +02.6		S 20 55.5 +00.0		343 04.1 +02.5		S 19 53.4 +00.0		03
04	322 14.2 +00.8		S 10 47.5 -00.5		3 01.8 +02.5		S 20 55.5 +00.0		358 06.6 +02.5		S 19 53.4 +00.0		04
05	337 15.0 +00.9		S 10 47.0 -00.6		18 04.3 +02.6		S 20 55.5 +00.0		13 09.1 +02.6		S 19 53.4 +00.0		05
06	352 15.9 +00.8		S 10 46.4 -00.6		33 06.9 +02.5		S 20 55.5 +00.0		28 11.7 +02.5		S 19 53.4 +00.0		06
07	7 16.7 +00.9		S 10 45.8 -00.5		48 09.4 +02.6		S 20 55.5 +00.1		43 14.2 +02.5		S 19 53.4 +00.0		07
08	22 17.6 +00.8		S 10 45.3 -00.6		63 12.0 +02.5		S 20 55.6 +00.0		58 16.7 +02.5		S 19 53.4 +00.1		08
09	37 18.4 +00.9		S 10 44.7 -00.6		78 14.5 +02.5		S 20 55.6 +00.0		73 19.2 +02.5		S 19 53.5 +00.0		09
10	52 19.3 +00.8		S 10 44.1 -00.6		93 17.0 +02.6		S 20 55.6 +00.0		88 21.7 +02.6		S 19 53.5 +00.0		10
11	67 20.1 +00.9		S 10 43.5 -00.5		108 19.6 +02.5		S 20 55.6 +00.0		103 24.3 +02.5		S 19 53.5 +00.0		11
12	82 21.0 +00.8		S 10 43.0 -00.6		123 22.1 +02.6		S 20 55.6 +00.1		118 26.8 +02.5		S 19 53.5 +00.0		12
13	97 21.8 +00.9		S 10 42.4 -00.6		138 24.7 +02.5		S 20 55.7 +00.0		133 29.3 +02.5		S 19 53.5 +00.0		13
14	112 22.7 +00.8		S 10 41.8 -00.5		153 27.2 +02.6		S 20 55.7 +00.0		148 31.8 +02.5		S 19 53.5 +00.0		14
15	127 23.5 +00.9		S 10 41.3 -00.6		168 29.8 +02.5		S 20 55.7 +00.0		163 34.3 +02.6		S 19 53.5 +00.1		15
16	142 24.4 +00.9		S 10 40.7 -00.6		183 32.3 +02.6		S 20 55.7 +00.1		178 36.9 +02.5		S 19 53.6 +00.0		16
17	157 25.3 +00.8		S 10 40.1 -00.6		198 34.9 +02.5		S 20 55.8 +00.0		193 39.4 +02.5		S 19 53.6 +00.0		17
18	172 26.1 +00.9		S 10 39.5 -00.5		213 37.4 +02.6		S 20 55.8 +00.0		208 41.9 +02.5		S 19 53.6 +00.0		18
19	187 27.0 +00.8		S 10 39.0 -00.6		228 40.0 +02.5		S 20 55.8 +00.0		223 44.4 +02.5		S 19 53.6 +00.0		19
20	202 27.8 +00.9		S 10 38.4 -00.6		243 42.5 +02.6		S 20 55.8 +00.0		238 46.9 +02.6		S 19 53.6 +00.0		20
21	217 28.7 +00.8		S 10 37.8 -00.6		258 45.1 +02.5		S 20 55.8 +00.1		253 49.5 +02.5		S 19 53.6 +00.1		21
22	232 29.5 +00.9		S 10 37.2 -00.5		273 47.6 +02.5		S 20 55.9 +00.0		268 52.0 +02.5		S 19 53.7 +00.0		22
23	247 30.4 +00.8		S 10 36.7 -00.6		288 50.1 +02.6		S 20 55.9 +00.0		283 54.5 +02.5		S 19 53.7 +00.0		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 020° 020° 020° 020° 020° 020° Greenwich Culmination Time: 06:30		UT 02 06 10 14 18 22 SD 00'4 00'4 00'4 00'4 00'4 00'4 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 061° 061° 061° 061° 061° 061° Greenwich Culmination Time: 03:47		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 056° 056° 056° 056° 056° 056° Greenwich Culmination Time: 04:07								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 45.8 -00.1	N 20 59.6 +00.4	165 06.0 +03.7	N 25 35.8 -00.6	152 32.5 -32.3	N 23 33.2 +02.8	00						
01	195 45.7 -00.1	N 21 00.0 +00.5	180 09.7 +03.6	N 25 35.2 -00.6	167 00.2 -32.4	N 23 36.0 +02.6	01						
02	210 45.6 +00.0	N 21 00.5 +00.4	195 13.3 +03.7	N 25 34.6 -00.5	181 27.8 -32.4	N 23 38.6 +02.5	02						
03	225 45.6 -00.1	N 21 00.9 +00.4	210 17.0 +03.7	N 25 34.1 -00.6	195 55.4 -32.5	N 23 41.1 +02.4	03						
04	240 45.5 -00.1	N 21 01.3 +00.5	225 20.7 +03.7	N 25 33.5 -00.6	210 22.9 -32.5	N 23 43.5 +02.2	04						
05	255 45.4 +00.0	N 21 01.8 +00.4	240 24.4 +03.7	N 25 32.9 -00.5	224 50.4 -32.6	N 23 45.7 +02.1	05						
06	270 45.4 -00.1	N 21 02.2 +00.5	255 28.1 +03.6	N 25 32.4 -00.6	239 17.8 -32.6	N 23 47.8 +02.0	06						
07	285 45.3 -00.1	N 21 02.7 +00.4	270 31.7 +03.7	N 25 31.8 -00.6	253 45.2 -32.6	N 23 49.8 +01.8	07						
08	300 45.2 +00.0	N 21 03.1 +00.5	285 35.4 +03.7	N 25 31.2 -00.6	268 12.6 -32.7	N 23 51.6 +01.7	08						
09	315 45.2 -00.1	N 21 03.6 +00.4	300 39.1 +03.7	N 25 30.6 -00.5	282 39.9 -32.7	N 23 53.3 +01.6	09						
10	330 45.1 -00.1	N 21 04.0 +00.4	315 42.8 +03.7	N 25 30.1 -00.6	297 07.2 -32.8	N 23 54.9 +01.4	10						
11	345 45.0 +00.0	N 21 04.4 +00.5	330 46.5 +03.8	N 25 29.5 -00.6	311 34.4 -32.8	N 23 56.3 +01.4	11						
12	0 45.0 -00.1	N 21 04.9 +00.4	345 50.3 +03.7	N 25 28.9 -00.6	326 01.6 -32.8	N 23 57.7 +01.1	12						
13	15 44.9 -00.1	N 21 05.3 +00.4	0 54.0 +03.7	N 25 28.3 -00.5	340 28.8 -32.9	N 23 58.8 +01.1	13						
14	30 44.8 +00.0	N 21 05.7 +00.5	15 57.7 +03.7	N 25 27.8 -00.6	354 55.9 -32.9	N 23 59.9 +00.9	14						
15	45 44.8 -00.1	N 21 06.2 +00.4	31 01.4 +03.7	N 25 27.2 -00.6	9 23.0 -32.9	N 24 00.8 +00.8	15						
16	60 44.7 -00.1	N 21 06.6 +00.4	46 05.1 +03.7	N 25 26.6 -00.6	23 50.1 -33.0	N 24 01.6 +00.6	16						
17	75 44.6 +00.0	N 21 07.0 +00.5	61 08.8 +03.8	N 25 26.0 -00.6	38 17.1 -33.0	N 24 02.2 +00.5	17						
18	90 44.6 -00.1	N 21 07.5 +00.4	76 12.6 +03.7	N 25 25.4 -00.6	52 44.1 -33.0	N 24 02.7 +00.4	18						
19	105 44.5 -00.1	N 21 07.9 +00.4	91 16.3 +03.7	N 25 24.8 -00.6	67 11.1 -33.1	N 24 03.1 +00.2	19						
20	120 44.4 +00.0	N 21 08.3 +00.5	106 20.0 +03.8	N 25 24.2 -00.5	81 38.0 -33.1	N 24 03.3 +00.1	20						
21	135 44.4 -00.1	N 21 08.8 +00.4	121 23.8 +03.7	N 25 23.7 -00.6	96 04.9 -33.1	N 24 03.4 +00.0	21						
22	150 44.3 -00.1	N 21 09.2 +00.4	136 27.5 +03.8	N 25 23.1 -00.6	110 31.8 -33.1	N 24 03.4 -00.2	22						
23	165 44.2 -00.1	N 21 09.6 +00.5	151 31.3 +03.7	N 25 22.5 -00.6	124 58.7 -33.1	N 24 03.2 -00.3	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 00'5 00'5 00'5 00'5 00'5 00'5		SD 15'3 15'3 15'4 15'4 15'4 15'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 56'2 56'3 56'3 56'4 56'5 56'6								
	SHA 298° 297° 297° 297° 297° 297°		SHA 282° 282° 282° 282° 282° 283°		SHA 268° 266° 264° 261° 259° 257°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 12:56		Greenwich Culmination Time: 14:21								
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	262 31.2 +00.9	S 10 36.1 -00.6	303 52.7 +02.5	S 20 55.9 +00.0	298 57.0 +02.5	S 19 53.7 +00.0	00						
01	277 32.1 +00.9	S 10 35.5 -00.5	318 55.2 +02.6	S 20 55.9 +00.1	313 59.5 +02.6	S 19 53.7 +00.0	01						
02	292 33.0 +00.8	S 10 35.0 -00.6	333 57.8 +02.5	S 20 56.0 +00.0	329 02.1 +02.5	S 19 53.7 +00.0	02						
03	307 33.8 +00.9	S 10 34.4 -00.6	349 00.3 +02.6	S 20 56.0 +00.0	344 04.6 +02.5	S 19 53.7 +00.1	03						
04	322 34.7 +00.8	S 10 33.8 -00.6	4 02.9 +02.5	S 20 56.0 +00.0	359 07.1 +02.5	S 19 53.8 +00.0	04						
05	337 35.5 +00.9	S 10 33.2 -00.5	19 05.4 +02.6	S 20 56.0 +00.0	14 09.6 +02.5	S 19 53.8 +00.0	05						
06	352 36.4 +00.8	S 10 32.7 -00.6	34 08.0 +02.5	S 20 56.0 +00.1	29 12.1 +02.6	S 19 53.8 +00.0	06						
07	7 37.2 +00.9	S 10 32.1 -00.6	49 10.5 +02.6	S 20 56.1 +00.0	44 14.7 +02.5	S 19 53.8 +00.0	07						
08	22 38.1 +00.9	S 10 31.5 -00.6	64 13.1 +02.5	S 20 56.1 +00.0	59 17.2 +02.5	S 19 53.8 +00.0	08						
09	37 39.0 +00.8	S 10 30.9 -00.5	79 15.6 +02.6	S 20 56.1 +00.0	74 19.7 +02.5	S 19 53.8 +00.1	09						
10	52 39.8 +00.9	S 10 30.4 -00.6	94 18.2 +02.6	S 20 56.1 +00.1	89 22.2 +02.5	S 19 53.9 +00.0	10						
11	67 40.7 +00.8	S 10 29.8 -00.6	109 20.8 +02.5	S 20 56.2 +00.0	104 24.7 +02.6	S 19 53.9 +00.0	11						
12	82 41.5 +00.9	S 10 29.2 -00.5	124 23.3 +02.6	S 20 56.2 +00.0	119 27.3 +02.5	S 19 53.9 +00.0	12						
13	97 42.4 +00.8	S 10 28.7 -00.6	139 25.9 +02.5	S 20 56.2 +00.0	134 29.8 +02.5	S 19 53.9 +00.0	13						
14	112 43.2 +00.9	S 10 28.1 -00.6	154 28.4 +02.6	S 20 56.2 +00.1	149 32.3 +02.5	S 19 53.9 +00.0	14						
15	127 44.1 +00.9	S 10 27.5 -00.6	169 31.0 +02.5	S 20 56.3 +00.0	164 34.8 +02.6	S 19 53.9 +00.1	15						
16	142 45.0 +00.8	S 10 26.9 -00.5	184 33.5 +02.6	S 20 56.3 +00.0	179 37.4 +02.5	S 19 54.0 +00.0	16						
17	157 45.8 +00.9	S 10 26.4 -00.6	199 36.1 +02.5	S 20 56.3 +00.0	194 39.9 +02.5	S 19 54.0 +00.0	17						
18	172 46.7 +00.8	S 10 25.8 -00.6	214 38.6 +02.6	S 20 56.3 +00.1	209 42.4 +02.5	S 19 54.0 +00.0	18						
19	187 47.5 +00.9	S 10 25.2 -00.6	229 41.2 +02.5	S 20 56.4 +00.0	224 44.9 +02.6	S 19 54.0 +00.0	19						
20	202 48.4 +00.9	S 10 24.6 -00.5	244 43.7 +02.6	S 20 56.4 +00.0	239 47.5 +02.5	S 19 54.0 +00.0	20						
21	217 49.3 +00.8	S 10 24.1 -00.6	259 46.3 +02.6	S 20 56.4 +00.0	254 50.0 +02.5	S 19 54.0 +00.1	21						
22	232 50.1 +00.9	S 10 23.5 -00.6	274 48.9 +02.5	S 20 56.4 +00.0	269 52.5 +02.5	S 19 54.1 +00.0	22						
23	247 51.0 +00.8	S 10 22.9 -00.6	289 51.4 +02.6	S 20 56.4 +00.1	284 55.0 +02.6	S 19 54.1 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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 019° 019° 019° 019° 019° 019°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:29		Greenwich Culmination Time: 03:43		Greenwich Culmination Time: 04:03								

UT	Sun				Venus				Moon				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		A: 13%
	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "		
00	180	44.1+00.0	N 21 10.1	+00.4	166	35.0+03.8	N 25 21.9	-00.6	139	25.6-33.2	N 24 02.9	-00.5	00	
01	195	44.1-00.1	N 21 10.5	+00.4	181	38.8+03.7	N 25 21.3	-00.6	153	52.4-33.2	N 24 02.4	-00.5	01	
02	210	44.0-00.1	N 21 10.9	+00.4	196	42.5+03.8	N 25 20.7	-00.6	168	19.2-33.2	N 24 01.9	-00.8	02	
03	225	43.9+00.0	N 21 11.3	+00.5	211	46.3+03.7	N 25 20.1	-00.6	182	46.0-33.2	N 24 01.1	-00.8	03	
04	240	43.9-00.1	N 21 11.8	+00.4	226	50.0+03.8	N 25 19.5	-00.6	197	12.8-33.2	N 24 00.3	-01.0	04	
05	255	43.8-00.1	N 21 12.2	+00.4	241	53.8+03.8	N 25 18.9	-00.6	211	39.6-33.3	N 23 59.3	-01.2	05	
06	270	43.7+00.0	N 21 12.6	+00.5	256	57.6+03.7	N 25 18.3	-00.6	226	06.3-33.3	N 23 58.1	-01.3	06	
07	285	43.7-00.1	N 21 13.1	+00.4	272	01.3+03.8	N 25 17.7	-00.6	240	33.0-33.2	N 23 56.8	-01.4	07	
08	300	43.6-00.1	N 21 13.5	+00.4	287	05.1+03.8	N 25 17.1	-00.6	254	59.8-33.3	N 23 55.4	-01.5	08	
09	315	43.5-00.1	N 21 13.9	+00.4	302	08.9+03.8	N 25 16.5	-00.6	269	26.5-33.3	N 23 53.9	-01.7	09	
10	330	43.4+00.0	N 21 14.3	+00.4	317	12.7+03.7	N 25 15.9	-00.6	283	53.2-33.3	N 23 52.2	-01.9	10	
11	345	43.4-00.1	N 21 14.7	+00.5	332	16.4+03.8	N 25 15.3	-00.6	298	19.9-33.3	N 23 50.3	-01.9	11	
12	0	43.3-00.1	N 21 15.2	+00.4	347	20.2+03.8	N 25 14.7	-00.6	312	46.6-33.4	N 23 48.4	-02.1	12	
13	15	43.2+00.0	N 21 15.6	+00.4	2	24.0+03.8	N 25 14.1	-00.7	327	13.2-33.3	N 23 46.3	-02.3	13	
14	30	43.2-00.1	N 21 16.0	+00.4	17	27.8+03.8	N 25 13.4	-00.6	341	39.9-33.3	N 23 44.0	-02.4	14	
15	45	43.1-00.1	N 21 16.4	+00.5	32	31.6+03.8	N 25 12.8	-00.6	356	06.6-33.4	N 23 41.6	-02.5	15	
16	60	43.0-00.1	N 21 16.9	+00.4	47	35.4+03.8	N 25 12.2	-00.6	10	33.2-33.3	N 23 39.1	-02.7	16	
17	75	42.9+00.0	N 21 17.3	+00.4	62	39.2+03.8	N 25 11.6	-00.6	24	59.9-33.3	N 23 36.4	-02.8	17	
18	90	42.9-00.1	N 21 17.7	+00.4	77	43.0+03.8	N 25 11.0	-00.6	39	26.6-33.4	N 23 33.6	-02.9	18	
19	105	42.8-00.1	N 21 18.1	+00.4	92	46.8+03.8	N 25 10.4	-00.6	53	53.2-33.3	N 23 30.7	-03.1	19	
20	120	42.7-00.1	N 21 18.5	+00.4	107	50.6+03.8	N 25 09.8	-00.7	68	19.9-33.3	N 23 27.6	-03.2	20	
21	135	42.6+00.0	N 21 18.9	+00.5	122	54.4+03.8	N 25 09.1	-00.6	82	46.6-33.3	N 23 24.4	-03.4	21	
22	150	42.6-00.1	N 21 19.4	+00.4	137	58.2+03.9	N 25 08.5	-00.6	97	13.3-33.4	N 23 21.0	-03.5	22	
23	165	42.5-00.1	N 21 19.8	+00.4	153	02.1+03.8	N 25 07.9	-00.6	111	39.9-33.3	N 23 17.5	-03.6	23	
<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>						
SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'5 00'5 00'5 00'5 00'5 00'5				SD 15'4 15'5 15'5 15'5 15'5 15'6						
HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'5 00'5 00'5 00'5 00'5 00'5				HP 56'7 56'8 56'9 57'0 57'0 57'1						
SHA 297° 296° 296° 296° 296° 296°				SHA 283° 283° 283° 283° 283° 283°				SHA 254° 252° 249° 247° 245° 242°						
Greenwich Culmination Time: 11:57				Greenwich Culmination Time: 12:50				Greenwich Culmination Time: 15:16						
UT	Mars				Jupiter				Saturn				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "		
00	262	51.8+00.9	S 10 22.3	-00.5	304	54.0+02.5	S 20 56.5	+00.0	299	57.6+02.5	S 19 54.1	+00.0	00	
01	277	52.7+00.9	S 10 21.8	-00.6	319	56.5+02.6	S 20 56.5	+00.0	315	00.1+02.5	S 19 54.1	+00.0	01	
02	292	53.6+00.8	S 10 21.2	-00.6	334	59.1+02.5	S 20 56.5	+00.0	330	02.6+02.5	S 19 54.1	+00.0	02	
03	307	54.4+00.9	S 10 20.6	-00.6	350	01.6+02.6	S 20 56.5	+00.1	345	05.1+02.6	S 19 54.1	+00.1	03	
04	322	55.3+00.9	S 10 20.0	-00.5	5	04.2+02.6	S 20 56.6	+00.0	0	07.7+02.5	S 19 54.2	+00.0	04	
05	337	56.2+00.8	S 10 19.5	-00.6	20	06.8+02.5	S 20 56.6	+00.0	15	10.2+02.5	S 19 54.2	+00.0	05	
06	352	57.0+00.9	S 10 18.9	-00.6	35	09.3+02.6	S 20 56.6	+00.0	30	12.7+02.5	S 19 54.2	+00.0	06	
07	7	57.9+00.8	S 10 18.3	-00.6	50	11.9+02.5	S 20 56.6	+00.1	45	15.2+02.6	S 19 54.2	+00.0	07	
08	22	58.7+00.9	S 10 17.7	-00.5	65	14.4+02.6	S 20 56.7	+00.0	60	17.8+02.5	S 19 54.2	+00.0	08	
09	37	59.6+00.9	S 10 17.2	-00.6	80	17.0+02.6	S 20 56.7	+00.0	75	20.3+02.5	S 19 54.2	+00.1	09	
10	53	00.5+00.8	S 10 16.6	-00.6	95	19.6+02.5	S 20 56.7	+00.0	90	22.8+02.5	S 19 54.3	+00.0	10	
11	68	01.3+00.9	S 10 16.0	-00.6	110	22.1+02.6	S 20 56.7	+00.1	105	25.3+02.6	S 19 54.3	+00.0	11	
12	83	02.2+00.9	S 10 15.4	-00.5	125	24.7+02.5	S 20 56.8	+00.0	120	27.9+02.5	S 19 54.3	+00.0	12	
13	98	03.1+00.8	S 10 14.9	-00.6	140	27.2+02.6	S 20 56.8	+00.0	135	30.4+02.5	S 19 54.3	+00.0	13	
14	113	03.9+00.9	S 10 14.3	-00.6	155	29.8+02.6	S 20 56.8	+00.0	150	32.9+02.5	S 19 54.3	+00.1	14	
15	128	04.8+00.8	S 10 13.7	-00.5	170	32.4+02.5	S 20 56.8	+00.1	165	35.4+02.6	S 19 54.4	+00.0	15	
16	143	05.6+00.9	S 10 13.2	-00.6	185	34.9+02.6	S 20 56.9	+00.0	180	38.0+02.5	S 19 54.4	+00.0	16	
17	158	06.5+00.9	S 10 12.6	-00.6	200	37.5+02.5	S 20 56.9	+00.0	195	40.5+02.5	S 19 54.4	+00.0	17	
18	173	07.4+00.8	S 10 12.0	-00.6	215	40.0+02.6	S 20 56.9	+00.0	210	43.0+02.6	S 19 54.4	+00.0	18	
19	188	08.2+00.9	S 10 11.4	-00.5	230	42.6+02.6	S 20 56.9	+00.1	225	45.6+02.5	S 19 54.4	+00.0	19	
20	203	09.1+00.9	S 10 10.9	-00.6	245	45.2+02.5	S 20 57.0	+00.0	240	48.1+02.5	S 19 54.4	+00.1	20	
21	218	10.0+00.8	S 10 10.3	-00.6	260	47.7+02.6	S 20 57.0	+00.0	255	50.6+02.5	S 19 54.5	+00.0	21	
22	233	10.8+00.9	S 10 09.7	-00.6	275	50.3+02.6	S 20 57.0	+00.0	270	53.1+02.6	S 19 54.5	+00.0	22	
23	248	11.7+00.9	S 10 09.1	-00.5	290	52.9+02.5	S 20 57.0	+00.1	285	55.7+02.5	S 19 54.5	+00.0	23	
<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>						
SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'4 00'4 00'4 00'4 00'4 00'4				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 019° 019° 019° 018° 018° 018°				SHA 061° 061° 061° 061° 061° 061°				SHA 056° 056° 056° 056° 056° 056°						
Greenwich Culmination Time: 06:28				Greenwich Culmination Time: 03:39				Greenwich Culmination Time: 03:59						

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UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float: right;">A: 17%</span>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	180 42.4 -00.1	N 21 20.2 +00.4	168 05.9 +03.8	N 25 07.3 -00.6	126 06.6 -33.3	N 23 13.9 -03.8	00						
01	195 42.3 +00.0	N 21 20.6 +00.4	183 09.7 +03.8	N 25 06.7 -00.7	140 33.3 -33.3	N 23 10.1 -03.9	01						
02	210 42.3 -00.1	N 21 21.0 +00.4	198 13.5 +03.9	N 25 06.0 -00.6	155 00.0 -33.2	N 23 06.2 -04.0	02						
03	225 42.2 -00.1	N 21 21.4 +00.4	213 17.4 +03.8	N 25 05.4 -00.6	169 26.8 -33.3	N 23 02.2 -04.2	03						
04	240 42.1 -00.1	N 21 21.8 +00.4	228 21.2 +03.8	N 25 04.8 -00.6	183 53.5 -33.3	N 22 58.0 -04.3	04						
05	255 42.0 +00.0	N 21 22.2 +00.5	243 25.0 +03.9	N 25 04.2 -00.7	198 20.2 -33.2	N 22 53.7 -04.5	05						
06	270 42.0 -00.1	N 21 22.7 +00.4	258 28.9 +03.8	N 25 03.5 -00.6	212 47.0 -33.3	N 22 49.2 -04.6	06						
07	285 41.9 -00.1	N 21 23.1 +00.4	273 32.7 +03.9	N 25 02.9 -00.6	227 13.7 -33.2	N 22 44.6 -04.7	07						
08	300 41.8 -00.1	N 21 23.5 +00.4	288 36.6 +03.8	N 25 02.3 -00.7	241 40.5 -33.2	N 22 39.9 -04.9	08						
09	315 41.7 +00.0	N 21 23.9 +00.4	303 40.4 +03.9	N 25 01.6 -00.6	256 07.3 -33.2	N 22 35.0 -05.0	09						
10	330 41.7 -00.1	N 21 24.3 +00.4	318 44.3 +03.8	N 25 01.0 -00.6	270 34.1 -33.1	N 22 30.0 -05.1	10						
11	345 41.6 -00.1	N 21 24.7 +00.4	333 48.1 +03.9	N 25 00.4 -00.7	285 01.0 -33.2	N 22 24.9 -05.2	11						
12	0 41.5 -00.1	N 21 25.1 +00.4	348 52.0 +03.8	N 24 59.7 -00.6	299 27.8 -33.1	N 22 19.7 -05.4	12						
13	15 41.4 +00.0	N 21 25.5 +00.4	3 55.8 +03.9	N 24 59.1 -00.7	313 54.7 -33.1	N 22 14.3 -05.6	13						
14	30 41.4 -00.1	N 21 25.9 +00.4	18 59.7 +03.9	N 24 58.4 -00.6	328 21.6 -33.1	N 22 08.7 -05.6	14						
15	45 41.3 -00.1	N 21 26.3 +00.4	34 03.6 +03.8	N 24 57.8 -00.6	342 48.5 -33.1	N 22 03.1 -05.8	15						
16	60 41.2 -00.1	N 21 26.7 +00.4	49 07.4 +03.9	N 24 57.2 -00.7	357 15.4 -33.0	N 21 57.3 -05.9	16						
17	75 41.1 +00.0	N 21 27.1 +00.4	64 11.3 +03.9	N 24 56.5 -00.6	11 42.4 -33.0	N 21 51.4 -06.1	17						
18	90 41.1 -00.1	N 21 27.5 +00.4	79 15.2 +03.8	N 24 55.9 -00.7	26 09.4 -33.0	N 21 45.3 -06.2	18						
19	105 41.0 -00.1	N 21 27.9 +00.4	94 19.0 +03.9	N 24 55.2 -00.6	40 36.4 -33.0	N 21 39.1 -06.3	19						
20	120 40.9 -00.1	N 21 28.3 +00.4	109 22.9 +03.9	N 24 54.6 -00.7	55 03.4 -32.9	N 21 32.8 -06.4	20						
21	135 40.8 -00.1	N 21 28.7 +00.4	124 26.8 +03.9	N 24 53.9 -00.6	69 30.5 -32.9	N 21 26.4 -06.6	21						
22	150 40.7 +00.0	N 21 29.1 +00.4	139 30.7 +03.9	N 24 53.3 -00.7	83 57.6 -32.9	N 21 19.8 -06.7	22						
23	165 40.7 -00.1	N 21 29.5 +00.4	154 34.6 +03.9	N 24 52.6 -00.6	98 24.7 -32.9	N 21 13.1 -06.8	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 00'5 00'5 00'5 00'5 00'5 00'5		SD 15'6 15'6 15'6 15'7 15'7 15'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 57'2 57'3 57'4 57'5 57'6 57'7								
	SHA 296° 295° 295° 295° 295° 295°		SHA 283° 283° 283° 283° 284° 284°		SHA 240° 238° 235° 233° 230° 228°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 12:44		Greenwich Culmination Time: 16:11								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	263 12.6 +00.8	S 10 08.6 -00.6	305 55.4 +02.6	S 20 57.1 +00.0	300 58.2 +02.5	S 19 54.5 +00.0	00						
01	278 13.4 +00.9	S 10 08.0 -00.6	320 58.0 +02.6	S 20 57.1 +00.0	316 00.7 +02.6	S 19 54.5 +00.0	01						
02	293 14.3 +00.9	S 10 07.4 -00.6	336 00.6 +02.5	S 20 57.1 +00.0	331 03.3 +02.5	S 19 54.5 +00.1	02						
03	308 15.2 +00.8	S 10 06.8 -00.5	351 03.1 +02.6	S 20 57.1 +00.1	346 05.8 +02.5	S 19 54.6 +00.0	03						
04	323 16.0 +00.9	S 10 06.3 -00.6	6 05.7 +02.6	S 20 57.2 +00.0	1 08.3 +02.5	S 19 54.6 +00.0	04						
05	338 16.9 +00.9	S 10 05.7 -00.6	21 08.3 +02.5	S 20 57.2 +00.0	16 10.8 +02.6	S 19 54.6 +00.0	05						
06	353 17.8 +00.8	S 10 05.1 -00.6	36 10.8 +02.6	S 20 57.2 +00.0	31 13.4 +02.5	S 19 54.6 +00.0	06						
07	8 18.6 +00.9	S 10 04.5 -00.6	51 13.4 +02.6	S 20 57.2 +00.1	46 15.9 +02.5	S 19 54.6 +00.1	07						
08	23 19.5 +00.9	S 10 03.9 -00.5	66 16.0 +02.5	S 20 57.3 +00.0	61 18.4 +02.6	S 19 54.7 +00.0	08						
09	38 20.4 +00.8	S 10 03.4 -00.6	81 18.5 +02.6	S 20 57.3 +00.0	76 21.0 +02.5	S 19 54.7 +00.0	09						
10	53 21.2 +00.9	S 10 02.8 -00.6	96 21.1 +02.6	S 20 57.3 +00.0	91 23.5 +02.5	S 19 54.7 +00.0	10						
11	68 22.1 +00.9	S 10 02.2 -00.6	111 23.7 +02.5	S 20 57.3 +00.1	106 26.0 +02.5	S 19 54.7 +00.0	11						
12	83 23.0 +00.8	S 10 01.6 -00.5	126 26.2 +02.6	S 20 57.4 +00.0	121 28.5 +02.6	S 19 54.7 +00.0	12						
13	98 23.8 +00.9	S 10 01.1 -00.6	141 28.8 +02.6	S 20 57.4 +00.0	136 31.1 +02.5	S 19 54.7 +00.1	13						
14	113 24.7 +00.9	S 10 00.5 -00.6	156 31.4 +02.5	S 20 57.4 +00.1	151 33.6 +02.5	S 19 54.8 +00.0	14						
15	128 25.6 +00.9	S 09 59.9 -00.6	171 33.9 +02.6	S 20 57.5 +00.0	166 36.1 +02.6	S 19 54.8 +00.0	15						
16	143 26.5 +00.8	S 09 59.3 -00.5	186 36.5 +02.6	S 20 57.5 +00.0	181 38.7 +02.5	S 19 54.8 +00.0	16						
17	158 27.3 +00.9	S 09 58.8 -00.6	201 39.1 +02.6	S 20 57.5 +00.0	196 41.2 +02.5	S 19 54.8 +00.0	17						
18	173 28.2 +00.9	S 09 58.2 -00.6	216 41.7 +02.5	S 20 57.5 +00.1	211 43.7 +02.6	S 19 54.8 +00.1	18						
19	188 29.1 +00.8	S 09 57.6 -00.6	231 44.2 +02.6	S 20 57.6 +00.0	226 46.3 +02.5	S 19 54.9 +00.0	19						
20	203 29.9 +00.9	S 09 57.0 -00.5	246 46.8 +02.6	S 20 57.6 +00.0	241 48.8 +02.5	S 19 54.9 +00.0	20						
21	218 30.8 +00.9	S 09 56.5 -00.6	261 49.4 +02.5	S 20 57.6 +00.0	256 51.3 +02.6	S 19 54.9 +00.0	21						
22	233 31.7 +00.8	S 09 55.9 -00.6	276 51.9 +02.6	S 20 57.6 +00.1	271 53.9 +02.5	S 19 54.9 +00.0	22						
23	248 32.5 +00.9	S 09 55.3 -00.6	291 54.5 +02.6	S 20 57.7 +00.0	286 56.4 +02.5	S 19 54.9 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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 018° 018° 018° 018° 018° 018°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:26		Greenwich Culmination Time: 03:35		Greenwich Culmination Time: 03:55								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	40.6 -00.1	N 21 29.9	+00.4	169	38.5 +03.8	N 24 52.0	-00.7	112	51.8 -32.8	N 21 06.3	-07.0	00
01	195	40.5 -00.1	N 21 30.3	+00.4	184	42.3 +03.9	N 24 51.3	-00.6	127	19.0 -32.8	N 20 59.3	-07.1	01
02	210	40.4 -00.1	N 21 30.7	+00.4	199	46.2 +03.9	N 24 50.7	-00.7	141	46.2 -32.8	N 20 52.2	-07.2	02
03	225	40.3 +00.0	N 21 31.1	+00.4	214	50.1 +03.9	N 24 50.0	-00.6	156	13.4 -32.7	N 20 45.0	-07.3	03
04	240	40.3 -00.1	N 21 31.5	+00.4	229	54.0 +03.9	N 24 49.4	-00.7	170	40.7 -32.7	N 20 37.7	-07.5	04
05	255	40.2 -00.1	N 21 31.9	+00.4	244	57.9 +03.9	N 24 48.7	-00.6	185	08.0 -32.7	N 20 30.2	-07.5	05
06	270	40.1 -00.1	N 21 32.3	+00.4	260	01.8 +03.9	N 24 48.1	-00.7	199	35.3 -32.7	N 20 22.7	-07.7	06
07	285	40.0 -00.1	N 21 32.7	+00.4	275	05.7 +04.0	N 24 47.4	-00.6	214	02.6 -32.6	N 20 15.0	-07.9	07
08	300	39.9 +00.0	N 21 33.1	+00.4	290	09.7 +03.9	N 24 46.8	-00.7	228	30.0 -32.5	N 20 07.1	-07.9	08
09	315	39.9 -00.1	N 21 33.5	+00.4	305	13.6 +03.9	N 24 46.1	-00.7	242	57.5 -32.6	N 19 59.2	-08.1	09
10	330	39.8 -00.1	N 21 33.9	+00.4	320	17.5 +03.9	N 24 45.4	-00.6	257	24.9 -32.5	N 19 51.1	-08.2	10
11	345	39.7 -00.1	N 21 34.3	+00.4	335	21.4 +03.9	N 24 44.8	-00.7	271	52.4 -32.5	N 19 42.9	-08.3	11
12	0	39.6 -00.1	N 21 34.7	+00.4	350	25.3 +03.9	N 24 44.1	-00.6	286	19.9 -32.4	N 19 34.6	-08.4	12
13	15	39.5 +00.0	N 21 35.1	+00.4	5	29.2 +04.0	N 24 43.5	-00.7	300	47.5 -32.4	N 19 26.2	-08.5	13
14	30	39.5 -00.1	N 21 35.5	+00.3	20	33.2 +03.9	N 24 42.8	-00.7	315	15.1 -32.4	N 19 17.7	-08.7	14
15	45	39.4 -00.1	N 21 35.8	+00.4	35	37.1 +03.9	N 24 42.1	-00.6	329	42.7 -32.3	N 19 09.0	-08.8	15
16	60	39.3 -00.1	N 21 36.2	+00.4	50	41.0 +03.9	N 24 41.5	-00.7	344	10.4 -32.3	N 19 00.2	-08.8	16
17	75	39.2 -00.1	N 21 36.6	+00.4	65	44.9 +04.0	N 24 40.8	-00.7	358	38.1 -32.3	N 18 51.4	-09.0	17
18	90	39.1 -00.1	N 21 37.0	+00.4	80	48.9 +03.9	N 24 40.1	-00.7	13	05.8 -32.2	N 18 42.4	-09.2	18
19	105	39.0 +00.0	N 21 37.4	+00.4	95	52.8 +03.9	N 24 39.4	-00.6	27	33.6 -32.2	N 18 33.2	-09.2	19
20	120	39.0 -00.1	N 21 37.8	+00.4	110	56.7 +04.0	N 24 38.8	-00.7	42	01.4 -32.2	N 18 24.0	-09.3	20
21	135	38.9 -00.1	N 21 38.2	+00.4	126	00.7 +03.9	N 24 38.1	-00.7	56	29.2 -32.1	N 18 14.7	-09.5	21
22	150	38.8 -00.1	N 21 38.6	+00.3	141	04.6 +04.0	N 24 37.4	-00.7	70	57.1 -32.1	N 18 05.2	-09.5	22
23	165	38.7 -00.1	N 21 38.9	+00.4	156	08.6 +03.9	N 24 36.7	-00.6	85	25.0 -32.0	N 17 55.7	-09.7	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	295°	294°	294°	294°	294°	294°
Greenwich Culmination Time: 11:57						

  

UT	02	06	10	14	18	22
SD	00'5	00'5	00'5	00'5	00'5	00'5
HP	00'5	00'5	00'5	00'5	00'5	00'5
SHA	284°	284°	284°	284°	284°	284°
Greenwich Culmination Time: 12:38						

  

UT	02	06	10	14	18	22
SD	15'7	15'8	15'8	15'8	15'8	15'9
HP	57'8	57'9	57'9	58'0	58'1	58'2
SHA	226°	223°	221°	219°	216°	214°
Greenwich Culmination Time: 17:05						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	263	33.4 +00.9	S 09 54.7	-00.5	306	57.1 +02.6	S 20 57.7	+00.0	301	58.9 +02.6	S 19 55.0	+00.0	00
01	278	34.3 +00.9	S 09 54.2	-00.6	321	59.7 +02.5	S 20 57.7	+00.0	317	01.5 +02.5	S 19 55.0	+00.0	01
02	293	35.2 +00.8	S 09 53.6	-00.6	337	02.2 +02.6	S 20 57.7	+00.1	332	04.0 +02.5	S 19 55.0	+00.0	02
03	308	36.0 +00.9	S 09 53.0	-00.6	352	04.8 +02.6	S 20 57.8	+00.0	347	06.5 +02.6	S 19 55.0	+00.0	03
04	323	36.9 +00.9	S 09 52.4	-00.5	7	07.4 +02.6	S 20 57.8	+00.0	2	09.1 +02.5	S 19 55.0	+00.0	04
05	338	37.8 +00.8	S 09 51.9	-00.6	22	10.0 +02.5	S 20 57.8	+00.1	17	11.6 +02.5	S 19 55.0	+00.1	05
06	353	38.6 +00.9	S 09 51.3	-00.6	37	12.5 +02.6	S 20 57.9	+00.0	32	14.1 +02.6	S 19 55.1	+00.0	06
07	8	39.5 +00.9	S 09 50.7	-00.6	52	15.1 +02.6	S 20 57.9	+00.0	47	16.7 +02.5	S 19 55.1	+00.0	07
08	23	40.4 +00.9	S 09 50.1	-00.6	67	17.7 +02.6	S 20 57.9	+00.0	62	19.2 +02.5	S 19 55.1	+00.0	08
09	38	41.3 +00.8	S 09 49.5	-00.5	82	20.3 +02.5	S 20 57.9	+00.1	77	21.7 +02.6	S 19 55.1	+00.0	09
10	53	42.1 +00.9	S 09 49.0	-00.6	97	22.8 +02.6	S 20 58.0	+00.0	92	24.3 +02.5	S 19 55.1	+00.1	10
11	68	43.0 +00.9	S 09 48.4	-00.6	112	25.4 +02.6	S 20 58.0	+00.0	107	26.8 +02.5	S 19 55.2	+00.0	11
12	83	43.9 +00.8	S 09 47.8	-00.6	127	28.0 +02.6	S 20 58.0	+00.1	122	29.3 +02.6	S 19 55.2	+00.0	12
13	98	44.7 +00.9	S 09 47.2	-00.5	142	30.6 +02.5	S 20 58.1	+00.0	137	31.9 +02.5	S 19 55.2	+00.0	13
14	113	45.6 +00.9	S 09 46.7	-00.6	157	33.1 +02.6	S 20 58.1	+00.0	152	34.4 +02.5	S 19 55.2	+00.0	14
15	128	46.5 +00.9	S 09 46.1	-00.6	172	35.7 +02.6	S 20 58.1	+00.0	167	36.9 +02.6	S 19 55.2	+00.1	15
16	143	47.4 +00.8	S 09 45.5	-00.6	187	38.3 +02.6	S 20 58.1	+00.1	182	39.5 +02.5	S 19 55.3	+00.0	16
17	158	48.2 +00.9	S 09 44.9	-00.5	202	40.9 +02.6	S 20 58.2	+00.0	197	42.0 +02.5	S 19 55.3	+00.0	17
18	173	49.1 +00.9	S 09 44.4	-00.6	217	43.5 +02.5	S 20 58.2	+00.0	212	44.5 +02.6	S 19 55.3	+00.0	18
19	188	50.0 +00.9	S 09 43.8	-00.6	232	46.0 +02.6	S 20 58.2	+00.0	227	47.1 +02.5	S 19 55.3	+00.0	19
20	203	50.9 +00.8	S 09 43.2	-00.6	247	48.6 +02.6	S 20 58.2	+00.1	242	49.6 +02.5	S 19 55.3	+00.1	20
21	218	51.7 +00.9	S 09 42.6	-00.5	262	51.2 +02.6	S 20 58.3	+00.0	257	52.1 +02.6	S 19 55.4	+00.0	21
22	233	52.6 +00.9	S 09 42.1	-00.6	277	53.8 +02.6	S 20 58.3	+00.0	272	54.7 +02.5	S 19 55.4	+00.0	22
23	248	53.5 +00.9	S 09 41.5	-00.6	292	56.4 +02.5	S 20 58.3	+00.1	287	57.2 +02.6	S 19 55.4	+00.0	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	018°	017°	017°	017°	017°	017°
Greenwich Culmination Time: 06:25						

  

UT	02	06	10	14	18	22
SD	00'4	00'4	00'4	00'4	00'4	00'4
HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	061°	061°	061°	061°	061°	061°
Greenwich Culmination Time: 03:31						

  

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	056°	056°	056°	056°	056°	056°
Greenwich Culmination Time: 03:51						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float:right">A: 24%</span>				UT
	GHA ° ' "	ddGHA ° ' "	Dec ° ' "	dDec ° ' "	GHA ° ' "	ddGHA ° ' "	Dec ° ' "	dDec ° ' "	GHA ° ' "	ddGHA ° ' "	Dec ° ' "	dDec ° ' "	
00	180 38.6 +00.0	N 21 39.3 +00.4	171 12.5 +04.0	N 24 36.1 -00.7	99 53.0 -32.0	N 17 46.0 -09.8							
01	195 38.6 -00.1	N 21 39.7 +00.4	186 16.5 +03.9	N 24 35.4 -00.7	114 21.0 -32.0	N 17 36.2 -09.8							
02	210 38.5 -00.1	N 21 40.1 +00.4	201 20.4 +04.0	N 24 34.7 -00.7	128 49.0 -31.9	N 17 26.4 -10.0							
03	225 38.4 -00.1	N 21 40.5 +00.3	216 24.4 +03.9	N 24 34.0 -00.6	143 17.1 -31.9	N 17 16.4 -10.1							
04	240 38.3 -00.1	N 21 40.8 +00.4	231 28.3 +04.0	N 24 33.4 -00.7	157 45.2 -31.9	N 17 06.3 -10.2							
05	255 38.2 -00.1	N 21 41.2 +00.4	246 32.3 +03.9	N 24 32.7 -00.7	172 13.3 -31.8	N 16 56.1 -10.3							
06	270 38.1 -00.1	N 21 41.6 +00.4	261 36.2 +04.0	N 24 32.0 -00.7	186 41.5 -31.8	N 16 45.8 -10.4							
07	285 38.0 +00.0	N 21 42.0 +00.4	276 40.2 +04.0	N 24 31.3 -00.7	201 09.7 -31.7	N 16 35.4 -10.5							
08	300 38.0 -00.1	N 21 42.4 +00.3	291 44.2 +03.9	N 24 30.6 -00.7	215 38.0 -31.8	N 16 24.9 -10.6							
09	315 37.9 -00.1	N 21 42.7 +00.4	306 48.1 +04.0	N 24 29.9 -00.6	230 06.2 -31.6	N 16 14.3 -10.7							
10	330 37.8 -00.1	N 21 43.1 +00.4	321 52.1 +04.0	N 24 29.3 -00.7	244 34.6 -31.7	N 16 03.6 -10.8							
11	345 37.7 -00.1	N 21 43.5 +00.4	336 56.1 +03.9	N 24 28.6 -00.7	259 02.9 -31.6	N 15 52.8 -10.9							
12	0 37.6 -00.1	N 21 43.9 +00.3	352 00.0 +04.0	N 24 27.9 -00.7	273 31.3 -31.6	N 15 41.9 -11.0							
13	15 37.5 +00.0	N 21 44.2 +00.4	7 04.0 +04.0	N 24 27.2 -00.7	287 59.7 -31.5	N 15 30.9 -11.1							
14	30 37.5 -00.1	N 21 44.6 +00.4	22 08.0 +04.0	N 24 26.5 -00.7	302 28.2 -31.5	N 15 19.8 -11.2							
15	45 37.4 -00.1	N 21 45.0 +00.4	37 12.0 +03.9	N 24 25.8 -00.7	316 56.7 -31.5	N 15 08.6 -11.2							
16	60 37.3 -00.1	N 21 45.4 +00.3	52 15.9 +04.0	N 24 25.1 -00.7	331 25.2 -31.4	N 14 57.4 -11.4							
17	75 37.2 -00.1	N 21 45.7 +00.4	67 19.9 +04.0	N 24 24.4 -00.7	345 53.8 -31.4	N 14 46.0 -11.4							
18	90 37.1 -00.1	N 21 46.1 +00.4	82 23.9 +04.0	N 24 23.7 -00.7	0 22.4 -31.4	N 14 34.6 -11.6							
19	105 37.0 -00.1	N 21 46.5 +00.3	97 27.9 +04.0	N 24 23.0 -00.7	14 51.0 -31.3	N 14 23.0 -11.6							
20	120 36.9 -00.1	N 21 46.8 +00.4	112 31.9 +04.0	N 24 22.3 -00.7	29 19.7 -31.3	N 14 11.4 -11.7							
21	135 36.8 +00.0	N 21 47.2 +00.4	127 35.9 +03.9	N 24 21.6 -00.7	43 48.4 -31.2	N 13 59.7 -11.9							
22	150 36.8 -00.1	N 21 47.6 +00.4	142 39.8 +04.0	N 24 20.9 -00.7	58 17.2 -31.3	N 13 47.8 -11.8							
23	165 36.7 -00.1	N 21 48.0 +00.3	157 43.8 +04.0	N 24 20.2 -00.7	72 45.9 -31.2	N 13 36.0 -12.0							
	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 00'5 00'5 00'5 00'5 00'5 00'5		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 00'5 00'5 00'5 00'5 00'5 00'5		HP 58'3 58'4 58'5 58'6 58'7 58'8								
	SHA 294° 293° 293° 293° 293° 293°		SHA 284° 284° 284° 285° 285° 285°		SHA 212° 209° 207° 205° 203° 200°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 12:31		Greenwich Culmination Time: 17:58								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ° ' "	Dec ° ' "	dDec ° ' "	GHA ° ' "	ddGHA ° ' "	Dec ° ' "	dDec ° ' "	GHA ° ' "	ddGHA ° ' "	Dec ° ' "	dDec ° ' "	
00	263 54.4 +00.8	S 09 40.9 -00.6	307 58.9 +02.6	S 20 58.4 +00.0	302 59.8 +02.5	S 19 55.4 +00.0							
01	278 55.2 +00.9	S 09 40.3 -00.6	323 01.5 +02.6	S 20 58.4 +00.0	318 02.3 +02.5	S 19 55.4 +00.1							
02	293 56.1 +00.9	S 09 39.7 -00.5	338 04.1 +02.6	S 20 58.4 +00.0	333 04.8 +02.6	S 19 55.5 +00.0							
03	308 57.0 +00.9	S 09 39.2 -00.6	353 06.7 +02.6	S 20 58.4 +00.1	348 07.4 +02.5	S 19 55.5 +00.0							
04	323 57.9 +00.9	S 09 38.6 -00.6	8 09.3 +02.5	S 20 58.5 +00.0	3 09.9 +02.5	S 19 55.5 +00.0							
05	338 58.8 +00.8	S 09 38.0 -00.6	23 11.8 +02.6	S 20 58.5 +00.0	18 12.4 +02.6	S 19 55.5 +00.0							
06	353 59.6 +00.9	S 09 37.4 -00.5	38 14.4 +02.6	S 20 58.5 +00.1	33 15.0 +02.5	S 19 55.5 +00.1							
07	9 00.5 +00.9	S 09 36.9 -00.6	53 17.0 +02.6	S 20 58.6 +00.0	48 17.5 +02.5	S 19 55.6 +00.0							
08	24 01.4 +00.9	S 09 36.3 -00.6	68 19.6 +02.6	S 20 58.6 +00.0	63 20.0 +02.6	S 19 55.6 +00.0							
09	39 02.3 +00.8	S 09 35.7 -00.6	83 22.2 +02.6	S 20 58.6 +00.0	78 22.6 +02.5	S 19 55.6 +00.0							
10	54 03.1 +00.9	S 09 35.1 -00.6	98 24.8 +02.6	S 20 58.6 +00.1	93 25.1 +02.6	S 19 55.6 +00.0							
11	69 04.0 +00.9	S 09 34.5 -00.5	113 27.4 +02.5	S 20 58.7 +00.0	108 27.7 +02.5	S 19 55.6 +00.1							
12	84 04.9 +00.9	S 09 34.0 -00.6	128 29.9 +02.6	S 20 58.7 +00.0	123 30.2 +02.5	S 19 55.7 +00.0							
13	99 05.8 +00.8	S 09 33.4 -00.6	143 32.5 +02.6	S 20 58.7 +00.1	138 32.7 +02.6	S 19 55.7 +00.0							
14	114 06.6 +00.9	S 09 32.8 -00.6	158 35.1 +02.6	S 20 58.8 +00.0	153 35.3 +02.5	S 19 55.7 +00.0							
15	129 07.5 +00.9	S 09 32.2 -00.5	173 37.7 +02.6	S 20 58.8 +00.0	168 37.8 +02.6	S 19 55.7 +00.0							
16	144 08.4 +00.9	S 09 31.7 -00.6	188 40.3 +02.6	S 20 58.8 +00.1	183 40.4 +02.5	S 19 55.7 +00.1							
17	159 09.3 +00.9	S 09 31.1 -00.6	203 42.9 +02.6	S 20 58.9 +00.0	198 42.9 +02.5	S 19 55.8 +00.0							
18	174 10.2 +00.8	S 09 30.5 -00.6	218 45.5 +02.5	S 20 58.9 +00.0	213 45.4 +02.6	S 19 55.8 +00.0							
19	189 11.0 +00.9	S 09 29.9 -00.6	233 48.0 +02.6	S 20 58.9 +00.0	228 48.0 +02.5	S 19 55.8 +00.0							
20	204 11.9 +00.9	S 09 29.3 -00.5	248 50.6 +02.6	S 20 58.9 +00.1	243 50.5 +02.6	S 19 55.8 +00.0							
21	219 12.8 +00.9	S 09 28.8 -00.6	263 53.2 +02.6	S 20 59.0 +00.0	258 53.1 +02.5	S 19 55.8 +00.1							
22	234 13.7 +00.9	S 09 28.2 -00.6	278 55.8 +02.6	S 20 59.0 +00.0	273 55.6 +02.5	S 19 55.9 +00.0							
23	249 14.6 +00.8	S 09 27.6 -00.6	293 58.4 +02.6	S 20 59.0 +00.1	288 58.1 +02.6	S 19 55.9 +00.0							
	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 00'4 00'4 00'4 00'4 00'4 00'4		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 017° 017° 017° 017° 016° 016°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:24		Greenwich Culmination Time: 03:27		Greenwich Culmination Time: 03:47								

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 36.6 -00.1	N 21 48.3 +00.4	172 47.8 +04.0	N 24 19.5 -00.7	87 14.7 -31.1	N 13 24.0 -12.1	00						
01	195 36.5 -00.1	N 21 48.7 +00.4	187 51.8 +04.0	N 24 18.8 -00.7	101 43.6 -31.2	N 13 11.9 -12.1	01						
02	210 36.4 -00.1	N 21 49.1 +00.3	202 55.8 +04.0	N 24 18.1 -00.7	116 12.4 -31.1	N 12 59.8 -12.2	02						
03	225 36.3 -00.1	N 21 49.4 +00.4	217 59.8 +04.0	N 24 17.4 -00.7	130 41.3 -31.1	N 12 47.6 -12.3	03						
04	240 36.2 -00.1	N 21 49.8 +00.3	233 03.8 +04.0	N 24 16.7 -00.7	145 10.2 -31.0	N 12 35.3 -12.4	04						
05	255 36.1 +00.0	N 21 50.1 +00.4	248 07.8 +04.0	N 24 16.0 -00.7	159 39.2 -31.0	N 12 22.9 -12.5	05						
06	270 36.1 -00.1	N 21 50.5 +00.4	263 11.8 +04.0	N 24 15.3 -00.7	174 08.2 -31.0	N 12 10.4 -12.5	06						
07	285 36.0 -00.1	N 21 50.9 +00.3	278 15.8 +04.0	N 24 14.6 -00.7	188 37.2 -31.0	N 11 57.9 -12.6	07						
08	300 35.9 -00.1	N 21 51.2 +00.4	293 19.8 +04.1	N 24 13.9 -00.7	203 06.2 -30.9	N 11 45.3 -12.7	08						
09	315 35.8 -00.1	N 21 51.6 +00.4	308 23.9 +04.0	N 24 13.2 -00.7	217 35.3 -31.0	N 11 32.6 -12.8	09						
10	330 35.7 -00.1	N 21 52.0 +00.3	323 27.9 +04.0	N 24 12.5 -00.7	232 04.3 -30.8	N 11 19.8 -12.8	10						
11	345 35.6 -00.1	N 21 52.3 +00.4	338 31.9 +04.0	N 24 11.8 -00.7	246 33.5 -30.9	N 11 07.0 -12.9	11						
12	0 35.5 -00.1	N 21 52.7 +00.3	353 35.9 +04.0	N 24 11.1 -00.8	261 02.6 -30.8	N 10 54.1 -13.0	12						
13	15 35.4 -00.1	N 21 53.0 +00.4	8 39.9 +04.0	N 24 10.3 -00.7	275 31.8 -30.8	N 10 41.1 -13.0	13						
14	30 35.3 +00.0	N 21 53.4 +00.4	23 43.9 +04.1	N 24 09.6 -00.7	290 01.0 -30.8	N 10 28.1 -13.1	14						
15	45 35.3 -00.1	N 21 53.8 +00.3	38 48.0 +04.0	N 24 08.9 -00.7	304 30.2 -30.8	N 10 15.0 -13.2	15						
16	60 35.2 -00.1	N 21 54.1 +00.4	53 52.0 +04.0	N 24 08.2 -00.7	318 59.4 -30.7	N 10 01.8 -13.2	16						
17	75 35.1 -00.1	N 21 54.5 +00.3	68 56.0 +04.0	N 24 07.5 -00.7	333 28.7 -30.8	N 09 48.6 -13.3	17						
18	90 35.0 -00.1	N 21 54.8 +00.4	84 00.0 +04.0	N 24 06.8 -00.7	347 57.9 -30.7	N 09 35.3 -13.4	18						
19	105 34.9 -00.1	N 21 55.2 +00.3	99 04.0 +04.1	N 24 06.1 -00.8	2 27.2 -30.7	N 09 21.9 -13.4	19						
20	120 34.8 -00.1	N 21 55.5 +00.4	114 08.1 +04.0	N 24 05.3 -00.7	16 56.5 -30.6	N 09 08.5 -13.5	20						
21	135 34.7 -00.1	N 21 55.9 +00.3	129 12.1 +04.0	N 24 04.6 -00.7	31 25.9 -30.7	N 08 55.0 -13.5	21						
22	150 34.6 -00.1	N 21 56.2 +00.4	144 16.1 +04.1	N 24 03.9 -00.7	45 55.2 -30.6	N 08 41.5 -13.6	22						
23	165 34.5 -00.1	N 21 56.6 +00.3	159 20.2 +04.0	N 24 03.2 -00.7	60 24.6 -30.6	N 08 27.9 -13.6	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 00'5 00'5 00'5 00'5 00'5 00'5		SD 16'0 16'1 16'1 16'1 16'1 16'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 58'8 58'9 59'0 59'1 59'2 59'3								
	SHA 293° 292° 292° 292° 292° 292°		SHA 285° 285° 285° 285° 285° 285°		SHA 198° 196° 194° 191° 189° 187°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 12:25		Greenwich Culmination Time: 18:49								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	264 15.4 +00.9	S 09 27.0 -00.5	309 01.0 +02.6	S 20 59.1 +00.0	304 00.7 +02.5	S 19 55.9 +00.0	00						
01	279 16.3 +00.9	S 09 26.5 -00.6	324 03.6 +02.6	S 20 59.1 +00.0	319 03.2 +02.6	S 19 55.9 +00.0	01						
02	294 17.2 +00.9	S 09 25.9 -00.6	339 06.2 +02.5	S 20 59.1 +00.1	334 05.8 +02.5	S 19 55.9 +00.1	02						
03	309 18.1 +00.9	S 09 25.3 -00.6	354 08.7 +02.6	S 20 59.2 +00.0	349 08.3 +02.5	S 19 56.0 +00.0	03						
04	324 19.0 +00.9	S 09 24.7 -00.6	9 11.3 +02.6	S 20 59.2 +00.0	4 10.8 +02.6	S 19 56.0 +00.0	04						
05	339 19.9 +00.8	S 09 24.1 -00.5	24 13.9 +02.6	S 20 59.2 +00.0	19 13.4 +02.5	S 19 56.0 +00.0	05						
06	354 20.7 +00.9	S 09 23.6 -00.6	39 16.5 +02.6	S 20 59.2 +00.1	34 15.9 +02.6	S 19 56.0 +00.0	06						
07	9 21.6 +00.9	S 09 23.0 -00.6	54 19.1 +02.6	S 20 59.3 +00.0	49 18.5 +02.5	S 19 56.0 +00.1	07						
08	24 22.5 +00.9	S 09 22.4 -00.6	69 21.7 +02.6	S 20 59.3 +00.0	64 21.0 +02.5	S 19 56.1 +00.0	08						
09	39 23.4 +00.9	S 09 21.8 -00.5	84 24.3 +02.6	S 20 59.3 +00.1	79 23.5 +02.6	S 19 56.1 +00.0	09						
10	54 24.3 +00.8	S 09 21.3 -00.6	99 26.9 +02.6	S 20 59.4 +00.0	94 26.1 +02.5	S 19 56.1 +00.0	10						
11	69 25.1 +00.9	S 09 20.7 -00.6	114 29.5 +02.6	S 20 59.4 +00.0	109 28.6 +02.6	S 19 56.1 +00.0	11						
12	84 26.0 +00.9	S 09 20.1 -00.6	129 32.1 +02.6	S 20 59.4 +00.1	124 31.2 +02.5	S 19 56.1 +00.1	12						
13	99 26.9 +00.9	S 09 19.5 -00.6	144 34.7 +02.6	S 20 59.5 +00.0	139 33.7 +02.6	S 19 56.2 +00.0	13						
14	114 27.8 +00.9	S 09 18.9 -00.5	159 37.3 +02.5	S 20 59.5 +00.0	154 36.3 +02.5	S 19 56.2 +00.0	14						
15	129 28.7 +00.9	S 09 18.4 -00.6	174 39.8 +02.6	S 20 59.5 +00.0	169 38.8 +02.5	S 19 56.2 +00.0	15						
16	144 29.6 +00.8	S 09 17.8 -00.6	189 42.4 +02.6	S 20 59.5 +00.1	184 41.3 +02.6	S 19 56.2 +00.0	16						
17	159 30.4 +00.9	S 09 17.2 -00.6	204 45.0 +02.6	S 20 59.6 +00.0	199 43.9 +02.5	S 19 56.2 +00.1	17						
18	174 31.3 +00.9	S 09 16.6 -00.5	219 47.6 +02.6	S 20 59.6 +00.0	214 46.4 +02.6	S 19 56.3 +00.0	18						
19	189 32.2 +00.9	S 09 16.1 -00.6	234 50.2 +02.6	S 20 59.6 +00.1	229 49.0 +02.5	S 19 56.3 +00.0	19						
20	204 33.1 +00.9	S 09 15.5 -00.6	249 52.8 +02.6	S 20 59.7 +00.0	244 51.5 +02.6	S 19 56.3 +00.0	20						
21	219 34.0 +00.9	S 09 14.9 -00.6	264 55.4 +02.6	S 20 59.7 +00.0	259 54.1 +02.5	S 19 56.3 +00.1	21						
22	234 34.9 +00.9	S 09 14.3 -00.6	279 58.0 +02.6	S 20 59.7 +00.1	274 56.6 +02.5	S 19 56.4 +00.0	22						
23	249 35.8 +00.8	S 09 13.7 -00.5	295 00.6 +02.6	S 20 59.8 +00.0	289 59.1 +02.6	S 19 56.4 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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 016° 016° 016° 016° 016° 016°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:22		Greenwich Culmination Time: 03:23		Greenwich Culmination Time: 03:43								

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 34.4 -00.1	N 21 56.9 +00.4	174 24.2 +04.0	N 24 02.5 -00.8	74 54.0 -30.6	N 08 14.3 -13.7	00						
01	195 34.3 +00.0	N 21 57.3 +00.3	189 28.2 +04.1	N 24 01.7 -00.7	89 23.4 -30.6	N 08 00.6 -13.8	01						
02	210 34.3 -00.1	N 21 57.6 +00.4	204 32.3 +04.0	N 24 01.0 -00.7	103 52.8 -30.6	N 07 46.8 -13.8	02						
03	225 34.2 -00.1	N 21 58.0 +00.3	219 36.3 +04.0	N 24 00.3 -00.7	118 22.2 -30.5	N 07 33.0 -13.9	03						
04	240 34.1 -00.1	N 21 58.3 +00.4	234 40.3 +04.1	N 23 59.6 -00.8	132 51.7 -30.6	N 07 19.1 -13.9	04						
05	255 34.0 -00.1	N 21 58.7 +00.3	249 44.4 +04.0	N 23 58.8 -00.7	147 21.1 -30.5	N 07 05.2 -13.9	05						
06	270 33.9 -00.1	N 21 59.0 +00.4	264 48.4 +04.1	N 23 58.1 -00.7	161 50.6 -30.5	N 06 51.3 -14.0	06						
07	285 33.8 -00.1	N 21 59.4 +00.3	279 52.5 +04.0	N 23 57.4 -00.8	176 20.1 -30.5	N 06 37.3 -14.1	07						
08	300 33.7 -00.1	N 21 59.7 +00.4	294 56.5 +04.0	N 23 56.6 -00.7	190 49.6 -30.6	N 06 23.2 -14.1	08						
09	315 33.6 -00.1	N 22 00.1 +00.3	310 00.5 +04.1	N 23 55.9 -00.7	205 19.0 -30.5	N 06 09.1 -14.1	09						
10	330 33.5 -00.1	N 22 00.4 +00.4	325 04.6 +04.0	N 23 55.2 -00.8	219 48.5 -30.4	N 05 55.0 -14.2	10						
11	345 33.4 -00.1	N 22 00.8 +00.3	340 08.6 +04.1	N 23 54.4 -00.7	234 18.1 -30.5	N 05 40.8 -14.2	11						
12	0 33.3 -00.1	N 22 01.1 +00.4	355 12.7 +04.0	N 23 53.7 -00.7	248 47.6 -30.5	N 05 26.6 -14.3	12						
13	15 33.2 -00.1	N 22 01.5 +00.3	10 16.7 +04.1	N 23 53.0 -00.8	263 17.1 -30.5	N 05 12.3 -14.2	13						
14	30 33.1 -00.1	N 22 01.8 +00.3	25 20.8 +04.0	N 23 52.2 -00.7	277 46.6 -30.5	N 04 58.1 -14.4	14						
15	45 33.0 -00.1	N 22 02.1 +00.4	40 24.8 +04.1	N 23 51.5 -00.7	292 16.1 -30.4	N 04 43.7 -14.3	15						
16	60 32.9 +00.0	N 22 02.5 +00.3	55 28.9 +04.0	N 23 50.8 -00.8	306 45.7 -30.5	N 04 29.4 -14.4	16						
17	75 32.9 -00.1	N 22 02.8 +00.4	70 32.9 +04.1	N 23 50.0 -00.7	321 15.2 -30.5	N 04 15.0 -14.5	17						
18	90 32.8 -00.1	N 22 03.2 +00.3	85 37.0 +04.1	N 23 49.3 -00.7	335 44.7 -30.4	N 04 00.5 -14.4	18						
19	105 32.7 -00.1	N 22 03.5 +00.3	100 41.1 +04.0	N 23 48.6 -00.8	350 14.3 -30.5	N 03 46.1 -14.5	19						
20	120 32.6 -00.1	N 22 03.8 +00.4	115 45.1 +04.1	N 23 47.8 -00.7	4 43.8 -30.5	N 03 31.6 -14.5	20						
21	135 32.5 -00.1	N 22 04.2 +00.3	130 49.2 +04.0	N 23 47.1 -00.8	19 13.3 -30.4	N 03 17.1 -14.6	21						
22	150 32.4 -00.1	N 22 04.5 +00.3	145 53.2 +04.1	N 23 46.3 -00.7	33 42.9 -30.5	N 03 02.5 -14.6	22						
23	165 32.3 -00.1	N 22 04.8 +00.4	160 57.3 +04.0	N 23 45.6 -00.7	48 12.4 -30.5	N 02 47.9 -14.6	23						
	UT 02 06 10 14 18 22	SD 15'8 15'8 15'8 15'8 15'8 15'8	UT 02 06 10 14 18 22	SD 00'5 00'5 00'5 00'5 00'5 00'5	UT 02 06 10 14 18 22	SD 16'2 16'2 16'2 16'2 16'2 16'3							
	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 00'5 00'5 00'5 00'5 00'5 00'5	HP 59'3 59'4 59'5 59'6 59'6 59'7								
	SHA 292° 291° 291° 291° 291° 291°	SHA 286° 286° 286° 286° 286° 286°		SHA 185° 183° 180° 178° 176° 174°	SHA 185° 183° 180° 178° 176° 174°								
	Greenwich Culmination Time: 11:57	Greenwich Culmination Time: 12:19		Greenwich Culmination Time: 19:40									

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	264 36.6 +00.9	S 09 13.2 -00.6	310 03.2 +02.6	S 20 59.8 +00.0	305 01.7 +02.5	S 19 56.4 +00.0	00						
01	279 37.5 +00.9	S 09 12.6 -00.6	325 05.8 +02.6	S 20 59.8 +00.1	320 04.2 +02.6	S 19 56.4 +00.0	01						
02	294 38.4 +00.9	S 09 12.0 -00.6	340 08.4 +02.6	S 20 59.9 +00.0	335 06.8 +02.5	S 19 56.4 +00.1	02						
03	309 39.3 +00.9	S 09 11.4 -00.6	355 11.0 +02.6	S 20 59.9 +00.0	350 09.3 +02.6	S 19 56.5 +00.0	03						
04	324 40.2 +00.9	S 09 10.8 -00.5	10 13.6 +02.6	S 20 59.9 +00.1	5 11.9 +02.5	S 19 56.5 +00.0	04						
05	339 41.1 +00.9	S 09 10.3 -00.6	25 16.2 +02.6	S 20 60.0 +00.0	20 14.4 +02.6	S 19 56.5 +00.0	05						
06	354 42.0 +00.8	S 09 09.7 -00.6	40 18.8 +02.6	S 20 60.0 +00.0	35 17.0 +02.5	S 19 56.5 +00.0	06						
07	9 42.8 +00.9	S 09 09.1 -00.6	55 21.4 +02.6	S 21 00.0 +00.0	50 19.5 +02.5	S 19 56.5 +00.1	07						
08	24 43.7 +00.9	S 09 08.5 -00.5	70 24.0 +02.6	S 21 00.0 +00.1	65 22.0 +02.6	S 19 56.6 +00.0	08						
09	39 44.6 +00.9	S 09 08.0 -00.6	85 26.6 +02.6	S 21 00.1 +00.0	80 24.6 +02.5	S 19 56.6 +00.0	09						
10	54 45.5 +00.9	S 09 07.4 -00.6	100 29.2 +02.6	S 21 00.1 +00.0	95 27.1 +02.6	S 19 56.6 +00.0	10						
11	69 46.4 +00.9	S 09 06.8 -00.6	115 31.8 +02.6	S 21 00.1 +00.1	110 29.7 +02.5	S 19 56.6 +00.1	11						
12	84 47.3 +00.9	S 09 06.2 -00.6	130 34.4 +02.6	S 21 00.2 +00.0	125 32.2 +02.6	S 19 56.7 +00.0	12						
13	99 48.2 +00.9	S 09 05.6 -00.5	145 37.0 +02.6	S 21 00.2 +00.0	140 34.8 +02.5	S 19 56.7 +00.0	13						
14	114 49.1 +00.8	S 09 05.1 -00.6	160 39.6 +02.6	S 21 00.2 +00.1	155 37.3 +02.6	S 19 56.7 +00.0	14						
15	129 49.9 +00.9	S 09 04.5 -00.6	175 42.2 +02.6	S 21 00.3 +00.0	170 39.9 +02.5	S 19 56.7 +00.0	15						
16	144 50.8 +00.9	S 09 03.9 -00.6	190 44.8 +02.6	S 21 00.3 +00.0	185 42.4 +02.6	S 19 56.7 +00.1	16						
17	159 51.7 +00.9	S 09 03.3 -00.6	205 47.4 +02.6	S 21 00.3 +00.1	200 45.0 +02.5	S 19 56.8 +00.0	17						
18	174 52.6 +00.9	S 09 02.7 -00.5	220 50.0 +02.6	S 21 00.4 +00.0	215 47.5 +02.6	S 19 56.8 +00.0	18						
19	189 53.5 +00.9	S 09 02.2 -00.6	235 52.6 +02.6	S 21 00.4 +00.0	230 50.1 +02.5	S 19 56.8 +00.0	19						
20	204 54.4 +00.9	S 09 01.6 -00.6	250 55.2 +02.6	S 21 00.4 +00.1	245 52.6 +02.5	S 19 56.8 +00.1	20						
21	219 55.3 +00.9	S 09 01.0 -00.6	265 57.8 +02.6	S 21 00.5 +00.0	260 55.1 +02.6	S 19 56.9 +00.0	21						
22	234 56.2 +00.9	S 09 00.4 -00.6	281 00.4 +02.6	S 21 00.5 +00.0	275 57.7 +02.5	S 19 56.9 +00.0	22						
23	249 57.1 +00.9	S 08 59.8 -00.5	296 03.0 +02.6	S 21 00.5 +00.1	291 00.2 +02.6	S 19 56.9 +00.0	23						
	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	UT 02 06 10 14 18 22	SD 00'4 00'4 00'4 00'4 00'4 00'4	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	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 016° 016° 015° 015° 015° 015°	SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°	SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:21	Greenwich Culmination Time: 03:19		Greenwich Culmination Time: 03:39									

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	32.2 -00.1	N 22 05.2	+00.3	176	01.3 +04.1	N 23 44.9	-00.8	62	41.9 -30.5	N 02 33.3	-14.6	00
01	195	32.1 -00.1	N 22 05.5	+00.3	191	05.4 +04.1	N 23 44.1	-00.7	77	11.4 -30.5	N 02 18.7	-14.6	01
02	210	32.0 -00.1	N 22 05.8	+00.4	206	09.5 +04.0	N 23 43.4	-00.8	91	40.9 -30.5	N 02 04.1	-14.7	02
03	225	31.9 -00.1	N 22 06.2	+00.3	221	13.5 +04.1	N 23 42.6	-00.7	106	10.4 -30.5	N 01 49.4	-14.6	03
04	240	31.8 -00.1	N 22 06.5	+00.3	236	17.6 +04.1	N 23 41.9	-00.8	120	39.9 -30.5	N 01 34.8	-14.7	04
05	255	31.7 -00.1	N 22 06.8	+00.4	251	21.7 +04.0	N 23 41.1	-00.7	135	09.4 -30.6	N 01 20.1	-14.7	05
06	270	31.6 -00.1	N 22 07.2	+00.3	266	25.7 +04.1	N 23 40.4	-00.7	149	38.8 -30.5	N 01 05.4	-14.8	06
07	285	31.5 -00.1	N 22 07.5	+00.3	281	29.8 +04.1	N 23 39.7	-00.8	164	08.3 -30.6	N 00 50.6	-14.7	07
08	300	31.4 -00.1	N 22 07.8	+00.4	296	33.9 +04.0	N 23 38.9	-00.7	178	37.7 -30.5	N 00 35.9	-14.7	08
09	315	31.3 -00.1	N 22 08.2	+00.3	311	37.9 +04.1	N 23 38.2	-00.8	193	07.2 -30.6	N 00 21.2	-14.8	09
10	330	31.2 -00.1	N 22 08.5	+00.3	326	42.0 +04.1	N 23 37.4	-00.7	207	36.6 -30.6	N 00 06.4	-14.8	10
11	345	31.1 -00.1	N 22 08.8	+00.4	341	46.1 +04.0	N 23 36.7	-00.8	222	06.0 -30.7	S 00 08.4	+14.7	11
12	0	31.0 -00.1	N 22 09.2	+00.3	356	50.1 +04.1	N 23 35.9	-00.7	236	35.3 -30.6	S 00 23.1	+14.8	12
13	15	30.9 -00.1	N 22 09.5	+00.3	11	54.2 +04.1	N 23 35.2	-00.8	251	04.7 -30.7	S 00 37.9	+14.8	13
14	30	30.8 -00.1	N 22 09.8	+00.3	26	58.3 +04.1	N 23 34.4	-00.7	265	34.0 -30.6	S 00 52.7	+14.7	14
15	45	30.7 -00.1	N 22 10.1	+00.4	42	02.4 +04.0	N 23 33.7	-00.8	280	03.4 -30.7	S 01 07.4	+14.8	15
16	60	30.6 -00.1	N 22 10.5	+00.3	57	06.4 +04.1	N 23 32.9	-00.8	294	32.7 -30.7	S 01 22.2	+14.8	16
17	75	30.5 -00.1	N 22 10.8	+00.3	72	10.5 +04.1	N 23 32.1	-00.7	309	02.0 -30.8	S 01 37.0	+14.8	17
18	90	30.4 -00.1	N 22 11.1	+00.3	87	14.6 +04.1	N 23 31.4	-00.8	323	31.2 -30.8	S 01 51.8	+14.8	18
19	105	30.3 -00.1	N 22 11.4	+00.3	102	18.7 +04.0	N 23 30.6	-00.7	338	00.4 -30.7	S 02 06.6	+14.7	19
20	120	30.2 -00.1	N 22 11.7	+00.4	117	22.7 +04.1	N 23 29.9	-00.8	352	29.7 -30.9	S 02 21.3	+14.8	20
21	135	30.1 -00.1	N 22 12.1	+00.3	132	26.8 +04.1	N 23 29.1	-00.7	6	58.8 -30.8	S 02 36.1	+14.7	21
22	150	30.0 -00.1	N 22 12.4	+00.3	147	30.9 +04.1	N 23 28.4	-00.8	21	28.0 -30.9	S 02 50.8	+14.8	22
23	165	29.9 -00.1	N 22 12.7	+00.3	162	35.0 +04.0	N 23 27.6	-00.8	35	57.1 -30.9	S 03 05.6	+14.7	23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'5 00'5 00'5 00'5 00'5 00'5				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 00'5 00'5 00'5 00'5 00'5 00'5				HP 59'8 59'8 59'9 59'9 60'0 60'0				
	SHA 291° 290° 290° 290° 290° 290°				SHA 286° 286° 286° 286° 287° 287°				SHA 172° 169° 167° 165° 163° 161°				
	Greenwich Culmination Time: 11:57				Greenwich Culmination Time: 12:12				Greenwich Culmination Time: 20:31				

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	264	58.0 +00.8	S 08 59.3	-00.6	311	05.6 +02.6	S 21 00.6	+00.0	306	02.8 +02.5	S 19 56.9	+00.0	00
01	279	58.8 +00.9	S 08 58.7	-00.6	326	08.2 +02.6	S 21 00.6	+00.0	321	05.3 +02.6	S 19 56.9	+00.1	01
02	294	59.7 +00.9	S 08 58.1	-00.6	341	10.8 +02.6	S 21 00.6	+00.1	336	07.9 +02.5	S 19 57.0	+00.0	02
03	310	00.6 +00.9	S 08 57.5	-00.5	356	13.4 +02.6	S 21 00.7	+00.0	351	10.4 +02.6	S 19 57.0	+00.0	03
04	325	01.5 +00.9	S 08 57.0	-00.6	11	16.0 +02.6	S 21 00.7	+00.0	6	13.0 +02.5	S 19 57.0	+00.0	04
05	340	02.4 +00.9	S 08 56.4	-00.6	26	18.6 +02.7	S 21 00.7	+00.1	21	15.5 +02.6	S 19 57.0	+00.0	05
06	355	03.3 +00.9	S 08 55.8	-00.6	41	21.3 +02.6	S 21 00.8	+00.0	36	18.1 +02.5	S 19 57.0	+00.1	06
07	10	04.2 +00.9	S 08 55.2	-00.6	56	23.9 +02.6	S 21 00.8	+00.0	51	20.6 +02.6	S 19 57.1	+00.0	07
08	25	05.1 +00.9	S 08 54.6	-00.5	71	26.5 +02.6	S 21 00.8	+00.1	66	23.2 +02.5	S 19 57.1	+00.0	08
09	40	06.0 +00.9	S 08 54.1	-00.6	86	29.1 +02.6	S 21 00.9	+00.0	81	25.7 +02.6	S 19 57.1	+00.0	09
10	55	06.9 +00.9	S 08 53.5	-00.6	101	31.7 +02.6	S 21 00.9	+00.0	96	28.3 +02.5	S 19 57.1	+00.1	10
11	70	07.8 +00.9	S 08 52.9	-00.6	116	34.3 +02.6	S 21 00.9	+00.1	111	30.8 +02.6	S 19 57.2	+00.0	11
12	85	08.7 +00.8	S 08 52.3	-00.6	131	36.9 +02.6	S 21 01.0	+00.0	126	33.4 +02.5	S 19 57.2	+00.0	12
13	100	09.5 +00.9	S 08 51.7	-00.5	146	39.5 +02.6	S 21 01.0	+00.0	141	35.9 +02.6	S 19 57.2	+00.0	13
14	115	10.4 +00.9	S 08 51.2	-00.6	161	42.1 +02.6	S 21 01.0	+00.1	156	38.5 +02.5	S 19 57.2	+00.1	14
15	130	11.3 +00.9	S 08 50.6	-00.6	176	44.7 +02.6	S 21 01.1	+00.0	171	41.0 +02.6	S 19 57.3	+00.0	15
16	145	12.2 +00.9	S 08 50.0	-00.6	191	47.3 +02.6	S 21 01.1	+00.0	186	43.6 +02.5	S 19 57.3	+00.0	16
17	160	13.1 +00.9	S 08 49.4	-00.6	206	49.9 +02.7	S 21 01.1	+00.1	201	46.1 +02.6	S 19 57.3	+00.0	17
18	175	14.0 +00.9	S 08 48.8	-00.5	221	52.6 +02.6	S 21 01.2	+00.0	216	48.7 +02.5	S 19 57.3	+00.0	18
19	190	14.9 +00.9	S 08 48.3	-00.6	236	55.2 +02.6	S 21 01.2	+00.0	231	51.2 +02.6	S 19 57.3	+00.1	19
20	205	15.8 +00.9	S 08 47.7	-00.6	251	57.8 +02.6	S 21 01.2	+00.1	246	53.8 +02.5	S 19 57.4	+00.0	20
21	220	16.7 +00.9	S 08 47.1	-00.6	267	00.4 +02.6	S 21 01.3	+00.0	261	56.3 +02.6	S 19 57.4	+00.0	21
22	235	17.6 +00.9	S 08 46.5	-00.6	282	03.0 +02.6	S 21 01.3	+00.0	276	58.9 +02.5	S 19 57.4	+00.0	22
23	250	18.5 +00.9	S 08 45.9	-00.5	297	05.6 +02.6	S 21 01.3	+00.1	292	01.4 +02.6	S 19 57.4	+00.1	23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'4 00'4 00'4 00'4 00'4 00'4				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 015° 015° 015° 015° 015° 014°				SHA 061° 061° 061° 061° 061° 061°				SHA 056° 056° 056° 056° 056° 056°				
	Greenwich Culmination Time: 06:19				Greenwich Culmination Time: 03:15				Greenwich Culmination Time: 03:35				

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 29.8 -00.1	N 22 13.0 +00.3			177 39.0 +04.1	N 23 26.8 -00.7			50 26.2 -30.9	S 03 20.3 +14.7			00
01	195 29.7 -00.1	N 22 13.3 +00.4			192 43.1 +04.1	N 23 26.1 -00.8			64 55.3 -30.9	S 03 35.0 +14.7			01
02	210 29.6 -00.1	N 22 13.7 +00.3			207 47.2 +04.1	N 23 25.3 -00.7			79 24.4 -31.0	S 03 49.7 +14.7			02
03	225 29.5 -00.1	N 22 14.0 +00.3			222 51.3 +04.1	N 23 24.6 -00.8			93 53.4 -31.1	S 04 04.4 +14.7			03
04	240 29.4 -00.1	N 22 14.3 +00.3			237 55.4 +04.0	N 23 23.8 -00.8			108 22.3 -31.0	S 04 19.1 +14.6			04
05	255 29.3 -00.1	N 22 14.6 +00.3			252 59.4 +04.1	N 23 23.0 -00.7			122 51.3 -31.1	S 04 33.7 +14.6			05
06	270 29.2 -00.1	N 22 14.9 +00.3			268 03.5 +04.1	N 23 22.3 -00.8			137 20.2 -31.1	S 04 48.3 +14.6			06
07	285 29.1 -00.1	N 22 15.2 +00.4			283 07.6 +04.1	N 23 21.5 -00.7			151 49.1 -31.2	S 05 02.9 +14.6			07
08	300 29.0 -00.1	N 22 15.6 +00.3			298 11.7 +04.1	N 23 20.8 -00.8			166 17.9 -31.2	S 05 17.5 +14.6			08
09	315 28.9 -00.1	N 22 15.9 +00.3			313 15.8 +04.0	N 23 20.0 -00.8			180 46.7 -31.2	S 05 32.1 +14.5			09
10	330 28.8 -00.1	N 22 16.2 +00.3			328 19.8 +04.1	N 23 19.2 -00.7			195 15.5 -31.3	S 05 46.6 +14.5			10
11	345 28.7 -00.1	N 22 16.5 +00.3			343 23.9 +04.1	N 23 18.5 -00.8			209 44.2 -31.3	S 06 01.1 +14.5			11
12	0 28.6 -00.1	N 22 16.8 +00.3			358 28.0 +04.1	N 23 17.7 -00.8			224 12.9 -31.3	S 06 15.6 +14.4			12
13	15 28.5 -00.1	N 22 17.1 +00.3			13 32.1 +04.1	N 23 16.9 -00.7			238 41.6 -31.4	S 06 30.0 +14.4			13
14	30 28.4 -00.1	N 22 17.4 +00.3			28 36.2 +04.1	N 23 16.2 -00.8			253 10.2 -31.4	S 06 44.4 +14.4			14
15	45 28.3 -00.1	N 22 17.7 +00.3			43 40.3 +04.0	N 23 15.4 -00.8			267 38.8 -31.5	S 06 58.8 +14.3			15
16	60 28.2 -00.1	N 22 18.0 +00.4			58 44.3 +04.1	N 23 14.6 -00.7			282 07.3 -31.5	S 07 13.1 +14.3			16
17	75 28.1 -00.1	N 22 18.4 +00.3			73 48.4 +04.1	N 23 13.9 -00.8			296 35.8 -31.6	S 07 27.4 +14.2			17
18	90 28.0 -00.1	N 22 18.7 +00.3			88 52.5 +04.1	N 23 13.1 -00.8			311 04.2 -31.5	S 07 41.6 +14.2			18
19	105 27.9 -00.1	N 22 19.0 +00.3			103 56.6 +04.1	N 23 12.3 -00.7			325 32.7 -31.7	S 07 55.8 +14.2			19
20	120 27.8 -00.1	N 22 19.3 +00.3			119 00.7 +04.1	N 23 11.6 -00.8			340 01.0 -31.7	S 08 10.0 +14.1			20
21	135 27.7 -00.1	N 22 19.6 +00.3			134 04.8 +04.1	N 23 10.8 -00.8			354 29.3 -31.7	S 08 24.1 +14.1			21
22	150 27.6 -00.1	N 22 19.9 +00.3			149 08.9 +04.0	N 23 10.0 -00.8			8 57.6 -31.8	S 08 38.2 +14.0			22
23	165 27.5 -00.1	N 22 20.2 +00.3			164 12.9 +04.1	N 23 09.2 -00.7			23 25.8 -31.8	S 08 52.2 +14.0			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 00'5 00'5 00'5 00'5 00'5 00'5				SD 16'4 16'4 16'4 16'4 16'4 16'4				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'5 00'5 00'5 00'5 00'5 00'5				HP 60'0 60'1 60'1 60'1 60'1 60'1				
	SHA 289° 289° 289° 289° 289° 289°				SHA 287° 287° 287° 287° 287° 287°				SHA 158° 156° 154° 152° 149° 147°				
	Greenwich Culmination Time: 11:58				Greenwich Culmination Time: 12:06				Greenwich Culmination Time: 21:22				

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	265 19.4 +00.9	S 08 45.4 -00.6			312 08.2 +02.6	S 21 01.4 +00.0			307 04.0 +02.5	S 19 57.5 +00.0			00
01	280 20.3 +00.9	S 08 44.8 -00.6			327 10.8 +02.6	S 21 01.4 +00.0			322 06.5 +02.6	S 19 57.5 +00.0			01
02	295 21.2 +00.9	S 08 44.2 -00.6			342 13.4 +02.7	S 21 01.4 +00.1			337 09.1 +02.5	S 19 57.5 +00.0			02
03	310 22.1 +00.9	S 08 43.6 -00.6			357 16.1 +02.6	S 21 01.5 +00.0			352 11.6 +02.6	S 19 57.5 +00.0			03
04	325 23.0 +00.9	S 08 43.0 -00.5			12 18.7 +02.6	S 21 01.5 +00.0			7 14.2 +02.5	S 19 57.5 +00.1			04
05	340 23.9 +00.9	S 08 42.5 -00.6			27 21.3 +02.6	S 21 01.5 +00.1			22 16.7 +02.6	S 19 57.6 +00.0			05
06	355 24.8 +00.9	S 08 41.9 -00.6			42 23.9 +02.6	S 21 01.6 +00.0			37 19.3 +02.5	S 19 57.6 +00.0			06
07	10 25.7 +00.8	S 08 41.3 -00.6			57 26.5 +02.6	S 21 01.6 +00.0			52 21.8 +02.6	S 19 57.6 +00.0			07
08	25 26.5 +00.9	S 08 40.7 -00.6			72 29.1 +02.6	S 21 01.6 +00.1			67 24.4 +02.6	S 19 57.6 +00.1			08
09	40 27.4 +00.9	S 08 40.1 -00.5			87 31.7 +02.7	S 21 01.7 +00.0			82 27.0 +02.5	S 19 57.7 +00.0			09
10	55 28.3 +00.9	S 08 39.6 -00.6			102 34.4 +02.6	S 21 01.7 +00.0			97 29.5 +02.6	S 19 57.7 +00.0			10
11	70 29.2 +00.9	S 08 39.0 -00.6			117 37.0 +02.6	S 21 01.7 +00.1			112 32.1 +02.5	S 19 57.7 +00.0			11
12	85 30.1 +00.9	S 08 38.4 -00.6			132 39.6 +02.6	S 21 01.8 +00.0			127 34.6 +02.6	S 19 57.7 +00.1			12
13	100 31.0 +00.9	S 08 37.8 -00.6			147 42.2 +02.6	S 21 01.8 +00.0			142 37.2 +02.5	S 19 57.8 +00.0			13
14	115 31.9 +00.9	S 08 37.2 -00.5			162 44.8 +02.6	S 21 01.8 +00.1			157 39.7 +02.6	S 19 57.8 +00.0			14
15	130 32.8 +00.9	S 08 36.7 -00.6			177 47.4 +02.7	S 21 01.9 +00.0			172 42.3 +02.5	S 19 57.8 +00.0			15
16	145 33.7 +00.9	S 08 36.1 -00.6			192 50.1 +02.6	S 21 01.9 +00.0			187 44.8 +02.6	S 19 57.8 +00.0			16
17	160 34.6 +00.9	S 08 35.5 -00.6			207 52.7 +02.6	S 21 01.9 +00.1			202 47.4 +02.5	S 19 57.8 +00.1			17
18	175 35.5 +00.9	S 08 34.9 -00.6			222 55.3 +02.6	S 21 02.0 +00.0			217 49.9 +02.6	S 19 57.9 +00.0			18
19	190 36.4 +00.9	S 08 34.3 -00.5			237 57.9 +02.6	S 21 02.0 +00.1			232 52.5 +02.5	S 19 57.9 +00.0			19
20	205 37.3 +00.9	S 08 33.8 -00.6			253 00.5 +02.6	S 21 02.1 +00.0			247 55.0 +02.6	S 19 57.9 +00.0			20
21	220 38.2 +00.9	S 08 33.2 -00.6			268 03.1 +02.7	S 21 02.1 +00.0			262 57.6 +02.6	S 19 57.9 +00.1			21
22	235 39.1 +00.9	S 08 32.6 -00.6			283 05.8 +02.6	S 21 02.1 +00.1			278 00.2 +02.5	S 19 58.0 +00.0			22
23	250 40.0 +00.9	S 08 32.0 -00.5			298 08.4 +02.6	S 21 02.2 +00.0			293 02.7 +02.6	S 19 58.0 +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 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'4 00'4 00'4 00'4 00'4 00'4				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 014° 014° 014° 014° 014° 014°				SHA 061° 061° 061° 061° 061° 061°				SHA 056° 056° 056° 056° 056° 056°				
	Greenwich Culmination Time: 06:18				Greenwich Culmination Time: 03:10				Greenwich Culmination Time: 03:31				

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 27.4 -00.1	N 22 20.5 +00.3	179 17.0 +04.1	N 23 08.5 -00.8	37 54.0 -31.9	S 09 06.2 +13.9	00						
01	195 27.3 -00.1	N 22 20.8 +00.3	194 21.1 +04.1	N 23 07.7 -00.8	52 22.1 -31.9	S 09 20.1 +13.8	01						
02	210 27.2 -00.1	N 22 21.1 +00.3	209 25.2 +04.1	N 23 06.9 -00.7	66 50.2 -32.0	S 09 33.9 +13.9	02						
03	225 27.1 -00.1	N 22 21.4 +00.3	224 29.3 +04.1	N 23 06.2 -00.8	81 18.2 -32.0	S 09 47.8 +13.7	03						
04	240 27.0 -00.1	N 22 21.7 +00.3	239 33.4 +04.0	N 23 05.4 -00.8	95 46.2 -32.1	S 10 01.5 +13.7	04						
05	255 26.9 -00.1	N 22 22.0 +00.3	254 37.4 +04.1	N 23 04.6 -00.8	110 14.1 -32.2	S 10 15.2 +13.6	05						
06	270 26.8 -00.1	N 22 22.3 +00.3	269 41.5 +04.1	N 23 03.8 -00.7	124 41.9 -32.1	S 10 28.8 +13.6	06						
07	285 26.7 -00.1	N 22 22.6 +00.3	284 45.6 +04.1	N 23 03.1 -00.8	139 09.8 -32.3	S 10 42.4 +13.5	07						
08	300 26.6 -00.1	N 22 22.9 +00.3	299 49.7 +04.1	N 23 02.3 -00.8	153 37.5 -32.3	S 10 55.9 +13.5	08						
09	315 26.5 -00.1	N 22 23.2 +00.3	314 53.8 +04.1	N 23 01.5 -00.8	168 05.2 -32.3	S 11 09.4 +13.3	09						
10	330 26.4 -00.1	N 22 23.5 +00.3	329 57.9 +04.1	N 23 00.7 -00.7	182 32.9 -32.4	S 11 22.7 +13.4	10						
11	345 26.3 -00.1	N 22 23.8 +00.3	345 02.0 +04.0	N 22 60.0 -00.8	197 00.5 -32.4	S 11 36.1 +13.2	11						
12	0 26.2 -00.1	N 22 24.1 +00.3	0 06.0 +04.1	N 22 59.2 -00.8	211 28.1 -32.5	S 11 49.3 +13.2	12						
13	15 26.1 -00.1	N 22 24.4 +00.3	15 10.1 +04.1	N 22 58.4 -00.8	225 55.6 -32.6	S 12 02.5 +13.1	13						
14	30 26.0 -00.1	N 22 24.7 +00.3	30 14.2 +04.1	N 22 57.6 -00.8	240 23.0 -32.6	S 12 15.6 +13.0	14						
15	45 25.9 -00.2	N 22 25.0 +00.3	45 18.3 +04.1	N 22 56.8 -00.7	254 50.4 -32.7	S 12 28.6 +12.9	15						
16	60 25.7 -00.1	N 22 25.3 +00.2	60 22.4 +04.0	N 22 56.1 -00.8	269 17.7 -32.7	S 12 41.5 +12.9	16						
17	75 25.6 -00.1	N 22 25.5 +00.3	75 26.4 +04.1	N 22 55.3 -00.8	283 45.0 -32.8	S 12 54.4 +12.8	17						
18	90 25.5 -00.1	N 22 25.8 +00.3	90 30.5 +04.1	N 22 54.5 -00.8	298 12.2 -32.8	S 13 07.2 +12.7	18						
19	105 25.4 -00.1	N 22 26.1 +00.3	105 34.6 +04.1	N 22 53.7 -00.7	312 39.4 -32.9	S 13 19.9 +12.6	19						
20	120 25.3 -00.1	N 22 26.4 +00.3	120 38.7 +04.1	N 22 53.0 -00.8	327 06.5 -33.0	S 13 32.5 +12.5	20						
21	135 25.2 -00.1	N 22 26.7 +00.3	135 42.8 +04.1	N 22 52.2 -00.8	341 33.5 -33.0	S 13 45.0 +12.5	21						
22	150 25.1 -00.1	N 22 27.0 +00.3	150 46.9 +04.0	N 22 51.4 -00.8	356 00.5 -33.1	S 13 57.5 +12.3	22						
23	165 25.0 -00.1	N 22 27.3 +00.3	165 50.9 +04.1	N 22 50.6 -00.8	10 27.4 -33.1	S 14 09.8 +12.3	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 00'5 00'5 00'5 00'5 00'5 00'5		SD 16'4 16'4 16'4 16'4 16'4 16'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 60'1 60'1 60'1 60'1 60'1 60'1								
	SHA 288° 288° 288° 288° 288° 288°		SHA 287° 288° 288° 288° 288° 288°		SHA 145° 143° 140° 138° 136° 133°								
	Greenwich Culmination Time: 11:58		Greenwich Culmination Time: 11:59		Greenwich Culmination Time: 22:16								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	265 40.9 +00.9	S 08 31.5 -00.6	313 11.0 +02.6	S 21 02.2 +00.0	308 05.3 +02.5	S 19 58.0 +00.0	00						
01	280 41.8 +00.9	S 08 30.9 -00.6	328 13.6 +02.6	S 21 02.2 +00.1	323 07.8 +02.6	S 19 58.0 +00.1	01						
02	295 42.7 +00.9	S 08 30.3 -00.6	343 16.2 +02.7	S 21 02.3 +00.0	338 10.4 +02.5	S 19 58.1 +00.0	02						
03	310 43.6 +00.9	S 08 29.7 -00.6	358 18.9 +02.6	S 21 02.3 +00.0	353 12.9 +02.6	S 19 58.1 +00.0	03						
04	325 44.5 +00.9	S 08 29.1 -00.5	13 21.5 +02.6	S 21 02.3 +00.1	8 15.5 +02.5	S 19 58.1 +00.0	04						
05	340 45.4 +00.9	S 08 28.6 -00.6	28 24.1 +02.6	S 21 02.4 +00.0	23 18.0 +02.6	S 19 58.1 +00.1	05						
06	355 46.3 +00.9	S 08 28.0 -00.6	43 26.7 +02.6	S 21 02.4 +00.0	38 20.6 +02.6	S 19 58.2 +00.0	06						
07	10 47.2 +00.9	S 08 27.4 -00.6	58 29.3 +02.7	S 21 02.4 +00.1	53 23.2 +02.5	S 19 58.2 +00.0	07						
08	25 48.1 +00.9	S 08 26.8 -00.6	73 32.0 +02.6	S 21 02.5 +00.0	68 25.7 +02.6	S 19 58.2 +00.0	08						
09	40 49.0 +00.9	S 08 26.2 -00.6	88 34.6 +02.6	S 21 02.5 +00.0	83 28.3 +02.5	S 19 58.2 +00.1	09						
10	55 49.9 +00.9	S 08 25.6 -00.5	103 37.2 +02.6	S 21 02.5 +00.1	98 30.8 +02.6	S 19 58.3 +00.0	10						
11	70 50.8 +00.9	S 08 25.1 -00.6	118 39.8 +02.7	S 21 02.6 +00.0	113 33.4 +02.5	S 19 58.3 +00.0	11						
12	85 51.7 +00.9	S 08 24.5 -00.6	133 42.5 +02.6	S 21 02.6 +00.1	128 35.9 +02.6	S 19 58.3 +00.0	12						
13	100 52.6 +00.9	S 08 23.9 -00.6	148 45.1 +02.6	S 21 02.7 +00.0	143 38.5 +02.6	S 19 58.3 +00.0	13						
14	115 53.5 +01.0	S 08 23.3 -00.6	163 47.7 +02.6	S 21 02.7 +00.0	158 41.1 +02.5	S 19 58.3 +00.1	14						
15	130 54.5 +00.9	S 08 22.7 -00.5	178 50.3 +02.7	S 21 02.7 +00.1	173 43.6 +02.6	S 19 58.4 +00.0	15						
16	145 55.4 +00.9	S 08 22.2 -00.6	193 53.0 +02.6	S 21 02.8 +00.0	188 46.2 +02.5	S 19 58.4 +00.0	16						
17	160 56.3 +00.9	S 08 21.6 -00.6	208 55.6 +02.6	S 21 02.8 +00.0	203 48.7 +02.6	S 19 58.4 +00.0	17						
18	175 57.2 +00.9	S 08 21.0 -00.6	223 58.2 +02.6	S 21 02.8 +00.1	218 51.3 +02.5	S 19 58.4 +00.1	18						
19	190 58.1 +00.9	S 08 20.4 -00.6	239 00.8 +02.7	S 21 02.9 +00.0	233 53.8 +02.6	S 19 58.5 +00.0	19						
20	205 59.0 +00.9	S 08 19.8 -00.5	254 03.5 +02.6	S 21 02.9 +00.0	248 56.4 +02.6	S 19 58.5 +00.0	20						
21	220 59.9 +00.9	S 08 19.3 -00.6	269 06.1 +02.6	S 21 02.9 +00.1	263 59.0 +02.5	S 19 58.5 +00.0	21						
22	236 00.8 +00.9	S 08 18.7 -00.6	284 08.7 +02.6	S 21 03.0 +00.0	279 01.5 +02.6	S 19 58.5 +00.1	22						
23	251 01.7 +00.9	S 08 18.1 -00.6	299 11.3 +02.7	S 21 03.0 +00.1	294 04.1 +02.5	S 19 58.6 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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 014° 014° 014° 013° 013° 013°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:16		Greenwich Culmination Time: 03:06		Greenwich Culmination Time: 03:27								



UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 24.9 -00.1	N 22 27.6 +00.3	180 55.0 +04.1	N 22 49.8 -00.8	24 54.3 -33.2	S 14 22.1 +12.2	00						
01	195 24.8 -00.1	N 22 27.9 +00.2	195 59.1 +04.1	N 22 49.0 -00.7	39 21.1 -33.2	S 14 34.3 +12.1	01						
02	210 24.7 -00.1	N 22 28.1 +00.3	211 03.2 +04.1	N 22 48.3 -00.8	53 47.9 -33.3	S 14 46.4 +12.0	02						
03	225 24.6 -00.1	N 22 28.4 +00.3	226 07.3 +04.0	N 22 47.5 -00.8	68 14.6 -33.4	S 14 58.4 +11.9	03						
04	240 24.5 -00.1	N 22 28.7 +00.3	241 11.3 +04.1	N 22 46.7 -00.8	82 41.2 -33.4	S 15 10.3 +11.8	04						
05	255 24.4 -00.1	N 22 29.0 +00.3	256 15.4 +04.1	N 22 45.9 -00.8	97 07.8 -33.4	S 15 22.1 +11.7	05						
06	270 24.3 -00.1	N 22 29.3 +00.3	271 19.5 +04.1	N 22 45.1 -00.7	111 34.4 -33.6	S 15 33.8 +11.6	06						
07	285 24.2 -00.2	N 22 29.6 +00.2	286 23.6 +04.0	N 22 44.4 -00.8	126 00.8 -33.6	S 15 45.4 +11.5	07						
08	300 24.0 -00.1	N 22 29.8 +00.3	301 27.6 +04.1	N 22 43.6 -00.8	140 27.2 -33.6	S 15 56.9 +11.4	08						
09	315 23.9 -00.1	N 22 30.1 +00.3	316 31.7 +04.1	N 22 42.8 -00.8	154 53.6 -33.7	S 16 08.3 +11.3	09						
10	330 23.8 -00.1	N 22 30.4 +00.3	331 35.8 +04.1	N 22 42.0 -00.8	169 19.9 -33.8	S 16 19.6 +11.1	10						
11	345 23.7 -00.1	N 22 30.7 +00.3	346 39.9 +04.0	N 22 41.2 -00.8	183 46.1 -33.8	S 16 30.7 +11.1	11						
12	0 23.6 -00.1	N 22 31.0 +00.2	1 43.9 +04.1	N 22 40.4 -00.8	198 12.3 -33.8	S 16 41.8 +11.0	12						
13	15 23.5 -00.1	N 22 31.2 +00.3	16 48.0 +04.1	N 22 39.6 -00.7	212 38.5 -34.0	S 16 52.8 +10.8	13						
14	30 23.4 -00.1	N 22 31.5 +00.3	31 52.1 +04.1	N 22 38.9 -00.8	227 04.5 -33.9	S 17 03.6 +10.8	14						
15	45 23.3 -00.1	N 22 31.8 +00.3	46 56.2 +04.0	N 22 38.1 -00.8	241 30.6 -34.1	S 17 14.4 +10.6	15						
16	60 23.2 -00.1	N 22 32.1 +00.2	62 00.2 +04.1	N 22 37.3 -00.8	255 56.5 -34.1	S 17 25.0 +10.5	16						
17	75 23.1 -00.1	N 22 32.3 +00.3	77 04.3 +04.1	N 22 36.5 -00.8	270 22.4 -34.1	S 17 35.5 +10.4	17						
18	90 23.0 -00.2	N 22 32.6 +00.3	92 08.4 +04.0	N 22 35.7 -00.8	284 48.3 -34.2	S 17 45.9 +10.3	18						
19	105 22.8 -00.1	N 22 32.9 +00.3	107 12.4 +04.1	N 22 34.9 -00.8	299 14.1 -34.3	S 17 56.2 +10.2	19						
20	120 22.7 -00.1	N 22 33.2 +00.2	122 16.5 +04.1	N 22 34.1 -00.7	313 39.8 -34.3	S 18 06.4 +10.0	20						
21	135 22.6 -00.1	N 22 33.4 +00.3	137 20.6 +04.0	N 22 33.4 -00.8	328 05.5 -34.3	S 18 16.4 +09.9	21						
22	150 22.5 -00.1	N 22 33.7 +00.3	152 24.6 +04.1	N 22 32.6 -00.8	342 31.2 -34.5	S 18 26.3 +09.8	22						
23	165 22.4 -00.1	N 22 34.0 +00.2	167 28.7 +04.1	N 22 31.8 -00.8	356 56.7 -34.4	S 18 36.1 +09.7	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 00'5 00'5 00'5 00'5 00'5 00'5		SD 16'4 16'4 16'3 16'3 16'3 16'3								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 60'1 60'0 60'0 59'9 59'9 59'8								
	SHA 287° 287° 287° 287° 287° 287°		SHA 288° 288° 288° 288° 289° 289°		SHA 131° 128° 126° 124° 121° 119°								
	Greenwich Culmination Time: 11:58		Greenwich Culmination Time: 11:53		Greenwich Culmination Time: 23:12								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	266 02.6 +00.9	S 08 17.5 -00.6	314 14.0 +02.6	S 21 03.1 +00.0	309 06.6 +02.6	S 19 58.6 +00.0	00						
01	281 03.5 +00.9	S 08 16.9 -00.5	329 16.6 +02.6	S 21 03.1 +00.0	324 09.2 +02.6	S 19 58.6 +00.0	01						
02	296 04.4 +00.9	S 08 16.4 -00.6	344 19.2 +02.6	S 21 03.1 +00.1	339 11.8 +02.5	S 19 58.6 +00.1	02						
03	311 05.3 +00.9	S 08 15.8 -00.6	359 21.8 +02.7	S 21 03.2 +00.0	354 14.3 +02.6	S 19 58.7 +00.0	03						
04	326 06.2 +00.9	S 08 15.2 -00.6	14 24.5 +02.6	S 21 03.2 +00.0	9 16.9 +02.5	S 19 58.7 +00.0	04						
05	341 07.1 +00.9	S 08 14.6 -00.6	29 27.1 +02.6	S 21 03.2 +00.1	24 19.4 +02.6	S 19 58.7 +00.0	05						
06	356 08.0 +00.9	S 08 14.0 -00.5	44 29.7 +02.7	S 21 03.3 +00.0	39 22.0 +02.6	S 19 58.7 +00.1	06						
07	11 08.9 +00.9	S 08 13.5 -00.6	59 32.4 +02.6	S 21 03.3 +00.1	54 24.6 +02.5	S 19 58.8 +00.0	07						
08	26 09.8 +00.9	S 08 12.9 -00.6	74 35.0 +02.6	S 21 03.4 +00.0	69 27.1 +02.6	S 19 58.8 +00.0	08						
09	41 10.7 +01.0	S 08 12.3 -00.6	89 37.6 +02.7	S 21 03.4 +00.0	84 29.7 +02.5	S 19 58.8 +00.0	09						
10	56 11.7 +00.9	S 08 11.7 -00.6	104 40.3 +02.6	S 21 03.4 +00.1	99 32.2 +02.6	S 19 58.8 +00.1	10						
11	71 12.6 +00.9	S 08 11.1 -00.5	119 42.9 +02.6	S 21 03.5 +00.0	114 34.8 +02.6	S 19 58.9 +00.0	11						
12	86 13.5 +00.9	S 08 10.6 -00.6	134 45.5 +02.6	S 21 03.5 +00.0	129 37.4 +02.5	S 19 58.9 +00.0	12						
13	101 14.4 +00.9	S 08 10.0 -00.6	149 48.1 +02.7	S 21 03.5 +00.1	144 39.9 +02.6	S 19 58.9 +00.0	13						
14	116 15.3 +00.9	S 08 09.4 -00.6	164 50.8 +02.6	S 21 03.6 +00.0	159 42.5 +02.5	S 19 58.9 +00.1	14						
15	131 16.2 +00.9	S 08 08.8 -00.6	179 53.4 +02.6	S 21 03.6 +00.0	174 45.0 +02.6	S 19 59.0 +00.0	15						
16	146 17.1 +00.9	S 08 08.2 -00.5	194 56.0 +02.7	S 21 03.6 +00.1	189 47.6 +02.6	S 19 59.0 +00.0	16						
17	161 18.0 +00.9	S 08 07.7 -00.6	209 58.7 +02.6	S 21 03.7 +00.0	204 50.2 +02.5	S 19 59.0 +00.0	17						
18	176 18.9 +00.9	S 08 07.1 -00.6	225 01.3 +02.6	S 21 03.7 +00.1	219 52.7 +02.6	S 19 59.0 +00.1	18						
19	191 19.8 +00.9	S 08 06.5 -00.6	240 03.9 +02.7	S 21 03.8 +00.0	234 55.3 +02.5	S 19 59.1 +00.0	19						
20	206 20.7 +00.9	S 08 05.9 -00.6	255 06.6 +02.6	S 21 03.8 +00.0	249 57.8 +02.6	S 19 59.1 +00.0	20						
21	221 21.6 +01.0	S 08 05.3 -00.5	270 09.2 +02.6	S 21 03.8 +00.1	265 00.4 +02.6	S 19 59.1 +00.0	21						
22	236 22.6 +00.9	S 08 04.8 -00.6	285 11.8 +02.7	S 21 03.9 +00.0	280 03.0 +02.5	S 19 59.1 +00.1	22						
23	251 23.5 +00.9	S 08 04.2 -00.6	300 14.5 +02.6	S 21 03.9 +00.1	295 05.5 +02.6	S 19 59.2 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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 013° 013° 013° 013° 013° 013°		SHA 061° 061° 061° 061° 061° 061°		SHA 056° 056° 056° 056° 056° 056°								
	Greenwich Culmination Time: 06:15		Greenwich Culmination Time: 03:02		Greenwich Culmination Time: 03:22								

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 22.3 -00.1	N	22 34.2 +00.3	182 32.8 +04.0	N	22 31.0 -00.8	11 22.3 -34.5	S	18 45.8 +09.5				
01	195 22.2 -00.1	N	22 34.5 +00.3	197 36.8 +04.1	N	22 30.2 -00.8	25 47.8 -34.6	S	18 55.3 +09.4				
02	210 22.1 -00.1	N	22 34.8 +00.2	212 40.9 +04.1	N	22 29.4 -00.8	40 13.2 -34.6	S	19 04.7 +09.3				
03	225 22.0 -00.1	N	22 35.0 +00.3	227 45.0 +04.0	N	22 28.6 -00.7	54 38.6 -34.7	S	19 14.0 +09.2				
04	240 21.9 -00.2	N	22 35.3 +00.3	242 49.0 +04.1	N	22 27.9 -00.8	69 03.9 -34.7	S	19 23.2 +09.0				
05	255 21.7 -00.1	N	22 35.6 +00.2	257 53.1 +04.0	N	22 27.1 -00.8	83 29.2 -34.7	S	19 32.2 +08.9				
06	270 21.6 -00.1	N	22 35.8 +00.3	272 57.1 +04.1	N	22 26.3 -00.8	97 54.5 -34.8	S	19 41.1 +08.8				
07	285 21.5 -00.1	N	22 36.1 +00.3	288 01.2 +04.0	N	22 25.5 -00.8	112 19.7 -34.9	S	19 49.9 +08.6				
08	300 21.4 -00.1	N	22 36.4 +00.2	303 05.2 +04.1	N	22 24.7 -00.8	126 44.8 -34.9	S	19 58.5 +08.5				
09	315 21.3 -00.1	N	22 36.6 +00.3	318 09.3 +04.1	N	22 23.9 -00.8	141 09.9 -34.9	S	20 07.0 +08.3				
10	330 21.2 -00.1	N	22 36.9 +00.3	333 13.4 +04.0	N	22 23.1 -00.8	155 35.0 -35.0	S	20 15.3 +08.3				
11	345 21.1 -00.1	N	22 37.2 +00.2	348 17.4 +04.1	N	22 22.3 -00.8	170 00.0 -35.0	S	20 23.6 +08.0				
12	0 21.0 -00.1	N	22 37.4 +00.3	3 21.5 +04.0	N	22 21.5 -00.7	184 25.0 -35.0	S	20 31.6 +08.0				
13	15 20.9 -00.2	N	22 37.7 +00.3	18 25.5 +04.1	N	22 20.8 -00.8	198 50.0 -35.1	S	20 39.6 +07.8				
14	30 20.7 -00.1	N	22 38.0 +00.2	33 29.6 +04.0	N	22 20.0 -00.8	213 14.9 -35.1	S	20 47.4 +07.6				
15	45 20.6 -00.1	N	22 38.2 +00.3	48 33.6 +04.1	N	22 19.2 -00.8	227 39.8 -35.2	S	20 55.0 +07.6				
16	60 20.5 -00.1	N	22 38.5 +00.2	63 37.7 +04.0	N	22 18.4 -00.8	242 04.6 -35.2	S	21 02.6 +07.3				
17	75 20.4 -00.1	N	22 38.7 +00.3	78 41.7 +04.1	N	22 17.6 -00.8	256 29.4 -35.2	S	21 09.9 +07.2				
18	90 20.3 -00.1	N	22 39.0 +00.2	93 45.8 +04.0	N	22 16.8 -00.8	270 54.2 -35.3	S	21 17.1 +07.1				
19	105 20.2 -00.1	N	22 39.2 +00.3	108 49.8 +04.0	N	22 16.0 -00.8	285 18.9 -35.3	S	21 24.2 +07.0				
20	120 20.1 -00.1	N	22 39.5 +00.3	123 53.8 +04.1	N	22 15.2 -00.8	299 43.6 -35.3	S	21 31.2 +06.8				
21	135 20.0 -00.2	N	22 39.8 +00.2	138 57.9 +04.0	N	22 14.4 -00.7	314 08.3 -35.4	S	21 38.0 +06.6				
22	150 19.8 -00.1	N	22 40.0 +00.3	154 01.9 +04.1	N	22 13.7 -00.8	328 32.9 -35.3	S	21 44.6 +06.5				
23	165 19.7 -00.1	N	22 40.3 +00.2	169 06.0 +04.0	N	22 12.9 -00.8	342 57.6 -35.5	S	21 51.1 +06.3				
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>						
	SD 15'8 15'8 15'8 15'8 15'8 15'8			SD 00'5 00'5 00'5 00'5 00'5 00'5			SD 16'3 16'3 16'2 16'2 16'2 16'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 59'7 59'7 59'6 59'5 59'4 59'3						
	SHA 286° 286° 286° 286° 286° 286°			SHA 289° 289° 289° 289° 289° 289°			SHA 116° 114° 111° 109° 106° 104°						
	Greenwich Culmination Time: 11:58			Greenwich Culmination Time: 11:46			Greenwich Culmination Time: -1:00						
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	266 24.4 +00.9	S	08 03.6 -00.6	315 17.1 +02.6	S	21 04.0 +00.0	310 08.1 +02.6	S	19 59.2 +00.0				
01	281 25.3 +00.9	S	08 03.0 -00.6	330 19.7 +02.7	S	21 04.0 +00.0	325 10.7 +02.5	S	19 59.2 +00.0				
02	296 26.2 +00.9	S	08 02.4 -00.5	345 22.4 +02.6	S	21 04.0 +00.1	340 13.2 +02.6	S	19 59.2 +00.1				
03	311 27.1 +00.9	S	08 01.9 -00.6	0 25.0 +02.6	S	21 04.1 +00.0	355 15.8 +02.5	S	19 59.3 +00.0				
04	326 28.0 +00.9	S	08 01.3 -00.6	15 27.6 +02.7	S	21 04.1 +00.0	10 18.3 +02.6	S	19 59.3 +00.0				
05	341 28.9 +00.9	S	08 00.7 -00.6	30 30.3 +02.6	S	21 04.1 +00.1	25 20.9 +02.6	S	19 59.3 +00.0				
06	356 29.8 +00.9	S	08 00.1 -00.6	45 32.9 +02.7	S	21 04.2 +00.0	40 23.5 +02.5	S	19 59.3 +00.1				
07	11 30.7 +01.0	S	07 59.5 -00.5	60 35.6 +02.6	S	21 04.2 +00.1	55 26.0 +02.6	S	19 59.4 +00.0				
08	26 31.7 +00.9	S	07 59.0 -00.6	75 38.2 +02.6	S	21 04.3 +00.0	70 28.6 +02.6	S	19 59.4 +00.0				
09	41 32.6 +00.9	S	07 58.4 -00.6	90 40.8 +02.7	S	21 04.3 +00.0	85 31.2 +02.5	S	19 59.4 +00.0				
10	56 33.5 +00.9	S	07 57.8 -00.6	105 43.5 +02.6	S	21 04.3 +00.1	100 33.7 +02.6	S	19 59.4 +00.1				
11	71 34.4 +00.9	S	07 57.2 -00.6	120 46.1 +02.6	S	21 04.4 +00.0	115 36.3 +02.6	S	19 59.5 +00.0				
12	86 35.3 +00.9	S	07 56.6 -00.5	135 48.7 +02.7	S	21 04.4 +00.0	130 38.9 +02.5	S	19 59.5 +00.0				
13	101 36.2 +00.9	S	07 56.1 -00.6	150 51.4 +02.6	S	21 04.4 +00.1	145 41.4 +02.6	S	19 59.5 +00.0				
14	116 37.1 +00.9	S	07 55.5 -00.6	165 54.0 +02.7	S	21 04.5 +00.0	160 44.0 +02.6	S	19 59.5 +00.1				
15	131 38.0 +01.0	S	07 54.9 -00.6	180 56.7 +02.6	S	21 04.5 +00.1	175 46.6 +02.5	S	19 59.6 +00.0				
16	146 39.0 +00.9	S	07 54.3 -00.6	195 59.3 +02.6	S	21 04.6 +00.0	190 49.1 +02.6	S	19 59.6 +00.0				
17	161 39.9 +00.9	S	07 53.7 -00.5	211 01.9 +02.7	S	21 04.6 +00.0	205 51.7 +02.5	S	19 59.6 +00.0				
18	176 40.8 +00.9	S	07 53.2 -00.6	226 04.6 +02.6	S	21 04.6 +00.1	220 54.2 +02.6	S	19 59.6 +00.1				
19	191 41.7 +00.9	S	07 52.6 -00.6	241 07.2 +02.7	S	21 04.7 +00.0	235 56.8 +02.6	S	19 59.7 +00.0				
20	206 42.6 +00.9	S	07 52.0 -00.6	256 09.9 +02.6	S	21 04.7 +00.1	250 59.4 +02.5	S	19 59.7 +00.0				
21	221 43.5 +00.9	S	07 51.4 -00.6	271 12.5 +02.6	S	21 04.8 +00.0	266 01.9 +02.6	S	19 59.7 +00.0				
22	236 44.4 +01.0	S	07 50.8 -00.6	286 15.1 +02.7	S	21 04.8 +00.0	281 04.5 +02.6	S	19 59.7 +00.1				
23	251 45.4 +00.9	S	07 50.2 -00.5	301 17.8 +02.6	S	21 04.8 +00.1	296 07.1 +02.5	S	19 59.8 +00.0				
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'4 00'4 00'4 00'4 00'4 00'4			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 012° 012° 012° 012° 012° 012°			SHA 061° 061° 061° 061° 061° 061°			SHA 056° 056° 056° 056° 056° 056°						
	Greenwich Culmination Time: 06:13			Greenwich Culmination Time: 02:58			Greenwich Culmination Time: 03:18						

UT	Sun				Venus				Moon <span style="float: right;">A: 52%</span>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	19.6 -00.1	N 22 40.5 +00.3		184	10.0 +04.0	N 22 12.1 -00.8		357	22.1 -35.4	S 21 57.4 +06.2		00
01	195	19.5 -00.1	N 22 40.8 +00.2		199	14.0 +04.1	N 22 11.3 -00.8		11	46.7 -35.4	S 22 03.6 +06.1		01
02	210	19.4 -00.1	N 22 41.0 +00.3		214	18.1 +04.0	N 22 10.5 -00.8		26	11.3 -35.5	S 22 09.7 +05.8		02
03	225	19.3 -00.1	N 22 41.3 +00.2		229	22.1 +04.1	N 22 09.7 -00.8		40	35.8 -35.5	S 22 15.5 +05.8		03
04	240	19.2 -00.1	N 22 41.5 +00.3		244	26.2 +04.0	N 22 08.9 -00.8		55	00.3 -35.5	S 22 21.3 +05.6		04
05	255	19.1 -00.2	N 22 41.8 +00.2		259	30.2 +04.0	N 22 08.1 -00.8		69	24.8 -35.5	S 22 26.9 +05.4		05
06	270	18.9 -00.1	N 22 42.0 +00.3		274	34.2 +04.0	N 22 07.3 -00.7		83	49.3 -35.6	S 22 32.3 +05.3		06
07	285	18.8 -00.1	N 22 42.3 +00.2		289	38.2 +04.1	N 22 06.6 -00.8		98	13.7 -35.5	S 22 37.6 +05.1		07
08	300	18.7 -00.1	N 22 42.5 +00.3		304	42.3 +04.0	N 22 05.8 -00.8		112	38.2 -35.6	S 22 42.7 +05.0		08
09	315	18.6 -00.1	N 22 42.8 +00.2		319	46.3 +04.0	N 22 05.0 -00.8		127	02.6 -35.6	S 22 47.7 +04.8		09
10	330	18.5 -00.1	N 22 43.0 +00.3		334	50.3 +04.0	N 22 04.2 -00.8		141	27.0 -35.5	S 22 52.5 +04.7		10
11	345	18.4 -00.1	N 22 43.3 +00.2		349	54.3 +04.1	N 22 03.4 -00.8		155	51.5 -35.6	S 22 57.2 +04.5		11
12	0	18.3 -00.2	N 22 43.5 +00.3		4	58.4 +04.0	N 22 02.6 -00.8		170	15.9 -35.6	S 23 01.7 +04.3		12
13	15	18.1 -00.1	N 22 43.8 +00.2		20	02.4 +04.0	N 22 01.8 -00.8		184	40.3 -35.6	S 23 06.0 +04.2		13
14	30	18.0 -00.1	N 22 44.0 +00.2		35	06.4 +04.0	N 22 01.0 -00.8		199	04.7 -35.6	S 23 10.2 +04.1		14
15	45	17.9 -00.1	N 22 44.2 +00.3		50	10.4 +04.0	N 22 00.2 -00.7		213	29.1 -35.6	S 23 14.3 +03.8		15
16	60	17.8 -00.1	N 22 44.5 +00.2		65	14.4 +04.1	N 21 59.5 -00.8		227	53.5 -35.6	S 23 18.1 +03.8		16
17	75	17.7 -00.1	N 22 44.7 +00.3		80	18.5 +04.0	N 21 58.7 -00.8		242	17.9 -35.6	S 23 21.9 +03.5		17
18	90	17.6 -00.2	N 22 45.0 +00.2		95	22.5 +04.0	N 21 57.9 -00.8		256	42.3 -35.6	S 23 25.4 +03.4		18
19	105	17.4 -00.1	N 22 45.2 +00.3		110	26.5 +04.0	N 21 57.1 -00.8		271	06.7 -35.6	S 23 28.8 +03.3		19
20	120	17.3 -00.1	N 22 45.5 +00.2		125	30.5 +04.0	N 21 56.3 -00.8		285	31.1 -35.5	S 23 32.1 +03.1		20
21	135	17.2 -00.1	N 22 45.7 +00.2		140	34.5 +04.0	N 21 55.5 -00.8		299	55.6 -35.6	S 23 35.2 +02.9		21
22	150	17.1 -00.1	N 22 45.9 +00.3		155	38.5 +04.0	N 21 54.7 -00.8		314	20.0 -35.6	S 23 38.1 +02.8		22
23	165	17.0 -00.1	N 22 46.2 +00.2		170	42.5 +04.0	N 21 53.9 -00.7		328	44.4 -35.5	S 23 40.9 +02.6		23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'5 00'5 00'5 00'5 00'5 00'5				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 00'5 00'5 00'5 00'5 00'5 00'5				HP 59'2 59'1 59'0 58'9 58'8 58'7				
	SHA 285° 285° 285° 285° 285° 285°				SHA 289° 289° 290° 290° 290° 290°				SHA 101° 099° 096° 094° 091° 089°				
	Greenwich Culmination Time: 11:58				Greenwich Culmination Time: 11:40				Greenwich Culmination Time: 00:10				

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	266	46.3 +00.9	S 07 49.7 -00.6		316	20.4 +02.7	S 21 04.9 +00.0		311	09.6 +02.6	S 19 59.8 +00.0		00
01	281	47.2 +00.9	S 07 49.1 -00.6		331	23.1 +02.6	S 21 04.9 +00.1		326	12.2 +02.6	S 19 59.8 +00.0		01
02	296	48.1 +00.9	S 07 48.5 -00.6		346	25.7 +02.7	S 21 05.0 +00.0		341	14.8 +02.5	S 19 59.8 +00.1		02
03	311	49.0 +00.9	S 07 47.9 -00.6		1	28.4 +02.6	S 21 05.0 +00.0		356	17.3 +02.6	S 19 59.9 +00.0		03
04	326	49.9 +00.9	S 07 47.3 -00.5		16	31.0 +02.6	S 21 05.0 +00.1		11	19.9 +02.6	S 19 59.9 +00.0		04
05	341	50.8 +01.0	S 07 46.8 -00.6		31	33.6 +02.7	S 21 05.1 +00.0		26	22.5 +02.5	S 19 59.9 +00.0		05
06	356	51.8 +00.9	S 07 46.2 -00.6		46	36.3 +02.6	S 21 05.1 +00.1		41	25.0 +02.6	S 19 59.9 +00.1		06
07	11	52.7 +00.9	S 07 45.6 -00.6		61	38.9 +02.7	S 21 05.2 +00.0		56	27.6 +02.6	S 19 60.0 +00.0		07
08	26	53.6 +00.9	S 07 45.0 -00.6		76	41.6 +02.6	S 21 05.2 +00.0		71	30.2 +02.5	S 19 60.0 +00.0		08
09	41	54.5 +00.9	S 07 44.4 -00.5		91	44.2 +02.7	S 21 05.2 +00.1		86	32.7 +02.6	S 20 00.0 +00.1		09
10	56	55.4 +00.9	S 07 43.9 -00.6		106	46.9 +02.6	S 21 05.3 +00.0		101	35.3 +02.6	S 20 00.1 +00.0		10
11	71	56.3 +01.0	S 07 43.3 -00.6		121	49.5 +02.7	S 21 05.3 +00.0		116	37.9 +02.5	S 20 00.1 +00.0		11
12	86	57.3 +00.9	S 07 42.7 -00.6		136	52.2 +02.6	S 21 05.3 +00.1		131	40.4 +02.6	S 20 00.1 +00.0		12
13	101	58.2 +00.9	S 07 42.1 -00.6		151	54.8 +02.6	S 21 05.4 +00.0		146	43.0 +02.6	S 20 00.1 +00.1		13
14	116	59.1 +00.9	S 07 41.5 -00.5		166	57.4 +02.7	S 21 05.4 +00.1		161	45.6 +02.5	S 20 00.2 +00.0		14
15	132	00.0 +00.9	S 07 41.0 -00.6		182	00.1 +02.6	S 21 05.5 +00.0		176	48.1 +02.6	S 20 00.2 +00.0		15
16	147	00.9 +01.0	S 07 40.4 -00.6		197	02.7 +02.7	S 21 05.5 +00.0		191	50.7 +02.6	S 20 00.2 +00.0		16
17	162	01.9 +00.9	S 07 39.8 -00.6		212	05.4 +02.6	S 21 05.5 +00.1		206	53.3 +02.6	S 20 00.2 +00.1		17
18	177	02.8 +00.9	S 07 39.2 -00.6		227	08.0 +02.7	S 21 05.6 +00.0		221	55.9 +02.5	S 20 00.3 +00.0		18
19	192	03.7 +00.9	S 07 38.6 -00.5		242	10.7 +02.6	S 21 05.6 +00.1		236	58.4 +02.6	S 20 00.3 +00.0		19
20	207	04.6 +00.9	S 07 38.1 -00.6		257	13.3 +02.7	S 21 05.7 +00.0		252	01.0 +02.6	S 20 00.3 +00.0		20
21	222	05.5 +00.9	S 07 37.5 -00.6		272	16.0 +02.6	S 21 05.7 +00.0		267	03.6 +02.5	S 20 00.3 +00.1		21
22	237	06.4 +01.0	S 07 36.9 -00.6		287	18.6 +02.7	S 21 05.7 +00.1		282	06.1 +02.6	S 20 00.4 +00.0		22
23	252	07.4 +00.9	S 07 36.3 -00.6		302	21.3 +02.6	S 21 05.8 +00.0		297	08.7 +02.6	S 20 00.4 +00.0		23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'4 00'4 00'4 00'4 00'4 00'4				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				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 012° 012° 012° 012° 011° 011°				SHA 061° 061° 062° 062° 062° 062°				SHA 056° 056° 056° 056° 056° 056°				
	Greenwich Culmination Time: 06:12				Greenwich Culmination Time: 02:54				Greenwich Culmination Time: 03:14				

UT	Sun				Venus				Moon <span style="float: right;">A: 56%</span>				UT			
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec				
00	180	16.9	-00.1	N 22 46.4	+00.2	185	46.5	+04.0	N 21 53.2	-00.8	343	08.9	-35.5	S 23 43.5	+02.5	00
01	195	16.8	-00.2	N 22 46.6	+00.3	200	50.5	+04.0	N 21 52.4	-00.8	357	33.4	-35.5	S 23 46.0	+02.3	01
02	210	16.6	-00.1	N 22 46.9	+00.2	215	54.5	+04.0	N 21 51.6	-00.8	11	57.9	-35.5	S 23 48.3	+02.2	02
03	225	16.5	-00.1	N 22 47.1	+00.3	230	58.5	+04.0	N 21 50.8	-00.8	26	22.4	-35.4	S 23 50.5	+02.0	03
04	240	16.4	-00.1	N 22 47.4	+00.2	246	02.5	+04.0	N 21 50.0	-00.8	40	47.0	-35.5	S 23 52.5	+01.8	04
05	255	16.3	-00.1	N 22 47.6	+00.2	261	06.5	+04.0	N 21 49.2	-00.8	55	11.5	-35.4	S 23 54.3	+01.7	05
06	270	16.2	-00.1	N 22 47.8	+00.3	276	10.5	+04.0	N 21 48.4	-00.7	69	36.1	-35.4	S 23 56.0	+01.5	06
07	285	16.1	-00.2	N 22 48.1	+00.2	291	14.5	+04.0	N 21 47.7	-00.8	84	00.7	-35.3	S 23 57.5	+01.4	07
08	300	15.9	-00.1	N 22 48.3	+00.2	306	18.5	+03.9	N 21 46.9	-00.8	98	25.4	-35.3	S 23 58.9	+01.2	08
09	315	15.8	-00.1	N 22 48.5	+00.2	321	22.4	+04.0	N 21 46.1	-00.8	112	50.1	-35.3	S 24 00.1	+01.0	09
10	330	15.7	-00.1	N 22 48.7	+00.3	336	26.4	+04.0	N 21 45.3	-00.8	127	14.8	-35.3	S 24 01.1	+00.9	10
11	345	15.6	-00.1	N 22 49.0	+00.2	351	30.4	+04.0	N 21 44.5	-00.8	141	39.5	-35.2	S 24 02.0	+00.8	11
12	0	15.5	-00.2	N 22 49.2	+00.2	6	34.4	+04.0	N 21 43.7	-00.8	156	04.3	-35.2	S 24 02.8	+00.6	12
13	15	15.3	-00.1	N 22 49.4	+00.3	21	38.4	+03.9	N 21 42.9	-00.7	170	29.1	-35.1	S 24 03.4	+00.4	13
14	30	15.2	-00.1	N 22 49.7	+00.2	36	42.3	+04.0	N 21 42.2	-00.8	184	54.0	-35.1	S 24 03.8	+00.3	14
15	45	15.1	-00.1	N 22 49.9	+00.2	51	46.3	+04.0	N 21 41.4	-00.8	199	18.9	-35.1	S 24 04.1	+00.1	15
16	60	15.0	-00.1	N 22 50.1	+00.2	66	50.3	+04.0	N 21 40.6	-00.8	213	43.8	-35.0	S 24 04.2	+00.0	16
17	75	14.9	-00.1	N 22 50.3	+00.3	81	54.3	+03.9	N 21 39.8	-00.8	228	08.8	-35.0	S 24 04.2	-00.1	17
18	90	14.8	-00.2	N 22 50.6	+00.2	96	58.2	+04.0	N 21 39.0	-00.8	242	33.8	-34.9	S 24 04.1	-00.4	18
19	105	14.6	-00.1	N 22 50.8	+00.2	112	02.2	+04.0	N 21 38.2	-00.7	256	58.9	-34.9	S 24 03.7	-00.4	19
20	120	14.5	-00.1	N 22 51.0	+00.2	127	06.2	+03.9	N 21 37.5	-00.8	271	24.0	-34.8	S 24 03.3	-00.7	20
21	135	14.4	-00.1	N 22 51.2	+00.3	142	10.1	+04.0	N 21 36.7	-00.8	285	49.2	-34.8	S 24 02.6	-00.7	21
22	150	14.3	-00.1	N 22 51.5	+00.2	157	14.1	+03.9	N 21 35.9	-00.8	300	14.4	-34.7	S 24 01.9	-00.9	22
23	165	14.2	-00.2	N 22 51.7	+00.2	172	18.0	+04.0	N 21 35.1	-00.8	314	39.7	-34.7	S 24 01.0	-01.1	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 00'5 00'5 00'5 00'5 00'5 00'5						SD 16'0 15'9 15'9 15'8 15'8 15'8				
	HP 00'1 00'1 00'1 00'1 00'1 00'1					HP 00'5 00'5 00'5 00'5 00'5 00'5						HP 58'6 58'4 58'3 58'2 58'0 57'9				
	SHA 284° 284° 284° 284° 284° 283°					SHA 290° 290° 290° 290° 290° 290°						SHA 086° 084° 081° 078° 076° 073°				
	Greenwich Culmination Time: 11:58					Greenwich Culmination Time: 11:33						Greenwich Culmination Time: 01:10				

  

UT	Mars				Jupiter				Saturn				UT			
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec				
00	267	08.3	+00.9	S 07 35.7	-00.5	317	23.9	+02.7	S 21 05.8	+00.1	312	11.3	+02.5	S 20 00.4	+00.0	00
01	282	09.2	+00.9	S 07 35.2	-00.6	332	26.6	+02.6	S 21 05.9	+00.0	327	13.8	+02.6	S 20 00.4	+00.1	01
02	297	10.1	+00.9	S 07 34.6	-00.6	347	29.2	+02.7	S 21 05.9	+00.1	342	16.4	+02.6	S 20 00.5	+00.0	02
03	312	11.0	+01.0	S 07 34.0	-00.6	2	31.9	+02.6	S 21 06.0	+00.0	357	19.0	+02.5	S 20 00.5	+00.0	03
04	327	12.0	+00.9	S 07 33.4	-00.6	17	34.5	+02.7	S 21 06.0	+00.0	12	21.5	+02.6	S 20 00.5	+00.1	04
05	342	12.9	+00.9	S 07 32.8	-00.5	32	37.2	+02.6	S 21 06.0	+00.1	27	24.1	+02.6	S 20 00.6	+00.0	05
06	357	13.8	+00.9	S 07 32.3	-00.6	47	39.8	+02.7	S 21 06.1	+00.0	42	26.7	+02.6	S 20 00.6	+00.0	06
07	12	14.7	+01.0	S 07 31.7	-00.6	62	42.5	+02.6	S 21 06.1	+00.1	57	29.3	+02.5	S 20 00.6	+00.0	07
08	27	15.7	+00.9	S 07 31.1	-00.6	77	45.1	+02.7	S 21 06.2	+00.0	72	31.8	+02.6	S 20 00.6	+00.1	08
09	42	16.6	+00.9	S 07 30.5	-00.6	92	47.8	+02.6	S 21 06.2	+00.0	87	34.4	+02.6	S 20 00.7	+00.0	09
10	57	17.5	+00.9	S 07 29.9	-00.5	107	50.4	+02.7	S 21 06.2	+00.1	102	37.0	+02.5	S 20 00.7	+00.0	10
11	72	18.4	+00.9	S 07 29.4	-00.6	122	53.1	+02.6	S 21 06.3	+00.0	117	39.5	+02.6	S 20 00.7	+00.0	11
12	87	19.3	+01.0	S 07 28.8	-00.6	137	55.7	+02.7	S 21 06.3	+00.1	132	42.1	+02.6	S 20 00.7	+00.1	12
13	102	20.3	+00.9	S 07 28.2	-00.6	152	58.4	+02.6	S 21 06.4	+00.0	147	44.7	+02.6	S 20 00.8	+00.0	13
14	117	21.2	+00.9	S 07 27.6	-00.6	168	01.0	+02.7	S 21 06.4	+00.0	162	47.3	+02.5	S 20 00.8	+00.0	14
15	132	22.1	+00.9	S 07 27.0	-00.5	183	03.7	+02.6	S 21 06.4	+00.1	177	49.8	+02.6	S 20 00.8	+00.0	15
16	147	23.0	+01.0	S 07 26.5	-00.6	198	06.3	+02.7	S 21 06.5	+00.0	192	52.4	+02.6	S 20 00.8	+00.1	16
17	162	24.0	+00.9	S 07 25.9	-00.6	213	09.0	+02.7	S 21 06.5	+00.1	207	55.0	+02.5	S 20 00.9	+00.0	17
18	177	24.9	+00.9	S 07 25.3	-00.6	228	11.7	+02.6	S 21 06.6	+00.0	222	57.5	+02.6	S 20 00.9	+00.0	18
19	192	25.8	+00.9	S 07 24.7	-00.6	243	14.3	+02.7	S 21 06.6	+00.0	238	00.1	+02.6	S 20 00.9	+00.1	19
20	207	26.7	+00.9	S 07 24.1	-00.5	258	17.0	+02.6	S 21 06.6	+00.1	253	02.7	+02.6	S 20 01.0	+00.0	20
21	222	27.6	+01.0	S 07 23.6	-00.6	273	19.6	+02.7	S 21 06.7	+00.0	268	05.3	+02.5	S 20 01.0	+00.0	21
22	237	28.6	+00.9	S 07 23.0	-00.6	288	22.3	+02.6	S 21 06.7	+00.1	283	07.8	+02.6	S 20 01.0	+00.0	22
23	252	29.5	+00.9	S 07 22.4	-00.6	303	24.9	+02.7	S 21 06.8	+00.0	298	10.4	+02.6	S 20 01.0	+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 00'1 00'1 00'1 00'1 00'1 00'1					SD 00'4 00'4 00'4 00'4 00'4 00'4						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					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 011° 011° 011° 011° 011° 011°					SHA 062° 062° 062° 062° 062° 062°						SHA 056° 056° 056° 056° 056° 056°				
	Greenwich Culmination Time: 06:11					Greenwich Culmination Time: 02:49						Greenwich Culmination Time: 03:10				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 14.0 -00.1	N 22 51.9 +00.2	187 22.0 +04.0	N 21 34.3 -00.7	329 05.0 -34.6	S 23 59.9 -01.2	00						
01	195 13.9 -00.1	N 22 52.1 +00.2	202 26.0 +03.9	N 21 33.6 -00.8	343 30.4 -34.6	S 23 58.7 -01.4	01						
02	210 13.8 -00.1	N 22 52.3 +00.3	217 29.9 +04.0	N 21 32.8 -00.8	357 55.8 -34.5	S 23 57.3 -01.5	02						
03	225 13.7 -00.1	N 22 52.6 +00.2	232 33.9 +03.9	N 21 32.0 -00.8	12 21.3 -34.4	S 23 55.8 -01.7	03						
04	240 13.6 -00.2	N 22 52.8 +00.2	247 37.8 +04.0	N 21 31.2 -00.8	26 46.9 -34.4	S 23 54.1 -01.7	04						
05	255 13.4 -00.1	N 22 53.0 +00.2	262 41.8 +03.9	N 21 30.4 -00.7	41 12.5 -34.3	S 23 52.4 -02.0	05						
06	270 13.3 -00.1	N 22 53.2 +00.2	277 45.7 +03.9	N 21 29.7 -00.8	55 38.2 -34.2	S 23 50.4 -02.1	06						
07	285 13.2 -00.1	N 22 53.4 +00.2	292 49.6 +04.0	N 21 28.9 -00.8	70 04.0 -34.2	S 23 48.3 -02.2	07						
08	300 13.1 -00.1	N 22 53.6 +00.2	307 53.6 +03.9	N 21 28.1 -00.8	84 29.8 -34.1	S 23 46.1 -02.4	08						
09	315 13.0 -00.2	N 22 53.8 +00.3	322 57.5 +03.9	N 21 27.3 -00.7	98 55.7 -34.0	S 23 43.7 -02.5	09						
10	330 12.8 -00.1	N 22 54.1 +00.2	338 01.4 +04.0	N 21 26.6 -00.8	113 21.7 -34.0	S 23 41.2 -02.6	10						
11	345 12.7 -00.1	N 22 54.3 +00.2	353 05.4 +03.9	N 21 25.8 -00.8	127 47.7 -33.9	S 23 38.6 -02.8	11						
12	0 12.6 -00.1	N 22 54.5 +00.2	8 09.3 +03.9	N 21 25.0 -00.8	142 13.8 -33.8	S 23 35.8 -02.9	12						
13	15 12.5 -00.1	N 22 54.7 +00.2	23 13.2 +04.0	N 21 24.2 -00.8	156 40.0 -33.8	S 23 32.9 -03.1	13						
14	30 12.4 -00.2	N 22 54.9 +00.2	38 17.2 +03.9	N 21 23.4 -00.7	171 06.2 -33.7	S 23 29.8 -03.2	14						
15	45 12.2 -00.1	N 22 55.1 +00.2	53 21.1 +03.9	N 21 22.7 -00.8	185 32.5 -33.6	S 23 26.6 -03.3	15						
16	60 12.1 -00.1	N 22 55.3 +00.2	68 25.0 +03.9	N 21 21.9 -00.8	199 58.9 -33.5	S 23 23.3 -03.4	16						
17	75 12.0 -00.1	N 22 55.5 +00.2	83 28.9 +03.9	N 21 21.1 -00.7	214 25.4 -33.5	S 23 19.9 -03.6	17						
18	90 11.9 -00.1	N 22 55.7 +00.3	98 32.8 +04.0	N 21 20.4 -00.8	228 51.9 -33.4	S 23 16.3 -03.8	18						
19	105 11.8 -00.2	N 22 56.0 +00.2	113 36.8 +03.9	N 21 19.6 -00.8	243 18.5 -33.3	S 23 12.5 -03.8	19						
20	120 11.6 -00.1	N 22 56.2 +00.2	128 40.7 +03.9	N 21 18.8 -00.8	257 45.2 -33.2	S 23 08.7 -04.0	20						
21	135 11.5 -00.1	N 22 56.4 +00.2	143 44.6 +03.9	N 21 18.0 -00.7	272 12.0 -33.1	S 23 04.7 -04.1	21						
22	150 11.4 -00.1	N 22 56.6 +00.2	158 48.5 +03.9	N 21 17.3 -00.8	286 38.9 -33.1	S 23 00.6 -04.2	22						
23	165 11.3 -00.1	N 22 56.8 +00.2	173 52.4 +03.9	N 21 16.5 -00.8	301 05.8 -32.9	S 22 56.4 -04.4	23						
UT	02 06 10 14 18 22	SD 15'8 15'8 15'8 15'8 15'8 15'8	UT	02 06 10 14 18 22	SD 00'5 00'5 00'5 00'5 00'5 00'5	UT	02 06 10 14 18 22	SD 15'7 15'7 15'7 15'6 15'6 15'6					
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 57'8 57'6 57'5 57'4 57'2 57'1		HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 283° 283° 283° 283° 283° 282°		SHA 291° 291° 291° 291° 291° 291°		SHA 071° 069° 066° 064° 061° 059°		SHA 056° 056° 056° 056° 056° 056°						
	Greenwich Culmination Time: 11:59		Greenwich Culmination Time: 11:27		Greenwich Culmination Time: 02:08								

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	267 30.4 +00.9	S 07 21.8 -00.6	318 27.6 +02.6	S 21 06.8 +00.1	313 13.0 +02.6	S 20 01.1 +00.0	00						
01	282 31.3 +01.0	S 07 21.2 -00.5	333 30.2 +02.7	S 21 06.9 +00.0	328 15.6 +02.5	S 20 01.1 +00.0	01						
02	297 32.3 +00.9	S 07 20.7 -00.6	348 32.9 +02.7	S 21 06.9 +00.0	343 18.1 +02.6	S 20 01.1 +00.0	02						
03	312 33.2 +00.9	S 07 20.1 -00.6	3 35.6 +02.6	S 21 06.9 +00.1	358 20.7 +02.6	S 20 01.1 +00.1	03						
04	327 34.1 +01.0	S 07 19.5 -00.6	18 38.2 +02.7	S 21 07.0 +00.0	13 23.3 +02.6	S 20 01.2 +00.0	04						
05	342 35.1 +00.9	S 07 18.9 -00.6	33 40.9 +02.6	S 21 07.0 +00.1	28 25.9 +02.5	S 20 01.2 +00.0	05						
06	357 36.0 +00.9	S 07 18.3 -00.5	48 43.5 +02.7	S 21 07.1 +00.0	43 28.4 +02.6	S 20 01.2 +00.1	06						
07	12 36.9 +00.9	S 07 17.8 -00.6	63 46.2 +02.6	S 21 07.1 +00.0	58 31.0 +02.6	S 20 01.3 +00.0	07						
08	27 37.8 +01.0	S 07 17.2 -00.6	78 48.8 +02.7	S 21 07.1 +00.1	73 33.6 +02.5	S 20 01.3 +00.0	08						
09	42 38.8 +00.9	S 07 16.6 -00.6	93 51.5 +02.7	S 21 07.2 +00.0	88 36.1 +02.6	S 20 01.3 +00.0	09						
10	57 39.7 +00.9	S 07 16.0 -00.6	108 54.2 +02.6	S 21 07.2 +00.1	103 38.7 +02.6	S 20 01.3 +00.1	10						
11	72 40.6 +00.9	S 07 15.4 -00.5	123 56.8 +02.7	S 21 07.3 +00.0	118 41.3 +02.6	S 20 01.4 +00.0	11						
12	87 41.5 +01.0	S 07 14.9 -00.6	138 59.5 +02.6	S 21 07.3 +00.1	133 43.9 +02.5	S 20 01.4 +00.0	12						
13	102 42.5 +00.9	S 07 14.3 -00.6	154 02.1 +02.7	S 21 07.4 +00.0	148 46.4 +02.6	S 20 01.4 +00.1	13						
14	117 43.4 +00.9	S 07 13.7 -00.6	169 04.8 +02.7	S 21 07.4 +00.0	163 49.0 +02.6	S 20 01.5 +00.0	14						
15	132 44.3 +01.0	S 07 13.1 -00.6	184 07.5 +02.6	S 21 07.4 +00.1	178 51.6 +02.6	S 20 01.5 +00.0	15						
16	147 45.3 +00.9	S 07 12.5 -00.5	199 10.1 +02.7	S 21 07.5 +00.0	193 54.2 +02.5	S 20 01.5 +00.0	16						
17	162 46.2 +00.9	S 07 12.0 -00.6	214 12.8 +02.7	S 21 07.5 +00.1	208 56.7 +02.6	S 20 01.5 +00.1	17						
18	177 47.1 +00.9	S 07 11.4 -00.6	229 15.5 +02.6	S 21 07.6 +00.0	223 59.3 +02.6	S 20 01.6 +00.0	18						
19	192 48.0 +01.0	S 07 10.8 -00.6	244 18.1 +02.7	S 21 07.6 +00.1	239 01.9 +02.6	S 20 01.6 +00.0	19						
20	207 49.0 +00.9	S 07 10.2 -00.6	259 20.8 +02.6	S 21 07.7 +00.0	254 04.5 +02.6	S 20 01.6 +00.0	20						
21	222 49.9 +00.9	S 07 09.6 -00.5	274 23.4 +02.7	S 21 07.7 +00.0	269 07.1 +02.5	S 20 01.6 +00.1	21						
22	237 50.8 +01.0	S 07 09.1 -00.6	289 26.1 +02.7	S 21 07.7 +00.1	284 09.6 +02.6	S 20 01.7 +00.0	22						
23	252 51.8 +00.9	S 07 08.5 -00.6	304 28.8 +02.6	S 21 07.8 +00.0	299 12.2 +02.6	S 20 01.7 +00.0	23						
UT	02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	UT	02 06 10 14 18 22	SD 00'4 00'4 00'4 00'4 00'4 00'4	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		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 011° 011° 010° 010° 010° 010°		SHA 062° 062° 062° 062° 062° 062°		SHA 056° 056° 056° 056° 056° 056°		SHA 056° 056° 056° 056° 056° 056°						
	Greenwich Culmination Time: 06:09		Greenwich Culmination Time: 02:45		Greenwich Culmination Time: 03:06								

UT	Sun				Venus				Moon <span style="float:right">A: 64%</span>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	
00	180	11.2 -00.2	N 22	57.0 +00.2	188	56.3 +03.9	N 21	15.7 -00.8	315	32.9 -32.9	S 22	52.0 -04.5	00
01	195	11.0 -00.1	N 22	57.2 +00.2	204	00.2 +03.9	N 21	14.9 -00.7	329	60.0 -32.8	S 22	47.5 -04.6	01
02	210	10.9 -00.1	N 22	57.4 +00.2	219	04.1 +03.9	N 21	14.2 -00.8	344	27.2 -32.8	S 22	42.9 -04.7	02
03	225	10.8 -00.1	N 22	57.6 +00.2	234	08.0 +03.9	N 21	13.4 -00.8	358	54.4 -32.6	S 22	38.2 -04.9	03
04	240	10.7 -00.2	N 22	57.8 +00.2	249	11.9 +03.9	N 21	12.6 -00.7	13	21.8 -32.5	S 22	33.3 -05.0	04
05	255	10.5 -00.1	N 22	58.0 +00.2	264	15.8 +03.8	N 21	11.9 -00.8	27	49.3 -32.5	S 22	28.3 -05.1	05
06	270	10.4 -00.1	N 22	58.2 +00.2	279	19.6 +03.9	N 21	11.1 -00.8	42	16.8 -32.4	S 22	23.2 -05.2	06
07	285	10.3 -00.1	N 22	58.4 +00.2	294	23.5 +03.9	N 21	10.3 -00.7	56	44.4 -32.3	S 22	18.0 -05.3	07
08	300	10.2 -00.2	N 22	58.6 +00.2	309	27.4 +03.9	N 21	09.6 -00.8	71	12.1 -32.2	S 22	12.7 -05.5	08
09	315	10.0 -00.1	N 22	58.8 +00.2	324	31.3 +03.9	N 21	08.8 -00.8	85	39.9 -32.1	S 22	07.2 -05.5	09
10	330	09.9 -00.1	N 22	59.0 +00.2	339	35.2 +03.8	N 21	08.0 -00.7	100	07.8 -32.0	S 22	01.7 -05.7	10
11	345	09.8 -00.1	N 22	59.2 +00.2	354	39.0 +03.9	N 21	07.3 -00.8	114	35.8 -32.0	S 21	56.0 -05.8	11
12	0	09.7 -00.1	N 22	59.4 +00.2	9	42.9 +03.9	N 21	06.5 -00.8	129	03.8 -31.8	S 21	50.2 -05.9	12
13	15	09.6 -00.2	N 22	59.6 +00.2	24	46.8 +03.8	N 21	05.7 -00.7	143	32.0 -31.8	S 21	44.3 -06.0	13
14	30	09.4 -00.1	N 22	59.8 +00.2	39	50.6 +03.9	N 21	05.0 -00.8	158	00.2 -31.6	S 21	38.3 -06.1	14
15	45	09.3 -00.1	N 22	60.0 +00.1	54	54.5 +03.9	N 21	04.2 -00.7	172	28.6 -31.6	S 21	32.2 -06.2	15
16	60	09.2 -00.1	N 23	00.1 +00.2	69	58.4 +03.8	N 21	03.5 -00.8	186	57.0 -31.5	S 21	26.0 -06.4	16
17	75	09.1 -00.2	N 23	00.3 +00.2	85	02.2 +03.9	N 21	02.7 -00.8	201	25.5 -31.4	S 21	19.6 -06.4	17
18	90	08.9 -00.1	N 23	00.5 +00.2	100	06.1 +03.8	N 21	01.9 -00.7	215	54.1 -31.3	S 21	13.2 -06.5	18
19	105	08.8 -00.1	N 23	00.7 +00.2	115	09.9 +03.9	N 21	01.2 -00.8	230	22.8 -31.2	S 21	06.7 -06.7	19
20	120	08.7 -00.1	N 23	00.9 +00.2	130	13.8 +03.8	N 21	00.4 -00.7	244	51.6 -31.1	S 21	00.0 -06.7	20
21	135	08.6 -00.2	N 23	01.1 +00.2	145	17.6 +03.9	N 20	59.7 -00.8	259	20.5 -31.1	S 20	53.3 -06.9	21
22	150	08.4 -00.1	N 23	01.3 +00.2	160	21.5 +03.8	N 20	58.9 -00.8	273	49.4 -30.9	S 20	46.4 -06.9	22
23	165	08.3 -00.1	N 23	01.5 +00.2	175	25.3 +03.8	N 20	58.1 -00.7	288	18.5 -30.9	S 20	39.5 -07.1	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 00'5 00'5 00'5 00'5 00'5 00'5				SD 15'5 15'5 15'4 15'4 15'4 15'3				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'5 00'5 00'5 00'5 00'5 00'5				HP 57'0 56'8 56'7 56'6 56'4 56'3				
	SHA 282° 282° 282° 282° 282° 281°				SHA 291° 291° 291° 291° 292° 292°				SHA 057° 054° 052° 050° 047° 045°				
	Greenwich Culmination Time: 11:59				Greenwich Culmination Time: 11:21				Greenwich Culmination Time: 03:04				

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	
00	267	52.7 +00.9	S 07	07.9 -00.6	319	31.4 +02.7	S 21	07.8 +00.1	314	14.8 +02.6	S 20	01.7 +00.1	00
01	282	53.6 +00.9	S 07	07.3 -00.6	334	34.1 +02.7	S 21	07.9 +00.0	329	17.4 +02.5	S 20	01.8 +00.0	01
02	297	54.5 +01.0	S 07	06.7 -00.5	349	36.8 +02.6	S 21	07.9 +00.1	344	19.9 +02.6	S 20	01.8 +00.0	02
03	312	55.5 +00.9	S 07	06.2 -00.6	4	39.4 +02.7	S 21	08.0 +00.0	359	22.5 +02.6	S 20	01.8 +00.0	03
04	327	56.4 +00.9	S 07	05.6 -00.6	19	42.1 +02.6	S 21	08.0 +00.0	14	25.1 +02.6	S 20	01.8 +00.1	04
05	342	57.3 +01.0	S 07	05.0 -00.6	34	44.7 +02.7	S 21	08.0 +00.1	29	27.7 +02.5	S 20	01.9 +00.0	05
06	357	58.3 +00.9	S 07	04.4 -00.6	49	47.4 +02.7	S 21	08.1 +00.0	44	30.2 +02.6	S 20	01.9 +00.0	06
07	12	59.2 +00.9	S 07	03.8 -00.5	64	50.1 +02.6	S 21	08.1 +00.1	59	32.8 +02.6	S 20	01.9 +00.1	07
08	28	00.1 +01.0	S 07	03.3 -00.6	79	52.7 +02.7	S 21	08.2 +00.0	74	35.4 +02.6	S 20	02.0 +00.0	08
09	43	01.1 +00.9	S 07	02.7 -00.6	94	55.4 +02.7	S 21	08.2 +00.1	89	38.0 +02.6	S 20	02.0 +00.0	09
10	58	02.0 +00.9	S 07	02.1 -00.6	109	58.1 +02.6	S 21	08.3 +00.0	104	40.6 +02.5	S 20	02.0 +00.0	10
11	73	02.9 +01.0	S 07	01.5 -00.6	125	00.7 +02.7	S 21	08.3 +00.0	119	43.1 +02.6	S 20	02.0 +00.1	11
12	88	03.9 +00.9	S 07	00.9 -00.5	140	03.4 +02.7	S 21	08.3 +00.1	134	45.7 +02.6	S 20	02.1 +00.0	12
13	103	04.8 +00.9	S 07	00.4 -00.6	155	06.1 +02.6	S 21	08.4 +00.0	149	48.3 +02.6	S 20	02.1 +00.0	13
14	118	05.7 +01.0	S 06	59.8 -00.6	170	08.7 +02.7	S 21	08.4 +00.1	164	50.9 +02.5	S 20	02.1 +00.1	14
15	133	06.7 +00.9	S 06	59.2 -00.6	185	11.4 +02.7	S 21	08.5 +00.0	179	53.4 +02.6	S 20	02.2 +00.0	15
16	148	07.6 +00.9	S 06	58.6 -00.6	200	14.1 +02.6	S 21	08.5 +00.1	194	56.0 +02.6	S 20	02.2 +00.0	16
17	163	08.5 +01.0	S 06	58.0 -00.5	215	16.7 +02.7	S 21	08.6 +00.0	209	58.6 +02.6	S 20	02.2 +00.0	17
18	178	09.5 +00.9	S 06	57.5 -00.6	230	19.4 +02.7	S 21	08.6 +00.0	225	01.2 +02.6	S 20	02.2 +00.1	18
19	193	10.4 +00.9	S 06	56.9 -00.6	245	22.1 +02.7	S 21	08.6 +00.1	240	03.8 +02.5	S 20	02.3 +00.0	19
20	208	11.3 +01.0	S 06	56.3 -00.6	260	24.8 +02.6	S 21	08.7 +00.0	255	06.3 +02.6	S 20	02.3 +00.0	20
21	223	12.3 +00.9	S 06	55.7 -00.6	275	27.4 +02.7	S 21	08.7 +00.1	270	08.9 +02.6	S 20	02.3 +00.1	21
22	238	13.2 +00.9	S 06	55.1 -00.5	290	30.1 +02.7	S 21	08.8 +00.0	285	11.5 +02.6	S 20	02.4 +00.0	22
23	253	14.1 +01.0	S 06	54.6 -00.6	305	32.8 +02.6	S 21	08.8 +00.1	300	14.1 +02.6	S 20	02.4 +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 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'4 00'4 00'4 00'4 00'4 00'4				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				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 010° 010° 010° 010° 010° 009°				SHA 062° 062° 062° 062° 062° 062°				SHA 056° 056° 056° 056° 056° 056°				
	Greenwich Culmination Time: 06:08				Greenwich Culmination Time: 02:41				Greenwich Culmination Time: 03:02				

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 08.2 -00.1	N 23 01.7 +00.1	190 29.1 +03.9	N 20 57.4 -00.8	302 47.6 -30.7	S 20 32.4 -07.1	00						
01	195 08.1 -00.2	N 23 01.8 +00.2	205 33.0 +03.8	N 20 56.6 -00.7	317 16.9 -30.7	S 20 25.3 -07.2	01						
02	210 07.9 -00.1	N 23 02.0 +00.2	220 36.8 +03.8	N 20 55.9 -00.8	331 46.2 -30.6	S 20 18.1 -07.4	02						
03	225 07.8 -00.1	N 23 02.2 +00.2	235 40.6 +03.9	N 20 55.1 -00.7	346 15.6 -30.4	S 20 10.7 -07.4	03						
04	240 07.7 -00.1	N 23 02.4 +00.2	250 44.5 +03.8	N 20 54.4 -00.8	0 45.2 -30.4	S 20 03.3 -07.5	04						
05	255 07.6 -00.2	N 23 02.6 +00.2	265 48.3 +03.8	N 20 53.6 -00.7	15 14.8 -30.3	S 19 55.8 -07.6	05						
06	270 07.4 -00.1	N 23 02.8 +00.2	280 52.1 +03.8	N 20 52.9 -00.8	29 44.5 -30.3	S 19 48.2 -07.7	06						
07	285 07.3 -00.1	N 23 03.0 +00.1	295 55.9 +03.9	N 20 52.1 -00.8	44 14.2 -30.1	S 19 40.5 -07.8	07						
08	300 07.2 -00.1	N 23 03.1 +00.2	310 59.8 +03.8	N 20 51.3 -00.7	58 44.1 -30.0	S 19 32.7 -07.9	08						
09	315 07.1 -00.2	N 23 03.3 +00.2	326 03.6 +03.8	N 20 50.6 -00.8	73 14.1 -30.0	S 19 24.8 -08.0	09						
10	330 06.9 -00.1	N 23 03.5 +00.2	341 07.4 +03.8	N 20 49.8 -00.7	87 44.1 -29.8	S 19 16.8 -08.0	10						
11	345 06.8 -00.1	N 23 03.7 +00.2	356 11.2 +03.8	N 20 49.1 -00.8	102 14.3 -29.8	S 19 08.8 -08.2	11						
12	0 06.7 -00.1	N 23 03.9 +00.1	11 15.0 +03.8	N 20 48.3 -00.7	116 44.5 -29.7	S 19 00.6 -08.2	12						
13	15 06.6 -00.2	N 23 04.0 +00.2	26 18.8 +03.8	N 20 47.6 -00.7	131 14.8 -29.5	S 18 52.4 -08.3	13						
14	30 06.4 -00.1	N 23 04.2 +00.2	41 22.6 +03.8	N 20 46.9 -00.8	145 45.3 -29.5	S 18 44.1 -08.4	14						
15	45 06.3 -00.1	N 23 04.4 +00.2	56 26.4 +03.8	N 20 46.1 -00.7	160 15.8 -29.5	S 18 35.7 -08.4	15						
16	60 06.2 -00.1	N 23 04.6 +00.1	71 30.2 +03.8	N 20 45.4 -00.8	174 46.3 -29.3	S 18 27.3 -08.6	16						
17	75 06.1 -00.2	N 23 04.7 +00.2	86 34.0 +03.8	N 20 44.6 -00.7	189 17.0 -29.2	S 18 18.7 -08.6	17						
18	90 05.9 -00.1	N 23 04.9 +00.2	101 37.8 +03.7	N 20 43.9 -00.8	203 47.8 -29.2	S 18 10.1 -08.7	18						
19	105 05.8 -00.1	N 23 05.1 +00.2	116 41.5 +03.8	N 20 43.1 -00.7	218 18.6 -29.0	S 18 01.4 -08.8	19						
20	120 05.7 -00.1	N 23 05.3 +00.1	131 45.3 +03.8	N 20 42.4 -00.8	232 49.6 -29.0	S 17 52.6 -08.8	20						
21	135 05.6 -00.2	N 23 05.4 +00.2	146 49.1 +03.8	N 20 41.6 -00.7	247 20.6 -28.9	S 17 43.8 -08.9	21						
22	150 05.4 -00.1	N 23 05.6 +00.2	161 52.9 +03.7	N 20 40.9 -00.7	261 51.7 -28.8	S 17 34.9 -09.0	22						
23	165 05.3 -00.1	N 23 05.8 +00.1	176 56.6 +03.8	N 20 40.2 -00.8	276 22.9 -28.7	S 17 25.9 -09.1	23						
	UT 02 06 10 14 18 22	SD 15'8 15'8 15'8 15'8 15'8 15'8	UT 02 06 10 14 18 22	SD 00'5 00'5 00'5 00'5 00'5 00'5	UT 02 06 10 14 18 22	SD 15'3 15'3 15'2 15'2 15'2 15'1							
	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 56'2 56'1 55'9 55'8 55'7 55'6							
	SHA 281° 281° 281° 281° 281° 280°	SHA 292° 292° 292° 292° 292° 292°		SHA 292° 292° 292° 292° 292° 292°		SHA 043° 041° 039° 036° 034° 032°							
	Greenwich Culmination Time: 11:59	Greenwich Culmination Time: 11:15		Greenwich Culmination Time: 03:56		Greenwich Culmination Time: 03:56							

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	268 15.1 +00.9	S 06 54.0 -00.6	320 35.4 +02.7	S 21 08.9 +00.0	315 16.7 +02.5	S 20 02.4 +00.0	00						
01	283 16.0 +00.9	S 06 53.4 -00.6	335 38.1 +02.7	S 21 08.9 +00.1	330 19.2 +02.6	S 20 02.4 +00.1	01						
02	298 16.9 +01.0	S 06 52.8 -00.6	350 40.8 +02.6	S 21 09.0 +00.0	345 21.8 +02.6	S 20 02.5 +00.0	02						
03	313 17.9 +00.9	S 06 52.2 -00.5	5 43.4 +02.7	S 21 09.0 +00.0	0 24.4 +02.6	S 20 02.5 +00.0	03						
04	328 18.8 +01.0	S 06 51.7 -00.6	20 46.1 +02.7	S 21 09.0 +00.1	15 27.0 +02.6	S 20 02.5 +00.1	04						
05	343 19.8 +00.9	S 06 51.1 -00.6	35 48.8 +02.7	S 21 09.1 +00.0	30 29.6 +02.5	S 20 02.6 +00.0	05						
06	358 20.7 +00.9	S 06 50.5 -00.6	50 51.5 +02.6	S 21 09.1 +00.1	45 32.1 +02.6	S 20 02.6 +00.0	06						
07	13 21.6 +01.0	S 06 49.9 -00.5	65 54.1 +02.7	S 21 09.2 +00.0	60 34.7 +02.6	S 20 02.6 +00.0	07						
08	28 22.6 +00.9	S 06 49.4 -00.6	80 56.8 +02.7	S 21 09.2 +00.1	75 37.3 +02.6	S 20 02.6 +00.1	08						
09	43 23.5 +00.9	S 06 48.8 -00.6	95 59.5 +02.7	S 21 09.3 +00.0	90 39.9 +02.6	S 20 02.7 +00.0	09						
10	58 24.4 +01.0	S 06 48.2 -00.6	111 02.2 +02.6	S 21 09.3 +00.1	105 42.5 +02.5	S 20 02.7 +00.0	10						
11	73 25.4 +00.9	S 06 47.6 -00.6	126 04.8 +02.7	S 21 09.4 +00.0	120 45.0 +02.6	S 20 02.7 +00.1	11						
12	88 26.3 +00.9	S 06 47.0 -00.5	141 07.5 +02.7	S 21 09.4 +00.0	135 47.6 +02.6	S 20 02.8 +00.0	12						
13	103 27.2 +01.0	S 06 46.5 -00.6	156 10.2 +02.6	S 21 09.4 +00.1	150 50.2 +02.6	S 20 02.8 +00.0	13						
14	118 28.2 +00.9	S 06 45.9 -00.6	171 12.8 +02.7	S 21 09.5 +00.0	165 52.8 +02.6	S 20 02.8 +00.0	14						
15	133 29.1 +01.0	S 06 45.3 -00.6	186 15.5 +02.7	S 21 09.5 +00.1	180 55.4 +02.6	S 20 02.8 +00.1	15						
16	148 30.1 +00.9	S 06 44.7 -00.6	201 18.2 +02.7	S 21 09.6 +00.0	195 58.0 +02.5	S 20 02.9 +00.0	16						
17	163 31.0 +00.9	S 06 44.1 -00.5	216 20.9 +02.6	S 21 09.6 +00.1	211 00.5 +02.6	S 20 02.9 +00.0	17						
18	178 31.9 +01.0	S 06 43.6 -00.6	231 23.5 +02.7	S 21 09.7 +00.0	226 03.1 +02.6	S 20 02.9 +00.1	18						
19	193 32.9 +00.9	S 06 43.0 -00.6	246 26.2 +02.7	S 21 09.7 +00.1	241 05.7 +02.6	S 20 03.0 +00.0	19						
20	208 33.8 +01.0	S 06 42.4 -00.6	261 28.9 +02.7	S 21 09.8 +00.0	256 08.3 +02.6	S 20 03.0 +00.0	20						
21	223 34.8 +00.9	S 06 41.8 -00.5	276 31.6 +02.7	S 21 09.8 +00.0	271 10.9 +02.6	S 20 03.0 +00.0	21						
22	238 35.7 +00.9	S 06 41.3 -00.6	291 34.3 +02.6	S 21 09.8 +00.1	286 13.5 +02.5	S 20 03.0 +00.1	22						
23	253 36.6 +01.0	S 06 40.7 -00.6	306 36.9 +02.7	S 21 09.9 +00.0	301 16.0 +02.6	S 20 03.1 +00.0	23						
	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	UT 02 06 10 14 18 22	SD 00'4 00'4 00'4 00'4 00'4 00'4	UT 02 06 10 14 18 22	SD 00'1 00'2 00'2 00'2 00'2 00'2							
	HP 00'2 00'2 00'2 00'2 00'2 00'2	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 009° 009° 009° 009° 009° 009°	SHA 062° 062° 062° 062° 062° 062°		SHA 062° 062° 062° 062° 062° 062°		SHA 056° 056° 056° 056° 057° 057°							
	Greenwich Culmination Time: 06:06	Greenwich Culmination Time: 02:37		Greenwich Culmination Time: 02:58		Greenwich Culmination Time: 02:58							

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 05.2 -00.1	N 23 05.9 +00.2	192 00.4 +03.8	N 20 39.4 -00.7	290 54.2 -28.7	S 17 16.8 -09.1	00													
01	195 05.1 -00.2	N 23 06.1 +00.2	207 04.2 +03.7	N 20 38.7 -00.8	305 25.5 -28.5	S 17 07.7 -09.2	01													
02	210 04.9 -00.1	N 23 06.3 +00.1	222 07.9 +03.8	N 20 37.9 -00.7	319 57.0 -28.5	S 16 58.5 -09.3	02													
03	225 04.8 -00.1	N 23 06.4 +00.2	237 11.7 +03.7	N 20 37.2 -00.7	334 28.5 -28.4	S 16 49.2 -09.4	03													
04	240 04.7 -00.2	N 23 06.6 +00.2	252 15.4 +03.8	N 20 36.5 -00.8	349 00.1 -28.3	S 16 39.8 -09.4	04													
05	255 04.5 -00.1	N 23 06.8 +00.1	267 19.2 +03.7	N 20 35.7 -00.7	3 31.8 -28.2	S 16 30.4 -09.4	05													
06	270 04.4 -00.1	N 23 06.9 +00.2	282 22.9 +03.8	N 20 35.0 -00.7	18 03.6 -28.2	S 16 21.0 -09.6	06													
07	285 04.3 -00.1	N 23 07.1 +00.2	297 26.7 +03.7	N 20 34.3 -00.8	32 35.4 -28.1	S 16 11.4 -09.6	07													
08	300 04.2 -00.2	N 23 07.3 +00.1	312 30.4 +03.8	N 20 33.5 -00.7	47 07.3 -27.9	S 16 01.8 -09.6	08													
09	315 04.0 -00.1	N 23 07.4 +00.2	327 34.2 +03.7	N 20 32.8 -00.7	61 39.4 -28.0	S 15 52.2 -09.8	09													
10	330 03.9 -00.1	N 23 07.6 +00.2	342 37.9 +03.7	N 20 32.1 -00.8	76 11.4 -27.8	S 15 42.4 -09.8	10													
11	345 03.8 -00.2	N 23 07.8 +00.1	357 41.6 +03.8	N 20 31.3 -00.7	90 43.6 -27.8	S 15 32.6 -09.8	11													
12	0 03.6 -00.1	N 23 07.9 +00.2	12 45.4 +03.7	N 20 30.6 -00.7	105 15.8 -27.6	S 15 22.8 -09.9	12													
13	15 03.5 -00.1	N 23 08.1 +00.1	27 49.1 +03.7	N 20 29.9 -00.7	119 48.2 -27.7	S 15 12.9 -10.0	13													
14	30 03.4 -00.1	N 23 08.2 +00.2	42 52.8 +03.7	N 20 29.2 -00.8	134 20.5 -27.5	S 15 02.9 -10.0	14													
15	45 03.3 -00.2	N 23 08.4 +00.2	57 56.5 +03.8	N 20 28.4 -00.7	148 53.0 -27.5	S 14 52.9 -10.1	15													
16	60 03.1 -00.1	N 23 08.6 +00.1	73 00.3 +03.7	N 20 27.7 -00.7	163 25.5 -27.3	S 14 42.8 -10.1	16													
17	75 03.0 -00.1	N 23 08.7 +00.2	88 04.0 +03.7	N 20 27.0 -00.8	177 58.2 -27.4	S 14 32.7 -10.2	17													
18	90 02.9 -00.1	N 23 08.9 +00.1	103 07.7 +03.7	N 20 26.2 -00.7	192 30.8 -27.2	S 14 22.5 -10.2	18													
19	105 02.8 -00.2	N 23 09.0 +00.2	118 11.4 +03.7	N 20 25.5 -00.7	207 03.6 -27.2	S 14 12.3 -10.3	19													
20	120 02.6 -00.1	N 23 09.2 +00.1	133 15.1 +03.7	N 20 24.8 -00.7	221 36.4 -27.1	S 14 02.0 -10.3	20													
21	135 02.5 -00.1	N 23 09.3 +00.2	148 18.8 +03.7	N 20 24.1 -00.7	236 09.3 -27.0	S 13 51.7 -10.4	21													
22	150 02.4 -00.2	N 23 09.5 +00.2	163 22.5 +03.7	N 20 23.4 -00.8	250 42.3 -27.0	S 13 41.3 -10.5	22													
23	165 02.2 -00.1	N 23 09.7 +00.1	178 26.2 +03.7	N 20 22.6 -00.7	265 15.3 -26.9	S 13 30.8 -10.5	23													
<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>	<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>							
SD	15'8	15'8	15'8	15'8	15'8	15'8	SD	00'5	00'5	00'5	00'5	00'5	00'5							
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'5	00'5	00'5	00'5	00'5	00'5							
SHA	280°	280°	280°	280°	280°	279°	SHA	292°	292°	292°	293°	293°	293°							
Greenwich Culmination Time: 11:59							Greenwich Culmination Time: 11:09							Greenwich Culmination Time: 04:45						
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	268 37.6 +00.9	S 06 40.1 -00.6	321 39.6 +02.7	S 21 09.9 +00.1	316 18.6 +02.6	S 20 03.1 +00.0	00													
01	283 38.5 +01.0	S 06 39.5 -00.6	336 42.3 +02.7	S 21 10.0 +00.0	331 21.2 +02.6	S 20 03.1 +00.1	01													
02	298 39.5 +00.9	S 06 38.9 -00.5	351 45.0 +02.6	S 21 10.0 +00.1	346 23.8 +02.6	S 20 03.2 +00.0	02													
03	313 40.4 +00.9	S 06 38.4 -00.6	6 47.6 +02.7	S 21 10.1 +00.0	1 26.4 +02.6	S 20 03.2 +00.0	03													
04	328 41.3 +01.0	S 06 37.8 -00.6	21 50.3 +02.7	S 21 10.1 +00.1	16 29.0 +02.5	S 20 03.2 +00.1	04													
05	343 42.3 +00.9	S 06 37.2 -00.6	36 53.0 +02.7	S 21 10.2 +00.0	31 31.5 +02.6	S 20 03.3 +00.0	05													
06	358 43.2 +01.0	S 06 36.6 -00.6	51 55.7 +02.7	S 21 10.2 +00.1	46 34.1 +02.6	S 20 03.3 +00.0	06													
07	13 44.2 +00.9	S 06 36.0 -00.5	66 58.4 +02.6	S 21 10.3 +00.0	61 36.7 +02.6	S 20 03.3 +00.0	07													
08	28 45.1 +01.0	S 06 35.5 -00.6	82 01.0 +02.7	S 21 10.3 +00.0	76 39.3 +02.6	S 20 03.3 +00.1	08													
09	43 46.1 +00.9	S 06 34.9 -00.6	97 03.7 +02.7	S 21 10.3 +00.1	91 41.9 +02.6	S 20 03.4 +00.0	09													
10	58 47.0 +00.9	S 06 34.3 -00.6	112 06.4 +02.7	S 21 10.4 +00.0	106 44.5 +02.5	S 20 03.4 +00.0	10													
11	73 47.9 +01.0	S 06 33.7 -00.5	127 09.1 +02.7	S 21 10.4 +00.1	121 47.0 +02.6	S 20 03.4 +00.1	11													
12	88 48.9 +00.9	S 06 33.2 -00.6	142 11.8 +02.6	S 21 10.5 +00.0	136 49.6 +02.6	S 20 03.5 +00.0	12													
13	103 49.8 +01.0	S 06 32.6 -00.6	157 14.4 +02.7	S 21 10.5 +00.1	151 52.2 +02.6	S 20 03.5 +00.0	13													
14	118 50.8 +00.9	S 06 32.0 -00.6	172 17.1 +02.7	S 21 10.6 +00.0	166 54.8 +02.6	S 20 03.5 +00.1	14													
15	133 51.7 +01.0	S 06 31.4 -00.6	187 19.8 +02.7	S 21 10.6 +00.1	181 57.4 +02.6	S 20 03.6 +00.0	15													
16	148 52.7 +00.9	S 06 30.8 -00.5	202 22.5 +02.7	S 21 10.7 +00.0	196 60.0 +02.6	S 20 03.6 +00.0	16													
17	163 53.6 +01.0	S 06 30.3 -00.6	217 25.2 +02.6	S 21 10.7 +00.1	212 02.6 +02.5	S 20 03.6 +00.0	17													
18	178 54.6 +00.9	S 06 29.7 -00.6	232 27.8 +02.7	S 21 10.8 +00.0	227 05.1 +02.6	S 20 03.6 +00.1	18													
19	193 55.5 +00.9	S 06 29.1 -00.6	247 30.5 +02.7	S 21 10.8 +00.0	242 07.7 +02.6	S 20 03.7 +00.0	19													
20	208 56.4 +01.0	S 06 28.5 -00.5	262 33.2 +02.7	S 21 10.8 +00.1	257 10.3 +02.6	S 20 03.7 +00.0	20													
21	223 57.4 +00.9	S 06 28.0 -00.6	277 35.9 +02.7	S 21 10.9 +00.0	272 12.9 +02.6	S 20 03.7 +00.1	21													
22	238 58.3 +01.0	S 06 27.4 -00.6	292 38.6 +02.7	S 21 10.9 +00.1	287 15.5 +02.6	S 20 03.8 +00.0	22													
23	253 59.3 +00.9	S 06 26.8 -00.6	307 41.3 +02.6	S 21 11.0 +00.0	302 18.1 +02.6	S 20 03.8 +00.0	23													
<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>	<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>							
SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'4	00'4	00'4	00'4	00'4	00'4							
HP	00'2	00'2	00'2	00'2	00'2	00'2	HP	00'0	00'0	00'0	00'0	00'0	00'0							
SHA	009°	009°	009°	008°	008°	008°	SHA	062°	062°	062°	062°	062°	062°							
Greenwich Culmination Time: 06:05							Greenwich Culmination Time: 02:32							Greenwich Culmination Time: 02:54						



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 02.1 -00.1	N	23 09.8 +00.2	193 29.9 +03.7	N	20 21.9 -00.7	279 48.4 -26.8	S	13 20.3 -10.5				
01	195 02.0 -00.1	N	23 10.0 +00.1	208 33.6 +03.7	N	20 21.2 -00.7	294 21.6 -26.8	S	13 09.8 -10.6				
02	210 01.9 -00.2	N	23 10.1 +00.2	223 37.3 +03.6	N	20 20.5 -00.7	308 54.8 -26.7	S	12 59.2 -10.6				
03	225 01.7 -00.1	N	23 10.3 +00.1	238 40.9 +03.7	N	20 19.8 -00.7	323 28.1 -26.6	S	12 48.6 -10.7				
04	240 01.6 -00.1	N	23 10.4 +00.2	253 44.6 +03.7	N	20 19.1 -00.8	338 01.5 -26.6	S	12 37.9 -10.7				
05	255 01.5 -00.2	N	23 10.6 +00.1	268 48.3 +03.7	N	20 18.3 -00.7	352 34.9 -26.5	S	12 27.2 -10.8				
06	270 01.3 -00.1	N	23 10.7 +00.2	283 52.0 +03.6	N	20 17.6 -00.7	7 08.4 -26.5	S	12 16.4 -10.8				
07	285 01.2 -00.1	N	23 10.9 +00.1	298 55.6 +03.7	N	20 16.9 -00.7	21 41.9 -26.4	S	12 05.6 -10.8				
08	300 01.1 -00.2	N	23 11.0 +00.2	313 59.3 +03.7	N	20 16.2 -00.7	36 15.5 -26.3	S	11 54.8 -10.9				
09	315 00.9 -00.1	N	23 11.2 +00.1	329 03.0 +03.6	N	20 15.5 -00.7	50 49.2 -26.3	S	11 43.9 -10.9				
10	330 00.8 -00.1	N	23 11.3 +00.1	344 06.6 +03.7	N	20 14.8 -00.7	65 22.9 -26.2	S	11 33.0 -11.0				
11	345 00.7 -00.1	N	23 11.4 +00.2	359 10.3 +03.6	N	20 14.1 -00.7	79 56.7 -26.2	S	11 22.0 -11.0				
12	0 00.6 -00.2	N	23 11.6 +00.1	14 13.9 +03.7	N	20 13.4 -00.7	94 30.5 -26.1	S	11 11.0 -11.0				
13	15 00.4 -00.1	N	23 11.7 +00.2	29 17.6 +03.6	N	20 12.7 -00.7	109 04.4 -26.0	S	10 60.0 -11.1				
14	30 00.3 -00.1	N	23 11.9 +00.1	44 21.2 +03.6	N	20 12.0 -00.7	123 38.4 -26.0	S	10 48.9 -11.1				
15	45 00.2 -00.2	N	23 12.0 +00.2	59 24.8 +03.7	N	20 11.3 -00.7	138 12.4 -26.0	S	10 37.8 -11.2				
16	60 00.0 -00.1	N	23 12.2 +00.1	74 28.5 +03.6	N	20 10.6 -00.7	152 46.4 -25.9	S	10 26.6 -11.2				
17	74 59.9 -00.1	N	23 12.3 +00.1	89 32.1 +03.6	N	20 09.9 -00.8	167 20.5 -25.8	S	10 15.4 -11.2				
18	89 59.8 -00.2	N	23 12.4 +00.2	104 35.7 +03.7	N	20 09.1 -00.7	181 54.7 -25.8	S	10 04.2 -11.2				
19	104 59.6 -00.1	N	23 12.6 +00.1	119 39.4 +03.6	N	20 08.4 -00.7	196 28.9 -25.8	S	09 53.0 -11.3				
20	119 59.5 -00.1	N	23 12.7 +00.2	134 43.0 +03.6	N	20 07.7 -00.6	211 03.1 -25.7	S	09 41.7 -11.3				
21	134 59.4 -00.1	N	23 12.9 +00.1	149 46.6 +03.6	N	20 07.1 -00.7	225 37.4 -25.6	S	09 30.4 -11.4				
22	149 59.3 -00.2	N	23 13.0 +00.1	164 50.2 +03.6	N	20 06.4 -00.7	240 11.8 -25.6	S	09 19.0 -11.4				
23	164 59.1 -00.1	N	23 13.1 +00.2	179 53.8 +03.6	N	20 05.7 -00.7	254 46.2 -25.6	S	09 07.6 -11.4				
	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 00'5 00'5 00'5 00'5 00'5 00'5				SD 15'0 14'9 14'9 14'9 14'9 14'9					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5				HP 54'9 54'8 54'8 54'7 54'6 54'6					
	SHA 279° 279° 279° 279° 278° 278°			SHA 293° 293° 293° 293° 293° 293°				SHA 018° 016° 014° 012° 010° 009°					
	Greenwich Culmination Time: 11:59			Greenwich Culmination Time: 11:03				Greenwich Culmination Time: 05:30					
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	269 00.2 +01.0	S	06 26.2 -00.6	322 43.9 +02.7	S	21 11.0 +00.1	317 20.7 +02.5	S	20 03.8 +00.1				
01	284 01.2 +00.9	S	06 25.6 -00.5	337 46.6 +02.7	S	21 11.1 +00.0	332 23.2 +02.6	S	20 03.9 +00.0				
02	299 02.1 +01.0	S	06 25.1 -00.6	352 49.3 +02.7	S	21 11.1 +00.1	347 25.8 +02.6	S	20 03.9 +00.0				
03	314 03.1 +00.9	S	06 24.5 -00.6	7 52.0 +02.7	S	21 11.2 +00.0	2 28.4 +02.6	S	20 03.9 +00.0				
04	329 04.0 +01.0	S	06 23.9 -00.6	22 54.7 +02.7	S	21 11.2 +00.1	17 31.0 +02.6	S	20 03.9 +00.1				
05	344 05.0 +00.9	S	06 23.3 -00.5	37 57.4 +02.7	S	21 11.3 +00.0	32 33.6 +02.6	S	20 04.0 +00.0				
06	359 05.9 +01.0	S	06 22.8 -00.6	53 00.1 +02.6	S	21 11.3 +00.1	47 36.2 +02.6	S	20 04.0 +00.0				
07	14 06.9 +00.9	S	06 22.2 -00.6	68 02.7 +02.7	S	21 11.4 +00.0	62 38.8 +02.6	S	20 04.0 +00.1				
08	29 07.8 +01.0	S	06 21.6 -00.6	83 05.4 +02.7	S	21 11.4 +00.0	77 41.4 +02.5	S	20 04.1 +00.0				
09	44 08.8 +00.9	S	06 21.0 -00.6	98 08.1 +02.7	S	21 11.4 +00.1	92 43.9 +02.6	S	20 04.1 +00.0				
10	59 09.7 +00.9	S	06 20.4 -00.5	113 10.8 +02.7	S	21 11.5 +00.0	107 46.5 +02.6	S	20 04.1 +00.1				
11	74 10.6 +01.0	S	06 19.9 -00.6	128 13.5 +02.7	S	21 11.5 +00.1	122 49.1 +02.6	S	20 04.2 +00.0				
12	89 11.6 +00.9	S	06 19.3 -00.6	143 16.2 +02.7	S	21 11.6 +00.0	137 51.7 +02.6	S	20 04.2 +00.0				
13	104 12.5 +01.0	S	06 18.7 -00.6	158 18.9 +02.7	S	21 11.6 +00.1	152 54.3 +02.6	S	20 04.2 +00.0				
14	119 13.5 +00.9	S	06 18.1 -00.5	173 21.6 +02.6	S	21 11.7 +00.0	167 56.9 +02.6	S	20 04.2 +00.1				
15	134 14.4 +01.0	S	06 17.6 -00.6	188 24.2 +02.7	S	21 11.7 +00.1	182 59.5 +02.6	S	20 04.3 +00.0				
16	149 15.4 +00.9	S	06 17.0 -00.6	203 26.9 +02.7	S	21 11.8 +00.0	198 02.1 +02.6	S	20 04.3 +00.0				
17	164 16.3 +01.0	S	06 16.4 -00.6	218 29.6 +02.7	S	21 11.8 +00.1	213 04.7 +02.5	S	20 04.3 +00.1				
18	179 17.3 +00.9	S	06 15.8 -00.6	233 32.3 +02.7	S	21 11.9 +00.0	228 07.2 +02.6	S	20 04.4 +00.0				
19	194 18.2 +01.0	S	06 15.2 -00.5	248 35.0 +02.7	S	21 11.9 +00.1	243 09.8 +02.6	S	20 04.4 +00.0				
20	209 19.2 +00.9	S	06 14.7 -00.6	263 37.7 +02.7	S	21 12.0 +00.0	258 12.4 +02.6	S	20 04.4 +00.1				
21	224 20.1 +01.0	S	06 14.1 -00.6	278 40.4 +02.7	S	21 12.0 +00.1	273 15.0 +02.6	S	20 04.5 +00.0				
22	239 21.1 +00.9	S	06 13.5 -00.6	293 43.1 +02.7	S	21 12.1 +00.0	288 17.6 +02.6	S	20 04.5 +00.0				
23	254 22.0 +01.0	S	06 12.9 -00.5	308 45.8 +02.6	S	21 12.1 +00.1	303 20.2 +02.6	S	20 04.5 +00.1				
	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 00'4 00'4 00'4 00'4 00'4 00'4				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			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 008° 008° 008° 008° 008° 008°			SHA 062° 062° 062° 062° 062° 062°				SHA 057° 057° 057° 057° 057° 057°					
	Greenwich Culmination Time: 06:03			Greenwich Culmination Time: 02:28				Greenwich Culmination Time: 02:50					

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UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 59.0 -00.1	N 23 13.3 +00.1	194 57.4 +03.6	N 20 05.0 -00.7	269 20.6 -25.5	S 08 56.2 -11.4	00						
01	194 58.9 -00.2	N 23 13.4 +00.1	210 01.0 +03.7	N 20 04.3 -00.7	283 55.1 -25.5	S 08 44.8 -11.5	01						
02	209 58.7 -00.1	N 23 13.5 +00.2	225 04.7 +03.5	N 20 03.6 -00.7	298 29.6 -25.4	S 08 33.3 -11.5	02						
03	224 58.6 -00.1	N 23 13.7 +00.1	240 08.2 +03.6	N 20 02.9 -00.7	313 04.2 -25.4	S 08 21.8 -11.5	03						
04	239 58.5 -00.2	N 23 13.8 +00.1	255 11.8 +03.6	N 20 02.2 -00.7	327 38.8 -25.3	S 08 10.3 -11.5	04						
05	254 58.3 -00.1	N 23 13.9 +00.2	270 15.4 +03.6	N 20 01.5 -00.7	342 13.5 -25.3	S 07 58.8 -11.6	05						
06	269 58.2 -00.1	N 23 14.1 +00.1	285 19.0 +03.6	N 20 00.8 -00.7	356 48.2 -25.3	S 07 47.2 -11.6	06						
07	284 58.1 -00.2	N 23 14.2 +00.1	300 22.6 +03.6	N 20 00.1 -00.7	11 22.9 -25.2	S 07 35.6 -11.6	07						
08	299 57.9 -00.1	N 23 14.3 +00.2	315 26.2 +03.6	N 19 59.4 -00.6	25 57.7 -25.2	S 07 24.0 -11.7	08						
09	314 57.8 -00.1	N 23 14.5 +00.1	330 29.8 +03.5	N 19 58.8 -00.7	40 32.5 -25.2	S 07 12.3 -11.6	09						
10	329 57.7 -00.2	N 23 14.6 +00.1	345 33.3 +03.6	N 19 58.1 -00.7	55 07.3 -25.1	S 07 00.7 -11.7	10						
11	344 57.5 -00.1	N 23 14.7 +00.2	0 36.9 +03.6	N 19 57.4 -00.7	69 42.2 -25.1	S 06 49.0 -11.7	11						
12	359 57.4 -00.1	N 23 14.9 +00.1	15 40.5 +03.5	N 19 56.7 -00.7	84 17.1 -25.0	S 06 37.3 -11.7	12						
13	14 57.3 -00.1	N 23 15.0 +00.1	30 44.0 +03.6	N 19 56.0 -00.7	98 52.1 -25.1	S 06 25.6 -11.8	13						
14	29 57.2 -00.2	N 23 15.1 +00.1	45 47.6 +03.5	N 19 55.3 -00.6	113 27.0 -24.9	S 06 13.8 -11.8	14						
15	44 57.0 -00.1	N 23 15.2 +00.2	60 51.1 +03.6	N 19 54.7 -00.7	128 02.1 -25.0	S 06 02.0 -11.7	15						
16	59 56.9 -00.1	N 23 15.4 +00.1	75 54.7 +03.5	N 19 54.0 -00.7	142 37.1 -24.9	S 05 50.3 -11.8	16						
17	74 56.8 -00.2	N 23 15.5 +00.1	90 58.2 +03.6	N 19 53.3 -00.7	157 12.2 -25.0	S 05 38.5 -11.9	17						
18	89 56.6 -00.1	N 23 15.6 +00.1	106 01.8 +03.5	N 19 52.6 -00.6	171 47.2 -24.8	S 05 26.6 -11.8	18						
19	104 56.5 -00.1	N 23 15.7 +00.1	121 05.3 +03.6	N 19 52.0 -00.7	186 22.4 -24.9	S 05 14.8 -11.9	19						
20	119 56.4 -00.2	N 23 15.8 +00.2	136 08.9 +03.5	N 19 51.3 -00.7	200 57.5 -24.8	S 05 02.9 -11.8	20						
21	134 56.2 -00.1	N 23 16.0 +00.1	151 12.4 +03.5	N 19 50.6 -00.6	215 32.7 -24.8	S 04 51.1 -11.9	21						
22	149 56.1 -00.1	N 23 16.1 +00.1	166 15.9 +03.5	N 19 50.0 -00.7	230 07.9 -24.8	S 04 39.2 -11.9	22						
23	164 56.0 -00.2	N 23 16.2 +00.1	181 19.4 +03.6	N 19 49.3 -00.7	244 43.1 -24.8	S 04 27.3 -11.9	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'5 00'5 00'5 00'5 00'5 00'5		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 00'5 00'5 00'5 00'5 00'5 00'5		HP 54'5 54'4 54'4 54'3 54'3 54'3								
	SHA 278° 278° 278° 278° 277° 277°		SHA 293° 293° 293° 293° 294° 294°		SHA 007° 005° 003° 001° 359° 357°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 10:57		Greenwich Culmination Time: 06:13								

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	269 23.0 +01.0	S 06 12.4 -00.6	323 48.4 +02.7	S 21 12.2 +00.0	318 22.8 +02.6	S 20 04.6 +00.0	00						
01	284 24.0 +00.9	S 06 11.8 -00.6	338 51.1 +02.7	S 21 12.2 +00.0	333 25.4 +02.6	S 20 04.6 +00.0	01						
02	299 24.9 +01.0	S 06 11.2 -00.6	353 53.8 +02.7	S 21 12.2 +00.1	348 28.0 +02.5	S 20 04.6 +00.0	02						
03	314 25.9 +00.9	S 06 10.6 -00.5	8 56.5 +02.7	S 21 12.3 +00.0	3 30.5 +02.6	S 20 04.6 +00.1	03						
04	329 26.8 +01.0	S 06 10.1 -00.6	23 59.2 +02.7	S 21 12.3 +00.1	18 33.1 +02.6	S 20 04.7 +00.0	04						
05	344 27.8 +00.9	S 06 09.5 -00.6	39 01.9 +02.7	S 21 12.4 +00.0	33 35.7 +02.6	S 20 04.7 +00.0	05						
06	359 28.7 +01.0	S 06 08.9 -00.6	54 04.6 +02.7	S 21 12.4 +00.1	48 38.3 +02.6	S 20 04.7 +00.1	06						
07	14 29.7 +00.9	S 06 08.3 -00.5	69 07.3 +02.7	S 21 12.5 +00.0	63 40.9 +02.6	S 20 04.8 +00.0	07						
08	29 30.6 +01.0	S 06 07.8 -00.6	84 10.0 +02.7	S 21 12.5 +00.1	78 43.5 +02.6	S 20 04.8 +00.0	08						
09	44 31.6 +00.9	S 06 07.2 -00.6	99 12.7 +02.7	S 21 12.6 +00.0	93 46.1 +02.6	S 20 04.8 +00.1	09						
10	59 32.5 +01.0	S 06 06.6 -00.6	114 15.4 +02.7	S 21 12.6 +00.1	108 48.7 +02.6	S 20 04.9 +00.0	10						
11	74 33.5 +00.9	S 06 06.0 -00.6	129 18.1 +02.7	S 21 12.7 +00.0	123 51.3 +02.6	S 20 04.9 +00.0	11						
12	89 34.4 +01.0	S 06 05.4 -00.5	144 20.8 +02.6	S 21 12.7 +00.1	138 53.9 +02.6	S 20 04.9 +00.1	12						
13	104 35.4 +00.9	S 06 04.9 -00.6	159 23.4 +02.7	S 21 12.8 +00.0	153 56.5 +02.6	S 20 05.0 +00.0	13						
14	119 36.3 +01.0	S 06 04.3 -00.6	174 26.1 +02.7	S 21 12.8 +00.1	168 59.1 +02.5	S 20 05.0 +00.0	14						
15	134 37.3 +01.0	S 06 03.7 -00.6	189 28.8 +02.7	S 21 12.9 +00.0	184 01.6 +02.6	S 20 05.0 +00.0	15						
16	149 38.3 +00.9	S 06 03.1 -00.5	204 31.5 +02.7	S 21 12.9 +00.1	199 04.2 +02.6	S 20 05.0 +00.1	16						
17	164 39.2 +01.0	S 06 02.6 -00.6	219 34.2 +02.7	S 21 13.0 +00.0	214 06.8 +02.6	S 20 05.1 +00.0	17						
18	179 40.2 +00.9	S 06 02.0 -00.6	234 36.9 +02.7	S 21 13.0 +00.1	229 09.4 +02.6	S 20 05.1 +00.0	18						
19	194 41.1 +01.0	S 06 01.4 -00.6	249 39.6 +02.7	S 21 13.1 +00.0	244 12.0 +02.6	S 20 05.1 +00.1	19						
20	209 42.1 +00.9	S 06 00.8 -00.5	264 42.3 +02.7	S 21 13.1 +00.1	259 14.6 +02.6	S 20 05.2 +00.0	20						
21	224 43.0 +01.0	S 06 00.3 -00.6	279 45.0 +02.7	S 21 13.2 +00.0	274 17.2 +02.6	S 20 05.2 +00.0	21						
22	239 44.0 +01.0	S 05 59.7 -00.6	294 47.7 +02.7	S 21 13.2 +00.0	289 19.8 +02.6	S 20 05.2 +00.1	22						
23	254 45.0 +00.9	S 05 59.1 -00.6	309 50.4 +02.7	S 21 13.2 +00.1	304 22.4 +02.6	S 20 05.3 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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		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 008° 007° 007° 007° 007° 007°		SHA 062° 062° 062° 062° 062° 062°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 06:02		Greenwich Culmination Time: 02:24		Greenwich Culmination Time: 02:46								

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UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	179	55.8 -00.1	N 23 16.3 +00.1		196	23.0 +03.5	N 19 48.6 -00.7		259	18.3 -24.7	S 04 15.4 -12.0		00							
01	194	55.7 -00.1	N 23 16.4 +00.2		211	26.5 +03.5	N 19 47.9 -00.6		273	53.6 -24.7	S 04 03.4 -11.9		01							
02	209	55.6 -00.2	N 23 16.6 +00.1		226	30.0 +03.5	N 19 47.3 -00.7		288	28.9 -24.7	S 03 51.5 -11.9		02							
03	224	55.4 -00.1	N 23 16.7 +00.1		241	33.5 +03.5	N 19 46.6 -00.6		303	04.2 -24.7	S 03 39.6 -12.0		03							
04	239	55.3 -00.1	N 23 16.8 +00.1		256	37.0 +03.5	N 19 46.0 -00.7		317	39.5 -24.7	S 03 27.6 -12.0		04							
05	254	55.2 -00.2	N 23 16.9 +00.1		271	40.5 +03.5	N 19 45.3 -00.7		332	14.8 -24.6	S 03 15.6 -12.0		05							
06	269	55.0 -00.1	N 23 17.0 +00.1		286	44.0 +03.5	N 19 44.6 -00.6		346	50.2 -24.7	S 03 03.6 -12.0		06							
07	284	54.9 -00.1	N 23 17.1 +00.2		301	47.5 +03.5	N 19 44.0 -00.7		1	25.5 -24.6	S 02 51.6 -12.0		07							
08	299	54.8 -00.2	N 23 17.3 +00.1		316	51.0 +03.5	N 19 43.3 -00.6		16	00.9 -24.6	S 02 39.6 -12.0		08							
09	314	54.6 -00.1	N 23 17.4 +00.1		331	54.5 +03.5	N 19 42.7 -00.7		30	36.3 -24.6	S 02 27.6 -12.0		09							
10	329	54.5 -00.1	N 23 17.5 +00.1		346	58.0 +03.4	N 19 42.0 -00.7		45	11.7 -24.6	S 02 15.6 -12.0		10							
11	344	54.4 -00.2	N 23 17.6 +00.1		2	01.4 +03.5	N 19 41.3 -00.6		59	47.1 -24.6	S 02 03.6 -12.0		11							
12	359	54.2 -00.1	N 23 17.7 +00.1		17	04.9 +03.5	N 19 40.7 -00.7		74	22.5 -24.6	S 01 51.6 -12.1		12							
13	14	54.1 -00.1	N 23 17.8 +00.1		32	08.4 +03.5	N 19 40.0 -00.6		88	57.9 -24.5	S 01 39.5 -12.0		13							
14	29	54.0 -00.2	N 23 17.9 +00.1		47	11.9 +03.4	N 19 39.4 -00.7		103	33.4 -24.6	S 01 27.5 -12.0		14							
15	44	53.8 -00.1	N 23 18.0 +00.1		62	15.3 +03.5	N 19 38.7 -00.6		118	08.8 -24.5	S 01 15.5 -12.1		15							
16	59	53.7 -00.1	N 23 18.1 +00.1		77	18.8 +03.4	N 19 38.1 -00.7		132	44.3 -24.6	S 01 03.4 -12.0		16							
17	74	53.6 -00.2	N 23 18.2 +00.2		92	22.2 +03.5	N 19 37.4 -00.6		147	19.7 -24.5	S 00 51.4 -12.1		17							
18	89	53.4 -00.1	N 23 18.4 +00.1		107	25.7 +03.4	N 19 36.8 -00.7		161	55.2 -24.5	S 00 39.3 -12.1		18							
19	104	53.3 -00.1	N 23 18.5 +00.1		122	29.1 +03.5	N 19 36.1 -00.6		176	30.7 -24.6	S 00 27.2 -12.0		19							
20	119	53.2 -00.2	N 23 18.6 +00.1		137	32.6 +03.4	N 19 35.5 -00.6		191	06.1 -24.5	S 00 15.2 -12.1		20							
21	134	53.0 -00.1	N 23 18.7 +00.1		152	36.0 +03.5	N 19 34.9 -00.7		205	41.6 -24.5	S 00 03.1 -12.0		21							
22	149	52.9 -00.1	N 23 18.8 +00.1		167	39.5 +03.4	N 19 34.2 -00.6		220	17.1 -24.6	N 00 08.9 +12.1		22							
23	164	52.8 -00.2	N 23 18.9 +00.1		182	42.9 +03.4	N 19 33.6 -00.7		234	52.5 -24.5	N 00 21.0 +12.0		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	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	54'2	54'2	54'2	54'2	54'2	54'2					
SHA	277°	277°	277°	277°	276°	276°			SHA	356°	354°	352°	350°	348°	347°					
Greenwich Culmination Time: 12:00							Greenwich Culmination Time: 10:51							Greenwich Culmination Time: 06:54						
UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	269	45.9 +01.0	S 05 58.5 -00.5		324	53.1 +02.7	S 21 13.3 +00.0		319	25.0 +02.6	S 20 05.3 +00.0		00							
01	284	46.9 +00.9	S 05 58.0 -00.6		339	55.8 +02.7	S 21 13.3 +00.1		334	27.6 +02.6	S 20 05.3 +00.1		01							
02	299	47.8 +01.0	S 05 57.4 -00.6		354	58.5 +02.7	S 21 13.4 +00.0		349	30.2 +02.6	S 20 05.4 +00.0		02							
03	314	48.8 +00.9	S 05 56.8 -00.6		10	01.2 +02.7	S 21 13.4 +00.1		4	32.8 +02.5	S 20 05.4 +00.0		03							
04	329	49.7 +01.0	S 05 56.2 -00.5		25	03.9 +02.7	S 21 13.5 +00.0		19	35.3 +02.6	S 20 05.4 +00.1		04							
05	344	50.7 +01.0	S 05 55.7 -00.6		40	06.6 +02.7	S 21 13.5 +00.1		34	37.9 +02.6	S 20 05.5 +00.0		05							
06	359	51.7 +00.9	S 05 55.1 -00.6		55	09.3 +02.7	S 21 13.6 +00.0		49	40.5 +02.6	S 20 05.5 +00.0		06							
07	14	52.6 +01.0	S 05 54.5 -00.6		70	12.0 +02.7	S 21 13.6 +00.1		64	43.1 +02.6	S 20 05.5 +00.0		07							
08	29	53.6 +00.9	S 05 53.9 -00.5		85	14.7 +02.7	S 21 13.7 +00.0		79	45.7 +02.6	S 20 05.5 +00.1		08							
09	44	54.5 +01.0	S 05 53.4 -00.6		100	17.4 +02.7	S 21 13.7 +00.1		94	48.3 +02.6	S 20 05.6 +00.0		09							
10	59	55.5 +01.0	S 05 52.8 -00.6		115	20.1 +02.7	S 21 13.8 +00.0		109	50.9 +02.6	S 20 05.6 +00.0		10							
11	74	56.5 +00.9	S 05 52.2 -00.6		130	22.8 +02.7	S 21 13.8 +00.1		124	53.5 +02.6	S 20 05.6 +00.1		11							
12	89	57.4 +01.0	S 05 51.6 -00.5		145	25.5 +02.7	S 21 13.9 +00.0		139	56.1 +02.6	S 20 05.7 +00.0		12							
13	104	58.4 +00.9	S 05 51.1 -00.6		160	28.2 +02.7	S 21 13.9 +00.1		154	58.7 +02.6	S 20 05.7 +00.0		13							
14	119	59.3 +01.0	S 05 50.5 -00.6		175	30.9 +02.7	S 21 14.0 +00.0		170	01.3 +02.6	S 20 05.7 +00.1		14							
15	135	00.3 +01.0	S 05 49.9 -00.6		190	33.6 +02.7	S 21 14.0 +00.1		185	03.9 +02.6	S 20 05.8 +00.0		15							
16	150	01.3 +00.9	S 05 49.3 -00.5		205	36.3 +02.7	S 21 14.1 +00.0		200	06.5 +02.6	S 20 05.8 +00.0		16							
17	165	02.2 +01.0	S 05 48.8 -00.6		220	39.0 +02.7	S 21 14.1 +00.1		215	09.1 +02.6	S 20 05.8 +00.1		17							
18	180	03.2 +00.9	S 05 48.2 -00.6		235	41.7 +02.7	S 21 14.2 +00.0		230	11.7 +02.6	S 20 05.9 +00.0		18							
19	195	04.1 +01.0	S 05 47.6 -00.6		250	44.4 +02.7	S 21 14.2 +00.1		245	14.3 +02.6	S 20 05.9 +00.0		19							
20	210	05.1 +01.0	S 05 47.0 -00.5		265	47.1 +02.7	S 21 14.3 +00.0		260	16.9 +02.6	S 20 05.9 +00.1		20							
21	225	06.1 +00.9	S 05 46.5 -00.6		280	49.8 +02.7	S 21 14.3 +00.1		275	19.5 +02.6	S 20 06.0 +00.0		21							
22	240	07.0 +01.0	S 05 45.9 -00.6		295	52.5 +02.7	S 21 14.4 +00.0		290	22.1 +02.6	S 20 06.0 +00.0		22							
23	255	08.0 +01.0	S 05 45.3 -00.6		310	55.2 +02.7	S 21 14.4 +00.1		305	24.7 +02.5	S 20 06.0 +00.1		23							
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	00'2	00'2	00'2	00'2	00'2	00'2					
HP	00'2	00'2	00'2	00'2	00'2	00'2			HP	00'0	00'0	00'0	00'0	00'0	00'0					
SHA	007°	007°	007°	007°	007°	006°			SHA	057°	057°	057°	057°	057°	057°					
Greenwich Culmination Time: 06:00							Greenwich Culmination Time: 02:20							Greenwich Culmination Time: 02:41						



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 49.4 -00.1	N 23 21.2 +00.1	199 07.4 +03.4	N 19 18.0 -00.6	239 36.0 -24.9	N 05 20.6 +11.8	00						
01	194 49.3 -00.2	N 23 21.3 +00.1	214 10.8 +03.3	N 19 17.4 -00.6	254 11.1 -25.0	N 05 32.4 +11.8	01						
02	209 49.1 -00.1	N 23 21.4 +00.1	229 14.1 +03.3	N 19 16.8 -00.6	268 46.1 -24.9	N 05 44.2 +11.8	02						
03	224 49.0 -00.1	N 23 21.5 +00.0	244 17.4 +03.3	N 19 16.2 -00.6	283 21.2 -25.0	N 05 56.0 +11.8	03						
04	239 48.9 -00.2	N 23 21.5 +00.1	259 20.7 +03.3	N 19 15.6 -00.6	297 56.2 -25.0	N 06 07.8 +11.8	04						
05	254 48.7 -00.1	N 23 21.6 +00.1	274 24.0 +03.4	N 19 15.0 -00.6	312 31.2 -25.1	N 06 19.6 +11.7	05						
06	269 48.6 -00.1	N 23 21.7 +00.1	289 27.4 +03.3	N 19 14.4 -00.6	327 06.1 -25.0	N 06 31.3 +11.7	06						
07	284 48.5 -00.2	N 23 21.8 +00.1	304 30.7 +03.3	N 19 13.8 -00.6	341 41.1 -25.2	N 06 43.0 +11.7	07						
08	299 48.3 -00.1	N 23 21.9 +00.0	319 34.0 +03.3	N 19 13.2 -00.6	356 15.9 -25.1	N 06 54.7 +11.7	08						
09	314 48.2 -00.1	N 23 21.9 +00.1	334 37.3 +03.3	N 19 12.6 -00.6	10 50.8 -25.2	N 07 06.4 +11.7	09						
10	329 48.1 -00.2	N 23 22.0 +00.1	349 40.6 +03.2	N 19 12.0 -00.6	25 25.6 -25.2	N 07 18.1 +11.6	10						
11	344 47.9 -00.1	N 23 22.1 +00.1	4 43.8 +03.3	N 19 11.4 -00.6	40 00.4 -25.2	N 07 29.7 +11.6	11						
12	359 47.8 -00.2	N 23 22.2 +00.0	19 47.1 +03.3	N 19 10.8 -00.6	54 35.2 -25.3	N 07 41.3 +11.6	12						
13	14 47.6 -00.1	N 23 22.2 +00.1	34 50.4 +03.3	N 19 10.2 -00.6	69 09.9 -25.3	N 07 52.9 +11.5	13						
14	29 47.5 -00.1	N 23 22.3 +00.1	49 53.7 +03.3	N 19 09.6 -00.6	83 44.6 -25.4	N 08 04.4 +11.6	14						
15	44 47.4 -00.2	N 23 22.4 +00.1	64 57.0 +03.2	N 19 09.0 -00.5	98 19.2 -25.4	N 08 16.0 +11.5	15						
16	59 47.2 -00.1	N 23 22.5 +00.0	80 00.2 +03.3	N 19 08.5 -00.6	112 53.8 -25.5	N 08 27.5 +11.5	16						
17	74 47.1 -00.1	N 23 22.5 +00.1	95 03.5 +03.3	N 19 07.9 -00.6	127 28.3 -25.4	N 08 39.0 +11.4	17						
18	89 47.0 -00.2	N 23 22.6 +00.1	110 06.8 +03.2	N 19 07.3 -00.6	142 02.9 -25.6	N 08 50.4 +11.4	18						
19	104 46.8 -00.1	N 23 22.7 +00.1	125 10.0 +03.3	N 19 06.7 -00.6	156 37.3 -25.5	N 09 01.8 +11.4	19						
20	119 46.7 -00.1	N 23 22.8 +00.0	140 13.3 +03.2	N 19 06.1 -00.5	171 11.8 -25.6	N 09 13.2 +11.4	20						
21	134 46.6 -00.2	N 23 22.8 +00.1	155 16.5 +03.3	N 19 05.6 -00.6	185 46.2 -25.7	N 09 24.6 +11.3	21						
22	149 46.4 -00.1	N 23 22.9 +00.1	170 19.8 +03.2	N 19 05.0 -00.6	200 20.5 -25.7	N 09 35.9 +11.3	22						
23	164 46.3 -00.1	N 23 23.0 +00.0	185 23.0 +03.2	N 19 04.4 -00.6	214 54.8 -25.8	N 09 47.2 +11.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'4 00'4 00'4 00'4 00'4 00'4		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 00'5 00'5 00'5 00'5 00'5 00'5		HP 54'3 54'3 54'3 54'4 54'4 54'4								
	SHA 275° 275° 275° 274° 274° 274°		SHA 294° 294° 295° 295° 295° 295°		SHA 334° 332° 330° 328° 327° 325°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 10:41		Greenwich Culmination Time: 08:15								
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	270 32.1 +01.0	S 05 31.0 -00.6	327 02.9 +02.7	S 21 15.7 +00.0	321 29.6 +02.6	S 20 06.8 +00.1	00						
01	285 33.1 +01.0	S 05 30.4 -00.6	342 05.6 +02.7	S 21 15.7 +00.1	336 32.2 +02.6	S 20 06.9 +00.0	01						
02	300 34.1 +00.9	S 05 29.8 -00.6	357 08.3 +02.7	S 21 15.8 +00.0	351 34.8 +02.6	S 20 06.9 +00.0	02						
03	315 35.0 +01.0	S 05 29.2 -00.5	12 11.0 +02.7	S 21 15.8 +00.1	6 37.4 +02.6	S 20 06.9 +00.1	03						
04	330 36.0 +01.0	S 05 28.7 -00.6	27 13.7 +02.7	S 21 15.9 +00.0	21 40.0 +02.6	S 20 07.0 +00.0	04						
05	345 37.0 +01.0	S 05 28.1 -00.6	42 16.4 +02.7	S 21 15.9 +00.1	36 42.6 +02.6	S 20 07.0 +00.0	05						
06	0 38.0 +00.9	S 05 27.5 -00.5	57 19.1 +02.8	S 21 16.0 +00.0	51 45.2 +02.6	S 20 07.0 +00.1	06						
07	15 38.9 +01.0	S 05 27.0 -00.6	72 21.9 +02.7	S 21 16.0 +00.1	66 47.8 +02.6	S 20 07.1 +00.0	07						
08	30 39.9 +01.0	S 05 26.4 -00.6	87 24.6 +02.7	S 21 16.1 +00.0	81 50.4 +02.6	S 20 07.1 +00.0	08						
09	45 40.9 +00.9	S 05 25.8 -00.6	102 27.3 +02.7	S 21 16.1 +00.1	96 53.0 +02.6	S 20 07.1 +00.1	09						
10	60 41.8 +01.0	S 05 25.2 -00.5	117 30.0 +02.7	S 21 16.2 +00.0	111 55.6 +02.6	S 20 07.2 +00.0	10						
11	75 42.8 +01.0	S 05 24.7 -00.6	132 32.7 +02.7	S 21 16.2 +00.1	126 58.2 +02.6	S 20 07.2 +00.0	11						
12	90 43.8 +01.0	S 05 24.1 -00.6	147 35.4 +02.7	S 21 16.3 +00.0	142 00.8 +02.6	S 20 07.2 +00.1	12						
13	105 44.8 +00.9	S 05 23.5 -00.6	162 38.1 +02.7	S 21 16.3 +00.1	157 03.4 +02.6	S 20 07.3 +00.0	13						
14	120 45.7 +01.0	S 05 22.9 -00.5	177 40.8 +02.8	S 21 16.4 +00.0	172 06.0 +02.6	S 20 07.3 +00.0	14						
15	135 46.7 +01.0	S 05 22.4 -00.6	192 43.6 +02.7	S 21 16.4 +00.1	187 08.6 +02.6	S 20 07.3 +00.0	15						
16	150 47.7 +01.0	S 05 21.8 -00.6	207 46.3 +02.7	S 21 16.5 +00.0	202 11.2 +02.6	S 20 07.3 +00.1	16						
17	165 48.7 +00.9	S 05 21.2 -00.5	222 49.0 +02.7	S 21 16.5 +00.1	217 13.8 +02.6	S 20 07.4 +00.0	17						
18	180 49.6 +01.0	S 05 20.7 -00.6	237 51.7 +02.7	S 21 16.6 +00.0	232 16.4 +02.6	S 20 07.4 +00.0	18						
19	195 50.6 +01.0	S 05 20.1 -00.6	252 54.4 +02.7	S 21 16.6 +00.1	247 19.0 +02.6	S 20 07.4 +00.1	19						
20	210 51.6 +00.9	S 05 19.5 -00.6	267 57.1 +02.7	S 21 16.7 +00.0	262 21.6 +02.6	S 20 07.5 +00.0	20						
21	225 52.5 +01.0	S 05 18.9 -00.5	282 59.8 +02.8	S 21 16.7 +00.1	277 24.2 +02.6	S 20 07.5 +00.0	21						
22	240 53.5 +01.0	S 05 18.4 -00.6	298 02.6 +02.7	S 21 16.8 +00.0	292 26.8 +02.6	S 20 07.5 +00.1	22						
23	255 54.5 +01.0	S 05 17.8 -00.6	313 05.3 +02.7	S 21 16.8 +00.1	307 29.4 +02.6	S 20 07.6 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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		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 006° 006° 006° 005° 005° 005°		SHA 062° 062° 062° 062° 062° 062°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 05:57		Greenwich Culmination Time: 02:11		Greenwich Culmination Time: 02:33								

Table with columns for Sun, Venus, Moon, Mars, Jupiter, and Saturn. Each column contains astronomical data including UT, GHA, ddGHA, Dec, and dDec for each day of the month. Summary statistics are provided at the bottom of each column.

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 42.9 -00.2	N 23 24.4 +00.1	201 42.7 +03.1	N 18 50.5 -00.6	218 54.9 -27.1	N 14 16.9 +10.1	00						
01	194 42.7 -00.1	N 23 24.5 +00.0	216 45.8 +03.2	N 18 49.9 -00.5	233 27.8 -27.3	N 14 27.0 +10.2	01						
02	209 42.6 -00.1	N 23 24.5 +00.1	231 49.0 +03.1	N 18 49.4 -00.5	248 00.5 -27.3	N 14 37.2 +10.0	02						
03	224 42.5 -00.2	N 23 24.6 +00.0	246 52.1 +03.1	N 18 48.9 -00.6	262 33.2 -27.3	N 14 47.2 +10.0	03						
04	239 42.3 -00.1	N 23 24.6 +00.1	261 55.2 +03.1	N 18 48.3 -00.5	277 05.9 -27.5	N 14 57.2 +10.0	04						
05	254 42.2 -00.1	N 23 24.7 +00.0	276 58.3 +03.1	N 18 47.8 -00.5	291 38.4 -27.5	N 15 07.2 +09.9	05						
06	269 42.1 -00.2	N 23 24.7 +00.1	292 01.4 +03.2	N 18 47.3 -00.6	306 10.9 -27.6	N 15 17.1 +09.8	06						
07	284 41.9 -00.1	N 23 24.8 +00.0	307 04.6 +03.1	N 18 46.7 -00.5	320 43.3 -27.6	N 15 26.9 +09.8	07						
08	299 41.8 -00.2	N 23 24.8 +00.1	322 07.7 +03.1	N 18 46.2 -00.5	335 15.7 -27.7	N 15 36.7 +09.7	08						
09	314 41.6 -00.1	N 23 24.9 +00.0	337 10.8 +03.1	N 18 45.7 -00.6	349 48.0 -27.8	N 15 46.4 +09.7	09						
10	329 41.5 -00.1	N 23 24.9 +00.0	352 13.9 +03.0	N 18 45.1 -00.5	4 20.2 -27.9	N 15 56.1 +09.5	10						
11	344 41.4 -00.2	N 23 24.9 +00.1	7 16.9 +03.1	N 18 44.6 -00.5	18 52.3 -27.9	N 16 05.6 +09.6	11						
12	359 41.2 -00.1	N 23 25.0 +00.0	22 20.0 +03.1	N 18 44.1 -00.5	33 24.4 -28.0	N 16 15.2 +09.4	12						
13	14 41.1 -00.1	N 23 25.0 +00.1	37 23.1 +03.1	N 18 43.6 -00.5	47 56.4 -28.1	N 16 24.6 +09.4	13						
14	29 41.0 -00.2	N 23 25.1 +00.0	52 26.2 +03.1	N 18 43.1 -00.6	62 28.3 -28.1	N 16 34.0 +09.4	14						
15	44 40.8 -00.1	N 23 25.1 +00.0	67 29.3 +03.0	N 18 42.5 -00.5	77 00.2 -28.2	N 16 43.4 +09.2	15						
16	59 40.7 -00.1	N 23 25.1 +00.1	82 32.3 +03.1	N 18 42.0 -00.5	91 32.0 -28.3	N 16 52.6 +09.2	16						
17	74 40.6 -00.2	N 23 25.2 +00.0	97 35.4 +03.1	N 18 41.5 -00.5	106 03.7 -28.4	N 17 01.8 +09.1	17						
18	89 40.4 -00.1	N 23 25.2 +00.1	112 38.5 +03.0	N 18 41.0 -00.5	120 35.3 -28.5	N 17 10.9 +09.1	18						
19	104 40.3 -00.2	N 23 25.3 +00.0	127 41.5 +03.1	N 18 40.5 -00.5	135 06.8 -28.5	N 17 20.0 +08.9	19						
20	119 40.1 -00.1	N 23 25.3 +00.0	142 44.6 +03.0	N 18 40.0 -00.5	149 38.3 -28.6	N 17 28.9 +08.9	20						
21	134 40.0 -00.1	N 23 25.3 +00.1	157 47.6 +03.1	N 18 39.5 -00.5	164 09.7 -28.6	N 17 37.8 +08.9	21						
22	149 39.9 -00.2	N 23 25.4 +00.0	172 50.7 +03.0	N 18 39.0 -00.5	178 41.1 -28.8	N 17 46.7 +08.7	22						
23	164 39.7 -00.1	N 23 25.4 +00.0	187 53.7 +03.1	N 18 38.5 -00.5	193 12.3 -28.8	N 17 55.4 +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 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 14'9 15'0 15'0 15'0 15'0 15'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 54'9 54'9 55'0 55'1 55'1 55'2								
	SHA 273° 273° 273° 272° 272° 272°		SHA 295° 295° 295° 295° 295° 295°		SHA 311° 309° 307° 305° 303° 301°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 10:30		Greenwich Culmination Time: 09:42								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	271 18.9 +01.0	S 05 03.5 -00.5	329 13.2 +02.8	S 21 18.1 +00.1	323 34.5 +02.6	S 20 08.4 +00.0	00						
01	286 19.9 +01.0	S 05 03.0 -00.6	344 16.0 +02.7	S 21 18.2 +00.0	338 37.1 +02.6	S 20 08.4 +00.1	01						
02	301 20.9 +01.0	S 05 02.4 -00.6	359 18.7 +02.7	S 21 18.2 +00.1	353 39.7 +02.6	S 20 08.5 +00.0	02						
03	316 21.9 +01.0	S 05 01.8 -00.6	14 21.4 +02.7	S 21 18.3 +00.0	8 42.3 +02.6	S 20 08.5 +00.0	03						
04	331 22.9 +01.0	S 05 01.2 -00.5	29 24.1 +02.8	S 21 18.3 +00.1	23 44.9 +02.6	S 20 08.5 +00.1	04						
05	346 23.9 +00.9	S 05 00.7 -00.6	44 26.9 +02.7	S 21 18.4 +00.0	38 47.5 +02.6	S 20 08.6 +00.0	05						
06	1 24.8 +01.0	S 05 00.1 -00.6	59 29.6 +02.7	S 21 18.4 +00.1	53 50.1 +02.6	S 20 08.6 +00.0	06						
07	16 25.8 +01.0	S 04 59.5 -00.5	74 32.3 +02.7	S 21 18.5 +00.0	68 52.7 +02.7	S 20 08.6 +00.1	07						
08	31 26.8 +01.0	S 04 59.0 -00.6	89 35.0 +02.7	S 21 18.5 +00.1	83 55.4 +02.6	S 20 08.7 +00.0	08						
09	46 27.8 +01.0	S 04 58.4 -00.6	104 37.7 +02.8	S 21 18.6 +00.0	98 58.0 +02.6	S 20 08.7 +00.1	09						
10	61 28.8 +01.0	S 04 57.8 -00.5	119 40.5 +02.7	S 21 18.6 +00.1	114 00.6 +02.6	S 20 08.8 +00.0	10						
11	76 29.8 +00.9	S 04 57.3 -00.6	134 43.2 +02.7	S 21 18.7 +00.0	129 03.2 +02.6	S 20 08.8 +00.0	11						
12	91 30.7 +01.0	S 04 56.7 -00.6	149 45.9 +02.7	S 21 18.7 +00.1	144 05.8 +02.6	S 20 08.8 +00.1	12						
13	106 31.7 +01.0	S 04 56.1 -00.5	164 48.6 +02.8	S 21 18.8 +00.0	159 08.4 +02.6	S 20 08.9 +00.0	13						
14	121 32.7 +01.0	S 04 55.6 -00.6	179 51.4 +02.7	S 21 18.8 +00.1	174 11.0 +02.6	S 20 08.9 +00.0	14						
15	136 33.7 +01.0	S 04 55.0 -00.6	194 54.1 +02.7	S 21 18.9 +00.0	189 13.6 +02.6	S 20 08.9 +00.1	15						
16	151 34.7 +01.0	S 04 54.4 -00.6	209 56.8 +02.8	S 21 18.9 +00.1	204 16.2 +02.6	S 20 09.0 +00.0	16						
17	166 35.7 +00.9	S 04 53.8 -00.5	224 59.6 +02.7	S 21 19.0 +00.0	219 18.8 +02.6	S 20 09.0 +00.0	17						
18	181 36.6 +01.0	S 04 53.3 -00.6	240 02.3 +02.7	S 21 19.0 +00.1	234 21.4 +02.6	S 20 09.0 +00.1	18						
19	196 37.6 +01.0	S 04 52.7 -00.6	255 05.0 +02.7	S 21 19.1 +00.0	249 24.0 +02.6	S 20 09.1 +00.0	19						
20	211 38.6 +01.0	S 04 52.1 -00.5	270 07.7 +02.8	S 21 19.1 +00.1	264 26.6 +02.6	S 20 09.1 +00.0	20						
21	226 39.6 +01.0	S 04 51.6 -00.6	285 10.5 +02.7	S 21 19.2 +00.0	279 29.2 +02.7	S 20 09.1 +00.1	21						
22	241 40.6 +01.0	S 04 51.0 -00.6	300 13.2 +02.7	S 21 19.2 +00.1	294 31.9 +02.6	S 20 09.2 +00.0	22						
23	256 41.6 +01.0	S 04 50.4 -00.5	315 15.9 +02.7	S 21 19.3 +00.1	309 34.5 +02.6	S 20 09.2 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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		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 005° 004° 004° 004° 004° 004°		SHA 063° 063° 063° 063° 063° 063°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 05:54		Greenwich Culmination Time: 02:02		Greenwich Culmination Time: 02:25								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	179 39.6 -00.1	N 23 25.4 +00.1	202 56.8 +03.0	N 18 38.0 -00.5	207 43.5 -28.9	N 18 04.1 +08.6	00						
01	194 39.5 -00.2	N 23 25.5 +00.0	217 59.8 +03.0	N 18 37.5 -00.5	222 14.6 -29.0	N 18 12.7 +08.5	01						
02	209 39.3 -00.1	N 23 25.5 +00.0	233 02.8 +03.1	N 18 37.0 -00.5	236 45.6 -29.0	N 18 21.2 +08.5	02						
03	224 39.2 -00.2	N 23 25.5 +00.1	248 05.9 +03.0	N 18 36.5 -00.5	251 16.6 -29.2	N 18 29.7 +08.3	03						
04	239 39.0 -00.1	N 23 25.6 +00.0	263 08.9 +03.0	N 18 36.0 -00.5	265 47.4 -29.2	N 18 38.0 +08.3	04						
05	254 38.9 -00.1	N 23 25.6 +00.0	278 11.9 +03.0	N 18 35.5 -00.5	280 18.2 -29.2	N 18 46.3 +08.2	05						
06	269 38.8 -00.2	N 23 25.6 +00.0	293 14.9 +03.0	N 18 35.0 -00.5	294 49.0 -29.4	N 18 54.5 +08.1	06						
07	284 38.6 -00.1	N 23 25.6 +00.1	308 17.9 +03.0	N 18 34.5 -00.5	309 19.6 -29.4	N 19 02.6 +08.0	07						
08	299 38.5 -00.1	N 23 25.7 +00.0	323 20.9 +03.0	N 18 34.0 -00.5	323 50.2 -29.6	N 19 10.6 +08.0	08						
09	314 38.4 -00.2	N 23 25.7 +00.0	338 23.9 +03.0	N 18 33.5 -00.5	338 20.6 -29.6	N 19 18.6 +07.9	09						
10	329 38.2 -00.1	N 23 25.7 +00.1	353 26.9 +03.0	N 18 33.0 -00.5	352 51.0 -29.6	N 19 26.5 +07.7	10						
11	344 38.1 -00.1	N 23 25.8 +00.0	8 29.9 +03.0	N 18 32.5 -00.5	7 21.4 -29.8	N 19 34.2 +07.7	11						
12	359 38.0 -00.2	N 23 25.8 +00.0	23 32.9 +03.0	N 18 32.0 -00.5	21 51.6 -29.8	N 19 41.9 +07.6	12						
13	14 37.8 -00.1	N 23 25.8 +00.0	38 35.9 +03.0	N 18 31.5 -00.4	36 21.8 -29.9	N 19 49.5 +07.5	13						
14	29 37.7 -00.2	N 23 25.8 +00.0	53 38.9 +02.9	N 18 31.1 -00.5	50 51.9 -30.0	N 19 57.0 +07.4	14						
15	44 37.5 -00.1	N 23 25.8 +00.1	68 41.8 +03.0	N 18 30.6 -00.5	65 21.9 -30.1	N 20 04.4 +07.3	15						
16	59 37.4 -00.1	N 23 25.9 +00.0	83 44.8 +03.0	N 18 30.1 -00.5	79 51.8 -30.1	N 20 11.7 +07.2	16						
17	74 37.3 -00.2	N 23 25.9 +00.0	98 47.8 +02.9	N 18 29.6 -00.5	94 21.7 -30.2	N 20 18.9 +07.2	17						
18	89 37.1 -00.1	N 23 25.9 +00.0	113 50.7 +03.0	N 18 29.1 -00.4	108 51.5 -30.3	N 20 26.1 +07.0	18						
19	104 37.0 -00.1	N 23 25.9 +00.1	128 53.7 +03.0	N 18 28.7 -00.5	123 21.2 -30.4	N 20 33.1 +06.9	19						
20	119 36.9 -00.2	N 23 26.0 +00.0	143 56.7 +02.9	N 18 28.2 -00.5	137 50.8 -30.5	N 20 40.0 +06.9	20						
21	134 36.7 -00.1	N 23 26.0 +00.0	158 59.6 +02.9	N 18 27.7 -00.5	152 20.3 -30.5	N 20 46.9 +06.7	21						
22	149 36.6 -00.2	N 23 26.0 +00.0	174 02.5 +03.0	N 18 27.2 -00.4	166 49.8 -30.6	N 20 53.6 +06.7	22						
23	164 36.4 -00.1	N 23 26.0 +00.0	189 05.5 +02.9	N 18 26.8 -00.5	181 19.2 -30.7	N 21 00.3 +06.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 15'1 15'1 15'1 15'1 15'2 15'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'5 00'5 00'5 00'4 00'4 00'4		HP 55'3 55'4 55'5 55'6 55'7 55'7								
	SHA 272° 272° 272° 271° 271° 271°		SHA 295° 295° 295° 295° 295° 295°		SHA 299° 297° 295° 293° 290° 288°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 10:26		Greenwich Culmination Time: 10:29								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	271 42.6 +01.0	S 04 49.9 -00.6	330 18.6 +02.8	S 21 19.4 +00.0	324 37.1 +02.6	S 20 09.2 +00.1	00						
01	286 43.6 +00.9	S 04 49.3 -00.6	345 21.4 +02.7	S 21 19.4 +00.1	339 39.7 +02.6	S 20 09.3 +00.0	01						
02	301 44.5 +01.0	S 04 48.7 -00.5	0 24.1 +02.7	S 21 19.5 +00.0	354 42.3 +02.6	S 20 09.3 +00.0	02						
03	316 45.5 +01.0	S 04 48.2 -00.6	15 26.8 +02.8	S 21 19.5 +00.1	9 44.9 +02.6	S 20 09.3 +00.1	03						
04	331 46.5 +01.0	S 04 47.6 -00.6	30 29.6 +02.7	S 21 19.6 +00.0	24 47.5 +02.6	S 20 09.4 +00.0	04						
05	346 47.5 +01.0	S 04 47.0 -00.5	45 32.3 +02.7	S 21 19.6 +00.1	39 50.1 +02.6	S 20 09.4 +00.0	05						
06	1 48.5 +01.0	S 04 46.5 -00.6	60 35.0 +02.7	S 21 19.7 +00.0	54 52.7 +02.6	S 20 09.4 +00.1	06						
07	16 49.5 +01.0	S 04 45.9 -00.6	75 37.7 +02.8	S 21 19.7 +00.1	69 55.3 +02.6	S 20 09.5 +00.0	07						
08	31 50.5 +01.0	S 04 45.3 -00.5	90 40.5 +02.7	S 21 19.8 +00.0	84 57.9 +02.6	S 20 09.5 +00.0	08						
09	46 51.5 +01.0	S 04 44.8 -00.6	105 43.2 +02.7	S 21 19.8 +00.1	100 00.5 +02.7	S 20 09.5 +00.1	09						
10	61 52.5 +00.9	S 04 44.2 -00.6	120 45.9 +02.8	S 21 19.9 +00.0	115 03.2 +02.6	S 20 09.6 +00.0	10						
11	76 53.4 +01.0	S 04 43.6 -00.5	135 48.7 +02.7	S 21 19.9 +00.1	130 05.8 +02.6	S 20 09.6 +00.0	11						
12	91 54.4 +01.0	S 04 43.1 -00.6	150 51.4 +02.7	S 21 20.0 +00.0	145 08.4 +02.6	S 20 09.6 +00.1	12						
13	106 55.4 +01.0	S 04 42.5 -00.6	165 54.1 +02.7	S 21 20.0 +00.1	160 11.0 +02.6	S 20 09.7 +00.0	13						
14	121 56.4 +01.0	S 04 41.9 -00.5	180 56.8 +02.8	S 21 20.1 +00.0	175 13.6 +02.6	S 20 09.7 +00.0	14						
15	136 57.4 +01.0	S 04 41.4 -00.6	195 59.6 +02.7	S 21 20.1 +00.1	190 16.2 +02.6	S 20 09.7 +00.1	15						
16	151 58.4 +01.0	S 04 40.8 -00.6	211 02.3 +02.7	S 21 20.2 +00.1	205 18.8 +02.6	S 20 09.8 +00.0	16						
17	166 59.4 +01.0	S 04 40.2 -00.5	226 05.0 +02.8	S 21 20.3 +00.0	220 21.4 +02.6	S 20 09.8 +00.0	17						
18	182 00.4 +01.0	S 04 39.7 -00.6	241 07.8 +02.7	S 21 20.3 +00.1	235 24.0 +02.6	S 20 09.8 +00.1	18						
19	197 01.4 +01.0	S 04 39.1 -00.6	256 10.5 +02.7	S 21 20.4 +00.0	250 26.6 +02.7	S 20 09.9 +00.0	19						
20	212 02.4 +01.0	S 04 38.5 -00.5	271 13.2 +02.8	S 21 20.4 +00.1	265 29.3 +02.6	S 20 09.9 +00.0	20						
21	227 03.4 +01.0	S 04 38.0 -00.6	286 16.0 +02.7	S 21 20.5 +00.0	280 31.9 +02.6	S 20 09.9 +00.1	21						
22	242 04.4 +01.0	S 04 37.4 -00.6	301 18.7 +02.7	S 21 20.5 +00.1	295 34.5 +02.6	S 20 10.0 +00.0	22						
23	257 05.4 +00.9	S 04 36.8 -00.5	316 21.4 +02.8	S 21 20.6 +00.0	310 37.1 +02.6	S 20 10.0 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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		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 004° 004° 004° 004° 004° 003°		SHA 063° 063° 063° 063° 063° 063°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 05:52		Greenwich Culmination Time: 01:58		Greenwich Culmination Time: 02:21								



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 36.3 -00.1	N 23 26.0 +00.0	204 08.4 +03.0	N 18 26.3 -00.5	195 48.5 -30.7	N 21 06.8 +06.4	00						
01	194 36.2 -00.2	N 23 26.0 +00.0	219 11.4 +02.9	N 18 25.8 -00.4	210 17.8 -30.9	N 21 13.2 +06.4	01						
02	209 36.0 -00.1	N 23 26.0 +00.1	234 14.3 +02.9	N 18 25.4 -00.5	224 46.9 -30.9	N 21 19.6 +06.2	02						
03	224 35.9 -00.1	N 23 26.1 +00.0	249 17.2 +02.9	N 18 24.9 -00.4	239 16.0 -31.0	N 21 25.8 +06.1	03						
04	239 35.8 -00.2	N 23 26.1 +00.0	264 20.1 +03.0	N 18 24.5 -00.5	253 45.0 -31.0	N 21 31.9 +06.0	04						
05	254 35.6 -00.1	N 23 26.1 +00.0	279 23.1 +02.9	N 18 24.0 -00.5	268 14.0 -31.2	N 21 37.9 +05.9	05						
06	269 35.5 -00.2	N 23 26.1 +00.0	294 26.0 +02.9	N 18 23.5 -00.4	282 42.8 -31.2	N 21 43.8 +05.8	06						
07	284 35.3 -00.1	N 23 26.1 +00.0	309 28.9 +02.9	N 18 23.1 -00.5	297 11.6 -31.3	N 21 49.6 +05.7	07						
08	299 35.2 -00.1	N 23 26.1 +00.0	324 31.8 +02.9	N 18 22.6 -00.4	311 40.3 -31.3	N 21 55.3 +05.6	08						
09	314 35.1 -00.2	N 23 26.1 +00.0	339 34.7 +02.9	N 18 22.2 -00.5	326 09.0 -31.4	N 22 00.9 +05.5	09						
10	329 34.9 -00.1	N 23 26.1 +00.0	354 37.6 +02.9	N 18 21.7 -00.4	340 37.6 -31.6	N 22 06.4 +05.3	10						
11	344 34.8 -00.1	N 23 26.1 +00.1	9 40.5 +02.8	N 18 21.3 -00.5	355 06.0 -31.5	N 22 11.7 +05.3	11						
12	359 34.7 -00.2	N 23 26.2 +00.0	24 43.3 +02.9	N 18 20.8 -00.4	9 34.5 -31.7	N 22 17.0 +05.1	12						
13	14 34.5 -00.1	N 23 26.2 +00.0	39 46.2 +02.9	N 18 20.4 -00.5	24 02.8 -31.7	N 22 22.1 +05.0	13						
14	29 34.4 -00.2	N 23 26.2 +00.0	54 49.1 +02.9	N 18 19.9 -00.4	38 31.1 -31.8	N 22 27.1 +04.9	14						
15	44 34.2 -00.1	N 23 26.2 +00.0	69 52.0 +02.9	N 18 19.5 -00.5	52 59.3 -31.8	N 22 32.0 +04.8	15						
16	59 34.1 -00.1	N 23 26.2 +00.0	84 54.9 +02.8	N 18 19.0 -00.4	67 27.5 -31.9	N 22 36.8 +04.7	16						
17	74 34.0 -00.2	N 23 26.2 +00.0	99 57.7 +02.9	N 18 18.6 -00.4	81 55.6 -32.0	N 22 41.5 +04.5	17						
18	89 33.8 -00.1	N 23 26.2 +00.0	115 00.6 +02.8	N 18 18.2 -00.5	96 23.6 -32.1	N 22 46.0 +04.4	18						
19	104 33.7 -00.1	N 23 26.2 +00.0	130 03.4 +02.9	N 18 17.7 -00.4	110 51.5 -32.1	N 22 50.4 +04.3	19						
20	119 33.6 -00.2	N 23 26.2 +00.0	145 06.3 +02.8	N 18 17.3 -00.5	125 19.4 -32.2	N 22 54.7 +04.2	20						
21	134 33.4 -00.1	N 23 26.2 +00.0	160 09.1 +02.9	N 18 16.8 -00.4	139 47.2 -32.3	N 22 58.9 +04.1	21						
22	149 33.3 -00.1	N 23 26.2 +00.0	175 12.0 +02.8	N 18 16.4 -00.4	154 14.9 -32.3	N 23 03.0 +03.9	22						
23	164 33.2 -00.2	N 23 26.2 +00.0	190 14.8 +02.9	N 18 16.0 -00.5	168 42.6 -32.3	N 23 06.9 +03.8	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 271° 271° 271° 270° 270° 270° Greenwich Culmination Time: 12:01	UT 02 06 10 14 18 22 SD 00'4 00'4 00'4 00'4 00'4 00'4 HP 00'4 00'4 00'4 00'4 00'4 00'4 SHA 295° 296° 296° 296° 296° 296° Greenwich Culmination Time: 10:21	UT 02 06 10 14 18 22 SD 15'2 15'2 15'3 15'3 15'3 15'3 HP 55'8 55'9 56'0 56'1 56'2 56'3 SHA 286° 284° 282° 279° 277° 275° Greenwich Culmination Time: 11:20										
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	272 06.3 +01.0	S 04 36.3 -00.6	331 24.2 +02.7	S 21 20.6 +00.1	325 39.7 +02.6	S 20 10.1 +00.0	00						
01	287 07.3 +01.0	S 04 35.7 -00.6	346 26.9 +02.7	S 21 20.7 +00.0	340 42.3 +02.6	S 20 10.1 +00.0	01						
02	302 08.3 +01.0	S 04 35.1 -00.5	1 29.6 +02.8	S 21 20.7 +00.1	355 44.9 +02.6	S 20 10.1 +00.1	02						
03	317 09.3 +01.0	S 04 34.6 -00.6	16 32.4 +02.7	S 21 20.8 +00.0	10 47.5 +02.6	S 20 10.2 +00.0	03						
04	332 10.3 +01.0	S 04 34.0 -00.6	31 35.1 +02.7	S 21 20.8 +00.1	25 50.1 +02.7	S 20 10.2 +00.0	04						
05	347 11.3 +01.0	S 04 33.4 -00.5	46 37.8 +02.8	S 21 20.9 +00.0	40 52.8 +02.6	S 20 10.2 +00.1	05						
06	2 12.3 +01.0	S 04 32.9 -00.6	61 40.6 +02.7	S 21 20.9 +00.1	55 55.4 +02.6	S 20 10.3 +00.0	06						
07	17 13.3 +01.0	S 04 32.3 -00.6	76 43.3 +02.7	S 21 21.0 +00.1	70 58.0 +02.6	S 20 10.3 +00.0	07						
08	32 14.3 +01.0	S 04 31.7 -00.5	91 46.0 +02.8	S 21 21.1 +00.0	86 00.6 +02.6	S 20 10.3 +00.1	08						
09	47 15.3 +01.0	S 04 31.2 -00.6	106 48.8 +02.7	S 21 21.1 +00.1	101 03.2 +02.6	S 20 10.4 +00.0	09						
10	62 16.3 +01.0	S 04 30.6 -00.6	121 51.5 +02.8	S 21 21.2 +00.0	116 05.8 +02.6	S 20 10.4 +00.0	10						
11	77 17.3 +01.0	S 04 30.0 -00.5	136 54.3 +02.7	S 21 21.2 +00.1	131 08.4 +02.6	S 20 10.4 +00.1	11						
12	92 18.3 +01.0	S 04 29.5 -00.6	151 57.0 +02.7	S 21 21.3 +00.0	146 11.0 +02.7	S 20 10.5 +00.0	12						
13	107 19.3 +01.0	S 04 28.9 -00.6	166 59.7 +02.8	S 21 21.3 +00.1	161 13.7 +02.6	S 20 10.5 +00.0	13						
14	122 20.3 +01.0	S 04 28.3 -00.5	182 02.5 +02.7	S 21 21.4 +00.0	176 16.3 +02.6	S 20 10.5 +00.1	14						
15	137 21.3 +01.0	S 04 27.8 -00.6	197 05.2 +02.7	S 21 21.4 +00.1	191 18.9 +02.6	S 20 10.6 +00.0	15						
16	152 22.3 +01.0	S 04 27.2 -00.6	212 07.9 +02.8	S 21 21.5 +00.0	206 21.5 +02.6	S 20 10.6 +00.0	16						
17	167 23.3 +01.0	S 04 26.6 -00.5	227 10.7 +02.7	S 21 21.5 +00.1	221 24.1 +02.6	S 20 10.6 +00.1	17						
18	182 24.3 +01.0	S 04 26.1 -00.6	242 13.4 +02.7	S 21 21.6 +00.0	236 26.7 +02.6	S 20 10.7 +00.0	18						
19	197 25.3 +01.0	S 04 25.5 -00.5	257 16.1 +02.8	S 21 21.6 +00.1	251 29.3 +02.6	S 20 10.7 +00.1	19						
20	212 26.3 +01.0	S 04 25.0 -00.6	272 18.9 +02.7	S 21 21.7 +00.1	266 31.9 +02.7	S 20 10.8 +00.0	20						
21	227 27.3 +01.0	S 04 24.4 -00.6	287 21.6 +02.8	S 21 21.8 +00.0	281 34.6 +02.6	S 20 10.8 +00.0	21						
22	242 28.3 +01.0	S 04 23.8 -00.5	302 24.4 +02.7	S 21 21.8 +00.1	296 37.2 +02.6	S 20 10.8 +00.1	22						
23	257 29.3 +01.0	S 04 23.3 -00.6	317 27.1 +02.7	S 21 21.9 +00.0	311 39.8 +02.6	S 20 10.9 +00.0	23						
	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 003° 003° 003° 003° 003° 003° Greenwich Culmination Time: 05:51	UT 02 06 10 14 18 22 SD 00'4 00'4 00'4 00'4 00'4 00'4 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 063° 063° 063° 063° 063° 063° Greenwich Culmination Time: 01:54	UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 057° 057° 057° 057° 057° 057° Greenwich Culmination Time: 02:16										

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 33.0 -00.1	N 23 26.2 +00.0	205 17.7 +02.8	N 18 15.5 -00.4	183 10.3 -32.5	N 23 10.7 +03.7	00						
01	194 32.9 -00.2	N 23 26.2 +00.0	220 20.5 +02.8	N 18 15.1 -00.4	197 37.8 -32.5	N 23 14.4 +03.6	01						
02	209 32.7 -00.1	N 23 26.2 +00.0	235 23.3 +02.9	N 18 14.7 -00.4	212 05.3 -32.5	N 23 18.0 +03.4	02						
03	224 32.6 -00.1	N 23 26.2 +00.0	250 26.2 +02.8	N 18 14.3 -00.5	226 32.8 -32.7	N 23 21.4 +03.3	03						
04	239 32.5 -00.2	N 23 26.2 +00.0	265 29.0 +02.8	N 18 13.8 -00.4	241 00.1 -32.6	N 23 24.7 +03.2	04						
05	254 32.3 -00.1	N 23 26.2 +00.0	280 31.8 +02.8	N 18 13.4 -00.4	255 27.5 -32.8	N 23 27.9 +03.1	05						
06	269 32.2 -00.1	N 23 26.2 +00.0	295 34.6 +02.8	N 18 13.0 -00.4	269 54.7 -32.8	N 23 31.0 +02.9	06						
07	284 32.1 -00.2	N 23 26.2 +00.0	310 37.4 +02.8	N 18 12.6 -00.4	284 21.9 -32.8	N 23 33.9 +02.8	07						
08	299 31.9 -00.1	N 23 26.2 -00.1	325 40.2 +02.8	N 18 12.2 -00.5	298 49.1 -32.9	N 23 36.7 +02.7	08						
09	314 31.8 -00.2	N 23 26.1 +00.0	340 43.0 +02.8	N 18 11.7 -00.4	313 16.2 -32.9	N 23 39.4 +02.5	09						
10	329 31.6 -00.1	N 23 26.1 +00.0	355 45.8 +02.8	N 18 11.3 -00.4	327 43.3 -33.0	N 23 41.9 +02.4	10						
11	344 31.5 -00.1	N 23 26.1 +00.0	10 48.6 +02.8	N 18 10.9 -00.4	342 10.3 -33.1	N 23 44.3 +02.2	11						
12	359 31.4 -00.2	N 23 26.1 +00.0	25 51.4 +02.8	N 18 10.5 -00.4	356 37.2 -33.1	N 23 46.5 +02.2	12						
13	14 31.2 -00.1	N 23 26.1 +00.0	40 54.2 +02.7	N 18 10.1 -00.4	11 04.1 -33.1	N 23 48.7 +02.0	13						
14	29 31.1 -00.1	N 23 26.1 +00.0	55 56.9 +02.8	N 18 09.7 -00.4	25 31.0 -33.2	N 23 50.7 +01.8	14						
15	44 31.0 -00.2	N 23 26.1 +00.0	70 59.7 +02.8	N 18 09.3 -00.4	39 57.8 -33.3	N 23 52.5 +01.8	15						
16	59 30.8 -00.1	N 23 26.1 +00.0	86 02.5 +02.8	N 18 08.9 -00.4	54 24.5 -33.2	N 23 54.3 +01.6	16						
17	74 30.7 -00.1	N 23 26.1 -00.1	101 05.3 +02.7	N 18 08.5 -00.4	68 51.3 -33.4	N 23 55.9 +01.4	17						
18	89 30.6 -00.2	N 23 26.0 +00.0	116 08.0 +02.8	N 18 08.1 -00.4	83 17.9 -33.3	N 23 57.3 +01.3	18						
19	104 30.4 -00.1	N 23 26.0 +00.0	131 10.8 +02.7	N 18 07.7 -00.4	97 44.6 -33.4	N 23 58.6 +01.2	19						
20	119 30.3 -00.2	N 23 26.0 +00.0	146 13.5 +02.8	N 18 07.3 -00.4	112 11.2 -33.5	N 23 59.8 +01.0	20						
21	134 30.1 -00.1	N 23 26.0 +00.0	161 16.3 +02.7	N 18 06.9 -00.4	126 37.7 -33.5	N 24 00.8 +00.9	21						
22	149 30.0 -00.1	N 23 26.0 +00.0	176 19.0 +02.8	N 18 06.5 -00.4	141 04.2 -33.5	N 24 01.7 +00.8	22						
23	164 29.9 -00.2	N 23 26.0 -00.1	191 21.8 +02.7	N 18 06.1 -00.4	155 30.7 -33.5	N 24 02.5 +00.6	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 00'4 00'4 00'4 00'4 00'4 00'4		SD 15'4 15'4 15'4 15'4 15'5 15'5								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'4 00'4 00'4 00'4 00'4 00'4		HP 56'4 56'5 56'6 56'7 56'8 56'8								
	SHA 270° 270° 269° 269° 269° 269°		SHA 296° 296° 296° 296° 296° 296°		SHA 272° 270° 268° 265° 263° 261°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 10:16		Greenwich Culmination Time: 12:14								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	272 30.3 +01.0	S 04 22.7 -00.6	332 29.8 +02.8	S 21 21.9 +00.1	326 42.4 +02.6	S 20 10.9 +00.0	00						
01	287 31.3 +01.0	S 04 22.1 -00.5	347 32.6 +02.7	S 21 22.0 +00.0	341 45.0 +02.6	S 20 10.9 +00.1	01						
02	302 32.3 +01.0	S 04 21.6 -00.6	2 35.3 +02.8	S 21 22.0 +00.1	356 47.6 +02.6	S 20 11.0 +00.0	02						
03	317 33.3 +01.0	S 04 21.0 -00.6	17 38.1 +02.7	S 21 22.1 +00.0	11 50.2 +02.7	S 20 11.0 +00.0	03						
04	332 34.3 +01.0	S 04 20.4 -00.5	32 40.8 +02.7	S 21 22.1 +00.1	26 52.9 +02.6	S 20 11.0 +00.1	04						
05	347 35.3 +01.0	S 04 19.9 -00.6	47 43.5 +02.8	S 21 22.2 +00.0	41 55.5 +02.6	S 20 11.1 +00.0	05						
06	2 36.3 +01.0	S 04 19.3 -00.6	62 46.3 +02.7	S 21 22.2 +00.1	56 58.1 +02.6	S 20 11.1 +00.0	06						
07	17 37.3 +01.0	S 04 18.7 -00.5	77 49.0 +02.8	S 21 22.3 +00.0	72 00.7 +02.6	S 20 11.1 +00.1	07						
08	32 38.3 +01.0	S 04 18.2 -00.6	92 51.8 +02.7	S 21 22.3 +00.1	87 03.3 +02.6	S 20 11.2 +00.0	08						
09	47 39.3 +01.0	S 04 17.6 -00.5	107 54.5 +02.7	S 21 22.4 +00.1	102 05.9 +02.6	S 20 11.2 +00.0	09						
10	62 40.3 +01.0	S 04 17.1 -00.6	122 57.2 +02.8	S 21 22.5 +00.0	117 08.5 +02.7	S 20 11.2 +00.1	10						
11	77 41.3 +01.0	S 04 16.5 -00.6	137 60.0 +02.7	S 21 22.5 +00.1	132 11.2 +02.6	S 20 11.3 +00.0	11						
12	92 42.3 +01.0	S 04 15.9 -00.5	153 02.7 +02.8	S 21 22.6 +00.0	147 13.8 +02.6	S 20 11.3 +00.1	12						
13	107 43.3 +01.0	S 04 15.4 -00.6	168 05.5 +02.7	S 21 22.6 +00.1	162 16.4 +02.6	S 20 11.4 +00.0	13						
14	122 44.3 +01.0	S 04 14.8 -00.6	183 08.2 +02.7	S 21 22.7 +00.0	177 19.0 +02.6	S 20 11.4 +00.0	14						
15	137 45.3 +01.0	S 04 14.2 -00.5	198 10.9 +02.8	S 21 22.7 +00.1	192 21.6 +02.6	S 20 11.4 +00.1	15						
16	152 46.3 +01.0	S 04 13.7 -00.6	213 13.7 +02.7	S 21 22.8 +00.0	207 24.2 +02.6	S 20 11.5 +00.0	16						
17	167 47.3 +01.0	S 04 13.1 -00.5	228 16.4 +02.8	S 21 22.8 +00.1	222 26.8 +02.7	S 20 11.5 +00.0	17						
18	182 48.3 +01.0	S 04 12.6 -00.6	243 19.2 +02.7	S 21 22.9 +00.0	237 29.5 +02.6	S 20 11.5 +00.1	18						
19	197 49.3 +01.0	S 04 12.0 -00.6	258 21.9 +02.8	S 21 22.9 +00.1	252 32.1 +02.6	S 20 11.6 +00.0	19						
20	212 50.3 +01.0	S 04 11.4 -00.5	273 24.7 +02.7	S 21 23.0 +00.1	267 34.7 +02.6	S 20 11.6 +00.0	20						
21	227 51.3 +01.0	S 04 10.9 -00.6	288 27.4 +02.7	S 21 23.1 +00.0	282 37.3 +02.6	S 20 11.6 +00.1	21						
22	242 52.3 +01.1	S 04 10.3 -00.6	303 30.1 +02.8	S 21 23.1 +00.1	297 39.9 +02.6	S 20 11.7 +00.0	22						
23	257 53.4 +01.0	S 04 09.7 -00.5	318 32.9 +02.7	S 21 23.2 +00.0	312 42.5 +02.7	S 20 11.7 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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		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 003° 003° 003° 003° 002° 002°		SHA 063° 063° 063° 063° 063° 063°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 05:49		Greenwich Culmination Time: 01:49		Greenwich Culmination Time: 02:12								

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 29.7 -00.1	N 23 25.9 +00.0	206 24.5 +02.7	N 18 05.7 -00.4	169 57.2 -33.6	N 24 03.1 +00.5	00						
01	194 29.6 -00.1	N 23 25.9 +00.0	221 27.2 +02.8	N 18 05.3 -00.4	184 23.6 -33.6	N 24 03.6 +00.3	01						
02	209 29.5 -00.2	N 23 25.9 +00.0	236 30.0 +02.7	N 18 04.9 -00.4	198 50.0 -33.7	N 24 03.9 +00.2	02						
03	224 29.3 -00.1	N 23 25.9 +00.0	251 32.7 +02.7	N 18 04.5 -00.4	213 16.3 -33.6	N 24 04.1 +00.1	03						
04	239 29.2 -00.1	N 23 25.9 -00.1	266 35.4 +02.7	N 18 04.1 -00.4	227 42.7 -33.7	N 24 04.2 -00.1	04						
05	254 29.1 -00.2	N 23 25.8 +00.0	281 38.1 +02.7	N 18 03.7 -00.4	242 09.0 -33.8	N 24 04.1 -00.2	05						
06	269 28.9 -00.1	N 23 25.8 +00.0	296 40.8 +02.7	N 18 03.3 -00.3	256 35.2 -33.7	N 24 03.9 -00.4	06						
07	284 28.8 -00.2	N 23 25.8 +00.0	311 43.5 +02.7	N 18 03.0 -00.4	271 01.5 -33.8	N 24 03.5 -00.5	07						
08	299 28.6 -00.1	N 23 25.8 -00.1	326 46.2 +02.7	N 18 02.6 -00.4	285 27.7 -33.8	N 24 03.0 -00.6	08						
09	314 28.5 -00.1	N 23 25.7 +00.0	341 48.9 +02.7	N 18 02.2 -00.4	299 53.9 -33.8	N 24 02.4 -00.8	09						
10	329 28.4 -00.2	N 23 25.7 +00.0	356 51.6 +02.7	N 18 01.8 -00.4	314 20.1 -33.8	N 24 01.6 -01.0	10						
11	344 28.2 -00.1	N 23 25.7 +00.0	11 54.3 +02.7	N 18 01.4 -00.3	328 46.3 -33.9	N 24 00.6 -01.1	11						
12	359 28.1 -00.1	N 23 25.7 -00.1	26 57.0 +02.7	N 18 01.1 -00.4	343 12.4 -33.8	N 23 59.5 -01.2	12						
13	14 28.0 -00.2	N 23 25.6 +00.0	41 59.7 +02.7	N 18 00.7 -00.4	357 38.6 -33.9	N 23 58.3 -01.3	13						
14	29 27.8 -00.1	N 23 25.6 +00.0	57 02.4 +02.7	N 18 00.3 -00.3	12 04.7 -33.9	N 23 57.0 -01.6	14						
15	44 27.7 -00.1	N 23 25.6 +00.0	72 05.1 +02.6	N 17 60.0 -00.4	26 30.8 -33.9	N 23 55.4 -01.6	15						
16	59 27.6 -00.2	N 23 25.6 -00.1	87 07.7 +02.7	N 17 59.6 -00.4	40 56.9 -33.9	N 23 53.8 -01.8	16						
17	74 27.4 -00.1	N 23 25.5 +00.0	102 10.4 +02.6	N 17 59.2 -00.3	55 23.0 -33.9	N 23 52.0 -02.0	17						
18	89 27.3 -00.2	N 23 25.5 +00.0	117 13.0 +02.7	N 17 58.9 -00.4	69 49.1 -34.0	N 23 50.0 -02.0	18						
19	104 27.1 -00.1	N 23 25.5 -00.1	132 15.7 +02.7	N 17 58.5 -00.4	84 15.1 -33.9	N 23 48.0 -02.3	19						
20	119 27.0 -00.1	N 23 25.4 +00.0	147 18.4 +02.6	N 17 58.1 -00.3	98 41.2 -33.9	N 23 45.7 -02.3	20						
21	134 26.9 -00.2	N 23 25.4 +00.0	162 21.0 +02.7	N 17 57.8 -00.4	113 07.3 -34.0	N 23 43.4 -02.6	21						
22	149 26.7 -00.1	N 23 25.4 -00.1	177 23.7 +02.6	N 17 57.4 -00.4	127 33.3 -33.9	N 23 40.8 -02.6	22						
23	164 26.6 -00.1	N 23 25.3 +00.0	192 26.3 +02.6	N 17 57.0 -00.3	141 59.4 -34.0	N 23 38.2 -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 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 15'5 15'5 15'6 15'6 15'6 15'6								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'4 00'4 00'4 00'4 00'4 00'4		HP 56'9 57'0 57'1 57'2 57'3 57'4								
	SHA 269° 269° 268° 268° 268° 268°		SHA 296° 296° 296° 296° 296° 296°		SHA 258° 256° 253° 251° 248° 246°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 10:12		Greenwich Culmination Time: 13:09								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	272 54.4 +01.0	S 04 09.2 -00.6	333 35.6 +02.8	S 21 23.2 +00.1	327 45.2 +02.6	S 20 11.7 +00.1	00						
01	287 55.4 +01.0	S 04 08.6 -00.5	348 38.4 +02.7	S 21 23.3 +00.0	342 47.8 +02.6	S 20 11.8 +00.0	01						
02	302 56.4 +01.0	S 04 08.1 -00.6	3 41.1 +02.8	S 21 23.3 +00.1	357 50.4 +02.6	S 20 11.8 +00.1	02						
03	317 57.4 +01.0	S 04 07.5 -00.6	18 43.9 +02.7	S 21 23.4 +00.0	12 53.0 +02.6	S 20 11.9 +00.0	03						
04	332 58.4 +01.0	S 04 06.9 -00.5	33 46.6 +02.8	S 21 23.4 +00.1	27 55.6 +02.6	S 20 11.9 +00.0	04						
05	347 59.4 +01.0	S 04 06.4 -00.6	48 49.4 +02.7	S 21 23.5 +00.0	42 58.2 +02.7	S 20 11.9 +00.1	05						
06	3 00.4 +01.0	S 04 05.8 -00.5	63 52.1 +02.7	S 21 23.5 +00.1	58 00.9 +02.6	S 20 12.0 +00.0	06						
07	18 01.4 +01.0	S 04 05.3 -00.6	78 54.8 +02.8	S 21 23.6 +00.1	73 03.5 +02.6	S 20 12.0 +00.0	07						
08	33 02.4 +01.0	S 04 04.7 -00.6	93 57.6 +02.7	S 21 23.7 +00.0	88 06.1 +02.6	S 20 12.0 +00.1	08						
09	48 03.4 +01.0	S 04 04.1 -00.5	109 00.3 +02.8	S 21 23.7 +00.1	103 08.7 +02.6	S 20 12.1 +00.0	09						
10	63 04.4 +01.1	S 04 03.6 -00.6	124 03.1 +02.7	S 21 23.8 +00.0	118 11.3 +02.6	S 20 12.1 +00.0	10						
11	78 05.5 +01.0	S 04 03.0 -00.6	139 05.8 +02.8	S 21 23.8 +00.1	133 13.9 +02.7	S 20 12.1 +00.1	11						
12	93 06.5 +01.0	S 04 02.4 -00.5	154 08.6 +02.7	S 21 23.9 +00.0	148 16.6 +02.6	S 20 12.2 +00.0	12						
13	108 07.5 +01.0	S 04 01.9 -00.6	169 11.3 +02.8	S 21 23.9 +00.1	163 19.2 +02.6	S 20 12.2 +00.0	13						
14	123 08.5 +01.0	S 04 01.3 -00.5	184 14.1 +02.7	S 21 24.0 +00.0	178 21.8 +02.6	S 20 12.2 +00.1	14						
15	138 09.5 +01.0	S 04 00.8 -00.6	199 16.8 +02.8	S 21 24.0 +00.1	193 24.4 +02.6	S 20 12.3 +00.0	15						
16	153 10.5 +01.0	S 04 00.2 -00.6	214 19.6 +02.7	S 21 24.1 +00.1	208 27.0 +02.7	S 20 12.3 +00.1	16						
17	168 11.5 +01.0	S 03 59.6 -00.5	229 22.3 +02.8	S 21 24.2 +00.0	223 29.7 +02.6	S 20 12.4 +00.0	17						
18	183 12.5 +01.0	S 03 59.1 -00.6	244 25.1 +02.7	S 21 24.2 +00.1	238 32.3 +02.6	S 20 12.4 +00.0	18						
19	198 13.5 +01.1	S 03 58.5 -00.5	259 27.8 +02.8	S 21 24.3 +00.0	253 34.9 +02.6	S 20 12.4 +00.1	19						
20	213 14.6 +01.0	S 03 58.0 -00.6	274 30.6 +02.7	S 21 24.3 +00.1	268 37.5 +02.6	S 20 12.5 +00.0	20						
21	228 15.6 +01.0	S 03 57.4 -00.6	289 33.3 +02.7	S 21 24.4 +00.0	283 40.1 +02.6	S 20 12.5 +00.0	21						
22	243 16.6 +01.0	S 03 56.8 -00.5	304 36.0 +02.8	S 21 24.4 +00.1	298 42.7 +02.7	S 20 12.5 +00.1	22						
23	258 17.6 +01.0	S 03 56.3 -00.6	319 38.8 +02.7	S 21 24.5 +00.0	313 45.4 +02.6	S 20 12.6 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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		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 002° 002° 002° 002° 002° 002°		SHA 063° 063° 063° 063° 063° 063°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 05:47		Greenwich Culmination Time: 01:45		Greenwich Culmination Time: 02:08								

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 26.5 -00.2	N 23 25.3 +00.0	207 28.9 +02.7	N 17 56.7 -00.4	156 25.4 -33.9	N 23 35.4 -03.0	00						
01	194 26.3 -00.1	N 23 25.3 -00.1	222 31.6 +02.6	N 17 56.3 -00.3	170 51.5 -33.9	N 23 32.4 -03.1	01						
02	209 26.2 -00.1	N 23 25.2 +00.0	237 34.2 +02.6	N 17 56.0 -00.4	185 17.6 -34.0	N 23 29.3 -03.2	02						
03	224 26.1 -00.2	N 23 25.2 -00.1	252 36.8 +02.6	N 17 55.6 -00.3	199 43.6 -33.9	N 23 26.1 -03.4	03						
04	239 25.9 -00.1	N 23 25.1 +00.0	267 39.4 +02.7	N 17 55.3 -00.4	214 09.7 -33.9	N 23 22.7 -03.5	04						
05	254 25.8 -00.1	N 23 25.1 +00.0	282 42.1 +02.6	N 17 54.9 -00.3	228 35.8 -33.9	N 23 19.2 -03.7	05						
06	269 25.7 -00.2	N 23 25.1 -00.1	297 44.7 +02.6	N 17 54.6 -00.4	243 01.9 -33.9	N 23 15.5 -03.8	06						
07	284 25.5 -00.1	N 23 25.0 +00.0	312 47.3 +02.6	N 17 54.2 -00.3	257 28.0 -33.9	N 23 11.7 -03.9	07						
08	299 25.4 -00.2	N 23 25.0 -00.1	327 49.9 +02.6	N 17 53.9 -00.4	271 54.1 -33.9	N 23 07.8 -04.1	08						
09	314 25.2 -00.1	N 23 24.9 +00.0	342 52.5 +02.6	N 17 53.5 -00.3	286 20.2 -33.9	N 23 03.7 -04.2	09						
10	329 25.1 -00.1	N 23 24.9 -00.1	357 55.1 +02.6	N 17 53.2 -00.3	300 46.3 -33.8	N 22 59.5 -04.4	10						
11	344 25.0 -00.2	N 23 24.8 +00.0	12 57.7 +02.6	N 17 52.9 -00.4	315 12.5 -33.8	N 22 55.1 -04.5	11						
12	359 24.8 -00.1	N 23 24.8 +00.0	28 00.3 +02.5	N 17 52.5 -00.3	329 38.7 -33.9	N 22 50.6 -04.7	12						
13	14 24.7 -00.1	N 23 24.8 -00.1	43 02.8 +02.6	N 17 52.2 -00.3	344 04.8 -33.7	N 22 45.9 -04.8	13						
14	29 24.6 -00.2	N 23 24.7 +00.0	58 05.4 +02.6	N 17 51.9 -00.4	358 31.1 -33.8	N 22 41.1 -04.9	14						
15	44 24.4 -00.1	N 23 24.7 -00.1	73 08.0 +02.6	N 17 51.5 -00.3	12 57.3 -33.8	N 22 36.2 -05.1	15						
16	59 24.3 -00.1	N 23 24.6 +00.0	88 10.6 +02.5	N 17 51.2 -00.3	27 23.5 -33.7	N 22 31.1 -05.2	16						
17	74 24.2 -00.2	N 23 24.6 -00.1	103 13.1 +02.6	N 17 50.9 -00.4	41 49.8 -33.7	N 22 25.9 -05.3	17						
18	89 24.0 -00.1	N 23 24.5 +00.0	118 15.7 +02.6	N 17 50.5 -00.3	56 16.1 -33.7	N 22 20.6 -05.5	18						
19	104 23.9 -00.1	N 23 24.5 -00.1	133 18.3 +02.5	N 17 50.2 -00.3	70 42.4 -33.6	N 22 15.1 -05.6	19						
20	119 23.8 -00.2	N 23 24.4 +00.0	148 20.8 +02.6	N 17 49.9 -00.3	85 08.8 -33.7	N 22 09.5 -05.8	20						
21	134 23.6 -00.1	N 23 24.4 -00.1	163 23.4 +02.5	N 17 49.6 -00.4	99 35.1 -33.6	N 22 03.7 -05.8	21						
22	149 23.5 -00.1	N 23 24.3 +00.0	178 25.9 +02.6	N 17 49.2 -00.3	114 01.5 -33.5	N 21 57.9 -06.1	22						
23	164 23.4 -00.2	N 23 24.3 -00.1	193 28.5 +02.5	N 17 48.9 -00.3	128 28.0 -33.6	N 21 51.8 -06.1	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 00'4 00'4 00'4 00'4 00'4 00'4		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 00'4 00'4 00'4 00'4 00'4 00'4		HP 57'5 57'5 57'6 57'7 57'8 57'9								
	SHA 268° 268° 267° 267° 267° 267°		SHA 296° 296° 296° 296° 296° 296°		SHA 244° 241° 239° 236° 234° 232°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 10:08		Greenwich Culmination Time: 14:06								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	273 18.6 +01.0	S 03 55.7 -00.5	334 41.5 +02.8	S 21 24.5 +00.1	328 48.0 +02.6	S 20 12.6 +00.0	00						
01	288 19.6 +01.0	S 03 55.2 -00.6	349 44.3 +02.7	S 21 24.6 +00.1	343 50.6 +02.6	S 20 12.6 +00.1	01						
02	303 20.6 +01.0	S 03 54.6 -00.6	4 47.0 +02.8	S 21 24.7 +00.0	358 53.2 +02.6	S 20 12.7 +00.0	02						
03	318 21.6 +01.1	S 03 54.0 -00.5	19 49.8 +02.7	S 21 24.7 +00.1	13 55.8 +02.7	S 20 12.7 +00.1	03						
04	333 22.7 +01.0	S 03 53.5 -00.6	34 52.5 +02.8	S 21 24.8 +00.0	28 58.5 +02.6	S 20 12.8 +00.0	04						
05	348 23.7 +01.0	S 03 52.9 -00.5	49 55.3 +02.7	S 21 24.8 +00.1	44 01.1 +02.6	S 20 12.8 +00.0	05						
06	3 24.7 +01.0	S 03 52.4 -00.6	64 58.0 +02.8	S 21 24.9 +00.0	59 03.7 +02.6	S 20 12.8 +00.1	06						
07	18 25.7 +01.0	S 03 51.8 -00.5	80 00.8 +02.7	S 21 24.9 +00.1	74 06.3 +02.6	S 20 12.9 +00.0	07						
08	33 26.7 +01.0	S 03 51.3 -00.6	95 03.5 +02.8	S 21 25.0 +00.0	89 08.9 +02.7	S 20 12.9 +00.0	08						
09	48 27.7 +01.1	S 03 50.7 -00.6	110 06.3 +02.7	S 21 25.0 +00.1	104 11.6 +02.6	S 20 12.9 +00.1	09						
10	63 28.8 +01.0	S 03 50.1 -00.5	125 09.0 +02.8	S 21 25.1 +00.1	119 14.2 +02.6	S 20 13.0 +00.0	10						
11	78 29.8 +01.0	S 03 49.6 -00.6	140 11.8 +02.7	S 21 25.2 +00.0	134 16.8 +02.6	S 20 13.0 +00.0	11						
12	93 30.8 +01.0	S 03 49.0 -00.5	155 14.5 +02.8	S 21 25.2 +00.1	149 19.4 +02.6	S 20 13.0 +00.1	12						
13	108 31.8 +01.0	S 03 48.5 -00.6	170 17.3 +02.8	S 21 25.3 +00.0	164 22.0 +02.7	S 20 13.1 +00.0	13						
14	123 32.8 +01.0	S 03 47.9 -00.6	185 20.1 +02.7	S 21 25.3 +00.1	179 24.7 +02.6	S 20 13.1 +00.1	14						
15	138 33.8 +01.1	S 03 47.3 -00.5	200 22.8 +02.8	S 21 25.4 +00.0	194 27.3 +02.6	S 20 13.2 +00.0	15						
16	153 34.9 +01.0	S 03 46.8 -00.6	215 25.6 +02.7	S 21 25.4 +00.1	209 29.9 +02.6	S 20 13.2 +00.0	16						
17	168 35.9 +01.0	S 03 46.2 -00.5	230 28.3 +02.8	S 21 25.5 +00.0	224 32.5 +02.6	S 20 13.2 +00.1	17						
18	183 36.9 +01.0	S 03 45.7 -00.6	245 31.1 +02.7	S 21 25.5 +00.1	239 35.1 +02.7	S 20 13.3 +00.0	18						
19	198 37.9 +01.0	S 03 45.1 -00.5	260 33.8 +02.8	S 21 25.6 +00.1	254 37.8 +02.6	S 20 13.3 +00.0	19						
20	213 38.9 +01.1	S 03 44.6 -00.6	275 36.6 +02.7	S 21 25.7 +00.0	269 40.4 +02.6	S 20 13.3 +00.1	20						
21	228 40.0 +01.0	S 03 44.0 -00.6	290 39.3 +02.8	S 21 25.7 +00.1	284 43.0 +02.6	S 20 13.4 +00.0	21						
22	243 41.0 +01.0	S 03 43.4 -00.5	305 42.1 +02.7	S 21 25.8 +00.0	299 45.6 +02.6	S 20 13.4 +00.0	22						
23	258 42.0 +01.0	S 03 42.9 -00.6	320 44.8 +02.8	S 21 25.8 +00.1	314 48.2 +02.7	S 20 13.4 +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 00'4 00'4 00'4 00'4 00'4 00'4		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		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 002° 002° 001° 001° 001° 001°		SHA 063° 063° 063° 063° 063° 063°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 05:46		Greenwich Culmination Time: 01:40		Greenwich Culmination Time: 02:04								

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 23.2 -00.1	N 23 24.2 +00.0	208 31.0 +02.5	N 17 48.6 -00.3	142 54.4 -33.5	N 21 45.7 -06.3	00						
01	194 23.1 -00.1	N 23 24.2 -00.1	223 33.5 +02.6	N 17 48.3 -00.3	157 20.9 -33.5	N 21 39.4 -06.4	01						
02	209 23.0 -00.2	N 23 24.1 +00.0	238 36.1 +02.5	N 17 48.0 -00.4	171 47.4 -33.4	N 21 33.0 -06.6	02						
03	224 22.8 -00.1	N 23 24.1 -00.1	253 38.6 +02.5	N 17 47.6 -00.3	186 14.0 -33.4	N 21 26.4 -06.7	03						
04	239 22.7 -00.1	N 23 24.0 -00.1	268 41.1 +02.5	N 17 47.3 -00.3	200 40.6 -33.4	N 21 19.7 -06.8	04						
05	254 22.6 -00.2	N 23 23.9 +00.0	283 43.6 +02.6	N 17 47.0 -00.3	215 07.2 -33.3	N 21 12.9 -06.9	05						
06	269 22.4 -00.1	N 23 23.9 -00.1	298 46.2 +02.5	N 17 46.7 -00.3	229 33.9 -33.4	N 21 06.0 -07.1	06						
07	284 22.3 -00.1	N 23 23.8 +00.0	313 48.7 +02.5	N 17 46.4 -00.3	244 00.5 -33.2	N 20 58.9 -07.2	07						
08	299 22.2 -00.2	N 23 23.8 -00.1	328 51.2 +02.5	N 17 46.1 -00.3	258 27.3 -33.2	N 20 51.7 -07.4	08						
09	314 22.0 -00.1	N 23 23.7 +00.0	343 53.7 +02.5	N 17 45.8 -00.3	272 54.1 -33.2	N 20 44.3 -07.4	09						
10	329 21.9 -00.2	N 23 23.7 -00.1	358 56.2 +02.5	N 17 45.5 -00.3	287 20.9 -33.2	N 20 36.9 -07.6	10						
11	344 21.7 -00.1	N 23 23.6 -00.1	13 58.7 +02.5	N 17 45.2 -00.3	301 47.7 -33.1	N 20 29.3 -07.7	11						
12	359 21.6 -00.1	N 23 23.5 +00.0	29 01.2 +02.4	N 17 44.9 -00.3	316 14.6 -33.1	N 20 21.6 -07.8	12						
13	14 21.5 -00.2	N 23 23.5 -00.1	44 03.6 +02.5	N 17 44.6 -00.3	330 41.5 -33.0	N 20 13.8 -08.0	13						
14	29 21.3 -00.1	N 23 23.4 -00.1	59 06.1 +02.5	N 17 44.3 -00.3	345 08.5 -33.0	N 20 05.8 -08.1	14						
15	44 21.2 -00.1	N 23 23.3 +00.0	74 08.6 +02.5	N 17 44.0 -00.3	359 35.5 -32.9	N 19 57.7 -08.2	15						
16	59 21.1 -00.2	N 23 23.3 -00.1	89 11.1 +02.5	N 17 43.7 -00.3	14 02.6 -32.9	N 19 49.5 -08.3	16						
17	74 20.9 -00.1	N 23 23.2 -00.1	104 13.6 +02.4	N 17 43.4 -00.3	28 29.7 -32.9	N 19 41.2 -08.4	17						
18	89 20.8 -00.1	N 23 23.1 +00.0	119 16.0 +02.5	N 17 43.1 -00.3	42 56.8 -32.8	N 19 32.8 -08.6	18						
19	104 20.7 -00.2	N 23 23.1 -00.1	134 18.5 +02.4	N 17 42.8 -00.3	57 24.0 -32.8	N 19 24.2 -08.7	19						
20	119 20.5 -00.1	N 23 23.0 -00.1	149 20.9 +02.5	N 17 42.5 -00.3	71 51.2 -32.7	N 19 15.5 -08.8	20						
21	134 20.4 -00.1	N 23 22.9 +00.0	164 23.4 +02.4	N 17 42.2 -00.3	86 18.5 -32.7	N 19 06.7 -08.9	21						
22	149 20.3 -00.2	N 23 22.9 -00.1	179 25.8 +02.5	N 17 41.9 -00.2	100 45.8 -32.6	N 18 57.8 -09.0	22						
23	164 20.1 -00.1	N 23 22.8 -00.1	194 28.3 +02.4	N 17 41.7 -00.3	115 13.2 -32.6	N 18 48.8 -09.1	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 00'4 00'4 00'4 00'4 00'4 00'4		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 00'4 00'4 00'4 00'4 00'4 00'4		HP 57'9 58'0 58'1 58'1 58'2 58'3								
	SHA 267° 267° 266° 266° 266° 266°		SHA 296° 296° 296° 296° 296° 296°		SHA 229° 227° 224° 222° 220° 217°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 10:04		Greenwich Culmination Time: 15:01								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	273 43.0 +01.0	S 03 42.3 -00.5	335 47.6 +02.7	S 21 25.9 +00.0	329 50.9 +02.6	S 20 13.5 +00.0	00						
01	288 44.0 +01.1	S 03 41.8 -00.6	350 50.3 +02.8	S 21 25.9 +00.1	344 53.5 +02.6	S 20 13.5 +00.1	01						
02	303 45.1 +01.0	S 03 41.2 -00.5	5 53.1 +02.7	S 21 26.0 +00.0	359 56.1 +02.6	S 20 13.6 +00.0	02						
03	318 46.1 +01.0	S 03 40.7 -00.6	20 55.8 +02.8	S 21 26.0 +00.1	14 58.7 +02.7	S 20 13.6 +00.0	03						
04	333 47.1 +01.0	S 03 40.1 -00.6	35 58.6 +02.8	S 21 26.1 +00.1	30 01.4 +02.6	S 20 13.6 +00.1	04						
05	348 48.1 +01.0	S 03 39.5 -00.5	51 01.4 +02.7	S 21 26.2 +00.0	45 04.0 +02.6	S 20 13.7 +00.0	05						
06	3 49.1 +01.1	S 03 39.0 -00.6	66 04.1 +02.8	S 21 26.2 +00.1	60 06.6 +02.6	S 20 13.7 +00.0	06						
07	18 50.2 +01.0	S 03 38.4 -00.5	81 06.9 +02.7	S 21 26.3 +00.0	75 09.2 +02.6	S 20 13.7 +00.1	07						
08	33 51.2 +01.0	S 03 37.9 -00.6	96 09.6 +02.8	S 21 26.3 +00.1	90 11.8 +02.7	S 20 13.8 +00.0	08						
09	48 52.2 +01.0	S 03 37.3 -00.5	111 12.4 +02.7	S 21 26.4 +00.0	105 14.5 +02.6	S 20 13.8 +00.0	09						
10	63 53.2 +01.1	S 03 36.8 -00.6	126 15.1 +02.8	S 21 26.4 +00.1	120 17.1 +02.6	S 20 13.8 +00.1	10						
11	78 54.3 +01.0	S 03 36.2 -00.5	141 17.9 +02.7	S 21 26.5 +00.1	135 19.7 +02.6	S 20 13.9 +00.0	11						
12	93 55.3 +01.0	S 03 35.7 -00.6	156 20.6 +02.8	S 21 26.6 +00.0	150 22.3 +02.7	S 20 13.9 +00.1	12						
13	108 56.3 +01.0	S 03 35.1 -00.6	171 23.4 +02.8	S 21 26.6 +00.1	165 25.0 +02.6	S 20 14.0 +00.0	13						
14	123 57.3 +01.1	S 03 34.5 -00.5	186 26.2 +02.7	S 21 26.7 +00.0	180 27.6 +02.6	S 20 14.0 +00.0	14						
15	138 58.4 +01.0	S 03 34.0 -00.6	201 28.9 +02.8	S 21 26.7 +00.1	195 30.2 +02.6	S 20 14.0 +00.1	15						
16	153 59.4 +01.0	S 03 33.4 -00.5	216 31.7 +02.7	S 21 26.8 +00.0	210 32.8 +02.6	S 20 14.1 +00.0	16						
17	169 00.4 +01.0	S 03 32.9 -00.6	231 34.4 +02.8	S 21 26.8 +00.1	225 35.4 +02.7	S 20 14.1 +00.0	17						
18	184 01.4 +01.1	S 03 32.3 -00.5	246 37.2 +02.7	S 21 26.9 +00.1	240 38.1 +02.6	S 20 14.1 +00.1	18						
19	199 02.5 +01.0	S 03 31.8 -00.6	261 39.9 +02.8	S 21 27.0 +00.0	255 40.7 +02.6	S 20 14.2 +00.0	19						
20	214 03.5 +01.0	S 03 31.2 -00.5	276 42.7 +02.8	S 21 27.0 +00.1	270 43.3 +02.6	S 20 14.2 +00.1	20						
21	229 04.5 +01.0	S 03 30.7 -00.6	291 45.5 +02.7	S 21 27.1 +00.0	285 45.9 +02.7	S 20 14.3 +00.0	21						
22	244 05.5 +01.1	S 03 30.1 -00.6	306 48.2 +02.8	S 21 27.1 +00.1	300 48.6 +02.6	S 20 14.3 +00.0	22						
23	259 06.6 +01.0	S 03 29.5 -00.5	321 51.0 +02.7	S 21 27.2 +00.0	315 51.2 +02.6	S 20 14.3 +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 00'4 00'4 00'4 00'4 00'4 00'4		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		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 001° 001° 001° 001° 001° 001°		SHA 063° 063° 063° 063° 063° 063°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 05:44		Greenwich Culmination Time: 01:36		Greenwich Culmination Time: 02:00								

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 20.0 -00.1	N 23 22.7 +00.0	209 30.7 +02.5	N 17 41.4 -00.3	129 40.6 -32.6	N 18 39.7 -09.3	00						
01	194 19.9 -00.2	N 23 22.7 -00.1	224 33.2 +02.4	N 17 41.1 -00.3	144 08.0 -32.4	N 18 30.4 -09.3	01						
02	209 19.7 -00.1	N 23 22.6 -00.1	239 35.6 +02.4	N 17 40.8 -00.3	158 35.6 -32.5	N 18 21.1 -09.5	02						
03	224 19.6 -00.1	N 23 22.5 -00.1	254 38.0 +02.5	N 17 40.5 -00.2	173 03.1 -32.4	N 18 11.6 -09.6	03						
04	239 19.5 -00.2	N 23 22.4 +00.0	269 40.5 +02.4	N 17 40.3 -00.3	187 30.7 -32.4	N 18 02.0 -09.7	04						
05	254 19.3 -00.1	N 23 22.4 -00.1	284 42.9 +02.4	N 17 40.0 -00.3	201 58.3 -32.3	N 17 52.3 -09.8	05						
06	269 19.2 -00.1	N 23 22.3 -00.1	299 45.3 +02.4	N 17 39.7 -00.3	216 26.0 -32.2	N 17 42.5 -09.9	06						
07	284 19.1 -00.2	N 23 22.2 -00.1	314 47.7 +02.4	N 17 39.4 -00.2	230 53.8 -32.2	N 17 32.6 -10.0	07						
08	299 18.9 -00.1	N 23 22.1 +00.0	329 50.1 +02.4	N 17 39.2 -00.3	245 21.6 -32.2	N 17 22.6 -10.1	08						
09	314 18.8 -00.1	N 23 22.1 -00.1	344 52.5 +02.4	N 17 38.9 -00.3	259 49.4 -32.1	N 17 12.5 -10.2	09						
10	329 18.7 -00.1	N 23 22.0 -00.1	359 54.9 +02.4	N 17 38.6 -00.2	274 17.3 -32.1	N 17 02.3 -10.3	10						
11	344 18.6 -00.2	N 23 21.9 -00.1	14 57.3 +02.4	N 17 38.4 -00.3	288 45.2 -32.0	N 16 52.0 -10.5	11						
12	359 18.4 -00.1	N 23 21.8 +00.0	29 59.7 +02.4	N 17 38.1 -00.3	303 13.2 -32.0	N 16 41.5 -10.5	12						
13	14 18.3 -00.1	N 23 21.8 -00.1	45 02.1 +02.4	N 17 37.8 -00.2	317 41.2 -31.9	N 16 31.0 -10.6	13						
14	29 18.2 -00.2	N 23 21.7 -00.1	60 04.5 +02.4	N 17 37.6 -00.3	332 09.3 -31.9	N 16 20.4 -10.7	14						
15	44 18.0 -00.1	N 23 21.6 -00.1	75 06.9 +02.4	N 17 37.3 -00.3	346 37.4 -31.8	N 16 09.7 -10.8	15						
16	59 17.9 -00.1	N 23 21.5 -00.1	90 09.3 +02.4	N 17 37.0 -00.2	1 05.6 -31.8	N 15 58.9 -10.9	16						
17	74 17.8 -00.2	N 23 21.4 +00.0	105 11.7 +02.3	N 17 36.8 -00.3	15 33.8 -31.7	N 15 48.0 -11.0	17						
18	89 17.6 -00.1	N 23 21.4 -00.1	120 14.0 +02.4	N 17 36.5 -00.2	30 02.1 -31.7	N 15 37.0 -11.1	18						
19	104 17.5 -00.1	N 23 21.3 -00.1	135 16.4 +02.4	N 17 36.3 -00.3	44 30.4 -31.7	N 15 25.9 -11.2	19						
20	119 17.4 -00.2	N 23 21.2 -00.1	150 18.8 +02.3	N 17 36.0 -00.2	58 58.7 -31.6	N 15 14.7 -11.3	20						
21	134 17.2 -00.1	N 23 21.1 -00.1	165 21.1 +02.4	N 17 35.8 -00.3	73 27.1 -31.5	N 15 03.4 -11.4	21						
22	149 17.1 -00.1	N 23 21.0 -00.1	180 23.5 +02.3	N 17 35.5 -00.2	87 55.6 -31.5	N 14 52.0 -11.4	22						
23	164 17.0 -00.2	N 23 20.9 -00.1	195 25.8 +02.4	N 17 35.3 -00.3	102 24.1 -31.5	N 14 40.6 -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 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 15'9 15'9 15'9 15'9 16'0 16'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'4 00'4 00'4 00'4 00'4 00'4		HP 58'3 58'4 58'5 58'5 58'6 58'6								
	SHA 266° 265° 265° 265° 265° 265°		SHA 296° 296° 296° 296° 296° 296°		SHA 215° 213° 210° 208° 206° 203°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 10:00		Greenwich Culmination Time: 15:55								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	274 07.6 +01.0	S 03 29.0 -00.6	336 53.7 +02.8	S 21 27.2 +00.1	330 53.8 +02.6	S 20 14.4 +00.0	00						
01	289 08.6 +01.0	S 03 28.4 -00.5	351 56.5 +02.7	S 21 27.3 +00.0	345 56.4 +02.7	S 20 14.4 +00.0	01						
02	304 09.6 +01.1	S 03 27.9 -00.6	6 59.2 +02.8	S 21 27.3 +00.1	0 59.1 +02.6	S 20 14.4 +00.1	02						
03	319 10.7 +01.0	S 03 27.3 -00.5	22 02.0 +02.8	S 21 27.4 +00.1	16 01.7 +02.6	S 20 14.5 +00.0	03						
04	334 11.7 +01.0	S 03 26.8 -00.6	37 04.8 +02.7	S 21 27.5 +00.0	31 04.3 +02.6	S 20 14.5 +00.1	04						
05	349 12.7 +01.1	S 03 26.2 -00.5	52 07.5 +02.8	S 21 27.5 +00.1	46 06.9 +02.7	S 20 14.6 +00.0	05						
06	4 13.8 +01.0	S 03 25.7 -00.6	67 10.3 +02.7	S 21 27.6 +00.0	61 09.6 +02.6	S 20 14.6 +00.0	06						
07	19 14.8 +01.0	S 03 25.1 -00.5	82 13.0 +02.8	S 21 27.6 +00.1	76 12.2 +02.6	S 20 14.6 +00.1	07						
08	34 15.8 +01.0	S 03 24.6 -00.6	97 15.8 +02.8	S 21 27.7 +00.0	91 14.8 +02.6	S 20 14.7 +00.0	08						
09	49 16.8 +01.1	S 03 24.0 -00.5	112 18.6 +02.7	S 21 27.7 +00.1	106 17.4 +02.7	S 20 14.7 +00.0	09						
10	64 17.9 +01.0	S 03 23.5 -00.6	127 21.3 +02.8	S 21 27.8 +00.1	121 20.1 +02.6	S 20 14.7 +00.1	10						
11	79 18.9 +01.0	S 03 22.9 -00.6	142 24.1 +02.7	S 21 27.9 +00.0	136 22.7 +02.6	S 20 14.8 +00.0	11						
12	94 19.9 +01.1	S 03 22.3 -00.5	157 26.8 +02.8	S 21 27.9 +00.1	151 25.3 +02.6	S 20 14.8 +00.1	12						
13	109 21.0 +01.0	S 03 21.8 -00.6	172 29.6 +02.8	S 21 28.0 +00.0	166 27.9 +02.7	S 20 14.9 +00.0	13						
14	124 22.0 +01.0	S 03 21.2 -00.5	187 32.4 +02.7	S 21 28.0 +00.1	181 30.6 +02.6	S 20 14.9 +00.0	14						
15	139 23.0 +01.1	S 03 20.7 -00.6	202 35.1 +02.8	S 21 28.1 +00.0	196 33.2 +02.6	S 20 14.9 +00.1	15						
16	154 24.1 +01.0	S 03 20.1 -00.5	217 37.9 +02.8	S 21 28.1 +00.1	211 35.8 +02.6	S 20 15.0 +00.0	16						
17	169 25.1 +01.0	S 03 19.6 -00.6	232 40.7 +02.7	S 21 28.2 +00.1	226 38.4 +02.7	S 20 15.0 +00.0	17						
18	184 26.1 +01.1	S 03 19.0 -00.5	247 43.4 +02.8	S 21 28.3 +00.0	241 41.1 +02.6	S 20 15.0 +00.1	18						
19	199 27.2 +01.0	S 03 18.5 -00.6	262 46.2 +02.7	S 21 28.3 +00.1	256 43.7 +02.6	S 20 15.1 +00.0	19						
20	214 28.2 +01.0	S 03 17.9 -00.5	277 48.9 +02.8	S 21 28.4 +00.0	271 46.3 +02.6	S 20 15.1 +00.0	20						
21	229 29.2 +01.1	S 03 17.4 -00.6	292 51.7 +02.8	S 21 28.4 +00.1	286 48.9 +02.7	S 20 15.1 +00.1	21						
22	244 30.3 +01.0	S 03 16.8 -00.5	307 54.5 +02.7	S 21 28.5 +00.0	301 51.6 +02.6	S 20 15.2 +00.0	22						
23	259 31.3 +01.0	S 03 16.3 -00.6	322 57.2 +02.8	S 21 28.5 +00.1	316 54.2 +02.6	S 20 15.2 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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		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 000° 000° 000° 000° 000° 000°		SHA 063° 063° 063° 063° 063° 063°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 05:43		Greenwich Culmination Time: 01:32		Greenwich Culmination Time: 01:56								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 16.8 -00.1	N 23 20.8 +00.0	210 28.2 +02.3	N 17 35.0 -00.2	116 52.6 -31.4	N 14 29.1 -11.7	00						
01	194 16.7 -00.1	N 23 20.8 -00.1	225 30.5 +02.4	N 17 34.8 -00.3	131 21.2 -31.4	N 14 17.4 -11.7	01						
02	209 16.6 -00.2	N 23 20.7 -00.1	240 32.9 +02.3	N 17 34.5 -00.2	145 49.8 -31.3	N 14 05.7 -11.8	02						
03	224 16.4 -00.1	N 23 20.6 -00.1	255 35.2 +02.3	N 17 34.3 -00.3	160 18.5 -31.3	N 13 53.9 -11.8	03						
04	239 16.3 -00.1	N 23 20.5 -00.1	270 37.5 +02.3	N 17 34.0 -00.2	174 47.2 -31.2	N 13 42.1 -12.0	04						
05	254 16.2 -00.2	N 23 20.4 -00.1	285 39.8 +02.4	N 17 33.8 -00.2	189 16.0 -31.2	N 13 30.1 -12.0	05						
06	269 16.0 -00.1	N 23 20.3 -00.1	300 42.2 +02.3	N 17 33.6 -00.3	203 44.8 -31.1	N 13 18.1 -12.2	06						
07	284 15.9 -00.1	N 23 20.2 -00.1	315 44.5 +02.3	N 17 33.3 -00.2	218 13.7 -31.1	N 13 05.9 -12.1	07						
08	299 15.8 -00.1	N 23 20.1 -00.1	330 46.8 +02.3	N 17 33.1 -00.2	232 42.6 -31.1	N 12 53.8 -12.3	08						
09	314 15.7 -00.2	N 23 20.0 -00.1	345 49.1 +02.3	N 17 32.9 -00.3	247 11.5 -31.0	N 12 41.5 -12.3	09						
10	329 15.5 -00.1	N 23 19.9 -00.1	0 51.4 +02.3	N 17 32.6 -00.2	261 40.5 -31.0	N 12 29.2 -12.5	10						
11	344 15.4 -00.1	N 23 19.8 -00.1	15 53.7 +02.3	N 17 32.4 -00.2	276 09.5 -30.9	N 12 16.7 -12.4	11						
12	359 15.3 -00.2	N 23 19.7 -00.1	30 56.0 +02.3	N 17 32.2 -00.3	290 38.6 -30.9	N 12 04.3 -12.6	12						
13	14 15.1 -00.1	N 23 19.6 -00.1	45 58.3 +02.3	N 17 31.9 -00.2	305 07.7 -30.9	N 11 51.7 -12.6	13						
14	29 15.0 -00.1	N 23 19.5 -00.1	61 00.6 +02.3	N 17 31.7 -00.2	319 36.8 -30.8	N 11 39.1 -12.7	14						
15	44 14.9 -00.2	N 23 19.4 +00.0	76 02.9 +02.3	N 17 31.5 -00.3	334 06.0 -30.8	N 11 26.4 -12.8	15						
16	59 14.7 -00.1	N 23 19.4 -00.1	91 05.2 +02.3	N 17 31.2 -00.2	348 35.2 -30.8	N 11 13.6 -12.8	16						
17	74 14.6 -00.1	N 23 19.3 -00.1	106 07.5 +02.3	N 17 31.0 -00.2	3 04.4 -30.7	N 11 00.8 -12.9	17						
18	89 14.5 -00.2	N 23 19.2 -00.1	121 09.8 +02.2	N 17 30.8 -00.2	17 33.7 -30.6	N 10 47.9 -13.0	18						
19	104 14.3 -00.1	N 23 19.1 -00.2	136 12.0 +02.3	N 17 30.6 -00.2	32 03.1 -30.7	N 10 34.9 -13.0	19						
20	119 14.2 -00.1	N 23 18.9 -00.1	151 14.3 +02.3	N 17 30.4 -00.3	46 32.4 -30.6	N 10 21.9 -13.1	20						
21	134 14.1 -00.1	N 23 18.8 -00.1	166 16.6 +02.2	N 17 30.1 -00.2	61 01.8 -30.6	N 10 08.8 -13.1	21						
22	149 14.0 -00.2	N 23 18.7 -00.1	181 18.8 +02.3	N 17 29.9 -00.2	75 31.2 -30.5	N 09 55.7 -13.2	22						
23	164 13.8 -00.1	N 23 18.6 -00.1	196 21.1 +02.2	N 17 29.7 -00.2	90 00.7 -30.5	N 09 42.5 -13.2	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 00'4 00'4 00'4 00'4 00'4 00'4		SD 16'0 16'0 16'0 16'0 16'0 16'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'4 00'4 00'4 00'4 00'4 00'4		HP 58'7 58'8 58'8 58'9 58'9 58'9								
	SHA 265° 264° 264° 264° 264° 264°		SHA 296° 296° 296° 296° 296° 296°		SHA 201° 199° 197° 194° 192° 190°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 09:56		Greenwich Culmination Time: 16:47								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	274 32.3 +01.1	S 03 15.7 -00.5	337 60.0 +02.8	S 21 28.6 +00.1	331 56.8 +02.6	S 20 15.3 +00.0	00						
01	289 33.4 +01.0	S 03 15.2 -00.6	353 02.8 +02.7	S 21 28.7 +00.0	346 59.4 +02.7	S 20 15.3 +00.0	01						
02	304 34.4 +01.0	S 03 14.6 -00.5	8 05.5 +02.8	S 21 28.7 +00.1	2 02.1 +02.6	S 20 15.3 +00.1	02						
03	319 35.4 +01.1	S 03 14.1 -00.6	23 08.3 +02.7	S 21 28.8 +00.0	17 04.7 +02.6	S 20 15.4 +00.0	03						
04	334 36.5 +01.0	S 03 13.5 -00.5	38 11.0 +02.8	S 21 28.8 +00.1	32 07.3 +02.6	S 20 15.4 +00.0	04						
05	349 37.5 +01.0	S 03 13.0 -00.6	53 13.8 +02.8	S 21 28.9 +00.0	47 09.9 +02.7	S 20 15.4 +00.1	05						
06	4 38.5 +01.1	S 03 12.4 -00.5	68 16.6 +02.7	S 21 28.9 +00.1	62 12.6 +02.6	S 20 15.5 +00.0	06						
07	19 39.6 +01.0	S 03 11.9 -00.6	83 19.3 +02.8	S 21 29.0 +00.1	77 15.2 +02.6	S 20 15.5 +00.1	07						
08	34 40.6 +01.0	S 03 11.3 -00.5	98 22.1 +02.8	S 21 29.1 +00.0	92 17.8 +02.7	S 20 15.6 +00.0	08						
09	49 41.6 +01.1	S 03 10.8 -00.6	113 24.9 +02.7	S 21 29.1 +00.1	107 20.5 +02.6	S 20 15.6 +00.0	09						
10	64 42.7 +01.0	S 03 10.2 -00.5	128 27.6 +02.8	S 21 29.2 +00.0	122 23.1 +02.6	S 20 15.6 +00.1	10						
11	79 43.7 +01.1	S 03 09.7 -00.6	143 30.4 +02.8	S 21 29.2 +00.1	137 25.7 +02.6	S 20 15.7 +00.0	11						
12	94 44.8 +01.0	S 03 09.1 -00.5	158 33.2 +02.7	S 21 29.3 +00.0	152 28.3 +02.7	S 20 15.7 +00.1	12						
13	109 45.8 +01.0	S 03 08.6 -00.6	173 35.9 +02.8	S 21 29.3 +00.1	167 31.0 +02.6	S 20 15.8 +00.0	13						
14	124 46.8 +01.1	S 03 08.0 -00.5	188 38.7 +02.8	S 21 29.4 +00.1	182 33.6 +02.6	S 20 15.8 +00.0	14						
15	139 47.9 +01.0	S 03 07.5 -00.6	203 41.5 +02.7	S 21 29.5 +00.0	197 36.2 +02.6	S 20 15.8 +00.1	15						
16	154 48.9 +01.1	S 03 06.9 -00.5	218 44.2 +02.8	S 21 29.5 +00.1	212 38.8 +02.7	S 20 15.9 +00.0	16						
17	169 50.0 +01.0	S 03 06.4 -00.6	233 47.0 +02.8	S 21 29.6 +00.0	227 41.5 +02.6	S 20 15.9 +00.0	17						
18	184 51.0 +01.0	S 03 05.8 -00.5	248 49.8 +02.7	S 21 29.6 +00.1	242 44.1 +02.6	S 20 15.9 +00.1	18						
19	199 52.0 +01.1	S 03 05.3 -00.6	263 52.5 +02.8	S 21 29.7 +00.0	257 46.7 +02.7	S 20 16.0 +00.0	19						
20	214 53.1 +01.0	S 03 04.7 -00.5	278 55.3 +02.7	S 21 29.7 +00.1	272 49.4 +02.6	S 20 16.0 +00.1	20						
21	229 54.1 +01.1	S 03 04.2 -00.6	293 58.0 +02.8	S 21 29.8 +00.1	287 52.0 +02.6	S 20 16.1 +00.0	21						
22	244 55.2 +01.0	S 03 03.6 -00.5	309 00.8 +02.8	S 21 29.9 +00.0	302 54.6 +02.6	S 20 16.1 +00.0	22						
23	259 56.2 +01.0	S 03 03.1 -00.6	324 03.6 +02.8	S 21 29.9 +00.1	317 57.2 +02.7	S 20 16.1 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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		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 360° 360° 360° 360° 360° 359°		SHA 063° 063° 063° 063° 064° 064°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 05:41		Greenwich Culmination Time: 01:27		Greenwich Culmination Time: 01:51								

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 13.7 -00.1	N 23 18.5 -00.1	211 23.3 +02.3	N 17 29.5 -00.2	104 30.2 -30.5	N 09 29.3 -13.4	00						
01	194 13.6 -00.2	N 23 18.4 -00.1	226 25.6 +02.2	N 17 29.3 -00.2	118 59.7 -30.4	N 09 15.9 -13.3	01						
02	209 13.4 -00.1	N 23 18.3 -00.1	241 27.8 +02.3	N 17 29.1 -00.2	133 29.3 -30.4	N 09 02.6 -13.4	02						
03	224 13.3 -00.1	N 23 18.2 -00.1	256 30.1 +02.2	N 17 28.9 -00.2	147 58.9 -30.4	N 08 49.2 -13.5	03						
04	239 13.2 -00.1	N 23 18.1 -00.1	271 32.3 +02.3	N 17 28.7 -00.2	162 28.5 -30.3	N 08 35.7 -13.5	04						
05	254 13.1 -00.2	N 23 18.0 -00.1	286 34.6 +02.2	N 17 28.5 -00.2	176 58.2 -30.4	N 08 22.2 -13.6	05						
06	269 12.9 -00.1	N 23 17.9 -00.1	301 36.8 +02.2	N 17 28.3 -00.2	191 27.8 -30.3	N 08 08.6 -13.6	06						
07	284 12.8 -00.1	N 23 17.8 -00.1	316 39.0 +02.2	N 17 28.1 -00.2	205 57.5 -30.2	N 07 55.0 -13.7	07						
08	299 12.7 -00.2	N 23 17.7 -00.1	331 41.2 +02.3	N 17 27.9 -00.2	220 27.3 -30.3	N 07 41.3 -13.7	08						
09	314 12.5 -00.1	N 23 17.6 -00.1	346 43.5 +02.2	N 17 27.7 -00.2	234 57.0 -30.2	N 07 27.6 -13.7	09						
10	329 12.4 -00.1	N 23 17.5 -00.2	1 45.7 +02.2	N 17 27.5 -00.2	249 26.8 -30.2	N 07 13.9 -13.8	10						
11	344 12.3 -00.2	N 23 17.3 -00.1	16 47.9 +02.2	N 17 27.3 -00.2	263 56.6 -30.2	N 07 00.1 -13.9	11						
12	359 12.1 -00.1	N 23 17.2 -00.1	31 50.1 +02.2	N 17 27.1 -00.2	278 26.4 -30.1	N 06 46.2 -13.8	12						
13	14 12.0 -00.1	N 23 17.1 -00.1	46 52.3 +02.2	N 17 26.9 -00.2	292 56.3 -30.2	N 06 32.4 -14.0	13						
14	29 11.9 -00.1	N 23 17.0 -00.1	61 54.5 +02.2	N 17 26.7 -00.2	307 26.1 -30.1	N 06 18.4 -13.9	14						
15	44 11.8 -00.2	N 23 16.9 -00.1	76 56.7 +02.2	N 17 26.5 -00.2	321 56.0 -30.1	N 06 04.5 -14.0	15						
16	59 11.6 -00.1	N 23 16.8 -00.1	91 58.9 +02.2	N 17 26.3 -00.2	336 25.9 -30.0	N 05 50.5 -14.0	16						
17	74 11.5 -00.1	N 23 16.7 -00.2	107 01.1 +02.2	N 17 26.1 -00.2	350 55.9 -30.1	N 05 36.5 -14.1	17						
18	89 11.4 -00.1	N 23 16.5 -00.1	122 03.3 +02.2	N 17 25.9 -00.2	5 25.8 -30.0	N 05 22.4 -14.1	18						
19	104 11.3 -00.2	N 23 16.4 -00.1	137 05.5 +02.1	N 17 25.7 -00.2	19 55.8 -30.1	N 05 08.3 -14.1	19						
20	119 11.1 -00.1	N 23 16.3 -00.1	152 07.6 +02.2	N 17 25.5 -00.1	34 25.7 -30.0	N 04 54.2 -14.1	20						
21	134 11.0 -00.1	N 23 16.2 -00.1	167 09.8 +02.2	N 17 25.4 -00.2	48 55.7 -30.0	N 04 40.1 -14.2	21						
22	149 10.9 -00.2	N 23 16.1 -00.2	182 12.0 +02.1	N 17 25.2 -00.2	63 25.7 -30.0	N 04 25.9 -14.2	22						
23	164 10.7 -00.1	N 23 15.9 -00.1	197 14.1 +02.2	N 17 25.0 -00.2	77 55.7 -29.9	N 04 11.7 -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 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'4 00'4 00'4 00'4 00'4 00'4		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 00'4 00'4 00'4 00'4 00'4 00'4		HP 59'0 59'0 59'1 59'1 59'1 59'2								
	SHA 264° 263° 263° 263° 263° 263°		SHA 296° 296° 296° 296° 296° 296°		SHA 188° 186° 183° 181° 179° 177°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 09:52		Greenwich Culmination Time: 17:37								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	274 57.2 +01.1	S 03 02.5 -00.5	339 06.4 +02.7	S 21 30.0 +00.0	332 59.9 +02.6	S 20 16.2 +00.0	00						
01	289 58.3 +01.0	S 03 02.0 -00.6	354 09.1 +02.8	S 21 30.0 +00.1	348 02.5 +02.6	S 20 16.2 +00.0	01						
02	304 59.3 +01.1	S 03 01.4 -00.5	9 11.9 +02.8	S 21 30.1 +00.0	3 05.1 +02.7	S 20 16.2 +00.1	02						
03	320 00.4 +01.0	S 03 00.9 -00.6	24 14.7 +02.7	S 21 30.1 +00.1	18 07.8 +02.6	S 20 16.3 +00.0	03						
04	335 01.4 +01.0	S 03 00.3 -00.5	39 17.4 +02.8	S 21 30.2 +00.1	33 10.4 +02.6	S 20 16.3 +00.1	04						
05	350 02.4 +01.1	S 02 59.8 -00.6	54 20.2 +02.8	S 21 30.3 +00.0	48 13.0 +02.6	S 20 16.4 +00.0	05						
06	5 03.5 +01.0	S 02 59.2 -00.5	69 23.0 +02.7	S 21 30.3 +00.1	63 15.6 +02.7	S 20 16.4 +00.0	06						
07	20 04.5 +01.1	S 02 58.7 -00.6	84 25.7 +02.8	S 21 30.4 +00.0	78 18.3 +02.6	S 20 16.4 +00.1	07						
08	35 05.6 +01.0	S 02 58.1 -00.5	99 28.5 +02.8	S 21 30.4 +00.1	93 20.9 +02.6	S 20 16.5 +00.0	08						
09	50 06.6 +01.1	S 02 57.6 -00.6	114 31.3 +02.7	S 21 30.5 +00.1	108 23.5 +02.7	S 20 16.5 +00.0	09						
10	65 07.7 +01.0	S 02 57.0 -00.5	129 34.0 +02.8	S 21 30.6 +00.0	123 26.2 +02.6	S 20 16.5 +00.1	10						
11	80 08.7 +01.0	S 02 56.5 -00.6	144 36.8 +02.8	S 21 30.6 +00.1	138 28.8 +02.6	S 20 16.6 +00.0	11						
12	95 09.7 +01.1	S 02 55.9 -00.5	159 39.6 +02.7	S 21 30.7 +00.0	153 31.4 +02.7	S 20 16.6 +00.1	12						
13	110 10.8 +01.0	S 02 55.4 -00.6	174 42.3 +02.8	S 21 30.7 +00.1	168 34.1 +02.6	S 20 16.7 +00.0	13						
14	125 11.8 +01.1	S 02 54.8 -00.5	189 45.1 +02.8	S 21 30.8 +00.0	183 36.7 +02.6	S 20 16.7 +00.0	14						
15	140 12.9 +01.0	S 02 54.3 -00.6	204 47.9 +02.7	S 21 30.8 +00.1	198 39.3 +02.6	S 20 16.7 +00.1	15						
16	155 13.9 +01.1	S 02 53.7 -00.5	219 50.6 +02.8	S 21 30.9 +00.1	213 41.9 +02.7	S 20 16.8 +00.0	16						
17	170 15.0 +01.0	S 02 53.2 -00.5	234 53.4 +02.8	S 21 31.0 +00.0	228 44.6 +02.6	S 20 16.8 +00.1	17						
18	185 16.0 +01.1	S 02 52.7 -00.6	249 56.2 +02.8	S 21 31.0 +00.1	243 47.2 +02.6	S 20 16.9 +00.0	18						
19	200 17.1 +01.0	S 02 52.1 -00.5	264 59.0 +02.7	S 21 31.1 +00.0	258 49.8 +02.7	S 20 16.9 +00.0	19						
20	215 18.1 +01.1	S 02 51.6 -00.6	280 01.7 +02.8	S 21 31.1 +00.1	273 52.5 +02.6	S 20 16.9 +00.1	20						
21	230 19.2 +01.0	S 02 51.0 -00.5	295 04.5 +02.8	S 21 31.2 +00.0	288 55.1 +02.6	S 20 17.0 +00.0	21						
22	245 20.2 +01.1	S 02 50.5 -00.6	310 07.3 +02.7	S 21 31.2 +00.1	303 57.7 +02.7	S 20 17.0 +00.0	22						
23	260 21.3 +01.0	S 02 49.9 -00.5	325 10.0 +02.8	S 21 31.3 +00.1	319 00.4 +02.6	S 20 17.0 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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		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 359° 359° 359° 359° 359° 359°		SHA 064° 064° 064° 064° 064° 064°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 05:39		Greenwich Culmination Time: 01:23		Greenwich Culmination Time: 01:47								



UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 10.6 -00.1	N 23 15.8 -00.1	212 16.3 +02.2	N 17 24.8 -00.2	92 25.8 -30.0	N 03 57.4 -14.2	00						
01	194 10.5 -00.1	N 23 15.7 -00.1	227 18.5 +02.1	N 17 24.6 -00.1	106 55.8 -30.0	N 03 43.2 -14.3	01						
02	209 10.4 -00.2	N 23 15.6 -00.1	242 20.6 +02.2	N 17 24.5 -00.2	121 25.8 -29.9	N 03 28.9 -14.3	02						
03	224 10.2 -00.1	N 23 15.5 -00.2	257 22.8 +02.1	N 17 24.3 -00.2	135 55.9 -30.0	N 03 14.6 -14.3	03						
04	239 10.1 -00.1	N 23 15.3 -00.1	272 24.9 +02.2	N 17 24.1 -00.2	150 25.9 -29.9	N 03 00.3 -14.4	04						
05	254 10.0 -00.1	N 23 15.2 -00.1	287 27.1 +02.1	N 17 23.9 -00.1	164 56.0 -29.9	N 02 45.9 -14.4	05						
06	269 09.9 -00.2	N 23 15.1 -00.1	302 29.2 +02.1	N 17 23.8 -00.2	179 26.1 -29.9	N 02 31.5 -14.3	06						
07	284 09.7 -00.1	N 23 15.0 -00.2	317 31.3 +02.2	N 17 23.6 -00.2	193 56.2 -30.0	N 02 17.2 -14.4	07						
08	299 09.6 -00.1	N 23 14.8 -00.1	332 33.5 +02.1	N 17 23.4 -00.1	208 26.2 -29.9	N 02 02.8 -14.4	08						
09	314 09.5 -00.2	N 23 14.7 -00.1	347 35.6 +02.1	N 17 23.3 -00.2	222 56.3 -29.9	N 01 48.4 -14.5	09						
10	329 09.3 -00.1	N 23 14.6 -00.2	2 37.7 +02.2	N 17 23.1 -00.2	237 26.4 -29.9	N 01 33.9 -14.4	10						
11	344 09.2 -00.1	N 23 14.4 -00.1	17 39.9 +02.1	N 17 22.9 -00.1	251 56.5 -29.9	N 01 19.5 -14.4	11						
12	359 09.1 -00.1	N 23 14.3 -00.1	32 42.0 +02.1	N 17 22.8 -00.2	266 26.6 -29.9	N 01 05.1 -14.5	12						
13	14 09.0 -00.2	N 23 14.2 -00.2	47 44.1 +02.1	N 17 22.6 -00.1	280 56.7 -30.0	N 00 50.6 -14.4	13						
14	29 08.8 -00.1	N 23 14.0 -00.1	62 46.2 +02.1	N 17 22.5 -00.2	295 26.7 -29.9	N 00 36.2 -14.5	14						
15	44 08.7 -00.1	N 23 13.9 -00.1	77 48.3 +02.1	N 17 22.3 -00.2	309 56.8 -29.9	N 00 21.7 -14.5	15						
16	59 08.6 -00.1	N 23 13.8 -00.1	92 50.4 +02.1	N 17 22.1 -00.1	324 26.9 -30.0	N 00 07.2 -14.5	16						
17	74 08.5 -00.2	N 23 13.7 -00.2	107 52.5 +02.1	N 17 22.0 -00.2	338 56.9 -29.9	S 00 07.3 +14.4	17						
18	89 08.3 -00.1	N 23 13.5 -00.1	122 54.6 +02.1	N 17 21.8 -00.1	353 27.0 -30.0	S 00 21.7 +14.5	18						
19	104 08.2 -00.1	N 23 13.4 -00.2	137 56.7 +02.1	N 17 21.7 -00.2	7 57.0 -29.9	S 00 36.2 +14.5	19						
20	119 08.1 -00.1	N 23 13.2 -00.1	152 58.8 +02.1	N 17 21.5 -00.1	22 27.1 -30.0	S 00 50.7 +14.5	20						
21	134 08.0 -00.2	N 23 13.1 -00.1	168 00.9 +02.0	N 17 21.4 -00.2	36 57.1 -30.0	S 01 05.2 +14.4	21						
22	149 07.8 -00.1	N 23 13.0 -00.2	183 02.9 +02.1	N 17 21.2 -00.1	51 27.1 -30.0	S 01 19.6 +14.5	22						
23	164 07.7 -00.1	N 23 12.8 -00.1	198 05.0 +02.1	N 17 21.1 -00.2	65 57.1 -30.0	S 01 34.1 +14.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 16'1 16'1 16'1 16'2 16'2 16'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'4 00'4 00'4 00'4 00'4 00'4		HP 59'2 59'2 59'3 59'3 59'3 59'3								
	SHA 263° 262° 262° 262° 262° 262°		SHA 296° 296° 296° 296° 296° 296°		SHA 175° 173° 170° 168° 166° 164°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 09:49		Greenwich Culmination Time: 18:27								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	275 22.3 +01.1	S 02 49.4 -00.6	340 12.8 +02.8	S 21 31.4 +00.0	334 03.0 +02.6	S 20 17.1 +00.0	00						
01	290 23.4 +01.0	S 02 48.8 -00.5	355 15.6 +02.8	S 21 31.4 +00.1	349 05.6 +02.6	S 20 17.1 +00.1	01						
02	305 24.4 +01.1	S 02 48.3 -00.6	10 18.4 +02.7	S 21 31.5 +00.0	4 08.2 +02.7	S 20 17.2 +00.0	02						
03	320 25.5 +01.0	S 02 47.7 -00.5	25 21.1 +02.8	S 21 31.5 +00.1	19 10.9 +02.6	S 20 17.2 +00.0	03						
04	335 26.5 +01.1	S 02 47.2 -00.6	40 23.9 +02.8	S 21 31.6 +00.1	34 13.5 +02.6	S 20 17.2 +00.1	04						
05	350 27.6 +01.0	S 02 46.6 -00.5	55 26.7 +02.7	S 21 31.7 +00.0	49 16.1 +02.7	S 20 17.3 +00.0	05						
06	5 28.6 +01.1	S 02 46.1 -00.5	70 29.4 +02.8	S 21 31.7 +00.1	64 18.8 +02.6	S 20 17.3 +00.1	06						
07	20 29.7 +01.0	S 02 45.6 -00.6	85 32.2 +02.8	S 21 31.8 +00.0	79 21.4 +02.6	S 20 17.4 +00.0	07						
08	35 30.7 +01.1	S 02 45.0 -00.5	100 35.0 +02.8	S 21 31.8 +00.1	94 24.0 +02.7	S 20 17.4 +00.0	08						
09	50 31.8 +01.0	S 02 44.5 -00.6	115 37.8 +02.7	S 21 31.9 +00.0	109 26.7 +02.6	S 20 17.4 +00.1	09						
10	65 32.8 +01.1	S 02 43.9 -00.5	130 40.5 +02.8	S 21 31.9 +00.1	124 29.3 +02.6	S 20 17.5 +00.0	10						
11	80 33.9 +01.0	S 02 43.4 -00.6	145 43.3 +02.8	S 21 32.0 +00.1	139 31.9 +02.7	S 20 17.5 +00.0	11						
12	95 34.9 +01.1	S 02 42.8 -00.5	160 46.1 +02.8	S 21 32.1 +00.0	154 34.6 +02.6	S 20 17.5 +00.1	12						
13	110 36.0 +01.0	S 02 42.3 -00.6	175 48.9 +02.7	S 21 32.1 +00.1	169 37.2 +02.6	S 20 17.6 +00.0	13						
14	125 37.0 +01.1	S 02 41.7 -00.5	190 51.6 +02.8	S 21 32.2 +00.0	184 39.8 +02.7	S 20 17.6 +00.1	14						
15	140 38.1 +01.0	S 02 41.2 -00.5	205 54.4 +02.8	S 21 32.2 +00.1	199 42.5 +02.6	S 20 17.7 +00.0	15						
16	155 39.1 +01.1	S 02 40.7 -00.6	220 57.2 +02.7	S 21 32.3 +00.0	214 45.1 +02.6	S 20 17.7 +00.0	16						
17	170 40.2 +01.0	S 02 40.1 -00.5	235 59.9 +02.8	S 21 32.3 +00.1	229 47.7 +02.7	S 20 17.7 +00.1	17						
18	185 41.2 +01.1	S 02 39.6 -00.6	251 02.7 +02.8	S 21 32.4 +00.1	244 50.4 +02.6	S 20 17.8 +00.0	18						
19	200 42.3 +01.0	S 02 39.0 -00.5	266 05.5 +02.8	S 21 32.5 +00.0	259 53.0 +02.6	S 20 17.8 +00.1	19						
20	215 43.3 +01.1	S 02 38.5 -00.6	281 08.3 +02.7	S 21 32.5 +00.1	274 55.6 +02.7	S 20 17.9 +00.0	20						
21	230 44.4 +01.0	S 02 37.9 -00.5	296 11.0 +02.8	S 21 32.6 +00.0	289 58.3 +02.6	S 20 17.9 +00.0	21						
22	245 45.4 +01.1	S 02 37.4 -00.5	311 13.8 +02.8	S 21 32.6 +00.1	305 00.9 +02.6	S 20 17.9 +00.1	22						
23	260 46.5 +01.1	S 02 36.9 -00.6	326 16.6 +02.8	S 21 32.7 +00.1	320 03.5 +02.6	S 20 18.0 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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		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 359° 359° 359° 358° 358° 358°		SHA 064° 064° 064° 064° 064° 064°		SHA 058° 058° 058° 058° 058° 058°								
	Greenwich Culmination Time: 05:38		Greenwich Culmination Time: 01:18		Greenwich Culmination Time: 01:43								

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 07.6 -00.1	N 23 12.7 -00.1	213 07.1 +02.1	N 17 20.9 -00.1	80 27.1 -30.0	S 01 48.6 +14.4	00						
01	194 07.5 -00.2	N 23 12.6 -00.2	228 09.2 +02.0	N 17 20.8 -00.2	94 57.1 -30.0	S 02 03.0 +14.5	01						
02	209 07.3 -00.1	N 23 12.4 -00.1	243 11.2 +02.1	N 17 20.6 -00.1	109 27.1 -30.1	S 02 17.5 +14.4	02						
03	224 07.2 -00.1	N 23 12.3 -00.2	258 13.3 +02.1	N 17 20.5 -00.1	123 57.0 -30.1	S 02 31.9 +14.4	03						
04	239 07.1 -00.1	N 23 12.1 -00.1	273 15.4 +02.0	N 17 20.4 -00.2	138 26.9 -30.0	S 02 46.3 +14.4	04						
05	254 07.0 -00.2	N 23 12.0 -00.1	288 17.4 +02.1	N 17 20.2 -00.1	152 56.9 -30.1	S 03 00.7 +14.4	05						
06	269 06.8 -00.1	N 23 11.9 -00.2	303 19.5 +02.0	N 17 20.1 -00.2	167 26.8 -30.2	S 03 15.1 +14.4	06						
07	284 06.7 -00.1	N 23 11.7 -00.1	318 21.5 +02.1	N 17 19.9 -00.1	181 56.6 -30.1	S 03 29.5 +14.4	07						
08	299 06.6 -00.1	N 23 11.6 -00.2	333 23.6 +02.0	N 17 19.8 -00.1	196 26.5 -30.2	S 03 43.9 +14.3	08						
09	314 06.5 -00.2	N 23 11.4 -00.1	348 25.6 +02.0	N 17 19.7 -00.2	210 56.3 -30.2	S 03 58.2 +14.4	09						
10	329 06.3 -00.1	N 23 11.3 -00.2	3 27.6 +02.1	N 17 19.5 -00.1	225 26.1 -30.2	S 04 12.6 +14.3	10						
11	344 06.2 -00.1	N 23 11.1 -00.1	18 29.7 +02.0	N 17 19.4 -00.1	239 55.9 -30.3	S 04 26.9 +14.3	11						
12	359 06.1 -00.1	N 23 11.0 -00.2	33 31.7 +02.0	N 17 19.3 -00.1	254 25.6 -30.2	S 04 41.2 +14.2	12						
13	14 06.0 -00.2	N 23 10.8 -00.1	48 33.7 +02.0	N 17 19.2 -00.2	268 55.4 -30.3	S 04 55.4 +14.3	13						
14	29 05.8 -00.1	N 23 10.7 -00.2	63 35.7 +02.1	N 17 19.0 -00.1	283 25.1 -30.3	S 05 09.7 +14.2	14						
15	44 05.7 -00.1	N 23 10.5 -00.1	78 37.8 +02.0	N 17 18.9 -00.1	297 54.8 -30.4	S 05 23.9 +14.2	15						
16	59 05.6 -00.1	N 23 10.4 -00.2	93 39.8 +02.0	N 17 18.8 -00.1	312 24.4 -30.4	S 05 38.1 +14.1	16						
17	74 05.5 -00.2	N 23 10.2 -00.1	108 41.8 +02.0	N 17 18.7 -00.2	326 54.0 -30.4	S 05 52.2 +14.1	17						
18	89 05.3 -00.1	N 23 10.1 -00.2	123 43.8 +02.0	N 17 18.5 -00.1	341 23.6 -30.4	S 06 06.3 +14.1	18						
19	104 05.2 -00.1	N 23 09.9 -00.1	138 45.8 +02.0	N 17 18.4 -00.1	355 53.2 -30.5	S 06 20.4 +14.1	19						
20	119 05.1 -00.1	N 23 09.8 -00.2	153 47.8 +02.0	N 17 18.3 -00.1	10 22.7 -30.5	S 06 34.5 +14.0	20						
21	134 05.0 -00.1	N 23 09.6 -00.1	168 49.8 +02.0	N 17 18.2 -00.1	24 52.2 -30.6	S 06 48.5 +14.0	21						
22	149 04.9 -00.2	N 23 09.5 -00.2	183 51.8 +02.0	N 17 18.1 -00.2	39 21.6 -30.6	S 07 02.5 +13.9	22						
23	164 04.7 -00.1	N 23 09.3 -00.1	198 53.8 +02.0	N 17 17.9 -00.1	53 51.0 -30.6	S 07 16.4 +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 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'4 00'4 00'4 00'4 00'4 00'4		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 00'4 00'4 00'4 00'4 00'4 00'4		HP 59'4 59'4 59'4 59'4 59'4 59'4								
	SHA 262° 261° 261° 261° 261° 261°		SHA 296° 296° 296° 295° 295° 295°		SHA 162° 160° 157° 155° 153° 151°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 09:46		Greenwich Culmination Time: 19:17								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	275 47.6 +01.0	S 02 36.3 -00.5	341 19.4 +02.7	S 21 32.8 +00.0	335 06.1 +02.7	S 20 18.0 +00.0	00						
01	290 48.6 +01.1	S 02 35.8 -00.6	356 22.1 +02.8	S 21 32.8 +00.1	350 08.8 +02.6	S 20 18.0 +00.1	01						
02	305 49.7 +01.0	S 02 35.2 -00.5	11 24.9 +02.8	S 21 32.9 +00.0	5 11.4 +02.6	S 20 18.1 +00.0	02						
03	320 50.7 +01.1	S 02 34.7 -00.6	26 27.7 +02.8	S 21 32.9 +00.1	20 14.0 +02.7	S 20 18.1 +00.1	03						
04	335 51.8 +01.0	S 02 34.1 -00.5	41 30.5 +02.7	S 21 33.0 +00.0	35 16.7 +02.6	S 20 18.2 +00.0	04						
05	350 52.8 +01.1	S 02 33.6 -00.5	56 33.2 +02.8	S 21 33.0 +00.1	50 19.3 +02.6	S 20 18.2 +00.0	05						
06	5 53.9 +01.1	S 02 33.1 -00.6	71 36.0 +02.8	S 21 33.1 +00.1	65 21.9 +02.7	S 20 18.2 +00.1	06						
07	20 55.0 +01.0	S 02 32.5 -00.5	86 38.8 +02.8	S 21 33.2 +00.0	80 24.6 +02.6	S 20 18.3 +00.0	07						
08	35 56.0 +01.1	S 02 32.0 -00.6	101 41.6 +02.7	S 21 33.2 +00.1	95 27.2 +02.6	S 20 18.3 +00.1	08						
09	50 57.1 +01.0	S 02 31.4 -00.5	116 44.3 +02.8	S 21 33.3 +00.0	110 29.8 +02.7	S 20 18.4 +00.0	09						
10	65 58.1 +01.1	S 02 30.9 -00.5	131 47.1 +02.8	S 21 33.3 +00.1	125 32.5 +02.6	S 20 18.4 +00.0	10						
11	80 59.2 +01.1	S 02 30.4 -00.6	146 49.9 +02.8	S 21 33.4 +00.1	140 35.1 +02.6	S 20 18.4 +00.1	11						
12	96 00.3 +01.0	S 02 29.8 -00.5	161 52.7 +02.8	S 21 33.5 +00.0	155 37.7 +02.7	S 20 18.5 +00.0	12						
13	111 01.3 +01.1	S 02 29.3 -00.6	176 55.5 +02.7	S 21 33.5 +00.1	170 40.4 +02.6	S 20 18.5 +00.0	13						
14	126 02.4 +01.0	S 02 28.7 -00.5	191 58.2 +02.8	S 21 33.6 +00.0	185 43.0 +02.7	S 20 18.5 +00.1	14						
15	141 03.4 +01.1	S 02 28.2 -00.6	207 01.0 +02.8	S 21 33.6 +00.1	200 45.7 +02.6	S 20 18.6 +00.0	15						
16	156 04.5 +01.1	S 02 27.6 -00.5	222 03.8 +02.8	S 21 33.7 +00.1	215 48.3 +02.6	S 20 18.6 +00.1	16						
17	171 05.6 +01.0	S 02 27.1 -00.5	237 06.6 +02.7	S 21 33.8 +00.0	230 50.9 +02.7	S 20 18.7 +00.0	17						
18	186 06.6 +01.1	S 02 26.6 -00.6	252 09.3 +02.8	S 21 33.8 +00.1	245 53.6 +02.6	S 20 18.7 +00.0	18						
19	201 07.7 +01.0	S 02 26.0 -00.5	267 12.1 +02.8	S 21 33.9 +00.0	260 56.2 +02.6	S 20 18.7 +00.1	19						
20	216 08.7 +01.1	S 02 25.5 -00.6	282 14.9 +02.8	S 21 33.9 +00.1	275 58.8 +02.7	S 20 18.8 +00.0	20						
21	231 09.8 +01.1	S 02 24.9 -00.5	297 17.7 +02.8	S 21 34.0 +00.0	291 01.5 +02.6	S 20 18.8 +00.1	21						
22	246 10.9 +01.0	S 02 24.4 -00.5	312 20.5 +02.7	S 21 34.0 +00.1	306 04.1 +02.6	S 20 18.9 +00.0	22						
23	261 11.9 +01.1	S 02 23.9 -00.6	327 23.2 +02.8	S 21 34.1 +00.1	321 06.7 +02.7	S 20 18.9 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		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		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 358° 358° 358° 358° 358° 358°		SHA 064° 064° 064° 064° 064° 064°		SHA 058° 058° 058° 058° 058° 058°								
	Greenwich Culmination Time: 05:36		Greenwich Culmination Time: 01:14		Greenwich Culmination Time: 01:39								

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 04.6 -00.1	N 23 09.2 -00.2	213 55.8 +02.0	N 17 17.8 -00.1	68 20.4 -30.7	S 07 30.3 +13.9	00						
01	194 04.5 -00.1	N 23 09.0 -00.1	228 57.8 +01.9	N 17 17.7 -00.1	82 49.7 -30.7	S 07 44.2 +13.8	01						
02	209 04.4 -00.2	N 23 08.9 -00.2	243 59.7 +02.0	N 17 17.6 -00.1	97 19.0 -30.7	S 07 58.0 +13.8	02						
03	224 04.2 -00.1	N 23 08.7 -00.2	259 01.7 +02.0	N 17 17.5 -00.1	111 48.3 -30.8	S 08 11.8 +13.8	03						
04	239 04.1 -00.1	N 23 08.5 -00.1	274 03.7 +02.0	N 17 17.4 -00.1	126 17.5 -30.8	S 08 25.6 +13.7	04						
05	254 04.0 -00.1	N 23 08.4 -00.2	289 05.7 +01.9	N 17 17.3 -00.1	140 46.7 -30.8	S 08 39.3 +13.6	05						
06	269 03.9 -00.1	N 23 08.2 -00.1	304 07.6 +02.0	N 17 17.2 -00.1	155 15.9 -30.9	S 08 52.9 +13.6	06						
07	284 03.8 -00.2	N 23 08.1 -00.2	319 09.6 +01.9	N 17 17.1 -00.1	169 45.0 -31.0	S 09 06.5 +13.6	07						
08	299 03.6 -00.1	N 23 07.9 -00.2	334 11.5 +02.0	N 17 17.0 -00.2	184 14.0 -31.0	S 09 20.1 +13.4	08						
09	314 03.5 -00.1	N 23 07.7 -00.1	349 13.5 +01.9	N 17 16.8 -00.1	198 43.0 -31.0	S 09 33.5 +13.5	09						
10	329 03.4 -00.1	N 23 07.6 -00.2	4 15.4 +02.0	N 17 16.7 -00.1	213 12.0 -31.1	S 09 47.0 +13.4	10						
11	344 03.3 -00.1	N 23 07.4 -00.2	19 17.4 +01.9	N 17 16.6 -00.1	227 40.9 -31.1	S 10 00.4 +13.3	11						
12	359 03.2 -00.2	N 23 07.2 -00.1	34 19.3 +02.0	N 17 16.5 -00.1	242 09.8 -31.2	S 10 13.7 +13.3	12						
13	14 03.0 -00.1	N 23 07.1 -00.2	49 21.3 +01.9	N 17 16.4 +00.0	256 38.6 -31.2	S 10 27.0 +13.2	13						
14	29 02.9 -00.1	N 23 06.9 -00.1	64 23.2 +02.0	N 17 16.4 -00.1	271 07.4 -31.3	S 10 40.2 +13.1	14						
15	44 02.8 -00.1	N 23 06.8 -00.2	79 25.2 +01.9	N 17 16.3 -00.1	285 36.1 -31.3	S 10 53.3 +13.1	15						
16	59 02.7 -00.2	N 23 06.6 -00.2	94 27.1 +01.9	N 17 16.2 -00.1	300 04.8 -31.3	S 11 06.4 +13.1	16						
17	74 02.5 -00.1	N 23 06.4 -00.1	109 29.0 +01.9	N 17 16.1 -00.1	314 33.5 -31.4	S 11 19.5 +12.9	17						
18	89 02.4 -00.1	N 23 06.3 -00.2	124 30.9 +01.9	N 17 16.0 -00.1	329 02.1 -31.5	S 11 32.4 +12.9	18						
19	104 02.3 -00.1	N 23 06.1 -00.2	139 32.8 +02.0	N 17 15.9 -00.1	343 30.6 -31.5	S 11 45.3 +12.9	19						
20	119 02.2 -00.1	N 23 05.9 -00.2	154 34.8 +01.9	N 17 15.8 -00.1	357 59.1 -31.6	S 11 58.2 +12.7	20						
21	134 02.1 -00.2	N 23 05.7 -00.1	169 36.7 +01.9	N 17 15.7 -00.1	12 27.5 -31.6	S 12 10.9 +12.7	21						
22	149 01.9 -00.1	N 23 05.6 -00.2	184 38.6 +01.9	N 17 15.6 -00.1	26 55.9 -31.7	S 12 23.6 +12.6	22						
23	164 01.8 -00.1	N 23 05.4 -00.2	199 40.5 +01.9	N 17 15.5 +00.0	41 24.2 -31.7	S 12 36.2 +12.6	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 260° 260° 260° 260° 260° 260° Greenwich Culmination Time: 12:03	UT 02 06 10 14 18 22 SD 00'4 00'4 00'4 00'4 00'4 00'4 HP 00'4 00'4 00'4 00'4 00'4 00'4 SHA 295° 295° 295° 295° 295° 295° Greenwich Culmination Time: 09:43	UT 02 06 10 14 18 22 SD 16'2 16'2 16'2 16'2 16'2 16'2 HP 59'4 59'4 59'4 59'4 59'4 59'4 SHA 149° 146° 144° 142° 140° 138° Greenwich Culmination Time: 20:08										
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	276 13.0 +01.0	S 02 23.3 -00.5	342 26.0 +02.8	S 21 34.2 +00.0	336 09.4 +02.6	S 20 18.9 +00.1	00						
01	291 14.0 +01.1	S 02 22.8 -00.6	357 28.8 +02.8	S 21 34.2 +00.1	351 12.0 +02.6	S 20 19.0 +00.0	01						
02	306 15.1 +01.1	S 02 22.2 -00.5	12 31.6 +02.7	S 21 34.3 +00.0	6 14.6 +02.7	S 20 19.0 +00.1	02						
03	321 16.2 +01.0	S 02 21.7 -00.5	27 34.3 +02.8	S 21 34.3 +00.1	21 17.3 +02.6	S 20 19.1 +00.0	03						
04	336 17.2 +01.1	S 02 21.2 -00.6	42 37.1 +02.8	S 21 34.4 +00.1	36 19.9 +02.6	S 20 19.1 +00.0	04						
05	351 18.3 +01.1	S 02 20.6 -00.5	57 39.9 +02.8	S 21 34.5 +00.0	51 22.5 +02.7	S 20 19.1 +00.1	05						
06	6 19.4 +01.0	S 02 20.1 -00.6	72 42.7 +02.8	S 21 34.5 +00.1	66 25.2 +02.6	S 20 19.2 +00.0	06						
07	21 20.4 +01.1	S 02 19.5 -00.5	87 45.5 +02.7	S 21 34.6 +00.0	81 27.8 +02.6	S 20 19.2 +00.0	07						
08	36 21.5 +01.1	S 02 19.0 -00.5	102 48.2 +02.8	S 21 34.6 +00.1	96 30.4 +02.7	S 20 19.2 +00.1	08						
09	51 22.6 +01.0	S 02 18.5 -00.6	117 51.0 +02.8	S 21 34.7 +00.0	111 33.1 +02.6	S 20 19.3 +00.0	09						
10	66 23.6 +01.1	S 02 17.9 -00.5	132 53.8 +02.8	S 21 34.7 +00.1	126 35.7 +02.7	S 20 19.3 +00.1	10						
11	81 24.7 +01.1	S 02 17.4 -00.5	147 56.6 +02.8	S 21 34.8 +00.1	141 38.4 +02.6	S 20 19.4 +00.0	11						
12	96 25.8 +01.0	S 02 16.9 -00.6	162 59.4 +02.7	S 21 34.9 +00.0	156 41.0 +02.6	S 20 19.4 +00.0	12						
13	111 26.8 +01.1	S 02 16.3 -00.5	178 02.1 +02.8	S 21 34.9 +00.1	171 43.6 +02.7	S 20 19.4 +00.1	13						
14	126 27.9 +01.1	S 02 15.8 -00.6	193 04.9 +02.8	S 21 35.0 +00.0	186 46.3 +02.6	S 20 19.5 +00.0	14						
15	141 29.0 +01.0	S 02 15.2 -00.5	208 07.7 +02.8	S 21 35.0 +00.1	201 48.9 +02.6	S 20 19.5 +00.1	15						
16	156 30.0 +01.1	S 02 14.7 -00.5	223 10.5 +02.8	S 21 35.1 +00.1	216 51.5 +02.7	S 20 19.6 +00.0	16						
17	171 31.1 +01.1	S 02 14.2 -00.6	238 13.3 +02.7	S 21 35.2 +00.0	231 54.2 +02.6	S 20 19.6 +00.0	17						
18	186 32.2 +01.0	S 02 13.6 -00.5	253 16.0 +02.8	S 21 35.2 +00.1	246 56.8 +02.6	S 20 19.6 +00.1	18						
19	201 33.2 +01.1	S 02 13.1 -00.5	268 18.8 +02.8	S 21 35.3 +00.0	261 59.4 +02.7	S 20 19.7 +00.0	19						
20	216 34.3 +01.1	S 02 12.6 -00.6	283 21.6 +02.8	S 21 35.3 +00.1	277 02.1 +02.6	S 20 19.7 +00.1	20						
21	231 35.4 +01.0	S 02 12.0 -00.5	298 24.4 +02.8	S 21 35.4 +00.1	292 04.7 +02.6	S 20 19.8 +00.0	21						
22	246 36.4 +01.1	S 02 11.5 -00.6	313 27.2 +02.8	S 21 35.5 +00.0	307 07.3 +02.7	S 20 19.8 +00.0	22						
23	261 37.5 +01.1	S 02 10.9 -00.5	328 30.0 +02.7	S 21 35.5 +00.1	322 10.0 +02.6	S 20 19.8 +00.1	23						
	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 358° 358° 357° 357° 357° 357° Greenwich Culmination Time: 05:34	UT 02 06 10 14 18 22 SD 00'4 00'4 00'4 00'4 00'4 00'4 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 064° 064° 064° 064° 064° 064° Greenwich Culmination Time: 01:10	UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 058° 058° 058° 058° 058° 058° Greenwich Culmination Time: 01:35										