

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 00.8 +00.2	N 04 32.5 +01.0	177 10.9 -00.4	N 03 56.8 +01.2	315 11.6 -34.4	S 17 56.9 +11.5	00						
01	194 01.0 +00.2	N 04 33.5 +01.0	192 10.5 -00.4	N 03 58.0 +01.3	329 37.2 -34.5	S 18 08.4 +11.4	01						
02	209 01.2 +00.2	N 04 34.5 +00.9	207 10.1 -00.4	N 03 59.3 +01.2	344 02.7 -34.5	S 18 19.8 +11.3	02						
03	224 01.4 +00.2	N 04 35.4 +01.0	222 09.7 -00.3	N 04 00.5 +01.3	358 28.2 -34.6	S 18 31.1 +11.1	03						
04	239 01.6 +00.2	N 04 36.4 +00.9	237 09.4 -00.4	N 04 01.8 +01.2	12 53.6 -34.7	S 18 42.2 +11.0	04						
05	254 01.8 +00.1	N 04 37.3 +01.0	252 09.0 -00.4	N 04 03.0 +01.3	27 18.9 -34.7	S 18 53.2 +10.9	05						
06	269 01.9 +00.2	N 04 38.3 +01.0	267 08.6 -00.4	N 04 04.3 +01.2	41 44.2 -34.7	S 19 04.1 +10.8	06						
07	284 02.1 +00.2	N 04 39.3 +00.9	282 08.2 -00.4	N 04 05.5 +01.3	56 09.5 -34.8	S 19 14.9 +10.6	07						
08	299 02.3 +00.2	N 04 40.2 +01.0	297 07.8 -00.4	N 04 06.8 +01.2	70 34.7 -34.8	S 19 25.5 +10.5	08						
09	314 02.5 +00.2	N 04 41.2 +01.0	312 07.4 -00.4	N 04 08.0 +01.3	84 59.9 -35.0	S 19 36.0 +10.3	09						
10	329 02.7 +00.2	N 04 42.2 +00.9	327 07.0 -00.3	N 04 09.3 +01.2	99 24.9 -34.9	S 19 46.3 +10.2	10						
11	344 02.9 +00.2	N 04 43.1 +01.0	342 06.7 -00.4	N 04 10.5 +01.3	113 50.0 -35.0	S 19 56.5 +10.1	11						
12	359 03.1 +00.1	N 04 44.1 +01.0	357 06.3 -00.4	N 04 11.8 +01.2	128 15.0 -35.1	S 20 06.6 +09.9	12						
13	14 03.2 +00.2	N 04 45.1 +00.9	12 05.9 -00.4	N 04 13.0 +01.3	142 39.9 -35.1	S 20 16.5 +09.8	13						
14	29 03.4 +00.2	N 04 46.0 +01.0	27 05.5 -00.4	N 04 14.3 +01.2	157 04.8 -35.1	S 20 26.3 +09.7	14						
15	44 03.6 +00.2	N 04 47.0 +00.9	42 05.1 -00.4	N 04 15.5 +01.2	171 29.7 -35.2	S 20 36.0 +09.5	15						
16	59 03.8 +00.2	N 04 47.9 +01.0	57 04.7 -00.4	N 04 16.7 +01.3	185 54.5 -35.3	S 20 45.5 +09.3	16						
17	74 04.0 +00.2	N 04 48.9 +01.0	72 04.3 -00.3	N 04 18.0 +01.2	200 19.2 -35.2	S 20 54.8 +09.3	17						
18	89 04.2 +00.2	N 04 49.9 +00.9	87 04.0 -00.4	N 04 19.2 +01.3	214 44.0 -35.4	S 21 04.1 +09.0	18						
19	104 04.4 +00.1	N 04 50.8 +01.0	102 03.6 -00.4	N 04 20.5 +01.2	229 08.6 -35.4	S 21 13.1 +08.9	19						
20	119 04.5 +00.2	N 04 51.8 +01.0	117 03.2 -00.4	N 04 21.7 +01.3	243 33.2 -35.4	S 21 22.0 +08.8	20						
21	134 04.7 +00.2	N 04 52.8 +00.9	132 02.8 -00.4	N 04 23.0 +01.2	257 57.8 -35.4	S 21 30.8 +08.6	21						
22	149 04.9 +00.2	N 04 53.7 +01.0	147 02.4 -00.4	N 04 24.2 +01.3	272 22.4 -35.5	S 21 39.4 +08.5	22						
23	164 05.1 +00.2	N 04 54.7 +00.9	162 02.0 -00.4	N 04 25.5 +01.2	286 46.9 -35.6	S 21 47.9 +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 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'5 16'4 16'4 16'4 16'4 16'3								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'4 60'3 60'2 60'1 60'0 59'9								
	SHA 349° 349° 349° 349° 349° 349°		SHA 348° 347° 347° 347° 347° 347°		SHA 124° 122° 119° 117° 114° 112°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 12:11		Greenwich Culmination Time: 03:06								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	114 27.7 +00.8	N 24 13.3 +00.1	223 47.3 +02.0	S 14 23.4 -00.2	235 35.5 +02.3	S 17 51.8 -00.1	00						
01	129 28.5 +00.8	N 24 13.4 +00.2	238 49.3 +02.0	S 14 23.2 -00.1	250 37.8 +02.3	S 17 51.7 +00.0	01						
02	144 29.3 +00.9	N 24 13.6 +00.1	253 51.3 +02.0	S 14 23.1 -00.2	265 40.1 +02.2	S 17 51.7 -00.1	02						
03	159 30.2 +00.8	N 24 13.7 +00.2	268 53.3 +02.0	S 14 22.9 -00.1	280 42.3 +02.3	S 17 51.6 +00.0	03						
04	174 31.0 +00.8	N 24 13.9 +00.1	283 55.3 +02.0	S 14 22.8 -00.2	295 44.6 +02.3	S 17 51.6 -00.1	04						
05	189 31.8 +00.9	N 24 14.0 +00.2	298 57.3 +01.9	S 14 22.6 -00.1	310 46.9 +02.2	S 17 51.5 +00.0	05						
06	204 32.7 +00.8	N 24 14.2 +00.1	313 59.2 +02.0	S 14 22.5 -00.2	325 49.1 +02.3	S 17 51.5 -00.1	06						
07	219 33.5 +00.8	N 24 14.3 +00.2	329 01.2 +02.0	S 14 22.3 -00.1	340 51.4 +02.3	S 17 51.4 +00.0	07						
08	234 34.3 +00.9	N 24 14.5 +00.1	344 03.2 +02.0	S 14 22.2 -00.2	355 53.7 +02.2	S 17 51.4 -00.1	08						
09	249 35.2 +00.8	N 24 14.6 +00.2	359 05.2 +02.0	S 14 22.0 -00.2	10 55.9 +02.3	S 17 51.3 +00.0	09						
10	264 36.0 +00.8	N 24 14.8 +00.1	14 07.2 +02.0	S 14 21.8 -00.1	25 58.2 +02.3	S 17 51.3 -00.1	10						
11	279 36.8 +00.9	N 24 14.9 +00.2	29 09.2 +02.0	S 14 21.7 -00.2	41 00.5 +02.2	S 17 51.2 +00.0	11						
12	294 37.7 +00.8	N 24 15.1 +00.1	44 11.2 +01.9	S 14 21.5 -00.1	56 02.7 +02.3	S 17 51.2 -00.1	12						
13	309 38.5 +00.8	N 24 15.2 +00.2	59 13.1 +02.0	S 14 21.4 -00.2	71 05.0 +02.3	S 17 51.1 +00.0	13						
14	324 39.3 +00.9	N 24 15.4 +00.1	74 15.1 +02.0	S 14 21.2 -00.1	86 07.3 +02.3	S 17 51.1 -00.1	14						
15	339 40.2 +00.8	N 24 15.5 +00.2	89 17.1 +02.0	S 14 21.1 -00.2	101 09.6 +02.2	S 17 51.0 +00.0	15						
16	354 41.0 +00.8	N 24 15.7 +00.1	104 19.1 +02.0	S 14 20.9 -00.1	116 11.8 +02.3	S 17 51.0 -00.1	16						
17	9 41.8 +00.9	N 24 15.8 +00.2	119 21.1 +02.0	S 14 20.8 -00.2	131 14.1 +02.3	S 17 50.9 +00.0	17						
18	24 42.7 +00.8	N 24 16.0 +00.1	134 23.1 +02.0	S 14 20.6 -00.1	146 16.4 +02.2	S 17 50.9 -00.1	18						
19	39 43.5 +00.8	N 24 16.1 +00.2	149 25.1 +02.0	S 14 20.5 -00.2	161 18.6 +02.3	S 17 50.8 +00.0	19						
20	54 44.3 +00.8	N 24 16.3 +00.1	164 27.1 +01.9	S 14 20.3 -00.1	176 20.9 +02.3	S 17 50.8 +00.0	20						
21	69 45.1 +00.9	N 24 16.4 +00.2	179 29.0 +02.0	S 14 20.2 -00.2	191 23.2 +02.2	S 17 50.8 -00.1	21						
22	84 46.0 +00.8	N 24 16.6 +00.1	194 31.0 +02.0	S 14 20.0 -00.2	206 25.4 +02.3	S 17 50.7 +00.0	22						
23	99 46.8 +00.8	N 24 16.7 +00.2	209 33.0 +02.0	S 14 19.8 -00.1	221 27.7 +02.3	S 17 50.7 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 285° 285° 285° 285° 284° 284°		SHA 034° 034° 034° 034° 034° 034°		SHA 046° 046° 046° 046° 046° 046°								
	Greenwich Culmination Time: 16:21		Greenwich Culmination Time: 09:03		Greenwich Culmination Time: 08:16								

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 05.3 +00.2	N 04 55.6 +01.0	177 01.6 -00.3	N 04 26.7 +01.3	301 11.3 -35.6	S 21 56.2 +08.2	00						
01	194 05.5 +00.2	N 04 56.6 +01.0	192 01.3 -00.4	N 04 28.0 +01.2	315 35.7 -35.6	S 22 04.4 +08.0	01						
02	209 05.7 +00.1	N 04 57.6 +00.9	207 00.9 -00.4	N 04 29.2 +01.2	330 00.1 -35.7	S 22 12.4 +07.9	02						
03	224 05.8 +00.2	N 04 58.5 +01.0	222 00.5 -00.4	N 04 30.4 +01.3	344 24.4 -35.6	S 22 20.3 +07.7	03						
04	239 06.0 +00.2	N 04 59.5 +00.9	237 00.1 -00.4	N 04 31.7 +01.2	358 48.8 -35.8	S 22 28.0 +07.5	04						
05	254 06.2 +00.2	N 05 00.4 +01.0	251 59.7 -00.4	N 04 32.9 +01.3	13 13.0 -35.7	S 22 35.5 +07.4	05						
06	269 06.4 +00.2	N 05 01.4 +01.0	266 59.3 -00.4	N 04 34.2 +01.2	27 37.3 -35.8	S 22 42.9 +07.2	06						
07	284 06.6 +00.2	N 05 02.4 +00.9	281 58.9 -00.3	N 04 35.4 +01.3	42 01.5 -35.8	S 22 50.1 +07.1	07						
08	299 06.8 +00.2	N 05 03.3 +01.0	296 58.6 -00.4	N 04 36.7 +01.2	56 25.7 -35.9	S 22 57.2 +06.9	08						
09	314 07.0 +00.1	N 05 04.3 +00.9	311 58.2 -00.4	N 04 37.9 +01.3	70 49.8 -35.9	S 23 04.1 +06.7	09						
10	329 07.1 +00.2	N 05 05.2 +01.0	326 57.8 -00.4	N 04 39.2 +01.2	85 13.9 -35.9	S 23 10.8 +06.6	10						
11	344 07.3 +00.2	N 05 06.2 +01.0	341 57.4 -00.4	N 04 40.4 +01.2	99 38.0 -35.9	S 23 17.4 +06.5	11						
12	359 07.5 +00.2	N 05 07.2 +00.9	356 57.0 -00.4	N 04 41.6 +01.3	114 02.1 -35.9	S 23 23.9 +06.2	12						
13	14 07.7 +00.2	N 05 08.1 +01.0	11 56.6 -00.4	N 04 42.9 +01.2	128 26.2 -36.0	S 23 30.1 +06.1	13						
14	29 07.9 +00.2	N 05 09.1 +00.9	26 56.2 -00.4	N 04 44.1 +01.3	142 50.2 -36.0	S 23 36.2 +06.0	14						
15	44 08.1 +00.1	N 05 10.0 +01.0	41 55.8 -00.4	N 04 45.4 +01.2	157 14.2 -36.0	S 23 42.2 +05.7	15						
16	59 08.2 +00.2	N 05 11.0 +01.0	56 55.4 -00.3	N 04 46.6 +01.3	171 38.2 -36.1	S 23 47.9 +05.6	16						
17	74 08.4 +00.2	N 05 12.0 +00.9	71 55.1 -00.4	N 04 47.9 +01.2	186 02.1 -36.0	S 23 53.5 +05.5	17						
18	89 08.6 +00.2	N 05 12.9 +01.0	86 54.7 -00.4	N 04 49.1 +01.3	200 26.1 -36.1	S 23 59.0 +05.3	18						
19	104 08.8 +00.2	N 05 13.9 +00.9	101 54.3 -00.4	N 04 50.4 +01.2	214 50.0 -36.0	S 24 04.3 +05.1	19						
20	119 09.0 +00.2	N 05 14.8 +01.0	116 53.9 -00.4	N 04 51.6 +01.2	229 14.0 -36.1	S 24 09.4 +04.9	20						
21	134 09.2 +00.1	N 05 15.8 +00.9	131 53.5 -00.4	N 04 52.8 +01.3	243 37.9 -36.1	S 24 14.3 +04.8	21						
22	149 09.3 +00.2	N 05 16.7 +01.0	146 53.1 -00.4	N 04 54.1 +01.2	258 01.8 -36.1	S 24 19.1 +04.6	22						
23	164 09.5 +00.2	N 05 17.7 +01.0	161 52.7 -00.4	N 04 55.3 +01.3	272 25.7 -36.1	S 24 23.7 +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 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'3 16'3 16'2 16'2 16'2 16'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 59'8 59'7 59'6 59'5 59'4 59'3								
	SHA 348° 348° 348° 348° 348° 348°		SHA 346° 346° 346° 346° 346° 345°		SHA 109° 107° 104° 102° 099° 097°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 12:12		Greenwich Culmination Time: 04:04								
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	114 47.6 +00.9	N 24 16.9 +00.1	224 35.0 +02.0	S 14 19.7 -00.2	236 30.0 +02.2	S 17 50.6 +00.0	00						
01	129 48.5 +00.8	N 24 17.0 +00.2	239 37.0 +02.0	S 14 19.5 -00.1	251 32.2 +02.3	S 17 50.6 -00.1	01						
02	144 49.3 +00.8	N 24 17.2 +00.1	254 39.0 +02.0	S 14 19.4 -00.2	266 34.5 +02.3	S 17 50.5 +00.0	02						
03	159 50.1 +00.9	N 24 17.3 +00.1	269 41.0 +02.0	S 14 19.2 -00.1	281 36.8 +02.2	S 17 50.5 -00.1	03						
04	174 51.0 +00.8	N 24 17.4 +00.2	284 43.0 +01.9	S 14 19.1 -00.2	296 39.0 +02.3	S 17 50.4 +00.0	04						
05	189 51.8 +00.8	N 24 17.6 +00.1	299 44.9 +02.0	S 14 18.9 -00.1	311 41.3 +02.3	S 17 50.4 -00.1	05						
06	204 52.6 +00.8	N 24 17.7 +00.2	314 46.9 +02.0	S 14 18.8 -00.2	326 43.6 +02.3	S 17 50.3 +00.0	06						
07	219 53.4 +00.9	N 24 17.9 +00.1	329 48.9 +02.0	S 14 18.6 -00.1	341 45.9 +02.2	S 17 50.3 -00.1	07						
08	234 54.3 +00.8	N 24 18.0 +00.2	344 50.9 +02.0	S 14 18.5 -00.2	356 48.1 +02.3	S 17 50.2 +00.0	08						
09	249 55.1 +00.8	N 24 18.2 +00.1	359 52.9 +02.0	S 14 18.3 -00.1	11 50.4 +02.3	S 17 50.2 -00.1	09						
10	264 55.9 +00.9	N 24 18.3 +00.2	14 54.9 +02.0	S 14 18.2 -00.2	26 52.7 +02.2	S 17 50.1 +00.0	10						
11	279 56.8 +00.8	N 24 18.5 +00.1	29 56.9 +02.0	S 14 18.0 -00.1	41 54.9 +02.3	S 17 50.1 -00.1	11						
12	294 57.6 +00.8	N 24 18.6 +00.1	44 58.9 +02.0	S 14 17.9 -00.2	56 57.2 +02.3	S 17 50.0 +00.0	12						
13	309 58.4 +00.9	N 24 18.7 +00.2	60 00.9 +02.0	S 14 17.7 -00.1	71 59.5 +02.3	S 17 50.0 -00.1	13						
14	324 59.3 +00.8	N 24 18.9 +00.1	75 02.9 +01.9	S 14 17.6 -00.2	87 01.8 +02.2	S 17 49.9 +00.0	14						
15	340 00.1 +00.8	N 24 19.0 +00.2	90 04.8 +02.0	S 14 17.4 -00.2	102 04.0 +02.3	S 17 49.9 -00.1	15						
16	355 00.9 +00.8	N 24 19.2 +00.1	105 06.8 +02.0	S 14 17.2 -00.1	117 06.3 +02.3	S 17 49.8 +00.0	16						
17	10 01.7 +00.9	N 24 19.3 +00.1	120 08.8 +02.0	S 14 17.1 -00.2	132 08.6 +02.2	S 17 49.8 -00.1	17						
18	25 02.6 +00.8	N 24 19.4 +00.2	135 10.8 +02.0	S 14 16.9 -00.1	147 10.8 +02.3	S 17 49.7 +00.0	18						
19	40 03.4 +00.8	N 24 19.6 +00.1	150 12.8 +02.0	S 14 16.8 -00.2	162 13.1 +02.3	S 17 49.7 -00.1	19						
20	55 04.2 +00.9	N 24 19.7 +00.2	165 14.8 +02.0	S 14 16.6 -00.1	177 15.4 +02.3	S 17 49.6 +00.0	20						
21	70 05.1 +00.8	N 24 19.9 +00.1	180 16.8 +02.0	S 14 16.5 -00.2	192 17.7 +02.2	S 17 49.6 +00.0	21						
22	85 05.9 +00.8	N 24 20.0 +00.1	195 18.8 +02.0	S 14 16.3 -00.1	207 19.9 +02.3	S 17 49.6 -00.1	22						
23	100 06.7 +00.8	N 24 20.1 +00.2	210 20.8 +02.0	S 14 16.2 -00.2	222 22.2 +02.3	S 17 49.5 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 284° 284° 284° 284° 284° 284°		SHA 034° 034° 034° 034° 034° 034°		SHA 046° 046° 046° 046° 046° 046°								
	Greenwich Culmination Time: 16:19		Greenwich Culmination Time: 09:00		Greenwich Culmination Time: 08:12								

UT	Sun				Venus				Moon				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	179 09.7 +00.2	N 05 18.7 +00.9	176 52.3 -00.4	N 04 56.6 +01.2	286 49.6 -36.1	S 24 28.1 +04.3	00										
01	194 09.9 +00.2	N 05 19.6 +01.0	191 51.9 -00.3	N 04 57.8 +01.2	301 13.5 -36.2	S 24 32.4 +04.1	01										
02	209 10.1 +00.2	N 05 20.6 +00.9	206 51.6 -00.4	N 04 59.0 +01.3	315 37.3 -36.1	S 24 36.5 +04.0	02										
03	224 10.3 +00.1	N 05 21.5 +01.0	221 51.2 -00.4	N 05 00.3 +01.2	330 01.2 -36.1	S 24 40.5 +03.7	03										
04	239 10.4 +00.2	N 05 22.5 +00.9	236 50.8 -00.4	N 05 01.5 +01.3	344 25.1 -36.1	S 24 44.2 +03.6	04										
05	254 10.6 +00.2	N 05 23.4 +01.0	251 50.4 -00.4	N 05 02.8 +01.2	358 49.0 -36.1	S 24 47.8 +03.5	05										
06	269 10.8 +00.2	N 05 24.4 +01.0	266 50.0 -00.4	N 05 04.0 +01.2	13 12.9 -36.1	S 24 51.3 +03.2	06										
07	284 11.0 +00.2	N 05 25.4 +00.9	281 49.6 -00.4	N 05 05.2 +01.3	27 36.8 -36.1	S 24 54.5 +03.1	07										
08	299 11.2 +00.2	N 05 26.3 +01.0	296 49.2 -00.4	N 05 06.5 +01.2	42 00.7 -36.1	S 24 57.6 +03.0	08										
09	314 11.4 +00.1	N 05 27.3 +00.9	311 48.8 -00.4	N 05 07.7 +01.3	56 24.6 -36.1	S 25 00.6 +02.7	09										
10	329 11.5 +00.2	N 05 28.2 +01.0	326 48.4 -00.4	N 05 09.0 +01.2	70 48.5 -36.0	S 25 03.3 +02.6	10										
11	344 11.7 +00.2	N 05 29.2 +00.9	341 48.0 -00.4	N 05 10.2 +01.2	85 12.5 -36.1	S 25 05.9 +02.5	11										
12	359 11.9 +00.2	N 05 30.1 +01.0	356 47.6 -00.3	N 05 11.4 +01.3	99 36.4 -36.0	S 25 08.4 +02.2	12										
13	14 12.1 +00.2	N 05 31.1 +00.9	11 47.3 -00.4	N 05 12.7 +01.2	114 00.4 -36.0	S 25 10.6 +02.1	13										
14	29 12.3 +00.2	N 05 32.0 +01.0	26 46.9 -00.4	N 05 13.9 +01.3	128 24.4 -36.0	S 25 12.7 +01.9	14										
15	44 12.5 +00.1	N 05 33.0 +01.0	41 46.5 -00.4	N 05 15.2 +01.2	142 48.4 -36.0	S 25 14.6 +01.8	15										
16	59 12.6 +00.2	N 05 34.0 +00.9	56 46.1 -00.4	N 05 16.4 +01.2	157 12.4 -36.0	S 25 16.4 +01.6	16										
17	74 12.8 +00.2	N 05 34.9 +01.0	71 45.7 -00.4	N 05 17.6 +01.3	171 36.4 -35.9	S 25 18.0 +01.4	17										
18	89 13.0 +00.2	N 05 35.9 +00.9	86 45.3 -00.4	N 05 18.9 +01.2	186 00.5 -35.9	S 25 19.4 +01.2	18										
19	104 13.2 +00.2	N 05 36.8 +01.0	101 44.9 -00.4	N 05 20.1 +01.3	200 24.6 -35.8	S 25 20.6 +01.1	19										
20	119 13.4 +00.1	N 05 37.8 +00.9	116 44.5 -00.4	N 05 21.4 +01.2	214 48.8 -35.9	S 25 21.7 +00.9	20										
21	134 13.5 +00.2	N 05 38.7 +01.0	131 44.1 -00.4	N 05 22.6 +01.2	229 12.9 -35.8	S 25 22.6 +00.8	21										
22	149 13.7 +00.2	N 05 39.7 +00.9	146 43.7 -00.4	N 05 23.8 +01.3	243 37.1 -35.8	S 25 23.4 +00.6	22										
23	164 13.9 +00.2	N 05 40.6 +01.0	161 43.3 -00.4	N 05 25.1 +01.2	258 01.3 -35.7	S 25 24.0 +00.4	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° 347° 347° 347° 347° 347°	Greenwich Culmination Time: 12:03		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 345° 345° 345° 345° 344° 344°	Greenwich Culmination Time: 12:12		UT 02 06 10 14 18 22	SD 16'1 16'1 16'1 16'0 16'0 16'0	HP 59'2 59'1 58'9 58'8 58'7 58'6	SHA 094° 091° 089° 086° 084° 081°	Greenwich Culmination Time: 05:04

UT	Mars				Jupiter				Saturn				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	115 07.5 +00.9	N 24 20.3 +00.1	225 22.8 +02.0	S 14 16.0 -00.1	237 24.5 +02.2	S 17 49.5 -00.1	00										
01	130 08.4 +00.8	N 24 20.4 +00.2	240 24.8 +02.0	S 14 15.9 -00.2	252 26.7 +02.3	S 17 49.4 +00.0	01										
02	145 09.2 +00.8	N 24 20.6 +00.1	255 26.8 +01.9	S 14 15.7 -00.1	267 29.0 +02.3	S 17 49.4 -00.1	02										
03	160 10.0 +00.8	N 24 20.7 +00.1	270 28.7 +02.0	S 14 15.6 -00.2	282 31.3 +02.3	S 17 49.3 +00.0	03										
04	175 10.8 +00.9	N 24 20.8 +00.2	285 30.7 +02.0	S 14 15.4 -00.1	297 33.6 +02.2	S 17 49.3 -00.1	04										
05	190 11.7 +00.8	N 24 21.0 +00.1	300 32.7 +02.0	S 14 15.3 -00.2	312 35.8 +02.3	S 17 49.2 +00.0	05										
06	205 12.5 +00.8	N 24 21.1 +00.2	315 34.7 +02.0	S 14 15.1 -00.1	327 38.1 +02.3	S 17 49.2 -00.1	06										
07	220 13.3 +00.9	N 24 21.3 +00.1	330 36.7 +02.0	S 14 15.0 -00.2	342 40.4 +02.2	S 17 49.1 +00.0	07										
08	235 14.2 +00.8	N 24 21.4 +00.1	345 38.7 +02.0	S 14 14.8 -00.2	357 42.6 +02.3	S 17 49.1 -00.1	08										
09	250 15.0 +00.8	N 24 21.5 +00.2	0 40.7 +02.0	S 14 14.6 -00.1	12 44.9 +02.3	S 17 49.0 +00.0	09										
10	265 15.8 +00.8	N 24 21.7 +00.1	15 42.7 +02.0	S 14 14.5 -00.2	27 47.2 +02.3	S 17 49.0 -00.1	10										
11	280 16.6 +00.9	N 24 21.8 +00.1	30 44.7 +02.0	S 14 14.3 -00.1	42 49.5 +02.2	S 17 48.9 +00.0	11										
12	295 17.5 +00.8	N 24 21.9 +00.2	45 46.7 +02.0	S 14 14.2 -00.2	57 51.7 +02.3	S 17 48.9 -00.1	12										
13	310 18.3 +00.8	N 24 22.1 +00.1	60 48.7 +02.0	S 14 14.0 -00.1	72 54.0 +02.3	S 17 48.8 +00.0	13										
14	325 19.1 +00.8	N 24 22.2 +00.1	75 50.7 +02.0	S 14 13.9 -00.2	87 56.3 +02.3	S 17 48.8 -00.1	14										
15	340 19.9 +00.9	N 24 22.3 +00.2	90 52.7 +02.0	S 14 13.7 -00.1	102 58.6 +02.2	S 17 48.7 +00.0	15										
16	355 20.8 +00.8	N 24 22.5 +00.1	105 54.7 +02.0	S 14 13.6 -00.2	118 00.8 +02.3	S 17 48.7 +00.0	16										
17	10 21.6 +00.8	N 24 22.6 +00.1	120 56.7 +02.0	S 14 13.4 -00.1	133 03.1 +02.3	S 17 48.7 -00.1	17										
18	25 22.4 +00.8	N 24 22.7 +00.2	135 58.7 +01.9	S 14 13.3 -00.2	148 05.4 +02.3	S 17 48.6 +00.0	18										
19	40 23.2 +00.9	N 24 22.9 +00.1	151 00.6 +02.0	S 14 13.1 -00.1	163 07.7 +02.2	S 17 48.6 -00.1	19										
20	55 24.1 +00.8	N 24 23.0 +00.1	166 02.6 +02.0	S 14 13.0 -00.2	178 09.9 +02.3	S 17 48.5 +00.0	20										
21	70 24.9 +00.8	N 24 23.1 +00.2	181 04.6 +02.0	S 14 12.8 -00.1	193 12.2 +02.3	S 17 48.5 -00.1	21										
22	85 25.7 +00.8	N 24 23.3 +00.1	196 06.6 +02.0	S 14 12.7 -00.2	208 14.5 +02.3	S 17 48.4 +00.0	22										
23	100 26.5 +00.9	N 24 23.4 +00.1	211 08.6 +02.0	S 14 12.5 -00.1	223 16.8 +02.2	S 17 48.4 -00.1	23										
	UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 284° 283° 283° 283° 283° 283°	Greenwich Culmination Time: 16:18		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 034° 034° 034° 034° 034° 034°	Greenwich Culmination Time: 08:57		UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 046° 046° 046° 046° 046° 046°	Greenwich Culmination Time: 08:09

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 76%				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	179 14.1 +00.2	N 05	41.6 +00.9	176 42.9 -00.4	N 05	26.3 +01.2	272 25.6 -35.7	S 25	24.4 +00.2				
01	194 14.3 +00.2	N 05	42.5 +01.0	191 42.5 -00.3	N 05	27.5 +01.3	286 49.9 -35.7	S 25	24.6 +00.1				
02	209 14.5 +00.1	N 05	43.5 +00.9	206 42.2 -00.4	N 05	28.8 +01.2	301 14.2 -35.6	S 25	24.7 +00.0				
03	224 14.6 +00.2	N 05	44.4 +01.0	221 41.8 -00.4	N 05	30.0 +01.2	315 38.6 -35.6	S 25	24.7 -00.3				
04	239 14.8 +00.2	N 05	45.4 +01.0	236 41.4 -00.4	N 05	31.2 +01.3	330 03.0 -35.5	S 25	24.4 -00.4				
05	254 15.0 +00.2	N 05	46.4 +00.9	251 41.0 -00.4	N 05	32.5 +01.2	344 27.5 -35.5	S 25	24.0 -00.5				
06	269 15.2 +00.2	N 05	47.3 +01.0	266 40.6 -00.4	N 05	33.7 +01.3	358 52.0 -35.4	S 25	23.5 -00.7				
07	284 15.4 +00.1	N 05	48.3 +00.9	281 40.2 -00.4	N 05	35.0 +01.2	13 16.6 -35.4	S 25	22.8 -00.9				
08	299 15.5 +00.2	N 05	49.2 +01.0	296 39.8 -00.4	N 05	36.2 +01.2	27 41.2 -35.4	S 25	21.9 -01.1				
09	314 15.7 +00.2	N 05	50.2 +00.9	311 39.4 -00.4	N 05	37.4 +01.3	42 05.8 -35.3	S 25	20.8 -01.2				
10	329 15.9 +00.2	N 05	51.1 +01.0	326 39.0 -00.4	N 05	38.7 +01.2	56 30.5 -35.2	S 25	19.6 -01.3				
11	344 16.1 +00.2	N 05	52.1 +00.9	341 38.6 -00.4	N 05	39.9 +01.2	70 55.3 -35.2	S 25	18.3 -01.5				
12	359 16.3 +00.1	N 05	53.0 +01.0	356 38.2 -00.4	N 05	41.1 +01.3	85 20.1 -35.1	S 25	16.8 -01.7				
13	14 16.4 +00.2	N 05	54.0 +00.9	11 37.8 -00.4	N 05	42.4 +01.2	99 45.0 -35.1	S 25	15.1 -01.9				
14	29 16.6 +00.2	N 05	54.9 +01.0	26 37.4 -00.4	N 05	43.6 +01.2	114 09.9 -35.0	S 25	13.2 -01.9				
15	44 16.8 +00.2	N 05	55.9 +00.9	41 37.0 -00.4	N 05	44.8 +01.3	128 34.9 -35.0	S 25	11.3 -02.2				
16	59 17.0 +00.2	N 05	56.8 +01.0	56 36.6 -00.4	N 05	46.1 +01.2	142 59.9 -34.9	S 25	09.1 -02.3				
17	74 17.2 +00.1	N 05	57.8 +00.9	71 36.2 -00.4	N 05	47.3 +01.2	157 25.0 -34.8	S 25	06.8 -02.4				
18	89 17.3 +00.2	N 05	58.7 +01.0	86 35.8 -00.4	N 05	48.5 +01.3	171 50.2 -34.8	S 25	04.4 -02.6				
19	104 17.5 +00.2	N 05	59.7 +00.9	101 35.4 -00.4	N 05	49.8 +01.2	186 15.4 -34.7	S 25	01.8 -02.8				
20	119 17.7 +00.2	N 06	00.6 +01.0	116 35.0 -00.4	N 05	51.0 +01.2	200 40.7 -34.6	S 24	59.0 -02.9				
21	134 17.9 +00.2	N 06	01.6 +00.9	131 34.6 -00.4	N 05	52.2 +01.3	215 06.1 -34.6	S 24	56.1 -03.0				
22	149 18.1 +00.1	N 06	02.5 +01.0	146 34.2 -00.3	N 05	53.5 +01.2	229 31.5 -34.5	S 24	53.1 -03.3				
23	164 18.2 +00.2	N 06	03.5 +00.9	161 33.9 -00.4	N 05	54.7 +01.2	243 57.0 -34.4	S 24	49.8 -03.3				
	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 347° 346° 346° 346° 346° 346° Greenwich Culmination Time: 12:02	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 344° 344° 344° 344° 343° 343° Greenwich Culmination Time: 12:13	UT 02 06 10 14 18 22 SD 15'9 15'9 15'9 15'8 15'8 15'8 HP 58'4 58'3 58'2 58'1 58'0 57'8 SHA 079° 076° 074° 071° 069° 066° Greenwich Culmination Time: 06:04										
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	115 27.4 +00.8	N 24	23.5 +00.2	226 10.6 +02.0	S 14	12.4 -00.2	238 19.0 +02.3	S 17	48.3 +00.0				
01	130 28.2 +00.8	N 24	23.7 +00.1	241 12.6 +02.0	S 14	12.2 -00.1	253 21.3 +02.3	S 17	48.3 -00.1				
02	145 29.0 +00.9	N 24	23.8 +00.1	256 14.6 +02.0	S 14	12.1 -00.2	268 23.6 +02.3	S 17	48.2 +00.0				
03	160 29.9 +00.8	N 24	23.9 +00.2	271 16.6 +02.0	S 14	11.9 -00.1	283 25.9 +02.2	S 17	48.2 -00.1				
04	175 30.7 +00.8	N 24	24.1 +00.1	286 18.6 +02.0	S 14	11.8 -00.2	298 28.1 +02.3	S 17	48.1 +00.0				
05	190 31.5 +00.8	N 24	24.2 +00.1	301 20.6 +02.0	S 14	11.6 -00.1	313 30.4 +02.3	S 17	48.1 -00.1				
06	205 32.3 +00.8	N 24	24.3 +00.2	316 22.6 +02.0	S 14	11.5 -00.2	328 32.7 +02.3	S 17	48.0 +00.0				
07	220 33.1 +00.9	N 24	24.5 +00.1	331 24.6 +02.0	S 14	11.3 -00.1	343 35.0 +02.2	S 17	48.0 +00.0				
08	235 34.0 +00.8	N 24	24.6 +00.1	346 26.6 +02.0	S 14	11.2 -00.2	358 37.2 +02.3	S 17	48.0 -00.1				
09	250 34.8 +00.8	N 24	24.7 +00.2	1 28.6 +02.0	S 14	11.0 -00.1	13 39.5 +02.3	S 17	47.9 +00.0				
10	265 35.6 +00.8	N 24	24.9 +00.1	16 30.6 +02.0	S 14	10.9 -00.2	28 41.8 +02.3	S 17	47.9 -00.1				
11	280 36.4 +00.9	N 24	25.0 +00.1	31 32.6 +02.0	S 14	10.7 -00.1	43 44.1 +02.3	S 17	47.8 +00.0				
12	295 37.3 +00.8	N 24	25.1 +00.1	46 34.6 +02.0	S 14	10.6 -00.2	58 46.4 +02.2	S 17	47.8 -00.1				
13	310 38.1 +00.8	N 24	25.2 +00.2	61 36.6 +02.0	S 14	10.4 -00.2	73 48.6 +02.3	S 17	47.7 +00.0				
14	325 38.9 +00.8	N 24	25.4 +00.1	76 38.6 +02.0	S 14	10.2 -00.1	88 50.9 +02.3	S 17	47.7 -00.1				
15	340 39.7 +00.9	N 24	25.5 +00.1	91 40.6 +02.0	S 14	10.1 -00.2	103 53.2 +02.3	S 17	47.6 +00.0				
16	355 40.6 +00.8	N 24	25.6 +00.2	106 42.6 +02.0	S 14	09.9 -00.1	118 55.5 +02.2	S 17	47.6 -00.1				
17	10 41.4 +00.8	N 24	25.8 +00.1	121 44.6 +02.0	S 14	09.8 -00.2	133 57.7 +02.3	S 17	47.5 +00.0				
18	25 42.2 +00.8	N 24	25.9 +00.1	136 46.6 +02.0	S 14	09.6 -00.1	149 00.0 +02.3	S 17	47.5 -00.1				
19	40 43.0 +00.9	N 24	26.0 +00.1	151 48.6 +02.0	S 14	09.5 -00.2	164 02.3 +02.3	S 17	47.4 +00.0				
20	55 43.9 +00.8	N 24	26.1 +00.2	166 50.6 +02.0	S 14	09.3 -00.1	179 04.6 +02.3	S 17	47.4 +00.0				
21	70 44.7 +00.8	N 24	26.3 +00.1	181 52.6 +02.0	S 14	09.2 -00.2	194 06.9 +02.2	S 17	47.4 -00.1				
22	85 45.5 +00.8	N 24	26.4 +00.1	196 54.6 +02.0	S 14	09.0 -00.1	209 09.1 +02.3	S 17	47.3 +00.0				
23	100 46.3 +00.9	N 24	26.5 +00.1	211 56.6 +02.0	S 14	08.9 -00.2	224 11.4 +02.3	S 17	47.3 -00.1				
	UT 02 06 10 14 18 22 SD 00'0 00'0 00'0 00'0 00'0 00'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 283° 283° 283° 283° 282° 282° Greenwich Culmination Time: 16:17	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 034° 034° 034° 034° 034° 033° Greenwich Culmination Time: 08:54	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 046° 046° 046° 046° 046° 046° Greenwich Culmination Time: 08:05										

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 18.4 +00.2	N 06 04.4 +01.0	176 33.5 -00.4	N 05 55.9 +01.3	258 22.6 -34.4	S 24 46.5 -03.5	00						
01	194 18.6 +00.2	N 06 05.4 +00.9	191 33.1 -00.4	N 05 57.2 +01.2	272 48.2 -34.2	S 24 43.0 -03.6	01						
02	209 18.8 +00.2	N 06 06.3 +01.0	206 32.7 -00.4	N 05 58.4 +01.2	287 14.0 -34.2	S 24 39.4 -03.8	02						
03	224 19.0 +00.1	N 06 07.3 +00.9	221 32.3 -00.4	N 05 59.6 +01.3	301 39.8 -34.2	S 24 35.6 -04.0	03						
04	239 19.1 +00.2	N 06 08.2 +01.0	236 31.9 -00.4	N 06 00.9 +01.2	316 05.6 -34.0	S 24 31.6 -04.0	04						
05	254 19.3 +00.2	N 06 09.2 +00.9	251 31.5 -00.4	N 06 02.1 +01.2	330 31.6 -34.0	S 24 27.6 -04.3	05						
06	269 19.5 +00.2	N 06 10.1 +01.0	266 31.1 -00.4	N 06 03.3 +01.2	344 57.6 -33.9	S 24 23.3 -04.3	06						
07	284 19.7 +00.2	N 06 11.1 +00.9	281 30.7 -00.4	N 06 04.5 +01.3	359 23.7 -33.8	S 24 19.0 -04.5	07						
08	299 19.9 +00.1	N 06 12.0 +01.0	296 30.3 -00.4	N 06 05.8 +01.2	13 49.9 -33.8	S 24 14.5 -04.7	08						
09	314 20.0 +00.2	N 06 13.0 +00.9	311 29.9 -00.4	N 06 07.0 +01.2	28 16.1 -33.7	S 24 09.8 -04.7	09						
10	329 20.2 +00.2	N 06 13.9 +01.0	326 29.5 -00.4	N 06 08.2 +01.3	42 42.4 -33.5	S 24 05.1 -04.9	10						
11	344 20.4 +00.2	N 06 14.9 +00.9	341 29.1 -00.4	N 06 09.5 +01.2	57 08.9 -33.5	S 24 00.2 -05.1	11						
12	359 20.6 +00.1	N 06 15.8 +00.9	356 28.7 -00.4	N 06 10.7 +01.2	71 35.4 -33.5	S 23 55.1 -05.2	12						
13	14 20.7 +00.2	N 06 16.7 +01.0	11 28.3 -00.4	N 06 11.9 +01.3	86 01.9 -33.3	S 23 49.9 -05.3	13						
14	29 20.9 +00.2	N 06 17.7 +00.9	26 27.9 -00.4	N 06 13.2 +01.2	100 28.6 -33.3	S 23 44.6 -05.4	14						
15	44 21.1 +00.2	N 06 18.6 +01.0	41 27.5 -00.4	N 06 14.4 +01.2	114 55.3 -33.1	S 23 39.2 -05.6	15						
16	59 21.3 +00.2	N 06 19.6 +00.9	56 27.1 -00.4	N 06 15.6 +01.2	129 22.2 -33.1	S 23 33.6 -05.7	16						
17	74 21.5 +00.1	N 06 20.5 +01.0	71 26.7 -00.4	N 06 16.8 +01.3	143 49.1 -33.0	S 23 27.9 -05.8	17						
18	89 21.6 +00.2	N 06 21.5 +00.9	86 26.3 -00.4	N 06 18.1 +01.2	158 16.1 -32.9	S 23 22.1 -06.0	18						
19	104 21.8 +00.2	N 06 22.4 +01.0	101 25.9 -00.4	N 06 19.3 +01.2	172 43.2 -32.8	S 23 16.1 -06.1	19						
20	119 22.0 +00.2	N 06 23.4 +00.9	116 25.5 -00.4	N 06 20.5 +01.2	187 10.4 -32.8	S 23 10.0 -06.2	20						
21	134 22.2 +00.2	N 06 24.3 +01.0	131 25.1 -00.4	N 06 21.7 +01.3	201 37.6 -32.6	S 23 03.8 -06.3	21						
22	149 22.4 +00.1	N 06 25.3 +00.9	146 24.7 -00.4	N 06 23.0 +01.2	216 05.0 -32.6	S 22 57.5 -06.5	22						
23	164 22.5 +00.2	N 06 26.2 +01.0	161 24.3 -00.4	N 06 24.2 +01.2	230 32.4 -32.5	S 22 51.0 -06.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 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 00'1 00'1 00'1 00'1 00'1 00'1		HP 57'7 57'6 57'5 57'4 57'2 57'1								
	SHA 346° 346° 345° 345° 345° 345°		SHA 343° 343° 343° 342° 342° 342°		SHA 064° 061° 059° 056° 054° 052°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 07:02								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	115 47.2 +00.8	N 24 26.6 +00.2	226 58.6 +02.0	S 14 08.7 -00.1	239 13.7 +02.3	S 17 47.2 +00.0	00						
01	130 48.0 +00.8	N 24 26.8 +00.1	242 00.6 +02.0	S 14 08.6 -00.2	254 16.0 +02.2	S 17 47.2 -00.1	01						
02	145 48.8 +00.8	N 24 26.9 +00.1	257 02.6 +02.0	S 14 08.4 -00.1	269 18.2 +02.3	S 17 47.1 +00.0	02						
03	160 49.6 +00.8	N 24 27.0 +00.1	272 04.6 +02.0	S 14 08.3 -00.2	284 20.5 +02.3	S 17 47.1 -00.1	03						
04	175 50.4 +00.9	N 24 27.1 +00.2	287 06.6 +02.0	S 14 08.1 -00.1	299 22.8 +02.3	S 17 47.0 +00.0	04						
05	190 51.3 +00.8	N 24 27.3 +00.1	302 08.6 +02.0	S 14 08.0 -00.2	314 25.1 +02.3	S 17 47.0 -00.1	05						
06	205 52.1 +00.8	N 24 27.4 +00.1	317 10.6 +02.0	S 14 07.8 -00.1	329 27.4 +02.2	S 17 46.9 +00.0	06						
07	220 52.9 +00.8	N 24 27.5 +00.1	332 12.6 +02.0	S 14 07.7 -00.2	344 29.6 +02.3	S 17 46.9 -00.1	07						
08	235 53.7 +00.9	N 24 27.6 +00.2	347 14.6 +02.0	S 14 07.5 -00.1	359 31.9 +02.3	S 17 46.8 +00.0	08						
09	250 54.6 +00.8	N 24 27.8 +00.1	2 16.6 +02.0	S 14 07.4 -00.2	14 34.2 +02.3	S 17 46.8 +00.0	09						
10	265 55.4 +00.8	N 24 27.9 +00.1	17 18.6 +02.0	S 14 07.2 -00.1	29 36.5 +02.3	S 17 46.8 -00.1	10						
11	280 56.2 +00.8	N 24 28.0 +00.1	32 20.6 +02.0	S 14 07.1 -00.2	44 38.8 +02.2	S 17 46.7 +00.0	11						
12	295 57.0 +00.8	N 24 28.1 +00.1	47 22.6 +02.0	S 14 06.9 -00.1	59 41.0 +02.3	S 17 46.7 -00.1	12						
13	310 57.8 +00.9	N 24 28.2 +00.2	62 24.6 +02.0	S 14 06.8 -00.2	74 43.3 +02.3	S 17 46.6 +00.0	13						
14	325 58.7 +00.8	N 24 28.4 +00.1	77 26.6 +02.0	S 14 06.6 -00.1	89 45.6 +02.3	S 17 46.6 -00.1	14						
15	340 59.5 +00.8	N 24 28.5 +00.1	92 28.6 +02.0	S 14 06.5 -00.2	104 47.9 +02.3	S 17 46.5 +00.0	15						
16	356 00.3 +00.8	N 24 28.6 +00.1	107 30.6 +02.0	S 14 06.3 -00.1	119 50.2 +02.2	S 17 46.5 -00.1	16						
17	11 01.1 +00.8	N 24 28.7 +00.2	122 32.6 +02.0	S 14 06.2 -00.2	134 52.4 +02.3	S 17 46.4 +00.0	17						
18	26 01.9 +00.9	N 24 28.9 +00.1	137 34.6 +02.0	S 14 06.0 -00.1	149 54.7 +02.3	S 17 46.4 -00.1	18						
19	41 02.8 +00.8	N 24 29.0 +00.1	152 36.6 +02.0	S 14 05.9 -00.2	164 57.0 +02.3	S 17 46.3 +00.0	19						
20	56 03.6 +00.8	N 24 29.1 +00.1	167 38.6 +02.0	S 14 05.7 -00.1	179 59.3 +02.3	S 17 46.3 +00.0	20						
21	71 04.4 +00.8	N 24 29.2 +00.1	182 40.6 +02.0	S 14 05.6 -00.2	195 01.6 +02.2	S 17 46.3 -00.1	21						
22	86 05.2 +00.9	N 24 29.3 +00.2	197 42.6 +02.0	S 14 05.4 -00.1	210 03.8 +02.3	S 17 46.2 +00.0	22						
23	101 06.1 +00.8	N 24 29.5 +00.1	212 44.6 +02.0	S 14 05.3 -00.2	225 06.1 +02.3	S 17 46.2 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 282° 282° 282° 282° 282° 282°		SHA 033° 033° 033° 033° 033° 033°		SHA 046° 046° 046° 046° 046° 046°								
	Greenwich Culmination Time: 16:15		Greenwich Culmination Time: 08:50		Greenwich Culmination Time: 08:01								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 22.7 +00.2	N 06	27.2 +00.9	176 23.9 -00.4	N 06	25.4 +01.3	244 59.9 -32.3	S 22	44.4 -06.7	00			
01	194 22.9 +00.2	N 06	28.1 +00.9	191 23.5 -00.4	N 06	26.7 +01.2	259 27.6 -32.3	S 22	37.7 -06.8	01			
02	209 23.1 +00.1	N 06	29.0 +01.0	206 23.1 -00.4	N 06	27.9 +01.2	273 55.3 -32.2	S 22	30.9 -06.9	02			
03	224 23.2 +00.2	N 06	30.0 +00.9	221 22.7 -00.4	N 06	29.1 +01.2	288 23.1 -32.2	S 22	24.0 -07.1	03			
04	239 23.4 +00.2	N 06	30.9 +01.0	236 22.3 -00.4	N 06	30.3 +01.3	302 50.9 -32.0	S 22	16.9 -07.2	04			
05	254 23.6 +00.2	N 06	31.9 +00.9	251 21.9 -00.4	N 06	31.6 +01.2	317 18.9 -31.9	S 22	09.7 -07.2	05			
06	269 23.8 +00.1	N 06	32.8 +01.0	266 21.5 -00.5	N 06	32.8 +01.2	331 47.0 -31.9	S 22	02.5 -07.4	06			
07	284 23.9 +00.2	N 06	33.8 +00.9	281 21.0 -00.4	N 06	34.0 +01.2	346 15.1 -31.7	S 21	55.1 -07.5	07			
08	299 24.1 +00.2	N 06	34.7 +00.9	296 20.6 -00.4	N 06	35.2 +01.3	0 43.4 -31.7	S 21	47.6 -07.7	08			
09	314 24.3 +00.2	N 06	35.6 +01.0	311 20.2 -00.4	N 06	36.5 +01.2	15 11.7 -31.6	S 21	39.9 -07.7	09			
10	329 24.5 +00.2	N 06	36.6 +00.9	326 19.8 -00.4	N 06	37.7 +01.2	29 40.1 -31.4	S 21	32.2 -07.8	10			
11	344 24.7 +00.1	N 06	37.5 +01.0	341 19.4 -00.4	N 06	38.9 +01.2	44 08.7 -31.4	S 21	24.4 -08.0	11			
12	359 24.8 +00.2	N 06	38.5 +00.9	356 19.0 -00.4	N 06	40.1 +01.3	58 37.3 -31.3	S 21	16.4 -08.0	12			
13	14 25.0 +00.2	N 06	39.4 +01.0	11 18.6 -00.4	N 06	41.4 +01.2	73 06.0 -31.2	S 21	08.4 -08.2	13			
14	29 25.2 +00.2	N 06	40.4 +00.9	26 18.2 -00.4	N 06	42.6 +01.2	87 34.8 -31.2	S 21	00.2 -08.2	14			
15	44 25.4 +00.1	N 06	41.3 +00.9	41 17.8 -00.4	N 06	43.8 +01.2	102 03.6 -31.0	S 20	52.0 -08.4	15			
16	59 25.5 +00.2	N 06	42.2 +01.0	56 17.4 -00.4	N 06	45.0 +01.2	116 32.6 -30.9	S 20	43.6 -08.5	16			
17	74 25.7 +00.2	N 06	43.2 +00.9	71 17.0 -00.4	N 06	46.2 +01.3	131 01.7 -30.9	S 20	35.1 -08.5	17			
18	89 25.9 +00.2	N 06	44.1 +01.0	86 16.6 -00.4	N 06	47.5 +01.2	145 30.8 -30.7	S 20	26.6 -08.7	18			
19	104 26.1 +00.1	N 06	45.1 +00.9	101 16.2 -00.4	N 06	48.7 +01.2	160 00.1 -30.7	S 20	17.9 -08.7	19			
20	119 26.2 +00.2	N 06	46.0 +01.0	116 15.8 -00.4	N 06	49.9 +01.2	174 29.4 -30.6	S 20	09.2 -08.9	20			
21	134 26.4 +00.2	N 06	47.0 +00.9	131 15.4 -00.4	N 06	51.1 +01.2	188 58.8 -30.5	S 20	00.3 -08.9	21			
22	149 26.6 +00.2	N 06	47.9 +00.9	146 15.0 -00.4	N 06	52.3 +01.3	203 28.3 -30.3	S 19	51.4 -09.1	22			
23	164 26.8 +00.1	N 06	48.8 +01.0	161 14.6 -00.4	N 06	53.6 +01.2	217 58.0 -30.4	S 19	42.3 -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 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'5 15'5 15'5 15'4 15'4 15'4						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 57'0 56'9 56'8 56'7 56'6 56'5						
	SHA 345° 345° 344° 344° 344° 344°			SHA 342° 342° 341° 341° 341° 341°			SHA 049° 047° 045° 043° 040° 038°						
	Greenwich Culmination Time: 12:02			Greenwich Culmination Time: 12:14			Greenwich Culmination Time: 07:57						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	116 06.9 +00.8	N 24	29.6 +00.1	227 46.6 +02.0	S 14	05.1 -00.1	240 08.4 +02.3	S 17	46.1 +00.0	00			
01	131 07.7 +00.8	N 24	29.7 +00.1	242 48.6 +02.0	S 14	05.0 -00.2	255 10.7 +02.3	S 17	46.1 -00.1	01			
02	146 08.5 +00.8	N 24	29.8 +00.1	257 50.6 +02.0	S 14	04.8 -00.1	270 13.0 +02.3	S 17	46.0 +00.0	02			
03	161 09.3 +00.9	N 24	29.9 +00.1	272 52.6 +02.0	S 14	04.7 -00.2	285 15.3 +02.2	S 17	46.0 -00.1	03			
04	176 10.2 +00.8	N 24	30.0 +00.2	287 54.6 +02.0	S 14	04.5 -00.1	300 17.5 +02.3	S 17	45.9 +00.0	04			
05	191 11.0 +00.8	N 24	30.2 +00.1	302 56.6 +02.0	S 14	04.4 -00.2	315 19.8 +02.3	S 17	45.9 +00.0	05			
06	206 11.8 +00.8	N 24	30.3 +00.1	317 58.6 +02.0	S 14	04.2 -00.1	330 22.1 +02.3	S 17	45.9 -00.1	06			
07	221 12.6 +00.8	N 24	30.4 +00.1	333 00.6 +02.0	S 14	04.1 -00.2	345 24.4 +02.3	S 17	45.8 +00.0	07			
08	236 13.4 +00.8	N 24	30.5 +00.1	348 02.6 +02.1	S 14	03.9 -00.1	0 26.7 +02.3	S 17	45.8 -00.1	08			
09	251 14.2 +00.9	N 24	30.6 +00.1	3 04.7 +02.0	S 14	03.8 -00.2	15 29.0 +02.2	S 17	45.7 +00.0	09			
10	266 15.1 +00.8	N 24	30.7 +00.2	18 06.7 +02.0	S 14	03.6 -00.1	30 31.2 +02.3	S 17	45.7 -00.1	10			
11	281 15.9 +00.8	N 24	30.9 +00.1	33 08.7 +02.0	S 14	03.5 -00.2	45 33.5 +02.3	S 17	45.6 +00.0	11			
12	296 16.7 +00.8	N 24	31.0 +00.1	48 10.7 +02.0	S 14	03.3 -00.1	60 35.8 +02.3	S 17	45.6 -00.1	12			
13	311 17.5 +00.8	N 24	31.1 +00.1	63 12.7 +02.0	S 14	03.2 -00.2	75 38.1 +02.3	S 17	45.5 +00.0	13			
14	326 18.3 +00.9	N 24	31.2 +00.1	78 14.7 +02.0	S 14	03.0 -00.1	90 40.4 +02.3	S 17	45.5 +00.0	14			
15	341 19.2 +00.8	N 24	31.3 +00.1	93 16.7 +02.0	S 14	02.9 -00.2	105 42.7 +02.2	S 17	45.5 -00.1	15			
16	356 20.0 +00.8	N 24	31.4 +00.2	108 18.7 +02.0	S 14	02.7 -00.1	120 44.9 +02.3	S 17	45.4 +00.0	16			
17	11 20.8 +00.8	N 24	31.6 +00.1	123 20.7 +02.0	S 14	02.6 -00.2	135 47.2 +02.3	S 17	45.4 -00.1	17			
18	26 21.6 +00.8	N 24	31.7 +00.1	138 22.7 +02.0	S 14	02.4 -00.1	150 49.5 +02.3	S 17	45.3 +00.0	18			
19	41 22.4 +00.9	N 24	31.8 +00.1	153 24.7 +02.0	S 14	02.3 -00.2	165 51.8 +02.3	S 17	45.3 -00.1	19			
20	56 23.3 +00.8	N 24	31.9 +00.1	168 26.7 +02.0	S 14	02.1 -00.1	180 54.1 +02.3	S 17	45.2 +00.0	20			
21	71 24.1 +00.8	N 24	32.0 +00.1	183 28.7 +02.0	S 14	02.0 -00.2	195 56.4 +02.2	S 17	45.2 -00.1	21			
22	86 24.9 +00.8	N 24	32.1 +00.1	198 30.7 +02.0	S 14	01.8 -00.1	210 58.6 +02.3	S 17	45.1 +00.0	22			
23	101 25.7 +00.8	N 24	32.2 +00.1	213 32.7 +02.0	S 14	01.7 -00.1	226 00.9 +02.3	S 17	45.1 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 282° 281° 281° 281° 281° 281°			SHA 033° 033° 033° 033° 033° 033°			SHA 046° 046° 046° 046° 046° 046°						
	Greenwich Culmination Time: 16:14			Greenwich Culmination Time: 08:47			Greenwich Culmination Time: 07:58						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 26.9 +00.2	N 06 49.8 +00.9	176 14.2 -00.4	N 06 54.8 +01.2	232 27.6 -30.2	S 19 33.2 -09.2	00						
01	194 27.1 +00.2	N 06 50.7 +01.0	191 13.8 -00.4	N 06 56.0 +01.2	246 57.4 -30.1	S 19 24.0 -09.3	01						
02	209 27.3 +00.2	N 06 51.7 +00.9	206 13.4 -00.5	N 06 57.2 +01.2	261 27.3 -30.0	S 19 14.7 -09.4	02						
03	224 27.5 +00.1	N 06 52.6 +00.9	221 12.9 -00.4	N 06 58.4 +01.3	275 57.3 -30.0	S 19 05.3 -09.5	03						
04	239 27.6 +00.2	N 06 53.5 +01.0	236 12.5 -00.4	N 06 59.7 +01.2	290 27.3 -29.9	S 18 55.8 -09.6	04						
05	254 27.8 +00.2	N 06 54.5 +00.9	251 12.1 -00.4	N 07 00.9 +01.2	304 57.4 -29.7	S 18 46.2 -09.6	05						
06	269 28.0 +00.2	N 06 55.4 +00.9	266 11.7 -00.4	N 07 02.1 +01.2	319 27.7 -29.7	S 18 36.6 -09.8	06						
07	284 28.2 +00.1	N 06 56.3 +01.0	281 11.3 -00.4	N 07 03.3 +01.2	333 58.0 -29.6	S 18 26.8 -09.8	07						
08	299 28.3 +00.2	N 06 57.3 +00.9	296 10.9 -00.4	N 07 04.5 +01.3	348 28.4 -29.6	S 18 17.0 -09.9	08						
09	314 28.5 +00.2	N 06 58.2 +01.0	311 10.5 -00.4	N 07 05.8 +01.2	2 58.8 -29.4	S 18 07.1 -10.0	09						
10	329 28.7 +00.2	N 06 59.2 +00.9	326 10.1 -00.4	N 07 07.0 +01.2	17 29.4 -29.4	S 17 57.1 -10.0	10						
11	344 28.9 +00.1	N 07 00.1 +00.9	341 09.7 -00.4	N 07 08.2 +01.2	32 00.0 -29.2	S 17 47.1 -10.2	11						
12	359 29.0 +00.2	N 07 01.0 +01.0	356 09.3 -00.4	N 07 09.4 +01.2	46 30.8 -29.2	S 17 36.9 -10.2	12						
13	14 29.2 +00.2	N 07 02.0 +00.9	11 08.9 -00.4	N 07 10.6 +01.2	61 01.6 -29.1	S 17 26.7 -10.3	13						
14	29 29.4 +00.1	N 07 02.9 +01.0	26 08.5 -00.5	N 07 11.8 +01.3	75 32.5 -29.0	S 17 16.4 -10.4	14						
15	44 29.5 +00.2	N 07 03.9 +00.9	41 08.0 -00.4	N 07 13.1 +01.2	90 03.5 -29.0	S 17 06.0 -10.4	15						
16	59 29.7 +00.2	N 07 04.8 +00.9	56 07.6 -00.4	N 07 14.3 +01.2	104 34.5 -28.8	S 16 55.6 -10.5	16						
17	74 29.9 +00.2	N 07 05.7 +01.0	71 07.2 -00.4	N 07 15.5 +01.2	119 05.7 -28.8	S 16 45.1 -10.6	17						
18	89 30.1 +00.1	N 07 06.7 +00.9	86 06.8 -00.4	N 07 16.7 +01.2	133 36.9 -28.7	S 16 34.5 -10.7	18						
19	104 30.2 +00.2	N 07 07.6 +00.9	101 06.4 -00.4	N 07 17.9 +01.2	148 08.2 -28.6	S 16 23.8 -10.7	19						
20	119 30.4 +00.2	N 07 08.5 +01.0	116 06.0 -00.4	N 07 19.1 +01.3	162 39.6 -28.5	S 16 13.1 -10.8	20						
21	134 30.6 +00.2	N 07 09.5 +00.9	131 05.6 -00.4	N 07 20.4 +01.2	177 11.1 -28.5	S 16 02.3 -10.8	21						
22	149 30.8 +00.1	N 07 10.4 +00.9	146 05.2 -00.4	N 07 21.6 +01.2	191 42.6 -28.3	S 15 51.5 -11.0	22						
23	164 30.9 +00.2	N 07 11.3 +01.0	161 04.8 -00.5	N 07 22.8 +01.2	206 14.3 -28.3	S 15 40.5 -10.9	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 00'1 00'1 00'1 00'1 00'1 00'1	UT 02 06 10 14 18 22	SD 15'4 15'3 15'3 15'3 15'3 15'2							
	HP 00'1 00'1 00'1 00'1 00'1 00'1	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 56'4 56'3 56'2 56'1 56'0 55'9								
	SHA 344° 344° 344° 343° 343° 343°	UT 02 06 10 14 18 22	SD 341° 340° 340° 340° 340° 340°	UT 02 06 10 14 18 22	SD 036° 034° 032° 029° 027° 025°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 12:15		Greenwich Culmination Time: 08:47								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	116 26.5 +00.8	N 24 32.3 +00.2	228 34.7 +02.1	S 14 01.6 -00.2	241 03.2 +02.3	S 17 45.1 -00.1	00						
01	131 27.3 +00.9	N 24 32.5 +00.1	243 36.8 +02.0	S 14 01.4 -00.1	256 05.5 +02.3	S 17 45.0 +00.0	01						
02	146 28.2 +00.8	N 24 32.6 +00.1	258 38.8 +02.0	S 14 01.3 -00.2	271 07.8 +02.3	S 17 45.0 -00.1	02						
03	161 29.0 +00.8	N 24 32.7 +00.1	273 40.8 +02.0	S 14 01.1 -00.1	286 10.1 +02.3	S 17 44.9 +00.0	03						
04	176 29.8 +00.8	N 24 32.8 +00.1	288 42.8 +02.0	S 14 01.0 -00.2	301 12.4 +02.2	S 17 44.9 -00.1	04						
05	191 30.6 +00.8	N 24 32.9 +00.1	303 44.8 +02.0	S 14 00.8 -00.1	316 14.6 +02.3	S 17 44.8 +00.0	05						
06	206 31.4 +00.9	N 24 33.0 +00.1	318 46.8 +02.0	S 14 00.7 -00.2	331 16.9 +02.3	S 17 44.8 -00.1	06						
07	221 32.3 +00.8	N 24 33.1 +00.1	333 48.8 +02.0	S 14 00.5 -00.1	346 19.2 +02.3	S 17 44.7 +00.0	07						
08	236 33.1 +00.8	N 24 33.2 +00.1	348 50.8 +02.0	S 14 00.4 -00.2	1 21.5 +02.3	S 17 44.7 +00.0	08						
09	251 33.9 +00.8	N 24 33.3 +00.1	3 52.8 +02.0	S 14 00.2 -00.1	16 23.8 +02.3	S 17 44.7 -00.1	09						
10	266 34.7 +00.8	N 24 33.4 +00.2	18 54.8 +02.0	S 14 00.1 -00.2	31 26.1 +02.3	S 17 44.6 +00.0	10						
11	281 35.5 +00.8	N 24 33.6 +00.1	33 56.8 +02.0	S 13 59.9 -00.1	46 28.4 +02.2	S 17 44.6 -00.1	11						
12	296 36.3 +00.9	N 24 33.7 +00.1	48 58.8 +02.1	S 13 59.8 -00.2	61 30.6 +02.3	S 17 44.5 +00.0	12						
13	311 37.2 +00.8	N 24 33.8 +00.1	64 00.9 +02.0	S 13 59.6 -00.1	76 32.9 +02.3	S 17 44.5 -00.1	13						
14	326 38.0 +00.8	N 24 33.9 +00.1	79 02.9 +02.0	S 13 59.5 -00.2	91 35.2 +02.3	S 17 44.4 +00.0	14						
15	341 38.8 +00.8	N 24 34.0 +00.1	94 04.9 +02.0	S 13 59.3 -00.1	106 37.5 +02.3	S 17 44.4 +00.0	15						
16	356 39.6 +00.8	N 24 34.1 +00.1	109 06.9 +02.0	S 13 59.2 -00.2	121 39.8 +02.3	S 17 44.4 -00.1	16						
17	11 40.4 +00.8	N 24 34.2 +00.1	124 08.9 +02.0	S 13 59.0 -00.1	136 42.1 +02.3	S 17 44.3 +00.0	17						
18	26 41.2 +00.9	N 24 34.3 +00.1	139 10.9 +02.0	S 13 58.9 -00.2	151 44.4 +02.3	S 17 44.3 -00.1	18						
19	41 42.1 +00.8	N 24 34.4 +00.1	154 12.9 +02.0	S 13 58.7 -00.1	166 46.7 +02.2	S 17 44.2 +00.0	19						
20	56 42.9 +00.8	N 24 34.5 +00.1	169 14.9 +02.0	S 13 58.6 -00.2	181 48.9 +02.3	S 17 44.2 -00.1	20						
21	71 43.7 +00.8	N 24 34.6 +00.1	184 16.9 +02.0	S 13 58.4 -00.1	196 51.2 +02.3	S 17 44.1 +00.0	21						
22	86 44.5 +00.8	N 24 34.7 +00.1	199 18.9 +02.1	S 13 58.3 -00.2	211 53.5 +02.3	S 17 44.1 -00.1	22						
23	101 45.3 +00.8	N 24 34.8 +00.1	214 21.0 +02.0	S 13 58.1 -00.1	226 55.8 +02.3	S 17 44.0 +00.0	23						
	UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	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	UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	UT 02 06 10 14 18 22	SD 046° 046° 046° 046° 046° 046°								
	SHA 281° 281° 281° 281° 280° 280°	UT 02 06 10 14 18 22	SD 033° 033° 033° 033° 033° 033°	UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0								
	Greenwich Culmination Time: 16:13		Greenwich Culmination Time: 08:44		Greenwich Culmination Time: 07:54								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	179 31.1 +00.2	N 07 12.3 +00.9	176 04.3 -00.4	N 07 24.0 +01.2	220 46.0 -28.3	S 15 29.6 -11.1	00								
01	194 31.3 +00.1	N 07 13.2 +00.9	191 03.9 -00.4	N 07 25.2 +01.2	235 17.7 -28.1	S 15 18.5 -11.1	01								
02	209 31.4 +00.2	N 07 14.1 +01.0	206 03.5 -00.4	N 07 26.4 +01.2	249 49.6 -28.1	S 15 07.4 -11.2	02								
03	224 31.6 +00.2	N 07 15.1 +00.9	221 03.1 -00.4	N 07 27.6 +01.2	264 21.5 -28.0	S 14 56.2 -11.2	03								
04	239 31.8 +00.2	N 07 16.0 +01.0	236 02.7 -00.4	N 07 28.8 +01.3	278 53.5 -27.9	S 14 45.0 -11.3	04								
05	254 32.0 +00.1	N 07 17.0 +00.9	251 02.3 -00.4	N 07 30.1 +01.2	293 25.6 -27.9	S 14 33.7 -11.4	05								
06	269 32.1 +00.2	N 07 17.9 +00.9	266 01.9 -00.4	N 07 31.3 +01.2	307 57.7 -27.7	S 14 22.3 -11.4	06								
07	284 32.3 +00.2	N 07 18.8 +01.0	281 01.5 -00.5	N 07 32.5 +01.2	322 30.0 -27.7	S 14 10.9 -11.4	07								
08	299 32.5 +00.2	N 07 19.8 +00.9	296 01.0 -00.4	N 07 33.7 +01.2	337 02.3 -27.7	S 13 59.5 -11.5	08								
09	314 32.7 +00.1	N 07 20.7 +00.9	311 00.6 -00.4	N 07 34.9 +01.2	351 34.6 -27.5	S 13 48.0 -11.6	09								
10	329 32.8 +00.2	N 07 21.6 +01.0	326 00.2 -00.4	N 07 36.1 +01.2	6 07.1 -27.5	S 13 36.4 -11.6	10								
11	344 33.0 +00.2	N 07 22.6 +00.9	340 59.8 -00.4	N 07 37.3 +01.2	20 39.6 -27.5	S 13 24.8 -11.7	11								
12	359 33.2 +00.1	N 07 23.5 +00.9	355 59.4 -00.4	N 07 38.5 +01.2	35 12.1 -27.3	S 13 13.1 -11.7	12								
13	14 33.3 +00.2	N 07 24.4 +01.0	10 59.0 -00.4	N 07 39.7 +01.3	49 44.8 -27.3	S 13 01.4 -11.8	13								
14	29 33.5 +00.2	N 07 25.4 +00.9	25 58.6 -00.5	N 07 41.0 +01.2	64 17.5 -27.3	S 12 49.6 -11.8	14								
15	44 33.7 +00.2	N 07 26.3 +00.9	40 58.1 -00.4	N 07 42.2 +01.2	78 50.2 -27.1	S 12 37.8 -11.9	15								
16	59 33.9 +00.1	N 07 27.2 +00.9	55 57.7 -00.4	N 07 43.4 +01.2	93 23.1 -27.1	S 12 25.9 -11.9	16								
17	74 34.0 +00.2	N 07 28.1 +01.0	70 57.3 -00.4	N 07 44.6 +01.2	107 56.0 -27.1	S 12 14.0 -12.0	17								
18	89 34.2 +00.2	N 07 29.1 +00.9	85 56.9 -00.4	N 07 45.8 +01.2	122 28.9 -26.9	S 12 02.0 -12.0	18								
19	104 34.4 +00.1	N 07 30.0 +00.9	100 56.5 -00.4	N 07 47.0 +01.2	137 02.0 -26.9	S 11 50.0 -12.0	19								
20	119 34.5 +00.2	N 07 30.9 +01.0	115 56.1 -00.5	N 07 48.2 +01.2	151 35.1 -26.9	S 11 38.0 -12.1	20								
21	134 34.7 +00.2	N 07 31.9 +00.9	130 55.6 -00.4	N 07 49.4 +01.2	166 08.2 -26.8	S 11 25.9 -12.1	21								
22	149 34.9 +00.1	N 07 32.8 +00.9	145 55.2 -00.4	N 07 50.6 +01.2	180 41.4 -26.7	S 11 13.8 -12.2	22								
23	164 35.0 +00.2	N 07 33.7 +01.0	160 54.8 -00.4	N 07 51.8 +01.2	195 14.7 -26.7	S 11 01.6 -12.2	23								
	UT 02 06 10 14 18 22	SD 16'0 16'0 16'0 16'0 16'0 16'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 343° 343° 343° 343° 342° 342°	Greenwich Culmination Time: 12:01	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 340° 339° 339° 339° 339° 339°	Greenwich Culmination Time: 12:16	UT 02 06 10 14 18 22	SD 15'2 15'2 15'2 15'1 15'1 15'1	HP 55'8 55'7 55'7 55'6 55'5 55'4	SHA 023° 021° 019° 017° 015° 013°	Greenwich Culmination Time: 09:34

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	116 46.1 +00.9	N 24 34.9 +00.2	229 23.0 +02.0	S 13 58.0 -00.2	241 58.1 +02.3	S 17 44.0 +00.0	00								
01	131 47.0 +00.8	N 24 35.1 +00.1	244 25.0 +02.0	S 13 57.8 -00.1	257 00.4 +02.3	S 17 44.0 -00.1	01								
02	146 47.8 +00.8	N 24 35.2 +00.1	259 27.0 +02.0	S 13 57.7 -00.1	272 02.7 +02.3	S 17 43.9 +00.0	02								
03	161 48.6 +00.8	N 24 35.3 +00.1	274 29.0 +02.0	S 13 57.6 -00.2	287 05.0 +02.2	S 17 43.9 -00.1	03								
04	176 49.4 +00.8	N 24 35.4 +00.1	289 31.0 +02.0	S 13 57.4 -00.1	302 07.2 +02.3	S 17 43.8 +00.0	04								
05	191 50.2 +00.8	N 24 35.5 +00.1	304 33.0 +02.0	S 13 57.3 -00.2	317 09.5 +02.3	S 17 43.8 -00.1	05								
06	206 51.0 +00.8	N 24 35.6 +00.1	319 35.0 +02.1	S 13 57.1 -00.1	332 11.8 +02.3	S 17 43.7 +00.0	06								
07	221 51.8 +00.9	N 24 35.7 +00.1	334 37.1 +02.0	S 13 57.0 -00.2	347 14.1 +02.3	S 17 43.7 +00.0	07								
08	236 52.7 +00.8	N 24 35.8 +00.1	349 39.1 +02.0	S 13 56.8 -00.1	2 16.4 +02.3	S 17 43.7 -00.1	08								
09	251 53.5 +00.8	N 24 35.9 +00.1	4 41.1 +02.0	S 13 56.7 -00.2	17 18.7 +02.3	S 17 43.6 +00.0	09								
10	266 54.3 +00.8	N 24 36.0 +00.1	19 43.1 +02.0	S 13 56.5 -00.1	32 21.0 +02.3	S 17 43.6 -00.1	10								
11	281 55.1 +00.8	N 24 36.1 +00.1	34 45.1 +02.0	S 13 56.4 -00.2	47 23.3 +02.3	S 17 43.5 +00.0	11								
12	296 55.9 +00.8	N 24 36.2 +00.1	49 47.1 +02.0	S 13 56.2 -00.1	62 25.6 +02.3	S 17 43.5 -00.1	12								
13	311 56.7 +00.8	N 24 36.3 +00.1	64 49.1 +02.0	S 13 56.1 -00.2	77 27.9 +02.2	S 17 43.4 +00.0	13								
14	326 57.5 +00.9	N 24 36.4 +00.1	79 51.1 +02.1	S 13 55.9 -00.1	92 30.1 +02.3	S 17 43.4 +00.0	14								
15	341 58.4 +00.8	N 24 36.5 +00.1	94 53.2 +02.0	S 13 55.8 -00.2	107 32.4 +02.3	S 17 43.4 -00.1	15								
16	356 59.2 +00.8	N 24 36.6 +00.1	109 55.2 +02.0	S 13 55.6 -00.1	122 34.7 +02.3	S 17 43.3 +00.0	16								
17	11 60.0 +00.8	N 24 36.7 +00.1	124 57.2 +02.0	S 13 55.5 -00.2	137 37.0 +02.3	S 17 43.3 -00.1	17								
18	27 00.8 +00.8	N 24 36.8 +00.1	139 59.2 +02.0	S 13 55.3 -00.1	152 39.3 +02.3	S 17 43.2 +00.0	18								
19	42 01.6 +00.8	N 24 36.9 +00.1	155 01.2 +02.0	S 13 55.2 -00.1	167 41.6 +02.3	S 17 43.2 -00.1	19								
20	57 02.4 +00.8	N 24 37.0 +00.1	170 03.2 +02.1	S 13 55.1 -00.2	182 43.9 +02.3	S 17 43.1 +00.0	20								
21	72 03.2 +00.9	N 24 37.1 +00.1	185 05.3 +02.0	S 13 54.9 -00.1	197 46.2 +02.3	S 17 43.1 +00.0	21								
22	87 04.1 +00.8	N 24 37.2 +00.1	200 07.3 +02.0	S 13 54.8 -00.2	212 48.5 +02.3	S 17 43.1 -00.1	22								
23	102 04.9 +00.8	N 24 37.3 +00.1	215 09.3 +02.0	S 13 54.6 -00.1	227 50.8 +02.3	S 17 43.0 +00.0	23								
	UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 280° 280° 280° 280° 280° 280°	Greenwich Culmination Time: 16:12	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 033° 033° 033° 033° 033° 033°	Greenwich Culmination Time: 08:41	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 045° 045° 045° 045° 045° 045°	Greenwich Culmination Time: 07:50

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 35.2 +00.2	N 07 34.7 +00.9	175 54.4 -00.4	N 07 53.0 +01.2	209 48.0 -26.6	S 10 49.4 -12.3	00						
01	194 35.4 +00.2	N 07 35.6 +00.9	190 54.0 -00.4	N 07 54.2 +01.3	224 21.4 -26.6	S 10 37.1 -12.2	01						
02	209 35.6 +00.1	N 07 36.5 +01.0	205 53.6 -00.5	N 07 55.5 +01.2	238 54.8 -26.5	S 10 24.9 -12.4	02						
03	224 35.7 +00.2	N 07 37.5 +00.9	220 53.1 -00.4	N 07 56.7 +01.2	253 28.3 -26.4	S 10 12.5 -12.3	03						
04	239 35.9 +00.2	N 07 38.4 +00.9	235 52.7 -00.4	N 07 57.9 +01.2	268 01.9 -26.4	S 10 00.2 -12.4	04						
05	254 36.1 +00.1	N 07 39.3 +00.9	250 52.3 -00.4	N 07 59.1 +01.2	282 35.5 -26.4	S 09 47.8 -12.4	05						
06	269 36.2 +00.2	N 07 40.2 +01.0	265 51.9 -00.4	N 08 00.3 +01.2	297 09.1 -26.3	S 09 35.4 -12.5	06						
07	284 36.4 +00.2	N 07 41.2 +00.9	280 51.5 -00.5	N 08 01.5 +01.2	311 42.8 -26.2	S 09 22.9 -12.5	07						
08	299 36.6 +00.1	N 07 42.1 +00.9	295 51.0 -00.4	N 08 02.7 +01.2	326 16.6 -26.2	S 09 10.4 -12.5	08						
09	314 36.7 +00.2	N 07 43.0 +01.0	310 50.6 -00.4	N 08 03.9 +01.2	340 50.4 -26.1	S 08 57.9 -12.6	09						
10	329 36.9 +00.2	N 07 44.0 +00.9	325 50.2 -00.4	N 08 05.1 +01.2	355 24.3 -26.1	S 08 45.3 -12.5	10						
11	344 37.1 +00.1	N 07 44.9 +00.9	340 49.8 -00.4	N 08 06.3 +01.2	9 58.2 -26.1	S 08 32.8 -12.6	11						
12	359 37.2 +00.2	N 07 45.8 +00.9	355 49.4 -00.5	N 08 07.5 +01.2	24 32.1 -26.0	S 08 20.2 -12.7	12						
13	14 37.4 +00.2	N 07 46.7 +01.0	10 48.9 -00.4	N 08 08.7 +01.2	39 06.1 -25.9	S 08 07.5 -12.6	13						
14	29 37.6 +00.1	N 07 47.7 +00.9	25 48.5 -00.4	N 08 09.9 +01.2	53 40.2 -25.9	S 07 54.9 -12.7	14						
15	44 37.7 +00.2	N 07 48.6 +00.9	40 48.1 -00.4	N 08 11.1 +01.2	68 14.3 -25.9	S 07 42.2 -12.7	15						
16	59 37.9 +00.2	N 07 49.5 +00.9	55 47.7 -00.4	N 08 12.3 +01.2	82 48.4 -25.8	S 07 29.5 -12.8	16						
17	74 38.1 +00.2	N 07 50.4 +01.0	70 47.3 -00.5	N 08 13.5 +01.2	97 22.6 -25.8	S 07 16.7 -12.7	17						
18	89 38.3 +00.1	N 07 51.4 +00.9	85 46.8 -00.4	N 08 14.7 +01.2	111 56.8 -25.7	S 07 04.0 -12.8	18						
19	104 38.4 +00.2	N 07 52.3 +00.9	100 46.4 -00.4	N 08 15.9 +01.2	126 31.1 -25.7	S 06 51.2 -12.8	19						
20	119 38.6 +00.2	N 07 53.2 +00.9	115 46.0 -00.4	N 08 17.1 +01.2	141 05.4 -25.6	S 06 38.4 -12.8	20						
21	134 38.8 +00.1	N 07 54.1 +01.0	130 45.6 -00.4	N 08 18.3 +01.2	155 39.8 -25.7	S 06 25.6 -12.9	21						
22	149 38.9 +00.2	N 07 55.1 +00.9	145 45.2 -00.5	N 08 19.5 +01.2	170 14.1 -25.5	S 06 12.7 -12.8	22						
23	164 39.1 +00.2	N 07 56.0 +00.9	160 44.7 -00.4	N 08 20.7 +01.2	184 48.6 -25.6	S 05 59.9 -12.9	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'1 15'1 15'0 15'0 15'0 15'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'3 55'3 55'2 55'1 55'1 55'0								
	SHA 342° 342° 342° 342° 341° 341°		SHA 338° 338° 338° 338° 338° 337°		SHA 011° 009° 008° 006° 004° 002°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 12:16		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	117 05.7 +00.8	N 24 37.4 +00.1	230 11.3 +02.0	S 13 54.5 -00.2	242 53.1 +02.2	S 17 43.0 -00.1	00						
01	132 06.5 +00.8	N 24 37.5 +00.1	245 13.3 +02.0	S 13 54.3 -00.1	257 55.3 +02.3	S 17 42.9 +00.0	01						
02	147 07.3 +00.8	N 24 37.6 +00.1	260 15.3 +02.0	S 13 54.2 -00.2	272 57.6 +02.3	S 17 42.9 -00.1	02						
03	162 08.1 +00.8	N 24 37.7 +00.1	275 17.3 +02.1	S 13 54.0 -00.1	287 59.9 +02.3	S 17 42.8 +00.0	03						
04	177 08.9 +00.9	N 24 37.8 +00.1	290 19.4 +02.0	S 13 53.9 -00.2	303 02.2 +02.3	S 17 42.8 +00.0	04						
05	192 09.8 +00.8	N 24 37.9 +00.1	305 21.4 +02.0	S 13 53.7 -00.1	318 04.5 +02.3	S 17 42.8 -00.1	05						
06	207 10.6 +00.8	N 24 38.0 +00.1	320 23.4 +02.0	S 13 53.6 -00.2	333 06.8 +02.3	S 17 42.7 +00.0	06						
07	222 11.4 +00.8	N 24 38.1 +00.1	335 25.4 +02.0	S 13 53.4 -00.1	348 09.1 +02.3	S 17 42.7 -00.1	07						
08	237 12.2 +00.8	N 24 38.2 +00.1	350 27.4 +02.0	S 13 53.3 -00.2	3 11.4 +02.3	S 17 42.6 +00.0	08						
09	252 13.0 +00.8	N 24 38.3 +00.1	5 29.4 +02.1	S 13 53.1 -00.1	18 13.7 +02.3	S 17 42.6 +00.0	09						
10	267 13.8 +00.8	N 24 38.4 +00.1	20 31.5 +02.0	S 13 53.0 -00.1	33 16.0 +02.3	S 17 42.6 -00.1	10						
11	282 14.6 +00.8	N 24 38.5 +00.1	35 33.5 +02.0	S 13 52.9 -00.2	48 18.3 +02.3	S 17 42.5 +00.0	11						
12	297 15.4 +00.9	N 24 38.6 +00.0	50 35.5 +02.0	S 13 52.7 -00.1	63 20.6 +02.3	S 17 42.5 -00.1	12						
13	312 16.3 +00.8	N 24 38.6 +00.1	65 37.5 +02.0	S 13 52.6 -00.2	78 22.9 +02.3	S 17 42.4 +00.0	13						
14	327 17.1 +00.8	N 24 38.7 +00.1	80 39.5 +02.0	S 13 52.4 -00.1	93 25.2 +02.2	S 17 42.4 -00.1	14						
15	342 17.9 +00.8	N 24 38.8 +00.1	95 41.5 +02.1	S 13 52.3 -00.2	108 27.4 +02.3	S 17 42.3 +00.0	15						
16	357 18.7 +00.8	N 24 38.9 +00.1	110 43.6 +02.0	S 13 52.1 -00.1	123 29.7 +02.3	S 17 42.3 +00.0	16						
17	12 19.5 +00.8	N 24 39.0 +00.1	125 45.6 +02.0	S 13 52.0 -00.2	138 32.0 +02.3	S 17 42.3 -00.1	17						
18	27 20.3 +00.8	N 24 39.1 +00.1	140 47.6 +02.0	S 13 51.8 -00.1	153 34.3 +02.3	S 17 42.2 +00.0	18						
19	42 21.1 +00.8	N 24 39.2 +00.1	155 49.6 +02.0	S 13 51.7 -00.2	168 36.6 +02.3	S 17 42.2 -00.1	19						
20	57 21.9 +00.9	N 24 39.3 +00.1	170 51.6 +02.1	S 13 51.5 -00.1	183 38.9 +02.3	S 17 42.1 +00.0	20						
21	72 22.8 +00.8	N 24 39.4 +00.1	185 53.7 +02.0	S 13 51.4 -00.2	198 41.2 +02.3	S 17 42.1 +00.0	21						
22	87 23.6 +00.8	N 24 39.5 +00.1	200 55.7 +02.0	S 13 51.2 -00.1	213 43.5 +02.3	S 17 42.1 -00.1	22						
23	102 24.4 +00.8	N 24 39.6 +00.1	215 57.7 +02.0	S 13 51.1 -00.1	228 45.8 +02.3	S 17 42.0 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 280° 279° 279° 279° 279° 279°		SHA 033° 033° 033° 033° 033° 033°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 16:10		Greenwich Culmination Time: 08:38		Greenwich Culmination Time: 07:47								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 39.3 +00.1	N 07 56.9 +00.9	175 44.3 -00.4	N 08 21.9 +01.2	199 23.0 -25.5	S 05 47.0 -12.9	00						
01	194 39.4 +00.2	N 07 57.8 +01.0	190 43.9 -00.4	N 08 23.1 +01.2	213 57.5 -25.4	S 05 34.1 -12.9	01						
02	209 39.6 +00.2	N 07 58.8 +00.9	205 43.5 -00.5	N 08 24.3 +01.2	228 32.1 -25.5	S 05 21.2 -12.9	02						
03	224 39.8 +00.1	N 07 59.7 +00.9	220 43.0 -00.4	N 08 25.5 +01.2	243 06.6 -25.4	S 05 08.3 -12.9	03						
04	239 39.9 +00.2	N 08 00.6 +00.9	235 42.6 -00.4	N 08 26.7 +01.2	257 41.2 -25.4	S 04 55.4 -13.0	04						
05	254 40.1 +00.2	N 08 01.5 +01.0	250 42.2 -00.4	N 08 27.9 +01.2	272 15.8 -25.3	S 04 42.4 -12.9	05						
06	269 40.3 +00.1	N 08 02.5 +00.9	265 41.8 -00.5	N 08 29.1 +01.2	286 50.5 -25.3	S 04 29.5 -13.0	06						
07	284 40.4 +00.2	N 08 03.4 +00.9	280 41.3 -00.4	N 08 30.3 +01.2	301 25.2 -25.3	S 04 16.5 -13.0	07						
08	299 40.6 +00.2	N 08 04.3 +00.9	295 40.9 -00.4	N 08 31.5 +01.2	315 59.9 -25.2	S 04 03.5 -13.0	08						
09	314 40.8 +00.1	N 08 05.2 +01.0	310 40.5 -00.4	N 08 32.7 +01.2	330 34.7 -25.2	S 03 50.5 -13.0	09						
10	329 40.9 +00.2	N 08 06.2 +00.9	325 40.1 -00.5	N 08 33.9 +01.2	345 09.5 -25.2	S 03 37.5 -13.0	10						
11	344 41.1 +00.2	N 08 07.1 +00.9	340 39.6 -00.4	N 08 35.1 +01.2	359 44.3 -25.2	S 03 24.5 -13.0	11						
12	359 41.3 +00.1	N 08 08.0 +00.9	355 39.2 -00.4	N 08 36.3 +01.2	14 19.1 -25.1	S 03 11.5 -13.0	12						
13	14 41.4 +00.2	N 08 08.9 +00.9	10 38.8 -00.4	N 08 37.5 +01.2	28 54.0 -25.2	S 02 58.5 -13.0	13						
14	29 41.6 +00.1	N 08 09.8 +01.0	25 38.4 -00.5	N 08 38.7 +01.1	43 28.8 -25.1	S 02 45.5 -13.1	14						
15	44 41.7 +00.2	N 08 10.8 +00.9	40 37.9 -00.4	N 08 39.8 +01.2	58 03.7 -25.0	S 02 32.4 -13.0	15						
16	59 41.9 +00.2	N 08 11.7 +00.9	55 37.5 -00.4	N 08 41.0 +01.2	72 38.7 -25.1	S 02 19.4 -13.0	16						
17	74 42.1 +00.1	N 08 12.6 +00.9	70 37.1 -00.5	N 08 42.2 +01.2	87 13.6 -25.0	S 02 06.4 -13.1	17						
18	89 42.2 +00.2	N 08 13.5 +01.0	85 36.6 -00.4	N 08 43.4 +01.2	101 48.6 -25.0	S 01 53.3 -13.0	18						
19	104 42.4 +00.2	N 08 14.5 +00.9	100 36.2 -00.4	N 08 44.6 +01.2	116 23.6 -25.0	S 01 40.3 -13.1	19						
20	119 42.6 +00.1	N 08 15.4 +00.9	115 35.8 -00.4	N 08 45.8 +01.2	130 58.6 -25.0	S 01 27.2 -13.0	20						
21	134 42.7 +00.2	N 08 16.3 +00.9	130 35.4 -00.5	N 08 47.0 +01.2	145 33.6 -24.9	S 01 14.2 -13.0	21						
22	149 42.9 +00.2	N 08 17.2 +00.9	145 34.9 -00.4	N 08 48.2 +01.2	160 08.7 -25.0	S 01 01.2 -13.1	22						
23	164 43.1 +00.1	N 08 18.1 +00.9	160 34.5 -00.4	N 08 49.4 +01.2	174 43.7 -24.9	S 00 48.1 -13.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 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 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'9 54'9 54'8 54'7 54'7 54'6								
	SHA 341° 341° 341° 341° 341° 340°		SHA 337° 337° 337° 337° 336° 336°		SHA 000° 358° 356° 354° 353° 351°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 12:17		Greenwich Culmination Time: 11:01								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	117 25.2 +00.8	N 24 39.7 +00.1	230 59.7 +02.0	S 13 51.0 -00.2	243 48.1 +02.3	S 17 42.0 -00.1	00						
01	132 26.0 +00.8	N 24 39.8 +00.0	246 01.7 +02.1	S 13 50.8 -00.1	258 50.4 +02.3	S 17 41.9 +00.0	01						
02	147 26.8 +00.8	N 24 39.8 +00.1	261 03.8 +02.0	S 13 50.7 -00.2	273 52.7 +02.3	S 17 41.9 -00.1	02						
03	162 27.6 +00.8	N 24 39.9 +00.1	276 05.8 +02.0	S 13 50.5 -00.1	288 55.0 +02.3	S 17 41.8 +00.0	03						
04	177 28.4 +00.8	N 24 40.0 +00.1	291 07.8 +02.0	S 13 50.4 -00.2	303 57.3 +02.3	S 17 41.8 +00.0	04						
05	192 29.2 +00.9	N 24 40.1 +00.1	306 09.8 +02.0	S 13 50.2 -00.1	318 59.6 +02.3	S 17 41.8 -00.1	05						
06	207 30.1 +00.8	N 24 40.2 +00.1	321 11.8 +02.1	S 13 50.1 -00.2	334 01.9 +02.3	S 17 41.7 +00.0	06						
07	222 30.9 +00.8	N 24 40.3 +00.1	336 13.9 +02.0	S 13 49.9 -00.1	349 04.2 +02.3	S 17 41.7 -00.1	07						
08	237 31.7 +00.8	N 24 40.4 +00.1	351 15.9 +02.0	S 13 49.8 -00.1	4 06.5 +02.3	S 17 41.6 +00.0	08						
09	252 32.5 +00.8	N 24 40.5 +00.1	6 17.9 +02.0	S 13 49.7 -00.2	19 08.8 +02.3	S 17 41.6 +00.0	09						
10	267 33.3 +00.8	N 24 40.6 +00.1	21 19.9 +02.0	S 13 49.5 -00.1	34 11.1 +02.2	S 17 41.6 -00.1	10						
11	282 34.1 +00.8	N 24 40.7 +00.0	36 21.9 +02.1	S 13 49.4 -00.2	49 13.3 +02.3	S 17 41.5 +00.0	11						
12	297 34.9 +00.8	N 24 40.7 +00.1	51 24.0 +02.0	S 13 49.2 -00.1	64 15.6 +02.3	S 17 41.5 -00.1	12						
13	312 35.7 +00.8	N 24 40.8 +00.1	66 26.0 +02.0	S 13 49.1 -00.2	79 17.9 +02.3	S 17 41.4 +00.0	13						
14	327 36.5 +00.8	N 24 40.9 +00.1	81 28.0 +02.0	S 13 48.9 -00.1	94 20.2 +02.3	S 17 41.4 -00.1	14						
15	342 37.3 +00.9	N 24 41.0 +00.1	96 30.0 +02.1	S 13 48.8 -00.2	109 22.5 +02.3	S 17 41.3 +00.0	15						
16	357 38.2 +00.8	N 24 41.1 +00.1	111 32.1 +02.0	S 13 48.6 -00.1	124 24.8 +02.3	S 17 41.3 +00.0	16						
17	12 39.0 +00.8	N 24 41.2 +00.1	126 34.1 +02.0	S 13 48.5 -00.2	139 27.1 +02.3	S 17 41.3 -00.1	17						
18	27 39.8 +00.8	N 24 41.3 +00.1	141 36.1 +02.0	S 13 48.3 -00.1	154 29.4 +02.3	S 17 41.2 +00.0	18						
19	42 40.6 +00.8	N 24 41.4 +00.0	156 38.1 +02.0	S 13 48.2 -00.1	169 31.7 +02.3	S 17 41.2 -00.1	19						
20	57 41.4 +00.8	N 24 41.4 +00.1	171 40.1 +02.1	S 13 48.1 -00.2	184 34.0 +02.3	S 17 41.1 +00.0	20						
21	72 42.2 +00.8	N 24 41.5 +00.1	186 42.2 +02.0	S 13 47.9 -00.1	199 36.3 +02.3	S 17 41.1 +00.0	21						
22	87 43.0 +00.8	N 24 41.6 +00.1	201 44.2 +02.0	S 13 47.8 -00.2	214 38.6 +02.3	S 17 41.1 -00.1	22						
23	102 43.8 +00.8	N 24 41.7 +00.1	216 46.2 +02.0	S 13 47.6 -00.1	229 40.9 +02.3	S 17 41.0 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 279° 279° 279° 279° 278° 278°		SHA 033° 033° 032° 032° 032° 032°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 16:09		Greenwich Culmination Time: 08:34		Greenwich Culmination Time: 07:43								

UT	Sun				Venus				Moon				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	179 43.2 +00.2	N 08 19.0 +01.0	175 34.1 -00.5	N 08 50.6 +01.2	189 18.8 -24.9	S 00 35.1 -13.0	00	01	194 43.4 +00.2	N 08 20.0 +00.9	190 33.6 -00.4	N 08 51.8 +01.2	203 53.9 -24.9	S 00 22.1 -13.1	01
01	209 43.6 +00.1	N 08 20.9 +00.9	205 33.2 -00.4	N 08 53.0 +01.1	218 29.0 -24.9	S 00 09.0 -13.0	02	02	224 43.7 +00.2	N 08 21.8 +00.9	220 32.8 -00.5	N 08 54.1 +01.2	233 04.1 -24.9	N 00 04.0 +13.0	02
02	239 43.9 +00.1	N 08 22.7 +00.9	235 32.3 -00.4	N 08 55.3 +01.2	247 39.2 -24.8	N 00 17.0 +13.0	03	03	254 44.0 +00.2	N 08 23.6 +01.0	250 31.9 -00.4	N 08 56.5 +01.2	262 14.4 -24.9	N 00 30.0 +13.0	03
03	269 44.2 +00.2	N 08 24.6 +00.9	265 31.5 -00.4	N 08 57.7 +01.2	276 49.5 -24.8	N 00 43.0 +13.0	04	04	284 44.4 +00.1	N 08 25.5 +00.9	280 31.1 -00.5	N 08 58.9 +01.2	291 24.7 -24.8	N 00 56.0 +13.0	04
04	299 44.5 +00.2	N 08 26.4 +00.9	295 30.6 -00.4	N 09 00.1 +01.2	305 59.9 -24.9	N 01 09.0 +13.0	05	05	314 44.7 +00.2	N 08 27.3 +00.9	310 30.2 -00.4	N 09 01.3 +01.2	320 35.0 -24.8	N 01 22.0 +13.0	05
05	329 44.9 +00.1	N 08 28.2 +00.9	325 29.8 -00.5	N 09 02.5 +01.2	335 10.2 -24.8	N 01 35.0 +12.9	06	06	344 45.0 +00.2	N 08 29.1 +01.0	340 29.3 -00.4	N 09 03.7 +01.1	349 45.4 -24.8	N 01 47.9 +13.0	06
06	359 45.2 +00.2	N 08 30.1 +00.9	355 28.9 -00.4	N 09 04.8 +01.2	4 20.6 -24.8	N 02 00.9 +12.9	07	07	14 45.4 +00.1	N 08 31.0 +00.9	10 28.5 -00.5	N 09 06.0 +01.2	18 55.8 -24.8	N 02 13.8 +12.9	07
07	29 45.5 +00.2	N 08 31.9 +00.9	25 28.0 -00.4	N 09 07.2 +01.2	33 31.0 -24.8	N 02 26.7 +12.9	08	08	44 45.7 +00.1	N 08 32.8 +00.9	40 27.6 -00.4	N 09 08.4 +01.2	48 06.2 -24.8	N 02 39.6 +12.9	08
08	59 45.8 +00.2	N 08 33.7 +00.9	55 27.2 -00.5	N 09 09.6 +01.2	62 41.4 -24.8	N 02 52.5 +12.9	09	09	74 46.0 +00.2	N 08 34.6 +01.0	70 26.7 -00.4	N 09 10.8 +01.2	77 16.6 -24.8	N 03 05.4 +12.8	09
09	89 46.2 +00.1	N 08 35.6 +00.9	85 26.3 -00.4	N 09 12.0 +01.1	91 51.8 -24.8	N 03 18.2 +12.9	10	10	104 46.3 +00.2	N 08 36.5 +00.9	100 25.9 -00.5	N 09 13.1 +01.2	106 27.0 -24.8	N 03 31.1 +12.8	10
10	119 46.5 +00.1	N 08 37.4 +00.9	115 25.4 -00.4	N 09 14.3 +01.2	121 02.2 -24.8	N 03 43.9 +12.8	11	11	134 46.6 +00.2	N 08 38.3 +00.9	130 25.0 -00.5	N 09 15.5 +01.2	135 37.4 -24.8	N 03 56.7 +12.8	11
11	149 46.8 +00.2	N 08 39.2 +00.9	145 24.5 -00.4	N 09 16.7 +01.2	150 12.6 -24.8	N 04 09.5 +12.8	12	12	164 47.0 +00.1	N 08 40.1 +00.9	160 24.1 -00.4	N 09 17.9 +01.2	164 47.8 -24.8	N 04 22.3 +12.7	12
12	164 47.0 +00.1	N 08 40.1 +00.9	160 24.1 -00.4	N 09 17.9 +01.2	164 47.8 -24.8	N 04 22.3 +12.7	13	13	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 00'1 00'1 00'1 00'1 00'1 00'1	UT 02 06 10 14 18 22	SD 14'9 14'9 14'8 14'8 14'8 14'8	13
13	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 00'1 00'1 00'1 00'1 00'1 00'1	UT 02 06 10 14 18 22	SD 14'9 14'9 14'8 14'8 14'8 14'8	14	14	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 54'6 54'5 54'5 54'4 54'4 54'3	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 54'6 54'5 54'5 54'4 54'4 54'3	HP 00'1 00'1 00'1 00'1 00'1 00'1	14
14	SHA 340° 340° 340° 340° 340° 339°	SHA 336° 336° 336° 335° 335° 335°	SHA 336° 336° 336° 335° 335° 335°	SHA 349° 347° 345° 344° 342° 340°	Greenwich Culmination Time: 12:00	Greenwich Culmination Time: 12:18	Greenwich Culmination Time: 11:42	15	15	Greenwich Culmination Time: 12:00	Greenwich Culmination Time: 12:18	Greenwich Culmination Time: 11:42	15	15	15
15	Greenwich Culmination Time: 12:00	Greenwich Culmination Time: 12:18	Greenwich Culmination Time: 11:42	16	16	16	16	16	16	16	16	16	16	16	
16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	
17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	
18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	
19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	
20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	
22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	
23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 47.1 +00.2	N 08 41.0 +00.9	175 23.7 -00.5	N 09 19.1 +01.1	179 23.0 -24.8	N 04 35.0 +12.7	00						
01	194 47.3 +00.2	N 08 41.9 +01.0	190 23.2 -00.4	N 09 20.2 +01.2	193 58.2 -24.9	N 04 47.7 +12.7	01						
02	209 47.5 +00.1	N 08 42.9 +00.9	205 22.8 -00.4	N 09 21.4 +01.2	208 33.3 -24.8	N 05 00.4 +12.7	02						
03	224 47.6 +00.2	N 08 43.8 +00.9	220 22.4 -00.5	N 09 22.6 +01.2	223 08.5 -24.8	N 05 13.1 +12.7	03						
04	239 47.8 +00.1	N 08 44.7 +00.9	235 21.9 -00.4	N 09 23.8 +01.2	237 43.7 -24.9	N 05 25.8 +12.6	04						
05	254 47.9 +00.2	N 08 45.6 +00.9	250 21.5 -00.4	N 09 25.0 +01.1	252 18.8 -24.8	N 05 38.4 +12.6	05						
06	269 48.1 +00.2	N 08 46.5 +00.9	265 21.1 -00.5	N 09 26.1 +01.2	266 54.0 -24.9	N 05 51.0 +12.6	06						
07	284 48.3 +00.1	N 08 47.4 +00.9	280 20.6 -00.4	N 09 27.3 +01.2	281 29.1 -24.9	N 06 03.6 +12.5	07						
08	299 48.4 +00.2	N 08 48.3 +00.9	295 20.2 -00.5	N 09 28.5 +01.2	296 04.2 -24.9	N 06 16.1 +12.5	08						
09	314 48.6 +00.1	N 08 49.2 +01.0	310 19.7 -00.4	N 09 29.7 +01.2	310 39.3 -24.9	N 06 28.6 +12.5	09						
10	329 48.7 +00.2	N 08 50.2 +00.9	325 19.3 -00.4	N 09 30.9 +01.1	325 14.4 -24.9	N 06 41.1 +12.5	10						
11	344 48.9 +00.2	N 08 51.1 +00.9	340 18.9 -00.5	N 09 32.0 +01.2	339 49.5 -25.0	N 06 53.6 +12.4	11						
12	359 49.1 +00.1	N 08 52.0 +00.9	355 18.4 -00.4	N 09 33.2 +01.2	354 24.5 -24.9	N 07 06.0 +12.4	12						
13	14 49.2 +00.2	N 08 52.9 +00.9	10 18.0 -00.5	N 09 34.4 +01.2	8 59.6 -25.0	N 07 18.4 +12.4	13						
14	29 49.4 +00.1	N 08 53.8 +00.9	25 17.5 -00.4	N 09 35.6 +01.1	23 34.6 -25.0	N 07 30.8 +12.4	14						
15	44 49.5 +00.2	N 08 54.7 +00.9	40 17.1 -00.4	N 09 36.7 +01.2	38 09.6 -25.0	N 07 43.2 +12.3	15						
16	59 49.7 +00.1	N 08 55.6 +00.9	55 16.7 -00.5	N 09 37.9 +01.2	52 44.6 -25.0	N 07 55.5 +12.2	16						
17	74 49.8 +00.2	N 08 56.5 +00.9	70 16.2 -00.4	N 09 39.1 +01.2	67 19.6 -25.0	N 08 07.7 +12.3	17						
18	89 50.0 +00.2	N 08 57.4 +00.9	85 15.8 -00.5	N 09 40.3 +01.1	81 54.6 -25.1	N 08 20.0 +12.2	18						
19	104 50.2 +00.1	N 08 58.3 +00.9	100 15.3 -00.4	N 09 41.4 +01.2	96 29.5 -25.1	N 08 32.2 +12.2	19						
20	119 50.3 +00.2	N 08 59.2 +01.0	115 14.9 -00.5	N 09 42.6 +01.2	111 04.4 -25.1	N 08 44.4 +12.1	20						
21	134 50.5 +00.1	N 09 00.2 +00.9	130 14.4 -00.4	N 09 43.8 +01.2	125 39.3 -25.1	N 08 56.5 +12.1	21						
22	149 50.6 +00.2	N 09 01.1 +00.9	145 14.0 -00.4	N 09 45.0 +01.1	140 14.2 -25.2	N 09 08.6 +12.0	22						
23	164 50.8 +00.2	N 09 02.0 +00.9	160 13.6 -00.5	N 09 46.1 +01.2	154 49.0 -25.1	N 09 20.6 +12.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'8 14'8 14'8 14'8 14'8 14'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'3 54'3 54'2 54'2 54'2 54'1								
	SHA 339° 339° 339° 339° 339° 339°		SHA 335° 335° 334° 334° 334° 334°		SHA 338° 336° 334° 333° 331° 329°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 12:18		Greenwich Culmination Time: 12:23								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	118 04.0 +00.8	N 24 43.7 +00.1	232 36.9 +02.0	S 13 44.0 -00.1	245 38.4 +02.3	S 17 40.0 +00.0	00						
01	133 04.8 +00.9	N 24 43.8 +00.1	247 38.9 +02.0	S 13 43.9 -00.2	260 40.7 +02.3	S 17 40.0 -00.1	01						
02	148 05.7 +00.8	N 24 43.9 +00.1	262 40.9 +02.1	S 13 43.7 -00.1	275 43.0 +02.3	S 17 39.9 +00.0	02						
03	163 06.5 +00.8	N 24 44.0 +00.0	277 43.0 +02.0	S 13 43.6 -00.1	290 45.3 +02.3	S 17 39.9 +00.0	03						
04	178 07.3 +00.8	N 24 44.0 +00.1	292 45.0 +02.0	S 13 43.5 -00.2	305 47.6 +02.3	S 17 39.9 -00.1	04						
05	193 08.1 +00.8	N 24 44.1 +00.1	307 47.0 +02.0	S 13 43.3 -00.1	320 49.9 +02.3	S 17 39.8 +00.0	05						
06	208 08.9 +00.8	N 24 44.2 +00.1	322 49.0 +02.1	S 13 43.2 -00.2	335 52.2 +02.3	S 17 39.8 -00.1	06						
07	223 09.7 +00.8	N 24 44.3 +00.0	337 51.1 +02.0	S 13 43.0 -00.1	350 54.5 +02.3	S 17 39.7 +00.0	07						
08	238 10.5 +00.8	N 24 44.3 +00.1	352 53.1 +02.0	S 13 42.9 -00.2	5 56.8 +02.3	S 17 39.7 +00.0	08						
09	253 11.3 +00.8	N 24 44.4 +00.1	7 55.1 +02.1	S 13 42.7 -00.1	20 59.1 +02.3	S 17 39.7 -00.1	09						
10	268 12.1 +00.8	N 24 44.5 +00.1	22 57.2 +02.0	S 13 42.6 -00.1	36 01.4 +02.3	S 17 39.6 +00.0	10						
11	283 12.9 +00.8	N 24 44.6 +00.0	37 59.2 +02.0	S 13 42.5 -00.2	51 03.7 +02.3	S 17 39.6 -00.1	11						
12	298 13.7 +00.8	N 24 44.6 +00.1	53 01.2 +02.0	S 13 42.3 -00.1	66 06.0 +02.4	S 17 39.5 +00.0	12						
13	313 14.5 +00.8	N 24 44.7 +00.1	68 03.2 +02.1	S 13 42.2 -00.2	81 08.4 +02.3	S 17 39.5 +00.0	13						
14	328 15.3 +00.8	N 24 44.8 +00.0	83 05.3 +02.0	S 13 42.0 -00.1	96 10.7 +02.3	S 17 39.5 -00.1	14						
15	343 16.1 +00.9	N 24 44.8 +00.1	98 07.3 +02.0	S 13 41.9 -00.2	111 13.0 +02.3	S 17 39.4 +00.0	15						
16	358 17.0 +00.8	N 24 44.9 +00.1	113 09.3 +02.1	S 13 41.7 -00.1	126 15.3 +02.3	S 17 39.4 -00.1	16						
17	13 17.8 +00.8	N 24 45.0 +00.1	128 11.4 +02.0	S 13 41.6 -00.1	141 17.6 +02.3	S 17 39.3 +00.0	17						
18	28 18.6 +00.8	N 24 45.1 +00.0	143 13.4 +02.0	S 13 41.5 -00.2	156 19.9 +02.3	S 17 39.3 +00.0	18						
19	43 19.4 +00.8	N 24 45.1 +00.1	158 15.4 +02.1	S 13 41.3 -00.1	171 22.2 +02.3	S 17 39.3 -00.1	19						
20	58 20.2 +00.8	N 24 45.2 +00.1	173 17.5 +02.0	S 13 41.2 -00.2	186 24.5 +02.3	S 17 39.2 +00.0	20						
21	73 21.0 +00.8	N 24 45.3 +00.1	188 19.5 +02.0	S 13 41.0 -00.1	201 26.8 +02.3	S 17 39.2 +00.0	21						
22	88 21.8 +00.8	N 24 45.4 +00.0	203 21.5 +02.1	S 13 40.9 -00.2	216 29.1 +02.3	S 17 39.2 -00.1	22						
23	103 22.6 +00.8	N 24 45.4 +00.1	218 23.6 +02.0	S 13 40.7 -00.1	231 31.4 +02.3	S 17 39.1 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 278° 277° 277° 277° 277° 277°		SHA 032° 032° 032° 032° 032° 032°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 16:06		Greenwich Culmination Time: 08:28		Greenwich Culmination Time: 07:36								

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 51.0 +00.1	N 09 02.9 +00.9	175 13.1 -00.4	N 09 47.3 +01.2	169 23.9 -25.2	N 09 32.7 +11.9	00						
01	194 51.1 +00.2	N 09 03.8 +00.9	190 12.7 -00.5	N 09 48.5 +01.2	183 58.7 -25.3	N 09 44.6 +12.0	01						
02	209 51.3 +00.1	N 09 04.7 +00.9	205 12.2 -00.4	N 09 49.7 +01.1	198 33.4 -25.2	N 09 56.6 +11.9	02						
03	224 51.4 +00.2	N 09 05.6 +00.9	220 11.8 -00.5	N 09 50.8 +01.2	213 08.2 -25.3	N 10 08.5 +11.8	03						
04	239 51.6 +00.1	N 09 06.5 +00.9	235 11.3 -00.4	N 09 52.0 +01.2	227 42.9 -25.3	N 10 20.3 +11.8	04						
05	254 51.7 +00.2	N 09 07.4 +00.9	250 10.9 -00.5	N 09 53.2 +01.1	242 17.6 -25.3	N 10 32.1 +11.8	05						
06	269 51.9 +00.2	N 09 08.3 +00.9	265 10.4 -00.4	N 09 54.3 +01.2	256 52.3 -25.4	N 10 43.9 +11.7	06						
07	284 52.1 +00.1	N 09 09.2 +00.9	280 10.0 -00.4	N 09 55.5 +01.2	271 26.9 -25.4	N 10 55.6 +11.7	07						
08	299 52.2 +00.2	N 09 10.1 +00.9	295 09.6 -00.5	N 09 56.7 +01.1	286 01.5 -25.4	N 11 07.3 +11.7	08						
09	314 52.4 +00.1	N 09 11.0 +00.9	310 09.1 -00.4	N 09 57.8 +01.2	300 36.1 -25.4	N 11 19.0 +11.6	09						
10	329 52.5 +00.2	N 09 11.9 +00.9	325 08.7 -00.5	N 09 59.0 +01.2	315 10.7 -25.5	N 11 30.6 +11.5	10						
11	344 52.7 +00.1	N 09 12.8 +00.9	340 08.2 -00.4	N 10 00.2 +01.2	329 45.2 -25.5	N 11 42.1 +11.5	11						
12	359 52.8 +00.2	N 09 13.7 +00.9	355 07.8 -00.5	N 10 01.4 +01.1	344 19.7 -25.6	N 11 53.6 +11.4	12						
13	14 53.0 +00.1	N 09 14.6 +01.0	10 07.3 -00.4	N 10 02.5 +01.2	358 54.1 -25.6	N 12 05.0 +11.4	13						
14	29 53.1 +00.2	N 09 15.6 +00.9	25 06.9 -00.5	N 10 03.7 +01.2	13 28.5 -25.6	N 12 16.4 +11.4	14						
15	44 53.3 +00.2	N 09 16.5 +00.9	40 06.4 -00.4	N 10 04.9 +01.1	28 02.9 -25.6	N 12 27.8 +11.3	15						
16	59 53.5 +00.1	N 09 17.4 +00.9	55 06.0 -00.5	N 10 06.0 +01.2	42 37.3 -25.7	N 12 39.1 +11.2	16						
17	74 53.6 +00.2	N 09 18.3 +00.9	70 05.5 -00.4	N 10 07.2 +01.2	57 11.6 -25.7	N 12 50.3 +11.2	17						
18	89 53.8 +00.1	N 09 19.2 +00.9	85 05.1 -00.5	N 10 08.4 +01.1	71 45.9 -25.8	N 13 01.5 +11.2	18						
19	104 53.9 +00.2	N 09 20.1 +00.9	100 04.6 -00.4	N 10 09.5 +01.2	86 20.1 -25.8	N 13 12.7 +11.1	19						
20	119 54.1 +00.1	N 09 21.0 +00.9	115 04.2 -00.5	N 10 10.7 +01.2	100 54.3 -25.8	N 13 23.8 +11.0	20						
21	134 54.2 +00.2	N 09 21.9 +00.9	130 03.7 -00.4	N 10 11.9 +01.1	115 28.5 -25.9	N 13 34.8 +11.0	21						
22	149 54.4 +00.1	N 09 22.8 +00.9	145 03.8 -00.5	N 10 13.0 +01.2	130 02.6 -25.9	N 13 45.8 +10.9	22						
23	164 54.5 +00.2	N 09 23.7 +00.9	160 02.2 -00.4	N 10 14.2 +01.1	144 36.7 -25.9	N 13 56.7 +10.9	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 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		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 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'1 54'1 54'1 54'0 54'0 54'0								
	SHA 338° 338° 338° 338° 338° 338°		SHA 334° 334° 333° 333° 333° 333°		SHA 327° 325° 323° 322° 320° 318°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 12:19		Greenwich Culmination Time: 13:04								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	118 23.4 +00.8	N 24 45.5 +00.1	233 25.6 +02.0	S 13 40.6 -00.1	246 33.7 +02.3	S 17 39.1 -00.1	00						
01	133 24.2 +00.8	N 24 45.6 +00.0	248 27.6 +02.1	S 13 40.5 -00.2	261 36.0 +02.3	S 17 39.0 +00.0	01						
02	148 25.0 +00.8	N 24 45.6 +00.1	263 29.7 +02.0	S 13 40.3 -00.1	276 38.3 +02.3	S 17 39.0 +00.0	02						
03	163 25.8 +00.8	N 24 45.7 +00.1	278 31.7 +02.0	S 13 40.2 -00.2	291 40.6 +02.3	S 17 39.0 -00.1	03						
04	178 26.6 +00.8	N 24 45.8 +00.0	293 33.7 +02.1	S 13 40.0 -00.1	306 42.9 +02.3	S 17 38.9 +00.0	04						
05	193 27.4 +00.8	N 24 45.8 +00.1	308 35.8 +02.0	S 13 39.9 -00.1	321 45.2 +02.3	S 17 38.9 -00.1	05						
06	208 28.2 +00.8	N 24 45.9 +00.1	323 37.8 +02.0	S 13 39.8 -00.2	336 47.5 +02.3	S 17 38.8 +00.0	06						
07	223 29.0 +00.8	N 24 46.0 +00.0	338 39.8 +02.1	S 13 39.6 -00.1	351 49.8 +02.3	S 17 38.8 +00.0	07						
08	238 29.8 +00.9	N 24 46.0 +00.1	353 41.9 +02.0	S 13 39.5 -00.2	6 52.1 +02.4	S 17 38.8 -00.1	08						
09	253 30.7 +00.8	N 24 46.1 +00.1	8 43.9 +02.0	S 13 39.3 -00.1	21 54.5 +02.3	S 17 38.7 +00.0	09						
10	268 31.5 +00.8	N 24 46.2 +00.1	23 45.9 +02.1	S 13 39.2 -00.2	36 56.8 +02.3	S 17 38.7 +00.0	10						
11	283 32.3 +00.8	N 24 46.3 +00.0	38 48.0 +02.0	S 13 39.0 -00.1	51 59.1 +02.3	S 17 38.7 -00.1	11						
12	298 33.1 +00.8	N 24 46.3 +00.1	53 50.0 +02.0	S 13 38.9 -00.1	67 01.4 +02.3	S 17 38.6 +00.0	12						
13	313 33.9 +00.8	N 24 46.4 +00.1	68 52.0 +02.1	S 13 38.8 -00.2	82 03.7 +02.3	S 17 38.6 -00.1	13						
14	328 34.7 +00.8	N 24 46.5 +00.0	83 54.1 +02.0	S 13 38.6 -00.1	97 06.0 +02.3	S 17 38.5 +00.0	14						
15	343 35.5 +00.8	N 24 46.5 +00.1	98 56.1 +02.0	S 13 38.5 -00.2	112 08.3 +02.3	S 17 38.5 +00.0	15						
16	358 36.3 +00.8	N 24 46.6 +00.1	113 58.1 +02.1	S 13 38.3 -00.1	127 10.6 +02.3	S 17 38.5 -00.1	16						
17	13 37.1 +00.8	N 24 46.7 +00.0	129 00.2 +02.0	S 13 38.2 -00.1	142 12.9 +02.3	S 17 38.4 +00.0	17						
18	28 37.9 +00.8	N 24 46.7 +00.1	144 02.2 +02.0	S 13 38.1 -00.2	157 15.2 +02.3	S 17 38.4 -00.1	18						
19	43 38.7 +00.8	N 24 46.8 +00.0	159 04.2 +02.1	S 13 37.9 -00.1	172 17.5 +02.3	S 17 38.3 +00.0	19						
20	58 39.5 +00.8	N 24 46.8 +00.1	174 06.3 +02.0	S 13 37.8 -00.2	187 19.8 +02.3	S 17 38.3 +00.0	20						
21	73 40.3 +00.8	N 24 46.9 +00.1	189 08.3 +02.1	S 13 37.6 -00.1	202 22.1 +02.4	S 17 38.3 -00.1	21						
22	88 41.1 +00.8	N 24 47.0 +00.0	204 10.4 +02.0	S 13 37.5 -00.1	217 24.5 +02.3	S 17 38.2 +00.0	22						
23	103 41.9 +00.8	N 24 47.0 +00.1	219 12.4 +02.0	S 13 37.4 -00.2	232 26.8 +02.3	S 17 38.2 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 277° 277° 277° 277° 276° 276°		SHA 032° 032° 032° 032° 032° 032°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 16:05		Greenwich Culmination Time: 08:25		Greenwich Culmination Time: 07:32								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 07%				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	179 54.7 +00.2	N 09	24.6 +00.9	175 02.4 -00.5	N 10	15.3 +01.2	159 10.8 -26.0	N 14	07.6 +10.8	00			
01	194 54.9 +00.1	N 09	25.5 +00.9	190 01.9 -00.4	N 10	16.5 +01.2	173 44.8 -26.0	N 14	18.4 +10.7	01			
02	209 55.0 +00.2	N 09	26.4 +00.9	205 01.5 -00.5	N 10	17.7 +01.1	188 18.8 -26.1	N 14	29.1 +10.7	02			
03	224 55.2 +00.1	N 09	27.3 +00.9	220 01.0 -00.4	N 10	18.8 +01.2	202 52.7 -26.1	N 14	39.8 +10.7	03			
04	239 55.3 +00.2	N 09	28.2 +00.9	235 00.6 -00.5	N 10	20.0 +01.2	217 26.6 -26.2	N 14	50.5 +10.6	04			
05	254 55.5 +00.1	N 09	29.1 +00.9	250 00.1 -00.4	N 10	21.2 +01.1	232 00.4 -26.2	N 15	01.1 +10.5	05			
06	269 55.6 +00.2	N 09	30.0 +00.9	264 59.7 -00.5	N 10	22.3 +01.2	246 34.2 -26.2	N 15	11.6 +10.4	06			
07	284 55.8 +00.1	N 09	30.9 +00.9	279 59.2 -00.4	N 10	23.5 +01.1	261 08.0 -26.3	N 15	22.0 +10.4	07			
08	299 55.9 +00.2	N 09	31.8 +00.9	294 58.8 -00.5	N 10	24.6 +01.2	275 41.7 -26.3	N 15	32.4 +10.3	08			
09	314 56.1 +00.1	N 09	32.7 +00.9	309 58.3 -00.4	N 10	25.8 +01.2	290 15.4 -26.4	N 15	42.7 +10.3	09			
10	329 56.2 +00.2	N 09	33.6 +00.9	324 57.9 -00.5	N 10	27.0 +01.1	304 49.0 -26.4	N 15	53.0 +10.2	10			
11	344 56.4 +00.1	N 09	34.5 +00.9	339 57.4 -00.5	N 10	28.1 +01.2	319 22.6 -26.5	N 16	03.2 +10.1	11			
12	359 56.5 +00.2	N 09	35.4 +00.9	354 56.9 -00.4	N 10	29.3 +01.1	333 56.1 -26.5	N 16	13.3 +10.1	12			
13	14 56.7 +00.1	N 09	36.3 +00.9	9 56.5 -00.5	N 10	30.4 +01.2	348 29.6 -26.5	N 16	23.4 +10.0	13			
14	29 56.8 +00.2	N 09	37.2 +00.8	24 56.0 -00.4	N 10	31.6 +01.1	3 03.1 -26.6	N 16	33.4 +09.9	14			
15	44 57.0 +00.1	N 09	38.0 +00.9	39 55.6 -00.5	N 10	32.7 +01.2	17 36.5 -26.7	N 16	43.3 +09.9	15			
16	59 57.1 +00.2	N 09	38.9 +00.9	54 55.1 -00.4	N 10	33.9 +01.2	32 09.8 -26.7	N 16	53.2 +09.8	16			
17	74 57.3 +00.2	N 09	39.8 +00.9	69 54.7 -00.5	N 10	35.1 +01.1	46 43.1 -26.7	N 17	03.0 +09.7	17			
18	89 57.5 +00.1	N 09	40.7 +00.9	84 54.2 -00.4	N 10	36.2 +01.2	61 16.4 -26.8	N 17	12.7 +09.7	18			
19	104 57.6 +00.2	N 09	41.6 +00.9	99 53.8 -00.5	N 10	37.4 +01.1	75 49.6 -26.9	N 17	22.4 +09.5	19			
20	119 57.8 +00.1	N 09	42.5 +00.9	114 53.3 -00.5	N 10	38.5 +01.2	90 22.7 -26.8	N 17	31.9 +09.5	20			
21	134 57.9 +00.2	N 09	43.4 +00.9	129 52.8 -00.4	N 10	39.7 +01.1	104 55.9 -27.0	N 17	41.4 +09.5	21			
22	149 58.1 +00.1	N 09	44.3 +00.9	144 52.4 -00.5	N 10	40.8 +01.2	119 28.9 -27.0	N 17	50.9 +09.3	22			
23	164 58.2 +00.2	N 09	45.2 +00.9	159 51.9 -00.4	N 10	42.0 +01.1	134 01.9 -27.0	N 18	00.2 +09.3	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 15'9 15'9 15'9 15'9 15'9 15'9			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 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 00'1 00'1 00'1 00'1 00'1 00'1			HP 54'0 54'0 54'0 54'0 54'0 54'0						
	SHA 337° 337° 337° 337° 337° 337°			SHA 333° 332° 332° 332° 332° 332°			SHA 316° 314° 312° 310° 308° 306°						
	Greenwich Culmination Time: 12:00			Greenwich Culmination Time: 12:20			Greenwich Culmination Time: 13:47						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	118 42.7 +00.8	N 24	47.1 +00.1	234 14.4 +02.1	S 13	37.2 -00.1	247 29.1 +02.3	S 17	38.2 -00.1	00			
01	133 43.5 +00.8	N 24	47.2 +00.0	249 16.5 +02.0	S 13	37.1 -00.2	262 31.4 +02.3	S 17	38.1 +00.0	01			
02	148 44.3 +00.8	N 24	47.2 +00.1	264 18.5 +02.0	S 13	36.9 -00.1	277 33.7 +02.3	S 17	38.1 -00.1	02			
03	163 45.1 +00.8	N 24	47.3 +00.1	279 20.5 +02.1	S 13	36.8 -00.1	292 36.0 +02.3	S 17	38.0 +00.0	03			
04	178 45.9 +00.8	N 24	47.4 +00.0	294 22.6 +02.0	S 13	36.7 -00.2	307 38.3 +02.3	S 17	38.0 +00.0	04			
05	193 46.7 +00.8	N 24	47.4 +00.1	309 24.6 +02.0	S 13	36.5 -00.1	322 40.6 +02.3	S 17	38.0 -00.1	05			
06	208 47.5 +00.8	N 24	47.5 +00.0	324 26.6 +02.1	S 13	36.4 -00.2	337 42.9 +02.3	S 17	37.9 +00.0	06			
07	223 48.3 +00.8	N 24	47.5 +00.1	339 28.7 +02.0	S 13	36.2 -00.1	352 45.2 +02.3	S 17	37.9 +00.0	07			
08	238 49.1 +00.9	N 24	47.6 +00.1	354 30.7 +02.1	S 13	36.1 -00.1	7 47.5 +02.4	S 17	37.9 -00.1	08			
09	253 50.0 +00.8	N 24	47.7 +00.0	9 32.8 +02.0	S 13	36.0 -00.2	22 49.9 +02.3	S 17	37.8 +00.0	09			
10	268 50.8 +00.8	N 24	47.7 +00.1	24 34.8 +02.0	S 13	35.8 -00.1	37 52.2 +02.3	S 17	37.8 -00.1	10			
11	283 51.6 +00.8	N 24	47.8 +00.0	39 36.8 +02.1	S 13	35.7 -00.2	52 54.5 +02.3	S 17	37.7 +00.0	11			
12	298 52.4 +00.8	N 24	47.8 +00.1	54 38.9 +02.0	S 13	35.5 -00.1	67 56.8 +02.3	S 17	37.7 +00.0	12			
13	313 53.2 +00.8	N 24	47.9 +00.1	69 40.9 +02.1	S 13	35.4 -00.2	82 59.1 +02.3	S 17	37.7 -00.1	13			
14	328 54.0 +00.8	N 24	48.0 +00.0	84 43.0 +02.0	S 13	35.2 -00.1	98 01.4 +02.3	S 17	37.6 +00.0	14			
15	343 54.8 +00.8	N 24	48.0 +00.1	99 45.0 +02.0	S 13	35.1 -00.1	113 03.7 +02.3	S 17	37.6 +00.0	15			
16	358 55.6 +00.8	N 24	48.1 +00.0	114 47.0 +02.1	S 13	35.0 -00.2	128 06.0 +02.3	S 17	37.6 -00.1	16			
17	13 56.4 +00.8	N 24	48.1 +00.1	129 49.1 +02.0	S 13	34.8 -00.1	143 08.3 +02.4	S 17	37.5 +00.0	17			
18	28 57.2 +00.8	N 24	48.2 +00.1	144 51.1 +02.1	S 13	34.7 -00.1	158 10.7 +02.3	S 17	37.5 -00.1	18			
19	43 58.0 +00.8	N 24	48.3 +00.0	159 53.2 +02.0	S 13	34.6 -00.2	173 13.0 +02.3	S 17	37.4 +00.0	19			
20	58 58.8 +00.8	N 24	48.3 +00.1	174 55.2 +02.0	S 13	34.4 -00.1	188 15.3 +02.3	S 17	37.4 +00.0	20			
21	73 59.6 +00.8	N 24	48.4 +00.0	189 57.2 +02.1	S 13	34.3 -00.2	203 17.6 +02.3	S 17	37.4 -00.1	21			
22	89 00.4 +00.8	N 24	48.4 +00.1	204 59.3 +02.0	S 13	34.1 -00.1	218 19.9 +02.3	S 17	37.3 +00.0	22			
23	104 01.2 +00.8	N 24	48.5 +00.0	220 01.3 +02.1	S 13	34.0 -00.1	233 22.2 +02.3	S 17	37.3 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 276° 276° 276° 276° 276° 276°			SHA 032° 032° 032° 032° 032° 032°			SHA 045° 045° 045° 045° 045° 045°						
	Greenwich Culmination Time: 16:04			Greenwich Culmination Time: 08:21			Greenwich Culmination Time: 07:28						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 58.4 +00.1	N 09 46.1 +00.9	174 51.5 -00.5	N 10 43.1 +01.2	148 34.9 -27.1	N 18 09.5 +09.2	00						
01	194 58.5 +00.2	N 09 47.0 +00.9	189 51.0 -00.5	N 10 44.3 +01.1	163 07.8 -27.2	N 18 18.7 +09.2	01						
02	209 58.7 +00.1	N 09 47.9 +00.9	204 50.5 -00.4	N 10 45.4 +01.2	177 40.6 -27.2	N 18 27.9 +09.0	02						
03	224 58.8 +00.2	N 09 48.8 +00.9	219 50.1 -00.5	N 10 46.6 +01.1	192 13.4 -27.2	N 18 36.9 +09.0	03						
04	239 59.0 +00.1	N 09 49.7 +00.9	234 49.6 -00.4	N 10 47.7 +01.2	206 46.2 -27.3	N 18 45.9 +08.9	04						
05	254 59.1 +00.2	N 09 50.6 +00.9	249 49.2 -00.5	N 10 48.9 +01.1	221 18.9 -27.4	N 18 54.8 +08.9	05						
06	269 59.3 +00.1	N 09 51.5 +00.9	264 48.7 -00.5	N 10 50.0 +01.2	235 51.5 -27.4	N 19 03.7 +08.7	06						
07	284 59.4 +00.2	N 09 52.4 +00.8	279 48.2 -00.4	N 10 51.2 +01.1	250 24.1 -27.4	N 19 12.4 +08.7	07						
08	299 59.6 +00.1	N 09 53.2 +00.9	294 47.8 -00.5	N 10 52.3 +01.2	264 56.7 -27.6	N 19 21.1 +08.5	08						
09	314 59.7 +00.2	N 09 54.1 +00.9	309 47.3 -00.4	N 10 53.5 +01.1	279 29.1 -27.5	N 19 29.6 +08.6	09						
10	329 59.9 +00.1	N 09 55.0 +00.9	324 46.9 -00.5	N 10 54.6 +01.2	294 01.6 -27.7	N 19 38.2 +08.4	10						
11	345 00.0 +00.2	N 09 55.9 +00.9	339 46.4 -00.5	N 10 55.8 +01.1	308 33.9 -27.6	N 19 46.6 +08.3	11						
12	0 00.2 +00.1	N 09 56.8 +00.9	354 45.9 -00.4	N 10 56.9 +01.2	323 06.3 -27.8	N 19 54.9 +08.3	12						
13	15 00.3 +00.2	N 09 57.7 +00.9	9 45.5 -00.5	N 10 58.1 +01.1	337 38.5 -27.7	N 20 03.2 +08.1	13						
14	30 00.5 +00.1	N 09 58.6 +00.9	24 45.0 -00.5	N 10 59.2 +01.2	352 10.8 -27.9	N 20 11.3 +08.1	14						
15	45 00.6 +00.2	N 09 59.5 +00.9	39 44.5 -00.4	N 11 00.4 +01.1	6 42.9 -27.9	N 20 19.4 +08.0	15						
16	60 00.8 +00.1	N 10 00.4 +00.9	54 44.1 -00.5	N 11 01.5 +01.2	21 15.0 -27.9	N 20 27.4 +07.9	16						
17	75 00.9 +00.1	N 10 01.3 +00.9	69 43.6 -00.4	N 11 02.7 +01.1	35 47.1 -28.0	N 20 35.3 +07.8	17						
18	90 01.0 +00.2	N 10 02.2 +00.8	84 43.2 -00.5	N 11 03.8 +01.2	50 19.1 -28.1	N 20 43.1 +07.8	18						
19	105 01.2 +00.1	N 10 03.0 +00.9	99 42.7 -00.5	N 11 05.0 +01.1	64 51.0 -28.1	N 20 50.9 +07.6	19						
20	120 01.3 +00.2	N 10 03.9 +00.9	114 42.2 -00.4	N 11 06.1 +01.1	79 22.9 -28.2	N 20 58.5 +07.6	20						
21	135 01.5 +00.1	N 10 04.8 +00.9	129 41.8 -00.5	N 11 07.2 +01.2	93 54.7 -28.2	N 21 06.1 +07.4	21						
22	150 01.6 +00.2	N 10 05.7 +00.9	144 41.3 -00.5	N 11 08.4 +01.1	108 26.5 -28.3	N 21 13.5 +07.4	22						
23	165 01.8 +00.1	N 10 06.6 +00.9	159 40.8 -00.4	N 11 09.5 +01.2	122 58.2 -28.3	N 21 20.9 +07.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'7 14'7 14'7 14'7 14'7 14'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'0 54'0 54'0 54'0 54'0 54'0								
	SHA 337° 336° 336° 336° 336° 336°		SHA 331° 331° 331° 331° 331° 330°		SHA 304° 302° 300° 298° 296° 294°								
	Greenwich Culmination Time: 11:59		Greenwich Culmination Time: 12:20		Greenwich Culmination Time: 14:32								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	119 02.0 +00.8	N 24 48.5 +00.1	235 03.4 +02.0	S 13 33.9 -00.2	248 24.5 +02.3	S 17 37.3 -00.1	00						
01	134 02.8 +00.8	N 24 48.6 +00.1	250 05.4 +02.0	S 13 33.7 -00.1	263 26.8 +02.3	S 17 37.2 +00.0	01						
02	149 03.6 +00.8	N 24 48.7 +00.0	265 07.4 +02.1	S 13 33.6 -00.2	278 29.1 +02.4	S 17 37.2 -00.1	02						
03	164 04.4 +00.8	N 24 48.7 +00.1	280 09.5 +02.0	S 13 33.4 -00.1	293 31.5 +02.3	S 17 37.1 +00.0	03						
04	179 05.2 +00.8	N 24 48.8 +00.0	295 11.5 +02.1	S 13 33.3 -00.1	308 33.8 +02.3	S 17 37.1 +00.0	04						
05	194 06.0 +00.8	N 24 48.8 +00.1	310 13.6 +02.0	S 13 33.2 -00.2	323 36.1 +02.3	S 17 37.1 -00.1	05						
06	209 06.8 +00.8	N 24 48.9 +00.0	325 15.6 +02.1	S 13 33.0 -00.1	338 38.4 +02.3	S 17 37.0 +00.0	06						
07	224 07.6 +00.8	N 24 48.9 +00.1	340 17.7 +02.0	S 13 32.9 -00.2	353 40.7 +02.3	S 17 37.0 +00.0	07						
08	239 08.4 +00.8	N 24 49.0 +00.0	355 19.7 +02.0	S 13 32.7 -00.1	8 43.0 +02.3	S 17 37.0 -00.1	08						
09	254 09.2 +00.8	N 24 49.0 +00.1	10 21.7 +02.1	S 13 32.6 -00.1	23 45.3 +02.4	S 17 36.9 +00.0	09						
10	269 10.0 +00.8	N 24 49.1 +00.0	25 23.8 +02.0	S 13 32.5 -00.2	38 47.7 +02.3	S 17 36.9 +00.0	10						
11	284 10.8 +00.8	N 24 49.1 +00.1	40 25.8 +02.1	S 13 32.3 -00.1	53 50.0 +02.3	S 17 36.9 -00.1	11						
12	299 11.6 +00.8	N 24 49.2 +00.0	55 27.9 +02.0	S 13 32.2 -00.2	68 52.3 +02.3	S 17 36.8 +00.0	12						
13	314 12.4 +00.8	N 24 49.2 +00.1	70 29.9 +02.1	S 13 32.0 -00.1	83 54.6 +02.3	S 17 36.8 -00.1	13						
14	329 13.2 +00.8	N 24 49.3 +00.1	85 32.0 +02.0	S 13 31.9 -00.1	98 56.9 +02.3	S 17 36.7 +00.0	14						
15	344 14.0 +00.8	N 24 49.4 +00.0	100 34.0 +02.0	S 13 31.8 -00.2	113 59.2 +02.3	S 17 36.7 +00.0	15						
16	359 14.8 +00.8	N 24 49.4 +00.1	115 36.0 +02.1	S 13 31.6 -00.1	129 01.5 +02.4	S 17 36.7 -00.1	16						
17	14 15.6 +00.8	N 24 49.5 +00.0	130 38.1 +02.0	S 13 31.5 -00.1	144 03.9 +02.3	S 17 36.6 +00.0	17						
18	29 16.4 +00.8	N 24 49.5 +00.1	145 40.1 +02.1	S 13 31.4 -00.2	159 06.2 +02.3	S 17 36.6 +00.0	18						
19	44 17.2 +00.8	N 24 49.6 +00.0	160 42.2 +02.0	S 13 31.2 -00.1	174 08.5 +02.3	S 17 36.6 -00.1	19						
20	59 18.0 +00.8	N 24 49.6 +00.1	175 44.2 +02.1	S 13 31.1 -00.2	189 10.8 +02.3	S 17 36.5 +00.0	20						
21	74 18.8 +00.8	N 24 49.7 +00.0	190 46.3 +02.0	S 13 30.9 -00.1	204 13.1 +02.3	S 17 36.5 +00.0	21						
22	89 19.6 +00.8	N 24 49.7 +00.1	205 48.3 +02.1	S 13 30.8 -00.1	219 15.4 +02.3	S 17 36.5 -00.1	22						
23	104 20.4 +00.8	N 24 49.8 +00.0	220 50.4 +02.0	S 13 30.7 -00.2	234 17.7 +02.4	S 17 36.4 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 276° 275° 275° 275° 275° 275°		SHA 032° 032° 032° 032° 032° 032°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 16:03		Greenwich Culmination Time: 08:18		Greenwich Culmination Time: 07:25								

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	01.9 +00.2	N 10	07.5 +00.9	174	40.4 -00.5	N 11	10.7 +01.1	137	29.9 -28.4	N 21	28.2 +07.2	00
01	195	02.1 +00.1	N 10	08.4 +00.9	189	39.9 -00.5	N 11	11.8 +01.2	152	01.5 -28.4	N 21	35.4 +07.1	01
02	210	02.2 +00.2	N 10	09.3 +00.8	204	39.4 -00.4	N 11	13.0 +01.1	166	33.1 -28.5	N 21	42.5 +07.0	02
03	225	02.4 +00.1	N 10	10.1 +00.9	219	39.0 -00.5	N 11	14.1 +01.1	181	04.6 -28.6	N 21	49.5 +06.9	03
04	240	02.5 +00.2	N 10	11.0 +00.9	234	38.5 -00.5	N 11	15.2 +01.2	195	36.0 -28.6	N 21	56.4 +06.8	04
05	255	02.7 +00.1	N 10	11.9 +00.9	249	38.0 -00.4	N 11	16.4 +01.1	210	07.4 -28.7	N 22	03.2 +06.7	05
06	270	02.8 +00.2	N 10	12.8 +00.9	264	37.6 -00.5	N 11	17.5 +01.2	224	38.7 -28.7	N 22	09.9 +06.6	06
07	285	03.0 +00.1	N 10	13.7 +00.9	279	37.1 -00.5	N 11	18.7 +01.1	239	10.0 -28.8	N 22	16.5 +06.5	07
08	300	03.1 +00.2	N 10	14.6 +00.9	294	36.6 -00.5	N 11	19.8 +01.1	253	41.2 -28.8	N 22	23.0 +06.4	08
09	315	03.3 +00.1	N 10	15.5 +00.8	309	36.1 -00.4	N 11	20.9 +01.2	268	12.4 -28.9	N 22	29.4 +06.3	09
10	330	03.4 +00.1	N 10	16.3 +00.9	324	35.7 -00.5	N 11	22.1 +01.1	282	43.5 -28.9	N 22	35.7 +06.3	10
11	345	03.5 +00.2	N 10	17.2 +00.9	339	35.2 -00.5	N 11	23.2 +01.1	297	14.6 -29.0	N 22	42.0 +06.1	11
12	0	03.7 +00.1	N 10	18.1 +00.9	354	34.7 -00.4	N 11	24.3 +01.2	311	45.6 -29.1	N 22	48.1 +06.0	12
13	15	03.8 +00.2	N 10	19.0 +00.9	9	34.3 -00.5	N 11	25.5 +01.1	326	16.5 -29.1	N 22	54.1 +05.9	13
14	30	04.0 +00.1	N 10	19.9 +00.9	24	33.8 -00.5	N 11	26.6 +01.2	340	47.4 -29.1	N 23	00.0 +05.8	14
15	45	04.1 +00.2	N 10	20.8 +00.8	39	33.3 -00.5	N 11	27.8 +01.1	355	18.3 -29.2	N 23	05.8 +05.7	15
16	60	04.3 +00.1	N 10	21.6 +00.9	54	32.8 -00.4	N 11	28.9 +01.1	9	49.1 -29.3	N 23	11.5 +05.6	16
17	75	04.4 +00.2	N 10	22.5 +00.9	69	32.4 -00.5	N 11	30.0 +01.2	24	19.8 -29.3	N 23	17.1 +05.5	17
18	90	04.6 +00.1	N 10	23.4 +00.9	84	31.9 -00.5	N 11	31.2 +01.1	38	50.5 -29.4	N 23	22.6 +05.4	18
19	105	04.7 +00.1	N 10	24.3 +00.9	99	31.4 -00.4	N 11	32.3 +01.1	53	21.1 -29.4	N 23	28.0 +05.3	19
20	120	04.8 +00.2	N 10	25.2 +00.8	114	31.0 -00.5	N 11	33.4 +01.2	67	51.7 -29.5	N 23	33.3 +05.2	20
21	135	05.0 +00.1	N 10	26.0 +00.9	129	30.5 -00.5	N 11	34.6 +01.1	82	22.2 -29.5	N 23	38.5 +05.1	21
22	150	05.1 +00.2	N 10	26.9 +00.9	144	30.0 -00.5	N 11	35.7 +01.1	96	52.7 -29.6	N 23	43.6 +04.9	22
23	165	05.3 +00.1	N 10	27.8 +00.9	159	29.5 -00.4	N 11	36.8 +01.2	111	23.1 -29.6	N 23	48.5 +04.9	23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'9 15'9 15'9 15'9 15'9 15'9				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 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 00'1 00'1 00'1 00'1 00'1 00'1				HP 54'1 54'1 54'1 54'2 54'2 54'2				
	SHA 336° 335° 335° 335° 335° 335°				SHA 330° 330° 330° 330° 329° 329°				SHA 292° 290° 288° 286° 284° 282°				
	Greenwich Culmination Time: 11:59				Greenwich Culmination Time: 12:21				Greenwich Culmination Time: 15:19				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	119	21.2 +00.8	N 24	49.8 +00.1	235	52.4 +02.1	S 13	30.5 -00.1	249	20.1 +02.3	S 17	36.4 -00.1	00
01	134	22.0 +00.8	N 24	49.9 +00.0	250	54.5 +02.0	S 13	30.4 -00.2	264	22.4 +02.3	S 17	36.3 +00.0	01
02	149	22.8 +00.8	N 24	49.9 +00.1	265	56.5 +02.0	S 13	30.2 -00.1	279	24.7 +02.3	S 17	36.3 +00.0	02
03	164	23.6 +00.8	N 24	50.0 +00.0	280	58.5 +02.1	S 13	30.1 -00.1	294	27.0 +02.3	S 17	36.3 -00.1	03
04	179	24.4 +00.8	N 24	50.0 +00.1	296	00.6 +02.0	S 13	30.0 -00.2	309	29.3 +02.3	S 17	36.2 +00.0	04
05	194	25.2 +00.8	N 24	50.1 +00.0	311	02.6 +02.1	S 13	29.8 -00.1	324	31.6 +02.4	S 17	36.2 +00.0	05
06	209	26.0 +00.8	N 24	50.1 +00.0	326	04.7 +02.0	S 13	29.7 -00.1	339	34.0 +02.3	S 17	36.2 -00.1	06
07	224	26.8 +00.8	N 24	50.1 +00.1	341	06.7 +02.1	S 13	29.6 -00.2	354	36.3 +02.3	S 17	36.1 +00.0	07
08	239	27.6 +00.8	N 24	50.2 +00.0	356	08.8 +02.0	S 13	29.4 -00.1	9	38.6 +02.3	S 17	36.1 +00.0	08
09	254	28.4 +00.8	N 24	50.2 +00.1	11	10.8 +02.1	S 13	29.3 -00.2	24	40.9 +02.3	S 17	36.1 -00.1	09
10	269	29.2 +00.8	N 24	50.3 +00.0	26	12.9 +02.0	S 13	29.1 -00.1	39	43.2 +02.3	S 17	36.0 +00.0	10
11	284	30.0 +00.8	N 24	50.3 +00.1	41	14.9 +02.1	S 13	29.0 -00.1	54	45.5 +02.4	S 17	36.0 +00.0	11
12	299	30.8 +00.8	N 24	50.4 +00.0	56	17.0 +02.0	S 13	28.9 -00.2	69	47.9 +02.3	S 17	36.0 -00.1	12
13	314	31.6 +00.8	N 24	50.4 +00.1	71	19.0 +02.1	S 13	28.7 -00.1	84	50.2 +02.3	S 17	35.9 +00.0	13
14	329	32.4 +00.8	N 24	50.5 +00.0	86	21.1 +02.0	S 13	28.6 -00.1	99	52.5 +02.3	S 17	35.9 -00.1	14
15	344	33.2 +00.8	N 24	50.5 +00.1	101	23.1 +02.1	S 13	28.5 -00.2	114	54.8 +02.3	S 17	35.8 +00.0	15
16	359	34.0 +00.8	N 24	50.6 +00.0	116	25.2 +02.0	S 13	28.3 -00.1	129	57.1 +02.3	S 17	35.8 +00.0	16
17	14	34.8 +00.8	N 24	50.6 +00.0	131	27.2 +02.1	S 13	28.2 -00.2	144	59.4 +02.4	S 17	35.8 -00.1	17
18	29	35.6 +00.8	N 24	50.6 +00.1	146	29.3 +02.0	S 13	28.0 -00.1	160	01.8 +02.3	S 17	35.7 +00.0	18
19	44	36.4 +00.8	N 24	50.7 +00.0	161	31.3 +02.1	S 13	27.9 -00.1	175	04.1 +02.3	S 17	35.7 +00.0	19
20	59	37.2 +00.8	N 24	50.7 +00.1	176	33.4 +02.0	S 13	27.8 -00.2	190	06.4 +02.3	S 17	35.7 -00.1	20
21	74	38.0 +00.8	N 24	50.8 +00.0	191	35.4 +02.1	S 13	27.6 -00.1	205	08.7 +02.3	S 17	35.6 +00.0	21
22	89	38.8 +00.8	N 24	50.8 +00.1	206	37.5 +02.0	S 13	27.5 -00.1	220	11.0 +02.4	S 17	35.6 +00.0	22
23	104	39.6 +00.8	N 24	50.9 +00.0	221	39.5 +02.1	S 13	27.4 -00.2	235	13.4 +02.3	S 17	35.6 -00.1	23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 275° 275° 275° 275° 274° 274°				SHA 032° 031° 031° 031° 031° 031°				SHA 045° 045° 045° 045° 045° 045°				
	Greenwich Culmination Time: 16:01				Greenwich Culmination Time: 08:15				Greenwich Culmination Time: 07:21				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 05.4 +00.2	N 10	28.7 +00.9	174 29.1 -00.5	N 11	38.0 +01.1	125 53.5 -29.7	N 23	53.4 +04.7	00			
01	195 05.6 +00.1	N 10	29.6 +00.8	189 28.6 -00.5	N 11	39.1 +01.1	140 23.8 -29.7	N 23	58.1 +04.7	01			
02	210 05.7 +00.1	N 10	30.4 +00.9	204 28.1 -00.5	N 11	40.2 +01.1	154 54.1 -29.8	N 24	02.8 +04.5	02			
03	225 05.8 +00.2	N 10	31.3 +00.9	219 27.6 -00.4	N 11	41.3 +01.2	169 24.3 -29.8	N 24	07.3 +04.4	03			
04	240 06.0 +00.1	N 10	32.2 +00.9	234 27.2 -00.5	N 11	42.5 +01.1	183 54.5 -29.9	N 24	11.7 +04.3	04			
05	255 06.1 +00.2	N 10	33.1 +00.9	249 26.7 -00.5	N 11	43.6 +01.1	198 24.6 -29.9	N 24	16.0 +04.2	05			
06	270 06.3 +00.1	N 10	34.0 +00.8	264 26.2 -00.5	N 11	44.7 +01.2	212 54.7 -30.0	N 24	20.2 +04.1	06			
07	285 06.4 +00.2	N 10	34.8 +00.9	279 25.7 -00.5	N 11	45.9 +01.1	227 24.7 -30.1	N 24	24.3 +04.0	07			
08	300 06.6 +00.1	N 10	35.7 +00.9	294 25.2 -00.4	N 11	47.0 +01.1	241 54.6 -30.0	N 24	28.3 +03.8	08			
09	315 06.7 +00.1	N 10	36.6 +00.9	309 24.8 -00.5	N 11	48.1 +01.1	256 24.6 -30.1	N 24	32.1 +03.8	09			
10	330 06.8 +00.2	N 10	37.5 +00.8	324 24.3 -00.5	N 11	49.2 +01.2	270 54.5 -30.2	N 24	35.9 +03.6	10			
11	345 07.0 +00.1	N 10	38.3 +00.9	339 23.8 -00.5	N 11	50.4 +01.1	285 24.3 -30.2	N 24	39.5 +03.5	11			
12	0 07.1 +00.2	N 10	39.2 +00.9	354 23.3 -00.5	N 11	51.5 +01.1	299 54.1 -30.3	N 24	43.0 +03.4	12			
13	15 07.3 +00.1	N 10	40.1 +00.9	9 22.8 -00.4	N 11	52.6 +01.1	314 23.8 -30.3	N 24	46.4 +03.2	13			
14	30 07.4 +00.2	N 10	41.0 +00.8	24 22.4 -00.5	N 11	53.7 +01.2	328 53.5 -30.3	N 24	49.6 +03.2	14			
15	45 07.6 +00.1	N 10	41.8 +00.9	39 21.9 -00.5	N 11	54.9 +01.1	343 23.2 -30.4	N 24	52.8 +03.0	15			
16	60 07.7 +00.1	N 10	42.7 +00.9	54 21.4 -00.5	N 11	56.0 +01.1	357 52.8 -30.5	N 24	55.8 +03.0	16			
17	75 07.8 +00.2	N 10	43.6 +00.9	69 20.9 -00.5	N 11	57.1 +01.1	12 22.3 -30.4	N 24	58.8 +02.8	17			
18	90 08.0 +00.1	N 10	44.5 +00.8	84 20.4 -00.4	N 11	58.2 +01.2	26 51.9 -30.6	N 25	01.6 +02.6	18			
19	105 08.1 +00.2	N 10	45.3 +00.9	99 20.0 -00.5	N 11	59.4 +01.1	41 21.3 -30.5	N 25	04.2 +02.6	19			
20	120 08.3 +00.1	N 10	46.2 +00.9	114 19.5 -00.5	N 12	00.5 +01.1	55 50.8 -30.6	N 25	06.8 +02.4	20			
21	135 08.4 +00.1	N 10	47.1 +00.9	129 19.0 -00.5	N 12	01.6 +01.1	70 20.2 -30.7	N 25	09.2 +02.4	21			
22	150 08.5 +00.2	N 10	48.0 +00.8	144 18.5 -00.5	N 12	02.7 +01.1	84 49.5 -30.6	N 25	11.6 +02.2	22			
23	165 08.7 +00.1	N 10	48.8 +00.9	159 18.0 -00.5	N 12	03.8 +01.2	99 18.9 -30.8	N 25	13.8 +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 15'9 15'9 15'9 15'9 15'9 15'9			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 14'8 14'8 14'8 14'8 14'9 14'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 54'3 54'3 54'4 54'5 54'5 54'6						
	SHA 335° 335° 334° 334° 334° 334°			SHA 329° 329° 329° 328° 328° 328°			SHA 279° 277° 275° 273° 271° 269°						
	Greenwich Culmination Time: 11:59			Greenwich Culmination Time: 12:22			Greenwich Culmination Time: 16:08						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	119 40.4 +00.8	N 24	50.9 +00.0	236 41.6 +02.0	S 13	27.2 -00.1	250 15.7 +02.3	S 17	35.5 +00.0	00			
01	134 41.2 +00.8	N 24	50.9 +00.1	251 43.6 +02.1	S 13	27.1 -00.2	265 18.0 +02.3	S 17	35.5 +00.0	01			
02	149 42.0 +00.8	N 24	51.0 +00.0	266 45.7 +02.0	S 13	26.9 -00.1	280 20.3 +02.3	S 17	35.5 -00.1	02			
03	164 42.8 +00.8	N 24	51.0 +00.1	281 47.7 +02.1	S 13	26.8 -00.1	295 22.6 +02.4	S 17	35.4 +00.0	03			
04	179 43.6 +00.8	N 24	51.1 +00.0	296 49.8 +02.0	S 13	26.7 -00.2	310 25.0 +02.3	S 17	35.4 +00.0	04			
05	194 44.4 +00.8	N 24	51.1 +00.1	311 51.8 +02.1	S 13	26.5 -00.1	325 27.3 +02.3	S 17	35.4 -00.1	05			
06	209 45.2 +00.8	N 24	51.2 +00.0	326 53.9 +02.0	S 13	26.4 -00.1	340 29.6 +02.3	S 17	35.3 +00.0	06			
07	224 46.0 +00.8	N 24	51.2 +00.0	341 55.9 +02.1	S 13	26.3 -00.2	355 31.9 +02.3	S 17	35.3 +00.0	07			
08	239 46.8 +00.8	N 24	51.2 +00.1	356 58.0 +02.0	S 13	26.1 -00.1	10 34.2 +02.4	S 17	35.3 -00.1	08			
09	254 47.6 +00.8	N 24	51.3 +00.0	12 00.0 +02.1	S 13	26.0 -00.1	25 36.6 +02.3	S 17	35.2 +00.0	09			
10	269 48.4 +00.8	N 24	51.3 +00.1	27 02.1 +02.0	S 13	25.9 -00.2	40 38.9 +02.3	S 17	35.2 -00.1	10			
11	284 49.2 +00.8	N 24	51.4 +00.0	42 04.1 +02.1	S 13	25.7 -00.1	55 41.2 +02.3	S 17	35.1 +00.0	11			
12	299 50.0 +00.8	N 24	51.4 +00.0	57 06.2 +02.0	S 13	25.6 -00.2	70 43.5 +02.3	S 17	35.1 +00.0	12			
13	314 50.8 +00.8	N 24	51.4 +00.1	72 08.2 +02.1	S 13	25.4 -00.1	85 45.8 +02.4	S 17	35.1 -00.1	13			
14	329 51.6 +00.8	N 24	51.5 +00.0	87 10.3 +02.0	S 13	25.3 -00.1	100 48.2 +02.3	S 17	35.0 +00.0	14			
15	344 52.4 +00.8	N 24	51.5 +00.0	102 12.3 +02.1	S 13	25.2 -00.2	115 50.5 +02.3	S 17	35.0 +00.0	15			
16	359 53.2 +00.8	N 24	51.5 +00.1	117 14.4 +02.0	S 13	25.0 -00.1	130 52.8 +02.3	S 17	35.0 -00.1	16			
17	14 54.0 +00.8	N 24	51.6 +00.0	132 16.4 +02.1	S 13	24.9 -00.1	145 55.1 +02.4	S 17	34.9 +00.0	17			
18	29 54.8 +00.8	N 24	51.6 +00.1	147 18.5 +02.0	S 13	24.8 -00.2	160 57.5 +02.3	S 17	34.9 +00.0	18			
19	44 55.6 +00.8	N 24	51.7 +00.0	162 20.5 +02.1	S 13	24.6 -00.1	175 59.8 +02.3	S 17	34.9 -00.1	19			
20	59 56.4 +00.8	N 24	51.7 +00.0	177 22.6 +02.1	S 13	24.5 -00.1	191 02.1 +02.3	S 17	34.8 +00.0	20			
21	74 57.2 +00.8	N 24	51.7 +00.1	192 24.7 +02.0	S 13	24.4 -00.2	206 04.4 +02.3	S 17	34.8 +00.0	21			
22	89 58.0 +00.8	N 24	51.8 +00.0	207 26.7 +02.1	S 13	24.2 -00.1	221 06.7 +02.4	S 17	34.8 -00.1	22			
23	104 58.8 +00.8	N 24	51.8 +00.0	222 28.8 +02.0	S 13	24.1 -00.1	236 09.1 +02.3	S 17	34.7 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 274° 274° 274° 274° 274° 274°			SHA 031° 031° 031° 031° 031° 031°			SHA 045° 045° 045° 045° 045° 045°						
	Greenwich Culmination Time: 16:00			Greenwich Culmination Time: 08:12			Greenwich Culmination Time: 07:17						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	08.8 +00.2	N 10	49.7 +00.9	174	17.5 -00.4	N 12	05.0 +01.1	113	48.1 -30.7	N 25	15.8 +02.0	00
01	195	09.0 +00.1	N 10	50.6 +00.9	189	17.1 -00.5	N 12	06.1 +01.1	128	17.4 -30.8	N 25	17.8 +01.8	01
02	210	09.1 +00.1	N 10	51.5 +00.8	204	16.6 -00.5	N 12	07.2 +01.1	142	46.6 -30.8	N 25	19.6 +01.7	02
03	225	09.2 +00.2	N 10	52.3 +00.9	219	16.1 -00.5	N 12	08.3 +01.1	157	15.8 -30.9	N 25	21.3 +01.6	03
04	240	09.4 +00.1	N 10	53.2 +00.9	234	15.6 -00.5	N 12	09.4 +01.1	171	44.9 -30.9	N 25	22.9 +01.5	04
05	255	09.5 +00.1	N 10	54.1 +00.8	249	15.1 -00.5	N 12	10.5 +01.2	186	14.0 -31.0	N 25	24.4 +01.3	05
06	270	09.6 +00.2	N 10	54.9 +00.9	264	14.6 -00.4	N 12	11.7 +01.1	200	43.0 -30.9	N 25	25.7 +01.2	06
07	285	09.8 +00.1	N 10	55.8 +00.9	279	14.2 -00.5	N 12	12.8 +01.1	215	12.1 -31.0	N 25	26.9 +01.1	07
08	300	09.9 +00.2	N 10	56.7 +00.9	294	13.7 -00.5	N 12	13.9 +01.1	229	41.1 -31.1	N 25	28.0 +00.9	08
09	315	10.1 +00.1	N 10	57.6 +00.8	309	13.2 -00.5	N 12	15.0 +01.1	244	10.0 -31.0	N 25	28.9 +00.9	09
10	330	10.2 +00.1	N 10	58.4 +00.9	324	12.7 -00.5	N 12	16.1 +01.1	258	39.0 -31.1	N 25	29.8 +00.7	10
11	345	10.3 +00.2	N 10	59.3 +00.9	339	12.2 -00.5	N 12	17.2 +01.1	273	07.9 -31.1	N 25	30.5 +00.6	11
12	0	10.5 +00.1	N 11	00.2 +00.8	354	11.7 -00.5	N 12	18.3 +01.2	287	36.8 -31.2	N 25	31.1 +00.4	12
13	15	10.6 +00.2	N 11	01.0 +00.9	9	11.2 -00.5	N 12	19.5 +01.1	302	05.6 -31.2	N 25	31.5 +00.3	13
14	30	10.8 +00.1	N 11	01.9 +00.9	24	10.7 -00.5	N 12	20.6 +01.1	316	34.4 -31.2	N 25	31.8 +00.2	14
15	45	10.9 +00.1	N 11	02.8 +00.8	39	10.2 -00.4	N 12	21.7 +01.1	331	03.2 -31.2	N 25	32.0 +00.1	15
16	60	11.0 +00.2	N 11	03.6 +00.9	54	09.8 -00.5	N 12	22.8 +01.1	345	32.0 -31.3	N 25	32.1 -00.1	16
17	75	11.2 +00.1	N 11	04.5 +00.9	69	09.3 -00.5	N 12	23.9 +01.1	0	00.7 -31.3	N 25	32.0 -00.2	17
18	90	11.3 +00.1	N 11	05.4 +00.8	84	08.8 -00.5	N 12	25.0 +01.1	14	29.4 -31.3	N 25	31.8 -00.3	18
19	105	11.4 +00.2	N 11	06.2 +00.9	99	08.3 -00.5	N 12	26.1 +01.1	28	58.1 -31.3	N 25	31.5 -00.4	19
20	120	11.6 +00.1	N 11	07.1 +00.9	114	07.8 -00.5	N 12	27.2 +01.1	43	26.8 -31.4	N 25	31.1 -00.6	20
21	135	11.7 +00.1	N 11	08.0 +00.8	129	07.3 -00.5	N 12	28.3 +01.2	57	55.4 -31.3	N 25	30.5 -00.7	21
22	150	11.8 +00.2	N 11	08.8 +00.9	144	06.8 -00.5	N 12	29.5 +01.1	72	24.1 -31.4	N 25	29.8 -00.8	22
23	165	12.0 +00.1	N 11	09.7 +00.9	159	06.3 -00.5	N 12	30.6 +01.1	86	52.7 -31.5	N 25	29.0 -01.0	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 00'1 00'1 00'1 00'1 00'1 00'1				SD 14'9 14'9 14'9 15'0 15'0 15'0				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 54'7 54'7 54'8 54'9 55'0 55'1				
	SHA 334° 334° 333° 333° 333° 333°				SHA 328° 328° 327° 327° 327° 327°				SHA 266° 264° 262° 260° 257° 255°				
	Greenwich Culmination Time: 11:59				Greenwich Culmination Time: 12:23				Greenwich Culmination Time: 16:59				

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	119	59.6 +00.8	N 24	51.8 +00.1	237	30.8 +02.1	S 13	24.0 -00.2	251	11.4 +02.3	S 17	34.7 +00.0	00
01	135	00.4 +00.8	N 24	51.9 +00.0	252	32.9 +02.0	S 13	23.8 -00.1	266	13.7 +02.3	S 17	34.7 -00.1	01
02	150	01.2 +00.8	N 24	51.9 +00.0	267	34.9 +02.1	S 13	23.7 -00.2	281	16.0 +02.4	S 17	34.6 +00.0	02
03	165	02.0 +00.8	N 24	51.9 +00.1	282	37.0 +02.0	S 13	23.5 -00.1	296	18.4 +02.3	S 17	34.6 +00.0	03
04	180	02.8 +00.8	N 24	52.0 +00.0	297	39.0 +02.1	S 13	23.4 -00.1	311	20.7 +02.3	S 17	34.6 -00.1	04
05	195	03.6 +00.8	N 24	52.0 +00.0	312	41.1 +02.1	S 13	23.3 -00.2	326	23.0 +02.3	S 17	34.5 +00.0	05
06	210	04.4 +00.8	N 24	52.0 +00.1	327	43.2 +02.0	S 13	23.1 -00.1	341	25.3 +02.4	S 17	34.5 +00.0	06
07	225	05.2 +00.8	N 24	52.1 +00.0	342	45.2 +02.1	S 13	23.0 -00.1	356	27.7 +02.3	S 17	34.5 -00.1	07
08	240	06.0 +00.8	N 24	52.1 +00.0	357	47.3 +02.0	S 13	22.9 -00.2	11	30.0 +02.3	S 17	34.4 +00.0	08
09	255	06.8 +00.8	N 24	52.1 +00.1	12	49.3 +02.1	S 13	22.7 -00.1	26	32.3 +02.3	S 17	34.4 +00.0	09
10	270	07.6 +00.8	N 24	52.2 +00.0	27	51.4 +02.0	S 13	22.6 -00.1	41	34.6 +02.4	S 17	34.4 -00.1	10
11	285	08.4 +00.8	N 24	52.2 +00.0	42	53.4 +02.1	S 13	22.5 -00.2	56	37.0 +02.3	S 17	34.3 +00.0	11
12	300	09.2 +00.8	N 24	52.2 +00.1	57	55.5 +02.1	S 13	22.3 -00.1	71	39.3 +02.3	S 17	34.3 +00.0	12
13	315	10.0 +00.8	N 24	52.3 +00.0	72	57.6 +02.0	S 13	22.2 -00.1	86	41.6 +02.3	S 17	34.3 -00.1	13
14	330	10.8 +00.8	N 24	52.3 +00.0	87	59.6 +02.1	S 13	22.1 -00.2	101	43.9 +02.3	S 17	34.2 +00.0	14
15	345	11.6 +00.8	N 24	52.3 +00.1	103	01.7 +02.0	S 13	21.9 -00.1	116	46.2 +02.4	S 17	34.2 +00.0	15
16	0	12.4 +00.8	N 24	52.4 +00.0	118	03.7 +02.1	S 13	21.8 -00.1	131	48.6 +02.3	S 17	34.2 -00.1	16
17	15	13.2 +00.8	N 24	52.4 +00.0	133	05.8 +02.0	S 13	21.7 -00.2	146	50.9 +02.3	S 17	34.1 +00.0	17
18	30	14.0 +00.8	N 24	52.4 +00.1	148	07.8 +02.1	S 13	21.5 -00.1	161	53.2 +02.4	S 17	34.1 +00.0	18
19	45	14.8 +00.8	N 24	52.5 +00.0	163	09.9 +02.1	S 13	21.4 -00.1	176	55.6 +02.3	S 17	34.1 -00.1	19
20	60	15.6 +00.8	N 24	52.5 +00.0	178	12.0 +02.0	S 13	21.3 -00.2	191	57.9 +02.3	S 17	34.0 +00.0	20
21	75	16.4 +00.8	N 24	52.5 +00.0	193	14.0 +02.1	S 13	21.1 -00.1	207	00.2 +02.3	S 17	34.0 +00.0	21
22	90	17.2 +00.8	N 24	52.5 +00.1	208	16.1 +02.0	S 13	21.0 -00.1	222	02.5 +02.4	S 17	34.0 -00.1	22
23	105	18.0 +00.8	N 24	52.6 +00.0	223	18.1 +02.1	S 13	20.9 -00.2	237	04.9 +02.3	S 17	33.9 +00.0	23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 274° 273° 273° 273° 273° 273°				SHA 031° 031° 031° 031° 031° 031°				SHA 045° 045° 045° 045° 045° 045°				
	Greenwich Culmination Time: 15:59				Greenwich Culmination Time: 08:08				Greenwich Culmination Time: 07:14				

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	12.1 +00.1	N 11 10.6 +00.8		174	05.8 -00.5	N 12 31.7 +01.1		101	21.2 -31.4	N 25 28.0 -01.1		00
01	195	12.2 +00.2	N 11 11.4 +00.9		189	05.3 -00.5	N 12 32.8 +01.1		115	49.8 -31.4	N 25 26.9 -01.2		01
02	210	12.4 +00.1	N 11 12.3 +00.9		204	04.8 -00.5	N 12 33.9 +01.1		130	18.4 -31.5	N 25 25.7 -01.4		02
03	225	12.5 +00.2	N 11 13.2 +00.8		219	04.3 -00.4	N 12 35.0 +01.1		144	46.9 -31.5	N 25 24.3 -01.5		03
04	240	12.7 +00.1	N 11 14.0 +00.9		234	03.9 -00.5	N 12 36.1 +01.1		159	15.4 -31.5	N 25 22.8 -01.6		04
05	255	12.8 +00.1	N 11 14.9 +00.8		249	03.4 -00.5	N 12 37.2 +01.1		173	43.9 -31.5	N 25 21.2 -01.8		05
06	270	12.9 +00.2	N 11 15.7 +00.9		264	02.9 -00.5	N 12 38.3 +01.1		188	12.4 -31.5	N 25 19.4 -01.8		06
07	285	13.1 +00.1	N 11 16.6 +00.9		279	02.4 -00.5	N 12 39.4 +01.1		202	40.9 -31.6	N 25 17.6 -02.1		07
08	300	13.2 +00.1	N 11 17.5 +00.8		294	01.9 -00.5	N 12 40.5 +01.1		217	09.3 -31.5	N 25 15.5 -02.1		08
09	315	13.3 +00.2	N 11 18.3 +00.9		309	01.4 -00.5	N 12 41.6 +01.1		231	37.8 -31.6	N 25 13.4 -02.3		09
10	330	13.5 +00.1	N 11 19.2 +00.9		324	00.9 -00.5	N 12 42.7 +01.1		246	06.2 -31.6	N 25 11.1 -02.4		10
11	345	13.6 +00.1	N 11 20.1 +00.8		339	00.4 -00.5	N 12 43.8 +01.1		260	34.6 -31.6	N 25 08.7 -02.5		11
12	0	13.7 +00.2	N 11 20.9 +00.9		353	59.9 -00.5	N 12 44.9 +01.1		275	03.0 -31.5	N 25 06.2 -02.7		12
13	15	13.9 +00.1	N 11 21.8 +00.8		8	59.4 -00.5	N 12 46.0 +01.1		289	31.5 -31.6	N 25 03.5 -02.8		13
14	30	14.0 +00.1	N 11 22.6 +00.9		23	58.9 -00.5	N 12 47.1 +01.1		303	59.9 -31.7	N 25 00.7 -03.0		14
15	45	14.1 +00.2	N 11 23.5 +00.9		38	58.4 -00.5	N 12 48.2 +01.1		318	28.2 -31.6	N 24 57.7 -03.0		15
16	60	14.3 +00.1	N 11 24.4 +00.8		53	57.9 -00.5	N 12 49.3 +01.1		332	56.6 -31.6	N 24 54.7 -03.2		16
17	75	14.4 +00.1	N 11 25.2 +00.9		68	57.4 -00.5	N 12 50.4 +01.1		347	25.0 -31.6	N 24 51.5 -03.4		17
18	90	14.5 +00.2	N 11 26.1 +00.8		83	56.9 -00.5	N 12 51.5 +01.1		1	53.4 -31.6	N 24 48.1 -03.5		18
19	105	14.7 +00.1	N 11 26.9 +00.9		98	56.4 -00.5	N 12 52.6 +01.1		16	21.8 -31.7	N 24 44.6 -03.6		19
20	120	14.8 +00.1	N 11 27.8 +00.9		113	55.9 -00.5	N 12 53.7 +01.1		30	50.1 -31.6	N 24 41.0 -03.7		20
21	135	14.9 +00.2	N 11 28.7 +00.8		128	55.4 -00.5	N 12 54.8 +01.1		45	18.5 -31.6	N 24 37.3 -03.9		21
22	150	15.1 +00.1	N 11 29.5 +00.9		143	54.9 -00.5	N 12 55.9 +01.1		59	46.9 -31.7	N 24 33.4 -04.0		22
23	165	15.2 +00.1	N 11 30.4 +00.8		158	54.4 -00.5	N 12 57.0 +01.1		74	15.2 -31.6	N 24 29.4 -04.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'9 15'9 15'9 15'9 15'9 15'9				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 15'0 15'1 15'1 15'1 15'2 15'2				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 55'2 55'3 55'4 55'5 55'6 55'7				
	SHA 333° 333° 332° 332° 332° 332°				SHA 327° 326° 326° 326° 326° 326°				SHA 253° 251° 248° 246° 244° 242°				
	Greenwich Culmination Time: 11:59				Greenwich Culmination Time: 12:24				Greenwich Culmination Time: 17:52				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	120	18.8 +00.8	N 24 52.6 +00.0		238	20.2 +02.1	S 13 20.7 -00.1		252	07.2 +02.3	S 17 33.9 +00.0		00
01	135	19.6 +00.8	N 24 52.6 +00.1		253	22.3 +02.0	S 13 20.6 -00.1		267	09.5 +02.3	S 17 33.9 -00.1		01
02	150	20.4 +00.8	N 24 52.7 +00.0		268	24.3 +02.1	S 13 20.5 -00.2		282	11.8 +02.4	S 17 33.8 +00.0		02
03	165	21.2 +00.8	N 24 52.7 +00.0		283	26.4 +02.0	S 13 20.3 -00.1		297	14.2 +02.3	S 17 33.8 +00.0		03
04	180	22.0 +00.8	N 24 52.7 +00.0		298	28.4 +02.1	S 13 20.2 -00.1		312	16.5 +02.3	S 17 33.8 -00.1		04
05	195	22.8 +00.8	N 24 52.7 +00.1		313	30.5 +02.1	S 13 20.1 -00.2		327	18.8 +02.3	S 17 33.7 +00.0		05
06	210	23.6 +00.8	N 24 52.8 +00.0		328	32.6 +02.0	S 13 19.9 -00.1		342	21.1 +02.4	S 17 33.7 +00.0		06
07	225	24.4 +00.8	N 24 52.8 +00.0		343	34.6 +02.1	S 13 19.8 -00.2		357	23.5 +02.3	S 17 33.7 -00.1		07
08	240	25.2 +00.7	N 24 52.8 +00.0		358	36.7 +02.0	S 13 19.6 -00.1		12	25.8 +02.3	S 17 33.6 +00.0		08
09	255	25.9 +00.8	N 24 52.8 +00.1		13	38.7 +02.1	S 13 19.5 -00.1		27	28.1 +02.4	S 17 33.6 +00.0		09
10	270	26.7 +00.8	N 24 52.9 +00.0		28	40.8 +02.1	S 13 19.4 -00.2		42	30.5 +02.3	S 17 33.6 -00.1		10
11	285	27.5 +00.8	N 24 52.9 +00.0		43	42.9 +02.0	S 13 19.2 -00.1		57	32.8 +02.3	S 17 33.5 +00.0		11
12	300	28.3 +00.8	N 24 52.9 +00.0		58	44.9 +02.1	S 13 19.1 -00.1		72	35.1 +02.3	S 17 33.5 +00.0		12
13	315	29.1 +00.8	N 24 52.9 +00.1		73	47.0 +02.0	S 13 19.0 -00.2		87	37.4 +02.4	S 17 33.5 -00.1		13
14	330	29.9 +00.8	N 24 53.0 +00.0		88	49.0 +02.1	S 13 18.8 -00.1		102	39.8 +02.3	S 17 33.4 +00.0		14
15	345	30.7 +00.8	N 24 53.0 +00.0		103	51.1 +02.1	S 13 18.7 -00.1		117	42.1 +02.3	S 17 33.4 +00.0		15
16	0	31.5 +00.8	N 24 53.0 +00.0		118	53.2 +02.0	S 13 18.6 -00.2		132	44.4 +02.4	S 17 33.4 -00.1		16
17	15	32.3 +00.8	N 24 53.0 +00.1		133	55.2 +02.1	S 13 18.4 -00.1		147	46.8 +02.3	S 17 33.3 +00.0		17
18	30	33.1 +00.8	N 24 53.1 +00.0		148	57.3 +02.1	S 13 18.3 -00.1		162	49.1 +02.3	S 17 33.3 +00.0		18
19	45	33.9 +00.8	N 24 53.1 +00.0		163	59.4 +02.0	S 13 18.2 -00.1		177	51.4 +02.3	S 17 33.3 -00.1		19
20	60	34.7 +00.8	N 24 53.1 +00.0		179	01.4 +02.1	S 13 18.1 -00.2		192	53.7 +02.4	S 17 33.2 +00.0		20
21	75	35.5 +00.8	N 24 53.1 +00.0		194	03.5 +02.1	S 13 17.9 -00.1		207	56.1 +02.3	S 17 33.2 +00.0		21
22	90	36.3 +00.8	N 24 53.1 +00.1		209	05.6 +02.0	S 13 17.8 -00.1		222	58.4 +02.3	S 17 33.2 +00.0		22
23	105	37.1 +00.8	N 24 53.2 +00.0		224	07.6 +02.1	S 13 17.7 -00.2		238	00.7 +02.4	S 17 33.2 -00.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 273° 273° 273° 273° 272° 272°				SHA 031° 031° 031° 031° 031° 031°				SHA 045° 045° 045° 045° 045° 045°				
	Greenwich Culmination Time: 15:57				Greenwich Culmination Time: 08:05				Greenwich Culmination Time: 07:10				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 15.3 +00.1	N 11 31.2 +00.9	173 53.9 -00.5	N 12 58.1 +01.1	88 43.6 -31.6	N 24 25.3 -04.2	00						
01	195 15.4 +00.2	N 11 32.1 +00.8	188 53.4 -00.5	N 12 59.2 +01.1	103 12.0 -31.6	N 24 21.1 -04.4	01						
02	210 15.6 +00.1	N 11 32.9 +00.9	203 52.9 -00.5	N 13 00.3 +01.1	117 40.4 -31.7	N 24 16.7 -04.6	02						
03	225 15.7 +00.1	N 11 33.8 +00.9	218 52.4 -00.5	N 13 01.4 +01.0	132 08.7 -31.6	N 24 12.1 -04.6	03						
04	240 15.8 +00.2	N 11 34.7 +00.8	233 51.9 -00.5	N 13 02.4 +01.1	146 37.1 -31.6	N 24 07.5 -04.8	04						
05	255 16.0 +00.1	N 11 35.5 +00.9	248 51.4 -00.5	N 13 03.5 +01.1	161 05.5 -31.6	N 24 02.7 -04.9	05						
06	270 16.1 +00.1	N 11 36.4 +00.8	263 50.9 -00.5	N 13 04.6 +01.1	175 33.9 -31.6	N 23 57.8 -05.1	06						
07	285 16.2 +00.2	N 11 37.2 +00.9	278 50.4 -00.5	N 13 05.7 +01.1	190 02.3 -31.6	N 23 52.7 -05.1	07						
08	300 16.4 +00.1	N 11 38.1 +00.8	293 49.9 -00.5	N 13 06.8 +01.1	204 30.7 -31.6	N 23 47.6 -05.4	08						
09	315 16.5 +00.1	N 11 38.9 +00.9	308 49.4 -00.5	N 13 07.9 +01.1	218 59.1 -31.6	N 23 42.2 -05.4	09						
10	330 16.6 +00.1	N 11 39.8 +00.8	323 48.9 -00.6	N 13 09.0 +01.1	233 27.5 -31.6	N 23 36.8 -05.6	10						
11	345 16.7 +00.2	N 11 40.6 +00.9	338 48.3 -00.5	N 13 10.1 +01.1	247 55.9 -31.6	N 23 31.2 -05.7	11						
12	0 16.9 +00.1	N 11 41.5 +00.8	353 47.8 -00.5	N 13 11.2 +01.0	262 24.3 -31.6	N 23 25.5 -05.8	12						
13	15 17.0 +00.1	N 11 42.3 +00.9	8 47.3 -00.5	N 13 12.2 +01.1	276 52.7 -31.5	N 23 19.7 -06.0	13						
14	30 17.1 +00.2	N 11 43.2 +00.8	23 46.8 -00.5	N 13 13.3 +01.1	291 21.2 -31.6	N 23 13.7 -06.0	14						
15	45 17.3 +00.1	N 11 44.0 +00.9	38 46.3 -00.5	N 13 14.4 +01.1	305 49.6 -31.5	N 23 07.7 -06.3	15						
16	60 17.4 +00.1	N 11 44.9 +00.8	53 45.8 -00.5	N 13 15.5 +01.1	320 18.1 -31.5	N 23 01.4 -06.3	16						
17	75 17.5 +00.1	N 11 45.7 +00.9	68 45.3 -00.5	N 13 16.6 +01.1	334 46.6 -31.5	N 22 55.1 -06.5	17						
18	90 17.6 +00.2	N 11 46.6 +00.9	83 44.8 -00.5	N 13 17.7 +01.1	349 15.1 -31.5	N 22 48.6 -06.6	18						
19	105 17.8 +00.1	N 11 47.5 +00.8	98 44.3 -00.5	N 13 18.8 +01.0	3 43.6 -31.5	N 22 42.0 -06.7	19						
20	120 17.9 +00.1	N 11 48.3 +00.9	113 43.8 -00.5	N 13 19.8 +01.1	18 12.1 -31.5	N 22 35.3 -06.9	20						
21	135 18.0 +00.2	N 11 49.2 +00.8	128 43.3 -00.5	N 13 20.9 +01.1	32 40.6 -31.4	N 22 28.4 -07.0	21						
22	150 18.2 +00.1	N 11 50.0 +00.9	143 42.8 -00.6	N 13 22.0 +01.1	47 09.2 -31.5	N 22 21.4 -07.1	22						
23	165 18.3 +00.1	N 11 50.9 +00.8	158 42.2 -00.5	N 13 23.1 +01.1	61 37.7 -31.4	N 22 14.3 -07.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'2 15'3 15'3 15'3 15'4 15'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'9 56'0 56'1 56'2 56'4 56'5								
	SHA 332° 332° 332° 331° 331° 331°		SHA 325° 325° 325° 325° 325° 325°		SHA 239° 237° 235° 232° 230° 228°								
	Greenwich Culmination Time: 11:58		Greenwich Culmination Time: 12:24		Greenwich Culmination Time: 18:44								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	120 37.9 +00.8	N 24 53.2 +00.0	239 09.7 +02.0	S 13 17.5 -00.1	253 03.1 +02.3	S 17 33.1 +00.0	00						
01	135 38.7 +00.8	N 24 53.2 +00.0	254 11.7 +02.1	S 13 17.4 -00.1	268 05.4 +02.3	S 17 33.1 +00.0	01						
02	150 39.5 +00.8	N 24 53.2 +00.0	269 13.8 +02.1	S 13 17.3 -00.2	283 07.7 +02.4	S 17 33.1 -00.1	02						
03	165 40.3 +00.8	N 24 53.2 +00.1	284 15.9 +02.0	S 13 17.1 -00.1	298 10.1 +02.3	S 17 33.0 +00.0	03						
04	180 41.1 +00.8	N 24 53.3 +00.0	299 17.9 +02.1	S 13 17.0 -00.1	313 12.4 +02.3	S 17 33.0 +00.0	04						
05	195 41.9 +00.8	N 24 53.3 +00.0	314 20.0 +02.1	S 13 16.9 -00.2	328 14.7 +02.3	S 17 33.0 -00.1	05						
06	210 42.7 +00.8	N 24 53.3 +00.0	329 22.1 +02.0	S 13 16.7 -00.1	343 17.0 +02.4	S 17 32.9 +00.0	06						
07	225 43.5 +00.8	N 24 53.3 +00.0	344 24.1 +02.1	S 13 16.6 -00.1	358 19.4 +02.3	S 17 32.9 +00.0	07						
08	240 44.3 +00.8	N 24 53.3 +00.1	359 26.2 +02.1	S 13 16.5 -00.2	13 21.7 +02.3	S 17 32.9 -00.1	08						
09	255 45.1 +00.8	N 24 53.4 +00.0	14 28.3 +02.0	S 13 16.3 -00.1	28 24.0 +02.4	S 17 32.8 +00.0	09						
10	270 45.9 +00.8	N 24 53.4 +00.0	29 30.3 +02.1	S 13 16.2 -00.1	43 26.4 +02.3	S 17 32.8 +00.0	10						
11	285 46.7 +00.8	N 24 53.4 +00.0	44 32.4 +02.1	S 13 16.1 -00.2	58 28.7 +02.3	S 17 32.8 -00.1	11						
12	300 47.5 +00.7	N 24 53.4 +00.0	59 34.5 +02.0	S 13 15.9 -00.1	73 31.0 +02.4	S 17 32.7 +00.0	12						
13	315 48.2 +00.8	N 24 53.4 +00.0	74 36.5 +02.1	S 13 15.8 -00.1	88 33.4 +02.3	S 17 32.7 +00.0	13						
14	330 49.0 +00.8	N 24 53.4 +00.1	89 38.6 +02.1	S 13 15.7 -00.2	103 35.7 +02.3	S 17 32.7 -00.1	14						
15	345 49.8 +00.8	N 24 53.5 +00.0	104 40.7 +02.0	S 13 15.5 -00.1	118 38.0 +02.4	S 17 32.6 +00.0	15						
16	0 50.6 +00.8	N 24 53.5 +00.0	119 42.7 +02.1	S 13 15.4 -00.1	133 40.4 +02.3	S 17 32.6 +00.0	16						
17	15 51.4 +00.8	N 24 53.5 +00.0	134 44.8 +02.1	S 13 15.3 -00.2	148 42.7 +02.3	S 17 32.6 -00.1	17						
18	30 52.2 +00.8	N 24 53.5 +00.0	149 46.9 +02.0	S 13 15.1 -00.1	163 45.0 +02.4	S 17 32.5 +00.0	18						
19	45 53.0 +00.8	N 24 53.5 +00.0	164 48.9 +02.1	S 13 15.0 -00.1	178 47.4 +02.3	S 17 32.5 +00.0	19						
20	60 53.8 +00.8	N 24 53.5 +00.1	179 51.0 +02.1	S 13 14.9 -00.2	193 49.7 +02.3	S 17 32.5 +00.0	20						
21	75 54.6 +00.8	N 24 53.6 +00.0	194 53.1 +02.0	S 13 14.7 -00.1	208 52.0 +02.4	S 17 32.5 -00.1	21						
22	90 55.4 +00.8	N 24 53.6 +00.0	209 55.1 +02.1	S 13 14.6 -00.1	223 54.4 +02.3	S 17 32.4 +00.0	22						
23	105 56.2 +00.8	N 24 53.6 +00.0	224 57.2 +02.1	S 13 14.5 -00.1	238 56.7 +02.3	S 17 32.4 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 272° 272° 272° 272° 272° 272°		SHA 031° 031° 031° 031° 031° 031°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 15:56		Greenwich Culmination Time: 08:02		Greenwich Culmination Time: 07:06								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	18.4 +00.1	N 11 51.7 +00.8		173	41.7 -00.5	N 13 24.2 +01.0		76	06.3 -31.4	N 22 07.1 -07.4		00
01	195	18.5 +00.2	N 11 52.5 +00.9		188	41.2 -00.5	N 13 25.2 +01.1		90	34.9 -31.4	N 21 59.7 -07.5		01
02	210	18.7 +00.1	N 11 53.4 +00.8		203	40.7 -00.5	N 13 26.3 +01.1		105	03.5 -31.4	N 21 52.2 -07.6		02
03	225	18.8 +00.1	N 11 54.2 +00.9		218	40.2 -00.5	N 13 27.4 +01.1		119	32.1 -31.4	N 21 44.6 -07.7		03
04	240	18.9 +00.1	N 11 55.1 +00.8		233	39.7 -00.5	N 13 28.5 +01.1		134	00.7 -31.3	N 21 36.9 -07.9		04
05	255	19.0 +00.2	N 11 55.9 +00.9		248	39.2 -00.5	N 13 29.6 +01.0		148	29.4 -31.4	N 21 29.0 -08.0		05
06	270	19.2 +00.1	N 11 56.8 +00.8		263	38.7 -00.6	N 13 30.6 +01.1		162	58.0 -31.3	N 21 21.0 -08.1		06
07	285	19.3 +00.1	N 11 57.6 +00.9		278	38.1 -00.5	N 13 31.7 +01.1		177	26.7 -31.3	N 21 12.9 -08.2		07
08	300	19.4 +00.1	N 11 58.5 +00.8		293	37.6 -00.5	N 13 32.8 +01.1		191	55.4 -31.2	N 21 04.7 -08.4		08
09	315	19.5 +00.2	N 11 59.3 +00.9		308	37.1 -00.5	N 13 33.9 +01.0		206	24.2 -31.3	N 20 56.3 -08.5		09
10	330	19.7 +00.1	N 12 00.2 +00.8		323	36.6 -00.5	N 13 34.9 +01.1		220	52.9 -31.3	N 20 47.8 -08.6		10
11	345	19.8 +00.1	N 12 01.0 +00.9		338	36.1 -00.5	N 13 36.0 +01.1		235	21.6 -31.2	N 20 39.2 -08.7		11
12	0	19.9 +00.1	N 12 01.9 +00.8		353	35.6 -00.6	N 13 37.1 +01.1		249	50.4 -31.2	N 20 30.5 -08.8		12
13	15	20.0 +00.2	N 12 02.7 +00.9		8	35.0 -00.5	N 13 38.2 +01.0		264	19.2 -31.2	N 20 21.7 -09.0		13
14	30	20.2 +00.1	N 12 03.6 +00.8		23	34.5 -00.5	N 13 39.2 +01.1		278	48.0 -31.1	N 20 12.7 -09.1		14
15	45	20.3 +00.1	N 12 04.4 +00.8		38	34.0 -00.5	N 13 40.3 +01.1		293	16.9 -31.2	N 20 03.6 -09.2		15
16	60	20.4 +00.1	N 12 05.2 +00.9		53	33.5 -00.5	N 13 41.4 +01.1		307	45.7 -31.1	N 19 54.4 -09.3		16
17	75	20.5 +00.2	N 12 06.1 +00.8		68	33.0 -00.5	N 13 42.5 +01.0		322	14.6 -31.1	N 19 45.1 -09.4		17
18	90	20.7 +00.1	N 12 06.9 +00.9		83	32.5 -00.6	N 13 43.5 +01.1		336	43.5 -31.1	N 19 35.7 -09.6		18
19	105	20.8 +00.1	N 12 07.8 +00.8		98	31.9 -00.5	N 13 44.6 +01.1		351	12.4 -31.1	N 19 26.1 -09.6		19
20	120	20.9 +00.1	N 12 08.6 +00.9		113	31.4 -00.5	N 13 45.7 +01.0		5	41.3 -31.1	N 19 16.5 -09.8		20
21	135	21.0 +00.2	N 12 09.5 +00.8		128	30.9 -00.5	N 13 46.7 +01.1		20	10.2 -31.0	N 19 06.7 -09.9		21
22	150	21.2 +00.1	N 12 10.3 +00.8		143	30.4 -00.5	N 13 47.8 +01.1		34	39.2 -31.0	N 18 56.8 -10.0		22
23	165	21.3 +00.1	N 12 11.1 +00.9		158	29.9 -00.6	N 13 48.9 +01.0		49	08.2 -31.0	N 18 46.8 -10.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'9 15'9 15'9 15'9 15'9 15'9				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 15'4 15'5 15'5 15'6 15'6 15'6				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 56'7 56'8 56'9 57'1 57'3 57'4				
	SHA 331° 331° 331° 330° 330° 330°				SHA 324° 324° 324° 324° 324° 323°				SHA 226° 223° 221° 219° 217° 214°				
	Greenwich Culmination Time: 11:58				Greenwich Culmination Time: 12:25				Greenwich Culmination Time: 19:36				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	120	57.0 +00.8	N 24 53.6 +00.0		239	59.3 +02.0	S 13 14.4 -00.2		253	59.0 +02.4	S 17 32.4 -00.1		00
01	135	57.8 +00.8	N 24 53.6 +00.0		255	01.3 +02.1	S 13 14.2 -00.1		269	01.4 +02.3	S 17 32.3 +00.0		01
02	150	58.6 +00.8	N 24 53.6 +00.0		270	03.4 +02.1	S 13 14.1 -00.1		284	03.7 +02.3	S 17 32.3 +00.0		02
03	165	59.4 +00.8	N 24 53.6 +00.1		285	05.5 +02.1	S 13 14.0 -00.2		299	06.0 +02.4	S 17 32.3 -00.1		03
04	181	00.2 +00.8	N 24 53.7 +00.0		300	07.6 +02.0	S 13 13.8 -00.1		314	08.4 +02.3	S 17 32.2 +00.0		04
05	196	01.0 +00.8	N 24 53.7 +00.0		315	09.6 +02.1	S 13 13.7 -00.1		329	10.7 +02.3	S 17 32.2 +00.0		05
06	211	01.8 +00.8	N 24 53.7 +00.0		330	11.7 +02.1	S 13 13.6 -00.2		344	13.0 +02.4	S 17 32.2 -00.1		06
07	226	02.6 +00.8	N 24 53.7 +00.0		345	13.8 +02.0	S 13 13.4 -00.1		359	15.4 +02.3	S 17 32.1 +00.0		07
08	241	03.4 +00.8	N 24 53.7 +00.0		0	15.8 +02.1	S 13 13.3 -00.1		14	17.7 +02.3	S 17 32.1 +00.0		08
09	256	04.2 +00.8	N 24 53.7 +00.0		15	17.9 +02.1	S 13 13.2 -00.2		29	20.0 +02.4	S 17 32.1 +00.0		09
10	271	05.0 +00.7	N 24 53.7 +00.0		30	20.0 +02.0	S 13 13.0 -00.1		44	22.4 +02.3	S 17 32.1 -00.1		10
11	286	05.7 +00.8	N 24 53.7 +00.0		45	22.0 +02.1	S 13 12.9 -00.1		59	24.7 +02.4	S 17 32.0 +00.0		11
12	301	06.5 +00.8	N 24 53.7 +00.1		60	24.1 +02.1	S 13 12.8 -00.1		74	27.1 +02.3	S 17 32.0 +00.0		12
13	316	07.3 +00.8	N 24 53.8 +00.0		75	26.2 +02.1	S 13 12.7 -00.2		89	29.4 +02.3	S 17 32.0 -00.1		13
14	331	08.1 +00.8	N 24 53.8 +00.0		90	28.3 +02.0	S 13 12.5 -00.1		104	31.7 +02.4	S 17 31.9 +00.0		14
15	346	08.9 +00.8	N 24 53.8 +00.0		105	30.3 +02.1	S 13 12.4 -00.1		119	34.1 +02.3	S 17 31.9 +00.0		15
16	1	09.7 +00.8	N 24 53.8 +00.0		120	32.4 +02.1	S 13 12.3 -00.2		134	36.4 +02.3	S 17 31.9 -00.1		16
17	16	10.5 +00.8	N 24 53.8 +00.0		135	34.5 +02.1	S 13 12.1 -00.1		149	38.7 +02.4	S 17 31.8 +00.0		17
18	31	11.3 +00.8	N 24 53.8 +00.0		150	36.6 +02.0	S 13 12.0 -00.1		164	41.1 +02.3	S 17 31.8 +00.0		18
19	46	12.1 +00.8	N 24 53.8 +00.0		165	38.6 +02.1	S 13 11.9 -00.2		179	43.4 +02.3	S 17 31.8 +00.0		19
20	61	12.9 +00.8	N 24 53.8 +00.0		180	40.7 +02.1	S 13 11.7 -00.1		194	45.7 +02.4	S 17 31.8 -00.1		20
21	76	13.7 +00.8	N 24 53.8 +00.0		195	42.8 +02.0	S 13 11.6 -00.1		209	48.1 +02.3	S 17 31.7 +00.0		21
22	91	14.5 +00.8	N 24 53.8 +00.0		210	44.8 +02.1	S 13 11.5 -00.1		224	50.4 +02.4	S 17 31.7 +00.0		22
23	106	15.3 +00.8	N 24 53.8 +00.0		225	46.9 +02.1	S 13 11.4 -00.2		239	52.8 +02.3	S 17 31.7 -00.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 272° 271° 271° 271° 271° 271°				SHA 031° 031° 031° 031° 031° 031°				SHA 045° 045° 045° 045° 045° 045°				
	Greenwich Culmination Time: 15:55				Greenwich Culmination Time: 07:58				Greenwich Culmination Time: 07:02				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 21.4 +00.1	N 12 12.0 +00.8	173 29.3 -00.5	N 13 49.9 +01.1	63 37.2 -31.0	N 18 36.7 -10.3	00						
01	195 21.5 +00.2	N 12 12.8 +00.9	188 28.8 -00.5	N 13 51.0 +01.1	78 06.2 -30.9	N 18 26.4 -10.3	01						
02	210 21.7 +00.1	N 12 13.7 +00.8	203 28.3 -00.5	N 13 52.1 +01.0	92 35.3 -31.0	N 18 16.1 -10.5	02						
03	225 21.8 +00.1	N 12 14.5 +00.8	218 27.8 -00.6	N 13 53.1 +01.1	107 04.3 -30.9	N 18 05.6 -10.6	03						
04	240 21.9 +00.1	N 12 15.3 +00.9	233 27.2 -00.5	N 13 54.2 +01.1	121 33.4 -30.9	N 17 55.0 -10.6	04						
05	255 22.0 +00.1	N 12 16.2 +00.8	248 26.7 -00.5	N 13 55.3 +01.0	136 02.5 -30.9	N 17 44.4 -10.8	05						
06	270 22.1 +00.2	N 12 17.0 +00.9	263 26.2 -00.5	N 13 56.3 +01.1	150 31.6 -30.8	N 17 33.6 -10.9	06						
07	285 22.3 +00.1	N 12 17.9 +00.8	278 25.7 -00.6	N 13 57.4 +01.0	165 00.8 -30.9	N 17 22.7 -11.0	07						
08	300 22.4 +00.1	N 12 18.7 +00.8	293 25.1 -00.5	N 13 58.4 +01.1	179 29.9 -30.8	N 17 11.7 -11.2	08						
09	315 22.5 +00.1	N 12 19.5 +00.9	308 24.6 -00.5	N 13 59.5 +01.1	193 59.1 -30.8	N 17 00.5 -11.2	09						
10	330 22.6 +00.1	N 12 20.4 +00.8	323 24.1 -00.5	N 14 00.6 +01.0	208 28.3 -30.8	N 16 49.3 -11.3	10						
11	345 22.7 +00.2	N 12 21.2 +00.8	338 23.6 -00.6	N 14 01.6 +01.1	222 57.5 -30.8	N 16 38.0 -11.4	11						
12	0 22.9 +00.1	N 12 22.0 +00.9	353 23.0 -00.5	N 14 02.7 +01.0	237 26.7 -30.7	N 16 26.6 -11.6	12						
13	15 23.0 +00.1	N 12 22.9 +00.8	8 22.5 -00.5	N 14 03.7 +01.1	251 56.0 -30.7	N 16 15.0 -11.6	13						
14	30 23.1 +00.1	N 12 23.7 +00.8	23 22.0 -00.5	N 14 04.8 +01.1	266 25.3 -30.8	N 16 03.4 -11.8	14						
15	45 23.2 +00.1	N 12 24.5 +00.9	38 21.5 -00.6	N 14 05.9 +01.0	280 54.5 -30.7	N 15 51.6 -11.8	15						
16	60 23.3 +00.2	N 12 25.4 +00.8	53 20.9 -00.5	N 14 06.9 +01.1	295 23.8 -30.7	N 15 39.8 -12.0	16						
17	75 23.5 +00.1	N 12 26.2 +00.8	68 20.4 -00.5	N 14 08.0 +01.0	309 53.1 -30.6	N 15 27.8 -12.0	17						
18	90 23.6 +00.1	N 12 27.0 +00.9	83 19.9 -00.5	N 14 09.0 +01.1	324 22.5 -30.7	N 15 15.8 -12.1	18						
19	105 23.7 +00.1	N 12 27.9 +00.8	98 19.4 -00.6	N 14 10.1 +01.0	338 51.8 -30.6	N 15 03.7 -12.3	19						
20	120 23.8 +00.1	N 12 28.7 +00.9	113 18.8 -00.5	N 14 11.1 +01.1	353 21.2 -30.6	N 14 51.4 -12.3	20						
21	135 23.9 +00.2	N 12 29.6 +00.8	128 18.3 -00.5	N 14 12.2 +01.1	7 50.6 -30.6	N 14 39.1 -12.4	21						
22	150 24.1 +00.1	N 12 30.4 +00.8	143 17.8 -00.6	N 14 13.3 +01.0	22 20.0 -30.6	N 14 26.7 -12.6	22						
23	165 24.2 +00.1	N 12 31.2 +00.8	158 17.2 -00.5	N 14 14.3 +01.1	36 49.4 -30.6	N 14 14.1 -12.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'7 15'7 15'8 15'8 15'9 15'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 57'6 57'7 57'9 58'0 58'2 58'4								
	SHA 330° 330° 330° 330° 329° 329°		SHA 323° 323° 323° 323° 322° 322°		SHA 212° 210° 208° 206° 203° 201°								
	Greenwich Culmination Time: 11:58		Greenwich Culmination Time: 12:26		Greenwich Culmination Time: 20:27								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	121 16.1 +00.8	N 24 53.8 +00.0	240 49.0 +02.1	S 13 11.2 -00.1	254 55.1 +02.3	S 17 31.6 +00.0	00						
01	136 16.9 +00.8	N 24 53.8 +00.1	255 51.1 +02.0	S 13 11.1 -00.1	269 57.4 +02.4	S 17 31.6 +00.0	01						
02	151 17.7 +00.8	N 24 53.9 +00.0	270 53.1 +02.1	S 13 11.0 -00.2	284 59.8 +02.3	S 17 31.6 -00.1	02						
03	166 18.5 +00.8	N 24 53.9 +00.0	285 55.2 +02.1	S 13 10.8 -00.1	300 02.1 +02.3	S 17 31.5 +00.0	03						
04	181 19.3 +00.8	N 24 53.9 +00.0	300 57.3 +02.1	S 13 10.7 -00.1	315 04.4 +02.4	S 17 31.5 +00.0	04						
05	196 20.1 +00.7	N 24 53.9 +00.0	315 59.4 +02.0	S 13 10.6 -00.1	330 06.8 +02.3	S 17 31.5 +00.0	05						
06	211 20.8 +00.8	N 24 53.9 +00.0	331 01.4 +02.1	S 13 10.5 -00.2	345 09.1 +02.4	S 17 31.5 -00.1	06						
07	226 21.6 +00.8	N 24 53.9 +00.0	346 03.5 +02.1	S 13 10.3 -00.1	0 11.5 +02.3	S 17 31.4 +00.0	07						
08	241 22.4 +00.8	N 24 53.9 +00.0	1 05.6 +02.1	S 13 10.2 -00.1	15 13.8 +02.3	S 17 31.4 +00.0	08						
09	256 23.2 +00.8	N 24 53.9 +00.0	16 07.7 +02.0	S 13 10.1 -00.2	30 16.1 +02.4	S 17 31.4 -00.1	09						
10	271 24.0 +00.8	N 24 53.9 +00.0	31 09.7 +02.1	S 13 09.9 -00.1	45 18.5 +02.3	S 17 31.3 +00.0	10						
11	286 24.8 +00.8	N 24 53.9 +00.0	46 11.8 +02.1	S 13 09.8 -00.1	60 20.8 +02.4	S 17 31.3 +00.0	11						
12	301 25.6 +00.8	N 24 53.9 +00.0	61 13.9 +02.1	S 13 09.7 -00.2	75 23.2 +02.3	S 17 31.3 -00.1	12						
13	316 26.4 +00.8	N 24 53.9 +00.0	76 16.0 +02.0	S 13 09.5 -00.1	90 25.5 +02.3	S 17 31.2 +00.0	13						
14	331 27.2 +00.8	N 24 53.9 +00.0	91 18.0 +02.1	S 13 09.4 -00.1	105 27.8 +02.4	S 17 31.2 +00.0	14						
15	346 28.0 +00.8	N 24 53.9 +00.0	106 20.1 +02.1	S 13 09.3 -00.1	120 30.2 +02.3	S 17 31.2 +00.0	15						
16	1 28.8 +00.8	N 24 53.9 +00.0	121 22.2 +02.1	S 13 09.2 -00.2	135 32.5 +02.4	S 17 31.2 -00.1	16						
17	16 29.6 +00.8	N 24 53.9 +00.0	136 24.3 +02.1	S 13 09.0 -00.1	150 34.9 +02.3	S 17 31.1 +00.0	17						
18	31 30.4 +00.8	N 24 53.9 +00.0	151 26.4 +02.0	S 13 08.9 -00.1	165 37.2 +02.3	S 17 31.1 +00.0	18						
19	46 31.2 +00.8	N 24 53.9 +00.0	166 28.4 +02.1	S 13 08.8 -00.2	180 39.5 +02.4	S 17 31.1 -00.1	19						
20	61 32.0 +00.8	N 24 53.9 +00.0	181 30.5 +02.1	S 13 08.6 -00.1	195 41.9 +02.3	S 17 31.0 +00.0	20						
21	76 32.8 +00.8	N 24 53.9 +00.0	196 32.6 +02.1	S 13 08.5 -00.1	210 44.2 +02.4	S 17 31.0 +00.0	21						
22	91 33.6 +00.8	N 24 53.9 +00.0	211 34.7 +02.0	S 13 08.4 -00.1	225 46.6 +02.3	S 17 31.0 +00.0	22						
23	106 34.4 +00.7	N 24 53.9 +00.0	226 36.7 +02.1	S 13 08.3 -00.2	240 48.9 +02.3	S 17 31.0 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 271° 271° 271° 271° 270° 270°		SHA 031° 031° 030° 030° 030° 030°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 15:54		Greenwich Culmination Time: 07:55		Greenwich Culmination Time: 06:59								

UT	Sun				Venus				Moon A: 37%				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	180 24.3 +00.1	N 12 32.0 +00.9	173 16.7 -00.5	N 14 15.4 +01.0	51 18.8 -30.6	N 14 01.5 -12.7	00						
01	195 24.4 +00.1	N 12 32.9 +00.8	188 16.2 -00.6	N 14 16.4 +01.1	65 48.2 -30.5	N 13 48.8 -12.8	01						
02	210 24.5 +00.1	N 12 33.7 +00.8	203 15.6 -00.5	N 14 17.5 +01.0	80 17.7 -30.6	N 13 36.0 -12.9	02						
03	225 24.6 +00.2	N 12 34.5 +00.9	218 15.1 -00.5	N 14 18.5 +01.1	94 47.1 -30.5	N 13 23.1 -13.0	03						
04	240 24.8 +00.1	N 12 35.4 +00.8	233 14.6 -00.6	N 14 19.6 +01.0	109 16.6 -30.5	N 13 10.1 -13.1	04						
05	255 24.9 +00.1	N 12 36.2 +00.8	248 14.0 -00.5	N 14 20.6 +01.1	123 46.1 -30.6	N 12 57.0 -13.1	05						
06	270 25.0 +00.1	N 12 37.0 +00.9	263 13.5 -00.5	N 14 21.7 +01.0	138 15.5 -30.5	N 12 43.9 -13.3	06						
07	285 25.1 +00.1	N 12 37.9 +00.8	278 13.0 -00.6	N 14 22.7 +01.1	152 45.0 -30.4	N 12 30.6 -13.3	07						
08	300 25.2 +00.1	N 12 38.7 +00.8	293 12.4 -00.5	N 14 23.8 +01.0	167 14.6 -30.5	N 12 17.3 -13.5	08						
09	315 25.3 +00.2	N 12 39.5 +00.9	308 11.9 -00.5	N 14 24.8 +01.1	181 44.1 -30.5	N 12 03.8 -13.5	09						
10	330 25.5 +00.1	N 12 40.4 +00.8	323 11.4 -00.6	N 14 25.9 +01.0	196 13.6 -30.5	N 11 50.3 -13.6	10						
11	345 25.6 +00.1	N 12 41.2 +00.8	338 10.8 -00.5	N 14 26.9 +01.0	210 43.1 -30.4	N 11 36.7 -13.6	11						
12	0 25.7 +00.1	N 12 42.0 +00.8	353 10.3 -00.5	N 14 27.9 +01.1	225 12.7 -30.5	N 11 23.1 -13.8	12						
13	15 25.8 +00.1	N 12 42.8 +00.9	8 09.8 -00.6	N 14 29.0 +01.0	239 42.2 -30.4	N 11 09.3 -13.8	13						
14	30 25.9 +00.1	N 12 43.7 +00.8	23 09.2 -00.5	N 14 30.0 +01.1	254 11.8 -30.5	N 10 55.5 -13.9	14						
15	45 26.0 +00.2	N 12 44.5 +00.8	38 08.7 -00.6	N 14 31.1 +01.0	268 41.3 -30.4	N 10 41.6 -14.0	15						
16	60 26.2 +00.1	N 12 45.3 +00.8	53 08.1 -00.5	N 14 32.1 +01.1	283 10.9 -30.4	N 10 27.6 -14.1	16						
17	75 26.3 +00.1	N 12 46.1 +00.9	68 07.6 -00.5	N 14 33.2 +01.0	297 40.5 -30.5	N 10 13.5 -14.1	17						
18	90 26.4 +00.1	N 12 47.0 +00.8	83 07.1 -00.6	N 14 34.2 +01.0	312 10.0 -30.4	N 09 59.4 -14.2	18						
19	105 26.5 +00.1	N 12 47.8 +00.8	98 06.5 -00.5	N 14 35.2 +01.1	326 39.6 -30.4	N 09 45.2 -14.3	19						
20	120 26.6 +00.1	N 12 48.6 +00.8	113 06.0 -00.6	N 14 36.3 +01.0	341 09.2 -30.5	N 09 30.9 -14.4	20						
21	135 26.7 +00.1	N 12 49.4 +00.9	128 05.4 -00.5	N 14 37.3 +01.1	355 38.7 -30.4	N 09 16.5 -14.4	21						
22	150 26.8 +00.2	N 12 50.3 +00.8	143 04.9 -00.5	N 14 38.4 +01.0	10 08.3 -30.4	N 09 02.1 -14.5	22						
23	165 27.0 +00.1	N 12 51.1 +00.8	158 04.4 -00.6	N 14 39.4 +01.0	24 37.9 -30.5	N 08 47.6 -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 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'9 16'0 16'0 16'1 16'1 16'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 58'5 58'7 58'8 59'0 59'2 59'3								
	SHA 329° 329° 329° 329° 328° 328°		SHA 322° 322° 322° 321° 321° 321°		SHA 199° 197° 195° 192° 190° 188°								
	Greenwich Culmination Time: 11:58		Greenwich Culmination Time: 12:27		Greenwich Culmination Time: 21:18								

UT	Mars				Jupiter				Saturn				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	121 35.1 +00.8	N 24 53.9 +00.0	241 38.8 +02.1	S 13 08.1 -00.1	255 51.2 +02.4	S 17 30.9 +00.0	00						
01	136 35.9 +00.8	N 24 53.9 +00.0	256 40.9 +02.1	S 13 08.0 -00.1	270 53.6 +02.3	S 17 30.9 +00.0	01						
02	151 36.7 +00.8	N 24 53.9 +00.0	271 43.0 +02.1	S 13 07.9 -00.1	285 55.9 +02.4	S 17 30.9 -00.1	02						
03	166 37.5 +00.8	N 24 53.9 +00.0	286 45.1 +02.0	S 13 07.8 -00.2	300 58.3 +02.3	S 17 30.8 +00.0	03						
04	181 38.3 +00.8	N 24 53.9 +00.0	301 47.1 +02.1	S 13 07.6 -00.1	316 00.6 +02.3	S 17 30.8 +00.0	04						
05	196 39.1 +00.8	N 24 53.9 +00.0	316 49.2 +02.1	S 13 07.5 -00.1	331 02.9 +02.4	S 17 30.8 +00.0	05						
06	211 39.9 +00.8	N 24 53.9 +00.0	331 51.3 +02.1	S 13 07.4 -00.2	346 05.3 +02.3	S 17 30.8 -00.1	06						
07	226 40.7 +00.8	N 24 53.9 +00.0	346 53.4 +02.1	S 13 07.2 -00.1	1 07.6 +02.4	S 17 30.7 +00.0	07						
08	241 41.5 +00.8	N 24 53.9 +00.0	1 55.5 +02.0	S 13 07.1 -00.1	16 10.0 +02.3	S 17 30.7 +00.0	08						
09	256 42.3 +00.8	N 24 53.9 +00.0	16 57.5 +02.1	S 13 07.0 -00.1	31 12.3 +02.4	S 17 30.7 -00.1	09						
10	271 43.1 +00.8	N 24 53.9 +00.0	31 59.6 +02.1	S 13 06.9 -00.2	46 14.7 +02.3	S 17 30.6 +00.0	10						
11	286 43.9 +00.8	N 24 53.9 +00.0	47 01.7 +02.1	S 13 06.7 -00.1	61 17.0 +02.3	S 17 30.6 +00.0	11						
12	301 44.7 +00.8	N 24 53.9 +00.0	62 03.8 +02.1	S 13 06.6 -00.1	76 19.3 +02.4	S 17 30.6 +00.0	12						
13	316 45.5 +00.8	N 24 53.9 +00.0	77 05.9 +02.0	S 13 06.5 -00.2	91 21.7 +02.3	S 17 30.6 -00.1	13						
14	331 46.3 +00.8	N 24 53.9 +00.0	92 07.9 +02.1	S 13 06.3 -00.1	106 24.0 +02.4	S 17 30.5 +00.0	14						
15	346 47.1 +00.7	N 24 53.9 +00.0	107 10.0 +02.1	S 13 06.2 -00.1	121 26.4 +02.3	S 17 30.5 +00.0	15						
16	1 47.8 +00.8	N 24 53.9 +00.0	122 12.1 +02.1	S 13 06.1 -00.1	136 28.7 +02.4	S 17 30.5 -00.1	16						
17	16 48.6 +00.8	N 24 53.9 +00.0	137 14.2 +02.1	S 13 06.0 -00.2	151 31.1 +02.3	S 17 30.4 +00.0	17						
18	31 49.4 +00.8	N 24 53.9 +00.0	152 16.3 +02.1	S 13 05.8 -00.1	166 33.4 +02.4	S 17 30.4 +00.0	18						
19	46 50.2 +00.8	N 24 53.9 -00.1	167 18.4 +02.0	S 13 05.7 -00.1	181 35.8 +02.3	S 17 30.4 +00.0	19						
20	61 51.0 +00.8	N 24 53.8 +00.0	182 20.4 +02.1	S 13 05.6 -00.1	196 38.1 +02.3	S 17 30.4 -00.1	20						
21	76 51.8 +00.8	N 24 53.8 +00.0	197 22.5 +02.1	S 13 05.5 -00.2	211 40.4 +02.4	S 17 30.3 +00.0	21						
22	91 52.6 +00.8	N 24 53.8 +00.0	212 24.6 +02.1	S 13 05.3 -00.1	226 42.8 +02.3	S 17 30.3 +00.0	22						
23	106 53.4 +00.8	N 24 53.8 +00.0	227 26.7 +02.1	S 13 05.2 -00.1	241 45.1 +02.4	S 17 30.3 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 270° 270° 270° 270° 270° 270°		SHA 030° 030° 030° 030° 030° 030°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 15:52		Greenwich Culmination Time: 07:52		Greenwich Culmination Time: 06:55								

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 27.1 +00.1	N 12 51.9 +00.8	173 03.8 -00.5	N 14 40.4 +01.1	39 07.4 -30.4	N 08 33.1 -14.7	00						
01	195 27.2 +00.1	N 12 52.7 +00.9	188 03.3 -00.6	N 14 41.5 +01.0	53 37.0 -30.4	N 08 18.4 -14.7	01						
02	210 27.3 +00.1	N 12 53.6 +00.8	203 02.7 -00.5	N 14 42.5 +01.0	68 06.6 -30.5	N 08 03.7 -14.7	02						
03	225 27.4 +00.1	N 12 54.4 +00.8	218 02.2 -00.5	N 14 43.5 +01.1	82 36.1 -30.4	N 07 49.0 -14.8	03						
04	240 27.5 +00.1	N 12 55.2 +00.8	233 01.7 -00.6	N 14 44.6 +01.0	97 05.7 -30.5	N 07 34.2 -14.9	04						
05	255 27.6 +00.1	N 12 56.0 +00.8	248 01.1 -00.5	N 14 45.6 +01.0	111 35.2 -30.4	N 07 19.3 -15.0	05						
06	270 27.7 +00.2	N 12 56.8 +00.9	263 00.6 -00.6	N 14 46.6 +01.1	126 04.8 -30.5	N 07 04.3 -15.0	06						
07	285 27.9 +00.1	N 12 57.7 +00.8	278 00.0 -00.5	N 14 47.7 +01.0	140 34.3 -30.4	N 06 49.3 -15.0	07						
08	300 28.0 +00.1	N 12 58.5 +00.8	292 59.5 -00.6	N 14 48.7 +01.0	155 03.9 -30.5	N 06 34.3 -15.1	08						
09	315 28.1 +00.1	N 12 59.3 +00.8	307 58.9 -00.5	N 14 49.7 +01.1	169 33.4 -30.5	N 06 19.2 -15.2	09						
10	330 28.2 +00.1	N 13 00.1 +00.8	322 58.4 -00.6	N 14 50.8 +01.0	184 02.9 -30.5	N 06 04.0 -15.2	10						
11	345 28.3 +00.1	N 13 00.9 +00.9	337 57.8 -00.5	N 14 51.8 +01.0	198 32.4 -30.5	N 05 48.8 -15.3	11						
12	0 28.4 +00.1	N 13 01.8 +00.8	352 57.3 -00.6	N 14 52.8 +01.1	213 01.9 -30.6	N 05 33.5 -15.3	12						
13	15 28.5 +00.1	N 13 02.6 +00.8	7 56.7 -00.5	N 14 53.9 +01.0	227 31.3 -30.5	N 05 18.2 -15.4	13						
14	30 28.6 +00.1	N 13 03.4 +00.8	22 56.2 -00.5	N 14 54.9 +01.0	242 00.8 -30.5	N 05 02.8 -15.4	14						
15	45 28.7 +00.2	N 13 04.2 +00.8	37 55.7 -00.6	N 14 55.9 +01.0	256 30.3 -30.6	N 04 47.4 -15.4	15						
16	60 28.9 +00.1	N 13 05.0 +00.9	52 55.1 -00.5	N 14 56.9 +01.1	270 59.7 -30.6	N 04 32.0 -15.5	16						
17	75 29.0 +00.1	N 13 05.9 +00.8	67 54.6 -00.6	N 14 58.0 +01.0	285 29.1 -30.6	N 04 16.5 -15.6	17						
18	90 29.1 +00.1	N 13 06.7 +00.8	82 54.0 -00.5	N 14 59.0 +01.0	299 58.5 -30.6	N 04 00.9 -15.6	18						
19	105 29.2 +00.1	N 13 07.5 +00.8	97 53.5 -00.6	N 15 00.0 +01.1	314 27.9 -30.7	N 03 45.3 -15.6	19						
20	120 29.3 +00.1	N 13 08.3 +00.8	112 52.9 -00.5	N 15 01.1 +01.0	328 57.2 -30.6	N 03 29.7 -15.7	20						
21	135 29.4 +00.1	N 13 09.1 +00.8	127 52.4 -00.6	N 15 02.1 +01.0	343 26.6 -30.7	N 03 14.0 -15.7	21						
22	150 29.5 +00.1	N 13 09.9 +00.8	142 51.8 -00.5	N 15 03.1 +01.0	357 55.9 -30.7	N 02 58.3 -15.7	22						
23	165 29.6 +00.1	N 13 10.7 +00.9	157 51.3 -00.6	N 15 04.1 +01.0	12 25.2 -30.7	N 02 42.6 -15.8	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 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 00'1 00'1 00'1 00'1 00'1 00'1		HP 59'5 59'6 59'8 59'9 60'0 60'2								
	SHA 328° 328° 328° 328° 328° 327°		SHA 321° 321° 320° 320° 320° 320°		SHA 186° 184° 181° 179° 177° 175°								
	Greenwich Culmination Time: 11:58		Greenwich Culmination Time: 12:28		Greenwich Culmination Time: 22:08								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	121 54.2 +00.8	N 24 53.8 +00.0	242 28.8 +02.1	S 13 05.1 -00.1	256 47.5 +02.3	S 17 30.2 +00.0	00						
01	136 55.0 +00.8	N 24 53.8 +00.0	257 30.9 +02.0	S 13 05.0 -00.2	271 49.8 +02.4	S 17 30.2 +00.0	01						
02	151 55.8 +00.8	N 24 53.8 +00.0	272 32.9 +02.1	S 13 04.8 -00.1	286 52.2 +02.3	S 17 30.2 +00.0	02						
03	166 56.6 +00.8	N 24 53.8 +00.0	287 35.0 +02.1	S 13 04.7 -00.1	301 54.5 +02.4	S 17 30.2 -00.1	03						
04	181 57.4 +00.8	N 24 53.8 +00.0	302 37.1 +02.1	S 13 04.6 -00.2	316 56.9 +02.3	S 17 30.1 +00.0	04						
05	196 58.2 +00.8	N 24 53.8 +00.0	317 39.2 +02.1	S 13 04.4 -00.1	331 59.2 +02.3	S 17 30.1 +00.0	05						
06	211 59.0 +00.7	N 24 53.8 +00.0	332 41.3 +02.1	S 13 04.3 -00.1	347 01.5 +02.4	S 17 30.1 +00.0	06						
07	226 59.7 +00.8	N 24 53.8 -00.1	347 43.4 +02.0	S 13 04.2 -00.1	2 03.9 +02.3	S 17 30.1 -00.1	07						
08	242 00.5 +00.8	N 24 53.7 +00.0	2 45.4 +02.1	S 13 04.1 -00.2	17 06.2 +02.4	S 17 30.0 +00.0	08						
09	257 01.3 +00.8	N 24 53.7 +00.0	17 47.5 +02.1	S 13 03.9 -00.1	32 08.6 +02.3	S 17 30.0 +00.0	09						
10	272 02.1 +00.8	N 24 53.7 +00.0	32 49.6 +02.1	S 13 03.8 -00.1	47 10.9 +02.4	S 17 30.0 -00.1	10						
11	287 02.9 +00.8	N 24 53.7 +00.0	47 51.7 +02.1	S 13 03.7 -00.1	62 13.3 +02.3	S 17 29.9 +00.0	11						
12	302 03.7 +00.8	N 24 53.7 +00.0	62 53.8 +02.1	S 13 03.6 -00.2	77 15.6 +02.4	S 17 29.9 +00.0	12						
13	317 04.5 +00.8	N 24 53.7 +00.0	77 55.9 +02.1	S 13 03.4 -00.1	92 18.0 +02.3	S 17 29.9 +00.0	13						
14	332 05.3 +00.8	N 24 53.7 +00.0	92 58.0 +02.0	S 13 03.3 -00.1	107 20.3 +02.4	S 17 29.9 -00.1	14						
15	347 06.1 +00.8	N 24 53.7 +00.0	108 00.0 +02.1	S 13 03.2 -00.1	122 22.7 +02.3	S 17 29.8 +00.0	15						
16	2 06.9 +00.8	N 24 53.7 -00.1	123 02.1 +02.1	S 13 03.1 -00.2	137 25.0 +02.4	S 17 29.8 +00.0	16						
17	17 07.7 +00.8	N 24 53.6 +00.0	138 04.2 +02.1	S 13 02.9 -00.1	152 27.4 +02.3	S 17 29.8 +00.0	17						
18	32 08.5 +00.8	N 24 53.6 +00.0	153 06.3 +02.1	S 13 02.8 -00.1	167 29.7 +02.4	S 17 29.8 -00.1	18						
19	47 09.3 +00.8	N 24 53.6 +00.0	168 08.4 +02.1	S 13 02.7 -00.1	182 32.1 +02.3	S 17 29.7 +00.0	19						
20	62 10.1 +00.8	N 24 53.6 +00.0	183 10.5 +02.1	S 13 02.6 -00.2	197 34.4 +02.4	S 17 29.7 +00.0	20						
21	77 10.9 +00.7	N 24 53.6 +00.0	198 12.6 +02.1	S 13 02.4 -00.1	212 36.8 +02.3	S 17 29.7 -00.1	21						
22	92 11.6 +00.8	N 24 53.6 +00.0	213 14.7 +02.0	S 13 02.3 -00.1	227 39.1 +02.4	S 17 29.6 +00.0	22						
23	107 12.4 +00.8	N 24 53.6 -00.1	228 16.7 +02.1	S 13 02.2 -00.1	242 41.5 +02.3	S 17 29.6 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 270° 269° 269° 269° 269° 269°		SHA 030° 030° 030° 030° 030° 030°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 15:51		Greenwich Culmination Time: 07:48		Greenwich Culmination Time: 06:51								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 29.7 +00.1	N 13 11.6 +00.8	172 50.7 -00.6	N 15 05.1 +01.1	26 54.5 -30.8	N 02 26.8 -15.8	00						
01	195 29.8 +00.1	N 13 12.4 +00.8	187 50.1 -00.5	N 15 06.2 +01.0	41 23.7 -30.8	N 02 11.0 -15.8	01						
02	210 29.9 +00.2	N 13 13.2 +00.8	202 49.6 -00.6	N 15 07.2 +01.0	55 52.9 -30.8	N 01 55.2 -15.8	02						
03	225 30.1 +00.1	N 13 14.0 +00.8	217 49.0 -00.5	N 15 08.2 +01.0	70 22.1 -30.8	N 01 39.4 -15.9	03						
04	240 30.2 +00.1	N 13 14.8 +00.8	232 48.5 -00.6	N 15 09.2 +01.0	84 51.3 -30.8	N 01 23.5 -15.9	04						
05	255 30.3 +00.1	N 13 15.6 +00.8	247 47.9 -00.5	N 15 10.2 +01.1	99 20.5 -30.9	N 01 07.6 -16.0	05						
06	270 30.4 +00.1	N 13 16.4 +00.9	262 47.4 -00.6	N 15 11.3 +01.0	113 49.6 -30.9	N 00 51.6 -15.9	06						
07	285 30.5 +00.1	N 13 17.3 +00.8	277 46.8 -00.5	N 15 12.3 +01.0	128 18.7 -31.0	N 00 35.7 -16.0	07						
08	300 30.6 +00.1	N 13 18.1 +00.8	292 46.3 -00.6	N 15 13.3 +01.0	142 47.7 -31.0	N 00 19.7 -16.0	08						
09	315 30.7 +00.1	N 13 18.9 +00.8	307 45.7 -00.5	N 15 14.3 +01.0	157 16.7 -31.0	N 00 03.7 -16.0	09						
10	330 30.8 +00.1	N 13 19.7 +00.8	322 45.2 -00.6	N 15 15.3 +01.0	171 45.7 -31.0	S 00 12.3 +16.0	10						
11	345 30.9 +00.1	N 13 20.5 +00.8	337 44.6 -00.6	N 15 16.3 +01.1	186 14.7 -31.1	S 00 28.3 +16.1	11						
12	0 31.0 +00.1	N 13 21.3 +00.8	352 44.0 -00.5	N 15 17.4 +01.0	200 43.6 -31.1	S 00 44.4 +16.0	12						
13	15 31.1 +00.1	N 13 22.1 +00.8	7 43.5 -00.6	N 15 18.4 +01.0	215 12.5 -31.2	S 01 00.4 +16.1	13						
14	30 31.2 +00.1	N 13 22.9 +00.8	22 42.9 -00.5	N 15 19.4 +01.0	229 41.3 -31.1	S 01 16.5 +16.0	14						
15	45 31.3 +00.1	N 13 23.7 +00.8	37 42.4 -00.6	N 15 20.4 +01.0	244 10.2 -31.3	S 01 32.5 +16.1	15						
16	60 31.4 +00.1	N 13 24.5 +00.8	52 41.8 -00.6	N 15 21.4 +01.0	258 38.9 -31.2	S 01 48.6 +16.1	16						
17	75 31.5 +00.1	N 13 25.3 +00.9	67 41.2 -00.5	N 15 22.4 +01.0	273 07.7 -31.3	S 02 04.7 +16.0	17						
18	90 31.6 +00.2	N 13 26.2 +00.8	82 40.7 -00.6	N 15 23.4 +01.0	287 36.4 -31.4	S 02 20.7 +16.1	18						
19	105 31.8 +00.1	N 13 27.0 +00.8	97 40.1 -00.5	N 15 24.4 +01.0	302 05.0 -31.4	S 02 36.8 +16.1	19						
20	120 31.9 +00.1	N 13 27.8 +00.8	112 39.6 -00.6	N 15 25.4 +01.1	316 33.6 -31.4	S 02 52.9 +16.1	20						
21	135 32.0 +00.1	N 13 28.6 +00.8	127 39.0 -00.6	N 15 26.5 +01.0	331 02.2 -31.5	S 03 09.0 +16.0	21						
22	150 32.1 +00.1	N 13 29.4 +00.8	142 38.4 -00.5	N 15 27.5 +01.0	345 30.7 -31.5	S 03 25.0 +16.1	22						
23	165 32.2 +00.1	N 13 30.2 +00.8	157 37.9 -00.6	N 15 28.5 +01.0	359 59.2 -31.6	S 03 41.1 +16.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'4 16'5 16'5 16'5 16'6 16'6								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'3 60'4 60'5 60'6 60'7 60'8								
	SHA 327° 327° 327° 327° 327° 326°		SHA 320° 319° 319° 319° 319° 319°		SHA 173° 170° 168° 166° 164° 161°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 12:29		Greenwich Culmination Time: 23:00								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	122 13.2 +00.8	N 24 53.5 +00.0	243 18.8 +02.1	S 13 02.1 -00.2	257 43.8 +02.3	S 17 29.6 +00.0	00						
01	137 14.0 +00.8	N 24 53.5 +00.0	258 20.9 +02.1	S 13 01.9 -00.1	272 46.1 +02.4	S 17 29.6 -00.1	01						
02	152 14.8 +00.8	N 24 53.5 +00.0	273 23.0 +02.1	S 13 01.8 -00.1	287 48.5 +02.3	S 17 29.5 +00.0	02						
03	167 15.6 +00.8	N 24 53.5 +00.0	288 25.1 +02.1	S 13 01.7 -00.1	302 50.8 +02.4	S 17 29.5 +00.0	03						
04	182 16.4 +00.8	N 24 53.5 +00.0	303 27.2 +02.1	S 13 01.6 -00.2	317 53.2 +02.3	S 17 29.5 +00.0	04						
05	197 17.2 +00.8	N 24 53.5 -00.1	318 29.3 +02.1	S 13 01.4 -00.1	332 55.5 +02.4	S 17 29.5 -00.1	05						
06	212 18.0 +00.8	N 24 53.4 +00.0	333 31.4 +02.1	S 13 01.3 -00.1	347 57.9 +02.3	S 17 29.4 +00.0	06						
07	227 18.8 +00.8	N 24 53.4 +00.0	348 33.5 +02.0	S 13 01.2 -00.1	3 00.2 +02.4	S 17 29.4 +00.0	07						
08	242 19.6 +00.8	N 24 53.4 +00.0	3 35.5 +02.1	S 13 01.1 -00.2	18 02.6 +02.3	S 17 29.4 +00.0	08						
09	257 20.4 +00.8	N 24 53.4 +00.0	18 37.6 +02.1	S 13 00.9 -00.1	33 04.9 +02.4	S 17 29.4 -00.1	09						
10	272 21.2 +00.8	N 24 53.4 +00.0	33 39.7 +02.1	S 13 00.8 -00.1	48 07.3 +02.3	S 17 29.3 +00.0	10						
11	287 22.0 +00.7	N 24 53.4 -00.1	48 41.8 +02.1	S 13 00.7 -00.1	63 09.6 +02.4	S 17 29.3 +00.0	11						
12	302 22.7 +00.8	N 24 53.3 +00.0	63 43.9 +02.1	S 13 00.6 -00.2	78 12.0 +02.3	S 17 29.3 -00.1	12						
13	317 23.5 +00.8	N 24 53.3 +00.0	78 46.0 +02.1	S 13 00.4 -00.1	93 14.3 +02.4	S 17 29.2 +00.0	13						
14	332 24.3 +00.8	N 24 53.3 +00.0	93 48.1 +02.1	S 13 00.3 -00.1	108 16.7 +02.3	S 17 29.2 +00.0	14						
15	347 25.1 +00.8	N 24 53.3 +00.0	108 50.2 +02.1	S 13 00.2 -00.1	123 19.0 +02.4	S 17 29.2 +00.0	15						
16	2 25.9 +00.8	N 24 53.3 -00.1	123 52.3 +02.1	S 13 00.1 -00.1	138 21.4 +02.4	S 17 29.2 -00.1	16						
17	17 26.7 +00.8	N 24 53.2 +00.0	138 54.4 +02.1	S 12 60.0 -00.2	153 23.8 +02.3	S 17 29.1 +00.0	17						
18	32 27.5 +00.8	N 24 53.2 +00.0	153 56.5 +02.1	S 12 59.8 -00.1	168 26.1 +02.4	S 17 29.1 +00.0	18						
19	47 28.3 +00.8	N 24 53.2 +00.0	168 58.6 +02.0	S 12 59.7 -00.1	183 28.5 +02.3	S 17 29.1 +00.0	19						
20	62 29.1 +00.8	N 24 53.2 +00.0	184 00.6 +02.1	S 12 59.6 -00.1	198 30.8 +02.4	S 17 29.1 -00.1	20						
21	77 29.9 +00.8	N 24 53.2 -00.1	199 02.7 +02.1	S 12 59.5 -00.2	213 33.2 +02.3	S 17 29.0 +00.0	21						
22	92 30.7 +00.8	N 24 53.1 +00.0	214 04.8 +02.1	S 12 59.3 -00.1	228 35.5 +02.4	S 17 29.0 +00.0	22						
23	107 31.5 +00.8	N 24 53.1 +00.0	229 06.9 +02.1	S 12 59.2 -00.1	243 37.9 +02.3	S 17 29.0 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 269° 269° 269° 269° 268° 268°		SHA 030° 030° 030° 030° 030° 030°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:50		Greenwich Culmination Time: 07:45		Greenwich Culmination Time: 06:48								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 32.3 +00.1	N 13 31.0 +00.8	172 37.3 -00.5	N 15 29.5 +01.0	14 27.6 -31.6	S 03 57.1 +16.1	00						
01	195 32.4 +00.1	N 13 31.8 +00.8	187 36.8 -00.6	N 15 30.5 +01.0	28 56.0 -31.7	S 04 13.2 +16.0	01						
02	210 32.5 +00.1	N 13 32.6 +00.8	202 36.2 -00.6	N 15 31.5 +01.0	43 24.3 -31.7	S 04 29.2 +16.0	02						
03	225 32.6 +00.1	N 13 33.4 +00.8	217 35.6 -00.5	N 15 32.5 +01.0	57 52.6 -31.8	S 04 45.2 +16.0	03						
04	240 32.7 +00.1	N 13 34.2 +00.8	232 35.1 -00.6	N 15 33.5 +01.0	72 20.8 -31.8	S 05 01.2 +16.0	04						
05	255 32.8 +00.1	N 13 35.0 +00.8	247 34.5 -00.6	N 15 34.5 +01.0	86 49.0 -31.9	S 05 17.2 +15.9	05						
06	270 32.9 +00.1	N 13 35.8 +00.8	262 33.9 -00.5	N 15 35.5 +01.0	101 17.1 -31.9	S 05 33.1 +16.0	06						
07	285 33.0 +00.1	N 13 36.6 +00.8	277 33.4 -00.6	N 15 36.5 +01.0	115 45.2 -32.0	S 05 49.1 +15.9	07						
08	300 33.1 +00.1	N 13 37.4 +00.8	292 32.8 -00.6	N 15 37.5 +01.0	130 13.2 -32.0	S 06 05.0 +15.9	08						
09	315 33.2 +00.1	N 13 38.2 +00.8	307 32.2 -00.5	N 15 38.5 +01.0	144 41.2 -32.1	S 06 20.9 +15.8	09						
10	330 33.3 +00.1	N 13 39.0 +00.8	322 31.7 -00.6	N 15 39.5 +01.0	159 09.1 -32.1	S 06 36.7 +15.8	10						
11	345 33.4 +00.1	N 13 39.8 +00.8	337 31.1 -00.6	N 15 40.5 +01.0	173 37.0 -32.2	S 06 52.5 +15.8	11						
12	0 33.5 +00.1	N 13 40.6 +00.8	352 30.5 -00.5	N 15 41.5 +01.0	188 04.8 -32.3	S 07 08.3 +15.8	12						
13	15 33.6 +00.1	N 13 41.4 +00.8	7 30.0 -00.6	N 15 42.5 +01.0	202 32.5 -32.3	S 07 24.1 +15.7	13						
14	30 33.7 +00.1	N 13 42.2 +00.8	22 29.4 -00.6	N 15 43.5 +01.0	217 00.2 -32.4	S 07 39.8 +15.7	14						
15	45 33.8 +00.1	N 13 43.0 +00.8	37 28.8 -00.5	N 15 44.5 +01.0	231 27.8 -32.4	S 07 55.5 +15.6	15						
16	60 33.9 +00.1	N 13 43.8 +00.8	52 28.3 -00.6	N 15 45.5 +01.0	245 55.4 -32.5	S 08 11.1 +15.6	16						
17	75 34.0 +00.1	N 13 44.6 +00.8	67 27.7 -00.6	N 15 46.5 +01.0	260 22.9 -32.6	S 08 26.7 +15.6	17						
18	90 34.1 +00.1	N 13 45.4 +00.8	82 27.1 -00.6	N 15 47.5 +01.0	274 50.3 -32.6	S 08 42.3 +15.5	18						
19	105 34.2 +00.1	N 13 46.2 +00.8	97 26.5 -00.5	N 15 48.5 +01.0	289 17.7 -32.7	S 08 57.8 +15.4	19						
20	120 34.3 +00.1	N 13 47.0 +00.8	112 26.0 -00.6	N 15 49.5 +00.9	303 45.0 -32.7	S 09 13.2 +15.4	20						
21	135 34.4 +00.1	N 13 47.8 +00.8	127 25.4 -00.6	N 15 50.4 +01.0	318 12.3 -32.9	S 09 28.6 +15.4	21						
22	150 34.5 +00.1	N 13 48.6 +00.8	142 24.8 -00.5	N 15 51.4 +01.0	332 39.4 -32.9	S 09 44.0 +15.3	22						
23	165 34.6 +00.1	N 13 49.4 +00.8	157 24.3 -00.6	N 15 52.4 +01.0	347 06.5 -32.9	S 09 59.3 +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 00'1 00'1 00'1 00'1 00'1 00'1		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 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'9 61'0 61'1 61'1 61'2 61'2								
	SHA 326° 326° 326° 326° 326° 325°		SHA 318° 318° 318° 318° 317° 317°		SHA 159° 157° 155° 152° 150° 148°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 12:29		Greenwich Culmination Time: 23:53								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	122 32.3 +00.8	N 24 53.1 +00.0	244 09.0 +02.1	S 12 59.1 -00.1	258 40.2 +02.4	S 17 29.0 -00.1	00						
01	137 33.1 +00.7	N 24 53.1 +00.0	259 11.1 +02.1	S 12 59.0 -00.2	273 42.6 +02.3	S 17 28.9 +00.0	01						
02	152 33.8 +00.8	N 24 53.1 -00.1	274 13.2 +02.1	S 12 58.8 -00.1	288 44.9 +02.4	S 17 28.9 +00.0	02						
03	167 34.6 +00.8	N 24 53.0 +00.0	289 15.3 +02.1	S 12 58.7 -00.1	303 47.3 +02.3	S 17 28.9 +00.0	03						
04	182 35.4 +00.8	N 24 53.0 +00.0	304 17.4 +02.1	S 12 58.6 -00.1	318 49.6 +02.4	S 17 28.9 -00.1	04						
05	197 36.2 +00.8	N 24 53.0 +00.0	319 19.5 +02.1	S 12 58.5 -00.2	333 52.0 +02.3	S 17 28.8 +00.0	05						
06	212 37.0 +00.8	N 24 53.0 -00.1	334 21.6 +02.1	S 12 58.3 -00.1	348 54.3 +02.4	S 17 28.8 +00.0	06						
07	227 37.8 +00.8	N 24 52.9 +00.0	349 23.7 +02.1	S 12 58.2 -00.1	3 56.7 +02.3	S 17 28.8 +00.0	07						
08	242 38.6 +00.8	N 24 52.9 +00.0	4 25.8 +02.1	S 12 58.1 -00.1	18 59.0 +02.4	S 17 28.8 -00.1	08						
09	257 39.4 +00.8	N 24 52.9 +00.0	19 27.9 +02.1	S 12 58.0 -00.1	34 01.4 +02.3	S 17 28.7 +00.0	09						
10	272 40.2 +00.8	N 24 52.9 -00.1	34 30.0 +02.1	S 12 57.9 -00.2	49 03.7 +02.4	S 17 28.7 +00.0	10						
11	287 41.0 +00.8	N 24 52.8 +00.0	49 32.1 +02.1	S 12 57.7 -00.1	64 06.1 +02.4	S 17 28.7 +00.0	11						
12	302 41.8 +00.8	N 24 52.8 +00.0	64 34.2 +02.1	S 12 57.6 -00.1	79 08.5 +02.3	S 17 28.7 -00.1	12						
13	317 42.6 +00.8	N 24 52.8 +00.0	79 36.3 +02.0	S 12 57.5 -00.1	94 10.8 +02.4	S 17 28.6 +00.0	13						
14	332 43.4 +00.7	N 24 52.8 -00.1	94 38.3 +02.1	S 12 57.4 -00.2	109 13.2 +02.3	S 17 28.6 +00.0	14						
15	347 44.1 +00.8	N 24 52.7 +00.0	109 40.4 +02.1	S 12 57.2 -00.1	124 15.5 +02.4	S 17 28.6 +00.0	15						
16	2 44.9 +00.8	N 24 52.7 +00.0	124 42.5 +02.1	S 12 57.1 -00.1	139 17.9 +02.3	S 17 28.6 -00.1	16						
17	17 45.7 +00.8	N 24 52.7 -00.1	139 44.6 +02.1	S 12 57.0 -00.1	154 20.2 +02.4	S 17 28.5 +00.0	17						
18	32 46.5 +00.8	N 24 52.6 +00.0	154 46.7 +02.1	S 12 56.9 -00.1	169 22.6 +02.3	S 17 28.5 +00.0	18						
19	47 47.3 +00.8	N 24 52.6 +00.0	169 48.8 +02.1	S 12 56.8 -00.2	184 24.9 +02.4	S 17 28.5 +00.0	19						
20	62 48.1 +00.8	N 24 52.6 +00.0	184 50.9 +02.1	S 12 56.6 -00.1	199 27.3 +02.4	S 17 28.5 -00.1	20						
21	77 48.9 +00.8	N 24 52.6 -00.1	199 53.0 +02.1	S 12 56.5 -00.1	214 29.7 +02.3	S 17 28.4 +00.0	21						
22	92 49.7 +00.8	N 24 52.5 +00.0	214 55.1 +02.1	S 12 56.4 -00.1	229 32.0 +02.4	S 17 28.4 +00.0	22						
23	107 50.5 +00.8	N 24 52.5 +00.0	229 57.2 +02.1	S 12 56.3 -00.2	244 34.4 +02.3	S 17 28.4 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 268° 268° 268° 268° 268° 268°		SHA 030° 030° 030° 030° 030° 030°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:49		Greenwich Culmination Time: 07:42		Greenwich Culmination Time: 06:44								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 34.7 +00.1	N 13 50.2 +00.8	172 23.7 -00.6	N 15 53.4 +01.0	1 33.6 -33.0	S 10 14.5 +15.2	00						
01	195 34.8 +00.1	N 13 51.0 +00.8	187 23.1 -00.6	N 15 54.4 +01.0	16 00.6 -33.1	S 10 29.7 +15.1	01						
02	210 34.9 +00.1	N 13 51.8 +00.8	202 22.5 -00.5	N 15 55.4 +01.0	30 27.5 -33.2	S 10 44.8 +15.1	02						
03	225 35.0 +00.1	N 13 52.6 +00.8	217 22.0 -00.6	N 15 56.4 +01.0	44 54.3 -33.2	S 10 59.9 +15.0	03						
04	240 35.1 +00.1	N 13 53.4 +00.8	232 21.4 -00.6	N 15 57.4 +01.0	59 21.1 -33.3	S 11 14.9 +14.9	04						
05	255 35.2 +00.1	N 13 54.2 +00.8	247 20.8 -00.6	N 15 58.4 +00.9	73 47.8 -33.3	S 11 29.8 +14.9	05						
06	270 35.3 +00.1	N 13 55.0 +00.8	262 20.2 -00.5	N 15 59.3 +01.0	88 14.5 -33.5	S 11 44.7 +14.8	06						
07	285 35.4 +00.1	N 13 55.8 +00.8	277 19.7 -00.6	N 16 00.3 +01.0	102 41.0 -33.5	S 11 59.5 +14.7	07						
08	300 35.5 +00.1	N 13 56.6 +00.7	292 19.1 -00.6	N 16 01.3 +01.0	117 07.5 -33.6	S 12 14.2 +14.6	08						
09	315 35.6 +00.1	N 13 57.3 +00.8	307 18.5 -00.6	N 16 02.3 +01.0	131 33.9 -33.6	S 12 28.8 +14.6	09						
10	330 35.7 +00.1	N 13 58.1 +00.8	322 17.9 -00.6	N 16 03.3 +01.0	146 00.3 -33.7	S 12 43.4 +14.4	10						
11	345 35.8 +00.1	N 13 58.9 +00.8	337 17.3 -00.5	N 16 04.3 +00.9	160 26.6 -33.8	S 12 57.8 +14.4	11						
12	0 35.9 +00.1	N 13 59.7 +00.8	352 16.8 -00.6	N 16 05.2 +01.0	174 52.8 -33.9	S 13 12.2 +14.3	12						
13	15 36.0 +00.0	N 14 00.5 +00.8	7 16.2 -00.6	N 16 06.2 +01.0	189 18.9 -33.9	S 13 26.5 +14.2	13						
14	30 36.0 +00.1	N 14 01.3 +00.8	22 15.6 -00.6	N 16 07.2 +01.0	203 45.0 -34.0	S 13 40.7 +14.2	14						
15	45 36.1 +00.1	N 14 02.1 +00.8	37 15.0 -00.6	N 16 08.2 +01.0	218 11.0 -34.1	S 13 54.9 +14.0	15						
16	60 36.2 +00.1	N 14 02.9 +00.8	52 14.4 -00.5	N 16 09.2 +00.9	232 36.9 -34.2	S 14 08.9 +14.0	16						
17	75 36.3 +00.1	N 14 03.7 +00.8	67 13.9 -00.6	N 16 10.1 +01.0	247 02.7 -34.2	S 14 22.9 +13.8	17						
18	90 36.4 +00.1	N 14 04.5 +00.7	82 13.3 -00.6	N 16 11.1 +01.0	261 28.5 -34.3	S 14 36.7 +13.8	18						
19	105 36.5 +00.1	N 14 05.2 +00.8	97 12.7 -00.6	N 16 12.1 +01.0	275 54.2 -34.4	S 14 50.5 +13.7	19						
20	120 36.6 +00.1	N 14 06.0 +00.8	112 12.1 -00.6	N 16 13.1 +00.9	290 19.8 -34.4	S 15 04.2 +13.5	20						
21	135 36.7 +00.1	N 14 06.8 +00.8	127 11.5 -00.6	N 16 14.0 +01.0	304 45.4 -34.6	S 15 17.7 +13.5	21						
22	150 36.8 +00.1	N 14 07.6 +00.8	142 10.9 -00.5	N 16 15.0 +01.0	319 10.8 -34.6	S 15 31.2 +13.3	22						
23	165 36.9 +00.1	N 14 08.4 +00.8	157 10.4 -00.6	N 16 16.0 +01.0	333 36.2 -34.7	S 15 44.5 +13.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'7 16'7 16'7 16'7 16'7 16'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 61'3 61'3 61'3 61'3 61'3 61'3								
	SHA 325° 325° 325° 325° 325° 325°		SHA 317° 317° 317° 316° 316° 316°		SHA 145° 143° 140° 138° 136° 133°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 12:30		Greenwich Culmination Time: -1:00								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	122 51.3 +00.8	N 24 52.5 -00.1	244 59.3 +02.1	S 12 56.1 -00.1	259 36.7 +02.4	S 17 28.4 -00.1	00						
01	137 52.1 +00.8	N 24 52.4 +00.0	260 01.4 +02.1	S 12 56.0 -00.1	274 39.1 +02.3	S 17 28.3 +00.0	01						
02	152 52.9 +00.8	N 24 52.4 +00.0	275 03.5 +02.1	S 12 55.9 -00.1	289 41.4 +02.4	S 17 28.3 +00.0	02						
03	167 53.7 +00.7	N 24 52.4 +00.0	290 05.6 +02.1	S 12 55.8 -00.1	304 43.8 +02.3	S 17 28.3 +00.0	03						
04	182 54.4 +00.8	N 24 52.4 -00.1	305 07.7 +02.1	S 12 55.7 -00.2	319 46.1 +02.4	S 17 28.3 -00.1	04						
05	197 55.2 +00.8	N 24 52.3 +00.0	320 09.8 +02.1	S 12 55.5 -00.1	334 48.5 +02.4	S 17 28.2 +00.0	05						
06	212 56.0 +00.8	N 24 52.3 +00.0	335 11.9 +02.1	S 12 55.4 -00.1	349 50.9 +02.3	S 17 28.2 +00.0	06						
07	227 56.8 +00.8	N 24 52.3 -00.1	350 14.0 +02.1	S 12 55.3 -00.1	4 53.2 +02.4	S 17 28.2 +00.0	07						
08	242 57.6 +00.8	N 24 52.2 +00.0	5 16.1 +02.1	S 12 55.2 -00.1	19 55.6 +02.3	S 17 28.2 -00.1	08						
09	257 58.4 +00.8	N 24 52.2 +00.0	20 18.2 +02.1	S 12 55.1 -00.2	34 57.9 +02.4	S 17 28.1 +00.0	09						
10	272 59.2 +00.8	N 24 52.2 -00.1	35 20.3 +02.1	S 12 54.9 -00.1	50 00.3 +02.4	S 17 28.1 +00.0	10						
11	287 60.0 +00.8	N 24 52.1 +00.0	50 22.4 +02.1	S 12 54.8 -00.1	65 02.7 +02.3	S 17 28.1 +00.0	11						
12	303 00.8 +00.8	N 24 52.1 +00.0	65 24.5 +02.1	S 12 54.7 -00.1	80 05.0 +02.4	S 17 28.1 -00.1	12						
13	318 01.6 +00.8	N 24 52.1 -00.1	80 26.6 +02.1	S 12 54.6 -00.2	95 07.4 +02.3	S 17 28.0 +00.0	13						
14	333 02.4 +00.8	N 24 52.0 +00.0	95 28.7 +02.1	S 12 54.4 -00.1	110 09.7 +02.4	S 17 28.0 +00.0	14						
15	348 03.2 +00.8	N 24 52.0 +00.0	110 30.8 +02.1	S 12 54.3 -00.1	125 12.1 +02.3	S 17 28.0 +00.0	15						
16	3 04.0 +00.7	N 24 52.0 -00.1	125 32.9 +02.1	S 12 54.2 -00.1	140 14.4 +02.4	S 17 28.0 -00.1	16						
17	18 04.7 +00.8	N 24 51.9 +00.0	140 35.0 +02.1	S 12 54.1 -00.1	155 16.8 +02.4	S 17 27.9 +00.0	17						
18	33 05.5 +00.8	N 24 51.9 +00.0	155 37.1 +02.1	S 12 54.0 -00.2	170 19.2 +02.3	S 17 27.9 +00.0	18						
19	48 06.3 +00.8	N 24 51.9 -00.1	170 39.2 +02.1	S 12 53.8 -00.1	185 21.5 +02.4	S 17 27.9 +00.0	19						
20	63 07.1 +00.8	N 24 51.8 +00.0	185 41.3 +02.1	S 12 53.7 -00.1	200 23.9 +02.3	S 17 27.9 -00.1	20						
21	78 07.9 +00.8	N 24 51.8 +00.0	200 43.4 +02.1	S 12 53.6 -00.1	215 26.2 +02.4	S 17 27.8 +00.0	21						
22	93 08.7 +00.8	N 24 51.8 -00.1	215 45.5 +02.1	S 12 53.5 -00.1	230 28.6 +02.4	S 17 27.8 +00.0	22						
23	108 09.5 +00.8	N 24 51.7 +00.0	230 47.6 +02.2	S 12 53.4 -00.2	245 31.0 +02.3	S 17 27.8 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 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 268° 267° 267° 267° 267° 267°		SHA 030° 030° 030° 030° 030° 030°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:47		Greenwich Culmination Time: 07:38		Greenwich Culmination Time: 06:40								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 37.0 +00.1	N 14 09.2 +00.8	172 09.8 -00.6	N 16 17.0 +00.9	348 01.5 -34.7	S 15 57.8 +13.1	00						
01	195 37.1 +00.1	N 14 10.0 +00.8	187 09.2 -00.6	N 16 17.9 +01.0	2 26.8 -34.9	S 16 10.9 +13.0	01						
02	210 37.2 +00.1	N 14 10.8 +00.7	202 08.6 -00.6	N 16 18.9 +01.0	16 51.9 -34.9	S 16 23.9 +13.0	02						
03	225 37.3 +00.1	N 14 11.5 +00.8	217 08.0 -00.6	N 16 19.9 +00.9	31 17.0 -34.9	S 16 36.9 +12.8	03						
04	240 37.4 +00.0	N 14 12.3 +00.8	232 07.4 -00.6	N 16 20.8 +01.0	45 42.1 -35.1	S 16 49.7 +12.6	04						
05	255 37.4 +00.1	N 14 13.1 +00.8	247 06.8 -00.5	N 16 21.8 +01.0	60 07.0 -35.1	S 17 02.3 +12.6	05						
06	270 37.5 +00.1	N 14 13.9 +00.8	262 06.3 -00.6	N 16 22.8 +01.0	74 31.9 -35.2	S 17 14.9 +12.5	06						
07	285 37.6 +00.1	N 14 14.7 +00.8	277 05.7 -00.6	N 16 23.8 +00.9	88 56.7 -35.3	S 17 27.4 +12.3	07						
08	300 37.7 +00.1	N 14 15.5 +00.7	292 05.1 -00.6	N 16 24.7 +01.0	103 21.4 -35.3	S 17 39.7 +12.2	08						
09	315 37.8 +00.1	N 14 16.2 +00.8	307 04.5 -00.6	N 16 25.7 +01.0	117 46.1 -35.4	S 17 51.9 +12.1	09						
10	330 37.9 +00.1	N 14 17.0 +00.8	322 03.9 -00.6	N 16 26.7 +00.9	132 10.7 -35.5	S 18 04.0 +11.9	10						
11	345 38.0 +00.1	N 14 17.8 +00.8	337 03.3 -00.6	N 16 27.6 +01.0	146 35.2 -35.6	S 18 15.9 +11.8	11						
12	0 38.1 +00.1	N 14 18.6 +00.8	352 02.7 -00.6	N 16 28.6 +00.9	160 59.6 -35.6	S 18 27.7 +11.7	12						
13	15 38.2 +00.1	N 14 19.4 +00.7	7 02.1 -00.6	N 16 29.5 +01.0	175 24.0 -35.7	S 18 39.4 +11.6	13						
14	30 38.3 +00.1	N 14 20.1 +00.8	22 01.5 -00.5	N 16 30.5 +01.0	189 48.3 -35.8	S 18 51.0 +11.4	14						
15	45 38.4 +00.0	N 14 20.9 +00.8	37 01.0 -00.6	N 16 31.5 +00.9	204 12.5 -35.8	S 19 02.4 +11.3	15						
16	60 38.4 +00.1	N 14 21.7 +00.8	52 00.4 -00.6	N 16 32.4 +01.0	218 36.7 -35.9	S 19 13.7 +11.1	16						
17	75 38.5 +00.1	N 14 22.5 +00.8	66 59.8 -00.6	N 16 33.4 +00.9	233 00.8 -36.0	S 19 24.8 +11.0	17						
18	90 38.6 +00.1	N 14 23.3 +00.7	81 59.2 -00.6	N 16 34.3 +01.0	247 24.8 -36.0	S 19 35.8 +10.9	18						
19	105 38.7 +00.1	N 14 24.0 +00.8	96 58.6 -00.6	N 16 35.3 +01.0	261 48.8 -36.1	S 19 46.7 +10.7	19						
20	120 38.8 +00.1	N 14 24.8 +00.8	111 58.0 -00.6	N 16 36.3 +00.9	276 12.7 -36.2	S 19 57.4 +10.6	20						
21	135 38.9 +00.1	N 14 25.6 +00.8	126 57.4 -00.6	N 16 37.2 +01.0	290 36.5 -36.2	S 20 08.0 +10.4	21						
22	150 39.0 +00.1	N 14 26.4 +00.8	141 56.8 -00.6	N 16 38.2 +00.9	305 00.3 -36.3	S 20 18.4 +10.3	22						
23	165 39.1 +00.1	N 14 27.2 +00.7	156 56.2 -00.6	N 16 39.1 +01.0	319 24.0 -36.4	S 20 28.7 +10.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'7 16'7 16'7 16'7 16'7 16'6								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 61'3 61'3 61'2 61'2 61'1 61'1								
	SHA 324° 324° 324° 324° 324° 324°		SHA 316° 316° 315° 315° 315° 315°		SHA 131° 128° 126° 123° 120° 118°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 12:31		Greenwich Culmination Time: 00:49								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	123 10.3 +00.8	N 24 51.7 -00.1	245 49.8 +02.1	S 12 53.2 -00.1	260 33.3 +02.4	S 17 27.8 +00.0	00						
01	138 11.1 +00.8	N 24 51.6 +00.0	260 51.9 +02.1	S 12 53.1 -00.1	275 35.7 +02.3	S 17 27.8 -00.1	01						
02	153 11.9 +00.8	N 24 51.6 +00.0	275 54.0 +02.1	S 12 53.0 -00.1	290 38.0 +02.4	S 17 27.7 +00.0	02						
03	168 12.7 +00.8	N 24 51.6 -00.1	290 56.1 +02.1	S 12 52.9 -00.1	305 40.4 +02.4	S 17 27.7 +00.0	03						
04	183 13.5 +00.8	N 24 51.5 +00.0	305 58.2 +02.1	S 12 52.8 -00.2	320 42.8 +02.3	S 17 27.7 +00.0	04						
05	198 14.3 +00.7	N 24 51.5 +00.0	321 00.3 +02.1	S 12 52.6 -00.1	335 45.1 +02.4	S 17 27.7 -00.1	05						
06	213 15.0 +00.8	N 24 51.5 -00.1	336 02.4 +02.1	S 12 52.5 -00.1	350 47.5 +02.3	S 17 27.6 +00.0	06						
07	228 15.8 +00.8	N 24 51.4 +00.0	351 04.5 +02.1	S 12 52.4 -00.1	5 49.8 +02.4	S 17 27.6 +00.0	07						
08	243 16.6 +00.8	N 24 51.4 -00.1	6 06.6 +02.1	S 12 52.3 -00.1	20 52.2 +02.4	S 17 27.6 +00.0	08						
09	258 17.4 +00.8	N 24 51.3 +00.0	21 08.7 +02.1	S 12 52.2 -00.2	35 54.6 +02.3	S 17 27.6 -00.1	09						
10	273 18.2 +00.8	N 24 51.3 +00.0	36 10.8 +02.1	S 12 52.0 -00.1	50 56.9 +02.4	S 17 27.5 +00.0	10						
11	288 19.0 +00.8	N 24 51.3 -00.1	51 12.9 +02.1	S 12 51.9 -00.1	65 59.3 +02.4	S 17 27.5 +00.0	11						
12	303 19.8 +00.8	N 24 51.2 +00.0	66 15.0 +02.1	S 12 51.8 -00.1	81 01.7 +02.3	S 17 27.5 +00.0	12						
13	318 20.6 +00.8	N 24 51.2 -00.1	81 17.1 +02.1	S 12 51.7 -00.1	96 04.0 +02.4	S 17 27.5 +00.0	13						
14	333 21.4 +00.8	N 24 51.1 +00.0	96 19.2 +02.1	S 12 51.6 -00.1	111 06.4 +02.3	S 17 27.5 -00.1	14						
15	348 22.2 +00.8	N 24 51.1 +00.0	111 21.3 +02.1	S 12 51.5 -00.2	126 08.7 +02.4	S 17 27.4 +00.0	15						
16	3 23.0 +00.8	N 24 51.1 -00.1	126 23.4 +02.1	S 12 51.3 -00.1	141 11.1 +02.4	S 17 27.4 +00.0	16						
17	18 23.8 +00.8	N 24 51.0 +00.0	141 25.5 +02.2	S 12 51.2 -00.1	156 13.5 +02.3	S 17 27.4 +00.0	17						
18	33 24.6 +00.7	N 24 51.0 -00.1	156 27.7 +02.1	S 12 51.1 -00.1	171 15.8 +02.4	S 17 27.4 -00.1	18						
19	48 25.3 +00.8	N 24 50.9 +00.0	171 29.8 +02.1	S 12 51.0 -00.1	186 18.2 +02.4	S 17 27.3 +00.0	19						
20	63 26.1 +00.8	N 24 50.9 +00.0	186 31.9 +02.1	S 12 50.9 -00.2	201 20.6 +02.3	S 17 27.3 +00.0	20						
21	78 26.9 +00.8	N 24 50.9 -00.1	201 34.0 +02.1	S 12 50.7 -00.1	216 22.9 +02.4	S 17 27.3 +00.0	21						
22	93 27.7 +00.8	N 24 50.8 +00.0	216 36.1 +02.1	S 12 50.6 -00.1	231 25.3 +02.3	S 17 27.3 -00.1	22						
23	108 28.5 +00.8	N 24 50.8 -00.1	231 38.2 +02.1	S 12 50.5 -00.1	246 27.6 +02.4	S 17 27.2 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 267° 267° 267° 267° 266° 266°		SHA 030° 030° 030° 030° 030° 030°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:46		Greenwich Culmination Time: 07:35		Greenwich Culmination Time: 06:36								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 39.2 +00.0	N 14 27.9 +00.8	171 55.6 -00.6	N 16 40.1 +00.9	333 47.6 -36.4	S 20 38.8 +10.0	00						
01	195 39.2 +00.1	N 14 28.7 +00.8	186 55.0 -00.6	N 16 41.0 +01.0	348 11.2 -36.5	S 20 48.8 +09.8	01						
02	210 39.3 +00.1	N 14 29.5 +00.8	201 54.4 -00.6	N 16 42.0 +01.0	2 34.7 -36.5	S 20 58.6 +09.7	02						
03	225 39.4 +00.1	N 14 30.3 +00.7	216 53.8 -00.6	N 16 43.0 +00.9	16 58.2 -36.6	S 21 08.3 +09.5	03						
04	240 39.5 +00.1	N 14 31.0 +00.8	231 53.2 -00.6	N 16 43.9 +01.0	31 21.6 -36.7	S 21 17.8 +09.3	04						
05	255 39.6 +00.1	N 14 31.8 +00.8	246 52.6 -00.6	N 16 44.9 +00.9	45 44.9 -36.7	S 21 27.1 +09.2	05						
06	270 39.7 +00.1	N 14 32.6 +00.8	261 52.0 -00.6	N 16 45.8 +01.0	60 08.2 -36.7	S 21 36.3 +09.1	06						
07	285 39.8 +00.0	N 14 33.4 +00.7	276 51.4 -00.6	N 16 46.8 +00.9	74 31.5 -36.8	S 21 45.4 +08.9	07						
08	300 39.8 +00.1	N 14 34.1 +00.8	291 50.8 -00.6	N 16 47.7 +01.0	88 54.7 -36.9	S 21 54.3 +08.7	08						
09	315 39.9 +00.1	N 14 34.9 +00.8	306 50.2 -00.6	N 16 48.7 +00.9	103 17.8 -36.9	S 22 03.0 +08.5	09						
10	330 40.0 +00.1	N 14 35.7 +00.7	321 49.6 -00.6	N 16 49.6 +01.0	117 40.9 -37.0	S 22 11.5 +08.4	10						
11	345 40.1 +00.1	N 14 36.4 +00.8	336 49.0 -00.6	N 16 50.6 +00.9	132 03.9 -37.0	S 22 19.9 +08.2	11						
12	0 40.2 +00.1	N 14 37.2 +00.8	351 48.4 -00.6	N 16 51.5 +00.9	146 26.9 -37.0	S 22 28.1 +08.1	12						
13	15 40.3 +00.1	N 14 38.0 +00.8	6 47.8 -00.6	N 16 52.4 +01.0	160 49.9 -37.1	S 22 36.2 +07.9	13						
14	30 40.4 +00.0	N 14 38.8 +00.7	21 47.2 -00.6	N 16 53.4 +00.9	175 12.8 -37.1	S 22 44.1 +07.7	14						
15	45 40.4 +00.1	N 14 39.5 +00.8	36 46.6 -00.6	N 16 54.3 +01.0	189 35.7 -37.2	S 22 51.8 +07.6	15						
16	60 40.5 +00.1	N 14 40.3 +00.8	51 46.0 -00.6	N 16 55.3 +00.9	203 58.5 -37.2	S 22 59.4 +07.3	16						
17	75 40.6 +00.1	N 14 41.1 +00.7	66 45.4 -00.6	N 16 56.2 +01.0	218 21.3 -37.3	S 23 06.7 +07.2	17						
18	90 40.7 +00.1	N 14 41.8 +00.8	81 44.8 -00.6	N 16 57.2 +00.9	232 44.0 -37.2	S 23 13.9 +07.1	18						
19	105 40.8 +00.1	N 14 42.6 +00.8	96 44.2 -00.6	N 16 58.1 +00.9	247 06.8 -37.4	S 23 21.0 +06.8	19						
20	120 40.9 +00.0	N 14 43.4 +00.7	111 43.6 -00.6	N 16 59.0 +01.0	261 29.4 -37.3	S 23 27.8 +06.7	20						
21	135 40.9 +00.1	N 14 44.1 +00.8	126 43.0 -00.6	N 16 60.0 +00.9	275 52.1 -37.4	S 23 34.5 +06.5	21						
22	150 41.0 +00.1	N 14 44.9 +00.8	141 42.4 -00.6	N 17 00.9 +01.0	290 14.7 -37.4	S 23 41.0 +06.4	22						
23	165 41.1 +00.1	N 14 45.7 +00.7	156 41.8 -00.6	N 17 01.9 +00.9	304 37.3 -37.4	S 23 47.4 +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 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'6 16'6 16'6 16'5 16'5 16'5								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 61'0 60'9 60'8 60'7 60'6 60'5								
	SHA 323° 323° 323° 323° 323° 323°		SHA 315° 314° 314° 314° 314° 314°		SHA 115° 113° 110° 107° 105° 102°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 12:32		Greenwich Culmination Time: 01:49								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	123 29.3 +00.8	N 24 50.7 +00.0	246 40.3 +02.1	S 12 50.4 -00.1	261 30.0 +02.4	S 17 27.2 +00.0	00						
01	138 30.1 +00.8	N 24 50.7 -00.1	261 42.4 +02.1	S 12 50.3 -00.2	276 32.4 +02.3	S 17 27.2 +00.0	01						
02	153 30.9 +00.8	N 24 50.6 +00.0	276 44.5 +02.1	S 12 50.1 -00.1	291 34.7 +02.4	S 17 27.2 +00.0	02						
03	168 31.7 +00.8	N 24 50.6 -00.1	291 46.6 +02.1	S 12 50.0 -00.1	306 37.1 +02.4	S 17 27.2 -00.1	03						
04	183 32.5 +00.8	N 24 50.5 +00.0	306 48.7 +02.1	S 12 49.9 -00.1	321 39.5 +02.3	S 17 27.1 +00.0	04						
05	198 33.3 +00.8	N 24 50.5 +00.0	321 50.8 +02.2	S 12 49.8 -00.1	336 41.8 +02.4	S 17 27.1 +00.0	05						
06	213 34.1 +00.7	N 24 50.5 -00.1	336 53.0 +02.1	S 12 49.7 -00.1	351 44.2 +02.4	S 17 27.1 +00.0	06						
07	228 34.8 +00.8	N 24 50.4 +00.0	351 55.1 +02.1	S 12 49.6 -00.2	6 46.6 +02.3	S 17 27.1 -00.1	07						
08	243 35.6 +00.8	N 24 50.4 -00.1	6 57.2 +02.1	S 12 49.4 -00.1	21 48.9 +02.4	S 17 27.0 +00.0	08						
09	258 36.4 +00.8	N 24 50.3 +00.0	21 59.3 +02.1	S 12 49.3 -00.1	36 51.3 +02.4	S 17 27.0 +00.0	09						
10	273 37.2 +00.8	N 24 50.3 -00.1	37 01.4 +02.1	S 12 49.2 -00.1	51 53.7 +02.3	S 17 27.0 +00.0	10						
11	288 38.0 +00.8	N 24 50.2 +00.0	52 03.5 +02.1	S 12 49.1 -00.1	66 56.0 +02.4	S 17 27.0 +00.0	11						
12	303 38.8 +00.8	N 24 50.2 -00.1	67 05.6 +02.1	S 12 49.0 -00.1	81 58.4 +02.4	S 17 27.0 -00.1	12						
13	318 39.6 +00.8	N 24 50.1 +00.0	82 07.7 +02.1	S 12 48.9 -00.2	97 00.8 +02.3	S 17 26.9 +00.0	13						
14	333 40.4 +00.8	N 24 50.1 -00.1	97 09.8 +02.2	S 12 48.7 -00.1	112 03.1 +02.4	S 17 26.9 +00.0	14						
15	348 41.2 +00.8	N 24 50.0 +00.0	112 12.0 +02.1	S 12 48.6 -00.1	127 05.5 +02.4	S 17 26.9 +00.0	15						
16	3 42.0 +00.8	N 24 50.0 -00.1	127 14.1 +02.1	S 12 48.5 -00.1	142 07.9 +02.3	S 17 26.9 -00.1	16						
17	18 42.8 +00.8	N 24 49.9 +00.0	142 16.2 +02.1	S 12 48.4 -00.1	157 10.2 +02.4	S 17 26.8 +00.0	17						
18	33 43.6 +00.7	N 24 49.9 -00.1	157 18.3 +02.1	S 12 48.3 -00.2	172 12.6 +02.4	S 17 26.8 +00.0	18						
19	48 44.3 +00.8	N 24 49.8 +00.0	172 20.4 +02.1	S 12 48.1 -00.1	187 15.0 +02.3	S 17 26.8 +00.0	19						
20	63 45.1 +00.8	N 24 49.8 -00.1	187 22.5 +02.1	S 12 48.0 -00.1	202 17.3 +02.4	S 17 26.8 +00.0	20						
21	78 45.9 +00.8	N 24 49.7 +00.0	202 24.6 +02.1	S 12 47.9 -00.1	217 19.7 +02.4	S 17 26.8 -00.1	21						
22	93 46.7 +00.8	N 24 49.7 -00.1	217 26.7 +02.2	S 12 47.8 -00.1	232 22.1 +02.3	S 17 26.7 +00.0	22						
23	108 47.5 +00.8	N 24 49.6 +00.0	232 28.9 +02.1	S 12 47.7 -00.1	247 24.4 +02.4	S 17 26.7 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 266° 266° 266° 266° 266° 266°		SHA 029° 029° 029° 029° 029° 029°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:45		Greenwich Culmination Time: 07:32		Greenwich Culmination Time: 06:32								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	41.2 +00.1	N 14 46.4 +00.8		171	41.2 -00.6	N 17 02.8 +00.9		318	59.9 -37.4	S 23 53.5 +06.0		00
01	195	41.3 +00.0	N 14 47.2 +00.8		186	40.6 -00.7	N 17 03.7 +01.0		333	22.5 -37.5	S 23 59.5 +05.8		01
02	210	41.3 +00.1	N 14 48.0 +00.7		201	39.9 -00.6	N 17 04.7 +00.9		347	45.0 -37.5	S 24 05.3 +05.7		02
03	225	41.4 +00.1	N 14 48.7 +00.8		216	39.3 -00.6	N 17 05.6 +00.9		2	07.5 -37.5	S 24 11.0 +05.4		03
04	240	41.5 +00.1	N 14 49.5 +00.8		231	38.7 -00.6	N 17 06.5 +01.0		16	30.0 -37.5	S 24 16.4 +05.3		04
05	255	41.6 +00.1	N 14 50.3 +00.7		246	38.1 -00.6	N 17 07.5 +00.9		30	52.5 -37.5	S 24 21.7 +05.1		05
06	270	41.7 +00.1	N 14 51.0 +00.8		261	37.5 -00.6	N 17 08.4 +00.9		45	15.0 -37.5	S 24 26.8 +04.9		06
07	285	41.8 +00.0	N 14 51.8 +00.8		276	36.9 -00.6	N 17 09.3 +01.0		59	37.5 -37.6	S 24 31.7 +04.7		07
08	300	41.8 +00.1	N 14 52.6 +00.7		291	36.3 -00.6	N 17 10.3 +00.9		73	59.9 -37.5	S 24 36.4 +04.5		08
09	315	41.9 +00.1	N 14 53.3 +00.8		306	35.7 -00.6	N 17 11.2 +00.9		88	22.4 -37.6	S 24 40.9 +04.4		09
10	330	42.0 +00.1	N 14 54.1 +00.7		321	35.1 -00.7	N 17 12.1 +01.0		102	44.8 -37.5	S 24 45.3 +04.2		10
11	345	42.1 +00.1	N 14 54.8 +00.8		336	34.4 -00.6	N 17 13.1 +00.9		117	07.3 -37.6	S 24 49.5 +04.0		11
12	0	42.2 +00.0	N 14 55.6 +00.8		351	33.8 -00.6	N 17 14.0 +00.9		131	29.7 -37.5	S 24 53.5 +03.8		12
13	15	42.2 +00.1	N 14 56.4 +00.7		6	33.2 -00.6	N 17 14.9 +00.9		145	52.2 -37.6	S 24 57.3 +03.6		13
14	30	42.3 +00.1	N 14 57.1 +00.8		21	32.6 -00.6	N 17 15.8 +01.0		160	14.6 -37.5	S 25 00.9 +03.5		14
15	45	42.4 +00.1	N 14 57.9 +00.7		36	32.0 -00.6	N 17 16.8 +00.9		174	37.1 -37.6	S 25 04.4 +03.3		15
16	60	42.5 +00.0	N 14 58.6 +00.8		51	31.4 -00.6	N 17 17.7 +00.9		188	59.5 -37.5	S 25 07.7 +03.0		16
17	75	42.5 +00.1	N 14 59.4 +00.8		66	30.8 -00.7	N 17 18.6 +00.9		203	22.0 -37.5	S 25 10.7 +02.9		17
18	90	42.6 +00.1	N 15 00.2 +00.7		81	30.1 -00.6	N 17 19.5 +01.0		217	44.5 -37.5	S 25 13.6 +02.8		18
19	105	42.7 +00.1	N 15 00.9 +00.8		96	29.5 -00.6	N 17 20.5 +00.9		232	07.0 -37.4	S 25 16.4 +02.5		19
20	120	42.8 +00.1	N 15 01.7 +00.7		111	28.9 -00.6	N 17 21.4 +00.9		246	29.6 -37.5	S 25 18.9 +02.4		20
21	135	42.9 +00.0	N 15 02.4 +00.8		126	28.3 -00.6	N 17 22.3 +00.9		260	52.1 -37.4	S 25 21.3 +02.2		21
22	150	42.9 +00.1	N 15 03.2 +00.8		141	27.7 -00.6	N 17 23.2 +00.9		275	14.7 -37.4	S 25 23.5 +01.9		22
23	165	43.0 +00.1	N 15 04.0 +00.7		156	27.1 -00.7	N 17 24.1 +01.0		289	37.3 -37.4	S 25 25.4 +01.9		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'9 15'9 15'9 15'9 15'9 15'9				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 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 00'1 00'1 00'1 00'1 00'1 00'1				HP 60'4 60'3 60'2 60'0 59'9 59'8				
	SHA 322° 322° 322° 322° 322° 322°				SHA 313° 313° 313° 313° 313° 312°				SHA 100° 097° 094° 092° 089° 086°				
	Greenwich Culmination Time: 11:57				Greenwich Culmination Time: 12:33				Greenwich Culmination Time: 02:51				

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	123	48.3 +00.8	N 24 49.6 -00.1		247	31.0 +02.1	S 12 47.6 -00.2		262	26.8 +02.4	S 17 26.7 +00.0		00
01	138	49.1 +00.8	N 24 49.5 +00.0		262	33.1 +02.1	S 12 47.4 -00.1		277	29.2 +02.3	S 17 26.7 +00.0		01
02	153	49.9 +00.8	N 24 49.5 -00.1		277	35.2 +02.1	S 12 47.3 -00.1		292	31.5 +02.4	S 17 26.7 -00.1		02
03	168	50.7 +00.8	N 24 49.4 +00.0		292	37.3 +02.1	S 12 47.2 -00.1		307	33.9 +02.4	S 17 26.6 +00.0		03
04	183	51.5 +00.8	N 24 49.4 -00.1		307	39.4 +02.1	S 12 47.1 -00.1		322	36.3 +02.3	S 17 26.6 +00.0		04
05	198	52.3 +00.8	N 24 49.3 +00.0		322	41.5 +02.2	S 12 47.0 -00.1		337	38.6 +02.4	S 17 26.6 +00.0		05
06	213	53.1 +00.8	N 24 49.3 -00.1		337	43.7 +02.1	S 12 46.9 -00.1		352	41.0 +02.4	S 17 26.6 -00.1		06
07	228	53.9 +00.7	N 24 49.2 +00.0		352	45.8 +02.1	S 12 46.8 -00.2		7	43.4 +02.3	S 17 26.5 +00.0		07
08	243	54.6 +00.8	N 24 49.2 -00.1		7	47.9 +02.1	S 12 46.6 -00.1		22	45.7 +02.4	S 17 26.5 +00.0		08
09	258	55.4 +00.8	N 24 49.1 +00.0		22	50.0 +02.1	S 12 46.5 -00.1		37	48.1 +02.4	S 17 26.5 +00.0		09
10	273	56.2 +00.8	N 24 49.1 -00.1		37	52.1 +02.1	S 12 46.4 -00.1		52	50.5 +02.3	S 17 26.5 +00.0		10
11	288	57.0 +00.8	N 24 49.0 +00.0		52	54.2 +02.2	S 12 46.3 -00.1		67	52.8 +02.4	S 17 26.5 -00.1		11
12	303	57.8 +00.8	N 24 49.0 -00.1		67	56.4 +02.1	S 12 46.2 -00.1		82	55.2 +02.4	S 17 26.4 +00.0		12
13	318	58.6 +00.8	N 24 48.9 -00.1		82	58.5 +02.1	S 12 46.1 -00.2		97	57.6 +02.4	S 17 26.4 +00.0		13
14	333	59.4 +00.8	N 24 48.8 +00.0		98	00.6 +02.1	S 12 45.9 -00.1		112	60.0 +02.3	S 17 26.4 +00.0		14
15	349	00.2 +00.8	N 24 48.8 -00.1		113	02.7 +02.1	S 12 45.8 -00.1		128	02.3 +02.4	S 17 26.4 +00.0		15
16	4	01.0 +00.8	N 24 48.7 +00.0		128	04.8 +02.1	S 12 45.7 -00.1		143	04.7 +02.4	S 17 26.4 -00.1		16
17	19	01.8 +00.8	N 24 48.7 -00.1		143	06.9 +02.2	S 12 45.6 -00.1		158	07.1 +02.3	S 17 26.3 +00.0		17
18	34	02.6 +00.8	N 24 48.6 +00.0		158	09.1 +02.1	S 12 45.5 -00.1		173	09.4 +02.4	S 17 26.3 +00.0		18
19	49	03.4 +00.7	N 24 48.6 -00.1		173	11.2 +02.1	S 12 45.4 -00.2		188	11.8 +02.4	S 17 26.3 +00.0		19
20	64	04.1 +00.8	N 24 48.5 -00.1		188	13.3 +02.1	S 12 45.2 -00.1		203	14.2 +02.3	S 17 26.3 +00.0		20
21	79	04.9 +00.8	N 24 48.4 +00.0		203	15.4 +02.1	S 12 45.1 -00.1		218	16.5 +02.4	S 17 26.3 -00.1		21
22	94	05.7 +00.8	N 24 48.4 -00.1		218	17.5 +02.2	S 12 45.0 -00.1		233	18.9 +02.4	S 17 26.2 +00.0		22
23	109	06.5 +00.8	N 24 48.3 +00.0		233	19.7 +02.1	S 12 44.9 -00.1		248	21.3 +02.4	S 17 26.2 +00.0		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 266° 265° 265° 265° 265° 265°				SHA 029° 029° 029° 029° 029° 029°				SHA 044° 044° 044° 044° 044° 044°				
	Greenwich Culmination Time: 15:43				Greenwich Culmination Time: 07:28				Greenwich Culmination Time: 06:29				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 67%				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	180 43.1 +00.1	N 15	04.7 +00.8	171 26.4 -00.6	N 17	25.1 +00.9	303 59.9 -37.3	S 25	27.3 +01.6	00			
01	195 43.2 +00.0	N 15	05.5 +00.7	186 25.8 -00.6	N 17	26.0 +00.9	318 22.6 -37.3	S 25	28.9 +01.5	01			
02	210 43.2 +00.1	N 15	06.2 +00.8	201 25.2 -00.6	N 17	26.9 +00.9	332 45.3 -37.3	S 25	30.4 +01.2	02			
03	225 43.3 +00.1	N 15	07.0 +00.7	216 24.6 -00.6	N 17	27.8 +00.9	347 08.0 -37.2	S 25	31.6 +01.1	03			
04	240 43.4 +00.1	N 15	07.7 +00.8	231 24.0 -00.7	N 17	28.7 +00.9	1 30.8 -37.2	S 25	32.7 +00.9	04			
05	255 43.5 +00.0	N 15	08.5 +00.7	246 23.3 -00.6	N 17	29.6 +01.0	15 53.6 -37.2	S 25	33.6 +00.8	05			
06	270 43.5 +00.1	N 15	09.2 +00.8	261 22.7 -00.6	N 17	30.6 +00.9	30 16.4 -37.1	S 25	34.4 +00.5	06			
07	285 43.6 +00.1	N 15	10.0 +00.7	276 22.1 -00.6	N 17	31.5 +00.9	44 39.3 -37.0	S 25	34.9 +00.4	07			
08	300 43.7 +00.1	N 15	10.7 +00.8	291 21.5 -00.7	N 17	32.4 +00.9	59 02.3 -37.1	S 25	35.3 +00.2	08			
09	315 43.8 +00.0	N 15	11.5 +00.7	306 20.8 -00.6	N 17	33.3 +00.9	73 25.2 -36.9	S 25	35.5 +00.0	09			
10	330 43.8 +00.1	N 15	12.2 +00.8	321 20.2 -00.6	N 17	34.2 +00.9	87 48.3 -37.0	S 25	35.5 -00.1	10			
11	345 43.9 +00.1	N 15	13.0 +00.7	336 19.6 -00.6	N 17	35.1 +00.9	102 11.3 -36.8	S 25	35.4 -00.3	11			
12	0 44.0 +00.1	N 15	13.7 +00.8	351 19.0 -00.7	N 17	36.0 +00.9	116 34.5 -36.8	S 25	35.1 -00.5	12			
13	15 44.1 +00.0	N 15	14.5 +00.7	6 18.3 -00.6	N 17	36.9 +01.0	130 57.7 -36.8	S 25	34.6 -00.7	13			
14	30 44.1 +00.1	N 15	15.2 +00.8	21 17.7 -00.6	N 17	37.9 +00.9	145 20.9 -36.7	S 25	33.9 -00.9	14			
15	45 44.2 +00.1	N 15	16.0 +00.7	36 17.1 -00.6	N 17	38.8 +00.9	159 44.2 -36.6	S 25	33.0 -01.0	15			
16	60 44.3 +00.0	N 15	16.7 +00.8	51 16.5 -00.7	N 17	39.7 +00.9	174 07.6 -36.6	S 25	32.0 -01.2	16			
17	75 44.3 +00.1	N 15	17.5 +00.7	66 15.8 -00.6	N 17	40.6 +00.9	188 31.0 -36.5	S 25	30.8 -01.3	17			
18	90 44.4 +00.1	N 15	18.2 +00.8	81 15.2 -00.6	N 17	41.5 +00.9	202 54.5 -36.4	S 25	29.5 -01.6	18			
19	105 44.5 +00.1	N 15	19.0 +00.7	96 14.6 -00.6	N 17	42.4 +00.9	217 18.1 -36.4	S 25	27.9 -01.7	19			
20	120 44.6 +00.0	N 15	19.7 +00.8	111 14.0 -00.7	N 17	43.3 +00.9	231 41.7 -36.3	S 25	26.2 -01.8	20			
21	135 44.6 +00.1	N 15	20.5 +00.7	126 13.3 -00.6	N 17	44.2 +00.9	246 05.4 -36.2	S 25	24.4 -02.1	21			
22	150 44.7 +00.1	N 15	21.2 +00.8	141 12.7 -00.6	N 17	45.1 +00.9	260 29.2 -36.2	S 25	22.3 -02.1	22			
23	165 44.8 +00.0	N 15	22.0 +00.7	156 12.1 -00.7	N 17	46.0 +00.9	274 53.0 -36.1	S 25	20.2 -02.4	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 15'9 15'9 15'9 15'9 15'9 15'9			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'2 16'2 16'2 16'1 16'1 16'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 59'6 59'5 59'4 59'2 59'1 58'9						
	SHA 321° 321° 321° 321° 321° 321°			SHA 312° 312° 312° 312° 311° 311°			SHA 084° 081° 078° 076° 073° 070°						
	Greenwich Culmination Time: 11:57			Greenwich Culmination Time: 12:34			Greenwich Culmination Time: 03:53						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	124 07.3 +00.8	N 24	48.3 -00.1	248 21.8 +02.1	S 12	44.8 -00.1	263 23.7 +02.3	S 17	26.2 +00.0	00			
01	139 08.1 +00.8	N 24	48.2 +00.0	263 23.9 +02.1	S 12	44.7 -00.1	278 26.0 +02.4	S 17	26.2 +00.0	01			
02	154 08.9 +00.8	N 24	48.2 -00.1	278 26.0 +02.1	S 12	44.6 -00.2	293 28.4 +02.4	S 17	26.2 -00.1	02			
03	169 09.7 +00.8	N 24	48.1 -00.1	293 28.1 +02.2	S 12	44.4 -00.1	308 30.8 +02.4	S 17	26.1 +00.0	03			
04	184 10.5 +00.8	N 24	48.0 +00.0	308 30.3 +02.1	S 12	44.3 -00.1	323 33.2 +02.3	S 17	26.1 +00.0	04			
05	199 11.3 +00.8	N 24	48.0 -00.1	323 32.4 +02.1	S 12	44.2 -00.1	338 35.5 +02.4	S 17	26.1 +00.0	05			
06	214 12.1 +00.8	N 24	47.9 +00.0	338 34.5 +02.1	S 12	44.1 -00.1	353 37.9 +02.4	S 17	26.1 +00.0	06			
07	229 12.9 +00.7	N 24	47.9 -00.1	353 36.6 +02.1	S 12	44.0 -00.1	8 40.3 +02.3	S 17	26.1 -00.1	07			
08	244 13.6 +00.8	N 24	47.8 -00.1	8 38.7 +02.2	S 12	43.9 -00.1	23 42.6 +02.4	S 17	26.0 +00.0	08			
09	259 14.4 +00.8	N 24	47.7 +00.0	23 40.9 +02.1	S 12	43.8 -00.2	38 45.0 +02.4	S 17	26.0 +00.0	09			
10	274 15.2 +00.8	N 24	47.7 -00.1	38 43.0 +02.1	S 12	43.6 -00.1	53 47.4 +02.4	S 17	26.0 +00.0	10			
11	289 16.0 +00.8	N 24	47.6 +00.0	53 45.1 +02.1	S 12	43.5 -00.1	68 49.8 +02.3	S 17	26.0 +00.0	11			
12	304 16.8 +00.8	N 24	47.6 -00.1	68 47.2 +02.1	S 12	43.4 -00.1	83 52.1 +02.4	S 17	26.0 -00.1	12			
13	319 17.6 +00.8	N 24	47.5 -00.1	83 49.3 +02.2	S 12	43.3 -00.1	98 54.5 +02.4	S 17	25.9 +00.0	13			
14	334 18.4 +00.8	N 24	47.4 +00.0	98 51.5 +02.1	S 12	43.2 -00.1	113 56.9 +02.4	S 17	25.9 +00.0	14			
15	349 19.2 +00.8	N 24	47.4 -00.1	113 53.6 +02.1	S 12	43.1 -00.1	128 59.3 +02.3	S 17	25.9 +00.0	15			
16	4 20.0 +00.8	N 24	47.3 -00.1	128 55.7 +02.1	S 12	43.0 -00.2	144 01.6 +02.4	S 17	25.9 +00.0	16			
17	19 20.8 +00.8	N 24	47.2 +00.0	143 57.8 +02.2	S 12	42.8 -00.1	159 04.0 +02.4	S 17	25.9 -00.1	17			
18	34 21.6 +00.8	N 24	47.2 -00.1	158 60.0 +02.1	S 12	42.7 -00.1	174 06.4 +02.4	S 17	25.8 +00.0	18			
19	49 22.4 +00.7	N 24	47.1 +00.0	174 02.1 +02.1	S 12	42.6 -00.1	189 08.8 +02.3	S 17	25.8 +00.0	19			
20	64 23.1 +00.8	N 24	47.1 -00.1	189 04.2 +02.1	S 12	42.5 -00.1	204 11.1 +02.4	S 17	25.8 +00.0	20			
21	79 23.9 +00.8	N 24	47.0 -00.1	204 06.3 +02.2	S 12	42.4 -00.1	219 13.5 +02.4	S 17	25.8 +00.0	21			
22	94 24.7 +00.8	N 24	46.9 +00.0	219 08.5 +02.1	S 12	42.3 -00.1	234 15.9 +02.4	S 17	25.8 -00.1	22			
23	109 25.5 +00.8	N 24	46.9 -00.1	234 10.6 +02.1	S 12	42.2 -00.1	249 18.3 +02.3	S 17	25.7 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 265° 265° 265° 265° 264° 264°			SHA 029° 029° 029° 029° 029° 029°			SHA 044° 044° 044° 044° 044° 044°						
	Greenwich Culmination Time: 15:42			Greenwich Culmination Time: 07:25			Greenwich Culmination Time: 06:25						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 71%				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	180 44.8 +00.1	N 15 22.7 +00.8	171 11.4 -00.6	N 17 46.9 +00.9	289 16.9 -36.0	S 25 17.8 -02.5	00						
01	195 44.9 +00.1	N 15 23.5 +00.7	186 10.8 -00.6	N 17 47.8 +00.9	303 40.9 -35.9	S 25 15.3 -02.7	01						
02	210 45.0 +00.1	N 15 24.2 +00.8	201 10.2 -00.7	N 17 48.7 +00.9	318 05.0 -35.8	S 25 12.6 -02.9	02						
03	225 45.1 +00.0	N 15 25.0 +00.7	216 09.5 -00.6	N 17 49.6 +00.9	332 29.2 -35.8	S 25 09.7 -03.0	03						
04	240 45.1 +00.1	N 15 25.7 +00.8	231 08.9 -00.6	N 17 50.5 +00.9	346 53.4 -35.7	S 25 06.7 -03.1	04						
05	255 45.2 +00.1	N 15 26.5 +00.7	246 08.3 -00.7	N 17 51.4 +00.9	1 17.7 -35.6	S 25 03.6 -03.4	05						
06	270 45.3 +00.0	N 15 27.2 +00.7	261 07.6 -00.6	N 17 52.3 +00.9	15 42.1 -35.5	S 25 00.2 -03.4	06						
07	285 45.3 +00.1	N 15 27.9 +00.8	276 07.0 -00.6	N 17 53.2 +00.9	30 06.6 -35.4	S 24 56.8 -03.7	07						
08	300 45.4 +00.1	N 15 28.7 +00.7	291 06.4 -00.7	N 17 54.1 +00.9	44 31.2 -35.3	S 24 53.1 -03.8	08						
09	315 45.5 +00.0	N 15 29.4 +00.8	306 05.7 -00.6	N 17 55.0 +00.8	58 55.9 -35.3	S 24 49.3 -03.9	09						
10	330 45.5 +00.1	N 15 30.2 +00.7	321 05.1 -00.6	N 17 55.8 +00.9	73 20.6 -35.1	S 24 45.4 -04.1	10						
11	345 45.6 +00.1	N 15 30.9 +00.7	336 04.5 -00.7	N 17 56.7 +00.9	87 45.5 -35.1	S 24 41.3 -04.2	11						
12	0 45.7 +00.0	N 15 31.6 +00.8	351 03.8 -00.6	N 17 57.6 +00.9	102 10.4 -35.0	S 24 37.1 -04.4	12						
13	15 45.7 +00.1	N 15 32.4 +00.7	6 03.2 -00.6	N 17 58.5 +00.9	116 35.4 -34.8	S 24 32.7 -04.6	13						
14	30 45.8 +00.1	N 15 33.1 +00.8	21 02.6 -00.7	N 17 59.4 +00.9	131 00.6 -34.8	S 24 28.1 -04.7	14						
15	45 45.9 +00.0	N 15 33.9 +00.7	36 01.9 -00.6	N 18 00.3 +00.9	145 25.8 -34.7	S 24 23.4 -04.8	15						
16	60 45.9 +00.1	N 15 34.6 +00.7	51 01.3 -00.7	N 18 01.2 +00.9	159 51.1 -34.6	S 24 18.6 -05.0	16						
17	75 46.0 +00.1	N 15 35.3 +00.8	66 00.6 -00.6	N 18 02.1 +00.9	174 16.5 -34.5	S 24 13.6 -05.1	17						
18	90 46.1 +00.0	N 15 36.1 +00.7	81 00.0 -00.6	N 18 03.0 +00.8	188 42.0 -34.4	S 24 08.5 -05.2	18						
19	105 46.1 +00.1	N 15 36.8 +00.8	95 59.4 -00.7	N 18 03.8 +00.9	203 07.6 -34.3	S 24 03.3 -05.4	19						
20	120 46.2 +00.1	N 15 37.6 +00.7	110 58.7 -00.6	N 18 04.7 +00.9	217 33.3 -34.1	S 23 57.9 -05.6	20						
21	135 46.3 +00.0	N 15 38.3 +00.7	125 58.1 -00.7	N 18 05.6 +00.9	231 59.2 -34.1	S 23 52.3 -05.7	21						
22	150 46.3 +00.1	N 15 39.0 +00.8	140 57.4 -00.6	N 18 06.5 +00.9	246 25.1 -34.0	S 23 46.6 -05.8	22						
23	165 46.4 +00.1	N 15 39.8 +00.7	155 56.8 -00.6	N 18 07.4 +00.8	260 51.1 -33.9	S 23 40.8 -05.9	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 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 00'1 00'1 00'1 00'1 00'1 00'1		HP 58'8 58'6 58'5 58'3 58'2 58'0								
	SHA 321° 320° 320° 320° 320° 320°		SHA 311° 311° 311° 310° 310° 310°		SHA 068° 065° 063° 060° 058° 055°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 12:35		Greenwich Culmination Time: 04:54								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	124 26.3 +00.8	N 24 46.8 -00.1	249 12.7 +02.1	S 12 42.1 -00.2	264 20.6 +02.4	S 17 25.7 +00.0	00						
01	139 27.1 +00.8	N 24 46.7 +00.0	264 14.8 +02.2	S 12 41.9 -00.1	279 23.0 +02.4	S 17 25.7 +00.0	01						
02	154 27.9 +00.8	N 24 46.7 -00.1	279 17.0 +02.1	S 12 41.8 -00.1	294 25.4 +02.4	S 17 25.7 +00.0	02						
03	169 28.7 +00.8	N 24 46.6 -00.1	294 19.1 +02.1	S 12 41.7 -00.1	309 27.8 +02.3	S 17 25.7 -00.1	03						
04	184 29.5 +00.8	N 24 46.5 +00.0	309 21.2 +02.1	S 12 41.6 -00.1	324 30.1 +02.4	S 17 25.6 +00.0	04						
05	199 30.3 +00.8	N 24 46.5 -00.1	324 23.3 +02.2	S 12 41.5 -00.1	339 32.5 +02.4	S 17 25.6 +00.0	05						
06	214 31.1 +00.8	N 24 46.4 -00.1	339 25.5 +02.1	S 12 41.4 -00.1	354 34.9 +02.4	S 17 25.6 +00.0	06						
07	229 31.9 +00.7	N 24 46.3 +00.0	354 27.6 +02.1	S 12 41.3 -00.1	9 37.3 +02.3	S 17 25.6 +00.0	07						
08	244 32.6 +00.8	N 24 46.3 -00.1	9 29.7 +02.1	S 12 41.2 -00.2	24 39.6 +02.4	S 17 25.6 -00.1	08						
09	259 33.4 +00.8	N 24 46.2 -00.1	24 31.8 +02.2	S 12 41.0 -00.1	39 42.0 +02.4	S 17 25.5 +00.0	09						
10	274 34.2 +00.8	N 24 46.1 +00.0	39 34.0 +02.1	S 12 40.9 -00.1	54 44.4 +02.4	S 17 25.5 +00.0	10						
11	289 35.0 +00.8	N 24 46.1 -00.1	54 36.1 +02.1	S 12 40.8 -00.1	69 46.8 +02.4	S 17 25.5 +00.0	11						
12	304 35.8 +00.8	N 24 46.0 -00.1	69 38.2 +02.1	S 12 40.7 -00.1	84 49.2 +02.3	S 17 25.5 +00.0	12						
13	319 36.6 +00.8	N 24 45.9 +00.0	84 40.3 +02.2	S 12 40.6 -00.1	99 51.5 +02.4	S 17 25.5 +00.0	13						
14	334 37.4 +00.8	N 24 45.9 -00.1	99 42.5 +02.1	S 12 40.5 -00.1	114 53.9 +02.4	S 17 25.5 -00.1	14						
15	349 38.2 +00.8	N 24 45.8 -00.1	114 44.6 +02.1	S 12 40.4 -00.1	129 56.3 +02.4	S 17 25.4 +00.0	15						
16	4 39.0 +00.8	N 24 45.7 -00.1	129 46.7 +02.2	S 12 40.3 -00.2	144 58.7 +02.3	S 17 25.4 +00.0	16						
17	19 39.8 +00.8	N 24 45.6 +00.0	144 48.9 +02.1	S 12 40.1 -00.1	160 01.0 +02.4	S 17 25.4 +00.0	17						
18	34 40.6 +00.8	N 24 45.6 -00.1	159 51.0 +02.1	S 12 40.0 -00.1	175 03.4 +02.4	S 17 25.4 +00.0	18						
19	49 41.4 +00.8	N 24 45.5 -00.1	174 53.1 +02.1	S 12 39.9 -00.1	190 05.8 +02.4	S 17 25.4 -00.1	19						
20	64 42.2 +00.7	N 24 45.4 +00.0	189 55.2 +02.2	S 12 39.8 -00.1	205 08.2 +02.4	S 17 25.3 +00.0	20						
21	79 42.9 +00.8	N 24 45.4 -00.1	204 57.4 +02.1	S 12 39.7 -00.1	220 10.6 +02.3	S 17 25.3 +00.0	21						
22	94 43.7 +00.8	N 24 45.3 -00.1	219 59.5 +02.1	S 12 39.6 -00.1	235 12.9 +02.4	S 17 25.3 +00.0	22						
23	109 44.5 +00.8	N 24 45.2 -00.1	235 01.6 +02.2	S 12 39.5 -00.1	250 15.3 +02.4	S 17 25.3 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 264° 264° 264° 264° 264° 264°		SHA 029° 029° 029° 029° 029° 029°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:41		Greenwich Culmination Time: 07:22		Greenwich Culmination Time: 06:21								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 46.5 +00.0	N 15 40.5 +00.7	170 56.2 -00.7	N 18 08.2 +00.9	275 17.2 -33.8	S 23 34.9 -06.1	00						
01	195 46.5 +00.1	N 15 41.2 +00.8	185 55.5 -00.6	N 18 09.1 +00.9	289 43.4 -33.7	S 23 28.8 -06.2	01						
02	210 46.6 +00.1	N 15 42.0 +00.7	200 54.9 -00.7	N 18 10.0 +00.9	304 09.7 -33.5	S 23 22.6 -06.3	02						
03	225 46.7 +00.0	N 15 42.7 +00.7	215 54.2 -00.6	N 18 10.9 +00.9	318 36.2 -33.5	S 23 16.3 -06.5	03						
04	240 46.7 +00.1	N 15 43.4 +00.8	230 53.6 -00.7	N 18 11.8 +00.8	333 02.7 -33.4	S 23 09.8 -06.6	04						
05	255 46.8 +00.0	N 15 44.2 +00.7	245 52.9 -00.6	N 18 12.6 +00.9	347 29.3 -33.2	S 23 03.2 -06.7	05						
06	270 46.8 +00.1	N 15 44.9 +00.7	260 52.3 -00.6	N 18 13.5 +00.9	1 56.1 -33.2	S 22 56.5 -06.8	06						
07	285 46.9 +00.1	N 15 45.6 +00.8	275 51.7 -00.7	N 18 14.4 +00.9	16 22.9 -33.0	S 22 49.7 -07.0	07						
08	300 47.0 +00.0	N 15 46.4 +00.7	290 51.0 -00.6	N 18 15.3 +00.8	30 49.9 -33.0	S 22 42.7 -07.1	08						
09	315 47.0 +00.1	N 15 47.1 +00.7	305 50.4 -00.7	N 18 16.1 +00.9	45 16.9 -32.8	S 22 35.6 -07.2	09						
10	330 47.1 +00.1	N 15 47.8 +00.8	320 49.7 -00.6	N 18 17.0 +00.9	59 44.1 -32.7	S 22 28.4 -07.3	10						
11	345 47.2 +00.0	N 15 48.6 +00.7	335 49.1 -00.7	N 18 17.9 +00.8	74 11.4 -32.7	S 22 21.1 -07.5	11						
12	0 47.2 +00.1	N 15 49.3 +00.7	350 48.4 -00.6	N 18 18.7 +00.9	88 38.7 -32.5	S 22 13.6 -07.5	12						
13	15 47.3 +00.0	N 15 50.0 +00.7	5 47.8 -00.7	N 18 19.6 +00.9	103 06.2 -32.4	S 22 06.1 -07.7	13						
14	30 47.3 +00.1	N 15 50.7 +00.8	20 47.1 -00.6	N 18 20.5 +00.9	117 33.8 -32.3	S 21 58.4 -07.8	14						
15	45 47.4 +00.1	N 15 51.5 +00.7	35 46.5 -00.7	N 18 21.4 +00.8	132 01.5 -32.2	S 21 50.6 -07.9	15						
16	60 47.5 +00.0	N 15 52.2 +00.7	50 45.8 -00.6	N 18 22.2 +00.9	146 29.3 -32.1	S 21 42.7 -08.0	16						
17	75 47.5 +00.1	N 15 52.9 +00.8	65 45.2 -00.7	N 18 23.1 +00.9	160 57.2 -32.0	S 21 34.7 -08.1	17						
18	90 47.6 +00.0	N 15 53.7 +00.7	80 44.5 -00.6	N 18 24.0 +00.8	175 25.2 -31.8	S 21 26.6 -08.2	18						
19	105 47.6 +00.1	N 15 54.4 +00.7	95 43.9 -00.7	N 18 24.8 +00.9	189 53.4 -31.8	S 21 18.4 -08.3	19						
20	120 47.7 +00.1	N 15 55.1 +00.7	110 43.2 -00.6	N 18 25.7 +00.8	204 21.6 -31.7	S 21 10.1 -08.4	20						
21	135 47.8 +00.0	N 15 55.8 +00.8	125 42.6 -00.7	N 18 26.5 +00.9	218 49.9 -31.5	S 21 01.7 -08.6	21						
22	150 47.8 +00.1	N 15 56.6 +00.7	140 41.9 -00.6	N 18 27.4 +00.9	233 18.4 -31.5	S 20 53.1 -08.6	22						
23	165 47.9 +00.0	N 15 57.3 +00.7	155 41.3 -00.7	N 18 28.3 +00.8	247 46.9 -31.3	S 20 44.5 -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 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'8 15'7 15'7 15'6 15'6 15'6								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 57'9 57'7 57'6 57'4 57'3 57'1								
	SHA 320° 319° 319° 319° 319° 319°		SHA 310° 310° 309° 309° 309° 309°		SHA 053° 051° 048° 046° 044° 041°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 12:36		Greenwich Culmination Time: 05:51								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	124 45.3 +00.8	N 24 45.1 +00.0	250 03.8 +02.1	S 12 39.4 -00.1	265 17.7 +02.4	S 17 25.3 +00.0	00						
01	139 46.1 +00.8	N 24 45.1 -00.1	265 05.9 +02.1	S 12 39.3 -00.2	280 20.1 +02.4	S 17 25.3 -00.1	01						
02	154 46.9 +00.8	N 24 45.0 -00.1	280 08.0 +02.2	S 12 39.1 -00.1	295 22.5 +02.3	S 17 25.2 +00.0	02						
03	169 47.7 +00.8	N 24 44.9 +00.0	295 10.2 +02.1	S 12 39.0 -00.1	310 24.8 +02.4	S 17 25.2 +00.0	03						
04	184 48.5 +00.8	N 24 44.9 -00.1	310 12.3 +02.1	S 12 38.9 -00.1	325 27.2 +02.4	S 17 25.2 +00.0	04						
05	199 49.3 +00.8	N 24 44.8 -00.1	325 14.4 +02.1	S 12 38.8 -00.1	340 29.6 +02.4	S 17 25.2 +00.0	05						
06	214 50.1 +00.8	N 24 44.7 -00.1	340 16.5 +02.2	S 12 38.7 -00.1	355 32.0 +02.4	S 17 25.2 -00.1	06						
07	229 50.9 +00.8	N 24 44.6 +00.0	355 18.7 +02.1	S 12 38.6 -00.1	10 34.4 +02.3	S 17 25.1 +00.0	07						
08	244 51.7 +00.7	N 24 44.6 -00.1	10 20.8 +02.1	S 12 38.5 -00.1	25 36.7 +02.4	S 17 25.1 +00.0	08						
09	259 52.4 +00.8	N 24 44.5 -00.1	25 22.9 +02.2	S 12 38.4 -00.1	40 39.1 +02.4	S 17 25.1 +00.0	09						
10	274 53.2 +00.8	N 24 44.4 -00.1	40 25.1 +02.1	S 12 38.3 -00.2	55 41.5 +02.4	S 17 25.1 +00.0	10						
11	289 54.0 +00.8	N 24 44.3 +00.0	55 27.2 +02.1	S 12 38.1 -00.1	70 43.9 +02.4	S 17 25.1 +00.0	11						
12	304 54.8 +00.8	N 24 44.3 -00.1	70 29.3 +02.2	S 12 38.0 -00.1	85 46.3 +02.3	S 17 25.1 -00.1	12						
13	319 55.6 +00.8	N 24 44.2 -00.1	85 31.5 +02.1	S 12 37.9 -00.1	100 48.6 +02.4	S 17 25.0 +00.0	13						
14	334 56.4 +00.8	N 24 44.1 -00.1	100 33.6 +02.1	S 12 37.8 -00.1	115 51.0 +02.4	S 17 25.0 +00.0	14						
15	349 57.2 +00.8	N 24 44.0 -00.1	115 35.7 +02.2	S 12 37.7 -00.1	130 53.4 +02.4	S 17 25.0 +00.0	15						
16	4 58.0 +00.8	N 24 43.9 +00.0	130 37.9 +02.1	S 12 37.6 -00.1	145 55.8 +02.4	S 17 25.0 +00.0	16						
17	19 58.8 +00.8	N 24 43.9 -00.1	145 40.0 +02.1	S 12 37.5 -00.1	160 58.2 +02.4	S 17 25.0 +00.0	17						
18	34 59.6 +00.8	N 24 43.8 -00.1	160 42.1 +02.2	S 12 37.4 -00.1	176 00.6 +02.3	S 17 25.0 -00.1	18						
19	50 00.4 +00.8	N 24 43.7 -00.1	175 44.3 +02.1	S 12 37.3 -00.1	191 02.9 +02.4	S 17 24.9 +00.0	19						
20	65 01.2 +00.8	N 24 43.6 +00.0	190 46.4 +02.1	S 12 37.2 -00.2	206 05.3 +02.4	S 17 24.9 +00.0	20						
21	80 02.0 +00.7	N 24 43.6 -00.1	205 48.5 +02.2	S 12 37.0 -00.1	221 07.7 +02.4	S 17 24.9 +00.0	21						
22	95 02.7 +00.8	N 24 43.5 -00.1	220 50.7 +02.1	S 12 36.9 -00.1	236 10.1 +02.4	S 17 24.9 +00.0	22						
23	110 03.5 +00.8	N 24 43.4 -00.1	235 52.8 +02.2	S 12 36.8 -00.1	251 12.5 +02.3	S 17 24.9 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 264° 263° 263° 263° 263° 263°		SHA 029° 029° 029° 029° 029° 029°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:40		Greenwich Culmination Time: 07:18		Greenwich Culmination Time: 06:17								

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 15 58.0 +00.7		170	40.6 -00.7	N 18 29.1 +00.9		262	15.6 -31.2	S 20 35.8 -08.9		00
01	195	48.0 +00.1	N 15 58.7 +00.8		185	39.9 -00.6	N 18 30.0 +00.9		276	44.4 -31.2	S 20 26.9 -08.9		01
02	210	48.1 +00.0	N 15 59.5 +00.7		200	39.3 -00.7	N 18 30.9 +00.8		291	13.2 -31.0	S 20 18.0 -09.0		02
03	225	48.1 +00.1	N 16 00.2 +00.7		215	38.6 -00.6	N 18 31.7 +00.9		305	42.2 -30.9	S 20 09.0 -09.1		03
04	240	48.2 +00.0	N 16 00.9 +00.7		230	38.0 -00.7	N 18 32.6 +00.8		320	11.3 -30.8	S 19 59.9 -09.2		04
05	255	48.2 +00.1	N 16 01.6 +00.7		245	37.3 -00.6	N 18 33.4 +00.9		334	40.5 -30.8	S 19 50.7 -09.3		05
06	270	48.3 +00.0	N 16 02.3 +00.8		260	36.7 -00.7	N 18 34.3 +00.8		349	09.7 -30.6	S 19 41.4 -09.4		06
07	285	48.3 +00.1	N 16 03.1 +00.7		275	36.0 -00.6	N 18 35.1 +00.9		3	39.1 -30.5	S 19 32.0 -09.5		07
08	300	48.4 +00.1	N 16 03.8 +00.7		290	35.4 -00.7	N 18 36.0 +00.8		18	08.6 -30.4	S 19 22.5 -09.6		08
09	315	48.5 +00.0	N 16 04.5 +00.7		305	34.7 -00.7	N 18 36.8 +00.9		32	38.2 -30.3	S 19 12.9 -09.6		09
10	330	48.5 +00.1	N 16 05.2 +00.7		320	34.0 -00.6	N 18 37.7 +00.8		47	07.9 -30.2	S 19 03.3 -09.8		10
11	345	48.6 +00.0	N 16 05.9 +00.8		335	33.4 -00.7	N 18 38.5 +00.9		61	37.7 -30.1	S 18 53.5 -09.8		11
12	0	48.6 +00.1	N 16 06.7 +00.7		350	32.7 -00.6	N 18 39.4 +00.8		76	07.6 -30.0	S 18 43.7 -09.9		12
13	15	48.7 +00.0	N 16 07.4 +00.7		5	32.1 -00.7	N 18 40.2 +00.9		90	37.6 -29.9	S 18 33.8 -10.0		13
14	30	48.7 +00.1	N 16 08.1 +00.7		20	31.4 -00.7	N 18 41.1 +00.8		105	07.7 -29.8	S 18 23.8 -10.1		14
15	45	48.8 +00.0	N 16 08.8 +00.7		35	30.7 -00.6	N 18 41.9 +00.9		119	37.9 -29.7	S 18 13.7 -10.1		15
16	60	48.8 +00.1	N 16 09.5 +00.7		50	30.1 -00.7	N 18 42.8 +00.8		134	08.2 -29.6	S 18 03.6 -10.3		16
17	75	48.9 +00.1	N 16 10.2 +00.8		65	29.4 -00.7	N 18 43.6 +00.9		148	38.6 -29.6	S 17 53.3 -10.3		17
18	90	49.0 +00.0	N 16 11.0 +00.7		80	28.7 -00.6	N 18 44.5 +00.8		163	09.0 -29.4	S 17 43.0 -10.3		18
19	105	49.0 +00.1	N 16 11.7 +00.7		95	28.1 -00.7	N 18 45.3 +00.9		177	39.6 -29.3	S 17 32.7 -10.5		19
20	120	49.1 +00.0	N 16 12.4 +00.7		110	27.4 -00.6	N 18 46.2 +00.8		192	10.3 -29.2	S 17 22.2 -10.5		20
21	135	49.1 +00.1	N 16 13.1 +00.7		125	26.8 -00.7	N 18 47.0 +00.9		206	41.1 -29.2	S 17 11.7 -10.6		21
22	150	49.2 +00.0	N 16 13.8 +00.7		140	26.1 -00.7	N 18 47.9 +00.8		221	11.9 -29.0	S 17 01.1 -10.7		22
23	165	49.2 +00.1	N 16 14.5 +00.8		155	25.4 -00.6	N 18 48.7 +00.8		235	42.9 -28.9	S 16 50.4 -10.7		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 00'1 00'1 00'1 00'1 00'1 00'1				SD 15'5 15'5 15'5 15'4 15'4 15'4				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 57'0 56'9 56'7 56'6 56'5 56'3				
	SHA 319° 318° 318° 318° 318° 318°				SHA 308° 308° 308° 308° 308° 307°				SHA 039° 037° 035° 032° 030° 028°				
	Greenwich Culmination Time: 11:56				Greenwich Culmination Time: 12:37				Greenwich Culmination Time: 06:44				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	125	04.3 +00.8	N 24 43.3 -00.1		250	55.0 +02.1	S 12 36.7 -00.1		266	14.8 +02.4	S 17 24.9 -00.1		00
01	140	05.1 +00.8	N 24 43.2 +00.0		265	57.1 +02.1	S 12 36.6 -00.1		281	17.2 +02.4	S 17 24.8 +00.0		01
02	155	05.9 +00.8	N 24 43.2 -00.1		280	59.2 +02.2	S 12 36.5 -00.1		296	19.6 +02.4	S 17 24.8 +00.0		02
03	170	06.7 +00.8	N 24 43.1 -00.1		296	01.4 +02.1	S 12 36.4 -00.1		311	22.0 +02.4	S 17 24.8 +00.0		03
04	185	07.5 +00.8	N 24 43.0 -00.1		311	03.5 +02.1	S 12 36.3 -00.1		326	24.4 +02.4	S 17 24.8 +00.0		04
05	200	08.3 +00.8	N 24 42.9 -00.1		326	05.6 +02.2	S 12 36.2 -00.1		341	26.8 +02.4	S 17 24.8 -00.1		05
06	215	09.1 +00.8	N 24 42.8 +00.0		341	07.8 +02.1	S 12 36.1 -00.1		356	29.2 +02.3	S 17 24.7 +00.0		06
07	230	09.9 +00.8	N 24 42.8 -00.1		356	09.9 +02.1	S 12 36.0 -00.2		11	31.5 +02.4	S 17 24.7 +00.0		07
08	245	10.7 +00.8	N 24 42.7 -00.1		11	12.0 +02.2	S 12 35.8 -00.1		26	33.9 +02.4	S 17 24.7 +00.0		08
09	260	11.5 +00.7	N 24 42.6 -00.1		26	14.2 +02.1	S 12 35.7 -00.1		41	36.3 +02.4	S 17 24.7 +00.0		09
10	275	12.2 +00.8	N 24 42.5 -00.1		41	16.3 +02.2	S 12 35.6 -00.1		56	38.7 +02.4	S 17 24.7 +00.0		10
11	290	13.0 +00.8	N 24 42.4 -00.1		56	18.5 +02.1	S 12 35.5 -00.1		71	41.1 +02.4	S 17 24.7 +00.0		11
12	305	13.8 +00.8	N 24 42.3 +00.0		71	20.6 +02.1	S 12 35.4 -00.1		86	43.5 +02.3	S 17 24.7 -00.1		12
13	320	14.6 +00.8	N 24 42.3 -00.1		86	22.7 +02.2	S 12 35.3 -00.1		101	45.8 +02.4	S 17 24.6 +00.0		13
14	335	15.4 +00.8	N 24 42.2 -00.1		101	24.9 +02.1	S 12 35.2 -00.1		116	48.2 +02.4	S 17 24.6 +00.0		14
15	350	16.2 +00.8	N 24 42.1 -00.1		116	27.0 +02.2	S 12 35.1 -00.1		131	50.6 +02.4	S 17 24.6 +00.0		15
16	5	17.0 +00.8	N 24 42.0 -00.1		131	29.2 +02.1	S 12 35.0 -00.1		146	53.0 +02.4	S 17 24.6 +00.0		16
17	20	17.8 +00.8	N 24 41.9 -00.1		146	31.3 +02.1	S 12 34.9 -00.1		161	55.4 +02.4	S 17 24.6 +00.0		17
18	35	18.6 +00.8	N 24 41.8 +00.0		161	33.4 +02.2	S 12 34.8 -00.1		176	57.8 +02.4	S 17 24.6 -00.1		18
19	50	19.4 +00.8	N 24 41.8 -00.1		176	35.6 +02.1	S 12 34.7 -00.2		192	00.2 +02.4	S 17 24.5 +00.0		19
20	65	20.2 +00.8	N 24 41.7 -00.1		191	37.7 +02.2	S 12 34.5 -00.1		207	02.6 +02.3	S 17 24.5 +00.0		20
21	80	21.0 +00.8	N 24 41.6 -00.1		206	39.9 +02.1	S 12 34.4 -00.1		222	04.9 +02.4	S 17 24.5 +00.0		21
22	95	21.8 +00.7	N 24 41.5 -00.1		221	42.0 +02.1	S 12 34.3 -00.1		237	07.3 +02.4	S 17 24.5 +00.0		22
23	110	22.5 +00.8	N 24 41.4 -00.1		236	44.1 +02.2	S 12 34.2 -00.1		252	09.7 +02.4	S 17 24.5 +00.0		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 263° 263° 263° 263° 262° 262°				SHA 029° 029° 029° 029° 029° 029°				SHA 044° 044° 044° 044° 044° 044°				
	Greenwich Culmination Time: 15:38				Greenwich Culmination Time: 07:15				Greenwich Culmination Time: 06:14				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 49.3 +00.0	N 16 15.3 +00.7	170 24.8 -00.7	N 18 49.5 +00.9	250 14.0 -28.9	S 16 39.7 -10.8	00						
01	195 49.3 +00.1	N 16 16.0 +00.7	185 24.1 -00.7	N 18 50.4 +00.8	264 45.1 -28.8	S 16 28.9 -10.8	01						
02	210 49.4 +00.0	N 16 16.7 +00.7	200 23.4 -00.6	N 18 51.2 +00.9	279 16.3 -28.6	S 16 18.1 -11.0	02						
03	225 49.4 +00.1	N 16 17.4 +00.7	215 22.8 -00.7	N 18 52.1 +00.8	293 47.7 -28.6	S 16 07.1 -11.0	03						
04	240 49.5 +00.0	N 16 18.1 +00.7	230 22.1 -00.7	N 18 52.9 +00.8	308 19.1 -28.5	S 15 56.1 -11.0	04						
05	255 49.5 +00.1	N 16 18.8 +00.7	245 21.4 -00.6	N 18 53.7 +00.9	322 50.6 -28.4	S 15 45.1 -11.1	05						
06	270 49.6 +00.0	N 16 19.5 +00.7	260 20.8 -00.7	N 18 54.6 +00.8	337 22.2 -28.4	S 15 34.0 -11.2	06						
07	285 49.6 +00.1	N 16 20.2 +00.7	275 20.1 -00.7	N 18 55.4 +00.8	351 53.8 -28.2	S 15 22.8 -11.3	07						
08	300 49.7 +00.0	N 16 20.9 +00.8	290 19.4 -00.7	N 18 56.2 +00.9	6 25.6 -28.2	S 15 11.5 -11.3	08						
09	315 49.7 +00.1	N 16 21.7 +00.7	305 18.7 -00.6	N 18 57.1 +00.8	20 57.4 -28.0	S 15 00.2 -11.3	09						
10	330 49.8 +00.0	N 16 22.4 +00.7	320 18.1 -00.6	N 18 57.9 +00.8	35 29.4 -28.0	S 14 48.9 -11.4	10						
11	345 49.8 +00.1	N 16 23.1 +00.7	335 17.4 -00.7	N 18 58.7 +00.9	50 01.4 -27.9	S 14 37.5 -11.5	11						
12	0 49.9 +00.0	N 16 23.8 +00.7	350 16.7 -00.6	N 18 59.6 +00.8	64 33.5 -27.9	S 14 26.0 -11.5	12						
13	15 49.9 +00.1	N 16 24.5 +00.7	5 16.1 -00.7	N 19 00.4 +00.8	79 05.6 -27.7	S 14 14.5 -11.6	13						
14	30 50.0 +00.0	N 16 25.2 +00.7	20 15.4 -00.7	N 19 01.2 +00.8	93 37.9 -27.7	S 14 02.9 -11.6	14						
15	45 50.0 +00.1	N 16 25.9 +00.7	35 14.7 -00.7	N 19 02.0 +00.9	108 10.2 -27.6	S 13 51.3 -11.7	15						
16	60 50.1 +00.0	N 16 26.6 +00.7	50 14.0 -00.6	N 19 02.9 +00.8	122 42.6 -27.5	S 13 39.6 -11.7	16						
17	75 50.1 +00.1	N 16 27.3 +00.7	65 13.4 -00.7	N 19 03.7 +00.8	137 15.1 -27.4	S 13 27.9 -11.7	17						
18	90 50.2 +00.0	N 16 28.0 +00.7	80 12.7 -00.7	N 19 04.5 +00.8	151 47.7 -27.4	S 13 16.2 -11.9	18						
19	105 50.2 +00.1	N 16 28.7 +00.7	95 12.0 -00.7	N 19 05.3 +00.9	166 20.3 -27.2	S 13 04.3 -11.8	19						
20	120 50.3 +00.0	N 16 29.4 +00.7	110 11.3 -00.6	N 19 06.2 +00.8	180 53.1 -27.3	S 12 52.5 -11.9	20						
21	135 50.3 +00.1	N 16 30.1 +00.7	125 10.7 -00.7	N 19 07.0 +00.8	195 25.8 -27.1	S 12 40.6 -12.0	21						
22	150 50.4 +00.0	N 16 30.8 +00.7	140 10.0 -00.7	N 19 07.8 +00.8	209 58.7 -27.1	S 12 28.6 -12.0	22						
23	165 50.4 +00.1	N 16 31.5 +00.7	155 09.3 -00.7	N 19 08.6 +00.8	224 31.6 -27.0	S 12 16.6 -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 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'3 15'3 15'3 15'2 15'2 15'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 56'2 56'1 56'0 55'9 55'8 55'7								
	SHA 318° 317° 317° 317° 317° 317°		SHA 307° 307° 307° 307° 306° 306°		SHA 026° 024° 022° 020° 018° 016°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 12:38		Greenwich Culmination Time: 07:33								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	125 23.3 +00.8	N 24 41.3 -00.1	251 46.3 +02.1	S 12 34.1 -00.1	267 12.1 +02.4	S 17 24.5 -00.1	00						
01	140 24.1 +00.8	N 24 41.2 +00.0	266 48.4 +02.2	S 12 34.0 -00.1	282 14.5 +02.4	S 17 24.4 +00.0	01						
02	155 24.9 +00.8	N 24 41.2 -00.1	281 50.6 +02.1	S 12 33.9 -00.1	297 16.9 +02.4	S 17 24.4 +00.0	02						
03	170 25.7 +00.8	N 24 41.1 -00.1	296 52.7 +02.1	S 12 33.8 -00.1	312 19.3 +02.3	S 17 24.4 +00.0	03						
04	185 26.5 +00.8	N 24 41.0 -00.1	311 54.8 +02.2	S 12 33.7 -00.1	327 21.6 +02.4	S 17 24.4 +00.0	04						
05	200 27.3 +00.8	N 24 40.9 -00.1	326 57.0 +02.1	S 12 33.6 -00.1	342 24.0 +02.4	S 17 24.4 +00.0	05						
06	215 28.1 +00.8	N 24 40.8 -00.1	341 59.1 +02.2	S 12 33.5 -00.1	357 26.4 +02.4	S 17 24.4 -00.1	06						
07	230 28.9 +00.8	N 24 40.7 -00.1	357 01.3 +02.1	S 12 33.4 -00.1	12 28.8 +02.4	S 17 24.3 +00.0	07						
08	245 29.7 +00.8	N 24 40.6 -00.1	12 03.4 +02.2	S 12 33.3 -00.1	27 31.2 +02.4	S 17 24.3 +00.0	08						
09	260 30.5 +00.8	N 24 40.5 -00.1	27 05.6 +02.1	S 12 33.2 -00.2	42 33.6 +02.4	S 17 24.3 +00.0	09						
10	275 31.3 +00.8	N 24 40.4 +00.0	42 07.7 +02.1	S 12 33.0 -00.1	57 36.0 +02.4	S 17 24.3 +00.0	10						
11	290 32.1 +00.7	N 24 40.4 -00.1	57 09.8 +02.2	S 12 32.9 -00.1	72 38.4 +02.4	S 17 24.3 +00.0	11						
12	305 32.8 +00.8	N 24 40.3 -00.1	72 12.0 +02.1	S 12 32.8 -00.1	87 40.8 +02.3	S 17 24.3 +00.0	12						
13	320 33.6 +00.8	N 24 40.2 -00.1	87 14.1 +02.2	S 12 32.7 -00.1	102 43.1 +02.4	S 17 24.3 -00.1	13						
14	335 34.4 +00.8	N 24 40.1 -00.1	102 16.3 +02.1	S 12 32.6 -00.1	117 45.5 +02.4	S 17 24.2 +00.0	14						
15	350 35.2 +00.8	N 24 40.0 -00.1	117 18.4 +02.2	S 12 32.5 -00.1	132 47.9 +02.4	S 17 24.2 +00.0	15						
16	5 36.0 +00.8	N 24 39.9 -00.1	132 20.6 +02.1	S 12 32.4 -00.1	147 50.3 +02.4	S 17 24.2 +00.0	16						
17	20 36.8 +00.8	N 24 39.8 -00.1	147 22.7 +02.2	S 12 32.3 -00.1	162 52.7 +02.4	S 17 24.2 +00.0	17						
18	35 37.6 +00.8	N 24 39.7 -00.1	162 24.9 +02.1	S 12 32.2 -00.1	177 55.1 +02.4	S 17 24.2 +00.0	18						
19	50 38.4 +00.8	N 24 39.6 -00.1	177 27.0 +02.1	S 12 32.1 -00.1	192 57.5 +02.4	S 17 24.2 +00.0	19						
20	65 39.2 +00.8	N 24 39.5 -00.1	192 29.1 +02.2	S 12 32.0 -00.1	207 59.9 +02.4	S 17 24.2 -00.1	20						
21	80 40.0 +00.8	N 24 39.4 -00.1	207 31.3 +02.1	S 12 31.9 -00.1	223 02.3 +02.4	S 17 24.1 +00.0	21						
22	95 40.8 +00.8	N 24 39.3 +00.0	222 33.4 +02.2	S 12 31.8 -00.1	238 04.7 +02.4	S 17 24.1 +00.0	22						
23	110 41.6 +00.8	N 24 39.3 -00.1	237 35.6 +02.1	S 12 31.7 -00.1	253 07.1 +02.3	S 17 24.1 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 262° 262° 262° 262° 262° 262°		SHA 029° 029° 029° 029° 029° 029°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:37		Greenwich Culmination Time: 07:11		Greenwich Culmination Time: 06:10								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 50.5 +00.0	N 16 32.2 +00.7	170 08.6 -00.6	N 19 09.4 +00.9	239 04.6 -26.9	S 12 04.6 -12.1	00						
01	195 50.5 +00.1	N 16 32.9 +00.7	185 08.0 -00.7	N 19 10.3 +00.8	253 37.7 -26.8	S 11 52.5 -12.1	01						
02	210 50.6 +00.0	N 16 33.6 +00.7	200 07.3 -00.7	N 19 11.1 +00.8	268 10.9 -26.8	S 11 40.4 -12.2	02						
03	225 50.6 +00.0	N 16 34.3 +00.7	215 06.6 -00.7	N 19 11.9 +00.8	282 44.1 -26.8	S 11 28.2 -12.2	03						
04	240 50.6 +00.1	N 16 35.0 +00.7	230 05.9 -00.7	N 19 12.7 +00.8	297 17.3 -26.6	S 11 16.0 -12.2	04						
05	255 50.7 +00.0	N 16 35.7 +00.7	245 05.2 -00.6	N 19 13.5 +00.8	311 50.7 -26.6	S 11 03.8 -12.3	05						
06	270 50.7 +00.1	N 16 36.4 +00.7	260 04.6 -00.7	N 19 14.3 +00.9	326 24.1 -26.5	S 10 51.5 -12.3	06						
07	285 50.8 +00.0	N 16 37.1 +00.7	275 03.9 -00.7	N 19 15.2 +00.8	340 57.6 -26.5	S 10 39.2 -12.3	07						
08	300 50.8 +00.1	N 16 37.8 +00.7	290 03.2 -00.7	N 19 16.0 +00.8	355 31.1 -26.4	S 10 26.9 -12.4	08						
09	315 50.9 +00.0	N 16 38.5 +00.7	305 02.5 -00.7	N 19 16.8 +00.8	10 04.7 -26.4	S 10 14.5 -12.4	09						
10	330 50.9 +00.1	N 16 39.2 +00.7	320 01.8 -00.6	N 19 17.6 +00.8	24 38.3 -26.3	S 10 02.1 -12.5	10						
11	345 51.0 +00.0	N 16 39.9 +00.7	335 01.2 -00.7	N 19 18.4 +00.8	39 12.0 -26.2	S 09 49.6 -12.4	11						
12	0 51.0 +00.0	N 16 40.6 +00.7	350 00.5 -00.7	N 19 19.2 +00.8	53 45.8 -26.2	S 09 37.2 -12.5	12						
13	15 51.0 +00.1	N 16 41.3 +00.7	4 59.8 -00.7	N 19 20.0 +00.8	68 19.6 -26.1	S 09 24.7 -12.6	13						
14	30 51.1 +00.0	N 16 42.0 +00.7	19 59.1 -00.7	N 19 20.8 +00.8	82 53.5 -26.0	S 09 12.1 -12.5	14						
15	45 51.1 +00.1	N 16 42.7 +00.7	34 58.4 -00.7	N 19 21.6 +00.8	97 27.5 -26.1	S 08 59.6 -12.6	15						
16	60 51.2 +00.0	N 16 43.4 +00.7	49 57.7 -00.7	N 19 22.4 +00.8	112 01.4 -25.9	S 08 47.0 -12.6	16						
17	75 51.2 +00.1	N 16 44.1 +00.7	64 57.0 -00.6	N 19 23.2 +00.8	126 35.5 -25.9	S 08 34.4 -12.6	17						
18	90 51.3 +00.0	N 16 44.8 +00.7	79 56.4 -00.7	N 19 24.0 +00.8	141 09.6 -25.9	S 08 21.8 -12.7	18						
19	105 51.3 +00.0	N 16 45.5 +00.7	94 55.7 -00.7	N 19 24.8 +00.8	155 43.7 -25.8	S 08 09.1 -12.7	19						
20	120 51.3 +00.1	N 16 46.2 +00.7	109 55.0 -00.7	N 19 25.6 +00.8	170 17.9 -25.7	S 07 56.4 -12.7	20						
21	135 51.4 +00.0	N 16 46.9 +00.7	124 54.3 -00.7	N 19 26.4 +00.8	184 52.2 -25.7	S 07 43.7 -12.7	21						
22	150 51.4 +00.1	N 16 47.6 +00.6	139 53.6 -00.7	N 19 27.2 +00.8	199 26.5 -25.7	S 07 31.0 -12.8	22						
23	165 51.5 +00.0	N 16 48.2 +00.7	154 52.9 -00.7	N 19 28.0 +00.8	214 00.8 -25.6	S 07 18.2 -12.8	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'1 15'1 15'1 15'1 15'0 15'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'6 55'5 55'4 55'3 55'2 55'1								
	SHA 317° 317° 316° 316° 316° 316°		SHA 306° 306° 306° 305° 305° 305°		SHA 014° 012° 010° 008° 006° 004°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 12:39		Greenwich Culmination Time: 08:18								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	125 42.4 +00.7	N 24 39.2 -00.1	252 37.7 +02.2	S 12 31.6 -00.1	268 09.4 +02.4	S 17 24.1 +00.0	00						
01	140 43.1 +00.8	N 24 39.1 -00.1	267 39.9 +02.1	S 12 31.5 -00.1	283 11.8 +02.4	S 17 24.1 +00.0	01						
02	155 43.9 +00.8	N 24 39.0 -00.1	282 42.0 +02.2	S 12 31.4 -00.2	298 14.2 +02.4	S 17 24.1 -00.1	02						
03	170 44.7 +00.8	N 24 38.9 -00.1	297 44.2 +02.1	S 12 31.2 -00.1	313 16.6 +02.4	S 17 24.0 +00.0	03						
04	185 45.5 +00.8	N 24 38.8 -00.1	312 46.3 +02.2	S 12 31.1 -00.1	328 19.0 +02.4	S 17 24.0 +00.0	04						
05	200 46.3 +00.8	N 24 38.7 -00.1	327 48.5 +02.1	S 12 31.0 -00.1	343 21.4 +02.4	S 17 24.0 +00.0	05						
06	215 47.1 +00.8	N 24 38.6 -00.1	342 50.6 +02.2	S 12 30.9 -00.1	358 23.8 +02.4	S 17 24.0 +00.0	06						
07	230 47.9 +00.8	N 24 38.5 -00.1	357 52.8 +02.1	S 12 30.8 -00.1	13 26.2 +02.4	S 17 24.0 +00.0	07						
08	245 48.7 +00.8	N 24 38.4 -00.1	12 54.9 +02.2	S 12 30.7 -00.1	28 28.6 +02.4	S 17 24.0 +00.0	08						
09	260 49.5 +00.8	N 24 38.3 -00.1	27 57.1 +02.1	S 12 30.6 -00.1	43 31.0 +02.4	S 17 24.0 -00.1	09						
10	275 50.3 +00.8	N 24 38.2 -00.1	42 59.2 +02.2	S 12 30.5 -00.1	58 33.4 +02.4	S 17 23.9 +00.0	10						
11	290 51.1 +00.8	N 24 38.1 -00.1	58 01.4 +02.1	S 12 30.4 -00.1	73 35.8 +02.4	S 17 23.9 +00.0	11						
12	305 51.9 +00.8	N 24 38.0 -00.1	73 03.5 +02.2	S 12 30.3 -00.1	88 38.2 +02.3	S 17 23.9 +00.0	12						
13	320 52.7 +00.8	N 24 37.9 -00.1	88 05.7 +02.1	S 12 30.2 -00.1	103 40.5 +02.4	S 17 23.9 +00.0	13						
14	335 53.5 +00.7	N 24 37.8 -00.1	103 07.8 +02.2	S 12 30.1 -00.1	118 42.9 +02.4	S 17 23.9 +00.0	14						
15	350 54.2 +00.8	N 24 37.7 -00.1	118 10.0 +02.1	S 12 30.0 -00.1	133 45.3 +02.4	S 17 23.9 +00.0	15						
16	5 55.0 +00.8	N 24 37.6 -00.1	133 12.1 +02.2	S 12 29.9 -00.1	148 47.7 +02.4	S 17 23.9 -00.1	16						
17	20 55.8 +00.8	N 24 37.5 -00.1	148 14.3 +02.1	S 12 29.8 -00.1	163 50.1 +02.4	S 17 23.8 +00.0	17						
18	35 56.6 +00.8	N 24 37.4 -00.1	163 16.4 +02.2	S 12 29.7 -00.1	178 52.5 +02.4	S 17 23.8 +00.0	18						
19	50 57.4 +00.8	N 24 37.3 -00.1	178 18.6 +02.1	S 12 29.6 -00.1	193 54.9 +02.4	S 17 23.8 +00.0	19						
20	65 58.2 +00.8	N 24 37.2 -00.1	193 20.7 +02.2	S 12 29.5 -00.1	208 57.3 +02.4	S 17 23.8 +00.0	20						
21	80 59.0 +00.8	N 24 37.1 -00.1	208 22.9 +02.1	S 12 29.4 -00.1	223 59.7 +02.4	S 17 23.8 +00.0	21						
22	95 59.8 +00.8	N 24 37.0 -00.1	223 25.0 +02.2	S 12 29.3 -00.1	239 02.1 +02.4	S 17 23.8 +00.0	22						
23	111 00.6 +00.8	N 24 36.9 -00.1	238 27.2 +02.1	S 12 29.2 -00.1	254 04.5 +02.4	S 17 23.8 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 262° 261° 261° 261° 261° 261°		SHA 029° 029° 029° 028° 028° 028°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:36		Greenwich Culmination Time: 07:08		Greenwich Culmination Time: 06:06								

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 51.5 +00.0	N 16 48.9 +00.7	169 52.2 -00.7	N 19 28.8 +00.8	228 35.2 -25.6	S 07 05.4 -12.7	00						
01	195 51.5 +00.1	N 16 49.6 +00.7	184 51.5 -00.6	N 19 29.6 +00.8	243 09.6 -25.5	S 06 52.7 -12.9	01						
02	210 51.6 +00.0	N 16 50.3 +00.7	199 50.9 -00.7	N 19 30.4 +00.8	257 44.1 -25.5	S 06 39.8 -12.8	02						
03	225 51.6 +00.1	N 16 51.0 +00.7	214 50.2 -00.7	N 19 31.2 +00.8	272 18.6 -25.4	S 06 27.0 -12.8	03						
04	240 51.7 +00.0	N 16 51.7 +00.7	229 49.5 -00.7	N 19 32.0 +00.8	286 53.2 -25.4	S 06 14.2 -12.9	04						
05	255 51.7 +00.0	N 16 52.4 +00.7	244 48.8 -00.7	N 19 32.8 +00.8	301 27.8 -25.4	S 06 01.3 -12.9	05						
06	270 51.7 +00.1	N 16 53.1 +00.7	259 48.1 -00.7	N 19 33.6 +00.8	316 02.4 -25.3	S 05 48.4 -12.9	06						
07	285 51.8 +00.0	N 16 53.8 +00.6	274 47.4 -00.7	N 19 34.4 +00.8	330 37.1 -25.3	S 05 35.5 -12.9	07						
08	300 51.8 +00.1	N 16 54.4 +00.7	289 46.7 -00.7	N 19 35.2 +00.8	345 11.8 -25.2	S 05 22.6 -12.9	08						
09	315 51.9 +00.0	N 16 55.1 +00.7	304 46.0 -00.7	N 19 36.0 +00.8	359 46.6 -25.2	S 05 09.7 -12.9	09						
10	330 51.9 +00.0	N 16 55.8 +00.7	319 45.3 -00.7	N 19 36.8 +00.8	14 21.4 -25.2	S 04 56.8 -13.0	10						
11	345 51.9 +00.1	N 16 56.5 +00.7	334 44.6 -00.7	N 19 37.6 +00.7	28 56.2 -25.2	S 04 43.8 -12.9	11						
12	0 52.0 +00.0	N 16 57.2 +00.7	349 43.9 -00.7	N 19 38.3 +00.8	43 31.0 -25.1	S 04 30.9 -13.0	12						
13	15 52.0 +00.1	N 16 57.9 +00.6	4 43.2 -00.7	N 19 39.1 +00.8	58 05.9 -25.1	S 04 17.9 -13.0	13						
14	30 52.1 +00.0	N 16 58.5 +00.7	19 42.5 -00.7	N 19 39.9 +00.8	72 40.8 -25.0	S 04 04.9 -12.9	14						
15	45 52.1 +00.0	N 16 59.2 +00.7	34 41.8 -00.7	N 19 40.7 +00.8	87 15.8 -25.0	S 03 52.0 -13.0	15						
16	60 52.1 +00.1	N 16 59.9 +00.7	49 41.1 -00.7	N 19 41.5 +00.8	101 50.8 -25.0	S 03 39.0 -13.0	16						
17	75 52.2 +00.0	N 17 00.6 +00.7	64 40.4 -00.7	N 19 42.3 +00.7	116 25.8 -25.0	S 03 26.0 -13.0	17						
18	90 52.2 +00.0	N 17 01.3 +00.7	79 39.7 -00.7	N 19 43.0 +00.8	131 00.8 -24.9	S 03 13.0 -13.0	18						
19	105 52.2 +00.1	N 17 02.0 +00.6	94 39.0 -00.6	N 19 43.8 +00.8	145 35.9 -24.9	S 02 60.0 -13.0	19						
20	120 52.3 +00.0	N 17 02.6 +00.7	109 38.4 -00.7	N 19 44.6 +00.8	160 11.0 -24.9	S 02 47.0 -13.1	20						
21	135 52.3 +00.0	N 17 03.3 +00.7	124 37.7 -00.7	N 19 45.4 +00.8	174 46.1 -24.9	S 02 33.9 -13.0	21						
22	150 52.3 +00.1	N 17 04.0 +00.7	139 37.0 -00.7	N 19 46.2 +00.7	189 21.2 -24.8	S 02 20.9 -13.0	22						
23	165 52.4 +00.0	N 17 04.7 +00.7	154 36.3 -00.7	N 19 46.9 +00.8	203 56.4 -24.8	S 02 07.9 -13.0	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 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'0 15'0 14'9 14'9 14'9 14'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'0 54'9 54'9 54'8 54'7 54'7								
	SHA 316° 316° 315° 315° 315° 315°		SHA 305° 304° 304° 304° 304° 304°		SHA 003° 001° 359° 357° 355° 353°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 12:41		Greenwich Culmination Time: 09:00								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	126 01.4 +00.8	N 24 36.8 -00.1	253 29.3 +02.2	S 12 29.1 -00.1	269 06.9 +02.4	S 17 23.8 -00.1	00						
01	141 02.2 +00.8	N 24 36.7 -00.1	268 31.5 +02.1	S 12 29.0 -00.1	284 09.3 +02.4	S 17 23.7 +00.0	01						
02	156 03.0 +00.8	N 24 36.6 -00.1	283 33.6 +02.2	S 12 28.9 -00.2	299 11.7 +02.4	S 17 23.7 +00.0	02						
03	171 03.8 +00.7	N 24 36.5 -00.1	298 35.8 +02.1	S 12 28.7 -00.1	314 14.1 +02.4	S 17 23.7 +00.0	03						
04	186 04.5 +00.8	N 24 36.4 -00.1	313 37.9 +02.2	S 12 28.6 -00.1	329 16.5 +02.4	S 17 23.7 +00.0	04						
05	201 05.3 +00.8	N 24 36.3 -00.1	328 40.1 +02.1	S 12 28.5 -00.1	344 18.9 +02.4	S 17 23.7 +00.0	05						
06	216 06.1 +00.8	N 24 36.2 -00.1	343 42.2 +02.2	S 12 28.4 -00.1	359 21.3 +02.4	S 17 23.7 +00.0	06						
07	231 06.9 +00.8	N 24 36.1 -00.1	358 44.4 +02.1	S 12 28.3 -00.1	14 23.7 +02.4	S 17 23.7 -00.1	07						
08	246 07.7 +00.8	N 24 36.0 -00.1	13 46.5 +02.2	S 12 28.2 -00.1	29 26.1 +02.4	S 17 23.6 +00.0	08						
09	261 08.5 +00.8	N 24 35.9 -00.1	28 48.7 +02.2	S 12 28.1 -00.1	44 28.5 +02.3	S 17 23.6 +00.0	09						
10	276 09.3 +00.8	N 24 35.8 -00.1	43 50.9 +02.1	S 12 28.0 -00.1	59 30.8 +02.4	S 17 23.6 +00.0	10						
11	291 10.1 +00.8	N 24 35.7 -00.1	58 53.0 +02.2	S 12 27.9 -00.1	74 33.2 +02.4	S 17 23.6 +00.0	11						
12	306 10.9 +00.8	N 24 35.6 -00.1	73 55.2 +02.1	S 12 27.8 -00.1	89 35.6 +02.4	S 17 23.6 +00.0	12						
13	321 11.7 +00.8	N 24 35.5 -00.1	88 57.3 +02.2	S 12 27.7 -00.1	104 38.0 +02.4	S 17 23.6 +00.0	13						
14	336 12.5 +00.8	N 24 35.4 -00.1	103 59.5 +02.1	S 12 27.6 -00.1	119 40.4 +02.4	S 17 23.6 +00.0	14						
15	351 13.3 +00.8	N 24 35.3 -00.1	119 01.6 +02.2	S 12 27.5 -00.1	134 42.8 +02.4	S 17 23.6 -00.1	15						
16	6 14.1 +00.8	N 24 35.2 -00.1	134 03.8 +02.1	S 12 27.4 -00.1	149 45.2 +02.4	S 17 23.5 +00.0	16						
17	21 14.9 +00.8	N 24 35.1 -00.1	149 05.9 +02.2	S 12 27.3 -00.1	164 47.6 +02.4	S 17 23.5 +00.0	17						
18	36 15.7 +00.7	N 24 35.0 -00.2	164 08.1 +02.2	S 12 27.2 -00.1	179 50.0 +02.4	S 17 23.5 +00.0	18						
19	51 16.4 +00.8	N 24 34.8 -00.1	179 10.3 +02.1	S 12 27.1 -00.1	194 52.4 +02.4	S 17 23.5 +00.0	19						
20	66 17.2 +00.8	N 24 34.7 -00.1	194 12.4 +02.2	S 12 27.0 -00.1	209 54.8 +02.4	S 17 23.5 +00.0	20						
21	81 18.0 +00.8	N 24 34.6 -00.1	209 14.6 +02.1	S 12 26.9 -00.1	224 57.2 +02.4	S 17 23.5 +00.0	21						
22	96 18.8 +00.8	N 24 34.5 -00.1	224 16.7 +02.2	S 12 26.8 -00.1	239 59.6 +02.4	S 17 23.5 +00.0	22						
23	111 19.6 +00.8	N 24 34.4 -00.1	239 18.9 +02.2	S 12 26.7 -00.1	255 02.0 +02.4	S 17 23.5 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 261° 261° 261° 261° 260° 260°		SHA 028° 028° 028° 028° 028° 028°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:35		Greenwich Culmination Time: 07:05		Greenwich Culmination Time: 06:02								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 52.4 +00.0	N 17 05.4 +00.6	169 35.6 -00.7	N 19 47.7 +00.8	218 31.6 -24.8	S 01 54.9 -13.0	00						
01	195 52.4 +00.1	N 17 06.0 +00.7	184 34.9 -00.8	N 19 48.5 +00.8	233 06.8 -24.8	S 01 41.9 -13.1	01						
02	210 52.5 +00.0	N 17 06.7 +00.7	199 34.1 -00.7	N 19 49.3 +00.7	247 42.0 -24.8	S 01 28.8 -13.0	02						
03	225 52.5 +00.0	N 17 07.4 +00.7	214 33.4 -00.7	N 19 50.0 +00.8	262 17.2 -24.7	S 01 15.8 -13.0	03						
04	240 52.5 +00.1	N 17 08.1 +00.6	229 32.7 -00.7	N 19 50.8 +00.8	276 52.5 -24.8	S 01 02.8 -13.0	04						
05	255 52.6 +00.0	N 17 08.7 +00.7	244 32.0 -00.7	N 19 51.6 +00.7	291 27.7 -24.7	S 00 49.8 -13.1	05						
06	270 52.6 +00.0	N 17 09.4 +00.7	259 31.3 -00.7	N 19 52.3 +00.8	306 03.0 -24.7	S 00 36.7 -13.0	06						
07	285 52.6 +00.1	N 17 10.1 +00.7	274 30.6 -00.7	N 19 53.1 +00.8	320 38.3 -24.7	S 00 23.7 -13.0	07						
08	300 52.7 +00.0	N 17 10.8 +00.6	289 29.9 -00.7	N 19 53.9 +00.8	335 13.6 -24.6	S 00 10.7 -13.0	08						
09	315 52.7 +00.0	N 17 11.4 +00.7	304 29.2 -00.7	N 19 54.7 +00.7	349 49.0 -24.7	N 00 02.3 +13.0	09						
10	330 52.7 +00.1	N 17 12.1 +00.7	319 28.5 -00.7	N 19 55.4 +00.8	4 24.3 -24.6	N 00 15.3 +13.0	10						
11	345 52.8 +00.0	N 17 12.8 +00.7	334 27.8 -00.7	N 19 56.2 +00.8	18 59.7 -24.7	N 00 28.3 +13.0	11						
12	0 52.8 +00.0	N 17 13.5 +00.6	349 27.1 -00.7	N 19 57.0 +00.7	33 35.0 -24.6	N 00 41.3 +12.9	12						
13	15 52.8 +00.1	N 17 14.1 +00.7	4 26.4 -00.7	N 19 57.7 +00.8	48 10.4 -24.6	N 00 54.2 +13.0	13						
14	30 52.9 +00.0	N 17 14.8 +00.7	19 25.7 -00.7	N 19 58.5 +00.7	62 45.8 -24.7	N 01 07.2 +13.0	14						
15	45 52.9 +00.0	N 17 15.5 +00.7	34 25.0 -00.7	N 19 59.2 +00.8	77 21.1 -24.6	N 01 20.2 +12.9	15						
16	60 52.9 +00.1	N 17 16.2 +00.6	49 24.3 -00.7	N 20 00.0 +00.8	91 56.5 -24.6	N 01 33.1 +13.0	16						
17	75 53.0 +00.0	N 17 16.8 +00.7	64 23.6 -00.7	N 20 00.8 +00.7	106 31.9 -24.6	N 01 46.1 +12.9	17						
18	90 53.0 +00.0	N 17 17.5 +00.7	79 22.9 -00.8	N 20 01.5 +00.8	121 07.3 -24.6	N 01 59.0 +12.9	18						
19	105 53.0 +00.0	N 17 18.2 +00.6	94 22.1 -00.7	N 20 02.3 +00.7	135 42.7 -24.6	N 02 11.9 +12.9	19						
20	120 53.0 +00.1	N 17 18.8 +00.7	109 21.4 -00.7	N 20 03.0 +00.8	150 18.1 -24.6	N 02 24.8 +12.9	20						
21	135 53.1 +00.0	N 17 19.5 +00.7	124 20.7 -00.7	N 20 03.8 +00.7	164 53.5 -24.6	N 02 37.7 +12.9	21						
22	150 53.1 +00.0	N 17 20.2 +00.6	139 20.0 -00.7	N 20 04.5 +00.8	179 28.9 -24.5	N 02 50.6 +12.8	22						
23	165 53.1 +00.1	N 17 20.8 +00.7	154 19.3 -00.7	N 20 05.3 +00.8	194 04.4 -24.6	N 03 03.4 +12.9	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'9 14'9 14'8 14'8 14'8 14'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'6 54'5 54'5 54'4 54'4 54'3								
	SHA 315° 315° 314° 314° 314° 314°		SHA 303° 303° 303° 303° 303° 302°		SHA 352° 350° 348° 346° 344° 343°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 12:42		Greenwich Culmination Time: 09:41								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	126 20.4 +00.8	N 24 34.3 -00.1	254 21.1 +02.1	S 12 26.6 -00.1	270 04.4 +02.4	S 17 23.4 +00.0	00						
01	141 21.2 +00.8	N 24 34.2 -00.1	269 23.2 +02.2	S 12 26.5 -00.1	285 06.8 +02.4	S 17 23.4 +00.0	01						
02	156 22.0 +00.8	N 24 34.1 -00.1	284 25.4 +02.1	S 12 26.4 -00.1	300 09.2 +02.4	S 17 23.4 +00.0	02						
03	171 22.8 +00.8	N 24 34.0 -00.1	299 27.5 +02.2	S 12 26.3 -00.1	315 11.6 +02.4	S 17 23.4 +00.0	03						
04	186 23.6 +00.8	N 24 33.9 -00.1	314 29.7 +02.1	S 12 26.2 -00.1	330 14.0 +02.4	S 17 23.4 +00.0	04						
05	201 24.4 +00.8	N 24 33.8 -00.1	329 31.8 +02.2	S 12 26.1 -00.1	345 16.4 +02.4	S 17 23.4 +00.0	05						
06	216 25.2 +00.8	N 24 33.7 -00.2	344 34.0 +02.2	S 12 26.0 -00.1	0 18.8 +02.4	S 17 23.4 +00.0	06						
07	231 26.0 +00.8	N 24 33.5 -00.1	359 36.2 +02.1	S 12 25.9 -00.1	15 21.2 +02.4	S 17 23.4 -00.1	07						
08	246 26.8 +00.8	N 24 33.4 -00.1	14 38.3 +02.2	S 12 25.8 -00.1	30 23.6 +02.4	S 17 23.3 +00.0	08						
09	261 27.6 +00.7	N 24 33.3 -00.1	29 40.5 +02.1	S 12 25.7 -00.1	45 26.0 +02.4	S 17 23.3 +00.0	09						
10	276 28.3 +00.8	N 24 33.2 -00.1	44 42.6 +02.2	S 12 25.6 -00.1	60 28.4 +02.4	S 17 23.3 +00.0	10						
11	291 29.1 +00.8	N 24 33.1 -00.1	59 44.8 +02.2	S 12 25.5 -00.1	75 30.8 +02.4	S 17 23.3 +00.0	11						
12	306 29.9 +00.8	N 24 33.0 -00.1	74 47.0 +02.1	S 12 25.4 -00.1	90 33.2 +02.4	S 17 23.3 +00.0	12						
13	321 30.7 +00.8	N 24 32.9 -00.1	89 49.1 +02.2	S 12 25.3 -00.1	105 35.6 +02.4	S 17 23.3 +00.0	13						
14	336 31.5 +00.8	N 24 32.8 -00.1	104 51.3 +02.2	S 12 25.2 -00.1	120 38.0 +02.4	S 17 23.3 +00.0	14						
15	351 32.3 +00.8	N 24 32.7 -00.2	119 53.5 +02.1	S 12 25.1 -00.1	135 40.4 +02.4	S 17 23.3 +00.0	15						
16	6 33.1 +00.8	N 24 32.5 -00.1	134 55.6 +02.2	S 12 25.0 -00.1	150 42.8 +02.4	S 17 23.3 -00.1	16						
17	21 33.9 +00.8	N 24 32.4 -00.1	149 57.8 +02.1	S 12 24.9 -00.1	165 45.2 +02.4	S 17 23.2 +00.0	17						
18	36 34.7 +00.8	N 24 32.3 -00.1	164 59.9 +02.2	S 12 24.8 -00.1	180 47.6 +02.4	S 17 23.2 +00.0	18						
19	51 35.5 +00.8	N 24 32.2 -00.1	180 02.1 +02.2	S 12 24.7 -00.1	195 50.0 +02.4	S 17 23.2 +00.0	19						
20	66 36.3 +00.8	N 24 32.1 -00.1	195 04.3 +02.1	S 12 24.6 -00.1	210 52.4 +02.5	S 17 23.2 +00.0	20						
21	81 37.1 +00.8	N 24 32.0 -00.1	210 06.4 +02.2	S 12 24.5 -00.1	225 54.9 +02.4	S 17 23.2 +00.0	21						
22	96 37.9 +00.8	N 24 31.9 -00.2	225 08.6 +02.2	S 12 24.4 -00.1	240 57.3 +02.4	S 17 23.2 +00.0	22						
23	111 38.7 +00.8	N 24 31.7 -00.1	240 10.8 +02.1	S 12 24.3 -00.1	255 59.7 +02.4	S 17 23.2 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 260° 260° 260° 260° 260° 260°		SHA 028° 028° 028° 028° 028° 028°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:33		Greenwich Culmination Time: 07:01		Greenwich Culmination Time: 05:58								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 53.2 +00.0	N 17 21.5 +00.7	169 18.6 -00.7	N 20 06.1 +00.7	208 39.8 -24.6	N 03 16.3 +12.8	00						
01	195 53.2 +00.0	N 17 22.2 +00.6	184 17.9 -00.7	N 20 06.8 +00.8	223 15.2 -24.6	N 03 29.1 +12.8	01						
02	210 53.2 +00.0	N 17 22.8 +00.7	199 17.2 -00.7	N 20 07.6 +00.7	237 50.6 -24.6	N 03 41.9 +12.8	02						
03	225 53.2 +00.1	N 17 23.5 +00.7	214 16.5 -00.8	N 20 08.3 +00.8	252 26.0 -24.7	N 03 54.7 +12.8	03						
04	240 53.3 +00.0	N 17 24.2 +00.6	229 15.7 -00.7	N 20 09.1 +00.7	267 01.3 -24.6	N 04 07.5 +12.8	04						
05	255 53.3 +00.0	N 17 24.8 +00.7	244 15.0 -00.7	N 20 09.8 +00.8	281 36.7 -24.6	N 04 20.3 +12.7	05						
06	270 53.3 +00.1	N 17 25.5 +00.7	259 14.3 -00.7	N 20 10.6 +00.7	296 12.1 -24.6	N 04 33.0 +12.7	06						
07	285 53.4 +00.0	N 17 26.2 +00.6	274 13.6 -00.7	N 20 11.3 +00.8	310 47.5 -24.7	N 04 45.7 +12.7	07						
08	300 53.4 +00.0	N 17 26.8 +00.7	289 12.9 -00.7	N 20 12.1 +00.7	325 22.8 -24.6	N 04 58.4 +12.7	08						
09	315 53.4 +00.0	N 17 27.5 +00.6	304 12.2 -00.8	N 20 12.8 +00.7	339 58.2 -24.7	N 05 11.1 +12.6	09						
10	330 53.4 +00.1	N 17 28.1 +00.7	319 11.4 -00.7	N 20 13.5 +00.8	354 33.5 -24.6	N 05 23.7 +12.7	10						
11	345 53.5 +00.0	N 17 28.8 +00.7	334 10.7 -00.7	N 20 14.3 +00.7	9 08.9 -24.7	N 05 36.4 +12.6	11						
12	0 53.5 +00.0	N 17 29.5 +00.6	349 10.0 -00.7	N 20 15.0 +00.8	23 44.2 -24.7	N 05 49.0 +12.5	12						
13	15 53.5 +00.0	N 17 30.1 +00.7	4 09.3 -00.7	N 20 15.8 +00.7	38 19.5 -24.7	N 06 01.5 +12.6	13						
14	30 53.5 +00.1	N 17 30.8 +00.6	19 08.6 -00.7	N 20 16.5 +00.7	52 54.8 -24.7	N 06 14.1 +12.5	14						
15	45 53.6 +00.0	N 17 31.4 +00.7	34 07.9 -00.8	N 20 17.2 +00.8	67 30.1 -24.8	N 06 26.6 +12.5	15						
16	60 53.6 +00.0	N 17 32.1 +00.7	49 07.1 -00.7	N 20 18.0 +00.7	82 05.3 -24.7	N 06 39.1 +12.5	16						
17	75 53.6 +00.0	N 17 32.8 +00.6	64 06.4 -00.7	N 20 18.7 +00.8	96 40.6 -24.8	N 06 51.6 +12.4	17						
18	90 53.6 +00.1	N 17 33.4 +00.7	79 05.7 -00.7	N 20 19.5 +00.7	111 15.8 -24.8	N 07 04.0 +12.4	18						
19	105 53.7 +00.0	N 17 34.1 +00.6	94 05.0 -00.8	N 20 20.2 +00.7	125 51.0 -24.8	N 07 16.4 +12.4	19						
20	120 53.7 +00.0	N 17 34.7 +00.7	109 04.2 -00.7	N 20 20.9 +00.8	140 26.2 -24.8	N 07 28.8 +12.4	20						
21	135 53.7 +00.0	N 17 35.4 +00.6	124 03.5 -00.7	N 20 21.7 +00.7	155 01.4 -24.9	N 07 41.2 +12.3	21						
22	150 53.7 +00.1	N 17 36.0 +00.7	139 02.8 -00.7	N 20 22.4 +00.7	169 36.5 -24.8	N 07 53.5 +12.3	22						
23	165 53.8 +00.0	N 17 36.7 +00.7	154 02.1 -00.7	N 20 23.1 +00.8	184 11.7 -24.9	N 08 05.8 +12.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'8 14'8 14'8 14'8 14'7 14'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'3 54'2 54'2 54'2 54'1 54'1								
	SHA 314° 314° 313° 313° 313° 313°		SHA 302° 302° 302° 302° 301° 301°		SHA 341° 339° 337° 335° 333° 332°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 12:43		Greenwich Culmination Time: 10:22								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	126 39.5 +00.7	N 24 31.6 -00.1	255 12.9 +02.2	S 12 24.2 -00.1	271 02.1 +02.4	S 17 23.2 -00.1	00						
01	141 40.2 +00.8	N 24 31.5 -00.1	270 15.1 +02.1	S 12 24.1 -00.1	286 04.5 +02.4	S 17 23.1 +00.0	01						
02	156 41.0 +00.8	N 24 31.4 -00.1	285 17.2 +02.2	S 12 24.0 -00.1	301 06.9 +02.4	S 17 23.1 +00.0	02						
03	171 41.8 +00.8	N 24 31.3 -00.1	300 19.4 +02.2	S 12 23.9 -00.1	316 09.3 +02.4	S 17 23.1 +00.0	03						
04	186 42.6 +00.8	N 24 31.2 -00.1	315 21.6 +02.1	S 12 23.8 -00.1	331 11.7 +02.4	S 17 23.1 +00.0	04						
05	201 43.4 +00.8	N 24 31.1 -00.2	330 23.7 +02.2	S 12 23.7 -00.1	346 14.1 +02.4	S 17 23.1 +00.0	05						
06	216 44.2 +00.8	N 24 30.9 -00.1	345 25.9 +02.2	S 12 23.6 -00.1	1 16.5 +02.4	S 17 23.1 +00.0	06						
07	231 45.0 +00.8	N 24 30.8 -00.1	0 28.1 +02.1	S 12 23.5 -00.1	16 18.9 +02.4	S 17 23.1 +00.0	07						
08	246 45.8 +00.8	N 24 30.7 -00.1	15 30.2 +02.2	S 12 23.4 -00.1	31 21.3 +02.4	S 17 23.1 +00.0	08						
09	261 46.6 +00.8	N 24 30.6 -00.1	30 32.4 +02.2	S 12 23.3 -00.1	46 23.7 +02.4	S 17 23.1 -00.1	09						
10	276 47.4 +00.8	N 24 30.5 -00.2	45 34.6 +02.1	S 12 23.2 -00.1	61 26.1 +02.4	S 17 23.0 +00.0	10						
11	291 48.2 +00.8	N 24 30.3 -00.1	60 36.7 +02.2	S 12 23.1 -00.1	76 28.5 +02.4	S 17 23.0 +00.0	11						
12	306 49.0 +00.8	N 24 30.2 -00.1	75 38.9 +02.2	S 12 23.0 -00.1	91 30.9 +02.4	S 17 23.0 +00.0	12						
13	321 49.8 +00.8	N 24 30.1 -00.1	90 41.1 +02.1	S 12 22.9 -00.1	106 33.3 +02.4	S 17 23.0 +00.0	13						
14	336 50.6 +00.8	N 24 30.0 -00.1	105 43.2 +02.2	S 12 22.8 -00.1	121 35.7 +02.4	S 17 23.0 +00.0	14						
15	351 51.4 +00.8	N 24 29.9 -00.2	120 45.4 +02.2	S 12 22.7 -00.1	136 38.1 +02.4	S 17 23.0 +00.0	15						
16	6 52.2 +00.8	N 24 29.7 -00.1	135 47.6 +02.1	S 12 22.6 -00.1	151 40.5 +02.4	S 17 23.0 +00.0	16						
17	21 53.0 +00.7	N 24 29.6 -00.1	150 49.7 +02.2	S 12 22.5 -00.1	166 42.9 +02.5	S 17 23.0 +00.0	17						
18	36 53.7 +00.8	N 24 29.5 -00.1	165 51.9 +02.2	S 12 22.4 -00.1	181 45.4 +02.4	S 17 23.0 +00.0	18						
19	51 54.5 +00.8	N 24 29.4 -00.1	180 54.1 +02.2	S 12 22.3 -00.1	196 47.8 +02.4	S 17 23.0 -00.1	19						
20	66 55.3 +00.8	N 24 29.3 -00.2	195 56.3 +02.1	S 12 22.2 -00.1	211 50.2 +02.4	S 17 22.9 +00.0	20						
21	81 56.1 +00.8	N 24 29.1 -00.1	210 58.4 +02.2	S 12 22.1 -00.1	226 52.6 +02.4	S 17 22.9 +00.0	21						
22	96 56.9 +00.8	N 24 29.0 -00.1	226 00.6 +02.2	S 12 22.0 -00.1	241 55.0 +02.4	S 17 22.9 +00.0	22						
23	111 57.7 +00.8	N 24 28.9 -00.1	241 02.8 +02.1	S 12 21.9 -00.1	256 57.4 +02.4	S 17 22.9 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 260° 259° 259° 259° 259° 259°		SHA 028° 028° 028° 028° 028° 028°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:32		Greenwich Culmination Time: 06:58		Greenwich Culmination Time: 05:54								

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 53.8 +00.0	N 17 37.4 +00.6	169 01.4 -00.8	N 20 23.9 +00.7	198 46.8 -24.9	N 08 18.0 +12.3	00						
01	195 53.8 +00.0	N 17 38.0 +00.7	184 00.6 -00.7	N 20 24.6 +00.7	213 21.9 -25.0	N 08 30.3 +12.1	01						
02	210 53.8 +00.0	N 17 38.7 +00.6	198 59.9 -00.7	N 20 25.3 +00.7	227 56.9 -24.9	N 08 42.4 +12.2	02						
03	225 53.8 +00.1	N 17 39.3 +00.7	213 59.2 -00.7	N 20 26.0 +00.8	242 32.0 -25.0	N 08 54.6 +12.1	03						
04	240 53.9 +00.0	N 17 40.0 +00.6	228 58.5 -00.8	N 20 26.8 +00.7	257 07.0 -25.0	N 09 06.7 +12.1	04						
05	255 53.9 +00.0	N 17 40.6 +00.7	243 57.7 -00.7	N 20 27.5 +00.7	271 42.0 -25.1	N 09 18.8 +12.0	05						
06	270 53.9 +00.0	N 17 41.3 +00.6	258 57.0 -00.7	N 20 28.2 +00.7	286 16.9 -25.0	N 09 30.8 +12.0	06						
07	285 53.9 +00.0	N 17 41.9 +00.7	273 56.3 -00.7	N 20 28.9 +00.8	300 51.9 -25.1	N 09 42.8 +12.0	07						
08	300 53.9 +00.1	N 17 42.6 +00.6	288 55.6 -00.8	N 20 29.7 +00.7	315 26.8 -25.1	N 09 54.8 +11.9	08						
09	315 54.0 +00.0	N 17 43.2 +00.7	303 54.8 -00.7	N 20 30.4 +00.7	330 01.7 -25.2	N 10 06.7 +11.9	09						
10	330 54.0 +00.0	N 17 43.9 +00.6	318 54.1 -00.7	N 20 31.1 +00.7	344 36.5 -25.2	N 10 18.6 +11.9	10						
11	345 54.0 +00.0	N 17 44.5 +00.7	333 53.4 -00.8	N 20 31.8 +00.8	359 11.3 -25.2	N 10 30.5 +11.8	11						
12	0 54.0 +00.0	N 17 45.2 +00.6	348 52.6 -00.7	N 20 32.6 +00.7	13 46.1 -25.2	N 10 42.3 +11.7	12						
13	15 54.0 +00.1	N 17 45.8 +00.7	3 51.9 -00.7	N 20 33.3 +00.7	28 20.9 -25.3	N 10 54.0 +11.8	13						
14	30 54.1 +00.0	N 17 46.5 +00.6	18 51.2 -00.8	N 20 34.0 +00.7	42 55.6 -25.3	N 11 05.8 +11.6	14						
15	45 54.1 +00.0	N 17 47.1 +00.7	33 50.4 -00.7	N 20 34.7 +00.7	57 30.3 -25.3	N 11 17.4 +11.7	15						
16	60 54.1 +00.0	N 17 47.8 +00.6	48 49.7 -00.7	N 20 35.4 +00.7	72 05.0 -25.4	N 11 29.1 +11.5	16						
17	75 54.1 +00.0	N 17 48.4 +00.6	63 49.0 -00.7	N 20 36.1 +00.7	86 39.6 -25.4	N 11 40.6 +11.6	17						
18	90 54.1 +00.1	N 17 49.0 +00.7	78 48.3 -00.8	N 20 36.8 +00.8	101 14.2 -25.5	N 11 52.2 +11.5	18						
19	105 54.2 +00.0	N 17 49.7 +00.6	93 47.5 -00.7	N 20 37.6 +00.7	115 48.7 -25.5	N 12 03.7 +11.4	19						
20	120 54.2 +00.0	N 17 50.3 +00.7	108 46.8 -00.7	N 20 38.3 +00.7	130 23.2 -25.5	N 12 15.1 +11.4	20						
21	135 54.2 +00.0	N 17 51.0 +00.6	123 46.1 -00.8	N 20 39.0 +00.7	144 57.7 -25.5	N 12 26.5 +11.4	21						
22	150 54.2 +00.0	N 17 51.6 +00.7	138 45.3 -00.7	N 20 39.7 +00.7	159 32.2 -25.6	N 12 37.9 +11.3	22						
23	165 54.2 +00.0	N 17 52.3 +00.6	153 44.6 -00.7	N 20 40.4 +00.7	174 06.6 -25.7	N 12 49.2 +11.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		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 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'1 54'0 54'0 54'0 54'0 54'0								
	SHA 313° 313° 312° 312° 312° 312°		SHA 301° 301° 300° 300° 300° 300°		SHA 330° 328° 326° 324° 322° 321°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 12:44		Greenwich Culmination Time: 11:03								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	126 58.5 +00.8	N 24 28.8 -00.1	256 04.9 +02.2	S 12 21.8 -00.1	271 59.8 +02.4	S 17 22.9 +00.0	00						
01	141 59.3 +00.8	N 24 28.7 -00.2	271 07.1 +02.2	S 12 21.7 -00.1	287 02.2 +02.4	S 17 22.9 +00.0	01						
02	157 00.1 +00.8	N 24 28.5 -00.1	286 09.3 +02.1	S 12 21.6 -00.1	302 04.6 +02.4	S 17 22.9 +00.0	02						
03	172 00.9 +00.8	N 24 28.4 -00.1	301 11.4 +02.2	S 12 21.5 -00.1	317 07.0 +02.4	S 17 22.9 +00.0	03						
04	187 01.7 +00.8	N 24 28.3 -00.1	316 13.6 +02.2	S 12 21.4 -00.1	332 09.4 +02.4	S 17 22.9 +00.0	04						
05	202 02.5 +00.8	N 24 28.2 -00.2	331 15.8 +02.2	S 12 21.3 -00.1	347 11.8 +02.4	S 17 22.9 -00.1	05						
06	217 03.3 +00.8	N 24 28.0 -00.1	346 18.0 +02.1	S 12 21.2 -00.1	2 14.2 +02.5	S 17 22.8 +00.0	06						
07	232 04.1 +00.8	N 24 27.9 -00.1	1 20.1 +02.2	S 12 21.1 +00.0	17 16.7 +02.4	S 17 22.8 +00.0	07						
08	247 04.9 +00.8	N 24 27.8 -00.1	16 22.3 +02.2	S 12 21.1 -00.1	32 19.1 +02.4	S 17 22.8 +00.0	08						
09	262 05.7 +00.8	N 24 27.7 -00.2	31 24.5 +02.1	S 12 21.0 -00.1	47 21.5 +02.4	S 17 22.8 +00.0	09						
10	277 06.5 +00.8	N 24 27.5 -00.1	46 26.6 +02.2	S 12 20.9 -00.1	62 23.9 +02.4	S 17 22.8 +00.0	10						
11	292 07.3 +00.7	N 24 27.4 -00.1	61 28.8 +02.2	S 12 20.8 -00.1	77 26.3 +02.4	S 17 22.8 +00.0	11						
12	307 08.0 +00.8	N 24 27.3 -00.1	76 31.0 +02.2	S 12 20.7 -00.1	92 28.7 +02.4	S 17 22.8 +00.0	12						
13	322 08.8 +00.8	N 24 27.2 -00.2	91 33.2 +02.1	S 12 20.6 -00.1	107 31.1 +02.4	S 17 22.8 +00.0	13						
14	337 09.6 +00.8	N 24 27.0 -00.1	106 35.3 +02.2	S 12 20.5 -00.1	122 33.5 +02.4	S 17 22.8 +00.0	14						
15	352 10.4 +00.8	N 24 26.9 -00.1	121 37.5 +02.2	S 12 20.4 -00.1	137 35.9 +02.4	S 17 22.8 -00.1	15						
16	7 11.2 +00.8	N 24 26.8 -00.1	136 39.7 +02.2	S 12 20.3 -00.1	152 38.3 +02.4	S 17 22.7 +00.0	16						
17	22 12.0 +00.8	N 24 26.7 -00.2	151 41.9 +02.1	S 12 20.2 -00.1	167 40.7 +02.5	S 17 22.7 +00.0	17						
18	37 12.8 +00.8	N 24 26.5 -00.1	166 44.0 +02.2	S 12 20.1 -00.1	182 43.2 +02.4	S 17 22.7 +00.0	18						
19	52 13.6 +00.8	N 24 26.4 -00.1	181 46.2 +02.2	S 12 20.0 -00.1	197 45.6 +02.4	S 17 22.7 +00.0	19						
20	67 14.4 +00.8	N 24 26.3 -00.2	196 48.4 +02.2	S 12 19.9 -00.1	212 48.0 +02.4	S 17 22.7 +00.0	20						
21	82 15.2 +00.8	N 24 26.1 -00.1	211 50.6 +02.1	S 12 19.8 -00.1	227 50.4 +02.4	S 17 22.7 +00.0	21						
22	97 16.0 +00.8	N 24 26.0 -00.1	226 52.7 +02.2	S 12 19.7 -00.1	242 52.8 +02.4	S 17 22.7 +00.0	22						
23	112 16.8 +00.8	N 24 25.9 -00.1	241 54.9 +02.2	S 12 19.6 -00.1	257 55.2 +02.4	S 17 22.7 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 259° 259° 259° 259° 258° 258°		SHA 028° 028° 028° 028° 028° 028°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:31		Greenwich Culmination Time: 06:54		Greenwich Culmination Time: 05:51								

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 54.2 +00.1	N 17 52.9 +00.6	168 43.9 -00.8	N 20 41.1 +00.7	188 40.9 -25.6	N 13 00.4 +11.2	00						
01	195 54.3 +00.0	N 17 53.5 +00.7	183 43.1 -00.7	N 20 41.8 +00.7	203 15.3 -25.7	N 13 11.6 +11.1	01						
02	210 54.3 +00.0	N 17 54.2 +00.6	198 42.4 -00.8	N 20 42.5 +00.7	217 49.6 -25.8	N 13 22.7 +11.1	02						
03	225 54.3 +00.0	N 17 54.8 +00.7	213 41.6 -00.7	N 20 43.2 +00.7	232 23.8 -25.8	N 13 33.8 +11.1	03						
04	240 54.3 +00.0	N 17 55.5 +00.6	228 40.9 -00.7	N 20 43.9 +00.7	246 58.0 -25.8	N 13 44.9 +11.0	04						
05	255 54.3 +00.0	N 17 56.1 +00.6	243 40.2 -00.8	N 20 44.6 +00.7	261 32.2 -25.9	N 13 55.9 +10.9	05						
06	270 54.3 +00.0	N 17 56.7 +00.7	258 39.4 -00.7	N 20 45.3 +00.7	276 06.3 -25.9	N 14 06.8 +10.9	06						
07	285 54.3 +00.1	N 17 57.4 +00.6	273 38.7 -00.7	N 20 46.0 +00.7	290 40.4 -26.0	N 14 17.7 +10.8	07						
08	300 54.4 +00.0	N 17 58.0 +00.7	288 38.0 -00.8	N 20 46.7 +00.7	305 14.4 -26.0	N 14 28.5 +10.7	08						
09	315 54.4 +00.0	N 17 58.7 +00.6	303 37.2 -00.7	N 20 47.4 +00.7	319 48.4 -26.1	N 14 39.2 +10.7	09						
10	330 54.4 +00.0	N 17 59.3 +00.6	318 36.5 -00.8	N 20 48.1 +00.7	334 22.3 -26.1	N 14 49.9 +10.7	10						
11	345 54.4 +00.0	N 17 59.9 +00.7	333 35.7 -00.7	N 20 48.8 +00.7	348 56.2 -26.1	N 15 00.6 +10.5	11						
12	0 54.4 +00.0	N 18 00.6 +00.6	348 35.0 -00.7	N 20 49.5 +00.7	3 30.1 -26.2	N 15 11.1 +10.6	12						
13	15 54.4 +00.0	N 18 01.2 +00.6	3 34.3 -00.8	N 20 50.2 +00.7	18 03.9 -26.3	N 15 21.7 +10.4	13						
14	30 54.4 +00.1	N 18 01.8 +00.7	18 33.5 -00.7	N 20 50.9 +00.7	32 37.6 -26.2	N 15 32.1 +10.4	14						
15	45 54.5 +00.0	N 18 02.5 +00.6	33 32.8 -00.8	N 20 51.6 +00.7	47 11.4 -26.4	N 15 42.5 +10.3	15						
16	60 54.5 +00.0	N 18 03.1 +00.6	48 32.0 -00.7	N 20 52.3 +00.7	61 45.0 -26.4	N 15 52.8 +10.3	16						
17	75 54.5 +00.0	N 18 03.7 +00.7	63 31.3 -00.8	N 20 53.0 +00.7	76 18.6 -26.4	N 16 03.1 +10.2	17						
18	90 54.5 +00.0	N 18 04.4 +00.6	78 30.5 -00.7	N 20 53.7 +00.7	90 52.2 -26.5	N 16 13.3 +10.2	18						
19	105 54.5 +00.0	N 18 05.0 +00.6	93 29.8 -00.7	N 20 54.4 +00.7	105 25.7 -26.5	N 16 23.5 +10.0	19						
20	120 54.5 +00.0	N 18 05.6 +00.7	108 29.1 -00.8	N 20 55.1 +00.6	119 59.2 -26.6	N 16 33.5 +10.0	20						
21	135 54.5 +00.0	N 18 06.3 +00.6	123 28.3 -00.7	N 20 55.7 +00.7	134 32.6 -26.6	N 16 43.5 +10.0	21						
22	150 54.5 +00.0	N 18 06.9 +00.6	138 27.6 -00.8	N 20 56.4 +00.7	149 06.0 -26.7	N 16 53.5 +09.8	22						
23	165 54.5 +00.1	N 18 07.5 +00.7	153 26.8 -00.7	N 20 57.1 +00.7	163 39.3 -26.7	N 17 03.3 +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 00'1 00'1 00'1 00'1 00'1 00'1		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 00'1 00'1 00'1 00'1 00'1 00'1		HP 53'9 53'9 53'9 53'9 53'9 53'9								
	SHA 312° 312° 311° 311° 311° 311°		SHA 300° 299° 299° 299° 299° 299°		SHA 319° 317° 315° 313° 311° 309°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 12:45		Greenwich Culmination Time: 11:45								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	127 17.6 +00.8	N 24 25.8 -00.2	256 57.1 +02.2	S 12 19.5 -00.1	272 57.6 +02.4	S 17 22.7 +00.0	00						
01	142 18.4 +00.8	N 24 25.6 -00.1	271 59.3 +02.1	S 12 19.4 -00.1	288 00.0 +02.4	S 17 22.7 +00.0	01						
02	157 19.2 +00.8	N 24 25.5 -00.1	287 01.4 +02.2	S 12 19.3 -00.1	303 02.4 +02.5	S 17 22.7 -00.1	02						
03	172 20.0 +00.8	N 24 25.4 -00.2	302 03.6 +02.2	S 12 19.2 -00.1	318 04.9 +02.4	S 17 22.6 +00.0	03						
04	187 20.8 +00.8	N 24 25.2 -00.1	317 05.8 +02.2	S 12 19.1 -00.1	333 07.3 +02.4	S 17 22.6 +00.0	04						
05	202 21.6 +00.8	N 24 25.1 -00.1	332 08.0 +02.1	S 12 19.0 -00.1	348 09.7 +02.4	S 17 22.6 +00.0	05						
06	217 22.4 +00.8	N 24 25.0 -00.2	347 10.1 +02.2	S 12 18.9 +00.0	3 12.1 +02.4	S 17 22.6 +00.0	06						
07	232 23.2 +00.7	N 24 24.8 -00.1	2 12.3 +02.2	S 12 18.9 -00.1	18 14.5 +02.4	S 17 22.6 +00.0	07						
08	247 23.9 +00.8	N 24 24.7 -00.1	17 14.5 +02.2	S 12 18.8 -00.1	33 16.9 +02.4	S 17 22.6 +00.0	08						
09	262 24.7 +00.8	N 24 24.6 -00.2	32 16.7 +02.2	S 12 18.7 -00.1	48 19.3 +02.4	S 17 22.6 +00.0	09						
10	277 25.5 +00.8	N 24 24.4 -00.1	47 18.9 +02.1	S 12 18.6 -00.1	63 21.7 +02.5	S 17 22.6 +00.0	10						
11	292 26.3 +00.8	N 24 24.3 -00.1	62 21.0 +02.2	S 12 18.5 -00.1	78 24.2 +02.4	S 17 22.6 +00.0	11						
12	307 27.1 +00.8	N 24 24.2 -00.2	77 23.2 +02.2	S 12 18.4 -00.1	93 26.6 +02.4	S 17 22.6 +00.0	12						
13	322 27.9 +00.8	N 24 24.0 -00.1	92 25.4 +02.2	S 12 18.3 -00.1	108 29.0 +02.4	S 17 22.6 +00.0	13						
14	337 28.7 +00.8	N 24 23.9 -00.1	107 27.6 +02.1	S 12 18.2 -00.1	123 31.4 +02.4	S 17 22.6 -00.1	14						
15	352 29.5 +00.8	N 24 23.8 -00.2	122 29.7 +02.2	S 12 18.1 -00.1	138 33.8 +02.4	S 17 22.5 +00.0	15						
16	7 30.3 +00.8	N 24 23.6 -00.1	137 31.9 +02.2	S 12 18.0 -00.1	153 36.2 +02.4	S 17 22.5 +00.0	16						
17	22 31.1 +00.8	N 24 23.5 -00.1	152 34.1 +02.2	S 12 17.9 -00.1	168 38.6 +02.5	S 17 22.5 +00.0	17						
18	37 31.9 +00.8	N 24 23.4 -00.2	167 36.3 +02.2	S 12 17.8 -00.1	183 41.1 +02.4	S 17 22.5 +00.0	18						
19	52 32.7 +00.8	N 24 23.2 -00.1	182 38.5 +02.2	S 12 17.7 -00.1	198 43.5 +02.4	S 17 22.5 +00.0	19						
20	67 33.5 +00.8	N 24 23.1 -00.1	197 40.7 +02.1	S 12 17.6 -00.1	213 45.9 +02.4	S 17 22.5 +00.0	20						
21	82 34.3 +00.8	N 24 23.0 -00.2	212 42.8 +02.2	S 12 17.5 -00.1	228 48.3 +02.4	S 17 22.5 +00.0	21						
22	97 35.1 +00.8	N 24 22.8 -00.1	227 45.0 +02.2	S 12 17.4 -00.1	243 50.7 +02.4	S 17 22.5 +00.0	22						
23	112 35.9 +00.8	N 24 22.7 -00.1	242 47.2 +02.2	S 12 17.3 +00.0	258 53.1 +02.5	S 17 22.5 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 258° 258° 258° 258° 258° 258°		SHA 028° 028° 028° 028° 028° 028°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:30		Greenwich Culmination Time: 06:51		Greenwich Culmination Time: 05:47								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 54.6 +00.0	N 18 08.2 +00.6	168 26.1 -00.8	N 20 57.8 +00.7	178 12.6 -26.8	N 17 13.1 +09.8							
01	195 54.6 +00.0	N 18 08.8 +00.6	183 25.3 -00.7	N 20 58.5 +00.7	192 45.8 -26.9	N 17 22.9 +09.6							
02	210 54.6 +00.0	N 18 09.4 +00.6	198 24.6 -00.8	N 20 59.2 +00.6	207 18.9 -26.8	N 17 32.5 +09.6							
03	225 54.6 +00.0	N 18 10.0 +00.7	213 23.8 -00.7	N 20 59.8 +00.7	221 52.1 -27.0	N 17 42.1 +09.5							
04	240 54.6 +00.0	N 18 10.7 +00.6	228 23.1 -00.8	N 21 00.5 +00.7	236 25.1 -27.0	N 17 51.6 +09.5							
05	255 54.6 +00.0	N 18 11.3 +00.6	243 22.3 -00.7	N 21 01.2 +00.7	250 58.1 -27.0	N 18 01.1 +09.3							
06	270 54.6 +00.0	N 18 11.9 +00.7	258 21.6 -00.8	N 21 01.9 +00.6	265 31.1 -27.1	N 18 10.4 +09.3							
07	285 54.6 +00.0	N 18 12.6 +00.6	273 20.8 -00.7	N 21 02.5 +00.7	280 04.0 -27.2	N 18 19.7 +09.3							
08	300 54.6 +00.0	N 18 13.2 +00.6	288 20.1 -00.7	N 21 03.2 +00.7	294 36.8 -27.2	N 18 29.0 +09.1							
09	315 54.6 +00.1	N 18 13.8 +00.6	303 19.4 -00.8	N 21 03.9 +00.7	309 09.6 -27.3	N 18 38.1 +09.1							
10	330 54.7 +00.0	N 18 14.4 +00.7	318 18.6 -00.8	N 21 04.6 +00.6	323 42.3 -27.3	N 18 47.2 +08.9							
11	345 54.7 +00.0	N 18 15.1 +00.6	333 17.8 -00.7	N 21 05.2 +00.7	338 15.0 -27.4	N 18 56.1 +09.0							
12	0 54.7 +00.0	N 18 15.7 +00.6	348 17.1 -00.8	N 21 05.9 +00.7	352 47.6 -27.4	N 19 05.1 +08.8							
13	15 54.7 +00.0	N 18 16.3 +00.6	3 16.3 -00.7	N 21 06.6 +00.7	7 20.2 -27.5	N 19 13.9 +08.7							
14	30 54.7 +00.0	N 18 16.9 +00.6	18 15.6 -00.8	N 21 07.3 +00.6	21 52.7 -27.5	N 19 22.6 +08.7							
15	45 54.7 +00.0	N 18 17.5 +00.7	33 14.8 -00.7	N 21 07.9 +00.7	36 25.2 -27.6	N 19 31.3 +08.6							
16	60 54.7 +00.0	N 18 18.2 +00.6	48 14.1 -00.8	N 21 08.6 +00.7	50 57.6 -27.6	N 19 39.9 +08.5							
17	75 54.7 +00.0	N 18 18.8 +00.6	63 13.3 -00.7	N 21 09.3 +00.6	65 30.0 -27.8	N 19 48.4 +08.4							
18	90 54.7 +00.0	N 18 19.4 +00.6	78 12.6 -00.8	N 21 09.9 +00.7	80 02.2 -27.7	N 19 56.8 +08.3							
19	105 54.7 +00.0	N 18 20.0 +00.6	93 11.8 -00.7	N 21 10.6 +00.7	94 34.5 -27.8	N 20 05.1 +08.3							
20	120 54.7 +00.0	N 18 20.6 +00.7	108 11.1 -00.8	N 21 11.3 +00.6	109 06.7 -27.9	N 20 13.4 +08.2							
21	135 54.7 +00.0	N 18 21.3 +00.6	123 10.3 -00.7	N 21 11.9 +00.7	123 38.8 -27.9	N 20 21.6 +08.0							
22	150 54.7 +00.0	N 18 21.9 +00.6	138 09.6 -00.8	N 21 12.6 +00.6	138 10.9 -28.0	N 20 29.6 +08.0							
23	165 54.7 +00.0	N 18 22.5 +00.6	153 08.8 -00.7	N 21 13.2 +00.7	152 42.9 -28.1	N 20 37.6 +07.9							
	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 311° 311° 311° 310° 310° 310°	Greenwich Culmination Time: 11:56								
	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 298° 298° 298° 298° 297° 297°	Greenwich Culmination Time: 12:46								
	UT 02 06 10 14 18 22	SD 14'7 14'7 14'7 14'7 14'7 14'7	HP 53'9 53'9 53'9 53'9 53'9 54'0	SHA 307° 305° 303° 301° 299° 297°	Greenwich Culmination Time: 12:29								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	127 36.7 +00.8	N 24 22.6 -00.2	257 49.4 +02.2	S 12 17.3 -00.1	273 55.6 +02.4	S 17 22.5 +00.0							
01	142 37.5 +00.8	N 24 22.4 -00.1	272 51.6 +02.1	S 12 17.2 -00.1	288 58.0 +02.4	S 17 22.5 +00.0							
02	157 38.3 +00.8	N 24 22.3 -00.1	287 53.7 +02.2	S 12 17.1 -00.1	304 00.4 +02.4	S 17 22.5 +00.0							
03	172 39.1 +00.8	N 24 22.2 -00.2	302 55.9 +02.2	S 12 17.0 -00.1	319 02.8 +02.4	S 17 22.5 -00.1							
04	187 39.9 +00.8	N 24 22.0 -00.1	317 58.1 +02.2	S 12 16.9 -00.1	334 05.2 +02.4	S 17 22.4 +00.0							
05	202 40.7 +00.8	N 24 21.9 -00.2	333 00.3 +02.2	S 12 16.8 -00.1	349 07.6 +02.5	S 17 22.4 +00.0							
06	217 41.5 +00.7	N 24 21.7 -00.1	348 02.5 +02.2	S 12 16.7 -00.1	4 10.1 +02.4	S 17 22.4 +00.0							
07	232 42.2 +00.8	N 24 21.6 -00.1	3 04.7 +02.1	S 12 16.6 -00.1	19 12.5 +02.4	S 17 22.4 +00.0							
08	247 43.0 +00.8	N 24 21.5 -00.2	18 06.8 +02.2	S 12 16.5 -00.1	34 14.9 +02.4	S 17 22.4 +00.0							
09	262 43.8 +00.8	N 24 21.3 -00.1	33 09.0 +02.2	S 12 16.4 -00.1	49 17.3 +02.4	S 17 22.4 +00.0							
10	277 44.6 +00.8	N 24 21.2 -00.2	48 11.2 +02.2	S 12 16.3 -00.1	64 19.7 +02.4	S 17 22.4 +00.0							
11	292 45.4 +00.8	N 24 21.0 -00.1	63 13.4 +02.2	S 12 16.2 -00.1	79 22.1 +02.5	S 17 22.4 +00.0							
12	307 46.2 +00.8	N 24 20.9 -00.1	78 15.6 +02.2	S 12 16.1 +00.0	94 24.6 +02.4	S 17 22.4 +00.0							
13	322 47.0 +00.8	N 24 20.8 -00.2	93 17.8 +02.2	S 12 16.1 -00.1	109 27.0 +02.4	S 17 22.4 +00.0							
14	337 47.8 +00.8	N 24 20.6 -00.1	108 20.0 +02.1	S 12 16.0 -00.1	124 29.4 +02.4	S 17 22.4 +00.0							
15	352 48.6 +00.8	N 24 20.5 -00.2	123 22.1 +02.2	S 12 15.9 -00.1	139 31.8 +02.4	S 17 22.4 +00.0							
16	7 49.4 +00.8	N 24 20.3 -00.1	138 24.3 +02.2	S 12 15.8 -00.1	154 34.2 +02.4	S 17 22.4 -00.1							
17	22 50.2 +00.8	N 24 20.2 -00.1	153 26.5 +02.2	S 12 15.7 -00.1	169 36.6 +02.5	S 17 22.3 +00.0							
18	37 51.0 +00.8	N 24 20.1 -00.2	168 28.7 +02.2	S 12 15.6 -00.1	184 39.1 +02.4	S 17 22.3 +00.0							
19	52 51.8 +00.8	N 24 19.9 -00.1	183 30.9 +02.2	S 12 15.5 -00.1	199 41.5 +02.4	S 17 22.3 +00.0							
20	67 52.6 +00.8	N 24 19.8 -00.2	198 33.1 +02.2	S 12 15.4 -00.1	214 43.9 +02.4	S 17 22.3 +00.0							
21	82 53.4 +00.8	N 24 19.6 -00.1	213 35.3 +02.1	S 12 15.3 -00.1	229 46.3 +02.4	S 17 22.3 +00.0							
22	97 54.2 +00.8	N 24 19.5 -00.2	228 37.4 +02.2	S 12 15.2 -00.1	244 48.7 +02.5	S 17 22.3 +00.0							
23	112 55.0 +00.8	N 24 19.3 -00.1	243 39.6 +02.2	S 12 15.1 -00.1	259 51.2 +02.4	S 17 22.3 +00.0							
	UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 258° 257° 257° 257° 257° 257°	Greenwich Culmination Time: 15:28								
	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 028° 028° 028° 028° 028° 028°	Greenwich Culmination Time: 06:47								
	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 044° 044° 044° 044° 044° 044°	Greenwich Culmination Time: 05:43								

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 54.7 +00.0	N 18 23.1 +00.6	168 08.1 -00.8	N 21 13.9 +00.7	167 14.8 -28.1	N 20 45.5 +07.8	00						
01	195 54.7 +00.0	N 18 23.7 +00.6	183 07.3 -00.8	N 21 14.6 +00.6	181 46.7 -28.1	N 20 53.3 +07.8	01						
02	210 54.7 +00.1	N 18 24.3 +00.7	198 06.5 -00.7	N 21 15.2 +00.7	196 18.6 -28.2	N 21 01.1 +07.6	02						
03	225 54.8 +00.0	N 18 25.0 +00.6	213 05.8 -00.8	N 21 15.9 +00.6	210 50.4 -28.3	N 21 08.7 +07.5	03						
04	240 54.8 +00.0	N 18 25.6 +00.6	228 05.0 -00.7	N 21 16.5 +00.7	225 22.1 -28.3	N 21 16.2 +07.5	04						
05	255 54.8 +00.0	N 18 26.2 +00.6	243 04.3 -00.8	N 21 17.2 +00.6	239 53.8 -28.4	N 21 23.7 +07.3	05						
06	270 54.8 +00.0	N 18 26.8 +00.6	258 03.5 -00.8	N 21 17.8 +00.7	254 25.4 -28.4	N 21 31.0 +07.3	06						
07	285 54.8 +00.0	N 18 27.4 +00.6	273 02.7 -00.7	N 21 18.5 +00.6	268 57.0 -28.5	N 21 38.3 +07.2	07						
08	300 54.8 +00.0	N 18 28.0 +00.6	288 02.0 -00.8	N 21 19.1 +00.7	283 28.5 -28.6	N 21 45.5 +07.0	08						
09	315 54.8 +00.0	N 18 28.6 +00.7	303 01.2 -00.7	N 21 19.8 +00.6	297 59.9 -28.6	N 21 52.5 +07.0	09						
10	330 54.8 +00.0	N 18 29.3 +00.6	318 00.5 -00.8	N 21 20.4 +00.7	312 31.3 -28.6	N 21 59.5 +06.9	10						
11	345 54.8 +00.0	N 18 29.9 +00.6	332 59.7 -00.8	N 21 21.1 +00.6	327 02.7 -28.8	N 22 06.4 +06.8	11						
12	0 54.8 +00.0	N 18 30.5 +00.6	347 58.9 -00.7	N 21 21.7 +00.7	341 33.9 -28.7	N 22 13.2 +06.7	12						
13	15 54.8 +00.0	N 18 31.1 +00.6	2 58.2 -00.8	N 21 22.4 +00.6	356 05.2 -28.9	N 22 19.9 +06.6	13						
14	30 54.8 +00.0	N 18 31.7 +00.6	17 57.4 -00.7	N 21 23.0 +00.7	10 36.3 -28.8	N 22 26.5 +06.5	14						
15	45 54.8 +00.0	N 18 32.3 +00.6	32 56.7 -00.8	N 21 23.7 +00.6	25 07.5 -29.0	N 22 33.0 +06.4	15						
16	60 54.8 +00.0	N 18 32.9 +00.6	47 55.9 -00.8	N 21 24.3 +00.7	39 38.5 -29.0	N 22 39.4 +06.2	16						
17	75 54.8 +00.0	N 18 33.5 +00.6	62 55.1 -00.7	N 21 25.0 +00.6	54 09.5 -29.0	N 22 45.6 +06.2	17						
18	90 54.8 +00.0	N 18 34.1 +00.6	77 54.4 -00.8	N 21 25.6 +00.6	68 40.5 -29.1	N 22 51.8 +06.1	18						
19	105 54.8 +00.0	N 18 34.7 +00.6	92 53.6 -00.8	N 21 26.2 +00.7	83 11.4 -29.1	N 22 57.9 +06.0	19						
20	120 54.8 +00.0	N 18 35.3 +00.6	107 52.8 -00.7	N 21 26.9 +00.6	97 42.3 -29.3	N 23 03.9 +05.9	20						
21	135 54.8 +00.0	N 18 35.9 +00.6	122 52.1 -00.8	N 21 27.5 +00.7	112 13.0 -29.2	N 23 09.8 +05.7	21						
22	150 54.8 +00.0	N 18 36.5 +00.7	137 51.3 -00.8	N 21 28.2 +00.6	126 43.8 -29.3	N 23 15.5 +05.7	22						
23	165 54.8 +00.0	N 18 37.2 +00.6	152 50.5 -00.7	N 21 28.8 +00.6	141 14.5 -29.4	N 23 21.2 +05.6	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 00'1 00'1 00'1 00'1 00'1 00'1		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 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'0 54'0 54'0 54'0 54'1 54'1								
	SHA 310° 310° 310° 309° 309° 309°		SHA 297° 297° 297° 296° 296° 296°		SHA 295° 293° 291° 289° 287° 285°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 12:48		Greenwich Culmination Time: 13:16								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	127 55.8 +00.8	N 24 19.2 -00.1	258 41.8 +02.2	S 12 15.0 +00.0	274 53.6 +02.4	S 17 22.3 +00.0	00						
01	142 56.6 +00.8	N 24 19.1 -00.2	273 44.0 +02.2	S 12 15.0 -00.1	289 56.0 +02.4	S 17 22.3 +00.0	01						
02	157 57.4 +00.8	N 24 18.9 -00.1	288 46.2 +02.2	S 12 14.9 -00.1	304 58.4 +02.4	S 17 22.3 +00.0	02						
03	172 58.2 +00.8	N 24 18.8 -00.2	303 48.4 +02.2	S 12 14.8 -00.1	320 00.8 +02.5	S 17 22.3 +00.0	03						
04	187 59.0 +00.8	N 24 18.6 -00.1	318 50.6 +02.2	S 12 14.7 -00.1	335 03.3 +02.4	S 17 22.3 +00.0	04						
05	202 59.8 +00.8	N 24 18.5 -00.2	333 52.8 +02.2	S 12 14.6 -00.1	350 05.7 +02.4	S 17 22.3 +00.0	05						
06	218 00.6 +00.8	N 24 18.3 -00.1	348 55.0 +02.1	S 12 14.5 -00.1	5 08.1 +02.4	S 17 22.3 +00.0	06						
07	233 01.4 +00.8	N 24 18.2 -00.2	3 57.1 +02.2	S 12 14.4 -00.1	20 10.5 +02.4	S 17 22.3 +00.0	07						
08	248 02.2 +00.8	N 24 18.0 -00.1	18 59.3 +02.2	S 12 14.3 -00.1	35 12.9 +02.5	S 17 22.3 -00.1	08						
09	263 03.0 +00.8	N 24 17.9 -00.1	34 01.5 +02.2	S 12 14.2 -00.1	50 15.4 +02.4	S 17 22.2 +00.0	09						
10	278 03.8 +00.8	N 24 17.8 -00.2	49 03.7 +02.2	S 12 14.1 +00.0	65 17.8 +02.4	S 17 22.2 +00.0	10						
11	293 04.6 +00.7	N 24 17.6 -00.1	64 05.9 +02.2	S 12 14.1 -00.1	80 20.2 +02.4	S 17 22.2 +00.0	11						
12	308 05.3 +00.8	N 24 17.5 -00.2	79 08.1 +02.2	S 12 14.0 -00.1	95 22.6 +02.5	S 17 22.2 +00.0	12						
13	323 06.1 +00.8	N 24 17.3 -00.1	94 10.3 +02.2	S 12 13.9 -00.1	110 25.1 +02.4	S 17 22.2 +00.0	13						
14	338 06.9 +00.8	N 24 17.2 -00.2	109 12.5 +02.2	S 12 13.8 -00.1	125 27.5 +02.4	S 17 22.2 +00.0	14						
15	353 07.7 +00.8	N 24 17.0 -00.1	124 14.7 +02.2	S 12 13.7 -00.1	140 29.9 +02.4	S 17 22.2 +00.0	15						
16	8 08.5 +00.8	N 24 16.9 -00.2	139 16.9 +02.2	S 12 13.6 -00.1	155 32.3 +02.4	S 17 22.2 +00.0	16						
17	23 09.3 +00.8	N 24 16.7 -00.1	154 19.1 +02.1	S 12 13.5 -00.1	170 34.7 +02.5	S 17 22.2 +00.0	17						
18	38 10.1 +00.8	N 24 16.6 -00.2	169 21.2 +02.2	S 12 13.4 -00.1	185 37.2 +02.4	S 17 22.2 +00.0	18						
19	53 10.9 +00.8	N 24 16.4 -00.1	184 23.4 +02.2	S 12 13.3 -00.1	200 39.6 +02.4	S 17 22.2 +00.0	19						
20	68 11.7 +00.8	N 24 16.3 -00.2	199 25.6 +02.2	S 12 13.2 +00.0	215 42.0 +02.4	S 17 22.2 +00.0	20						
21	83 12.5 +00.8	N 24 16.1 -00.1	214 27.8 +02.2	S 12 13.2 -00.1	230 44.4 +02.5	S 17 22.2 +00.0	21						
22	98 13.3 +00.8	N 24 16.0 -00.2	229 30.0 +02.2	S 12 13.1 -00.1	245 46.9 +02.4	S 17 22.2 +00.0	22						
23	113 14.1 +00.8	N 24 15.8 -00.1	244 32.2 +02.2	S 12 13.0 -00.1	260 49.3 +02.4	S 17 22.2 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 257° 257° 257° 257° 256° 256°		SHA 028° 028° 028° 028° 028° 028°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:27		Greenwich Culmination Time: 06:44		Greenwich Culmination Time: 05:39								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 54.8 +00.0	N 18 37.8 +00.6	167 49.8 -00.8	N 21 29.4 +00.7	155 45.1 -29.4	N 23 26.8 +05.4	00						
01	195 54.8 +00.0	N 18 38.4 +00.6	182 49.0 -00.8	N 21 30.1 +00.6	170 15.7 -29.5	N 23 32.2 +05.4	01						
02	210 54.8 +00.0	N 18 39.0 +00.6	197 48.2 -00.7	N 21 30.7 +00.6	184 46.2 -29.5	N 23 37.6 +05.2	02						
03	225 54.8 +00.0	N 18 39.6 +00.6	212 47.5 -00.8	N 21 31.3 +00.7	199 16.7 -29.5	N 23 42.8 +05.2	03						
04	240 54.8 +00.0	N 18 40.2 +00.6	227 46.7 -00.8	N 21 32.0 +00.6	213 47.2 -29.6	N 23 48.0 +05.0	04						
05	255 54.8 +00.0	N 18 40.8 +00.6	242 45.9 -00.7	N 21 32.6 +00.6	228 17.6 -29.7	N 23 53.0 +04.9	05						
06	270 54.8 +00.0	N 18 41.4 +00.6	257 45.2 -00.8	N 21 33.2 +00.6	242 47.9 -29.7	N 23 57.9 +04.8	06						
07	285 54.8 +00.0	N 18 42.0 +00.6	272 44.4 -00.8	N 21 33.8 +00.7	257 18.2 -29.8	N 24 02.7 +04.7	07						
08	300 54.8 +00.0	N 18 42.6 +00.6	287 43.6 -00.8	N 21 34.5 +00.6	271 48.4 -29.8	N 24 07.4 +04.6	08						
09	315 54.8 -00.1	N 18 43.2 +00.6	302 42.8 -00.7	N 21 35.1 +00.6	286 18.6 -29.9	N 24 12.0 +04.5	09						
10	330 54.7 +00.0	N 18 43.8 +00.6	317 42.1 -00.8	N 21 35.7 +00.6	300 48.7 -29.9	N 24 16.5 +04.3	10						
11	345 54.7 +00.0	N 18 44.4 +00.6	332 41.3 -00.8	N 21 36.3 +00.7	315 18.8 -29.9	N 24 20.8 +04.3	11						
12	0 54.7 +00.0	N 18 45.0 +00.6	347 40.5 -00.7	N 21 37.0 +00.6	329 48.9 -30.0	N 24 25.1 +04.1	12						
13	15 54.7 +00.0	N 18 45.6 +00.6	2 39.8 -00.8	N 21 37.6 +00.6	344 18.9 -30.0	N 24 29.2 +04.0	13						
14	30 54.7 +00.0	N 18 46.2 +00.5	17 39.0 -00.8	N 21 38.2 +00.6	358 48.9 -30.1	N 24 33.2 +03.9	14						
15	45 54.7 +00.0	N 18 46.7 +00.6	32 38.2 -00.8	N 21 38.8 +00.6	13 18.8 -30.2	N 24 37.1 +03.8	15						
16	60 54.7 +00.0	N 18 47.3 +00.6	47 37.4 -00.7	N 21 39.4 +00.7	27 48.6 -30.1	N 24 40.9 +03.7	16						
17	75 54.7 +00.0	N 18 47.9 +00.6	62 36.7 -00.8	N 21 40.1 +00.6	42 18.5 -30.2	N 24 44.6 +03.5	17						
18	90 54.7 +00.0	N 18 48.5 +00.6	77 35.9 -00.8	N 21 40.7 +00.6	56 48.3 -30.3	N 24 48.1 +03.5	18						
19	105 54.7 +00.0	N 18 49.1 +00.6	92 35.1 -00.8	N 21 41.3 +00.6	71 18.0 -30.3	N 24 51.6 +03.3	19						
20	120 54.7 +00.0	N 18 49.7 +00.6	107 34.3 -00.7	N 21 41.9 +00.6	85 47.7 -30.3	N 24 54.9 +03.2	20						
21	135 54.7 +00.0	N 18 50.3 +00.6	122 33.6 -00.8	N 21 42.5 +00.6	100 17.4 -30.4	N 24 58.1 +03.1	21						
22	150 54.7 +00.0	N 18 50.9 +00.6	137 32.8 -00.8	N 21 43.1 +00.6	114 47.0 -30.4	N 25 01.2 +02.9	22						
23	165 54.7 +00.0	N 18 51.5 +00.6	152 32.0 -00.8	N 21 43.7 +00.7	129 16.6 -30.5	N 25 04.1 +02.9	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 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'7 14'8 14'8 14'8 14'8 14'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'1 54'2 54'2 54'2 54'3 54'3								
	SHA 309° 309° 309° 308° 308° 308°		SHA 296° 296° 295° 295° 295° 295°		SHA 283° 281° 278° 276° 274° 272°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 12:49		Greenwich Culmination Time: 14:04								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	128 14.9 +00.8	N 24 15.7 -00.2	259 34.4 +02.2	S 12 12.9 -00.1	275 51.7 +02.4	S 17 22.2 +00.0	00						
01	143 15.7 +00.8	N 24 15.5 -00.1	274 36.6 +02.2	S 12 12.8 -00.1	290 54.1 +02.5	S 17 22.2 -00.1	01						
02	158 16.5 +00.8	N 24 15.4 -00.2	289 38.8 +02.2	S 12 12.7 -00.1	305 56.6 +02.4	S 17 22.1 +00.0	02						
03	173 17.3 +00.8	N 24 15.2 -00.1	304 41.0 +02.2	S 12 12.6 -00.1	320 59.0 +02.4	S 17 22.1 +00.0	03						
04	188 18.1 +00.8	N 24 15.1 -00.2	319 43.2 +02.2	S 12 12.5 -00.1	336 01.4 +02.4	S 17 22.1 +00.0	04						
05	203 18.9 +00.8	N 24 14.9 -00.1	334 45.4 +02.2	S 12 12.4 +00.0	351 03.8 +02.4	S 17 22.1 +00.0	05						
06	218 19.7 +00.8	N 24 14.8 -00.2	349 47.6 +02.2	S 12 12.4 -00.1	6 06.2 +02.5	S 17 22.1 +00.0	06						
07	233 20.5 +00.8	N 24 14.6 -00.1	4 49.8 +02.2	S 12 12.3 -00.1	21 08.7 +02.4	S 17 22.1 +00.0	07						
08	248 21.3 +00.8	N 24 14.5 -00.2	19 52.0 +02.2	S 12 12.2 -00.1	36 11.1 +02.4	S 17 22.1 +00.0	08						
09	263 22.1 +00.8	N 24 14.3 -00.1	34 54.2 +02.2	S 12 12.1 -00.1	51 13.5 +02.5	S 17 22.1 +00.0	09						
10	278 22.9 +00.8	N 24 14.2 -00.2	49 56.4 +02.2	S 12 12.0 -00.1	66 16.0 +02.4	S 17 22.1 +00.0	10						
11	293 23.7 +00.8	N 24 14.0 -00.2	64 58.6 +02.2	S 12 11.9 -00.1	81 18.4 +02.4	S 17 22.1 +00.0	11						
12	308 24.5 +00.8	N 24 13.8 -00.1	80 00.8 +02.2	S 12 11.8 -00.1	96 20.8 +02.4	S 17 22.1 +00.0	12						
13	323 25.3 +00.8	N 24 13.7 -00.2	95 03.0 +02.1	S 12 11.7 +00.0	111 23.2 +02.5	S 17 22.1 +00.0	13						
14	338 26.1 +00.8	N 24 13.5 -00.1	110 05.1 +02.2	S 12 11.7 -00.1	126 25.7 +02.4	S 17 22.1 +00.0	14						
15	353 26.9 +00.8	N 24 13.4 -00.2	125 07.3 +02.2	S 12 11.6 -00.1	141 28.1 +02.4	S 17 22.1 +00.0	15						
16	8 27.7 +00.8	N 24 13.2 -00.1	140 09.5 +02.2	S 12 11.5 -00.1	156 30.5 +02.4	S 17 22.1 +00.0	16						
17	23 28.5 +00.8	N 24 13.1 -00.2	155 11.7 +02.2	S 12 11.4 -00.1	171 32.9 +02.5	S 17 22.1 +00.0	17						
18	38 29.3 +00.8	N 24 12.9 -00.1	170 13.9 +02.2	S 12 11.3 -00.1	186 35.4 +02.4	S 17 22.1 +00.0	18						
19	53 30.1 +00.8	N 24 12.8 -00.2	185 16.1 +02.2	S 12 11.2 -00.1	201 37.8 +02.4	S 17 22.1 +00.0	19						
20	68 30.9 +00.8	N 24 12.6 -00.2	200 18.3 +02.2	S 12 11.1 -00.1	216 40.2 +02.4	S 17 22.1 +00.0	20						
21	83 31.7 +00.8	N 24 12.4 -00.1	215 20.5 +02.2	S 12 11.0 +00.0	231 42.6 +02.5	S 17 22.1 +00.0	21						
22	98 32.5 +00.8	N 24 12.3 -00.2	230 22.7 +02.2	S 12 11.0 -00.1	246 45.1 +02.4	S 17 22.1 -00.1	22						
23	113 33.3 +00.8	N 24 12.1 -00.1	245 24.9 +02.2	S 12 10.9 -00.1	261 47.5 +02.4	S 17 22.0 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 256° 256° 256° 256° 256° 256°		SHA 028° 028° 028° 028° 028° 028°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:26		Greenwich Culmination Time: 06:40		Greenwich Culmination Time: 05:35								

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UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 54.7 +00.0	N 18 52.1 +00.6	167 31.2 -00.8	N 21 44.4 +00.6	143 46.1 -30.5	N 25 07.0 +02.7	00						
01	195 54.7 +00.0	N 18 52.7 +00.6	182 30.4 -00.7	N 21 45.0 +00.6	158 15.6 -30.5	N 25 09.7 +02.6	01						
02	210 54.7 -00.1	N 18 53.3 +00.6	197 29.7 -00.8	N 21 45.6 +00.6	172 45.1 -30.6	N 25 12.3 +02.5	02						
03	225 54.6 +00.0	N 18 53.9 +00.5	212 28.9 -00.8	N 21 46.2 +00.6	187 14.5 -30.6	N 25 14.8 +02.3	03						
04	240 54.6 +00.0	N 18 54.4 +00.6	227 28.1 -00.8	N 21 46.8 +00.6	201 43.9 -30.6	N 25 17.1 +02.3	04						
05	255 54.6 +00.0	N 18 55.0 +00.6	242 27.3 -00.7	N 21 47.4 +00.6	216 13.3 -30.7	N 25 19.4 +02.1	05						
06	270 54.6 +00.0	N 18 55.6 +00.6	257 26.6 -00.8	N 21 48.0 +00.6	230 42.6 -30.7	N 25 21.5 +02.0	06						
07	285 54.6 +00.0	N 18 56.2 +00.6	272 25.8 -00.8	N 21 48.6 +00.6	245 11.9 -30.7	N 25 23.5 +01.9	07						
08	300 54.6 +00.0	N 18 56.8 +00.6	287 25.0 -00.8	N 21 49.2 +00.6	259 41.2 -30.7	N 25 25.4 +01.7	08						
09	315 54.6 +00.0	N 18 57.4 +00.6	302 24.2 -00.8	N 21 49.8 +00.6	274 10.5 -30.8	N 25 27.1 +01.6	09						
10	330 54.6 +00.0	N 18 58.0 +00.5	317 23.4 -00.7	N 21 50.4 +00.6	288 39.7 -30.9	N 25 28.7 +01.5	10						
11	345 54.6 +00.0	N 18 58.5 +00.6	332 22.7 -00.8	N 21 51.0 +00.6	303 08.8 -30.8	N 25 30.2 +01.4	11						
12	0 54.6 +00.0	N 18 59.1 +00.6	347 21.9 -00.8	N 21 51.6 +00.6	317 38.0 -30.9	N 25 31.6 +01.3	12						
13	15 54.6 -00.1	N 18 59.7 +00.6	2 21.1 -00.8	N 21 52.2 +00.6	332 07.1 -30.9	N 25 32.9 +01.1	13						
14	30 54.5 +00.0	N 19 00.3 +00.6	17 20.3 -00.8	N 21 52.8 +00.6	346 36.2 -30.9	N 25 34.0 +01.0	14						
15	45 54.5 +00.0	N 19 00.9 +00.6	32 19.5 -00.8	N 21 53.4 +00.6	1 05.3 -31.0	N 25 35.0 +00.9	15						
16	60 54.5 +00.0	N 19 01.5 +00.5	47 18.7 -00.7	N 21 54.0 +00.6	15 34.3 -30.9	N 25 35.9 +00.7	16						
17	75 54.5 +00.0	N 19 02.0 +00.6	62 18.0 -00.8	N 21 54.6 +00.5	30 03.4 -31.0	N 25 36.6 +00.6	17						
18	90 54.5 +00.0	N 19 02.6 +00.6	77 17.2 -00.8	N 21 55.1 +00.6	44 32.4 -31.0	N 25 37.2 +00.5	18						
19	105 54.5 +00.0	N 19 03.2 +00.6	92 16.4 -00.8	N 21 55.7 +00.6	59 01.4 -31.1	N 25 37.7 +00.4	19						
20	120 54.5 +00.0	N 19 03.8 +00.6	107 15.6 -00.8	N 21 56.3 +00.6	73 30.3 -31.0	N 25 38.1 +00.2	20						
21	135 54.5 +00.0	N 19 04.4 +00.5	122 14.8 -00.8	N 21 56.9 +00.6	87 59.3 -31.1	N 25 38.3 +00.1	21						
22	150 54.5 -00.1	N 19 04.9 +00.6	137 14.0 -00.8	N 21 57.5 +00.6	102 28.2 -31.1	N 25 38.4 +00.0	22						
23	165 54.4 +00.0	N 19 05.5 +00.6	152 13.2 -00.8	N 21 58.1 +00.6	116 57.1 -31.1	N 25 38.4 -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 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'8 14'8 14'8 14'9 14'9 14'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'4 54'4 54'5 54'5 54'6 54'7								
	SHA 308° 308° 308° 307° 307° 307°		SHA 294° 294° 294° 294° 294° 293°		SHA 270° 268° 265° 263° 261° 259°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 12:50		Greenwich Culmination Time: 14:55								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	128 34.1 +00.8	N 24 12.0 -00.2	260 27.1 +02.2	S 12 10.8 -00.1	276 49.9 +02.5	S 17 22.0 +00.0	00						
01	143 34.9 +00.8	N 24 11.8 -00.1	275 29.3 +02.2	S 12 10.7 -00.1	291 52.4 +02.4	S 17 22.0 +00.0	01						
02	158 35.7 +00.8	N 24 11.7 -00.2	290 31.5 +02.2	S 12 10.6 -00.1	306 54.8 +02.4	S 17 22.0 +00.0	02						
03	173 36.5 +00.8	N 24 11.5 -00.2	305 33.7 +02.2	S 12 10.5 -00.1	321 57.2 +02.4	S 17 22.0 +00.0	03						
04	188 37.3 +00.8	N 24 11.3 -00.1	320 35.9 +02.2	S 12 10.4 +00.0	336 59.6 +02.5	S 17 22.0 +00.0	04						
05	203 38.1 +00.8	N 24 11.2 -00.2	335 38.1 +02.2	S 12 10.4 -00.1	352 02.1 +02.4	S 17 22.0 +00.0	05						
06	218 38.9 +00.8	N 24 11.0 -00.1	350 40.3 +02.3	S 12 10.3 -00.1	7 04.5 +02.4	S 17 22.0 +00.0	06						
07	233 39.7 +00.8	N 24 10.9 -00.2	5 42.6 +02.2	S 12 10.2 -00.1	22 06.9 +02.5	S 17 22.0 +00.0	07						
08	248 40.5 +00.8	N 24 10.7 -00.2	20 44.8 +02.2	S 12 10.1 -00.1	37 09.4 +02.4	S 17 22.0 +00.0	08						
09	263 41.3 +00.8	N 24 10.5 -00.1	35 47.0 +02.2	S 12 10.0 -00.1	52 11.8 +02.4	S 17 22.0 +00.0	09						
10	278 42.1 +00.8	N 24 10.4 -00.2	50 49.2 +02.2	S 12 09.9 -00.1	67 14.2 +02.4	S 17 22.0 +00.0	10						
11	293 42.9 +00.8	N 24 10.2 -00.1	65 51.4 +02.2	S 12 09.8 +00.0	82 16.6 +02.5	S 17 22.0 +00.0	11						
12	308 43.7 +00.8	N 24 10.1 -00.2	80 53.6 +02.2	S 12 09.8 -00.1	97 19.1 +02.4	S 17 22.0 +00.0	12						
13	323 44.5 +00.8	N 24 09.9 -00.2	95 55.8 +02.2	S 12 09.7 -00.1	112 21.5 +02.4	S 17 22.0 +00.0	13						
14	338 45.3 +00.8	N 24 09.7 -00.1	110 58.0 +02.2	S 12 09.6 -00.1	127 23.9 +02.5	S 17 22.0 +00.0	14						
15	353 46.1 +00.8	N 24 09.6 -00.2	126 00.2 +02.2	S 12 09.5 -00.1	142 26.4 +02.4	S 17 22.0 +00.0	15						
16	8 46.9 +00.8	N 24 09.4 -00.1	141 02.4 +02.2	S 12 09.4 -00.1	157 28.8 +02.4	S 17 22.0 +00.0	16						
17	23 47.7 +00.8	N 24 09.3 -00.2	156 04.6 +02.2	S 12 09.3 -00.1	172 31.2 +02.5	S 17 22.0 +00.0	17						
18	38 48.5 +00.8	N 24 09.1 -00.2	171 06.8 +02.2	S 12 09.2 +00.0	187 33.7 +02.4	S 17 22.0 +00.0	18						
19	53 49.3 +00.8	N 24 08.9 -00.1	186 09.0 +02.2	S 12 09.2 -00.1	202 36.1 +02.4	S 17 22.0 +00.0	19						
20	68 50.1 +00.8	N 24 08.8 -00.2	201 11.2 +02.2	S 12 09.1 -00.1	217 38.5 +02.5	S 17 22.0 +00.0	20						
21	83 50.9 +00.8	N 24 08.6 -00.2	216 13.4 +02.2	S 12 09.0 -00.1	232 41.0 +02.4	S 17 22.0 +00.0	21						
22	98 51.7 +00.7	N 24 08.4 -00.1	231 15.6 +02.2	S 12 08.9 -00.1	247 43.4 +02.4	S 17 22.0 +00.0	22						
23	113 52.4 +00.8	N 24 08.3 -00.2	246 17.8 +02.2	S 12 08.8 -00.1	262 45.8 +02.4	S 17 22.0 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 256° 255° 255° 255° 255° 255°		SHA 028° 027° 027° 027° 027° 027°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:24		Greenwich Culmination Time: 06:37		Greenwich Culmination Time: 05:31								

Sun					Venus					Moon					A: 15%					
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	180	54.4 +00.0	N 19 06.1 +00.6		167	12.4 -00.7	N 21 58.7 +00.6		131	26.0 -31.2	N 25 38.3 -00.3		00							
01	195	54.4 +00.0	N 19 06.7 +00.5		182	11.7 -00.8	N 21 59.3 +00.5		145	54.8 -31.1	N 25 38.0 -00.4		01							
02	210	54.4 +00.0	N 19 07.2 +00.6		197	10.9 -00.8	N 21 59.8 +00.6		160	23.7 -31.2	N 25 37.6 -00.5		02							
03	225	54.4 +00.0	N 19 07.8 +00.6		212	10.1 -00.8	N 22 00.4 +00.6		174	52.5 -31.1	N 25 37.1 -00.7		03							
04	240	54.4 +00.0	N 19 08.4 +00.6		227	09.3 -00.8	N 22 01.0 +00.6		189	21.4 -31.2	N 25 36.4 -00.8		04							
05	255	54.4 -00.1	N 19 09.0 +00.5		242	08.5 -00.8	N 22 01.6 +00.6		203	50.2 -31.2	N 25 35.6 -00.9		05							
06	270	54.3 +00.0	N 19 09.5 +00.6		257	07.7 -00.8	N 22 02.2 +00.5		218	19.0 -31.2	N 25 34.7 -01.0		06							
07	285	54.3 +00.0	N 19 10.1 +00.6		272	06.9 -00.8	N 22 02.7 +00.6		232	47.8 -31.2	N 25 33.7 -01.2		07							
08	300	54.3 +00.0	N 19 10.7 +00.6		287	06.1 -00.8	N 22 03.3 +00.6		247	16.6 -31.3	N 25 32.5 -01.3		08							
09	315	54.3 +00.0	N 19 11.3 +00.5		302	05.3 -00.7	N 22 03.9 +00.6		261	45.3 -31.2	N 25 31.2 -01.4		09							
10	330	54.3 +00.0	N 19 11.8 +00.6		317	04.6 -00.8	N 22 04.5 +00.5		276	14.1 -31.2	N 25 29.8 -01.6		10							
11	345	54.3 +00.0	N 19 12.4 +00.6		332	03.8 -00.8	N 22 05.0 +00.6		290	42.9 -31.3	N 25 28.2 -01.7		11							
12	0	54.3 -00.1	N 19 13.0 +00.5		347	03.0 -00.8	N 22 05.6 +00.6		305	11.6 -31.2	N 25 26.5 -01.8		12							
13	15	54.2 +00.0	N 19 13.5 +00.6		2	02.2 -00.8	N 22 06.2 +00.5		319	40.4 -31.3	N 25 24.7 -01.9		13							
14	30	54.2 +00.0	N 19 14.1 +00.6		17	01.4 -00.8	N 22 06.7 +00.6		334	09.1 -31.2	N 25 22.8 -02.1		14							
15	45	54.2 +00.0	N 19 14.7 +00.5		32	00.6 -00.8	N 22 07.3 +00.6		348	37.9 -31.3	N 25 20.7 -02.2		15							
16	60	54.2 +00.0	N 19 15.2 +00.6		46	59.8 -00.8	N 22 07.9 +00.5		3	06.6 -31.3	N 25 18.5 -02.4		16							
17	75	54.2 +00.0	N 19 15.8 +00.6		61	59.0 -00.8	N 22 08.4 +00.6		17	35.3 -31.2	N 25 16.1 -02.4		17							
18	90	54.2 -00.1	N 19 16.4 +00.5		76	58.2 -00.8	N 22 09.0 +00.6		32	04.1 -31.3	N 25 13.7 -02.6		18							
19	105	54.1 +00.0	N 19 16.9 +00.6		91	57.4 -00.8	N 22 09.6 +00.5		46	32.8 -31.2	N 25 11.1 -02.7		19							
20	120	54.1 +00.0	N 19 17.5 +00.6		106	56.6 -00.8	N 22 10.1 +00.6		61	01.6 -31.3	N 25 08.4 -02.9		20							
21	135	54.1 +00.0	N 19 18.1 +00.5		121	55.8 -00.8	N 22 10.7 +00.6		75	30.3 -31.3	N 25 05.5 -03.0		21							
22	150	54.1 +00.0	N 19 18.6 +00.6		136	55.0 -00.8	N 22 11.3 +00.5		89	59.0 -31.2	N 25 02.5 -03.1		22							
23	165	54.1 -00.1	N 19 19.2 +00.6		151	54.2 -00.8	N 22 11.8 +00.6		104	27.8 -31.2	N 24 59.4 -03.2		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	00'1	00'1	00'1	00'1	00'1	00'1					
HP	00'1	00'1	00'1	00'1	00'1	00'1			HP	00'1	00'1	00'1	00'1	00'1	00'1					
SHA	307°	307°	307°	306°	306°	306°			SHA	293°	293°	293°	293°	292°	292°					
Greenwich Culmination Time: 11:56							Greenwich Culmination Time: 12:51							Greenwich Culmination Time: 15:47						

Mars					Jupiter					Saturn										
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	128	53.2 +00.8	N 24 08.1 -00.2		261	20.0 +02.2	S 12 08.7 +00.0		277	48.2 +02.5	S 17 22.0 +00.0		00							
01	143	54.0 +00.8	N 24 07.9 -00.1		276	22.2 +02.2	S 12 08.7 -00.1		292	50.7 +02.4	S 17 22.0 -00.1		01							
02	158	54.8 +00.8	N 24 07.8 -00.2		291	24.4 +02.2	S 12 08.6 -00.1		307	53.1 +02.4	S 17 21.9 +00.0		02							
03	173	55.6 +00.8	N 24 07.6 -00.2		306	26.6 +02.3	S 12 08.5 -00.1		322	55.5 +02.5	S 17 21.9 +00.0		03							
04	188	56.4 +00.8	N 24 07.4 -00.1		321	28.9 +02.2	S 12 08.4 -00.1		337	58.0 +02.4	S 17 21.9 +00.0		04							
05	203	57.2 +00.8	N 24 07.3 -00.2		336	31.1 +02.2	S 12 08.3 -00.1		353	00.4 +02.4	S 17 21.9 +00.0		05							
06	218	58.0 +00.8	N 24 07.1 -00.2		351	33.3 +02.2	S 12 08.2 -00.1		8	02.8 +02.5	S 17 21.9 +00.0		06							
07	233	58.8 +00.8	N 24 06.9 -00.1		6	35.5 +02.2	S 12 08.1 +00.0		23	05.3 +02.4	S 17 21.9 +00.0		07							
08	248	59.6 +00.8	N 24 06.8 -00.2		21	37.7 +02.2	S 12 08.1 -00.1		38	07.7 +02.4	S 17 21.9 +00.0		08							
09	264	00.4 +00.8	N 24 06.6 -00.2		36	39.9 +02.2	S 12 08.0 -00.1		53	10.1 +02.5	S 17 21.9 +00.0		09							
10	279	01.2 +00.8	N 24 06.4 -00.1		51	42.1 +02.2	S 12 07.9 -00.1		68	12.6 +02.4	S 17 21.9 +00.0		10							
11	294	02.0 +00.8	N 24 06.3 -00.2		66	44.3 +02.2	S 12 07.8 -00.1		83	15.0 +02.4	S 17 21.9 +00.0		11							
12	309	02.8 +00.9	N 24 06.1 -00.2		81	46.5 +02.2	S 12 07.7 +00.0		98	17.4 +02.5	S 17 21.9 +00.0		12							
13	324	03.7 +00.8	N 24 05.9 -00.1		96	48.7 +02.2	S 12 07.7 -00.1		113	19.9 +02.4	S 17 21.9 +00.0		13							
14	339	04.5 +00.8	N 24 05.8 -00.2		111	50.9 +02.3	S 12 07.6 -00.1		128	22.3 +02.4	S 17 21.9 +00.0		14							
15	354	05.3 +00.8	N 24 05.6 -00.2		126	53.2 +02.2	S 12 07.5 -00.1		143	24.7 +02.5	S 17 21.9 +00.0		15							
16	9	06.1 +00.8	N 24 05.4 -00.1		141	55.4 +02.2	S 12 07.4 -00.1		158	27.2 +02.4	S 17 21.9 +00.0		16							
17	24	06.9 +00.8	N 24 05.3 -00.2		156	57.6 +02.2	S 12 07.3 -00.1		173	29.6 +02.5	S 17 21.9 +00.0		17							
18	39	07.7 +00.8	N 24 05.1 -00.2		171	59.8 +02.2	S 12 07.2 +00.0		188	32.1 +02.4	S 17 21.9 +00.0		18							
19	54	08.5 +00.8	N 24 04.9 -00.1		187	02.0 +02.2	S 12 07.2 -00.1		203	34.5 +02.4	S 17 21.9 +00.0		19							
20	69	09.3 +00.8	N 24 04.8 -00.2		202	04.2 +02.2	S 12 07.1 -00.1		218	36.9 +02.5	S 17 21.9 +00.0		20							
21	84	10.1 +00.8	N 24 04.6 -00.2		217	06.4 +02.2	S 12 07.0 -00.1		233	39.4 +02.4	S 17 21.9 +00.0		21							
22	99	10.9 +00.8	N 24 04.4 -00.2		232	08.6 +02.2	S 12 06.9 -00.1		248	41.8 +02.4	S 17 21.9 +00.0		22							
23	114	11.7 +00.8	N 24 04.2 -00.1		247	10.8 +02.3	S 12 06.8 -00.1		263	44.2 +02.5	S 17 21.9 +00.0		23							
UT	02	06	10	14	18	22			UT	02	06	10	14	18	22					
SD	00'0	00'0	00'0	00'0	00'0	00'0			SD	00'3	00'3	00'3	00'3	00'3	00'3					
HP	00'1	00'1	00'1	00'1	00'1	00'1			HP	00'0	00'0	00'0	00'0	00'0	00'0					
SHA	255°	255°	255°	255°	254°	254°			SHA	044°	044°	044°	044°	044°	044°					
Greenwich Culmination Time: 15:23							Greenwich Culmination Time: 06:33							Greenwich Culmination Time: 05:27						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 53.5 +00.0	N 19 33.1 +00.6	166 34.2 -00.8	N 22 25.5 +00.5	106 30.1 -30.9	N 23 00.3 -06.4	00						
01	195 53.5 +00.0	N 19 33.7 +00.5	181 33.4 -00.8	N 22 26.0 +00.5	120 59.2 -30.8	N 22 53.9 -06.5	01						
02	210 53.5 +00.0	N 19 34.2 +00.6	196 32.6 -00.8	N 22 26.5 +00.6	135 28.4 -30.9	N 22 47.4 -06.6	02						
03	225 53.5 -00.1	N 19 34.8 +00.5	211 31.8 -00.8	N 22 27.1 +00.5	149 57.5 -30.8	N 22 40.8 -06.8	03						
04	240 53.4 +00.0	N 19 35.3 +00.6	226 31.0 -00.8	N 22 27.6 +00.5	164 26.7 -30.8	N 22 34.0 -06.8	04						
05	255 53.4 +00.0	N 19 35.9 +00.5	241 30.2 -00.8	N 22 28.1 +00.5	178 55.9 -30.8	N 22 27.2 -07.0	05						
06	270 53.4 +00.0	N 19 36.4 +00.6	256 29.4 -00.9	N 22 28.6 +00.6	193 25.1 -30.7	N 22 20.2 -07.2	06						
07	285 53.4 -00.1	N 19 37.0 +00.5	271 28.5 -00.8	N 22 29.2 +00.5	207 54.4 -30.7	N 22 13.0 -07.2	07						
08	300 53.3 +00.0	N 19 37.5 +00.5	286 27.7 -00.8	N 22 29.7 +00.5	222 23.7 -30.7	N 22 05.8 -07.3	08						
09	315 53.3 +00.0	N 19 38.0 +00.6	301 26.9 -00.8	N 22 30.2 +00.5	236 53.0 -30.7	N 21 58.5 -07.5	09						
10	330 53.3 -00.1	N 19 38.6 +00.5	316 26.1 -00.8	N 22 30.7 +00.5	251 22.3 -30.7	N 21 51.0 -07.6	10						
11	345 53.2 +00.0	N 19 39.1 +00.6	331 25.3 -00.8	N 22 31.2 +00.6	265 51.6 -30.6	N 21 43.4 -07.7	11						
12	0 53.2 +00.0	N 19 39.7 +00.5	346 24.5 -00.8	N 22 31.8 +00.5	280 21.0 -30.6	N 21 35.7 -07.8	12						
13	15 53.2 +00.0	N 19 40.2 +00.6	1 23.7 -00.8	N 22 32.3 +00.5	294 50.4 -30.6	N 21 27.9 -08.0	13						
14	30 53.2 -00.1	N 19 40.8 +00.5	16 22.9 -00.8	N 22 32.8 +00.5	309 19.8 -30.5	N 21 19.9 -08.0	14						
15	45 53.1 +00.0	N 19 41.3 +00.5	31 22.1 -00.8	N 22 33.3 +00.5	323 49.3 -30.5	N 21 11.9 -08.2	15						
16	60 53.1 +00.0	N 19 41.8 +00.6	46 21.3 -00.9	N 22 33.8 +00.5	338 18.8 -30.5	N 21 03.7 -08.3	16						
17	75 53.1 +00.0	N 19 42.4 +00.5	61 20.4 -00.8	N 22 34.3 +00.6	352 48.3 -30.5	N 20 55.4 -08.4	17						
18	90 53.1 -00.1	N 19 42.9 +00.6	76 19.6 -00.8	N 22 34.9 +00.5	7 17.8 -30.4	N 20 47.0 -08.5	18						
19	105 53.0 +00.0	N 19 43.5 +00.5	91 18.8 -00.8	N 22 35.4 +00.5	21 47.4 -30.4	N 20 38.5 -08.6	19						
20	120 53.0 +00.0	N 19 44.0 +00.5	106 18.0 -00.8	N 22 35.9 +00.5	36 17.0 -30.4	N 20 29.9 -08.7	20						
21	135 53.0 -00.1	N 19 44.5 +00.6	121 17.2 -00.8	N 22 36.4 +00.5	50 46.6 -30.4	N 20 21.2 -08.9	21						
22	150 52.9 +00.0	N 19 45.1 +00.5	136 16.4 -00.8	N 22 36.9 +00.5	65 16.2 -30.3	N 20 12.3 -08.9	22						
23	165 52.9 +00.0	N 19 45.6 +00.5	151 15.6 -00.9	N 22 37.4 +00.5	79 45.9 -30.3	N 20 03.4 -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 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'2 15'2 15'3 15'3 15'3 15'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'8 55'9 56'0 56'2 56'3 56'4								
	SHA 305° 305° 305° 304° 304° 304°		SHA 291° 290° 290° 290° 290° 289°		SHA 229° 227° 225° 223° 221° 218°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 12:54		Greenwich Culmination Time: 17:29								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	129 31.7 +00.8	N 23 59.9 -00.2	263 06.2 +02.3	S 12 04.8 -00.1	279 45.2 +02.4	S 17 21.9 +00.0	00						
01	144 32.5 +00.8	N 23 59.7 -00.2	278 08.5 +02.2	S 12 04.7 -00.1	294 47.6 +02.5	S 17 21.9 +00.0	01						
02	159 33.3 +00.8	N 23 59.5 -00.2	293 10.7 +02.2	S 12 04.6 +00.0	309 50.1 +02.4	S 17 21.9 +00.0	02						
03	174 34.1 +00.8	N 23 59.3 -00.1	308 12.9 +02.2	S 12 04.6 -00.1	324 52.5 +02.4	S 17 21.9 +00.0	03						
04	189 34.9 +00.8	N 23 59.2 -00.2	323 15.1 +02.2	S 12 04.5 -00.1	339 54.9 +02.5	S 17 21.9 +00.0	04						
05	204 35.7 +00.8	N 23 59.0 -00.2	338 17.3 +02.3	S 12 04.4 -00.1	354 57.4 +02.4	S 17 21.9 +00.0	05						
06	219 36.5 +00.8	N 23 58.8 -00.2	353 19.6 +02.2	S 12 04.3 -00.1	9 59.8 +02.5	S 17 21.9 +00.0	06						
07	234 37.3 +00.8	N 23 58.6 -00.2	8 21.8 +02.2	S 12 04.2 +00.0	25 02.3 +02.4	S 17 21.9 +00.0	07						
08	249 38.1 +00.8	N 23 58.4 -00.1	23 24.0 +02.2	S 12 04.2 -00.1	40 04.7 +02.5	S 17 21.9 +00.0	08						
09	264 38.9 +00.8	N 23 58.3 -00.2	38 26.2 +02.3	S 12 04.1 -00.1	55 07.2 +02.4	S 17 21.9 +00.0	09						
10	279 39.7 +00.8	N 23 58.1 -00.2	53 28.5 +02.2	S 12 04.0 -00.1	70 09.6 +02.4	S 17 21.9 +00.0	10						
11	294 40.5 +00.8	N 23 57.9 -00.2	68 30.7 +02.2	S 12 03.9 +00.0	85 12.0 +02.5	S 17 21.9 +00.0	11						
12	309 41.3 +00.8	N 23 57.7 -00.2	83 32.9 +02.2	S 12 03.9 -00.1	100 14.5 +02.4	S 17 21.9 +00.0	12						
13	324 42.1 +00.8	N 23 57.5 -00.2	98 35.1 +02.2	S 12 03.8 -00.1	115 16.9 +02.5	S 17 21.9 +00.0	13						
14	339 42.9 +00.8	N 23 57.3 -00.1	113 37.3 +02.3	S 12 03.7 -00.1	130 19.4 +02.4	S 17 21.9 +00.0	14						
15	354 43.7 +00.8	N 23 57.2 -00.2	128 39.6 +02.2	S 12 03.6 -00.1	145 21.8 +02.4	S 17 21.9 +00.0	15						
16	9 44.5 +00.8	N 23 57.0 -00.2	143 41.8 +02.2	S 12 03.5 +00.0	160 24.2 +02.5	S 17 21.9 +00.0	16						
17	24 45.3 +00.8	N 23 56.8 -00.2	158 44.0 +02.2	S 12 03.5 -00.1	175 26.7 +02.4	S 17 21.9 +00.0	17						
18	39 46.1 +00.8	N 23 56.6 -00.2	173 46.2 +02.3	S 12 03.4 -00.1	190 29.1 +02.5	S 17 21.9 +00.0	18						
19	54 46.9 +00.9	N 23 56.4 -00.2	188 48.5 +02.2	S 12 03.3 -00.1	205 31.6 +02.4	S 17 21.9 +00.0	19						
20	69 47.8 +00.8	N 23 56.2 -00.1	203 50.7 +02.2	S 12 03.2 +00.0	220 34.0 +02.5	S 17 21.9 +00.0	20						
21	84 48.6 +00.8	N 23 56.1 -00.2	218 52.9 +02.2	S 12 03.2 -00.1	235 36.5 +02.4	S 17 21.9 +00.0	21						
22	99 49.4 +00.8	N 23 55.9 -00.2	233 55.1 +02.3	S 12 03.1 -00.1	250 38.9 +02.5	S 17 21.9 +00.0	22						
23	114 50.2 +00.8	N 23 55.7 -00.2	248 57.4 +02.2	S 12 03.0 -00.1	265 41.4 +02.4	S 17 21.9 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 254° 253° 253° 253° 253° 253°		SHA 027° 027° 027° 027° 027° 027°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:21		Greenwich Culmination Time: 06:26		Greenwich Culmination Time: 05:20								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 52.9 -00.1	N 19 46.1 +00.6	166 14.7 -00.8	N 22 37.9 +00.5	94 15.6 -30.3	N 19 54.3 -09.2	00						
01	195 52.8 +00.0	N 19 46.7 +00.5	181 13.9 -00.8	N 22 38.4 +00.5	108 45.3 -30.3	N 19 45.1 -09.3	01						
02	210 52.8 +00.0	N 19 47.2 +00.5	196 13.1 -00.8	N 22 38.9 +00.5	123 15.0 -30.2	N 19 35.8 -09.4	02						
03	225 52.8 +00.0	N 19 47.7 +00.6	211 12.3 -00.8	N 22 39.4 +00.5	137 44.8 -30.2	N 19 26.4 -09.5	03						
04	240 52.8 -00.1	N 19 48.3 +00.5	226 11.5 -00.8	N 22 39.9 +00.5	152 14.6 -30.2	N 19 16.9 -09.6	04						
05	255 52.7 +00.0	N 19 48.8 +00.5	241 10.7 -00.9	N 22 40.4 +00.5	166 44.4 -30.1	N 19 07.3 -09.7	05						
06	270 52.7 +00.0	N 19 49.3 +00.6	256 09.8 -00.8	N 22 40.9 +00.5	181 14.3 -30.2	N 18 57.6 -09.8	06						
07	285 52.7 -00.1	N 19 49.9 +00.5	271 09.0 -00.8	N 22 41.4 +00.5	195 44.1 -30.1	N 18 47.8 -10.0	07						
08	300 52.6 +00.0	N 19 50.4 +00.5	286 08.2 -00.8	N 22 41.9 +00.5	210 14.0 -30.0	N 18 37.8 -10.0	08						
09	315 52.6 +00.0	N 19 50.9 +00.6	301 07.4 -00.8	N 22 42.4 +00.5	224 44.0 -30.1	N 18 27.8 -10.1	09						
10	330 52.6 -00.1	N 19 51.5 +00.5	316 06.6 -00.8	N 22 42.9 +00.5	239 13.9 -30.0	N 18 17.7 -10.3	10						
11	345 52.5 +00.0	N 19 52.0 +00.5	331 05.8 -00.9	N 22 43.4 +00.5	253 43.9 -30.0	N 18 07.4 -10.3	11						
12	0 52.5 +00.0	N 19 52.5 +00.6	346 04.9 -00.8	N 22 43.9 +00.5	268 13.9 -29.9	N 17 57.1 -10.5	12						
13	15 52.5 -00.1	N 19 53.1 +00.5	1 04.1 -00.8	N 22 44.4 +00.5	282 44.0 -30.0	N 17 46.6 -10.5	13						
14	30 52.4 +00.0	N 19 53.6 +00.5	16 03.3 -00.8	N 22 44.9 +00.5	297 14.0 -29.9	N 17 36.1 -10.7	14						
15	45 52.4 +00.0	N 19 54.1 +00.5	31 02.5 -00.8	N 22 45.4 +00.5	311 44.1 -29.9	N 17 25.4 -10.7	15						
16	60 52.4 -00.1	N 19 54.6 +00.6	46 01.7 -00.9	N 22 45.9 +00.4	326 14.2 -29.9	N 17 14.7 -10.9	16						
17	75 52.3 +00.0	N 19 55.2 +00.5	61 00.8 -00.8	N 22 46.3 +00.5	340 44.3 -29.8	N 17 03.8 -10.9	17						
18	90 52.3 +00.0	N 19 55.7 +00.5	76 00.0 -00.8	N 22 46.8 +00.5	355 14.5 -29.8	N 16 52.9 -11.1	18						
19	105 52.3 -00.1	N 19 56.2 +00.5	90 59.2 -00.8	N 22 47.3 +00.5	9 44.7 -29.9	N 16 41.8 -11.1	19						
20	120 52.2 +00.0	N 19 56.7 +00.6	105 58.4 -00.9	N 22 47.8 +00.5	24 14.8 -29.7	N 16 30.7 -11.2	20						
21	135 52.2 +00.0	N 19 57.3 +00.5	120 57.5 -00.8	N 22 48.3 +00.5	38 45.1 -29.8	N 16 19.5 -11.4	21						
22	150 52.2 -00.1	N 19 57.8 +00.5	135 56.7 -00.8	N 22 48.8 +00.4	53 15.3 -29.7	N 16 08.1 -11.4	22						
23	165 52.1 +00.0	N 19 58.3 +00.5	150 55.9 -00.8	N 22 49.2 +00.5	67 45.6 -29.7	N 15 56.7 -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 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'4 15'4 15'5 15'5 15'6 15'6								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 56'5 56'7 56'8 56'9 57'1 57'2								
	SHA 304° 304° 304° 303° 303° 303°		SHA 289° 289° 289° 289° 288° 288°		SHA 216° 214° 212° 210° 208° 205°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 12:55		Greenwich Culmination Time: 18:19								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	129 51.0 +00.8	N 23 55.5 -00.2	263 59.6 +02.2	S 12 02.9 -00.1	280 43.8 +02.4	S 17 21.9 +00.0	00						
01	144 51.8 +00.8	N 23 55.3 -00.2	279 01.8 +02.2	S 12 02.8 +00.0	295 46.2 +02.5	S 17 21.9 +00.0	01						
02	159 52.6 +00.8	N 23 55.1 -00.1	294 04.0 +02.3	S 12 02.8 -00.1	310 48.7 +02.4	S 17 21.9 +00.0	02						
03	174 53.4 +00.8	N 23 55.0 -00.2	309 06.3 +02.2	S 12 02.7 -00.1	325 51.1 +02.5	S 17 21.9 +00.0	03						
04	189 54.2 +00.8	N 23 54.8 -00.2	324 08.5 +02.2	S 12 02.6 -00.1	340 53.6 +02.4	S 17 21.9 +00.0	04						
05	204 55.0 +00.8	N 23 54.6 -00.2	339 10.7 +02.2	S 12 02.5 +00.0	355 56.0 +02.5	S 17 21.9 +00.0	05						
06	219 55.8 +00.8	N 23 54.4 -00.2	354 12.9 +02.3	S 12 02.5 -00.1	10 58.5 +02.4	S 17 21.9 +00.0	06						
07	234 56.6 +00.8	N 23 54.2 -00.2	9 15.2 +02.2	S 12 02.4 -00.1	26 00.9 +02.5	S 17 21.9 +00.0	07						
08	249 57.4 +00.8	N 23 54.0 -00.2	24 17.4 +02.2	S 12 02.3 -00.1	41 03.4 +02.4	S 17 21.9 +00.0	08						
09	264 58.2 +00.8	N 23 53.8 -00.2	39 19.6 +02.3	S 12 02.2 +00.0	56 05.8 +02.5	S 17 21.9 +00.0	09						
10	279 59.0 +00.8	N 23 53.6 -00.1	54 21.9 +02.2	S 12 02.2 -00.1	71 08.3 +02.4	S 17 21.9 +00.0	10						
11	294 59.8 +00.8	N 23 53.5 -00.2	69 24.1 +02.2	S 12 02.1 -00.1	86 10.7 +02.4	S 17 21.9 +00.0	11						
12	310 00.6 +00.8	N 23 53.3 -00.2	84 26.3 +02.2	S 12 02.0 -00.1	101 13.1 +02.5	S 17 21.9 +00.0	12						
13	325 01.4 +00.8	N 23 53.1 -00.2	99 28.5 +02.3	S 12 01.9 -00.1	116 15.6 +02.4	S 17 21.9 +00.0	13						
14	340 02.2 +00.8	N 23 52.9 -00.2	114 30.8 +02.2	S 12 01.8 +00.0	131 18.0 +02.5	S 17 21.9 +00.0	14						
15	355 03.0 +00.8	N 23 52.7 -00.2	129 33.0 +02.2	S 12 01.8 -00.1	146 20.5 +02.4	S 17 21.9 +00.0	15						
16	10 03.8 +00.8	N 23 52.5 -00.2	144 35.2 +02.3	S 12 01.7 -00.1	161 22.9 +02.5	S 17 21.9 +00.0	16						
17	25 04.6 +00.8	N 23 52.3 -00.2	159 37.5 +02.2	S 12 01.6 -00.1	176 25.4 +02.4	S 17 21.9 +00.0	17						
18	40 05.4 +00.8	N 23 52.1 -00.2	174 39.7 +02.2	S 12 01.5 +00.0	191 27.8 +02.5	S 17 21.9 +00.0	18						
19	55 06.2 +00.8	N 23 51.9 -00.2	189 41.9 +02.3	S 12 01.5 -00.1	206 30.3 +02.4	S 17 21.9 +00.0	19						
20	70 07.0 +00.9	N 23 51.7 -00.1	204 44.2 +02.2	S 12 01.4 -00.1	221 32.7 +02.5	S 17 21.9 +00.0	20						
21	85 07.9 +00.8	N 23 51.6 -00.2	219 46.4 +02.2	S 12 01.3 -00.1	236 35.2 +02.4	S 17 21.9 +00.0	21						
22	100 08.7 +00.8	N 23 51.4 -00.2	234 48.6 +02.3	S 12 01.2 +00.0	251 37.6 +02.5	S 17 21.9 +00.0	22						
23	115 09.5 +00.8	N 23 51.2 -00.2	249 50.9 +02.2	S 12 01.2 -00.1	266 40.1 +02.4	S 17 21.9 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 253° 253° 253° 253° 252° 252°		SHA 027° 027° 027° 027° 027° 027°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:19		Greenwich Culmination Time: 06:23		Greenwich Culmination Time: 05:16								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 52.1 +00.0	N 19 58.8 +00.5	165 55.1 -00.8	N 22 49.7 +00.5	82 15.9 -29.7	N 15 45.2 -11.6	00						
01	195 52.1 -00.1	N 19 59.3 +00.6	180 54.3 -00.9	N 22 50.2 +00.5	96 46.2 -29.7	N 15 33.6 -11.8	01						
02	210 52.0 +00.0	N 19 59.9 +00.5	195 53.4 -00.8	N 22 50.7 +00.4	111 16.5 -29.7	N 15 21.8 -11.8	02						
03	225 52.0 +00.0	N 20 00.4 +00.5	210 52.6 -00.8	N 22 51.1 +00.5	125 46.8 -29.6	N 15 10.0 -11.9	03						
04	240 52.0 -00.1	N 20 00.9 +00.5	225 51.8 -00.8	N 22 51.6 +00.5	140 17.2 -29.6	N 14 58.1 -11.9	04						
05	255 51.9 +00.0	N 20 01.4 +00.5	240 51.0 -00.9	N 22 52.1 +00.5	154 47.6 -29.6	N 14 46.2 -12.1	05						
06	270 51.9 -00.1	N 20 01.9 +00.6	255 50.1 -00.8	N 22 52.6 +00.4	169 18.0 -29.6	N 14 34.1 -12.2	06						
07	285 51.8 +00.0	N 20 02.5 +00.5	270 49.3 -00.8	N 22 53.0 +00.5	183 48.4 -29.5	N 14 21.9 -12.2	07						
08	300 51.8 +00.0	N 20 03.0 +00.5	285 48.5 -00.8	N 22 53.5 +00.5	198 18.9 -29.6	N 14 09.7 -12.3	08						
09	315 51.8 -00.1	N 20 03.5 +00.5	300 47.7 -00.9	N 22 54.0 +00.4	212 49.3 -29.5	N 13 57.4 -12.5	09						
10	330 51.7 +00.0	N 20 04.0 +00.5	315 46.8 -00.8	N 22 54.4 +00.5	227 19.8 -29.5	N 13 44.9 -12.5	10						
11	345 51.7 +00.0	N 20 04.5 +00.5	330 46.0 -00.8	N 22 54.9 +00.5	241 50.3 -29.5	N 13 32.4 -12.6	11						
12	0 51.7 -00.1	N 20 05.0 +00.5	345 45.2 -00.9	N 22 55.4 +00.4	256 20.8 -29.5	N 13 19.8 -12.6	12						
13	15 51.6 +00.0	N 20 05.5 +00.6	0 44.3 -00.8	N 22 55.8 +00.5	270 51.3 -29.5	N 13 07.2 -12.8	13						
14	30 51.6 -00.1	N 20 06.1 +00.5	15 43.5 -00.8	N 22 56.3 +00.5	285 21.8 -29.5	N 12 54.4 -12.8	14						
15	45 51.5 +00.0	N 20 06.6 +00.5	30 42.7 -00.8	N 22 56.8 +00.4	299 52.3 -29.4	N 12 41.6 -12.9	15						
16	60 51.5 +00.0	N 20 07.1 +00.5	45 41.9 -00.9	N 22 57.2 +00.5	314 22.9 -29.4	N 12 28.7 -13.0	16						
17	75 51.5 -00.1	N 20 07.6 +00.5	60 41.0 -00.8	N 22 57.7 +00.4	328 53.5 -29.5	N 12 15.7 -13.1	17						
18	90 51.4 +00.0	N 20 08.1 +00.5	75 40.2 -00.8	N 22 58.1 +00.5	343 24.0 -29.4	N 12 02.6 -13.1	18						
19	105 51.4 -00.1	N 20 08.6 +00.5	90 39.4 -00.9	N 22 58.6 +00.5	357 54.6 -29.4	N 11 49.5 -13.3	19						
20	120 51.3 +00.0	N 20 09.1 +00.5	105 38.5 -00.8	N 22 59.1 +00.4	12 25.2 -29.4	N 11 36.2 -13.3	20						
21	135 51.3 +00.0	N 20 09.6 +00.5	120 37.7 -00.8	N 22 59.5 +00.5	26 55.8 -29.4	N 11 22.9 -13.4	21						
22	150 51.3 -00.1	N 20 10.1 +00.6	135 36.9 -00.9	N 22 60.0 +00.4	41 26.4 -29.4	N 11 09.5 -13.4	22						
23	165 51.2 +00.0	N 20 10.7 +00.5	150 36.0 -00.8	N 23 00.4 +00.5	55 57.0 -29.4	N 10 56.1 -13.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'6 15'7 15'7 15'7 15'8 15'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 57'4 57'5 57'7 57'8 58'0 58'1								
	SHA 303° 303° 303° 302° 302° 302°		SHA 288° 288° 288° 287° 287° 287°		SHA 203° 201° 199° 197° 195° 193°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 12:57		Greenwich Culmination Time: 19:08								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	130 10.3 +00.8	N 23 51.0 -00.2	264 53.1 +02.2	S 12 01.1 -00.1	281 42.5 +02.5	S 17 21.9 +00.0	00						
01	145 11.1 +00.8	N 23 50.8 -00.2	279 55.3 +02.2	S 12 01.0 -00.1	296 45.0 +02.4	S 17 21.9 +00.0	01						
02	160 11.9 +00.8	N 23 50.6 -00.2	294 57.5 +02.3	S 12 00.9 +00.0	311 47.4 +02.5	S 17 21.9 +00.0	02						
03	175 12.7 +00.8	N 23 50.4 -00.2	309 59.8 +02.2	S 12 00.9 -00.1	326 49.9 +02.4	S 17 21.9 +00.0	03						
04	190 13.5 +00.8	N 23 50.2 -00.2	325 02.0 +02.2	S 12 00.8 -00.1	341 52.3 +02.5	S 17 21.9 +00.0	04						
05	205 14.3 +00.8	N 23 50.0 -00.2	340 04.2 +02.3	S 12 00.7 -00.1	356 54.8 +02.4	S 17 21.9 +00.0	05						
06	220 15.1 +00.8	N 23 49.8 -00.2	355 06.5 +02.2	S 12 00.6 +00.0	11 57.2 +02.5	S 17 21.9 +00.0	06						
07	235 15.9 +00.8	N 23 49.6 -00.2	10 08.7 +02.2	S 12 00.6 -00.1	26 59.7 +02.4	S 17 21.9 +00.0	07						
08	250 16.7 +00.8	N 23 49.4 -00.2	25 10.9 +02.3	S 12 00.5 -00.1	42 02.1 +02.5	S 17 21.9 +00.0	08						
09	265 17.5 +00.8	N 23 49.2 -00.2	40 13.2 +02.2	S 12 00.4 +00.0	57 04.6 +02.4	S 17 21.9 +00.0	09						
10	280 18.3 +00.8	N 23 49.0 -00.2	55 15.4 +02.3	S 12 00.4 -00.1	72 07.0 +02.5	S 17 21.9 +00.0	10						
11	295 19.1 +00.8	N 23 48.8 -00.1	70 17.7 +02.2	S 12 00.3 -00.1	87 09.5 +02.4	S 17 21.9 +00.0	11						
12	310 19.9 +00.8	N 23 48.7 -00.2	85 19.9 +02.2	S 12 00.2 -00.1	102 11.9 +02.5	S 17 21.9 +00.0	12						
13	325 20.7 +00.8	N 23 48.5 -00.2	100 22.1 +02.3	S 12 00.1 +00.0	117 14.4 +02.4	S 17 21.9 +00.0	13						
14	340 21.5 +00.9	N 23 48.3 -00.2	115 24.4 +02.2	S 12 00.1 -00.1	132 16.8 +02.5	S 17 21.9 +00.0	14						
15	355 22.4 +00.8	N 23 48.1 -00.2	130 26.6 +02.2	S 11 60.0 -00.1	147 19.3 +02.4	S 17 21.9 +00.0	15						
16	10 23.2 +00.8	N 23 47.9 -00.2	145 28.8 +02.3	S 11 59.9 -00.1	162 21.7 +02.5	S 17 21.9 +00.0	16						
17	25 24.0 +00.8	N 23 47.7 -00.2	160 31.1 +02.2	S 11 59.8 +00.0	177 24.2 +02.4	S 17 21.9 +00.0	17						
18	40 24.8 +00.8	N 23 47.5 -00.2	175 33.3 +02.2	S 11 59.8 -00.1	192 26.6 +02.5	S 17 21.9 +00.0	18						
19	55 25.6 +00.8	N 23 47.3 -00.2	190 35.5 +02.3	S 11 59.7 -00.1	207 29.1 +02.4	S 17 21.9 +00.0	19						
20	70 26.4 +00.8	N 23 47.1 -00.2	205 37.8 +02.2	S 11 59.6 -00.1	222 31.5 +02.5	S 17 21.9 +00.0	20						
21	85 27.2 +00.8	N 23 46.9 -00.2	220 40.0 +02.3	S 11 59.5 +00.0	237 34.0 +02.4	S 17 21.9 +00.0	21						
22	100 28.0 +00.8	N 23 46.7 -00.2	235 42.3 +02.2	S 11 59.5 -00.1	252 36.4 +02.5	S 17 21.9 +00.0	22						
23	115 28.8 +00.8	N 23 46.5 -00.2	250 44.5 +02.2	S 11 59.4 -00.1	267 38.9 +02.4	S 17 21.9 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 252° 252° 252° 252° 252° 252°		SHA 027° 027° 027° 027° 027° 027°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:18		Greenwich Culmination Time: 06:19		Greenwich Culmination Time: 05:12								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 51.2 -00.1	N 20	11.2 +00.5	165 35.2 -00.8	N 23	00.9 +00.4	70 27.6 -29.3	N 10	42.6 -13.6	00			
01	195 51.1 +00.0	N 20	11.7 +00.5	180 34.4 -00.8	N 23	01.3 +00.5	84 58.3 -29.4	N 10	29.0 -13.7	01			
02	210 51.1 +00.0	N 20	12.2 +00.5	195 33.6 -00.9	N 23	01.8 +00.4	99 28.9 -29.4	N 10	15.3 -13.7	02			
03	225 51.1 -00.1	N 20	12.7 +00.5	210 32.7 -00.8	N 23	02.2 +00.5	113 59.5 -29.4	N 10	01.6 -13.8	03			
04	240 51.0 +00.0	N 20	13.2 +00.5	225 31.9 -00.8	N 23	02.7 +00.4	128 30.1 -29.3	N 09	47.8 -13.9	04			
05	255 51.0 -00.1	N 20	13.7 +00.5	240 31.1 -00.9	N 23	03.1 +00.5	143 00.8 -29.4	N 09	33.9 -14.0	05			
06	270 50.9 +00.0	N 20	14.2 +00.5	255 30.2 -00.8	N 23	03.6 +00.4	157 31.4 -29.3	N 09	19.9 -14.0	06			
07	285 50.9 +00.0	N 20	14.7 +00.5	270 29.4 -00.8	N 23	04.0 +00.4	172 02.1 -29.4	N 09	05.9 -14.0	07			
08	300 50.9 -00.1	N 20	15.2 +00.5	285 28.6 -00.9	N 23	04.4 +00.5	186 32.7 -29.4	N 08	51.9 -14.2	08			
09	315 50.8 +00.0	N 20	15.7 +00.5	300 27.7 -00.8	N 23	04.9 +00.4	201 03.3 -29.4	N 08	37.7 -14.2	09			
10	330 50.8 -00.1	N 20	16.2 +00.5	315 26.9 -00.8	N 23	05.3 +00.5	215 33.9 -29.3	N 08	23.5 -14.2	10			
11	345 50.7 +00.0	N 20	16.7 +00.5	330 26.1 -00.9	N 23	05.8 +00.4	230 04.6 -29.4	N 08	09.3 -14.4	11			
12	0 50.7 -00.1	N 20	17.2 +00.5	345 25.2 -00.8	N 23	06.2 +00.4	244 35.2 -29.4	N 07	54.9 -14.4	12			
13	15 50.6 +00.0	N 20	17.7 +00.5	0 24.4 -00.9	N 23	06.6 +00.5	259 05.8 -29.4	N 07	40.5 -14.4	13			
14	30 50.6 -00.1	N 20	18.2 +00.5	15 23.5 -00.8	N 23	07.1 +00.4	273 36.4 -29.4	N 07	26.1 -14.5	14			
15	45 50.5 +00.0	N 20	18.7 +00.5	30 22.7 -00.8	N 23	07.5 +00.4	288 07.0 -29.4	N 07	11.6 -14.5	15			
16	60 50.5 +00.0	N 20	19.2 +00.5	45 21.9 -00.9	N 23	07.9 +00.5	302 37.6 -29.4	N 06	57.1 -14.7	16			
17	75 50.5 -00.1	N 20	19.7 +00.5	60 21.0 -00.8	N 23	08.4 +00.4	317 08.2 -29.4	N 06	42.4 -14.6	17			
18	90 50.4 +00.0	N 20	20.2 +00.5	75 20.2 -00.8	N 23	08.8 +00.4	331 38.8 -29.5	N 06	27.8 -14.7	18			
19	105 50.4 -00.1	N 20	20.7 +00.5	90 19.4 -00.9	N 23	09.2 +00.5	346 09.3 -29.4	N 06	13.1 -14.8	19			
20	120 50.3 +00.0	N 20	21.2 +00.5	105 18.5 -00.8	N 23	09.7 +00.4	0 39.9 -29.5	N 05	58.3 -14.8	20			
21	135 50.3 -00.1	N 20	21.7 +00.5	120 17.7 -00.9	N 23	10.1 +00.4	15 10.4 -29.5	N 05	43.5 -14.9	21			
22	150 50.2 +00.0	N 20	22.2 +00.5	135 16.8 -00.8	N 23	10.5 +00.4	29 40.9 -29.5	N 05	28.6 -14.9	22			
23	165 50.2 -00.1	N 20	22.7 +00.5	150 16.0 -00.8	N 23	10.9 +00.5	44 11.4 -29.5	N 05	13.7 -15.0	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 00'1 00'1 00'1 00'1 00'1 00'1			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 00'1 00'1 00'1 00'1 00'1 00'1			HP 58'3 58'4 58'6 58'7 58'9 59'0						
	SHA 302° 302° 302° 301° 301° 301°			SHA 287° 286° 286° 286° 286° 286°			SHA 191° 188° 186° 184° 182° 180°						
	Greenwich Culmination Time: 11:56			Greenwich Culmination Time: 12:58			Greenwich Culmination Time: 19:57						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	130 29.6 +00.8	N 23	46.3 -00.2	265 46.7 +02.3	S 11	59.3 +00.0	282 41.3 +02.5	S 17	21.9 +00.0	00			
01	145 30.4 +00.8	N 23	46.1 -00.2	280 49.0 +02.2	S 11	59.3 -00.1	297 43.8 +02.4	S 17	21.9 +00.1	01			
02	160 31.2 +00.8	N 23	45.9 -00.2	295 51.2 +02.2	S 11	59.2 -00.1	312 46.2 +02.5	S 17	22.0 +00.0	02			
03	175 32.0 +00.8	N 23	45.7 -00.2	310 53.4 +02.3	S 11	59.1 -00.1	327 48.7 +02.4	S 17	22.0 +00.0	03			
04	190 32.8 +00.8	N 23	45.5 -00.2	325 55.7 +02.2	S 11	59.0 +00.0	342 51.1 +02.5	S 17	22.0 +00.0	04			
05	205 33.6 +00.9	N 23	45.3 -00.2	340 57.9 +02.3	S 11	59.0 -00.1	357 53.6 +02.4	S 17	22.0 +00.0	05			
06	220 34.5 +00.8	N 23	45.1 -00.2	356 00.2 +02.2	S 11	58.9 -00.1	12 56.0 +02.5	S 17	22.0 +00.0	06			
07	235 35.3 +00.8	N 23	44.9 -00.2	11 02.4 +02.3	S 11	58.8 +00.0	27 58.5 +02.5	S 17	22.0 +00.0	07			
08	250 36.1 +00.8	N 23	44.7 -00.2	26 04.7 +02.2	S 11	58.8 -00.1	43 01.0 +02.4	S 17	22.0 +00.0	08			
09	265 36.9 +00.8	N 23	44.5 -00.2	41 06.9 +02.2	S 11	58.7 -00.1	58 03.4 +02.5	S 17	22.0 +00.0	09			
10	280 37.7 +00.8	N 23	44.3 -00.2	56 09.1 +02.3	S 11	58.6 -00.1	73 05.9 +02.4	S 17	22.0 +00.0	10			
11	295 38.5 +00.8	N 23	44.1 -00.2	71 11.4 +02.2	S 11	58.5 +00.0	88 08.3 +02.5	S 17	22.0 +00.0	11			
12	310 39.3 +00.8	N 23	43.9 -00.2	86 13.6 +02.3	S 11	58.5 -00.1	103 10.8 +02.4	S 17	22.0 +00.0	12			
13	325 40.1 +00.8	N 23	43.7 -00.2	101 15.9 +02.2	S 11	58.4 -00.1	118 13.2 +02.5	S 17	22.0 +00.0	13			
14	340 40.9 +00.8	N 23	43.5 -00.2	116 18.1 +02.2	S 11	58.3 +00.0	133 15.7 +02.4	S 17	22.0 +00.0	14			
15	355 41.7 +00.8	N 23	43.3 -00.2	131 20.3 +02.3	S 11	58.3 -00.1	148 18.1 +02.5	S 17	22.0 +00.0	15			
16	10 42.5 +00.8	N 23	43.1 -00.2	146 22.6 +02.2	S 11	58.2 -00.1	163 20.6 +02.4	S 17	22.0 +00.0	16			
17	25 43.3 +00.8	N 23	42.9 -00.2	161 24.8 +02.3	S 11	58.1 -00.1	178 23.0 +02.5	S 17	22.0 +00.0	17			
18	40 44.1 +00.8	N 23	42.7 -00.3	176 27.1 +02.2	S 11	58.0 +00.0	193 25.5 +02.5	S 17	22.0 +00.0	18			
19	55 44.9 +00.9	N 23	42.4 -00.2	191 29.3 +02.3	S 11	58.0 -00.1	208 28.0 +02.4	S 17	22.0 +00.0	19			
20	70 45.8 +00.8	N 23	42.2 -00.2	206 31.6 +02.2	S 11	57.9 -00.1	223 30.4 +02.5	S 17	22.0 +00.0	20			
21	85 46.6 +00.8	N 23	42.0 -00.2	221 33.8 +02.2	S 11	57.8 +00.0	238 32.9 +02.4	S 17	22.0 +00.0	21			
22	100 47.4 +00.8	N 23	41.8 -00.2	236 36.0 +02.3	S 11	57.8 -00.1	253 35.3 +02.5	S 17	22.0 +00.0	22			
23	115 48.2 +00.8	N 23	41.6 -00.2	251 38.3 +02.2	S 11	57.7 -00.1	268 37.8 +02.4	S 17	22.0 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 252° 251° 251° 251° 251° 251°			SHA 027° 027° 027° 027° 027° 027°			SHA 044° 044° 044° 044° 044° 044°						
	Greenwich Culmination Time: 15:17			Greenwich Culmination Time: 06:15			Greenwich Culmination Time: 05:08						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 50.1 +00.0	N 20 23.2 +00.4	165 15.2 -00.9	N 23 11.4 +00.4	58 41.9 -29.5	N 04 58.7 -15.0	00						
01	195 50.1 +00.0	N 20 23.6 +00.5	180 14.3 -00.8	N 23 11.8 +00.4	73 12.4 -29.6	N 04 43.7 -15.0	01						
02	210 50.1 -00.1	N 20 24.1 +00.5	195 13.5 -00.9	N 23 12.2 +00.4	87 42.8 -29.6	N 04 28.7 -15.1	02						
03	225 50.0 +00.0	N 20 24.6 +00.5	210 12.6 -00.8	N 23 12.6 +00.5	102 13.2 -29.6	N 04 13.6 -15.2	03						
04	240 50.0 -00.1	N 20 25.1 +00.5	225 11.8 -00.8	N 23 13.1 +00.4	116 43.6 -29.6	N 03 58.4 -15.1	04						
05	255 49.9 +00.0	N 20 25.6 +00.5	240 11.0 -00.9	N 23 13.5 +00.4	131 14.0 -29.6	N 03 43.3 -15.3	05						
06	270 49.9 -00.1	N 20 26.1 +00.5	255 10.1 -00.8	N 23 13.9 +00.4	145 44.4 -29.7	N 03 28.0 -15.2	06						
07	285 49.8 +00.0	N 20 26.6 +00.5	270 09.3 -00.9	N 23 14.3 +00.4	160 14.7 -29.7	N 03 12.8 -15.3	07						
08	300 49.8 -00.1	N 20 27.1 +00.5	285 08.4 -00.8	N 23 14.7 +00.4	174 45.0 -29.7	N 02 57.5 -15.3	08						
09	315 49.7 +00.0	N 20 27.6 +00.4	300 07.6 -00.8	N 23 15.1 +00.4	189 15.3 -29.7	N 02 42.2 -15.4	09						
10	330 49.7 -00.1	N 20 28.0 +00.5	315 06.8 -00.9	N 23 15.5 +00.5	203 45.6 -29.8	N 02 26.8 -15.4	10						
11	345 49.6 +00.0	N 20 28.5 +00.5	330 05.9 -00.8	N 23 16.0 +00.4	218 15.8 -29.8	N 02 11.4 -15.4	11						
12	0 49.6 -00.1	N 20 29.0 +00.5	345 05.1 -00.9	N 23 16.4 +00.4	232 46.0 -29.9	N 01 56.0 -15.5	12						
13	15 49.5 +00.0	N 20 29.5 +00.5	0 04.2 -00.8	N 23 16.8 +00.4	247 16.1 -29.8	N 01 40.5 -15.4	13						
14	30 49.5 -00.1	N 20 30.0 +00.5	15 03.4 -00.9	N 23 17.2 +00.4	261 46.3 -29.9	N 01 25.1 -15.6	14						
15	45 49.4 +00.0	N 20 30.5 +00.5	30 02.5 -00.8	N 23 17.6 +00.4	276 16.4 -30.0	N 01 09.5 -15.5	15						
16	60 49.4 -00.1	N 20 31.0 +00.4	45 01.7 -00.8	N 23 18.0 +00.4	290 46.4 -29.9	N 00 54.0 -15.6	16						
17	75 49.3 +00.0	N 20 31.4 +00.5	60 00.9 -00.9	N 23 18.4 +00.4	305 16.5 -30.0	N 00 38.4 -15.5	17						
18	90 49.3 -00.1	N 20 31.9 +00.5	75 00.0 -00.8	N 23 18.8 +00.4	319 46.5 -30.1	N 00 22.9 -15.6	18						
19	105 49.2 +00.0	N 20 32.4 +00.5	89 59.2 -00.9	N 23 19.2 +00.4	334 16.4 -30.1	N 00 07.3 -15.7	19						
20	120 49.2 -00.1	N 20 32.9 +00.5	104 58.3 -00.8	N 23 19.6 +00.4	348 46.3 -30.1	S 00 08.4 +15.6	20						
21	135 49.1 +00.0	N 20 33.4 +00.4	119 57.5 -00.9	N 23 20.0 +00.4	3 16.2 -30.2	S 00 24.0 +15.7	21						
22	150 49.1 -00.1	N 20 33.8 +00.5	134 56.6 -00.8	N 23 20.4 +00.4	17 46.0 -30.2	S 00 39.7 +15.6	22						
23	165 49.0 +00.0	N 20 34.3 +00.5	149 55.8 -00.9	N 23 20.8 +00.4	32 15.8 -30.2	S 00 55.3 +15.7	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 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'1 16'2 16'2 16'2 16'3 16'3								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 59'2 59'3 59'5 59'6 59'7 59'9								
	SHA 301° 301° 301° 300° 300° 300°		SHA 285° 285° 285° 285° 284° 284°		SHA 178° 176° 174° 171° 169° 167°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 12:59		Greenwich Culmination Time: 20:46								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	130 49.0 +00.8	N 23 41.4 -00.2	266 40.5 +02.3	S 11 57.6 -00.1	283 40.2 +02.5	S 17 22.0 +00.0	00						
01	145 49.8 +00.8	N 23 41.2 -00.2	281 42.8 +02.2	S 11 57.5 +00.0	298 42.7 +02.4	S 17 22.0 +00.0	01						
02	160 50.6 +00.8	N 23 41.0 -00.2	296 45.0 +02.3	S 11 57.5 -00.1	313 45.1 +02.5	S 17 22.0 +00.0	02						
03	175 51.4 +00.8	N 23 40.8 -00.2	311 47.3 +02.2	S 11 57.4 -00.1	328 47.6 +02.5	S 17 22.0 +00.0	03						
04	190 52.2 +00.8	N 23 40.6 -00.2	326 49.5 +02.3	S 11 57.3 +00.0	343 50.1 +02.4	S 17 22.0 +00.1	04						
05	205 53.0 +00.8	N 23 40.4 -00.2	341 51.8 +02.2	S 11 57.3 -00.1	358 52.5 +02.5	S 17 22.1 +00.0	05						
06	220 53.8 +00.8	N 23 40.2 -00.2	356 54.0 +02.3	S 11 57.2 -00.1	13 55.0 +02.4	S 17 22.1 +00.0	06						
07	235 54.6 +00.9	N 23 40.0 -00.2	11 56.3 +02.2	S 11 57.1 +00.0	28 57.4 +02.5	S 17 22.1 +00.0	07						
08	250 55.5 +00.8	N 23 39.8 -00.2	26 58.5 +02.3	S 11 57.1 -00.1	43 59.9 +02.5	S 17 22.1 +00.0	08						
09	265 56.3 +00.8	N 23 39.6 -00.3	42 00.8 +02.2	S 11 57.0 -00.1	59 02.4 +02.4	S 17 22.1 +00.0	09						
10	280 57.1 +00.8	N 23 39.3 -00.2	57 03.0 +02.3	S 11 56.9 +00.0	74 04.8 +02.5	S 17 22.1 +00.0	10						
11	295 57.9 +00.8	N 23 39.1 -00.2	72 05.3 +02.2	S 11 56.9 -00.1	89 07.3 +02.4	S 17 22.1 +00.0	11						
12	310 58.7 +00.8	N 23 38.9 -00.2	87 07.5 +02.2	S 11 56.8 -00.1	104 09.7 +02.5	S 17 22.1 +00.0	12						
13	325 59.5 +00.8	N 23 38.7 -00.2	102 09.7 +02.3	S 11 56.7 -00.1	119 12.2 +02.4	S 17 22.1 +00.0	13						
14	341 00.3 +00.8	N 23 38.5 -00.2	117 12.0 +02.2	S 11 56.6 +00.0	134 14.6 +02.5	S 17 22.1 +00.0	14						
15	356 01.1 +00.8	N 23 38.3 -00.2	132 14.2 +02.3	S 11 56.6 -00.1	149 17.1 +02.5	S 17 22.1 +00.0	15						
16	11 01.9 +00.8	N 23 38.1 -00.2	147 16.5 +02.2	S 11 56.5 -00.1	164 19.6 +02.4	S 17 22.1 +00.0	16						
17	26 02.7 +00.9	N 23 37.9 -00.2	162 18.7 +02.3	S 11 56.4 +00.0	179 22.0 +02.5	S 17 22.1 +00.0	17						
18	41 03.6 +00.8	N 23 37.7 -00.2	177 21.0 +02.2	S 11 56.4 -00.1	194 24.5 +02.4	S 17 22.1 +00.0	18						
19	56 04.4 +00.8	N 23 37.5 -00.3	192 23.2 +02.3	S 11 56.3 -00.1	209 26.9 +02.5	S 17 22.1 +00.0	19						
20	71 05.2 +00.8	N 23 37.2 -00.2	207 25.5 +02.2	S 11 56.2 +00.0	224 29.4 +02.5	S 17 22.1 +00.0	20						
21	86 06.0 +00.8	N 23 37.0 -00.2	222 27.7 +02.3	S 11 56.2 -00.1	239 31.9 +02.4	S 17 22.1 +00.0	21						
22	101 06.8 +00.8	N 23 36.8 -00.2	237 30.0 +02.3	S 11 56.1 -00.1	254 34.3 +02.5	S 17 22.1 +00.0	22						
23	116 07.6 +00.8	N 23 36.6 -00.2	252 32.3 +02.2	S 11 56.0 +00.0	269 36.8 +02.4	S 17 22.1 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 251° 251° 251° 251° 250° 250°		SHA 027° 027° 027° 027° 027° 027°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:15		Greenwich Culmination Time: 06:12		Greenwich Culmination Time: 05:04								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 38%				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	180 49.0 -00.1	N 20 34.8 +00.5	164 54.9 -00.8	N 23 21.2 +00.4	46 45.6 -30.3	S 01 11.0 +15.7	00						
01	195 48.9 +00.0	N 20 35.3 +00.4	179 54.1 -00.9	N 23 21.6 +00.4	61 15.3 -30.4	S 01 26.7 +15.7	01						
02	210 48.9 -00.1	N 20 35.7 +00.5	194 53.2 -00.8	N 23 22.0 +00.4	75 44.9 -30.4	S 01 42.4 +15.8	02						
03	225 48.8 +00.0	N 20 36.2 +00.5	209 52.4 -00.8	N 23 22.4 +00.4	90 14.5 -30.4	S 01 58.2 +15.7	03						
04	240 48.8 -00.1	N 20 36.7 +00.5	224 51.6 -00.9	N 23 22.8 +00.4	104 44.1 -30.5	S 02 13.9 +15.7	04						
05	255 48.7 +00.0	N 20 37.2 +00.4	239 50.7 -00.8	N 23 23.2 +00.4	119 13.6 -30.5	S 02 29.6 +15.8	05						
06	270 48.7 -00.1	N 20 37.6 +00.5	254 49.9 -00.9	N 23 23.6 +00.3	133 43.1 -30.6	S 02 45.4 +15.7	06						
07	285 48.6 +00.0	N 20 38.1 +00.5	269 49.0 -00.8	N 23 23.9 +00.4	148 12.5 -30.7	S 03 01.1 +15.7	07						
08	300 48.6 -00.1	N 20 38.6 +00.5	284 48.2 -00.9	N 23 24.3 +00.4	162 41.8 -30.7	S 03 16.8 +15.8	08						
09	315 48.5 +00.0	N 20 39.1 +00.4	299 47.3 -00.8	N 23 24.7 +00.4	177 11.1 -30.7	S 03 32.6 +15.7	09						
10	330 48.5 -00.1	N 20 39.5 +00.5	314 46.5 -00.9	N 23 25.1 +00.4	191 40.4 -30.8	S 03 48.3 +15.7	10						
11	345 48.4 -00.1	N 20 40.0 +00.5	329 45.6 -00.8	N 23 25.5 +00.4	206 09.6 -30.9	S 04 04.0 +15.8	11						
12	0 48.3 +00.0	N 20 40.5 +00.4	344 44.8 -00.9	N 23 25.9 +00.3	220 38.7 -30.9	S 04 19.8 +15.7	12						
13	15 48.3 -00.1	N 20 40.9 +00.5	359 43.9 -00.8	N 23 26.2 +00.4	235 07.8 -31.0	S 04 35.5 +15.7	13						
14	30 48.2 +00.0	N 20 41.4 +00.5	14 43.1 -00.9	N 23 26.6 +00.4	249 36.8 -31.0	S 04 51.2 +15.7	14						
15	45 48.2 -00.1	N 20 41.9 +00.5	29 42.2 -00.8	N 23 27.0 +00.4	264 05.8 -31.2	S 05 06.9 +15.7	15						
16	60 48.1 +00.0	N 20 42.4 +00.4	44 41.4 -00.9	N 23 27.4 +00.4	278 34.6 -31.1	S 05 22.6 +15.7	16						
17	75 48.1 -00.1	N 20 42.8 +00.5	59 40.5 -00.8	N 23 27.8 +00.3	293 03.5 -31.3	S 05 38.3 +15.6	17						
18	90 48.0 +00.0	N 20 43.3 +00.5	74 39.7 -00.9	N 23 28.1 +00.4	307 32.2 -31.3	S 05 53.9 +15.7	18						
19	105 48.0 -00.1	N 20 43.8 +00.4	89 38.8 -00.8	N 23 28.5 +00.4	322 00.9 -31.3	S 06 09.6 +15.6	19						
20	120 47.9 +00.0	N 20 44.2 +00.5	104 38.0 -00.9	N 23 28.9 +00.4	336 29.6 -31.5	S 06 25.2 +15.6	20						
21	135 47.9 -00.1	N 20 44.7 +00.4	119 37.1 -00.8	N 23 29.3 +00.3	350 58.1 -31.5	S 06 40.8 +15.5	21						
22	150 47.8 -00.1	N 20 45.1 +00.5	134 36.3 -00.9	N 23 29.6 +00.4	5 26.6 -31.5	S 06 56.3 +15.6	22						
23	165 47.7 +00.0	N 20 45.6 +00.5	149 35.4 -00.8	N 23 30.0 +00.4	19 55.1 -31.7	S 07 11.9 +15.5	23						
	UT 02 06 10 14 18 22 SD 15'8 15'8 15'8 15'8 15'8 15'8 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 300° 300° 300° 299° 299° 299° Greenwich Culmination Time: 11:56	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 284° 284° 284° 283° 283° 283° Greenwich Culmination Time: 13:01	UT 02 06 10 14 18 22 SD 16'4 16'4 16'4 16'5 16'5 16'5 HP 60'0 60'1 60'3 60'4 60'5 60'6 SHA 165° 163° 160° 158° 156° 154° Greenwich Culmination Time: 21:37										
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	131 08.4 +00.8	N 23 36.4 -00.2	267 34.5 +02.3	S 11 56.0 -00.1	284 39.2 +02.5	S 17 22.1 +00.0	00						
01	146 09.2 +00.8	N 23 36.2 -00.2	282 36.8 +02.2	S 11 55.9 -00.1	299 41.7 +02.5	S 17 22.1 +00.1	01						
02	161 10.0 +00.8	N 23 36.0 -00.2	297 39.0 +02.3	S 11 55.8 +00.0	314 44.2 +02.4	S 17 22.2 +00.0	02						
03	176 10.8 +00.8	N 23 35.8 -00.3	312 41.3 +02.2	S 11 55.8 -00.1	329 46.6 +02.5	S 17 22.2 +00.0	03						
04	191 11.6 +00.9	N 23 35.5 -00.2	327 43.5 +02.3	S 11 55.7 -00.1	344 49.1 +02.4	S 17 22.2 +00.0	04						
05	206 12.5 +00.8	N 23 35.3 -00.2	342 45.8 +02.2	S 11 55.6 +00.0	359 51.5 +02.5	S 17 22.2 +00.0	05						
06	221 13.3 +00.8	N 23 35.1 -00.2	357 48.0 +02.3	S 11 55.6 -00.1	14 54.0 +02.5	S 17 22.2 +00.0	06						
07	236 14.1 +00.8	N 23 34.9 -00.2	12 50.3 +02.2	S 11 55.5 -00.1	29 56.5 +02.4	S 17 22.2 +00.0	07						
08	251 14.9 +00.8	N 23 34.7 -00.2	27 52.5 +02.3	S 11 55.4 +00.0	44 58.9 +02.5	S 17 22.2 +00.0	08						
09	266 15.7 +00.8	N 23 34.5 -00.2	42 54.8 +02.2	S 11 55.4 -00.1	60 01.4 +02.5	S 17 22.2 +00.0	09						
10	281 16.5 +00.8	N 23 34.3 -00.3	57 57.0 +02.3	S 11 55.3 -00.1	75 03.9 +02.4	S 17 22.2 +00.0	10						
11	296 17.3 +00.8	N 23 34.0 -00.2	72 59.3 +02.2	S 11 55.2 +00.0	90 06.3 +02.5	S 17 22.2 +00.0	11						
12	311 18.1 +00.8	N 23 33.8 -00.2	88 01.5 +02.3	S 11 55.2 -00.1	105 08.8 +02.4	S 17 22.2 +00.0	12						
13	326 18.9 +00.9	N 23 33.6 -00.2	103 03.8 +02.3	S 11 55.1 -00.1	120 11.2 +02.5	S 17 22.2 +00.0	13						
14	341 19.8 +00.8	N 23 33.4 -00.2	118 06.1 +02.2	S 11 55.0 +00.0	135 13.7 +02.5	S 17 22.2 +00.0	14						
15	356 20.6 +00.8	N 23 33.2 -00.2	133 08.3 +02.3	S 11 55.0 -00.1	150 16.2 +02.4	S 17 22.2 +00.0	15						
16	11 21.4 +00.8	N 23 33.0 -00.3	148 10.6 +02.2	S 11 54.9 -00.1	165 18.6 +02.5	S 17 22.2 +00.0	16						
17	26 22.2 +00.8	N 23 32.7 -00.2	163 12.8 +02.3	S 11 54.8 +00.0	180 21.1 +02.5	S 17 22.2 +00.0	17						
18	41 23.0 +00.8	N 23 32.5 -00.2	178 15.1 +02.2	S 11 54.8 -00.1	195 23.6 +02.4	S 17 22.2 +00.0	18						
19	56 23.8 +00.8	N 23 32.3 -00.2	193 17.3 +02.3	S 11 54.7 -00.1	210 26.0 +02.5	S 17 22.2 +00.1	19						
20	71 24.6 +00.8	N 23 32.1 -00.2	208 19.6 +02.3	S 11 54.6 +00.0	225 28.5 +02.5	S 17 22.3 +00.0	20						
21	86 25.4 +00.8	N 23 31.9 -00.3	223 21.9 +02.2	S 11 54.6 -00.1	240 31.0 +02.4	S 17 22.3 +00.0	21						
22	101 26.2 +00.9	N 23 31.6 -00.2	238 24.1 +02.3	S 11 54.5 -00.1	255 33.4 +02.5	S 17 22.3 +00.0	22						
23	116 27.1 +00.8	N 23 31.4 -00.2	253 26.4 +02.2	S 11 54.4 +00.0	270 35.9 +02.4	S 17 22.3 +00.0	23						
	UT 02 06 10 14 18 22 SD 00'0 00'0 00'0 00'0 00'0 00'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 250° 250° 250° 250° 250° 250° Greenwich Culmination Time: 15:14	UT 02 06 10 14 18 22 SD 00'3 00'3 00'3 00'3 00'3 00'3 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 027° 027° 027° 027° 027° 027° Greenwich Culmination Time: 06:08	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 044° 044° 044° 044° 044° 044° Greenwich Culmination Time: 05:00										

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 47.7 -00.1	N 20 46.1 +00.4	164 34.6 -00.9	N 23 30.4 +00.3	34 23.4 -31.7	S 07 27.4 +15.5	00						
01	195 47.6 +00.0	N 20 46.5 +00.5	179 33.7 -00.9	N 23 30.7 +00.4	48 51.7 -31.8	S 07 42.9 +15.4	01						
02	210 47.6 -00.1	N 20 47.0 +00.5	194 32.8 -00.8	N 23 31.1 +00.4	63 19.9 -31.8	S 07 58.3 +15.5	02						
03	225 47.5 +00.0	N 20 47.5 +00.4	209 32.0 -00.9	N 23 31.5 +00.3	77 48.1 -32.0	S 08 13.8 +15.4	03						
04	240 47.5 -00.1	N 20 47.9 +00.5	224 31.1 -00.8	N 23 31.8 +00.4	92 16.1 -32.0	S 08 29.2 +15.3	04						
05	255 47.4 -00.1	N 20 48.4 +00.4	239 30.3 -00.9	N 23 32.2 +00.3	106 44.1 -32.1	S 08 44.5 +15.3	05						
06	270 47.3 +00.0	N 20 48.8 +00.5	254 29.4 -00.8	N 23 32.5 +00.4	121 12.0 -32.1	S 08 59.8 +15.3	06						
07	285 47.3 -00.1	N 20 49.3 +00.5	269 28.6 -00.9	N 23 32.9 +00.4	135 39.9 -32.3	S 09 15.1 +15.2	07						
08	300 47.2 +00.0	N 20 49.8 +00.4	284 27.7 -00.8	N 23 33.3 +00.3	150 07.6 -32.3	S 09 30.3 +15.2	08						
09	315 47.2 -00.1	N 20 50.2 +00.5	299 26.9 -00.9	N 23 33.6 +00.4	164 35.3 -32.4	S 09 45.5 +15.1	09						
10	330 47.1 +00.0	N 20 50.7 +00.4	314 26.0 -00.8	N 23 34.0 +00.3	179 02.9 -32.5	S 10 00.6 +15.1	10						
11	345 47.1 -00.1	N 20 51.1 +00.5	329 25.2 -00.9	N 23 34.3 +00.4	193 30.4 -32.5	S 10 15.7 +15.1	11						
12	0 47.0 -00.1	N 20 51.6 +00.4	344 24.3 -00.9	N 23 34.7 +00.3	207 57.9 -32.7	S 10 30.8 +14.9	12						
13	15 46.9 +00.0	N 20 52.0 +00.5	359 23.4 -00.8	N 23 35.0 +00.4	222 25.2 -32.7	S 10 45.7 +15.0	13						
14	30 46.9 -00.1	N 20 52.5 +00.4	14 22.6 -00.9	N 23 35.4 +00.3	236 52.5 -32.8	S 11 00.7 +14.8	14						
15	45 46.8 +00.0	N 20 52.9 +00.5	29 21.7 -00.8	N 23 35.7 +00.4	251 19.7 -32.9	S 11 15.5 +14.8	15						
16	60 46.8 -00.1	N 20 53.4 +00.5	44 20.9 -00.9	N 23 36.1 +00.3	265 46.8 -33.0	S 11 30.3 +14.8	16						
17	75 46.7 -00.1	N 20 53.9 +00.4	59 20.0 -00.8	N 23 36.4 +00.4	280 13.8 -33.0	S 11 45.1 +14.7	17						
18	90 46.6 +00.0	N 20 54.3 +00.5	74 19.2 -00.9	N 23 36.8 +00.3	294 40.8 -33.2	S 11 59.8 +14.6	18						
19	105 46.6 -00.1	N 20 54.8 +00.4	89 18.3 -00.9	N 23 37.1 +00.4	309 07.6 -33.2	S 12 14.4 +14.6	19						
20	120 46.5 +00.0	N 20 55.2 +00.5	104 17.4 -00.8	N 23 37.5 +00.3	323 34.4 -33.4	S 12 29.0 +14.4	20						
21	135 46.5 -00.1	N 20 55.7 +00.4	119 16.6 -00.9	N 23 37.8 +00.4	338 01.0 -33.4	S 12 43.4 +14.4	21						
22	150 46.4 -00.1	N 20 56.1 +00.5	134 15.7 -00.8	N 23 38.2 +00.3	352 27.6 -33.5	S 12 57.8 +14.4	22						
23	165 46.3 +00.0	N 20 56.6 +00.4	149 14.9 -00.9	N 23 38.5 +00.3	6 54.1 -33.6	S 13 12.2 +14.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'5 16'6 16'6 16'6 16'6 16'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'7 60'8 60'9 61'0 61'1 61'1								
	SHA 299° 299° 299° 298° 298° 298°		SHA 283° 282° 282° 282° 282° 282°		SHA 151° 149° 147° 144° 142° 140°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 13:02		Greenwich Culmination Time: 22:31								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	131 27.9 +00.8	N 23 31.2 -00.2	268 28.6 +02.3	S 11 54.4 -00.1	285 38.3 +02.5	S 17 22.3 +00.0	00						
01	146 28.7 +00.8	N 23 31.0 -00.2	283 30.9 +02.2	S 11 54.3 -00.1	300 40.8 +02.5	S 17 22.3 +00.0	01						
02	161 29.5 +00.8	N 23 30.8 -00.2	298 33.1 +02.3	S 11 54.2 +00.0	315 43.3 +02.4	S 17 22.3 +00.0	02						
03	176 30.3 +00.8	N 23 30.6 -00.3	313 35.4 +02.3	S 11 54.2 -00.1	330 45.7 +02.5	S 17 22.3 +00.0	03						
04	191 31.1 +00.8	N 23 30.3 -00.2	328 37.7 +02.2	S 11 54.1 -00.1	345 48.2 +02.5	S 17 22.3 +00.0	04						
05	206 31.9 +00.8	N 23 30.1 -00.2	343 39.9 +02.3	S 11 54.0 +00.0	0 50.7 +02.4	S 17 22.3 +00.0	05						
06	221 32.7 +00.9	N 23 29.9 -00.2	358 42.2 +02.2	S 11 54.0 -00.1	15 53.1 +02.5	S 17 22.3 +00.0	06						
07	236 33.6 +00.8	N 23 29.7 -00.3	13 44.4 +02.3	S 11 53.9 +00.0	30 55.6 +02.5	S 17 22.3 +00.0	07						
08	251 34.4 +00.8	N 23 29.4 -00.2	28 46.7 +02.3	S 11 53.9 -00.1	45 58.1 +02.4	S 17 22.3 +00.0	08						
09	266 35.2 +00.8	N 23 29.2 -00.2	43 49.0 +02.2	S 11 53.8 -00.1	61 00.5 +02.5	S 17 22.3 +00.0	09						
10	281 36.0 +00.8	N 23 29.0 -00.2	58 51.2 +02.3	S 11 53.7 +00.0	76 03.0 +02.5	S 17 22.3 +00.1	10						
11	296 36.8 +00.8	N 23 28.8 -00.2	73 53.5 +02.2	S 11 53.7 -00.1	91 05.5 +02.4	S 17 22.4 +00.0	11						
12	311 37.6 +00.8	N 23 28.6 -00.3	88 55.7 +02.3	S 11 53.6 -00.1	106 07.9 +02.5	S 17 22.4 +00.0	12						
13	326 38.4 +00.8	N 23 28.3 -00.2	103 58.0 +02.3	S 11 53.5 +00.0	121 10.4 +02.5	S 17 22.4 +00.0	13						
14	341 39.2 +00.9	N 23 28.1 -00.2	119 00.3 +02.2	S 11 53.5 -00.1	136 12.9 +02.4	S 17 22.4 +00.0	14						
15	356 40.1 +00.8	N 23 27.9 -00.2	134 02.5 +02.3	S 11 53.4 -00.1	151 15.3 +02.5	S 17 22.4 +00.0	15						
16	11 40.9 +00.8	N 23 27.7 -00.3	149 04.8 +02.3	S 11 53.3 +00.0	166 17.8 +02.5	S 17 22.4 +00.0	16						
17	26 41.7 +00.8	N 23 27.4 -00.2	164 07.1 +02.2	S 11 53.3 -00.1	181 20.3 +02.4	S 17 22.4 +00.0	17						
18	41 42.5 +00.8	N 23 27.2 -00.2	179 09.3 +02.3	S 11 53.2 -00.1	196 22.7 +02.5	S 17 22.4 +00.0	18						
19	56 43.3 +00.8	N 23 27.0 -00.2	194 11.6 +02.2	S 11 53.1 +00.0	211 25.2 +02.5	S 17 22.4 +00.0	19						
20	71 44.1 +00.8	N 23 26.8 -00.3	209 13.8 +02.3	S 11 53.1 -00.1	226 27.7 +02.4	S 17 22.4 +00.0	20						
21	86 44.9 +00.8	N 23 26.5 -00.2	224 16.1 +02.3	S 11 53.0 +00.0	241 30.1 +02.5	S 17 22.4 +00.0	21						
22	101 45.7 +00.9	N 23 26.3 -00.2	239 18.4 +02.2	S 11 53.0 -00.1	256 32.6 +02.5	S 17 22.4 +00.0	22						
23	116 46.6 +00.8	N 23 26.1 -00.2	254 20.6 +02.3	S 11 52.9 -00.1	271 35.1 +02.5	S 17 22.4 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 250° 249° 249° 249° 249° 249°		SHA 027° 027° 027° 027° 027° 027°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:13		Greenwich Culmination Time: 06:05		Greenwich Culmination Time: 04:56								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 46.3 -00.1	N 20 57.0 +00.5	164 14.0 -00.9	N 23 38.8 +00.4	21 20.5 -33.7	S 13 26.4 +14.2	00						
01	195 46.2 -00.1	N 20 57.5 +00.4	179 13.1 -00.8	N 23 39.2 +00.3	35 46.8 -33.7	S 13 40.6 +14.1	01						
02	210 46.1 +00.0	N 20 57.9 +00.4	194 12.3 -00.9	N 23 39.5 +00.4	50 13.1 -33.9	S 13 54.7 +14.0	02						
03	225 46.1 -00.1	N 20 58.3 +00.5	209 11.4 -00.8	N 23 39.9 +00.3	64 39.2 -34.0	S 14 08.7 +14.0	03						
04	240 46.0 +00.0	N 20 58.8 +00.4	224 10.6 -00.9	N 23 40.2 +00.3	79 05.2 -34.0	S 14 22.7 +13.8	04						
05	255 46.0 -00.1	N 20 59.2 +00.5	239 09.7 -00.9	N 23 40.5 +00.4	93 31.2 -34.2	S 14 36.5 +13.8	05						
06	270 45.9 -00.1	N 20 59.7 +00.4	254 08.8 -00.8	N 23 40.9 +00.3	107 57.0 -34.2	S 14 50.3 +13.7	06						
07	285 45.8 +00.0	N 21 00.1 +00.5	269 08.0 -00.9	N 23 41.2 +00.3	122 22.8 -34.3	S 15 04.0 +13.5	07						
08	300 45.8 -00.1	N 21 00.6 +00.4	284 07.1 -00.8	N 23 41.5 +00.3	136 48.5 -34.4	S 15 17.5 +13.5	08						
09	315 45.7 -00.1	N 21 01.0 +00.4	299 06.3 -00.9	N 23 41.8 +00.4	151 14.1 -34.6	S 15 31.0 +13.4	09						
10	330 45.6 +00.0	N 21 01.4 +00.5	314 05.4 -00.9	N 23 42.2 +00.3	165 39.5 -34.6	S 15 44.4 +13.3	10						
11	345 45.6 -00.1	N 21 01.9 +00.4	329 04.5 -00.8	N 23 42.5 +00.3	180 04.9 -34.7	S 15 57.7 +13.1	11						
12	0 45.5 +00.0	N 21 02.3 +00.5	344 03.7 -00.9	N 23 42.8 +00.4	194 30.2 -34.7	S 16 10.8 +13.1	12						
13	15 45.5 -00.1	N 21 02.8 +00.4	359 02.8 -00.8	N 23 43.2 +00.3	208 55.5 -34.9	S 16 23.9 +13.0	13						
14	30 45.4 -00.1	N 21 03.2 +00.4	14 02.0 -00.9	N 23 43.5 +00.3	223 20.6 -35.0	S 16 36.9 +12.9	14						
15	45 45.3 +00.0	N 21 03.6 +00.5	29 01.1 -00.9	N 23 43.8 +00.3	237 45.6 -35.1	S 16 49.8 +12.7	15						
16	60 45.3 -00.1	N 21 04.1 +00.4	44 00.2 -00.8	N 23 44.1 +00.3	252 10.5 -35.1	S 17 02.5 +12.6	16						
17	75 45.2 -00.1	N 21 04.5 +00.5	58 59.4 -00.9	N 23 44.4 +00.4	266 35.4 -35.3	S 17 15.1 +12.6	17						
18	90 45.1 +00.0	N 21 05.0 +00.4	73 58.5 -00.9	N 23 44.8 +00.3	281 00.1 -35.4	S 17 27.7 +12.4	18						
19	105 45.1 -00.1	N 21 05.4 +00.4	88 57.6 -00.8	N 23 45.1 +00.3	295 24.7 -35.4	S 17 40.1 +12.3	19						
20	120 45.0 -00.1	N 21 05.8 +00.5	103 56.8 -00.9	N 23 45.4 +00.3	309 49.3 -35.5	S 17 52.4 +12.1	20						
21	135 44.9 +00.0	N 21 06.3 +00.4	118 55.9 -00.8	N 23 45.7 +00.3	324 13.8 -35.7	S 18 04.5 +12.1	21						
22	150 44.9 -00.1	N 21 06.7 +00.4	133 55.1 -00.9	N 23 46.0 +00.3	338 38.1 -35.7	S 18 16.6 +11.9	22						
23	165 44.8 -00.1	N 21 07.1 +00.5	148 54.2 -00.9	N 23 46.3 +00.3	353 02.4 -35.8	S 18 28.5 +11.8	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		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 00'1 00'1 00'1 00'1 00'1 00'1		HP 61'2 61'2 61'3 61'3 61'3 61'3								
	SHA 298° 298° 298° 297° 297° 297°		SHA 281° 281° 281° 281° 280° 280°		SHA 137° 135° 132° 130° 127° 125°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 13:03		Greenwich Culmination Time: 23:28								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	131 47.4 +00.8	N 23 25.9 -00.3	269 22.9 +02.3	S 11 52.8 +00.0	286 37.6 +02.4	S 17 22.4 +00.1	00						
01	146 48.2 +00.8	N 23 25.6 -00.2	284 25.2 +02.2	S 11 52.8 -00.1	301 40.0 +02.5	S 17 22.5 +00.0	01						
02	161 49.0 +00.8	N 23 25.4 -00.2	299 27.4 +02.3	S 11 52.7 -00.1	316 42.5 +02.5	S 17 22.5 +00.0	02						
03	176 49.8 +00.8	N 23 25.2 -00.2	314 29.7 +02.3	S 11 52.6 +00.0	331 45.0 +02.4	S 17 22.5 +00.0	03						
04	191 50.6 +00.8	N 23 25.0 -00.3	329 32.0 +02.2	S 11 52.6 -00.1	346 47.4 +02.5	S 17 22.5 +00.0	04						
05	206 51.4 +00.9	N 23 24.7 -00.2	344 34.2 +02.3	S 11 52.5 +00.0	1 49.9 +02.5	S 17 22.5 +00.0	05						
06	221 52.3 +00.8	N 23 24.5 -00.2	359 36.5 +02.3	S 11 52.5 -00.1	16 52.4 +02.4	S 17 22.5 +00.0	06						
07	236 53.1 +00.8	N 23 24.3 -00.3	14 38.8 +02.2	S 11 52.4 -00.1	31 54.8 +02.5	S 17 22.5 +00.0	07						
08	251 53.9 +00.8	N 23 24.0 -00.2	29 41.0 +02.3	S 11 52.3 +00.0	46 57.3 +02.5	S 17 22.5 +00.0	08						
09	266 54.7 +00.8	N 23 23.8 -00.2	44 43.3 +02.3	S 11 52.3 -00.1	61 59.8 +02.4	S 17 22.5 +00.0	09						
10	281 55.5 +00.8	N 23 23.6 -00.2	59 45.6 +02.2	S 11 52.2 +00.0	77 02.2 +02.5	S 17 22.5 +00.0	10						
11	296 56.3 +00.8	N 23 23.4 -00.3	74 47.8 +02.3	S 11 52.2 -00.1	92 04.7 +02.5	S 17 22.5 +00.0	11						
12	311 57.1 +00.9	N 23 23.1 -00.2	89 50.1 +02.3	S 11 52.1 -00.1	107 07.2 +02.5	S 17 22.5 +00.0	12						
13	326 58.0 +00.8	N 23 22.9 -00.2	104 52.4 +02.2	S 11 52.0 +00.0	122 09.7 +02.4	S 17 22.5 +00.1	13						
14	341 58.8 +00.8	N 23 22.7 -00.3	119 54.6 +02.3	S 11 52.0 -00.1	137 12.1 +02.5	S 17 22.6 +00.0	14						
15	356 59.6 +00.8	N 23 22.4 -00.2	134 56.9 +02.3	S 11 51.9 -00.1	152 14.6 +02.5	S 17 22.6 +00.0	15						
16	12 00.4 +00.8	N 23 22.2 -00.2	149 59.2 +02.3	S 11 51.8 +00.0	167 17.1 +02.4	S 17 22.6 +00.0	16						
17	27 01.2 +00.8	N 23 22.0 -00.3	165 01.5 +02.2	S 11 51.8 -00.1	182 19.5 +02.5	S 17 22.6 +00.0	17						
18	42 02.0 +00.8	N 23 21.7 -00.2	180 03.7 +02.3	S 11 51.7 +00.0	197 22.0 +02.5	S 17 22.6 +00.0	18						
19	57 02.8 +00.9	N 23 21.5 -00.2	195 06.0 +02.3	S 11 51.7 -00.1	212 24.5 +02.5	S 17 22.6 +00.0	19						
20	72 03.7 +00.8	N 23 21.3 -00.3	210 08.3 +02.2	S 11 51.6 -00.1	227 27.0 +02.4	S 17 22.6 +00.0	20						
21	87 04.5 +00.8	N 23 21.0 -00.2	225 10.5 +02.3	S 11 51.5 +00.0	242 29.4 +02.5	S 17 22.6 +00.0	21						
22	102 05.3 +00.8	N 23 20.8 -00.2	240 12.8 +02.3	S 11 51.5 -00.1	257 31.9 +02.5	S 17 22.6 +00.0	22						
23	117 06.1 +00.8	N 23 20.6 -00.2	255 15.1 +02.3	S 11 51.4 +00.0	272 34.4 +02.5	S 17 22.6 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 249° 249° 249° 249° 248° 248°		SHA 027° 027° 027° 027° 027° 027°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:12		Greenwich Culmination Time: 06:01		Greenwich Culmination Time: 04:52								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 50%				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	180 44.7 +00.0	N 21 07.6 +00.4	163 53.3 -00.8	N 23 46.6 +00.3	7 26.6 -35.9	S 18 40.3 +11.7							
01	195 44.7 -00.1	N 21 08.0 +00.4	178 52.5 -00.9	N 23 46.9 +00.4	21 50.7 -36.0	S 18 52.0 +11.5							
02	210 44.6 -00.1	N 21 08.4 +00.5	193 51.6 -00.9	N 23 47.3 +00.3	36 14.7 -36.1	S 19 03.5 +11.4							
03	225 44.5 +00.0	N 21 08.9 +00.4	208 50.7 -00.8	N 23 47.6 +00.3	50 38.6 -36.1	S 19 14.9 +11.3							
04	240 44.5 -00.1	N 21 09.3 +00.4	223 49.9 -00.9	N 23 47.9 +00.3	65 02.5 -36.3	S 19 26.2 +11.1							
05	255 44.4 -00.1	N 21 09.7 +00.5	238 49.0 -00.9	N 23 48.2 +00.3	79 26.2 -36.3	S 19 37.3 +11.0							
06	270 44.3 +00.0	N 21 10.2 +00.4	253 48.1 -00.8	N 23 48.5 +00.3	93 49.9 -36.4	S 19 48.3 +10.8							
07	285 44.3 -00.1	N 21 10.6 +00.4	268 47.3 -00.9	N 23 48.8 +00.3	108 13.5 -36.6	S 19 59.1 +10.7							
08	300 44.2 -00.1	N 21 11.0 +00.4	283 46.4 -00.9	N 23 49.1 +00.3	122 36.9 -36.5	S 20 09.8 +10.6							
09	315 44.1 +00.0	N 21 11.4 +00.5	298 45.5 -00.8	N 23 49.4 +00.3	137 00.4 -36.7	S 20 20.4 +10.4							
10	330 44.1 -00.1	N 21 11.9 +00.4	313 44.7 -00.9	N 23 49.7 +00.3	151 23.7 -36.8	S 20 30.8 +10.3							
11	345 44.0 -00.1	N 21 12.3 +00.4	328 43.8 -00.9	N 23 50.0 +00.3	165 46.9 -36.8	S 20 41.1 +10.1							
12	0 43.9 +00.0	N 21 12.7 +00.4	343 42.9 -00.8	N 23 50.3 +00.3	180 10.1 -37.0	S 20 51.2 +10.0							
13	15 43.9 -00.1	N 21 13.1 +00.5	358 42.1 -00.9	N 23 50.6 +00.3	194 33.1 -37.0	S 21 01.2 +09.8							
14	30 43.8 -00.1	N 21 13.6 +00.4	13 41.2 -00.9	N 23 50.9 +00.3	208 56.1 -37.0	S 21 11.0 +09.6							
15	45 43.7 -00.1	N 21 14.0 +00.4	28 40.3 -00.8	N 23 51.2 +00.3	223 19.1 -37.2	S 21 20.6 +09.5							
16	60 43.6 +00.0	N 21 14.4 +00.4	43 39.5 -00.9	N 23 51.5 +00.2	237 41.9 -37.2	S 21 30.1 +09.4							
17	75 43.6 -00.1	N 21 14.8 +00.5	58 38.6 -00.9	N 23 51.7 +00.3	252 04.7 -37.3	S 21 39.5 +09.2							
18	90 43.5 -00.1	N 21 15.3 +00.4	73 37.7 -00.8	N 23 52.0 +00.3	266 27.4 -37.4	S 21 48.7 +09.0							
19	105 43.4 +00.0	N 21 15.7 +00.4	88 36.9 -00.9	N 23 52.3 +00.3	280 50.0 -37.4	S 21 57.7 +08.8							
20	120 43.4 -00.1	N 21 16.1 +00.4	103 36.0 -00.9	N 23 52.6 +00.3	295 12.6 -37.6	S 22 06.5 +08.7							
21	135 43.3 -00.1	N 21 16.5 +00.4	118 35.1 -00.9	N 23 52.9 +00.3	309 35.0 -37.5	S 22 15.2 +08.6							
22	150 43.2 +00.0	N 21 16.9 +00.5	133 34.2 -00.8	N 23 53.2 +00.3	323 57.5 -37.7	S 22 23.8 +08.3							
23	165 43.2 -00.1	N 21 17.4 +00.4	148 33.4 -00.9	N 23 53.5 +00.2	338 19.8 -37.7	S 22 32.1 +08.2							
	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 00'1 00'1 00'1 00'1 00'1 00'1		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 00'1 00'1 00'1 00'1 00'1 00'1		HP 61'3 61'3 61'3 61'3 61'3 61'2								
	SHA 297° 297° 297° 296° 296° 296°		SHA 280° 280° 280° 279° 279° 279°		SHA 122° 120° 117° 115° 112° 109°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 13:05		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	132 06.9 +00.8	N 23 20.4 -00.3	270 17.4 +02.2	S 11 51.4 -00.1	287 36.9 +02.4	S 17 22.6 +00.0							
01	147 07.7 +00.9	N 23 20.1 -00.2	285 19.6 +02.3	S 11 51.3 -00.1	302 39.3 +02.5	S 17 22.6 +00.1							
02	162 08.6 +00.8	N 23 19.9 -00.3	300 21.9 +02.3	S 11 51.2 +00.0	317 41.8 +02.5	S 17 22.7 +00.0							
03	177 09.4 +00.8	N 23 19.6 -00.2	315 24.2 +02.2	S 11 51.2 -00.1	332 44.3 +02.4	S 17 22.7 +00.0							
04	192 10.2 +00.8	N 23 19.4 -00.2	330 26.4 +02.3	S 11 51.1 +00.0	347 46.7 +02.5	S 17 22.7 +00.0							
05	207 11.0 +00.8	N 23 19.2 -00.3	345 28.7 +02.3	S 11 51.1 -00.1	2 49.2 +02.5	S 17 22.7 +00.0							
06	222 11.8 +00.8	N 23 18.9 -00.2	0 31.0 +02.3	S 11 51.0 -00.1	17 51.7 +02.5	S 17 22.7 +00.0							
07	237 12.6 +00.8	N 23 18.7 -00.2	15 33.3 +02.2	S 11 50.9 +00.0	32 54.2 +02.4	S 17 22.7 +00.0							
08	252 13.4 +00.9	N 23 18.5 -00.3	30 35.5 +02.3	S 11 50.9 -00.1	47 56.6 +02.5	S 17 22.7 +00.0							
09	267 14.3 +00.8	N 23 18.2 -00.2	45 37.8 +02.3	S 11 50.8 +00.0	62 59.1 +02.5	S 17 22.7 +00.0							
10	282 15.1 +00.8	N 23 18.0 -00.2	60 40.1 +02.3	S 11 50.8 -00.1	78 01.6 +02.5	S 17 22.7 +00.0							
11	297 15.9 +00.8	N 23 17.8 -00.3	75 42.4 +02.2	S 11 50.7 -00.1	93 04.1 +02.4	S 17 22.7 +00.0							
12	312 16.7 +00.8	N 23 17.5 -00.2	90 44.6 +02.3	S 11 50.6 +00.0	108 06.5 +02.5	S 17 22.7 +00.1							
13	327 17.5 +00.8	N 23 17.3 -00.2	105 46.9 +02.3	S 11 50.6 -00.1	123 09.0 +02.5	S 17 22.8 +00.0							
14	342 18.3 +00.9	N 23 17.1 -00.3	120 49.2 +02.3	S 11 50.5 +00.0	138 11.5 +02.5	S 17 22.8 +00.0							
15	357 19.2 +00.8	N 23 16.8 -00.2	135 51.5 +02.2	S 11 50.5 -00.1	153 14.0 +02.4	S 17 22.8 +00.0							
16	12 20.0 +00.8	N 23 16.6 -00.3	150 53.7 +02.3	S 11 50.4 -00.1	168 16.4 +02.5	S 17 22.8 +00.0							
17	27 20.8 +00.8	N 23 16.3 -00.2	165 56.0 +02.3	S 11 50.3 +00.0	183 18.9 +02.5	S 17 22.8 +00.0							
18	42 21.6 +00.8	N 23 16.1 -00.2	180 58.3 +02.3	S 11 50.3 -00.1	198 21.4 +02.5	S 17 22.8 +00.0							
19	57 22.4 +00.8	N 23 15.9 -00.3	196 00.6 +02.2	S 11 50.2 +00.0	213 23.9 +02.4	S 17 22.8 +00.0							
20	72 23.2 +00.9	N 23 15.6 -00.2	211 02.8 +02.3	S 11 50.2 -00.1	228 26.3 +02.5	S 17 22.8 +00.0							
21	87 24.1 +00.8	N 23 15.4 -00.2	226 05.1 +02.3	S 11 50.1 +00.0	243 28.8 +02.5	S 17 22.8 +00.0							
22	102 24.9 +00.8	N 23 15.2 -00.3	241 07.4 +02.3	S 11 50.1 -00.1	258 31.3 +02.5	S 17 22.8 +00.1							
23	117 25.7 +00.8	N 23 14.9 -00.2	256 09.7 +02.3	S 11 50.0 -00.1	273 33.8 +02.5	S 17 22.9 +00.0							
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 248° 248° 248° 248° 248° 248°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:10		Greenwich Culmination Time: 05:57		Greenwich Culmination Time: 04:48								

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 43.1 -00.1	N 21 17.8 +00.4	163 32.5 -00.9	N 23 53.7 +00.3	352 42.1 -37.8	S 22 40.3 +08.0	00						
01	195 43.0 -00.1	N 21 18.2 +00.4	178 31.6 -00.8	N 23 54.0 +00.3	7 04.3 -37.8	S 22 48.3 +07.9	01						
02	210 42.9 +00.0	N 21 18.6 +00.4	193 30.8 -00.9	N 23 54.3 +00.3	21 26.5 -37.9	S 22 56.2 +07.6	02						
03	225 42.9 -00.1	N 21 19.0 +00.4	208 29.9 -00.9	N 23 54.6 +00.3	35 48.6 -37.9	S 23 03.8 +07.5	03						
04	240 42.8 -00.1	N 21 19.4 +00.4	223 29.0 -00.8	N 23 54.9 +00.2	50 10.7 -38.0	S 23 11.3 +07.4	04						
05	255 42.7 -00.1	N 21 19.8 +00.5	238 28.2 -00.9	N 23 55.1 +00.3	64 32.7 -38.1	S 23 18.7 +07.1	05						
06	270 42.6 +00.0	N 21 20.3 +00.4	253 27.3 -00.9	N 23 55.4 +00.3	78 54.6 -38.1	S 23 25.8 +07.0	06						
07	285 42.6 -00.1	N 21 20.7 +00.4	268 26.4 -00.9	N 23 55.7 +00.3	93 16.5 -38.1	S 23 32.8 +06.8	07						
08	300 42.5 -00.1	N 21 21.1 +00.4	283 25.5 -00.8	N 23 56.0 +00.2	107 38.4 -38.2	S 23 39.6 +06.6	08						
09	315 42.4 +00.0	N 21 21.5 +00.4	298 24.7 -00.9	N 23 56.2 +00.3	122 00.2 -38.3	S 23 46.2 +06.4	09						
10	330 42.4 -00.1	N 21 21.9 +00.4	313 23.8 -00.9	N 23 56.5 +00.3	136 21.9 -38.2	S 23 52.6 +06.2	10						
11	345 42.3 -00.1	N 21 22.3 +00.4	328 22.9 -00.8	N 23 56.8 +00.2	150 43.7 -38.4	S 23 58.8 +06.1	11						
12	0 42.2 -00.1	N 21 22.7 +00.4	343 22.1 -00.9	N 23 57.0 +00.3	165 05.3 -38.3	S 24 04.9 +05.9	12						
13	15 42.1 +00.0	N 21 23.1 +00.5	358 21.2 -00.9	N 23 57.3 +00.3	179 27.0 -38.4	S 24 10.8 +05.7	13						
14	30 42.1 -00.1	N 21 23.6 +00.4	13 20.3 -00.9	N 23 57.6 +00.2	193 48.6 -38.4	S 24 16.5 +05.5	14						
15	45 42.0 -00.1	N 21 24.0 +00.4	28 19.4 -00.8	N 23 57.8 +00.3	208 10.2 -38.5	S 24 22.0 +05.3	15						
16	60 41.9 -00.1	N 21 24.4 +00.4	43 18.6 -00.9	N 23 58.1 +00.3	222 31.7 -38.4	S 24 27.3 +05.1	16						
17	75 41.8 +00.0	N 21 24.8 +00.4	58 17.7 -00.9	N 23 58.4 +00.2	236 53.3 -38.5	S 24 32.4 +04.9	17						
18	90 41.8 -00.1	N 21 25.2 +00.4	73 16.8 -00.9	N 23 58.6 +00.3	251 14.8 -38.6	S 24 37.3 +04.8	18						
19	105 41.7 -00.1	N 21 25.6 +00.4	88 15.9 -00.8	N 23 58.9 +00.2	265 36.2 -38.5	S 24 42.1 +04.6	19						
20	120 41.6 -00.1	N 21 26.0 +00.4	103 15.1 -00.9	N 23 59.1 +00.3	279 57.7 -38.6	S 24 46.7 +04.3	20						
21	135 41.5 +00.0	N 21 26.4 +00.4	118 14.2 -00.9	N 23 59.4 +00.3	294 19.1 -38.5	S 24 51.0 +04.2	21						
22	150 41.5 -00.1	N 21 26.8 +00.4	133 13.3 -00.9	N 23 59.7 +00.2	308 40.6 -38.6	S 24 55.2 +04.0	22						
23	165 41.4 -00.1	N 21 27.2 +00.4	148 12.4 -00.8	N 23 59.9 +00.3	323 02.0 -38.6	S 24 59.2 +03.8	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'7 16'6 16'6 16'6 16'6 16'6								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 61'2 61'1 61'0 61'0 60'9 60'8								
	SHA 296° 296° 296° 295° 295° 295°		SHA 279° 278° 278° 278° 278° 278°		SHA 107° 104° 101° 098° 096° 093°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 13:06		Greenwich Culmination Time: 00:30								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	132 26.5 +00.8	N 23 14.7 -00.3	271 12.0 +02.2	S 11 49.9 +00.0	288 36.3 +02.4	S 17 22.9 +00.0	00						
01	147 27.3 +00.8	N 23 14.4 -00.2	286 14.2 +02.3	S 11 49.9 -00.1	303 38.7 +02.5	S 17 22.9 +00.0	01						
02	162 28.1 +00.9	N 23 14.2 -00.2	301 16.5 +02.3	S 11 49.8 +00.0	318 41.2 +02.5	S 17 22.9 +00.0	02						
03	177 29.0 +00.8	N 23 14.0 -00.3	316 18.8 +02.3	S 11 49.8 -00.1	333 43.7 +02.5	S 17 22.9 +00.0	03						
04	192 29.8 +00.8	N 23 13.7 -00.2	331 21.1 +02.3	S 11 49.7 +00.0	348 46.2 +02.4	S 17 22.9 +00.0	04						
05	207 30.6 +00.8	N 23 13.5 -00.3	346 23.4 +02.2	S 11 49.7 -00.1	3 48.6 +02.5	S 17 22.9 +00.0	05						
06	222 31.4 +00.8	N 23 13.2 -00.2	1 25.6 +02.3	S 11 49.6 -00.1	18 51.1 +02.5	S 17 22.9 +00.0	06						
07	237 32.2 +00.9	N 23 13.0 -00.2	16 27.9 +02.3	S 11 49.5 +00.0	33 53.6 +02.5	S 17 22.9 +00.0	07						
08	252 33.1 +00.8	N 23 12.8 -00.3	31 30.2 +02.3	S 11 49.5 -00.1	48 56.1 +02.5	S 17 22.9 +00.1	08						
09	267 33.9 +00.8	N 23 12.5 -00.2	46 32.5 +02.3	S 11 49.4 +00.0	63 58.6 +02.4	S 17 23.0 +00.0	09						
10	282 34.7 +00.8	N 23 12.3 -00.3	61 34.8 +02.2	S 11 49.4 -00.1	79 01.0 +02.5	S 17 23.0 +00.0	10						
11	297 35.5 +00.8	N 23 12.0 -00.2	76 37.0 +02.3	S 11 49.3 +00.0	94 03.5 +02.5	S 17 23.0 +00.0	11						
12	312 36.3 +00.8	N 23 11.8 -00.3	91 39.3 +02.3	S 11 49.3 -00.1	109 06.0 +02.5	S 17 23.0 +00.0	12						
13	327 37.1 +00.9	N 23 11.5 -00.2	106 41.6 +02.3	S 11 49.2 -00.1	124 08.5 +02.4	S 17 23.0 +00.0	13						
14	342 38.0 +00.8	N 23 11.3 -00.2	121 43.9 +02.3	S 11 49.1 +00.0	139 10.9 +02.5	S 17 23.0 +00.0	14						
15	357 38.8 +00.8	N 23 11.1 -00.3	136 46.2 +02.3	S 11 49.1 -00.1	154 13.4 +02.5	S 17 23.0 +00.0	15						
16	12 39.6 +00.8	N 23 10.8 -00.2	151 48.5 +02.2	S 11 49.0 +00.0	169 15.9 +02.5	S 17 23.0 +00.0	16						
17	27 40.4 +00.8	N 23 10.6 -00.3	166 50.7 +02.3	S 11 49.0 -00.1	184 18.4 +02.5	S 17 23.0 +00.0	17						
18	42 41.2 +00.9	N 23 10.3 -00.2	181 53.0 +02.3	S 11 48.9 +00.0	199 20.9 +02.4	S 17 23.0 +00.1	18						
19	57 42.1 +00.8	N 23 10.1 -00.3	196 55.3 +02.3	S 11 48.9 -00.1	214 23.3 +02.5	S 17 23.1 +00.0	19						
20	72 42.9 +00.8	N 23 09.8 -00.2	211 57.6 +02.3	S 11 48.8 +00.0	229 25.8 +02.5	S 17 23.1 +00.0	20						
21	87 43.7 +00.8	N 23 09.6 -00.3	226 59.9 +02.3	S 11 48.8 -00.1	244 28.3 +02.5	S 17 23.1 +00.0	21						
22	102 44.5 +00.8	N 23 09.3 -00.2	242 02.2 +02.2	S 11 48.7 -00.1	259 30.8 +02.5	S 17 23.1 +00.0	22						
23	117 45.3 +00.9	N 23 09.1 -00.2	257 04.4 +02.3	S 11 48.6 +00.0	274 33.3 +02.4	S 17 23.1 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 248° 248° 247° 247° 247° 247°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:09		Greenwich Culmination Time: 05:54		Greenwich Culmination Time: 04:44								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 41.3 -00.1	N 21 27.6 +00.4	163 11.6 -00.9	N 24 00.2 +00.2	337 23.4 -38.6	S 25 03.0 +03.6	00						
01	195 41.2 +00.0	N 21 28.0 +00.4	178 10.7 -00.9	N 24 00.4 +00.3	351 44.8 -38.6	S 25 06.6 +03.5	01						
02	210 41.2 -00.1	N 21 28.4 +00.4	193 09.8 -00.9	N 24 00.7 +00.2	6 06.2 -38.6	S 25 10.1 +03.2	02						
03	225 41.1 -00.1	N 21 28.8 +00.4	208 08.9 -00.8	N 24 00.9 +00.3	20 27.6 -38.6	S 25 13.3 +03.0	03						
04	240 41.0 -00.1	N 21 29.2 +00.4	223 08.1 -00.9	N 24 01.2 +00.2	34 49.0 -38.6	S 25 16.3 +02.9	04						
05	255 40.9 -00.1	N 21 29.6 +00.4	238 07.2 -00.9	N 24 01.4 +00.3	49 10.4 -38.6	S 25 19.2 +02.6	05						
06	270 40.8 +00.0	N 21 30.0 +00.4	253 06.3 -00.9	N 24 01.7 +00.2	63 31.8 -38.5	S 25 21.8 +02.5	06						
07	285 40.8 -00.1	N 21 30.4 +00.4	268 05.4 -00.8	N 24 01.9 +00.2	77 53.3 -38.6	S 25 24.3 +02.2	07						
08	300 40.7 -00.1	N 21 30.8 +00.4	283 04.6 -00.9	N 24 02.1 +00.3	92 14.7 -38.5	S 25 26.5 +02.1	08						
09	315 40.6 -00.1	N 21 31.2 +00.4	298 03.7 -00.9	N 24 02.4 +00.2	106 36.2 -38.6	S 25 28.6 +01.9	09						
10	330 40.5 +00.0	N 21 31.6 +00.4	313 02.8 -00.9	N 24 02.6 +00.3	120 57.6 -38.5	S 25 30.5 +01.7	10						
11	345 40.5 -00.1	N 21 32.0 +00.4	328 01.9 -00.8	N 24 02.9 +00.2	135 19.1 -38.5	S 25 32.2 +01.5	11						
12	0 40.4 -00.1	N 21 32.4 +00.4	343 01.1 -00.9	N 24 03.1 +00.2	149 40.6 -38.4	S 25 33.7 +01.3	12						
13	15 40.3 -00.1	N 21 32.8 +00.4	358 00.2 -00.9	N 24 03.3 +00.3	164 02.2 -38.4	S 25 35.0 +01.1	13						
14	30 40.2 -00.1	N 21 33.2 +00.4	12 59.3 -00.9	N 24 03.6 +00.2	178 23.8 -38.4	S 25 36.1 +01.0	14						
15	45 40.1 +00.0	N 21 33.6 +00.4	27 58.4 -00.8	N 24 03.8 +00.2	192 45.4 -38.4	S 25 37.1 +00.7	15						
16	60 40.1 -00.1	N 21 34.0 +00.3	42 57.6 -00.9	N 24 04.0 +00.3	207 07.0 -38.3	S 25 37.8 +00.5	16						
17	75 40.0 -00.1	N 21 34.3 +00.4	57 56.7 -00.9	N 24 04.3 +00.2	221 28.7 -38.3	S 25 38.3 +00.4	17						
18	90 39.9 -00.1	N 21 34.7 +00.4	72 55.8 -00.9	N 24 04.5 +00.2	235 50.4 -38.2	S 25 38.7 +00.2	18						
19	105 39.8 -00.1	N 21 35.1 +00.4	87 54.9 -00.9	N 24 04.7 +00.3	250 12.2 -38.2	S 25 38.9 +00.0	19						
20	120 39.7 +00.0	N 21 35.5 +00.4	102 54.0 -00.8	N 24 05.0 +00.2	264 34.0 -38.2	S 25 38.9 -00.2	20						
21	135 39.7 -00.1	N 21 35.9 +00.4	117 53.2 -00.9	N 24 05.2 +00.2	278 55.8 -38.1	S 25 38.7 -00.4	21						
22	150 39.6 -00.1	N 21 36.3 +00.4	132 52.3 -00.9	N 24 05.4 +00.2	293 17.7 -38.0	S 25 38.3 -00.6	22						
23	165 39.5 -00.1	N 21 36.7 +00.4	147 51.4 -00.9	N 24 05.6 +00.3	307 39.7 -38.0	S 25 37.7 -00.8	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 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'5 16'5 16'5 16'4 16'4 16'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'7 60'6 60'5 60'4 60'2 60'1								
	SHA 295° 295° 295° 294° 294° 294°		SHA 277° 277° 277° 277° 276° 276°		SHA 090° 088° 085° 082° 079° 077°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 13:07		Greenwich Culmination Time: 01:34								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	132 46.2 +00.8	N 23 08.9 -00.3	272 06.7 +02.3	S 11 48.6 -00.1	289 35.7 +02.5	S 17 23.1 +00.0	00						
01	147 47.0 +00.8	N 23 08.6 -00.2	287 09.0 +02.3	S 11 48.5 +00.0	304 38.2 +02.5	S 17 23.1 +00.0	01						
02	162 47.8 +00.8	N 23 08.4 -00.3	302 11.3 +02.3	S 11 48.5 -00.1	319 40.7 +02.5	S 17 23.1 +00.0	02						
03	177 48.6 +00.8	N 23 08.1 -00.2	317 13.6 +02.3	S 11 48.4 +00.0	334 43.2 +02.5	S 17 23.1 +00.1	03						
04	192 49.4 +00.8	N 23 07.9 -00.3	332 15.9 +02.3	S 11 48.4 -00.1	349 45.7 +02.5	S 17 23.2 +00.0	04						
05	207 50.2 +00.9	N 23 07.6 -00.2	347 18.2 +02.2	S 11 48.3 +00.0	4 48.2 +02.4	S 17 23.2 +00.0	05						
06	222 51.1 +00.8	N 23 07.4 -00.3	2 20.4 +02.3	S 11 48.3 -00.1	19 50.6 +02.5	S 17 23.2 +00.0	06						
07	237 51.9 +00.8	N 23 07.1 -00.2	17 22.7 +02.3	S 11 48.2 -00.1	34 53.1 +02.5	S 17 23.2 +00.0	07						
08	252 52.7 +00.8	N 23 06.9 -00.3	32 25.0 +02.3	S 11 48.1 +00.0	49 55.6 +02.5	S 17 23.2 +00.0	08						
09	267 53.5 +00.8	N 23 06.6 -00.2	47 27.3 +02.3	S 11 48.1 -00.1	64 58.1 +02.5	S 17 23.2 +00.0	09						
10	282 54.3 +00.9	N 23 06.4 -00.3	62 29.6 +02.3	S 11 48.0 +00.0	80 00.6 +02.4	S 17 23.2 +00.0	10						
11	297 55.2 +00.8	N 23 06.1 -00.2	77 31.9 +02.3	S 11 48.0 -00.1	95 03.0 +02.5	S 17 23.2 +00.0	11						
12	312 56.0 +00.8	N 23 05.9 -00.3	92 34.2 +02.3	S 11 47.9 +00.0	110 05.5 +02.5	S 17 23.2 +00.1	12						
13	327 56.8 +00.8	N 23 05.6 -00.2	107 36.5 +02.2	S 11 47.9 -00.1	125 08.0 +02.5	S 17 23.3 +00.0	13						
14	342 57.6 +00.8	N 23 05.4 -00.3	122 38.7 +02.3	S 11 47.8 +00.0	140 10.5 +02.5	S 17 23.3 +00.0	14						
15	357 58.4 +00.9	N 23 05.1 -00.2	137 41.0 +02.3	S 11 47.8 -00.1	155 13.0 +02.5	S 17 23.3 +00.0	15						
16	12 59.3 +00.8	N 23 04.9 -00.3	152 43.3 +02.3	S 11 47.7 +00.0	170 15.5 +02.4	S 17 23.3 +00.0	16						
17	28 00.1 +00.8	N 23 04.6 -00.2	167 45.6 +02.3	S 11 47.7 -00.1	185 17.9 +02.5	S 17 23.3 +00.0	17						
18	43 00.9 +00.8	N 23 04.4 -00.3	182 47.9 +02.3	S 11 47.6 +00.0	200 20.4 +02.5	S 17 23.3 +00.0	18						
19	58 01.7 +00.9	N 23 04.1 -00.2	197 50.2 +02.3	S 11 47.6 -00.1	215 22.9 +02.5	S 17 23.3 +00.0	19						
20	73 02.6 +00.8	N 23 03.9 -00.3	212 52.5 +02.3	S 11 47.5 +00.0	230 25.4 +02.5	S 17 23.3 +00.1	20						
21	88 03.4 +00.8	N 23 03.6 -00.2	227 54.8 +02.3	S 11 47.5 -00.1	245 27.9 +02.5	S 17 23.4 +00.0	21						
22	103 04.2 +00.8	N 23 03.4 -00.3	242 57.1 +02.3	S 11 47.4 -00.1	260 30.4 +02.5	S 17 23.4 +00.0	22						
23	118 05.0 +00.8	N 23 03.1 -00.2	257 59.4 +02.3	S 11 47.3 +00.0	275 32.9 +02.4	S 17 23.4 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 247° 247° 247° 247° 247° 246°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:08		Greenwich Culmination Time: 05:50		Greenwich Culmination Time: 04:40								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 39.4 -00.1	N 21 37.1 +00.4	162 50.5 -00.8	N 24 05.9 +00.2	322 01.7 -37.9	S 25 36.9 -00.9	00						
01	195 39.3 +00.0	N 21 37.5 +00.3	177 49.7 -00.9	N 24 06.1 +00.2	336 23.8 -37.9	S 25 36.0 -01.2	01						
02	210 39.3 -00.1	N 21 37.8 +00.4	192 48.8 -00.9	N 24 06.3 +00.2	350 45.9 -37.8	S 25 34.8 -01.3	02						
03	225 39.2 -00.1	N 21 38.2 +00.4	207 47.9 -00.9	N 24 06.5 +00.3	5 08.1 -37.7	S 25 33.5 -01.5	03						
04	240 39.1 -00.1	N 21 38.6 +00.4	222 47.0 -00.9	N 24 06.8 +00.2	19 30.4 -37.7	S 25 32.0 -01.6	04						
05	255 39.0 -00.1	N 21 39.0 +00.4	237 46.1 -00.8	N 24 07.0 +00.2	33 52.7 -37.6	S 25 30.4 -01.9	05						
06	270 38.9 -00.1	N 21 39.4 +00.4	252 45.3 -00.9	N 24 07.2 +00.2	48 15.1 -37.5	S 25 28.5 -02.0	06						
07	285 38.8 +00.0	N 21 39.8 +00.3	267 44.4 -00.9	N 24 07.4 +00.2	62 37.6 -37.5	S 25 26.5 -02.2	07						
08	300 38.8 -00.1	N 21 40.1 +00.4	282 43.5 -00.9	N 24 07.6 +00.2	77 00.1 -37.4	S 25 24.3 -02.4	08						
09	315 38.7 -00.1	N 21 40.5 +00.4	297 42.6 -00.9	N 24 07.8 +00.2	91 22.7 -37.3	S 25 21.9 -02.6	09						
10	330 38.6 -00.1	N 21 40.9 +00.4	312 41.7 -00.8	N 24 08.0 +00.3	105 45.4 -37.2	S 25 19.3 -02.7	10						
11	345 38.5 -00.1	N 21 41.3 +00.4	327 40.9 -00.9	N 24 08.3 +00.2	120 08.2 -37.1	S 25 16.6 -02.9	11						
12	0 38.4 -00.1	N 21 41.7 +00.3	342 40.0 -00.9	N 24 08.5 +00.2	134 31.1 -37.1	S 25 13.7 -03.1	12						
13	15 38.3 +00.0	N 21 42.0 +00.4	357 39.1 -00.9	N 24 08.7 +00.2	148 54.0 -37.0	S 25 10.6 -03.2	13						
14	30 38.3 -00.1	N 21 42.4 +00.4	12 38.2 -00.9	N 24 08.9 +00.2	163 17.0 -36.8	S 25 07.4 -03.5	14						
15	45 38.2 -00.1	N 21 42.8 +00.4	27 37.3 -00.8	N 24 09.1 +00.2	177 40.2 -36.8	S 25 03.9 -03.5	15						
16	60 38.1 -00.1	N 21 43.2 +00.3	42 36.5 -00.9	N 24 09.3 +00.2	192 03.4 -36.7	S 25 00.4 -03.8	16						
17	75 38.0 -00.1	N 21 43.5 +00.4	57 35.6 -00.9	N 24 09.5 +00.2	206 26.7 -36.7	S 24 56.6 -03.9	17						
18	90 37.9 -00.1	N 21 43.9 +00.4	72 34.7 -00.9	N 24 09.7 +00.2	220 50.0 -36.5	S 24 52.7 -04.1	18						
19	105 37.8 +00.0	N 21 44.3 +00.4	87 33.8 -00.9	N 24 09.9 +00.2	235 13.5 -36.4	S 24 48.6 -04.2	19						
20	120 37.8 -00.1	N 21 44.7 +00.3	102 32.9 -00.8	N 24 10.1 +00.2	249 37.1 -36.3	S 24 44.4 -04.4	20						
21	135 37.7 -00.1	N 21 45.0 +00.4	117 32.1 -00.9	N 24 10.3 +00.2	264 00.8 -36.2	S 24 40.0 -04.6	21						
22	150 37.6 -00.1	N 21 45.4 +00.4	132 31.2 -00.9	N 24 10.5 +00.2	278 24.6 -36.1	S 24 35.4 -04.7	22						
23	165 37.5 -00.1	N 21 45.8 +00.4	147 30.3 -00.9	N 24 10.7 +00.2	292 48.5 -36.1	S 24 30.7 -04.9	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 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'3 16'3 16'3 16'2 16'2 16'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'0 59'8 59'7 59'5 59'4 59'2								
	SHA 294° 294° 293° 293° 293° 293°		SHA 276° 276° 276° 275° 275° 275°		SHA 074° 071° 069° 066° 063° 061°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 13:09		Greenwich Culmination Time: 02:38								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	133 05.8 +00.9	N 23 02.9 -00.3	273 01.7 +02.2	S 11 47.3 -00.1	290 35.3 +02.5	S 17 23.4 +00.0	00						
01	148 06.7 +00.8	N 23 02.6 -00.2	288 03.9 +02.3	S 11 47.2 +00.0	305 37.8 +02.5	S 17 23.4 +00.0	01						
02	163 07.5 +00.8	N 23 02.4 -00.3	303 06.2 +02.3	S 11 47.2 -00.1	320 40.3 +02.5	S 17 23.4 +00.0	02						
03	178 08.3 +00.8	N 23 02.1 -00.3	318 08.5 +02.3	S 11 47.1 +00.0	335 42.8 +02.5	S 17 23.4 +00.0	03						
04	193 09.1 +00.8	N 23 01.8 -00.2	333 10.8 +02.3	S 11 47.1 -00.1	350 45.3 +02.5	S 17 23.4 +00.1	04						
05	208 09.9 +00.9	N 23 01.6 -00.3	348 13.1 +02.3	S 11 47.0 +00.0	5 47.8 +02.4	S 17 23.5 +00.0	05						
06	223 10.8 +00.8	N 23 01.3 -00.2	3 15.4 +02.3	S 11 47.0 -00.1	20 50.2 +02.5	S 17 23.5 +00.0	06						
07	238 11.6 +00.8	N 23 01.1 -00.3	18 17.7 +02.3	S 11 46.9 +00.0	35 52.7 +02.5	S 17 23.5 +00.0	07						
08	253 12.4 +00.8	N 23 00.8 -00.2	33 20.0 +02.3	S 11 46.9 -00.1	50 55.2 +02.5	S 17 23.5 +00.0	08						
09	268 13.2 +00.9	N 23 00.6 -00.3	48 22.3 +02.3	S 11 46.8 +00.0	65 57.7 +02.5	S 17 23.5 +00.0	09						
10	283 14.1 +00.8	N 23 00.3 -00.2	63 24.6 +02.3	S 11 46.8 -00.1	81 00.2 +02.5	S 17 23.5 +00.0	10						
11	298 14.9 +00.8	N 23 00.1 -00.3	78 26.9 +02.3	S 11 46.7 +00.0	96 02.7 +02.5	S 17 23.5 +00.0	11						
12	313 15.7 +00.8	N 22 59.8 -00.2	93 29.2 +02.3	S 11 46.7 -00.1	111 05.2 +02.5	S 17 23.5 +00.1	12						
13	328 16.5 +00.8	N 22 59.6 -00.3	108 31.5 +02.3	S 11 46.6 +00.0	126 07.7 +02.4	S 17 23.6 +00.0	13						
14	343 17.3 +00.9	N 22 59.3 -00.3	123 33.8 +02.3	S 11 46.6 -00.1	141 10.1 +02.5	S 17 23.6 +00.0	14						
15	358 18.2 +00.8	N 22 59.0 -00.2	138 36.1 +02.3	S 11 46.5 +00.0	156 12.6 +02.5	S 17 23.6 +00.0	15						
16	13 19.0 +00.8	N 22 58.8 -00.3	153 38.4 +02.3	S 11 46.5 -00.1	171 15.1 +02.5	S 17 23.6 +00.0	16						
17	28 19.8 +00.8	N 22 58.5 -00.2	168 40.7 +02.3	S 11 46.4 +00.0	186 17.6 +02.5	S 17 23.6 +00.0	17						
18	43 20.6 +00.9	N 22 58.3 -00.3	183 43.0 +02.3	S 11 46.4 -00.1	201 20.1 +02.5	S 17 23.6 +00.0	18						
19	58 21.5 +00.8	N 22 58.0 -00.2	198 45.3 +02.3	S 11 46.3 +00.0	216 22.6 +02.5	S 17 23.6 +00.0	19						
20	73 22.3 +00.8	N 22 57.8 -00.3	213 47.6 +02.3	S 11 46.3 -00.1	231 25.1 +02.5	S 17 23.6 +00.1	20						
21	88 23.1 +00.8	N 22 57.5 -00.3	228 49.9 +02.3	S 11 46.2 +00.0	246 27.6 +02.4	S 17 23.7 +00.0	21						
22	103 23.9 +00.8	N 22 57.2 -00.2	243 52.2 +02.3	S 11 46.2 -00.1	261 30.0 +02.5	S 17 23.7 +00.0	22						
23	118 24.7 +00.9	N 22 57.0 -00.3	258 54.5 +02.3	S 11 46.1 +00.0	276 32.5 +02.5	S 17 23.7 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 246° 246° 246° 246° 246° 246°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:06		Greenwich Culmination Time: 05:47		Greenwich Culmination Time: 04:36								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 37.4 -00.1	N 21 46.2 +00.3	162 29.4 -00.9	N 24 10.9 +00.2	307 12.4 -35.9	S 24 25.8 -05.0	00						
01	195 37.3 -00.1	N 21 46.5 +00.4	177 28.5 -00.9	N 24 11.1 +00.2	321 36.5 -35.8	S 24 20.8 -05.2	01						
02	210 37.2 +00.0	N 21 46.9 +00.4	192 27.6 -00.8	N 24 11.3 +00.2	336 00.7 -35.7	S 24 15.6 -05.4	02						
03	225 37.2 -00.1	N 21 47.3 +00.3	207 26.8 -00.9	N 24 11.5 +00.1	350 25.0 -35.6	S 24 10.2 -05.5	03						
04	240 37.1 -00.1	N 21 47.6 +00.4	222 25.9 -00.9	N 24 11.6 +00.2	4 49.4 -35.5	S 24 04.7 -05.6	04						
05	255 37.0 -00.1	N 21 48.0 +00.4	237 25.0 -00.9	N 24 11.8 +00.2	19 13.9 -35.3	S 23 59.1 -05.8	05						
06	270 36.9 -00.1	N 21 48.4 +00.3	252 24.1 -00.9	N 24 12.0 +00.2	33 38.6 -35.3	S 23 53.3 -05.9	06						
07	285 36.8 -00.1	N 21 48.7 +00.4	267 23.2 -00.9	N 24 12.2 +00.2	48 03.3 -35.2	S 23 47.4 -06.1	07						
08	300 36.7 -00.1	N 21 49.1 +00.4	282 22.3 -00.8	N 24 12.4 +00.2	62 28.1 -35.0	S 23 41.3 -06.2	08						
09	315 36.6 -00.1	N 21 49.5 +00.3	297 21.5 -00.9	N 24 12.6 +00.2	76 53.1 -34.9	S 23 35.1 -06.4	09						
10	330 36.5 +00.0	N 21 49.8 +00.4	312 20.6 -00.9	N 24 12.8 +00.1	91 18.2 -34.9	S 23 28.7 -06.4	10						
11	345 36.5 -00.1	N 21 50.2 +00.4	327 19.7 -00.9	N 24 12.9 +00.2	105 43.3 -34.7	S 23 22.3 -06.7	11						
12	0 36.4 -00.1	N 21 50.6 +00.3	342 18.8 -00.9	N 24 13.1 +00.2	120 08.6 -34.6	S 23 15.6 -06.7	12						
13	15 36.3 -00.1	N 21 50.9 +00.4	357 17.9 -00.9	N 24 13.3 +00.2	134 34.0 -34.4	S 23 08.9 -07.0	13						
14	30 36.2 -00.1	N 21 51.3 +00.3	12 17.0 -00.8	N 24 13.5 +00.2	148 59.6 -34.4	S 23 01.9 -07.0	14						
15	45 36.1 -00.1	N 21 51.6 +00.4	27 16.2 -00.9	N 24 13.7 +00.1	163 25.2 -34.2	S 22 54.9 -07.2	15						
16	60 36.0 -00.1	N 21 52.0 +00.4	42 15.3 -00.9	N 24 13.8 +00.2	177 51.0 -34.1	S 22 47.7 -07.2	16						
17	75 35.9 -00.1	N 21 52.4 +00.3	57 14.4 -00.9	N 24 14.0 +00.2	192 16.9 -34.0	S 22 40.5 -07.5	17						
18	90 35.8 -00.1	N 21 52.7 +00.4	72 13.5 -00.9	N 24 14.2 +00.1	206 42.9 -33.9	S 22 33.0 -07.5	18						
19	105 35.7 +00.0	N 21 53.1 +00.3	87 12.6 -00.9	N 24 14.3 +00.2	221 09.0 -33.8	S 22 25.5 -07.7	19						
20	120 35.7 -00.1	N 21 53.4 +00.4	102 11.7 -00.8	N 24 14.5 +00.2	235 35.2 -33.6	S 22 17.8 -07.8	20						
21	135 35.6 -00.1	N 21 53.8 +00.4	117 10.9 -00.9	N 24 14.7 +00.2	250 01.6 -33.6	S 22 10.0 -07.9	21						
22	150 35.5 -00.1	N 21 54.2 +00.3	132 10.0 -00.9	N 24 14.9 +00.1	264 28.0 -33.4	S 22 02.1 -08.0	22						
23	165 35.4 -00.1	N 21 54.5 +00.4	147 09.1 -00.9	N 24 15.0 +00.2	278 54.6 -33.3	S 21 54.1 -08.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'1 16'1 16'0 16'0 15'9 15'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 59'1 58'9 58'8 58'6 58'4 58'3								
	SHA 293° 293° 292° 292° 292° 292°		SHA 275° 274° 274° 274° 274° 274°		SHA 058° 056° 053° 051° 048° 046°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 13:10		Greenwich Culmination Time: 03:39								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	133 25.6 +00.8	N 22 56.7 -00.2	273 56.8 +02.3	S 11 46.1 -00.1	291 35.0 +02.5	S 17 23.7 +00.0	00						
01	148 26.4 +00.8	N 22 56.5 -00.3	288 59.1 +02.3	S 11 46.0 +00.0	306 37.5 +02.5	S 17 23.7 +00.0	01						
02	163 27.2 +00.8	N 22 56.2 -00.3	304 01.4 +02.3	S 11 46.0 -00.1	321 40.0 +02.5	S 17 23.7 +00.0	02						
03	178 28.0 +00.9	N 22 55.9 -00.2	319 03.7 +02.3	S 11 45.9 +00.0	336 42.5 +02.5	S 17 23.7 +00.0	03						
04	193 28.9 +00.8	N 22 55.7 -00.3	334 06.0 +02.3	S 11 45.9 -00.1	351 45.0 +02.5	S 17 23.7 +00.1	04						
05	208 29.7 +00.8	N 22 55.4 -00.2	349 08.3 +02.3	S 11 45.8 +00.0	6 47.5 +02.5	S 17 23.8 +00.0	05						
06	223 30.5 +00.8	N 22 55.2 -00.3	4 10.6 +02.3	S 11 45.8 -00.1	21 50.0 +02.5	S 17 23.8 +00.0	06						
07	238 31.3 +00.9	N 22 54.9 -00.3	19 12.9 +02.3	S 11 45.7 +00.0	36 52.5 +02.4	S 17 23.8 +00.0	07						
08	253 32.2 +00.8	N 22 54.6 -00.2	34 15.2 +02.3	S 11 45.7 -00.1	51 54.9 +02.5	S 17 23.8 +00.0	08						
09	268 33.0 +00.8	N 22 54.4 -00.3	49 17.5 +02.3	S 11 45.6 +00.0	66 57.4 +02.5	S 17 23.8 +00.0	09						
10	283 33.8 +00.8	N 22 54.1 -00.3	64 19.8 +02.3	S 11 45.6 -00.1	81 59.9 +02.5	S 17 23.8 +00.0	10						
11	298 34.6 +00.8	N 22 53.8 -00.2	79 22.1 +02.3	S 11 45.5 +00.0	97 02.4 +02.5	S 17 23.8 +00.1	11						
12	313 35.4 +00.9	N 22 53.6 -00.3	94 24.4 +02.3	S 11 45.5 -00.1	112 04.9 +02.5	S 17 23.9 +00.0	12						
13	328 36.3 +00.8	N 22 53.3 -00.2	109 26.7 +02.3	S 11 45.4 +00.0	127 07.4 +02.5	S 17 23.9 +00.0	13						
14	343 37.1 +00.8	N 22 53.1 -00.3	124 29.0 +02.3	S 11 45.4 -00.1	142 09.9 +02.5	S 17 23.9 +00.0	14						
15	358 37.9 +00.8	N 22 52.8 -00.3	139 31.3 +02.3	S 11 45.3 +00.0	157 12.4 +02.5	S 17 23.9 +00.0	15						
16	13 38.7 +00.9	N 22 52.5 -00.2	154 33.6 +02.3	S 11 45.3 -00.1	172 14.9 +02.5	S 17 23.9 +00.0	16						
17	28 39.6 +00.8	N 22 52.3 -00.3	169 35.9 +02.3	S 11 45.2 +00.0	187 17.4 +02.5	S 17 23.9 +00.0	17						
18	43 40.4 +00.8	N 22 52.0 -00.3	184 38.2 +02.3	S 11 45.2 -00.1	202 19.9 +02.4	S 17 23.9 +00.1	18						
19	58 41.2 +00.8	N 22 51.7 -00.2	199 40.5 +02.3	S 11 45.1 +00.0	217 22.3 +02.5	S 17 24.0 +00.0	19						
20	73 42.0 +00.9	N 22 51.5 -00.3	214 42.8 +02.3	S 11 45.1 -00.1	232 24.8 +02.5	S 17 24.0 +00.0	20						
21	88 42.9 +00.8	N 22 51.2 -00.3	229 45.1 +02.3	S 11 45.0 +00.0	247 27.3 +02.5	S 17 24.0 +00.0	21						
22	103 43.7 +00.8	N 22 50.9 -00.2	244 47.4 +02.3	S 11 45.0 -00.1	262 29.8 +02.5	S 17 24.0 +00.0	22						
23	118 44.5 +00.8	N 22 50.7 -00.3	259 49.7 +02.3	S 11 44.9 +00.0	277 32.3 +02.5	S 17 24.0 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 246° 246° 245° 245° 245° 245°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:05		Greenwich Culmination Time: 05:43		Greenwich Culmination Time: 04:32								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 35.3 -00.1	N 21 54.9 +00.3	162 08.2 -00.9	N 24 15.2 +00.1	293 21.3 -33.1	S 21 45.9 -08.3	00						
01	195 35.2 -00.1	N 21 55.2 +00.4	177 07.3 -00.9	N 24 15.3 +00.2	307 48.2 -33.1	S 21 37.6 -08.3	01						
02	210 35.1 -00.1	N 21 55.6 +00.3	192 06.4 -00.9	N 24 15.5 +00.2	322 15.1 -32.9	S 21 29.3 -08.5	02						
03	225 35.0 -00.1	N 21 55.9 +00.4	207 05.5 -00.8	N 24 15.7 +00.1	336 42.2 -32.8	S 21 20.8 -08.6	03						
04	240 34.9 -00.1	N 21 56.3 +00.3	222 04.7 -00.9	N 24 15.8 +00.2	351 09.4 -32.7	S 21 12.2 -08.8	04						
05	255 34.8 +00.0	N 21 56.6 +00.4	237 03.8 -00.9	N 24 16.0 +00.1	5 36.7 -32.6	S 21 03.4 -08.8	05						
06	270 34.8 -00.1	N 21 57.0 +00.3	252 02.9 -00.9	N 24 16.1 +00.2	20 04.1 -32.5	S 20 54.6 -08.9	06						
07	285 34.7 -00.1	N 21 57.3 +00.4	267 02.0 -00.9	N 24 16.3 +00.2	34 31.6 -32.3	S 20 45.7 -09.0	07						
08	300 34.6 -00.1	N 21 57.7 +00.3	282 01.1 -00.9	N 24 16.5 +00.1	48 59.3 -32.2	S 20 36.7 -09.2	08						
09	315 34.5 -00.1	N 21 58.0 +00.4	297 00.2 -00.9	N 24 16.6 +00.2	63 27.1 -32.1	S 20 27.5 -09.2	09						
10	330 34.4 -00.1	N 21 58.4 +00.3	311 59.3 -00.8	N 24 16.8 +00.1	77 55.0 -32.0	S 20 18.3 -09.4	10						
11	345 34.3 -00.1	N 21 58.7 +00.4	326 58.5 -00.9	N 24 16.9 +00.2	92 23.0 -31.8	S 20 08.9 -09.4	11						
12	0 34.2 -00.1	N 21 59.1 +00.3	341 57.6 -00.9	N 24 17.1 +00.1	106 51.2 -31.8	S 19 59.5 -09.5	12						
13	15 34.1 -00.1	N 21 59.4 +00.4	356 56.7 -00.9	N 24 17.2 +00.2	121 19.4 -31.6	S 19 50.0 -09.6	13						
14	30 34.0 -00.1	N 21 59.8 +00.3	11 55.8 -00.9	N 24 17.4 +00.1	135 47.8 -31.5	S 19 40.4 -09.8	14						
15	45 33.9 -00.1	N 22 00.1 +00.4	26 54.9 -00.9	N 24 17.5 +00.2	150 16.3 -31.4	S 19 30.6 -09.8	15						
16	60 33.8 -00.1	N 22 00.5 +00.3	41 54.0 -00.9	N 24 17.7 +00.1	164 44.9 -31.3	S 19 20.8 -09.9	16						
17	75 33.7 -00.1	N 22 00.8 +00.4	56 53.1 -00.8	N 24 17.8 +00.1	179 13.6 -31.2	S 19 10.9 -10.0	17						
18	90 33.6 -00.1	N 22 01.2 +00.3	71 52.3 -00.9	N 24 17.9 +00.2	193 42.4 -31.0	S 19 00.9 -10.0	18						
19	105 33.5 +00.0	N 22 01.5 +00.3	86 51.4 -00.9	N 24 18.1 +00.1	208 11.4 -30.9	S 18 50.9 -10.2	19						
20	120 33.5 -00.1	N 22 01.8 +00.4	101 50.5 -00.9	N 24 18.2 +00.2	222 40.5 -30.9	S 18 40.7 -10.2	20						
21	135 33.4 -00.1	N 22 02.2 +00.3	116 49.6 -00.9	N 24 18.4 +00.1	237 09.6 -30.7	S 18 30.5 -10.4	21						
22	150 33.3 -00.1	N 22 02.5 +00.4	131 48.7 -00.9	N 24 18.5 +00.1	251 38.9 -30.6	S 18 20.1 -10.4	22						
23	165 33.2 -00.1	N 22 02.9 +00.3	146 47.8 -00.9	N 24 18.6 +00.2	266 08.3 -30.5	S 18 09.7 -10.5	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 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'8 15'8 15'7 15'7 15'7 15'6								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 58'1 58'0 57'8 57'6 57'5 57'3								
	SHA 292° 292° 291° 291° 291° 291°		SHA 273° 273° 273° 273° 272° 272°		SHA 043° 041° 039° 037° 034° 032°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 13:12		Greenwich Culmination Time: 04:36								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	133 45.3 +00.9	N 22 50.4 -00.2	274 52.0 +02.3	S 11 44.9 -00.1	292 34.8 +02.5	S 17 24.0 +00.0	00						
01	148 46.2 +00.8	N 22 50.2 -00.3	289 54.3 +02.3	S 11 44.8 +00.0	307 37.3 +02.5	S 17 24.0 +00.1	01						
02	163 47.0 +00.8	N 22 49.9 -00.3	304 56.6 +02.3	S 11 44.8 +00.0	322 39.8 +02.5	S 17 24.1 +00.0	02						
03	178 47.8 +00.8	N 22 49.6 -00.2	319 58.9 +02.3	S 11 44.8 -00.1	337 42.3 +02.5	S 17 24.1 +00.0	03						
04	193 48.6 +00.9	N 22 49.4 -00.3	335 01.2 +02.4	S 11 44.7 +00.0	352 44.8 +02.5	S 17 24.1 +00.0	04						
05	208 49.5 +00.8	N 22 49.1 -00.3	350 03.6 +02.3	S 11 44.7 -00.1	7 47.3 +02.5	S 17 24.1 +00.0	05						
06	223 50.3 +00.8	N 22 48.8 -00.2	5 05.9 +02.3	S 11 44.6 +00.0	22 49.8 +02.5	S 17 24.1 +00.0	06						
07	238 51.1 +00.8	N 22 48.6 -00.3	20 08.2 +02.3	S 11 44.6 -00.1	37 52.3 +02.5	S 17 24.1 +00.0	07						
08	253 51.9 +00.9	N 22 48.3 -00.3	35 10.5 +02.3	S 11 44.5 +00.0	52 54.8 +02.5	S 17 24.1 +00.1	08						
09	268 52.8 +00.8	N 22 48.0 -00.3	50 12.8 +02.3	S 11 44.5 -00.1	67 57.3 +02.4	S 17 24.2 +00.0	09						
10	283 53.6 +00.8	N 22 47.7 -00.2	65 15.1 +02.3	S 11 44.4 +00.0	82 59.7 +02.5	S 17 24.2 +00.0	10						
11	298 54.4 +00.9	N 22 47.5 -00.3	80 17.4 +02.3	S 11 44.4 -00.1	98 02.2 +02.5	S 17 24.2 +00.0	11						
12	313 55.3 +00.8	N 22 47.2 -00.3	95 19.7 +02.3	S 11 44.3 +00.0	113 04.7 +02.5	S 17 24.2 +00.0	12						
13	328 56.1 +00.8	N 22 46.9 -00.2	110 22.0 +02.3	S 11 44.3 -00.1	128 07.2 +02.5	S 17 24.2 +00.0	13						
14	343 56.9 +00.8	N 22 46.7 -00.3	125 24.3 +02.3	S 11 44.2 +00.0	143 09.7 +02.5	S 17 24.2 +00.1	14						
15	358 57.7 +00.9	N 22 46.4 -00.3	140 26.6 +02.4	S 11 44.2 +00.0	158 12.2 +02.5	S 17 24.3 +00.0	15						
16	13 58.6 +00.8	N 22 46.1 -00.2	155 29.0 +02.3	S 11 44.2 -00.1	173 14.7 +02.5	S 17 24.3 +00.0	16						
17	28 59.4 +00.8	N 22 45.9 -00.3	170 31.3 +02.3	S 11 44.1 +00.0	188 17.2 +02.5	S 17 24.3 +00.0	17						
18	44 00.2 +00.8	N 22 45.6 -00.3	185 33.6 +02.3	S 11 44.1 -00.1	203 19.7 +02.5	S 17 24.3 +00.0	18						
19	59 01.0 +00.9	N 22 45.3 -00.3	200 35.9 +02.3	S 11 44.0 +00.0	218 22.2 +02.5	S 17 24.3 +00.0	19						
20	74 01.9 +00.8	N 22 45.0 -00.2	215 38.2 +02.3	S 11 44.0 -00.1	233 24.7 +02.5	S 17 24.3 +00.0	20						
21	89 02.7 +00.8	N 22 44.8 -00.3	230 40.5 +02.3	S 11 43.9 +00.0	248 27.2 +02.5	S 17 24.3 +00.1	21						
22	104 03.5 +00.8	N 22 44.5 -00.3	245 42.8 +02.3	S 11 43.9 -00.1	263 29.7 +02.5	S 17 24.4 +00.0	22						
23	119 04.3 +00.9	N 22 44.2 -00.2	260 45.1 +02.4	S 11 43.8 +00.0	278 32.2 +02.5	S 17 24.4 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 245° 245° 245° 245° 245° 244°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:04		Greenwich Culmination Time: 05:39		Greenwich Culmination Time: 04:28								

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 33.1 -00.1	N 22 03.2 +00.3	161 46.9 -00.9	N 24 18.8 +00.1	280 37.8 -30.3	S 17 59.2 -10.5	00						
01	195 33.0 -00.1	N 22 03.5 +00.4	176 46.0 -00.8	N 24 18.9 +00.1	295 07.5 -30.3	S 17 48.7 -10.7	01						
02	210 32.9 -00.1	N 22 03.9 +00.3	191 45.2 -00.9	N 24 19.0 +00.2	309 37.2 -30.1	S 17 38.0 -10.7	02						
03	225 32.8 -00.1	N 22 04.2 +00.4	206 44.3 -00.9	N 24 19.2 +00.1	324 07.1 -30.1	S 17 27.3 -10.8	03						
04	240 32.7 -00.1	N 22 04.6 +00.3	221 43.4 -00.9	N 24 19.3 +00.1	338 37.0 -29.9	S 17 16.5 -10.8	04						
05	255 32.6 -00.1	N 22 04.9 +00.3	236 42.5 -00.9	N 24 19.4 +00.2	353 07.1 -29.9	S 17 05.7 -11.0	05						
06	270 32.5 -00.1	N 22 05.2 +00.4	251 41.6 -00.9	N 24 19.6 +00.1	7 37.2 -29.7	S 16 54.7 -11.0	06						
07	285 32.4 -00.1	N 22 05.6 +00.3	266 40.7 -00.9	N 24 19.7 +00.1	22 07.5 -29.6	S 16 43.7 -11.0	07						
08	300 32.3 -00.1	N 22 05.9 +00.3	281 39.8 -00.9	N 24 19.8 +00.1	36 37.9 -29.5	S 16 32.7 -11.2	08						
09	315 32.2 -00.1	N 22 06.2 +00.4	296 38.9 -00.8	N 24 19.9 +00.2	51 08.4 -29.4	S 16 21.5 -11.2	09						
10	330 32.1 -00.1	N 22 06.6 +00.3	311 38.1 -00.9	N 24 20.1 +00.1	65 39.0 -29.4	S 16 10.3 -11.2	10						
11	345 32.0 -00.1	N 22 06.9 +00.3	326 37.2 -00.9	N 24 20.2 +00.1	80 09.6 -29.2	S 15 59.1 -11.4	11						
12	0 31.9 -00.1	N 22 07.2 +00.4	341 36.3 -00.9	N 24 20.3 +00.1	94 40.4 -29.1	S 15 47.7 -11.4	12						
13	15 31.8 -00.1	N 22 07.6 +00.3	356 35.4 -00.9	N 24 20.4 +00.1	109 11.3 -29.0	S 15 36.3 -11.4	13						
14	30 31.7 -00.1	N 22 07.9 +00.3	11 34.5 -00.9	N 24 20.5 +00.2	123 42.3 -28.9	S 15 24.9 -11.5	14						
15	45 31.6 -00.1	N 22 08.2 +00.3	26 33.6 -00.9	N 24 20.7 +00.1	138 13.4 -28.8	S 15 13.4 -11.6	15						
16	60 31.5 -00.1	N 22 08.5 +00.4	41 32.7 -00.9	N 24 20.8 +00.1	152 44.6 -28.7	S 15 01.8 -11.6	16						
17	75 31.4 -00.1	N 22 08.9 +00.3	56 31.8 -00.9	N 24 20.9 +00.1	167 15.9 -28.7	S 14 50.2 -11.7	17						
18	90 31.3 -00.1	N 22 09.2 +00.3	71 30.9 -00.8	N 24 21.0 +00.1	181 47.2 -28.5	S 14 38.5 -11.7	18						
19	105 31.2 -00.1	N 22 09.5 +00.4	86 30.1 -00.9	N 24 21.1 +00.1	196 18.7 -28.4	S 14 26.8 -11.8	19						
20	120 31.1 -00.1	N 22 09.9 +00.3	101 29.2 -00.9	N 24 21.2 +00.1	210 50.3 -28.4	S 14 15.0 -11.8	20						
21	135 31.0 -00.1	N 22 10.2 +00.3	116 28.3 -00.9	N 24 21.3 +00.1	225 21.9 -28.2	S 14 03.2 -11.9	21						
22	150 30.9 -00.1	N 22 10.5 +00.3	131 27.4 -00.9	N 24 21.4 +00.1	239 53.7 -28.2	S 13 51.3 -12.0	22						
23	165 30.8 -00.1	N 22 10.8 +00.4	146 26.5 -00.9	N 24 21.5 +00.2	254 25.5 -28.0	S 13 39.3 -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 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'6 15'5 15'5 15'5 15'4 15'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 57'2 57'0 56'9 56'7 56'6 56'4								
	SHA 291° 291° 290° 290° 290° 290°		SHA 272° 272° 272° 271° 271° 271°		SHA 030° 028° 026° 023° 021° 019°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 13:13		Greenwich Culmination Time: 05:28								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	134 05.2 +00.8	N 22 44.0 -00.3	275 47.5 +02.3	S 11 43.8 -00.1	293 34.7 +02.5	S 17 24.4 +00.0	00						
01	149 06.0 +00.8	N 22 43.7 -00.3	290 49.8 +02.3	S 11 43.7 +00.0	308 37.2 +02.5	S 17 24.4 +00.0	01						
02	164 06.8 +00.9	N 22 43.4 -00.3	305 52.1 +02.3	S 11 43.7 +00.0	323 39.7 +02.5	S 17 24.4 +00.0	02						
03	179 07.7 +00.8	N 22 43.1 -00.2	320 54.4 +02.3	S 11 43.7 -00.1	338 42.2 +02.5	S 17 24.4 +00.1	03						
04	194 08.5 +00.8	N 22 42.9 -00.3	335 56.7 +02.3	S 11 43.6 +00.0	353 44.7 +02.5	S 17 24.5 +00.0	04						
05	209 09.3 +00.8	N 22 42.6 -00.3	350 59.0 +02.3	S 11 43.6 -00.1	8 47.2 +02.5	S 17 24.5 +00.0	05						
06	224 10.1 +00.9	N 22 42.3 -00.3	6 01.3 +02.4	S 11 43.5 +00.0	23 49.7 +02.5	S 17 24.5 +00.0	06						
07	239 11.0 +00.8	N 22 42.0 -00.2	21 03.7 +02.3	S 11 43.5 -00.1	38 52.2 +02.5	S 17 24.5 +00.0	07						
08	254 11.8 +00.8	N 22 41.8 -00.3	36 06.0 +02.3	S 11 43.4 +00.0	53 54.7 +02.5	S 17 24.5 +00.0	08						
09	269 12.6 +00.8	N 22 41.5 -00.3	51 08.3 +02.3	S 11 43.4 +00.0	68 57.2 +02.5	S 17 24.5 +00.0	09						
10	284 13.4 +00.9	N 22 41.2 -00.2	66 10.6 +02.3	S 11 43.4 -00.1	83 59.7 +02.5	S 17 24.5 +00.1	10						
11	299 14.3 +00.8	N 22 41.0 -00.3	81 12.9 +02.3	S 11 43.3 +00.0	99 02.2 +02.5	S 17 24.6 +00.0	11						
12	314 15.1 +00.8	N 22 40.7 -00.3	96 15.2 +02.4	S 11 43.3 -00.1	114 04.7 +02.5	S 17 24.6 +00.0	12						
13	329 15.9 +00.9	N 22 40.4 -00.3	111 17.6 +02.3	S 11 43.2 +00.0	129 07.2 +02.5	S 17 24.6 +00.0	13						
14	344 16.8 +00.8	N 22 40.1 -00.3	126 19.9 +02.3	S 11 43.2 -00.1	144 09.7 +02.5	S 17 24.6 +00.0	14						
15	359 17.6 +00.8	N 22 39.8 -00.2	141 22.2 +02.3	S 11 43.1 +00.0	159 12.2 +02.5	S 17 24.6 +00.0	15						
16	14 18.4 +00.8	N 22 39.6 -00.3	156 24.5 +02.3	S 11 43.1 +00.0	174 14.7 +02.5	S 17 24.6 +00.1	16						
17	29 19.2 +00.9	N 22 39.3 -00.3	171 26.8 +02.3	S 11 43.1 -00.1	189 17.2 +02.5	S 17 24.7 +00.0	17						
18	44 20.1 +00.8	N 22 39.0 -00.3	186 29.1 +02.4	S 11 43.0 +00.0	204 19.7 +02.5	S 17 24.7 +00.0	18						
19	59 20.9 +00.8	N 22 38.7 -00.2	201 31.5 +02.3	S 11 43.0 -00.1	219 22.2 +02.5	S 17 24.7 +00.0	19						
20	74 21.7 +00.9	N 22 38.5 -00.3	216 33.8 +02.3	S 11 42.9 +00.0	234 24.7 +02.5	S 17 24.7 +00.0	20						
21	89 22.6 +00.8	N 22 38.2 -00.3	231 36.1 +02.3	S 11 42.9 -00.1	249 27.2 +02.5	S 17 24.7 +00.0	21						
22	104 23.4 +00.8	N 22 37.9 -00.3	246 38.4 +02.3	S 11 42.8 +00.0	264 29.7 +02.5	S 17 24.7 +00.1	22						
23	119 24.2 +00.8	N 22 37.6 -00.2	261 40.7 +02.4	S 11 42.8 +00.0	279 32.2 +02.5	S 17 24.8 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 244° 244° 244° 244° 244° 244°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:02		Greenwich Culmination Time: 05:35		Greenwich Culmination Time: 04:24								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 30.7 -00.1	N 22 11.2 +00.3	161 25.6 -00.9	N 24 21.7 +00.1	268 57.5 -28.0	S 13 27.4 -12.1	00						
01	195 30.6 -00.1	N 22 11.5 +00.3	176 24.7 -00.9	N 24 21.8 +00.1	283 29.5 -27.9	S 13 15.3 -12.0	01						
02	210 30.5 +00.0	N 22 11.8 +00.3	191 23.8 -00.9	N 24 21.9 +00.1	298 01.6 -27.8	S 13 03.3 -12.2	02						
03	225 30.5 -00.1	N 22 12.1 +00.3	206 22.9 -00.8	N 24 22.0 +00.1	312 33.8 -27.7	S 12 51.1 -12.1	03						
04	240 30.4 -00.1	N 22 12.4 +00.4	221 22.1 -00.9	N 24 22.1 +00.1	327 06.1 -27.7	S 12 39.0 -12.2	04						
05	255 30.3 -00.1	N 22 12.8 +00.3	236 21.2 -00.9	N 24 22.2 +00.1	341 38.4 -27.5	S 12 26.8 -12.3	05						
06	270 30.2 -00.1	N 22 13.1 +00.3	251 20.3 -00.9	N 24 22.3 +00.1	356 10.9 -27.5	S 12 14.5 -12.2	06						
07	285 30.1 -00.1	N 22 13.4 +00.3	266 19.4 -00.9	N 24 22.4 +00.1	10 43.4 -27.4	S 12 02.3 -12.4	07						
08	300 30.0 -00.2	N 22 13.7 +00.3	281 18.5 -00.9	N 24 22.5 +00.0	25 16.0 -27.3	S 11 49.9 -12.3	08						
09	315 29.8 -00.1	N 22 14.0 +00.4	296 17.6 -00.9	N 24 22.5 +00.1	39 48.7 -27.3	S 11 37.6 -12.4	09						
10	330 29.7 -00.1	N 22 14.4 +00.3	311 16.7 -00.9	N 24 22.6 +00.1	54 21.4 -27.1	S 11 25.2 -12.5	10						
11	345 29.6 -00.1	N 22 14.7 +00.3	326 15.8 -00.9	N 24 22.7 +00.1	68 54.3 -27.1	S 11 12.7 -12.4	11						
12	0 29.5 -00.1	N 22 15.0 +00.3	341 14.9 -00.9	N 24 22.8 +00.1	83 27.2 -27.0	S 11 00.3 -12.5	12						
13	15 29.4 -00.1	N 22 15.3 +00.3	356 14.0 -00.8	N 24 22.9 +00.1	98 00.2 -27.0	S 10 47.8 -12.6	13						
14	30 29.3 -00.1	N 22 15.6 +00.3	11 13.2 -00.9	N 24 23.0 +00.1	112 33.2 -26.8	S 10 35.2 -12.5	14						
15	45 29.2 -00.1	N 22 15.9 +00.3	26 12.3 -00.9	N 24 23.1 +00.1	127 06.4 -26.8	S 10 22.7 -12.6	15						
16	60 29.1 -00.1	N 22 16.2 +00.3	41 11.4 -00.9	N 24 23.2 +00.1	141 39.6 -26.7	S 10 10.1 -12.6	16						
17	75 29.0 -00.1	N 22 16.5 +00.4	56 10.5 -00.9	N 24 23.3 +00.0	156 12.9 -26.7	S 09 57.5 -12.7	17						
18	90 28.9 -00.1	N 22 16.9 +00.3	71 09.6 -00.9	N 24 23.3 +00.1	170 46.2 -26.6	S 09 44.8 -12.7	18						
19	105 28.8 -00.1	N 22 17.2 +00.3	86 08.7 -00.9	N 24 23.4 +00.1	185 19.6 -26.5	S 09 32.1 -12.7	19						
20	120 28.7 -00.1	N 22 17.5 +00.3	101 07.8 -00.9	N 24 23.5 +00.1	199 53.1 -26.4	S 09 19.4 -12.7	20						
21	135 28.6 -00.1	N 22 17.8 +00.3	116 06.9 -00.9	N 24 23.6 +00.1	214 26.7 -26.4	S 09 06.7 -12.8	21						
22	150 28.5 -00.1	N 22 18.1 +00.3	131 06.0 -00.9	N 24 23.7 +00.0	229 00.3 -26.4	S 08 53.9 -12.7	22						
23	165 28.4 -00.1	N 22 18.4 +00.3	146 05.1 -00.8	N 24 23.7 +00.1	243 33.9 -26.2	S 08 41.2 -12.9	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'3 15'3 15'3 15'2 15'2 15'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 56'3 56'2 56'0 55'9 55'8 55'7								
	SHA 290° 290° 289° 289° 289° 289°		SHA 271° 270° 270° 270° 270° 270°		SHA 017° 015° 013° 011° 009° 007°								
	Greenwich Culmination Time: 11:58		Greenwich Culmination Time: 13:15		Greenwich Culmination Time: 06:15								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	134 25.0 +00.9	N 22 37.4 -00.3	276 43.1 +02.3	S 11 42.8 -00.1	294 34.7 +02.5	S 17 24.8 +00.0	00						
01	149 25.9 +00.8	N 22 37.1 -00.3	291 45.4 +02.3	S 11 42.7 +00.0	309 37.2 +02.5	S 17 24.8 +00.0	01						
02	164 26.7 +00.8	N 22 36.8 -00.3	306 47.7 +02.3	S 11 42.7 -00.1	324 39.7 +02.5	S 17 24.8 +00.0	02						
03	179 27.5 +00.9	N 22 36.5 -00.3	321 50.0 +02.3	S 11 42.6 +00.0	339 42.2 +02.5	S 17 24.8 +00.0	03						
04	194 28.4 +00.8	N 22 36.2 -00.2	336 52.3 +02.4	S 11 42.6 -00.1	354 44.7 +02.5	S 17 24.8 +00.1	04						
05	209 29.2 +00.8	N 22 36.0 -00.3	351 54.7 +02.3	S 11 42.5 +00.0	9 47.2 +02.5	S 17 24.9 +00.0	05						
06	224 30.0 +00.8	N 22 35.7 -00.3	6 57.0 +02.3	S 11 42.5 +00.0	24 49.7 +02.5	S 17 24.9 +00.0	06						
07	239 30.8 +00.9	N 22 35.4 -00.3	21 59.3 +02.3	S 11 42.5 -00.1	39 52.2 +02.5	S 17 24.9 +00.0	07						
08	254 31.7 +00.8	N 22 35.1 -00.3	37 01.6 +02.4	S 11 42.4 +00.0	54 54.7 +02.5	S 17 24.9 +00.0	08						
09	269 32.5 +00.8	N 22 34.8 -00.2	52 04.0 +02.3	S 11 42.4 -00.1	69 57.2 +02.5	S 17 24.9 +00.0	09						
10	284 33.3 +00.9	N 22 34.6 -00.3	67 06.3 +02.3	S 11 42.3 +00.0	84 59.7 +02.5	S 17 24.9 +00.1	10						
11	299 34.2 +00.8	N 22 34.3 -00.3	82 08.6 +02.3	S 11 42.3 +00.0	100 02.2 +02.5	S 17 25.0 +00.0	11						
12	314 35.0 +00.8	N 22 34.0 -00.3	97 10.9 +02.4	S 11 42.3 -00.1	115 04.7 +02.5	S 17 25.0 +00.0	12						
13	329 35.8 +00.9	N 22 33.7 -00.3	112 13.3 +02.3	S 11 42.2 +00.0	130 07.2 +02.5	S 17 25.0 +00.0	13						
14	344 36.7 +00.8	N 22 33.4 -00.3	127 15.6 +02.3	S 11 42.2 -00.1	145 09.7 +02.5	S 17 25.0 +00.0	14						
15	359 37.5 +00.8	N 22 33.1 -00.2	142 17.9 +02.3	S 11 42.1 +00.0	160 12.2 +02.5	S 17 25.0 +00.1	15						
16	14 38.3 +00.9	N 22 32.9 -00.3	157 20.2 +02.4	S 11 42.1 +00.0	175 14.7 +02.5	S 17 25.1 +00.0	16						
17	29 39.2 +00.8	N 22 32.6 -00.3	172 22.6 +02.3	S 11 42.1 -00.1	190 17.2 +02.5	S 17 25.1 +00.0	17						
18	44 40.0 +00.8	N 22 32.3 -00.3	187 24.9 +02.3	S 11 42.0 +00.0	205 19.7 +02.5	S 17 25.1 +00.0	18						
19	59 40.8 +00.8	N 22 32.0 -00.3	202 27.2 +02.3	S 11 42.0 -00.1	220 22.2 +02.5	S 17 25.1 +00.0	19						
20	74 41.6 +00.9	N 22 31.7 -00.3	217 29.5 +02.4	S 11 41.9 +00.0	235 24.7 +02.5	S 17 25.1 +00.0	20						
21	89 42.5 +00.8	N 22 31.4 -00.2	232 31.9 +02.3	S 11 41.9 +00.0	250 27.2 +02.5	S 17 25.1 +00.1	21						
22	104 43.3 +00.8	N 22 31.2 -00.3	247 34.2 +02.3	S 11 41.9 -00.1	265 29.7 +02.5	S 17 25.2 +00.0	22						
23	119 44.1 +00.9	N 22 30.9 -00.3	262 36.5 +02.3	S 11 41.8 +00.0	280 32.2 +02.5	S 17 25.2 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 244° 244° 243° 243° 243° 243°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:01		Greenwich Culmination Time: 05:32		Greenwich Culmination Time: 04:20								

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 28.3 -00.1	N 22 18.7 +00.3	161 04.3 -00.9	N 24 23.8 +00.1	258 07.7 -26.2	S 08 28.3 -12.8	00						
01	195 28.2 -00.1	N 22 19.0 +00.3	176 03.4 -00.9	N 24 23.9 +00.1	272 41.5 -26.2	S 08 15.5 -12.8	01						
02	210 28.1 -00.1	N 22 19.3 +00.3	191 02.5 -00.9	N 24 24.0 +00.0	287 15.3 -26.0	S 08 02.7 -12.9	02						
03	225 28.0 -00.1	N 22 19.6 +00.3	206 01.6 -00.9	N 24 24.0 +00.1	301 49.3 -26.1	S 07 49.8 -12.9	03						
04	240 27.9 -00.1	N 22 19.9 +00.3	221 00.7 -00.9	N 24 24.1 +00.1	316 23.2 -25.9	S 07 36.9 -12.9	04						
05	255 27.8 -00.1	N 22 20.2 +00.3	235 59.8 -00.9	N 24 24.2 +00.0	330 57.3 -26.0	S 07 24.0 -12.9	05						
06	270 27.7 -00.1	N 22 20.5 +00.3	250 58.9 -00.9	N 24 24.2 +00.1	345 31.3 -25.8	S 07 11.1 -12.9	06						
07	285 27.6 -00.1	N 22 20.8 +00.3	265 58.0 -00.9	N 24 24.3 +00.1	0 05.5 -25.8	S 06 58.2 -13.0	07						
08	300 27.5 -00.1	N 22 21.1 +00.4	280 57.1 -00.9	N 24 24.4 +00.0	14 39.7 -25.8	S 06 45.2 -13.0	08						
09	315 27.4 -00.1	N 22 21.5 +00.3	295 56.2 -00.8	N 24 24.4 +00.1	29 13.9 -25.7	S 06 32.2 -12.9	09						
10	330 27.3 -00.1	N 22 21.8 +00.3	310 55.4 -00.9	N 24 24.5 +00.1	43 48.2 -25.7	S 06 19.3 -13.0	10						
11	345 27.2 -00.1	N 22 22.1 +00.3	325 54.5 -00.9	N 24 24.6 +00.0	58 22.5 -25.6	S 06 06.3 -13.1	11						
12	0 27.1 -00.1	N 22 22.4 +00.2	340 53.6 -00.9	N 24 24.6 +00.1	72 56.9 -25.5	S 05 53.2 -13.0	12						
13	15 27.0 -00.1	N 22 22.6 +00.3	355 52.7 -00.9	N 24 24.7 +00.0	87 31.4 -25.5	S 05 40.2 -13.0	13						
14	30 26.9 -00.1	N 22 22.9 +00.3	10 51.8 -00.9	N 24 24.7 +00.1	102 05.9 -25.5	S 05 27.2 -13.1	14						
15	45 26.8 -00.1	N 22 23.2 +00.3	25 50.9 -00.9	N 24 24.8 +00.1	116 40.4 -25.4	S 05 14.1 -13.0	15						
16	60 26.7 -00.2	N 22 23.5 +00.3	40 50.0 -00.9	N 24 24.9 +00.0	131 15.0 -25.4	S 05 01.1 -13.1	16						
17	75 26.5 -00.1	N 22 23.8 +00.3	55 49.1 -00.9	N 24 24.9 +00.1	145 49.6 -25.4	S 04 48.0 -13.0	17						
18	90 26.4 -00.1	N 22 24.1 +00.3	70 48.2 -00.9	N 24 25.0 +00.0	160 24.2 -25.3	S 04 35.0 -13.1	18						
19	105 26.3 -00.1	N 22 24.4 +00.3	85 47.3 -00.8	N 24 25.0 +00.1	174 58.9 -25.3	S 04 21.9 -13.1	19						
20	120 26.2 -00.1	N 22 24.7 +00.3	100 46.5 -00.9	N 24 25.1 +00.0	189 33.6 -25.2	S 04 08.8 -13.1	20						
21	135 26.1 -00.1	N 22 25.0 +00.3	115 45.6 -00.9	N 24 25.1 +00.1	204 08.4 -25.2	S 03 55.7 -13.1	21						
22	150 26.0 -00.1	N 22 25.3 +00.3	130 44.7 -00.9	N 24 25.2 +00.0	218 43.2 -25.1	S 03 42.6 -13.1	22						
23	165 25.9 -00.1	N 22 25.6 +00.3	145 43.8 -00.9	N 24 25.2 +00.1	233 18.1 -25.2	S 03 29.5 -13.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'1 15'1 15'1 15'1 15'0 15'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'6 55'5 55'3 55'2 55'1 55'0								
	SHA 289° 289° 288° 288° 288° 288°		SHA 269° 269° 269° 269° 268° 268°		SHA 006° 004° 002° 360° 358° 356°								
	Greenwich Culmination Time: 11:58		Greenwich Culmination Time: 13:16		Greenwich Culmination Time: 06:59								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	134 45.0 +00.8	N 22 30.6 -00.3	277 38.8 +02.4	S 11 41.8 -00.1	295 34.7 +02.5	S 17 25.2 +00.0	00						
01	149 45.8 +00.8	N 22 30.3 -00.3	292 41.2 +02.3	S 11 41.7 +00.0	310 37.2 +02.5	S 17 25.2 +00.0	01						
02	164 46.6 +00.9	N 22 30.0 -00.3	307 43.5 +02.3	S 11 41.7 +00.0	325 39.7 +02.6	S 17 25.2 +00.0	02						
03	179 47.5 +00.8	N 22 29.7 -00.3	322 45.8 +02.4	S 11 41.7 -00.1	340 42.3 +02.5	S 17 25.2 +00.1	03						
04	194 48.3 +00.8	N 22 29.4 -00.2	337 48.2 +02.3	S 11 41.6 +00.0	355 44.8 +02.5	S 17 25.3 +00.0	04						
05	209 49.1 +00.9	N 22 29.2 -00.3	352 50.5 +02.3	S 11 41.6 -00.1	10 47.3 +02.5	S 17 25.3 +00.0	05						
06	224 50.0 +00.8	N 22 28.9 -00.3	7 52.8 +02.3	S 11 41.5 +00.0	25 49.8 +02.5	S 17 25.3 +00.0	06						
07	239 50.8 +00.8	N 22 28.6 -00.3	22 55.1 +02.4	S 11 41.5 +00.0	40 52.3 +02.5	S 17 25.3 +00.0	07						
08	254 51.6 +00.9	N 22 28.3 -00.3	37 57.5 +02.3	S 11 41.5 -00.1	55 54.8 +02.5	S 17 25.3 +00.1	08						
09	269 52.5 +00.8	N 22 28.0 -00.3	52 59.8 +02.3	S 11 41.4 +00.0	70 57.3 +02.5	S 17 25.4 +00.0	09						
10	284 53.3 +00.8	N 22 27.7 -00.3	68 02.1 +02.4	S 11 41.4 +00.0	85 59.8 +02.5	S 17 25.4 +00.0	10						
11	299 54.1 +00.8	N 22 27.4 -00.3	83 04.5 +02.3	S 11 41.4 -00.1	101 02.3 +02.5	S 17 25.4 +00.0	11						
12	314 54.9 +00.9	N 22 27.1 -00.2	98 06.8 +02.3	S 11 41.3 +00.0	116 04.8 +02.5	S 17 25.4 +00.0	12						
13	329 55.8 +00.8	N 22 26.9 -00.3	113 09.1 +02.4	S 11 41.3 -00.1	131 07.3 +02.5	S 17 25.4 +00.0	13						
14	344 56.6 +00.8	N 22 26.6 -00.3	128 11.5 +02.3	S 11 41.2 +00.0	146 09.8 +02.5	S 17 25.4 +00.1	14						
15	359 57.4 +00.9	N 22 26.3 -00.3	143 13.8 +02.3	S 11 41.2 +00.0	161 12.3 +02.5	S 17 25.5 +00.0	15						
16	14 58.3 +00.8	N 22 26.0 -00.3	158 16.1 +02.4	S 11 41.2 -00.1	176 14.8 +02.5	S 17 25.5 +00.0	16						
17	29 59.1 +00.8	N 22 25.7 -00.3	173 18.5 +02.3	S 11 41.1 +00.0	191 17.3 +02.6	S 17 25.5 +00.0	17						
18	44 59.9 +00.9	N 22 25.4 -00.3	188 20.8 +02.3	S 11 41.1 +00.0	206 19.9 +02.5	S 17 25.5 +00.0	18						
19	60 00.8 +00.8	N 22 25.1 -00.3	203 23.1 +02.4	S 11 41.1 -00.1	221 22.4 +02.5	S 17 25.5 +00.1	19						
20	75 01.6 +00.8	N 22 24.8 -00.3	218 25.5 +02.3	S 11 41.0 +00.0	236 24.9 +02.5	S 17 25.6 +00.0	20						
21	90 02.4 +00.9	N 22 24.5 -00.3	233 27.8 +02.3	S 11 41.0 -00.1	251 27.4 +02.5	S 17 25.6 +00.0	21						
22	105 03.3 +00.8	N 22 24.2 -00.2	248 30.1 +02.4	S 11 40.9 +00.0	266 29.9 +02.5	S 17 25.6 +00.0	22						
23	120 04.1 +00.8	N 22 24.0 -00.3	263 32.5 +02.3	S 11 40.9 +00.0	281 32.4 +02.5	S 17 25.6 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 243° 243° 243° 243° 243° 242°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 15:00		Greenwich Culmination Time: 05:28		Greenwich Culmination Time: 04:16								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 25.8 -00.1	N 22 25.9 +00.3	160 42.9 -00.9	N 24 25.3 +00.0	247 52.9 -25.0	S 03 16.4 -13.1	00						
01	195 25.7 -00.1	N 22 26.2 +00.3	175 42.0 -00.9	N 24 25.3 +00.0	262 27.9 -25.1	S 03 03.3 -13.1	01						
02	210 25.6 -00.1	N 22 26.5 +00.3	190 41.1 -00.9	N 24 25.3 +00.1	277 02.8 -25.0	S 02 50.2 -13.1	02						
03	225 25.5 -00.1	N 22 26.8 +00.2	205 40.2 -00.9	N 24 25.4 +00.0	291 37.8 -25.0	S 02 37.1 -13.1	03						
04	240 25.4 -00.1	N 22 27.0 +00.3	220 39.3 -00.9	N 24 25.4 +00.1	306 12.8 -25.0	S 02 24.0 -13.1	04						
05	255 25.3 -00.1	N 22 27.3 +00.3	235 38.4 -00.9	N 24 25.5 +00.0	320 47.8 -24.9	S 02 10.9 -13.1	05						
06	270 25.2 -00.2	N 22 27.6 +00.3	250 37.5 -00.8	N 24 25.5 +00.0	335 22.9 -24.9	S 01 57.8 -13.1	06						
07	285 25.0 -00.1	N 22 27.9 +00.3	265 36.7 -00.9	N 24 25.5 +00.1	349 58.0 -24.9	S 01 44.7 -13.1	07						
08	300 24.9 -00.1	N 22 28.2 +00.3	280 35.8 -00.9	N 24 25.6 +00.0	4 33.1 -24.9	S 01 31.6 -13.1	08						
09	315 24.8 -00.1	N 22 28.5 +00.3	295 34.9 -00.9	N 24 25.6 +00.1	19 08.2 -24.8	S 01 18.5 -13.1	09						
10	330 24.7 -00.1	N 22 28.8 +00.2	310 34.0 -00.9	N 24 25.7 +00.0	33 43.4 -24.8	S 01 05.4 -13.1	10						
11	345 24.6 -00.1	N 22 29.0 +00.3	325 33.1 -00.9	N 24 25.7 +00.0	48 18.6 -24.8	S 00 52.3 -13.0	11						
12	0 24.5 -00.1	N 22 29.3 +00.3	340 32.2 -00.9	N 24 25.7 +00.0	62 53.8 -24.8	S 00 39.3 -13.1	12						
13	15 24.4 -00.1	N 22 29.6 +00.3	355 31.3 -00.9	N 24 25.7 +00.1	77 29.0 -24.8	S 00 26.2 -13.1	13						
14	30 24.3 -00.1	N 22 29.9 +00.3	10 30.4 -00.9	N 24 25.8 +00.0	92 04.2 -24.7	S 00 13.1 -13.0	14						
15	45 24.2 -00.1	N 22 30.2 +00.3	25 29.5 -00.9	N 24 25.8 +00.0	106 39.5 -24.7	S 00 00.1 -13.1	15						
16	60 24.1 -00.1	N 22 30.5 +00.2	40 28.6 -00.8	N 24 25.8 +00.1	121 14.8 -24.7	N 00 13.0 +13.0	16						
17	75 24.0 -00.2	N 22 30.7 +00.3	55 27.8 -00.9	N 24 25.9 +00.0	135 50.1 -24.7	N 00 26.0 +13.1	17						
18	90 23.8 -00.1	N 22 31.0 +00.3	70 26.9 -00.9	N 24 25.9 +00.0	150 25.4 -24.7	N 00 39.1 +13.0	18						
19	105 23.7 -00.1	N 22 31.3 +00.3	85 26.0 -00.9	N 24 25.9 +00.0	165 00.7 -24.7	N 00 52.1 +13.0	19						
20	120 23.6 -00.1	N 22 31.6 +00.2	100 25.1 -00.9	N 24 25.9 +00.0	179 36.0 -24.6	N 01 05.1 +13.0	20						
21	135 23.5 -00.1	N 22 31.8 +00.3	115 24.2 -00.9	N 24 25.9 +00.1	194 11.4 -24.7	N 01 18.1 +13.0	21						
22	150 23.4 -00.1	N 22 32.1 +00.3	130 23.3 -00.9	N 24 26.0 +00.0	208 46.7 -24.6	N 01 31.1 +13.0	22						
23	165 23.3 -00.1	N 22 32.4 +00.3	145 22.4 -00.9	N 24 26.0 +00.0	223 22.1 -24.6	N 01 44.1 +12.9	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		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 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'0 54'9 54'8 54'7 54'6 54'6								
	SHA 288° 288° 287° 287° 287° 287°		SHA 268° 268° 268° 267° 267° 267°		SHA 354° 352° 351° 349° 347° 345°								
	Greenwich Culmination Time: 11:58		Greenwich Culmination Time: 13:17		Greenwich Culmination Time: 07:41								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	135 04.9 +00.9	N 22 23.7 -00.3	278 34.8 +02.3	S 11 40.9 -00.1	296 34.9 +02.5	S 17 25.6 +00.1	00						
01	150 05.8 +00.8	N 22 23.4 -00.3	293 37.1 +02.4	S 11 40.8 +00.0	311 37.4 +02.5	S 17 25.7 +00.0	01						
02	165 06.6 +00.8	N 22 23.1 -00.3	308 39.5 +02.3	S 11 40.8 +00.0	326 39.9 +02.5	S 17 25.7 +00.0	02						
03	180 07.4 +00.9	N 22 22.8 -00.3	323 41.8 +02.3	S 11 40.8 -00.1	341 42.4 +02.5	S 17 25.7 +00.0	03						
04	195 08.3 +00.8	N 22 22.5 -00.3	338 44.1 +02.4	S 11 40.7 +00.0	356 44.9 +02.6	S 17 25.7 +00.0	04						
05	210 09.1 +00.8	N 22 22.2 -00.3	353 46.5 +02.3	S 11 40.7 +00.0	11 47.5 +02.5	S 17 25.7 +00.0	05						
06	225 09.9 +00.9	N 22 21.9 -00.3	8 48.8 +02.3	S 11 40.7 -00.1	26 50.0 +02.5	S 17 25.7 +00.1	06						
07	240 10.8 +00.8	N 22 21.6 -00.3	23 51.1 +02.4	S 11 40.6 +00.0	41 52.5 +02.5	S 17 25.8 +00.0	07						
08	255 11.6 +00.8	N 22 21.3 -00.3	38 53.5 +02.3	S 11 40.6 -00.1	56 55.0 +02.5	S 17 25.8 +00.0	08						
09	270 12.4 +00.9	N 22 21.0 -00.3	53 55.8 +02.4	S 11 40.5 +00.0	71 57.5 +02.5	S 17 25.8 +00.0	09						
10	285 13.3 +00.8	N 22 20.7 -00.3	68 58.2 +02.3	S 11 40.5 +00.0	87 00.0 +02.5	S 17 25.8 +00.0	10						
11	300 14.1 +00.8	N 22 20.4 -00.3	84 00.5 +02.3	S 11 40.5 -00.1	102 02.5 +02.5	S 17 25.8 +00.1	11						
12	315 14.9 +00.9	N 22 20.1 -00.2	99 02.8 +02.4	S 11 40.4 +00.0	117 05.0 +02.5	S 17 25.9 +00.0	12						
13	330 15.8 +00.8	N 22 19.9 -00.3	114 05.2 +02.3	S 11 40.4 +00.0	132 07.5 +02.5	S 17 25.9 +00.0	13						
14	345 16.6 +00.8	N 22 19.6 -00.3	129 07.5 +02.3	S 11 40.4 -00.1	147 10.0 +02.6	S 17 25.9 +00.0	14						
15	0 17.4 +00.9	N 22 19.3 -00.3	144 09.8 +02.4	S 11 40.3 +00.0	162 12.6 +02.5	S 17 25.9 +00.0	15						
16	15 18.3 +00.8	N 22 19.0 -00.3	159 12.2 +02.3	S 11 40.3 +00.0	177 15.1 +02.5	S 17 25.9 +00.1	16						
17	30 19.1 +00.9	N 22 18.7 -00.3	174 14.5 +02.4	S 11 40.3 -00.1	192 17.6 +02.5	S 17 26.0 +00.0	17						
18	45 20.0 +00.8	N 22 18.4 -00.3	189 16.9 +02.3	S 11 40.2 +00.0	207 20.1 +02.5	S 17 26.0 +00.0	18						
19	60 20.8 +00.8	N 22 18.1 -00.3	204 19.2 +02.3	S 11 40.2 +00.0	222 22.6 +02.5	S 17 26.0 +00.0	19						
20	75 21.6 +00.9	N 22 17.8 -00.3	219 21.5 +02.4	S 11 40.2 -00.1	237 25.1 +02.5	S 17 26.0 +00.0	20						
21	90 22.5 +00.8	N 22 17.5 -00.3	234 23.9 +02.3	S 11 40.1 +00.0	252 27.6 +02.5	S 17 26.0 +00.1	21						
22	105 23.3 +00.8	N 22 17.2 -00.3	249 26.2 +02.4	S 11 40.1 +00.0	267 30.1 +02.6	S 17 26.1 +00.0	22						
23	120 24.1 +00.9	N 22 16.9 -00.3	264 28.6 +02.3	S 11 40.1 -00.1	282 32.7 +02.5	S 17 26.1 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 242° 242° 242° 242° 242° 242°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 14:58		Greenwich Culmination Time: 05:24		Greenwich Culmination Time: 04:12								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 20.5 -00.1	N 22 39.1 +00.2	160 00.2 -00.9	N 24 26.0 +00.0	228 06.4 -24.8	N 07 02.4 +12.4	00						
01	195 20.4 -00.1	N 22 39.3 +00.3	174 59.3 -00.9	N 24 26.0 +00.0	242 41.6 -24.7	N 07 14.8 +12.4	01						
02	210 20.3 -00.2	N 22 39.6 +00.2	189 58.4 -00.9	N 24 26.0 -00.1	257 16.9 -24.8	N 07 27.2 +12.4	02						
03	225 20.1 -00.1	N 22 39.8 +00.3	204 57.5 -00.9	N 24 25.9 +00.0	271 52.1 -24.8	N 07 39.6 +12.3	03						
04	240 20.0 -00.1	N 22 40.1 +00.2	219 56.6 -00.9	N 24 25.9 +00.0	286 27.3 -24.8	N 07 51.9 +12.3	04						
05	255 19.9 -00.1	N 22 40.3 +00.3	234 55.7 -00.9	N 24 25.9 +00.0	301 02.5 -24.8	N 08 04.2 +12.2	05						
06	270 19.8 -00.1	N 22 40.6 +00.2	249 54.8 -00.9	N 24 25.9 +00.0	315 37.7 -24.9	N 08 16.4 +12.2	06						
07	285 19.7 -00.1	N 22 40.8 +00.3	264 53.9 -00.9	N 24 25.9 -00.1	330 12.8 -24.8	N 08 28.6 +12.2	07						
08	300 19.6 -00.1	N 22 41.1 +00.3	279 53.0 -00.8	N 24 25.8 +00.0	344 48.0 -24.9	N 08 40.8 +12.2	08						
09	315 19.5 -00.2	N 22 41.4 +00.2	294 52.2 -00.9	N 24 25.8 +00.0	359 23.1 -25.0	N 08 53.0 +12.1	09						
10	330 19.3 -00.1	N 22 41.6 +00.3	309 51.3 -00.9	N 24 25.8 +00.0	13 58.1 -24.9	N 09 05.1 +12.0	10						
11	345 19.2 -00.1	N 22 41.9 +00.2	324 50.4 -00.9	N 24 25.8 -00.1	28 33.2 -25.0	N 09 17.1 +12.1	11						
12	0 19.1 -00.1	N 22 42.1 +00.3	339 49.5 -00.9	N 24 25.7 +00.0	43 08.2 -25.0	N 09 29.2 +12.0	12						
13	15 19.0 -00.1	N 22 42.4 +00.2	354 48.6 -00.9	N 24 25.7 +00.0	57 43.2 -25.0	N 09 41.2 +11.9	13						
14	30 18.9 -00.1	N 22 42.6 +00.2	9 47.7 -00.9	N 24 25.7 -00.1	72 18.2 -25.1	N 09 53.1 +12.0	14						
15	45 18.8 -00.2	N 22 42.8 +00.3	24 46.8 -00.9	N 24 25.6 +00.0	86 53.1 -25.0	N 10 05.1 +11.8	15						
16	60 18.6 -00.1	N 22 43.1 +00.2	39 45.9 -00.9	N 24 25.6 +00.0	101 28.1 -25.2	N 10 16.9 +11.9	16						
17	75 18.5 -00.1	N 22 43.3 +00.3	54 45.0 -00.8	N 24 25.6 -00.1	116 02.9 -25.1	N 10 28.8 +11.8	17						
18	90 18.4 -00.1	N 22 43.6 +00.2	69 44.2 -00.9	N 24 25.5 +00.0	130 37.8 -25.2	N 10 40.6 +11.7	18						
19	105 18.3 -00.1	N 22 43.8 +00.3	84 43.3 -00.9	N 24 25.5 +00.0	145 12.6 -25.2	N 10 52.3 +11.8	19						
20	120 18.2 -00.1	N 22 44.1 +00.2	99 42.4 -00.9	N 24 25.5 -00.1	159 47.4 -25.2	N 11 04.1 +11.6	20						
21	135 18.1 -00.2	N 22 44.3 +00.3	114 41.5 -00.9	N 24 25.4 +00.0	174 22.2 -25.3	N 11 15.7 +11.7	21						
22	150 17.9 -00.1	N 22 44.6 +00.2	129 40.6 -00.9	N 24 25.4 -00.1	188 56.9 -25.3	N 11 27.4 +11.5	22						
23	165 17.8 -00.1	N 22 44.8 +00.2	144 39.7 -00.9	N 24 25.3 +00.0	203 31.6 -25.4	N 11 38.9 +11.6	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 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'8 14'8 14'7 14'7 14'7 14'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'2 54'1 54'1 54'1 54'1 54'0								
	SHA 286° 285° 285° 285° 285° 285°		SHA 265° 265° 265° 265° 264° 264°		SHA 333° 331° 329° 327° 325° 323°								
	Greenwich Culmination Time: 11:58		Greenwich Culmination Time: 13:20		Greenwich Culmination Time: 09:02								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	135 45.0 +00.9	N 22 09.4 -00.3	280 27.2 +02.4	S 11 39.2 +00.0	298 35.5 +02.5	S 17 26.6 +00.0	00						
01	150 45.9 +00.8	N 22 09.1 -00.3	295 29.6 +02.3	S 11 39.2 +00.0	313 38.0 +02.6	S 17 26.6 +00.0	01						
02	165 46.7 +00.9	N 22 08.8 -00.3	310 31.9 +02.4	S 11 39.2 +00.0	328 40.6 +02.5	S 17 26.6 +00.1	02						
03	180 47.6 +00.8	N 22 08.5 -00.3	325 34.3 +02.3	S 11 39.2 -00.1	343 43.1 +02.5	S 17 26.7 +00.0	03						
04	195 48.4 +00.8	N 22 08.2 -00.4	340 36.6 +02.4	S 11 39.1 +00.0	358 45.6 +02.5	S 17 26.7 +00.0	04						
05	210 49.2 +00.9	N 22 07.8 -00.3	355 39.0 +02.3	S 11 39.1 +00.0	13 48.1 +02.5	S 17 26.7 +00.0	05						
06	225 50.1 +00.8	N 22 07.5 -00.3	10 41.3 +02.4	S 11 39.1 -00.1	28 50.6 +02.6	S 17 26.7 +00.0	06						
07	240 50.9 +00.8	N 22 07.2 -00.3	25 43.7 +02.3	S 11 39.0 +00.0	43 53.2 +02.5	S 17 26.7 +00.1	07						
08	255 51.7 +00.9	N 22 06.9 -00.3	40 46.0 +02.4	S 11 39.0 +00.0	58 55.7 +02.5	S 17 26.8 +00.0	08						
09	270 52.6 +00.8	N 22 06.6 -00.3	55 48.4 +02.3	S 11 39.0 -00.1	73 58.2 +02.5	S 17 26.8 +00.0	09						
10	285 53.4 +00.9	N 22 06.3 -00.3	70 50.7 +02.4	S 11 38.9 +00.0	89 00.7 +02.5	S 17 26.8 +00.0	10						
11	300 54.3 +00.8	N 22 06.0 -00.3	85 53.1 +02.3	S 11 38.9 +00.0	104 03.2 +02.5	S 17 26.8 +00.1	11						
12	315 55.1 +00.8	N 22 05.7 -00.3	100 55.4 +02.4	S 11 38.9 +00.0	119 05.7 +02.6	S 17 26.9 +00.0	12						
13	330 55.9 +00.9	N 22 05.4 -00.3	115 57.8 +02.3	S 11 38.9 -00.1	134 08.3 +02.5	S 17 26.9 +00.0	13						
14	345 56.8 +00.8	N 22 05.1 -00.3	131 00.1 +02.4	S 11 38.8 +00.0	149 10.8 +02.5	S 17 26.9 +00.0	14						
15	0 57.6 +00.9	N 22 04.8 -00.3	146 02.5 +02.3	S 11 38.8 +00.0	164 13.3 +02.5	S 17 26.9 +00.0	15						
16	15 58.5 +00.8	N 22 04.5 -00.3	161 04.8 +02.4	S 11 38.8 -00.1	179 15.8 +02.5	S 17 26.9 +00.1	16						
17	30 59.3 +00.8	N 22 04.2 -00.3	176 07.2 +02.4	S 11 38.7 +00.0	194 18.3 +02.6	S 17 27.0 +00.0	17						
18	46 00.1 +00.9	N 22 03.9 -00.4	191 09.6 +02.3	S 11 38.7 +00.0	209 20.9 +02.5	S 17 27.0 +00.0	18						
19	61 01.0 +00.8	N 22 03.5 -00.3	206 11.9 +02.4	S 11 38.7 +00.0	224 23.4 +02.5	S 17 27.0 +00.0	19						
20	76 01.8 +00.8	N 22 03.2 -00.3	221 14.3 +02.3	S 11 38.7 -00.1	239 25.9 +02.5	S 17 27.0 +00.1	20						
21	91 02.6 +00.9	N 22 02.9 -00.3	236 16.6 +02.4	S 11 38.6 +00.0	254 28.4 +02.5	S 17 27.1 +00.0	21						
22	106 03.5 +00.8	N 22 02.6 -00.3	251 19.0 +02.3	S 11 38.6 +00.0	269 30.9 +02.6	S 17 27.1 +00.0	22						
23	121 04.3 +00.9	N 22 02.3 -00.3	266 21.3 +02.4	S 11 38.6 -00.1	284 33.5 +02.5	S 17 27.1 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 241° 241° 241° 241° 241° 241°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 14:56		Greenwich Culmination Time: 05:17		Greenwich Culmination Time: 04:04								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	17.7 -00.1	N 22 45.0 +00.3		159	38.8 -00.9	N 24 25.3 -00.1		218	06.2 -25.3	N 11 50.5 +11.5		00
01	195	17.6 -00.1	N 22 45.3 +00.2		174	37.9 -00.9	N 24 25.2 +00.0		232	40.9 -25.4	N 12 02.0 +11.4		01
02	210	17.5 -00.1	N 22 45.5 +00.3		189	37.0 -00.8	N 24 25.2 -00.1		247	15.5 -25.5	N 12 13.4 +11.4		02
03	225	17.4 -00.2	N 22 45.8 +00.2		204	36.2 -00.9	N 24 25.1 +00.0		261	50.0 -25.5	N 12 24.8 +11.3		03
04	240	17.2 -00.1	N 22 46.0 +00.2		219	35.3 -00.9	N 24 25.1 -00.1		276	24.5 -25.5	N 12 36.1 +11.3		04
05	255	17.1 -00.1	N 22 46.2 +00.3		234	34.4 -00.9	N 24 25.0 +00.0		290	59.0 -25.6	N 12 47.4 +11.3		05
06	270	17.0 -00.1	N 22 46.5 +00.2		249	33.5 -00.9	N 24 25.0 -00.1		305	33.4 -25.6	N 12 58.7 +11.2		06
07	285	16.9 -00.1	N 22 46.7 +00.3		264	32.6 -00.9	N 24 24.9 +00.0		320	07.8 -25.7	N 13 09.9 +11.1		07
08	300	16.8 -00.1	N 22 47.0 +00.2		279	31.7 -00.9	N 24 24.9 -00.1		334	42.1 -25.7	N 13 21.0 +11.1		08
09	315	16.7 -00.2	N 22 47.2 +00.2		294	30.8 -00.9	N 24 24.8 +00.0		349	16.4 -25.7	N 13 32.1 +11.0		09
10	330	16.5 -00.1	N 22 47.4 +00.3		309	29.9 -00.8	N 24 24.8 -00.1		3	50.7 -25.8	N 13 43.1 +11.0		10
11	345	16.4 -00.1	N 22 47.7 +00.2		324	29.1 -00.9	N 24 24.7 +00.0		18	24.9 -25.8	N 13 54.1 +10.9		11
12	0	16.3 -00.1	N 22 47.9 +00.2		339	28.2 -00.9	N 24 24.7 -00.1		32	59.1 -25.9	N 14 05.0 +10.9		12
13	15	16.2 -00.1	N 22 48.1 +00.3		354	27.3 -00.9	N 24 24.6 -00.1		47	33.2 -25.9	N 14 15.9 +10.8		13
14	30	16.1 -00.2	N 22 48.4 +00.2		9	26.4 -00.9	N 24 24.5 +00.0		62	07.3 -25.9	N 14 26.7 +10.8		14
15	45	15.9 -00.1	N 22 48.6 +00.2		24	25.5 -00.9	N 24 24.5 -00.1		76	41.4 -26.0	N 14 37.5 +10.7		15
16	60	15.8 -00.1	N 22 48.8 +00.2		39	24.6 -00.9	N 24 24.4 -00.1		91	15.4 -26.1	N 14 48.2 +10.6		16
17	75	15.7 -00.1	N 22 49.0 +00.3		54	23.7 -00.8	N 24 24.3 +00.0		105	49.3 -26.1	N 14 58.8 +10.6		17
18	90	15.6 -00.1	N 22 49.3 +00.2		69	22.9 -00.9	N 24 24.3 -00.1		120	23.2 -26.1	N 15 09.4 +10.5		18
19	105	15.5 -00.2	N 22 49.5 +00.2		84	22.0 -00.9	N 24 24.2 -00.1		134	57.1 -26.2	N 15 19.9 +10.5		19
20	120	15.3 -00.1	N 22 49.7 +00.3		99	21.1 -00.9	N 24 24.1 +00.0		149	30.9 -26.3	N 15 30.4 +10.4		20
21	135	15.2 -00.1	N 22 50.0 +00.2		114	20.2 -00.9	N 24 24.1 -00.1		164	04.6 -26.3	N 15 40.8 +10.4		21
22	150	15.1 -00.1	N 22 50.2 +00.2		129	19.3 -00.9	N 24 24.0 -00.1		178	38.3 -26.3	N 15 51.2 +10.2		22
23	165	15.0 -00.1	N 22 50.4 +00.2		144	18.4 -00.9	N 24 23.9 +00.0		193	12.0 -26.4	N 16 01.4 +10.2		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'1 00'1 00'1 00'1 00'1 00'1				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 00'1 00'1 00'1 00'1 00'1 00'1				HP 54'0 54'0 54'0 54'0 54'0 54'0				
	SHA 285° 284° 284° 284° 284° 284°				SHA 264° 264° 263° 263° 263° 263°				SHA 322° 320° 318° 316° 314° 312°				
	Greenwich Culmination Time: 11:58				Greenwich Culmination Time: 13:22				Greenwich Culmination Time: 09:44				

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	136	05.2 +00.8	N 22 02.0 -00.3		281	23.7 +02.3	S 11 38.5 +00.0		299	36.0 +02.5	S 17 27.1 +00.0		00
01	151	06.0 +00.8	N 22 01.7 -00.3		296	26.0 +02.4	S 11 38.5 +00.0		314	38.5 +02.5	S 17 27.1 +00.1		01
02	166	06.8 +00.9	N 22 01.4 -00.3		311	28.4 +02.4	S 11 38.5 +00.0		329	41.0 +02.5	S 17 27.2 +00.0		02
03	181	07.7 +00.8	N 22 01.1 -00.3		326	30.8 +02.3	S 11 38.5 -00.1		344	43.5 +02.6	S 17 27.2 +00.0		03
04	196	08.5 +00.9	N 22 00.8 -00.4		341	33.1 +02.4	S 11 38.4 +00.0		359	46.1 +02.5	S 17 27.2 +00.0		04
05	211	09.4 +00.8	N 22 00.4 -00.3		356	35.5 +02.3	S 11 38.4 +00.0		14	48.6 +02.5	S 17 27.2 +00.1		05
06	226	10.2 +00.8	N 22 00.1 -00.3		11	37.8 +02.4	S 11 38.4 -00.1		29	51.1 +02.5	S 17 27.3 +00.0		06
07	241	11.0 +00.9	N 21 59.8 -00.3		26	40.2 +02.4	S 11 38.3 +00.0		44	53.6 +02.6	S 17 27.3 +00.0		07
08	256	11.9 +00.8	N 21 59.5 -00.3		41	42.6 +02.3	S 11 38.3 +00.0		59	56.2 +02.5	S 17 27.3 +00.0		08
09	271	12.7 +00.9	N 21 59.2 -00.3		56	44.9 +02.4	S 11 38.3 +00.0		74	58.7 +02.5	S 17 27.3 +00.0		09
10	286	13.6 +00.8	N 21 58.9 -00.3		71	47.3 +02.3	S 11 38.3 -00.1		90	01.2 +02.5	S 17 27.3 +00.1		10
11	301	14.4 +00.8	N 21 58.6 -00.3		86	49.6 +02.4	S 11 38.2 +00.0		105	03.7 +02.5	S 17 27.4 +00.0		11
12	316	15.2 +00.9	N 21 58.3 -00.4		101	52.0 +02.4	S 11 38.2 +00.0		120	06.2 +02.6	S 17 27.4 +00.0		12
13	331	16.1 +00.8	N 21 57.9 -00.3		116	54.4 +02.3	S 11 38.2 +00.0		135	08.8 +02.5	S 17 27.4 +00.0		13
14	346	16.9 +00.9	N 21 57.6 -00.3		131	56.7 +02.4	S 11 38.2 -00.1		150	11.3 +02.5	S 17 27.4 +00.1		14
15	1	17.8 +00.8	N 21 57.3 -00.3		146	59.1 +02.3	S 11 38.1 +00.0		165	13.8 +02.5	S 17 27.5 +00.0		15
16	16	18.6 +00.9	N 21 57.0 -00.3		162	01.4 +02.4	S 11 38.1 +00.0		180	16.3 +02.6	S 17 27.5 +00.0		16
17	31	19.5 +00.8	N 21 56.7 -00.3		177	03.8 +02.4	S 11 38.1 -00.1		195	18.9 +02.5	S 17 27.5 +00.0		17
18	46	20.3 +00.8	N 21 56.4 -00.3		192	06.2 +02.3	S 11 38.0 +00.0		210	21.4 +02.5	S 17 27.5 +00.1		18
19	61	21.1 +00.9	N 21 56.1 -00.4		207	08.5 +02.4	S 11 38.0 +00.0		225	23.9 +02.5	S 17 27.6 +00.0		19
20	76	22.0 +00.8	N 21 55.7 -00.3		222	10.9 +02.3	S 11 38.0 +00.0		240	26.4 +02.6	S 17 27.6 +00.0		20
21	91	22.8 +00.9	N 21 55.4 -00.3		237	13.2 +02.4	S 11 38.0 -00.1		255	29.0 +02.5	S 17 27.6 +00.0		21
22	106	23.7 +00.8	N 21 55.1 -00.3		252	15.6 +02.4	S 11 37.9 +00.0		270	31.5 +02.5	S 17 27.6 +00.0		22
23	121	24.5 +00.8	N 21 54.8 -00.3		267	18.0 +02.3	S 11 37.9 +00.0		285	34.0 +02.5	S 17 27.6 +00.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'4 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 240° 240° 240° 240° 240° 240°				SHA 026° 026° 026° 026° 026° 026°				SHA 044° 044° 044° 044° 044° 044°				
	Greenwich Culmination Time: 14:54				Greenwich Culmination Time: 05:13				Greenwich Culmination Time: 04:00				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 14.9 -00.2	N 22 50.6 +00.3	159 17.5 -00.8	N 24 23.9 -00.1	207 45.6 -26.4	N 16 11.6 +10.2	00						
01	195 14.7 -00.1	N 22 50.9 +00.2	174 16.7 -00.9	N 24 23.8 -00.1	222 19.2 -26.5	N 16 21.8 +10.1	01						
02	210 14.6 -00.1	N 22 51.1 +00.2	189 15.8 -00.9	N 24 23.7 -00.1	236 52.7 -26.6	N 16 31.9 +10.0	02						
03	225 14.5 -00.1	N 22 51.3 +00.2	204 14.9 -00.9	N 24 23.6 -00.1	251 26.1 -26.6	N 16 41.9 +09.9	03						
04	240 14.4 -00.1	N 22 51.5 +00.3	219 14.0 -00.9	N 24 23.5 +00.0	265 59.5 -26.7	N 16 51.8 +09.9	04						
05	255 14.3 -00.2	N 22 51.8 +00.2	234 13.1 -00.9	N 24 23.5 -00.1	280 32.8 -26.7	N 17 01.7 +09.8	05						
06	270 14.1 -00.1	N 22 52.0 +00.2	249 12.2 -00.9	N 24 23.4 -00.1	295 06.1 -26.7	N 17 11.5 +09.8	06						
07	285 14.0 -00.1	N 22 52.2 +00.2	264 11.3 -00.8	N 24 23.3 -00.1	309 39.4 -26.8	N 17 21.3 +09.7	07						
08	300 13.9 -00.1	N 22 52.4 +00.2	279 10.5 -00.9	N 24 23.2 -00.1	324 12.6 -26.9	N 17 31.0 +09.6	08						
09	315 13.8 -00.1	N 22 52.6 +00.3	294 09.6 -00.9	N 24 23.1 -00.1	338 45.7 -26.9	N 17 40.6 +09.5	09						
10	330 13.7 -00.2	N 22 52.9 +00.2	309 08.7 -00.9	N 24 23.0 +00.0	353 18.8 -27.0	N 17 50.1 +09.5	10						
11	345 13.5 -00.1	N 22 53.1 +00.2	324 07.8 -00.9	N 24 23.0 -00.1	7 51.8 -27.1	N 17 59.6 +09.4	11						
12	0 13.4 -00.1	N 22 53.3 +00.2	339 06.9 -00.9	N 24 22.9 -00.1	22 24.7 -27.1	N 18 09.0 +09.3	12						
13	15 13.3 -00.1	N 22 53.5 +00.2	354 06.0 -00.9	N 24 22.8 -00.1	36 57.6 -27.1	N 18 18.3 +09.2	13						
14	30 13.2 -00.2	N 22 53.7 +00.2	9 05.1 -00.8	N 24 22.7 -00.1	51 30.5 -27.2	N 18 27.5 +09.2	14						
15	45 13.0 -00.1	N 22 53.9 +00.2	24 04.3 -00.9	N 24 22.6 -00.1	66 03.3 -27.3	N 18 36.7 +09.1	15						
16	60 12.9 -00.1	N 22 54.1 +00.3	39 03.4 -00.9	N 24 22.5 -00.1	80 36.0 -27.3	N 18 45.8 +09.0	16						
17	75 12.8 -00.1	N 22 54.4 +00.2	54 02.5 -00.9	N 24 22.4 -00.1	95 08.7 -27.4	N 18 54.8 +08.9	17						
18	90 12.7 -00.1	N 22 54.6 +00.2	69 01.6 -00.9	N 24 22.3 -00.1	109 41.3 -27.4	N 19 03.7 +08.9	18						
19	105 12.6 -00.2	N 22 54.8 +00.2	84 00.7 -00.9	N 24 22.2 -00.1	124 13.9 -27.5	N 19 12.6 +08.7	19						
20	120 12.4 -00.1	N 22 55.0 +00.2	98 59.8 -00.8	N 24 22.1 -00.1	138 46.4 -27.6	N 19 21.3 +08.7	20						
21	135 12.3 -00.1	N 22 55.2 +00.2	113 59.0 -00.9	N 24 22.0 -00.1	153 18.8 -27.6	N 19 30.0 +08.6	21						
22	150 12.2 -00.1	N 22 55.4 +00.2	128 58.1 -00.9	N 24 21.9 -00.1	167 51.2 -27.7	N 19 38.6 +08.6	22						
23	165 12.1 -00.2	N 22 55.6 +00.2	143 57.2 -00.9	N 24 21.8 -00.1	182 23.5 -27.7	N 19 47.2 +08.4	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 00'1 00'1 00'1 00'1 00'1 00'1		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 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'0 54'0 54'0 54'0 54'0 54'0								
	SHA 284° 283° 283° 283° 283° 283°		SHA 263° 262° 262° 262° 262° 261°		SHA 310° 308° 306° 304° 302° 300°								
	Greenwich Culmination Time: 11:59		Greenwich Culmination Time: 13:23		Greenwich Culmination Time: 10:27								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	136 25.3 +00.9	N 21 54.5 -00.3	282 20.3 +02.4	S 11 37.9 +00.0	300 36.5 +02.6	S 17 27.7 +00.0	00						
01	151 26.2 +00.8	N 21 54.2 -00.4	297 22.7 +02.4	S 11 37.9 -00.1	315 39.1 +02.5	S 17 27.7 +00.0	01						
02	166 27.0 +00.9	N 21 53.8 -00.3	312 25.1 +02.3	S 11 37.8 +00.0	330 41.6 +02.5	S 17 27.7 +00.0	02						
03	181 27.9 +00.8	N 21 53.5 -00.3	327 27.4 +02.4	S 11 37.8 +00.0	345 44.1 +02.5	S 17 27.7 +00.1	03						
04	196 28.7 +00.9	N 21 53.2 -00.3	342 29.8 +02.4	S 11 37.8 +00.0	0 46.6 +02.6	S 17 27.8 +00.0	04						
05	211 29.6 +00.8	N 21 52.9 -00.3	357 32.2 +02.3	S 11 37.8 -00.1	15 49.2 +02.5	S 17 27.8 +00.0	05						
06	226 30.4 +00.8	N 21 52.6 -00.3	12 34.5 +02.4	S 11 37.7 +00.0	30 51.7 +02.5	S 17 27.8 +00.0	06						
07	241 31.2 +00.9	N 21 52.3 -00.4	27 36.9 +02.4	S 11 37.7 +00.0	45 54.2 +02.5	S 17 27.8 +00.1	07						
08	256 32.1 +00.8	N 21 51.9 -00.3	42 39.3 +02.3	S 11 37.7 +00.0	60 56.7 +02.6	S 17 27.9 +00.0	08						
09	271 32.9 +00.9	N 21 51.6 -00.3	57 41.6 +02.4	S 11 37.7 -00.1	75 59.3 +02.5	S 17 27.9 +00.0	09						
10	286 33.8 +00.8	N 21 51.3 -00.3	72 44.0 +02.4	S 11 37.6 +00.0	91 01.8 +02.5	S 17 27.9 +00.0	10						
11	301 34.6 +00.9	N 21 51.0 -00.3	87 46.4 +02.3	S 11 37.6 +00.0	106 04.3 +02.5	S 17 27.9 +00.1	11						
12	316 35.5 +00.8	N 21 50.7 -00.4	102 48.7 +02.4	S 11 37.6 +00.0	121 06.8 +02.6	S 17 28.0 +00.0	12						
13	331 36.3 +00.8	N 21 50.3 -00.3	117 51.1 +02.4	S 11 37.6 -00.1	136 09.4 +02.5	S 17 28.0 +00.0	13						
14	346 37.1 +00.9	N 21 50.0 -00.3	132 53.5 +02.3	S 11 37.5 +00.0	151 11.9 +02.5	S 17 28.0 +00.0	14						
15	1 38.0 +00.8	N 21 49.7 -00.3	147 55.8 +02.4	S 11 37.5 +00.0	166 14.4 +02.5	S 17 28.0 +00.0	15						
16	16 38.8 +00.9	N 21 49.4 -00.3	162 58.2 +02.4	S 11 37.5 +00.0	181 16.9 +02.6	S 17 28.0 +00.1	16						
17	31 39.7 +00.8	N 21 49.1 -00.4	178 00.6 +02.3	S 11 37.5 +00.0	196 19.5 +02.5	S 17 28.1 +00.0	17						
18	46 40.5 +00.9	N 21 48.7 -00.3	193 02.9 +02.4	S 11 37.5 -00.1	211 22.0 +02.5	S 17 28.1 +00.0	18						
19	61 41.4 +00.8	N 21 48.4 -00.3	208 05.3 +02.4	S 11 37.4 +00.0	226 24.5 +02.6	S 17 28.1 +00.0	19						
20	76 42.2 +00.8	N 21 48.1 -00.3	223 07.7 +02.4	S 11 37.4 +00.0	241 27.1 +02.5	S 17 28.1 +00.1	20						
21	91 43.0 +00.9	N 21 47.8 -00.3	238 10.1 +02.3	S 11 37.4 +00.0	256 29.6 +02.5	S 17 28.2 +00.0	21						
22	106 43.9 +00.8	N 21 47.5 -00.4	253 12.4 +02.4	S 11 37.4 -00.1	271 32.1 +02.5	S 17 28.2 +00.0	22						
23	121 44.7 +00.9	N 21 47.1 -00.3	268 14.8 +02.4	S 11 37.3 +00.0	286 34.6 +02.6	S 17 28.2 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 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 240° 240° 240° 239° 239° 239°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 14:53		Greenwich Culmination Time: 05:09		Greenwich Culmination Time: 03:56								

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	11.9	-00.1	N 22 55.8	+00.2	158	56.3	-00.9	N 24 21.7	-00.1	196	55.8	-27.8	N 19 55.6	+08.4	00							
01	195	11.8	-00.1	N 22 56.0	+00.2	173	55.4	-00.9	N 24 21.6	-00.1	211	28.0	-27.8	N 20 04.0	+08.3	01							
02	210	11.7	-00.1	N 22 56.2	+00.2	188	54.5	-00.8	N 24 21.5	-00.1	226	00.2	-28.0	N 20 12.3	+08.1	02							
03	225	11.6	-00.2	N 22 56.4	+00.3	203	53.7	-00.9	N 24 21.4	-00.1	240	32.2	-27.9	N 20 20.4	+08.2	03							
04	240	11.4	-00.1	N 22 56.7	+00.2	218	52.8	-00.9	N 24 21.3	-00.1	255	04.3	-28.1	N 20 28.6	+08.0	04							
05	255	11.3	-00.1	N 22 56.9	+00.2	233	51.9	-00.9	N 24 21.2	-00.1	269	36.2	-28.0	N 20 36.6	+07.9	05							
06	270	11.2	-00.1	N 22 57.1	+00.2	248	51.0	-00.9	N 24 21.1	-00.2	284	08.2	-28.2	N 20 44.5	+07.8	06							
07	285	11.1	-00.1	N 22 57.3	+00.2	263	50.1	-00.8	N 24 20.9	-00.1	298	40.0	-28.2	N 20 52.3	+07.8	07							
08	300	11.0	-00.2	N 22 57.5	+00.2	278	49.3	-00.9	N 24 20.8	-00.1	313	11.8	-28.3	N 21 00.1	+07.7	08							
09	315	10.8	-00.1	N 22 57.7	+00.2	293	48.4	-00.9	N 24 20.7	-00.1	327	43.5	-28.3	N 21 07.8	+07.5	09							
10	330	10.7	-00.1	N 22 57.9	+00.2	308	47.5	-00.9	N 24 20.6	-00.1	342	15.2	-28.4	N 21 15.3	+07.5	10							
11	345	10.6	-00.1	N 22 58.1	+00.2	323	46.6	-00.9	N 24 20.5	-00.1	356	46.8	-28.4	N 21 22.8	+07.4	11							
12	0	10.5	-00.2	N 22 58.3	+00.2	338	45.7	-00.9	N 24 20.4	-00.2	11	18.4	-28.5	N 21 30.2	+07.3	12							
13	15	10.3	-00.1	N 22 58.5	+00.2	353	44.8	-00.8	N 24 20.2	-00.1	25	49.9	-28.6	N 21 37.5	+07.2	13							
14	30	10.2	-00.1	N 22 58.7	+00.2	8	44.0	-00.9	N 24 20.1	-00.1	40	21.3	-28.6	N 21 44.7	+07.1	14							
15	45	10.1	-00.1	N 22 58.9	+00.2	23	43.1	-00.9	N 24 20.0	-00.1	54	52.7	-28.7	N 21 51.8	+07.0	15							
16	60	10.0	-00.2	N 22 59.1	+00.2	38	42.2	-00.9	N 24 19.9	-00.2	69	24.0	-28.7	N 21 58.8	+06.9	16							
17	75	09.8	-00.1	N 22 59.3	+00.2	53	41.3	-00.9	N 24 19.7	-00.1	83	55.3	-28.8	N 22 05.7	+06.9	17							
18	90	09.7	-00.1	N 22 59.5	+00.2	68	40.4	-00.8	N 24 19.6	-00.1	98	26.5	-28.9	N 22 12.6	+06.7	18							
19	105	09.6	-00.1	N 22 59.7	+00.1	83	39.6	-00.9	N 24 19.5	-00.1	112	57.6	-28.9	N 22 19.3	+06.6	19							
20	120	09.5	-00.2	N 22 59.8	+00.2	98	38.7	-00.9	N 24 19.4	-00.2	127	28.7	-29.0	N 22 25.9	+06.5	20							
21	135	09.3	-00.1	N 23 00.0	+00.2	113	37.8	-00.9	N 24 19.2	-00.1	141	59.7	-29.0	N 22 32.4	+06.4	21							
22	150	09.2	-00.1	N 23 00.2	+00.2	128	36.9	-00.9	N 24 19.1	-00.1	156	30.7	-29.1	N 22 38.8	+06.4	22							
23	165	09.1	-00.1	N 23 00.4	+00.2	143	36.0	-00.8	N 24 19.0	-00.2	171	01.6	-29.2	N 22 45.2	+06.2	23							
	UT	02	06	10	14	18	22		UT	02	06	10	14	18	22		UT	02	06	10	14	18	22
	SD	15'8	15'8	15'8	15'8	15'8	15'8		SD	00'1	00'1	00'1	00'1	00'1	00'1		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	00'1	00'1	00'1	00'1	00'1	00'1		HP	54'0	54'0	54'0	54'1	54'1	54'1
	SHA	283°	282°	282°	282°	282°	282°		SHA	261°	261°	261°	261°	260°	260°		SHA	298°	296°	294°	292°	290°	288°
	Greenwich Culmination Time: 11:59								Greenwich Culmination Time: 13:25								Greenwich Culmination Time: 11:13						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT										
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec											
00	136	45.6	+00.8	N 21 46.8	-00.3	283	17.2	+02.3	S 11 37.3	+00.0	301	37.2	+02.5	S 17 28.2	+00.1	00							
01	151	46.4	+00.9	N 21 46.5	-00.3	298	19.5	+02.4	S 11 37.3	+00.0	316	39.7	+02.5	S 17 28.3	+00.0	01							
02	166	47.3	+00.8	N 21 46.2	-00.4	313	21.9	+02.4	S 11 37.3	-00.1	331	42.2	+02.6	S 17 28.3	+00.0	02							
03	181	48.1	+00.9	N 21 45.8	-00.3	328	24.3	+02.4	S 11 37.2	+00.0	346	44.8	+02.5	S 17 28.3	+00.0	03							
04	196	49.0	+00.8	N 21 45.5	-00.3	343	26.7	+02.3	S 11 37.2	+00.0	1	47.3	+02.5	S 17 28.3	+00.1	04							
05	211	49.8	+00.8	N 21 45.2	-00.3	358	29.0	+02.4	S 11 37.2	+00.0	16	49.8	+02.5	S 17 28.4	+00.0	05							
06	226	50.6	+00.9	N 21 44.9	-00.4	13	31.4	+02.4	S 11 37.2	+00.0	31	52.3	+02.6	S 17 28.4	+00.0	06							
07	241	51.5	+00.8	N 21 44.5	-00.3	28	33.8	+02.4	S 11 37.2	-00.1	46	54.9	+02.5	S 17 28.4	+00.0	07							
08	256	52.3	+00.9	N 21 44.2	-00.3	43	36.2	+02.3	S 11 37.1	+00.0	61	57.4	+02.5	S 17 28.4	+00.1	08							
09	271	53.2	+00.8	N 21 43.9	-00.3	58	38.5	+02.4	S 11 37.1	+00.0	76	59.9	+02.6	S 17 28.5	+00.0	09							
10	286	54.0	+00.9	N 21 43.6	-00.4	73	40.9	+02.4	S 11 37.1	+00.0	92	02.5	+02.5	S 17 28.5	+00.0	10							
11	301	54.9	+00.8	N 21 43.2	-00.3	88	43.3	+02.4	S 11 37.1	+00.0	107	05.0	+02.5	S 17 28.5	+00.0	11							
12	316	55.7	+00.9	N 21 42.9	-00.3	103	45.7	+02.3	S 11 37.1	-00.1	122	07.5	+02.6	S 17 28.5	+00.1	12							
13	331	56.6	+00.8	N 21 42.6	-00.3	118	48.0	+02.4	S 11 37.0	+00.0	137	10.1	+02.5	S 17 28.6	+00.0	13							
14	346	57.4	+00.9	N 21 42.3	-00.4	133	50.4	+02.4	S 11 37.0	+00.0	152	12.6	+02.5	S 17 28.6	+00.0	14							
15	1	58.3	+00.8	N 21 41.9	-00.3	148	52.8	+02.4	S 11 37.0	+00.0	167	15.1	+02.5	S 17 28.6	+00.0	15							
16	16	59.1	+00.8	N 21 41.6	-00.3	163	55.2	+02.3	S 11 37.0	-00.1	182	17.6	+02.6	S 17 28.6	+00.1	16							
17	31	59.9	+00.9	N 21 41.3	-00.3	178	57.5	+02.4	S 11 36.9	+00.0	197	20.2	+02.5	S 17 28.7	+00.0	17							
18	47	00.8	+00.8	N 21 41.0	-00.4	193	59.9	+02.4	S 11 36.9	+00.0	212	22.7	+02.5	S 17 28.7	+00.0	18							
19	62	01.6	+00.9	N 21 40.6	-00.3	209	02.3	+02.4	S 11 36.9	+00.0	227	25.2	+02.6	S 17 28.7	+00.0	19							
20	77	02.5	+00.8	N 21 40.3	-00.3	224	04.7	+02.3	S 11 36.9	+00.0	242	27.8	+02.5	S 17 28.7	+00.1	20							
21	92	03.3	+00.9	N 21 40.0	-00.4	239	07.0	+02.4	S 11 36.9	-00.1	257	30.3	+02.5	S 17 28.8	+00.0	21							
22	107	04.2	+00.8	N 21 39.6	-00.3	254	09.4	+02.4	S 11 36.8	+00.0	272	32.8	+02.6	S 17 28.8	+00.0	22							
23	122	05.0	+00.9	N 21 39.3	-00.3	269	11.8	+02.4	S 11 36.8	+00.0	287	35.4	+02.5	S 17 28.8	+00.0	23							
	UT	02	06	10	14	18	22		UT	02	06	10	14	18	22		UT	02	06	10	14	18	22
	SD	00'0	00'0	00'0	00'0	00'0	00'0		SD	00'4	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	239°	239°	239°	239°	239°	239°		SHA	026°	026°	026°	026°	026°	026°		SHA	044°	044°	044°	044°	044°	044°
	Greenwich Culmination Time: 14:52								Greenwich Culmination Time: 05:06								Greenwich Culmination Time: 03:52						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 09.0 -00.2	N 23 00.6 +00.2	158 35.2 -00.9	N 24 18.8 -00.1	185 32.4 -29.2	N 22 51.4 +06.1	00						
01	195 08.8 -00.1	N 23 00.8 +00.2	173 34.3 -00.9	N 24 18.7 -00.1	200 03.2 -29.2	N 22 57.5 +06.0	01						
02	210 08.7 -00.1	N 23 01.0 +00.2	188 33.4 -00.9	N 24 18.6 -00.2	214 34.0 -29.4	N 23 03.5 +05.9	02						
03	225 08.6 -00.1	N 23 01.2 +00.2	203 32.5 -00.9	N 24 18.4 -00.1	229 04.6 -29.3	N 23 09.4 +05.8	03						
04	240 08.5 -00.2	N 23 01.4 +00.2	218 31.6 -00.8	N 24 18.3 -00.1	243 35.3 -29.5	N 23 15.2 +05.7	04						
05	255 08.3 -00.1	N 23 01.6 +00.1	233 30.8 -00.9	N 24 18.2 -00.2	258 05.8 -29.5	N 23 20.9 +05.6	05						
06	270 08.2 -00.1	N 23 01.7 +00.2	248 29.9 -00.9	N 24 18.0 -00.1	272 36.3 -29.5	N 23 26.5 +05.5	06						
07	285 08.1 -00.2	N 23 01.9 +00.2	263 29.0 -00.9	N 24 17.9 -00.2	287 06.8 -29.6	N 23 32.0 +05.4	07						
08	300 07.9 -00.1	N 23 02.1 +00.2	278 28.1 -00.9	N 24 17.7 -00.1	301 37.2 -29.6	N 23 37.4 +05.3	08						
09	315 07.8 -00.1	N 23 02.3 +00.2	293 27.2 -00.8	N 24 17.6 -00.2	316 07.6 -29.7	N 23 42.7 +05.1	09						
10	330 07.7 -00.1	N 23 02.5 +00.2	308 26.4 -00.9	N 24 17.4 -00.1	330 37.9 -29.8	N 23 47.8 +05.1	10						
11	345 07.6 -00.2	N 23 02.7 +00.2	323 25.5 -00.9	N 24 17.3 -00.2	345 08.1 -29.8	N 23 52.9 +04.9	11						
12	0 07.4 -00.1	N 23 02.9 +00.1	338 24.6 -00.9	N 24 17.1 -00.1	359 38.3 -29.9	N 23 57.8 +04.8	12						
13	15 07.3 -00.1	N 23 03.0 +00.2	353 23.7 -00.8	N 24 17.0 -00.2	14 08.4 -29.9	N 24 02.6 +04.8	13						
14	30 07.2 -00.1	N 23 03.2 +00.2	8 22.9 -00.9	N 24 16.8 -00.1	28 38.5 -29.9	N 24 07.4 +04.6	14						
15	45 07.1 -00.2	N 23 03.4 +00.2	23 22.0 -00.9	N 24 16.7 -00.2	43 08.6 -30.0	N 24 12.0 +04.5	15						
16	60 06.9 -00.1	N 23 03.6 +00.2	38 21.1 -00.9	N 24 16.5 -00.1	57 38.6 -30.1	N 24 16.5 +04.3	16						
17	75 06.8 -00.1	N 23 03.8 +00.1	53 20.2 -00.8	N 24 16.4 -00.2	72 08.5 -30.1	N 24 20.8 +04.3	17						
18	90 06.7 -00.1	N 23 03.9 +00.2	68 19.4 -00.9	N 24 16.2 -00.1	86 38.4 -30.2	N 24 25.1 +04.1	18						
19	105 06.6 -00.2	N 23 04.1 +00.2	83 18.5 -00.9	N 24 16.1 -00.2	101 08.2 -30.2	N 24 29.2 +04.1	19						
20	120 06.4 -00.1	N 23 04.3 +00.2	98 17.6 -00.9	N 24 15.9 -00.2	115 38.0 -30.2	N 24 33.3 +03.9	20						
21	135 06.3 -00.1	N 23 04.5 +00.1	113 16.7 -00.9	N 24 15.7 -00.1	130 07.8 -30.3	N 24 37.2 +03.8	21						
22	150 06.2 -00.2	N 23 04.6 +00.2	128 15.8 -00.8	N 24 15.6 -00.2	144 37.5 -30.3	N 24 41.0 +03.7	22						
23	165 06.0 -00.1	N 23 04.8 +00.2	143 15.0 -00.9	N 24 15.4 -00.1	159 07.2 -30.4	N 24 44.7 +03.6	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 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'8 14'8 14'8 14'8 14'8 14'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'1 54'2 54'2 54'2 54'3 54'3								
	SHA 281° 281° 281° 281° 281° 281°		SHA 260° 260° 259° 259° 259° 259°		SHA 286° 284° 282° 279° 277° 275°								
	Greenwich Culmination Time: 11:59		Greenwich Culmination Time: 13:26		Greenwich Culmination Time: 12:01								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	137 05.9 +00.8	N 21 39.0 -00.3	284 14.2 +02.4	S 11 36.8 +00.0	302 37.9 +02.5	S 17 28.8 +00.1	00						
01	152 06.7 +00.9	N 21 38.7 -00.4	299 16.6 +02.3	S 11 36.8 +00.0	317 40.4 +02.6	S 17 28.9 +00.0	01						
02	167 07.6 +00.8	N 21 38.3 -00.3	314 18.9 +02.4	S 11 36.8 -00.1	332 43.0 +02.5	S 17 28.9 +00.0	02						
03	182 08.4 +00.9	N 21 38.0 -00.3	329 21.3 +02.4	S 11 36.7 +00.0	347 45.5 +02.5	S 17 28.9 +00.0	03						
04	197 09.3 +00.8	N 21 37.7 -00.4	344 23.7 +02.4	S 11 36.7 +00.0	2 48.0 +02.6	S 17 28.9 +00.1	04						
05	212 10.1 +00.8	N 21 37.3 -00.3	359 26.1 +02.4	S 11 36.7 +00.0	17 50.6 +02.5	S 17 29.0 +00.0	05						
06	227 10.9 +00.9	N 21 37.0 -00.3	14 28.5 +02.3	S 11 36.7 +00.0	32 53.1 +02.5	S 17 29.0 +00.0	06						
07	242 11.8 +00.8	N 21 36.7 -00.3	29 30.8 +02.4	S 11 36.7 +00.0	47 55.6 +02.6	S 17 29.0 +00.0	07						
08	257 12.6 +00.9	N 21 36.4 -00.4	44 33.2 +02.4	S 11 36.7 -00.1	62 58.2 +02.5	S 17 29.0 +00.1	08						
09	272 13.5 +00.8	N 21 36.0 -00.3	59 35.6 +02.4	S 11 36.6 +00.0	78 00.7 +02.5	S 17 29.1 +00.0	09						
10	287 14.3 +00.9	N 21 35.7 -00.3	74 38.0 +02.4	S 11 36.6 +00.0	93 03.2 +02.6	S 17 29.1 +00.0	10						
11	302 15.2 +00.8	N 21 35.4 -00.4	89 40.4 +02.4	S 11 36.6 +00.0	108 05.8 +02.5	S 17 29.1 +00.0	11						
12	317 16.0 +00.9	N 21 35.0 -00.3	104 42.8 +02.3	S 11 36.6 +00.0	123 08.3 +02.5	S 17 29.1 +00.1	12						
13	332 16.9 +00.8	N 21 34.7 -00.3	119 45.1 +02.4	S 11 36.6 -00.1	138 10.8 +02.6	S 17 29.2 +00.0	13						
14	347 17.7 +00.9	N 21 34.4 -00.4	134 47.5 +02.4	S 11 36.5 +00.0	153 13.4 +02.5	S 17 29.2 +00.0	14						
15	2 18.6 +00.8	N 21 34.0 -00.3	149 49.9 +02.4	S 11 36.5 +00.0	168 15.9 +02.5	S 17 29.2 +00.1	15						
16	17 19.4 +00.9	N 21 33.7 -00.3	164 52.3 +02.4	S 11 36.5 +00.0	183 18.4 +02.6	S 17 29.3 +00.0	16						
17	32 20.3 +00.8	N 21 33.4 -00.4	179 54.7 +02.4	S 11 36.5 +00.0	198 21.0 +02.5	S 17 29.3 +00.0	17						
18	47 21.1 +00.9	N 21 33.0 -00.3	194 57.1 +02.3	S 11 36.5 +00.0	213 23.5 +02.5	S 17 29.3 +00.0	18						
19	62 22.0 +00.8	N 21 32.7 -00.3	209 59.4 +02.4	S 11 36.5 -00.1	228 26.0 +02.6	S 17 29.3 +00.1	19						
20	77 22.8 +00.9	N 21 32.4 -00.4	225 01.8 +02.4	S 11 36.4 +00.0	243 28.6 +02.5	S 17 29.4 +00.0	20						
21	92 23.7 +00.8	N 21 32.0 -00.3	240 04.2 +02.4	S 11 36.4 +00.0	258 31.1 +02.5	S 17 29.4 +00.0	21						
22	107 24.5 +00.9	N 21 31.7 -00.3	255 06.6 +02.4	S 11 36.4 +00.0	273 33.6 +02.6	S 17 29.4 +00.0	22						
23	122 25.4 +00.8	N 21 31.4 -00.4	270 09.0 +02.4	S 11 36.4 +00.0	288 36.2 +02.5	S 17 29.4 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 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 238° 238° 238° 238° 238° 238°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 14:50		Greenwich Culmination Time: 05:02		Greenwich Culmination Time: 03:48								

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 05.9 -00.1	N 23 05.0 +00.2	158 14.1 -00.9	N 24 15.3 -00.2	173 36.8 -30.5	N 24 48.3 +03.4	00						
01	195 05.8 -00.1	N 23 05.2 +00.1	173 13.2 -00.9	N 24 15.1 -00.2	188 06.3 -30.4	N 24 51.7 +03.3	01						
02	210 05.7 -00.2	N 23 05.3 +00.2	188 12.3 -00.8	N 24 14.9 -00.1	202 35.9 -30.5	N 24 55.0 +03.2	02						
03	225 05.5 -00.1	N 23 05.5 +00.2	203 11.5 -00.9	N 24 14.8 -00.2	217 05.4 -30.6	N 24 58.2 +03.1	03						
04	240 05.4 -00.1	N 23 05.7 +00.2	218 10.6 -00.9	N 24 14.6 -00.2	231 34.8 -30.6	N 25 01.3 +03.0	04						
05	255 05.3 -00.2	N 23 05.9 +00.1	233 09.7 -00.9	N 24 14.4 -00.1	246 04.2 -30.6	N 25 04.3 +02.8	05						
06	270 05.1 -00.1	N 23 06.0 +00.2	248 08.8 -00.8	N 24 14.3 -00.2	260 33.6 -30.7	N 25 07.1 +02.8	06						
07	285 05.0 -00.1	N 23 06.2 +00.2	263 08.0 -00.9	N 24 14.1 -00.2	275 02.9 -30.7	N 25 09.9 +02.6	07						
08	300 04.9 -00.1	N 23 06.4 +00.1	278 07.1 -00.9	N 24 13.9 -00.2	289 32.2 -30.7	N 25 12.5 +02.5	08						
09	315 04.8 -00.2	N 23 06.5 +00.2	293 06.2 -00.8	N 24 13.7 -00.1	304 01.5 -30.8	N 25 15.0 +02.3	09						
10	330 04.6 -00.1	N 23 06.7 +00.2	308 05.4 -00.9	N 24 13.6 -00.2	318 30.7 -30.8	N 25 17.3 +02.2	10						
11	345 04.5 -00.1	N 23 06.9 +00.1	323 04.5 -00.9	N 24 13.4 -00.2	332 59.9 -30.9	N 25 19.5 +02.2	11						
12	0 04.4 -00.2	N 23 07.0 +00.2	338 03.6 -00.9	N 24 13.2 -00.2	347 29.0 -30.9	N 25 21.7 +01.9	12						
13	15 04.2 -00.1	N 23 07.2 +00.2	353 02.7 -00.8	N 24 13.0 -00.2	1 58.1 -30.9	N 25 23.6 +01.9	13						
14	30 04.1 -00.1	N 23 07.4 +00.1	8 01.9 -00.9	N 24 12.8 -00.1	16 27.2 -30.9	N 25 25.5 +01.7	14						
15	45 04.0 -00.1	N 23 07.5 +00.2	23 01.0 -00.9	N 24 12.7 -00.2	30 56.3 -31.0	N 25 27.2 +01.7	15						
16	60 03.9 -00.2	N 23 07.7 +00.2	38 00.1 -00.9	N 24 12.5 -00.2	45 25.3 -31.0	N 25 28.9 +01.4	16						
17	75 03.7 -00.1	N 23 07.9 +00.1	52 59.2 -00.8	N 24 12.3 -00.2	59 54.3 -31.0	N 25 30.3 +01.4	17						
18	90 03.6 -00.1	N 23 08.0 +00.2	67 58.4 -00.9	N 24 12.1 -00.2	74 23.3 -31.1	N 25 31.7 +01.2	18						
19	105 03.5 -00.2	N 23 08.2 +00.1	82 57.5 -00.9	N 24 11.9 -00.2	88 52.2 -31.1	N 25 32.9 +01.1	19						
20	120 03.3 -00.1	N 23 08.3 +00.2	97 56.6 -00.8	N 24 11.7 -00.2	103 21.1 -31.1	N 25 34.0 +01.0	20						
21	135 03.2 -00.1	N 23 08.5 +00.2	112 55.8 -00.9	N 24 11.5 -00.1	117 50.0 -31.1	N 25 35.0 +00.9	21						
22	150 03.1 -00.1	N 23 08.7 +00.1	127 54.9 -00.9	N 24 11.4 -00.2	132 18.9 -31.2	N 25 35.9 +00.7	22						
23	165 03.0 -00.2	N 23 08.8 +00.2	142 54.0 -00.9	N 24 11.2 -00.2	146 47.7 -31.1	N 25 36.6 +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 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'8 14'8 14'8 14'9 14'9 14'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'4 54'4 54'5 54'5 54'6 54'6								
	SHA 280° 280° 280° 280° 280° 280°		SHA 259° 258° 258° 258° 258° 257°		SHA 273° 271° 269° 266° 264° 262°								
	Greenwich Culmination Time: 11:59		Greenwich Culmination Time: 13:27		Greenwich Culmination Time: 12:51								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	137 26.2 +00.9	N 21 31.0 -00.3	285 11.4 +02.4	S 11 36.4 -00.1	303 38.7 +02.6	S 17 29.5 +00.0	00						
01	152 27.1 +00.8	N 21 30.7 -00.3	300 13.8 +02.3	S 11 36.3 +00.0	318 41.3 +02.5	S 17 29.5 +00.0	01						
02	167 27.9 +00.9	N 21 30.4 -00.4	315 16.1 +02.4	S 11 36.3 +00.0	333 43.8 +02.5	S 17 29.5 +00.0	02						
03	182 28.8 +00.8	N 21 30.0 -00.3	330 18.5 +02.4	S 11 36.3 +00.0	348 46.3 +02.6	S 17 29.5 +00.1	03						
04	197 29.6 +00.9	N 21 29.7 -00.4	345 20.9 +02.4	S 11 36.3 +00.0	3 48.9 +02.5	S 17 29.6 +00.0	04						
05	212 30.5 +00.8	N 21 29.3 -00.3	0 23.3 +02.4	S 11 36.3 +00.0	18 51.4 +02.5	S 17 29.6 +00.0	05						
06	227 31.3 +00.9	N 21 29.0 -00.3	15 25.7 +02.4	S 11 36.3 +00.0	33 53.9 +02.6	S 17 29.6 +00.1	06						
07	242 32.2 +00.8	N 21 28.7 -00.4	30 28.1 +02.4	S 11 36.3 -00.1	48 56.5 +02.5	S 17 29.7 +00.0	07						
08	257 33.0 +00.9	N 21 28.3 -00.3	45 30.5 +02.4	S 11 36.2 +00.0	63 59.0 +02.6	S 17 29.7 +00.0	08						
09	272 33.9 +00.8	N 21 28.0 -00.3	60 32.9 +02.4	S 11 36.2 +00.0	79 01.6 +02.5	S 17 29.7 +00.0	09						
10	287 34.7 +00.9	N 21 27.7 -00.4	75 35.3 +02.3	S 11 36.2 +00.0	94 04.1 +02.5	S 17 29.7 +00.1	10						
11	302 35.6 +00.8	N 21 27.3 -00.3	90 37.6 +02.4	S 11 36.2 +00.0	109 06.6 +02.6	S 17 29.8 +00.0	11						
12	317 36.4 +00.9	N 21 27.0 -00.3	105 40.0 +02.4	S 11 36.2 +00.0	124 09.2 +02.5	S 17 29.8 +00.0	12						
13	332 37.3 +00.8	N 21 26.7 -00.4	120 42.4 +02.4	S 11 36.2 -00.1	139 11.7 +02.5	S 17 29.8 +00.0	13						
14	347 38.1 +00.9	N 21 26.3 -00.3	135 44.8 +02.4	S 11 36.1 +00.0	154 14.2 +02.6	S 17 29.8 +00.1	14						
15	2 39.0 +00.8	N 21 26.0 -00.4	150 47.2 +02.4	S 11 36.1 +00.0	169 16.8 +02.5	S 17 29.9 +00.0	15						
16	17 39.8 +00.9	N 21 25.6 -00.3	165 49.6 +02.4	S 11 36.1 +00.0	184 19.3 +02.6	S 17 29.9 +00.0	16						
17	32 40.7 +00.8	N 21 25.3 -00.3	180 52.0 +02.4	S 11 36.1 +00.0	199 21.9 +02.5	S 17 29.9 +00.0	17						
18	47 41.5 +00.9	N 21 25.0 -00.4	195 54.4 +02.4	S 11 36.1 +00.0	214 24.4 +02.5	S 17 29.9 +00.1	18						
19	62 42.4 +00.8	N 21 24.6 -00.3	210 56.8 +02.4	S 11 36.1 +00.0	229 26.9 +02.6	S 17 30.0 +00.0	19						
20	77 43.2 +00.9	N 21 24.3 -00.4	225 59.2 +02.4	S 11 36.1 -00.1	244 29.5 +02.5	S 17 30.0 +00.0	20						
21	92 44.1 +00.8	N 21 23.9 -00.3	241 01.6 +02.4	S 11 36.0 +00.0	259 32.0 +02.6	S 17 30.0 +00.1	21						
22	107 44.9 +00.9	N 21 23.6 -00.3	256 04.0 +02.3	S 11 36.0 +00.0	274 34.6 +02.5	S 17 30.1 +00.0	22						
23	122 45.8 +00.8	N 21 23.3 -00.4	271 06.3 +02.4	S 11 36.0 +00.0	289 37.1 +02.5	S 17 30.1 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 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 238° 238° 238° 238° 237° 237°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 14:49		Greenwich Culmination Time: 04:58		Greenwich Culmination Time: 03:44								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 02.8 -00.1	N 23 09.0 +00.1	157 53.1 -00.8	N 24 11.0 -00.2	161 16.6 -31.2	N 25 37.2 +00.5	00						
01	195 02.7 -00.1	N 23 09.1 +00.2	172 52.3 -00.9	N 24 10.8 -00.2	175 45.4 -31.2	N 25 37.7 +00.3	01						
02	210 02.6 -00.2	N 23 09.3 +00.1	187 51.4 -00.9	N 24 10.6 -00.2	190 14.2 -31.3	N 25 38.0 +00.2	02						
03	225 02.4 -00.1	N 23 09.4 +00.2	202 50.5 -00.8	N 24 10.4 -00.2	204 42.9 -31.2	N 25 38.2 +00.1	03						
04	240 02.3 -00.1	N 23 09.6 +00.1	217 49.7 -00.9	N 24 10.2 -00.2	219 11.7 -31.3	N 25 38.3 -00.1	04						
05	255 02.2 -00.2	N 23 09.7 +00.2	232 48.8 -00.9	N 24 10.0 -00.2	233 40.4 -31.3	N 25 38.2 -00.1	05						
06	270 02.0 -00.1	N 23 09.9 +00.2	247 47.9 -00.8	N 24 09.8 -00.2	248 09.1 -31.3	N 25 38.1 -00.3	06						
07	285 01.9 -00.1	N 23 10.1 +00.1	262 47.1 -00.9	N 24 09.6 -00.2	262 37.8 -31.3	N 25 37.8 -00.5	07						
08	300 01.8 -00.1	N 23 10.2 +00.2	277 46.2 -00.9	N 24 09.4 -00.2	277 06.5 -31.3	N 25 37.3 -00.5	08						
09	315 01.7 -00.2	N 23 10.4 +00.1	292 45.3 -00.9	N 24 09.2 -00.2	291 35.2 -31.3	N 25 36.8 -00.7	09						
10	330 01.5 -00.1	N 23 10.5 +00.2	307 44.4 -00.8	N 24 09.0 -00.2	306 03.9 -31.4	N 25 36.1 -00.9	10						
11	345 01.4 -00.1	N 23 10.7 +00.1	322 43.6 -00.9	N 24 08.8 -00.2	320 32.5 -31.3	N 25 35.2 -00.9	11						
12	0 01.3 -00.2	N 23 10.8 +00.2	337 42.7 -00.9	N 24 08.6 -00.3	335 01.2 -31.4	N 25 34.3 -01.1	12						
13	15 01.1 -00.1	N 23 11.0 +00.1	352 41.8 -00.8	N 24 08.3 -00.2	349 29.8 -31.4	N 25 33.2 -01.2	13						
14	30 01.0 -00.1	N 23 11.1 +00.1	7 41.0 -00.9	N 24 08.1 -00.2	3 58.4 -31.3	N 25 32.0 -01.4	14						
15	45 00.9 -00.2	N 23 11.2 +00.2	22 40.1 -00.9	N 24 07.9 -00.2	18 27.1 -31.4	N 25 30.6 -01.4	15						
16	60 00.7 -00.1	N 23 11.4 +00.1	37 39.2 -00.8	N 24 07.7 -00.2	32 55.7 -31.4	N 25 29.2 -01.7	16						
17	75 00.6 -00.1	N 23 11.5 +00.2	52 38.4 -00.9	N 24 07.5 -00.2	47 24.3 -31.4	N 25 27.5 -01.7	17						
18	90 00.5 -00.2	N 23 11.7 +00.1	67 37.5 -00.9	N 24 07.3 -00.2	61 52.9 -31.3	N 25 25.8 -01.9	18						
19	105 00.3 -00.1	N 23 11.8 +00.2	82 36.6 -00.8	N 24 07.1 -00.3	76 21.6 -31.4	N 25 23.9 -02.0	19						
20	120 00.2 -00.1	N 23 12.0 +00.1	97 35.8 -00.9	N 24 06.8 -00.2	90 50.2 -31.4	N 25 21.9 -02.1	20						
21	135 00.1 -00.1	N 23 12.1 +00.2	112 34.9 -00.9	N 24 06.6 -00.2	105 18.8 -31.4	N 25 19.8 -02.2	21						
22	149 60.0 -00.2	N 23 12.3 +00.1	127 34.0 -00.8	N 24 06.4 -00.2	119 47.4 -31.3	N 25 17.6 -02.4	22						
23	164 59.8 -00.1	N 23 12.4 +00.1	142 33.2 -00.9	N 24 06.2 -00.2	134 16.1 -31.4	N 25 15.2 -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 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'9 14'9 14'9 14'9 15'0 15'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'7 54'7 54'8 54'8 54'9 55'0								
	SHA 279° 279° 279° 279° 279° 279°		SHA 257° 257° 257° 257° 256° 256°		SHA 260° 257° 255° 253° 251° 248°								
	Greenwich Culmination Time: 11:59		Greenwich Culmination Time: 13:29		Greenwich Culmination Time: 13:43								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	137 46.6 +00.9	N 21 22.9 -00.3	286 08.7 +02.4	S 11 36.0 +00.0	304 39.6 +02.6	S 17 30.1 +00.0	00						
01	152 47.5 +00.8	N 21 22.6 -00.4	301 11.1 +02.4	S 11 36.0 +00.0	319 42.2 +02.5	S 17 30.1 +00.1	01						
02	167 48.3 +00.9	N 21 22.2 -00.3	316 13.5 +02.4	S 11 36.0 +00.0	334 44.7 +02.6	S 17 30.2 +00.0	02						
03	182 49.2 +00.8	N 21 21.9 -00.3	331 15.9 +02.4	S 11 36.0 -00.1	349 47.3 +02.5	S 17 30.2 +00.0	03						
04	197 50.0 +00.9	N 21 21.6 -00.4	346 18.3 +02.4	S 11 35.9 +00.0	4 49.8 +02.5	S 17 30.2 +00.1	04						
05	212 50.9 +00.8	N 21 21.2 -00.3	1 20.7 +02.4	S 11 35.9 +00.0	19 52.3 +02.6	S 17 30.3 +00.0	05						
06	227 51.7 +00.9	N 21 20.9 -00.4	16 23.1 +02.4	S 11 35.9 +00.0	34 54.9 +02.5	S 17 30.3 +00.0	06						
07	242 52.6 +00.8	N 21 20.5 -00.3	31 25.5 +02.4	S 11 35.9 +00.0	49 57.4 +02.6	S 17 30.3 +00.0	07						
08	257 53.4 +00.9	N 21 20.2 -00.4	46 27.9 +02.4	S 11 35.9 +00.0	64 60.0 +02.5	S 17 30.3 +00.1	08						
09	272 54.3 +00.8	N 21 19.8 -00.3	61 30.3 +02.4	S 11 35.9 +00.0	80 02.5 +02.5	S 17 30.4 +00.0	09						
10	287 55.1 +00.9	N 21 19.5 -00.3	76 32.7 +02.4	S 11 35.9 -00.1	95 05.0 +02.6	S 17 30.4 +00.0	10						
11	302 56.0 +00.8	N 21 19.2 -00.4	91 35.1 +02.4	S 11 35.8 +00.0	110 07.6 +02.5	S 17 30.4 +00.0	11						
12	317 56.8 +00.9	N 21 18.8 -00.3	106 37.5 +02.4	S 11 35.8 +00.0	125 10.1 +02.6	S 17 30.4 +00.1	12						
13	332 57.7 +00.8	N 21 18.5 -00.4	121 39.9 +02.4	S 11 35.8 +00.0	140 12.7 +02.5	S 17 30.5 +00.0	13						
14	347 58.5 +00.9	N 21 18.1 -00.3	136 42.3 +02.4	S 11 35.8 +00.0	155 15.2 +02.6	S 17 30.5 +00.0	14						
15	2 59.4 +00.8	N 21 17.8 -00.4	151 44.7 +02.4	S 11 35.8 +00.0	170 17.8 +02.5	S 17 30.5 +00.1	15						
16	18 00.2 +00.9	N 21 17.4 -00.3	166 47.1 +02.4	S 11 35.8 +00.0	185 20.3 +02.5	S 17 30.6 +00.0	16						
17	33 01.1 +00.9	N 21 17.1 -00.4	181 49.5 +02.4	S 11 35.8 +00.0	200 22.8 +02.6	S 17 30.6 +00.0	17						
18	48 02.0 +00.8	N 21 16.7 -00.3	196 51.9 +02.4	S 11 35.8 -00.1	215 25.4 +02.5	S 17 30.6 +00.0	18						
19	63 02.8 +00.9	N 21 16.4 -00.3	211 54.3 +02.4	S 11 35.7 +00.0	230 27.9 +02.6	S 17 30.6 +00.1	19						
20	78 03.7 +00.8	N 21 16.1 -00.4	226 56.7 +02.4	S 11 35.7 +00.0	245 30.5 +02.5	S 17 30.7 +00.0	20						
21	93 04.5 +00.9	N 21 15.7 -00.3	241 59.1 +02.4	S 11 35.7 +00.0	260 33.0 +02.5	S 17 30.7 +00.0	21						
22	108 05.4 +00.8	N 21 15.4 -00.4	257 01.5 +02.4	S 11 35.7 +00.0	275 35.5 +02.6	S 17 30.7 +00.1	22						
23	123 06.2 +00.9	N 21 15.0 -00.3	272 03.9 +02.4	S 11 35.7 +00.0	290 38.1 +02.5	S 17 30.8 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 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 237° 237° 237° 237° 237° 237°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 14:48		Greenwich Culmination Time: 04:54		Greenwich Culmination Time: 03:40								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 10%				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 59.7 -00.1	N 23 12.5 +00.2	157 32.3 -00.9	N 24 06.0 -00.3	148 44.7 -31.4	N 25 12.7 -02.7	00						
01	194 59.6 -00.2	N 23 12.7 +00.1	172 31.4 -00.8	N 24 05.7 -00.2	163 13.3 -31.3	N 25 10.0 -02.8	01						
02	209 59.4 -00.1	N 23 12.8 +00.2	187 30.6 -00.9	N 24 05.5 -00.2	177 42.0 -31.4	N 25 07.2 -02.9	02						
03	224 59.3 -00.1	N 23 13.0 +00.1	202 29.7 -00.8	N 24 05.3 -00.2	192 10.6 -31.3	N 25 04.3 -03.0	03						
04	239 59.2 -00.2	N 23 13.1 +00.1	217 28.9 -00.9	N 24 05.1 -00.3	206 39.3 -31.4	N 25 01.3 -03.2	04						
05	254 59.0 -00.1	N 23 13.2 +00.2	232 28.0 -00.9	N 24 04.8 -00.2	221 07.9 -31.3	N 24 58.1 -03.3	05						
06	269 58.9 -00.1	N 23 13.4 +00.1	247 27.1 -00.8	N 24 04.6 -00.2	235 36.6 -31.3	N 24 54.8 -03.4	06						
07	284 58.8 -00.2	N 23 13.5 +00.1	262 26.3 -00.9	N 24 04.4 -00.3	250 05.3 -31.3	N 24 51.4 -03.5	07						
08	299 58.6 -00.1	N 23 13.6 +00.2	277 25.4 -00.9	N 24 04.1 -00.2	264 34.0 -31.3	N 24 47.9 -03.7	08						
09	314 58.5 -00.1	N 23 13.8 +00.1	292 24.5 -00.8	N 24 03.9 -00.2	279 02.7 -31.2	N 24 44.2 -03.8	09						
10	329 58.4 -00.2	N 23 13.9 +00.1	307 23.7 -00.9	N 24 03.7 -00.3	293 31.5 -31.3	N 24 40.4 -04.0	10						
11	344 58.2 -00.1	N 23 14.0 +00.2	322 22.8 -00.9	N 24 03.4 -00.2	308 00.2 -31.2	N 24 36.4 -04.0	11						
12	359 58.1 -00.1	N 23 14.2 +00.1	337 21.9 -00.8	N 24 03.2 -00.2	322 29.0 -31.3	N 24 32.4 -04.2	12						
13	14 58.0 -00.2	N 23 14.3 +00.1	352 21.1 -00.9	N 24 03.0 -00.3	336 57.7 -31.2	N 24 28.2 -04.3	13						
14	29 57.8 -00.1	N 23 14.4 +00.2	7 20.2 -00.8	N 24 02.7 -00.2	351 26.5 -31.2	N 24 23.9 -04.5	14						
15	44 57.7 -00.1	N 23 14.6 +00.1	22 19.4 -00.9	N 24 02.5 -00.3	5 55.3 -31.1	N 24 19.4 -04.6	15						
16	59 57.6 -00.2	N 23 14.7 +00.1	37 18.5 -00.9	N 24 02.2 -00.2	20 24.2 -31.2	N 24 14.8 -04.7	16						
17	74 57.4 -00.1	N 23 14.8 +00.1	52 17.6 -00.8	N 24 02.0 -00.2	34 53.0 -31.1	N 24 10.1 -04.8	17						
18	89 57.3 -00.1	N 23 14.9 +00.2	67 16.8 -00.9	N 24 01.8 -00.3	49 21.9 -31.1	N 24 05.3 -04.9	18						
19	104 57.2 -00.2	N 23 15.1 +00.1	82 15.9 -00.8	N 24 01.5 -00.2	63 50.8 -31.1	N 24 00.4 -05.1	19						
20	119 57.0 -00.1	N 23 15.2 +00.1	97 15.1 -00.9	N 24 01.3 -00.3	78 19.7 -31.1	N 23 55.3 -05.2	20						
21	134 56.9 -00.1	N 23 15.3 +00.1	112 14.2 -00.9	N 24 01.0 -00.2	92 48.6 -31.0	N 23 50.1 -05.3	21						
22	149 56.8 -00.2	N 23 15.4 +00.2	127 13.3 -00.8	N 24 00.8 -00.3	107 17.6 -31.0	N 23 44.8 -05.5	22						
23	164 56.6 -00.1	N 23 15.6 +00.1	142 12.5 -00.9	N 24 00.5 -00.2	121 46.6 -31.0	N 23 39.3 -05.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'0 15'0 15'0 15'1 15'1 15'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'0 55'1 55'2 55'3 55'3 55'4								
	SHA 278° 278° 278° 278° 278° 278°		SHA 256° 256° 255° 255° 255° 255°		SHA 246° 244° 242° 239° 237° 235°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 13:30		Greenwich Culmination Time: 14:35								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	138 07.1 +00.8	N 21 14.7 -00.4	287 06.3 +02.4	S 11 35.7 +00.0	305 40.6 +02.6	S 17 30.8 +00.0	00						
01	153 07.9 +00.9	N 21 14.3 -00.3	302 08.7 +02.4	S 11 35.7 +00.0	320 43.2 +02.5	S 17 30.8 +00.0	01						
02	168 08.8 +00.8	N 21 14.0 -00.4	317 11.1 +02.4	S 11 35.7 +00.0	335 45.7 +02.6	S 17 30.8 +00.1	02						
03	183 09.6 +00.9	N 21 13.6 -00.3	332 13.5 +02.4	S 11 35.7 -00.1	350 48.3 +02.5	S 17 30.9 +00.0	03						
04	198 10.5 +00.8	N 21 13.3 -00.4	347 15.9 +02.4	S 11 35.6 +00.0	5 50.8 +02.6	S 17 30.9 +00.0	04						
05	213 11.3 +00.9	N 21 12.9 -00.3	2 18.3 +02.4	S 11 35.6 +00.0	20 53.4 +02.5	S 17 30.9 +00.1	05						
06	228 12.2 +00.9	N 21 12.6 -00.4	17 20.7 +02.4	S 11 35.6 +00.0	35 55.9 +02.5	S 17 31.0 +00.0	06						
07	243 13.1 +00.8	N 21 12.2 -00.3	32 23.1 +02.4	S 11 35.6 +00.0	50 58.4 +02.6	S 17 31.0 +00.0	07						
08	258 13.9 +00.9	N 21 11.9 -00.4	47 25.5 +02.4	S 11 35.6 +00.0	66 01.0 +02.5	S 17 31.0 +00.0	08						
09	273 14.8 +00.8	N 21 11.5 -00.3	62 27.9 +02.4	S 11 35.6 +00.0	81 03.5 +02.6	S 17 31.0 +00.1	09						
10	288 15.6 +00.9	N 21 11.2 -00.4	77 30.3 +02.4	S 11 35.6 +00.0	96 06.1 +02.5	S 17 31.1 +00.0	10						
11	303 16.5 +00.8	N 21 10.8 -00.3	92 32.7 +02.4	S 11 35.6 +00.0	111 08.6 +02.6	S 17 31.1 +00.0	11						
12	318 17.3 +00.9	N 21 10.5 -00.4	107 35.1 +02.4	S 11 35.6 +00.0	126 11.2 +02.5	S 17 31.1 +00.1	12						
13	333 18.2 +00.8	N 21 10.1 -00.3	122 37.5 +02.5	S 11 35.6 -00.1	141 13.7 +02.6	S 17 31.2 +00.0	13						
14	348 19.0 +00.9	N 21 09.8 -00.4	137 40.0 +02.4	S 11 35.5 +00.0	156 16.3 +02.5	S 17 31.2 +00.0	14						
15	3 19.9 +00.8	N 21 09.4 -00.3	152 42.4 +02.4	S 11 35.5 +00.0	171 18.8 +02.6	S 17 31.2 +00.1	15						
16	18 20.7 +00.9	N 21 09.1 -00.4	167 44.8 +02.4	S 11 35.5 +00.0	186 21.4 +02.5	S 17 31.3 +00.0	16						
17	33 21.6 +00.9	N 21 08.7 -00.3	182 47.2 +02.4	S 11 35.5 +00.0	201 23.9 +02.5	S 17 31.3 +00.0	17						
18	48 22.5 +00.8	N 21 08.4 -00.4	197 49.6 +02.4	S 11 35.5 +00.0	216 26.4 +02.6	S 17 31.3 +00.0	18						
19	63 23.3 +00.9	N 21 08.0 -00.3	212 52.0 +02.4	S 11 35.5 +00.0	231 29.0 +02.5	S 17 31.3 +00.1	19						
20	78 24.2 +00.8	N 21 07.7 -00.4	227 54.4 +02.4	S 11 35.5 +00.0	246 31.5 +02.6	S 17 31.4 +00.0	20						
21	93 25.0 +00.9	N 21 07.3 -00.3	242 56.8 +02.4	S 11 35.5 +00.0	261 34.1 +02.5	S 17 31.4 +00.0	21						
22	108 25.9 +00.8	N 21 07.0 -00.4	257 59.2 +02.4	S 11 35.5 +00.0	276 36.6 +02.6	S 17 31.4 +00.1	22						
23	123 26.7 +00.9	N 21 06.6 -00.3	273 01.6 +02.4	S 11 35.5 +00.0	291 39.2 +02.5	S 17 31.5 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 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 237° 236° 236° 236° 236° 236°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 14:46		Greenwich Culmination Time: 04:50		Greenwich Culmination Time: 03:36								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 56.5 -00.1	N 23 15.7 +00.1	157 11.6 -00.8	N 24 00.3 -00.3	136 15.6 -31.0	N 23 33.8 -05.7	00						
01	194 56.4 -00.1	N 23 15.8 +00.1	172 10.8 -00.9	N 24 00.0 -00.2	150 44.6 -30.9	N 23 28.1 -05.8	01						
02	209 56.3 -00.2	N 23 15.9 +00.2	187 09.9 -00.9	N 23 59.8 -00.3	165 13.7 -30.9	N 23 22.3 -06.0	02						
03	224 56.1 -00.1	N 23 16.1 +00.1	202 09.0 -00.8	N 23 59.5 -00.3	179 42.8 -30.9	N 23 16.3 -06.0	03						
04	239 56.0 -00.1	N 23 16.2 +00.1	217 08.2 -00.9	N 23 59.2 -00.2	194 11.9 -30.8	N 23 10.3 -06.2	04						
05	254 55.9 -00.2	N 23 16.3 +00.1	232 07.3 -00.8	N 23 59.0 -00.3	208 41.1 -30.8	N 23 04.1 -06.3	05						
06	269 55.7 -00.1	N 23 16.4 +00.1	247 06.5 -00.9	N 23 58.7 -00.2	223 10.3 -30.8	N 22 57.8 -06.4	06						
07	284 55.6 -00.1	N 23 16.5 +00.2	262 05.6 -00.8	N 23 58.5 -00.3	237 39.5 -30.8	N 22 51.4 -06.6	07						
08	299 55.5 -00.2	N 23 16.7 +00.1	277 04.8 -00.9	N 23 58.2 -00.3	252 08.7 -30.7	N 22 44.8 -06.6	08						
09	314 55.3 -00.1	N 23 16.8 +00.1	292 03.9 -00.9	N 23 57.9 -00.2	266 38.0 -30.7	N 22 38.2 -06.8	09						
10	329 55.2 -00.1	N 23 16.9 +00.1	307 03.0 -00.8	N 23 57.7 -00.3	281 07.3 -30.7	N 22 31.4 -06.9	10						
11	344 55.1 -00.2	N 23 17.0 +00.1	322 02.2 -00.9	N 23 57.4 -00.3	295 36.6 -30.6	N 22 24.5 -07.0	11						
12	359 54.9 -00.1	N 23 17.1 +00.1	337 01.3 -00.8	N 23 57.1 -00.2	310 06.0 -30.6	N 22 17.5 -07.2	12						
13	14 54.8 -00.1	N 23 17.2 +00.1	352 00.5 -00.9	N 23 56.9 -00.3	324 35.4 -30.6	N 22 10.3 -07.2	13						
14	29 54.7 -00.2	N 23 17.3 +00.2	6 59.6 -00.8	N 23 56.6 -00.3	339 04.8 -30.5	N 22 03.1 -07.4	14						
15	44 54.5 -00.1	N 23 17.5 +00.1	21 58.8 -00.9	N 23 56.3 -00.2	353 34.3 -30.6	N 21 55.7 -07.4	15						
16	59 54.4 -00.1	N 23 17.6 +00.1	36 57.9 -00.8	N 23 56.1 -00.3	8 03.7 -30.4	N 21 48.3 -07.6	16						
17	74 54.3 -00.2	N 23 17.7 +00.1	51 57.1 -00.9	N 23 55.8 -00.3	22 33.3 -30.5	N 21 40.7 -07.7	17						
18	89 54.1 -00.1	N 23 17.8 +00.1	66 56.2 -00.9	N 23 55.5 -00.3	37 02.8 -30.4	N 21 33.0 -07.9	18						
19	104 54.0 -00.2	N 23 17.9 +00.1	81 55.3 -00.8	N 23 55.2 -00.2	51 32.4 -30.3	N 21 25.1 -07.9	19						
20	119 53.8 -00.1	N 23 18.0 +00.1	96 54.5 -00.9	N 23 55.0 -00.3	66 02.1 -30.4	N 21 17.2 -08.0	20						
21	134 53.7 -00.1	N 23 18.1 +00.1	111 53.6 -00.8	N 23 54.7 -00.3	80 31.7 -30.3	N 21 09.2 -08.2	21						
22	149 53.6 -00.2	N 23 18.2 +00.1	126 52.8 -00.9	N 23 54.4 -00.3	95 01.4 -30.2	N 21 01.0 -08.2	22						
23	164 53.4 -00.1	N 23 18.3 +00.1	141 51.9 -00.8	N 23 54.1 -00.2	109 31.2 -30.2	N 20 52.8 -08.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'1 15'1 15'2 15'2 15'2 15'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'5 55'6 55'7 55'8 55'8 55'9								
	SHA 277° 277° 277° 277° 277° 276°		SHA 255° 254° 254° 254° 254° 253°		SHA 233° 230° 228° 226° 224° 222°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 13:31		Greenwich Culmination Time: 15:26								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	138 27.6 +00.8	N 21 06.3 -00.4	288 04.0 +02.4	S 11 35.5 -00.1	306 41.7 +02.6	S 17 31.5 +00.0	00						
01	153 28.4 +00.9	N 21 05.9 -00.3	303 06.4 +02.4	S 11 35.4 +00.0	321 44.3 +02.5	S 17 31.5 +00.0	01						
02	168 29.3 +00.9	N 21 05.6 -00.4	318 08.8 +02.5	S 11 35.4 +00.0	336 46.8 +02.6	S 17 31.5 +00.1	02						
03	183 30.2 +00.8	N 21 05.2 -00.3	333 11.3 +02.4	S 11 35.4 +00.0	351 49.4 +02.5	S 17 31.6 +00.0	03						
04	198 31.0 +00.9	N 21 04.9 -00.4	348 13.7 +02.4	S 11 35.4 +00.0	6 51.9 +02.6	S 17 31.6 +00.0	04						
05	213 31.9 +00.8	N 21 04.5 -00.3	3 16.1 +02.4	S 11 35.4 +00.0	21 54.5 +02.5	S 17 31.6 +00.1	05						
06	228 32.7 +00.9	N 21 04.2 -00.4	18 18.5 +02.4	S 11 35.4 +00.0	36 57.0 +02.6	S 17 31.7 +00.0	06						
07	243 33.6 +00.8	N 21 03.8 -00.4	33 20.9 +02.4	S 11 35.4 +00.0	51 59.6 +02.5	S 17 31.7 +00.0	07						
08	258 34.4 +00.9	N 21 03.4 -00.3	48 23.3 +02.4	S 11 35.4 +00.0	67 02.1 +02.6	S 17 31.7 +00.1	08						
09	273 35.3 +00.9	N 21 03.1 -00.4	63 25.7 +02.4	S 11 35.4 +00.0	82 04.7 +02.5	S 17 31.8 +00.0	09						
10	288 36.2 +00.8	N 21 02.7 -00.3	78 28.1 +02.5	S 11 35.4 +00.0	97 07.2 +02.6	S 17 31.8 +00.0	10						
11	303 37.0 +00.9	N 21 02.4 -00.4	93 30.6 +02.4	S 11 35.4 +00.0	112 09.8 +02.5	S 17 31.8 +00.0	11						
12	318 37.9 +00.8	N 21 02.0 -00.3	108 33.0 +02.4	S 11 35.4 +00.0	127 12.3 +02.6	S 17 31.8 +00.1	12						
13	333 38.7 +00.9	N 21 01.7 -00.4	123 35.4 +02.4	S 11 35.4 +00.0	142 14.9 +02.5	S 17 31.9 +00.0	13						
14	348 39.6 +00.8	N 21 01.3 -00.3	138 37.8 +02.4	S 11 35.4 -00.1	157 17.4 +02.6	S 17 31.9 +00.0	14						
15	3 40.4 +00.9	N 21 01.0 -00.4	153 40.2 +02.4	S 11 35.3 +00.0	172 20.0 +02.5	S 17 31.9 +00.1	15						
16	18 41.3 +00.9	N 21 00.6 -00.4	168 42.6 +02.4	S 11 35.3 +00.0	187 22.5 +02.6	S 17 32.0 +00.0	16						
17	33 42.2 +00.8	N 21 00.2 -00.3	183 45.0 +02.4	S 11 35.3 +00.0	202 25.1 +02.5	S 17 32.0 +00.0	17						
18	48 43.0 +00.9	N 20 59.9 -00.4	198 47.4 +02.5	S 11 35.3 +00.0	217 27.6 +02.6	S 17 32.0 +00.1	18						
19	63 43.9 +00.8	N 20 59.5 -00.3	213 49.9 +02.4	S 11 35.3 +00.0	232 30.2 +02.5	S 17 32.1 +00.0	19						
20	78 44.7 +00.9	N 20 59.2 -00.4	228 52.3 +02.4	S 11 35.3 +00.0	247 32.7 +02.6	S 17 32.1 +00.0	20						
21	93 45.6 +00.9	N 20 58.8 -00.3	243 54.7 +02.4	S 11 35.3 +00.0	262 35.3 +02.5	S 17 32.1 +00.0	21						
22	108 46.5 +00.8	N 20 58.5 -00.4	258 57.1 +02.4	S 11 35.3 +00.0	277 37.8 +02.6	S 17 32.1 +00.1	22						
23	123 47.3 +00.9	N 20 58.1 -00.4	273 59.5 +02.4	S 11 35.3 +00.0	292 40.4 +02.5	S 17 32.2 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 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 236° 236° 236° 236° 235° 235°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 14:45		Greenwich Culmination Time: 04:46		Greenwich Culmination Time: 03:32								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 53.3 -00.1	N 23 18.4 +00.1	156 51.1 -00.9	N 23 53.9 -00.3	124 01.0 -30.2	N 20 44.4 -08.5	00						
01	194 53.2 -00.2	N 23 18.5 +00.2	171 50.2 -00.8	N 23 53.6 -00.3	138 30.8 -30.2	N 20 35.9 -08.6	01						
02	209 53.0 -00.1	N 23 18.7 +00.1	186 49.4 -00.9	N 23 53.3 -00.3	153 00.6 -30.1	N 20 27.3 -08.7	02						
03	224 52.9 -00.1	N 23 18.8 +00.1	201 48.5 -00.8	N 23 53.0 -00.3	167 30.5 -30.1	N 20 18.6 -08.8	03						
04	239 52.8 -00.2	N 23 18.9 +00.1	216 47.7 -00.9	N 23 52.7 -00.3	182 00.4 -30.0	N 20 09.8 -08.9	04						
05	254 52.6 -00.1	N 23 19.0 +00.1	231 46.8 -00.8	N 23 52.4 -00.3	196 30.4 -30.1	N 20 00.9 -09.0	05						
06	269 52.5 -00.1	N 23 19.1 +00.1	246 46.0 -00.9	N 23 52.1 -00.2	211 00.3 -29.9	N 19 51.9 -09.2	06						
07	284 52.4 -00.2	N 23 19.2 +00.1	261 45.1 -00.8	N 23 51.9 -00.3	225 30.4 -30.0	N 19 42.7 -09.2	07						
08	299 52.2 -00.1	N 23 19.3 +00.1	276 44.3 -00.9	N 23 51.6 -00.3	240 00.4 -29.9	N 19 33.5 -09.3	08						
09	314 52.1 -00.1	N 23 19.4 +00.1	291 43.4 -00.8	N 23 51.3 -00.3	254 30.5 -29.8	N 19 24.2 -09.5	09						
10	329 52.0 -00.2	N 23 19.5 +00.1	306 42.6 -00.9	N 23 51.0 -00.3	269 00.7 -29.9	N 19 14.7 -09.5	10						
11	344 51.8 -00.1	N 23 19.6 +00.1	321 41.7 -00.8	N 23 50.7 -00.3	283 30.8 -29.8	N 19 05.2 -09.6	11						
12	359 51.7 -00.1	N 23 19.7 +00.1	336 40.9 -00.9	N 23 50.4 -00.3	298 01.0 -29.7	N 18 55.6 -09.8	12						
13	14 51.6 -00.2	N 23 19.8 +00.1	351 40.0 -00.8	N 23 50.1 -00.3	312 31.3 -29.7	N 18 45.8 -09.8	13						
14	29 51.4 -00.1	N 23 19.9 +00.0	6 39.2 -00.9	N 23 49.8 -00.3	327 01.6 -29.7	N 18 36.0 -10.0	14						
15	44 51.3 -00.1	N 23 19.9 +00.1	21 38.3 -00.8	N 23 49.5 -00.3	341 31.9 -29.7	N 18 26.0 -10.0	15						
16	59 51.2 -00.2	N 23 20.0 +00.1	36 37.5 -00.9	N 23 49.2 -00.3	356 02.2 -29.6	N 18 16.0 -10.1	16						
17	74 51.0 -00.1	N 23 20.1 +00.1	51 36.6 -00.8	N 23 48.9 -00.3	10 32.6 -29.6	N 18 05.9 -10.3	17						
18	89 50.9 -00.1	N 23 20.2 +00.1	66 35.8 -00.9	N 23 48.6 -00.3	25 03.0 -29.5	N 17 55.6 -10.3	18						
19	104 50.8 -00.2	N 23 20.3 +00.1	81 34.9 -00.8	N 23 48.3 -00.3	39 33.5 -29.5	N 17 45.3 -10.4	19						
20	119 50.6 -00.1	N 23 20.4 +00.1	96 34.1 -00.9	N 23 48.0 -00.3	54 04.0 -29.5	N 17 34.9 -10.6	20						
21	134 50.5 -00.1	N 23 20.5 +00.1	111 33.2 -00.8	N 23 47.7 -00.3	68 34.5 -29.5	N 17 24.3 -10.6	21						
22	149 50.4 -00.2	N 23 20.6 +00.1	126 32.4 -00.9	N 23 47.4 -00.3	83 05.0 -29.4	N 17 13.7 -10.7	22						
23	164 50.2 -00.1	N 23 20.7 +00.1	141 31.5 -00.8	N 23 47.1 -00.3	97 35.6 -29.4	N 17 03.0 -10.8	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'3 15'3 15'3 15'3 15'4 15'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 56'0 56'1 56'2 56'3 56'4 56'5								
	SHA 276° 276° 276° 276° 276° 275°		SHA 253° 253° 253° 253° 252° 252°		SHA 219° 217° 215° 213° 211° 209°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 13:33		Greenwich Culmination Time: 16:16								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	138 48.2 +00.8	N 20 57.7 -00.3	289 01.9 +02.5	S 11 35.3 +00.0	307 42.9 +02.6	S 17 32.2 +00.0	00						
01	153 49.0 +00.9	N 20 57.4 -00.4	304 04.4 +02.4	S 11 35.3 +00.0	322 45.5 +02.5	S 17 32.2 +00.1	01						
02	168 49.9 +00.8	N 20 57.0 -00.3	319 06.8 +02.4	S 11 35.3 +00.0	337 48.0 +02.6	S 17 32.3 +00.0	02						
03	183 50.7 +00.9	N 20 56.7 -00.4	334 09.2 +02.4	S 11 35.3 +00.0	352 50.6 +02.5	S 17 32.3 +00.0	03						
04	198 51.6 +00.9	N 20 56.3 -00.4	349 11.6 +02.4	S 11 35.3 +00.0	7 53.1 +02.6	S 17 32.3 +00.1	04						
05	213 52.5 +00.8	N 20 55.9 -00.3	4 14.0 +02.5	S 11 35.3 +00.0	22 55.7 +02.5	S 17 32.4 +00.0	05						
06	228 53.3 +00.9	N 20 55.6 -00.4	19 16.5 +02.4	S 11 35.3 +00.0	37 58.2 +02.6	S 17 32.4 +00.0	06						
07	243 54.2 +00.8	N 20 55.2 -00.3	34 18.9 +02.4	S 11 35.3 +00.0	53 00.8 +02.5	S 17 32.4 +00.1	07						
08	258 55.0 +00.9	N 20 54.9 -00.4	49 21.3 +02.4	S 11 35.3 -00.1	68 03.3 +02.6	S 17 32.5 +00.0	08						
09	273 55.9 +00.9	N 20 54.5 -00.4	64 23.7 +02.4	S 11 35.2 +00.0	83 05.9 +02.5	S 17 32.5 +00.0	09						
10	288 56.8 +00.8	N 20 54.1 -00.3	79 26.1 +02.5	S 11 35.2 +00.0	98 08.4 +02.6	S 17 32.5 +00.1	10						
11	303 57.6 +00.9	N 20 53.8 -00.4	94 28.6 +02.4	S 11 35.2 +00.0	113 11.0 +02.5	S 17 32.6 +00.0	11						
12	318 58.5 +00.8	N 20 53.4 -00.3	109 31.0 +02.4	S 11 35.2 +00.0	128 13.5 +02.6	S 17 32.6 +00.0	12						
13	333 59.3 +00.9	N 20 53.1 -00.4	124 33.4 +02.4	S 11 35.2 +00.0	143 16.1 +02.5	S 17 32.6 +00.0	13						
14	349 00.2 +00.9	N 20 52.7 -00.4	139 35.8 +02.4	S 11 35.2 +00.0	158 18.6 +02.6	S 17 32.6 +00.1	14						
15	4 01.1 +00.8	N 20 52.3 -00.3	154 38.2 +02.5	S 11 35.2 +00.0	173 21.2 +02.5	S 17 32.7 +00.0	15						
16	19 01.9 +00.9	N 20 52.0 -00.4	169 40.7 +02.4	S 11 35.2 +00.0	188 23.7 +02.6	S 17 32.7 +00.0	16						
17	34 02.8 +00.8	N 20 51.6 -00.4	184 43.1 +02.4	S 11 35.2 +00.0	203 26.3 +02.6	S 17 32.7 +00.1	17						
18	49 03.6 +00.9	N 20 51.2 -00.3	199 45.5 +02.4	S 11 35.2 +00.0	218 28.9 +02.5	S 17 32.8 +00.0	18						
19	64 04.5 +00.9	N 20 50.9 -00.4	214 47.9 +02.4	S 11 35.2 +00.0	233 31.4 +02.6	S 17 32.8 +00.0	19						
20	79 05.4 +00.8	N 20 50.5 -00.3	229 50.3 +02.5	S 11 35.2 +00.0	248 34.0 +02.5	S 17 32.8 +00.1	20						
21	94 06.2 +00.9	N 20 50.2 -00.4	244 52.8 +02.4	S 11 35.2 +00.0	263 36.5 +02.6	S 17 32.9 +00.0	21						
22	109 07.1 +00.8	N 20 49.8 -00.4	259 55.2 +02.4	S 11 35.2 +00.0	278 39.1 +02.5	S 17 32.9 +00.0	22						
23	124 07.9 +00.9	N 20 49.4 -00.3	274 57.6 +02.4	S 11 35.2 +00.0	293 41.6 +02.6	S 17 32.9 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 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 235° 235° 235° 235° 235° 235°		SHA 026° 026° 026° 026° 026° 026°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 14:43		Greenwich Culmination Time: 04:43		Greenwich Culmination Time: 03:28								

UT	Sun				Venus				Moon				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	179 50.1 -00.1	N 23 20.8 +00.1	156 30.7 -00.8	N 23 46.8 -00.4	112 06.2 -29.3	N 16 52.2 -10.9	00							
01	194 50.0 -00.2	N 23 20.9 +00.1	171 29.9 -00.9	N 23 46.4 -00.3	126 36.9 -29.3	N 16 41.3 -10.9	01							
02	209 49.8 -00.1	N 23 21.0 +00.0	186 29.0 -00.8	N 23 46.1 -00.3	141 07.6 -29.3	N 16 30.4 -11.1	02							
03	224 49.7 -00.2	N 23 21.0 +00.1	201 28.2 -00.9	N 23 45.8 -00.3	155 38.3 -29.2	N 16 19.3 -11.2	03							
04	239 49.5 -00.1	N 23 21.1 +00.1	216 27.3 -00.8	N 23 45.5 -00.3	170 09.1 -29.3	N 16 08.1 -11.2	04							
05	254 49.4 -00.1	N 23 21.2 +00.1	231 26.5 -00.9	N 23 45.2 -00.3	184 39.8 -29.2	N 15 56.9 -11.4	05							
06	269 49.3 -00.2	N 23 21.3 +00.1	246 25.6 -00.8	N 23 44.9 -00.4	199 10.6 -29.1	N 15 45.5 -11.4	06							
07	284 49.1 -00.1	N 23 21.4 +00.1	261 24.8 -00.8	N 23 44.5 -00.3	213 41.5 -29.1	N 15 34.1 -11.5	07							
08	299 49.0 -00.1	N 23 21.5 +00.0	276 24.0 -00.9	N 23 44.2 -00.3	228 12.4 -29.1	N 15 22.6 -11.6	08							
09	314 48.9 -00.2	N 23 21.5 +00.1	291 23.1 -00.8	N 23 43.9 -00.3	242 43.3 -29.1	N 15 11.0 -11.7	09							
10	329 48.7 -00.1	N 23 21.6 +00.1	306 22.3 -00.9	N 23 43.6 -00.3	257 14.2 -29.0	N 14 59.3 -11.7	10							
11	344 48.6 -00.1	N 23 21.7 +00.1	321 21.4 -00.8	N 23 43.3 -00.4	271 45.2 -29.1	N 14 47.6 -11.9	11							
12	359 48.5 -00.2	N 23 21.8 +00.1	336 20.6 -00.9	N 23 42.9 -00.3	286 16.1 -28.9	N 14 35.7 -11.9	12							
13	14 48.3 -00.1	N 23 21.9 +00.0	351 19.7 -00.8	N 23 42.6 -00.3	300 47.2 -29.0	N 14 23.8 -12.0	13							
14	29 48.2 -00.1	N 23 21.9 +00.1	6 18.9 -00.8	N 23 42.3 -00.3	315 18.2 -28.9	N 14 11.8 -12.1	14							
15	44 48.1 -00.2	N 23 22.0 +00.1	21 18.1 -00.9	N 23 42.0 -00.4	329 49.3 -29.0	N 13 59.7 -12.1	15							
16	59 47.9 -00.1	N 23 22.1 +00.1	36 17.2 -00.8	N 23 41.6 -00.3	344 20.3 -28.8	N 13 47.6 -12.3	16							
17	74 47.8 -00.1	N 23 22.2 +00.1	51 16.4 -00.9	N 23 41.3 -00.3	358 51.5 -28.9	N 13 35.3 -12.3	17							
18	89 47.7 -00.2	N 23 22.3 +00.0	66 15.5 -00.8	N 23 41.0 -00.4	13 22.6 -28.8	N 13 23.0 -12.4	18							
19	104 47.5 -00.1	N 23 22.3 +00.1	81 14.7 -00.8	N 23 40.6 -00.3	27 53.8 -28.9	N 13 10.6 -12.5	19							
20	119 47.4 -00.2	N 23 22.4 +00.1	96 13.9 -00.9	N 23 40.3 -00.3	42 24.9 -28.7	N 12 58.1 -12.5	20							
21	134 47.2 -00.1	N 23 22.5 +00.1	111 13.0 -00.8	N 23 40.0 -00.4	56 56.2 -28.8	N 12 45.6 -12.6	21							
22	149 47.1 -00.1	N 23 22.6 +00.0	126 12.2 -00.9	N 23 39.6 -00.3	71 27.4 -28.8	N 12 33.0 -12.7	22							
23	164 47.0 -00.2	N 23 22.6 +00.1	141 11.3 -00.8	N 23 39.3 -00.3	85 58.6 -28.7	N 12 20.3 -12.8	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 275° 275° 275° 275° 275° 274°	Greenwich Culmination Time: 12:00	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 252° 252° 251° 251° 251° 251°	Greenwich Culmination Time: 13:34	UT 02 06 10 14 18 22	SD 15'4 15'5 15'5 15'5 15'6 15'6	HP 56'6 56'8 56'9 57'0 57'1 57'2	SHA 207° 204° 202° 200° 198° 196°	Greenwich Culmination Time: 17:04

UT	Mars				Jupiter				Saturn				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	139 08.8 +00.9	N 20 49.1 -00.4	290 00.0 +02.5	S 11 35.2 +00.0	308 44.2 +02.5	S 17 33.0 +00.0	00							
01	154 09.7 +00.8	N 20 48.7 -00.4	305 02.5 +02.4	S 11 35.2 +00.0	323 46.7 +02.6	S 17 33.0 +00.0	01							
02	169 10.5 +00.9	N 20 48.3 -00.3	320 04.9 +02.4	S 11 35.2 +00.0	338 49.3 +02.5	S 17 33.0 +00.1	02							
03	184 11.4 +00.9	N 20 48.0 -00.4	335 07.3 +02.4	S 11 35.2 +00.0	353 51.8 +02.6	S 17 33.1 +00.0	03							
04	199 12.3 +00.8	N 20 47.6 -00.4	350 09.7 +02.5	S 11 35.2 +00.0	8 54.4 +02.5	S 17 33.1 +00.0	04							
05	214 13.1 +00.9	N 20 47.2 -00.3	5 12.2 +02.4	S 11 35.2 +00.0	23 56.9 +02.6	S 17 33.1 +00.0	05							
06	229 14.0 +00.8	N 20 46.9 -00.4	20 14.6 +02.4	S 11 35.2 +00.0	38 59.5 +02.6	S 17 33.1 +00.1	06							
07	244 14.8 +00.9	N 20 46.5 -00.4	35 17.0 +02.5	S 11 35.2 +00.0	54 02.1 +02.5	S 17 33.2 +00.0	07							
08	259 15.7 +00.9	N 20 46.1 -00.3	50 19.5 +02.4	S 11 35.2 +00.0	69 04.6 +02.6	S 17 33.2 +00.0	08							
09	274 16.6 +00.8	N 20 45.8 -00.4	65 21.9 +02.4	S 11 35.2 +00.0	84 07.2 +02.5	S 17 33.2 +00.1	09							
10	289 17.4 +00.9	N 20 45.4 -00.4	80 24.3 +02.4	S 11 35.2 +00.0	99 09.7 +02.6	S 17 33.3 +00.0	10							
11	304 18.3 +00.9	N 20 45.0 -00.3	95 26.7 +02.5	S 11 35.2 +00.0	114 12.3 +02.5	S 17 33.3 +00.0	11							
12	319 19.2 +00.8	N 20 44.7 -00.4	110 29.2 +02.4	S 11 35.2 +00.0	129 14.8 +02.6	S 17 33.3 +00.1	12							
13	334 20.0 +00.9	N 20 44.3 -00.4	125 31.6 +02.4	S 11 35.2 +00.0	144 17.4 +02.6	S 17 33.4 +00.0	13							
14	349 20.9 +00.8	N 20 43.9 -00.3	140 34.0 +02.4	S 11 35.2 +00.0	159 20.0 +02.5	S 17 33.4 +00.0	14							
15	4 21.7 +00.9	N 20 43.6 -00.4	155 36.4 +02.5	S 11 35.2 +00.0	174 22.5 +02.6	S 17 33.4 +00.1	15							
16	19 22.6 +00.9	N 20 43.2 -00.4	170 38.9 +02.4	S 11 35.2 +00.0	189 25.1 +02.5	S 17 33.5 +00.0	16							
17	34 23.5 +00.8	N 20 42.8 -00.3	185 41.3 +02.4	S 11 35.2 +00.0	204 27.6 +02.6	S 17 33.5 +00.0	17							
18	49 24.3 +00.9	N 20 42.5 -00.4	200 43.7 +02.5	S 11 35.2 +00.0	219 30.2 +02.5	S 17 33.5 +00.1	18							
19	64 25.2 +00.9	N 20 42.1 -00.4	215 46.2 +02.4	S 11 35.2 +00.0	234 32.7 +02.6	S 17 33.6 +00.0	19							
20	79 26.1 +00.8	N 20 41.7 -00.3	230 48.6 +02.4	S 11 35.2 +00.0	249 35.3 +02.6	S 17 33.6 +00.0	20							
21	94 26.9 +00.9	N 20 41.4 -00.4	245 51.0 +02.5	S 11 35.2 +00.0	264 37.9 +02.5	S 17 33.6 +00.1	21							
22	109 27.8 +00.8	N 20 41.0 -00.4	260 53.5 +02.4	S 11 35.2 +00.0	279 40.4 +02.6	S 17 33.7 +00.0	22							
23	124 28.6 +00.9	N 20 40.6 -00.4	275 55.9 +02.4	S 11 35.2 +00.0	294 43.0 +02.5	S 17 33.7 +00.0	23							
UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 235° 235° 234° 234° 234° 234°	Greenwich Culmination Time: 14:42	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 026° 026° 026° 026° 026° 026°	Greenwich Culmination Time: 04:39	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 044° 044° 044° 044° 044° 044°	Greenwich Culmination Time: 03:24

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 46.8 -00.1	N 23 22.7 +00.1	156 10.5 -00.8	N 23 39.0 -00.4	100 29.9 -28.7	N 12 07.5 -12.8	00						
01	194 46.7 -00.1	N 23 22.8 +00.0	171 09.7 -00.9	N 23 38.6 -00.3	115 01.2 -28.7	N 11 54.7 -12.9	01						
02	209 46.6 -00.2	N 23 22.8 +00.1	186 08.8 -00.8	N 23 38.3 -00.4	129 32.5 -28.7	N 11 41.8 -13.0	02						
03	224 46.4 -00.1	N 23 22.9 +00.1	201 08.0 -00.8	N 23 37.9 -00.3	144 03.8 -28.7	N 11 28.8 -13.0	03						
04	239 46.3 -00.1	N 23 23.0 +00.0	216 07.2 -00.9	N 23 37.6 -00.4	158 35.1 -28.6	N 11 15.8 -13.1	04						
05	254 46.2 -00.2	N 23 23.0 +00.1	231 06.3 -00.8	N 23 37.2 -00.3	173 06.5 -28.6	N 11 02.7 -13.2	05						
06	269 46.0 -00.1	N 23 23.1 +00.1	246 05.5 -00.8	N 23 36.9 -00.3	187 37.9 -28.6	N 10 49.5 -13.3	06						
07	284 45.9 -00.1	N 23 23.2 +00.0	261 04.7 -00.9	N 23 36.6 -00.4	202 09.3 -28.7	N 10 36.2 -13.3	07						
08	299 45.8 -00.2	N 23 23.2 +00.1	276 03.8 -00.8	N 23 36.2 -00.3	216 40.6 -28.5	N 10 22.9 -13.3	08						
09	314 45.6 -00.1	N 23 23.3 +00.1	291 03.0 -00.8	N 23 35.9 -00.4	231 12.1 -28.6	N 10 09.6 -13.5	09						
10	329 45.5 -00.2	N 23 23.4 +00.0	306 02.2 -00.9	N 23 35.5 -00.3	245 43.5 -28.6	N 09 56.1 -13.5	10						
11	344 45.3 -00.1	N 23 23.4 +00.1	321 01.3 -00.8	N 23 35.2 -00.4	260 14.9 -28.6	N 09 42.6 -13.5	11						
12	359 45.2 -00.1	N 23 23.5 +00.1	336 00.5 -00.8	N 23 34.8 -00.4	274 46.3 -28.5	N 09 29.1 -13.6	12						
13	14 45.1 -00.2	N 23 23.6 +00.0	350 59.7 -00.9	N 23 34.4 -00.3	289 17.8 -28.5	N 09 15.5 -13.7	13						
14	29 44.9 -00.1	N 23 23.6 +00.1	5 58.8 -00.8	N 23 34.1 -00.4	303 49.3 -28.6	N 09 01.8 -13.7	14						
15	44 44.8 -00.1	N 23 23.7 +00.0	20 58.0 -00.8	N 23 33.7 -00.3	318 20.7 -28.5	N 08 48.1 -13.8	15						
16	59 44.7 -00.2	N 23 23.7 +00.1	35 57.2 -00.9	N 23 33.4 -00.4	332 52.2 -28.5	N 08 34.3 -13.8	16						
17	74 44.5 -00.1	N 23 23.8 +00.1	50 56.3 -00.8	N 23 33.0 -00.3	347 23.7 -28.6	N 08 20.5 -13.9	17						
18	89 44.4 -00.1	N 23 23.9 +00.0	65 55.5 -00.8	N 23 32.7 -00.4	1 55.1 -28.5	N 08 06.6 -14.0	18						
19	104 44.3 -00.2	N 23 23.9 +00.1	80 54.7 -00.9	N 23 32.3 -00.4	16 26.6 -28.5	N 07 52.6 -14.0	19						
20	119 44.1 -00.1	N 23 24.0 +00.0	95 53.8 -00.8	N 23 31.9 -00.3	30 58.1 -28.5	N 07 38.6 -14.0	20						
21	134 44.0 -00.1	N 23 24.0 +00.1	110 53.0 -00.8	N 23 31.6 -00.4	45 29.6 -28.5	N 07 24.6 -14.1	21						
22	149 43.9 -00.2	N 23 24.1 +00.0	125 52.2 -00.9	N 23 31.2 -00.4	60 01.1 -28.5	N 07 10.5 -14.2	22						
23	164 43.7 -00.1	N 23 24.1 +00.1	140 51.3 -00.8	N 23 30.8 -00.3	74 32.6 -28.6	N 06 56.3 -14.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'6 15'7 15'7 15'7 15'8 15'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 57'3 57'4 57'6 57'7 57'8 57'9								
	SHA 274° 274° 274° 274° 274° 273°		SHA 251° 250° 250° 250° 250° 249°		SHA 194° 192° 190° 188° 186° 184°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 13:36		Greenwich Culmination Time: 17:52								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	139 29.5 +00.9	N 20 40.2 -00.3	290 58.3 +02.5	S 11 35.2 +00.0	309 45.5 +02.6	S 17 33.7 +00.1	00						
01	154 30.4 +00.8	N 20 39.9 -00.4	306 00.8 +02.4	S 11 35.2 +00.0	324 48.1 +02.5	S 17 33.8 +00.0	01						
02	169 31.2 +00.9	N 20 39.5 -00.4	321 03.2 +02.4	S 11 35.2 +00.0	339 50.6 +02.6	S 17 33.8 +00.0	02						
03	184 32.1 +00.9	N 20 39.1 -00.3	336 05.6 +02.5	S 11 35.2 +00.0	354 53.2 +02.6	S 17 33.8 +00.1	03						
04	199 33.0 +00.8	N 20 38.8 -00.4	351 08.1 +02.4	S 11 35.2 +00.0	9 55.8 +02.5	S 17 33.9 +00.0	04						
05	214 33.8 +00.9	N 20 38.4 -00.4	6 10.5 +02.4	S 11 35.2 +00.0	24 58.3 +02.6	S 17 33.9 +00.0	05						
06	229 34.7 +00.9	N 20 38.0 -00.3	21 12.9 +02.5	S 11 35.2 +00.0	40 00.9 +02.5	S 17 33.9 +00.1	06						
07	244 35.6 +00.8	N 20 37.7 -00.4	36 15.4 +02.4	S 11 35.2 +00.0	55 03.4 +02.6	S 17 34.0 +00.0	07						
08	259 36.4 +00.9	N 20 37.3 -00.4	51 17.8 +02.4	S 11 35.2 +00.0	70 06.0 +02.6	S 17 34.0 +00.0	08						
09	274 37.3 +00.9	N 20 36.9 -00.4	66 20.2 +02.5	S 11 35.2 +00.0	85 08.6 +02.5	S 17 34.0 +00.1	09						
10	289 38.2 +00.8	N 20 36.5 -00.3	81 22.7 +02.4	S 11 35.2 +00.0	100 11.1 +02.6	S 17 34.1 +00.0	10						
11	304 39.0 +00.9	N 20 36.2 -00.4	96 25.1 +02.4	S 11 35.2 +00.0	115 13.7 +02.5	S 17 34.1 +00.0	11						
12	319 39.9 +00.8	N 20 35.8 -00.4	111 27.5 +02.5	S 11 35.2 +00.0	130 16.2 +02.6	S 17 34.1 +00.1	12						
13	334 40.7 +00.9	N 20 35.4 -00.4	126 30.0 +02.4	S 11 35.2 +00.0	145 18.8 +02.6	S 17 34.2 +00.0	13						
14	349 41.6 +00.9	N 20 35.0 -00.3	141 32.4 +02.4	S 11 35.2 +00.0	160 21.4 +02.5	S 17 34.2 +00.0	14						
15	4 42.5 +00.8	N 20 34.7 -00.4	156 34.8 +02.5	S 11 35.2 +00.0	175 23.9 +02.6	S 17 34.2 +00.1	15						
16	19 43.3 +00.9	N 20 34.3 -00.4	171 37.3 +02.4	S 11 35.2 +00.0	190 26.5 +02.5	S 17 34.3 +00.0	16						
17	34 44.2 +00.9	N 20 33.9 -00.4	186 39.7 +02.5	S 11 35.2 +00.0	205 29.0 +02.6	S 17 34.3 +00.0	17						
18	49 45.1 +00.8	N 20 33.5 -00.3	201 42.2 +02.4	S 11 35.2 +00.0	220 31.6 +02.6	S 17 34.3 +00.1	18						
19	64 45.9 +00.9	N 20 33.2 -00.4	216 44.6 +02.4	S 11 35.2 +00.0	235 34.2 +02.5	S 17 34.4 +00.0	19						
20	79 46.8 +00.9	N 20 32.8 -00.4	231 47.0 +02.5	S 11 35.2 +00.0	250 36.7 +02.6	S 17 34.4 +00.0	20						
21	94 47.7 +00.8	N 20 32.4 -00.4	246 49.5 +02.4	S 11 35.2 +00.0	265 39.3 +02.5	S 17 34.4 +00.1	21						
22	109 48.5 +00.9	N 20 32.0 -00.3	261 51.9 +02.4	S 11 35.2 +00.0	280 41.8 +02.6	S 17 34.5 +00.0	22						
23	124 49.4 +00.9	N 20 31.7 -00.4	276 54.3 +02.5	S 11 35.2 +00.0	295 44.4 +02.6	S 17 34.5 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'1 00'1 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 234° 234° 234° 234° 234° 233°		SHA 026° 026° 025° 025° 025° 025°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 14:41		Greenwich Culmination Time: 04:35		Greenwich Culmination Time: 03:20								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 43.6 -00.2	N 23 24.2 +00.1	155 50.5 -00.8	N 23 30.5 -00.4	89 04.0 -28.5	N 06 42.1 -14.2	00						
01	194 43.4 -00.1	N 23 24.3 +00.0	170 49.7 -00.8	N 23 30.1 -00.4	103 35.5 -28.5	N 06 27.9 -14.3	01						
02	209 43.3 -00.1	N 23 24.3 +00.1	185 48.9 -00.9	N 23 29.7 -00.3	118 07.0 -28.5	N 06 13.6 -14.4	02						
03	224 43.2 -00.2	N 23 24.4 +00.0	200 48.0 -00.8	N 23 29.4 -00.4	132 38.5 -28.6	N 05 59.2 -14.4	03						
04	239 43.0 -00.1	N 23 24.4 +00.1	215 47.2 -00.8	N 23 29.0 -00.4	147 09.9 -28.5	N 05 44.8 -14.4	04						
05	254 42.9 -00.1	N 23 24.5 +00.0	230 46.4 -00.9	N 23 28.6 -00.3	161 41.4 -28.6	N 05 30.4 -14.5	05						
06	269 42.8 -00.2	N 23 24.5 +00.1	245 45.5 -00.8	N 23 28.3 -00.4	176 12.8 -28.5	N 05 15.9 -14.5	06						
07	284 42.6 -00.1	N 23 24.6 +00.0	260 44.7 -00.8	N 23 27.9 -00.4	190 44.3 -28.6	N 05 01.4 -14.5	07						
08	299 42.5 -00.1	N 23 24.6 +00.1	275 43.9 -00.8	N 23 27.5 -00.4	205 15.7 -28.6	N 04 46.9 -14.6	08						
09	314 42.4 -00.2	N 23 24.7 +00.0	290 43.1 -00.9	N 23 27.1 -00.4	219 47.1 -28.6	N 04 32.3 -14.7	09						
10	329 42.2 -00.1	N 23 24.7 +00.1	305 42.2 -00.8	N 23 26.7 -00.3	234 18.5 -28.6	N 04 17.6 -14.6	10						
11	344 42.1 -00.1	N 23 24.8 +00.0	320 41.4 -00.8	N 23 26.4 -00.4	248 49.9 -28.6	N 04 03.0 -14.7	11						
12	359 42.0 -00.2	N 23 24.8 +00.0	335 40.6 -00.8	N 23 26.0 -00.4	263 21.3 -28.7	N 03 48.3 -14.8	12						
13	14 41.8 -00.1	N 23 24.8 +00.1	350 39.8 -00.9	N 23 25.6 -00.4	277 52.6 -28.7	N 03 33.5 -14.7	13						
14	29 41.7 -00.2	N 23 24.9 +00.0	5 38.9 -00.8	N 23 25.2 -00.4	292 23.9 -28.6	N 03 18.8 -14.8	14						
15	44 41.5 -00.1	N 23 24.9 +00.1	20 38.1 -00.8	N 23 24.8 -00.4	306 55.3 -28.7	N 03 04.0 -14.9	15						
16	59 41.4 -00.1	N 23 25.0 +00.0	35 37.3 -00.8	N 23 24.4 -00.3	321 26.6 -28.8	N 02 49.1 -14.9	16						
17	74 41.3 -00.2	N 23 25.0 +00.1	50 36.5 -00.9	N 23 24.1 -00.4	335 57.8 -28.7	N 02 34.2 -14.8	17						
18	89 41.1 -00.1	N 23 25.1 +00.0	65 35.6 -00.8	N 23 23.7 -00.4	350 29.1 -28.8	N 02 19.4 -15.0	18						
19	104 41.0 -00.1	N 23 25.1 +00.0	80 34.8 -00.8	N 23 23.3 -00.4	5 00.3 -28.8	N 02 04.4 -14.9	19						
20	119 40.9 -00.2	N 23 25.1 +00.1	95 34.0 -00.8	N 23 22.9 -00.4	19 31.5 -28.8	N 01 49.5 -15.0	20						
21	134 40.7 -00.1	N 23 25.2 +00.0	110 33.2 -00.8	N 23 22.5 -00.4	34 02.7 -28.8	N 01 34.5 -15.0	21						
22	149 40.6 -00.1	N 23 25.2 +00.1	125 32.4 -00.9	N 23 22.1 -00.4	48 33.9 -28.9	N 01 19.5 -15.0	22						
23	164 40.5 -00.2	N 23 25.3 +00.0	140 31.5 -00.8	N 23 21.7 -00.4	63 05.0 -28.9	N 01 04.5 -15.1	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 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'8 15'9 15'9 15'9 16'0 16'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 58'1 58'2 58'3 58'4 58'6 58'7								
	SHA 273° 273° 273° 273° 272° 272°		SHA 249° 249° 249° 249° 248° 248°		SHA 182° 180° 177° 175° 173° 171°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 13:37		Greenwich Culmination Time: 18:39								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	139 50.3 +00.8	N 20 31.3 -00.4	291 56.8 +02.4	S 11 35.2 +00.0	310 47.0 +02.5	S 17 34.5 +00.1	00						
01	154 51.1 +00.9	N 20 30.9 -00.4	306 59.2 +02.5	S 11 35.2 +00.0	325 49.5 +02.6	S 17 34.6 +00.0	01						
02	169 52.0 +00.9	N 20 30.5 -00.3	322 01.7 +02.4	S 11 35.2 +00.0	340 52.1 +02.6	S 17 34.6 +00.0	02						
03	184 52.9 +00.8	N 20 30.2 -00.4	337 04.1 +02.5	S 11 35.2 +00.0	355 54.7 +02.5	S 17 34.6 +00.1	03						
04	199 53.7 +00.9	N 20 29.8 -00.4	352 06.6 +02.4	S 11 35.2 +00.0	10 57.2 +02.6	S 17 34.7 +00.0	04						
05	214 54.6 +00.9	N 20 29.4 -00.4	7 09.0 +02.4	S 11 35.2 +00.0	25 59.8 +02.5	S 17 34.7 +00.0	05						
06	229 55.5 +00.8	N 20 29.0 -00.3	22 11.4 +02.5	S 11 35.2 +00.0	41 02.3 +02.6	S 17 34.7 +00.1	06						
07	244 56.3 +00.9	N 20 28.7 -00.4	37 13.9 +02.4	S 11 35.2 +00.0	56 04.9 +02.6	S 17 34.8 +00.0	07						
08	259 57.2 +00.9	N 20 28.3 -00.4	52 16.3 +02.5	S 11 35.2 +00.0	71 07.5 +02.5	S 17 34.8 +00.0	08						
09	274 58.1 +00.8	N 20 27.9 -00.4	67 18.8 +02.4	S 11 35.2 +00.1	86 10.0 +02.6	S 17 34.8 +00.1	09						
10	289 58.9 +00.9	N 20 27.5 -00.4	82 21.2 +02.4	S 11 35.3 +00.0	101 12.6 +02.6	S 17 34.9 +00.0	10						
11	304 59.8 +00.9	N 20 27.1 -00.3	97 23.6 +02.5	S 11 35.3 +00.0	116 15.2 +02.5	S 17 34.9 +00.0	11						
12	320 00.7 +00.8	N 20 26.8 -00.4	112 26.1 +02.4	S 11 35.3 +00.0	131 17.7 +02.6	S 17 34.9 +00.1	12						
13	335 01.5 +00.9	N 20 26.4 -00.4	127 28.5 +02.5	S 11 35.3 +00.0	146 20.3 +02.5	S 17 35.0 +00.0	13						
14	350 02.4 +00.9	N 20 26.0 -00.4	142 31.0 +02.4	S 11 35.3 +00.0	161 22.8 +02.6	S 17 35.0 +00.0	14						
15	5 03.3 +00.8	N 20 25.6 -00.3	157 33.4 +02.5	S 11 35.3 +00.0	176 25.4 +02.6	S 17 35.0 +00.1	15						
16	20 04.1 +00.9	N 20 25.3 -00.4	172 35.9 +02.4	S 11 35.3 +00.0	191 28.0 +02.5	S 17 35.1 +00.0	16						
17	35 05.0 +00.9	N 20 24.9 -00.4	187 38.3 +02.5	S 11 35.3 +00.0	206 30.5 +02.6	S 17 35.1 +00.0	17						
18	50 05.9 +00.9	N 20 24.5 -00.4	202 40.8 +02.4	S 11 35.3 +00.0	221 33.1 +02.6	S 17 35.1 +00.1	18						
19	65 06.8 +00.8	N 20 24.1 -00.4	217 43.2 +02.4	S 11 35.3 +00.0	236 35.7 +02.5	S 17 35.2 +00.0	19						
20	80 07.6 +00.9	N 20 23.7 -00.3	232 45.6 +02.5	S 11 35.3 +00.0	251 38.2 +02.6	S 17 35.2 +00.0	20						
21	95 08.5 +00.9	N 20 23.4 -00.4	247 48.1 +02.4	S 11 35.3 +00.0	266 40.8 +02.6	S 17 35.2 +00.1	21						
22	110 09.4 +00.8	N 20 23.0 -00.4	262 50.5 +02.5	S 11 35.3 +00.0	281 43.4 +02.5	S 17 35.3 +00.0	22						
23	125 10.2 +00.9	N 20 22.6 -00.4	277 53.0 +02.4	S 11 35.3 +00.0	296 45.9 +02.6	S 17 35.3 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 233° 233° 233° 233° 233° 233°		SHA 025° 025° 025° 025° 025° 025°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 14:39		Greenwich Culmination Time: 04:31		Greenwich Culmination Time: 03:16								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 37.1 -00.2	N 23 26.0 +00.0	155 11.1 -00.8	N 23 11.5 -00.4	65 50.6 -30.0	S 05 14.8 +15.2	00						
01	194 36.9 -00.1	N 23 26.0 +00.0	170 10.3 -00.8	N 23 11.1 -00.5	80 20.6 -30.1	S 05 30.0 +15.1	01						
02	209 36.8 -00.1	N 23 26.0 +00.0	185 09.5 -00.8	N 23 10.6 -00.4	94 50.5 -30.2	S 05 45.1 +15.1	02						
03	224 36.7 -00.2	N 23 26.0 +00.0	200 08.7 -00.8	N 23 10.2 -00.4	109 20.3 -30.2	S 06 00.2 +15.1	03						
04	239 36.5 -00.1	N 23 26.0 +00.1	215 07.9 -00.8	N 23 09.8 -00.4	123 50.1 -30.3	S 06 15.3 +15.1	04						
05	254 36.4 -00.2	N 23 26.1 +00.0	230 07.1 -00.8	N 23 09.4 -00.5	138 19.8 -30.3	S 06 30.4 +15.1	05						
06	269 36.2 -00.1	N 23 26.1 +00.0	245 06.3 -00.8	N 23 08.9 -00.4	152 49.5 -30.4	S 06 45.5 +15.1	06						
07	284 36.1 -00.1	N 23 26.1 +00.0	260 05.5 -00.8	N 23 08.5 -00.4	167 19.1 -30.5	S 07 00.6 +15.0	07						
08	299 36.0 -00.2	N 23 26.1 +00.0	275 04.7 -00.8	N 23 08.1 -00.5	181 48.6 -30.5	S 07 15.6 +15.0	08						
09	314 35.8 -00.1	N 23 26.1 +00.0	290 03.9 -00.8	N 23 07.6 -00.4	196 18.1 -30.7	S 07 30.6 +15.0	09						
10	329 35.7 -00.1	N 23 26.1 +00.0	305 03.1 -00.8	N 23 07.2 -00.4	210 47.4 -30.7	S 07 45.6 +14.9	10						
11	344 35.6 -00.2	N 23 26.1 +00.1	320 02.3 -00.9	N 23 06.8 -00.5	225 16.7 -30.7	S 08 00.5 +15.0	11						
12	359 35.4 -00.1	N 23 26.2 +00.0	335 01.4 -00.8	N 23 06.3 -00.4	239 46.0 -30.9	S 08 15.5 +14.8	12						
13	14 35.3 -00.1	N 23 26.2 +00.0	350 00.6 -00.8	N 23 05.9 -00.5	254 15.1 -30.9	S 08 30.3 +14.9	13						
14	29 35.2 -00.2	N 23 26.2 +00.0	4 59.8 -00.8	N 23 05.4 -00.4	268 44.2 -31.0	S 08 45.2 +14.8	14						
15	44 35.0 -00.1	N 23 26.2 +00.0	19 59.0 -00.8	N 23 05.0 -00.4	283 13.2 -31.0	S 09 00.0 +14.8	15						
16	59 34.9 -00.1	N 23 26.2 +00.0	34 58.2 -00.8	N 23 04.6 -00.5	297 42.2 -31.2	S 09 14.8 +14.8	16						
17	74 34.8 -00.2	N 23 26.2 +00.0	49 57.4 -00.8	N 23 04.1 -00.4	312 11.0 -31.2	S 09 29.6 +14.7	17						
18	89 34.6 -00.1	N 23 26.2 +00.0	64 56.6 -00.8	N 23 03.7 -00.5	326 39.8 -31.3	S 09 44.3 +14.6	18						
19	104 34.5 -00.1	N 23 26.2 +00.0	79 55.8 -00.8	N 23 03.2 -00.4	341 08.5 -31.4	S 09 58.9 +14.6	19						
20	119 34.4 -00.2	N 23 26.2 +00.0	94 55.0 -00.8	N 23 02.8 -00.5	355 37.1 -31.4	S 10 13.5 +14.6	20						
21	134 34.2 -00.1	N 23 26.2 +00.0	109 54.2 -00.8	N 23 02.3 -00.4	10 05.7 -31.6	S 10 28.1 +14.6	21						
22	149 34.1 -00.2	N 23 26.2 +00.0	124 53.4 -00.8	N 23 01.9 -00.5	24 34.1 -31.6	S 10 42.7 +14.4	22						
23	164 33.9 -00.1	N 23 26.2 +00.0	139 52.6 -00.8	N 23 01.4 -00.4	39 02.5 -31.7	S 10 57.1 +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 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'2 16'3 16'3 16'3 16'3 16'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 59'5 59'7 59'8 59'9 60'0 60'1								
	SHA 271° 271° 271° 271° 270° 270°		SHA 247° 246° 246° 246° 246° 246°		SHA 156° 154° 152° 150° 147° 145°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 13:39		Greenwich Culmination Time: 20:18								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	140 32.0 +00.9	N 20 13.0 -00.4	293 54.3 +02.4	S 11 35.5 +00.0	312 50.1 +02.6	S 17 36.2 +00.0	00						
01	155 32.9 +00.8	N 20 12.6 -00.4	308 56.7 +02.5	S 11 35.5 +00.0	327 52.7 +02.5	S 17 36.2 +00.1	01						
02	170 33.7 +00.9	N 20 12.2 -00.4	323 59.2 +02.4	S 11 35.5 +00.0	342 55.2 +02.6	S 17 36.3 +00.0	02						
03	185 34.6 +00.9	N 20 11.8 -00.4	339 01.6 +02.5	S 11 35.5 +00.0	357 57.8 +02.6	S 17 36.3 +00.0	03						
04	200 35.5 +00.8	N 20 11.4 -00.4	354 04.1 +02.4	S 11 35.5 +00.1	13 00.4 +02.5	S 17 36.3 +00.1	04						
05	215 36.3 +00.9	N 20 11.0 -00.3	9 06.5 +02.5	S 11 35.6 +00.0	28 02.9 +02.6	S 17 36.4 +00.0	05						
06	230 37.2 +00.9	N 20 10.7 -00.4	24 09.0 +02.5	S 11 35.6 +00.0	43 05.5 +02.6	S 17 36.4 +00.0	06						
07	245 38.1 +00.9	N 20 10.3 -00.4	39 11.5 +02.4	S 11 35.6 +00.0	58 08.1 +02.5	S 17 36.4 +00.1	07						
08	260 39.0 +00.8	N 20 09.9 -00.4	54 13.9 +02.5	S 11 35.6 +00.0	73 10.6 +02.6	S 17 36.5 +00.0	08						
09	275 39.8 +00.9	N 20 09.5 -00.4	69 16.4 +02.4	S 11 35.6 +00.0	88 13.2 +02.6	S 17 36.5 +00.0	09						
10	290 40.7 +00.9	N 20 09.1 -00.4	84 18.8 +02.5	S 11 35.6 +00.0	103 15.8 +02.6	S 17 36.5 +00.1	10						
11	305 41.6 +00.9	N 20 08.7 -00.4	99 21.3 +02.5	S 11 35.6 +00.0	118 18.4 +02.5	S 17 36.6 +00.0	11						
12	320 42.5 +00.8	N 20 08.3 -00.4	114 23.8 +02.4	S 11 35.6 +00.0	133 20.9 +02.6	S 17 36.6 +00.0	12						
13	335 43.3 +00.9	N 20 07.9 -00.4	129 26.2 +02.5	S 11 35.6 +00.0	148 23.5 +02.6	S 17 36.6 +00.1	13						
14	350 44.2 +00.9	N 20 07.5 -00.3	144 28.7 +02.4	S 11 35.6 +00.1	163 26.1 +02.5	S 17 36.7 +00.0	14						
15	5 45.1 +00.8	N 20 07.2 -00.4	159 31.1 +02.5	S 11 35.7 +00.0	178 28.6 +02.6	S 17 36.7 +00.1	15						
16	20 45.9 +00.9	N 20 06.8 -00.4	174 33.6 +02.4	S 11 35.7 +00.0	193 31.2 +02.6	S 17 36.8 +00.0	16						
17	35 46.8 +00.9	N 20 06.4 -00.4	189 36.0 +02.5	S 11 35.7 +00.0	208 33.8 +02.5	S 17 36.8 +00.0	17						
18	50 47.7 +00.9	N 20 06.0 -00.4	204 38.5 +02.5	S 11 35.7 +00.0	223 36.3 +02.6	S 17 36.8 +00.1	18						
19	65 48.6 +00.8	N 20 05.6 -00.4	219 41.0 +02.4	S 11 35.7 +00.0	238 38.9 +02.6	S 17 36.9 +00.0	19						
20	80 49.4 +00.9	N 20 05.2 -00.4	234 43.4 +02.5	S 11 35.7 +00.0	253 41.5 +02.6	S 17 36.9 +00.0	20						
21	95 50.3 +00.9	N 20 04.8 -00.4	249 45.9 +02.5	S 11 35.7 +00.0	268 44.1 +02.5	S 17 36.9 +00.1	21						
22	110 51.2 +00.9	N 20 04.4 -00.4	264 48.4 +02.4	S 11 35.7 +00.0	283 46.6 +02.6	S 17 37.0 +00.0	22						
23	125 52.1 +00.8	N 20 04.0 -00.4	279 50.8 +02.5	S 11 35.7 +00.1	298 49.2 +02.6	S 17 37.0 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 232° 232° 232° 232° 232° 232°		SHA 025° 025° 025° 025° 025° 025°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 14:37		Greenwich Culmination Time: 04:23		Greenwich Culmination Time: 03:08								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 33.8 -00.1	N 23 26.2 +00.0	154 51.8 -00.8	N 23 01.0 -00.5	53 30.8 -31.8	S 11 11.6 +14.3	00						
01	194 33.7 -00.2	N 23 26.2 +00.0	169 51.0 -00.8	N 23 00.5 -00.4	67 59.0 -31.9	S 11 25.9 +14.4	01						
02	209 33.5 -00.1	N 23 26.2 +00.0	184 50.2 -00.8	N 23 00.1 -00.5	82 27.1 -32.0	S 11 40.3 +14.2	02						
03	224 33.4 -00.1	N 23 26.2 +00.0	199 49.4 -00.8	N 22 59.6 -00.4	96 55.1 -32.1	S 11 54.5 +14.2	03						
04	239 33.3 -00.2	N 23 26.2 +00.0	214 48.6 -00.8	N 22 59.2 -00.5	111 23.0 -32.1	S 12 08.7 +14.2	04						
05	254 33.1 -00.1	N 23 26.2 +00.0	229 47.8 -00.8	N 22 58.7 -00.4	125 50.9 -32.3	S 12 22.9 +14.1	05						
06	269 33.0 -00.1	N 23 26.2 +00.0	244 47.0 -00.8	N 22 58.3 -00.5	140 18.6 -32.3	S 12 37.0 +14.0	06						
07	284 32.9 -00.2	N 23 26.2 +00.0	259 46.2 -00.8	N 22 57.8 -00.5	154 46.3 -32.5	S 12 51.0 +13.9	07						
08	299 32.7 -00.1	N 23 26.2 +00.0	274 45.4 -00.8	N 22 57.3 -00.4	169 13.8 -32.5	S 13 04.9 +13.9	08						
09	314 32.6 -00.1	N 23 26.2 +00.0	289 44.6 -00.8	N 22 56.9 -00.5	183 41.3 -32.6	S 13 18.8 +13.9	09						
10	329 32.5 -00.2	N 23 26.2 +00.0	304 43.8 -00.8	N 22 56.4 -00.4	198 08.7 -32.7	S 13 32.7 +13.7	10						
11	344 32.3 -00.1	N 23 26.2 +00.0	319 43.0 -00.8	N 22 56.0 -00.5	212 36.0 -32.8	S 13 46.4 +13.7	11						
12	359 32.2 -00.1	N 23 26.2 +00.0	334 42.2 -00.8	N 22 55.5 -00.5	227 03.2 -33.0	S 14 00.1 +13.6	12						
13	14 32.1 -00.2	N 23 26.2 +00.0	349 41.4 -00.8	N 22 55.0 -00.4	241 30.2 -33.0	S 14 13.7 +13.5	13						
14	29 31.9 -00.1	N 23 26.2 +00.0	4 40.6 -00.8	N 22 54.6 -00.5	255 57.2 -33.1	S 14 27.2 +13.4	14						
15	44 31.8 -00.2	N 23 26.2 +00.0	19 39.8 -00.8	N 22 54.1 -00.5	270 24.1 -33.2	S 14 40.6 +13.4	15						
16	59 31.6 -00.1	N 23 26.2 +00.0	34 39.0 -00.7	N 22 53.6 -00.4	284 50.9 -33.3	S 14 54.0 +13.3	16						
17	74 31.5 -00.1	N 23 26.2 +00.0	49 38.3 -00.8	N 22 53.2 -00.5	299 17.6 -33.3	S 15 07.3 +13.2	17						
18	89 31.4 -00.2	N 23 26.2 +00.0	64 37.5 -00.8	N 22 52.7 -00.5	313 44.3 -33.5	S 15 20.5 +13.1	18						
19	104 31.2 -00.1	N 23 26.2 -00.1	79 36.7 -00.8	N 22 52.2 -00.5	328 10.8 -33.6	S 15 33.6 +13.0	19						
20	119 31.1 -00.1	N 23 26.1 +00.0	94 35.9 -00.8	N 22 51.7 -00.4	342 37.2 -33.7	S 15 46.6 +12.9	20						
21	134 31.0 -00.2	N 23 26.1 +00.0	109 35.1 -00.8	N 22 51.3 -00.5	357 03.5 -33.8	S 15 59.5 +12.9	21						
22	149 30.8 -00.1	N 23 26.1 +00.0	124 34.3 -00.8	N 22 50.8 -00.5	11 29.7 -33.9	S 16 12.4 +12.7	22						
23	164 30.7 -00.1	N 23 26.1 +00.0	139 33.5 -00.8	N 22 50.3 -00.5	25 55.8 -34.0	S 16 25.1 +12.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'4 16'4 16'4 16'5 16'5 16'5								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'2 60'3 60'4 60'4 60'5 60'6								
	SHA 270° 270° 270° 270° 269° 269°		SHA 245° 245° 245° 245° 244° 244°		SHA 143° 141° 138° 136° 134° 131°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 13:41		Greenwich Culmination Time: 21:12								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	140 52.9 +00.9	N 20 03.6 -00.4	294 53.3 +02.4	S 11 35.8 +00.0	313 51.8 +02.5	S 17 37.0 +00.1	00						
01	155 53.8 +00.9	N 20 03.2 -00.4	309 55.7 +02.5	S 11 35.8 +00.0	328 54.3 +02.6	S 17 37.1 +00.0	01						
02	170 54.7 +00.9	N 20 02.8 -00.3	324 58.2 +02.5	S 11 35.8 +00.0	343 56.9 +02.6	S 17 37.1 +00.0	02						
03	185 55.6 +00.8	N 20 02.5 -00.4	340 00.7 +02.4	S 11 35.8 +00.0	358 59.5 +02.6	S 17 37.1 +00.1	03						
04	200 56.4 +00.9	N 20 02.1 -00.4	355 03.1 +02.5	S 11 35.8 +00.0	14 02.1 +02.5	S 17 37.2 +00.0	04						
05	215 57.3 +00.9	N 20 01.7 -00.4	10 05.6 +02.5	S 11 35.8 +00.0	29 04.6 +02.6	S 17 37.2 +00.1	05						
06	230 58.2 +00.9	N 20 01.3 -00.4	25 08.1 +02.4	S 11 35.8 +00.0	44 07.2 +02.6	S 17 37.3 +00.0	06						
07	245 59.1 +00.8	N 20 00.9 -00.4	40 10.5 +02.5	S 11 35.8 +00.1	59 09.8 +02.6	S 17 37.3 +00.0	07						
08	260 59.9 +00.9	N 20 00.5 -00.4	55 13.0 +02.5	S 11 35.9 +00.0	74 12.4 +02.5	S 17 37.3 +00.1	08						
09	276 00.8 +00.9	N 20 00.1 -00.4	70 15.5 +02.4	S 11 35.9 +00.0	89 14.9 +02.6	S 17 37.4 +00.0	09						
10	291 01.7 +00.9	N 19 59.7 -00.4	85 17.9 +02.5	S 11 35.9 +00.0	104 17.5 +02.6	S 17 37.4 +00.0	10						
11	306 02.6 +00.8	N 19 59.3 -00.4	100 20.4 +02.5	S 11 35.9 +00.0	119 20.1 +02.5	S 17 37.4 +00.1	11						
12	321 03.4 +00.9	N 19 58.9 -00.4	115 22.9 +02.4	S 11 35.9 +00.0	134 22.6 +02.6	S 17 37.5 +00.0	12						
13	336 04.3 +00.9	N 19 58.5 -00.4	130 25.3 +02.5	S 11 35.9 +00.0	149 25.2 +02.6	S 17 37.5 +00.1	13						
14	351 05.2 +00.9	N 19 58.1 -00.4	145 27.8 +02.5	S 11 35.9 +00.1	164 27.8 +02.6	S 17 37.6 +00.0	14						
15	6 06.1 +00.8	N 19 57.7 -00.4	160 30.3 +02.4	S 11 36.0 +00.0	179 30.4 +02.5	S 17 37.6 +00.0	15						
16	21 06.9 +00.9	N 19 57.3 -00.4	175 32.7 +02.5	S 11 36.0 +00.0	194 32.9 +02.6	S 17 37.6 +00.1	16						
17	36 07.8 +00.9	N 19 56.9 -00.4	190 35.2 +02.5	S 11 36.0 +00.0	209 35.5 +02.6	S 17 37.7 +00.0	17						
18	51 08.7 +00.9	N 19 56.5 -00.4	205 37.7 +02.4	S 11 36.0 +00.0	224 38.1 +02.6	S 17 37.7 +00.0	18						
19	66 09.6 +00.9	N 19 56.1 -00.4	220 40.1 +02.5	S 11 36.0 +00.0	239 40.7 +02.5	S 17 37.7 +00.1	19						
20	81 10.5 +00.8	N 19 55.7 -00.4	235 42.6 +02.5	S 11 36.0 +00.0	254 43.2 +02.6	S 17 37.8 +00.0	20						
21	96 11.3 +00.9	N 19 55.3 -00.4	250 45.1 +02.4	S 11 36.0 +00.0	269 45.8 +02.6	S 17 37.8 +00.0	21						
22	111 12.2 +00.9	N 19 54.9 -00.4	265 47.5 +02.5	S 11 36.0 +00.1	284 48.4 +02.6	S 17 37.8 +00.1	22						
23	126 13.1 +00.9	N 19 54.5 -00.4	280 50.0 +02.5	S 11 36.1 +00.0	299 51.0 +02.5	S 17 37.9 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 231° 231° 231° 231° 231° 231°		SHA 025° 025° 025° 025° 025° 025°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 14:35		Greenwich Culmination Time: 04:19		Greenwich Culmination Time: 03:04								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 30.6 -00.2	N 23 26.1 +00.0	154 32.7 -00.8	N 22 49.8 -00.5	40 21.8 -34.1	S 16 37.7 +12.6	00						
01	194 30.4 -00.1	N 23 26.1 +00.0	169 31.9 -00.8	N 22 49.3 -00.4	54 47.7 -34.2	S 16 50.3 +12.4	01						
02	209 30.3 -00.1	N 23 26.1 -00.1	184 31.1 -00.8	N 22 48.9 -00.5	69 13.5 -34.3	S 17 02.7 +12.4	02						
03	224 30.2 -00.2	N 23 26.0 +00.0	199 30.3 -00.8	N 22 48.4 -00.5	83 39.2 -34.4	S 17 15.1 +12.2	03						
04	239 30.0 -00.1	N 23 26.0 +00.0	214 29.5 -00.7	N 22 47.9 -00.5	98 04.8 -34.5	S 17 27.3 +12.1	04						
05	254 29.9 -00.1	N 23 26.0 +00.0	229 28.8 -00.8	N 22 47.4 -00.5	112 30.3 -34.6	S 17 39.4 +12.0	05						
06	269 29.8 -00.2	N 23 26.0 +00.0	244 28.0 -00.8	N 22 46.9 -00.4	126 55.7 -34.7	S 17 51.4 +11.9	06						
07	284 29.6 -00.1	N 23 26.0 +00.0	259 27.2 -00.8	N 22 46.5 -00.5	141 21.0 -34.8	S 18 03.3 +11.8	07						
08	299 29.5 -00.1	N 23 26.0 -00.1	274 26.4 -00.8	N 22 46.0 -00.5	155 46.2 -34.9	S 18 15.1 +11.7	08						
09	314 29.4 -00.2	N 23 25.9 +00.0	289 25.6 -00.8	N 22 45.5 -00.5	170 11.3 -35.1	S 18 26.8 +11.6	09						
10	329 29.2 -00.1	N 23 25.9 +00.0	304 24.8 -00.8	N 22 45.0 -00.5	184 36.2 -35.1	S 18 38.4 +11.4	10						
11	344 29.1 -00.1	N 23 25.9 +00.0	319 24.0 -00.7	N 22 44.5 -00.5	199 01.1 -35.2	S 18 49.8 +11.3	11						
12	359 29.0 -00.2	N 23 25.9 -00.1	334 23.3 -00.8	N 22 44.0 -00.5	213 25.9 -35.3	S 19 01.1 +11.2	12						
13	14 28.8 -00.1	N 23 25.8 +00.0	349 22.5 -00.8	N 22 43.5 -00.5	227 50.6 -35.4	S 19 12.3 +11.1	13						
14	29 28.7 -00.2	N 23 25.8 +00.0	4 21.7 -00.8	N 22 43.0 -00.5	242 15.2 -35.5	S 19 23.4 +10.9	14						
15	44 28.5 -00.1	N 23 25.8 +00.0	19 20.9 -00.8	N 22 42.5 -00.5	256 39.7 -35.6	S 19 34.3 +10.8	15						
16	59 28.4 -00.1	N 23 25.8 -00.1	34 20.1 -00.8	N 22 42.0 -00.5	271 04.1 -35.7	S 19 45.1 +10.7	16						
17	74 28.3 -00.2	N 23 25.7 +00.0	49 19.3 -00.7	N 22 41.5 -00.5	285 28.4 -35.9	S 19 55.8 +10.6	17						
18	89 28.1 -00.1	N 23 25.7 +00.0	64 18.6 -00.8	N 22 41.0 -00.5	299 52.5 -35.9	S 20 06.4 +10.4	18						
19	104 28.0 -00.1	N 23 25.7 +00.0	79 17.8 -00.8	N 22 40.5 -00.5	314 16.6 -36.0	S 20 16.8 +10.3	19						
20	119 27.9 -00.2	N 23 25.7 -00.1	94 17.0 -00.8	N 22 40.0 -00.5	328 40.6 -36.1	S 20 27.1 +10.1	20						
21	134 27.7 -00.1	N 23 25.6 +00.0	109 16.2 -00.8	N 22 39.5 -00.5	343 04.5 -36.2	S 20 37.2 +10.0	21						
22	149 27.6 -00.1	N 23 25.6 +00.0	124 15.4 -00.8	N 22 39.0 -00.5	357 28.3 -36.3	S 20 47.2 +09.9	22						
23	164 27.5 -00.2	N 23 25.6 -00.1	139 14.6 -00.7	N 22 38.5 -00.5	11 52.0 -36.3	S 20 57.1 +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 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'5 16'5 16'6 16'6 16'6 16'6								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'6 60'7 60'7 60'8 60'8 60'9								
	SHA 269° 269° 269° 269° 268° 268°		SHA 244° 244° 244° 243° 243° 243°		SHA 129° 126° 124° 121° 119° 116°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 13:42		Greenwich Culmination Time: 22:10								
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	141 14.0 +00.8	N 19 54.1 -00.4	295 52.5 +02.4	S 11 36.1 +00.0	314 53.5 +02.6	S 17 37.9 +00.1	00						
01	156 14.8 +00.9	N 19 53.7 -00.4	310 54.9 +02.5	S 11 36.1 +00.0	329 56.1 +02.6	S 17 38.0 +00.0	01						
02	171 15.7 +00.9	N 19 53.3 -00.4	325 57.4 +02.5	S 11 36.1 +00.0	344 58.7 +02.6	S 17 38.0 +00.0	02						
03	186 16.6 +00.9	N 19 52.9 -00.4	340 59.9 +02.5	S 11 36.1 +00.0	0 01.3 +02.5	S 17 38.0 +00.1	03						
04	201 17.5 +00.8	N 19 52.5 -00.4	356 02.4 +02.4	S 11 36.1 +00.1	15 03.8 +02.6	S 17 38.1 +00.0	04						
05	216 18.3 +00.9	N 19 52.1 -00.4	11 04.8 +02.5	S 11 36.2 +00.0	30 06.4 +02.6	S 17 38.1 +00.0	05						
06	231 19.2 +00.9	N 19 51.7 -00.4	26 07.3 +02.5	S 11 36.2 +00.0	45 09.0 +02.6	S 17 38.1 +00.1	06						
07	246 20.1 +00.9	N 19 51.3 -00.4	41 09.8 +02.4	S 11 36.2 +00.0	60 11.6 +02.5	S 17 38.2 +00.0	07						
08	261 21.0 +00.9	N 19 50.9 -00.4	56 12.2 +02.5	S 11 36.2 +00.0	75 14.1 +02.6	S 17 38.2 +00.1	08						
09	276 21.9 +00.8	N 19 50.5 -00.4	71 14.7 +02.5	S 11 36.2 +00.0	90 16.7 +02.6	S 17 38.3 +00.0	09						
10	291 22.7 +00.9	N 19 50.1 -00.4	86 17.2 +02.5	S 11 36.2 +00.0	105 19.3 +02.6	S 17 38.3 +00.0	10						
11	306 23.6 +00.9	N 19 49.7 -00.4	101 19.7 +02.4	S 11 36.2 +00.1	120 21.9 +02.5	S 17 38.3 +00.1	11						
12	321 24.5 +00.9	N 19 49.3 -00.4	116 22.1 +02.5	S 11 36.3 +00.0	135 24.4 +02.6	S 17 38.4 +00.0	12						
13	336 25.4 +00.8	N 19 48.9 -00.4	131 24.6 +02.5	S 11 36.3 +00.0	150 27.0 +02.6	S 17 38.4 +00.0	13						
14	351 26.2 +00.9	N 19 48.5 -00.4	146 27.1 +02.5	S 11 36.3 +00.0	165 29.6 +02.6	S 17 38.4 +00.1	14						
15	6 27.1 +00.9	N 19 48.1 -00.4	161 29.6 +02.4	S 11 36.3 +00.0	180 32.2 +02.6	S 17 38.5 +00.0	15						
16	21 28.0 +00.9	N 19 47.7 -00.4	176 32.0 +02.5	S 11 36.3 +00.0	195 34.8 +02.5	S 17 38.5 +00.1	16						
17	36 28.9 +00.9	N 19 47.3 -00.4	191 34.5 +02.5	S 11 36.3 +00.1	210 37.3 +02.6	S 17 38.6 +00.0	17						
18	51 29.8 +00.8	N 19 46.9 -00.4	206 37.0 +02.5	S 11 36.4 +00.0	225 39.9 +02.6	S 17 38.6 +00.0	18						
19	66 30.6 +00.9	N 19 46.5 -00.4	221 39.5 +02.4	S 11 36.4 +00.0	240 42.5 +02.6	S 17 38.6 +00.1	19						
20	81 31.5 +00.9	N 19 46.1 -00.4	236 41.9 +02.5	S 11 36.4 +00.0	255 45.1 +02.5	S 17 38.7 +00.0	20						
21	96 32.4 +00.9	N 19 45.7 -00.4	251 44.4 +02.5	S 11 36.4 +00.0	270 47.6 +02.6	S 17 38.7 +00.0	21						
22	111 33.3 +00.9	N 19 45.3 -00.4	266 46.9 +02.5	S 11 36.4 +00.0	285 50.2 +02.6	S 17 38.7 +00.1	22						
23	126 34.2 +00.8	N 19 44.9 -00.4	281 49.4 +02.5	S 11 36.4 +00.1	300 52.8 +02.6	S 17 38.8 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 231° 231° 231° 230° 230° 230°		SHA 025° 025° 025° 025° 025° 025°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 14:34		Greenwich Culmination Time: 04:15		Greenwich Culmination Time: 02:59								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 27.3 -00.1	N 23 25.5 +00.0	154 13.9 -00.8	N 22 38.0 -00.5	26 15.7 -36.5	S 21 06.8 +09.6	00						
01	194 27.2 -00.1	N 23 25.5 +00.0	169 13.1 -00.8	N 22 37.5 -00.5	40 39.2 -36.6	S 21 16.4 +09.4	01						
02	209 27.1 -00.2	N 23 25.5 -00.1	184 12.3 -00.8	N 22 37.0 -00.5	55 02.6 -36.6	S 21 25.8 +09.3	02						
03	224 26.9 -00.1	N 23 25.4 +00.0	199 11.5 -00.8	N 22 36.5 -00.5	69 26.0 -36.8	S 21 35.1 +09.1	03						
04	239 26.8 -00.1	N 23 25.4 +00.0	214 10.7 -00.7	N 22 36.0 -00.5	83 49.2 -36.8	S 21 44.2 +08.9	04						
05	254 26.7 -00.2	N 23 25.4 -00.1	229 10.0 -00.8	N 22 35.5 -00.5	98 12.4 -36.9	S 21 53.1 +08.9	05						
06	269 26.5 -00.1	N 23 25.3 +00.0	244 09.2 -00.8	N 22 35.0 -00.5	112 35.5 -37.1	S 22 02.0 +08.6	06						
07	284 26.4 -00.1	N 23 25.3 +00.0	259 08.4 -00.8	N 22 34.5 -00.6	126 58.4 -37.0	S 22 10.6 +08.5	07						
08	299 26.3 -00.2	N 23 25.3 -00.1	274 07.6 -00.7	N 22 33.9 -00.5	141 21.4 -37.2	S 22 19.1 +08.3	08						
09	314 26.1 -00.1	N 23 25.2 +00.0	289 06.9 -00.8	N 22 33.4 -00.5	155 44.2 -37.3	S 22 27.4 +08.2	09						
10	329 26.0 -00.1	N 23 25.2 -00.1	304 06.1 -00.8	N 22 32.9 -00.5	170 06.9 -37.3	S 22 35.6 +08.0	10						
11	344 25.9 -00.2	N 23 25.1 +00.0	319 05.3 -00.8	N 22 32.4 -00.5	184 29.6 -37.4	S 22 43.6 +07.9	11						
12	359 25.7 -00.1	N 23 25.1 +00.0	334 04.5 -00.7	N 22 31.9 -00.5	198 52.2 -37.5	S 22 51.5 +07.7	12						
13	14 25.6 -00.1	N 23 25.1 -00.1	349 03.8 -00.8	N 22 31.4 -00.6	213 14.7 -37.6	S 22 59.2 +07.5	13						
14	29 25.5 -00.2	N 23 25.0 +00.0	4 03.0 -00.8	N 22 30.8 -00.5	227 37.1 -37.6	S 23 06.7 +07.3	14						
15	44 25.3 -00.1	N 23 25.0 -00.1	19 02.2 -00.8	N 22 30.3 -00.5	241 59.5 -37.7	S 23 14.0 +07.2	15						
16	59 25.2 -00.1	N 23 24.9 +00.0	34 01.4 -00.7	N 22 29.8 -00.5	256 21.8 -37.8	S 23 21.2 +07.0	16						
17	74 25.1 -00.2	N 23 24.9 -00.1	49 00.7 -00.8	N 22 29.3 -00.6	270 44.0 -37.8	S 23 28.2 +06.8	17						
18	89 24.9 -00.1	N 23 24.8 +00.0	63 59.9 -00.8	N 22 28.7 -00.5	285 06.2 -37.9	S 23 35.0 +06.7	18						
19	104 24.8 -00.1	N 23 24.8 -00.1	78 59.1 -00.7	N 22 28.2 -00.5	299 28.3 -38.0	S 23 41.7 +06.5	19						
20	119 24.7 -00.2	N 23 24.7 +00.0	93 58.4 -00.8	N 22 27.7 -00.5	313 50.3 -38.0	S 23 48.2 +06.3	20						
21	134 24.5 -00.1	N 23 24.7 +00.0	108 57.6 -00.8	N 22 27.2 -00.6	328 12.3 -38.1	S 23 54.5 +06.1	21						
22	149 24.4 -00.1	N 23 24.7 -00.1	123 56.8 -00.8	N 22 26.6 -00.5	342 34.2 -38.2	S 24 00.6 +06.0	22						
23	164 24.3 -00.2	N 23 24.6 +00.0	138 56.0 -00.7	N 22 26.1 -00.5	356 56.0 -38.2	S 24 06.6 +05.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		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 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'9 60'9 60'9 60'9 60'9 60'9								
	SHA 268° 268° 268° 267° 267° 267°		SHA 243° 243° 242° 242° 242° 242°		SHA 114° 111° 108° 106° 103° 100°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 13:43		Greenwich Culmination Time: 23:12								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	141 35.0 +00.9	N 19 44.5 -00.4	296 51.9 +02.4	S 11 36.5 +00.0	315 55.4 +02.6	S 17 38.8 +00.1	00						
01	156 35.9 +00.9	N 19 44.1 -00.4	311 54.3 +02.5	S 11 36.5 +00.0	330 58.0 +02.5	S 17 38.9 +00.0	01						
02	171 36.8 +00.9	N 19 43.7 -00.4	326 56.8 +02.5	S 11 36.5 +00.0	346 00.5 +02.6	S 17 38.9 +00.0	02						
03	186 37.7 +00.9	N 19 43.3 -00.4	341 59.3 +02.5	S 11 36.5 +00.0	1 03.1 +02.6	S 17 38.9 +00.1	03						
04	201 38.6 +00.8	N 19 42.9 -00.4	357 01.8 +02.4	S 11 36.5 +00.1	16 05.7 +02.6	S 17 39.0 +00.0	04						
05	216 39.4 +00.9	N 19 42.5 -00.4	12 04.2 +02.5	S 11 36.6 +00.0	31 08.3 +02.6	S 17 39.0 +00.0	05						
06	231 40.3 +00.9	N 19 42.1 -00.4	27 06.7 +02.5	S 11 36.6 +00.0	46 10.9 +02.5	S 17 39.0 +00.1	06						
07	246 41.2 +00.9	N 19 41.7 -00.4	42 09.2 +02.5	S 11 36.6 +00.0	61 13.4 +02.6	S 17 39.1 +00.0	07						
08	261 42.1 +00.9	N 19 41.3 -00.4	57 11.7 +02.5	S 11 36.6 +00.0	76 16.0 +02.6	S 17 39.1 +00.1	08						
09	276 43.0 +00.8	N 19 40.9 -00.4	72 14.2 +02.4	S 11 36.6 +00.0	91 18.6 +02.6	S 17 39.2 +00.0	09						
10	291 43.8 +00.9	N 19 40.5 -00.4	87 16.6 +02.5	S 11 36.6 +00.1	106 21.2 +02.6	S 17 39.2 +00.0	10						
11	306 44.7 +00.9	N 19 40.1 -00.4	102 19.1 +02.5	S 11 36.7 +00.0	121 23.8 +02.5	S 17 39.2 +00.1	11						
12	321 45.6 +00.9	N 19 39.7 -00.4	117 21.6 +02.5	S 11 36.7 +00.0	136 26.3 +02.6	S 17 39.3 +00.0	12						
13	336 46.5 +00.9	N 19 39.3 -00.5	132 24.1 +02.5	S 11 36.7 +00.0	151 28.9 +02.6	S 17 39.3 +00.1	13						
14	351 47.4 +00.8	N 19 38.8 -00.4	147 26.6 +02.5	S 11 36.7 +00.0	166 31.5 +02.6	S 17 39.4 +00.0	14						
15	6 48.2 +00.9	N 19 38.4 -00.4	162 29.1 +02.4	S 11 36.7 +00.1	181 34.1 +02.6	S 17 39.4 +00.0	15						
16	21 49.1 +00.9	N 19 38.0 -00.4	177 31.5 +02.5	S 11 36.8 +00.0	196 36.7 +02.5	S 17 39.4 +00.1	16						
17	36 50.0 +00.9	N 19 37.6 -00.4	192 34.0 +02.5	S 11 36.8 +00.0	211 39.2 +02.6	S 17 39.5 +00.0	17						
18	51 50.9 +00.9	N 19 37.2 -00.4	207 36.5 +02.5	S 11 36.8 +00.0	226 41.8 +02.6	S 17 39.5 +00.0	18						
19	66 51.8 +00.9	N 19 36.8 -00.4	222 39.0 +02.5	S 11 36.8 +00.0	241 44.4 +02.6	S 17 39.5 +00.1	19						
20	81 52.7 +00.8	N 19 36.4 -00.4	237 41.5 +02.5	S 11 36.8 +00.1	256 47.0 +02.6	S 17 39.6 +00.0	20						
21	96 53.5 +00.9	N 19 36.0 -00.4	252 44.0 +02.4	S 11 36.9 +00.0	271 49.6 +02.5	S 17 39.6 +00.1	21						
22	111 54.4 +00.9	N 19 35.6 -00.4	267 46.4 +02.5	S 11 36.9 +00.0	286 52.1 +02.6	S 17 39.7 +00.0	22						
23	126 55.3 +00.9	N 19 35.2 -00.4	282 48.9 +02.5	S 11 36.9 +00.0	301 54.7 +02.6	S 17 39.7 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 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 230° 230° 230° 230° 230° 230°		SHA 025° 025° 025° 025° 025° 025°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 14:32		Greenwich Culmination Time: 04:11		Greenwich Culmination Time: 02:55								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 24.1 -00.1	N 23 24.6 -00.1	153 55.3 -00.8	N 22 25.6 -00.6	11 17.8 -38.2	S 24 12.3 +05.6	00						
01	194 24.0 -00.1	N 23 24.5 +00.0	168 54.5 -00.8	N 22 25.0 -00.5	25 39.6 -38.3	S 24 17.9 +05.4	01						
02	209 23.9 -00.2	N 23 24.5 -00.1	183 53.7 -00.7	N 22 24.5 -00.5	40 01.3 -38.4	S 24 23.3 +05.2	02						
03	224 23.7 -00.1	N 23 24.4 +00.0	198 53.0 -00.8	N 22 24.0 -00.6	54 22.9 -38.4	S 24 28.5 +05.1	03						
04	239 23.6 -00.1	N 23 24.4 -00.1	213 52.2 -00.8	N 22 23.4 -00.5	68 44.5 -38.4	S 24 33.6 +04.8	04						
05	254 23.5 -00.2	N 23 24.3 -00.1	228 51.4 -00.7	N 22 22.9 -00.5	83 06.1 -38.5	S 24 38.4 +04.7	05						
06	269 23.3 -00.1	N 23 24.2 +00.0	243 50.7 -00.8	N 22 22.4 -00.6	97 27.6 -38.5	S 24 43.1 +04.4	06						
07	284 23.2 -00.1	N 23 24.2 -00.1	258 49.9 -00.8	N 22 21.8 -00.5	111 49.1 -38.6	S 24 47.5 +04.3	07						
08	299 23.1 -00.2	N 23 24.1 +00.0	273 49.1 -00.7	N 22 21.3 -00.6	126 10.5 -38.5	S 24 51.8 +04.1	08						
09	314 22.9 -00.1	N 23 24.1 -00.1	288 48.4 -00.8	N 22 20.7 -00.5	140 32.0 -38.6	S 24 55.9 +03.9	09						
10	329 22.8 -00.1	N 23 24.0 +00.0	303 47.6 -00.7	N 22 20.2 -00.6	154 53.4 -38.7	S 24 59.8 +03.8	10						
11	344 22.7 -00.2	N 23 24.0 -00.1	318 46.9 -00.8	N 22 19.6 -00.5	169 14.7 -38.6	S 25 03.6 +03.5	11						
12	359 22.5 -00.1	N 23 23.9 +00.0	333 46.1 -00.8	N 22 19.1 -00.5	183 36.1 -38.7	S 25 07.1 +03.3	12						
13	14 22.4 -00.1	N 23 23.9 -00.1	348 45.3 -00.7	N 22 18.6 -00.6	197 57.4 -38.7	S 25 10.4 +03.2	13						
14	29 22.3 -00.2	N 23 23.8 -00.1	3 44.6 -00.8	N 22 18.0 -00.5	212 18.7 -38.7	S 25 13.6 +02.9	14						
15	44 22.1 -00.1	N 23 23.7 +00.0	18 43.8 -00.8	N 22 17.5 -00.6	226 40.0 -38.8	S 25 16.5 +02.8	15						
16	59 22.0 -00.1	N 23 23.7 -00.1	33 43.0 -00.7	N 22 16.9 -00.5	241 01.2 -38.7	S 25 19.3 +02.6	16						
17	74 21.9 -00.1	N 23 23.6 +00.0	48 42.3 -00.8	N 22 16.4 -00.6	255 22.5 -38.7	S 25 21.9 +02.4	17						
18	89 21.8 -00.2	N 23 23.6 -00.1	63 41.5 -00.7	N 22 15.8 -00.5	269 43.8 -38.8	S 25 24.3 +02.1	18						
19	104 21.6 -00.1	N 23 23.5 -00.1	78 40.8 -00.8	N 22 15.3 -00.6	284 05.0 -38.7	S 25 26.4 +02.0	19						
20	119 21.5 -00.1	N 23 23.4 +00.0	93 40.0 -00.8	N 22 14.7 -00.6	298 26.3 -38.8	S 25 28.4 +01.8	20						
21	134 21.4 -00.2	N 23 23.4 -00.1	108 39.2 -00.7	N 22 14.1 -00.5	312 47.5 -38.7	S 25 30.2 +01.6	21						
22	149 21.2 -00.1	N 23 23.3 -00.1	123 38.5 -00.8	N 22 13.6 -00.6	327 08.8 -38.8	S 25 31.8 +01.5	22						
23	164 21.1 -00.1	N 23 23.2 +00.0	138 37.7 -00.7	N 22 13.0 -00.5	341 30.0 -38.7	S 25 33.3 +01.2	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 00'1 00'1 00'1 00'1 00'1 00'1		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 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'8 60'8 60'7 60'7 60'6 60'6								
	SHA 267° 267° 267° 266° 266° 266°		SHA 241° 241° 241° 241° 241° 240°		SHA 098° 095° 092° 089° 087° 084°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 13:45		Greenwich Culmination Time: -1:00								
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	141 56.2 +00.9	N 19 34.8 -00.4	297 51.4 +02.5	S 11 36.9 +00.0	316 57.3 +02.6	S 17 39.7 +00.1	00						
01	156 57.1 +00.9	N 19 34.4 -00.4	312 53.9 +02.5	S 11 36.9 +00.1	331 59.9 +02.6	S 17 39.8 +00.0	01						
02	171 58.0 +00.8	N 19 34.0 -00.5	327 56.4 +02.5	S 11 37.0 +00.0	347 02.5 +02.5	S 17 39.8 +00.1	02						
03	186 58.8 +00.9	N 19 33.5 -00.4	342 58.9 +02.5	S 11 37.0 +00.0	2 05.0 +02.6	S 17 39.9 +00.0	03						
04	201 59.7 +00.9	N 19 33.1 -00.4	358 01.4 +02.4	S 11 37.0 +00.0	17 07.6 +02.6	S 17 39.9 +00.0	04						
05	217 00.6 +00.9	N 19 32.7 -00.4	13 03.8 +02.5	S 11 37.0 +00.0	32 10.2 +02.6	S 17 39.9 +00.1	05						
06	232 01.5 +00.9	N 19 32.3 -00.4	28 06.3 +02.5	S 11 37.0 +00.1	47 12.8 +02.6	S 17 40.0 +00.0	06						
07	247 02.4 +00.9	N 19 31.9 -00.4	43 08.8 +02.5	S 11 37.1 +00.0	62 15.4 +02.6	S 17 40.0 +00.1	07						
08	262 03.3 +00.8	N 19 31.5 -00.4	58 11.3 +02.5	S 11 37.1 +00.0	77 18.0 +02.5	S 17 40.1 +00.0	08						
09	277 04.1 +00.9	N 19 31.1 -00.4	73 13.8 +02.5	S 11 37.1 +00.0	92 20.5 +02.6	S 17 40.1 +00.0	09						
10	292 05.0 +00.9	N 19 30.7 -00.4	88 16.3 +02.5	S 11 37.1 +00.1	107 23.1 +02.6	S 17 40.1 +00.1	10						
11	307 05.9 +00.9	N 19 30.3 -00.5	103 18.8 +02.5	S 11 37.2 +00.0	122 25.7 +02.6	S 17 40.2 +00.0	11						
12	322 06.8 +00.9	N 19 29.8 -00.4	118 21.3 +02.5	S 11 37.2 +00.0	137 28.3 +02.6	S 17 40.2 +00.1	12						
13	337 07.7 +00.9	N 19 29.4 -00.4	133 23.8 +02.4	S 11 37.2 +00.0	152 30.9 +02.6	S 17 40.3 +00.0	13						
14	352 08.6 +00.8	N 19 29.0 -00.4	148 26.2 +02.5	S 11 37.2 +00.0	167 33.5 +02.5	S 17 40.3 +00.0	14						
15	7 09.4 +00.9	N 19 28.6 -00.4	163 28.7 +02.5	S 11 37.2 +00.1	182 36.0 +02.6	S 17 40.3 +00.1	15						
16	22 10.3 +00.9	N 19 28.2 -00.4	178 31.2 +02.5	S 11 37.3 +00.0	197 38.6 +02.6	S 17 40.4 +00.0	16						
17	37 11.2 +00.9	N 19 27.8 -00.4	193 33.7 +02.5	S 11 37.3 +00.0	212 41.2 +02.6	S 17 40.4 +00.0	17						
18	52 12.1 +00.9	N 19 27.4 -00.4	208 36.2 +02.5	S 11 37.3 +00.0	227 43.8 +02.6	S 17 40.4 +00.1	18						
19	67 13.0 +00.9	N 19 27.0 -00.5	223 38.7 +02.5	S 11 37.3 +00.1	242 46.4 +02.6	S 17 40.5 +00.0	19						
20	82 13.9 +00.8	N 19 26.5 -00.4	238 41.2 +02.5	S 11 37.4 +00.0	257 49.0 +02.5	S 17 40.5 +00.1	20						
21	97 14.7 +00.9	N 19 26.1 -00.4	253 43.7 +02.5	S 11 37.4 +00.0	272 51.5 +02.6	S 17 40.6 +00.0	21						
22	112 15.6 +00.9	N 19 25.7 -00.4	268 46.2 +02.5	S 11 37.4 +00.0	287 54.1 +02.6	S 17 40.6 +00.0	22						
23	127 16.5 +00.9	N 19 25.3 -00.4	283 48.7 +02.5	S 11 37.4 +00.0	302 56.7 +02.6	S 17 40.6 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 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 230° 229° 229° 229° 229° 229°		SHA 025° 025° 025° 025° 025° 025°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 14:31		Greenwich Culmination Time: 04:07		Greenwich Culmination Time: 02:51								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 21.0 -00.2	N 23 23.2 -00.1	153 37.0 -00.8	N 22 12.5 -00.6	355 51.3 -38.7	S 25 34.5 +01.0	00						
01	194 20.8 -00.1	N 23 23.1 -00.1	168 36.2 -00.7	N 22 11.9 -00.5	10 12.6 -38.7	S 25 35.5 +00.8	01						
02	209 20.7 -00.1	N 23 23.0 +00.0	183 35.5 -00.8	N 22 11.4 -00.6	24 33.9 -38.7	S 25 36.3 +00.7	02						
03	224 20.6 -00.2	N 23 23.0 -00.1	198 34.7 -00.8	N 22 10.8 -00.6	38 55.2 -38.6	S 25 37.0 +00.4	03						
04	239 20.4 -00.1	N 23 22.9 -00.1	213 33.9 -00.7	N 22 10.2 -00.5	53 16.6 -38.7	S 25 37.4 +00.3	04						
05	254 20.3 -00.1	N 23 22.8 +00.0	228 33.2 -00.8	N 22 09.7 -00.6	67 37.9 -38.6	S 25 37.7 +00.1	05						
06	269 20.2 -00.2	N 23 22.8 -00.1	243 32.4 -00.7	N 22 09.1 -00.6	81 59.3 -38.6	S 25 37.8 -00.2	06						
07	284 20.0 -00.1	N 23 22.7 -00.1	258 31.7 -00.8	N 22 08.5 -00.5	96 20.7 -38.5	S 25 37.6 -00.3	07						
08	299 19.9 -00.1	N 23 22.6 -00.1	273 30.9 -00.7	N 22 08.0 -00.6	110 42.2 -38.5	S 25 37.3 -00.5	08						
09	314 19.8 -00.2	N 23 22.5 +00.0	288 30.2 -00.8	N 22 07.4 -00.6	125 03.7 -38.5	S 25 36.8 -00.7	09						
10	329 19.6 -00.1	N 23 22.5 -00.1	303 29.4 -00.7	N 22 06.8 -00.5	139 25.2 -38.4	S 25 36.1 -00.9	10						
11	344 19.5 -00.1	N 23 22.4 -00.1	318 28.7 -00.8	N 22 06.3 -00.6	153 46.8 -38.4	S 25 35.2 -01.0	11						
12	359 19.4 -00.1	N 23 22.3 -00.1	333 27.9 -00.7	N 22 05.7 -00.6	168 08.4 -38.3	S 25 34.2 -01.3	12						
13	14 19.3 -00.2	N 23 22.2 +00.0	348 27.2 -00.8	N 22 05.1 -00.5	182 30.1 -38.3	S 25 32.9 -01.4	13						
14	29 19.1 -00.1	N 23 22.2 -00.1	3 26.4 -00.7	N 22 04.6 -00.6	196 51.8 -38.2	S 25 31.5 -01.7	14						
15	44 19.0 -00.1	N 23 22.1 -00.1	18 25.7 -00.8	N 22 04.0 -00.6	211 13.6 -38.2	S 25 29.8 -01.8	15						
16	59 18.9 -00.2	N 23 22.0 -00.1	33 24.9 -00.7	N 22 03.4 -00.6	225 35.4 -38.1	S 25 28.0 -02.0	16						
17	74 18.7 -00.1	N 23 21.9 +00.0	48 24.2 -00.8	N 22 02.8 -00.5	239 57.3 -38.1	S 25 26.0 -02.2	17						
18	89 18.6 -00.1	N 23 21.9 -00.1	63 23.4 -00.7	N 22 02.3 -00.6	254 19.2 -38.0	S 25 23.8 -02.4	18						
19	104 18.5 -00.2	N 23 21.8 -00.1	78 22.7 -00.8	N 22 01.7 -00.6	268 41.2 -37.9	S 25 21.4 -02.5	19						
20	119 18.3 -00.1	N 23 21.7 -00.1	93 21.9 -00.7	N 22 01.1 -00.6	283 03.3 -37.9	S 25 18.9 -02.8	20						
21	134 18.2 -00.1	N 23 21.6 -00.1	108 21.2 -00.8	N 22 00.5 -00.6	297 25.4 -37.8	S 25 16.1 -02.9	21						
22	149 18.1 -00.2	N 23 21.5 +00.0	123 20.4 -00.7	N 21 59.9 -00.6	311 47.6 -37.7	S 25 13.2 -03.1	22						
23	164 17.9 -00.1	N 23 21.5 -00.1	138 19.7 -00.8	N 21 59.3 -00.5	326 09.9 -37.7	S 25 10.1 -03.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		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 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'5 60'4 60'3 60'2 60'1 60'0								
	SHA 266° 266° 266° 265° 265° 265°		SHA 240° 240° 240° 240° 239° 239°		SHA 081° 078° 076° 073° 070° 068°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 13:46		Greenwich Culmination Time: 00:17								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	142 17.4 +00.9	N 19 24.9 -00.4	298 51.2 +02.5	S 11 37.4 +00.1	317 59.3 +02.6	S 17 40.7 +00.0	00						
01	157 18.3 +00.9	N 19 24.5 -00.4	313 53.7 +02.4	S 11 37.5 +00.0	333 01.9 +02.6	S 17 40.7 +00.1	01						
02	172 19.2 +00.9	N 19 24.1 -00.5	328 56.1 +02.5	S 11 37.5 +00.0	348 04.5 +02.6	S 17 40.8 +00.0	02						
03	187 20.1 +00.8	N 19 23.6 -00.4	343 58.6 +02.5	S 11 37.5 +00.0	3 07.1 +02.5	S 17 40.8 +00.0	03						
04	202 20.9 +00.9	N 19 23.2 -00.4	359 01.1 +02.5	S 11 37.5 +00.1	18 09.6 +02.6	S 17 40.8 +00.1	04						
05	217 21.8 +00.9	N 19 22.8 -00.4	14 03.6 +02.5	S 11 37.6 +00.0	33 12.2 +02.6	S 17 40.9 +00.0	05						
06	232 22.7 +00.9	N 19 22.4 -00.4	29 06.1 +02.5	S 11 37.6 +00.0	48 14.8 +02.6	S 17 40.9 +00.1	06						
07	247 23.6 +00.9	N 19 22.0 -00.4	44 08.6 +02.5	S 11 37.6 +00.0	63 17.4 +02.6	S 17 41.0 +00.0	07						
08	262 24.5 +00.9	N 19 21.6 -00.4	59 11.1 +02.5	S 11 37.6 +00.1	78 20.0 +02.6	S 17 41.0 +00.0	08						
09	277 25.4 +00.9	N 19 21.2 -00.5	74 13.6 +02.5	S 11 37.7 +00.0	93 22.6 +02.6	S 17 41.0 +00.1	09						
10	292 26.3 +00.8	N 19 20.7 -00.4	89 16.1 +02.5	S 11 37.7 +00.0	108 25.2 +02.5	S 17 41.1 +00.0	10						
11	307 27.1 +00.9	N 19 20.3 -00.4	104 18.6 +02.5	S 11 37.7 +00.0	123 27.7 +02.6	S 17 41.1 +00.1	11						
12	322 28.0 +00.9	N 19 19.9 -00.4	119 21.1 +02.5	S 11 37.7 +00.1	138 30.3 +02.6	S 17 41.2 +00.0	12						
13	337 28.9 +00.9	N 19 19.5 -00.4	134 23.6 +02.5	S 11 37.8 +00.0	153 32.9 +02.6	S 17 41.2 +00.0	13						
14	352 29.8 +00.9	N 19 19.1 -00.4	149 26.1 +02.5	S 11 37.8 +00.0	168 35.5 +02.6	S 17 41.2 +00.1	14						
15	7 30.7 +00.9	N 19 18.7 -00.5	164 28.6 +02.5	S 11 37.8 +00.0	183 38.1 +02.6	S 17 41.3 +00.0	15						
16	22 31.6 +00.9	N 19 18.2 -00.4	179 31.1 +02.5	S 11 37.8 +00.1	198 40.7 +02.6	S 17 41.3 +00.1	16						
17	37 32.5 +00.8	N 19 17.8 -00.4	194 33.6 +02.5	S 11 37.9 +00.0	213 43.3 +02.5	S 17 41.4 +00.0	17						
18	52 33.3 +00.9	N 19 17.4 -00.4	209 36.1 +02.5	S 11 37.9 +00.0	228 45.8 +02.6	S 17 41.4 +00.0	18						
19	67 34.2 +00.9	N 19 17.0 -00.4	224 38.6 +02.5	S 11 37.9 +00.0	243 48.4 +02.6	S 17 41.4 +00.1	19						
20	82 35.1 +00.9	N 19 16.6 -00.5	239 41.1 +02.5	S 11 37.9 +00.1	258 51.0 +02.6	S 17 41.5 +00.0	20						
21	97 36.0 +00.9	N 19 16.1 -00.4	254 43.6 +02.5	S 11 38.0 +00.0	273 53.6 +02.6	S 17 41.5 +00.1	21						
22	112 36.9 +00.9	N 19 15.7 -00.4	269 46.1 +02.5	S 11 38.0 +00.0	288 56.2 +02.6	S 17 41.6 +00.0	22						
23	127 37.8 +00.9	N 19 15.3 -00.4	284 48.6 +02.5	S 11 38.0 +00.0	303 58.8 +02.6	S 17 41.6 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 229° 229° 229° 229° 228° 228°		SHA 026° 026° 026° 026° 026° 026°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 14:29		Greenwich Culmination Time: 04:03		Greenwich Culmination Time: 02:47								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 17.8 -00.1	N 23 21.4 -00.1	153 18.9 -00.7	N 21 58.8 -00.6	340 32.2 -37.6	S 25 06.9 -03.5	00						
01	194 17.7 -00.1	N 23 21.3 -00.1	168 18.2 -00.8	N 21 58.2 -00.6	354 54.6 -37.5	S 25 03.4 -03.6	01						
02	209 17.6 -00.2	N 23 21.2 -00.1	183 17.4 -00.7	N 21 57.6 -00.6	9 17.1 -37.4	S 24 59.8 -03.8	02						
03	224 17.4 -00.1	N 23 21.1 -00.1	198 16.7 -00.7	N 21 57.0 -00.6	23 39.7 -37.3	S 24 56.0 -04.0	03						
04	239 17.3 -00.1	N 23 21.0 -00.1	213 16.0 -00.8	N 21 56.4 -00.6	38 02.4 -37.3	S 24 52.0 -04.1	04						
05	254 17.2 -00.2	N 23 20.9 +00.0	228 15.2 -00.7	N 21 55.8 -00.6	52 25.1 -37.1	S 24 47.9 -04.3	05						
06	269 17.0 -00.1	N 23 20.9 -00.1	243 14.5 -00.8	N 21 55.2 -00.5	66 48.0 -37.1	S 24 43.6 -04.5	06						
07	284 16.9 -00.1	N 23 20.8 -00.1	258 13.7 -00.7	N 21 54.7 -00.6	81 10.9 -37.0	S 24 39.1 -04.7	07						
08	299 16.8 -00.2	N 23 20.7 -00.1	273 13.0 -00.8	N 21 54.1 -00.6	95 33.9 -36.9	S 24 34.4 -04.8	08						
09	314 16.6 -00.1	N 23 20.6 -00.1	288 12.2 -00.7	N 21 53.5 -00.6	109 57.0 -36.8	S 24 29.6 -05.0	09						
10	329 16.5 -00.1	N 23 20.5 -00.1	303 11.5 -00.7	N 21 52.9 -00.6	124 20.2 -36.7	S 24 24.6 -05.1	10						
11	344 16.4 -00.1	N 23 20.4 -00.1	318 10.8 -00.8	N 21 52.3 -00.6	138 43.5 -36.6	S 24 19.5 -05.3	11						
12	359 16.3 -00.2	N 23 20.3 -00.1	333 10.0 -00.7	N 21 51.7 -00.6	153 06.9 -36.5	S 24 14.2 -05.5	12						
13	14 16.1 -00.1	N 23 20.2 -00.1	348 09.3 -00.8	N 21 51.1 -00.6	167 30.4 -36.4	S 24 08.7 -05.6	13						
14	29 16.0 -00.1	N 23 20.1 -00.1	3 08.5 -00.7	N 21 50.5 -00.6	181 54.0 -36.3	S 24 03.1 -05.8	14						
15	44 15.9 -00.2	N 23 20.0 -00.1	18 07.8 -00.7	N 21 49.9 -00.6	196 17.7 -36.2	S 23 57.3 -05.9	15						
16	59 15.7 -00.1	N 23 19.9 +00.0	33 07.1 -00.8	N 21 49.3 -00.6	210 41.5 -36.0	S 23 51.4 -06.1	16						
17	74 15.6 -00.1	N 23 19.9 -00.1	48 06.3 -00.7	N 21 48.7 -00.6	225 05.5 -36.0	S 23 45.3 -06.2	17						
18	89 15.5 -00.2	N 23 19.8 -00.1	63 05.6 -00.7	N 21 48.1 -00.6	239 29.5 -35.9	S 23 39.1 -06.4	18						
19	104 15.3 -00.1	N 23 19.7 -00.1	78 04.9 -00.8	N 21 47.5 -00.6	253 53.6 -35.8	S 23 32.7 -06.5	19						
20	119 15.2 -00.1	N 23 19.6 -00.1	93 04.1 -00.7	N 21 46.9 -00.6	268 17.8 -35.6	S 23 26.2 -06.7	20						
21	134 15.1 -00.1	N 23 19.5 -00.1	108 03.4 -00.7	N 21 46.3 -00.6	282 42.2 -35.6	S 23 19.5 -06.8	21						
22	149 15.0 -00.2	N 23 19.4 -00.1	123 02.7 -00.8	N 21 45.7 -00.7	297 06.6 -35.4	S 23 12.7 -07.0	22						
23	164 14.8 -00.1	N 23 19.3 -00.1	138 01.9 -00.7	N 21 45.0 -00.6	311 31.2 -35.3	S 23 05.7 -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 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'3 16'3 16'3 16'2 16'2 16'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 59'9 59'8 59'6 59'5 59'4 59'2								
	SHA 265° 265° 265° 264° 264° 264°		SHA 239° 239° 238° 238° 238° 238°		SHA 065° 062° 060° 057° 054° 052°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 13:47		Greenwich Culmination Time: 01:21								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	142 38.7 +00.9	N 19 14.9 -00.4	299 51.1 +02.5	S 11 38.0 +00.1	319 01.4 +02.6	S 17 41.6 +00.1	00						
01	157 39.6 +00.8	N 19 14.5 -00.5	314 53.6 +02.5	S 11 38.1 +00.0	334 04.0 +02.5	S 17 41.7 +00.0	01						
02	172 40.4 +00.9	N 19 14.0 -00.4	329 56.1 +02.5	S 11 38.1 +00.0	349 06.5 +02.6	S 17 41.7 +00.1	02						
03	187 41.3 +00.9	N 19 13.6 -00.4	344 58.6 +02.5	S 11 38.1 +00.0	4 09.1 +02.6	S 17 41.8 +00.0	03						
04	202 42.2 +00.9	N 19 13.2 -00.4	0 01.1 +02.5	S 11 38.1 +00.1	19 11.7 +02.6	S 17 41.8 +00.0	04						
05	217 43.1 +00.9	N 19 12.8 -00.4	15 03.6 +02.5	S 11 38.2 +00.0	34 14.3 +02.6	S 17 41.8 +00.1	05						
06	232 44.0 +00.9	N 19 12.4 -00.5	30 06.1 +02.5	S 11 38.2 +00.0	49 16.9 +02.6	S 17 41.9 +00.0	06						
07	247 44.9 +00.9	N 19 11.9 -00.4	45 08.6 +02.5	S 11 38.2 +00.1	64 19.5 +02.6	S 17 41.9 +00.1	07						
08	262 45.8 +00.9	N 19 11.5 -00.4	60 11.1 +02.5	S 11 38.3 +00.0	79 22.1 +02.6	S 17 42.0 +00.0	08						
09	277 46.7 +00.9	N 19 11.1 -00.4	75 13.6 +02.5	S 11 38.3 +00.0	94 24.7 +02.6	S 17 42.0 +00.1	09						
10	292 47.6 +00.8	N 19 10.7 -00.4	90 16.1 +02.5	S 11 38.3 +00.0	109 27.3 +02.5	S 17 42.1 +00.0	10						
11	307 48.4 +00.9	N 19 10.3 -00.5	105 18.6 +02.5	S 11 38.3 +00.1	124 29.8 +02.6	S 17 42.1 +00.0	11						
12	322 49.3 +00.9	N 19 09.8 -00.4	120 21.1 +02.5	S 11 38.4 +00.0	139 32.4 +02.6	S 17 42.1 +00.1	12						
13	337 50.2 +00.9	N 19 09.4 -00.4	135 23.6 +02.5	S 11 38.4 +00.0	154 35.0 +02.6	S 17 42.2 +00.0	13						
14	352 51.1 +00.9	N 19 09.0 -00.4	150 26.1 +02.5	S 11 38.4 +00.0	169 37.6 +02.6	S 17 42.2 +00.1	14						
15	7 52.0 +00.9	N 19 08.6 -00.5	165 28.6 +02.5	S 11 38.4 +00.1	184 40.2 +02.6	S 17 42.3 +00.0	15						
16	22 52.9 +00.9	N 19 08.1 -00.4	180 31.1 +02.5	S 11 38.5 +00.0	199 42.8 +02.6	S 17 42.3 +00.0	16						
17	37 53.8 +00.9	N 19 07.7 -00.4	195 33.6 +02.6	S 11 38.5 +00.0	214 45.4 +02.6	S 17 42.3 +00.1	17						
18	52 54.7 +00.9	N 19 07.3 -00.4	210 36.2 +02.5	S 11 38.5 +00.1	229 48.0 +02.6	S 17 42.4 +00.0	18						
19	67 55.6 +00.8	N 19 06.9 -00.4	225 38.7 +02.5	S 11 38.6 +00.0	244 50.6 +02.6	S 17 42.4 +00.1	19						
20	82 56.4 +00.9	N 19 06.5 -00.5	240 41.2 +02.5	S 11 38.6 +00.0	259 53.2 +02.5	S 17 42.5 +00.0	20						
21	97 57.3 +00.9	N 19 06.0 -00.4	255 43.7 +02.5	S 11 38.6 +00.0	274 55.7 +02.6	S 17 42.5 +00.0	21						
22	112 58.2 +00.9	N 19 05.6 -00.4	270 46.2 +02.5	S 11 38.6 +00.1	289 58.3 +02.6	S 17 42.5 +00.1	22						
23	127 59.1 +00.9	N 19 05.2 -00.4	285 48.7 +02.5	S 11 38.7 +00.0	305 00.9 +02.6	S 17 42.6 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 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 228° 228° 228° 228° 228° 228°		SHA 026° 026° 026° 026° 026° 026°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 14:28		Greenwich Culmination Time: 03:59		Greenwich Culmination Time: 02:43								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 14.7 -00.1	N 23 19.2 -00.1	153 01.2 -00.8	N 21 44.4 -00.6	325 55.9 -35.2	S 22 58.6 -07.3	00						
01	194 14.6 -00.2	N 23 19.1 -00.1	168 00.4 -00.7	N 21 43.8 -00.6	340 20.7 -35.1	S 22 51.3 -07.4	01						
02	209 14.4 -00.1	N 23 19.0 -00.1	182 59.7 -00.7	N 21 43.2 -00.6	354 45.6 -35.0	S 22 43.9 -07.5	02						
03	224 14.3 -00.1	N 23 18.9 -00.1	197 59.0 -00.7	N 21 42.6 -00.6	9 10.6 -34.9	S 22 36.4 -07.7	03						
04	239 14.2 -00.1	N 23 18.8 -00.1	212 58.3 -00.8	N 21 42.0 -00.6	23 35.7 -34.7	S 22 28.7 -07.7	04						
05	254 14.1 -00.2	N 23 18.7 -00.1	227 57.5 -00.7	N 21 41.4 -00.6	38 01.0 -34.6	S 22 21.0 -08.0	05						
06	269 13.9 -00.1	N 23 18.6 -00.2	242 56.8 -00.7	N 21 40.8 -00.7	52 26.4 -34.5	S 22 13.0 -08.0	06						
07	284 13.8 -00.1	N 23 18.4 -00.1	257 56.1 -00.8	N 21 40.1 -00.6	66 51.9 -34.4	S 22 05.0 -08.2	07						
08	299 13.7 -00.2	N 23 18.3 -00.1	272 55.3 -00.7	N 21 39.5 -00.6	81 17.5 -34.3	S 21 56.8 -08.3	08						
09	314 13.5 -00.1	N 23 18.2 -00.1	287 54.6 -00.7	N 21 38.9 -00.6	95 43.2 -34.1	S 21 48.5 -08.5	09						
10	329 13.4 -00.1	N 23 18.1 -00.1	302 53.9 -00.8	N 21 38.3 -00.6	110 09.1 -34.1	S 21 40.0 -08.5	10						
11	344 13.3 -00.1	N 23 18.0 -00.1	317 53.1 -00.7	N 21 37.7 -00.7	124 35.0 -33.9	S 21 31.5 -08.7	11						
12	359 13.2 -00.2	N 23 17.9 -00.1	332 52.4 -00.7	N 21 37.0 -00.6	139 01.1 -33.8	S 21 22.8 -08.8	12						
13	14 13.0 -00.1	N 23 17.8 -00.1	347 51.7 -00.7	N 21 36.4 -00.6	153 27.3 -33.6	S 21 14.0 -08.9	13						
14	29 12.9 -00.1	N 23 17.7 -00.1	2 51.0 -00.8	N 21 35.8 -00.6	167 53.7 -33.6	S 21 05.1 -09.0	14						
15	44 12.8 -00.2	N 23 17.6 -00.1	17 50.2 -00.7	N 21 35.2 -00.7	182 20.1 -33.4	S 20 56.1 -09.2	15						
16	59 12.6 -00.1	N 23 17.5 -00.1	32 49.5 -00.7	N 21 34.5 -00.6	196 46.7 -33.3	S 20 46.9 -09.2	16						
17	74 12.5 -00.1	N 23 17.4 -00.2	47 48.8 -00.7	N 21 33.9 -00.6	211 13.4 -33.2	S 20 37.7 -09.4	17						
18	89 12.4 -00.1	N 23 17.2 -00.1	62 48.1 -00.8	N 21 33.3 -00.6	225 40.2 -33.1	S 20 28.3 -09.4	18						
19	104 12.3 -00.2	N 23 17.1 -00.1	77 47.3 -00.7	N 21 32.7 -00.7	240 07.1 -32.9	S 20 18.9 -09.6	19						
20	119 12.1 -00.1	N 23 17.0 -00.1	92 46.6 -00.7	N 21 32.0 -00.6	254 34.2 -32.8	S 20 09.3 -09.7	20						
21	134 12.0 -00.1	N 23 16.9 -00.1	107 45.9 -00.7	N 21 31.4 -00.6	269 01.4 -32.7	S 19 59.6 -09.8	21						
22	149 11.9 -00.1	N 23 16.8 -00.1	122 45.2 -00.8	N 21 30.8 -00.7	283 28.7 -32.6	S 19 49.8 -09.9	22						
23	164 11.8 -00.2	N 23 16.7 -00.1	137 44.4 -00.7	N 21 30.1 -00.6	297 56.1 -32.4	S 19 39.9 -10.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'1 16'1 16'0 16'0 15'9 15'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 59'1 59'0 58'8 58'7 58'5 58'4								
	SHA 264° 264° 263° 263° 263° 263°		SHA 238° 237° 237° 237° 237° 237°		SHA 049° 047° 044° 042° 040° 037°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 13:48		Greenwich Culmination Time: 02:21								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	143 00.0 +00.9	N 19 04.8 -00.5	300 51.2 +02.5	S 11 38.7 +00.0	320 03.5 +02.6	S 17 42.6 +00.1	00						
01	158 00.9 +00.9	N 19 04.3 -00.4	315 53.7 +02.5	S 11 38.7 +00.1	335 06.1 +02.6	S 17 42.7 +00.0	01						
02	173 01.8 +00.9	N 19 03.9 -00.4	330 56.2 +02.5	S 11 38.8 +00.0	350 08.7 +02.6	S 17 42.7 +00.1	02						
03	188 02.7 +00.9	N 19 03.5 -00.4	345 58.7 +02.5	S 11 38.8 +00.0	5 11.3 +02.6	S 17 42.8 +00.0	03						
04	203 03.6 +00.9	N 19 03.1 -00.5	1 01.2 +02.5	S 11 38.8 +00.0	20 13.9 +02.6	S 17 42.8 +00.0	04						
05	218 04.5 +00.9	N 19 02.6 -00.4	16 03.7 +02.6	S 11 38.8 +00.1	35 16.5 +02.6	S 17 42.8 +00.1	05						
06	233 05.4 +00.8	N 19 02.2 -00.4	31 06.3 +02.5	S 11 38.9 +00.0	50 19.1 +02.6	S 17 42.9 +00.0	06						
07	248 06.2 +00.9	N 19 01.8 -00.4	46 08.8 +02.5	S 11 38.9 +00.0	65 21.7 +02.5	S 17 42.9 +00.1	07						
08	263 07.1 +00.9	N 19 01.4 -00.5	61 11.3 +02.5	S 11 38.9 +00.1	80 24.2 +02.6	S 17 43.0 +00.0	08						
09	278 08.0 +00.9	N 19 00.9 -00.4	76 13.8 +02.5	S 11 39.0 +00.0	95 26.8 +02.6	S 17 43.0 +00.0	09						
10	293 08.9 +00.9	N 19 00.5 -00.4	91 16.3 +02.5	S 11 39.0 +00.0	110 29.4 +02.6	S 17 43.0 +00.1	10						
11	308 09.8 +00.9	N 19 00.1 -00.5	106 18.8 +02.5	S 11 39.0 +00.1	125 32.0 +02.6	S 17 43.1 +00.0	11						
12	323 10.7 +00.9	N 18 59.6 -00.4	121 21.3 +02.5	S 11 39.1 +00.0	140 34.6 +02.6	S 17 43.1 +00.1	12						
13	338 11.6 +00.9	N 18 59.2 -00.4	136 23.8 +02.5	S 11 39.1 +00.0	155 37.2 +02.6	S 17 43.2 +00.0	13						
14	353 12.5 +00.9	N 18 58.8 -00.4	151 26.3 +02.6	S 11 39.1 +00.1	170 39.8 +02.6	S 17 43.2 +00.0	14						
15	8 13.4 +00.9	N 18 58.4 -00.5	166 28.9 +02.5	S 11 39.2 +00.0	185 42.4 +02.6	S 17 43.2 +00.1	15						
16	23 14.3 +00.9	N 18 57.9 -00.4	181 31.4 +02.5	S 11 39.2 +00.0	200 45.0 +02.6	S 17 43.3 +00.0	16						
17	38 15.2 +00.9	N 18 57.5 -00.4	196 33.9 +02.5	S 11 39.2 +00.0	215 47.6 +02.6	S 17 43.3 +00.1	17						
18	53 16.1 +00.8	N 18 57.1 -00.5	211 36.4 +02.5	S 11 39.2 +00.1	230 50.2 +02.6	S 17 43.4 +00.0	18						
19	68 16.9 +00.9	N 18 56.6 -00.4	226 38.9 +02.5	S 11 39.3 +00.0	245 52.8 +02.6	S 17 43.4 +00.1	19						
20	83 17.8 +00.9	N 18 56.2 -00.4	241 41.4 +02.5	S 11 39.3 +00.0	260 55.4 +02.6	S 17 43.5 +00.0	20						
21	98 18.7 +00.9	N 18 55.8 -00.4	256 43.9 +02.6	S 11 39.3 +00.1	275 58.0 +02.5	S 17 43.5 +00.0	21						
22	113 19.6 +00.9	N 18 55.4 -00.5	271 46.5 +02.5	S 11 39.4 +00.0	291 00.5 +02.6	S 17 43.5 +00.1	22						
23	128 20.5 +00.9	N 18 54.9 -00.4	286 49.0 +02.5	S 11 39.4 +00.0	306 03.1 +02.6	S 17 43.6 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 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 228° 228° 227° 227° 227° 227°		SHA 026° 026° 026° 026° 026° 026°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 14:27		Greenwich Culmination Time: 03:55		Greenwich Culmination Time: 02:39								

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 11.6 -00.1	N 23 16.6 -00.2	152 43.7 -00.7	N 21 29.5 -00.6	312 23.7 -32.4	S 19 29.9 -10.0	00						
01	194 11.5 -00.1	N 23 16.4 -00.1	167 43.0 -00.7	N 21 28.9 -00.7	326 51.3 -32.2	S 19 19.9 -10.2	01						
02	209 11.4 -00.2	N 23 16.3 -00.1	182 42.3 -00.7	N 21 28.2 -00.6	341 19.1 -32.1	S 19 09.7 -10.3	02						
03	224 11.2 -00.1	N 23 16.2 -00.1	197 41.6 -00.8	N 21 27.6 -00.6	355 47.0 -32.0	S 18 59.4 -10.3	03						
04	239 11.1 -00.1	N 23 16.1 -00.1	212 40.8 -00.7	N 21 27.0 -00.7	10 15.0 -31.8	S 18 49.1 -10.5	04						
05	254 11.0 -00.1	N 23 16.0 -00.2	227 40.1 -00.7	N 21 26.3 -00.6	24 43.2 -31.8	S 18 38.6 -10.5	05						
06	269 10.9 -00.2	N 23 15.8 -00.1	242 39.4 -00.7	N 21 25.7 -00.7	39 11.4 -31.6	S 18 28.1 -10.7	06						
07	284 10.7 -00.1	N 23 15.7 -00.1	257 38.7 -00.7	N 21 25.0 -00.6	53 39.8 -31.5	S 18 17.4 -10.7	07						
08	299 10.6 -00.1	N 23 15.6 -00.1	272 38.0 -00.7	N 21 24.4 -00.7	68 08.3 -31.4	S 18 06.7 -10.8	08						
09	314 10.5 -00.1	N 23 15.5 -00.2	287 37.3 -00.8	N 21 23.7 -00.6	82 36.9 -31.3	S 17 55.9 -10.9	09						
10	329 10.4 -00.2	N 23 15.3 -00.1	302 36.5 -00.7	N 21 23.1 -00.6	97 05.6 -31.1	S 17 45.0 -10.9	10						
11	344 10.2 -00.1	N 23 15.2 -00.1	317 35.8 -00.7	N 21 22.5 -00.7	111 34.5 -31.1	S 17 34.1 -11.1	11						
12	359 10.1 -00.1	N 23 15.1 -00.1	332 35.1 -00.7	N 21 21.8 -00.6	126 03.4 -30.9	S 17 23.0 -11.1	12						
13	14 10.0 -00.1	N 23 15.0 -00.2	347 34.4 -00.7	N 21 21.2 -00.7	140 32.5 -30.8	S 17 11.9 -11.2	13						
14	29 09.9 -00.2	N 23 14.8 -00.1	2 33.7 -00.7	N 21 20.5 -00.6	155 01.7 -30.7	S 17 00.7 -11.3	14						
15	44 09.7 -00.1	N 23 14.7 -00.1	17 33.0 -00.7	N 21 19.9 -00.7	169 31.0 -30.6	S 16 49.4 -11.3	15						
16	59 09.6 -00.1	N 23 14.6 -00.1	32 32.3 -00.8	N 21 19.2 -00.6	184 00.4 -30.5	S 16 38.1 -11.4	16						
17	74 09.5 -00.1	N 23 14.5 -00.2	47 31.5 -00.7	N 21 18.6 -00.7	198 29.9 -30.3	S 16 26.7 -11.5	17						
18	89 09.4 -00.2	N 23 14.3 -00.1	62 30.8 -00.7	N 21 17.9 -00.6	212 59.6 -30.3	S 16 15.2 -11.5	18						
19	104 09.2 -00.1	N 23 14.2 -00.1	77 30.1 -00.7	N 21 17.3 -00.7	227 29.3 -30.1	S 16 03.7 -11.7	19						
20	119 09.1 -00.1	N 23 14.1 -00.2	92 29.4 -00.7	N 21 16.6 -00.7	241 59.2 -30.1	S 15 52.0 -11.6	20						
21	134 09.0 -00.2	N 23 13.9 -00.1	107 28.7 -00.7	N 21 15.9 -00.6	256 29.1 -29.9	S 15 40.4 -11.8	21						
22	149 08.8 -00.1	N 23 13.8 -00.1	122 28.0 -00.7	N 21 15.3 -00.7	270 59.2 -29.8	S 15 28.6 -11.8	22						
23	164 08.7 -00.1	N 23 13.7 -00.2	137 27.3 -00.7	N 21 14.6 -00.6	285 29.4 -29.7	S 15 16.8 -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 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'9 15'8 15'8 15'7 15'7 15'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 58'2 58'1 57'9 57'8 57'6 57'4								
	SHA 263° 263° 262° 262° 262° 262°		SHA 236° 236° 236° 236° 235° 235°		SHA 035° 033° 030° 028° 026° 024°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 13:49		Greenwich Culmination Time: 03:17								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	143 21.4 +00.9	N 18 54.5 -00.4	301 51.5 +02.5	S 11 39.4 +00.1	321 05.7 +02.6	S 17 43.6 +00.1	00						
01	158 22.3 +00.9	N 18 54.1 -00.5	316 54.0 +02.5	S 11 39.5 +00.0	336 08.3 +02.6	S 17 43.7 +00.0	01						
02	173 23.2 +00.9	N 18 53.6 -00.4	331 56.5 +02.5	S 11 39.5 +00.0	351 10.9 +02.6	S 17 43.7 +00.1	02						
03	188 24.1 +00.9	N 18 53.2 -00.4	346 59.0 +02.6	S 11 39.5 +00.1	6 13.5 +02.6	S 17 43.8 +00.0	03						
04	203 25.0 +00.9	N 18 52.8 -00.5	2 01.6 +02.5	S 11 39.6 +00.0	21 16.1 +02.6	S 17 43.8 +00.0	04						
05	218 25.9 +00.9	N 18 52.3 -00.4	17 04.1 +02.5	S 11 39.6 +00.0	36 18.7 +02.6	S 17 43.8 +00.1	05						
06	233 26.8 +00.9	N 18 51.9 -00.4	32 06.6 +02.5	S 11 39.6 +00.1	51 21.3 +02.6	S 17 43.9 +00.0	06						
07	248 27.7 +00.9	N 18 51.5 -00.4	47 09.1 +02.5	S 11 39.7 +00.0	66 23.9 +02.6	S 17 43.9 +00.1	07						
08	263 28.6 +00.8	N 18 51.1 -00.5	62 11.6 +02.5	S 11 39.7 +00.0	81 26.5 +02.6	S 17 44.0 +00.0	08						
09	278 29.4 +00.9	N 18 50.6 -00.4	77 14.1 +02.6	S 11 39.7 +00.1	96 29.1 +02.6	S 17 44.0 +00.0	09						
10	293 30.3 +00.9	N 18 50.2 -00.4	92 16.7 +02.5	S 11 39.8 +00.0	111 31.7 +02.6	S 17 44.0 +00.1	10						
11	308 31.2 +00.9	N 18 49.8 -00.5	107 19.2 +02.5	S 11 39.8 +00.0	126 34.3 +02.6	S 17 44.1 +00.0	11						
12	323 32.1 +00.9	N 18 49.3 -00.4	122 21.7 +02.5	S 11 39.8 +00.1	141 36.9 +02.6	S 17 44.1 +00.1	12						
13	338 33.0 +00.9	N 18 48.9 -00.4	137 24.2 +02.5	S 11 39.9 +00.0	156 39.5 +02.6	S 17 44.2 +00.0	13						
14	353 33.9 +00.9	N 18 48.5 -00.5	152 26.7 +02.6	S 11 39.9 +00.0	171 42.1 +02.6	S 17 44.2 +00.1	14						
15	8 34.8 +00.9	N 18 48.0 -00.4	167 29.3 +02.5	S 11 39.9 +00.1	186 44.7 +02.6	S 17 44.3 +00.0	15						
16	23 35.7 +00.9	N 18 47.6 -00.4	182 31.8 +02.5	S 11 40.0 +00.0	201 47.3 +02.6	S 17 44.3 +00.0	16						
17	38 36.6 +00.9	N 18 47.2 -00.5	197 34.3 +02.5	S 11 40.0 +00.0	216 49.9 +02.5	S 17 44.3 +00.1	17						
18	53 37.5 +00.9	N 18 46.7 -00.4	212 36.8 +02.6	S 11 40.0 +00.1	231 52.4 +02.6	S 17 44.4 +00.0	18						
19	68 38.4 +00.9	N 18 46.3 -00.4	227 39.4 +02.5	S 11 40.1 +00.0	246 55.0 +02.6	S 17 44.4 +00.1	19						
20	83 39.3 +00.9	N 18 45.9 -00.5	242 41.9 +02.5	S 11 40.1 +00.0	261 57.6 +02.6	S 17 44.5 +00.0	20						
21	98 40.2 +00.9	N 18 45.4 -00.4	257 44.4 +02.5	S 11 40.1 +00.1	277 00.2 +02.6	S 17 44.5 +00.1	21						
22	113 41.1 +00.9	N 18 45.0 -00.4	272 46.9 +02.5	S 11 40.2 +00.0	292 02.8 +02.6	S 17 44.6 +00.0	22						
23	128 42.0 +00.9	N 18 44.6 -00.5	287 49.4 +02.6	S 11 40.2 +00.0	307 05.4 +02.6	S 17 44.6 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 227° 227° 227° 227° 227° 226°		SHA 026° 026° 026° 026° 026° 026°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 14:25		Greenwich Culmination Time: 03:51		Greenwich Culmination Time: 02:35								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 08.6 -00.1	N 23 13.5 -00.1	152 26.6 -00.7	N 21 14.0 -00.7	299 59.7 -29.6	S 15 04.9 -11.9	00						
01	194 08.5 -00.2	N 23 13.4 -00.1	167 25.9 -00.7	N 21 13.3 -00.7	314 30.1 -29.6	S 14 53.0 -12.0	01						
02	209 08.3 -00.1	N 23 13.3 -00.2	182 25.2 -00.8	N 21 12.6 -00.6	329 00.5 -29.4	S 14 41.0 -12.0	02						
03	224 08.2 -00.1	N 23 13.1 -00.1	197 24.4 -00.7	N 21 12.0 -00.7	343 31.1 -29.3	S 14 29.0 -12.1	03						
04	239 08.1 -00.1	N 23 13.0 -00.1	212 23.7 -00.7	N 21 11.3 -00.6	358 01.8 -29.2	S 14 16.9 -12.1	04						
05	254 08.0 -00.2	N 23 12.9 -00.2	227 23.0 -00.7	N 21 10.7 -00.7	12 32.6 -29.1	S 14 04.8 -12.2	05						
06	269 07.8 -00.1	N 23 12.7 -00.1	242 22.3 -00.7	N 21 10.0 -00.7	27 03.5 -29.0	S 13 52.6 -12.3	06						
07	284 07.7 -00.1	N 23 12.6 -00.2	257 21.6 -00.7	N 21 09.3 -00.6	41 34.5 -28.9	S 13 40.3 -12.3	07						
08	299 07.6 -00.1	N 23 12.4 -00.1	272 20.9 -00.7	N 21 08.7 -00.7	56 05.6 -28.8	S 13 28.0 -12.3	08						
09	314 07.5 -00.1	N 23 12.3 -00.1	287 20.2 -00.7	N 21 08.0 -00.7	70 36.8 -28.7	S 13 15.7 -12.4	09						
10	329 07.4 -00.2	N 23 12.2 -00.2	302 19.5 -00.7	N 21 07.3 -00.7	85 08.1 -28.6	S 13 03.3 -12.5	10						
11	344 07.2 -00.1	N 23 12.0 -00.1	317 18.8 -00.7	N 21 06.6 -00.6	99 39.5 -28.6	S 12 50.8 -12.5	11						
12	359 07.1 -00.1	N 23 11.9 -00.2	332 18.1 -00.7	N 21 06.0 -00.7	114 10.9 -28.4	S 12 38.3 -12.5	12						
13	14 07.0 -00.1	N 23 11.7 -00.1	347 17.4 -00.7	N 21 05.3 -00.7	128 42.5 -28.3	S 12 25.8 -12.6	13						
14	29 06.9 -00.2	N 23 11.6 -00.2	2 16.7 -00.7	N 21 04.6 -00.6	143 14.2 -28.3	S 12 13.2 -12.6	14						
15	44 06.7 -00.1	N 23 11.4 -00.1	17 16.0 -00.7	N 21 04.0 -00.7	157 45.9 -28.2	S 12 00.6 -12.6	15						
16	59 06.6 -00.1	N 23 11.3 -00.2	32 15.3 -00.7	N 21 03.3 -00.7	172 17.7 -28.0	S 11 48.0 -12.7	16						
17	74 06.5 -00.1	N 23 11.1 -00.1	47 14.6 -00.7	N 21 02.6 -00.7	186 49.7 -28.0	S 11 35.3 -12.7	17						
18	89 06.4 -00.2	N 23 11.0 -00.1	62 13.9 -00.7	N 21 01.9 -00.7	201 21.7 -27.9	S 11 22.6 -12.8	18						
19	104 06.2 -00.1	N 23 10.9 -00.2	77 13.2 -00.7	N 21 01.2 -00.6	215 53.8 -27.9	S 11 09.8 -12.8	19						
20	119 06.1 -00.1	N 23 10.7 -00.1	92 12.5 -00.7	N 21 00.6 -00.7	230 25.9 -27.7	S 10 57.0 -12.8	20						
21	134 06.0 -00.1	N 23 10.6 -00.2	107 11.8 -00.7	N 20 59.9 -00.7	244 58.2 -27.7	S 10 44.2 -12.8	21						
22	149 05.9 -00.2	N 23 10.4 -00.1	122 11.1 -00.7	N 20 59.2 -00.7	259 30.5 -27.5	S 10 31.4 -12.9	22						
23	164 05.7 -00.1	N 23 10.3 -00.2	137 10.4 -00.7	N 20 58.5 -00.7	274 03.0 -27.5	S 10 18.5 -12.9	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'6 15'6 15'5 15'5 15'5 15'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 57'3 57'1 57'0 56'9 56'7 56'6								
	SHA 262° 262° 261° 261° 261° 261°		SHA 235° 235° 235° 234° 234° 234°		SHA 022° 020° 017° 015° 013° 011°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 13:50		Greenwich Culmination Time: 04:08								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	143 42.9 +00.9	N 18 44.1 -00.4	302 52.0 +02.5	S 11 40.2 +00.1	322 08.0 +02.6	S 17 44.6 +00.1	00						
01	158 43.8 +00.9	N 18 43.7 -00.4	317 54.5 +02.5	S 11 40.3 +00.0	337 10.6 +02.6	S 17 44.7 +00.0	01						
02	173 44.7 +00.9	N 18 43.3 -00.5	332 57.0 +02.5	S 11 40.3 +00.0	352 13.2 +02.6	S 17 44.7 +00.1	02						
03	188 45.6 +00.9	N 18 42.8 -00.4	347 59.5 +02.6	S 11 40.3 +00.1	7 15.8 +02.6	S 17 44.8 +00.0	03						
04	203 46.5 +00.8	N 18 42.4 -00.5	3 02.1 +02.5	S 11 40.4 +00.0	22 18.4 +02.6	S 17 44.8 +00.1	04						
05	218 47.3 +00.9	N 18 41.9 -00.4	18 04.6 +02.5	S 11 40.4 +00.0	37 21.0 +02.6	S 17 44.9 +00.0	05						
06	233 48.2 +00.9	N 18 41.5 -00.4	33 07.1 +02.5	S 11 40.4 +00.1	52 23.6 +02.6	S 17 44.9 +00.0	06						
07	248 49.1 +00.9	N 18 41.1 -00.5	48 09.6 +02.6	S 11 40.5 +00.0	67 26.2 +02.6	S 17 44.9 +00.1	07						
08	263 50.0 +00.9	N 18 40.6 -00.4	63 12.2 +02.5	S 11 40.5 +00.0	82 28.8 +02.6	S 17 45.0 +00.0	08						
09	278 50.9 +00.9	N 18 40.2 -00.4	78 14.7 +02.5	S 11 40.5 +00.1	97 31.4 +02.6	S 17 45.0 +00.1	09						
10	293 51.8 +00.9	N 18 39.8 -00.5	93 17.2 +02.5	S 11 40.6 +00.0	112 34.0 +02.6	S 17 45.1 +00.0	10						
11	308 52.7 +00.9	N 18 39.3 -00.4	108 19.7 +02.6	S 11 40.6 +00.1	127 36.6 +02.6	S 17 45.1 +00.1	11						
12	323 53.6 +00.9	N 18 38.9 -00.5	123 22.3 +02.5	S 11 40.7 +00.0	142 39.2 +02.6	S 17 45.2 +00.0	12						
13	338 54.5 +00.9	N 18 38.4 -00.4	138 24.8 +02.5	S 11 40.7 +00.0	157 41.8 +02.6	S 17 45.2 +00.0	13						
14	353 55.4 +00.9	N 18 38.0 -00.4	153 27.3 +02.6	S 11 40.7 +00.1	172 44.4 +02.6	S 17 45.2 +00.1	14						
15	8 56.3 +00.9	N 18 37.6 -00.5	168 29.9 +02.5	S 11 40.8 +00.0	187 47.0 +02.6	S 17 45.3 +00.0	15						
16	23 57.2 +00.9	N 18 37.1 -00.4	183 32.4 +02.5	S 11 40.8 +00.0	202 49.6 +02.6	S 17 45.3 +00.1	16						
17	38 58.1 +00.9	N 18 36.7 -00.4	198 34.9 +02.5	S 11 40.8 +00.1	217 52.2 +02.6	S 17 45.4 +00.0	17						
18	53 59.0 +00.9	N 18 36.3 -00.5	213 37.4 +02.6	S 11 40.9 +00.0	232 54.8 +02.6	S 17 45.4 +00.1	18						
19	68 59.9 +00.9	N 18 35.8 -00.4	228 40.0 +02.5	S 11 40.9 +00.1	247 57.4 +02.6	S 17 45.5 +00.0	19						
20	84 00.8 +00.9	N 18 35.4 -00.5	243 42.5 +02.5	S 11 41.0 +00.0	262 60.0 +02.6	S 17 45.5 +00.1	20						
21	99 01.7 +00.9	N 18 34.9 -00.4	258 45.0 +02.6	S 11 41.0 +00.0	278 02.6 +02.6	S 17 45.6 +00.0	21						
22	114 02.6 +00.9	N 18 34.5 -00.4	273 47.6 +02.5	S 11 41.0 +00.1	293 05.2 +02.6	S 17 45.6 +00.0	22						
23	129 03.5 +00.9	N 18 34.1 -00.5	288 50.1 +02.5	S 11 41.1 +00.0	308 07.8 +02.6	S 17 45.6 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 226° 226° 226° 226° 226° 226°		SHA 026° 026° 026° 026° 026° 026°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 14:24		Greenwich Culmination Time: 03:47		Greenwich Culmination Time: 02:31								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 71%				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	179 05.6 -00.1	N 23	10.1 -00.1	152 09.7 -00.7	N 20	57.8 -00.6	288 35.5 -27.4	S 10	05.6 -13.0				
01	194 05.5 -00.1	N 23	10.0 -00.2	167 09.0 -00.7	N 20	57.2 -00.7	303 08.1 -27.4	S 09	52.6 -12.9				
02	209 05.4 -00.2	N 23	09.8 -00.2	182 08.3 -00.7	N 20	56.5 -00.7	317 40.7 -27.2	S 09	39.7 -13.0				
03	224 05.2 -00.1	N 23	09.6 -00.1	197 07.6 -00.7	N 20	55.8 -00.7	332 13.5 -27.2	S 09	26.7 -13.1				
04	239 05.1 -00.1	N 23	09.5 -00.2	212 06.9 -00.7	N 20	55.1 -00.7	346 46.3 -27.1	S 09	13.6 -13.0				
05	254 05.0 -00.1	N 23	09.3 -00.1	227 06.2 -00.7	N 20	54.4 -00.7	1 19.2 -27.1	S 09	00.6 -13.1				
06	269 04.9 -00.1	N 23	09.2 -00.2	242 05.5 -00.6	N 20	53.7 -00.7	15 52.1 -27.0	S 08	47.5 -13.1				
07	284 04.8 -00.2	N 23	09.0 -00.1	257 04.9 -00.7	N 20	53.0 -00.7	30 25.1 -26.9	S 08	34.4 -13.1				
08	299 04.6 -00.1	N 23	08.9 -00.2	272 04.2 -00.7	N 20	52.3 -00.7	44 58.2 -26.8	S 08	21.3 -13.1				
09	314 04.5 -00.1	N 23	08.7 -00.1	287 03.5 -00.7	N 20	51.6 -00.6	59 31.4 -26.8	S 08	08.2 -13.2				
10	329 04.4 -00.1	N 23	08.6 -00.2	302 02.8 -00.7	N 20	51.0 -00.7	74 04.6 -26.6	S 07	55.0 -13.1				
11	344 04.3 -00.2	N 23	08.4 -00.2	317 02.1 -00.7	N 20	50.3 -00.7	88 38.0 -26.7	S 07	41.9 -13.2				
12	359 04.1 -00.1	N 23	08.2 -00.1	332 01.4 -00.7	N 20	49.6 -00.7	103 11.3 -26.5	S 07	28.7 -13.2				
13	14 04.0 -00.1	N 23	08.1 -00.2	347 00.7 -00.7	N 20	48.9 -00.7	117 44.8 -26.5	S 07	15.5 -13.2				
14	29 03.9 -00.1	N 23	07.9 -00.1	2 00.0 -00.7	N 20	48.2 -00.7	132 18.3 -26.5	S 07	02.3 -13.3				
15	44 03.8 -00.1	N 23	07.8 -00.2	16 59.3 -00.7	N 20	47.5 -00.7	146 51.8 -26.4	S 06	49.0 -13.2				
16	59 03.7 -00.2	N 23	07.6 -00.2	31 58.6 -00.6	N 20	46.8 -00.7	161 25.4 -26.3	S 06	35.8 -13.3				
17	74 03.5 -00.1	N 23	07.4 -00.1	46 58.0 -00.7	N 20	46.1 -00.7	175 59.1 -26.3	S 06	22.5 -13.2				
18	89 03.4 -00.1	N 23	07.3 -00.2	61 57.3 -00.7	N 20	45.4 -00.7	190 32.8 -26.2	S 06	09.3 -13.3				
19	104 03.3 -00.1	N 23	07.1 -00.2	76 56.6 -00.7	N 20	44.7 -00.7	205 06.6 -26.1	S 05	56.0 -13.3				
20	119 03.2 -00.1	N 23	06.9 -00.1	91 55.9 -00.7	N 20	44.0 -00.7	219 40.5 -26.1	S 05	42.7 -13.3				
21	134 03.1 -00.2	N 23	06.8 -00.2	106 55.2 -00.7	N 20	43.3 -00.7	234 14.4 -26.0	S 05	29.4 -13.3				
22	149 02.9 -00.1	N 23	06.6 -00.2	121 54.5 -00.6	N 20	42.6 -00.8	248 48.4 -26.0	S 05	16.1 -13.3				
23	164 02.8 -00.1	N 23	06.4 -00.1	136 53.9 -00.7	N 20	41.8 -00.7	263 22.4 -26.0	S 05	02.8 -13.3				
	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 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'4 15'3 15'3 15'3 15'2 15'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 56'4 56'3 56'2 56'0 55'9 55'8						
	SHA 261° 261° 260° 260° 260° 260°			SHA 234° 234° 233° 233° 233° 233°			SHA 009° 007° 005° 003° 002° 360°						
	Greenwich Culmination Time: 12:03			Greenwich Culmination Time: 13:51			Greenwich Culmination Time: 04:54						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	144 04.4 +00.9	N 18	33.6 -00.4	303 52.6 +02.6	S 11	41.1 +00.0	323 10.4 +02.6	S 17	45.7 +00.0				
01	159 05.3 +00.9	N 18	33.2 -00.5	318 55.2 +02.5	S 11	41.1 +00.1	338 13.0 +02.6	S 17	45.7 +00.1				
02	174 06.2 +00.9	N 18	32.7 -00.4	333 57.7 +02.5	S 11	41.2 +00.0	353 15.6 +02.6	S 17	45.8 +00.0				
03	189 07.1 +00.9	N 18	32.3 -00.4	349 00.2 +02.6	S 11	41.2 +00.1	8 18.2 +02.6	S 17	45.8 +00.1				
04	204 08.0 +00.9	N 18	31.9 -00.5	4 02.8 +02.5	S 11	41.3 +00.0	23 20.8 +02.6	S 17	45.9 +00.0				
05	219 08.9 +00.9	N 18	31.4 -00.4	19 05.3 +02.5	S 11	41.3 +00.0	38 23.4 +02.6	S 17	45.9 +00.0				
06	234 09.8 +00.9	N 18	31.0 -00.5	34 07.8 +02.5	S 11	41.3 +00.1	53 26.0 +02.6	S 17	45.9 +00.1				
07	249 10.7 +00.9	N 18	30.5 -00.4	49 10.3 +02.6	S 11	41.4 +00.0	68 28.6 +02.6	S 17	46.0 +00.0				
08	264 11.6 +00.9	N 18	30.1 -00.4	64 12.9 +02.5	S 11	41.4 +00.0	83 31.2 +02.6	S 17	46.0 +00.1				
09	279 12.5 +00.9	N 18	29.7 -00.5	79 15.4 +02.6	S 11	41.4 +00.1	98 33.8 +02.6	S 17	46.1 +00.0				
10	294 13.4 +00.9	N 18	29.2 -00.4	94 18.0 +02.5	S 11	41.5 +00.0	113 36.4 +02.6	S 17	46.1 +00.1				
11	309 14.3 +00.9	N 18	28.8 -00.5	109 20.5 +02.5	S 11	41.5 +00.1	128 39.0 +02.6	S 17	46.2 +00.0				
12	324 15.2 +00.9	N 18	28.3 -00.4	124 23.0 +02.6	S 11	41.6 +00.0	143 41.6 +02.6	S 17	46.2 +00.1				
13	339 16.1 +00.9	N 18	27.9 -00.5	139 25.6 +02.5	S 11	41.6 +00.0	158 44.2 +02.6	S 17	46.3 +00.0				
14	354 17.0 +00.9	N 18	27.4 -00.4	154 28.1 +02.5	S 11	41.6 +00.1	173 46.8 +02.6	S 17	46.3 +00.0				
15	9 17.9 +00.9	N 18	27.0 -00.4	169 30.6 +02.6	S 11	41.7 +00.0	188 49.4 +02.6	S 17	46.3 +00.1				
16	24 18.8 +00.9	N 18	26.6 -00.5	184 33.2 +02.5	S 11	41.7 +00.1	203 52.0 +02.6	S 17	46.4 +00.0				
17	39 19.7 +00.9	N 18	26.1 -00.4	199 35.7 +02.5	S 11	41.8 +00.0	218 54.6 +02.6	S 17	46.4 +00.1				
18	54 20.6 +00.9	N 18	25.7 -00.5	214 38.2 +02.6	S 11	41.8 +00.0	233 57.2 +02.6	S 17	46.5 +00.0				
19	69 21.5 +00.9	N 18	25.2 -00.4	229 40.8 +02.5	S 11	41.8 +00.1	248 59.8 +02.6	S 17	46.5 +00.1				
20	84 22.4 +00.9	N 18	24.8 -00.5	244 43.3 +02.5	S 11	41.9 +00.0	264 02.4 +02.6	S 17	46.6 +00.0				
21	99 23.3 +00.9	N 18	24.3 -00.4	259 45.8 +02.6	S 11	41.9 +00.1	279 05.0 +02.6	S 17	46.6 +00.0				
22	114 24.2 +00.9	N 18	23.9 -00.5	274 48.4 +02.5	S 11	42.0 +00.0	294 07.6 +02.6	S 17	46.6 +00.1				
23	129 25.1 +00.9	N 18	23.4 -00.4	289 50.9 +02.6	S 11	42.0 +00.0	309 10.2 +02.6	S 17	46.7 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			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 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 226° 226° 226° 225° 225° 225°			SHA 026° 026° 026° 026° 026° 026°			SHA 045° 045° 045° 045° 045° 045°						
	Greenwich Culmination Time: 14:22			Greenwich Culmination Time: 03:43			Greenwich Culmination Time: 02:26						