

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 13.7 -00.3	S	23 03.5 -00.2	142 40.9 -00.7	S	18 15.9 -00.9	110 56.9 -25.6	S	09 58.5 -10.7				
01	194 13.4 -00.3	S	23 03.3 -00.2	157 40.2 -00.6	S	18 15.0 -00.9	125 31.3 -25.6	S	09 47.8 -10.7				
02	209 13.1 -00.3	S	23 03.1 -00.1	172 39.6 -00.6	S	18 14.1 -00.9	140 05.7 -25.6	S	09 37.1 -10.8				
03	224 12.8 -00.3	S	23 03.0 -00.2	187 39.0 -00.6	S	18 13.2 -01.0	154 40.1 -25.5	S	09 26.3 -10.8				
04	239 12.5 -00.3	S	23 02.8 -00.2	202 38.4 -00.6	S	18 12.2 -00.9	169 14.6 -25.5	S	09 15.5 -10.8				
05	254 12.2 -00.3	S	23 02.6 -00.2	217 37.8 -00.6	S	18 11.3 -00.9	183 49.1 -25.4	S	09 04.7 -10.9				
06	269 11.9 -00.3	S	23 02.4 -00.2	232 37.2 -00.6	S	18 10.4 -00.9	198 23.7 -25.4	S	08 53.8 -10.9				
07	284 11.6 -00.3	S	23 02.2 -00.2	247 36.6 -00.6	S	18 09.5 -00.9	212 58.3 -25.4	S	08 42.9 -10.9				
08	299 11.3 -00.3	S	23 02.0 -00.2	262 36.0 -00.6	S	18 08.6 -01.0	227 32.9 -25.4	S	08 32.0 -11.0				
09	314 11.0 -00.2	S	23 01.8 -00.2	277 35.4 -00.6	S	18 07.6 -00.9	242 07.5 -25.3	S	08 21.0 -11.0				
10	329 10.8 -00.3	S	23 01.6 -00.2	292 34.8 -00.7	S	18 06.7 -00.9	256 42.2 -25.3	S	08 10.0 -11.0				
11	344 10.5 -00.3	S	23 01.4 -00.2	307 34.1 -00.6	S	18 05.8 -01.0	271 16.9 -25.2	S	07 59.0 -11.0				
12	359 10.2 -00.3	S	23 01.2 -00.2	322 33.5 -00.6	S	18 04.8 -00.9	285 51.7 -25.2	S	07 48.0 -11.1				
13	14 09.9 -00.3	S	23 01.0 -00.2	337 32.9 -00.6	S	18 03.9 -00.9	300 26.5 -25.2	S	07 36.9 -11.1				
14	29 09.6 -00.3	S	23 00.8 -00.2	352 32.3 -00.6	S	18 03.0 -00.9	315 01.3 -25.2	S	07 25.8 -11.1				
15	44 09.3 -00.3	S	23 00.6 -00.2	7 31.7 -00.6	S	18 02.1 -01.0	329 36.1 -25.1	S	07 14.7 -11.2				
16	59 09.0 -00.3	S	23 00.4 -00.2	22 31.1 -00.6	S	18 01.1 -00.9	344 11.0 -25.1	S	07 03.5 -11.2				
17	74 08.7 -00.3	S	23 00.2 -00.2	37 30.5 -00.6	S	18 00.2 -00.9	358 45.9 -25.1	S	06 52.3 -11.2				
18	89 08.4 -00.3	S	22 60.0 -00.3	52 29.9 -00.6	S	17 59.3 -01.0	13 20.8 -25.1	S	06 41.1 -11.2				
19	104 08.1 -00.3	S	22 59.7 -00.2	67 29.3 -00.6	S	17 58.3 -00.9	27 55.7 -25.0	S	06 29.9 -11.2				
20	119 07.8 -00.3	S	22 59.5 -00.2	82 28.7 -00.6	S	17 57.4 -00.9	42 30.7 -25.0	S	06 18.7 -11.3				
21	134 07.5 -00.3	S	22 59.3 -00.2	97 28.1 -00.6	S	17 56.5 -01.0	57 05.7 -25.0	S	06 07.4 -11.3				
22	149 07.2 -00.3	S	22 59.1 -00.2	112 27.5 -00.6	S	17 55.5 -00.9	71 40.7 -25.0	S	05 56.1 -11.3				
23	164 06.9 -00.3	S	22 58.9 -00.2	127 26.9 -00.6	S	17 54.6 -00.9	86 15.7 -24.9	S	05 44.8 -11.4				
UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
SD 16'3 16'3 16'3 16'3 16'3 16'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 14'8 14'8 14'8 14'8 14'8 14'8					
HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 54'3 54'2 54'2 54'2 54'2 54'2					
SHA 079° 079° 079° 078° 078° 078°				SHA 042° 042° 042° 042° 042° 041°				SHA 010° 008° 006° 004° 002° 001°					
Greenwich Culmination Time: 12:03				Greenwich Culmination Time: 14:29				Greenwich Culmination Time: 17:05					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	223 53.5 +00.7	S	19 26.7 +00.4	182 51.5 +01.8	S	23 10.8 +00.0	167 00.2 +02.1	S	21 41.1 -00.1				
01	238 54.2 +00.7	S	19 27.1 +00.4	197 53.3 +01.9	S	23 10.8 -00.1	182 02.3 +02.2	S	21 41.0 +00.0				
02	253 54.9 +00.8	S	19 27.5 +00.4	212 55.2 +01.8	S	23 10.7 +00.0	197 04.5 +02.1	S	21 41.0 -00.1				
03	268 55.7 +00.7	S	19 27.9 +00.4	227 57.0 +01.9	S	23 10.7 +00.0	212 06.6 +02.2	S	21 40.9 +00.0				
04	283 56.4 +00.7	S	19 28.3 +00.4	242 58.9 +01.8	S	23 10.7 +00.0	227 08.8 +02.1	S	21 40.9 -00.1				
05	298 57.1 +00.8	S	19 28.7 +00.4	258 00.7 +01.8	S	23 10.7 -00.1	242 10.9 +02.2	S	21 40.8 +00.0				
06	313 57.9 +00.7	S	19 29.1 +00.4	273 02.5 +01.9	S	23 10.6 +00.0	257 13.1 +02.1	S	21 40.8 +00.0				
07	328 58.6 +00.7	S	19 29.5 +00.4	288 04.4 +01.8	S	23 10.6 +00.0	272 15.2 +02.2	S	21 40.8 -00.1				
08	343 59.3 +00.7	S	19 29.9 +00.4	303 06.2 +01.9	S	23 10.6 +00.0	287 17.4 +02.1	S	21 40.7 +00.0				
09	359 00.0 +00.8	S	19 30.3 +00.3	318 08.1 +01.8	S	23 10.6 -00.1	302 19.5 +02.2	S	21 40.7 -00.1				
10	14 00.8 +00.7	S	19 30.6 +00.4	333 09.9 +01.8	S	23 10.5 +00.0	317 21.7 +02.1	S	21 40.6 +00.0				
11	29 01.5 +00.7	S	19 31.0 +00.4	348 11.7 +01.9	S	23 10.5 +00.0	332 23.8 +02.2	S	21 40.6 -00.1				
12	44 02.2 +00.8	S	19 31.4 +00.4	3 13.6 +01.8	S	23 10.5 +00.0	347 26.0 +02.1	S	21 40.5 +00.0				
13	59 03.0 +00.7	S	19 31.8 +00.4	18 15.4 +01.8	S	23 10.5 -00.1	2 28.1 +02.2	S	21 40.5 +00.0				
14	74 03.7 +00.7	S	19 32.2 +00.4	33 17.2 +01.9	S	23 10.4 +00.0	17 30.3 +02.2	S	21 40.5 -00.1				
15	89 04.4 +00.8	S	19 32.6 +00.4	48 19.1 +01.8	S	23 10.4 +00.0	32 32.5 +02.1	S	21 40.4 +00.0				
16	104 05.2 +00.7	S	19 33.0 +00.4	63 20.9 +01.9	S	23 10.4 +00.0	47 34.6 +02.2	S	21 40.4 -00.1				
17	119 05.9 +00.7	S	19 33.4 +00.4	78 22.8 +01.8	S	23 10.4 -00.1	62 36.8 +02.1	S	21 40.3 +00.0				
18	134 06.6 +00.7	S	19 33.8 +00.4	93 24.6 +01.8	S	23 10.3 +00.0	77 38.9 +02.2	S	21 40.3 -00.1				
19	149 07.3 +00.8	S	19 34.2 +00.4	108 26.4 +01.9	S	23 10.3 +00.0	92 41.1 +02.1	S	21 40.2 +00.0				
20	164 08.1 +00.7	S	19 34.6 +00.4	123 28.3 +01.8	S	23 10.3 -00.1	107 43.2 +02.2	S	21 40.2 +00.0				
21	179 08.8 +00.7	S	19 35.0 +00.3	138 30.1 +01.8	S	23 10.2 +00.0	122 45.4 +02.1	S	21 40.2 -00.1				
22	194 09.5 +00.7	S	19 35.3 +00.4	153 31.9 +01.9	S	23 10.2 +00.0	137 47.5 +02.2	S	21 40.1 +00.0				
23	209 10.2 +00.8	S	19 35.7 +00.4	168 33.8 +01.8	S	23 10.2 +00.0	152 49.7 +02.1	S	21 40.1 -00.1				
UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
SD 00'0 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 124° 124° 123° 123° 123° 123°				SHA 083° 083° 083° 083° 083° 083°				SHA 067° 067° 067° 067° 067° 067°					
Greenwich Culmination Time: 09:03				Greenwich Culmination Time: 11:47				Greenwich Culmination Time: 12:50					

UT	Sun				Venus				Moon				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	179 06.6 -00.3	S 22 58.7 -00.2	142 26.3 -00.6	S 17 53.7 -01.0	100 50.8 -25.0	S 05 33.4 -11.3	00							
01	194 06.3 -00.3	S 22 58.5 -00.2	157 25.7 -00.6	S 17 52.7 -00.9	115 25.8 -24.9	S 05 22.1 -11.4	01							
02	209 06.0 -00.3	S 22 58.3 -00.2	172 25.1 -00.6	S 17 51.8 -01.0	130 00.9 -24.9	S 05 10.7 -11.4	02							
03	224 05.7 -00.3	S 22 58.1 -00.2	187 24.5 -00.6	S 17 50.8 -00.9	144 36.0 -24.8	S 04 59.3 -11.4	03							
04	239 05.4 -00.3	S 22 57.9 -00.3	202 23.9 -00.6	S 17 49.9 -00.9	159 11.2 -24.9	S 04 47.9 -11.4	04							
05	254 05.1 -00.3	S 22 57.6 -00.2	217 23.3 -00.6	S 17 49.0 -01.0	173 46.3 -24.9	S 04 36.5 -11.5	05							
06	269 04.8 -00.2	S 22 57.4 -00.2	232 22.7 -00.5	S 17 48.0 -00.9	188 21.4 -24.8	S 04 25.0 -11.5	06							
07	284 04.6 -00.3	S 22 57.2 -00.2	247 22.2 -00.6	S 17 47.1 -01.0	202 56.6 -24.8	S 04 13.5 -11.4	07							
08	299 04.3 -00.3	S 22 57.0 -00.2	262 21.6 -00.6	S 17 46.1 -00.9	217 31.8 -24.8	S 04 02.1 -11.5	08							
09	314 04.0 -00.3	S 22 56.8 -00.2	277 21.0 -00.6	S 17 45.2 -01.0	232 07.0 -24.8	S 03 50.6 -11.6	09							
10	329 03.7 -00.3	S 22 56.6 -00.3	292 20.4 -00.6	S 17 44.2 -00.9	246 42.2 -24.8	S 03 39.0 -11.5	10							
11	344 03.4 -00.3	S 22 56.3 -00.2	307 19.8 -00.6	S 17 43.3 -01.0	261 17.4 -24.8	S 03 27.5 -11.5	11							
12	359 03.1 -00.3	S 22 56.1 -00.2	322 19.2 -00.6	S 17 42.3 -00.9	275 52.6 -24.8	S 03 16.0 -11.6	12							
13	14 02.8 -00.3	S 22 55.9 -00.2	337 18.6 -00.6	S 17 41.4 -01.0	290 27.8 -24.7	S 03 04.4 -11.6	13							
14	29 02.5 -00.3	S 22 55.7 -00.2	352 18.0 -00.6	S 17 40.4 -00.9	305 03.1 -24.8	S 02 52.8 -11.5	14							
15	44 02.2 -00.3	S 22 55.5 -00.3	7 17.4 -00.6	S 17 39.5 -01.0	319 38.3 -24.7	S 02 41.3 -11.6	15							
16	59 01.9 -00.3	S 22 55.2 -00.2	22 16.8 -00.6	S 17 38.5 -00.9	334 13.6 -24.8	S 02 29.7 -11.6	16							
17	74 01.6 -00.3	S 22 55.0 -00.2	37 16.2 -00.5	S 17 37.6 -01.0	348 48.8 -24.7	S 02 18.1 -11.6	17							
18	89 01.3 -00.3	S 22 54.8 -00.2	52 15.7 -00.6	S 17 36.6 -00.9	3 24.1 -24.8	S 02 06.5 -11.7	18							
19	104 01.0 -00.2	S 22 54.6 -00.3	67 15.1 -00.6	S 17 35.7 -01.0	17 59.3 -24.7	S 01 54.8 -11.6	19							
20	119 00.8 -00.3	S 22 54.3 -00.2	82 14.5 -00.6	S 17 34.7 -00.9	32 34.6 -24.8	S 01 43.2 -11.6	20							
21	134 00.5 -00.3	S 22 54.1 -00.2	97 13.9 -00.6	S 17 33.8 -01.0	47 09.8 -24.7	S 01 31.6 -11.7	21							
22	149 00.2 -00.3	S 22 53.9 -00.2	112 13.3 -00.6	S 17 32.8 -00.9	61 45.1 -24.8	S 01 19.9 -11.7	22							
23	163 59.9 -00.3	S 22 53.7 -00.3	127 12.7 -00.5	S 17 31.9 -01.0	76 20.3 -24.7	S 01 08.2 -11.6	23							
UT 02 06 10 14 18 22	SD 16'3 16'3 16'3 16'3 16'3 16'3	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 078° 078° 078° 077° 077° 077°	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 041° 041° 041° 041° 040° 040°	Greenwich Culmination Time: 14:30	UT 02 06 10 14 18 22	SD 14'8 14'8 14'8 14'8 14'8 14'8	HP 54'2 54'2 54'2 54'2 54'2 54'2	SHA 359° 357° 355° 353° 352° 350°	Greenwich Culmination Time: 17:46

UT	Mars				Jupiter				Saturn				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	224 11.0 +00.7	S 19 36.1 +00.4	183 35.6 +01.9	S 23 10.2 -00.1	167 51.8 +02.2	S 21 40.0 +00.0	00							
01	239 11.7 +00.7	S 19 36.5 +00.4	198 37.5 +01.8	S 23 10.1 +00.0	182 54.0 +02.1	S 21 40.0 -00.1	01							
02	254 12.4 +00.8	S 19 36.9 +00.4	213 39.3 +01.8	S 23 10.1 +00.0	197 56.1 +02.2	S 21 39.9 +00.0	02							
03	269 13.2 +00.7	S 19 37.3 +00.4	228 41.1 +01.9	S 23 10.1 +00.0	212 58.3 +02.1	S 21 39.9 +00.0	03							
04	284 13.9 +00.7	S 19 37.7 +00.4	243 43.0 +01.8	S 23 10.1 -00.1	228 00.4 +02.2	S 21 39.9 -00.1	04							
05	299 14.6 +00.7	S 19 38.1 +00.4	258 44.8 +01.9	S 23 10.0 +00.0	243 02.6 +02.1	S 21 39.8 +00.0	05							
06	314 15.3 +00.8	S 19 38.5 +00.3	273 46.7 +01.8	S 23 10.0 +00.0	258 04.7 +02.2	S 21 39.8 -00.1	06							
07	329 16.1 +00.7	S 19 38.8 +00.4	288 48.5 +01.8	S 23 10.0 +00.0	273 06.9 +02.1	S 21 39.7 +00.0	07							
08	344 16.8 +00.7	S 19 39.2 +00.4	303 50.3 +01.9	S 23 10.0 -00.1	288 09.0 +02.2	S 21 39.7 -00.1	08							
09	359 17.5 +00.7	S 19 39.6 +00.4	318 52.2 +01.8	S 23 09.9 +00.0	303 11.2 +02.1	S 21 39.6 +00.0	09							
10	14 18.2 +00.8	S 19 40.0 +00.4	333 54.0 +01.8	S 23 09.9 +00.0	318 13.3 +02.2	S 21 39.6 +00.0	10							
11	29 19.0 +00.7	S 19 40.4 +00.4	348 55.8 +01.9	S 23 09.9 +00.0	333 15.5 +02.1	S 21 39.6 -00.1	11							
12	44 19.7 +00.7	S 19 40.8 +00.4	3 57.7 +01.8	S 23 09.9 -00.1	348 17.6 +02.2	S 21 39.5 +00.0	12							
13	59 20.4 +00.7	S 19 41.2 +00.4	18 59.5 +01.9	S 23 09.8 +00.0	3 19.8 +02.2	S 21 39.5 -00.1	13							
14	74 21.1 +00.8	S 19 41.6 +00.3	34 01.4 +01.8	S 23 09.8 +00.0	18 22.0 +02.1	S 21 39.4 +00.0	14							
15	89 21.9 +00.7	S 19 41.9 +00.4	49 03.2 +01.8	S 23 09.8 -00.1	33 24.1 +02.2	S 21 39.4 -00.1	15							
16	104 22.6 +00.7	S 19 42.3 +00.4	64 05.0 +01.9	S 23 09.7 +00.0	48 26.3 +02.1	S 21 39.3 +00.0	16							
17	119 23.3 +00.7	S 19 42.7 +00.4	79 06.9 +01.8	S 23 09.7 +00.0	63 28.4 +02.2	S 21 39.3 -00.1	17							
18	134 24.0 +00.8	S 19 43.1 +00.4	94 08.7 +01.9	S 23 09.7 +00.0	78 30.6 +02.1	S 21 39.2 +00.0	18							
19	149 24.8 +00.7	S 19 43.5 +00.4	109 10.6 +01.8	S 23 09.7 -00.1	93 32.7 +02.2	S 21 39.2 +00.0	19							
20	164 25.5 +00.7	S 19 43.9 +00.3	124 12.4 +01.8	S 23 09.6 +00.0	108 34.9 +02.1	S 21 39.2 -00.1	20							
21	179 26.2 +00.7	S 19 44.2 +00.4	139 14.2 +01.9	S 23 09.6 +00.0	123 37.0 +02.2	S 21 39.1 +00.0	21							
22	194 26.9 +00.8	S 19 44.6 +00.4	154 16.1 +01.8	S 23 09.6 +00.0	138 39.2 +02.1	S 21 39.1 -00.1	22							
23	209 27.7 +00.7	S 19 45.0 +00.4	169 17.9 +01.8	S 23 09.6 -00.1	153 41.3 +02.2	S 21 39.0 +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 123° 123° 123° 123° 123° 122°	Greenwich Culmination Time: 09:02	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 082° 082° 082° 082° 082° 082°	Greenwich Culmination Time: 11:44	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 067° 067° 067° 067° 067° 067°	Greenwich Culmination Time: 12:46

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	
00	178 52.7 -00.3	S 22 47.7 -00.3	141 58.4 -00.6	S 17 07.7 -01.0	80 58.2 -25.1	N 03 44.0 +11.6	00						
01	193 52.4 -00.3	S 22 47.4 -00.2	156 57.8 -00.6	S 17 06.7 -01.0	95 33.1 -25.2	N 03 55.6 +11.7	01						
02	208 52.1 -00.3	S 22 47.2 -00.3	171 57.2 -00.5	S 17 05.7 -00.9	110 07.9 -25.2	N 04 07.3 +11.6	02						
03	223 51.8 -00.3	S 22 46.9 -00.2	186 56.7 -00.6	S 17 04.8 -01.0	124 42.7 -25.2	N 04 18.9 +11.6	03						
04	238 51.5 -00.3	S 22 46.7 -00.3	201 56.1 -00.6	S 17 03.8 -01.0	139 17.5 -25.3	N 04 30.5 +11.6	04						
05	253 51.2 -00.3	S 22 46.4 -00.2	216 55.5 -00.5	S 17 02.8 -01.0	153 52.2 -25.3	N 04 42.1 +11.6	05						
06	268 50.9 -00.3	S 22 46.2 -00.3	231 55.0 -00.6	S 17 01.8 -01.0	168 26.9 -25.3	N 04 53.7 +11.6	06						
07	283 50.6 -00.2	S 22 45.9 -00.2	246 54.4 -00.6	S 17 00.8 -00.9	183 01.6 -25.4	N 05 05.3 +11.6	07						
08	298 50.4 -00.3	S 22 45.7 -00.3	261 53.8 -00.5	S 16 59.9 -01.0	197 36.2 -25.3	N 05 16.9 +11.5	08						
09	313 50.1 -00.3	S 22 45.4 -00.2	276 53.3 -00.6	S 16 58.9 -01.0	212 10.9 -25.5	N 05 28.4 +11.6	09						
10	328 49.8 -00.3	S 22 45.2 -00.3	291 52.7 -00.5	S 16 57.9 -01.0	226 45.4 -25.4	N 05 40.0 +11.5	10						
11	343 49.5 -00.3	S 22 44.9 -00.3	306 52.2 -00.6	S 16 56.9 -01.0	241 20.0 -25.5	N 05 51.5 +11.5	11						
12	358 49.2 -00.3	S 22 44.6 -00.2	321 51.6 -00.6	S 16 55.9 -01.0	255 54.5 -25.6	N 06 03.0 +11.5	12						
13	13 48.9 -00.2	S 22 44.4 -00.3	336 51.0 -00.5	S 16 54.9 -01.0	270 28.9 -25.6	N 06 14.5 +11.5	13						
14	28 48.7 -00.3	S 22 44.1 -00.2	351 50.5 -00.6	S 16 53.9 -00.9	285 03.3 -25.6	N 06 26.0 +11.5	14						
15	43 48.4 -00.3	S 22 43.9 -00.3	6 49.9 -00.5	S 16 53.0 -01.0	299 37.7 -25.7	N 06 37.5 +11.4	15						
16	58 48.1 -00.3	S 22 43.6 -00.3	21 49.4 -00.6	S 16 52.0 -01.0	314 12.0 -25.7	N 06 48.9 +11.5	16						
17	73 47.8 -00.3	S 22 43.3 -00.2	36 48.8 -00.5	S 16 51.0 -01.0	328 46.3 -25.7	N 07 00.4 +11.4	17						
18	88 47.5 -00.3	S 22 43.1 -00.3	51 48.3 -00.6	S 16 50.0 -01.0	343 20.6 -25.8	N 07 11.8 +11.4	18						
19	103 47.2 -00.2	S 22 42.8 -00.2	66 47.7 -00.6	S 16 49.0 -01.0	357 54.8 -25.9	N 07 23.2 +11.4	19						
20	118 47.0 -00.3	S 22 42.6 -00.3	81 47.1 -00.5	S 16 48.0 -01.0	12 28.9 -25.9	N 07 34.6 +11.3	20						
21	133 46.7 -00.3	S 22 42.3 -00.3	96 46.6 -00.6	S 16 47.0 -01.0	27 03.0 -25.9	N 07 45.9 +11.3	21						
22	148 46.4 -00.3	S 22 42.0 -00.2	111 46.0 -00.5	S 16 46.0 -01.0	41 37.1 -26.0	N 07 57.2 +11.3	22						
23	163 46.1 -00.3	S 22 41.8 -00.3	126 45.5 -00.6	S 16 45.0 -01.0	56 11.1 -26.0	N 08 08.5 +11.3	23						
UT 02 06 10 14 18 22 SD 16'3 16'3 16'3 16'3 16'3 16'3 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 076° 076° 075° 075° 075° 075° Greenwich Culmination Time: 12:04				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 039° 039° 038° 038° 038° 038° Greenwich Culmination Time: 14:32				UT 02 06 10 14 18 22 SD 14'9 14'9 14'9 14'9 14'9 15'0 HP 54'5 54'6 54'7 54'7 54'8 54'9 SHA 337° 335° 333° 331° 330° 328° Greenwich Culmination Time: 19:08					
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	
00	224 45.7 +00.7	S 19 54.5 +00.4	185 03.9 +01.8	S 23 08.9 -00.1	169 35.1 +02.2	S 21 37.9 +00.0	00						
01	239 46.4 +00.7	S 19 54.9 +00.4	200 05.7 +01.9	S 23 08.8 +00.0	184 37.3 +02.1	S 21 37.9 +00.0	01						
02	254 47.1 +00.7	S 19 55.3 +00.3	215 07.6 +01.8	S 23 08.8 +00.0	199 39.4 +02.2	S 21 37.9 -00.1	02						
03	269 47.8 +00.8	S 19 55.6 +00.4	230 09.4 +01.8	S 23 08.8 +00.0	214 41.6 +02.1	S 21 37.8 +00.0	03						
04	284 48.6 +00.7	S 19 56.0 +00.4	245 11.2 +01.9	S 23 08.8 -00.1	229 43.7 +02.2	S 21 37.8 -00.1	04						
05	299 49.3 +00.7	S 19 56.4 +00.4	260 13.1 +01.8	S 23 08.7 +00.0	244 45.9 +02.1	S 21 37.7 +00.0	05						
06	314 50.0 +00.7	S 19 56.8 +00.3	275 14.9 +01.9	S 23 08.7 +00.0	259 48.0 +02.2	S 21 37.7 -00.1	06						
07	329 50.7 +00.7	S 19 57.1 +00.4	290 16.8 +01.8	S 23 08.7 -00.1	274 50.2 +02.1	S 21 37.6 +00.0	07						
08	344 51.4 +00.7	S 19 57.5 +00.4	305 18.6 +01.8	S 23 08.6 +00.0	289 52.3 +02.2	S 21 37.6 +00.0	08						
09	359 52.1 +00.8	S 19 57.9 +00.4	320 20.4 +01.9	S 23 08.6 +00.0	304 54.5 +02.1	S 21 37.6 -00.1	09						
10	14 52.9 +00.7	S 19 58.3 +00.3	335 22.3 +01.8	S 23 08.6 +00.0	319 56.6 +02.2	S 21 37.5 +00.0	10						
11	29 53.6 +00.7	S 19 58.6 +00.4	350 24.1 +01.9	S 23 08.6 -00.1	334 58.8 +02.1	S 21 37.5 -00.1	11						
12	44 54.3 +00.7	S 19 59.0 +00.4	5 26.0 +01.8	S 23 08.5 +00.0	350 00.9 +02.2	S 21 37.4 +00.0	12						
13	59 55.0 +00.7	S 19 59.4 +00.4	20 27.8 +01.8	S 23 08.5 +00.0	5 03.1 +02.1	S 21 37.4 -00.1	13						
14	74 55.7 +00.7	S 19 59.8 +00.3	35 29.6 +01.9	S 23 08.5 -00.1	20 05.2 +02.2	S 21 37.3 +00.0	14						
15	89 56.4 +00.8	S 20 00.1 +00.4	50 31.5 +01.8	S 23 08.4 +00.0	35 07.4 +02.1	S 21 37.3 -00.1	15						
16	104 57.2 +00.7	S 20 00.5 +00.4	65 33.3 +01.9	S 23 08.4 +00.0	50 09.5 +02.2	S 21 37.2 +00.0	16						
17	119 57.9 +00.7	S 20 00.9 +00.3	80 35.2 +01.8	S 23 08.4 +00.0	65 11.7 +02.1	S 21 37.2 +00.0	17						
18	134 58.6 +00.7	S 20 01.2 +00.4	95 37.0 +01.8	S 23 08.4 -00.1	80 13.8 +02.2	S 21 37.2 -00.1	18						
19	149 59.3 +00.7	S 20 01.6 +00.4	110 38.8 +01.9	S 23 08.3 +00.0	95 16.0 +02.1	S 21 37.1 +00.0	19						
20	165 00.0 +00.7	S 20 02.0 +00.4	125 40.7 +01.8	S 23 08.3 +00.0	110 18.1 +02.2	S 21 37.1 -00.1	20						
21	180 00.7 +00.8	S 20 02.4 +00.3	140 42.5 +01.9	S 23 08.3 -00.1	125 20.3 +02.1	S 21 37.0 +00.0	21						
22	195 01.5 +00.7	S 20 02.7 +00.4	155 44.4 +01.8	S 23 08.2 +00.0	140 22.4 +02.2	S 21 37.0 -00.1	22						
23	210 02.2 +00.7	S 20 03.1 +00.4	170 46.2 +01.8	S 23 08.2 +00.0	155 24.6 +02.1	S 21 36.9 +00.0	23						
UT 02 06 10 14 18 22 SD 00'0 00'0 00'0 00'0 00'0 00'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 122° 122° 121° 121° 121° 121° Greenwich Culmination Time: 09:00				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 082° 082° 082° 082° 082° 082° Greenwich Culmination Time: 11:38				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 067° 066° 066° 066° 066° 066° Greenwich Culmination Time: 12:39					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	178 32.5 -00.3	S 22 27.8 -00.3	141 19.2 -00.5	S 15 55.4 -01.1	48 39.0 -29.5	N 16 36.4 +09.0	00						
01	193 32.2 -00.3	S 22 27.5 -00.4	156 18.7 -00.6	S 15 54.3 -01.0	63 09.5 -29.7	N 16 45.4 +08.9	01						
02	208 31.9 -00.2	S 22 27.1 -00.3	171 18.1 -00.5	S 15 53.3 -01.0	77 39.8 -29.7	N 16 54.3 +08.9	02						
03	223 31.7 -00.3	S 22 26.8 -00.3	186 17.6 -00.5	S 15 52.3 -01.1	92 10.1 -29.8	N 17 03.2 +08.8	03						
04	238 31.4 -00.3	S 22 26.5 -00.3	201 17.1 -00.5	S 15 51.2 -01.0	106 40.3 -29.9	N 17 12.0 +08.7	04						
05	253 31.1 -00.2	S 22 26.2 -00.3	216 16.6 -00.5	S 15 50.2 -01.0	121 10.4 -29.9	N 17 20.7 +08.7	05						
06	268 30.9 -00.3	S 22 25.9 -00.3	231 16.1 -00.6	S 15 49.2 -01.1	135 40.5 -30.1	N 17 29.4 +08.5	06						
07	283 30.6 -00.3	S 22 25.6 -00.3	246 15.5 -00.5	S 15 48.1 -01.0	150 10.4 -30.2	N 17 37.9 +08.5	07						
08	298 30.3 -00.3	S 22 25.3 -00.3	261 15.0 -00.5	S 15 47.1 -01.0	164 40.2 -30.2	N 17 46.4 +08.4	08						
09	313 30.0 -00.2	S 22 25.0 -00.3	276 14.5 -00.5	S 15 46.1 -01.1	179 10.0 -30.4	N 17 54.8 +08.4	09						
10	328 29.8 -00.3	S 22 24.7 -00.3	291 14.0 -00.5	S 15 45.0 -01.0	193 39.6 -30.4	N 18 03.2 +08.2	10						
11	343 29.5 -00.3	S 22 24.4 -00.4	306 13.5 -00.5	S 15 44.0 -01.1	208 09.2 -30.5	N 18 11.4 +08.2	11						
12	358 29.2 -00.2	S 22 24.0 -00.3	321 13.0 -00.5	S 15 42.9 -01.0	222 38.7 -30.7	N 18 19.6 +08.1	12						
13	13 29.0 -00.3	S 22 23.7 -00.3	336 12.5 -00.6	S 15 41.9 -01.0	237 08.0 -30.7	N 18 27.7 +08.0	13						
14	28 28.7 -00.3	S 22 23.4 -00.3	351 11.9 -00.5	S 15 40.9 -01.1	251 37.3 -30.8	N 18 35.7 +07.9	14						
15	43 28.4 -00.3	S 22 23.1 -00.3	6 11.4 -00.5	S 15 39.8 -01.0	266 06.5 -30.9	N 18 43.6 +07.8	15						
16	58 28.1 -00.2	S 22 22.8 -00.3	21 10.9 -00.5	S 15 38.8 -01.1	280 35.6 -30.9	N 18 51.4 +07.7	16						
17	73 27.9 -00.3	S 22 22.5 -00.3	36 10.4 -00.5	S 15 37.7 -01.0	295 04.7 -31.1	N 18 59.1 +07.6	17						
18	88 27.6 -00.3	S 22 22.2 -00.4	51 09.9 -00.5	S 15 36.7 -01.1	309 33.6 -31.2	N 19 06.7 +07.6	18						
19	103 27.3 -00.2	S 22 21.8 -00.3	66 09.4 -00.5	S 15 35.6 -01.0	324 02.4 -31.3	N 19 14.3 +07.4	19						
20	118 27.1 -00.3	S 22 21.5 -00.3	81 08.9 -00.5	S 15 34.6 -01.0	338 31.1 -31.3	N 19 21.7 +07.4	20						
21	133 26.8 -00.3	S 22 21.2 -00.3	96 08.4 -00.5	S 15 33.6 -01.1	352 59.8 -31.5	N 19 29.1 +07.2	21						
22	148 26.5 -00.2	S 22 20.9 -00.4	111 07.9 -00.6	S 15 32.5 -01.0	7 28.3 -31.5	N 19 36.3 +07.2	22						
23	163 26.3 -00.3	S 22 20.5 -00.3	126 07.3 -00.5	S 15 31.5 -01.1	21 56.8 -31.7	N 19 43.5 +07.1	23						
	UT 02 06 10 14 18 22 SD 16'3 16'3 16'3 16'3 16'3 16'3 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 072° 072° 072° 072° 072° 072° Greenwich Culmination Time: 12:06	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 035° 035° 035° 035° 034° 034° Greenwich Culmination Time: 14:35	UT 02 06 10 14 18 22 SD 15'3 15'4 15'4 15'4 15'5 15'5 HP 56'3 56'4 56'5 56'6 56'8 56'9 SHA 302° 299° 297° 295° 293° 291° Greenwich Culmination Time: 21:29										
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	225 37.0 +00.7	S 20 20.9 +00.4	187 16.4 +01.8	S 23 06.8 -00.1	172 10.0 +02.1	S 21 34.8 -00.1	00						
01	240 37.7 +00.7	S 20 21.3 +00.3	202 18.2 +01.9	S 23 06.7 +00.0	187 12.1 +02.2	S 21 34.7 +00.0	01						
02	255 38.4 +00.7	S 20 21.6 +00.4	217 20.1 +01.8	S 23 06.7 +00.0	202 14.3 +02.1	S 21 34.7 -00.1	02						
03	270 39.1 +00.7	S 20 22.0 +00.3	232 21.9 +01.8	S 23 06.7 -00.1	217 16.4 +02.2	S 21 34.6 +00.0	03						
04	285 39.8 +00.7	S 20 22.3 +00.4	247 23.7 +01.9	S 23 06.6 +00.0	232 18.6 +02.1	S 21 34.6 -00.1	04						
05	300 40.5 +00.7	S 20 22.7 +00.3	262 25.6 +01.8	S 23 06.6 +00.0	247 20.7 +02.2	S 21 34.5 +00.0	05						
06	315 41.2 +00.7	S 20 23.0 +00.4	277 27.4 +01.9	S 23 06.6 -00.1	262 22.9 +02.1	S 21 34.5 +00.0	06						
07	330 41.9 +00.7	S 20 23.4 +00.4	292 29.3 +01.8	S 23 06.5 +00.0	277 25.0 +02.2	S 21 34.5 -00.1	07						
08	345 42.6 +00.7	S 20 23.8 +00.3	307 31.1 +01.8	S 23 06.5 +00.0	292 27.2 +02.1	S 21 34.4 +00.0	08						
09	0 43.3 +00.7	S 20 24.1 +00.4	322 32.9 +01.9	S 23 06.5 -00.1	307 29.3 +02.2	S 21 34.4 -00.1	09						
10	15 44.0 +00.8	S 20 24.5 +00.3	337 34.8 +01.8	S 23 06.4 +00.0	322 31.5 +02.1	S 21 34.3 +00.0	10						
11	30 44.8 +00.7	S 20 24.8 +00.4	352 36.6 +01.9	S 23 06.4 +00.0	337 33.6 +02.2	S 21 34.3 -00.1	11						
12	45 45.5 +00.7	S 20 25.2 +00.3	7 38.5 +01.8	S 23 06.4 -00.1	352 35.8 +02.1	S 21 34.2 +00.0	12						
13	60 46.2 +00.7	S 20 25.5 +00.4	22 40.3 +01.8	S 23 06.3 +00.0	7 37.9 +02.2	S 21 34.2 -00.1	13						
14	75 46.9 +00.7	S 20 25.9 +00.3	37 42.1 +01.9	S 23 06.3 +00.0	22 40.1 +02.1	S 21 34.1 +00.0	14						
15	90 47.6 +00.7	S 20 26.2 +00.4	52 44.0 +01.8	S 23 06.3 +00.0	37 42.2 +02.2	S 21 34.1 +00.0	15						
16	105 48.3 +00.7	S 20 26.6 +00.3	67 45.8 +01.9	S 23 06.3 -00.1	52 44.4 +02.1	S 21 34.1 -00.1	16						
17	120 49.0 +00.7	S 20 26.9 +00.4	82 47.7 +01.8	S 23 06.2 +00.0	67 46.5 +02.2	S 21 34.0 +00.0	17						
18	135 49.7 +00.7	S 20 27.3 +00.3	97 49.5 +01.9	S 23 06.2 +00.0	82 48.7 +02.1	S 21 34.0 -00.1	18						
19	150 50.4 +00.7	S 20 27.6 +00.4	112 51.4 +01.8	S 23 06.2 -00.1	97 50.8 +02.2	S 21 33.9 +00.0	19						
20	165 51.1 +00.7	S 20 28.0 +00.3	127 53.2 +01.8	S 23 06.1 +00.0	112 53.0 +02.1	S 21 33.9 -00.1	20						
21	180 51.8 +00.7	S 20 28.3 +00.4	142 55.0 +01.9	S 23 06.1 +00.0	127 55.1 +02.2	S 21 33.8 +00.0	21						
22	195 52.5 +00.7	S 20 28.7 +00.3	157 56.9 +01.8	S 23 06.1 -00.1	142 57.3 +02.1	S 21 33.8 -00.1	22						
23	210 53.2 +00.7	S 20 29.0 +00.4	172 58.7 +01.9	S 23 06.0 +00.0	157 59.4 +02.2	S 21 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 120° 119° 119° 119° 119° 119° Greenwich Culmination Time: 08:57	UT 02 06 10 14 18 22 SD 00'3 00'3 00'3 00'3 00'3 00'3 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 081° 081° 081° 081° 081° 081° Greenwich Culmination Time: 11:29	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 066° 066° 066° 066° 066° 066° Greenwich Culmination Time: 12:29										

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 41%				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 26.0 -00.3 S 22 20.2 -00.3	141 06.8 -00.5 S 15 30.4 -01.0	36 25.1 -31.7 N 19 50.6 +06.9	00									
01	193 25.7 -00.2 S 22 19.9 -00.3	156 06.3 -00.5 S 15 29.4 -01.1	50 53.4 -31.8 N 19 57.5 +06.9	01									
02	208 25.5 -00.3 S 22 19.6 -00.3	171 05.8 -00.5 S 15 28.3 -01.0	65 21.6 -31.9 N 20 04.4 +06.8	02									
03	223 25.2 -00.3 S 22 19.3 -00.4	186 05.3 -00.5 S 15 27.3 -01.1	79 49.7 -32.0 N 20 11.2 +06.6	03									
04	238 24.9 -00.2 S 22 18.9 -00.3	201 04.8 -00.5 S 15 26.2 -01.0	94 17.7 -32.1 N 20 17.8 +06.6	04									
05	253 24.7 -00.3 S 22 18.6 -00.3	216 04.3 -00.5 S 15 25.2 -01.1	108 45.6 -32.2 N 20 24.4 +06.4	05									
06	268 24.4 -00.3 S 22 18.3 -00.4	231 03.8 -00.5 S 15 24.1 -01.0	123 13.4 -32.3 N 20 30.8 +06.3	06									
07	283 24.1 -00.2 S 22 17.9 -00.3	246 03.3 -00.5 S 15 23.1 -01.1	137 41.1 -32.3 N 20 37.1 +06.3	07									
08	298 23.9 -00.3 S 22 17.6 -00.3	261 02.8 -00.5 S 15 22.0 -01.0	152 08.8 -32.5 N 20 43.4 +06.1	08									
09	313 23.6 -00.3 S 22 17.3 -00.3	276 02.3 -00.5 S 15 21.0 -01.1	166 36.3 -32.5 N 20 49.5 +06.0	09									
10	328 23.3 -00.2 S 22 17.0 -00.4	291 01.8 -00.5 S 15 19.9 -01.1	181 03.8 -32.7 N 20 55.5 +05.9	10									
11	343 23.1 -00.3 S 22 16.6 -00.3	306 01.3 -00.5 S 15 18.8 -01.0	195 31.1 -32.7 N 21 01.4 +05.8	11									
12	358 22.8 -00.3 S 22 16.3 -00.3	321 00.8 -00.5 S 15 17.8 -01.1	209 58.4 -32.8 N 21 07.2 +05.7	12									
13	13 22.5 -00.2 S 22 16.0 -00.4	336 00.3 -00.5 S 15 16.7 -01.0	224 25.6 -32.9 N 21 12.9 +05.5	13									
14	28 22.3 -00.3 S 22 15.6 -00.3	350 59.8 -00.5 S 15 15.7 -01.1	238 52.7 -33.0 N 21 18.4 +05.5	14									
15	43 22.0 -00.3 S 22 15.3 -00.3	5 59.3 -00.5 S 15 14.6 -01.0	253 19.7 -33.1 N 21 23.9 +05.3	15									
16	58 21.7 -00.2 S 22 15.0 -00.4	20 58.8 -00.5 S 15 13.6 -01.1	267 46.6 -33.1 N 21 29.2 +05.2	16									
17	73 21.5 -00.3 S 22 14.6 -00.3	35 58.3 -00.5 S 15 12.5 -01.1	282 13.5 -33.3 N 21 34.4 +05.0	17									
18	88 21.2 -00.2 S 22 14.3 -00.3	50 57.8 -00.5 S 15 11.4 -01.0	296 40.2 -33.3 N 21 39.4 +05.0	18									
19	103 21.0 -00.3 S 22 14.0 -00.4	65 57.3 -00.5 S 15 10.4 -01.1	311 06.9 -33.4 N 21 44.4 +04.8	19									
20	118 20.7 -00.3 S 22 13.6 -00.3	80 56.8 -00.5 S 15 09.3 -01.1	325 33.5 -33.5 N 21 49.2 +04.8	20									
21	133 20.4 -00.2 S 22 13.3 -00.4	95 56.3 -00.5 S 15 08.2 -01.0	340 00.0 -33.5 N 21 54.0 +04.5	21									
22	148 20.2 -00.3 S 22 12.9 -00.3	110 55.8 -00.4 S 15 07.2 -01.1	354 26.5 -33.7 N 21 58.5 +04.5	22									
23	163 19.9 -00.3 S 22 12.6 -00.3	125 55.4 -00.5 S 15 06.1 -01.0	8 52.8 -33.7 N 22 03.0 +04.3	23									
	UT 02 06 10 14 18 22 SD 16'3 16'3 16'3 16'3 16'3 16'3 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 071° 071° 071° 071° 071° 070° Greenwich Culmination Time: 12:06	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 034° 034° 034° 033° 033° 033° Greenwich Culmination Time: 14:36	UT 02 06 10 14 18 22 SD 15'5 15'6 15'6 15'6 15'7 15'7 HP 57'0 57'2 57'3 57'4 57'6 57'7 SHA 288° 286° 284° 281° 279° 277° Greenwich Culmination Time: 22:23										
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	225 53.9 +00.7 S 20 29.4 +00.3	188 00.6 +01.8 S 23 06.0 +00.0	173 01.6 +02.1 S 21 33.7 +00.0	00									
01	240 54.6 +00.7 S 20 29.7 +00.4	203 02.4 +01.8 S 23 06.0 -00.1	188 03.7 +02.2 S 21 33.7 -00.1	01									
02	255 55.3 +00.7 S 20 30.1 +00.3	218 04.2 +01.9 S 23 05.9 +00.0	203 05.9 +02.1 S 21 33.6 +00.0	02									
03	270 56.0 +00.7 S 20 30.4 +00.4	233 06.1 +01.8 S 23 05.9 +00.0	218 08.0 +02.2 S 21 33.6 -00.1	03									
04	285 56.7 +00.7 S 20 30.8 +00.3	248 07.9 +01.9 S 23 05.9 -00.1	233 10.2 +02.1 S 21 33.5 +00.0	04									
05	300 57.4 +00.7 S 20 31.1 +00.4	263 09.8 +01.8 S 23 05.8 +00.0	248 12.3 +02.2 S 21 33.5 -00.1	05									
06	315 58.1 +00.7 S 20 31.5 +00.3	278 11.6 +01.9 S 23 05.8 +00.0	263 14.5 +02.1 S 21 33.4 +00.0	06									
07	330 58.8 +00.7 S 20 31.8 +00.4	293 13.5 +01.8 S 23 05.8 -00.1	278 16.6 +02.2 S 21 33.4 -00.1	07									
08	345 59.5 +00.7 S 20 32.2 +00.3	308 15.3 +01.8 S 23 05.7 +00.0	293 18.8 +02.1 S 21 33.3 +00.0	08									
09	1 00.2 +00.7 S 20 32.5 +00.4	323 17.1 +01.9 S 23 05.7 +00.0	308 20.9 +02.2 S 21 33.3 -00.1	09									
10	16 00.9 +00.7 S 20 32.9 +00.3	338 19.0 +01.8 S 23 05.7 -00.1	323 23.1 +02.1 S 21 33.2 +00.0	10									
11	31 01.6 +00.7 S 20 33.2 +00.4	353 20.8 +01.9 S 23 05.6 +00.0	338 25.2 +02.2 S 21 33.2 +00.0	11									
12	46 02.3 +00.7 S 20 33.6 +00.3	8 22.7 +01.8 S 23 05.6 +00.0	353 27.4 +02.1 S 21 33.2 -00.1	12									
13	61 03.0 +00.7 S 20 33.9 +00.4	23 24.5 +01.8 S 23 05.6 -00.1	8 29.5 +02.2 S 21 33.1 +00.0	13									
14	76 03.7 +00.7 S 20 34.3 +00.3	38 26.3 +01.9 S 23 05.5 +00.0	23 31.7 +02.1 S 21 33.1 -00.1	14									
15	91 04.4 +00.7 S 20 34.6 +00.3	53 28.2 +01.8 S 23 05.5 +00.0	38 33.8 +02.2 S 21 33.0 +00.0	15									
16	106 05.1 +00.7 S 20 34.9 +00.4	68 30.0 +01.9 S 23 05.5 -00.1	53 36.0 +02.1 S 21 33.0 -00.1	16									
17	121 05.8 +00.7 S 20 35.3 +00.3	83 31.9 +01.8 S 23 05.4 +00.0	68 38.1 +02.2 S 21 32.9 +00.0	17									
18	136 06.5 +00.7 S 20 35.6 +00.4	98 33.7 +01.9 S 23 05.4 +00.0	83 40.3 +02.1 S 21 32.9 -00.1	18									
19	151 07.2 +00.7 S 20 36.0 +00.3	113 35.6 +01.8 S 23 05.4 +00.0	98 42.4 +02.2 S 21 32.8 +00.0	19									
20	166 07.9 +00.7 S 20 36.3 +00.4	128 37.4 +01.8 S 23 05.4 -00.1	113 44.6 +02.1 S 21 32.8 +00.0	20									
21	181 08.6 +00.7 S 20 36.7 +00.3	143 39.2 +01.9 S 23 05.3 +00.0	128 46.7 +02.2 S 21 32.8 -00.1	21									
22	196 09.3 +00.7 S 20 37.0 +00.4	158 41.1 +01.8 S 23 05.3 +00.0	143 48.9 +02.1 S 21 32.7 +00.0	22									
23	211 10.0 +00.7 S 20 37.4 +00.3	173 42.9 +01.9 S 23 05.3 -00.1	158 51.0 +02.2 S 21 32.7 -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 119° 119° 119° 118° 118° 118° Greenwich Culmination Time: 08:55	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 081° 081° 081° 081° 081° 081° Greenwich Culmination Time: 11:26	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 066° 066° 066° 066° 066° 066° Greenwich Culmination Time: 12:26										

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

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 19.6 -00.2	S	22 12.3 -00.4	140 54.9 -00.5	S	15 05.1 -01.1	23 19.1 -33.8	N	22 07.3 +04.2	00			
01	193 19.4 -00.3	S	22 11.9 -00.3	155 54.4 -00.5	S	15 04.0 -01.1	37 45.3 -33.9	N	22 11.5 +04.1	01			
02	208 19.1 -00.2	S	22 11.6 -00.4	170 53.9 -00.5	S	15 02.9 -01.0	52 11.4 -34.0	N	22 15.6 +04.0	02			
03	223 18.9 -00.3	S	22 11.2 -00.3	185 53.4 -00.5	S	15 01.9 -01.1	66 37.4 -34.1	N	22 19.6 +03.8	03			
04	238 18.6 -00.3	S	22 10.9 -00.4	200 52.9 -00.5	S	15 00.8 -01.1	81 03.3 -34.1	N	22 23.4 +03.7	04			
05	253 18.3 -00.2	S	22 10.5 -00.3	215 52.4 -00.5	S	14 59.7 -01.0	95 29.2 -34.2	N	22 27.1 +03.5	05			
06	268 18.1 -00.3	S	22 10.2 -00.4	230 51.9 -00.5	S	14 58.7 -01.1	109 55.0 -34.2	N	22 30.6 +03.4	06			
07	283 17.8 -00.3	S	22 09.8 -00.3	245 51.4 -00.4	S	14 57.6 -01.1	124 20.8 -34.4	N	22 34.0 +03.3	07			
08	298 17.5 -00.2	S	22 09.5 -00.3	260 51.0 -00.5	S	14 56.5 -01.1	138 46.4 -34.4	N	22 37.3 +03.1	08			
09	313 17.3 -00.3	S	22 09.2 -00.4	275 50.5 -00.5	S	14 55.4 -01.0	153 12.0 -34.4	N	22 40.4 +03.0	09			
10	328 17.0 -00.2	S	22 08.8 -00.3	290 50.0 -00.5	S	14 54.4 -01.1	167 37.6 -34.6	N	22 43.4 +02.9	10			
11	343 16.8 -00.3	S	22 08.5 -00.4	305 49.5 -00.5	S	14 53.3 -01.1	182 03.0 -34.6	N	22 46.3 +02.7	11			
12	358 16.5 -00.3	S	22 08.1 -00.3	320 49.0 -00.5	S	14 52.2 -01.0	196 28.4 -34.7	N	22 49.0 +02.6	12			
13	13 16.2 -00.2	S	22 07.8 -00.4	335 48.5 -00.5	S	14 51.2 -01.1	210 53.7 -34.7	N	22 51.6 +02.4	13			
14	28 16.0 -00.3	S	22 07.4 -00.3	350 48.0 -00.4	S	14 50.1 -01.1	225 19.0 -34.8	N	22 54.0 +02.3	14			
15	43 15.7 -00.2	S	22 07.1 -00.4	5 47.6 -00.5	S	14 49.0 -01.1	239 44.2 -34.9	N	22 56.3 +02.2	15			
16	58 15.5 -00.3	S	22 06.7 -00.4	20 47.1 -00.5	S	14 47.9 -01.0	254 09.3 -34.9	N	22 58.5 +02.0	16			
17	73 15.2 -00.2	S	22 06.3 -00.3	35 46.6 -00.5	S	14 46.9 -01.1	268 34.4 -35.0	N	23 00.5 +01.9	17			
18	88 15.0 -00.3	S	22 06.0 -00.4	50 46.1 -00.5	S	14 45.8 -01.1	282 59.4 -35.0	N	23 02.4 +01.7	18			
19	103 14.7 -00.3	S	22 05.6 -00.3	65 45.6 -00.4	S	14 44.7 -01.1	297 24.4 -35.1	N	23 04.1 +01.6	19			
20	118 14.4 -00.2	S	22 05.3 -00.4	80 45.2 -00.5	S	14 43.6 -01.1	311 49.3 -35.1	N	23 05.7 +01.4	20			
21	133 14.2 -00.3	S	22 04.9 -00.3	95 44.7 -00.5	S	14 42.5 -01.0	326 14.2 -35.2	N	23 07.1 +01.3	21			
22	148 13.9 -00.2	S	22 04.6 -00.4	110 44.2 -00.5	S	14 41.5 -01.1	340 39.0 -35.2	N	23 08.4 +01.1	22			
23	163 13.7 -00.3	S	22 04.2 -00.3	125 43.7 -00.5	S	14 40.4 -01.1	355 03.8 -35.3	N	23 09.5 +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 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'8 15'8 15'8 15'9 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 57'8 57'9 58'1 58'2 58'3 58'4						
	SHA 070° 070° 070° 070° 070° 069°			SHA 033° 033° 032° 032° 032° 032°			SHA 274° 272° 269° 267° 264° 262°						
	Greenwich Culmination Time: 12:06			Greenwich Culmination Time: 14:36			Greenwich Culmination Time: 23:20						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	226 10.7 +00.7	S	20 37.7 +00.3	188 44.8 +01.8	S	23 05.2 +00.0	173 53.2 +02.1	S	21 32.6 +00.0	00			
01	241 11.4 +00.7	S	20 38.0 +00.4	203 46.6 +01.9	S	23 05.2 +00.0	188 55.3 +02.2	S	21 32.6 -00.1	01			
02	256 12.1 +00.7	S	20 38.4 +00.3	218 48.5 +01.8	S	23 05.2 -00.1	203 57.5 +02.1	S	21 32.5 +00.0	02			
03	271 12.8 +00.7	S	20 38.7 +00.4	233 50.3 +01.8	S	23 05.1 +00.0	218 59.6 +02.2	S	21 32.5 -00.1	03			
04	286 13.5 +00.7	S	20 39.1 +00.3	248 52.1 +01.9	S	23 05.1 +00.0	234 01.8 +02.1	S	21 32.4 +00.0	04			
05	301 14.2 +00.7	S	20 39.4 +00.4	263 54.0 +01.8	S	23 05.1 -00.1	249 03.9 +02.2	S	21 32.4 -00.1	05			
06	316 14.9 +00.7	S	20 39.8 +00.3	278 55.8 +01.9	S	23 05.0 +00.0	264 06.1 +02.1	S	21 32.3 +00.0	06			
07	331 15.6 +00.7	S	20 40.1 +00.3	293 57.7 +01.8	S	23 05.0 +00.0	279 08.2 +02.2	S	21 32.3 +00.0	07			
08	346 16.3 +00.7	S	20 40.4 +00.4	308 59.5 +01.9	S	23 05.0 -00.1	294 10.4 +02.1	S	21 32.3 -00.1	08			
09	1 17.0 +00.7	S	20 40.8 +00.3	324 01.4 +01.8	S	23 04.9 +00.0	309 12.5 +02.2	S	21 32.2 +00.0	09			
10	16 17.7 +00.7	S	20 41.1 +00.4	339 03.2 +01.8	S	23 04.9 +00.0	324 14.7 +02.1	S	21 32.2 -00.1	10			
11	31 18.4 +00.7	S	20 41.5 +00.3	354 05.0 +01.9	S	23 04.9 -00.1	339 16.8 +02.2	S	21 32.1 +00.0	11			
12	46 19.1 +00.7	S	20 41.8 +00.3	9 06.9 +01.8	S	23 04.8 +00.0	354 19.0 +02.1	S	21 32.1 -00.1	12			
13	61 19.8 +00.7	S	20 42.1 +00.4	24 08.7 +01.9	S	23 04.8 +00.0	9 21.1 +02.2	S	21 32.0 +00.0	13			
14	76 20.5 +00.7	S	20 42.5 +00.3	39 10.6 +01.8	S	23 04.8 -00.1	24 23.3 +02.1	S	21 32.0 -00.1	14			
15	91 21.2 +00.7	S	20 42.8 +00.4	54 12.4 +01.9	S	23 04.7 +00.0	39 25.4 +02.2	S	21 31.9 +00.0	15			
16	106 21.9 +00.6	S	20 43.2 +00.3	69 14.3 +01.8	S	23 04.7 +00.0	54 27.6 +02.1	S	21 31.9 -00.1	16			
17	121 22.5 +00.7	S	20 43.5 +00.3	84 16.1 +01.8	S	23 04.7 -00.1	69 29.7 +02.2	S	21 31.8 +00.0	17			
18	136 23.2 +00.7	S	20 43.8 +00.4	99 17.9 +01.9	S	23 04.6 +00.0	84 31.9 +02.1	S	21 31.8 +00.0	18			
19	151 23.9 +00.7	S	20 44.2 +00.3	114 19.8 +01.8	S	23 04.6 +00.0	99 34.0 +02.2	S	21 31.8 -00.1	19			
20	166 24.6 +00.7	S	20 44.5 +00.3	129 21.6 +01.9	S	23 04.6 -00.1	114 36.2 +02.1	S	21 31.7 +00.0	20			
21	181 25.3 +00.7	S	20 44.8 +00.4	144 23.5 +01.8	S	23 04.5 +00.0	129 38.3 +02.2	S	21 31.7 -00.1	21			
22	196 26.0 +00.7	S	20 45.2 +00.3	159 25.3 +01.9	S	23 04.5 +00.0	144 40.5 +02.1	S	21 31.6 +00.0	22			
23	211 26.7 +00.7	S	20 45.5 +00.3	174 27.2 +01.8	S	23 04.5 -00.1	159 42.6 +02.2	S	21 31.6 -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 118° 118° 118° 118° 118° 118°			SHA 081° 081° 081° 081° 081° 081°			SHA 066° 066° 066° 066° 066° 066°						
	Greenwich Culmination Time: 08:54			Greenwich Culmination Time: 11:23			Greenwich Culmination Time: 12:22						

Table with columns for Sun, Venus, Moon, Mars, Jupiter, Saturn and rows for UT (00-23). Each planet's section includes GHA, ddGHA, Dec, dDec, and UT. Summary rows at the bottom of each section provide SD, HP, and SHA data for specific UT values.

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 01.4 -00.3	S 21 45.8 -00.4	140 21.0 -00.4	S 13 46.7 -01.1	340 52.6 -35.4	N 20 57.7 -06.4	00						
01	193 01.1 -00.2	S 21 45.4 -00.4	155 20.6 -00.5	S 13 45.6 -01.1	355 17.2 -35.5	N 20 51.3 -06.7	01						
02	208 00.9 -00.3	S 21 45.0 -00.4	170 20.1 -00.4	S 13 44.5 -01.1	9 41.7 -35.4	N 20 44.6 -06.7	02						
03	223 00.6 -00.2	S 21 44.6 -00.4	185 19.7 -00.4	S 13 43.4 -01.2	24 06.3 -35.4	N 20 37.9 -06.9	03						
04	238 00.4 -00.3	S 21 44.2 -00.4	200 19.3 -00.5	S 13 42.2 -01.1	38 30.9 -35.3	N 20 31.0 -07.0	04						
05	253 00.1 -00.2	S 21 43.8 -00.4	215 18.8 -00.4	S 13 41.1 -01.1	52 55.6 -35.3	N 20 24.0 -07.2	05						
06	267 59.9 -00.2	S 21 43.4 -00.4	230 18.4 -00.5	S 13 40.0 -01.1	67 20.3 -35.2	N 20 16.8 -07.3	06						
07	282 59.7 -00.3	S 21 43.0 -00.4	245 17.9 -00.4	S 13 38.9 -01.1	81 45.1 -35.2	N 20 09.5 -07.5	07						
08	297 59.4 -00.2	S 21 42.6 -00.4	260 17.5 -00.5	S 13 37.8 -01.1	96 09.9 -35.1	N 20 02.0 -07.5	08						
09	312 59.2 -00.3	S 21 42.2 -00.4	275 17.0 -00.4	S 13 36.7 -01.1	110 34.8 -35.1	N 19 54.5 -07.7	09						
10	327 58.9 -00.2	S 21 41.8 -00.4	290 16.6 -00.5	S 13 35.6 -01.2	124 59.7 -35.1	N 19 46.8 -07.9	10						
11	342 58.7 -00.3	S 21 41.4 -00.4	305 16.1 -00.4	S 13 34.4 -01.1	139 24.6 -35.0	N 19 38.9 -08.0	11						
12	357 58.4 -00.2	S 21 41.0 -00.4	320 15.7 -00.4	S 13 33.3 -01.1	153 49.6 -34.9	N 19 30.9 -08.1	12						
13	12 58.2 -00.2	S 21 40.6 -00.4	335 15.3 -00.5	S 13 32.2 -01.1	168 14.7 -34.9	N 19 22.8 -08.2	13						
14	27 58.0 -00.3	S 21 40.2 -00.5	350 14.8 -00.4	S 13 31.1 -01.1	182 39.8 -34.9	N 19 14.6 -08.4	14						
15	42 57.7 -00.2	S 21 39.7 -00.4	5 14.4 -00.5	S 13 30.0 -01.2	197 04.9 -34.7	N 19 06.2 -08.5	15						
16	57 57.5 -00.3	S 21 39.3 -00.4	20 13.9 -00.4	S 13 28.8 -01.1	211 30.2 -34.8	N 18 57.7 -08.6	16						
17	72 57.2 -00.2	S 21 38.9 -00.4	35 13.5 -00.4	S 13 27.7 -01.1	225 55.4 -34.7	N 18 49.1 -08.8	17						
18	87 57.0 -00.2	S 21 38.5 -00.4	50 13.1 -00.5	S 13 26.6 -01.1	240 20.7 -34.6	N 18 40.3 -08.8	18						
19	102 56.8 -00.3	S 21 38.1 -00.4	65 12.6 -00.4	S 13 25.5 -01.1	254 46.1 -34.6	N 18 31.5 -09.0	19						
20	117 56.5 -00.2	S 21 37.7 -00.4	80 12.2 -00.4	S 13 24.4 -01.2	269 11.5 -34.5	N 18 22.5 -09.1	20						
21	132 56.3 -00.3	S 21 37.3 -00.4	95 11.8 -00.5	S 13 23.2 -01.1	283 37.0 -34.4	N 18 13.4 -09.3	21						
22	147 56.0 -00.2	S 21 36.9 -00.4	110 11.3 -00.4	S 13 22.1 -01.1	298 02.6 -34.4	N 18 04.1 -09.3	22						
23	162 55.8 -00.2	S 21 36.5 -00.4	125 10.9 -00.4	S 13 21.0 -01.1	312 28.2 -34.4	N 17 54.8 -09.5	23						
UT 02 06 10 14 18 22 SD 16'3 16'3 16'3 16'3 16'3 16'3 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 067° 067° 067° 066° 066° 066° Greenwich Culmination Time: 12:08				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 029° 029° 029° 029° 029° 028° Greenwich Culmination Time: 14:39				UT 02 06 10 14 18 22 SD 16'2 16'2 16'3 16'3 16'3 16'3 HP 59'6 59'6 59'7 59'7 59'8 59'8 SHA 229° 226° 224° 221° 219° 216° Greenwich Culmination Time: 01:19					
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	227 00.5 +00.7	S 21 01.6 +00.4	190 57.5 +01.9	S 23 02.8 -00.1	176 27.9 +02.2	S 21 29.3 +00.0	00						
01	242 01.2 +00.7	S 21 02.0 +00.3	205 59.4 +01.8	S 23 02.7 +00.0	191 30.1 +02.1	S 21 29.3 -00.1	01						
02	257 01.9 +00.7	S 21 02.3 +00.3	221 01.2 +01.9	S 23 02.7 +00.0	206 32.2 +02.2	S 21 29.2 +00.0	02						
03	272 02.6 +00.7	S 21 02.6 +00.3	236 03.1 +01.8	S 23 02.7 -00.1	221 34.4 +02.1	S 21 29.2 +00.0	03						
04	287 03.3 +00.7	S 21 02.9 +00.4	251 04.9 +01.8	S 23 02.6 +00.0	236 36.5 +02.2	S 21 29.2 -00.1	04						
05	302 04.0 +00.7	S 21 03.3 +00.3	266 06.7 +01.9	S 23 02.6 -00.1	251 38.7 +02.1	S 21 29.1 +00.0	05						
06	317 04.7 +00.6	S 21 03.6 +00.3	281 08.6 +01.8	S 23 02.5 +00.0	266 40.8 +02.2	S 21 29.1 -00.1	06						
07	332 05.3 +00.7	S 21 03.9 +00.3	296 10.4 +01.9	S 23 02.5 +00.0	281 43.0 +02.1	S 21 29.0 +00.0	07						
08	347 06.0 +00.7	S 21 04.2 +00.3	311 12.3 +01.8	S 23 02.5 -00.1	296 45.1 +02.2	S 21 29.0 -00.1	08						
09	2 06.7 +00.7	S 21 04.5 +00.4	326 14.1 +01.9	S 23 02.4 +00.0	311 47.3 +02.1	S 21 28.9 +00.0	09						
10	17 07.4 +00.7	S 21 04.9 +00.3	341 16.0 +01.8	S 23 02.4 +00.0	326 49.4 +02.2	S 21 28.9 -00.1	10						
11	32 08.1 +00.7	S 21 05.2 +00.3	356 17.8 +01.9	S 23 02.4 -00.1	341 51.6 +02.1	S 21 28.8 +00.0	11						
12	47 08.8 +00.6	S 21 05.5 +00.3	11 19.7 +01.8	S 23 02.3 +00.0	356 53.7 +02.2	S 21 28.8 -00.1	12						
13	62 09.4 +00.7	S 21 05.8 +00.3	26 21.5 +01.9	S 23 02.3 +00.0	11 55.9 +02.1	S 21 28.7 +00.0	13						
14	77 10.1 +00.7	S 21 06.1 +00.3	41 23.4 +01.8	S 23 02.3 -00.1	26 58.0 +02.2	S 21 28.7 +00.0	14						
15	92 10.8 +00.7	S 21 06.4 +00.4	56 25.2 +01.8	S 23 02.2 +00.0	42 00.2 +02.1	S 21 28.7 -00.1	15						
16	107 11.5 +00.7	S 21 06.8 +00.3	71 27.0 +01.9	S 23 02.2 -00.1	57 02.3 +02.2	S 21 28.6 +00.0	16						
17	122 12.2 +00.7	S 21 07.1 +00.3	86 28.9 +01.8	S 23 02.1 +00.0	72 04.5 +02.1	S 21 28.6 -00.1	17						
18	137 12.9 +00.6	S 21 07.4 +00.3	101 30.7 +01.9	S 23 02.1 +00.0	87 06.6 +02.2	S 21 28.5 +00.0	18						
19	152 13.5 +00.7	S 21 07.7 +00.3	116 32.6 +01.8	S 23 02.1 -00.1	102 08.8 +02.1	S 21 28.5 -00.1	19						
20	167 14.2 +00.7	S 21 08.0 +00.3	131 34.4 +01.9	S 23 02.0 +00.0	117 10.9 +02.2	S 21 28.4 +00.0	20						
21	182 14.9 +00.7	S 21 08.3 +00.4	146 36.3 +01.8	S 23 02.0 +00.0	132 13.1 +02.1	S 21 28.4 -00.1	21						
22	197 15.6 +00.7	S 21 08.7 +00.3	161 38.1 +01.9	S 23 02.0 -00.1	147 15.2 +02.2	S 21 28.3 +00.0	22						
23	212 16.3 +00.7	S 21 09.0 +00.3	176 40.0 +01.8	S 23 01.9 +00.0	162 17.4 +02.1	S 21 28.3 -00.1	23						
UT 02 06 10 14 18 22 SD 00'0 00'0 00'0 00'0 00'0 00'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 116° 116° 116° 116° 116° 115° Greenwich Culmination Time: 08:51				UT 02 06 10 14 18 22 SD 00'3 00'3 00'3 00'3 00'3 00'3 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 080° 080° 080° 080° 080° 080° Greenwich Culmination Time: 11:14				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 065° 065° 065° 065° 065° 065° Greenwich Culmination Time: 12:12					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 55.6 -00.3	S	21 36.1 -00.4	140 10.5 -00.5	S	13 19.9 -01.2	326 53.8 -34.3	N	17 45.3 -09.6	00			
01	192 55.3 -00.2	S	21 35.7 -00.5	155 10.0 -00.4	S	13 18.7 -01.1	341 19.5 -34.2	N	17 35.7 -09.7	01			
02	207 55.1 -00.2	S	21 35.2 -00.4	170 09.6 -00.4	S	13 17.6 -01.1	355 45.3 -34.1	N	17 26.0 -09.8	02			
03	222 54.9 -00.3	S	21 34.8 -00.4	185 09.2 -00.5	S	13 16.5 -01.1	10 11.2 -34.1	N	17 16.2 -09.9	03			
04	237 54.6 -00.2	S	21 34.4 -00.4	200 08.7 -00.4	S	13 15.4 -01.2	24 37.1 -34.1	N	17 06.3 -10.1	04			
05	252 54.4 -00.3	S	21 34.0 -00.4	215 08.3 -00.4	S	13 14.2 -01.1	39 03.0 -34.0	N	16 56.2 -10.1	05			
06	267 54.1 -00.2	S	21 33.6 -00.4	230 07.9 -00.5	S	13 13.1 -01.1	53 29.0 -33.9	N	16 46.1 -10.3	06			
07	282 53.9 -00.2	S	21 33.2 -00.5	245 07.4 -00.4	S	13 12.0 -01.2	67 55.1 -33.8	N	16 35.8 -10.3	07			
08	297 53.7 -00.3	S	21 32.7 -00.4	260 07.0 -00.4	S	13 10.8 -01.1	82 21.3 -33.8	N	16 25.5 -10.5	08			
09	312 53.4 -00.2	S	21 32.3 -00.4	275 06.6 -00.5	S	13 09.7 -01.1	96 47.5 -33.8	N	16 15.0 -10.6	09			
10	327 53.2 -00.2	S	21 31.9 -00.4	290 06.1 -00.4	S	13 08.6 -01.2	111 13.7 -33.6	N	16 04.4 -10.6	10			
11	342 53.0 -00.3	S	21 31.5 -00.4	305 05.7 -00.4	S	13 07.4 -01.1	125 40.1 -33.6	N	15 53.8 -10.8	11			
12	357 52.7 -00.2	S	21 31.1 -00.5	320 05.3 -00.4	S	13 06.3 -01.1	140 06.5 -33.6	N	15 43.0 -10.9	12			
13	12 52.5 -00.2	S	21 30.6 -00.4	335 04.9 -00.5	S	13 05.2 -01.1	154 32.9 -33.4	N	15 32.1 -10.9	13			
14	27 52.3 -00.3	S	21 30.2 -00.4	350 04.4 -00.4	S	13 04.1 -01.2	168 59.5 -33.4	N	15 21.2 -11.1	14			
15	42 52.0 -00.2	S	21 29.8 -00.4	5 04.0 -00.4	S	13 02.9 -01.1	183 26.1 -33.4	N	15 10.1 -11.2	15			
16	57 51.8 -00.3	S	21 29.4 -00.4	20 03.6 -00.4	S	13 01.8 -01.1	197 52.7 -33.3	N	14 58.9 -11.2	16			
17	72 51.5 -00.2	S	21 29.0 -00.5	35 03.2 -00.5	S	13 00.7 -01.2	212 19.4 -33.2	N	14 47.7 -11.3	17			
18	87 51.3 -00.2	S	21 28.5 -00.4	50 02.7 -00.4	S	12 59.5 -01.1	226 46.2 -33.2	N	14 36.4 -11.5	18			
19	102 51.1 -00.3	S	21 28.1 -00.4	65 02.3 -00.4	S	12 58.4 -01.2	241 13.0 -33.1	N	14 24.9 -11.5	19			
20	117 50.8 -00.2	S	21 27.7 -00.5	80 01.9 -00.4	S	12 57.2 -01.1	255 39.9 -33.0	N	14 13.4 -11.6	20			
21	132 50.6 -00.2	S	21 27.2 -00.4	95 01.5 -00.5	S	12 56.1 -01.1	270 06.9 -33.0	N	14 01.8 -11.7	21			
22	147 50.4 -00.3	S	21 26.8 -00.4	110 01.0 -00.4	S	12 55.0 -01.2	284 33.9 -32.9	N	13 50.1 -11.8	22			
23	162 50.1 -00.2	S	21 26.4 -00.4	125 00.6 -00.4	S	12 53.8 -01.1	299 01.0 -32.8	N	13 38.3 -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 16'3 16'3 16'3 16'3 16'3 16'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 16'3 16'3 16'3 16'3 16'3 16'3					
HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 59'8 59'9 59'9 59'9 59'9 59'9					
SHA 066° 066° 066° 065° 065° 065°				SHA 028° 028° 028° 028° 027° 027°				SHA 214° 211° 209° 206° 204° 202°					
Greenwich Culmination Time: 12:08				Greenwich Culmination Time: 14:39				Greenwich Culmination Time: 02:17					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	227 17.0 +00.6	S	21 09.3 +00.3	191 41.8 +01.9	S	23 01.9 +00.0	177 19.5 +02.2	S	21 28.2 +00.0	00			
01	242 17.6 +00.7	S	21 09.6 +00.3	206 43.7 +01.8	S	23 01.9 -00.1	192 21.7 +02.1	S	21 28.2 -00.1	01			
02	257 18.3 +00.7	S	21 09.9 +00.3	221 45.5 +01.9	S	23 01.8 +00.0	207 23.8 +02.2	S	21 28.1 +00.0	02			
03	272 19.0 +00.7	S	21 10.2 +00.3	236 47.4 +01.8	S	23 01.8 -00.1	222 26.0 +02.1	S	21 28.1 -00.1	03			
04	287 19.7 +00.7	S	21 10.5 +00.4	251 49.2 +01.8	S	23 01.7 +00.0	237 28.1 +02.2	S	21 28.0 +00.0	04			
05	302 20.4 +00.6	S	21 10.9 +00.3	266 51.0 +01.9	S	23 01.7 +00.0	252 30.3 +02.1	S	21 28.0 +00.0	05			
06	317 21.0 +00.7	S	21 11.2 +00.3	281 52.9 +01.8	S	23 01.7 -00.1	267 32.4 +02.2	S	21 28.0 -00.1	06			
07	332 21.7 +00.7	S	21 11.5 +00.3	296 54.7 +01.9	S	23 01.6 +00.0	282 34.6 +02.1	S	21 27.9 +00.0	07			
08	347 22.4 +00.7	S	21 11.8 +00.3	311 56.6 +01.8	S	23 01.6 +00.0	297 36.7 +02.2	S	21 27.9 -00.1	08			
09	2 23.1 +00.7	S	21 12.1 +00.3	326 58.4 +01.9	S	23 01.6 -00.1	312 38.9 +02.1	S	21 27.8 +00.0	09			
10	17 23.8 +00.6	S	21 12.4 +00.3	342 00.3 +01.8	S	23 01.5 +00.0	327 41.0 +02.1	S	21 27.8 -00.1	10			
11	32 24.4 +00.7	S	21 12.7 +00.3	357 02.1 +01.9	S	23 01.5 +00.0	342 43.1 +02.2	S	21 27.7 +00.0	11			
12	47 25.1 +00.7	S	21 13.0 +00.4	12 04.0 +01.8	S	23 01.5 -00.1	357 45.3 +02.1	S	21 27.7 -00.1	12			
13	62 25.8 +00.7	S	21 13.4 +00.3	27 05.8 +01.9	S	23 01.4 +00.0	12 47.4 +02.1	S	21 27.6 -00.1	13			
14	77 26.5 +00.7	S	21 13.7 +00.3	42 07.7 +01.8	S	23 01.4 -00.1	27 49.5 +02.3	S	21 27.5 -00.1	14			
15	92 27.2 +00.6	S	21 14.0 +00.3	57 09.5 +01.9	S	23 01.3 +00.0	42 51.8 +02.3	S	21 27.4 +00.0	15			
16	107 27.8 +00.7	S	21 14.3 +00.3	72 11.4 +01.8	S	23 01.3 +00.0	57 54.1 +02.1	S	21 27.4 +00.0	16			
17	122 28.5 +00.7	S	21 14.6 +00.3	87 13.2 +01.9	S	23 01.3 -00.1	72 56.2 +02.1	S	21 27.4 +00.0	17			
18	137 29.2 +00.7	S	21 14.9 +00.3	102 15.1 +01.8	S	23 01.2 +00.0	87 58.3 +02.1	S	21 27.4 +00.0	18			
19	152 29.9 +00.7	S	21 15.2 +00.3	117 16.9 +01.8	S	23 01.2 +00.0	103 00.4 +02.2	S	21 27.4 -00.1	19			
20	167 30.6 +00.6	S	21 15.5 +00.3	132 18.7 +01.9	S	23 01.2 -00.1	118 02.6 +02.1	S	21 27.3 +00.0	20			
21	182 31.2 +00.7	S	21 15.8 +00.3	147 20.6 +01.8	S	23 01.1 +00.0	133 04.7 +02.2	S	21 27.3 -00.1	21			
22	197 31.9 +00.7	S	21 16.1 +00.4	162 22.4 +01.9	S	23 01.1 -00.1	148 06.9 +02.1	S	21 27.2 +00.0	22			
23	212 32.6 +00.7	S	21 16.5 +00.3	177 24.3 +01.8	S	23 01.0 +00.0	163 09.0 +02.2	S	21 27.2 -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 115° 115° 115° 115° 115° 115°				SHA 080° 080° 080° 080° 080° 080°				SHA 065° 065° 065° 065° 065° 065°					
Greenwich Culmination Time: 08:50				Greenwich Culmination Time: 11:11				Greenwich Culmination Time: 12:08					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 49.9 -00.2	S 21 26.0 -00.5	140 00.2 -00.4	S 12 52.7 -01.1	313 28.2 -32.8	N 13 26.5 -11.9	00						
01	192 49.7 -00.2	S 21 25.5 -00.4	154 59.8 -00.4	S 12 51.6 -01.2	327 55.4 -32.7	N 13 14.6 -12.1	01						
02	207 49.5 -00.3	S 21 25.1 -00.4	169 59.4 -00.5	S 12 50.4 -01.1	342 22.7 -32.7	N 13 02.5 -12.1	02						
03	222 49.2 -00.2	S 21 24.7 -00.5	184 58.9 -00.4	S 12 49.3 -01.2	356 50.0 -32.6	N 12 50.4 -12.1	03						
04	237 49.0 -00.2	S 21 24.2 -00.4	199 58.5 -00.4	S 12 48.1 -01.1	11 17.4 -32.5	N 12 38.3 -12.3	04						
05	252 48.8 -00.3	S 21 23.8 -00.4	214 58.1 -00.4	S 12 47.0 -01.2	25 44.9 -32.5	N 12 26.0 -12.3	05						
06	267 48.5 -00.2	S 21 23.4 -00.5	229 57.7 -00.4	S 12 45.8 -01.1	40 12.4 -32.4	N 12 13.7 -12.4	06						
07	282 48.3 -00.2	S 21 22.9 -00.4	244 57.3 -00.4	S 12 44.7 -01.1	54 40.0 -32.3	N 12 01.3 -12.4	07						
08	297 48.1 -00.3	S 21 22.5 -00.4	259 56.9 -00.5	S 12 43.6 -01.2	69 07.7 -32.3	N 11 48.9 -12.6	08						
09	312 47.8 -00.2	S 21 22.1 -00.5	274 56.4 -00.4	S 12 42.4 -01.1	83 35.4 -32.3	N 11 36.3 -12.5	09						
10	327 47.6 -00.2	S 21 21.6 -00.4	289 56.0 -00.4	S 12 41.3 -01.2	98 03.1 -32.2	N 11 23.8 -12.7	10						
11	342 47.4 -00.3	S 21 21.2 -00.4	304 55.6 -00.4	S 12 40.1 -01.1	112 30.9 -32.1	N 11 11.1 -12.7	11						
12	357 47.1 -00.2	S 21 20.8 -00.5	319 55.2 -00.4	S 12 39.0 -01.2	126 58.8 -32.0	N 10 58.4 -12.8	12						
13	12 46.9 -00.2	S 21 20.3 -00.4	334 54.8 -00.4	S 12 37.8 -01.1	141 26.8 -32.0	N 10 45.6 -12.8	13						
14	27 46.7 -00.2	S 21 19.9 -00.5	349 54.4 -00.4	S 12 36.7 -01.2	155 54.8 -32.0	N 10 32.8 -12.9	14						
15	42 46.5 -00.3	S 21 19.4 -00.4	4 54.0 -00.4	S 12 35.5 -01.1	170 22.8 -31.9	N 10 19.9 -13.0	15						
16	57 46.2 -00.2	S 21 19.0 -00.4	19 53.6 -00.5	S 12 34.4 -01.2	184 50.9 -31.8	N 10 06.9 -13.0	16						
17	72 46.0 -00.2	S 21 18.6 -00.5	34 53.1 -00.4	S 12 33.2 -01.1	199 19.1 -31.8	N 09 53.9 -13.1	17						
18	87 45.8 -00.2	S 21 18.1 -00.4	49 52.7 -00.4	S 12 32.1 -01.1	213 47.3 -31.7	N 09 40.8 -13.1	18						
19	102 45.6 -00.3	S 21 17.7 -00.5	64 52.3 -00.4	S 12 31.0 -01.2	228 15.6 -31.7	N 09 27.7 -13.2	19						
20	117 45.3 -00.2	S 21 17.2 -00.4	79 51.9 -00.4	S 12 29.8 -01.1	242 43.9 -31.6	N 09 14.5 -13.2	20						
21	132 45.1 -00.2	S 21 16.8 -00.5	94 51.5 -00.4	S 12 28.7 -01.2	257 12.3 -31.6	N 09 01.3 -13.3	21						
22	147 44.9 -00.3	S 21 16.3 -00.4	109 51.1 -00.4	S 12 27.5 -01.2	271 40.7 -31.5	N 08 48.0 -13.3	22						
23	162 44.6 -00.2	S 21 15.9 -00.5	124 50.7 -00.4	S 12 26.3 -01.1	286 09.2 -31.4	N 08 34.7 -13.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'3 16'3 16'3 16'3 16'3 16'3		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'3 16'3 16'3 16'3 16'3 16'3								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 59'9 59'9 59'9 59'8 59'8 59'8								
	SHA 065° 065° 064° 064° 064° 064°		SHA 027° 027° 027° 026° 026° 026°		SHA 199° 197° 195° 192° 190° 188°								
	Greenwich Culmination Time: 12:08		Greenwich Culmination Time: 14:40		Greenwich Culmination Time: 03:13								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	227 33.3 +00.7	S 21 16.8 +00.3	192 26.1 +01.9	S 23 01.0 +00.0	178 11.2 +02.1	S 21 27.1 +00.0	00						
01	242 34.0 +00.6	S 21 17.1 +00.3	207 28.0 +01.8	S 23 01.0 -00.1	193 13.3 +02.1	S 21 27.1 -00.1	01						
02	257 34.6 +00.7	S 21 17.4 +00.3	222 29.8 +01.9	S 23 00.9 +00.0	208 15.4 +02.2	S 21 27.0 +00.0	02						
03	272 35.3 +00.7	S 21 17.7 +00.3	237 31.7 +01.8	S 23 00.9 +00.0	223 17.6 +02.1	S 21 27.0 -00.1	03						
04	287 36.0 +00.7	S 21 18.0 +00.3	252 33.5 +01.9	S 23 00.9 -00.1	238 19.7 +02.2	S 21 26.9 +00.0	04						
05	302 36.7 +00.6	S 21 18.3 +00.3	267 35.4 +01.8	S 23 00.8 +00.0	253 21.9 +02.1	S 21 26.9 +00.0	05						
06	317 37.3 +00.7	S 21 18.6 +00.3	282 37.2 +01.9	S 23 00.8 -00.1	268 24.0 +02.2	S 21 26.9 -00.1	06						
07	332 38.0 +00.7	S 21 18.9 +00.3	297 39.1 +01.8	S 23 00.7 +00.0	283 26.2 +02.1	S 21 26.8 +00.0	07						
08	347 38.7 +00.7	S 21 19.2 +00.3	312 40.9 +01.9	S 23 00.7 +00.0	298 28.3 +02.2	S 21 26.8 -00.1	08						
09	2 39.4 +00.6	S 21 19.5 +00.3	327 42.8 +01.8	S 23 00.7 -00.1	313 30.5 +02.1	S 21 26.7 +00.0	09						
10	17 40.0 +00.7	S 21 19.8 +00.3	342 44.6 +01.9	S 23 00.6 +00.0	328 32.6 +02.2	S 21 26.7 -00.1	10						
11	32 40.7 +00.7	S 21 20.1 +00.3	357 46.5 +01.8	S 23 00.6 +00.0	343 34.8 +02.1	S 21 26.6 +00.0	11						
12	47 41.4 +00.7	S 21 20.4 +00.3	12 48.3 +01.9	S 23 00.6 -00.1	358 36.9 +02.2	S 21 26.6 -00.1	12						
13	62 42.1 +00.7	S 21 20.7 +00.3	27 50.2 +01.8	S 23 00.5 +00.0	13 39.1 +02.1	S 21 26.5 +00.0	13						
14	77 42.8 +00.6	S 21 21.0 +00.3	42 52.0 +01.8	S 23 00.5 -00.1	28 41.2 +02.2	S 21 26.5 -00.1	14						
15	92 43.4 +00.7	S 21 21.3 +00.3	57 53.8 +01.9	S 23 00.4 +00.0	43 43.4 +02.1	S 21 26.4 +00.0	15						
16	107 44.1 +00.7	S 21 21.6 +00.4	72 55.7 +01.8	S 23 00.4 +00.0	58 45.5 +02.2	S 21 26.4 -00.1	16						
17	122 44.8 +00.7	S 21 22.0 +00.3	87 57.5 +01.9	S 23 00.4 -00.1	73 47.7 +02.1	S 21 26.3 +00.0	17						
18	137 45.5 +00.6	S 21 22.3 +00.3	102 59.4 +01.8	S 23 00.3 +00.0	88 49.8 +02.2	S 21 26.3 -00.1	18						
19	152 46.1 +00.7	S 21 22.6 +00.3	118 01.2 +01.9	S 23 00.3 +00.0	103 52.0 +02.1	S 21 26.2 +00.0	19						
20	167 46.8 +00.7	S 21 22.9 +00.3	133 03.1 +01.8	S 23 00.3 -00.1	118 54.1 +02.2	S 21 26.2 +00.0	20						
21	182 47.5 +00.7	S 21 23.2 +00.3	148 04.9 +01.9	S 23 00.2 +00.0	133 56.3 +02.1	S 21 26.2 -00.1	21						
22	197 48.2 +00.6	S 21 23.5 +00.3	163 06.8 +01.8	S 23 00.2 -00.1	148 58.4 +02.2	S 21 26.1 +00.0	22						
23	212 48.8 +00.7	S 21 23.8 +00.3	178 08.6 +01.9	S 23 00.1 +00.0	164 00.6 +02.1	S 21 26.1 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 115° 114° 114° 114° 114° 114°		SHA 079° 079° 079° 079° 079° 079°		SHA 065° 065° 065° 065° 065° 065°								
	Greenwich Culmination Time: 08:49		Greenwich Culmination Time: 11:08		Greenwich Culmination Time: 12:05								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 44.4 -00.2	S 21 15.4 -00.4	139 50.3 -00.4	S 12 25.2 -01.2	300 37.8 -31.4	N 08 21.3 -13.4	00						
01	192 44.2 -00.2	S 21 15.0 -00.5	154 49.9 -00.4	S 12 24.0 -01.1	315 06.4 -31.4	N 08 07.9 -13.4	01						
02	207 44.0 -00.3	S 21 14.5 -00.4	169 49.5 -00.4	S 12 22.9 -01.2	329 35.0 -31.3	N 07 54.5 -13.5	02						
03	222 43.7 -00.2	S 21 14.1 -00.4	184 49.1 -00.4	S 12 21.7 -01.1	344 03.7 -31.3	N 07 41.0 -13.5	03						
04	237 43.5 -00.2	S 21 13.7 -00.5	199 48.7 -00.4	S 12 20.6 -01.2	358 32.4 -31.2	N 07 27.5 -13.6	04						
05	252 43.3 -00.2	S 21 13.2 -00.4	214 48.3 -00.5	S 12 19.4 -01.1	13 01.2 -31.2	N 07 13.9 -13.6	05						
06	267 43.1 -00.3	S 21 12.8 -00.5	229 47.8 -00.4	S 12 18.3 -01.2	27 30.0 -31.1	N 07 00.3 -13.6	06						
07	282 42.8 -00.2	S 21 12.3 -00.5	244 47.4 -00.4	S 12 17.1 -01.1	41 58.9 -31.1	N 06 46.7 -13.7	07						
08	297 42.6 -00.2	S 21 11.8 -00.4	259 47.0 -00.4	S 12 16.0 -01.2	56 27.8 -31.0	N 06 33.0 -13.7	08						
09	312 42.4 -00.2	S 21 11.4 -00.5	274 46.6 -00.4	S 12 14.8 -01.2	70 56.8 -31.0	N 06 19.3 -13.7	09						
10	327 42.2 -00.2	S 21 10.9 -00.4	289 46.2 -00.4	S 12 13.6 -01.1	85 25.8 -31.0	N 06 05.6 -13.8	10						
11	342 42.0 -00.3	S 21 10.5 -00.5	304 45.8 -00.4	S 12 12.5 -01.2	99 54.8 -30.9	N 05 51.8 -13.8	11						
12	357 41.7 -00.2	S 21 10.0 -00.4	319 45.4 -00.4	S 12 11.3 -01.1	114 23.9 -30.9	N 05 38.0 -13.8	12						
13	12 41.5 -00.2	S 21 09.6 -00.5	334 45.0 -00.4	S 12 10.2 -01.2	128 53.0 -30.8	N 05 24.2 -13.8	13						
14	27 41.3 -00.2	S 21 09.1 -00.4	349 44.6 -00.4	S 12 09.0 -01.1	143 22.2 -30.8	N 05 10.4 -13.9	14						
15	42 41.1 -00.3	S 21 08.7 -00.5	4 44.2 -00.4	S 12 07.9 -01.2	157 51.4 -30.7	N 04 56.5 -13.9	15						
16	57 40.8 -00.2	S 21 08.2 -00.5	19 43.8 -00.4	S 12 06.7 -01.2	172 20.7 -30.7	N 04 42.6 -13.9	16						
17	72 40.6 -00.2	S 21 07.7 -00.4	34 43.4 -00.4	S 12 05.5 -01.1	186 50.0 -30.7	N 04 28.7 -13.9	17						
18	87 40.4 -00.2	S 21 07.3 -00.5	49 43.0 -00.3	S 12 04.4 -01.2	201 19.3 -30.7	N 04 14.8 -13.9	18						
19	102 40.2 -00.2	S 21 06.8 -00.4	64 42.7 -00.4	S 12 03.2 -01.2	215 48.6 -30.6	N 04 00.9 -14.0	19						
20	117 40.0 -00.3	S 21 06.4 -00.5	79 42.3 -00.4	S 12 02.0 -01.1	230 18.0 -30.6	N 03 46.9 -14.0	20						
21	132 39.7 -00.2	S 21 05.9 -00.5	94 41.9 -00.4	S 12 00.9 -01.2	244 47.4 -30.5	N 03 32.9 -14.0	21						
22	147 39.5 -00.2	S 21 05.4 -00.4	109 41.5 -00.4	S 11 59.7 -01.1	259 16.9 -30.5	N 03 18.9 -13.9	22						
23	162 39.3 -00.2	S 21 05.0 -00.5	124 41.1 -00.4	S 11 58.6 -01.2	273 46.4 -30.5	N 03 05.0 -14.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'3 16'3 16'3 16'3 16'3 16'3		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'3 16'3 16'3 16'2 16'2 16'2								
	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 59'7 59'6 59'6 59'5								
	SHA 064° 064° 063° 063° 063° 063°		SHA 026° 026° 025° 025° 025° 025°		SHA 186° 183° 181° 179° 177° 174°								
	Greenwich Culmination Time: 12:09		Greenwich Culmination Time: 14:41		Greenwich Culmination Time: 04:06								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	227 49.5 +00.7	S 21 24.1 +00.3	193 10.5 +01.8	S 23 00.1 +00.0	179 02.7 +02.2	S 21 26.0 +00.0	00						
01	242 50.2 +00.6	S 21 24.4 +00.3	208 12.3 +01.9	S 23 00.1 -00.1	194 04.9 +02.1	S 21 26.0 -00.1	01						
02	257 50.8 +00.7	S 21 24.7 +00.3	223 14.2 +01.8	S 23 00.0 +00.0	209 07.0 +02.2	S 21 25.9 +00.0	02						
03	272 51.5 +00.7	S 21 25.0 +00.3	238 16.0 +01.9	S 22 60.0 -00.1	224 09.2 +02.1	S 21 25.9 -00.1	03						
04	287 52.2 +00.7	S 21 25.3 +00.3	253 17.9 +01.8	S 22 59.9 +00.0	239 11.3 +02.2	S 21 25.8 +00.0	04						
05	302 52.9 +00.6	S 21 25.6 +00.3	268 19.7 +01.9	S 22 59.9 +00.0	254 13.5 +02.1	S 21 25.8 -00.1	05						
06	317 53.5 +00.7	S 21 25.9 +00.3	283 21.6 +01.8	S 22 59.9 -00.1	269 15.6 +02.2	S 21 25.7 +00.0	06						
07	332 54.2 +00.7	S 21 26.2 +00.3	298 23.4 +01.9	S 22 59.8 +00.0	284 17.8 +02.1	S 21 25.7 -00.1	07						
08	347 54.9 +00.7	S 21 26.5 +00.3	313 25.3 +01.8	S 22 59.8 +00.0	299 19.9 +02.2	S 21 25.6 +00.0	08						
09	2 55.6 +00.6	S 21 26.8 +00.3	328 27.1 +01.9	S 22 59.8 -00.1	314 22.1 +02.1	S 21 25.6 -00.1	09						
10	17 56.2 +00.7	S 21 27.1 +00.2	343 29.0 +01.8	S 22 59.7 +00.0	329 24.2 +02.2	S 21 25.5 +00.0	10						
11	32 56.9 +00.7	S 21 27.3 +00.3	358 30.8 +01.9	S 22 59.7 -00.1	344 26.4 +02.1	S 21 25.5 +00.0	11						
12	47 57.6 +00.7	S 21 27.6 +00.3	13 32.7 +01.8	S 22 59.6 +00.0	359 28.5 +02.2	S 21 25.5 -00.1	12						
13	62 58.3 +00.6	S 21 27.9 +00.3	28 34.5 +01.9	S 22 59.6 +00.0	14 30.7 +02.1	S 21 25.4 +00.0	13						
14	77 58.9 +00.7	S 21 28.2 +00.3	43 36.4 +01.8	S 22 59.6 -00.1	29 32.8 +02.2	S 21 25.4 -00.1	14						
15	92 59.6 +00.7	S 21 28.5 +00.3	58 38.2 +01.9	S 22 59.5 +00.0	44 35.0 +02.1	S 21 25.3 +00.0	15						
16	108 00.3 +00.6	S 21 28.8 +00.3	73 40.1 +01.8	S 22 59.5 -00.1	59 37.1 +02.2	S 21 25.3 -00.1	16						
17	123 00.9 +00.7	S 21 29.1 +00.3	88 41.9 +01.9	S 22 59.4 +00.0	74 39.3 +02.1	S 21 25.2 +00.0	17						
18	138 01.6 +00.7	S 21 29.4 +00.3	103 43.8 +01.8	S 22 59.4 +00.0	89 41.4 +02.2	S 21 25.2 -00.1	18						
19	153 02.3 +00.7	S 21 29.7 +00.3	118 45.6 +01.9	S 22 59.4 -00.1	104 43.6 +02.1	S 21 25.1 +00.0	19						
20	168 03.0 +00.6	S 21 30.0 +00.3	133 47.5 +01.8	S 22 59.3 +00.0	119 45.7 +02.2	S 21 25.1 -00.1	20						
21	183 03.6 +00.7	S 21 30.3 +00.3	148 49.3 +01.9	S 22 59.3 +00.0	134 47.9 +02.1	S 21 25.0 +00.0	21						
22	198 04.3 +00.7	S 21 30.6 +00.3	163 51.2 +01.8	S 22 59.3 -00.1	149 50.0 +02.2	S 21 25.0 -00.1	22						
23	213 05.0 +00.6	S 21 30.9 +00.3	178 53.0 +01.9	S 22 59.2 +00.0	164 52.2 +02.1	S 21 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 114° 114° 114° 113° 113° 113°		SHA 079° 079° 079° 079° 079° 079°		SHA 065° 065° 065° 065° 065° 065°								
	Greenwich Culmination Time: 08:48		Greenwich Culmination Time: 11:05		Greenwich Culmination Time: 12:02								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 39.1 -00.2	S	21 04.5 -00.4	139 40.7 -00.4	S	11 57.4 -01.2	288 15.9 -30.5	N	02 51.0 -14.1	00			
01	192 38.9 -00.3	S	21 04.1 -00.5	154 40.3 -00.4	S	11 56.2 -01.1	302 45.4 -30.4	N	02 36.9 -14.0	01			
02	207 38.6 -00.2	S	21 03.6 -00.5	169 39.9 -00.4	S	11 55.1 -01.2	317 15.0 -30.4	N	02 22.9 -14.0	02			
03	222 38.4 -00.2	S	21 03.1 -00.4	184 39.5 -00.4	S	11 53.9 -01.2	331 44.6 -30.4	N	02 08.9 -14.0	03			
04	237 38.2 -00.2	S	21 02.7 -00.5	199 39.1 -00.4	S	11 52.7 -01.1	346 14.2 -30.3	N	01 54.9 -14.1	04			
05	252 38.0 -00.2	S	21 02.2 -00.5	214 38.7 -00.4	S	11 51.6 -01.2	0 43.9 -30.3	N	01 40.8 -14.0	05			
06	267 37.8 -00.2	S	21 01.7 -00.4	229 38.3 -00.4	S	11 50.4 -01.2	15 13.6 -30.3	N	01 26.8 -14.0	06			
07	282 37.6 -00.3	S	21 01.3 -00.5	244 37.9 -00.4	S	11 49.2 -01.1	29 43.3 -30.3	N	01 12.8 -14.1	07			
08	297 37.3 -00.2	S	21 00.8 -00.5	259 37.5 -00.3	S	11 48.1 -01.2	44 13.0 -30.3	N	00 58.7 -14.0	08			
09	312 37.1 -00.2	S	21 00.3 -00.5	274 37.2 -00.4	S	11 46.9 -01.2	58 42.7 -30.2	N	00 44.7 -14.0	09			
10	327 36.9 -00.2	S	20 59.8 -00.4	289 36.8 -00.4	S	11 45.7 -01.2	73 12.5 -30.2	N	00 30.7 -14.1	10			
11	342 36.7 -00.2	S	20 59.4 -00.5	304 36.4 -00.4	S	11 44.5 -01.1	87 42.3 -30.2	N	00 16.6 -14.0	11			
12	357 36.5 -00.2	S	20 58.9 -00.5	319 36.0 -00.4	S	11 43.4 -01.2	102 12.1 -30.2	N	00 02.6 -14.0	12			
13	12 36.3 -00.3	S	20 58.4 -00.4	334 35.6 -00.4	S	11 42.2 -01.2	116 41.9 -30.1	S	00 11.4 +14.0	13			
14	27 36.0 -00.2	S	20 58.0 -00.5	349 35.2 -00.4	S	11 41.0 -01.1	131 11.8 -30.2	S	00 25.4 +14.0	14			
15	42 35.8 -00.2	S	20 57.5 -00.5	4 34.8 -00.4	S	11 39.9 -01.2	145 41.6 -30.1	S	00 39.4 +14.0	15			
16	57 35.6 -00.2	S	20 57.0 -00.5	19 34.4 -00.3	S	11 38.7 -01.2	160 11.5 -30.1	S	00 53.4 +14.0	16			
17	72 35.4 -00.2	S	20 56.5 -00.4	34 34.1 -00.4	S	11 37.5 -01.2	174 41.4 -30.1	S	01 07.4 +13.9	17			
18	87 35.2 -00.2	S	20 56.1 -00.5	49 33.7 -00.4	S	11 36.3 -01.1	189 11.3 -30.1	S	01 21.3 +14.0	18			
19	102 35.0 -00.2	S	20 55.6 -00.5	64 33.3 -00.4	S	11 35.2 -01.2	203 41.2 -30.1	S	01 35.3 +13.9	19			
20	117 34.8 -00.3	S	20 55.1 -00.5	79 32.9 -00.4	S	11 34.0 -01.2	218 11.1 -30.0	S	01 49.2 +13.9	20			
21	132 34.5 -00.2	S	20 54.6 -00.5	94 32.5 -00.4	S	11 32.8 -01.2	232 41.1 -30.1	S	02 03.1 +13.9	21			
22	147 34.3 -00.2	S	20 54.1 -00.4	109 32.1 -00.3	S	11 31.6 -01.1	247 11.0 -30.1	S	02 17.0 +13.8	22			
23	162 34.1 -00.2	S	20 53.7 -00.5	124 31.8 -00.4	S	11 30.5 -01.2	261 40.9 -30.0	S	02 30.8 +13.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'2 16'2 16'2 16'2 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 59'5 59'4 59'4 59'3 59'3 59'2						
	SHA 063° 062° 062° 062° 062° 062°			SHA 025° 024° 024° 024° 024° 024°			SHA 172° 170° 168° 166° 164° 161°						
	Greenwich Culmination Time: 12:09			Greenwich Culmination Time: 14:41			Greenwich Culmination Time: 04:56						
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	228 05.6 +00.7	S	21 31.2 +00.3	193 54.9 +01.8	S	22 59.2 -00.1	179 54.3 +02.2	S	21 24.9 -00.1	00			
01	243 06.3 +00.7	S	21 31.5 +00.3	208 56.7 +01.9	S	22 59.1 +00.0	194 56.5 +02.1	S	21 24.8 +00.0	01			
02	258 07.0 +00.6	S	21 31.8 +00.3	223 58.6 +01.8	S	22 59.1 +00.0	209 58.6 +02.2	S	21 24.8 +00.0	02			
03	273 07.6 +00.7	S	21 32.1 +00.3	239 00.4 +01.9	S	22 59.1 -00.1	225 00.8 +02.1	S	21 24.8 -00.1	03			
04	288 08.3 +00.7	S	21 32.4 +00.2	254 02.3 +01.8	S	22 59.0 +00.0	240 02.9 +02.2	S	21 24.7 +00.0	04			
05	303 09.0 +00.7	S	21 32.6 +00.3	269 04.1 +01.9	S	22 59.0 -00.1	255 05.1 +02.1	S	21 24.7 -00.1	05			
06	318 09.7 +00.6	S	21 32.9 +00.3	284 06.0 +01.8	S	22 58.9 +00.0	270 07.2 +02.2	S	21 24.6 +00.0	06			
07	333 10.3 +00.7	S	21 33.2 +00.3	299 07.8 +01.9	S	22 58.9 +00.0	285 09.4 +02.1	S	21 24.6 -00.1	07			
08	348 11.0 +00.7	S	21 33.5 +00.3	314 09.7 +01.8	S	22 58.9 -00.1	300 11.5 +02.2	S	21 24.5 +00.0	08			
09	3 11.7 +00.6	S	21 33.8 +00.3	329 11.5 +01.9	S	22 58.8 +00.0	315 13.7 +02.1	S	21 24.5 -00.1	09			
10	18 12.3 +00.7	S	21 34.1 +00.3	344 13.4 +01.8	S	22 58.8 -00.1	330 15.8 +02.2	S	21 24.4 +00.0	10			
11	33 13.0 +00.7	S	21 34.4 +00.3	359 15.2 +01.9	S	22 58.7 +00.0	345 18.0 +02.1	S	21 24.4 -00.1	11			
12	48 13.7 +00.6	S	21 34.7 +00.3	14 17.1 +01.8	S	22 58.7 +00.0	0 20.1 +02.2	S	21 24.3 +00.0	12			
13	63 14.3 +00.7	S	21 35.0 +00.3	29 18.9 +01.9	S	22 58.7 -00.1	15 22.3 +02.1	S	21 24.3 -00.1	13			
14	78 15.0 +00.7	S	21 35.3 +00.3	44 20.8 +01.8	S	22 58.6 +00.0	30 24.4 +02.2	S	21 24.2 +00.0	14			
15	93 15.7 +00.6	S	21 35.6 +00.2	59 22.6 +01.9	S	22 58.6 -00.1	45 26.6 +02.1	S	21 24.2 -00.1	15			
16	108 16.3 +00.7	S	21 35.8 +00.3	74 24.5 +01.8	S	22 58.5 +00.0	60 28.7 +02.2	S	21 24.1 +00.0	16			
17	123 17.0 +00.7	S	21 36.1 +00.3	89 26.3 +01.9	S	22 58.5 +00.0	75 30.9 +02.1	S	21 24.1 -00.1	17			
18	138 17.7 +00.6	S	21 36.4 +00.3	104 28.2 +01.8	S	22 58.5 -00.1	90 33.0 +02.2	S	21 24.0 +00.0	18			
19	153 18.3 +00.7	S	21 36.7 +00.3	119 30.0 +01.9	S	22 58.4 +00.0	105 35.2 +02.1	S	21 24.0 +00.0	19			
20	168 19.0 +00.7	S	21 37.0 +00.3	134 31.9 +01.8	S	22 58.4 -00.1	120 37.3 +02.2	S	21 24.0 -00.1	20			
21	183 19.7 +00.6	S	21 37.3 +00.3	149 33.7 +01.9	S	22 58.3 +00.0	135 39.5 +02.1	S	21 23.9 +00.0	21			
22	198 20.3 +00.7	S	21 37.6 +00.2	164 35.6 +01.8	S	22 58.3 +00.0	150 41.6 +02.2	S	21 23.9 -00.1	22			
23	213 21.0 +00.7	S	21 37.8 +00.3	179 37.4 +01.9	S	22 58.3 -00.1	165 43.8 +02.1	S	21 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 113° 113° 113° 113° 113° 113°			SHA 079° 079° 079° 079° 079° 079°			SHA 065° 065° 065° 065° 065° 065°						
	Greenwich Culmination Time: 08:47			Greenwich Culmination Time: 11:02			Greenwich Culmination Time: 11:58						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 33.9 -00.2	S 20 53.2 -00.5	139 31.4 -00.4	S 11 29.3 -01.2	276 10.9 -30.0	S 02 44.7 +13.8	00						
01	192 33.7 -00.2	S 20 52.7 -00.5	154 31.0 -00.4	S 11 28.1 -01.2	290 40.9 -30.1	S 02 58.5 +13.8	01						
02	207 33.5 -00.2	S 20 52.2 -00.5	169 30.6 -00.4	S 11 26.9 -01.1	305 10.8 -30.0	S 03 12.3 +13.8	02						
03	222 33.3 -00.2	S 20 51.7 -00.4	184 30.2 -00.3	S 11 25.8 -01.2	319 40.8 -30.0	S 03 26.1 +13.7	03						
04	237 33.1 -00.2	S 20 51.3 -00.5	199 29.9 -00.4	S 11 24.6 -01.2	334 10.8 -30.0	S 03 39.8 +13.8	04						
05	252 32.9 -00.3	S 20 50.8 -00.5	214 29.5 -00.4	S 11 23.4 -01.2	348 40.8 -30.1	S 03 53.6 +13.6	05						
06	267 32.6 -00.2	S 20 50.3 -00.5	229 29.1 -00.4	S 11 22.2 -01.2	3 10.7 -30.0	S 04 07.2 +13.7	06						
07	282 32.4 -00.2	S 20 49.8 -00.5	244 28.7 -00.3	S 11 21.0 -01.1	17 40.7 -30.0	S 04 20.9 +13.6	07						
08	297 32.2 -00.2	S 20 49.3 -00.5	259 28.4 -00.4	S 11 19.9 -01.2	32 10.7 -30.0	S 04 34.5 +13.6	08						
09	312 32.0 -00.2	S 20 48.8 -00.4	274 28.0 -00.4	S 11 18.7 -01.2	46 40.7 -30.0	S 04 48.1 +13.6	09						
10	327 31.8 -00.2	S 20 48.4 -00.5	289 27.6 -00.4	S 11 17.5 -01.2	61 10.7 -30.1	S 05 01.7 +13.5	10						
11	342 31.6 -00.2	S 20 47.9 -00.5	304 27.2 -00.3	S 11 16.3 -01.2	75 40.6 -30.0	S 05 15.2 +13.5	11						
12	357 31.4 -00.2	S 20 47.4 -00.5	319 26.9 -00.4	S 11 15.1 -01.2	90 10.6 -30.0	S 05 28.7 +13.5	12						
13	12 31.2 -00.2	S 20 46.9 -00.5	334 26.5 -00.4	S 11 13.9 -01.1	104 40.6 -30.1	S 05 42.2 +13.4	13						
14	27 31.0 -00.2	S 20 46.4 -00.5	349 26.1 -00.4	S 11 12.8 -01.2	119 10.5 -30.0	S 05 55.6 +13.4	14						
15	42 30.8 -00.2	S 20 45.9 -00.5	4 25.7 -00.3	S 11 11.6 -01.2	133 40.5 -30.1	S 06 09.0 +13.3	15						
16	57 30.6 -00.3	S 20 45.4 -00.5	19 25.4 -00.4	S 11 10.4 -01.2	148 10.4 -30.0	S 06 22.3 +13.3	16						
17	72 30.3 -00.2	S 20 44.9 -00.5	34 25.0 -00.4	S 11 09.2 -01.2	162 40.4 -30.1	S 06 35.6 +13.3	17						
18	87 30.1 -00.2	S 20 44.4 -00.5	49 24.6 -00.3	S 11 08.0 -01.2	177 10.3 -30.1	S 06 48.9 +13.2	18						
19	102 29.9 -00.2	S 20 43.9 -00.5	64 24.3 -00.4	S 11 06.8 -01.2	191 40.2 -30.1	S 07 02.1 +13.1	19						
20	117 29.7 -00.2	S 20 43.4 -00.5	79 23.9 -00.4	S 11 05.6 -01.1	206 10.1 -30.1	S 07 15.2 +13.1	20						
21	132 29.5 -00.2	S 20 42.9 -00.4	94 23.5 -00.4	S 11 04.5 -01.2	220 40.0 -30.1	S 07 28.3 +13.1	21						
22	147 29.3 -00.2	S 20 42.5 -00.5	109 23.1 -00.3	S 11 03.3 -01.2	235 09.9 -30.1	S 07 41.4 +13.0	22						
23	162 29.1 -00.2	S 20 42.0 -00.5	124 22.8 -00.4	S 11 02.1 -01.2	249 39.8 -30.2	S 07 54.4 +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 16'3 16'3 16'3 16'3 16'3 16'3		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'1 16'1 16'1 16'1 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 59'1 59'1 59'0 58'9 58'8 58'8								
	SHA 062° 061° 061° 061° 061° 061°		SHA 024° 023° 023° 023° 023° 023°		SHA 159° 157° 155° 153° 151° 148°								
	Greenwich Culmination Time: 12:09		Greenwich Culmination Time: 14:42		Greenwich Culmination Time: 05:46								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	228 21.7 +00.6	S 21 38.1 +00.3	194 39.3 +01.8	S 22 58.2 +00.0	180 45.9 +02.2	S 21 23.8 -00.1	00						
01	243 22.3 +00.7	S 21 38.4 +00.3	209 41.1 +01.9	S 22 58.2 -00.1	195 48.1 +02.1	S 21 23.7 +00.0	01						
02	258 23.0 +00.7	S 21 38.7 +00.3	224 43.0 +01.8	S 22 58.1 +00.0	210 50.2 +02.2	S 21 23.7 -00.1	02						
03	273 23.7 +00.6	S 21 39.0 +00.3	239 44.8 +01.9	S 22 58.1 +00.0	225 52.4 +02.1	S 21 23.6 +00.0	03						
04	288 24.3 +00.7	S 21 39.3 +00.3	254 46.7 +01.8	S 22 58.1 -00.1	240 54.5 +02.2	S 21 23.6 -00.1	04						
05	303 25.0 +00.7	S 21 39.6 +00.2	269 48.5 +01.9	S 22 58.0 +00.0	255 56.7 +02.1	S 21 23.5 +00.0	05						
06	318 25.7 +00.6	S 21 39.8 +00.3	284 50.4 +01.8	S 22 58.0 -00.1	270 58.8 +02.2	S 21 23.5 -00.1	06						
07	333 26.3 +00.7	S 21 40.1 +00.3	299 52.2 +01.9	S 22 57.9 +00.0	286 01.0 +02.1	S 21 23.4 +00.0	07						
08	348 27.0 +00.7	S 21 40.4 +00.3	314 54.1 +01.8	S 22 57.9 +00.0	301 03.1 +02.2	S 21 23.4 -00.1	08						
09	3 27.7 +00.6	S 21 40.7 +00.3	329 55.9 +01.9	S 22 57.9 -00.1	316 05.3 +02.1	S 21 23.3 +00.0	09						
10	18 28.3 +00.7	S 21 41.0 +00.3	344 57.8 +01.8	S 22 57.8 +00.0	331 07.4 +02.2	S 21 23.3 -00.1	10						
11	33 29.0 +00.7	S 21 41.3 +00.2	359 59.6 +01.9	S 22 57.8 -00.1	346 09.6 +02.1	S 21 23.2 +00.0	11						
12	48 29.7 +00.6	S 21 41.5 +00.3	15 01.5 +01.8	S 22 57.7 +00.0	1 11.7 +02.2	S 21 23.2 +00.0	12						
13	63 30.3 +00.7	S 21 41.8 +00.3	30 03.3 +01.9	S 22 57.7 +00.0	16 13.9 +02.1	S 21 23.2 -00.1	13						
14	78 31.0 +00.6	S 21 42.1 +00.3	45 05.2 +01.8	S 22 57.7 -00.1	31 16.0 +02.2	S 21 23.1 +00.0	14						
15	93 31.6 +00.7	S 21 42.4 +00.3	60 07.0 +01.9	S 22 57.6 +00.0	46 18.2 +02.1	S 21 23.1 -00.1	15						
16	108 32.3 +00.7	S 21 42.7 +00.2	75 08.9 +01.8	S 22 57.6 -00.1	61 20.3 +02.2	S 21 23.0 +00.0	16						
17	123 33.0 +00.6	S 21 42.9 +00.3	90 10.7 +01.9	S 22 57.5 +00.0	76 22.5 +02.1	S 21 23.0 -00.1	17						
18	138 33.6 +00.7	S 21 43.2 +00.3	105 12.6 +01.8	S 22 57.5 +00.0	91 24.6 +02.2	S 21 22.9 +00.0	18						
19	153 34.3 +00.7	S 21 43.5 +00.3	120 14.4 +01.9	S 22 57.5 -00.1	106 26.8 +02.1	S 21 22.9 -00.1	19						
20	168 35.0 +00.6	S 21 43.8 +00.3	135 16.3 +01.8	S 22 57.4 +00.0	121 28.9 +02.2	S 21 22.8 +00.0	20						
21	183 35.6 +00.7	S 21 44.1 +00.2	150 18.1 +01.9	S 22 57.4 -00.1	136 31.1 +02.1	S 21 22.8 -00.1	21						
22	198 36.3 +00.7	S 21 44.3 +00.3	165 20.0 +01.8	S 22 57.3 +00.0	151 33.2 +02.2	S 21 22.7 +00.0	22						
23	213 37.0 +00.6	S 21 44.6 +00.3	180 21.8 +01.9	S 22 57.3 +00.0	166 35.4 +02.1	S 21 22.7 -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 112° 112° 112° 112° 112° 112°		SHA 079° 079° 079° 079° 079° 079°		SHA 065° 065° 065° 065° 065° 065°								
	Greenwich Culmination Time: 08:46		Greenwich Culmination Time: 11:00		Greenwich Culmination Time: 11:55								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 28.9 -00.2	S 20 41.5 -00.5	139 22.4 -00.4	S 11 00.9 -01.2	264 09.6 -30.1	S 08 07.4 +12.9	00						
01	192 28.7 -00.2	S 20 41.0 -00.5	154 22.0 -00.3	S 10 59.7 -01.2	278 39.5 -30.2	S 08 20.3 +12.9	01						
02	207 28.5 -00.2	S 20 40.5 -00.5	169 21.7 -00.4	S 10 58.5 -01.2	293 09.3 -30.2	S 08 33.2 +12.8	02						
03	222 28.3 -00.2	S 20 40.0 -00.5	184 21.3 -00.4	S 10 57.3 -01.2	307 39.1 -30.2	S 08 46.0 +12.7	03						
04	237 28.1 -00.2	S 20 39.5 -00.5	199 20.9 -00.3	S 10 56.1 -01.2	322 08.9 -30.3	S 08 58.7 +12.7	04						
05	252 27.9 -00.2	S 20 39.0 -00.5	214 20.6 -00.4	S 10 54.9 -01.1	336 38.6 -30.2	S 09 11.4 +12.7	05						
06	267 27.7 -00.2	S 20 38.5 -00.5	229 20.2 -00.4	S 10 53.8 -01.2	351 08.4 -30.3	S 09 24.1 +12.6	06						
07	282 27.5 -00.2	S 20 38.0 -00.5	244 19.8 -00.3	S 10 52.6 -01.2	5 38.1 -30.3	S 09 36.7 +12.5	07						
08	297 27.3 -00.2	S 20 37.5 -00.5	259 19.5 -00.4	S 10 51.4 -01.2	20 07.8 -30.3	S 09 49.2 +12.5	08						
09	312 27.1 -00.2	S 20 37.0 -00.5	274 19.1 -00.3	S 10 50.2 -01.2	34 37.5 -30.3	S 10 01.7 +12.4	09						
10	327 26.9 -00.2	S 20 36.5 -00.5	289 18.8 -00.4	S 10 49.0 -01.2	49 07.2 -30.3	S 10 14.1 +12.3	10						
11	342 26.7 -00.2	S 20 36.0 -00.6	304 18.4 -00.4	S 10 47.8 -01.2	63 36.9 -30.4	S 10 26.4 +12.3	11						
12	357 26.5 -00.2	S 20 35.4 -00.5	319 18.0 -00.3	S 10 46.6 -01.2	78 06.5 -30.4	S 10 38.7 +12.2	12						
13	12 26.3 -00.2	S 20 34.9 -00.5	334 17.7 -00.4	S 10 45.4 -01.2	92 36.1 -30.4	S 10 50.9 +12.2	13						
14	27 26.1 -00.2	S 20 34.4 -00.5	349 17.3 -00.4	S 10 44.2 -01.2	107 05.7 -30.5	S 11 03.1 +12.0	14						
15	42 25.9 -00.2	S 20 33.9 -00.5	4 16.9 -00.3	S 10 43.0 -01.2	121 35.2 -30.5	S 11 15.1 +12.1	15						
16	57 25.7 -00.2	S 20 33.4 -00.5	19 16.6 -00.4	S 10 41.8 -01.2	136 04.7 -30.5	S 11 27.2 +11.9	16						
17	72 25.5 -00.2	S 20 32.9 -00.5	34 16.2 -00.3	S 10 40.6 -01.2	150 34.2 -30.5	S 11 39.1 +11.9	17						
18	87 25.3 -00.2	S 20 32.4 -00.5	49 15.9 -00.4	S 10 39.4 -01.2	165 03.7 -30.5	S 11 51.0 +11.8	18						
19	102 25.1 -00.2	S 20 31.9 -00.5	64 15.5 -00.3	S 10 38.2 -01.2	179 33.2 -30.6	S 12 02.8 +11.7	19						
20	117 24.9 -00.2	S 20 31.4 -00.5	79 15.2 -00.4	S 10 37.0 -01.2	194 02.6 -30.6	S 12 14.5 +11.7	20						
21	132 24.7 -00.2	S 20 30.9 -00.5	94 14.8 -00.4	S 10 35.8 -01.2	208 32.0 -30.7	S 12 26.2 +11.6	21						
22	147 24.5 -00.2	S 20 30.4 -00.5	109 14.4 -00.3	S 10 34.6 -01.2	223 01.3 -30.6	S 12 37.8 +11.5	22						
23	162 24.3 -00.2	S 20 29.9 -00.6	124 14.1 -00.4	S 10 33.4 -01.2	237 30.7 -30.7	S 12 49.3 +11.4	23						

UT	02	06	10	14	18	22
SD	16°3	16°3	16°3	16°3	16°3	16°3
HP	00°1	00°1	00°1	00°1	00°1	00°1
SHA	061°	060°	060°	060°	060°	060°
Greenwich Culmination Time: 12:10						

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	022°	022°	022°	022°	022°	021°
Greenwich Culmination Time: 14:42						

UT	02	06	10	14	18	22
SD	16°0	16°0	16°0	15°9	15°9	15°9
HP	58°7	58°6	58°5	58°5	58°4	58°3
SHA	146°	144°	142°	140°	137°	135°
Greenwich Culmination Time: 06:36						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	228 37.6 +00.7	S 21 44.9 +00.3	195 23.7 +01.8	S 22 57.3 -00.1	181 37.5 +02.2	S 21 22.6 +00.0	00						
01	243 38.3 +00.6	S 21 45.2 +00.3	210 25.5 +01.9	S 22 57.2 +00.0	196 39.7 +02.1	S 21 22.6 -00.1	01						
02	258 38.9 +00.7	S 21 45.5 +00.2	225 27.4 +01.8	S 22 57.2 -00.1	211 41.8 +02.2	S 21 22.5 +00.0	02						
03	273 39.6 +00.7	S 21 45.7 +00.3	240 29.2 +01.9	S 22 57.1 +00.0	226 44.0 +02.1	S 21 22.5 -00.1	03						
04	288 40.3 +00.6	S 21 46.0 +00.3	255 31.1 +01.8	S 22 57.1 -00.1	241 46.1 +02.2	S 21 22.4 +00.0	04						
05	303 40.9 +00.7	S 21 46.3 +00.3	270 32.9 +01.9	S 22 57.0 +00.0	256 48.3 +02.1	S 21 22.4 +00.0	05						
06	318 41.6 +00.7	S 21 46.6 +00.2	285 34.8 +01.9	S 22 57.0 +00.0	271 50.4 +02.2	S 21 22.4 -00.1	06						
07	333 42.3 +00.6	S 21 46.8 +00.3	300 36.7 +01.8	S 22 57.0 -00.1	286 52.6 +02.1	S 21 22.3 +00.0	07						
08	348 42.9 +00.7	S 21 47.1 +00.3	315 38.5 +01.9	S 22 56.9 +00.0	301 54.7 +02.2	S 21 22.3 -00.1	08						
09	3 43.6 +00.6	S 21 47.4 +00.3	330 40.4 +01.8	S 22 56.9 -00.1	316 56.9 +02.1	S 21 22.2 +00.0	09						
10	18 44.2 +00.7	S 21 47.7 +00.2	345 42.2 +01.9	S 22 56.8 +00.0	331 59.0 +02.2	S 21 22.2 -00.1	10						
11	33 44.9 +00.7	S 21 47.9 +00.3	0 44.1 +01.8	S 22 56.8 +00.0	347 01.2 +02.1	S 21 22.1 +00.0	11						
12	48 45.6 +00.6	S 21 48.2 +00.3	15 45.9 +01.9	S 22 56.8 -00.1	2 03.3 +02.2	S 21 22.1 -00.1	12						
13	63 46.2 +00.7	S 21 48.5 +00.3	30 47.8 +01.8	S 22 56.7 +00.0	17 05.5 +02.1	S 21 22.0 +00.0	13						
14	78 46.9 +00.6	S 21 48.8 +00.2	45 49.6 +01.9	S 22 56.7 -00.1	32 07.6 +02.2	S 21 22.0 -00.1	14						
15	93 47.5 +00.7	S 21 49.0 +00.3	60 51.5 +01.8	S 22 56.6 +00.0	47 09.8 +02.1	S 21 21.9 +00.0	15						
16	108 48.2 +00.7	S 21 49.3 +00.3	75 53.3 +01.9	S 22 56.6 +00.0	62 11.9 +02.2	S 21 21.9 -00.1	16						
17	123 48.9 +00.6	S 21 49.6 +00.3	90 55.2 +01.8	S 22 56.6 -00.1	77 14.1 +02.1	S 21 21.8 +00.0	17						
18	138 49.5 +00.7	S 21 49.9 +00.2	105 57.0 +01.9	S 22 56.5 +00.0	92 16.2 +02.2	S 21 21.8 -00.1	18						
19	153 50.2 +00.6	S 21 50.1 +00.3	120 58.9 +01.8	S 22 56.5 -00.1	107 18.4 +02.1	S 21 21.7 +00.0	19						
20	168 50.8 +00.7	S 21 50.4 +00.3	136 00.7 +01.9	S 22 56.4 +00.0	122 20.5 +02.2	S 21 21.7 -00.1	20						
21	183 51.5 +00.7	S 21 50.7 +00.3	151 02.6 +01.8	S 22 56.4 -00.1	137 22.7 +02.1	S 21 21.6 +00.0	21						
22	198 52.2 +00.6	S 21 51.0 +00.2	166 04.4 +01.9	S 22 56.3 +00.0	152 24.8 +02.2	S 21 21.6 -00.1	22						
23	213 52.8 +00.7	S 21 51.2 +00.3	181 06.3 +01.9	S 22 56.3 +00.0	167 27.0 +02.1	S 21 21.5 +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	112°	112°	111°	111°	111°	111°
Greenwich Culmination Time: 08:45						

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	079°	078°	078°	078°	078°	078°
Greenwich Culmination Time: 10:57						

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	065°	065°	065°	065°	065°	065°
Greenwich Culmination Time: 11:51						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 24.1 -00.2	S	20 29.3 -00.5	139 13.7 -00.3	S	10 32.2 -01.2	251 60.0 -30.7	S	13 00.7 +11.4	00			
01	192 23.9 -00.2	S	20 28.8 -00.5	154 13.4 -00.4	S	10 31.0 -01.2	266 29.3 -30.8	S	13 12.1 +11.2	01			
02	207 23.7 -00.2	S	20 28.3 -00.5	169 13.0 -00.3	S	10 29.8 -01.2	280 58.5 -30.8	S	13 23.3 +11.2	02			
03	222 23.5 -00.2	S	20 27.8 -00.5	184 12.7 -00.4	S	10 28.6 -01.2	295 27.7 -30.8	S	13 34.5 +11.1	03			
04	237 23.3 -00.2	S	20 27.3 -00.5	199 12.3 -00.3	S	10 27.4 -01.2	309 56.9 -30.9	S	13 45.6 +11.1	04			
05	252 23.1 -00.2	S	20 26.8 -00.6	214 12.0 -00.4	S	10 26.2 -01.2	324 26.0 -30.8	S	13 56.7 +10.9	05			
06	267 22.9 -00.2	S	20 26.2 -00.5	229 11.6 -00.4	S	10 25.0 -01.2	338 55.2 -31.0	S	14 07.6 +10.9	06			
07	282 22.7 -00.2	S	20 25.7 -00.5	244 11.2 -00.3	S	10 23.8 -01.2	353 24.2 -30.9	S	14 18.5 +10.8	07			
08	297 22.5 -00.2	S	20 25.2 -00.5	259 10.9 -00.4	S	10 22.6 -01.2	7 53.3 -31.0	S	14 29.3 +10.7	08			
09	312 22.3 -00.2	S	20 24.7 -00.5	274 10.5 -00.3	S	10 21.4 -01.2	22 22.3 -31.0	S	14 40.0 +10.6	09			
10	327 22.1 -00.2	S	20 24.2 -00.5	289 10.2 -00.4	S	10 20.2 -01.2	36 51.3 -31.1	S	14 50.6 +10.5	10			
11	342 21.9 -00.2	S	20 23.7 -00.6	304 9.8 -00.3	S	10 19.0 -01.2	51 20.2 -31.0	S	15 01.1 +10.5	11			
12	357 21.7 -00.2	S	20 23.1 -00.5	319 9.5 -00.4	S	10 17.8 -01.2	65 49.2 -31.2	S	15 11.6 +10.3	12			
13	12 21.5 -00.2	S	20 22.6 -00.5	334 9.1 -00.3	S	10 16.6 -01.2	80 18.0 -31.1	S	15 21.9 +10.3	13			
14	27 21.3 -00.2	S	20 22.1 -00.5	349 8.8 -00.4	S	10 15.4 -01.2	94 46.9 -31.2	S	15 32.2 +10.1	14			
15	42 21.1 -00.2	S	20 21.6 -00.6	4 08.4 -00.3	S	10 14.2 -01.2	109 15.7 -31.2	S	15 42.3 +10.1	15			
16	57 20.9 -00.1	S	20 21.0 -00.5	19 08.1 -00.3	S	10 13.0 -01.2	123 44.5 -31.3	S	15 52.4 +10.0	16			
17	72 20.8 -00.2	S	20 20.5 -00.5	34 07.8 -00.4	S	10 11.8 -01.2	138 13.2 -31.3	S	16 02.4 +09.9	17			
18	87 20.6 -00.2	S	20 20.0 -00.5	49 07.4 -00.3	S	10 10.6 -01.2	152 41.9 -31.3	S	16 12.3 +09.8	18			
19	102 20.4 -00.2	S	20 19.5 -00.6	64 07.1 -00.4	S	10 09.4 -01.2	167 10.6 -31.4	S	16 22.1 +09.7	19			
20	117 20.2 -00.2	S	20 18.9 -00.5	79 06.7 -00.3	S	10 08.2 -01.3	181 39.2 -31.4	S	16 31.8 +09.6	20			
21	132 20.0 -00.2	S	20 18.4 -00.5	94 06.4 -00.4	S	10 06.9 -01.2	196 07.8 -31.4	S	16 41.4 +09.5	21			
22	147 19.8 -00.2	S	20 17.9 -00.5	109 06.0 -00.3	S	10 05.7 -01.2	210 36.4 -31.5	S	16 50.9 +09.4	22			
23	162 19.6 -00.2	S	20 17.4 -00.6	124 05.7 -00.4	S	10 04.5 -01.2	225 04.9 -31.5	S	17 00.3 +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 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'9 15'8 15'8 15'8 15'8 15'8						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 58'2 58'2 58'1 58'0 57'9 57'8						
	SHA 059° 059° 059° 059° 059° 059°			SHA 021° 021° 021° 021° 021° 020°			SHA 133° 131° 129° 126° 124° 122°						
	Greenwich Culmination Time: 12:10			Greenwich Culmination Time: 14:43			Greenwich Culmination Time: 07:27						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	228 53.5 +00.6	S	21 51.5 +00.3	196 08.2 +01.8	S	22 56.3 -00.1	182 29.1 +02.2	S	21 21.5 +00.0	00			
01	243 54.1 +00.7	S	21 51.8 +00.2	211 10.0 +01.9	S	22 56.2 +00.0	197 31.3 +02.1	S	21 21.5 -00.1	01			
02	258 54.8 +00.7	S	21 52.0 +00.3	226 11.9 +01.8	S	22 56.2 -00.1	212 33.4 +02.2	S	21 21.4 +00.0	02			
03	273 55.5 +00.6	S	21 52.3 +00.3	241 13.7 +01.9	S	22 56.1 +00.0	227 35.6 +02.1	S	21 21.4 -00.1	03			
04	288 56.1 +00.7	S	21 52.6 +00.2	256 15.6 +01.8	S	22 56.1 +00.0	242 37.7 +02.2	S	21 21.3 +00.0	04			
05	303 56.8 +00.6	S	21 52.8 +00.3	271 17.4 +01.9	S	22 56.1 -00.1	257 39.9 +02.1	S	21 21.3 -00.1	05			
06	318 57.4 +00.7	S	21 53.1 +00.3	286 19.3 +01.8	S	22 56.0 +00.0	272 42.0 +02.2	S	21 21.2 +00.0	06			
07	333 58.1 +00.6	S	21 53.4 +00.3	301 21.1 +01.9	S	22 56.0 -00.1	287 44.2 +02.1	S	21 21.2 -00.1	07			
08	348 58.7 +00.7	S	21 53.7 +00.2	316 23.0 +01.8	S	22 55.9 +00.0	302 46.3 +02.2	S	21 21.1 +00.0	08			
09	3 59.4 +00.7	S	21 53.9 +00.3	331 24.8 +01.9	S	22 55.9 -00.1	317 48.5 +02.2	S	21 21.1 -00.1	09			
10	19 00.1 +00.6	S	21 54.2 +00.3	346 26.7 +01.8	S	22 55.8 +00.0	332 50.7 +02.1	S	21 21.0 +00.0	10			
11	34 00.7 +00.7	S	21 54.5 +00.2	1 28.5 +01.9	S	22 55.8 +00.0	347 52.8 +02.2	S	21 21.0 -00.1	11			
12	49 01.4 +00.6	S	21 54.7 +00.3	16 30.4 +01.8	S	22 55.8 -00.1	2 55.0 +02.1	S	21 20.9 +00.0	12			
13	64 02.0 +00.7	S	21 55.0 +00.3	31 32.2 +01.9	S	22 55.7 +00.0	17 57.1 +02.2	S	21 20.9 -00.1	13			
14	79 02.7 +00.6	S	21 55.3 +00.2	46 34.1 +01.9	S	22 55.7 -00.1	32 59.3 +02.1	S	21 20.8 +00.0	14			
15	94 03.3 +00.7	S	21 55.5 +00.3	61 36.0 +01.8	S	22 55.6 +00.0	48 01.4 +02.2	S	21 20.8 -00.1	15			
16	109 04.0 +00.7	S	21 55.8 +00.3	76 37.8 +01.9	S	22 55.6 -00.1	63 03.6 +02.1	S	21 20.7 +00.0	16			
17	124 04.7 +00.6	S	21 56.1 +00.2	91 39.7 +01.8	S	22 55.5 +00.0	78 05.7 +02.2	S	21 20.7 -00.1	17			
18	139 05.3 +00.7	S	21 56.3 +00.3	106 41.5 +01.9	S	22 55.5 +00.0	93 07.9 +02.1	S	21 20.6 +00.0	18			
19	154 06.0 +00.6	S	21 56.6 +00.2	121 43.4 +01.8	S	22 55.5 -00.1	108 10.0 +02.2	S	21 20.6 -00.1	19			
20	169 06.6 +00.7	S	21 56.8 +00.3	136 45.2 +01.9	S	22 55.4 +00.0	123 12.2 +02.1	S	21 20.5 +00.0	20			
21	184 07.3 +00.6	S	21 57.1 +00.3	151 47.1 +01.8	S	22 55.4 -00.1	138 14.3 +02.2	S	21 20.5 +00.0	21			
22	199 07.9 +00.7	S	21 57.4 +00.2	166 48.9 +01.9	S	22 55.3 +00.0	153 16.5 +02.1	S	21 20.5 -00.1	22			
23	214 08.6 +00.6	S	21 57.6 +00.3	181 50.8 +01.8	S	22 55.3 -00.1	168 18.6 +02.2	S	21 20.4 +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 111° 111° 111° 111° 110° 110°			SHA 078° 078° 078° 078° 078° 078°			SHA 065° 065° 065° 065° 065° 065°						
	Greenwich Culmination Time: 08:44			Greenwich Culmination Time: 10:54			Greenwich Culmination Time: 11:48						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 14.9 -00.2	S	20 03.9 -00.5	138 57.2 -00.3	S	09 34.1 -01.2	226 47.1 -32.4	S	20 20.8 +06.5	00			
01	192 14.7 -00.1	S	20 03.4 -00.6	153 56.9 -00.3	S	09 32.9 -01.2	241 14.7 -32.3	S	20 27.3 +06.4	01			
02	207 14.6 -00.2	S	20 02.8 -00.5	168 56.6 -00.4	S	09 31.7 -01.2	255 42.4 -32.4	S	20 33.7 +06.3	02			
03	222 14.4 -00.2	S	20 02.3 -00.6	183 56.2 -00.3	S	09 30.5 -01.2	270 10.0 -32.4	S	20 40.0 +06.2	03			
04	237 14.2 -00.2	S	20 01.7 -00.5	198 55.9 -00.3	S	09 29.3 -01.3	284 37.6 -32.4	S	20 46.2 +06.1	04			
05	252 14.0 -00.2	S	20 01.2 -00.5	213 55.6 -00.3	S	09 28.0 -01.2	299 05.2 -32.5	S	20 52.3 +05.9	05			
06	267 13.8 -00.1	S	20 00.7 -00.6	228 55.3 -00.4	S	09 26.8 -01.2	313 32.7 -32.5	S	20 58.2 +05.9	06			
07	282 13.7 -00.2	S	20 00.1 -00.5	243 54.9 -00.3	S	09 25.6 -01.2	328 00.2 -32.5	S	21 04.1 +05.7	07			
08	297 13.5 -00.2	S	19 59.6 -00.6	258 54.6 -00.3	S	09 24.4 -01.3	342 27.7 -32.5	S	21 09.8 +05.5	08			
09	312 13.3 -00.2	S	19 59.0 -00.5	273 54.3 -00.4	S	09 23.1 -01.2	356 55.2 -32.5	S	21 15.3 +05.5	09			
10	327 13.1 -00.2	S	19 58.5 -00.6	288 53.9 -00.3	S	09 21.9 -01.2	11 22.7 -32.6	S	21 20.8 +05.3	10			
11	342 12.9 -00.1	S	19 57.9 -00.6	303 53.6 -00.3	S	09 20.7 -01.2	25 50.1 -32.6	S	21 26.1 +05.2	11			
12	357 12.8 -00.2	S	19 57.3 -00.5	318 53.3 -00.3	S	09 19.5 -01.3	40 17.5 -32.6	S	21 31.3 +05.1	12			
13	12 12.6 -00.2	S	19 56.8 -00.6	333 53.0 -00.4	S	09 18.2 -01.2	54 44.9 -32.6	S	21 36.4 +04.9	13			
14	27 12.4 -00.2	S	19 56.2 -00.5	348 52.6 -00.3	S	09 17.0 -01.2	69 12.3 -32.7	S	21 41.3 +04.9	14			
15	42 12.2 -00.2	S	19 55.7 -00.6	3 52.3 -00.3	S	09 15.8 -01.2	83 39.6 -32.6	S	21 46.2 +04.7	15			
16	57 12.0 -00.1	S	19 55.1 -00.5	18 52.0 -00.3	S	09 14.6 -01.3	98 07.0 -32.7	S	21 50.9 +04.5	16			
17	72 11.9 -00.2	S	19 54.6 -00.6	33 51.7 -00.4	S	09 13.3 -01.2	112 34.3 -32.7	S	21 55.4 +04.5	17			
18	87 11.7 -00.2	S	19 54.0 -00.5	48 51.3 -00.3	S	09 12.1 -01.2	127 01.6 -32.7	S	21 59.9 +04.3	18			
19	102 11.5 -00.2	S	19 53.5 -00.6	63 51.0 -00.3	S	09 10.9 -01.2	141 28.9 -32.7	S	22 04.2 +04.2	19			
20	117 11.3 -00.1	S	19 52.9 -00.6	78 50.7 -00.3	S	09 09.7 -01.3	155 56.2 -32.8	S	22 08.4 +04.0	20			
21	132 11.2 -00.2	S	19 52.3 -00.5	93 50.4 -00.3	S	09 08.4 -01.2	170 23.4 -32.7	S	22 12.4 +04.0	21			
22	147 11.0 -00.2	S	19 51.8 -00.6	108 50.1 -00.4	S	09 07.2 -01.2	184 50.7 -32.8	S	22 16.4 +03.8	22			
23	162 10.8 -00.2	S	19 51.2 -00.5	123 49.7 -00.3	S	09 06.0 -01.3	199 17.9 -32.7	S	22 20.2 +03.6	23			
	UT 02 06 10 14 18 22 SD 16'3 16'3 16'3 16'3 16'3 16'3 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 057° 057° 057° 057° 057° 056° Greenwich Culmination Time: 12:11		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 019° 019° 019° 018° 018° 018° Greenwich Culmination Time: 14:44		UT 02 06 10 14 18 22 SD 15'6 15'6 15'6 15'5 15'5 15'5 HP 57'3 57'2 57'1 57'0 57'0 56'9 SHA 106° 103° 101° 099° 096° 094° Greenwich Culmination Time: 09:12								
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	229 24.9 +00.7	S	22 04.1 +00.3	197 37.2 +01.8	S	22 54.2 +00.0	184 12.4 +02.1	S	21 19.2 +00.0	00			
01	244 25.6 +00.6	S	22 04.4 +00.2	212 39.0 +01.9	S	22 54.2 -00.1	199 14.5 +02.2	S	21 19.2 -00.1	01			
02	259 26.2 +00.7	S	22 04.6 +00.3	227 40.9 +01.8	S	22 54.1 +00.0	214 16.7 +02.1	S	21 19.1 +00.0	02			
03	274 26.9 +00.6	S	22 04.9 +00.3	242 42.7 +01.9	S	22 54.1 -00.1	229 18.8 +02.2	S	21 19.1 -00.1	03			
04	289 27.5 +00.7	S	22 05.2 +00.2	257 44.6 +01.9	S	22 54.0 +00.0	244 21.0 +02.2	S	21 19.0 +00.0	04			
05	304 28.2 +00.6	S	22 05.4 +00.3	272 46.5 +01.8	S	22 54.0 +00.0	259 23.2 +02.1	S	21 19.0 -00.1	05			
06	319 28.8 +00.7	S	22 05.7 +00.2	287 48.3 +01.9	S	22 54.0 -00.1	274 25.3 +02.2	S	21 18.9 +00.0	06			
07	334 29.5 +00.6	S	22 05.9 +00.3	302 50.2 +01.8	S	22 53.9 +00.0	289 27.5 +02.1	S	21 18.9 -00.1	07			
08	349 30.1 +00.7	S	22 06.2 +00.2	317 52.0 +01.9	S	22 53.9 -00.1	304 29.6 +02.2	S	21 18.8 +00.0	08			
09	4 30.8 +00.6	S	22 06.4 +00.3	332 53.9 +01.8	S	22 53.8 +00.0	319 31.8 +02.1	S	21 18.8 -00.1	09			
10	19 31.4 +00.7	S	22 06.7 +00.2	347 55.7 +01.9	S	22 53.8 -00.1	334 33.9 +02.2	S	21 18.7 +00.0	10			
11	34 32.1 +00.6	S	22 06.9 +00.3	2 57.6 +01.9	S	22 53.7 +00.0	349 36.1 +02.1	S	21 18.7 -00.1	11			
12	49 32.7 +00.7	S	22 07.2 +00.2	17 59.5 +01.8	S	22 53.7 +00.0	4 38.2 +02.2	S	21 18.6 +00.0	12			
13	64 33.4 +00.6	S	22 07.4 +00.3	33 01.3 +01.9	S	22 53.7 -00.1	19 40.4 +02.1	S	21 18.6 -00.1	13			
14	79 34.0 +00.7	S	22 07.7 +00.2	48 03.2 +01.8	S	22 53.6 +00.0	34 42.5 +02.2	S	21 18.5 +00.0	14			
15	94 34.7 +00.6	S	22 07.9 +00.3	63 05.0 +01.9	S	22 53.6 -00.1	49 44.7 +02.1	S	21 18.5 -00.1	15			
16	109 35.3 +00.7	S	22 08.2 +00.2	78 06.9 +01.8	S	22 53.5 +00.0	64 46.8 +02.2	S	21 18.4 +00.0	16			
17	124 36.0 +00.6	S	22 08.4 +00.3	93 08.7 +01.9	S	22 53.5 -00.1	79 49.0 +02.1	S	21 18.4 -00.1	17			
18	139 36.6 +00.7	S	22 08.7 +00.2	108 10.6 +01.9	S	22 53.4 +00.0	94 51.1 +02.2	S	21 18.3 +00.0	18			
19	154 37.3 +00.6	S	22 08.9 +00.3	123 12.5 +01.8	S	22 53.4 -00.1	109 53.3 +02.1	S	21 18.3 +00.0	19			
20	169 37.9 +00.7	S	22 09.2 +00.2	138 14.3 +01.9	S	22 53.3 +00.0	124 55.4 +02.2	S	21 18.3 -00.1	20			
21	184 38.6 +00.6	S	22 09.4 +00.3	153 16.2 +01.8	S	22 53.3 +00.0	139 57.6 +02.1	S	21 18.2 +00.0	21			
22	199 39.2 +00.7	S	22 09.7 +00.2	168 18.0 +01.9	S	22 53.3 -00.1	154 59.7 +02.2	S	21 18.2 -00.1	22			
23	214 39.9 +00.6	S	22 09.9 +00.3	183 19.9 +01.8	S	22 53.2 +00.0	170 01.9 +02.1	S	21 18.1 +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 110° 109° 109° 109° 109° 109° Greenwich Culmination Time: 08:41		UT 02 06 10 14 18 22 SD 00'3 00'3 00'3 00'3 00'3 00'3 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 078° 078° 078° 078° 078° 078° Greenwich Culmination Time: 10:48		UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 064° 064° 064° 064° 064° 064° Greenwich Culmination Time: 11:41								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA ° ' ''	ddGHA	Dec ° ' ''	dDec	GHA ° ' ''	ddGHA	Dec ° ' ''	dDec	GHA ° ' ''	ddGHA	Dec ° ' ''	dDec	
00	177 10.6 -00.1	S 19	50.7 -00.6	138 49.4 -00.3	S 09	04.7 -01.2	213 45.2 -32.8	S 22	23.8 +03.6				
01	192 10.5 -00.2	S 19	50.1 -00.6	153 49.1 -00.3	S 09	03.5 -01.2	228 12.4 -32.8	S 22	27.4 +03.4				
02	207 10.3 -00.2	S 19	49.5 -00.5	168 48.8 -00.3	S 09	02.3 -01.2	242 39.6 -32.8	S 22	30.8 +03.3				
03	222 10.1 -00.2	S 19	49.0 -00.6	183 48.5 -00.4	S 09	01.1 -01.3	257 06.8 -32.7	S 22	34.1 +03.1				
04	237 09.9 -00.1	S 19	48.4 -00.5	198 48.1 -00.3	S 08	59.8 -01.2	271 34.1 -32.8	S 22	37.2 +03.0				
05	252 09.8 -00.2	S 19	47.9 -00.6	213 47.8 -00.3	S 08	58.6 -01.2	286 01.3 -32.8	S 22	40.2 +02.9				
06	267 09.6 -00.2	S 19	47.3 -00.6	228 47.5 -00.3	S 08	57.4 -01.3	300 28.5 -32.8	S 22	43.1 +02.8				
07	282 09.4 -00.2	S 19	46.7 -00.5	243 47.2 -00.3	S 08	56.1 -01.2	314 55.7 -32.8	S 22	45.9 +02.6				
08	297 09.2 -00.1	S 19	46.2 -00.6	258 46.9 -00.3	S 08	54.9 -01.2	329 22.9 -32.8	S 22	48.5 +02.5				
09	312 09.1 -00.2	S 19	45.6 -00.6	273 46.6 -00.4	S 08	53.7 -01.3	343 50.1 -32.8	S 22	51.0 +02.4				
10	327 08.9 -00.2	S 19	45.0 -00.5	288 46.2 -00.3	S 08	52.4 -01.2	358 17.3 -32.8	S 22	53.4 +02.2				
11	342 08.7 -00.1	S 19	44.5 -00.6	303 45.9 -00.3	S 08	51.2 -01.2	12 44.5 -32.8	S 22	55.6 +02.1				
12	357 08.6 -00.2	S 19	43.9 -00.6	318 45.6 -00.3	S 08	50.0 -01.3	27 11.7 -32.8	S 22	57.7 +02.0				
13	12 08.4 -00.2	S 19	43.3 -00.5	333 45.3 -00.3	S 08	48.7 -01.2	41 38.9 -32.8	S 22	59.7 +01.8				
14	27 08.2 -00.2	S 19	42.8 -00.6	348 45.0 -00.3	S 08	47.5 -01.2	56 06.1 -32.7	S 23	01.5 +01.7				
15	42 08.0 -00.1	S 19	42.2 -00.6	3 44.7 -00.3	S 08	46.3 -01.3	70 33.4 -32.8	S 23	03.2 +01.6				
16	57 07.9 -00.2	S 19	41.6 -00.6	18 44.4 -00.4	S 08	45.0 -01.2	85 00.6 -32.7	S 23	04.8 +01.4				
17	72 07.7 -00.2	S 19	41.0 -00.5	33 44.0 -00.3	S 08	43.8 -01.3	99 27.9 -32.8	S 23	06.2 +01.4				
18	87 07.5 -00.1	S 19	40.5 -00.6	48 43.7 -00.3	S 08	42.5 -01.2	113 55.1 -32.7	S 23	07.6 +01.1				
19	102 07.4 -00.2	S 19	39.9 -00.6	63 43.4 -00.3	S 08	41.3 -01.2	128 22.4 -32.7	S 23	08.7 +01.1				
20	117 07.2 -00.2	S 19	39.3 -00.6	78 43.1 -00.3	S 08	40.1 -01.3	142 49.7 -32.7	S 23	09.8 +00.9				
21	132 07.0 -00.1	S 19	38.7 -00.5	93 42.8 -00.3	S 08	38.8 -01.2	157 17.0 -32.7	S 23	10.7 +00.8				
22	147 06.9 -00.2	S 19	38.2 -00.6	108 42.5 -00.3	S 08	37.6 -01.2	171 44.3 -32.7	S 23	11.5 +00.7				
23	162 06.7 -00.2	S 19	37.6 -00.6	123 42.2 -00.3	S 08	36.4 -01.3	186 11.6 -32.6	S 23	12.2 +00.5				

UT	02	06	10	14	18	22
SD	16'3	16'3	16'3	16'3	16'3	16'3
HP	00'1	00'1	00'1	00'1	00'1	00'1
SHA	056°	056°	056°	056°	056°	055°
Greenwich Culmination Time: 12:11						

UT	02	06	10	14	18	22
SD	00'1	00'1	00'1	00'1	00'1	00'1
HP	00'1	00'1	00'1	00'1	00'1	00'1
SHA	018°	018°	018°	017°	017°	017°
Greenwich Culmination Time: 14:45						

UT	02	06	10	14	18	22
SD	15'5	15'5	15'4	15'4	15'4	15'4
HP	56'8	56'7	56'6	56'5	56'5	56'4
SHA	092°	089°	087°	085°	082°	080°
Greenwich Culmination Time: 10:07						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' ''	ddGHA	Dec ° ' ''	dDec	GHA ° ' ''	ddGHA	Dec ° ' ''	dDec	GHA ° ' ''	ddGHA	Dec ° ' ''	dDec	
00	229 40.5 +00.7	S 22	10.2 +00.2	198 21.7 +01.9	S 22	53.2 -00.1	185 04.0 +02.2	S 21	18.1 -00.1				
01	244 41.2 +00.6	S 22	10.4 +00.3	213 23.6 +01.9	S 22	53.1 +00.0	200 06.2 +02.1	S 21	18.0 +00.0				
02	259 41.8 +00.7	S 22	10.7 +00.2	228 25.5 +01.8	S 22	53.1 -00.1	215 08.3 +02.2	S 21	18.0 -00.1				
03	274 42.5 +00.6	S 22	10.9 +00.3	243 27.3 +01.9	S 22	53.0 +00.0	230 10.5 +02.1	S 21	17.9 +00.0				
04	289 43.1 +00.7	S 22	11.2 +00.2	258 29.2 +01.8	S 22	53.0 -00.1	245 12.6 +02.2	S 21	17.9 -00.1				
05	304 43.8 +00.6	S 22	11.4 +00.3	273 31.0 +01.9	S 22	52.9 +00.0	260 14.8 +02.1	S 21	17.8 +00.0				
06	319 44.4 +00.7	S 22	11.7 +00.2	288 32.9 +01.9	S 22	52.9 +00.0	275 16.9 +02.2	S 21	17.8 -00.1				
07	334 45.1 +00.6	S 22	11.9 +00.2	303 34.8 +01.8	S 22	52.9 -00.1	290 19.1 +02.1	S 21	17.7 +00.0				
08	349 45.7 +00.7	S 22	12.1 +00.3	318 36.6 +01.9	S 22	52.8 +00.0	305 21.2 +02.2	S 21	17.7 -00.1				
09	4 46.4 +00.6	S 22	12.4 +00.2	333 38.5 +01.8	S 22	52.8 -00.1	320 23.4 +02.2	S 21	17.6 +00.0				
10	19 47.0 +00.7	S 22	12.6 +00.3	348 40.3 +01.9	S 22	52.7 +00.0	335 25.6 +02.1	S 21	17.6 -00.1				
11	34 47.7 +00.6	S 22	12.9 +00.2	3 42.2 +01.8	S 22	52.7 -00.1	350 27.7 +02.2	S 21	17.5 +00.0				
12	49 48.3 +00.6	S 22	13.1 +00.3	18 44.0 +01.9	S 22	52.6 +00.0	5 29.9 +02.1	S 21	17.5 -00.1				
13	64 48.9 +00.7	S 22	13.4 +00.2	33 45.9 +01.9	S 22	52.6 -00.1	20 32.0 +02.2	S 21	17.4 +00.0				
14	79 49.6 +00.6	S 22	13.6 +00.3	48 47.8 +01.8	S 22	52.5 +00.0	35 34.2 +02.1	S 21	17.4 -00.1				
15	94 50.2 +00.7	S 22	13.9 +00.2	63 49.6 +01.9	S 22	52.5 +00.0	50 36.3 +02.2	S 21	17.3 +00.0				
16	109 50.9 +00.6	S 22	14.1 +00.2	78 51.5 +01.8	S 22	52.5 -00.1	65 38.5 +02.1	S 21	17.3 -00.1				
17	124 51.5 +00.7	S 22	14.3 +00.3	93 53.3 +01.9	S 22	52.4 +00.0	80 40.6 +02.2	S 21	17.2 +00.0				
18	139 52.2 +00.6	S 22	14.6 +00.2	108 55.2 +01.9	S 22	52.4 -00.1	95 42.8 +02.1	S 21	17.2 -00.1				
19	154 52.8 +00.7	S 22	14.8 +00.3	123 57.1 +01.8	S 22	52.3 +00.0	110 44.9 +02.2	S 21	17.1 +00.0				
20	169 53.5 +00.6	S 22	15.1 +00.2	138 58.9 +01.9	S 22	52.3 -00.1	125 47.1 +02.1	S 21	17.1 +00.0				
21	184 54.1 +00.7	S 22	15.3 +00.3	154 00.8 +01.8	S 22	52.2 +00.0	140 49.2 +02.2	S 21	17.1 -00.1				
22	199 54.8 +00.6	S 22	15.6 +00.2	169 02.6 +01.9	S 22	52.2 -00.1	155 51.4 +02.1	S 21	17.0 +00.0				
23	214 55.4 +00.7	S 22	15.8 +00.2	184 04.5 +01.9	S 22	52.1 +00.0	170 53.5 +02.2	S 21	17.0 -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	109°	109°	109°	108°	108°	108°
Greenwich Culmination Time: 08:40						

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	078°	077°	077°	077°	077°	077°
Greenwich Culmination Time: 10:45						

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	064°	064°	064°	064°	064°	064°
Greenwich Culmination Time: 11:38						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 06.5 -00.1	S 19 37.0 -00.6	138 41.9 -00.3	S 08 35.1 -01.2	200 39.0 -32.7	S 23 12.7 +00.4	00						
01	192 06.4 -00.2	S 19 36.4 -00.5	153 41.6 -00.4	S 08 33.9 -01.3	215 06.3 -32.6	S 23 13.1 +00.3	01						
02	207 06.2 -00.2	S 19 35.9 -00.6	168 41.2 -00.3	S 08 32.6 -01.2	229 33.7 -32.6	S 23 13.4 +00.1	02						
03	222 06.0 -00.1	S 19 35.3 -00.6	183 40.9 -00.3	S 08 31.4 -01.2	244 01.1 -32.5	S 23 13.5 +00.0	03						
04	237 05.9 -00.2	S 19 34.7 -00.6	198 40.6 -00.3	S 08 30.2 -01.3	258 28.6 -32.6	S 23 13.5 -00.1	04						
05	252 05.7 -00.2	S 19 34.1 -00.5	213 40.3 -00.3	S 08 28.9 -01.2	272 56.0 -32.5	S 23 13.4 -00.3	05						
06	267 05.5 -00.1	S 19 33.6 -00.6	228 40.0 -00.3	S 08 27.7 -01.3	287 23.5 -32.5	S 23 13.1 -00.3	06						
07	282 05.4 -00.2	S 19 33.0 -00.6	243 39.7 -00.3	S 08 26.4 -01.2	301 51.0 -32.5	S 23 12.8 -00.5	07						
08	297 05.2 -00.2	S 19 32.4 -00.6	258 39.4 -00.3	S 08 25.2 -01.2	316 18.5 -32.4	S 23 12.3 -00.7	08						
09	312 05.0 -00.1	S 19 31.8 -00.6	273 39.1 -00.3	S 08 24.0 -01.3	330 46.1 -32.4	S 23 11.6 -00.7	09						
10	327 04.9 -00.2	S 19 31.2 -00.5	288 38.8 -00.3	S 08 22.7 -01.2	345 13.7 -32.4	S 23 10.9 -00.9	10						
11	342 04.7 -00.2	S 19 30.7 -00.6	303 38.5 -00.3	S 08 21.5 -01.3	359 41.3 -32.4	S 23 10.0 -01.0	11						
12	357 04.5 -00.1	S 19 30.1 -00.6	318 38.2 -00.3	S 08 20.2 -01.2	14 08.9 -32.3	S 23 09.0 -01.2	12						
13	12 04.4 -00.2	S 19 29.5 -00.6	333 37.9 -00.3	S 08 19.0 -01.3	28 36.6 -32.3	S 23 07.8 -01.3	13						
14	27 04.2 -00.1	S 19 28.9 -00.6	348 37.6 -00.3	S 08 17.7 -01.2	43 04.3 -32.2	S 23 06.5 -01.4	14						
15	42 04.1 -00.2	S 19 28.3 -00.6	3 37.3 -00.3	S 08 16.5 -01.2	57 32.1 -32.2	S 23 05.1 -01.5	15						
16	57 03.9 -00.2	S 19 27.7 -00.6	18 37.0 -00.3	S 08 15.3 -01.3	71 59.9 -32.2	S 23 03.6 -01.6	16						
17	72 03.7 -00.1	S 19 27.1 -00.5	33 36.7 -00.3	S 08 14.0 -01.2	86 27.7 -32.1	S 23 02.0 -01.8	17						
18	87 03.6 -00.2	S 19 26.6 -00.6	48 36.4 -00.3	S 08 12.8 -01.3	100 55.6 -32.1	S 23 00.2 -01.9	18						
19	102 03.4 -00.2	S 19 26.0 -00.6	63 36.1 -00.3	S 08 11.5 -01.2	115 23.5 -32.1	S 22 58.3 -02.0	19						
20	117 03.2 -00.1	S 19 25.4 -00.6	78 35.8 -00.3	S 08 10.3 -01.3	129 51.4 -32.0	S 22 56.3 -02.2	20						
21	132 03.1 -00.2	S 19 24.8 -00.6	93 35.5 -00.3	S 08 09.0 -01.2	144 19.4 -32.0	S 22 54.1 -02.2	21						
22	147 02.9 -00.1	S 19 24.2 -00.6	108 35.2 -00.3	S 08 07.8 -01.3	158 47.4 -31.9	S 22 51.9 -02.4	22						
23	162 02.8 -00.2	S 19 23.6 -00.6	123 34.9 -00.3	S 08 06.5 -01.2	173 15.5 -31.9	S 22 49.5 -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 16'3 16'3 16'3 16'3 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'3 15'3 15'3 15'3 15'3 15'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 56'3 56'2 56'1 56'1 56'0 55'9								
	SHA 055° 055° 055° 055° 055° 054°		SHA 017° 017° 016° 016° 016° 016°		SHA 078° 075° 073° 071° 068° 066°								
	Greenwich Culmination Time: 12:11		Greenwich Culmination Time: 14:45		Greenwich Culmination Time: 11:01								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	229 56.1 +00.6	S 22 16.0 +00.3	199 06.4 +01.8	S 22 52.1 +00.0	185 55.7 +02.1	S 21 16.9 +00.0	00						
01	244 56.7 +00.6	S 22 16.3 +00.2	214 08.2 +01.9	S 22 52.1 -00.1	200 57.8 +02.2	S 21 16.9 -00.1	01						
02	259 57.3 +00.7	S 22 16.5 +00.3	229 10.1 +01.8	S 22 52.0 +00.0	215 60.0 +02.1	S 21 16.8 +00.0	02						
03	274 58.0 +00.6	S 22 16.8 +00.2	244 11.9 +01.9	S 22 52.0 -00.1	231 02.1 +02.2	S 21 16.8 -00.1	03						
04	289 58.6 +00.7	S 22 17.0 +00.2	259 13.8 +01.9	S 22 51.9 +00.0	246 04.3 +02.1	S 21 16.7 +00.0	04						
05	304 59.3 +00.6	S 22 17.2 +00.3	274 15.7 +01.8	S 22 51.9 -00.1	261 06.4 +02.2	S 21 16.7 -00.1	05						
06	319 59.9 +00.7	S 22 17.5 +00.2	289 17.5 +01.9	S 22 51.8 +00.0	276 08.6 +02.2	S 21 16.6 +00.0	06						
07	335 00.6 +00.6	S 22 17.7 +00.2	304 19.4 +01.8	S 22 51.8 -00.1	291 10.8 +02.1	S 21 16.6 -00.1	07						
08	350 01.2 +00.7	S 22 17.9 +00.3	319 21.2 +01.9	S 22 51.7 +00.0	306 12.9 +02.2	S 21 16.5 +00.0	08						
09	5 01.9 +00.6	S 22 18.2 +00.2	334 23.1 +01.9	S 22 51.7 -00.1	321 15.1 +02.1	S 21 16.5 -00.1	09						
10	20 02.5 +00.6	S 22 18.4 +00.3	349 25.0 +01.8	S 22 51.6 +00.0	336 17.2 +02.2	S 21 16.4 +00.0	10						
11	35 03.1 +00.7	S 22 18.7 +00.2	4 26.8 +01.9	S 22 51.6 +00.0	351 19.4 +02.1	S 21 16.4 -00.1	11						
12	50 03.8 +00.6	S 22 18.9 +00.2	19 28.7 +01.8	S 22 51.6 -00.1	6 21.5 +02.2	S 21 16.3 +00.0	12						
13	65 04.4 +00.7	S 22 19.1 +00.3	34 30.5 +01.9	S 22 51.5 +00.0	21 23.7 +02.1	S 21 16.3 -00.1	13						
14	80 05.1 +00.6	S 22 19.4 +00.2	49 32.4 +01.9	S 22 51.5 -00.1	36 25.8 +02.2	S 21 16.2 +00.0	14						
15	95 05.7 +00.7	S 22 19.6 +00.2	64 34.3 +01.8	S 22 51.4 +00.0	51 28.0 +02.1	S 21 16.2 -00.1	15						
16	110 06.4 +00.6	S 22 19.8 +00.3	79 36.1 +01.9	S 22 51.4 -00.1	66 30.1 +02.2	S 21 16.1 +00.0	16						
17	125 07.0 +00.6	S 22 20.1 +00.2	94 38.0 +01.8	S 22 51.3 +00.0	81 32.3 +02.1	S 21 16.1 -00.1	17						
18	140 07.6 +00.7	S 22 20.3 +00.2	109 39.8 +01.9	S 22 51.3 -00.1	96 34.4 +02.2	S 21 16.0 +00.0	18						
19	155 08.3 +00.6	S 22 20.5 +00.3	124 41.7 +01.9	S 22 51.2 +00.0	111 36.6 +02.1	S 21 16.0 -00.1	19						
20	170 08.9 +00.7	S 22 20.8 +00.2	139 43.6 +01.8	S 22 51.2 -00.1	126 38.7 +02.2	S 21 15.9 +00.0	20						
21	185 09.6 +00.6	S 22 21.0 +00.2	154 45.4 +01.9	S 22 51.1 +00.0	141 40.9 +02.1	S 21 15.9 -00.1	21						
22	200 10.2 +00.7	S 22 21.2 +00.3	169 47.3 +01.8	S 22 51.1 +00.0	156 43.0 +02.2	S 21 15.8 +00.0	22						
23	215 10.9 +00.6	S 22 21.5 +00.2	184 49.1 +01.9	S 22 51.1 -00.1	171 45.2 +02.1	S 21 15.8 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 108° 108° 108° 108° 108° 107°		SHA 077° 077° 077° 077° 077° 077°		SHA 064° 064° 064° 064° 064° 064°								
	Greenwich Culmination Time: 08:39		Greenwich Culmination Time: 10:42		Greenwich Culmination Time: 11:34								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 02.6 -00.2	S	19 23.0 -00.6	138 34.6 -00.3	S	08 05.3 -01.3	187 43.6 -31.8	S	22 47.0 -02.6	00			
01	192 02.4 -00.1	S	19 22.4 -00.6	153 34.3 -00.3	S	08 04.0 -01.2	202 11.8 -31.8	S	22 44.4 -02.8	01			
02	207 02.3 -00.2	S	19 21.8 -00.6	168 34.0 -00.3	S	08 02.8 -01.3	216 40.0 -31.8	S	22 41.6 -02.9	02			
03	222 02.1 -00.1	S	19 21.2 -00.5	183 33.7 -00.3	S	08 01.5 -01.2	231 08.2 -31.7	S	22 38.7 -03.0	03			
04	237 02.0 -00.2	S	19 20.7 -00.6	198 33.4 -00.3	S	08 00.3 -01.2	245 36.5 -31.7	S	22 35.7 -03.1	04			
05	252 01.8 -00.1	S	19 20.1 -00.6	213 33.1 -00.3	S	07 59.1 -01.3	260 04.8 -31.6	S	22 32.6 -03.2	05			
06	267 01.7 -00.2	S	19 19.5 -00.6	228 32.8 -00.3	S	07 57.8 -01.2	274 33.2 -31.5	S	22 29.4 -03.3	06			
07	282 01.5 -00.2	S	19 18.9 -00.6	243 32.5 -00.3	S	07 56.6 -01.3	289 01.7 -31.5	S	22 26.1 -03.5	07			
08	297 01.3 -00.1	S	19 18.3 -00.6	258 32.2 -00.3	S	07 55.3 -01.2	303 30.2 -31.5	S	22 22.6 -03.6	08			
09	312 01.2 -00.2	S	19 17.7 -00.6	273 31.9 -00.3	S	07 54.1 -01.3	317 58.7 -31.4	S	22 19.0 -03.6	09			
10	327 01.0 -00.1	S	19 17.1 -00.6	288 31.6 -00.3	S	07 52.8 -01.2	332 27.3 -31.3	S	22 15.4 -03.9	10			
11	342 00.9 -00.2	S	19 16.5 -00.6	303 31.3 -00.3	S	07 51.6 -01.3	346 56.0 -31.3	S	22 11.5 -03.9	11			
12	357 00.7 -00.1	S	19 15.9 -00.6	318 31.0 -00.3	S	07 50.3 -01.3	1 24.7 -31.3	S	22 07.6 -04.0	12			
13	12 00.6 -00.2	S	19 15.3 -00.6	333 30.7 -00.2	S	07 49.0 -01.2	15 53.4 -31.1	S	22 03.6 -04.1	13			
14	27 00.4 -00.1	S	19 14.7 -00.6	348 30.5 -00.3	S	07 47.8 -01.3	30 22.3 -31.2	S	21 59.5 -04.3	14			
15	42 00.3 -00.2	S	19 14.1 -00.6	3 30.2 -00.3	S	07 46.5 -01.2	44 51.1 -31.0	S	21 55.2 -04.4	15			
16	57 00.1 -00.1	S	19 13.5 -00.6	18 29.9 -00.3	S	07 45.3 -01.3	59 20.1 -31.1	S	21 50.8 -04.4	16			
17	71 60.0 -00.2	S	19 12.9 -00.6	33 29.6 -00.3	S	07 44.0 -01.2	73 49.0 -30.9	S	21 46.4 -04.6	17			
18	86 59.8 -00.2	S	19 12.3 -00.6	48 29.3 -00.3	S	07 42.8 -01.3	88 18.1 -30.9	S	21 41.8 -04.7	18			
19	101 59.6 -00.1	S	19 11.7 -00.6	63 29.0 -00.3	S	07 41.5 -01.2	102 47.2 -30.9	S	21 37.1 -04.8	19			
20	116 59.5 -00.2	S	19 11.1 -00.6	78 28.7 -00.3	S	07 40.3 -01.3	117 16.3 -30.7	S	21 32.3 -04.9	20			
21	131 59.3 -00.1	S	19 10.5 -00.6	93 28.4 -00.3	S	07 39.0 -01.2	131 45.6 -30.8	S	21 27.4 -05.0	21			
22	146 59.2 -00.2	S	19 09.9 -00.6	108 28.1 -00.3	S	07 37.8 -01.3	146 14.8 -30.6	S	21 22.4 -05.2	22			
23	161 59.0 -00.1	S	19 09.3 -00.6	123 27.8 -00.2	S	07 36.5 -01.2	160 44.2 -30.6	S	21 17.2 -05.2	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 15'2 15'2 15'2 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 55'8 55'7 55'7 55'6 55'5 55'4					
	SHA 054° 054° 054° 054° 053° 053°			SHA 016° 016° 015° 015° 015° 015°				SHA 064° 062° 059° 057° 055° 053°					
	Greenwich Culmination Time: 12:11			Greenwich Culmination Time: 14:45				Greenwich Culmination Time: 11:54					
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	230 11.5 +00.6	S	22 21.7 +00.2	199 51.0 +01.9	S	22 51.0 +00.0	186 47.3 +02.2	S	21 15.7 +00.0	00			
01	245 12.1 +00.7	S	22 21.9 +00.3	214 52.9 +01.8	S	22 51.0 -00.1	201 49.5 +02.2	S	21 15.7 +00.0	01			
02	260 12.8 +00.6	S	22 22.2 +00.2	229 54.7 +01.9	S	22 50.9 +00.0	216 51.7 +02.1	S	21 15.7 -00.1	02			
03	275 13.4 +00.7	S	22 22.4 +00.2	244 56.6 +01.9	S	22 50.9 -00.1	231 53.8 +02.2	S	21 15.6 +00.0	03			
04	290 14.1 +00.6	S	22 22.6 +00.3	259 58.5 +01.8	S	22 50.8 +00.0	246 56.0 +02.1	S	21 15.6 -00.1	04			
05	305 14.7 +00.6	S	22 22.9 +00.2	275 00.3 +01.9	S	22 50.8 -00.1	261 58.1 +02.2	S	21 15.5 +00.0	05			
06	320 15.3 +00.7	S	22 23.1 +00.2	290 02.2 +01.8	S	22 50.7 +00.0	277 00.3 +02.1	S	21 15.5 -00.1	06			
07	335 16.0 +00.6	S	22 23.3 +00.3	305 04.0 +01.9	S	22 50.7 -00.1	292 02.4 +02.2	S	21 15.4 +00.0	07			
08	350 16.6 +00.7	S	22 23.6 +00.2	320 05.9 +01.9	S	22 50.6 +00.0	307 04.6 +02.1	S	21 15.4 -00.1	08			
09	5 17.3 +00.6	S	22 23.8 +00.2	335 07.8 +01.8	S	22 50.6 -00.1	322 06.7 +02.2	S	21 15.3 +00.0	09			
10	20 17.9 +00.6	S	22 24.0 +00.2	350 09.6 +01.9	S	22 50.5 +00.0	337 08.9 +02.1	S	21 15.3 -00.1	10			
11	35 18.5 +00.7	S	22 24.2 +00.3	5 11.5 +01.8	S	22 50.5 +00.0	352 11.0 +02.2	S	21 15.2 +00.0	11			
12	50 19.2 +00.6	S	22 24.5 +00.2	20 13.3 +01.9	S	22 50.5 -00.1	7 13.2 +02.1	S	21 15.2 -00.1	12			
13	65 19.8 +00.7	S	22 24.7 +00.2	35 15.2 +01.9	S	22 50.4 +00.0	22 15.3 +02.2	S	21 15.1 +00.0	13			
14	80 20.5 +00.6	S	22 24.9 +00.3	50 17.1 +01.8	S	22 50.4 -00.1	37 17.5 +02.1	S	21 15.1 -00.1	14			
15	95 21.1 +00.6	S	22 25.2 +00.2	65 18.9 +01.9	S	22 50.3 +00.0	52 19.6 +02.2	S	21 15.0 +00.0	15			
16	110 21.7 +00.7	S	22 25.4 +00.2	80 20.8 +01.9	S	22 50.3 -00.1	67 21.8 +02.2	S	21 15.0 -00.1	16			
17	125 22.4 +00.6	S	22 25.6 +00.2	95 22.7 +01.8	S	22 50.2 +00.0	82 24.0 +02.1	S	21 14.9 +00.0	17			
18	140 23.0 +00.7	S	22 25.8 +00.3	110 24.5 +01.9	S	22 50.2 -00.1	97 26.1 +02.2	S	21 14.9 -00.1	18			
19	155 23.7 +00.6	S	22 26.1 +00.2	125 26.4 +01.8	S	22 50.1 +00.0	112 28.3 +02.1	S	21 14.8 +00.0	19			
20	170 24.3 +00.6	S	22 26.3 +00.2	140 28.2 +01.9	S	22 50.1 -00.1	127 30.4 +02.2	S	21 14.8 -00.1	20			
21	185 24.9 +00.7	S	22 26.5 +00.2	155 30.1 +01.9	S	22 50.0 +00.0	142 32.6 +02.1	S	21 14.7 +00.0	21			
22	200 25.6 +00.6	S	22 26.7 +00.3	170 32.0 +01.8	S	22 50.0 -00.1	157 34.7 +02.2	S	21 14.7 -00.1	22			
23	215 26.2 +00.7	S	22 27.0 +00.2	185 33.8 +01.9	S	22 49.9 +00.0	172 36.9 +02.1	S	21 14.6 +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 107° 107° 107° 107° 107° 107°			SHA 077° 077° 077° 077° 077° 077°				SHA 064° 064° 064° 064° 064° 064°					
	Greenwich Culmination Time: 08:38			Greenwich Culmination Time: 10:39				Greenwich Culmination Time: 11:31					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 58.9 -00.2	S 19 08.7 -00.6	138 27.6 -00.3	S 07 35.3 -01.3	175 13.6 -30.5	S 21 12.0 -05.3	00						
01	191 58.7 -00.1	S 19 08.1 -00.7	153 27.3 -00.3	S 07 34.0 -01.2	189 43.1 -30.5	S 21 06.7 -05.4	01						
02	206 58.6 -00.2	S 19 07.4 -00.6	168 27.0 -00.3	S 07 32.8 -01.3	204 12.6 -30.4	S 21 01.3 -05.6	02						
03	221 58.4 -00.1	S 19 06.8 -00.6	183 26.7 -00.3	S 07 31.5 -01.3	218 42.2 -30.4	S 20 55.7 -05.6	03						
04	236 58.3 -00.2	S 19 06.2 -00.6	198 26.4 -00.3	S 07 30.2 -01.2	233 11.8 -30.2	S 20 50.1 -05.7	04						
05	251 58.1 -00.1	S 19 05.6 -00.6	213 26.1 -00.3	S 07 29.0 -01.3	247 41.6 -30.3	S 20 44.4 -05.9	05						
06	266 58.0 -00.2	S 19 05.0 -00.6	228 25.8 -00.2	S 07 27.7 -01.2	262 11.3 -30.1	S 20 38.5 -05.9	06						
07	281 57.8 -00.1	S 19 04.4 -00.6	243 25.6 -00.3	S 07 26.5 -01.3	276 41.2 -30.1	S 20 32.6 -06.0	07						
08	296 57.7 -00.2	S 19 03.8 -00.6	258 25.3 -00.3	S 07 25.2 -01.2	291 11.1 -30.0	S 20 26.6 -06.2	08						
09	311 57.5 -00.1	S 19 03.2 -00.6	273 25.0 -00.3	S 07 24.0 -01.3	305 41.1 -30.0	S 20 20.4 -06.2	09						
10	326 57.4 -00.2	S 19 02.6 -00.6	288 24.7 -00.3	S 07 22.7 -01.3	320 11.1 -29.9	S 20 14.2 -06.3	10						
11	341 57.2 -00.1	S 19 02.0 -00.7	303 24.4 -00.3	S 07 21.4 -01.2	334 41.2 -29.8	S 20 07.9 -06.4	11						
12	356 57.1 -00.1	S 19 01.3 -00.6	318 24.1 -00.2	S 07 20.2 -01.3	349 11.4 -29.8	S 20 01.5 -06.5	12						
13	11 57.0 -00.2	S 19 00.7 -00.6	333 23.9 -00.3	S 07 18.9 -01.2	3 41.6 -29.7	S 19 55.0 -06.6	13						
14	26 56.8 -00.1	S 19 00.1 -00.6	348 23.6 -00.3	S 07 17.7 -01.3	18 11.9 -29.6	S 19 48.4 -06.7	14						
15	41 56.7 -00.2	S 18 59.5 -00.6	3 23.3 -00.3	S 07 16.4 -01.3	32 42.3 -29.6	S 19 41.7 -06.8	15						
16	56 56.5 -00.1	S 18 58.9 -00.6	18 23.0 -00.3	S 07 15.1 -01.2	47 12.7 -29.5	S 19 34.9 -06.8	16						
17	71 56.4 -00.2	S 18 58.3 -00.6	33 22.7 -00.2	S 07 13.9 -01.3	61 43.2 -29.4	S 19 28.1 -07.0	17						
18	86 56.2 -00.1	S 18 57.7 -00.7	48 22.5 -00.3	S 07 12.6 -01.2	76 13.8 -29.4	S 19 21.1 -07.0	18						
19	101 56.1 -00.2	S 18 57.0 -00.6	63 22.2 -00.3	S 07 11.4 -01.3	90 44.4 -29.3	S 19 14.1 -07.2	19						
20	116 55.9 -00.1	S 18 56.4 -00.6	78 21.9 -00.3	S 07 10.1 -01.3	105 15.1 -29.2	S 19 06.9 -07.2	20						
21	131 55.8 -00.2	S 18 55.8 -00.6	93 21.6 -00.3	S 07 08.8 -01.2	119 45.9 -29.2	S 18 59.7 -07.3	21						
22	146 55.6 -00.1	S 18 55.2 -00.6	108 21.3 -00.2	S 07 07.6 -01.3	134 16.7 -29.1	S 18 52.4 -07.4	22						
23	161 55.5 -00.1	S 18 54.6 -00.7	123 21.1 -00.3	S 07 06.3 -01.2	148 47.6 -29.0	S 18 45.0 -07.4	23						
UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
SD 16'2 16'2 16'2 16'2 16'2 16'2				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 55'4 55'3 55'2 55'1 55'1 55'0					
SHA 053° 053° 053° 053° 052° 052°				SHA 015° 014° 014° 014° 014° 014°				SHA 050° 048° 046° 044° 042° 040°					
Greenwich Culmination Time: 12:12				Greenwich Culmination Time: 14:46				Greenwich Culmination Time: 12:44					
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	230 26.9 +00.6	S 22 27.2 +00.2	200 35.7 +01.9	S 22 49.9 +00.0	187 39.0 +02.2	S 21 14.6 -00.1	00						
01	245 27.5 +00.6	S 22 27.4 +00.2	215 37.6 +01.8	S 22 49.9 -00.1	202 41.2 +02.1	S 21 14.5 +00.0	01						
02	260 28.1 +00.7	S 22 27.6 +00.3	230 39.4 +01.9	S 22 49.8 +00.0	217 43.3 +02.2	S 21 14.5 -00.1	02						
03	275 28.8 +00.6	S 22 27.9 +00.2	245 41.3 +01.9	S 22 49.8 -00.1	232 45.5 +02.1	S 21 14.4 +00.0	03						
04	290 29.4 +00.6	S 22 28.1 +00.2	260 43.2 +01.8	S 22 49.7 +00.0	247 47.6 +02.2	S 21 14.4 -00.1	04						
05	305 30.0 +00.7	S 22 28.3 +00.2	275 45.0 +01.9	S 22 49.7 -00.1	262 49.8 +02.2	S 21 14.3 +00.0	05						
06	320 30.7 +00.6	S 22 28.5 +00.2	290 46.9 +01.8	S 22 49.6 +00.0	277 52.0 +02.1	S 21 14.3 -00.1	06						
07	335 31.3 +00.7	S 22 28.7 +00.3	305 48.7 +01.9	S 22 49.6 -00.1	292 54.1 +02.2	S 21 14.2 +00.0	07						
08	350 32.0 +00.6	S 22 29.0 +00.2	320 50.6 +01.9	S 22 49.5 +00.0	307 56.3 +02.1	S 21 14.2 +00.0	08						
09	5 32.6 +00.6	S 22 29.2 +00.2	335 52.5 +01.8	S 22 49.5 -00.1	322 58.4 +02.2	S 21 14.2 -00.1	09						
10	20 33.2 +00.7	S 22 29.4 +00.2	350 54.3 +01.9	S 22 49.4 +00.0	338 00.6 +02.1	S 21 14.1 +00.0	10						
11	35 33.9 +00.6	S 22 29.6 +00.3	5 56.2 +01.9	S 22 49.4 -00.1	353 02.7 +02.2	S 21 14.1 -00.1	11						
12	50 34.5 +00.6	S 22 29.9 +00.2	20 58.1 +01.8	S 22 49.3 +00.0	8 04.9 +02.1	S 21 14.0 +00.0	12						
13	65 35.1 +00.7	S 22 30.1 +00.2	35 59.9 +01.9	S 22 49.3 -00.1	23 07.0 +02.2	S 21 14.0 -00.1	13						
14	80 35.8 +00.6	S 22 30.3 +00.2	51 01.8 +01.9	S 22 49.2 +00.0	38 09.2 +02.1	S 21 13.9 +00.0	14						
15	95 36.4 +00.7	S 22 30.5 +00.2	66 03.7 +01.8	S 22 49.2 +00.0	53 11.3 +02.2	S 21 13.9 -00.1	15						
16	110 37.1 +00.6	S 22 30.7 +00.3	81 05.5 +01.9	S 22 49.2 -00.1	68 13.5 +02.1	S 21 13.8 +00.0	16						
17	125 37.7 +00.6	S 22 31.0 +00.2	96 07.4 +01.8	S 22 49.1 +00.0	83 15.6 +02.2	S 21 13.8 -00.1	17						
18	140 38.3 +00.7	S 22 31.2 +00.2	111 09.2 +01.9	S 22 49.1 -00.1	98 17.8 +02.2	S 21 13.7 +00.0	18						
19	155 39.0 +00.6	S 22 31.4 +00.2	126 11.1 +01.9	S 22 49.0 +00.0	113 20.0 +02.1	S 21 13.7 -00.1	19						
20	170 39.6 +00.6	S 22 31.6 +00.2	141 13.0 +01.8	S 22 49.0 -00.1	128 22.1 +02.2	S 21 13.6 +00.0	20						
21	185 40.2 +00.7	S 22 31.8 +00.2	156 14.8 +01.9	S 22 48.9 +00.0	143 24.3 +02.1	S 21 13.6 -00.1	21						
22	200 40.9 +00.6	S 22 32.0 +00.3	171 16.7 +01.9	S 22 48.9 -00.1	158 26.4 +02.2	S 21 13.5 +00.0	22						
23	215 41.5 +00.6	S 22 32.3 +00.2	186 18.6 +01.8	S 22 48.8 +00.0	173 28.6 +02.1	S 21 13.5 -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 107° 106° 106° 106° 106° 106°				SHA 077° 077° 077° 077° 077° 077°				SHA 064° 064° 064° 064° 064° 064°					
Greenwich Culmination Time: 08:37				Greenwich Culmination Time: 10:36				Greenwich Culmination Time: 11:27					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 55.4 -00.2	S 18 53.9 -00.6	138 20.8 -00.3	S 07 05.1 -01.3	163 18.6 -28.9	S 18 37.6 -07.6	00						
01	191 55.2 -00.1	S 18 53.3 -00.6	153 20.5 -00.3	S 07 03.8 -01.3	177 49.7 -28.9	S 18 30.0 -07.6	01						
02	206 55.1 -00.2	S 18 52.7 -00.6	168 20.2 -00.2	S 07 02.5 -01.2	192 20.8 -28.9	S 18 22.4 -07.7	02						
03	221 54.9 -00.1	S 18 52.1 -00.6	183 20.0 -00.3	S 07 01.3 -01.3	206 51.9 -28.7	S 18 14.7 -07.8	03						
04	236 54.8 -00.1	S 18 51.5 -00.7	198 19.7 -00.3	S 07 00.0 -01.3	221 23.2 -28.7	S 18 06.9 -07.9	04						
05	251 54.7 -00.2	S 18 50.8 -00.6	213 19.4 -00.3	S 06 58.7 -01.2	235 54.5 -28.7	S 17 59.0 -08.0	05						
06	266 54.5 -00.1	S 18 50.2 -00.6	228 19.1 -00.2	S 06 57.5 -01.3	250 25.8 -28.5	S 17 51.0 -08.0	06						
07	281 54.4 -00.2	S 18 49.6 -00.6	243 18.9 -00.3	S 06 56.2 -01.3	264 57.3 -28.5	S 17 43.0 -08.1	07						
08	296 54.2 -00.1	S 18 49.0 -00.7	258 18.6 -00.3	S 06 54.9 -01.2	279 28.8 -28.4	S 17 34.9 -08.2	08						
09	311 54.1 -00.1	S 18 48.3 -00.6	273 18.3 -00.3	S 06 53.7 -01.3	294 00.4 -28.4	S 17 26.7 -08.2	09						
10	326 54.0 -00.2	S 18 47.7 -00.6	288 18.0 -00.2	S 06 52.4 -01.2	308 32.0 -28.3	S 17 18.5 -08.4	10						
11	341 53.8 -00.1	S 18 47.1 -00.6	303 17.8 -00.3	S 06 51.2 -01.3	323 03.7 -28.2	S 17 10.1 -08.4	11						
12	356 53.7 -00.2	S 18 46.5 -00.7	318 17.5 -00.3	S 06 49.9 -01.3	337 35.5 -28.2	S 17 01.7 -08.4	12						
13	11 53.5 -00.1	S 18 45.8 -00.6	333 17.2 -00.3	S 06 48.6 -01.2	352 07.3 -28.1	S 16 53.3 -08.6	13						
14	26 53.4 -00.1	S 18 45.2 -00.6	348 16.9 -00.2	S 06 47.4 -01.3	6 39.2 -28.0	S 16 44.7 -08.6	14						
15	41 53.3 -00.2	S 18 44.6 -00.7	3 16.7 -00.3	S 06 46.1 -01.3	21 11.2 -28.0	S 16 36.1 -08.7	15						
16	56 53.1 -00.1	S 18 43.9 -00.6	18 16.4 -00.3	S 06 44.8 -01.2	35 43.2 -27.9	S 16 27.4 -08.7	16						
17	71 53.0 -00.2	S 18 43.3 -00.6	33 16.1 -00.2	S 06 43.6 -01.3	50 15.3 -27.9	S 16 18.7 -08.8	17						
18	86 52.8 -00.1	S 18 42.7 -00.7	48 15.9 -00.3	S 06 42.3 -01.3	64 47.4 -27.7	S 16 09.9 -08.9	18						
19	101 52.7 -00.1	S 18 42.0 -00.6	63 15.6 -00.3	S 06 41.0 -01.2	79 19.7 -27.8	S 16 01.0 -09.0	19						
20	116 52.6 -00.2	S 18 41.4 -00.6	78 15.3 -00.2	S 06 39.8 -01.3	93 51.9 -27.6	S 15 52.0 -09.0	20						
21	131 52.4 -00.1	S 18 40.8 -00.6	93 15.1 -00.3	S 06 38.5 -01.3	108 24.3 -27.6	S 15 43.0 -09.0	21						
22	146 52.3 -00.1	S 18 40.2 -00.7	108 14.8 -00.3	S 06 37.2 -01.3	122 56.7 -27.5	S 15 34.0 -09.2	22						
23	161 52.2 -00.2	S 18 39.5 -00.6	123 14.5 -00.2	S 06 35.9 -01.2	137 29.2 -27.5	S 15 24.8 -09.2	23						
	UT 02 06 10 14 18 22 SD 16'2 16'2 16'2 16'2 16'2 16'2 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 052° 052° 052° 052° 051° 051° Greenwich Culmination Time: 12:12	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 013° 013° 013° 013° 013° 013° Greenwich Culmination Time: 14:46	UT 02 06 10 14 18 22 SD 15'0 15'0 14'9 14'9 14'9 14'9 HP 54'9 54'9 54'8 54'7 54'7 54'6 SHA 038° 035° 033° 031° 029° 027° Greenwich Culmination Time: 13:32										
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	230 42.1 +00.7	S 22 32.5 +00.2	201 20.4 +01.9	S 22 48.8 -00.1	188 30.7 +02.2	S 21 13.4 +00.0	00						
01	245 42.8 +00.6	S 22 32.7 +00.2	216 22.3 +01.9	S 22 48.7 +00.0	203 32.9 +02.1	S 21 13.4 -00.1	01						
02	260 43.4 +00.7	S 22 32.9 +00.2	231 24.2 +01.8	S 22 48.7 -00.1	218 35.0 +02.2	S 21 13.3 +00.0	02						
03	275 44.1 +00.6	S 22 33.1 +00.2	246 26.0 +01.9	S 22 48.6 +00.0	233 37.2 +02.1	S 21 13.3 -00.1	03						
04	290 44.7 +00.6	S 22 33.3 +00.3	261 27.9 +01.9	S 22 48.6 -00.1	248 39.3 +02.2	S 21 13.2 +00.0	04						
05	305 45.3 +00.7	S 22 33.6 +00.2	276 29.8 +01.8	S 22 48.5 +00.0	263 41.5 +02.2	S 21 13.2 -00.1	05						
06	320 46.0 +00.6	S 22 33.8 +00.2	291 31.6 +01.9	S 22 48.5 -00.1	278 43.7 +02.1	S 21 13.1 +00.0	06						
07	335 46.6 +00.6	S 22 34.0 +00.2	306 33.5 +01.9	S 22 48.4 +00.0	293 45.8 +02.2	S 21 13.1 -00.1	07						
08	350 47.2 +00.7	S 22 34.2 +00.2	321 35.4 +01.8	S 22 48.4 -00.1	308 48.0 +02.1	S 21 13.0 +00.0	08						
09	5 47.9 +00.6	S 22 34.4 +00.2	336 37.2 +01.9	S 22 48.3 +00.0	323 50.1 +02.2	S 21 13.0 -00.1	09						
10	20 48.5 +00.6	S 22 34.6 +00.2	351 39.1 +01.9	S 22 48.3 +00.0	338 52.3 +02.1	S 21 12.9 +00.0	10						
11	35 49.1 +00.7	S 22 34.8 +00.3	6 41.0 +01.8	S 22 48.3 -00.1	353 54.4 +02.2	S 21 12.9 -00.1	11						
12	50 49.8 +00.6	S 22 35.1 +00.2	21 42.8 +01.9	S 22 48.2 +00.0	8 56.6 +02.1	S 21 12.8 +00.0	12						
13	65 50.4 +00.6	S 22 35.3 +00.2	36 44.7 +01.9	S 22 48.2 -00.1	23 58.7 +02.2	S 21 12.8 -00.1	13						
14	80 51.0 +00.7	S 22 35.5 +00.2	51 46.6 +01.8	S 22 48.1 +00.0	39 00.9 +02.1	S 21 12.7 +00.0	14						
15	95 51.7 +00.6	S 22 35.7 +00.2	66 48.4 +01.9	S 22 48.1 -00.1	54 03.0 +02.2	S 21 12.7 -00.1	15						
16	110 52.3 +00.6	S 22 35.9 +00.2	81 50.3 +01.8	S 22 48.0 +00.0	69 05.2 +02.2	S 21 12.6 +00.0	16						
17	125 52.9 +00.7	S 22 36.1 +00.2	96 52.1 +01.9	S 22 48.0 -00.1	84 07.4 +02.1	S 21 12.6 +00.0	17						
18	140 53.6 +00.6	S 22 36.3 +00.2	111 54.0 +01.9	S 22 47.9 +00.0	99 09.5 +02.2	S 21 12.6 -00.1	18						
19	155 54.2 +00.6	S 22 36.5 +00.2	126 55.9 +01.8	S 22 47.9 -00.1	114 11.7 +02.1	S 21 12.5 +00.0	19						
20	170 54.8 +00.7	S 22 36.7 +00.3	141 57.7 +01.9	S 22 47.8 +00.0	129 13.8 +02.2	S 21 12.5 -00.1	20						
21	185 55.5 +00.6	S 22 37.0 +00.2	156 59.6 +01.9	S 22 47.8 -00.1	144 16.0 +02.1	S 21 12.4 +00.0	21						
22	200 56.1 +00.6	S 22 37.2 +00.2	172 01.5 +01.8	S 22 47.7 +00.0	159 18.1 +02.2	S 21 12.4 -00.1	22						
23	215 56.7 +00.7	S 22 37.4 +00.2	187 03.3 +01.9	S 22 47.7 -00.1	174 20.3 +02.1	S 21 12.3 +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 106° 106° 106° 106° 105° 105° Greenwich Culmination Time: 08:36	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 077° 077° 076° 076° 076° 076° Greenwich Culmination Time: 10:33	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 064° 064° 064° 064° 064° 064° Greenwich Culmination Time: 11:24										

<i>Sun</i>					<i>Venus</i>					<i>Moon</i>					A: 08%																
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT	GHA	ddGHA	Dec	dDec	UT	GHA	ddGHA	Dec	dDec	UT								
	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "		° ' "	° ' "	° ' "	° ' "		° ' "	° ' "	° ' "	° ' "									
00	176 52.0 -00.1	S	18 38.9 -00.7		138 14.3 -00.3	S	06 34.7 -01.3		152 01.7 -27.4	S	15 15.6 -09.2		00	176 52.0 -00.1	S	18 38.9 -00.7		00	152 01.7 -27.4	S	15 15.6 -09.2		00								
01	191 51.9 -00.1	S	18 38.2 -00.6		153 14.0 -00.3	S	06 33.4 -01.3		166 34.3 -27.4	S	15 06.4 -09.4		01	191 51.9 -00.1	S	18 38.2 -00.6		01	166 34.3 -27.4	S	15 06.4 -09.4		01								
02	206 51.8 -00.2	S	18 37.6 -00.6		168 13.7 -00.2	S	06 32.1 -01.2		181 06.9 -27.2	S	14 57.0 -09.3		02	206 51.8 -00.2	S	18 37.6 -00.6		02	181 06.9 -27.2	S	14 57.0 -09.3		02								
03	221 51.6 -00.1	S	18 37.0 -00.7		183 13.5 -00.3	S	06 30.9 -01.3		195 39.7 -27.3	S	14 47.7 -09.5		03	221 51.6 -00.1	S	18 37.0 -00.7		03	195 39.7 -27.3	S	14 47.7 -09.5		03								
04	236 51.5 -00.1	S	18 36.3 -00.6		198 13.2 -00.3	S	06 29.6 -01.3		210 12.4 -27.1	S	14 38.2 -09.5		04	236 51.5 -00.1	S	18 36.3 -00.6		04	210 12.4 -27.1	S	14 38.2 -09.5		04								
05	251 51.4 -00.2	S	18 35.7 -00.6		213 12.9 -00.2	S	06 28.3 -01.2		224 45.3 -27.1	S	14 28.7 -09.5		05	251 51.4 -00.2	S	18 35.7 -00.6		05	224 45.3 -27.1	S	14 28.7 -09.5		05								
06	266 51.2 -00.1	S	18 35.1 -00.7		228 12.7 -00.3	S	06 27.1 -01.3		239 18.2 -27.1	S	14 19.2 -09.6		06	266 51.2 -00.1	S	18 35.1 -00.7		06	239 18.2 -27.1	S	14 19.2 -09.6		06								
07	281 51.1 -00.1	S	18 34.4 -00.6		243 12.4 -00.3	S	06 25.8 -01.3		253 51.1 -27.0	S	14 09.6 -09.7		07	281 51.1 -00.1	S	18 34.4 -00.6		07	253 51.1 -27.0	S	14 09.6 -09.7		07								
08	296 51.0 -00.2	S	18 33.8 -00.7		258 12.1 -00.2	S	06 24.5 -01.3		268 24.1 -26.9	S	13 59.9 -09.7		08	296 51.0 -00.2	S	18 33.8 -00.7		08	268 24.1 -26.9	S	13 59.9 -09.7		08								
09	311 50.8 -00.1	S	18 33.1 -00.6		273 11.9 -00.3	S	06 23.2 -01.2		282 57.2 -26.9	S	13 50.2 -09.8		09	311 50.8 -00.1	S	18 33.1 -00.6		09	282 57.2 -26.9	S	13 50.2 -09.8		09								
10	326 50.7 -00.1	S	18 32.5 -00.6		288 11.6 -00.3	S	06 22.0 -01.3		297 30.3 -26.8	S	13 40.4 -09.8		10	326 50.7 -00.1	S	18 32.5 -00.6		10	297 30.3 -26.8	S	13 40.4 -09.8		10								
11	341 50.6 -00.2	S	18 31.9 -00.7		303 11.3 -00.2	S	06 20.7 -01.3		312 03.5 -26.8	S	13 30.6 -09.9		11	341 50.6 -00.2	S	18 31.9 -00.7		11	312 03.5 -26.8	S	13 30.6 -09.9		11								
12	356 50.4 -00.1	S	18 31.2 -00.6		318 11.1 -00.3	S	06 19.4 -01.2		326 36.7 -26.7	S	13 20.7 -09.9		12	356 50.4 -00.1	S	18 31.2 -00.6		12	326 36.7 -26.7	S	13 20.7 -09.9		12								
13	11 50.3 -00.1	S	18 30.6 -00.7		333 10.8 -00.2	S	06 18.2 -01.3		341 10.0 -26.6	S	13 10.8 -10.0		13	11 50.3 -00.1	S	18 30.6 -00.7		13	341 10.0 -26.6	S	13 10.8 -10.0		13								
14	26 50.2 -00.1	S	18 29.9 -00.6		348 10.6 -00.3	S	06 16.9 -01.3		355 43.4 -26.6	S	13 00.8 -10.0		14	26 50.2 -00.1	S	18 29.9 -00.6		14	355 43.4 -26.6	S	13 00.8 -10.0		14								
15	41 50.1 -00.2	S	18 29.3 -00.6		3 10.3 -00.3	S	06 15.6 -01.3		10 16.8 -26.6	S	12 50.8 -10.1		15	41 50.1 -00.2	S	18 29.3 -00.6		15	10 16.8 -26.6	S	12 50.8 -10.1		15								
16	56 49.9 -00.1	S	18 28.7 -00.7		18 10.0 -00.2	S	06 14.3 -01.2		24 50.2 -26.5	S	12 40.7 -10.1		16	56 49.9 -00.1	S	18 28.7 -00.7		16	24 50.2 -26.5	S	12 40.7 -10.1		16								
17	71 49.8 -00.1	S	18 28.0 -00.6		33 09.8 -00.3	S	06 13.1 -01.3		39 23.7 -26.4	S	12 30.6 -10.1		17	71 49.8 -00.1	S	18 28.0 -00.6		17	39 23.7 -26.4	S	12 30.6 -10.1		17								
18	86 49.7 -00.2	S	18 27.4 -00.7		48 09.5 -00.2	S	06 11.8 -01.3		53 57.3 -26.4	S	12 20.5 -10.3		18	86 49.7 -00.2	S	18 27.4 -00.7		18	53 57.3 -26.4	S	12 20.5 -10.3		18								
19	101 49.5 -00.1	S	18 26.7 -00.6		63 09.3 -00.3	S	06 10.5 -01.3		68 30.9 -26.3	S	12 10.2 -10.2		19	101 49.5 -00.1	S	18 26.7 -00.6		19	68 30.9 -26.3	S	12 10.2 -10.2		19								
20	116 49.4 -00.1	S	18 26.1 -00.7		78 09.0 -00.3	S	06 09.2 -01.2		83 04.6 -26.3	S	11 60.0 -10.3		20	116 49.4 -00.1	S	18 26.1 -00.7		20	83 04.6 -26.3	S	11 60.0 -10.3		20								
21	131 49.3 -00.1	S	18 25.4 -00.6		93 08.7 -00.2	S	06 08.0 -01.3		97 38.3 -26.3	S	11 49.7 -10.4		21	131 49.3 -00.1	S	18 25.4 -00.6		21	97 38.3 -26.3	S	11 49.7 -10.4		21								
22	146 49.2 -00.2	S	18 24.8 -00.7		108 08.5 -00.3	S	06 06.7 -01.3		112 12.0 -26.1	S	11 39.3 -10.3		22	146 49.2 -00.2	S	18 24.8 -00.7		22	112 12.0 -26.1	S	11 39.3 -10.3		22								
23	161 49.0 -00.1	S	18 24.1 -00.6		123 08.2 -00.2	S	06 05.4 -01.3		126 45.9 -26.2	S	11 29.0 -10.5		23	161 49.0 -00.1	S	18 24.1 -00.6		23	126 45.9 -26.2	S	11 29.0 -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	16'2	16'2	16'2	16'2	16'2	16'2							SD	00'1	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	00'1					HP	54'6	54'5	54'5	54'4	54'4	54'3
SHA	051°	051°	051°	051°	050°	050°							SHA	012°	012°	012°	012°	012°	011°					SHA	025°	023°	021°	019°	017°	016°	
Greenwich Culmination Time: 12:12							Greenwich Culmination Time: 14:47							Greenwich Culmination Time: 14:17																	

UT	Sun				Venus				Moon A: 11%				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	176 48.9 -00.1	S 18 23.5 -00.7	138 08.0 -00.3	S 06 04.1 -01.2	141 19.7 -26.1	S 11 18.5 -10.4	00													
01	191 48.8 -00.1	S 18 22.8 -00.6	153 07.7 -00.3	S 06 02.9 -01.3	155 53.6 -26.0	S 11 08.1 -10.5	01													
02	206 48.7 -00.2	S 18 22.2 -00.7	168 07.4 -00.2	S 06 01.6 -01.3	170 27.6 -26.0	S 10 57.6 -10.6	02													
03	221 48.5 -00.1	S 18 21.5 -00.6	183 07.2 -00.3	S 06 00.3 -01.3	185 01.6 -26.0	S 10 47.0 -10.6	03													
04	236 48.4 -00.1	S 18 20.9 -00.7	198 06.9 -00.2	S 05 59.0 -01.2	199 35.6 -25.9	S 10 36.4 -10.6	04													
05	251 48.3 -00.1	S 18 20.2 -00.6	213 06.7 -00.3	S 05 57.8 -01.3	214 09.7 -25.8	S 10 25.8 -10.7	05													
06	266 48.2 -00.2	S 18 19.6 -00.7	228 06.4 -00.2	S 05 56.5 -01.3	228 43.9 -25.8	S 10 15.1 -10.7	06													
07	281 48.0 -00.1	S 18 18.9 -00.6	243 06.2 -00.3	S 05 55.2 -01.3	243 18.1 -25.8	S 10 04.4 -10.7	07													
08	296 47.9 -00.1	S 18 18.3 -00.7	258 05.9 -00.2	S 05 53.9 -01.2	257 52.3 -25.7	S 09 53.7 -10.8	08													
09	311 47.8 -00.1	S 18 17.6 -00.6	273 05.7 -00.3	S 05 52.7 -01.3	272 26.6 -25.7	S 09 42.9 -10.8	09													
10	326 47.7 -00.1	S 18 17.0 -00.7	288 05.4 -00.2	S 05 51.4 -01.3	287 00.9 -25.7	S 09 32.1 -10.8	10													
11	341 47.6 -00.2	S 18 16.3 -00.6	303 05.2 -00.3	S 05 50.1 -01.3	301 35.2 -25.6	S 09 21.3 -10.9	11													
12	356 47.4 -00.1	S 18 15.7 -00.7	318 04.9 -00.2	S 05 48.8 -01.3	316 09.6 -25.5	S 09 10.4 -10.9	12													
13	11 47.3 -00.1	S 18 15.0 -00.7	333 04.7 -00.3	S 05 47.5 -01.2	330 44.1 -25.6	S 08 59.5 -10.9	13													
14	26 47.2 -00.1	S 18 14.3 -00.6	348 04.4 -00.3	S 05 46.3 -01.3	345 18.5 -25.5	S 08 48.6 -11.0	14													
15	41 47.1 -00.2	S 18 13.7 -00.7	3 04.1 -00.2	S 05 45.0 -01.3	359 53.0 -25.4	S 08 37.6 -11.0	15													
16	56 46.9 -00.1	S 18 13.0 -00.6	18 03.9 -00.3	S 05 43.7 -01.3	14 27.6 -25.4	S 08 26.6 -11.0	16													
17	71 46.8 -00.1	S 18 12.4 -00.7	33 03.6 -00.2	S 05 42.4 -01.3	29 02.2 -25.4	S 08 15.6 -11.0	17													
18	86 46.7 -00.1	S 18 11.7 -00.6	48 03.4 -00.3	S 05 41.1 -01.2	43 36.8 -25.4	S 08 04.6 -11.1	18													
19	101 46.6 -00.1	S 18 11.1 -00.7	63 03.1 -00.2	S 05 39.9 -01.3	58 11.4 -25.3	S 07 53.5 -11.1	19													
20	116 46.5 -00.1	S 18 10.4 -00.7	78 02.9 -00.3	S 05 38.6 -01.3	72 46.1 -25.3	S 07 42.4 -11.2	20													
21	131 46.4 -00.2	S 18 09.7 -00.6	93 02.6 -00.2	S 05 37.3 -01.3	87 20.8 -25.2	S 07 31.2 -11.1	21													
22	146 46.2 -00.1	S 18 09.1 -00.7	108 02.4 -00.3	S 05 36.0 -01.3	101 55.6 -25.2	S 07 20.1 -11.2	22													
23	161 46.1 -00.1	S 18 08.4 -00.6	123 02.1 -00.2	S 05 34.7 -01.2	116 30.4 -25.2	S 07 08.9 -11.2	23													
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'2	16'2	16'2	16'2	16'2	16'2	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	54'2	54'2	54'2	54'2	54'1
SHA	050°	050°	050°	049°	049°	049°	SHA	011°	011°	011°	011°	011°	010°	SHA	014°	012°	010°	008°	006°	004°
Greenwich Culmination Time: 12:12							Greenwich Culmination Time: 14:47							Greenwich Culmination Time: 15:00						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	231 12.5 +00.6	S 22 42.5 +00.2	202 50.0 +01.9	S 22 46.5 -00.1	190 14.2 +02.1	S 21 11.1 -00.1	00													
01	246 13.1 +00.7	S 22 42.7 +00.2	217 51.9 +01.9	S 22 46.4 +00.0	205 16.3 +02.2	S 21 11.0 +00.0	01													
02	261 13.8 +00.6	S 22 42.9 +00.2	232 53.8 +01.9	S 22 46.4 -00.1	220 18.5 +02.1	S 21 11.0 -00.1	02													
03	276 14.4 +00.6	S 22 43.1 +00.2	247 55.7 +01.8	S 22 46.3 +00.0	235 20.6 +02.2	S 21 10.9 +00.0	03													
04	291 15.0 +00.7	S 22 43.3 +00.2	262 57.5 +01.9	S 22 46.3 -00.1	250 22.8 +02.1	S 21 10.9 -00.1	04													
05	306 15.7 +00.6	S 22 43.5 +00.2	277 59.4 +01.9	S 22 46.2 +00.0	265 24.9 +02.2	S 21 10.8 +00.0	05													
06	321 16.3 +00.6	S 22 43.7 +00.2	293 01.3 +01.8	S 22 46.2 -00.1	280 27.1 +02.2	S 21 10.8 -00.1	06													
07	336 16.9 +00.6	S 22 43.9 +00.2	308 03.1 +01.9	S 22 46.1 +00.0	295 29.3 +02.1	S 21 10.7 +00.0	07													
08	351 17.5 +00.7	S 22 44.1 +00.2	323 05.0 +01.9	S 22 46.1 -00.1	310 31.4 +02.2	S 21 10.7 +00.0	08													
09	6 18.2 +00.6	S 22 44.3 +00.2	338 06.9 +01.8	S 22 46.0 +00.0	325 33.6 +02.1	S 21 10.7 -00.1	09													
10	21 18.8 +00.6	S 22 44.5 +00.2	353 08.7 +01.9	S 22 46.0 -00.1	340 35.7 +02.2	S 21 10.6 +00.0	10													
11	36 19.4 +00.7	S 22 44.7 +00.2	8 10.6 +01.9	S 22 45.9 +00.0	355 37.9 +02.1	S 21 10.6 -00.1	11													
12	51 20.1 +00.6	S 22 44.9 +00.2	23 12.5 +01.8	S 22 45.9 -00.1	10 40.0 +02.2	S 21 10.5 +00.0	12													
13	66 20.7 +00.6	S 22 45.1 +00.2	38 14.3 +01.9	S 22 45.8 +00.0	25 42.2 +02.2	S 21 10.5 -00.1	13													
14	81 21.3 +00.6	S 22 45.3 +00.2	53 16.2 +01.9	S 22 45.8 -00.1	40 44.4 +02.1	S 21 10.4 +00.0	14													
15	96 21.9 +00.7	S 22 45.5 +00.2	68 18.1 +01.9	S 22 45.7 +00.0	55 46.5 +02.2	S 21 10.4 -00.1	15													
16	111 22.6 +00.6	S 22 45.7 +00.1	83 20.0 +01.8	S 22 45.7 -00.1	70 48.7 +02.1	S 21 10.3 +00.0	16													
17	126 23.2 +00.6	S 22 45.8 +00.2	98 21.8 +01.9	S 22 45.6 +00.0	85 50.8 +02.2	S 21 10.3 -00.1	17													
18	141 23.8 +00.6	S 22 46.0 +00.2	113 23.7 +01.9	S 22 45.6 -00.1	100 53.0 +02.1	S 21 10.2 +00.0	18													
19	156 24.4 +00.7	S 22 46.2 +00.2	128 25.6 +01.8	S 22 45.5 +00.0	115 55.1 +02.2	S 21 10.2 -00.1	19													
20	171 25.1 +00.6	S 22 46.4 +00.2	143 27.4 +01.9	S 22 45.5 -00.1	130 57.3 +02.1	S 21 10.1 +00.0	20													
21	186 25.7 +00.6	S 22 46.6 +00.2	158 29.3 +01.9	S 22 45.4 +00.0	145 59.4 +02.2	S 21 10.1 -00.1	21													
22	201 26.3 +00.7	S 22 46.8 +00.2	173 31.2 +01.9	S 22 45.4 -00.1	161 01.6 +02.2	S 21 10.0 +00.0	22													
23	216 27.0 +00.6	S 22 47.0 +00.2	188 33.1 +01.8	S 22 45.3 +00.0	176 03.8 +02.1	S 21 10.0 -00.1	23													
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
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	104°	104°	104°	104°	104°	104°	SHA	076°	076°	076°	076°	076°	076°	SHA	063°	063°	063°	063°	063°	063°
Greenwich Culmination Time: 08:34							Greenwich Culmination Time: 10:27							Greenwich Culmination Time: 11:17						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 14%				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	176 46.0 -00.1	S 18 07.8 -00.7	138 01.9 -00.2	S 05 33.5 -01.3	131 05.2 -25.2	S 06 57.7 -11.2	00						
01	191 45.9 -00.1	S 18 07.1 -00.7	153 01.7 -00.3	S 05 32.2 -01.3	145 40.0 -25.1	S 06 46.5 -11.3	01						
02	206 45.8 -00.2	S 18 06.4 -00.6	168 01.4 -00.2	S 05 30.9 -01.3	160 14.9 -25.1	S 06 35.2 -11.3	02						
03	221 45.6 -00.1	S 18 05.8 -00.7	183 01.2 -00.3	S 05 29.6 -01.3	174 49.8 -25.0	S 06 23.9 -11.3	03						
04	236 45.5 -00.1	S 18 05.1 -00.7	198 00.9 -00.2	S 05 28.3 -01.2	189 24.8 -25.1	S 06 12.6 -11.3	04						
05	251 45.4 -00.1	S 18 04.4 -00.6	213 00.7 -00.3	S 05 27.1 -01.3	203 59.7 -25.0	S 06 01.3 -11.3	05						
06	266 45.3 -00.1	S 18 03.8 -00.7	228 00.4 -00.2	S 05 25.8 -01.3	218 34.7 -25.0	S 05 50.0 -11.4	06						
07	281 45.2 -00.1	S 18 03.1 -00.7	243 00.2 -00.3	S 05 24.5 -01.3	233 09.7 -25.0	S 05 38.6 -11.4	07						
08	296 45.1 -00.1	S 18 02.4 -00.6	257 59.9 -00.2	S 05 23.2 -01.3	247 44.7 -24.9	S 05 27.2 -11.4	08						
09	311 45.0 -00.2	S 18 01.8 -00.7	272 59.7 -00.3	S 05 21.9 -01.3	262 19.8 -24.9	S 05 15.8 -11.4	09						
10	326 44.8 -00.1	S 18 01.1 -00.7	287 59.4 -00.2	S 05 20.6 -01.2	276 54.9 -24.9	S 05 04.4 -11.4	10						
11	341 44.7 -00.1	S 18 00.4 -00.6	302 59.2 -00.2	S 05 19.4 -01.3	291 30.0 -24.9	S 04 53.0 -11.5	11						
12	356 44.6 -00.1	S 17 59.8 -00.7	317 59.0 -00.3	S 05 18.1 -01.3	306 05.1 -24.9	S 04 41.5 -11.4	12						
13	11 44.5 -00.1	S 17 59.1 -00.7	332 58.7 -00.2	S 05 16.8 -01.3	320 40.2 -24.8	S 04 30.1 -11.5	13						
14	26 44.4 -00.1	S 17 58.4 -00.6	347 58.5 -00.3	S 05 15.5 -01.3	335 15.4 -24.8	S 04 18.6 -11.5	14						
15	41 44.3 -00.1	S 17 57.8 -00.7	2 58.2 -00.2	S 05 14.2 -01.3	349 50.6 -24.8	S 04 07.1 -11.5	15						
16	56 44.2 -00.1	S 17 57.1 -00.7	17 58.0 -00.3	S 05 12.9 -01.2	4 25.8 -24.8	S 03 55.6 -11.5	16						
17	71 44.1 -00.2	S 17 56.4 -00.7	32 57.7 -00.2	S 05 11.7 -01.3	19 01.0 -24.8	S 03 44.1 -11.6	17						
18	86 43.9 -00.1	S 17 55.7 -00.6	47 57.5 -00.2	S 05 10.4 -01.3	33 36.2 -24.8	S 03 32.5 -11.5	18						
19	101 43.8 -00.1	S 17 55.1 -00.7	62 57.3 -00.3	S 05 09.1 -01.3	48 11.4 -24.7	S 03 21.0 -11.6	19						
20	116 43.7 -00.1	S 17 54.4 -00.7	77 57.0 -00.2	S 05 07.8 -01.3	62 46.7 -24.7	S 03 09.4 -11.5	20						
21	131 43.6 -00.1	S 17 53.7 -00.7	92 56.8 -00.3	S 05 06.5 -01.3	77 22.0 -24.8	S 02 57.9 -11.6	21						
22	146 43.5 -00.1	S 17 53.0 -00.6	107 56.5 -00.2	S 05 05.2 -01.3	91 57.2 -24.7	S 02 46.3 -11.6	22						
23	161 43.4 -00.1	S 17 52.4 -00.7	122 56.3 -00.2	S 05 03.9 -01.2	106 32.5 -24.7	S 02 34.7 -11.6	23						
	UT 02 06 10 14 18 22 SD 16'2 16'2 16'2 16'2 16'2 16'2 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 049° 049° 049° 048° 048° 048° Greenwich Culmination Time: 12:13	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 010° 010° 010° 010° 010° 009° Greenwich Culmination Time: 14:48	UT 02 06 10 14 18 22 SD 14'7 14'7 14'7 14'7 14'7 14'7 HP 54'1 54'1 54'1 54'1 54'1 54'1 SHA 002° 001° 359° 357° 355° 353° Greenwich Culmination Time: 15:41										
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	231 27.6 +00.6	S 22 47.2 +00.2	203 34.9 +01.9	S 22 45.3 -00.1	191 05.9 +02.2	S 21 09.9 +00.0	00						
01	246 28.2 +00.6	S 22 47.4 +00.2	218 36.8 +01.9	S 22 45.2 +00.0	206 08.1 +02.1	S 21 09.9 -00.1	01						
02	261 28.8 +00.7	S 22 47.6 +00.2	233 38.7 +01.8	S 22 45.2 -00.1	221 10.2 +02.2	S 21 09.8 +00.0	02						
03	276 29.5 +00.6	S 22 47.8 +00.2	248 40.5 +01.9	S 22 45.1 +00.0	236 12.4 +02.1	S 21 09.8 -00.1	03						
04	291 30.1 +00.6	S 22 48.0 +00.2	263 42.4 +01.9	S 22 45.1 -00.1	251 14.5 +02.2	S 21 09.7 +00.0	04						
05	306 30.7 +00.6	S 22 48.2 +00.2	278 44.3 +01.9	S 22 45.0 +00.0	266 16.7 +02.2	S 21 09.7 -00.1	05						
06	321 31.3 +00.7	S 22 48.4 +00.1	293 46.2 +01.8	S 22 45.0 -00.1	281 18.9 +02.1	S 21 09.6 +00.0	06						
07	336 32.0 +00.6	S 22 48.5 +00.2	308 48.0 +01.9	S 22 44.9 +00.0	296 21.0 +02.2	S 21 09.6 -00.1	07						
08	351 32.6 +00.6	S 22 48.7 +00.2	323 49.9 +01.9	S 22 44.9 -00.1	311 23.2 +02.1	S 21 09.5 +00.0	08						
09	6 33.2 +00.6	S 22 48.9 +00.2	338 51.8 +01.8	S 22 44.8 +00.0	326 25.3 +02.2	S 21 09.5 -00.1	09						
10	21 33.8 +00.7	S 22 49.1 +00.2	353 53.6 +01.9	S 22 44.8 -00.1	341 27.5 +02.1	S 21 09.4 +00.0	10						
11	36 34.5 +00.6	S 22 49.3 +00.2	8 55.5 +01.9	S 22 44.7 +00.0	356 29.6 +02.2	S 21 09.4 -00.1	11						
12	51 35.1 +00.6	S 22 49.5 +00.2	23 57.4 +01.9	S 22 44.7 -00.1	11 31.8 +02.2	S 21 09.3 +00.0	12						
13	66 35.7 +00.6	S 22 49.7 +00.2	38 59.3 +01.8	S 22 44.6 +00.0	26 34.0 +02.1	S 21 09.3 -00.1	13						
14	81 36.3 +00.7	S 22 49.9 +00.2	54 01.1 +01.9	S 22 44.6 +00.0	41 36.1 +02.2	S 21 09.2 +00.0	14						
15	96 37.0 +00.6	S 22 50.1 +00.1	69 03.0 +01.9	S 22 44.6 -00.1	56 38.3 +02.1	S 21 09.2 -00.1	15						
16	111 37.6 +00.6	S 22 50.2 +00.2	84 04.9 +01.8	S 22 44.5 +00.0	71 40.4 +02.2	S 21 09.1 +00.0	16						
17	126 38.2 +00.6	S 22 50.4 +00.2	99 06.7 +01.9	S 22 44.5 -00.1	86 42.6 +02.1	S 21 09.1 -00.1	17						
18	141 38.8 +00.7	S 22 50.6 +00.2	114 08.6 +01.9	S 22 44.4 +00.0	101 44.7 +02.2	S 21 09.0 +00.0	18						
19	156 39.5 +00.6	S 22 50.8 +00.2	129 10.5 +01.9	S 22 44.4 -00.1	116 46.9 +02.2	S 21 09.0 -00.1	19						
20	171 40.1 +00.6	S 22 51.0 +00.2	144 12.4 +01.8	S 22 44.3 +00.0	131 49.1 +02.1	S 21 08.9 +00.0	20						
21	186 40.7 +00.6	S 22 51.2 +00.2	159 14.2 +01.9	S 22 44.3 -00.1	146 51.2 +02.2	S 21 08.9 -00.1	21						
22	201 41.3 +00.7	S 22 51.4 +00.1	174 16.1 +01.9	S 22 44.2 +00.0	161 53.4 +02.1	S 21 08.8 +00.0	22						
23	216 42.0 +00.6	S 22 51.5 +00.2	189 18.0 +01.9	S 22 44.2 -00.1	176 55.5 +02.2	S 21 08.8 -00.1	23						
	UT 02 06 10 14 18 22 SD 00'0 00'0 00'0 00'0 00'0 00'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 104° 104° 103° 103° 103° 103° Greenwich Culmination Time: 08:33	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 076° 076° 076° 076° 076° 076° Greenwich Culmination Time: 10:24	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 063° 063° 063° 063° 063° 063° Greenwich Culmination Time: 11:13										

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	176 43.3 -00.1	S	17 51.7 -00.7	137 56.1 -00.3	S	05 02.7 -01.3	121 07.8 -24.6	S	02 23.1 -11.6	00										
01	191 43.2 -00.1	S	17 51.0 -00.7	152 55.8 -00.2	S	05 01.4 -01.3	135 43.2 -24.7	S	02 11.5 -11.6	01										
02	206 43.1 -00.1	S	17 50.3 -00.6	167 55.6 -00.3	S	05 00.1 -01.3	150 18.5 -24.7	S	01 59.9 -11.6	02										
03	221 43.0 -00.1	S	17 49.7 -00.7	182 55.3 -00.2	S	04 58.8 -01.3	164 53.8 -24.7	S	01 48.3 -11.6	03										
04	236 42.9 -00.2	S	17 49.0 -00.7	197 55.1 -00.2	S	04 57.5 -01.3	179 29.1 -24.6	S	01 36.7 -11.7	04										
05	251 42.7 -00.1	S	17 48.3 -00.7	212 54.9 -00.3	S	04 56.2 -01.3	194 04.5 -24.7	S	01 25.0 -11.6	05										
06	266 42.6 -00.1	S	17 47.6 -00.6	227 54.6 -00.2	S	04 54.9 -01.3	208 39.8 -24.6	S	01 13.4 -11.7	06										
07	281 42.5 -00.1	S	17 47.0 -00.7	242 54.4 -00.2	S	04 53.6 -01.2	223 15.2 -24.7	S	01 01.7 -11.6	07										
08	296 42.4 -00.1	S	17 46.3 -00.7	257 54.2 -00.3	S	04 52.4 -01.3	237 50.5 -24.6	S	00 50.1 -11.7	08										
09	311 42.3 -00.1	S	17 45.6 -00.7	272 53.9 -00.2	S	04 51.1 -01.3	252 25.9 -24.7	S	00 38.4 -11.6	09										
10	326 42.2 -00.1	S	17 44.9 -00.7	287 53.7 -00.2	S	04 49.8 -01.3	267 01.2 -24.6	S	00 26.8 -11.7	10										
11	341 42.1 -00.1	S	17 44.2 -00.7	302 53.5 -00.3	S	04 48.5 -01.3	281 36.6 -24.7	S	00 15.1 -11.6	11										
12	356 42.0 -00.1	S	17 43.5 -00.6	317 53.2 -00.2	S	04 47.2 -01.3	296 11.9 -24.6	S	00 03.5 -11.7	12										
13	11 41.9 -00.1	S	17 42.9 -00.7	332 53.0 -00.2	S	04 45.9 -01.3	310 47.3 -24.7	N	00 08.2 +11.6	13										
14	26 41.8 -00.1	S	17 42.2 -00.7	347 52.8 -00.3	S	04 44.6 -01.3	325 22.6 -24.6	N	00 19.8 +11.7	14										
15	41 41.7 -00.1	S	17 41.5 -00.7	2 52.5 -00.2	S	04 43.3 -01.3	339 58.0 -24.7	N	00 31.5 +11.6	15										
16	56 41.6 -00.1	S	17 40.8 -00.7	17 52.3 -00.2	S	04 42.0 -01.2	354 33.3 -24.6	N	00 43.1 +11.7	16										
17	71 41.5 -00.1	S	17 40.1 -00.7	32 52.1 -00.3	S	04 40.8 -01.3	9 08.7 -24.7	N	00 54.8 +11.7	17										
18	86 41.4 -00.1	S	17 39.4 -00.6	47 51.8 -00.2	S	04 39.5 -01.3	23 44.0 -24.7	N	01 06.5 +11.6	18										
19	101 41.3 -00.1	S	17 38.8 -00.7	62 51.6 -00.2	S	04 38.2 -01.3	38 19.3 -24.7	N	01 18.1 +11.7	19										
20	116 41.2 -00.1	S	17 38.1 -00.7	77 51.4 -00.3	S	04 36.9 -01.3	52 54.6 -24.6	N	01 29.8 +11.6	20										
21	131 41.1 -00.1	S	17 37.4 -00.7	92 51.1 -00.2	S	04 35.6 -01.3	67 30.0 -24.8	N	01 41.4 +11.6	21										
22	146 41.0 -00.1	S	17 36.7 -00.7	107 50.9 -00.2	S	04 34.3 -01.3	82 05.2 -24.7	N	01 53.0 +11.7	22										
23	161 40.9 -00.1	S	17 36.0 -00.7	122 50.7 -00.3	S	04 33.0 -01.3	96 40.5 -24.7	N	02 04.7 +11.6	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'2	16'2	16'2	16'2	16'2	16'2	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD						
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						
SHA	048°	048°	048°	047°	047°	047°	SHA	009°	009°	009°	009°	008°	008°	SHA						
Greenwich Culmination Time: 12:13							Greenwich Culmination Time: 14:48							Greenwich Culmination Time: 16:22						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	231 42.6 +00.6	S	22 51.7 +00.2	204 19.9 +01.8	S	22 44.1 +00.0	191 57.7 +02.1	S	21 08.7 +00.0	00										
01	246 43.2 +00.6	S	22 51.9 +00.2	219 21.7 +01.9	S	22 44.1 -00.1	206 59.8 +02.2	S	21 08.7 -00.1	01										
02	261 43.8 +00.7	S	22 52.1 +00.2	234 23.6 +01.9	S	22 44.0 -00.1	222 02.0 +02.2	S	21 08.6 +00.0	02										
03	276 44.5 +00.6	S	22 52.3 +00.2	249 25.5 +01.8	S	22 43.9 +00.0	237 04.2 +02.1	S	21 08.6 +00.0	03										
04	291 45.1 +00.6	S	22 52.5 +00.1	264 27.3 +01.9	S	22 43.9 -00.1	252 06.3 +02.2	S	21 08.6 -00.1	04										
05	306 45.7 +00.6	S	22 52.6 +00.2	279 29.2 +01.9	S	22 43.8 +00.0	267 08.5 +02.1	S	21 08.5 +00.0	05										
06	321 46.3 +00.7	S	22 52.8 +00.2	294 31.1 +01.9	S	22 43.8 -00.1	282 10.6 +02.2	S	21 08.5 -00.1	06										
07	336 47.0 +00.6	S	22 53.0 +00.2	309 33.0 +01.8	S	22 43.7 +00.0	297 12.8 +02.2	S	21 08.4 +00.0	07										
08	351 47.6 +00.6	S	22 53.2 +00.2	324 34.8 +01.9	S	22 43.7 -00.1	312 15.0 +02.1	S	21 08.4 -00.1	08										
09	6 48.2 +00.6	S	22 53.4 +00.1	339 36.7 +01.9	S	22 43.6 +00.0	327 17.1 +02.2	S	21 08.3 +00.0	09										
10	21 48.8 +00.6	S	22 53.5 +00.2	354 38.6 +01.9	S	22 43.6 -00.1	342 19.3 +02.1	S	21 08.3 -00.1	10										
11	36 49.4 +00.7	S	22 53.7 +00.2	9 40.5 +01.8	S	22 43.5 +00.0	357 21.4 +02.2	S	21 08.2 +00.0	11										
12	51 50.1 +00.6	S	22 53.9 +00.2	24 42.3 +01.9	S	22 43.5 -00.1	12 23.6 +02.1	S	21 08.2 -00.1	12										
13	66 50.7 +00.6	S	22 54.1 +00.2	39 44.2 +01.9	S	22 43.4 +00.0	27 25.7 +02.2	S	21 08.1 +00.0	13										
14	81 51.3 +00.6	S	22 54.3 +00.1	54 46.1 +01.9	S	22 43.4 -00.1	42 27.9 +02.2	S	21 08.1 -00.1	14										
15	96 51.9 +00.7	S	22 54.4 +00.2	69 48.0 +01.8	S	22 43.3 +00.0	57 30.1 +02.1	S	21 08.0 +00.0	15										
16	111 52.6 +00.6	S	22 54.6 +00.2	84 49.8 +01.9	S	22 43.3 -00.1	72 32.2 +02.2	S	21 08.0 -00.1	16										
17	126 53.2 +00.6	S	22 54.8 +00.2	99 51.7 +01.9	S	22 43.2 +00.0	87 34.4 +02.1	S	21 07.9 +00.0	17										
18	141 53.8 +00.6	S	22 55.0 +00.2	114 53.6 +01.9	S	22 43.2 -00.1	102 36.5 +02.2	S	21 07.9 -00.1	18										
19	156 54.4 +00.6	S	22 55.2 +00.1	129 55.5 +01.8	S	22 43.1 +00.0	117 38.7 +02.1	S	21 07.8 +00.0	19										
20	171 55.0 +00.7	S	22 55.3 +00.2	144 57.3 +01.9	S	22 43.1 -00.1	132 40.8 +02.2	S	21 07.8 -00.1	20										
21	186 55.7 +00.6	S	22 55.5 +00.2	159 59.2 +01.9	S	22 43.0 +00.0	147 43.0 +02.2	S	21 07.7 +00.0	21										
22	201 56.3 +00.6	S	22 55.7 +00.2	175 01.1 +01.9	S	22 43.0 -00.1	162 45.2 +02.1	S	21 07.7 -00.1	22										
23	216 56.9 +00.6	S	22 55.9 +00.1	190 03.0 +01.8	S	22 42.9 +00.0	177 47.3 +02.2	S	21 07.6 +00.0	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
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						
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						
SHA	103°	103°	103°	103°	102°	102°	SHA	076°	076°	076°	075°	075°	075°	SHA						
Greenwich Culmination Time: 08:32							Greenwich Culmination Time: 10:21							Greenwich Culmination Time: 11:10						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 40.8 -00.1	S	17 35.3 -00.7	137 50.4 -00.2	S	04 31.7 -01.3	111 15.8 -24.7	N	02 16.3 +11.6	00			
01	191 40.7 -00.1	S	17 34.6 -00.7	152 50.2 -00.2	S	04 30.4 -01.3	125 51.1 -24.8	N	02 27.9 +11.6	01			
02	206 40.6 -00.1	S	17 33.9 -00.7	167 50.0 -00.2	S	04 29.1 -01.2	140 26.3 -24.7	N	02 39.5 +11.7	02			
03	221 40.5 -00.1	S	17 33.2 -00.6	182 49.8 -00.3	S	04 27.9 -01.3	155 01.6 -24.8	N	02 51.2 +11.6	03			
04	236 40.4 -00.1	S	17 32.6 -00.7	197 49.5 -00.2	S	04 26.6 -01.3	169 36.8 -24.8	N	03 02.8 +11.6	04			
05	251 40.3 -00.1	S	17 31.9 -00.7	212 49.3 -00.2	S	04 25.3 -01.3	184 12.0 -24.8	N	03 14.4 +11.5	05			
06	266 40.2 -00.1	S	17 31.2 -00.7	227 49.1 -00.3	S	04 24.0 -01.3	198 47.2 -24.9	N	03 25.9 +11.6	06			
07	281 40.1 -00.1	S	17 30.5 -00.7	242 48.8 -00.2	S	04 22.7 -01.3	213 22.3 -24.8	N	03 37.5 +11.6	07			
08	296 40.0 -00.1	S	17 29.8 -00.7	257 48.6 -00.2	S	04 21.4 -01.3	227 57.5 -24.9	N	03 49.1 +11.5	08			
09	311 39.9 -00.1	S	17 29.1 -00.7	272 48.4 -00.2	S	04 20.1 -01.3	242 32.6 -24.9	N	04 00.6 +11.6	09			
10	326 39.8 -00.1	S	17 28.4 -00.7	287 48.2 -00.3	S	04 18.8 -01.3	257 07.7 -24.9	N	04 12.2 +11.5	10			
11	341 39.7 -00.1	S	17 27.7 -00.7	302 47.9 -00.2	S	04 17.5 -01.3	271 42.8 -25.0	N	04 23.7 +11.5	11			
12	356 39.6 -00.1	S	17 27.0 -00.7	317 47.7 -00.2	S	04 16.2 -01.3	286 17.8 -24.9	N	04 35.2 +11.5	12			
13	11 39.5 -00.1	S	17 26.3 -00.7	332 47.5 -00.2	S	04 14.9 -01.3	300 52.9 -25.0	N	04 46.7 +11.5	13			
14	26 39.4 -00.1	S	17 25.6 -00.7	347 47.3 -00.3	S	04 13.6 -01.3	315 27.9 -25.0	N	04 58.2 +11.5	14			
15	41 39.3 -00.1	S	17 24.9 -00.7	2 47.0 -00.2	S	04 12.3 -01.3	330 02.9 -25.1	N	05 09.7 +11.5	15			
16	56 39.2 -00.1	S	17 24.2 -00.7	17 46.8 -00.2	S	04 11.0 -01.2	344 37.8 -25.1	N	05 21.2 +11.4	16			
17	71 39.1 -00.1	S	17 23.5 -00.7	32 46.6 -00.2	S	04 09.8 -01.3	359 12.7 -25.1	N	05 32.6 +11.4	17			
18	86 39.0 +00.0	S	17 22.8 -00.7	47 46.4 -00.3	S	04 08.5 -01.3	13 47.6 -25.1	N	05 44.0 +11.4	18			
19	101 39.0 -00.1	S	17 22.1 -00.7	62 46.1 -00.2	S	04 07.2 -01.3	28 22.5 -25.1	N	05 55.4 +11.4	19			
20	116 38.9 -00.1	S	17 21.4 -00.7	77 45.9 -00.2	S	04 05.9 -01.3	42 57.4 -25.2	N	06 06.8 +11.4	20			
21	131 38.8 -00.1	S	17 20.7 -00.7	92 45.7 -00.2	S	04 04.6 -01.3	57 32.2 -25.3	N	06 18.2 +11.4	21			
22	146 38.7 -00.1	S	17 20.0 -00.7	107 45.5 -00.3	S	04 03.3 -01.3	72 06.9 -25.2	N	06 29.6 +11.3	22			
23	161 38.6 -00.1	S	17 19.3 -00.7	122 45.2 -00.2	S	04 02.0 -01.3	86 41.7 -25.3	N	06 40.9 +11.3	23			
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22				
	SD 16'2 16'2 16'2 16'2 16'2 16'2		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		SD 00'0 00'0 00'0 00'0 00'0 00'0		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		HP 54'2 54'2 54'2 54'3 54'3 54'4		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 047° 047° 047° 046° 046° 046°		SHA 008° 008° 008° 008° 007° 007°		SHA 341° 339° 337° 335° 333° 332°		SHA 102° 102° 102° 102° 102° 102°		SHA 063° 063° 063° 063° 063° 063°				
	Greenwich Culmination Time: 12:13		Greenwich Culmination Time: 14:48		Greenwich Culmination Time: 17:03		Greenwich Culmination Time: 08:31		Greenwich Culmination Time: 11:07				

Sun					Venus					Moon A: 22%										
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	176 38.5 -00.1	S 17 18.6 -00.7	137 45.0 -00.2	S 04 00.7 -01.3	101 16.4 -25.4	N 06 52.2 +11.3	00													
01	191 38.4 -00.1	S 17 17.9 -00.7	152 44.8 -00.2	S 03 59.4 -01.3	115 51.0 -25.3	N 07 03.5 +11.3	01													
02	206 38.3 -00.1	S 17 17.2 -00.7	167 44.6 -00.2	S 03 58.1 -01.3	130 25.7 -25.4	N 07 14.8 +11.2	02													
03	221 38.2 -00.1	S 17 16.5 -00.7	182 44.4 -00.3	S 03 56.8 -01.3	145 00.3 -25.5	N 07 26.0 +11.3	03													
04	236 38.1 -00.1	S 17 15.8 -00.7	197 44.1 -00.2	S 03 55.5 -01.3	159 34.8 -25.5	N 07 37.3 +11.2	04													
05	251 38.0 +00.0	S 17 15.1 -00.7	212 43.9 -00.2	S 03 54.2 -01.3	174 09.3 -25.5	N 07 48.5 +11.1	05													
06	266 38.0 -00.1	S 17 14.4 -00.7	227 43.7 -00.2	S 03 52.9 -01.3	188 43.8 -25.5	N 07 59.6 +11.2	06													
07	281 37.9 -00.1	S 17 13.7 -00.7	242 43.5 -00.2	S 03 51.6 -01.3	203 18.3 -25.6	N 08 10.8 +11.1	07													
08	296 37.8 -00.1	S 17 13.0 -00.7	257 43.3 -00.3	S 03 50.3 -01.3	217 52.7 -25.7	N 08 21.9 +11.1	08													
09	311 37.7 -00.1	S 17 12.3 -00.7	272 43.0 -00.2	S 03 49.0 -01.3	232 27.0 -25.7	N 08 33.0 +11.1	09													
10	326 37.6 -00.1	S 17 11.6 -00.7	287 42.8 -00.2	S 03 47.7 -01.3	247 01.3 -25.7	N 08 44.1 +11.0	10													
11	341 37.5 -00.1	S 17 10.9 -00.7	302 42.6 -00.2	S 03 46.4 -01.3	261 35.6 -25.8	N 08 55.1 +11.1	11													
12	356 37.4 -00.1	S 17 10.2 -00.7	317 42.4 -00.2	S 03 45.1 -01.3	276 09.8 -25.8	N 09 06.2 +10.9	12													
13	11 37.3 -00.1	S 17 09.5 -00.7	332 42.2 -00.2	S 03 43.8 -01.3	290 44.0 -25.9	N 09 17.1 +11.0	13													
14	26 37.2 +00.0	S 17 08.8 -00.8	347 42.0 -00.3	S 03 42.5 -01.3	305 18.1 -26.0	N 09 28.1 +10.9	14													
15	41 37.2 -00.1	S 17 08.0 -00.7	2 41.7 -00.2	S 03 41.2 -01.3	319 52.1 -25.9	N 09 39.0 +10.9	15													
16	56 37.1 -00.1	S 17 07.3 -00.7	17 41.5 -00.2	S 03 39.9 -01.3	334 26.2 -26.1	N 09 49.9 +10.9	16													
17	71 37.0 -00.1	S 17 06.6 -00.7	32 41.3 -00.2	S 03 38.6 -01.3	349 00.1 -26.0	N 10 00.8 +10.8	17													
18	86 36.9 -00.1	S 17 05.9 -00.7	47 41.1 -00.2	S 03 37.3 -01.2	3 34.1 -26.2	N 10 11.6 +10.8	18													
19	101 36.8 -00.1	S 17 05.2 -00.7	62 40.9 -00.2	S 03 36.1 -01.3	18 07.9 -26.2	N 10 22.4 +10.8	19													
20	116 36.7 +00.0	S 17 04.5 -00.7	77 40.7 -00.2	S 03 34.8 -01.3	32 41.7 -26.2	N 10 33.2 +10.7	20													
21	131 36.7 -00.1	S 17 03.8 -00.7	92 40.5 -00.3	S 03 33.5 -01.3	47 15.5 -26.3	N 10 43.9 +10.7	21													
22	146 36.6 -00.1	S 17 03.1 -00.8	107 40.2 -00.2	S 03 32.2 -01.3	61 49.2 -26.4	N 10 54.6 +10.7	22													
23	161 36.5 -00.1	S 17 02.3 -00.7	122 40.0 -00.2	S 03 30.9 -01.3	76 22.8 -26.4	N 11 05.3 +10.6	23													
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22							
SD	16'2	16'2	16'2	16'2	16'2	16'2	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	046°	046°	046°	045°	045°	045°	SHA	007°	007°	007°	006°	006°	006°							
Greenwich Culmination Time: 12:13							Greenwich Culmination Time: 14:49							Greenwich Culmination Time: 17:45						

Mars					Jupiter					Saturn										
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	232 12.4 +00.6	S 23 00.2 +00.1	205 49.9 +01.9	S 22 41.7 -00.1	193 41.3 +02.2	S 21 06.4 -00.1	00													
01	247 13.0 +00.6	S 23 00.3 +00.2	220 51.8 +01.8	S 22 41.6 +00.0	208 43.5 +02.1	S 21 06.3 +00.0	01													
02	262 13.6 +00.7	S 23 00.5 +00.2	235 53.6 +01.9	S 22 41.6 -00.1	223 45.6 +02.2	S 21 06.3 -00.1	02													
03	277 14.3 +00.6	S 23 00.7 +00.1	250 55.5 +01.9	S 22 41.5 +00.0	238 47.8 +02.1	S 21 06.2 +00.0	03													
04	292 14.9 +00.6	S 23 00.8 +00.2	265 57.4 +01.9	S 22 41.5 -00.1	253 49.9 +02.2	S 21 06.2 -00.1	04													
05	307 15.5 +00.6	S 23 01.0 +00.2	280 59.3 +01.8	S 22 41.4 +00.0	268 52.1 +02.2	S 21 06.1 +00.0	05													
06	322 16.1 +00.6	S 23 01.2 +00.1	296 01.1 +01.9	S 22 41.4 -00.1	283 54.3 +02.1	S 21 06.1 -00.1	06													
07	337 16.7 +00.7	S 23 01.3 +00.2	311 03.0 +01.9	S 22 41.3 -00.1	298 56.4 +02.2	S 21 06.0 +00.0	07													
08	352 17.4 +00.6	S 23 01.5 +00.2	326 04.9 +01.9	S 22 41.2 +00.0	313 58.6 +02.1	S 21 06.0 +00.0	08													
09	7 18.0 +00.6	S 23 01.7 +00.1	341 06.8 +01.9	S 22 41.2 -00.1	329 00.7 +02.2	S 21 06.0 -00.1	09													
10	22 18.6 +00.6	S 23 01.8 +00.2	356 08.7 +01.8	S 22 41.1 +00.0	344 02.9 +02.2	S 21 05.9 +00.0	10													
11	37 19.2 +00.6	S 23 02.0 +00.2	11 10.5 +01.9	S 22 41.1 -00.1	359 05.1 +02.1	S 21 05.9 -00.1	11													
12	52 19.8 +00.6	S 23 02.2 +00.1	26 12.4 +01.9	S 22 41.0 +00.0	14 07.2 +02.2	S 21 05.8 +00.0	12													
13	67 20.4 +00.7	S 23 02.3 +00.2	41 14.3 +01.9	S 22 41.0 -00.1	29 09.4 +02.1	S 21 05.8 -00.1	13													
14	82 21.1 +00.6	S 23 02.5 +00.2	56 16.2 +01.9	S 22 40.9 +00.0	44 11.5 +02.2	S 21 05.7 +00.0	14													
15	97 21.7 +00.6	S 23 02.7 +00.1	71 18.1 +01.8	S 22 40.9 -00.1	59 13.7 +02.2	S 21 05.7 -00.1	15													
16	112 22.3 +00.6	S 23 02.8 +00.2	86 19.9 +01.9	S 22 40.8 +00.0	74 15.9 +02.1	S 21 05.6 +00.0	16													
17	127 22.9 +00.6	S 23 03.0 +00.1	101 21.8 +01.9	S 22 40.8 -00.1	89 18.0 +02.2	S 21 05.6 -00.1	17													
18	142 23.5 +00.6	S 23 03.1 +00.2	116 23.7 +01.9	S 22 40.7 +00.0	104 20.2 +02.1	S 21 05.5 +00.0	18													
19	157 24.1 +00.7	S 23 03.3 +00.2	131 25.6 +01.8	S 22 40.7 -00.1	119 22.3 +02.2	S 21 05.5 -00.1	19													
20	172 24.8 +00.6	S 23 03.5 +00.1	146 27.4 +01.9	S 22 40.6 +00.0	134 24.5 +02.2	S 21 05.4 +00.0	20													
21	187 25.4 +00.6	S 23 03.6 +00.2	161 29.3 +01.9	S 22 40.6 -00.1	149 26.7 +02.1	S 21 05.4 -00.1	21													
22	202 26.0 +00.6	S 23 03.8 +00.1	176 31.2 +01.9	S 22 40.5 +00.0	164 28.8 +02.2	S 21 05.3 +00.0	22													
23	217 26.6 +00.6	S 23 03.9 +00.2	191 33.1 +01.9	S 22 40.5 -00.1	179 31.0 +02.1	S 21 05.3 -00.1	23													
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22							
SD	00'0	00'0	00'0	00'0	00'0	00'0	SD	00'3	00'3	00'3	00'3	00'3	00'3							
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0							
SHA	101°	101°	101°	101°	101°	101°	SHA	075°	075°	075°	075°	075°	075°							
Greenwich Culmination Time: 08:30							Greenwich Culmination Time: 10:15							Greenwich Culmination Time: 11:03						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 36.4 -00.1	S	17 01.6 -00.7	137 39.8 -00.2	S	03 29.6 -01.3	90 56.4 -26.4	N	11 15.9 +10.6				
01	191 36.3 -00.1	S	17 00.9 -00.7	152 39.6 -00.2	S	03 28.3 -01.3	105 30.0 -26.6	N	11 26.5 +10.5				
02	206 36.2 +00.0	S	17 00.2 -00.7	167 39.4 -00.2	S	03 27.0 -01.3	120 03.4 -26.6	N	11 37.0 +10.5				
03	221 36.2 -00.1	S	16 59.5 -00.7	182 39.2 -00.2	S	03 25.7 -01.3	134 36.8 -26.6	N	11 47.5 +10.5				
04	236 36.1 -00.1	S	16 58.8 -00.7	197 39.0 -00.2	S	03 24.4 -01.3	149 10.2 -26.7	N	11 58.0 +10.4				
05	251 36.0 -00.1	S	16 58.1 -00.8	212 38.8 -00.3	S	03 23.1 -01.3	163 43.5 -26.8	N	12 08.4 +10.4				
06	266 35.9 -00.1	S	16 57.3 -00.7	227 38.5 -00.2	S	03 21.8 -01.3	178 16.7 -26.8	N	12 18.8 +10.3				
07	281 35.8 +00.0	S	16 56.6 -00.7	242 38.3 -00.2	S	03 20.5 -01.3	192 49.9 -26.9	N	12 29.1 +10.3				
08	296 35.8 -00.1	S	16 55.9 -00.7	257 38.1 -00.2	S	03 19.2 -01.3	207 23.0 -27.0	N	12 39.4 +10.2				
09	311 35.7 -00.1	S	16 55.2 -00.7	272 37.9 -00.2	S	03 17.9 -01.3	221 56.0 -27.0	N	12 49.6 +10.2				
10	326 35.6 -00.1	S	16 54.5 -00.8	287 37.7 -00.2	S	03 16.6 -01.3	236 29.0 -27.1	N	12 59.8 +10.2				
11	341 35.5 -00.1	S	16 53.7 -00.7	302 37.5 -00.2	S	03 15.3 -01.3	251 01.9 -27.2	N	13 10.0 +10.1				
12	356 35.4 +00.0	S	16 53.0 -00.7	317 37.3 -00.2	S	03 14.0 -01.3	265 34.7 -27.2	N	13 20.1 +10.0				
13	11 35.4 -00.1	S	16 52.3 -00.7	332 37.1 -00.2	S	03 12.7 -01.3	280 07.5 -27.3	N	13 30.1 +10.1				
14	26 35.3 -00.1	S	16 51.6 -00.7	347 36.9 -00.2	S	03 11.4 -01.3	294 40.2 -27.4	N	13 40.2 +09.9				
15	41 35.2 -00.1	S	16 50.9 -00.8	2 36.7 -00.3	S	03 10.1 -01.3	309 12.8 -27.5	N	13 50.1 +09.9				
16	56 35.1 +00.0	S	16 50.1 -00.7	17 36.4 -00.2	S	03 08.8 -01.3	323 45.3 -27.5	N	14 00.0 +09.9				
17	71 35.1 -00.1	S	16 49.4 -00.7	32 36.2 -00.2	S	03 07.5 -01.3	338 17.8 -27.6	N	14 09.9 +09.8				
18	86 35.0 -00.1	S	16 48.7 -00.7	47 36.0 -00.2	S	03 06.2 -01.3	352 50.2 -27.6	N	14 19.7 +09.7				
19	101 34.9 -00.1	S	16 48.0 -00.8	62 35.8 -00.2	S	03 04.9 -01.3	7 22.6 -27.8	N	14 29.4 +09.7				
20	116 34.8 +00.0	S	16 47.2 -00.7	77 35.6 -00.2	S	03 03.6 -01.3	21 54.8 -27.8	N	14 39.1 +09.7				
21	131 34.8 -00.1	S	16 46.5 -00.7	92 35.4 -00.2	S	03 02.3 -01.3	36 27.0 -27.9	N	14 48.8 +09.5				
22	146 34.7 -00.1	S	16 45.8 -00.7	107 35.2 -00.2	S	03 01.0 -01.4	50 59.1 -27.9	N	14 58.3 +09.6				
23	161 34.6 -00.1	S	16 45.1 -00.8	122 35.0 -00.2	S	02 59.6 -01.3	65 31.2 -28.1	N	15 07.9 +09.4				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 15'0 15'0 15'0 15'0 15'1 15'1					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 54'9 55'0 55'1 55'2 55'3 55'4					
	SHA 045° 045° 045° 044° 044° 044°			SHA 006° 006° 006° 005° 005° 005°				SHA 318° 316° 314° 312° 310° 308°					
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 14:49				Greenwich Culmination Time: 18:29					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	232 27.2 +00.6	S	23 04.1 +00.2	206 35.0 +01.8	S	22 40.4 +00.0	194 33.1 +02.2	S	21 05.2 +00.0				
01	247 27.8 +00.7	S	23 04.3 +00.1	221 36.8 +01.9	S	22 40.4 -00.1	209 35.3 +02.2	S	21 05.2 -00.1				
02	262 28.5 +00.6	S	23 04.4 +00.2	236 38.7 +01.9	S	22 40.3 +00.0	224 37.5 +02.1	S	21 05.1 +00.0				
03	277 29.1 +00.6	S	23 04.6 +00.1	251 40.6 +01.9	S	22 40.3 -00.1	239 39.6 +02.2	S	21 05.1 -00.1				
04	292 29.7 +00.6	S	23 04.7 +00.2	266 42.5 +01.9	S	22 40.2 +00.0	254 41.8 +02.1	S	21 05.0 +00.0				
05	307 30.3 +00.6	S	23 04.9 +00.2	281 44.4 +01.8	S	22 40.2 -00.1	269 43.9 +02.2	S	21 05.0 -00.1				
06	322 30.9 +00.6	S	23 05.1 +00.1	296 46.2 +01.9	S	22 40.1 +00.0	284 46.1 +02.2	S	21 04.9 +00.0				
07	337 31.5 +00.7	S	23 05.2 +00.2	311 48.1 +01.9	S	22 40.1 -00.1	299 48.3 +02.1	S	21 04.9 -00.1				
08	352 32.2 +00.6	S	23 05.4 +00.1	326 50.0 +01.9	S	22 40.0 -00.1	314 50.4 +02.2	S	21 04.8 +00.0				
09	7 32.8 +00.6	S	23 05.5 +00.2	341 51.9 +01.9	S	22 39.9 +00.0	329 52.6 +02.2	S	21 04.8 -00.1				
10	22 33.4 +00.6	S	23 05.7 +00.1	356 53.8 +01.9	S	22 39.9 -00.1	344 54.8 +02.1	S	21 04.7 +00.0				
11	37 34.0 +00.6	S	23 05.8 +00.2	11 55.7 +01.8	S	22 39.8 +00.0	359 56.9 +02.2	S	21 04.7 -00.1				
12	52 34.6 +00.6	S	23 06.0 +00.1	26 57.5 +01.9	S	22 39.8 -00.1	14 59.1 +02.1	S	21 04.6 +00.0				
13	67 35.2 +00.6	S	23 06.1 +00.2	41 59.4 +01.9	S	22 39.7 +00.0	30 01.2 +02.2	S	21 04.6 -00.1				
14	82 35.8 +00.7	S	23 06.3 +00.2	57 01.3 +01.9	S	22 39.7 -00.1	45 03.4 +02.2	S	21 04.5 +00.0				
15	97 36.5 +00.6	S	23 06.5 +00.1	72 03.2 +01.9	S	22 39.6 +00.0	60 05.6 +02.1	S	21 04.5 -00.1				
16	112 37.1 +00.6	S	23 06.6 +00.2	87 05.1 +01.8	S	22 39.6 -00.1	75 07.7 +02.2	S	21 04.4 +00.0				
17	127 37.7 +00.6	S	23 06.8 +00.1	102 06.9 +01.9	S	22 39.5 +00.0	90 09.9 +02.1	S	21 04.4 -00.1				
18	142 38.3 +00.6	S	23 06.9 +00.2	117 08.8 +01.9	S	22 39.5 -00.1	105 12.0 +02.2	S	21 04.3 +00.0				
19	157 38.9 +00.6	S	23 07.1 +00.1	132 10.7 +01.9	S	22 39.4 +00.0	120 14.2 +02.2	S	21 04.3 -00.1				
20	172 39.5 +00.6	S	23 07.2 +00.2	147 12.6 +01.9	S	22 39.4 -00.1	135 16.4 +02.1	S	21 04.2 +00.0				
21	187 40.1 +00.7	S	23 07.4 +00.1	162 14.5 +01.9	S	22 39.3 +00.0	150 18.5 +02.2	S	21 04.2 -00.1				
22	202 40.8 +00.6	S	23 07.5 +00.2	177 16.4 +01.8	S	22 39.3 -00.1	165 20.7 +02.1	S	21 04.1 +00.0				
23	217 41.4 +00.6	S	23 07.7 +00.1	192 18.2 +01.9	S	22 39.2 +00.0	180 22.8 +02.2	S	21 04.1 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'0 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 101° 101° 100° 100° 100° 100°			SHA 075° 075° 075° 075° 075° 075°				SHA 063° 063° 063° 063° 063° 063°					
	Greenwich Culmination Time: 08:29			Greenwich Culmination Time: 10:12				Greenwich Culmination Time: 11:00					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 34.5 +00.0	S 16 44.3 -00.7	137 34.8 -00.2	S 02 58.3 -01.3	80 03.1 -28.1	N 15 17.3 +09.4	00						
01	191 34.5 -00.1	S 16 43.6 -00.7	152 34.6 -00.2	S 02 57.0 -01.3	94 35.0 -28.2	N 15 26.7 +09.4	01						
02	206 34.4 -00.1	S 16 42.9 -00.7	167 34.4 -00.2	S 02 55.7 -01.3	109 06.8 -28.3	N 15 36.1 +09.3	02						
03	221 34.3 -00.1	S 16 42.2 -00.8	182 34.2 -00.2	S 02 54.4 -01.3	123 38.5 -28.3	N 15 45.4 +09.2	03						
04	236 34.2 +00.0	S 16 41.4 -00.7	197 34.0 -00.2	S 02 53.1 -01.3	138 10.2 -28.5	N 15 54.6 +09.2	04						
05	251 34.2 -00.1	S 16 40.7 -00.7	212 33.8 -00.2	S 02 51.8 -01.3	152 41.7 -28.5	N 16 03.8 +09.1	05						
06	266 34.1 -00.1	S 16 40.0 -00.8	227 33.6 -00.2	S 02 50.5 -01.3	167 13.2 -28.6	N 16 12.9 +09.0	06						
07	281 34.0 -00.1	S 16 39.2 -00.7	242 33.4 -00.2	S 02 49.2 -01.3	181 44.6 -28.7	N 16 21.9 +09.0	07						
08	296 33.9 +00.0	S 16 38.5 -00.7	257 33.2 -00.2	S 02 47.9 -01.3	196 15.9 -28.7	N 16 30.9 +08.9	08						
09	311 33.9 -00.1	S 16 37.8 -00.8	272 33.0 -00.2	S 02 46.6 -01.3	210 47.2 -28.9	N 16 39.8 +08.8	09						
10	326 33.8 -00.1	S 16 37.0 -00.7	287 32.8 -00.2	S 02 45.3 -01.3	225 18.3 -28.9	N 16 48.6 +08.8	10						
11	341 33.7 +00.0	S 16 36.3 -00.7	302 32.6 -00.2	S 02 44.0 -01.3	239 49.4 -29.0	N 16 57.4 +08.7	11						
12	356 33.7 -00.1	S 16 35.6 -00.7	317 32.4 -00.2	S 02 42.7 -01.3	254 20.4 -29.1	N 17 06.1 +08.6	12						
13	11 33.6 -00.1	S 16 34.9 -00.8	332 32.2 -00.2	S 02 41.4 -01.3	268 51.3 -29.2	N 17 14.7 +08.5	13						
14	26 33.5 +00.0	S 16 34.1 -00.7	347 32.0 -00.2	S 02 40.1 -01.3	283 22.1 -29.3	N 17 23.2 +08.5	14						
15	41 33.5 -00.1	S 16 33.4 -00.7	2 31.8 -00.2	S 02 38.8 -01.3	297 52.8 -29.4	N 17 31.7 +08.4	15						
16	56 33.4 -00.1	S 16 32.7 -00.8	17 31.6 -00.2	S 02 37.5 -01.3	312 23.4 -29.4	N 17 40.1 +08.3	16						
17	71 33.3 +00.0	S 16 31.9 -00.7	32 31.4 -00.2	S 02 36.2 -01.3	326 54.0 -29.6	N 17 48.4 +08.3	17						
18	86 33.3 -00.1	S 16 31.2 -00.8	47 31.2 -00.2	S 02 34.9 -01.3	341 24.4 -29.6	N 17 56.7 +08.1	18						
19	101 33.2 -00.1	S 16 30.4 -00.7	62 31.0 -00.2	S 02 33.6 -01.3	355 54.8 -29.7	N 18 04.8 +08.1	19						
20	116 33.1 +00.0	S 16 29.7 -00.7	77 30.8 -00.2	S 02 32.3 -01.3	10 25.1 -29.8	N 18 12.9 +08.0	20						
21	131 33.1 -00.1	S 16 29.0 -00.8	92 30.6 -00.2	S 02 31.0 -01.3	24 55.3 -29.9	N 18 20.9 +08.0	21						
22	146 33.0 -00.1	S 16 28.2 -00.7	107 30.4 -00.2	S 02 29.7 -01.3	39 25.4 -30.0	N 18 28.9 +07.8	22						
23	161 32.9 +00.0	S 16 27.5 -00.7	122 30.2 -00.2	S 02 28.4 -01.3	53 55.4 -30.1	N 18 36.7 +07.8	23						
	UT 02 06 10 14 18 22	SD 16'2 16'2 16'2 16'2 16'2 16'2	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 15'1 15'2 15'2 15'2 15'3 15'3							
	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 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 55'9 56'0 56'1		HP 00'0 00'0 00'0 00'0 00'0 00'0							
	SHA 044° 044° 044° 043° 043° 043°	SHA 005° 005° 004° 004° 004° 004°	SHA 005° 005° 004° 004° 004° 004°	SHA 306° 304° 302° 300° 298° 296°		SHA 063° 063° 063° 063° 063° 063°							
	Greenwich Culmination Time: 12:13	Greenwich Culmination Time: 14:49	Greenwich Culmination Time: 19:16			Greenwich Culmination Time: 10:56							
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	232 42.0 +00.6	S 23 07.8 +00.2	207 20.1 +01.9	S 22 39.2 -00.1	195 25.0 +02.2	S 21 04.0 +00.0	00						
01	247 42.6 +00.6	S 23 08.0 +00.1	222 22.0 +01.9	S 22 39.1 +00.0	210 27.2 +02.1	S 21 04.0 -00.1	01						
02	262 43.2 +00.6	S 23 08.1 +00.2	237 23.9 +01.9	S 22 39.1 -00.1	225 29.3 +02.2	S 21 03.9 +00.0	02						
03	277 43.8 +00.6	S 23 08.3 +00.1	252 25.8 +01.8	S 22 39.0 -00.1	240 31.5 +02.2	S 21 03.9 -00.1	03						
04	292 44.4 +00.6	S 23 08.4 +00.2	267 27.6 +01.9	S 22 38.9 +00.0	255 33.7 +02.1	S 21 03.8 +00.0	04						
05	307 45.0 +00.7	S 23 08.6 +00.1	282 29.5 +01.9	S 22 38.9 -00.1	270 35.8 +02.2	S 21 03.8 -00.1	05						
06	322 45.7 +00.6	S 23 08.7 +00.2	297 31.4 +01.9	S 22 38.8 +00.0	285 38.0 +02.1	S 21 03.7 +00.0	06						
07	337 46.3 +00.6	S 23 08.9 +00.1	312 33.3 +01.9	S 22 38.8 -00.1	300 40.1 +02.2	S 21 03.7 -00.1	07						
08	352 46.9 +00.6	S 23 09.0 +00.2	327 35.2 +01.9	S 22 38.7 +00.0	315 42.3 +02.2	S 21 03.6 +00.0	08						
09	7 47.5 +00.6	S 23 09.2 +00.1	342 37.1 +01.8	S 22 38.7 -00.1	330 44.5 +02.1	S 21 03.6 -00.1	09						
10	22 48.1 +00.6	S 23 09.3 +00.2	357 38.9 +01.9	S 22 38.6 +00.0	345 46.6 +02.2	S 21 03.5 +00.0	10						
11	37 48.7 +00.6	S 23 09.5 +00.1	12 40.8 +01.9	S 22 38.6 -00.1	0 48.8 +02.2	S 21 03.5 -00.1	11						
12	52 49.3 +00.7	S 23 09.6 +00.2	27 42.7 +01.9	S 22 38.5 +00.0	15 51.0 +02.1	S 21 03.4 +00.0	12						
13	67 50.0 +00.6	S 23 09.8 +00.1	42 44.6 +01.9	S 22 38.5 -00.1	30 53.1 +02.2	S 21 03.4 -00.1	13						
14	82 50.6 +00.6	S 23 09.9 +00.2	57 46.5 +01.9	S 22 38.4 +00.0	45 55.3 +02.1	S 21 03.3 +00.0	14						
15	97 51.2 +00.6	S 23 10.1 +00.1	72 48.4 +01.8	S 22 38.4 -00.1	60 57.4 +02.2	S 21 03.3 -00.1	15						
16	112 51.8 +00.6	S 23 10.2 +00.2	87 50.2 +01.9	S 22 38.3 +00.0	75 59.6 +02.2	S 21 03.2 +00.0	16						
17	127 52.4 +00.6	S 23 10.4 +00.1	102 52.1 +01.9	S 22 38.3 -00.1	91 01.8 +02.1	S 21 03.2 -00.1	17						
18	142 53.0 +00.6	S 23 10.5 +00.1	117 54.0 +01.9	S 22 38.2 +00.0	106 03.9 +02.2	S 21 03.1 +00.0	18						
19	157 53.6 +00.6	S 23 10.6 +00.2	132 55.9 +01.9	S 22 38.2 -00.1	121 06.1 +02.2	S 21 03.1 -00.1	19						
20	172 54.2 +00.6	S 23 10.8 +00.1	147 57.8 +01.9	S 22 38.1 -00.1	136 08.3 +02.1	S 21 03.0 +00.0	20						
21	187 54.8 +00.7	S 23 10.9 +00.2	162 59.7 +01.9	S 22 38.0 +00.0	151 10.4 +02.2	S 21 03.0 +00.0	21						
22	202 55.5 +00.6	S 23 11.1 +00.1	178 01.6 +01.8	S 22 38.0 -00.1	166 12.6 +02.1	S 21 03.0 -00.1	22						
23	217 56.1 +00.6	S 23 11.2 +00.2	193 03.4 +01.9	S 22 37.9 +00.0	181 14.7 +02.2	S 21 02.9 +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	HP 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0							
	SHA 100° 100° 100° 100° 100° 099°	SHA 075° 075° 075° 075° 075° 074°	SHA 075° 075° 075° 075° 075° 074°	SHA 063° 063° 063° 063° 063° 063°		SHA 063° 063° 063° 063° 063° 063°							
	Greenwich Culmination Time: 08:28	Greenwich Culmination Time: 10:09	Greenwich Culmination Time: 10:56			Greenwich Culmination Time: 10:56							

Sun					Venus					Moon					A: 31%					
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	176 32.9 -00.1	S 16 26.8 -00.8	137 30.0 -00.2	S 02 27.1 -01.3	68 25.3 -30.2	N 18 44.5 +07.7	00													
01	191 32.8 -00.1	S 16 26.0 -00.7	152 29.8 -00.2	S 02 25.8 -01.3	82 55.1 -30.2	N 18 52.2 +07.6	01													
02	206 32.7 +00.0	S 16 25.3 -00.8	167 29.6 -00.2	S 02 24.5 -01.3	97 24.9 -30.4	N 18 59.8 +07.5	02													
03	221 32.7 -00.1	S 16 24.5 -00.7	182 29.4 -00.2	S 02 23.2 -01.4	111 54.5 -30.4	N 19 07.3 +07.4	03													
04	236 32.6 -00.1	S 16 23.8 -00.7	197 29.2 -00.2	S 02 21.8 -01.3	126 24.1 -30.6	N 19 14.7 +07.3	04													
05	251 32.5 +00.0	S 16 23.1 -00.8	212 29.0 -00.2	S 02 20.5 -01.3	140 53.5 -30.6	N 19 22.0 +07.3	05													
06	266 32.5 -00.1	S 16 22.3 -00.7	227 28.8 -00.2	S 02 19.2 -01.3	155 22.9 -30.7	N 19 29.3 +07.1	06													
07	281 32.4 +00.0	S 16 21.6 -00.8	242 28.6 -00.2	S 02 17.9 -01.3	169 52.2 -30.8	N 19 36.4 +07.1	07													
08	296 32.4 -00.1	S 16 20.8 -00.7	257 28.4 -00.2	S 02 16.6 -01.3	184 21.4 -30.9	N 19 43.5 +07.0	08													
09	311 32.3 -00.1	S 16 20.1 -00.8	272 28.2 -00.2	S 02 15.3 -01.3	198 50.5 -31.0	N 19 50.5 +06.8	09													
10	326 32.2 +00.0	S 16 19.3 -00.7	287 28.0 -00.2	S 02 14.0 -01.3	213 19.5 -31.1	N 19 57.3 +06.8	10													
11	341 32.2 -00.1	S 16 18.6 -00.7	302 27.8 -00.2	S 02 12.7 -01.3	227 48.4 -31.2	N 20 04.1 +06.7	11													
12	356 32.1 -00.1	S 16 17.9 -00.8	317 27.6 -00.2	S 02 11.4 -01.3	242 17.2 -31.3	N 20 10.8 +06.6	12													
13	11 32.0 +00.0	S 16 17.1 -00.7	332 27.4 -00.2	S 02 10.1 -01.3	256 45.9 -31.3	N 20 17.4 +06.4	13													
14	26 32.0 -00.1	S 16 16.4 -00.8	347 27.2 -00.2	S 02 08.8 -01.3	271 14.6 -31.5	N 20 23.8 +06.4	14													
15	41 31.9 +00.0	S 16 15.6 -00.7	2 27.0 -00.2	S 02 07.5 -01.3	285 43.1 -31.6	N 20 30.2 +06.3	15													
16	56 31.9 -00.1	S 16 14.9 -00.8	17 26.8 -00.2	S 02 06.2 -01.3	300 11.5 -31.6	N 20 36.5 +06.2	16													
17	71 31.8 -00.1	S 16 14.1 -00.7	32 26.6 -00.1	S 02 04.9 -01.3	314 39.9 -31.7	N 20 42.7 +06.0	17													
18	86 31.7 +00.0	S 16 13.4 -00.8	47 26.5 -00.2	S 02 03.6 -01.3	329 08.2 -31.9	N 20 48.7 +06.0	18													
19	101 31.7 -00.1	S 16 12.6 -00.7	62 26.3 -00.2	S 02 02.3 -01.3	343 36.3 -31.9	N 20 54.7 +05.9	19													
20	116 31.6 +00.0	S 16 11.9 -00.8	77 26.1 -00.2	S 02 01.0 -01.4	358 04.4 -32.0	N 21 00.6 +05.7	20													
21	131 31.6 -00.1	S 16 11.1 -00.7	92 25.9 -00.2	S 01 59.6 -01.3	12 32.4 -32.1	N 21 06.3 +05.7	21													
22	146 31.5 +00.0	S 16 10.4 -00.8	107 25.7 -00.2	S 01 58.3 -01.3	27 00.3 -32.2	N 21 12.0 +05.5	22													
23	161 31.5 -00.1	S 16 09.6 -00.7	122 25.5 -00.2	S 01 57.0 -01.3	41 28.1 -32.3	N 21 17.5 +05.4	23													
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22							
SD	16'2	16'2	16'2	16'2	16'2	16'2	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	043°	043°	042°	042°	042°	042°	SHA	004°	004°	003°	003°	003°	003°							
Greenwich Culmination Time: 12:13							Greenwich Culmination Time: 14:50							Greenwich Culmination Time: 20:07						

Mars					Jupiter					Saturn					UT					
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	232 56.7 +00.6	S 23 11.4 +00.1	208 05.3 +01.9	S 22 37.9 -00.1	196 16.9 +02.2	S 21 02.9 -00.1	00													
01	247 57.3 +00.6	S 23 11.5 +00.1	223 07.2 +01.9	S 22 37.8 +00.0	211 19.1 +02.1	S 21 02.8 +00.0	01													
02	262 57.9 +00.6	S 23 11.6 +00.2	238 09.1 +01.9	S 22 37.8 -00.1	226 21.2 +02.2	S 21 02.8 -00.1	02													
03	277 58.5 +00.6	S 23 11.8 +00.1	253 11.0 +01.9	S 22 37.7 +00.0	241 23.4 +02.2	S 21 02.7 +00.0	03													
04	292 59.1 +00.6	S 23 11.9 +00.2	268 12.9 +01.8	S 22 37.7 -00.1	256 25.6 +02.1	S 21 02.7 -00.1	04													
05	307 59.7 +00.6	S 23 12.1 +00.1	283 14.7 +01.9	S 22 37.6 +00.0	271 27.7 +02.2	S 21 02.6 +00.0	05													
06	323 00.3 +00.7	S 23 12.2 +00.2	298 16.6 +01.9	S 22 37.6 -00.1	286 29.9 +02.1	S 21 02.6 -00.1	06													
07	338 01.0 +00.6	S 23 12.4 +00.1	313 18.5 +01.9	S 22 37.5 +00.0	301 32.0 +02.2	S 21 02.5 +00.0	07													
08	353 01.6 +00.6	S 23 12.5 +00.1	328 20.4 +01.9	S 22 37.5 -00.1	316 34.2 +02.2	S 21 02.5 -00.1	08													
09	8 02.2 +00.6	S 23 12.6 +00.2	343 22.3 +01.9	S 22 37.4 +00.0	331 36.4 +02.1	S 21 02.4 +00.0	09													
10	23 02.8 +00.6	S 23 12.8 +00.1	358 24.2 +01.9	S 22 37.4 -00.1	346 38.5 +02.2	S 21 02.4 -00.1	10													
11	38 03.4 +00.6	S 23 12.9 +00.2	13 26.1 +01.9	S 22 37.3 -00.1	1 40.7 +02.2	S 21 02.3 +00.0	11													
12	53 04.0 +00.6	S 23 13.1 +00.1	28 28.0 +01.8	S 22 37.2 +00.0	16 42.9 +02.1	S 21 02.3 -00.1	12													
13	68 04.6 +00.6	S 23 13.2 +00.1	43 29.8 +01.9	S 22 37.2 -00.1	31 45.0 +02.2	S 21 02.2 +00.0	13													
14	83 05.2 +00.6	S 23 13.3 +00.2	58 31.7 +01.9	S 22 37.1 +00.0	46 47.2 +02.2	S 21 02.2 -00.1	14													
15	98 05.8 +00.6	S 23 13.5 +00.1	73 33.6 +01.9	S 22 37.1 -00.1	61 49.4 +02.1	S 21 02.1 +00.0	15													
16	113 06.4 +00.7	S 23 13.6 +00.1	88 35.5 +01.9	S 22 37.0 +00.0	76 51.5 +02.2	S 21 02.1 -00.1	16													
17	128 07.1 +00.6	S 23 13.7 +00.2	103 37.4 +01.9	S 22 37.0 -00.1	91 53.7 +02.1	S 21 02.0 +00.0	17													
18	143 07.7 +00.6	S 23 13.9 +00.1	118 39.3 +01.9	S 22 36.9 +00.0	106 55.8 +02.2	S 21 02.0 -00.1	18													
19	158 08.3 +00.6	S 23 14.0 +00.2	133 41.2 +01.8	S 22 36.9 -00.1	121 58.0 +02.2	S 21 01.9 +00.0	19													
20	173 08.9 +00.6	S 23 14.2 +00.1	148 43.0 +01.9	S 22 36.8 +00.0	137 00.2 +02.1	S 21 01.9 -00.1	20													
21	188 09.5 +00.6	S 23 14.3 +00.1	163 44.9 +01.9	S 22 36.8 -00.1	152 02.3 +02.2	S 21 01.8 +00.0	21													
22	203 10.1 +00.6	S 23 14.4 +00.2	178 46.8 +01.9	S 22 36.7 +00.0	167 04.5 +02.2	S 21 01.8 -00.1	22													
23	218 10.7 +00.6	S 23 14.6 +00.1	193 48.7 +01.9	S 22 36.7 -00.1	182 06.7 +02.1	S 21 01.7 +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	099°	099°	099°	099°	099°	099°	SHA	074°	074°	074°	074°	074°	074°							
Greenwich Culmination Time: 08:27							Greenwich Culmination Time: 10:06							Greenwich Culmination Time: 10:53						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 35%				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	176 31.4 -00.1	S 16 08.9 -00.8	137 25.3 -00.2	S 01 55.7 -01.3	55 55.8 -32.4	N 21 22.9 +05.3	00						
01	191 31.3 +00.0	S 16 08.1 -00.7	152 25.1 -00.2	S 01 54.4 -01.3	70 23.4 -32.5	N 21 28.2 +05.2	01						
02	206 31.3 -00.1	S 16 07.4 -00.8	167 24.9 -00.2	S 01 53.1 -01.3	84 50.9 -32.5	N 21 33.4 +05.1	02						
03	221 31.2 +00.0	S 16 06.6 -00.7	182 24.7 -00.2	S 01 51.8 -01.3	99 18.4 -32.7	N 21 38.5 +05.0	03						
04	236 31.2 -00.1	S 16 05.9 -00.8	197 24.5 -00.1	S 01 50.5 -01.3	113 45.7 -32.7	N 21 43.5 +04.8	04						
05	251 31.1 +00.0	S 16 05.1 -00.7	212 24.4 -00.2	S 01 49.2 -01.3	128 13.0 -32.9	N 21 48.3 +04.7	05						
06	266 31.1 -00.1	S 16 04.4 -00.8	227 24.2 -00.2	S 01 47.9 -01.3	142 40.1 -32.9	N 21 53.0 +04.7	06						
07	281 31.0 +00.0	S 16 03.6 -00.7	242 24.0 -00.2	S 01 46.6 -01.3	157 07.2 -33.0	N 21 57.7 +04.4	07						
08	296 31.0 -00.1	S 16 02.9 -00.8	257 23.8 -00.2	S 01 45.3 -01.3	171 34.2 -33.1	N 22 02.1 +04.4	08						
09	311 30.9 +00.0	S 16 02.1 -00.7	272 23.6 -00.2	S 01 44.0 -01.3	186 01.1 -33.2	N 22 06.5 +04.3	09						
10	326 30.9 -00.1	S 16 01.4 -00.8	287 23.4 -00.2	S 01 42.7 -01.3	200 27.9 -33.2	N 22 10.8 +04.1	10						
11	341 30.8 -00.1	S 16 00.6 -00.8	302 23.2 -00.2	S 01 41.4 -01.4	214 54.7 -33.4	N 22 14.9 +04.0	11						
12	356 30.7 +00.0	S 15 59.8 -00.7	317 23.0 -00.1	S 01 40.0 -01.3	229 21.3 -33.4	N 22 18.9 +03.9	12						
13	11 30.7 -00.1	S 15 59.1 -00.8	332 22.9 -00.2	S 01 38.7 -01.3	243 47.9 -33.5	N 22 22.8 +03.7	13						
14	26 30.6 +00.0	S 15 58.3 -00.7	347 22.7 -00.2	S 01 37.4 -01.3	258 14.4 -33.6	N 22 26.5 +03.6	14						
15	41 30.6 -00.1	S 15 57.6 -00.8	2 22.5 -00.2	S 01 36.1 -01.3	272 40.8 -33.7	N 22 30.1 +03.5	15						
16	56 30.5 +00.0	S 15 56.8 -00.7	17 22.3 -00.2	S 01 34.8 -01.3	287 07.1 -33.8	N 22 33.6 +03.4	16						
17	71 30.5 -00.1	S 15 56.1 -00.8	32 22.1 -00.2	S 01 33.5 -01.3	301 33.3 -33.8	N 22 37.0 +03.2	17						
18	86 30.4 +00.0	S 15 55.3 -00.8	47 21.9 -00.2	S 01 32.2 -01.3	315 59.5 -34.0	N 22 40.2 +03.1	18						
19	101 30.4 -00.1	S 15 54.5 -00.7	62 21.7 -00.1	S 01 30.9 -01.3	330 25.5 -34.0	N 22 43.3 +02.9	19						
20	116 30.3 +00.0	S 15 53.8 -00.8	77 21.6 -00.2	S 01 29.6 -01.3	344 51.5 -34.0	N 22 46.2 +02.9	20						
21	131 30.3 -00.1	S 15 53.0 -00.7	92 21.4 -00.2	S 01 28.3 -01.3	359 17.5 -34.2	N 22 49.1 +02.7	21						
22	146 30.2 +00.0	S 15 52.3 -00.8	107 21.2 -00.2	S 01 27.0 -01.3	13 43.3 -34.2	N 22 51.8 +02.5	22						
23	161 30.2 -00.1	S 15 51.5 -00.8	122 21.0 -00.2	S 01 25.7 -01.4	28 09.1 -34.3	N 22 54.3 +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 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'6 15'6 15'6 15'7 15'7 15'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 57'1 57'3 57'4 57'6 57'7 57'9								
	SHA 042° 042° 041° 041° 041° 041°		SHA 003° 003° 002° 002° 002° 002°		SHA 280° 278° 275° 273° 271° 268°								
	Greenwich Culmination Time: 12:13		Greenwich Culmination Time: 14:50		Greenwich Culmination Time: 21:02								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	233 11.3 +00.6	S 23 14.7 +00.1	208 50.6 +01.9	S 22 36.6 -00.1	197 08.8 +02.2	S 21 01.7 -00.1	00						
01	248 11.9 +00.6	S 23 14.8 +00.2	223 52.5 +01.9	S 22 36.5 +00.0	212 11.0 +02.2	S 21 01.6 +00.0	01						
02	263 12.5 +00.6	S 23 15.0 +00.1	238 54.4 +01.9	S 22 36.5 -00.1	227 13.2 +02.1	S 21 01.6 -00.1	02						
03	278 13.1 +00.7	S 23 15.1 +00.1	253 56.3 +01.8	S 22 36.4 +00.0	242 15.3 +02.2	S 21 01.5 +00.0	03						
04	293 13.8 +00.6	S 23 15.2 +00.2	268 58.1 +01.9	S 22 36.4 -00.1	257 17.5 +02.1	S 21 01.5 -00.1	04						
05	308 14.4 +00.6	S 23 15.4 +00.1	284 00.0 +01.9	S 22 36.3 +00.0	272 19.6 +02.2	S 21 01.4 +00.0	05						
06	323 15.0 +00.6	S 23 15.5 +00.1	299 01.9 +01.9	S 22 36.3 -00.1	287 21.8 +02.2	S 21 01.4 -00.1	06						
07	338 15.6 +00.6	S 23 15.6 +00.2	314 03.8 +01.9	S 22 36.2 +00.0	302 24.0 +02.1	S 21 01.3 +00.0	07						
08	353 16.2 +00.6	S 23 15.8 +00.1	329 05.7 +01.9	S 22 36.2 -00.1	317 26.1 +02.2	S 21 01.3 -00.1	08						
09	8 16.8 +00.6	S 23 15.9 +00.1	344 07.6 +01.9	S 22 36.1 +00.0	332 28.3 +02.2	S 21 01.2 +00.0	09						
10	23 17.4 +00.6	S 23 16.0 +00.2	359 09.5 +01.9	S 22 36.1 -00.1	347 30.5 +02.1	S 21 01.2 -00.1	10						
11	38 18.0 +00.6	S 23 16.2 +00.1	14 11.4 +01.8	S 22 36.0 -00.1	2 32.6 +02.2	S 21 01.1 +00.0	11						
12	53 18.6 +00.6	S 23 16.3 +00.1	29 13.2 +01.9	S 22 35.9 +00.0	17 34.8 +02.2	S 21 01.1 -00.1	12						
13	68 19.2 +00.6	S 23 16.4 +00.1	44 15.1 +01.9	S 22 35.9 -00.1	32 37.0 +02.1	S 21 01.0 +00.0	13						
14	83 19.8 +00.6	S 23 16.5 +00.2	59 17.0 +01.9	S 22 35.8 +00.0	47 39.1 +02.2	S 21 01.0 -00.1	14						
15	98 20.4 +00.7	S 23 16.7 +00.1	74 18.9 +01.9	S 22 35.8 -00.1	62 41.3 +02.2	S 21 00.9 +00.0	15						
16	113 21.1 +00.6	S 23 16.8 +00.1	89 20.8 +01.9	S 22 35.7 +00.0	77 43.5 +02.1	S 21 00.9 -00.1	16						
17	128 21.7 +00.6	S 23 16.9 +00.2	104 22.7 +01.9	S 22 35.7 -00.1	92 45.6 +02.2	S 21 00.8 +00.0	17						
18	143 22.3 +00.6	S 23 17.1 +00.1	119 24.6 +01.9	S 22 35.6 +00.0	107 47.8 +02.2	S 21 00.8 -00.1	18						
19	158 22.9 +00.6	S 23 17.2 +00.1	134 26.5 +01.9	S 22 35.6 -00.1	122 50.0 +02.1	S 21 00.7 +00.0	19						
20	173 23.5 +00.6	S 23 17.3 +00.1	149 28.4 +01.9	S 22 35.5 +00.0	137 52.1 +02.2	S 21 00.7 -00.1	20						
21	188 24.1 +00.6	S 23 17.4 +00.2	164 30.3 +01.8	S 22 35.5 -00.1	152 54.3 +02.1	S 21 00.6 +00.0	21						
22	203 24.7 +00.6	S 23 17.6 +00.1	179 32.1 +01.9	S 22 35.4 +00.0	167 56.4 +02.2	S 21 00.6 -00.1	22						
23	218 25.3 +00.6	S 23 17.7 +00.1	194 34.0 +01.9	S 22 35.4 -00.1	182 58.6 +02.2	S 21 00.5 +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 099° 098° 098° 098° 098° 098°		SHA 074° 074° 074° 074° 074° 074°		SHA 063° 063° 062° 062° 062° 062°								
	Greenwich Culmination Time: 08:26		Greenwich Culmination Time: 10:03		Greenwich Culmination Time: 10:49								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 30.1 +00.0	S	15 50.7 -00.7	137 20.8 -00.2	S	01 24.3 -01.3	42 34.8 -34.4	N	22 56.7 +02.3	00			
01	191 30.1 +00.0	S	15 50.0 -00.8	152 20.6 -00.1	S	01 23.0 -01.3	57 00.4 -34.5	N	22 59.0 +02.1	01			
02	206 30.1 -00.1	S	15 49.2 -00.7	167 20.5 -00.2	S	01 21.7 -01.3	71 25.9 -34.5	N	23 01.1 +02.0	02			
03	221 30.0 +00.0	S	15 48.5 -00.8	182 20.3 -00.2	S	01 20.4 -01.3	85 51.4 -34.6	N	23 03.1 +01.9	03			
04	236 30.0 -00.1	S	15 47.7 -00.8	197 20.1 -00.2	S	01 19.1 -01.3	100 16.8 -34.7	N	23 05.0 +01.7	04			
05	251 29.9 +00.0	S	15 46.9 -00.7	212 19.9 -00.2	S	01 17.8 -01.3	114 42.1 -34.7	N	23 06.7 +01.6	05			
06	266 29.9 -00.1	S	15 46.2 -00.8	227 19.7 -00.2	S	01 16.5 -01.3	129 07.4 -34.8	N	23 08.3 +01.4	06			
07	281 29.8 +00.0	S	15 45.4 -00.8	242 19.5 -00.1	S	01 15.2 -01.3	143 32.6 -34.8	N	23 09.7 +01.3	07			
08	296 29.8 -00.1	S	15 44.6 -00.7	257 19.4 -00.2	S	01 13.9 -01.3	157 57.8 -35.0	N	23 11.0 +01.1	08			
09	311 29.7 +00.0	S	15 43.9 -00.8	272 19.2 -00.2	S	01 12.6 -01.3	172 22.8 -35.0	N	23 12.1 +01.0	09			
10	326 29.7 -00.1	S	15 43.1 -00.8	287 19.0 -00.2	S	01 11.3 -01.3	186 47.8 -35.0	N	23 13.1 +00.9	10			
11	341 29.6 +00.0	S	15 42.3 -00.7	302 18.8 -00.2	S	01 10.0 -01.4	201 12.8 -35.1	N	23 14.0 +00.7	11			
12	356 29.6 +00.0	S	15 41.6 -00.8	317 18.6 -00.1	S	01 08.6 -01.3	215 37.7 -35.2	N	23 14.7 +00.5	12			
13	11 29.6 -00.1	S	15 40.8 -00.8	332 18.5 -00.2	S	01 07.3 -01.3	230 02.5 -35.2	N	23 15.2 +00.4	13			
14	26 29.5 +00.0	S	15 40.0 -00.7	347 18.3 -00.2	S	01 06.0 -01.3	244 27.3 -35.3	N	23 15.6 +00.3	14			
15	41 29.5 -00.1	S	15 39.3 -00.8	2 18.1 -00.2	S	01 04.7 -01.3	258 52.0 -35.3	N	23 15.9 +00.1	15			
16	56 29.4 +00.0	S	15 38.5 -00.8	17 17.9 -00.2	S	01 03.4 -01.3	273 16.7 -35.4	N	23 16.0 -00.1	16			
17	71 29.4 -00.1	S	15 37.7 -00.7	32 17.7 -00.1	S	01 02.1 -01.3	287 41.3 -35.4	N	23 15.9 -00.2	17			
18	86 29.3 +00.0	S	15 37.0 -00.8	47 17.6 -00.2	S	01 00.8 -01.3	302 05.9 -35.5	N	23 15.7 -00.4	18			
19	101 29.3 +00.0	S	15 36.2 -00.8	62 17.4 -00.2	S	00 59.5 -01.3	316 30.4 -35.5	N	23 15.3 -00.5	19			
20	116 29.3 -00.1	S	15 35.4 -00.8	77 17.2 -00.2	S	00 58.2 -01.3	330 54.9 -35.5	N	23 14.8 -00.6	20			
21	131 29.2 +00.0	S	15 34.6 -00.7	92 17.0 -00.1	S	00 56.9 -01.3	345 19.4 -35.7	N	23 14.2 -00.8	21			
22	146 29.2 -00.1	S	15 33.9 -00.8	107 16.9 -00.2	S	00 55.6 -01.4	359 43.7 -35.6	N	23 13.4 -01.0	22			
23	161 29.1 +00.0	S	15 33.1 -00.8	122 16.7 -00.2	S	00 54.2 -01.3	14 08.1 -35.7	N	23 12.4 -01.1	23			
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22				
	SD 16'2 16'2 16'2 16'2 16'2 16'2		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		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 58'0 58'2 58'4 58'5 58'7 58'8		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 041° 041° 040° 040° 040° 040°		SHA 002° 001° 001° 001° 001° 001°		SHA 266° 263° 261° 258° 256° 253°		SHA 002° 001° 001° 001° 001° 001°		SHA 062° 062° 062° 062° 062° 062°				
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 14:50		Greenwich Culmination Time: 22:01		Greenwich Culmination Time: 10:46						

Table for Sun, Venus, and Moon observations. Includes columns for UT, GHA, ddGHA, Dec, dDec, and a summary row for UT 02, 06, 10, 14, 18, 22. Includes Greenwich Culmination Time: 12:14 for Sun, 14:51 for Venus, and 23:01 for Moon.

Table for Mars, Jupiter, and Saturn observations. Includes columns for UT, GHA, ddGHA, Dec, dDec, and a summary row for UT 02, 06, 10, 14, 18, 22. Includes Greenwich Culmination Time: 08:24 for Mars, 09:57 for Jupiter, and 10:42 for Saturn.

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 28.3 -00.1	S	15 13.6 -00.7	137 12.3 -00.1	S	00 21.5 -01.3	14 08.4 -36.2	N	21 57.2 -05.1	00			
01	191 28.2 +00.0	S	15 12.9 -00.8	152 12.2 -00.2	S	00 20.2 -01.3	28 32.2 -36.1	N	21 52.1 -05.2	01			
02	206 28.2 +00.0	S	15 12.1 -00.8	167 12.0 -00.2	S	00 18.9 -01.3	42 56.1 -36.1	N	21 46.9 -05.4	02			
03	221 28.2 -00.1	S	15 11.3 -00.8	182 11.8 -00.1	S	00 17.6 -01.3	57 20.0 -36.1	N	21 41.5 -05.5	03			
04	236 28.1 +00.0	S	15 10.5 -00.8	197 11.7 -00.2	S	00 16.3 -01.4	71 43.9 -36.1	N	21 36.0 -05.7	04			
05	251 28.1 +00.0	S	15 09.7 -00.8	212 11.5 -00.2	S	00 14.9 -01.3	86 07.8 -36.0	N	21 30.3 -05.8	05			
06	266 28.1 -00.1	S	15 08.9 -00.8	227 11.3 -00.1	S	00 13.6 -01.3	100 31.8 -36.1	N	21 24.5 -06.0	06			
07	281 28.0 +00.0	S	15 08.1 -00.7	242 11.2 -00.2	S	00 12.3 -01.3	114 55.7 -36.1	N	21 18.5 -06.1	07			
08	296 28.0 +00.0	S	15 07.4 -00.8	257 11.0 -00.2	S	00 11.0 -01.3	129 19.6 -36.0	N	21 12.4 -06.3	08			
09	311 28.0 +00.0	S	15 06.6 -00.8	272 10.8 -00.1	S	00 09.7 -01.3	143 43.6 -36.0	N	21 06.1 -06.4	09			
10	326 28.0 -00.1	S	15 05.8 -00.8	287 10.7 -00.2	S	00 08.4 -01.3	158 07.6 -36.0	N	20 59.7 -06.6	10			
11	341 27.9 +00.0	S	15 05.0 -00.8	302 10.5 -00.2	S	00 07.1 -01.3	172 31.6 -36.0	N	20 53.1 -06.7	11			
12	356 27.9 +00.0	S	15 04.2 -00.8	317 10.3 -00.1	S	00 05.8 -01.3	186 55.6 -35.9	N	20 46.4 -06.9	12			
13	11 27.9 +00.0	S	15 03.4 -00.8	332 10.2 -00.2	S	00 04.5 -01.3	201 19.7 -35.9	N	20 39.5 -07.0	13			
14	26 27.9 -00.1	S	15 02.6 -00.8	347 10.0 -00.2	S	00 03.2 -01.4	215 43.8 -35.9	N	20 32.5 -07.2	14			
15	41 27.8 +00.0	S	15 01.8 -00.8	2 09.8 -00.1	S	00 01.8 -01.3	230 07.9 -35.9	N	20 25.3 -07.3	15			
16	56 27.8 +00.0	S	15 01.0 -00.7	17 09.7 -00.2	S	00 00.5 -01.3	244 32.0 -35.8	N	20 18.0 -07.5	16			
17	71 27.8 -00.1	S	15 00.3 -00.8	32 09.5 -00.2	N	00 00.8 +01.3	258 56.2 -35.9	N	20 10.5 -07.6	17			
18	86 27.7 +00.0	S	14 59.5 -00.8	47 09.3 -00.1	N	00 02.1 +01.3	273 20.3 -35.7	N	20 02.9 -07.8	18			
19	101 27.7 +00.0	S	14 58.7 -00.8	62 09.2 -00.2	N	00 03.4 +01.3	287 44.6 -35.8	N	19 55.1 -07.9	19			
20	116 27.7 +00.0	S	14 57.9 -00.8	77 09.0 -00.2	N	00 04.7 +01.3	302 08.8 -35.7	N	19 47.2 -08.0	20			
21	131 27.7 +00.0	S	14 57.1 -00.8	92 08.8 -00.1	N	00 06.0 +01.3	316 33.1 -35.7	N	19 39.2 -08.2	21			
22	146 27.7 -00.1	S	14 56.3 -00.8	107 08.7 -00.2	N	00 07.3 +01.3	330 57.4 -35.6	N	19 31.0 -08.3	22			
23	161 27.6 +00.0	S	14 55.5 -00.8	122 08.5 -00.2	N	00 08.6 +01.3	345 21.8 -35.6	N	19 22.7 -08.5	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'3 16'3 16'3 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 59'7 59'9 60'0 60'1 60'2 60'3						
	SHA 039° 039° 038° 038° 038° 038°			SHA 360° 359° 359° 359° 359° 359°			SHA 235° 233° 230° 228° 225° 222°						
	Greenwich Culmination Time: 12:14			Greenwich Culmination Time: 14:51			Greenwich Culmination Time: -1:00						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	233 54.9 +00.6	S	23 23.5 +00.1	211 06.8 +01.9	S	22 32.7 -00.1	199 44.8 +02.1	S	20 58.1 +00.0	00			
01	248 55.5 +00.6	S	23 23.6 +00.1	226 08.7 +01.9	S	22 32.6 -00.1	214 46.9 +02.2	S	20 58.1 -00.1	01			
02	263 56.1 +00.6	S	23 23.7 +00.1	241 10.6 +01.9	S	22 32.5 +00.0	229 49.1 +02.2	S	20 58.0 +00.0	02			
03	278 56.7 +00.6	S	23 23.8 +00.1	256 12.5 +01.9	S	22 32.5 -00.1	244 51.3 +02.1	S	20 58.0 -00.1	03			
04	293 57.3 +00.6	S	23 23.9 +00.1	271 14.4 +01.8	S	22 32.4 +00.0	259 53.4 +02.2	S	20 57.9 +00.0	04			
05	308 57.9 +00.6	S	23 24.0 +00.1	286 16.2 +01.9	S	22 32.4 -00.1	274 55.6 +02.2	S	20 57.9 -00.1	05			
06	323 58.5 +00.6	S	23 24.1 +00.1	301 18.1 +01.9	S	22 32.3 +00.0	289 57.8 +02.1	S	20 57.8 +00.0	06			
07	338 59.1 +00.6	S	23 24.2 +00.1	316 20.0 +01.9	S	22 32.3 -00.1	304 59.9 +02.2	S	20 57.8 -00.1	07			
08	353 59.7 +00.6	S	23 24.3 +00.1	331 21.9 +01.9	S	22 32.2 +00.0	320 02.1 +02.2	S	20 57.7 +00.0	08			
09	9 00.3 +00.6	S	23 24.4 +00.1	346 23.8 +01.9	S	22 32.2 -00.1	335 04.3 +02.2	S	20 57.7 -00.1	09			
10	24 00.9 +00.6	S	23 24.5 +00.2	1 25.7 +01.9	S	22 32.1 -00.1	350 06.5 +02.1	S	20 57.6 +00.0	10			
11	39 01.5 +00.6	S	23 24.7 +00.1	16 27.6 +01.9	S	22 32.0 +00.0	5 08.6 +02.2	S	20 57.6 -00.1	11			
12	54 02.1 +00.6	S	23 24.8 +00.1	31 29.5 +01.9	S	22 32.0 -00.1	20 10.8 +02.2	S	20 57.5 +00.0	12			
13	69 02.7 +00.6	S	23 24.9 +00.1	46 31.4 +01.9	S	22 31.9 +00.0	35 13.0 +02.1	S	20 57.5 -00.1	13			
14	84 03.3 +00.6	S	23 25.0 +00.1	61 33.3 +01.9	S	22 31.9 -00.1	50 15.1 +02.2	S	20 57.4 +00.0	14			
15	99 03.9 +00.6	S	23 25.1 +00.1	76 35.2 +01.9	S	22 31.8 +00.0	65 17.3 +02.2	S	20 57.4 -00.1	15			
16	114 04.5 +00.6	S	23 25.2 +00.1	91 37.1 +01.9	S	22 31.8 -00.1	80 19.5 +02.1	S	20 57.3 +00.0	16			
17	129 05.1 +00.6	S	23 25.3 +00.1	106 39.0 +01.9	S	22 31.7 +00.0	95 21.6 +02.2	S	20 57.3 -00.1	17			
18	144 05.7 +00.6	S	23 25.4 +00.1	121 40.9 +01.9	S	22 31.7 -00.1	110 23.8 +02.2	S	20 57.2 +00.0	18			
19	159 06.3 +00.7	S	23 25.5 +00.1	136 42.8 +01.9	S	22 31.6 -00.1	125 26.0 +02.1	S	20 57.2 -00.1	19			
20	174 07.0 +00.6	S	23 25.6 +00.1	151 44.7 +01.9	S	22 31.5 +00.0	140 28.1 +02.2	S	20 57.1 +00.0	20			
21	189 07.6 +00.6	S	23 25.7 +00.1	166 46.6 +01.9	S	22 31.5 -00.1	155 30.3 +02.2	S	20 57.1 -00.1	21			
22	204 08.2 +00.6	S	23 25.8 +00.1	181 48.5 +01.9	S	22 31.4 +00.0	170 32.5 +02.1	S	20 57.0 +00.0	22			
23	219 08.8 +00.6	S	23 25.9 +00.1	196 50.4 +01.9	S	22 31.4 -00.1	185 34.6 +02.2	S	20 57.0 -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 096° 096° 096° 096° 096° 096°			SHA 074° 073° 073° 073° 073° 073°			SHA 062° 062° 062° 062° 062° 062°						
	Greenwich Culmination Time: 08:24			Greenwich Culmination Time: 09:54			Greenwich Culmination Time: 10:39						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 27.2 -00.1	S 14 35.5 -00.8	137 04.5 -00.2	N 00 41.4 +01.3	345 45.3 -34.4	N 15 12.8 -11.5	00						00
01	191 27.1 +00.0	S 14 34.7 -00.8	152 04.3 -00.2	N 00 42.7 +01.3	0 10.9 -34.4	N 15 01.3 -11.6	01						01
02	206 27.1 +00.0	S 14 33.9 -00.8	167 04.1 -00.1	N 00 44.0 +01.3	14 36.5 -34.2	N 14 49.7 -11.7	02						02
03	221 27.1 +00.0	S 14 33.1 -00.8	182 04.0 -00.2	N 00 45.3 +01.3	29 02.3 -34.3	N 14 38.0 -11.8	03						03
04	236 27.1 +00.0	S 14 32.3 -00.8	197 03.8 -00.1	N 00 46.6 +01.3	43 28.0 -34.1	N 14 26.2 -11.9	04						04
05	251 27.1 +00.0	S 14 31.5 -00.8	212 03.7 -00.2	N 00 47.9 +01.3	57 53.9 -34.2	N 14 14.3 -12.0	05						05
06	266 27.1 +00.0	S 14 30.7 -00.8	227 03.5 -00.1	N 00 49.2 +01.4	72 19.7 -34.0	N 14 02.3 -12.1	06						06
07	281 27.1 +00.0	S 14 29.9 -00.8	242 03.4 -00.2	N 00 50.6 +01.3	86 45.7 -34.0	N 13 50.2 -12.2	07						07
08	296 27.1 -00.1	S 14 29.1 -00.8	257 03.2 -00.2	N 00 51.9 +01.3	101 11.7 -34.0	N 13 38.0 -12.3	08						08
09	311 27.0 +00.0	S 14 28.3 -00.9	272 03.0 -00.1	N 00 53.2 +01.3	115 37.7 -33.8	N 13 25.7 -12.3	09						09
10	326 27.0 +00.0	S 14 27.4 -00.8	287 02.9 -00.2	N 00 54.5 +01.3	130 03.9 -33.9	N 13 13.4 -12.5	10						10
11	341 27.0 +00.0	S 14 26.6 -00.8	302 02.7 -00.1	N 00 55.8 +01.3	144 30.0 -33.7	N 13 00.9 -12.5	11						11
12	356 27.0 +00.0	S 14 25.8 -00.8	317 02.6 -00.2	N 00 57.1 +01.3	158 56.3 -33.8	N 12 48.4 -12.6	12						12
13	11 27.0 +00.0	S 14 25.0 -00.8	332 02.4 -00.1	N 00 58.4 +01.3	173 22.5 -33.6	N 12 35.8 -12.8	13						13
14	26 27.0 +00.0	S 14 24.2 -00.8	347 02.3 -00.2	N 00 59.7 +01.3	187 48.9 -33.6	N 12 23.0 -12.7	14						14
15	41 27.0 +00.0	S 14 23.4 -00.8	2 02.1 -00.1	N 01 01.0 +01.3	202 15.3 -33.6	N 12 10.3 -12.9	15						15
16	56 27.0 +00.0	S 14 22.6 -00.8	17 02.0 -00.2	N 01 02.3 +01.3	216 41.7 -33.4	N 11 57.4 -12.9	16						16
17	71 27.0 -00.1	S 14 21.8 -00.8	32 01.8 -00.2	N 01 03.6 +01.4	231 08.3 -33.5	N 11 44.5 -13.1	17						17
18	86 26.9 +00.0	S 14 21.0 -00.9	47 01.6 -00.1	N 01 05.0 +01.3	245 34.8 -33.4	N 11 31.4 -13.1	18						18
19	101 26.9 +00.0	S 14 20.1 -00.8	62 01.5 -00.2	N 01 06.3 +01.3	260 01.4 -33.3	N 11 18.3 -13.1	19						19
20	116 26.9 +00.0	S 14 19.3 -00.8	77 01.3 -00.1	N 01 07.6 +01.3	274 28.1 -33.2	N 11 05.2 -13.2	20						20
21	131 26.9 +00.0	S 14 18.5 -00.8	92 01.2 -00.2	N 01 08.9 +01.3	288 54.9 -33.3	N 10 52.0 -13.4	21						21
22	146 26.9 +00.0	S 14 17.7 -00.8	107 01.0 -00.1	N 01 10.2 +01.3	303 21.6 -33.1	N 10 38.6 -13.3	22						22
23	161 26.9 +00.0	S 14 16.9 -00.8	122 00.9 -00.2	N 01 11.5 +01.3	317 48.5 -33.1	N 10 25.3 -13.5	23						23
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'5 16'6 16'6 16'6 16'6 16'6				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		HP 60'7 60'7 60'8 60'8 60'8 60'8				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 037° 037° 036° 036° 036° 036°		SHA 357° 357° 357° 357° 357° 357°		SHA 205° 203° 200° 198° 195° 193°				SHA 095° 095° 095° 094° 094° 094°				
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 14:51		Greenwich Culmination Time: 00:59				Greenwich Culmination Time: 08:22				

UT	Sun				Venus				Moon				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	176 26.9 +00.0	S 14 16.1 -00.8	137 00.7 -00.1	N 01 12.8 +01.3	332 15.4 -33.1	N 10 11.8 -13.4	00								
01	191 26.9 +00.0	S 14 15.3 -00.9	152 00.6 -00.2	N 01 14.1 +01.3	346 42.3 -33.0	N 09 58.4 -13.6	01								
02	206 26.9 +00.0	S 14 14.4 -00.8	167 00.4 -00.1	N 01 15.4 +01.3	1 09.3 -32.9	N 09 44.8 -13.6	02								
03	221 26.9 +00.0	S 14 13.6 -00.8	182 00.3 -00.2	N 01 16.7 +01.3	15 36.4 -32.9	N 09 31.2 -13.7	03								
04	236 26.9 +00.0	S 14 12.8 -00.8	197 00.1 -00.1	N 01 18.0 +01.4	30 03.5 -32.8	N 09 17.5 -13.7	04								
05	251 26.9 +00.0	S 14 12.0 -00.8	211 60.0 -00.2	N 01 19.4 +01.3	44 30.7 -32.8	N 09 03.8 -13.8	05								
06	266 26.9 +00.0	S 14 11.2 -00.8	226 59.8 -00.1	N 01 20.7 +01.3	58 57.9 -32.7	N 08 50.0 -13.8	06								
07	281 26.9 +00.0	S 14 10.4 -00.9	241 59.7 -00.2	N 01 22.0 +01.3	73 25.2 -32.7	N 08 36.2 -13.9	07								
08	296 26.9 +00.0	S 14 09.5 -00.8	256 59.5 -00.1	N 01 23.3 +01.3	87 52.5 -32.6	N 08 22.3 -14.0	08								
09	311 26.9 +00.0	S 14 08.7 -00.8	271 59.4 -00.2	N 01 24.6 +01.3	102 19.9 -32.6	N 08 08.3 -13.9	09								
10	326 26.9 +00.0	S 14 07.9 -00.8	286 59.2 -00.2	N 01 25.9 +01.3	116 47.3 -32.5	N 07 54.4 -14.1	10								
11	341 26.9 -00.1	S 14 07.1 -00.8	301 59.0 -00.1	N 01 27.2 +01.3	131 14.8 -32.5	N 07 40.3 -14.0	11								
12	356 26.8 +00.0	S 14 06.3 -00.8	316 58.9 -00.2	N 01 28.5 +01.3	145 42.3 -32.5	N 07 26.3 -14.1	12								
13	11 26.8 +00.0	S 14 05.5 -00.9	331 58.7 -00.1	N 01 29.8 +01.3	160 09.8 -32.3	N 07 12.2 -14.2	13								
14	26 26.8 +00.0	S 14 04.6 -00.8	346 58.6 -00.2	N 01 31.1 +01.3	174 37.5 -32.4	N 06 58.0 -14.2	14								
15	41 26.8 +00.0	S 14 03.8 -00.8	1 58.4 -00.1	N 01 32.4 +01.3	189 05.1 -32.3	N 06 43.8 -14.2	15								
16	56 26.8 +00.0	S 14 03.0 -00.8	16 58.3 -00.2	N 01 33.7 +01.3	203 32.8 -32.2	N 06 29.6 -14.3	16								
17	71 26.8 +00.0	S 14 02.2 -00.9	31 58.1 -00.1	N 01 35.0 +01.4	218 00.6 -32.2	N 06 15.3 -14.2	17								
18	86 26.8 +00.0	S 14 01.3 -00.8	46 58.0 -00.2	N 01 36.4 +01.3	232 28.4 -32.2	N 06 01.1 -14.4	18								
19	101 26.8 +00.0	S 14 00.5 -00.8	61 57.8 -00.1	N 01 37.7 +01.3	246 56.2 -32.1	N 05 46.7 -14.3	19								
20	116 26.8 +00.0	S 13 59.7 -00.8	76 57.7 -00.1	N 01 39.0 +01.3	261 24.1 -32.1	N 05 32.4 -14.4	20								
21	131 26.8 +00.0	S 13 58.9 -00.8	91 57.6 -00.2	N 01 40.3 +01.3	275 52.0 -32.0	N 05 18.0 -14.4	21								
22	146 26.8 +00.0	S 13 58.1 -00.9	106 57.4 -00.1	N 01 41.6 +01.3	290 20.0 -32.0	N 05 03.6 -14.4	22								
23	161 26.8 +00.0	S 13 57.2 -00.8	121 57.3 -00.2	N 01 42.9 +01.3	304 48.0 -31.9	N 04 49.2 -14.5	23								
	UT 02 06 10 14 18 22	SD 16'2 16'2 16'2 16'2 16'2 16'2	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 036° 036° 036° 035° 035° 035°	Greenwich Culmination Time: 12:14	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 356° 356° 356° 356° 356° 356°	Greenwich Culmination Time: 14:52	UT 02 06 10 14 18 22	SD 16'6 16'6 16'6 16'5 16'5 16'5	HP 60'8 60'8 60'8 60'7 60'7 60'6	SHA 191° 188° 186° 184° 181° 179°	Greenwich Culmination Time: 01:55
UT	Mars				Jupiter				Saturn				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	234 38.1 +00.6	S 23 30.4 +00.1	213 23.5 +01.9	S 22 28.6 -00.1	202 21.0 +02.2	S 20 54.6 -00.1	00								
01	249 38.7 +00.6	S 23 30.5 +00.1	228 25.4 +01.9	S 22 28.5 +00.0	217 23.2 +02.2	S 20 54.5 +00.0	01								
02	264 39.3 +00.6	S 23 30.6 +00.1	243 27.3 +02.0	S 22 28.5 -00.1	232 25.4 +02.1	S 20 54.5 -00.1	02								
03	279 39.9 +00.6	S 23 30.7 +00.1	258 29.3 +01.9	S 22 28.4 +00.0	247 27.5 +02.2	S 20 54.4 +00.0	03								
04	294 40.5 +00.5	S 23 30.8 +00.0	273 31.2 +01.9	S 22 28.4 -00.1	262 29.7 +02.2	S 20 54.4 -00.1	04								
05	309 41.0 +00.6	S 23 30.8 +00.1	288 33.1 +01.9	S 22 28.3 +00.0	277 31.9 +02.1	S 20 54.3 +00.0	05								
06	324 41.6 +00.6	S 23 30.9 +00.1	303 35.0 +01.9	S 22 28.3 -00.1	292 34.0 +02.2	S 20 54.3 -00.1	06								
07	339 42.2 +00.6	S 23 31.0 +00.1	318 36.9 +01.9	S 22 28.2 -00.1	307 36.2 +02.2	S 20 54.2 +00.0	07								
08	354 42.8 +00.6	S 23 31.1 +00.1	333 38.8 +01.9	S 22 28.1 +00.0	322 38.4 +02.2	S 20 54.2 -00.1	08								
09	9 43.4 +00.6	S 23 31.2 +00.0	348 40.7 +01.9	S 22 28.1 -00.1	337 40.6 +02.1	S 20 54.1 +00.0	09								
10	24 44.0 +00.6	S 23 31.2 +00.1	3 42.6 +01.9	S 22 28.0 +00.0	352 42.7 +02.2	S 20 54.1 +00.0	10								
11	39 44.6 +00.6	S 23 31.3 +00.1	18 44.5 +01.9	S 22 28.0 -00.1	7 44.9 +02.2	S 20 54.1 -00.1	11								
12	54 45.2 +00.6	S 23 31.4 +00.1	33 46.4 +01.9	S 22 27.9 +00.0	22 47.1 +02.2	S 20 54.0 +00.0	12								
13	69 45.8 +00.6	S 23 31.5 +00.1	48 48.3 +01.9	S 22 27.9 -00.1	37 49.3 +02.1	S 20 54.0 -00.1	13								
14	84 46.4 +00.6	S 23 31.6 +00.0	63 50.2 +01.9	S 22 27.8 -00.1	52 51.4 +02.2	S 20 53.9 +00.0	14								
15	99 47.0 +00.6	S 23 31.6 +00.1	78 52.1 +01.9	S 22 27.7 +00.0	67 53.6 +02.2	S 20 53.9 -00.1	15								
16	114 47.6 +00.6	S 23 31.7 +00.1	93 54.0 +01.9	S 22 27.7 -00.1	82 55.8 +02.1	S 20 53.8 +00.0	16								
17	129 48.2 +00.6	S 23 31.8 +00.1	108 55.9 +01.9	S 22 27.6 +00.0	97 57.9 +02.2	S 20 53.8 -00.1	17								
18	144 48.8 +00.6	S 23 31.9 +00.1	123 57.8 +01.9	S 22 27.6 -00.1	113 00.1 +02.2	S 20 53.7 +00.0	18								
19	159 49.4 +00.6	S 23 32.0 +00.0	138 59.7 +01.9	S 22 27.5 +00.0	128 02.3 +02.2	S 20 53.7 -00.1	19								
20	174 50.0 +00.6	S 23 32.0 +00.1	154 01.6 +01.9	S 22 27.5 -00.1	143 04.5 +02.1	S 20 53.6 +00.0	20								
21	189 50.6 +00.6	S 23 32.1 +00.1	169 03.5 +02.0	S 22 27.4 -00.1	158 06.6 +02.2	S 20 53.6 -00.1	21								
22	204 51.2 +00.6	S 23 32.2 +00.1	184 05.5 +01.9	S 22 27.3 +00.0	173 08.8 +02.2	S 20 53.5 +00.0	22								
23	219 51.8 +00.6	S 23 32.3 +00.0	199 07.4 +01.9	S 22 27.3 -00.1	188 11.0 +02.2	S 20 53.5 -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 094° 094° 094° 094° 094° 093°	Greenwich Culmination Time: 08:21	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 073° 073° 073° 073° 073° 073°	Greenwich Culmination Time: 09:45	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 062° 062° 062° 062° 062° 062°	Greenwich Culmination Time: 10:29

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 26.8 +00.0	S 13 56.4 -00.8	136 57.1 -00.1	N 01 44.2 +01.3	319 16.1 -31.9	N 04 34.7 -14.4	00						
01	191 26.8 +00.0	S 13 55.6 -00.8	151 57.0 -00.2	N 01 45.5 +01.3	333 44.2 -31.9	N 04 20.3 -14.5	01						
02	206 26.8 +00.0	S 13 54.8 -00.9	166 56.8 -00.1	N 01 46.8 +01.3	348 12.3 -31.8	N 04 05.8 -14.5	02						
03	221 26.8 +00.0	S 13 53.9 -00.8	181 56.7 -00.2	N 01 48.1 +01.3	2 40.5 -31.8	N 03 51.3 -14.6	03						
04	236 26.8 +00.0	S 13 53.1 -00.8	196 56.5 -00.1	N 01 49.4 +01.3	17 08.7 -31.8	N 03 36.7 -14.5	04						
05	251 26.8 +00.1	S 13 52.3 -00.8	211 56.4 -00.2	N 01 50.7 +01.3	31 36.9 -31.7	N 03 22.2 -14.5	05						
06	266 26.9 +00.0	S 13 51.5 -00.9	226 56.2 -00.1	N 01 52.0 +01.4	46 05.2 -31.7	N 03 07.7 -14.6	06						
07	281 26.9 +00.0	S 13 50.6 -00.8	241 56.1 -00.2	N 01 53.4 +01.3	60 33.5 -31.6	N 02 53.1 -14.6	07						
08	296 26.9 +00.0	S 13 49.8 -00.8	256 55.9 -00.1	N 01 54.7 +01.3	75 01.9 -31.6	N 02 38.5 -14.5	08						
09	311 26.9 +00.0	S 13 49.0 -00.9	271 55.8 -00.2	N 01 56.0 +01.3	89 30.3 -31.6	N 02 24.0 -14.6	09						
10	326 26.9 +00.0	S 13 48.1 -00.8	286 55.6 -00.1	N 01 57.3 +01.3	103 58.7 -31.5	N 02 09.4 -14.6	10						
11	341 26.9 +00.0	S 13 47.3 -00.8	301 55.5 -00.2	N 01 58.6 +01.3	118 27.2 -31.6	N 01 54.8 -14.6	11						
12	356 26.9 +00.0	S 13 46.5 -00.8	316 55.3 -00.1	N 01 59.9 +01.3	132 55.6 -31.4	N 01 40.2 -14.6	12						
13	11 26.9 +00.0	S 13 45.7 -00.9	331 55.2 -00.1	N 02 01.2 +01.3	147 24.2 -31.5	N 01 25.6 -14.6	13						
14	26 26.9 +00.0	S 13 44.8 -00.8	346 55.1 -00.2	N 02 02.5 +01.3	161 52.7 -31.4	N 01 11.0 -14.5	14						
15	41 26.9 +00.0	S 13 44.0 -00.8	1 54.9 -00.1	N 02 03.8 +01.3	176 21.3 -31.4	N 00 56.5 -14.6	15						
16	56 26.9 +00.0	S 13 43.2 -00.9	16 54.8 -00.2	N 02 05.1 +01.3	190 49.9 -31.4	N 00 41.9 -14.6	16						
17	71 26.9 +00.0	S 13 42.3 -00.8	31 54.6 -00.1	N 02 06.4 +01.3	205 18.5 -31.3	N 00 27.3 -14.6	17						
18	86 26.9 +00.0	S 13 41.5 -00.8	46 54.5 -00.2	N 02 07.7 +01.3	219 47.2 -31.4	N 00 12.7 -14.5	18						
19	101 26.9 +00.0	S 13 40.7 -00.9	61 54.3 -00.1	N 02 09.0 +01.3	234 15.8 -31.3	S 00 01.8 +14.6	19						
20	116 26.9 +00.0	S 13 39.8 -00.8	76 54.2 -00.2	N 02 10.3 +01.3	248 44.5 -31.2	S 00 16.4 +14.5	20						
21	131 26.9 +00.0	S 13 39.0 -00.8	91 54.0 -00.1	N 02 11.6 +01.4	263 13.3 -31.3	S 00 30.9 +14.5	21						
22	146 26.9 +00.1	S 13 38.2 -00.9	106 53.9 -00.1	N 02 13.0 +01.3	277 42.0 -31.2	S 00 45.4 +14.5	22						
23	161 27.0 +00.0	S 13 37.3 -00.8	121 53.8 -00.2	N 02 14.3 +01.3	292 10.8 -31.2	S 00 59.9 +14.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'5 16'5 16'5 16'5 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 60'6 60'5 60'5 60'4 60'3 60'3								
	SHA 035° 035° 035° 034° 034° 034°		SHA 355° 355° 355° 355° 355° 354°		SHA 177° 174° 172° 170° 168° 165°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 14:52		Greenwich Culmination Time: 02:48								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	234 52.4 +00.6	S 23 32.3 +00.1	214 09.3 +01.9	S 22 27.2 +00.0	203 13.2 +02.1	S 20 53.4 +00.0	00						
01	249 53.0 +00.5	S 23 32.4 +00.1	229 11.2 +01.9	S 22 27.2 -00.1	218 15.3 +02.2	S 20 53.4 -00.1	01						
02	264 53.5 +00.6	S 23 32.5 +00.1	244 13.1 +01.9	S 22 27.1 +00.0	233 17.5 +02.2	S 20 53.3 +00.0	02						
03	279 54.1 +00.6	S 23 32.6 +00.0	259 15.0 +01.9	S 22 27.1 -00.1	248 19.7 +02.2	S 20 53.3 -00.1	03						
04	294 54.7 +00.6	S 23 32.6 +00.1	274 16.9 +01.9	S 22 27.0 -00.1	263 21.9 +02.1	S 20 53.2 +00.0	04						
05	309 55.3 +00.6	S 23 32.7 +00.1	289 18.8 +01.9	S 22 26.9 +00.0	278 24.0 +02.2	S 20 53.2 -00.1	05						
06	324 55.9 +00.6	S 23 32.8 +00.1	304 20.7 +01.9	S 22 26.9 -00.1	293 26.2 +02.2	S 20 53.1 +00.0	06						
07	339 56.5 +00.6	S 23 32.9 +00.0	319 22.6 +01.9	S 22 26.8 +00.0	308 28.4 +02.1	S 20 53.1 -00.1	07						
08	354 57.1 +00.6	S 23 32.9 +00.1	334 24.5 +01.9	S 22 26.8 -00.1	323 30.5 +02.2	S 20 53.0 +00.0	08						
09	9 57.7 +00.6	S 23 33.0 +00.1	349 26.4 +01.9	S 22 26.7 +00.0	338 32.7 +02.2	S 20 53.0 -00.1	09						
10	24 58.3 +00.6	S 23 33.1 +00.0	4 28.3 +01.9	S 22 26.7 -00.1	353 34.9 +02.2	S 20 52.9 +00.0	10						
11	39 58.9 +00.6	S 23 33.1 +00.1	19 30.2 +02.0	S 22 26.6 -00.1	8 37.1 +02.1	S 20 52.9 -00.1	11						
12	54 59.5 +00.6	S 23 33.2 +00.1	34 32.2 +01.9	S 22 26.5 +00.0	23 39.2 +02.2	S 20 52.8 +00.0	12						
13	70 00.1 +00.6	S 23 33.3 +00.1	49 34.1 +01.9	S 22 26.5 -00.1	38 41.4 +02.2	S 20 52.8 -00.1	13						
14	85 00.7 +00.6	S 23 33.4 +00.0	64 36.0 +01.9	S 22 26.4 +00.0	53 43.6 +02.2	S 20 52.7 +00.0	14						
15	100 01.3 +00.6	S 23 33.4 +00.1	79 37.9 +01.9	S 22 26.4 -00.1	68 45.8 +02.1	S 20 52.7 -00.1	15						
16	115 01.9 +00.6	S 23 33.5 +00.1	94 39.8 +01.9	S 22 26.3 -00.1	83 47.9 +02.2	S 20 52.6 +00.0	16						
17	130 02.5 +00.5	S 23 33.6 +00.0	109 41.7 +01.9	S 22 26.2 +00.0	98 50.1 +02.2	S 20 52.6 -00.1	17						
18	145 03.0 +00.6	S 23 33.6 +00.1	124 43.6 +01.9	S 22 26.2 -00.1	113 52.3 +02.2	S 20 52.5 +00.0	18						
19	160 03.6 +00.6	S 23 33.7 +00.1	139 45.5 +01.9	S 22 26.1 +00.0	128 54.5 +02.1	S 20 52.5 -00.1	19						
20	175 04.2 +00.6	S 23 33.8 +00.0	154 47.4 +01.9	S 22 26.1 -00.1	143 56.6 +02.2	S 20 52.4 +00.0	20						
21	190 04.8 +00.6	S 23 33.8 +00.1	169 49.3 +01.9	S 22 26.0 +00.0	158 58.8 +02.2	S 20 52.4 -00.1	21						
22	205 05.4 +00.6	S 23 33.9 +00.1	184 51.2 +02.0	S 22 26.0 -00.1	174 01.0 +02.2	S 20 52.3 +00.0	22						
23	220 06.0 +00.6	S 23 34.0 +00.0	199 53.2 +01.9	S 22 25.9 -00.1	189 03.2 +02.1	S 20 52.3 -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 093° 093° 093° 093° 093° 093°		SHA 073° 073° 073° 073° 072° 072°		SHA 062° 062° 062° 062° 062° 062°								
	Greenwich Culmination Time: 08:20		Greenwich Culmination Time: 09:42		Greenwich Culmination Time: 10:25								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 27.0 +00.0	S 13 36.5 -00.8	136 53.6 -00.1	N 02 15.6 +01.3	306 39.6 -31.2	S 01 14.4 +14.5	00						
01	191 27.0 +00.0	S 13 35.7 -00.9	151 53.5 -00.2	N 02 16.9 +01.3	321 08.4 -31.2	S 01 28.9 +14.4	01						
02	206 27.0 +00.0	S 13 34.8 -00.8	166 53.3 -00.1	N 02 18.2 +01.3	335 37.2 -31.1	S 01 43.3 +14.5	02						
03	221 27.0 +00.0	S 13 34.0 -00.8	181 53.2 -00.2	N 02 19.5 +01.3	350 06.1 -31.2	S 01 57.8 +14.4	03						
04	236 27.0 +00.0	S 13 33.2 -00.9	196 53.0 -00.1	N 02 20.8 +01.3	4 34.9 -31.1	S 02 12.2 +14.3	04						
05	251 27.0 +00.0	S 13 32.3 -00.8	211 52.9 -00.1	N 02 22.1 +01.3	19 03.8 -31.1	S 02 26.5 +14.4	05						
06	266 27.0 +00.0	S 13 31.5 -00.8	226 52.8 -00.2	N 02 23.4 +01.3	33 32.7 -31.0	S 02 40.9 +14.3	06						
07	281 27.0 +00.0	S 13 30.7 -00.9	241 52.6 -00.1	N 02 24.7 +01.3	48 01.7 -31.1	S 02 55.2 +14.3	07						
08	296 27.0 +00.1	S 13 29.8 -00.8	256 52.5 -00.2	N 02 26.0 +01.3	62 30.6 -31.1	S 03 09.5 +14.3	08						
09	311 27.1 +00.0	S 13 29.0 -00.9	271 52.3 -00.1	N 02 27.3 +01.3	76 59.5 -31.0	S 03 23.8 +14.2	09						
10	326 27.1 +00.0	S 13 28.1 -00.8	286 52.2 -00.2	N 02 28.6 +01.3	91 28.5 -31.0	S 03 38.0 +14.2	10						
11	341 27.1 +00.0	S 13 27.3 -00.8	301 52.0 -00.1	N 02 29.9 +01.3	105 57.5 -31.1	S 03 52.2 +14.2	11						
12	356 27.1 +00.0	S 13 26.5 -00.9	316 51.9 -00.1	N 02 31.2 +01.3	120 26.4 -31.0	S 04 06.4 +14.2	12						
13	11 27.1 +00.0	S 13 25.6 -00.8	331 51.8 -00.2	N 02 32.5 +01.3	134 55.4 -31.0	S 04 20.6 +14.1	13						
14	26 27.1 +00.0	S 13 24.8 -00.8	346 51.6 -00.1	N 02 33.8 +01.3	149 24.4 -31.0	S 04 34.7 +14.0	14						
15	41 27.1 +00.0	S 13 24.0 -00.9	1 51.5 -00.2	N 02 35.1 +01.3	163 53.4 -31.0	S 04 48.7 +14.0	15						
16	56 27.1 +00.1	S 13 23.1 -00.8	16 51.3 -00.1	N 02 36.4 +01.3	178 22.4 -30.9	S 05 02.7 +14.0	16						
17	71 27.2 +00.0	S 13 22.3 -00.9	31 51.2 -00.1	N 02 37.7 +01.4	192 51.5 -31.0	S 05 16.7 +14.0	17						
18	86 27.2 +00.0	S 13 21.4 -00.8	46 51.1 -00.2	N 02 39.1 +01.3	207 20.5 -31.0	S 05 30.7 +13.8	18						
19	101 27.2 +00.0	S 13 20.6 -00.8	61 50.9 -00.1	N 02 40.4 +01.3	221 49.5 -30.9	S 05 44.5 +13.9	19						
20	116 27.2 +00.0	S 13 19.8 -00.9	76 50.8 -00.2	N 02 41.7 +01.3	236 18.6 -31.0	S 05 58.4 +13.8	20						
21	131 27.2 +00.0	S 13 18.9 -00.8	91 50.6 -00.1	N 02 43.0 +01.3	250 47.6 -31.0	S 06 12.2 +13.8	21						
22	146 27.2 +00.1	S 13 18.1 -00.9	106 50.5 -00.1	N 02 44.3 +01.3	265 16.6 -30.9	S 06 26.0 +13.7	22						
23	161 27.3 +00.0	S 13 17.2 -00.8	121 50.4 -00.2	N 02 45.6 +01.3	279 45.7 -31.0	S 06 39.7 +13.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'4 16'4 16'3 16'3 16'3 16'3								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'2 60'1 60'0 59'9 59'8 59'7								
	SHA 034° 034° 034° 033° 033° 033°		SHA 354° 354° 354° 354° 354° 353°		SHA 163° 161° 159° 156° 154° 152°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 14:52		Greenwich Culmination Time: 03:41								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	235 06.6 +00.6	S 23 34.0 +00.1	214 55.1 +01.9	S 22 25.8 +00.0	204 05.3 +02.2	S 20 52.2 +00.0	00						
01	250 07.2 +00.6	S 23 34.1 +00.1	229 57.0 +01.9	S 22 25.8 -00.1	219 07.5 +02.2	S 20 52.2 -00.1	01						
02	265 07.8 +00.6	S 23 34.2 +00.0	244 58.9 +01.9	S 22 25.7 +00.0	234 09.7 +02.2	S 20 52.1 +00.0	02						
03	280 08.4 +00.6	S 23 34.2 +00.1	260 00.8 +01.9	S 22 25.7 -00.1	249 11.9 +02.1	S 20 52.1 -00.1	03						
04	295 09.0 +00.6	S 23 34.3 +00.1	275 02.7 +01.9	S 22 25.6 +00.0	264 14.0 +02.2	S 20 52.0 +00.0	04						
05	310 09.6 +00.6	S 23 34.4 +00.0	290 04.6 +01.9	S 22 25.6 -00.1	279 16.2 +02.2	S 20 52.0 -00.1	05						
06	325 10.2 +00.6	S 23 34.4 +00.1	305 06.5 +01.9	S 22 25.5 -00.1	294 18.4 +02.2	S 20 51.9 +00.0	06						
07	340 10.8 +00.5	S 23 34.5 +00.1	320 08.4 +01.9	S 22 25.4 +00.0	309 20.6 +02.1	S 20 51.9 -00.1	07						
08	355 11.3 +00.6	S 23 34.6 +00.0	335 10.3 +02.0	S 22 25.4 -00.1	324 22.7 +02.2	S 20 51.8 +00.0	08						
09	10 11.9 +00.6	S 23 34.6 +00.1	350 12.3 +01.9	S 22 25.3 +00.0	339 24.9 +02.2	S 20 51.8 -00.1	09						
10	25 12.5 +00.6	S 23 34.7 +00.0	5 14.2 +01.9	S 22 25.3 -00.1	354 27.1 +02.2	S 20 51.7 +00.0	10						
11	40 13.1 +00.6	S 23 34.7 +00.1	20 16.1 +01.9	S 22 25.2 -00.1	9 29.3 +02.1	S 20 51.7 +00.0	11						
12	55 13.7 +00.6	S 23 34.8 +00.1	35 18.0 +01.9	S 22 25.1 +00.0	24 31.4 +02.2	S 20 51.7 -00.1	12						
13	70 14.3 +00.6	S 23 34.9 +00.0	50 19.9 +01.9	S 22 25.1 -00.1	39 33.6 +02.2	S 20 51.6 +00.0	13						
14	85 14.9 +00.6	S 23 34.9 +00.1	65 21.8 +01.9	S 22 25.0 +00.0	54 35.8 +02.2	S 20 51.6 -00.1	14						
15	100 15.5 +00.6	S 23 35.0 +00.1	80 23.7 +01.9	S 22 25.0 -00.1	69 38.0 +02.2	S 20 51.5 +00.0	15						
16	115 16.1 +00.6	S 23 35.1 +00.0	95 25.6 +01.9	S 22 24.9 +00.0	84 40.2 +02.1	S 20 51.5 -00.1	16						
17	130 16.7 +00.6	S 23 35.1 +00.1	110 27.5 +02.0	S 22 24.9 -00.1	99 42.3 +02.2	S 20 51.4 +00.0	17						
18	145 17.3 +00.6	S 23 35.2 +00.0	125 29.5 +01.9	S 22 24.8 -00.1	114 44.5 +02.2	S 20 51.4 -00.1	18						
19	160 17.9 +00.5	S 23 35.2 +00.1	140 31.4 +01.9	S 22 24.7 +00.0	129 46.7 +02.2	S 20 51.3 +00.0	19						
20	175 18.4 +00.6	S 23 35.3 +00.1	155 33.3 +01.9	S 22 24.7 -00.1	144 48.9 +02.1	S 20 51.3 -00.1	20						
21	190 19.0 +00.6	S 23 35.4 +00.0	170 35.2 +01.9	S 22 24.6 +00.0	159 51.0 +02.2	S 20 51.2 +00.0	21						
22	205 19.6 +00.6	S 23 35.4 +00.1	185 37.1 +01.9	S 22 24.6 -00.1	174 53.2 +02.2	S 20 51.2 -00.1	22						
23	220 20.2 +00.6	S 23 35.5 +00.0	200 39.0 +01.9	S 22 24.5 -00.1	189 55.4 +02.2	S 20 51.1 +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 093° 092° 092° 092° 092° 092°		SHA 072° 072° 072° 072° 072° 072°		SHA 062° 062° 062° 062° 062° 061°								
	Greenwich Culmination Time: 08:19		Greenwich Culmination Time: 09:39		Greenwich Culmination Time: 10:22								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 27.3 +00.0	S 13 16.4 -00.9	136 50.2 -00.1	N 02 46.9 +01.3	294 14.7 -30.9	S 06 53.3 +13.6							
01	191 27.3 +00.0	S 13 15.5 -00.8	151 50.1 -00.2	N 02 48.2 +01.3	308 43.8 -31.0	S 07 06.9 +13.6							
02	206 27.3 +00.0	S 13 14.7 -00.8	166 49.9 -00.1	N 02 49.5 +01.3	323 12.8 -30.9	S 07 20.5 +13.5							
03	221 27.3 +00.0	S 13 13.9 -00.9	181 49.8 -00.1	N 02 50.8 +01.3	337 41.9 -31.0	S 07 34.0 +13.4							
04	236 27.3 +00.1	S 13 13.0 -00.8	196 49.7 -00.2	N 02 52.1 +01.3	352 10.9 -31.0	S 07 47.4 +13.4							
05	251 27.4 +00.0	S 13 12.2 -00.9	211 49.5 -00.1	N 02 53.4 +01.3	6 39.9 -30.9	S 08 00.8 +13.3							
06	266 27.4 +00.0	S 13 11.3 -00.8	226 49.4 -00.1	N 02 54.7 +01.3	21 09.0 -31.0	S 08 14.1 +13.3							
07	281 27.4 +00.0	S 13 10.5 -00.9	241 49.3 -00.2	N 02 56.0 +01.3	35 38.0 -31.0	S 08 27.4 +13.2							
08	296 27.4 +00.0	S 13 09.6 -00.8	256 49.1 -00.1	N 02 57.3 +01.3	50 07.0 -31.0	S 08 40.6 +13.1							
09	311 27.4 +00.1	S 13 08.8 -00.9	271 49.0 -00.2	N 02 58.6 +01.3	64 36.0 -30.9	S 08 53.7 +13.1							
10	326 27.5 +00.0	S 13 07.9 -00.8	286 48.8 -00.1	N 02 59.9 +01.3	79 05.1 -31.0	S 09 06.8 +13.0							
11	341 27.5 +00.0	S 13 07.1 -00.9	301 48.7 -00.1	N 03 01.2 +01.3	93 34.1 -31.0	S 09 19.8 +13.0							
12	356 27.5 +00.0	S 13 06.2 -00.8	316 48.6 -00.2	N 03 02.5 +01.3	108 03.1 -31.1	S 09 32.8 +12.9							
13	11 27.5 +00.0	S 13 05.4 -00.9	331 48.4 -00.1	N 03 03.8 +01.3	122 32.0 -31.0	S 09 45.7 +12.8							
14	26 27.5 +00.1	S 13 04.5 -00.8	346 48.3 -00.1	N 03 05.1 +01.3	137 01.0 -31.0	S 09 58.5 +12.7							
15	41 27.6 +00.0	S 13 03.7 -00.9	1 48.2 -00.2	N 03 06.4 +01.3	151 30.0 -31.0	S 10 11.2 +12.7							
16	56 27.6 +00.0	S 13 02.8 -00.8	16 48.0 -00.1	N 03 07.7 +01.3	165 59.0 -31.1	S 10 23.9 +12.6							
17	71 27.6 +00.0	S 13 02.0 -00.9	31 47.9 -00.2	N 03 09.0 +01.3	180 27.9 -31.0	S 10 36.5 +12.6							
18	86 27.6 +00.0	S 13 01.1 -00.8	46 47.7 -00.1	N 03 10.3 +01.3	194 56.9 -31.1	S 10 49.1 +12.4							
19	101 27.6 +00.1	S 13 00.3 -00.9	61 47.6 -00.1	N 03 11.6 +01.3	209 25.8 -31.1	S 11 01.5 +12.4							
20	116 27.7 +00.0	S 12 59.4 -00.8	76 47.5 -00.2	N 03 12.9 +01.3	223 54.7 -31.1	S 11 13.9 +12.3							
21	131 27.7 +00.0	S 12 58.6 -00.9	91 47.3 -00.1	N 03 14.2 +01.3	238 23.6 -31.1	S 11 26.2 +12.3							
22	146 27.7 +00.0	S 12 57.7 -00.8	106 47.2 -00.1	N 03 15.5 +01.3	252 52.5 -31.1	S 11 38.5 +12.1							
23	161 27.7 +00.1	S 12 56.9 -00.9	121 47.1 -00.2	N 03 16.8 +01.3	267 21.4 -31.2	S 11 50.6 +12.1							
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		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 59'3 59'2 59'1 59'0								
	SHA 033° 033° 033° 032° 032° 032°		SHA 353° 353° 353° 353° 353° 352°		SHA 150° 147° 145° 143° 141° 138°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 14:52		Greenwich Culmination Time: 04:32								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	235 20.8 +00.6	S 23 35.5 +00.1	215 40.9 +01.9	S 22 24.4 +00.0	204 57.6 +02.1	S 20 51.1 -00.1							
01	250 21.4 +00.6	S 23 35.6 +00.0	230 42.8 +02.0	S 22 24.4 -00.1	219 59.7 +02.2	S 20 51.0 +00.0							
02	265 22.0 +00.6	S 23 35.6 +00.1	245 44.8 +01.9	S 22 24.3 +00.0	235 01.9 +02.2	S 20 51.0 -00.1							
03	280 22.6 +00.6	S 23 35.7 +00.1	260 46.7 +01.9	S 22 24.3 -00.1	250 04.1 +02.2	S 20 50.9 +00.0							
04	295 23.2 +00.6	S 23 35.8 +00.0	275 48.6 +01.9	S 22 24.2 +00.0	265 06.3 +02.1	S 20 50.9 -00.1							
05	310 23.8 +00.6	S 23 35.8 +00.1	290 50.5 +01.9	S 22 24.2 -00.1	280 08.4 +02.2	S 20 50.8 +00.0							
06	325 24.4 +00.6	S 23 35.9 +00.0	305 52.4 +01.9	S 22 24.1 -00.1	295 10.6 +02.2	S 20 50.8 -00.1							
07	340 25.0 +00.5	S 23 35.9 +00.1	320 54.3 +01.9	S 22 24.0 +00.0	310 12.8 +02.2	S 20 50.7 +00.0							
08	355 25.5 +00.6	S 23 36.0 +00.0	335 56.2 +02.0	S 22 24.0 -00.1	325 15.0 +02.2	S 20 50.7 -00.1							
09	10 26.1 +00.6	S 23 36.0 +00.1	350 58.2 +01.9	S 22 23.9 +00.0	340 17.2 +02.1	S 20 50.6 +00.0							
10	25 26.7 +00.6	S 23 36.1 +00.0	6 00.1 +01.9	S 22 23.9 -00.1	355 19.3 +02.2	S 20 50.6 -00.1							
11	40 27.3 +00.6	S 23 36.1 +00.1	21 02.0 +01.9	S 22 23.8 -00.1	10 21.5 +02.2	S 20 50.5 +00.0							
12	55 27.9 +00.6	S 23 36.2 +00.1	36 03.9 +01.9	S 22 23.7 +00.0	25 23.7 +02.2	S 20 50.5 -00.1							
13	70 28.5 +00.6	S 23 36.3 +00.0	51 05.8 +01.9	S 22 23.7 -00.1	40 25.9 +02.1	S 20 50.4 +00.0							
14	85 29.1 +00.6	S 23 36.3 +00.1	66 07.7 +01.9	S 22 23.6 +00.0	55 28.0 +02.2	S 20 50.4 -00.1							
15	100 29.7 +00.6	S 23 36.4 +00.0	81 09.6 +02.0	S 22 23.6 -00.1	70 30.2 +02.2	S 20 50.3 +00.0							
16	115 30.3 +00.6	S 23 36.4 +00.1	96 11.6 +01.9	S 22 23.5 +00.0	85 32.4 +02.2	S 20 50.3 -00.1							
17	130 30.9 +00.5	S 23 36.5 +00.0	111 13.5 +01.9	S 22 23.5 -00.1	100 34.6 +02.2	S 20 50.2 +00.0							
18	145 31.4 +00.6	S 23 36.5 +00.1	126 15.4 +01.9	S 22 23.4 -00.1	115 36.8 +02.1	S 20 50.2 -00.1							
19	160 32.0 +00.6	S 23 36.6 +00.0	141 17.3 +01.9	S 22 23.3 +00.0	130 38.9 +02.2	S 20 50.1 +00.0							
20	175 32.6 +00.6	S 23 36.6 +00.1	156 19.2 +01.9	S 22 23.3 -00.1	145 41.1 +02.2	S 20 50.1 -00.1							
21	190 33.2 +00.6	S 23 36.7 +00.0	171 21.1 +01.9	S 22 23.2 +00.0	160 43.3 +02.2	S 20 50.0 +00.0							
22	205 33.8 +00.6	S 23 36.7 +00.1	186 23.0 +02.0	S 22 23.2 -00.1	175 45.5 +02.1	S 20 50.0 -00.1							
23	220 34.4 +00.6	S 23 36.8 +00.0	201 25.0 +01.9	S 22 23.1 -00.1	190 47.6 +02.2	S 20 49.9 +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 092° 092° 092° 091° 091° 091°		SHA 072° 072° 072° 072° 072° 072°		SHA 061° 061° 061° 061° 061° 061°								
	Greenwich Culmination Time: 08:18		Greenwich Culmination Time: 09:36		Greenwich Culmination Time: 10:18								

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	176 28.4 +00.1	S	12 35.5 -00.9	136 43.7 -00.1	N 03 49.3 +01.3	269 17.3 -31.6	S	16 26.6 +09.8	00											
01	191 28.5 +00.0	S	12 34.6 -00.8	151 43.6 -00.1	N 03 50.6 +01.3	283 45.7 -31.7	S	16 36.4 +09.7	01											
02	206 28.5 +00.0	S	12 33.8 -00.9	166 43.5 -00.2	N 03 51.9 +01.3	298 14.0 -31.6	S	16 46.1 +09.6	02											
03	221 28.5 +00.1	S	12 32.9 -00.9	181 43.3 -00.1	N 03 53.2 +01.3	312 42.4 -31.7	S	16 55.7 +09.5	03											
04	236 28.6 +00.0	S	12 32.0 -00.8	196 43.2 -00.1	N 03 54.5 +01.3	327 10.7 -31.8	S	17 05.2 +09.4	04											
05	251 28.6 +00.0	S	12 31.2 -00.9	211 43.1 -00.1	N 03 55.8 +01.3	341 38.9 -31.7	S	17 14.6 +09.2	05											
06	266 28.6 +00.1	S	12 30.3 -00.9	226 43.0 -00.2	N 03 57.1 +01.3	356 07.2 -31.8	S	17 23.8 +09.2	06											
07	281 28.7 +00.0	S	12 29.4 -00.8	241 42.8 -00.1	N 03 58.4 +01.3	10 35.4 -31.8	S	17 33.0 +09.1	07											
08	296 28.7 +00.0	S	12 28.6 -00.9	256 42.7 -00.1	N 03 59.7 +01.3	25 03.6 -31.8	S	17 42.1 +08.9	08											
09	311 28.7 +00.1	S	12 27.7 -00.8	271 42.6 -00.2	N 04 01.0 +01.3	39 31.8 -31.8	S	17 51.0 +08.9	09											
10	326 28.8 +00.0	S	12 26.9 -00.9	286 42.4 -00.1	N 04 02.3 +01.3	53 60.0 -31.9	S	17 59.9 +08.7	10											
11	341 28.8 +00.0	S	12 26.0 -00.9	301 42.3 -00.1	N 04 03.6 +01.3	68 28.1 -31.8	S	18 08.6 +08.7	11											
12	356 28.8 +00.1	S	12 25.1 -00.8	316 42.2 -00.2	N 04 04.9 +01.3	82 56.3 -32.0	S	18 17.3 +08.5	12											
13	11 28.9 +00.0	S	12 24.3 -00.9	331 42.0 -00.1	N 04 06.2 +01.3	97 24.3 -31.9	S	18 25.8 +08.4	13											
14	26 28.9 +00.0	S	12 23.4 -00.9	346 41.9 -00.1	N 04 07.5 +01.3	111 52.4 -31.9	S	18 34.2 +08.3	14											
15	41 28.9 +00.1	S	12 22.5 -00.8	1 41.8 -00.1	N 04 08.8 +01.3	126 20.5 -32.0	S	18 42.5 +08.2	15											
16	56 29.0 +00.0	S	12 21.7 -00.9	16 41.7 -00.2	N 04 10.1 +01.2	140 48.5 -32.0	S	18 50.7 +08.0	16											
17	71 29.0 +00.0	S	12 20.8 -00.9	31 41.5 -00.1	N 04 11.3 +01.3	155 16.5 -32.0	S	18 58.7 +08.0	17											
18	86 29.0 +00.1	S	12 19.9 -00.8	46 41.4 -00.1	N 04 12.6 +01.3	169 44.5 -32.0	S	19 06.7 +07.8	18											
19	101 29.1 +00.0	S	12 19.1 -00.9	61 41.3 -00.2	N 04 13.9 +01.3	184 12.5 -32.1	S	19 14.5 +07.8	19											
20	116 29.1 +00.1	S	12 18.2 -00.9	76 41.1 -00.1	N 04 15.2 +01.3	198 40.4 -32.0	S	19 22.3 +07.6	20											
21	131 29.2 +00.0	S	12 17.3 -00.8	91 41.0 -00.1	N 04 16.5 +01.3	213 08.4 -32.1	S	19 29.9 +07.5	21											
22	146 29.2 +00.0	S	12 16.5 -00.9	106 40.9 -00.1	N 04 17.8 +01.3	227 36.3 -32.2	S	19 37.4 +07.3	22											
23	161 29.2 +00.1	S	12 15.6 -00.9	121 40.8 -00.2	N 04 19.1 +01.3	242 04.1 -32.1	S	19 44.7 +07.3	23											
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'2	16'2	16'2	16'2	16'2	16'2	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD						
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						
SHA	031°	031°	031°	030°	030°	030°	SHA	351°	351°	351°	351°	350°	350°	SHA						
Greenwich Culmination Time: 12:14							Greenwich Culmination Time: 14:53							Greenwich Culmination Time: 06:16						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	235 49.1 +00.6	S	23 37.9 +00.0	217 12.9 +01.9	S	22 21.6 +00.0	206 42.1 +02.2	S	20 48.7 +00.0	00										
01	250 49.7 +00.6	S	23 37.9 +00.1	232 14.8 +01.9	S	22 21.6 -00.1	221 44.3 +02.2	S	20 48.7 -00.1	01										
02	265 50.3 +00.6	S	23 38.0 +00.0	247 16.7 +02.0	S	22 21.5 -00.1	236 46.5 +02.2	S	20 48.6 +00.0	02										
03	280 50.9 +00.6	S	23 38.0 +00.1	262 18.7 +01.9	S	22 21.4 +00.0	251 48.7 +02.1	S	20 48.6 -00.1	03										
04	295 51.5 +00.6	S	23 38.1 +00.0	277 20.6 +01.9	S	22 21.4 -00.1	266 50.8 +02.2	S	20 48.5 +00.0	04										
05	310 52.1 +00.5	S	23 38.1 +00.0	292 22.5 +01.9	S	22 21.3 +00.0	281 53.0 +02.2	S	20 48.5 -00.1	05										
06	325 52.6 +00.6	S	23 38.1 +00.1	307 24.4 +01.9	S	22 21.3 -00.1	296 55.2 +02.2	S	20 48.4 +00.0	06										
07	340 53.2 +00.6	S	23 38.2 +00.0	322 26.3 +02.0	S	22 21.2 +00.0	311 57.4 +02.2	S	20 48.4 -00.1	07										
08	355 53.8 +00.6	S	23 38.2 +00.0	337 28.3 +01.9	S	22 21.2 -00.1	326 59.6 +02.2	S	20 48.3 +00.0	08										
09	10 54.4 +00.6	S	23 38.2 +00.1	352 30.2 +01.9	S	22 21.1 -00.1	342 01.8 +02.1	S	20 48.3 -00.1	09										
10	25 55.0 +00.6	S	23 38.3 +00.0	7 32.1 +01.9	S	22 21.0 +00.0	357 03.9 +02.2	S	20 48.2 +00.0	10										
11	40 55.6 +00.6	S	23 38.3 +00.1	22 34.0 +01.9	S	22 21.0 -00.1	12 06.1 +02.2	S	20 48.2 -00.1	11										
12	55 56.2 +00.6	S	23 38.4 +00.0	37 35.9 +02.0	S	22 20.9 +00.0	27 08.3 +02.2	S	20 48.1 +00.0	12										
13	70 56.8 +00.6	S	23 38.4 +00.0	52 37.9 +01.9	S	22 20.9 -00.1	42 10.5 +02.2	S	20 48.1 -00.1	13										
14	85 57.4 +00.5	S	23 38.4 +00.1	67 39.8 +01.9	S	22 20.8 -00.1	57 12.7 +02.1	S	20 48.0 +00.0	14										
15	100 57.9 +00.6	S	23 38.5 +00.0	82 41.7 +01.9	S	22 20.7 +00.0	72 14.8 +02.2	S	20 48.0 -00.1	15										
16	115 58.5 +00.6	S	23 38.5 +00.0	97 43.6 +01.9	S	22 20.7 -00.1	87 17.0 +02.2	S	20 47.9 +00.0	16										
17	130 59.1 +00.6	S	23 38.5 +00.1	112 45.5 +02.0	S	22 20.6 +00.0	102 19.2 +02.2	S	20 47.9 -00.1	17										
18	145 59.7 +00.6	S	23 38.6 +00.0	127 47.5 +01.9	S	22 20.6 -00.1	117 21.4 +02.2	S	20 47.8 +00.0	18										
19	161 00.3 +00.6	S	23 38.6 +00.0	142 49.4 +01.9	S	22 20.5 -00.1	132 23.6 +02.1	S	20 47.8 +00.0	19										
20	176 00.9 +00.6	S	23 38.6 +00.1	157 51.3 +01.9	S	22 20.4 +00.0	147 25.7 +02.2	S	20 47.8 -00.1	20										
21	191 01.5 +00.6	S	23 38.7 +00.0	172 53.2 +02.0	S	22 20.4 -00.1	162 27.9 +02.2	S	20 47.7 +00.0	21										
22	206 02.1 +00.5	S	23 38.7 +00.0	187 55.2 +01.9	S	22 20.3 +00.0	177 30.1 +02.2	S	20 47.7 -00.1	22										
23	221 02.6 +00.6	S	23 38.7 +00.1	202 57.1 +01.9	S	22 20.3 -00.1	192 32.3 +02.2	S	20 47.6 +00.0	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
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						
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						
SHA	090°	090°	090°	090°	090°	090°	SHA	072°	072°	072°	072°	072°	072°	SHA						
Greenwich Culmination Time: 08:16							Greenwich Culmination Time: 09:29							Greenwich Culmination Time: 10:11						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 30.3 +00.0	S 11 53.8 -00.9	136 37.6 -00.1	N 04 51.4 +01.3	243 36.3 -32.5	S 22 09.6 +04.2	00						
01	191 30.3 +00.1	S 11 52.9 -00.9	151 37.5 -00.1	N 04 52.7 +01.3	258 03.8 -32.4	S 22 13.8 +04.0	01						
02	206 30.4 +00.0	S 11 52.0 -00.9	166 37.4 -00.2	N 04 54.0 +01.3	272 31.4 -32.5	S 22 17.8 +03.9	02						
03	221 30.4 +00.1	S 11 51.1 -00.8	181 37.2 -00.1	N 04 55.3 +01.3	286 58.9 -32.4	S 22 21.7 +03.8	03						
04	236 30.5 +00.0	S 11 50.3 -00.9	196 37.1 -00.1	N 04 56.6 +01.3	301 26.5 -32.5	S 22 25.5 +03.6	04						
05	251 30.5 +00.1	S 11 49.4 -00.9	211 37.0 -00.1	N 04 57.9 +01.3	315 54.0 -32.5	S 22 29.1 +03.6	05						
06	266 30.6 +00.0	S 11 48.5 -00.9	226 36.9 -00.2	N 04 59.2 +01.2	330 21.5 -32.4	S 22 32.7 +03.4	06						
07	281 30.6 +00.1	S 11 47.6 -00.9	241 36.7 -00.1	N 05 00.4 +01.3	344 49.1 -32.5	S 22 36.1 +03.2	07						
08	296 30.7 +00.0	S 11 46.7 -00.8	256 36.6 -00.1	N 05 01.7 +01.3	359 16.6 -32.4	S 22 39.3 +03.2	08						
09	311 30.7 +00.1	S 11 45.9 -00.9	271 36.5 -00.1	N 05 03.0 +01.3	13 44.2 -32.5	S 22 42.5 +03.0	09						
10	326 30.8 +00.0	S 11 45.0 -00.9	286 36.4 -00.2	N 05 04.3 +01.3	28 11.7 -32.5	S 22 45.5 +02.9	10						
11	341 30.8 +00.1	S 11 44.1 -00.9	301 36.2 -00.1	N 05 05.6 +01.3	42 39.2 -32.4	S 22 48.4 +02.7	11						
12	356 30.9 +00.0	S 11 43.2 -00.9	316 36.1 -00.1	N 05 06.9 +01.3	57 06.8 -32.4	S 22 51.1 +02.6	12						
13	11 30.9 +00.1	S 11 42.3 -00.8	331 36.0 -00.1	N 05 08.2 +01.3	71 34.4 -32.5	S 22 53.7 +02.5	13						
14	26 31.0 +00.0	S 11 41.5 -00.9	346 35.9 -00.2	N 05 09.5 +01.2	86 01.9 -32.4	S 22 56.2 +02.4	14						
15	41 31.0 +00.1	S 11 40.6 -00.9	1 35.7 -00.1	N 05 10.7 +01.3	100 29.5 -32.4	S 22 58.6 +02.2	15						
16	56 31.1 +00.0	S 11 39.7 -00.9	16 35.6 -00.1	N 05 12.0 +01.3	114 57.1 -32.4	S 23 00.8 +02.1	16						
17	71 31.1 +00.1	S 11 38.8 -00.9	31 35.5 -00.1	N 05 13.3 +01.3	129 24.7 -32.4	S 23 02.9 +02.0	17						
18	86 31.2 +00.0	S 11 37.9 -00.9	46 35.4 -00.1	N 05 14.6 +01.3	143 52.3 -32.4	S 23 04.9 +01.9	18						
19	101 31.2 +00.1	S 11 37.0 -00.8	61 35.3 -00.2	N 05 15.9 +01.3	158 19.9 -32.4	S 23 06.8 +01.7	19						
20	116 31.3 +00.0	S 11 36.2 -00.9	76 35.1 -00.1	N 05 17.2 +01.3	172 47.5 -32.4	S 23 08.5 +01.6	20						
21	131 31.3 +00.1	S 11 35.3 -00.9	91 35.0 -00.1	N 05 18.5 +01.2	187 15.1 -32.3	S 23 10.1 +01.4	21						
22	146 31.4 +00.0	S 11 34.4 -00.9	106 34.9 -00.1	N 05 19.7 +01.3	201 42.8 -32.4	S 23 11.5 +01.4	22						
23	161 31.4 +00.1	S 11 33.5 -00.9	121 34.8 -00.2	N 05 21.0 +01.3	216 10.4 -32.3	S 23 12.9 +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 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'5 15'4 15'4 15'4 15'4 15'3								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 56'8 56'7 56'6 56'5 56'4 56'3								
	SHA 029° 029° 029° 029° 028° 028°		SHA 349° 349° 349° 349° 348° 348°		SHA 095° 093° 090° 088° 086° 083°								
	Greenwich Culmination Time: 12:13		Greenwich Culmination Time: 14:53		Greenwich Culmination Time: 08:03								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	236 17.3 +00.6	S 23 39.4 +00.1	218 45.2 +01.9	S 22 18.8 -00.1	208 26.9 +02.1	S 20 46.4 -00.1	00						
01	251 17.9 +00.6	S 23 39.5 +00.0	233 47.1 +01.9	S 22 18.7 +00.0	223 29.0 +02.2	S 20 46.3 +00.0	01						
02	266 18.5 +00.6	S 23 39.5 +00.0	248 49.0 +02.0	S 22 18.7 -00.1	238 31.2 +02.2	S 20 46.3 -00.1	02						
03	281 19.1 +00.5	S 23 39.5 +00.0	263 51.0 +01.9	S 22 18.6 -00.1	253 33.4 +02.2	S 20 46.2 +00.0	03						
04	296 19.6 +00.6	S 23 39.5 +00.0	278 52.9 +01.9	S 22 18.5 +00.0	268 35.6 +02.2	S 20 46.2 +00.0	04						
05	311 20.2 +00.6	S 23 39.5 +00.1	293 54.8 +01.9	S 22 18.5 -00.1	283 37.8 +02.2	S 20 46.2 -00.1	05						
06	326 20.8 +00.6	S 23 39.6 +00.0	308 56.7 +02.0	S 22 18.4 +00.0	298 40.0 +02.1	S 20 46.1 +00.0	06						
07	341 21.4 +00.6	S 23 39.6 +00.0	323 58.7 +01.9	S 22 18.4 -00.1	313 42.1 +02.2	S 20 46.1 -00.1	07						
08	356 22.0 +00.6	S 23 39.6 +00.0	339 00.6 +01.9	S 22 18.3 -00.1	328 44.3 +02.2	S 20 46.0 +00.0	08						
09	11 22.6 +00.6	S 23 39.6 +00.1	354 02.5 +01.9	S 22 18.2 +00.0	343 46.5 +02.2	S 20 46.0 -00.1	09						
10	26 23.2 +00.5	S 23 39.7 +00.0	9 04.4 +02.0	S 22 18.2 -00.1	358 48.7 +02.2	S 20 45.9 +00.0	10						
11	41 23.7 +00.6	S 23 39.7 +00.0	24 06.4 +01.9	S 22 18.1 +00.0	13 50.9 +02.2	S 20 45.9 -00.1	11						
12	56 24.3 +00.6	S 23 39.7 +00.0	39 08.3 +01.9	S 22 18.1 -00.1	28 53.1 +02.1	S 20 45.8 +00.0	12						
13	71 24.9 +00.6	S 23 39.7 +00.0	54 10.2 +02.0	S 22 18.0 -00.1	43 55.2 +02.2	S 20 45.8 -00.1	13						
14	86 25.5 +00.6	S 23 39.7 +00.0	69 12.2 +01.9	S 22 17.9 +00.0	58 57.4 +02.2	S 20 45.7 +00.0	14						
15	101 26.1 +00.6	S 23 39.7 +00.1	84 14.1 +01.9	S 22 17.9 -00.1	73 59.6 +02.2	S 20 45.7 -00.1	15						
16	116 26.7 +00.6	S 23 39.8 +00.0	99 16.0 +01.9	S 22 17.8 +00.0	89 01.8 +02.2	S 20 45.6 +00.0	16						
17	131 27.3 +00.5	S 23 39.8 +00.0	114 17.9 +02.0	S 22 17.8 -00.1	104 04.0 +02.2	S 20 45.6 -00.1	17						
18	146 27.8 +00.6	S 23 39.8 +00.0	129 19.9 +01.9	S 22 17.7 -00.1	119 06.2 +02.2	S 20 45.5 +00.0	18						
19	161 28.4 +00.6	S 23 39.8 +00.0	144 21.8 +01.9	S 22 17.6 +00.0	134 08.4 +02.1	S 20 45.5 -00.1	19						
20	176 29.0 +00.6	S 23 39.8 +00.0	159 23.7 +02.0	S 22 17.6 -00.1	149 10.5 +02.2	S 20 45.4 +00.0	20						
21	191 29.6 +00.6	S 23 39.8 +00.1	174 25.7 +01.9	S 22 17.5 +00.0	164 12.7 +02.2	S 20 45.4 -00.1	21						
22	206 30.2 +00.6	S 23 39.9 +00.0	189 27.6 +01.9	S 22 17.5 -00.1	179 14.9 +02.2	S 20 45.3 +00.0	22						
23	221 30.8 +00.6	S 23 39.9 +00.0	204 29.5 +01.9	S 22 17.4 -00.1	194 17.1 +02.2	S 20 45.3 -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 089° 089° 089° 088° 088° 088°		SHA 071° 071° 071° 071° 071° 071°		SHA 061° 061° 061° 061° 061° 061°								
	Greenwich Culmination Time: 08:14		Greenwich Culmination Time: 09:23		Greenwich Culmination Time: 10:04								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 31.5 +00.0	S 11	32.6 -00.9	136 34.6 -00.1	N 05	22.3 +01.3	230 38.1 -32.3	S 23	14.1 +01.0	00			
01	191 31.5 +00.1	S 11	31.7 -00.8	151 34.5 -00.1	N 05	23.6 +01.3	245 05.8 -32.3	S 23	15.1 +01.0	01			
02	206 31.6 +00.0	S 11	30.9 -00.9	166 34.4 -00.1	N 05	24.9 +01.3	259 33.5 -32.3	S 23	16.1 +00.8	02			
03	221 31.6 +00.1	S 11	30.0 -00.9	181 34.3 -00.1	N 05	26.2 +01.3	274 01.2 -32.2	S 23	16.9 +00.7	03			
04	236 31.7 +00.0	S 11	29.1 -00.9	196 34.2 -00.2	N 05	27.5 +01.2	288 29.0 -32.2	S 23	17.6 +00.5	04			
05	251 31.7 +00.1	S 11	28.2 -00.9	211 34.0 -00.1	N 05	28.7 +01.3	302 56.8 -32.2	S 23	18.1 +00.5	05			
06	266 31.8 +00.0	S 11	27.3 -00.9	226 33.9 -00.1	N 05	30.0 +01.3	317 24.6 -32.2	S 23	18.6 +00.3	06			
07	281 31.8 +00.1	S 11	26.4 -00.9	241 33.8 -00.1	N 05	31.3 +01.3	331 52.4 -32.2	S 23	18.9 +00.2	07			
08	296 31.9 +00.1	S 11	25.5 -00.9	256 33.7 -00.1	N 05	32.6 +01.3	346 20.2 -32.1	S 23	19.1 +00.0	08			
09	311 32.0 +00.0	S 11	24.6 -00.8	271 33.6 -00.2	N 05	33.9 +01.3	0 48.1 -32.1	S 23	19.1 -00.1	09			
10	326 32.0 +00.1	S 11	23.8 -00.9	286 33.4 -00.1	N 05	35.2 +01.2	15 16.0 -32.1	S 23	19.0 -00.2	10			
11	341 32.1 +00.0	S 11	22.9 -00.9	301 33.3 -00.1	N 05	36.4 +01.3	29 43.9 -32.1	S 23	18.8 -00.3	11			
12	356 32.1 +00.1	S 11	22.0 -00.9	316 33.2 -00.1	N 05	37.7 +01.3	44 11.8 -32.0	S 23	18.5 -00.5	12			
13	11 32.2 +00.0	S 11	21.1 -00.9	331 33.1 -00.1	N 05	39.0 +01.3	58 39.8 -32.0	S 23	18.0 -00.5	13			
14	26 32.2 +00.1	S 11	20.2 -00.9	346 33.0 -00.2	N 05	40.3 +01.3	73 07.8 -32.0	S 23	17.5 -00.7	14			
15	41 32.3 +00.0	S 11	19.3 -00.9	1 32.8 -00.1	N 05	41.6 +01.3	87 35.8 -32.0	S 23	16.8 -00.9	15			
16	56 32.3 +00.1	S 11	18.4 -00.9	16 32.7 -00.1	N 05	42.9 +01.2	102 03.8 -31.9	S 23	15.9 -00.9	16			
17	71 32.4 +00.1	S 11	17.5 -00.9	31 32.6 -00.1	N 05	44.1 +01.3	116 31.9 -31.9	S 23	15.0 -01.1	17			
18	86 32.5 +00.0	S 11	16.6 -00.9	46 32.5 -00.1	N 05	45.4 +01.3	131 00.0 -31.8	S 23	13.9 -01.2	18			
19	101 32.5 +00.1	S 11	15.7 -00.8	61 32.4 -00.2	N 05	46.7 +01.3	145 28.2 -31.8	S 23	12.7 -01.3	19			
20	116 32.6 +00.0	S 11	14.9 -00.9	76 32.2 -00.1	N 05	48.0 +01.3	159 56.4 -31.8	S 23	11.4 -01.5	20			
21	131 32.6 +00.1	S 11	14.0 -00.9	91 32.1 -00.1	N 05	49.3 +01.2	174 24.6 -31.7	S 23	09.9 -01.6	21			
22	146 32.7 +00.1	S 11	13.1 -00.9	106 32.0 -00.1	N 05	50.5 +01.3	188 52.9 -31.7	S 23	08.3 -01.7	22			
23	161 32.8 +00.0	S 11	12.2 -00.9	121 31.9 -00.1	N 05	51.8 +01.3	203 21.2 -31.7	S 23	06.6 -01.8	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			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 00'2 00'2 00'2 00'2 00'2 00'2			HP 56'2 56'1 56'0 55'9 55'8 55'7						
	SHA 028° 028° 028° 028° 027° 027°			SHA 348° 348° 348° 348° 347° 347°			SHA 081° 079° 076° 074° 072° 070°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 14:53			Greenwich Culmination Time: 08:56						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	236 31.4 +00.5	S 23	39.9 +00.0	219 31.4 +02.0	S 22	17.3 +00.0	209 19.3 +02.2	S 20	45.2 +00.0	00			
01	251 31.9 +00.6	S 23	39.9 +00.0	234 33.4 +01.9	S 22	17.3 -00.1	224 21.5 +02.2	S 20	45.2 -00.1	01			
02	266 32.5 +00.6	S 23	39.9 +00.0	249 35.3 +01.9	S 22	17.2 +00.0	239 23.7 +02.1	S 20	45.1 +00.0	02			
03	281 33.1 +00.6	S 23	39.9 +00.0	264 37.2 +02.0	S 22	17.2 -00.1	254 25.8 +02.2	S 20	45.1 -00.1	03			
04	296 33.7 +00.6	S 23	39.9 +00.1	279 39.2 +01.9	S 22	17.1 -00.1	269 28.0 +02.2	S 20	45.0 +00.0	04			
05	311 34.3 +00.6	S 23	40.0 +00.0	294 41.1 +01.9	S 22	17.0 +00.0	284 30.2 +02.2	S 20	45.0 -00.1	05			
06	326 34.9 +00.5	S 23	40.0 +00.0	309 43.0 +01.9	S 22	17.0 -00.1	299 32.4 +02.2	S 20	44.9 +00.0	06			
07	341 35.4 +00.6	S 23	40.0 +00.0	324 44.9 +02.0	S 22	16.9 -00.1	314 34.6 +02.2	S 20	44.9 -00.1	07			
08	356 36.0 +00.6	S 23	40.0 +00.0	339 46.9 +01.9	S 22	16.8 +00.0	329 36.8 +02.2	S 20	44.8 +00.0	08			
09	11 36.6 +00.6	S 23	40.0 +00.0	354 48.8 +01.9	S 22	16.8 -00.1	344 39.0 +02.1	S 20	44.8 +00.0	09			
10	26 37.2 +00.6	S 23	40.0 +00.0	9 50.7 +02.0	S 22	16.7 +00.0	359 41.1 +02.2	S 20	44.8 -00.1	10			
11	41 37.8 +00.6	S 23	40.0 +00.0	24 52.7 +01.9	S 22	16.7 -00.1	14 43.3 +02.2	S 20	44.7 +00.0	11			
12	56 38.4 +00.6	S 23	40.0 +00.1	39 54.6 +01.9	S 22	16.6 -00.1	29 45.5 +02.2	S 20	44.7 -00.1	12			
13	71 39.0 +00.5	S 23	40.1 +00.0	54 56.5 +02.0	S 22	16.5 +00.0	44 47.7 +02.2	S 20	44.6 +00.0	13			
14	86 39.5 +00.6	S 23	40.1 +00.0	69 58.5 +01.9	S 22	16.5 -00.1	59 49.9 +02.2	S 20	44.6 -00.1	14			
15	101 40.1 +00.6	S 23	40.1 +00.0	85 00.4 +01.9	S 22	16.4 +00.0	74 52.1 +02.2	S 20	44.5 +00.0	15			
16	116 40.7 +00.6	S 23	40.1 +00.0	100 02.3 +02.0	S 22	16.4 -00.1	89 54.3 +02.1	S 20	44.5 -00.1	16			
17	131 41.3 +00.6	S 23	40.1 +00.0	115 04.3 +01.9	S 22	16.3 -00.1	104 56.4 +02.2	S 20	44.4 +00.0	17			
18	146 41.9 +00.6	S 23	40.1 +00.0	130 06.2 +01.9	S 22	16.2 +00.0	119 58.6 +02.2	S 20	44.4 -00.1	18			
19	161 42.5 +00.5	S 23	40.1 +00.0	145 08.1 +02.0	S 22	16.2 -00.1	135 00.8 +02.2	S 20	44.3 +00.0	19			
20	176 43.0 +00.6	S 23	40.1 +00.0	160 10.1 +01.9	S 22	16.1 +00.0	150 03.0 +02.2	S 20	44.3 -00.1	20			
21	191 43.6 +00.6	S 23	40.1 +00.0	175 12.0 +01.9	S 22	16.1 -00.1	165 05.2 +02.2	S 20	44.2 +00.0	21			
22	206 44.2 +00.6	S 23	40.1 +00.0	190 13.9 +01.9	S 22	16.0 -00.1	180 07.4 +02.2	S 20	44.2 -00.1	22			
23	221 44.8 +00.6	S 23	40.1 +00.0	205 15.8 +02.0	S 22	15.9 +00.0	195 09.6 +02.2	S 20	44.1 +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 088° 088° 088° 088° 088° 087°			SHA 071° 071° 071° 071° 071° 071°			SHA 061° 061° 061° 061° 061° 061°						
	Greenwich Culmination Time: 08:13			Greenwich Culmination Time: 09:20			Greenwich Culmination Time: 10:01						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 32.8 +00.1	S	11 11.3 -00.9	136 31.8 -00.2	N 05 53.1 +01.3	217 49.5 -31.6	S 23 04.8 -01.9	00					
01	191 32.9 +00.0	S	11 10.4 -00.9	151 31.6 -00.1	N 05 54.4 +01.3	232 17.9 -31.6	S 23 02.9 -02.1	01					
02	206 32.9 +00.1	S	11 09.5 -00.9	166 31.5 -00.1	N 05 55.7 +01.2	246 46.3 -31.6	S 23 00.8 -02.1	02					
03	221 33.0 +00.1	S	11 08.6 -00.9	181 31.4 -00.1	N 05 56.9 +01.3	261 14.7 -31.5	S 22 58.7 -02.3	03					
04	236 33.1 +00.0	S	11 07.7 -00.9	196 31.3 -00.1	N 05 58.2 +01.3	275 43.2 -31.5	S 22 56.4 -02.5	04					
05	251 33.1 +00.1	S	11 06.8 -00.9	211 31.2 -00.1	N 05 59.5 +01.3	290 11.7 -31.4	S 22 53.9 -02.5	05					
06	266 33.2 +00.0	S	11 05.9 -00.9	226 31.1 -00.2	N 06 00.8 +01.3	304 40.3 -31.4	S 22 51.4 -02.6	06					
07	281 33.2 +00.1	S	11 05.0 -00.9	241 30.9 -00.1	N 06 02.1 +01.2	319 08.9 -31.3	S 22 48.8 -02.8	07					
08	296 33.3 +00.1	S	11 04.1 -00.9	256 30.8 -00.1	N 06 03.3 +01.3	333 37.6 -31.3	S 22 46.0 -02.9	08					
09	311 33.4 +00.0	S	11 03.2 -00.8	271 30.7 -00.1	N 06 04.6 +01.3	348 06.3 -31.3	S 22 43.1 -03.0	09					
10	326 33.4 +00.1	S	11 02.4 -00.9	286 30.6 -00.1	N 06 05.9 +01.3	2 35.0 -31.2	S 22 40.1 -03.1	10					
11	341 33.5 +00.1	S	11 01.5 -00.9	301 30.5 -00.2	N 06 07.2 +01.3	17 03.8 -31.1	S 22 37.0 -03.3	11					
12	356 33.6 +00.0	S	11 00.6 -00.9	316 30.3 -00.1	N 06 08.5 +01.2	31 32.7 -31.1	S 22 33.7 -03.3	12					
13	11 33.6 +00.1	S	10 59.7 -00.9	331 30.2 -00.1	N 06 09.7 +01.3	46 01.6 -31.1	S 22 30.4 -03.5	13					
14	26 33.7 +00.0	S	10 58.8 -00.9	346 30.1 -00.1	N 06 11.0 +01.3	60 30.5 -31.0	S 22 26.9 -03.6	14					
15	41 33.7 +00.1	S	10 57.9 -00.9	1 30.0 -00.1	N 06 12.3 +01.3	74 59.5 -31.0	S 22 23.3 -03.6	15					
16	56 33.8 +00.1	S	10 57.0 -00.9	16 29.9 -00.1	N 06 13.6 +01.2	89 28.5 -30.9	S 22 19.7 -03.8	16					
17	71 33.9 +00.0	S	10 56.1 -00.9	31 29.8 -00.2	N 06 14.8 +01.3	103 57.6 -30.8	S 22 15.9 -04.0	17					
18	86 33.9 +00.1	S	10 55.2 -00.9	46 29.6 -00.1	N 06 16.1 +01.3	118 26.8 -30.8	S 22 11.9 -04.0	18					
19	101 34.0 +00.1	S	10 54.3 -00.9	61 29.5 -00.1	N 06 17.4 +01.3	132 56.0 -30.8	S 22 07.9 -04.1	19					
20	116 34.1 +00.0	S	10 53.4 -00.9	76 29.4 -00.1	N 06 18.7 +01.2	147 25.2 -30.7	S 22 03.8 -04.3	20					
21	131 34.1 +00.1	S	10 52.5 -00.9	91 29.3 -00.1	N 06 19.9 +01.3	161 54.5 -30.7	S 21 59.5 -04.3	21					
22	146 34.2 +00.1	S	10 51.6 -00.9	106 29.2 -00.1	N 06 21.2 +01.3	176 23.8 -30.6	S 21 55.2 -04.5	22					
23	161 34.3 +00.0	S	10 50.7 -00.9	121 29.1 -00.2	N 06 22.5 +01.3	190 53.2 -30.5	S 21 50.7 -04.5	23					
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 15'2 15'1 15'1 15'1 15'1 15'1					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 55'7 55'6 55'5 55'4 55'4 55'3					
	SHA 027° 027° 027° 027° 026° 026°			SHA 347° 347° 347° 347° 346° 346°				SHA 067° 065° 063° 061° 058° 056°					
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 14:53				Greenwich Culmination Time: 09:49					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	236 45.4 +00.6	S	23 40.1 +00.0	220 17.8 +01.9	S	22 15.9 -00.1	210 11.8 +02.1	S	20 44.1 -00.1	00			
01	251 46.0 +00.6	S	23 40.1 +00.1	235 19.7 +01.9	S	22 15.8 +00.0	225 13.9 +02.2	S	20 44.0 +00.0	01			
02	266 46.6 +00.5	S	23 40.2 +00.0	250 21.6 +02.0	S	22 15.8 -00.1	240 16.1 +02.2	S	20 44.0 -00.1	02			
03	281 47.1 +00.6	S	23 40.2 +00.0	265 23.6 +01.9	S	22 15.7 -00.1	255 18.3 +02.2	S	20 43.9 +00.0	03			
04	296 47.7 +00.6	S	23 40.2 +00.0	280 25.5 +01.9	S	22 15.6 +00.0	270 20.5 +02.2	S	20 43.9 -00.1	04			
05	311 48.3 +00.6	S	23 40.2 +00.0	295 27.4 +02.0	S	22 15.6 -00.1	285 22.7 +02.2	S	20 43.8 +00.0	05			
06	326 48.9 +00.6	S	23 40.2 +00.0	310 29.4 +01.9	S	22 15.5 +00.0	300 24.9 +02.2	S	20 43.8 -00.1	06			
07	341 49.5 +00.6	S	23 40.2 +00.0	325 31.3 +01.9	S	22 15.5 -00.1	315 27.1 +02.2	S	20 43.7 +00.0	07			
08	356 50.1 +00.5	S	23 40.2 +00.0	340 33.2 +02.0	S	22 15.4 -00.1	330 29.3 +02.1	S	20 43.7 -00.1	08			
09	11 50.6 +00.6	S	23 40.2 +00.0	355 35.2 +01.9	S	22 15.3 +00.0	345 31.4 +02.2	S	20 43.6 +00.0	09			
10	26 51.2 +00.6	S	23 40.2 +00.0	10 37.1 +01.9	S	22 15.3 -00.1	0 33.6 +02.2	S	20 43.6 -00.1	10			
11	41 51.8 +00.6	S	23 40.2 +00.0	25 39.0 +02.0	S	22 15.2 +00.0	15 35.8 +02.2	S	20 43.5 +00.0	11			
12	56 52.4 +00.6	S	23 40.2 +00.0	40 41.0 +01.9	S	22 15.2 -00.1	30 38.0 +02.2	S	20 43.5 +00.0	12			
13	71 53.0 +00.6	S	23 40.2 +00.0	55 42.9 +02.0	S	22 15.1 -00.1	45 40.2 +02.2	S	20 43.5 -00.1	13			
14	86 53.6 +00.5	S	23 40.2 +00.0	70 44.9 +01.9	S	22 15.0 +00.0	60 42.4 +02.2	S	20 43.4 +00.0	14			
15	101 54.1 +00.6	S	23 40.2 +00.0	85 46.8 +01.9	S	22 15.0 -00.1	75 44.6 +02.2	S	20 43.4 -00.1	15			
16	116 54.7 +00.6	S	23 40.2 +00.0	100 48.7 +02.0	S	22 14.9 +00.0	90 46.8 +02.1	S	20 43.3 +00.0	16			
17	131 55.3 +00.6	S	23 40.2 +00.0	115 50.7 +01.9	S	22 14.9 -00.1	105 48.9 +02.2	S	20 43.3 -00.1	17			
18	146 55.9 +00.6	S	23 40.2 +00.0	130 52.6 +01.9	S	22 14.8 -00.1	120 51.1 +02.2	S	20 43.2 +00.0	18			
19	161 56.5 +00.6	S	23 40.2 +00.0	145 54.5 +02.0	S	22 14.7 +00.0	135 53.3 +02.2	S	20 43.2 -00.1	19			
20	176 57.1 +00.5	S	23 40.2 +00.0	160 56.5 +01.9	S	22 14.7 -00.1	150 55.5 +02.2	S	20 43.1 +00.0	20			
21	191 57.6 +00.6	S	23 40.2 +00.0	175 58.4 +01.9	S	22 14.6 +00.0	165 57.7 +02.2	S	20 43.1 -00.1	21			
22	206 58.2 +00.6	S	23 40.2 +00.0	191 00.3 +02.0	S	22 14.6 -00.1	180 59.9 +02.2	S	20 43.0 +00.0	22			
23	221 58.8 +00.6	S	23 40.2 +00.0	206 02.3 +01.9	S	22 14.5 -00.1	196 02.1 +02.2	S	20 43.0 -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 087° 087° 087° 087° 087° 087°			SHA 071° 071° 071° 071° 071° 071°				SHA 061° 061° 061° 061° 061° 061°					
	Greenwich Culmination Time: 08:12			Greenwich Culmination Time: 09:17				Greenwich Culmination Time: 09:57					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 34.3 +00.1	S 10	49.8 -00.9	136 28.9 -00.1	N 06	23.8 +01.2	205 22.7 -30.5	S 21	46.2 -04.7	00			
01	191 34.4 +00.1	S 10	48.9 -00.9	151 28.8 -00.1	N 06	25.0 +01.3	219 52.2 -30.4	S 21	41.5 -04.8	01			
02	206 34.5 +00.0	S 10	48.0 -00.9	166 28.7 -00.1	N 06	26.3 +01.3	234 21.8 -30.4	S 21	36.7 -04.9	02			
03	221 34.5 +00.1	S 10	47.1 -00.9	181 28.6 -00.1	N 06	27.6 +01.3	248 51.4 -30.3	S 21	31.8 -05.0	03			
04	236 34.6 +00.1	S 10	46.2 -00.9	196 28.5 -00.1	N 06	28.9 +01.2	263 21.1 -30.3	S 21	26.8 -05.1	04			
05	251 34.7 +00.0	S 10	45.3 -00.9	211 28.4 -00.2	N 06	30.1 +01.3	277 50.8 -30.2	S 21	21.7 -05.2	05			
06	266 34.7 +00.1	S 10	44.4 -00.9	226 28.2 -00.1	N 06	31.4 +01.3	292 20.6 -30.2	S 21	16.5 -05.3	06			
07	281 34.8 +00.1	S 10	43.5 -00.9	241 28.1 -00.1	N 06	32.7 +01.3	306 50.4 -30.1	S 21	11.2 -05.4	07			
08	296 34.9 +00.0	S 10	42.6 -00.9	256 28.0 -00.1	N 06	34.0 +01.2	321 20.3 -30.0	S 21	05.8 -05.5	08			
09	311 34.9 +00.1	S 10	41.7 -00.9	271 27.9 -00.1	N 06	35.2 +01.3	335 50.3 -30.0	S 21	00.3 -05.6	09			
10	326 35.0 +00.1	S 10	40.8 -00.9	286 27.8 -00.1	N 06	36.5 +01.3	350 20.3 -29.9	S 20	54.7 -05.7	10			
11	341 35.1 +00.1	S 10	39.9 -00.9	301 27.7 -00.1	N 06	37.8 +01.2	4 50.4 -29.9	S 20	49.0 -05.8	11			
12	356 35.2 +00.0	S 10	39.0 -00.9	316 27.6 -00.2	N 06	39.0 +01.3	19 20.5 -29.8	S 20	43.2 -05.9	12			
13	11 35.2 +00.1	S 10	38.1 -00.9	331 27.4 -00.1	N 06	40.3 +01.3	33 50.7 -29.7	S 20	37.3 -06.0	13			
14	26 35.3 +00.1	S 10	37.2 -00.9	346 27.3 -00.1	N 06	41.6 +01.3	48 21.0 -29.7	S 20	31.3 -06.1	14			
15	41 35.4 +00.0	S 10	36.3 -00.9	1 27.2 -00.1	N 06	42.9 +01.2	62 51.3 -29.7	S 20	25.2 -06.1	15			
16	56 35.4 +00.1	S 10	35.4 -01.0	16 27.1 -00.1	N 06	44.1 +01.3	77 21.6 -29.5	S 20	19.1 -06.3	16			
17	71 35.5 +00.1	S 10	34.4 -00.9	31 27.0 -00.1	N 06	45.4 +01.3	91 52.1 -29.5	S 20	12.8 -06.4	17			
18	86 35.6 +00.0	S 10	33.5 -00.9	46 26.9 -00.1	N 06	46.7 +01.2	106 22.6 -29.5	S 20	06.4 -06.5	18			
19	101 35.6 +00.1	S 10	32.6 -00.9	61 26.8 -00.2	N 06	47.9 +01.3	120 53.1 -29.4	S 19	59.9 -06.5	19			
20	116 35.7 +00.1	S 10	31.7 -00.9	76 26.6 -00.1	N 06	49.2 +01.3	135 23.7 -29.3	S 19	53.4 -06.7	20			
21	131 35.8 +00.1	S 10	30.8 -00.9	91 26.5 -00.1	N 06	50.5 +01.3	149 54.4 -29.3	S 19	46.7 -06.7	21			
22	146 35.9 +00.0	S 10	29.9 -00.9	106 26.4 -00.1	N 06	51.8 +01.2	164 25.1 -29.2	S 19	40.0 -06.8	22			
23	161 35.9 +00.1	S 10	29.0 -00.9	121 26.3 -00.1	N 06	53.0 +01.3	178 55.9 -29.1	S 19	33.2 -07.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'0 15'0 15'0 15'0 15'0 15'0						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 55'2 55'1 55'1 55'0 54'9 54'9						
	SHA 026° 026° 026° 026° 025° 025°			SHA 346° 346° 346° 345° 345° 345°			SHA 054° 052° 050° 047° 045° 043°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 14:54			Greenwich Culmination Time: 10:39						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	236 59.4 +00.6	S 23	40.2 +00.0	221 04.2 +01.9	S 22	14.4 +00.0	211 04.3 +02.2	S 20	42.9 +00.0	00			
01	251 60.0 +00.6	S 23	40.2 +00.0	236 06.1 +02.0	S 22	14.4 -00.1	226 06.5 +02.1	S 20	42.9 -00.1	01			
02	267 00.6 +00.5	S 23	40.2 +00.0	251 08.1 +01.9	S 22	14.3 +00.0	241 08.6 +02.2	S 20	42.8 +00.0	02			
03	282 01.1 +00.6	S 23	40.2 +00.0	266 10.0 +02.0	S 22	14.3 -00.1	256 10.8 +02.2	S 20	42.8 -00.1	03			
04	297 01.7 +00.6	S 23	40.2 +00.0	281 12.0 +01.9	S 22	14.2 -00.1	271 13.0 +02.2	S 20	42.7 +00.0	04			
05	312 02.3 +00.6	S 23	40.2 +00.0	296 13.9 +01.9	S 22	14.1 +00.0	286 15.2 +02.2	S 20	42.7 -00.1	05			
06	327 02.9 +00.6	S 23	40.2 +00.0	311 15.8 +02.0	S 22	14.1 -00.1	301 17.4 +02.2	S 20	42.6 +00.0	06			
07	342 03.5 +00.6	S 23	40.2 -00.1	326 17.8 +01.9	S 22	14.0 -00.1	316 19.6 +02.2	S 20	42.6 -00.1	07			
08	357 04.1 +00.5	S 23	40.1 +00.0	341 19.7 +01.9	S 22	13.9 +00.0	331 21.8 +02.2	S 20	42.5 +00.0	08			
09	12 04.6 +00.6	S 23	40.1 +00.0	356 21.6 +02.0	S 22	13.9 -00.1	346 24.0 +02.2	S 20	42.5 -00.1	09			
10	27 05.2 +00.6	S 23	40.1 +00.0	11 23.6 +01.9	S 22	13.8 +00.0	1 26.2 +02.2	S 20	42.4 +00.0	10			
11	42 05.8 +00.6	S 23	40.1 +00.0	26 25.5 +02.0	S 22	13.8 -00.1	16 28.4 +02.1	S 20	42.4 +00.0	11			
12	57 06.4 +00.6	S 23	40.1 +00.0	41 27.5 +01.9	S 22	13.7 -00.1	31 30.5 +02.2	S 20	42.4 -00.1	12			
13	72 07.0 +00.6	S 23	40.1 +00.0	56 29.4 +01.9	S 22	13.6 +00.0	46 32.7 +02.2	S 20	42.3 +00.0	13			
14	87 07.6 +00.5	S 23	40.1 +00.0	71 31.3 +02.0	S 22	13.6 -00.1	61 34.9 +02.2	S 20	42.3 -00.1	14			
15	102 08.1 +00.6	S 23	40.1 +00.0	86 33.3 +01.9	S 22	13.5 +00.0	76 37.1 +02.2	S 20	42.2 +00.0	15			
16	117 08.7 +00.6	S 23	40.1 +00.0	101 35.2 +01.9	S 22	13.5 -00.1	91 39.3 +02.2	S 20	42.2 -00.1	16			
17	132 09.3 +00.6	S 23	40.1 +00.0	116 37.1 +02.0	S 22	13.4 -00.1	106 41.5 +02.2	S 20	42.1 +00.0	17			
18	147 09.9 +00.6	S 23	40.1 +00.0	131 39.1 +01.9	S 22	13.3 +00.0	121 43.7 +02.2	S 20	42.1 -00.1	18			
19	162 10.5 +00.6	S 23	40.1 +00.0	146 41.0 +02.0	S 22	13.3 -00.1	136 45.9 +02.2	S 20	42.0 +00.0	19			
20	177 11.1 +00.5	S 23	40.1 -00.1	161 43.0 +01.9	S 22	13.2 +00.0	151 48.1 +02.2	S 20	42.0 -00.1	20			
21	192 11.6 +00.6	S 23	40.0 +00.0	176 44.9 +01.9	S 22	13.2 -00.1	166 50.3 +02.2	S 20	41.9 +00.0	21			
22	207 12.2 +00.6	S 23	40.0 +00.0	191 46.8 +02.0	S 22	13.1 -00.1	181 52.5 +02.1	S 20	41.9 -00.1	22			
23	222 12.8 +00.6	S 23	40.0 +00.0	206 48.8 +01.9	S 22	13.0 +00.0	196 54.6 +02.2	S 20	41.8 +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 087° 086° 086° 086° 086° 086°			SHA 071° 071° 071° 071° 071° 070°			SHA 061° 061° 061° 061° 061° 061°						
	Greenwich Culmination Time: 08:11			Greenwich Culmination Time: 09:14			Greenwich Culmination Time: 09:54						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 36.0 +00.1	S 10	28.1 -00.9	136 26.2 -00.1	N 06	54.3 +01.3	193 26.8 -29.1	S 19	26.2 -07.0	00			
01	191 36.1 +00.1	S 10	27.2 -00.9	151 26.1 -00.1	N 06	55.6 +01.2	207 57.7 -29.0	S 19	19.2 -07.1	01			
02	206 36.2 +00.0	S 10	26.3 -00.9	166 26.0 -00.2	N 06	56.8 +01.3	222 28.7 -29.0	S 19	12.1 -07.1	02			
03	221 36.2 +00.1	S 10	25.4 -00.9	181 25.8 -00.1	N 06	58.1 +01.3	236 59.7 -28.9	S 19	05.0 -07.3	03			
04	236 36.3 +00.1	S 10	24.5 -00.9	196 25.7 -00.1	N 06	59.4 +01.2	251 30.8 -28.8	S 18	57.7 -07.3	04			
05	251 36.4 +00.1	S 10	23.6 -00.9	211 25.6 -00.1	N 07	00.6 +01.3	266 02.0 -28.8	S 18	50.4 -07.5	05			
06	266 36.5 +00.0	S 10	22.7 -00.9	226 25.5 -00.1	N 07	01.9 +01.3	280 33.2 -28.7	S 18	42.9 -07.5	06			
07	281 36.5 +00.1	S 10	21.8 -01.0	241 25.4 -00.1	N 07	03.2 +01.2	295 04.5 -28.6	S 18	35.4 -07.6	07			
08	296 36.6 +00.1	S 10	20.8 -00.9	256 25.3 -00.1	N 07	04.4 +01.3	309 35.9 -28.6	S 18	27.8 -07.7	08			
09	311 36.7 +00.1	S 10	19.9 -00.9	271 25.2 -00.2	N 07	05.7 +01.3	324 07.3 -28.6	S 18	20.1 -07.7	09			
10	326 36.8 +00.0	S 10	19.0 -00.9	286 25.0 -00.1	N 07	07.0 +01.2	338 38.7 -28.4	S 18	12.4 -07.9	10			
11	341 36.8 +00.1	S 10	18.1 -00.9	301 24.9 -00.1	N 07	08.2 +01.3	353 10.3 -28.4	S 18	04.5 -07.9	11			
12	356 36.9 +00.1	S 10	17.2 -00.9	316 24.8 -00.1	N 07	09.5 +01.3	7 41.9 -28.4	S 17	56.6 -08.0	12			
13	11 37.0 +00.1	S 10	16.3 -00.9	331 24.7 -00.1	N 07	10.8 +01.2	22 13.5 -28.3	S 17	48.6 -08.1	13			
14	26 37.1 +00.0	S 10	15.4 -00.9	346 24.6 -00.1	N 07	12.0 +01.3	36 45.2 -28.2	S 17	40.5 -08.1	14			
15	41 37.1 +00.1	S 10	14.5 -00.9	1 24.5 -00.1	N 07	13.3 +01.3	51 17.0 -28.2	S 17	32.4 -08.2	15			
16	56 37.2 +00.1	S 10	13.6 -00.9	16 24.4 -00.1	N 07	14.6 +01.2	65 48.8 -28.1	S 17	24.2 -08.3	16			
17	71 37.3 +00.1	S 10	12.7 -01.0	31 24.3 -00.2	N 07	15.8 +01.3	80 20.7 -28.0	S 17	15.9 -08.4	17			
18	86 37.4 +00.0	S 10	11.7 -00.9	46 24.1 -00.1	N 07	17.1 +01.3	94 52.7 -28.0	S 17	07.5 -08.4	18			
19	101 37.4 +00.1	S 10	10.8 -00.9	61 24.0 -00.1	N 07	18.4 +01.2	109 24.7 -27.9	S 16	59.1 -08.6	19			
20	116 37.5 +00.1	S 10	09.9 -00.9	76 23.9 -00.1	N 07	19.6 +01.3	123 56.8 -27.9	S 16	50.5 -08.5	20			
21	131 37.6 +00.1	S 10	09.0 -00.9	91 23.8 -00.1	N 07	20.9 +01.2	138 28.9 -27.8	S 16	42.0 -08.7	21			
22	146 37.7 +00.1	S 10	08.1 -00.9	106 23.7 -00.1	N 07	22.1 +01.3	153 01.1 -27.8	S 16	33.3 -08.7	22			
23	161 37.8 +00.0	S 10	07.2 -00.9	121 23.6 -00.1	N 07	23.4 +01.3	167 33.3 -27.7	S 16	24.6 -08.8	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 14'9 14'9 14'9 14'9 14'9 14'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 54'8 54'8 54'7 54'6 54'6 54'5						
	SHA 025° 025° 025° 025° 025° 024°			SHA 345° 345° 345° 344° 344° 344°			SHA 041° 039° 037° 035° 033° 031°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 14:54			Greenwich Culmination Time: 11:28						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	237 13.4 +00.6	S 23	40.0 +00.0	221 50.7 +02.0	S 22	13.0 -00.1	211 56.8 +02.2	S 20	41.8 -00.1	00			
01	252 14.0 +00.6	S 23	40.0 +00.0	236 52.7 +01.9	S 22	12.9 +00.0	226 59.0 +02.2	S 20	41.7 +00.0	01			
02	267 14.6 +00.5	S 23	40.0 +00.0	251 54.6 +01.9	S 22	12.9 -00.1	242 01.2 +02.2	S 20	41.7 -00.1	02			
03	282 15.1 +00.6	S 23	40.0 +00.0	266 56.5 +02.0	S 22	12.8 -00.1	257 03.4 +02.2	S 20	41.6 +00.0	03			
04	297 15.7 +00.6	S 23	40.0 +00.0	281 58.5 +01.9	S 22	12.7 +00.0	272 05.6 +02.2	S 20	41.6 -00.1	04			
05	312 16.3 +00.6	S 23	40.0 -00.1	297 00.4 +02.0	S 22	12.7 -00.1	287 07.8 +02.2	S 20	41.5 +00.0	05			
06	327 16.9 +00.6	S 23	39.9 +00.0	312 02.4 +01.9	S 22	12.6 -00.1	302 10.0 +02.2	S 20	41.5 -00.1	06			
07	342 17.5 +00.6	S 23	39.9 +00.0	327 04.3 +01.9	S 22	12.5 +00.0	317 12.2 +02.2	S 20	41.4 +00.0	07			
08	357 18.1 +00.5	S 23	39.9 +00.0	342 06.2 +02.0	S 22	12.5 -00.1	332 14.4 +02.2	S 20	41.4 +00.0	08			
09	12 18.6 +00.6	S 23	39.9 +00.0	357 08.2 +01.9	S 22	12.4 +00.0	347 16.6 +02.2	S 20	41.4 -00.1	09			
10	27 19.2 +00.6	S 23	39.9 +00.0	12 10.1 +02.0	S 22	12.4 -00.1	2 18.8 +02.1	S 20	41.3 +00.0	10			
11	42 19.8 +00.6	S 23	39.9 -00.1	27 12.1 +01.9	S 22	12.3 -00.1	17 20.9 +02.2	S 20	41.3 -00.1	11			
12	57 20.4 +00.6	S 23	39.8 +00.0	42 14.0 +02.0	S 22	12.2 +00.0	32 23.1 +02.2	S 20	41.2 +00.0	12			
13	72 21.0 +00.5	S 23	39.8 +00.0	57 16.0 +01.9	S 22	12.2 -00.1	47 25.3 +02.2	S 20	41.2 -00.1	13			
14	87 21.5 +00.6	S 23	39.8 +00.0	72 17.9 +01.9	S 22	12.1 +00.0	62 27.5 +02.2	S 20	41.1 +00.0	14			
15	102 22.1 +00.6	S 23	39.8 +00.0	87 19.8 +02.0	S 22	12.1 -00.1	77 29.7 +02.2	S 20	41.1 -00.1	15			
16	117 22.7 +00.6	S 23	39.8 +00.0	102 21.8 +01.9	S 22	12.0 -00.1	92 31.9 +02.2	S 20	41.0 +00.0	16			
17	132 23.3 +00.6	S 23	39.8 -00.1	117 23.7 +02.0	S 22	11.9 +00.0	107 34.1 +02.2	S 20	41.0 -00.1	17			
18	147 23.9 +00.6	S 23	39.7 +00.0	132 25.7 +01.9	S 22	11.9 -00.1	122 36.3 +02.2	S 20	40.9 +00.0	18			
19	162 24.5 +00.5	S 23	39.7 +00.0	147 27.6 +02.0	S 22	11.8 +00.0	137 38.5 +02.2	S 20	40.9 -00.1	19			
20	177 25.0 +00.6	S 23	39.7 +00.0	162 29.6 +01.9	S 22	11.8 -00.1	152 40.7 +02.2	S 20	40.8 +00.0	20			
21	192 25.6 +00.6	S 23	39.7 +00.0	177 31.5 +01.9	S 22	11.7 -00.1	167 42.9 +02.2	S 20	40.8 -00.1	21			
22	207 26.2 +00.6	S 23	39.7 +00.0	192 33.4 +02.0	S 22	11.6 +00.0	182 45.1 +02.2	S 20	40.7 +00.0	22			
23	222 26.8 +00.6	S 23	39.7 -00.1	207 35.4 +01.9	S 22	11.6 -00.1	197 47.3 +02.1	S 20	40.7 -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 086° 086° 086° 085° 085° 085°			SHA 070° 070° 070° 070° 070° 070°			SHA 061° 061° 061° 061° 060° 060°						
	Greenwich Culmination Time: 08:10			Greenwich Culmination Time: 09:11			Greenwich Culmination Time: 09:50						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 37.8 +00.1	S	10 06.3 -00.9	136 23.5 -00.1	N	07 24.7 +01.2	182 05.6 -27.6	S	16 15.8 -08.9				
01	191 37.9 +00.1	S	10 05.4 -01.0	151 23.4 -00.1	N	07 25.9 +01.3	196 38.0 -27.6	S	16 06.9 -08.9				
02	206 38.0 +00.1	S	10 04.4 -00.9	166 23.3 -00.2	N	07 27.2 +01.3	211 10.4 -27.5	S	15 58.0 -09.0				
03	221 38.1 +00.1	S	10 03.5 -00.9	181 23.1 -00.1	N	07 28.5 +01.2	225 42.9 -27.4	S	15 49.0 -09.1				
04	236 38.2 +00.0	S	10 02.6 -00.9	196 23.0 -00.1	N	07 29.7 +01.3	240 15.5 -27.4	S	15 39.9 -09.1				
05	251 38.2 +00.1	S	10 01.7 -00.9	211 22.9 -00.1	N	07 31.0 +01.2	254 48.1 -27.4	S	15 30.8 -09.2				
06	266 38.3 +00.1	S	10 00.8 -00.9	226 22.8 -00.1	N	07 32.2 +01.3	269 20.7 -27.3	S	15 21.6 -09.2				
07	281 38.4 +00.1	S	09 59.9 -00.9	241 22.7 -00.1	N	07 33.5 +01.3	283 53.4 -27.2	S	15 12.4 -09.3				
08	296 38.5 +00.1	S	09 59.0 -01.0	256 22.6 -00.1	N	07 34.8 +01.2	298 26.2 -27.2	S	15 03.1 -09.4				
09	311 38.6 +00.1	S	09 58.0 -00.9	271 22.5 -00.1	N	07 36.0 +01.3	312 59.0 -27.1	S	14 53.7 -09.4				
10	326 38.7 +00.0	S	09 57.1 -00.9	286 22.4 -00.1	N	07 37.3 +01.2	327 31.9 -27.1	S	14 44.3 -09.5				
11	341 38.7 +00.1	S	09 56.2 -00.9	301 22.3 -00.2	N	07 38.5 +01.3	342 04.8 -27.0	S	14 34.8 -09.6				
12	356 38.8 +00.1	S	09 55.3 -00.9	316 22.1 -00.1	N	07 39.8 +01.3	356 37.8 -26.9	S	14 25.2 -09.6				
13	11 38.9 +00.1	S	09 54.4 -00.9	331 22.0 -00.1	N	07 41.1 +01.2	11 10.9 -26.9	S	14 15.6 -09.6				
14	26 39.0 +00.1	S	09 53.5 -01.0	346 21.9 -00.1	N	07 42.3 +01.3	25 44.0 -26.9	S	14 06.0 -09.8				
15	41 39.1 +00.1	S	09 52.5 -00.9	1 21.8 -00.1	N	07 43.6 +01.2	40 17.1 -26.8	S	13 56.2 -09.7				
16	56 39.2 +00.0	S	09 51.6 -00.9	16 21.7 -00.1	N	07 44.8 +01.3	54 50.3 -26.7	S	13 46.5 -09.9				
17	71 39.2 +00.1	S	09 50.7 -00.9	31 21.6 -00.1	N	07 46.1 +01.2	69 23.6 -26.7	S	13 36.6 -09.8				
18	86 39.3 +00.1	S	09 49.8 -00.9	46 21.5 -00.1	N	07 47.3 +01.3	83 56.9 -26.7	S	13 26.8 -10.0				
19	101 39.4 +00.1	S	09 48.9 -00.9	61 21.4 -00.1	N	07 48.6 +01.3	98 30.2 -26.6	S	13 16.8 -09.9				
20	116 39.5 +00.1	S	09 48.0 -01.0	76 21.3 -00.2	N	07 49.9 +01.2	113 03.6 -26.5	S	13 06.9 -10.1				
21	131 39.6 +00.1	S	09 47.0 -00.9	91 21.1 -00.1	N	07 51.1 +01.3	127 37.1 -26.5	S	12 56.8 -10.1				
22	146 39.7 +00.0	S	09 46.1 -00.9	106 21.0 -00.1	N	07 52.4 +01.2	142 10.6 -26.4	S	12 46.7 -10.1				
23	161 39.7 +00.1	S	09 45.2 -00.9	121 20.9 -00.1	N	07 53.6 +01.3	156 44.2 -26.4	S	12 36.6 -10.2				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'2 16'2 16'2 16'2 16'2 16'2			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 00'2 00'2 00'2 00'2 00'2 00'2				HP 54'5 54'4 54'4 54'3 54'3 54'3					
	SHA 024° 024° 024° 024° 024° 023°			SHA 344° 344° 344° 343° 343° 343°				SHA 029° 027° 025° 023° 021° 019°					
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 14:54				Greenwich Culmination Time: 12:13					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	237 27.4 +00.6	S	23 39.6 +00.0	222 37.3 +02.0	S	22 11.5 +00.0	212 49.4 +02.2	S	20 40.6 +00.0				
01	252 28.0 +00.5	S	23 39.6 +00.0	237 39.3 +01.9	S	22 11.5 -00.1	227 51.6 +02.2	S	20 40.6 -00.1				
02	267 28.5 +00.6	S	23 39.6 +00.0	252 41.2 +02.0	S	22 11.4 -00.1	242 53.8 +02.2	S	20 40.5 +00.0				
03	282 29.1 +00.6	S	23 39.6 +00.0	267 43.2 +01.9	S	22 11.3 +00.0	257 56.0 +02.2	S	20 40.5 -00.1				
04	297 29.7 +00.6	S	23 39.6 -00.1	282 45.1 +01.9	S	22 11.3 -00.1	272 58.2 +02.2	S	20 40.4 +00.0				
05	312 30.3 +00.6	S	23 39.5 +00.0	297 47.0 +02.0	S	22 11.2 -00.1	288 00.4 +02.2	S	20 40.4 +00.0				
06	327 30.9 +00.6	S	23 39.5 +00.0	312 49.0 +01.9	S	22 11.1 +00.0	303 02.6 +02.2	S	20 40.4 -00.1				
07	342 31.5 +00.5	S	23 39.5 +00.0	327 50.9 +02.0	S	22 11.1 -00.1	318 04.8 +02.2	S	20 40.3 +00.0				
08	357 32.0 +00.6	S	23 39.5 -00.1	342 52.9 +01.9	S	22 11.0 +00.0	333 07.0 +02.2	S	20 40.3 -00.1				
09	12 32.6 +00.6	S	23 39.4 +00.0	357 54.8 +02.0	S	22 11.0 -00.1	348 09.2 +02.2	S	20 40.2 +00.0				
10	27 33.2 +00.6	S	23 39.4 +00.0	12 56.8 +01.9	S	22 10.9 -00.1	3 11.4 +02.2	S	20 40.2 -00.1				
11	42 33.8 +00.6	S	23 39.4 +00.0	27 58.7 +02.0	S	22 10.8 +00.0	18 13.6 +02.2	S	20 40.1 +00.0				
12	57 34.4 +00.5	S	23 39.4 -00.1	43 00.7 +01.9	S	22 10.8 -00.1	33 15.8 +02.2	S	20 40.1 -00.1				
13	72 34.9 +00.6	S	23 39.3 +00.0	58 02.6 +02.0	S	22 10.7 +00.0	48 18.0 +02.2	S	20 40.0 +00.0				
14	87 35.5 +00.6	S	23 39.3 +00.0	73 04.6 +01.9	S	22 10.7 -00.1	63 20.2 +02.2	S	20 40.0 -00.1				
15	102 36.1 +00.6	S	23 39.3 +00.0	88 06.5 +01.9	S	22 10.6 -00.1	78 22.4 +02.2	S	20 39.9 +00.0				
16	117 36.7 +00.6	S	23 39.3 -00.1	103 08.4 +02.0	S	22 10.5 +00.0	93 24.6 +02.1	S	20 39.9 -00.1				
17	132 37.3 +00.6	S	23 39.2 +00.0	118 10.4 +01.9	S	22 10.5 -00.1	108 26.7 +02.2	S	20 39.8 +00.0				
18	147 37.9 +00.5	S	23 39.2 +00.0	133 12.3 +02.0	S	22 10.4 +00.0	123 28.9 +02.2	S	20 39.8 -00.1				
19	162 38.4 +00.6	S	23 39.2 +00.0	148 14.3 +01.9	S	22 10.4 -00.1	138 31.1 +02.2	S	20 39.7 +00.0				
20	177 39.0 +00.6	S	23 39.2 -00.1	163 16.2 +02.0	S	22 10.3 -00.1	153 33.3 +02.2	S	20 39.7 -00.1				
21	192 39.6 +00.6	S	23 39.1 +00.0	178 18.2 +01.9	S	22 10.2 +00.0	168 35.5 +02.2	S	20 39.6 +00.0				
22	207 40.2 +00.6	S	23 39.1 +00.0	193 20.1 +02.0	S	22 10.2 -00.1	183 37.7 +02.2	S	20 39.6 -00.1				
23	222 40.8 +00.5	S	23 39.1 -00.1	208 22.1 +01.9	S	22 10.1 -00.1	198 39.9 +02.2	S	20 39.5 +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 085° 085° 085° 085° 085° 084°			SHA 070° 070° 070° 070° 070° 070°				SHA 060° 060° 060° 060° 060° 060°					
	Greenwich Culmination Time: 08:09			Greenwich Culmination Time: 09:08				Greenwich Culmination Time: 09:47					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 39.8 +00.1	S	09 44.3 -00.9	136 20.8 -00.1	N	07 54.9 +01.2	171 17.8 -26.4	S	12 26.4 -10.2	00			
01	191 39.9 +00.1	S	09 43.4 -01.0	151 20.7 -00.1	N	07 56.1 +01.3	185 51.4 -26.3	S	12 16.2 -10.3	01			
02	206 40.0 +00.1	S	09 42.4 -00.9	166 20.6 -00.1	N	07 57.4 +01.3	200 25.1 -26.2	S	12 05.9 -10.3	02			
03	221 40.1 +00.1	S	09 41.5 -00.9	181 20.5 -00.1	N	07 58.7 +01.2	214 58.9 -26.2	S	11 55.6 -10.4	03			
04	236 40.2 +00.1	S	09 40.6 -00.9	196 20.4 -00.1	N	07 59.9 +01.3	229 32.7 -26.2	S	11 45.2 -10.4	04			
05	251 40.3 +00.1	S	09 39.7 -00.9	211 20.3 -00.1	N	08 01.2 +01.2	244 06.5 -26.1	S	11 34.8 -10.4	05			
06	266 40.4 +00.0	S	09 38.8 -01.0	226 20.2 -00.1	N	08 02.4 +01.3	258 40.4 -26.1	S	11 24.4 -10.5	06			
07	281 40.4 +00.1	S	09 37.8 -00.9	241 20.1 -00.2	N	08 03.7 +01.2	273 14.3 -26.0	S	11 13.9 -10.6	07			
08	296 40.5 +00.1	S	09 36.9 -00.9	256 19.9 -00.1	N	08 04.9 +01.3	287 48.3 -26.0	S	11 03.3 -10.6	08			
09	311 40.6 +00.1	S	09 36.0 -00.9	271 19.8 -00.1	N	08 06.2 +01.2	302 22.3 -25.9	S	10 52.7 -10.6	09			
10	326 40.7 +00.1	S	09 35.1 -00.9	286 19.7 -00.1	N	08 07.4 +01.3	316 56.4 -25.9	S	10 42.1 -10.7	10			
11	341 40.8 +00.1	S	09 34.2 -01.0	301 19.6 -00.1	N	08 08.7 +01.2	331 30.5 -25.8	S	10 31.4 -10.7	11			
12	356 40.9 +00.1	S	09 33.2 -00.9	316 19.5 -00.1	N	08 09.9 +01.3	346 04.7 -25.8	S	10 20.7 -10.7	12			
13	11 41.0 +00.1	S	09 32.3 -00.9	331 19.4 -00.1	N	08 11.2 +01.2	0 38.9 -25.8	S	10 10.0 -10.8	13			
14	26 41.1 +00.1	S	09 31.4 -00.9	346 19.3 -00.1	N	08 12.4 +01.3	15 13.1 -25.7	S	09 59.2 -10.8	14			
15	41 41.2 +00.0	S	09 30.5 -01.0	1 19.2 -00.1	N	08 13.7 +01.2	29 47.4 -25.7	S	09 48.4 -10.8	15			
16	56 41.2 +00.1	S	09 29.5 -00.9	16 19.1 -00.1	N	08 14.9 +01.3	44 21.7 -25.7	S	09 37.6 -10.9	16			
17	71 41.3 +00.1	S	09 28.6 -00.9	31 19.0 -00.1	N	08 16.2 +01.2	58 56.0 -25.6	S	09 26.7 -10.9	17			
18	86 41.4 +00.1	S	09 27.7 -00.9	46 18.9 -00.2	N	08 17.4 +01.3	73 30.4 -25.5	S	09 15.8 -11.0	18			
19	101 41.5 +00.1	S	09 26.8 -01.0	61 18.7 -00.1	N	08 18.7 +01.2	88 04.9 -25.6	S	09 04.8 -11.0	19			
20	116 41.6 +00.1	S	09 25.8 -00.9	76 18.6 -00.1	N	08 19.9 +01.3	102 39.3 -25.5	S	08 53.8 -11.0	20			
21	131 41.7 +00.1	S	09 24.9 -00.9	91 18.5 -00.1	N	08 21.2 +01.2	117 13.8 -25.4	S	08 42.8 -11.0	21			
22	146 41.8 +00.1	S	09 24.0 -00.9	106 18.4 -00.1	N	08 22.4 +01.3	131 48.4 -25.5	S	08 31.8 -11.1	22			
23	161 41.9 +00.1	S	09 23.1 -01.0	121 18.3 -00.1	N	08 23.7 +01.2	146 22.9 -25.4	S	08 20.7 -11.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'2 00'2			SD 14'8 14'8 14'8 14'7 14'7 14'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 54'2 54'2 54'2 54'1 54'1 54'1						
	SHA 023° 023° 023° 023° 023° 022°			SHA 343° 343° 343° 342° 342° 342°			SHA 017° 015° 013° 011° 009° 008°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 14:54			Greenwich Culmination Time: 12:57						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	237 41.3 +00.6	S	23 39.0 +00.0	223 24.0 +02.0	S	22 10.0 +00.0	213 42.1 +02.2	S	20 39.5 +00.0	00			
01	252 41.9 +00.6	S	23 39.0 +00.0	238 26.0 +01.9	S	22 10.0 -00.1	228 44.3 +02.2	S	20 39.5 -00.1	01			
02	267 42.5 +00.6	S	23 39.0 +00.0	253 27.9 +02.0	S	22 09.9 +00.0	243 46.5 +02.2	S	20 39.4 +00.0	02			
03	282 43.1 +00.6	S	23 39.0 -00.1	268 29.9 +01.9	S	22 09.9 -00.1	258 48.7 +02.2	S	20 39.4 -00.1	03			
04	297 43.7 +00.6	S	23 38.9 +00.0	283 31.8 +02.0	S	22 09.8 -00.1	273 50.9 +02.2	S	20 39.3 +00.0	04			
05	312 44.3 +00.5	S	23 38.9 +00.0	298 33.8 +01.9	S	22 09.7 +00.0	288 53.1 +02.2	S	20 39.3 -00.1	05			
06	327 44.8 +00.6	S	23 38.9 -00.1	313 35.7 +02.0	S	22 09.7 -00.1	303 55.3 +02.2	S	20 39.2 +00.0	06			
07	342 45.4 +00.6	S	23 38.8 +00.0	328 37.7 +01.9	S	22 09.6 +00.0	318 57.5 +02.2	S	20 39.2 -00.1	07			
08	357 46.0 +00.6	S	23 38.8 +00.0	343 39.6 +02.0	S	22 09.6 -00.1	333 59.7 +02.2	S	20 39.1 +00.0	08			
09	12 46.6 +00.6	S	23 38.8 -00.1	358 41.6 +01.9	S	22 09.5 -00.1	349 01.9 +02.2	S	20 39.1 -00.1	09			
10	27 47.2 +00.6	S	23 38.7 +00.0	13 43.5 +01.9	S	22 09.4 +00.0	4 04.1 +02.2	S	20 39.0 +00.0	10			
11	42 47.8 +00.5	S	23 38.7 +00.0	28 45.4 +02.0	S	22 09.4 -00.1	19 06.3 +02.2	S	20 39.0 -00.1	11			
12	57 48.3 +00.6	S	23 38.7 -00.1	43 47.4 +01.9	S	22 09.3 -00.1	34 08.5 +02.2	S	20 38.9 +00.0	12			
13	72 48.9 +00.6	S	23 38.6 +00.0	58 49.3 +02.0	S	22 09.2 +00.0	49 10.7 +02.2	S	20 38.9 -00.1	13			
14	87 49.5 +00.6	S	23 38.6 +00.0	73 51.3 +01.9	S	22 09.2 -00.1	64 12.9 +02.2	S	20 38.8 +00.0	14			
15	102 50.1 +00.6	S	23 38.6 -00.1	88 53.2 +02.0	S	22 09.1 +00.0	79 15.1 +02.2	S	20 38.8 -00.1	15			
16	117 50.7 +00.5	S	23 38.5 +00.0	103 55.2 +01.9	S	22 09.1 -00.1	94 17.3 +02.1	S	20 38.7 +00.0	16			
17	132 51.2 +00.6	S	23 38.5 +00.0	118 57.1 +02.0	S	22 09.0 -00.1	109 19.4 +02.2	S	20 38.7 +00.0	17			
18	147 51.8 +00.6	S	23 38.5 -00.1	133 59.1 +01.9	S	22 08.9 +00.0	124 21.6 +02.2	S	20 38.7 -00.1	18			
19	162 52.4 +00.6	S	23 38.4 +00.0	149 01.0 +02.0	S	22 08.9 -00.1	139 23.8 +02.2	S	20 38.6 +00.0	19			
20	177 53.0 +00.6	S	23 38.4 +00.0	164 03.0 +01.9	S	22 08.8 +00.0	154 26.0 +02.2	S	20 38.6 -00.1	20			
21	192 53.6 +00.6	S	23 38.4 -00.1	179 04.9 +02.0	S	22 08.8 -00.1	169 28.2 +02.2	S	20 38.5 +00.0	21			
22	207 54.2 +00.5	S	23 38.3 +00.0	194 06.9 +02.0	S	22 08.7 -00.1	184 30.4 +02.2	S	20 38.5 -00.1	22			
23	222 54.7 +00.6	S	23 38.3 +00.0	209 08.9 +01.9	S	22 08.6 +00.0	199 32.6 +02.2	S	20 38.4 +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 084° 084° 084° 084° 084° 084°			SHA 070° 070° 070° 070° 070° 070°			SHA 060° 060° 060° 060° 060° 060°						
	Greenwich Culmination Time: 08:08			Greenwich Culmination Time: 09:05			Greenwich Culmination Time: 09:43						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	176 42.0 +00.1	S	09 22.1 -00.9	136 18.2 -00.1	N 08 24.9 +01.3	160 57.5 -25.3	S 08 09.6 -11.1	00												
01	191 42.1 +00.1	S	09 21.2 -00.9	151 18.1 -00.1	N 08 26.2 +01.2	175 32.2 -25.4	S 07 58.5 -11.2	01												
02	206 42.2 +00.1	S	09 20.3 -00.9	166 18.0 -00.1	N 08 27.4 +01.3	190 06.8 -25.3	S 07 47.3 -11.2	02												
03	221 42.3 +00.0	S	09 19.4 -01.0	181 17.9 -00.1	N 08 28.7 +01.2	204 41.5 -25.2	S 07 36.1 -11.2	03												
04	236 42.3 +00.1	S	09 18.4 -00.9	196 17.8 -00.1	N 08 29.9 +01.3	219 16.3 -25.3	S 07 24.9 -11.3	04												
05	251 42.4 +00.1	S	09 17.5 -00.9	211 17.7 -00.1	N 08 31.2 +01.2	233 51.0 -25.2	S 07 13.6 -11.2	05												
06	266 42.5 +00.1	S	09 16.6 -00.9	226 17.6 -00.1	N 08 32.4 +01.3	248 25.8 -25.1	S 07 02.4 -11.3	06												
07	281 42.6 +00.1	S	09 15.7 -01.0	241 17.5 -00.2	N 08 33.7 +01.2	263 00.7 -25.2	S 06 51.1 -11.4	07												
08	296 42.7 +00.1	S	09 14.7 -00.9	256 17.3 -00.1	N 08 34.9 +01.3	277 35.5 -25.1	S 06 39.7 -11.3	08												
09	311 42.8 +00.1	S	09 13.8 -00.9	271 17.2 -00.1	N 08 36.2 +01.2	292 10.4 -25.1	S 06 28.4 -11.4	09												
10	326 42.9 +00.1	S	09 12.9 -01.0	286 17.1 -00.1	N 08 37.4 +01.2	306 45.3 -25.0	S 06 17.0 -11.3	10												
11	341 43.0 +00.1	S	09 11.9 -00.9	301 17.0 -00.1	N 08 38.6 +01.3	321 20.3 -25.1	S 06 05.7 -11.5	11												
12	356 43.1 +00.1	S	09 11.0 -00.9	316 16.9 -00.1	N 08 39.9 +01.2	335 55.2 -25.0	S 05 54.2 -11.4	12												
13	11 43.2 +00.1	S	09 10.1 -00.9	331 16.8 -00.1	N 08 41.1 +01.3	350 30.2 -25.0	S 05 42.8 -11.4	13												
14	26 43.3 +00.1	S	09 09.2 -01.0	346 16.7 -00.1	N 08 42.4 +01.2	5 05.2 -25.0	S 05 31.4 -11.5	14												
15	41 43.4 +00.1	S	09 08.2 -00.9	1 16.6 -00.1	N 08 43.6 +01.3	19 40.2 -24.9	S 05 19.9 -11.5	15												
16	56 43.5 +00.1	S	09 07.3 -00.9	16 16.5 -00.1	N 08 44.9 +01.2	34 15.3 -24.9	S 05 08.4 -11.5	16												
17	71 43.6 +00.1	S	09 06.4 -01.0	31 16.4 -00.1	N 08 46.1 +01.2	48 50.4 -24.9	S 04 56.9 -11.5	17												
18	86 43.7 +00.1	S	09 05.4 -00.9	46 16.3 -00.1	N 08 47.3 +01.3	63 25.5 -24.9	S 04 45.4 -11.5	18												
19	101 43.8 +00.1	S	09 04.5 -00.9	61 16.2 -00.1	N 08 48.6 +01.2	78 00.6 -24.9	S 04 33.9 -11.6	19												
20	116 43.9 +00.1	S	09 03.6 -00.9	76 16.1 -00.1	N 08 49.8 +01.3	92 35.7 -24.8	S 04 22.3 -11.6	20												
21	131 44.0 +00.1	S	09 02.7 -01.0	91 16.0 -00.1	N 08 51.1 +01.2	107 10.9 -24.8	S 04 10.7 -11.5	21												
22	146 44.1 +00.1	S	09 01.7 -00.9	106 15.9 -00.2	N 08 52.3 +01.3	121 46.1 -24.8	S 03 59.2 -11.6	22												
23	161 44.2 +00.1	S	09 00.8 -00.9	121 15.7 -00.1	N 08 53.6 +01.2	136 21.3 -24.8	S 03 47.6 -11.6	23												
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'2	16'2	16'2	16'2	16'2	16'2	SD	00'2	00'2	00'2	00'2	00'2	00'2	SD	14'7	14'7	14'7	14'7	14'7	14'7
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'2	00'2	00'2	00'2	00'2	00'2	HP	54'0	54'0	54'0	54'0	54'0	54'0
SHA	022°	022°	022°	022°	022°	022°	SHA	342°	342°	342°	341°	341°	341°	SHA	006°	004°	002°	000°	358°	357°
Greenwich Culmination Time: 12:13							Greenwich Culmination Time: 14:54							Greenwich Culmination Time: 13:39						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	237 55.3 +00.6	S	23 38.3 -00.1	224 10.8 +02.0	S	22 08.6 -00.1	214 34.8 +02.2	S	20 38.4 -00.1	00										
01	252 55.9 +00.6	S	23 38.2 +00.0	239 12.8 +01.9	S	22 08.5 +00.0	229 37.0 +02.2	S	20 38.3 +00.0	01										
02	267 56.5 +00.6	S	23 38.2 -00.1	254 14.7 +02.0	S	22 08.5 -00.1	244 39.2 +02.2	S	20 38.3 -00.1	02										
03	282 57.1 +00.5	S	23 38.1 +00.0	269 16.7 +01.9	S	22 08.4 -00.1	259 41.4 +02.2	S	20 38.2 +00.0	03										
04	297 57.6 +00.6	S	23 38.1 +00.0	284 18.6 +02.0	S	22 08.3 +00.0	274 43.6 +02.2	S	20 38.2 -00.1	04										
05	312 58.2 +00.6	S	23 38.1 -00.1	299 20.6 +01.9	S	22 08.3 -00.1	289 45.8 +02.2	S	20 38.1 +00.0	05										
06	327 58.8 +00.6	S	23 38.0 +00.0	314 22.5 +02.0	S	22 08.2 -00.1	304 48.0 +02.2	S	20 38.1 -00.1	06										
07	342 59.4 +00.6	S	23 38.0 -00.1	329 24.5 +01.9	S	22 08.1 +00.0	319 50.2 +02.2	S	20 38.0 +00.0	07										
08	357 60.0 +00.6	S	23 37.9 +00.0	344 26.4 +02.0	S	22 08.1 -00.1	334 52.4 +02.2	S	20 38.0 -00.1	08										
09	13 00.6 +00.5	S	23 37.9 +00.0	359 28.4 +01.9	S	22 08.0 +00.0	349 54.6 +02.2	S	20 37.9 +00.0	09										
10	28 01.1 +00.6	S	23 37.9 -00.1	14 30.3 +02.0	S	22 08.0 -00.1	4 56.8 +02.2	S	20 37.9 +00.0	10										
11	43 01.7 +00.6	S	23 37.8 +00.0	29 32.3 +01.9	S	22 07.9 -00.1	19 59.0 +02.2	S	20 37.9 -00.1	11										
12	58 02.3 +00.6	S	23 37.8 -00.1	44 34.2 +02.0	S	22 07.8 +00.0	35 01.2 +02.2	S	20 37.8 +00.0	12										
13	73 02.9 +00.6	S	23 37.7 +00.0	59 36.2 +01.9	S	22 07.8 -00.1	50 03.4 +02.2	S	20 37.8 -00.1	13										
14	88 03.5 +00.5	S	23 37.7 -00.1	74 38.1 +02.0	S	22 07.7 +00.0	65 05.6 +02.2	S	20 37.7 +00.0	14										
15	103 04.0 +00.6	S	23 37.6 +00.0	89 40.1 +01.9	S	22 07.7 -00.1	80 07.8 +02.2	S	20 37.7 -00.1	15										
16	118 04.6 +00.6	S	23 37.6 +00.0	104 42.0 +02.0	S	22 07.6 -00.1	95 10.0 +02.2	S	20 37.6 +00.0	16										
17	133 05.2 +00.6	S	23 37.6 -00.1	119 44.0 +02.0	S	22 07.5 +00.0	110 12.2 +02.2	S	20 37.6 -00.1	17										
18	148 05.8 +00.6	S	23 37.5 +00.0	134 46.0 +01.9	S	22 07.5 -00.1	125 14.4 +02.2	S	20 37.5 +00.0	18										
19	163 06.4 +00.6	S	23 37.5 -00.1	149 47.9 +02.0	S	22 07.4 -00.1	140 16.6 +02.2	S	20 37.5 -00.1	19										
20	178 07.0 +00.5	S	23 37.4 +00.0	164 49.9 +01.9	S	22 07.3 +00.0	155 18.8 +02.2	S	20 37.4 +00.0	20										
21	193 07.5 +00.6	S	23 37.4 -00.1	179 51.8 +02.0	S	22 07.3 -00.1	170 21.0 +02.2	S	20 37.4 -00.1	21										
22	208 08.1 +00.6	S	23 37.3 +00.0	194 53.8 +01.9	S	22 07.2 +00.0	185 23.2 +02.2	S	20 37.3 +00.0	22										
23	223 08.7 +00.6	S	23 37.3 -00.1	209 55.7 +02.0	S	22 07.2 -00.1	200 25.4 +02.2	S	20 37.3 -00.1	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
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	084°	083°	083°	083°	083°	083°	SHA	070°	070°	070°	070°	070°	070°	SHA	060°	060°	060°	060°	060°	060°
Greenwich Culmination Time: 08:07							Greenwich Culmination Time: 09:02							Greenwich Culmination Time: 09:40						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 44.3 +00.1	S	08 59.9 -01.0	136 15.6 -00.1	N	08 54.8 +01.2	150 56.5 -24.8	S	03 36.0 -11.7				
01	191 44.4 +00.1	S	08 58.9 -00.9	151 15.5 -00.1	N	08 56.0 +01.3	165 31.7 -24.7	S	03 24.3 -11.6				
02	206 44.5 +00.1	S	08 58.0 -00.9	166 15.4 -00.1	N	08 57.3 +01.2	180 07.0 -24.8	S	03 12.7 -11.6				
03	221 44.6 +00.1	S	08 57.1 -01.0	181 15.3 -00.1	N	08 58.5 +01.3	194 42.2 -24.7	S	03 01.1 -11.7				
04	236 44.7 +00.1	S	08 56.1 -00.9	196 15.2 -00.1	N	08 59.8 +01.2	209 17.5 -24.7	S	02 49.4 -11.6				
05	251 44.8 +00.1	S	08 55.2 -00.9	211 15.1 -00.1	N	09 01.0 +01.2	223 52.8 -24.7	S	02 37.8 -11.7				
06	266 44.9 +00.1	S	08 54.3 -01.0	226 15.0 -00.1	N	09 02.2 +01.3	238 28.1 -24.7	S	02 26.1 -11.7				
07	281 45.0 +00.1	S	08 53.3 -00.9	241 14.9 -00.1	N	09 03.5 +01.2	253 03.4 -24.7	S	02 14.4 -11.7				
08	296 45.1 +00.1	S	08 52.4 -00.9	256 14.8 -00.1	N	09 04.7 +01.2	267 38.7 -24.7	S	02 02.7 -11.7				
09	311 45.2 +00.1	S	08 51.5 -01.0	271 14.7 -00.1	N	09 05.9 +01.3	282 14.0 -24.6	S	01 51.0 -11.7				
10	326 45.3 +00.1	S	08 50.5 -00.9	286 14.6 -00.1	N	09 07.2 +01.2	296 49.4 -24.7	S	01 39.3 -11.7				
11	341 45.4 +00.1	S	08 49.6 -00.9	301 14.5 -00.1	N	09 08.4 +01.3	311 24.7 -24.6	S	01 27.6 -11.7				
12	356 45.5 +00.1	S	08 48.7 -01.0	316 14.4 -00.1	N	09 09.7 +01.2	326 00.1 -24.7	S	01 15.9 -11.7				
13	11 45.6 +00.1	S	08 47.7 -00.9	331 14.3 -00.1	N	09 10.9 +01.2	340 35.4 -24.6	S	01 04.2 -11.7				
14	26 45.7 +00.1	S	08 46.8 -00.9	346 14.2 -00.1	N	09 12.1 +01.3	355 10.8 -24.7	S	00 52.5 -11.7				
15	41 45.8 +00.1	S	08 45.9 -01.0	1 14.1 -00.1	N	09 13.4 +01.2	9 46.1 -24.6	S	00 40.8 -11.7				
16	56 45.9 +00.1	S	08 44.9 -00.9	16 14.0 -00.1	N	09 14.6 +01.2	24 21.5 -24.6	S	00 29.1 -11.7				
17	71 46.0 +00.1	S	08 44.0 -00.9	31 13.9 -00.2	N	09 15.8 +01.3	38 56.9 -24.6	S	00 17.4 -11.8				
18	86 46.1 +00.1	S	08 43.1 -01.0	46 13.7 -00.1	N	09 17.1 +01.2	53 32.3 -24.7	S	00 05.6 -11.7				
19	101 46.2 +00.1	S	08 42.1 -00.9	61 13.6 -00.1	N	09 18.3 +01.2	68 07.6 -24.6	N	00 06.1 +11.7				
20	116 46.3 +00.1	S	08 41.2 -00.9	76 13.5 -00.1	N	09 19.5 +01.3	82 43.0 -24.6	N	00 17.8 +11.7				
21	131 46.4 +00.1	S	08 40.3 -01.0	91 13.4 -00.1	N	09 20.8 +01.2	97 18.4 -24.6	N	00 29.5 +11.8				
22	146 46.5 +00.1	S	08 39.3 -00.9	106 13.3 -00.1	N	09 22.0 +01.2	111 53.8 -24.7	N	00 41.3 +11.7				
23	161 46.6 +00.1	S	08 38.4 -01.0	121 13.2 -00.1	N	09 23.2 +01.3	126 29.1 -24.6	N	00 53.0 +11.7				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 14'7 14'7 14'7 14'7 14'7 14'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 54'0 53'9 53'9 53'9 53'9 54'0						
	SHA 021° 021° 021° 021° 021° 021°			SHA 341° 341° 341° 340° 340° 340°			SHA 355° 353° 351° 349° 347° 346°						
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 14:55			Greenwich Culmination Time: 14:19						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	238 09.3 +00.6	S	23 37.2 +00.0	224 57.7 +01.9	S	22 07.1 -00.1	215 27.6 +02.2	S	20 37.2 +00.0				
01	253 09.9 +00.5	S	23 37.2 +00.0	239 59.6 +02.0	S	22 07.0 +00.0	230 29.8 +02.2	S	20 37.2 -00.1				
02	268 10.4 +00.6	S	23 37.2 -00.1	255 01.6 +01.9	S	22 07.0 -00.1	245 32.0 +02.2	S	20 37.1 +00.0				
03	283 11.0 +00.6	S	23 37.1 +00.0	270 03.5 +02.0	S	22 06.9 +00.0	260 34.2 +02.2	S	20 37.1 +00.0				
04	298 11.6 +00.6	S	23 37.1 -00.1	285 05.5 +02.0	S	22 06.9 -00.1	275 36.4 +02.2	S	20 37.1 -00.1				
05	313 12.2 +00.6	S	23 37.0 +00.0	300 07.5 +01.9	S	22 06.8 -00.1	290 38.6 +02.2	S	20 37.0 +00.0				
06	328 12.8 +00.6	S	23 37.0 -00.1	315 09.4 +02.0	S	22 06.7 +00.0	305 40.8 +02.2	S	20 37.0 -00.1				
07	343 13.4 +00.5	S	23 36.9 +00.0	330 11.4 +01.9	S	22 06.7 -00.1	320 43.0 +02.2	S	20 36.9 +00.0				
08	358 13.9 +00.6	S	23 36.9 -00.1	345 13.3 +02.0	S	22 06.6 -00.1	335 45.2 +02.2	S	20 36.9 -00.1				
09	13 14.5 +00.6	S	23 36.8 +00.0	0 15.3 +01.9	S	22 06.5 +00.0	350 47.4 +02.2	S	20 36.8 +00.0				
10	28 15.1 +00.6	S	23 36.8 -00.1	15 17.2 +02.0	S	22 06.5 -00.1	5 49.6 +02.2	S	20 36.8 -00.1				
11	43 15.7 +00.6	S	23 36.7 +00.0	30 19.2 +02.0	S	22 06.4 +00.0	20 51.8 +02.2	S	20 36.7 +00.0				
12	58 16.3 +00.5	S	23 36.7 -00.1	45 21.2 +01.9	S	22 06.4 -00.1	35 54.0 +02.2	S	20 36.7 -00.1				
13	73 16.8 +00.6	S	23 36.6 +00.0	60 23.1 +02.0	S	22 06.3 -00.1	50 56.2 +02.2	S	20 36.6 +00.0				
14	88 17.4 +00.6	S	23 36.6 -00.1	75 25.1 +01.9	S	22 06.2 +00.0	65 58.4 +02.2	S	20 36.6 -00.1				
15	103 18.0 +00.6	S	23 36.5 +00.0	90 27.0 +02.0	S	22 06.2 -00.1	81 00.6 +02.2	S	20 36.5 +00.0				
16	118 18.6 +00.6	S	23 36.5 -00.1	105 29.0 +01.9	S	22 06.1 +00.0	96 02.8 +02.2	S	20 36.5 -00.1				
17	133 19.2 +00.6	S	23 36.4 +00.0	120 30.9 +02.0	S	22 06.1 -00.1	111 05.0 +02.2	S	20 36.4 +00.0				
18	148 19.8 +00.5	S	23 36.4 -00.1	135 32.9 +02.0	S	22 06.0 -00.1	126 07.2 +02.2	S	20 36.4 +00.0				
19	163 20.3 +00.6	S	23 36.3 -00.1	150 34.9 +01.9	S	22 05.9 +00.0	141 09.4 +02.2	S	20 36.4 -00.1				
20	178 20.9 +00.6	S	23 36.2 +00.0	165 36.8 +02.0	S	22 05.9 -00.1	156 11.6 +02.2	S	20 36.3 +00.0				
21	193 21.5 +00.6	S	23 36.2 -00.1	180 38.8 +01.9	S	22 05.8 -00.1	171 13.8 +02.2	S	20 36.3 -00.1				
22	208 22.1 +00.6	S	23 36.1 +00.0	195 40.7 +02.0	S	22 05.7 +00.0	186 16.0 +02.2	S	20 36.2 +00.0				
23	223 22.7 +00.5	S	23 36.1 -00.1	210 42.7 +02.0	S	22 05.7 -00.1	201 18.2 +02.2	S	20 36.2 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 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 083° 083° 083° 082° 082° 082°			SHA 070° 070° 070° 070° 069° 069°			SHA 060° 060° 060° 060° 060° 060°						
	Greenwich Culmination Time: 08:07			Greenwich Culmination Time: 08:58			Greenwich Culmination Time: 09:36						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 46.7 +00.1	S	08 37.4 -00.9	136 13.1 -00.1	N	09 24.5 +01.2	141 04.5 -24.6	N	01 04.7 +11.7				
01	191 46.8 +00.1	S	08 36.5 -00.9	151 13.0 -00.1	N	09 25.7 +01.2	155 39.9 -24.6	N	01 16.4 +11.7				
02	206 46.9 +00.1	S	08 35.6 -01.0	166 12.9 -00.1	N	09 26.9 +01.3	170 15.3 -24.7	N	01 28.1 +11.7				
03	221 47.0 +00.1	S	08 34.6 -00.9	181 12.8 -00.1	N	09 28.2 +01.2	184 50.6 -24.6	N	01 39.8 +11.7				
04	236 47.1 +00.1	S	08 33.7 -00.9	196 12.7 -00.1	N	09 29.4 +01.2	199 26.0 -24.7	N	01 51.5 +11.7				
05	251 47.2 +00.1	S	08 32.8 -01.0	211 12.6 -00.1	N	09 30.6 +01.2	214 01.3 -24.6	N	02 03.2 +11.7				
06	266 47.3 +00.1	S	08 31.8 -00.9	226 12.5 -00.1	N	09 31.8 +01.3	228 36.7 -24.7	N	02 14.9 +11.6				
07	281 47.4 +00.1	S	08 30.9 -01.0	241 12.4 -00.1	N	09 33.1 +01.2	243 12.0 -24.7	N	02 26.5 +11.7				
08	296 47.5 +00.2	S	08 29.9 -00.9	256 12.3 -00.1	N	09 34.3 +01.2	257 47.3 -24.7	N	02 38.2 +11.7				
09	311 47.7 +00.1	S	08 29.0 -00.9	271 12.2 -00.1	N	09 35.5 +01.3	272 22.6 -24.7	N	02 49.9 +11.6				
10	326 47.8 +00.1	S	08 28.1 -01.0	286 12.1 -00.1	N	09 36.8 +01.2	286 57.9 -24.7	N	03 01.5 +11.7				
11	341 47.9 +00.1	S	08 27.1 -00.9	301 12.0 -00.1	N	09 38.0 +01.2	301 33.2 -24.7	N	03 13.2 +11.6				
12	356 48.0 +00.1	S	08 26.2 -01.0	316 11.9 -00.1	N	09 39.2 +01.2	316 08.5 -24.7	N	03 24.8 +11.6				
13	11 48.1 +00.1	S	08 25.2 -00.9	331 11.8 -00.1	N	09 40.4 +01.3	330 43.8 -24.8	N	03 36.4 +11.6				
14	26 48.2 +00.1	S	08 24.3 -00.9	346 11.7 -00.1	N	09 41.7 +01.2	345 19.0 -24.8	N	03 48.0 +11.6				
15	41 48.3 +00.1	S	08 23.4 -01.0	1 11.6 -00.1	N	09 42.9 +01.2	359 54.2 -24.7	N	03 59.6 +11.6				
16	56 48.4 +00.1	S	08 22.4 -00.9	16 11.5 -00.1	N	09 44.1 +01.3	14 29.5 -24.8	N	04 11.2 +11.5				
17	71 48.5 +00.1	S	08 21.5 -01.0	31 11.4 -00.1	N	09 45.4 +01.2	29 04.7 -24.9	N	04 22.7 +11.6				
18	86 48.6 +00.1	S	08 20.5 -00.9	46 11.3 -00.1	N	09 46.6 +01.2	43 39.8 -24.8	N	04 34.3 +11.5				
19	101 48.7 +00.1	S	08 19.6 -00.9	61 11.2 -00.2	N	09 47.8 +01.2	58 15.0 -24.9	N	04 45.8 +11.5				
20	116 48.8 +00.2	S	08 18.7 -01.0	76 11.0 -00.1	N	09 49.0 +01.3	72 50.1 -24.8	N	04 57.3 +11.5				
21	131 49.0 +00.1	S	08 17.7 -00.9	91 10.9 -00.1	N	09 50.3 +01.2	87 25.3 -24.9	N	05 08.8 +11.5				
22	146 49.1 +00.1	S	08 16.8 -01.0	106 10.8 -00.1	N	09 51.5 +01.2	102 00.4 -24.9	N	05 20.3 +11.5				
23	161 49.2 +00.1	S	08 15.8 -00.9	121 10.7 -00.1	N	09 52.7 +01.2	116 35.5 -25.0	N	05 31.8 +11.4				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'2 16'2 16'2 16'2 16'2 16'1			SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 14'7 14'7 14'7 14'7 14'7 14'7					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 54'0 54'0 54'0 54'0 54'0 54'1					
	SHA 020° 020° 020° 020° 020° 020°			SHA 340° 340° 339° 339° 339° 339°				SHA 344° 342° 340° 338° 337° 335°					
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 14:55				Greenwich Culmination Time: 15:00					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	238 23.2 +00.6	S	23 36.0 +00.0	225 44.7 +01.9	S	22 05.6 +00.0	216 20.4 +02.2	S	20 36.1 +00.0				
01	253 23.8 +00.6	S	23 36.0 -00.1	240 46.6 +02.0	S	22 05.6 -00.1	231 22.6 +02.2	S	20 36.1 -00.1				
02	268 24.4 +00.6	S	23 35.9 +00.0	255 48.6 +01.9	S	22 05.5 -00.1	246 24.8 +02.2	S	20 36.0 +00.0				
03	283 25.0 +00.6	S	23 35.9 -00.1	270 50.5 +02.0	S	22 05.4 +00.0	261 27.0 +02.2	S	20 36.0 -00.1				
04	298 25.6 +00.6	S	23 35.8 +00.0	285 52.5 +02.0	S	22 05.4 -00.1	276 29.2 +02.2	S	20 35.9 +00.0				
05	313 26.2 +00.5	S	23 35.8 -00.1	300 54.5 +01.9	S	22 05.3 -00.1	291 31.4 +02.2	S	20 35.9 -00.1				
06	328 26.7 +00.6	S	23 35.7 -00.1	315 56.4 +02.0	S	22 05.2 +00.0	306 33.6 +02.2	S	20 35.8 +00.0				
07	343 27.3 +00.6	S	23 35.6 +00.0	330 58.4 +01.9	S	22 05.2 -00.1	321 35.8 +02.2	S	20 35.8 +00.0				
08	358 27.9 +00.6	S	23 35.6 -00.1	346 00.3 +02.0	S	22 05.1 +00.0	336 38.0 +02.2	S	20 35.8 -00.1				
09	13 28.5 +00.6	S	23 35.5 +00.0	1 02.3 +02.0	S	22 05.1 -00.1	351 40.2 +02.2	S	20 35.7 +00.0				
10	28 29.1 +00.5	S	23 35.5 -00.1	16 04.3 +01.9	S	22 05.0 -00.1	6 42.4 +02.2	S	20 35.7 -00.1				
11	43 29.6 +00.6	S	23 35.4 -00.1	31 06.2 +02.0	S	22 04.9 +00.0	21 44.6 +02.2	S	20 35.6 +00.0				
12	58 30.2 +00.6	S	23 35.3 +00.0	46 08.2 +01.9	S	22 04.9 -00.1	36 46.8 +02.2	S	20 35.6 -00.1				
13	73 30.8 +00.6	S	23 35.3 -00.1	61 10.1 +02.0	S	22 04.8 +00.0	51 49.0 +02.2	S	20 35.5 +00.0				
14	88 31.4 +00.6	S	23 35.2 +00.0	76 12.1 +02.0	S	22 04.8 -00.1	66 51.2 +02.3	S	20 35.5 -00.1				
15	103 32.0 +00.6	S	23 35.2 -00.1	91 14.1 +01.9	S	22 04.7 -00.1	81 53.5 +02.2	S	20 35.4 +00.0				
16	118 32.6 +00.5	S	23 35.1 -00.1	106 16.0 +02.0	S	22 04.6 +00.0	96 55.7 +02.2	S	20 35.4 -00.1				
17	133 33.1 +00.6	S	23 35.0 +00.0	121 18.0 +01.9	S	22 04.6 -00.1	111 57.9 +02.2	S	20 35.3 +00.0				
18	148 33.7 +00.6	S	23 35.0 -00.1	136 19.9 +02.0	S	22 04.5 -00.1	127 00.1 +02.2	S	20 35.3 -00.1				
19	163 34.3 +00.6	S	23 34.9 +00.0	151 21.9 +02.0	S	22 04.4 +00.0	142 02.3 +02.2	S	20 35.2 +00.0				
20	178 34.9 +00.6	S	23 34.9 -00.1	166 23.9 +01.9	S	22 04.4 -00.1	157 04.5 +02.2	S	20 35.2 -00.1				
21	193 35.5 +00.5	S	23 34.8 -00.1	181 25.8 +02.0	S	22 04.3 +00.0	172 06.7 +02.2	S	20 35.1 +00.0				
22	208 36.0 +00.6	S	23 34.7 +00.0	196 27.8 +02.0	S	22 04.3 -00.1	187 08.9 +02.2	S	20 35.1 +00.0				
23	223 36.6 +00.6	S	23 34.7 -00.1	211 29.8 +01.9	S	22 04.2 -00.1	202 11.1 +02.2	S	20 35.1 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'0 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 082° 082° 082° 082° 082° 081°			SHA 069° 069° 069° 069° 069° 069°				SHA 060° 060° 060° 060° 060° 060°					
	Greenwich Culmination Time: 08:06			Greenwich Culmination Time: 08:55				Greenwich Culmination Time: 09:33					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 49.3 +00.1	S	08 14.9 -00.9	136 10.6 -00.1	N	09 53.9 +01.3	131 10.5 -24.9	N	05 43.2 +11.5				
01	191 49.4 +00.1	S	08 14.0 -01.0	151 10.5 -00.1	N	09 55.2 +01.2	145 45.6 -25.0	N	05 54.7 +11.4				
02	206 49.5 +00.1	S	08 13.0 -00.9	166 10.4 -00.1	N	09 56.4 +01.2	160 20.6 -25.0	N	06 06.1 +11.4				
03	221 49.6 +00.1	S	08 12.1 -01.0	181 10.3 -00.1	N	09 57.6 +01.2	174 55.6 -25.1	N	06 17.5 +11.3				
04	236 49.7 +00.1	S	08 11.1 -00.9	196 10.2 -00.1	N	09 58.8 +01.2	189 30.5 -25.1	N	06 28.8 +11.4				
05	251 49.8 +00.1	S	08 10.2 -01.0	211 10.1 -00.1	N	10 00.0 +01.3	204 05.4 -25.1	N	06 40.2 +11.3				
06	266 49.9 +00.2	S	08 09.2 -00.9	226 10.0 -00.1	N	10 01.3 +01.2	218 40.3 -25.1	N	06 51.5 +11.3				
07	281 50.1 +00.1	S	08 08.3 -00.9	241 09.9 -00.1	N	10 02.5 +01.2	233 15.2 -25.1	N	07 02.8 +11.3				
08	296 50.2 +00.1	S	08 07.4 -01.0	256 09.8 -00.1	N	10 03.7 +01.2	247 50.1 -25.2	N	07 14.1 +11.2				
09	311 50.3 +00.1	S	08 06.4 -00.9	271 09.7 -00.1	N	10 04.9 +01.2	262 24.9 -25.2	N	07 25.3 +11.3				
10	326 50.4 +00.1	S	08 05.5 -01.0	286 09.6 -00.1	N	10 06.1 +01.3	276 59.7 -25.3	N	07 36.6 +11.2				
11	341 50.5 +00.1	S	08 04.5 -00.9	301 09.5 -00.1	N	10 07.4 +01.2	291 34.4 -25.3	N	07 47.8 +11.2				
12	356 50.6 +00.1	S	08 03.6 -01.0	316 09.4 -00.1	N	10 08.6 +01.2	306 09.1 -25.3	N	07 59.0 +11.1				
13	11 50.7 +00.1	S	08 02.6 -00.9	331 09.3 -00.1	N	10 09.8 +01.2	320 43.8 -25.3	N	08 10.1 +11.1				
14	26 50.8 +00.2	S	08 01.7 -00.9	346 09.2 -00.1	N	10 11.0 +01.2	335 18.5 -25.4	N	08 21.2 +11.1				
15	41 51.0 +00.1	S	08 00.8 -01.0	1 09.1 -00.1	N	10 12.2 +01.3	349 53.1 -25.4	N	08 32.3 +11.1				
16	56 51.1 +00.1	S	07 59.8 -00.9	16 09.0 -00.1	N	10 13.5 +01.2	4 27.7 -25.5	N	08 43.4 +11.0				
17	71 51.2 +00.1	S	07 58.9 -01.0	31 08.9 -00.1	N	10 14.7 +01.2	19 02.2 -25.5	N	08 54.4 +11.0				
18	86 51.3 +00.1	S	07 57.9 -00.9	46 08.8 -00.1	N	10 15.9 +01.2	33 36.7 -25.5	N	09 05.4 +11.0				
19	101 51.4 +00.1	S	07 57.0 -01.0	61 08.7 -00.1	N	10 17.1 +01.2	48 11.2 -25.6	N	09 16.4 +10.9				
20	116 51.5 +00.2	S	07 56.0 -00.9	76 08.6 -00.1	N	10 18.3 +01.2	62 45.6 -25.6	N	09 27.3 +10.9				
21	131 51.7 +00.1	S	07 55.1 -01.0	91 08.5 -00.1	N	10 19.5 +01.2	77 20.0 -25.7	N	09 38.2 +10.9				
22	146 51.8 +00.1	S	07 54.1 -00.9	106 08.4 -00.1	N	10 20.7 +01.3	91 54.3 -25.7	N	09 49.1 +10.8				
23	161 51.9 +00.1	S	07 53.2 -01.0	121 08.3 -00.1	N	10 22.0 +01.2	106 28.6 -25.7	N	09 59.9 +10.8				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 14'7 14'7 14'8 14'8 14'8 14'8						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 54'1 54'1 54'2 54'2 54'3 54'3						
	SHA 019° 019° 019° 019° 019° 019°			SHA 339° 339° 338° 338° 338° 338°			SHA 333° 331° 329° 327° 326° 324°						
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 14:55			Greenwich Culmination Time: 15:41						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	238 37.2 +00.6	S	23 34.6 -00.1	226 31.7 +02.0	S	22 04.1 +00.0	217 13.3 +02.2	S	20 35.0 +00.0				
01	253 37.8 +00.6	S	23 34.5 +00.0	241 33.7 +02.0	S	22 04.1 -00.1	232 15.5 +02.2	S	20 35.0 -00.1				
02	268 38.4 +00.6	S	23 34.5 -00.1	256 35.7 +01.9	S	22 04.0 +00.0	247 17.7 +02.2	S	20 34.9 +00.0				
03	283 39.0 +00.5	S	23 34.4 +00.0	271 37.6 +02.0	S	22 04.0 -00.1	262 19.9 +02.2	S	20 34.9 -00.1				
04	298 39.5 +00.6	S	23 34.4 -00.1	286 39.6 +01.9	S	22 03.9 -00.1	277 22.1 +02.2	S	20 34.8 +00.0				
05	313 40.1 +00.6	S	23 34.3 -00.1	301 41.5 +02.0	S	22 03.8 +00.0	292 24.3 +02.2	S	20 34.8 -00.1				
06	328 40.7 +00.6	S	23 34.2 +00.0	316 43.5 +02.0	S	22 03.8 -00.1	307 26.5 +02.2	S	20 34.7 +00.0				
07	343 41.3 +00.6	S	23 34.2 -00.1	331 45.5 +01.9	S	22 03.7 -00.1	322 28.7 +02.2	S	20 34.7 -00.1				
08	358 41.9 +00.5	S	23 34.1 -00.1	346 47.4 +02.0	S	22 03.6 +00.0	337 30.9 +02.2	S	20 34.6 +00.0				
09	13 42.4 +00.6	S	23 34.0 +00.0	1 49.4 +02.0	S	22 03.6 -00.1	352 33.1 +02.2	S	20 34.6 -00.1				
10	28 43.0 +00.6	S	23 34.0 -00.1	16 51.4 +01.9	S	22 03.5 +00.0	7 35.3 +02.2	S	20 34.5 +00.0				
11	43 43.6 +00.6	S	23 33.9 -00.1	31 53.3 +02.0	S	22 03.5 -00.1	22 37.5 +02.2	S	20 34.5 +00.0				
12	58 44.2 +00.6	S	23 33.8 +00.0	46 55.3 +02.0	S	22 03.4 -00.1	37 39.7 +02.2	S	20 34.5 -00.1				
13	73 44.8 +00.6	S	23 33.8 -00.1	61 57.3 +01.9	S	22 03.3 +00.0	52 41.9 +02.3	S	20 34.4 +00.0				
14	88 45.4 +00.5	S	23 33.7 -00.1	76 59.2 +02.0	S	22 03.3 -00.1	67 44.2 +02.2	S	20 34.4 -00.1				
15	103 45.9 +00.6	S	23 33.6 -00.1	92 01.2 +02.0	S	22 03.2 -00.1	82 46.4 +02.2	S	20 34.3 +00.0				
16	118 46.5 +00.6	S	23 33.5 +00.0	107 03.2 +01.9	S	22 03.1 +00.0	97 48.6 +02.2	S	20 34.3 -00.1				
17	133 47.1 +00.6	S	23 33.5 -00.1	122 05.1 +02.0	S	22 03.1 -00.1	112 50.8 +02.2	S	20 34.2 +00.0				
18	148 47.7 +00.6	S	23 33.4 -00.1	137 07.1 +02.0	S	22 03.0 +00.0	127 53.0 +02.2	S	20 34.2 -00.1				
19	163 48.3 +00.6	S	23 33.3 +00.0	152 09.1 +01.9	S	22 03.0 -00.1	142 55.2 +02.2	S	20 34.1 +00.0				
20	178 48.9 +00.5	S	23 33.3 -00.1	167 11.0 +02.0	S	22 02.9 -00.1	157 57.4 +02.2	S	20 34.1 -00.1				
21	193 49.4 +00.6	S	23 33.2 -00.1	182 13.0 +02.0	S	22 02.8 +00.0	172 59.6 +02.2	S	20 34.0 +00.0				
22	208 50.0 +00.6	S	23 33.1 +00.0	197 15.0 +01.9	S	22 02.8 -00.1	188 01.8 +02.2	S	20 34.0 -00.1				
23	223 50.6 +00.6	S	23 33.1 -00.1	212 16.9 +02.0	S	22 02.7 +00.0	203 04.0 +02.2	S	20 33.9 +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 081° 081° 081° 081° 081° 081°			SHA 069° 069° 069° 069° 069° 069°			SHA 060° 060° 060° 060° 060° 060°						
	Greenwich Culmination Time: 08:05			Greenwich Culmination Time: 08:52			Greenwich Culmination Time: 09:29						

Sun					Venus					Moon					A: 16%					
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	176 52.0 +00.1	S 07 52.2 -00.9	136 08.2 -00.1	N 10 23.2 +01.2	121 02.9 -25.8	N 10 10.7 +10.8	00													
01	191 52.1 +00.1	S 07 51.3 -01.0	151 08.1 -00.1	N 10 24.4 +01.2	135 37.1 -25.8	N 10 21.5 +10.7	01													
02	206 52.2 +00.1	S 07 50.3 -00.9	166 08.0 -00.1	N 10 25.6 +01.2	150 11.3 -25.9	N 10 32.2 +10.7	02													
03	221 52.3 +00.2	S 07 49.4 -00.9	181 07.9 -00.1	N 10 26.8 +01.2	164 45.4 -25.9	N 10 42.9 +10.7	03													
04	236 52.5 +00.1	S 07 48.5 -01.0	196 07.8 -00.1	N 10 28.0 +01.2	179 19.5 -26.0	N 10 53.6 +10.6	04													
05	251 52.6 +00.1	S 07 47.5 -00.9	211 07.7 -00.1	N 10 29.2 +01.3	193 53.5 -26.0	N 11 04.2 +10.6	05													
06	266 52.7 +00.1	S 07 46.6 -01.0	226 07.6 -00.1	N 10 30.5 +01.2	208 27.5 -26.1	N 11 14.8 +10.5	06													
07	281 52.8 +00.1	S 07 45.6 -00.9	241 07.5 -00.1	N 10 31.7 +01.2	223 01.4 -26.1	N 11 25.3 +10.5	07													
08	296 52.9 +00.2	S 07 44.7 -01.0	256 07.4 -00.1	N 10 32.9 +01.2	237 35.3 -26.1	N 11 35.8 +10.5	08													
09	311 53.1 +00.1	S 07 43.7 -00.9	271 07.3 -00.1	N 10 34.1 +01.2	252 09.2 -26.2	N 11 46.3 +10.4	09													
10	326 53.2 +00.1	S 07 42.8 -01.0	286 07.2 -00.1	N 10 35.3 +01.2	266 43.0 -26.3	N 11 56.7 +10.4	10													
11	341 53.3 +00.1	S 07 41.8 -00.9	301 07.1 -00.1	N 10 36.5 +01.2	281 16.7 -26.3	N 12 07.1 +10.3	11													
12	356 53.4 +00.1	S 07 40.9 -01.0	316 07.0 -00.1	N 10 37.7 +01.2	295 50.4 -26.4	N 12 17.4 +10.3	12													
13	11 53.5 +00.1	S 07 39.9 -00.9	331 06.9 -00.1	N 10 38.9 +01.2	310 24.0 -26.4	N 12 27.7 +10.2	13													
14	26 53.6 +00.2	S 07 39.0 -01.0	346 06.8 -00.1	N 10 40.1 +01.2	324 57.6 -26.5	N 12 37.9 +10.2	14													
15	41 53.8 +00.1	S 07 38.0 -00.9	1 06.7 -00.1	N 10 41.3 +01.3	339 31.1 -26.6	N 12 48.1 +10.2	15													
16	56 53.9 +00.1	S 07 37.1 -01.0	16 06.6 -00.1	N 10 42.6 +01.2	354 04.5 -26.6	N 12 58.3 +10.1	16													
17	71 54.0 +00.1	S 07 36.1 -00.9	31 06.5 -00.1	N 10 43.8 +01.2	8 37.9 -26.6	N 13 08.4 +10.0	17													
18	86 54.1 +00.1	S 07 35.2 -01.0	46 06.4 -00.1	N 10 45.0 +01.2	23 11.3 -26.7	N 13 18.4 +10.0	18													
19	101 54.2 +00.2	S 07 34.2 -00.9	61 06.3 -00.1	N 10 46.2 +01.2	37 44.6 -26.8	N 13 28.4 +10.0	19													
20	116 54.4 +00.1	S 07 33.3 -01.0	76 06.2 -00.1	N 10 47.4 +01.2	52 17.8 -26.8	N 13 38.4 +09.9	20													
21	131 54.5 +00.1	S 07 32.3 -00.9	91 06.1 -00.1	N 10 48.6 +01.2	66 51.0 -26.9	N 13 48.3 +09.9	21													
22	146 54.6 +00.1	S 07 31.4 -01.0	106 06.0 -00.1	N 10 49.8 +01.2	81 24.1 -27.0	N 13 58.2 +09.8	22													
23	161 54.7 +00.1	S 07 30.4 -00.9	121 05.9 -00.1	N 10 51.0 +01.2	95 57.1 -27.0	N 14 08.0 +09.7	23													
UT	02	06	10	14	18	22			UT	02	06	10	14	18	22					
SD	16'1	16'1	16'1	16'1	16'1	16'1	SD	00'2	00'2	00'2	00'2	00'2	00'2	00'2	00'2					
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'2	00'2	00'2	00'2	00'2	00'2	00'2	00'2					
SHA	019°	018°	018°	018°	018°	018°	SHA	338°	338°	337°	337°	337°	337°	337°	337°					
Greenwich Culmination Time: 12:12							Greenwich Culmination Time: 14:55							Greenwich Culmination Time: 16:24						

Mars					Jupiter					Saturn										
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	238 51.2 +00.6	S 23 33.0 -00.1	227 18.9 +02.0	S 22 02.7 -00.1	218 06.2 +02.2	S 20 33.9 +00.0	00													
01	253 51.8 +00.5	S 23 32.9 -00.1	242 20.9 +01.9	S 22 02.6 -00.1	233 08.4 +02.2	S 20 33.9 -00.1	01													
02	268 52.3 +00.6	S 23 32.8 +00.0	257 22.8 +02.0	S 22 02.5 +00.0	248 10.6 +02.2	S 20 33.8 +00.0	02													
03	283 52.9 +00.6	S 23 32.8 -00.1	272 24.8 +02.0	S 22 02.5 -00.1	263 12.8 +02.2	S 20 33.8 -00.1	03													
04	298 53.5 +00.6	S 23 32.7 -00.1	287 26.8 +01.9	S 22 02.4 -00.1	278 15.0 +02.2	S 20 33.7 +00.0	04													
05	313 54.1 +00.6	S 23 32.6 -00.1	302 28.7 +02.0	S 22 02.3 +00.0	293 17.2 +02.3	S 20 33.7 -00.1	05													
06	328 54.7 +00.6	S 23 32.5 +00.0	317 30.7 +02.0	S 22 02.3 -00.1	308 19.5 +02.2	S 20 33.6 +00.0	06													
07	343 55.3 +00.5	S 23 32.5 -00.1	332 32.7 +01.9	S 22 02.2 +00.0	323 21.7 +02.2	S 20 33.6 -00.1	07													
08	358 55.8 +00.6	S 23 32.4 -00.1	347 34.6 +02.0	S 22 02.2 -00.1	338 23.9 +02.2	S 20 33.5 +00.0	08													
09	13 56.4 +00.6	S 23 32.3 -00.1	2 36.6 +02.0	S 22 02.1 -00.1	353 26.1 +02.2	S 20 33.5 -00.1	09													
10	28 57.0 +00.6	S 23 32.2 +00.0	17 38.6 +01.9	S 22 02.0 +00.0	8 28.3 +02.2	S 20 33.4 +00.0	10													
11	43 57.6 +00.6	S 23 32.2 -00.1	32 40.5 +02.0	S 22 02.0 -00.1	23 30.5 +02.2	S 20 33.4 -00.1	11													
12	58 58.2 +00.5	S 23 32.1 -00.1	47 42.5 +02.0	S 22 01.9 -00.1	38 32.7 +02.2	S 20 33.3 +00.0	12													
13	73 58.7 +00.6	S 23 32.0 -00.1	62 44.5 +02.0	S 22 01.8 +00.0	53 34.9 +02.2	S 20 33.3 +00.0	13													
14	88 59.3 +00.6	S 23 31.9 +00.0	77 46.5 +01.9	S 22 01.8 -00.1	68 37.1 +02.2	S 20 33.3 -00.1	14													
15	103 59.9 +00.6	S 23 31.9 -00.1	92 48.4 +02.0	S 22 01.7 +00.0	83 39.3 +02.2	S 20 33.2 +00.0	15													
16	119 00.5 +00.6	S 23 31.8 -00.1	107 50.4 +02.0	S 22 01.7 -00.1	98 41.5 +02.2	S 20 33.2 -00.1	16													
17	134 01.1 +00.6	S 23 31.7 -00.1	122 52.4 +01.9	S 22 01.6 -00.1	113 43.7 +02.2	S 20 33.1 +00.0	17													
18	149 01.7 +00.5	S 23 31.6 -00.1	137 54.3 +02.0	S 22 01.5 +00.0	128 45.9 +02.3	S 20 33.1 -00.1	18													
19	164 02.2 +00.6	S 23 31.5 +00.0	152 56.3 +02.0	S 22 01.5 -00.1	143 48.2 +02.2	S 20 33.0 +00.0	19													
20	179 02.8 +00.6	S 23 31.5 -00.1	167 58.3 +02.0	S 22 01.4 +00.0	158 50.4 +02.2	S 20 33.0 -00.1	20													
21	194 03.4 +00.6	S 23 31.4 -00.1	183 00.3 +01.9	S 22 01.4 -00.1	173 52.6 +02.2	S 20 32.9 +00.0	21													
22	209 04.0 +00.6	S 23 31.3 -00.1	198 02.2 +02.0	S 22 01.3 -00.1	188 54.8 +02.2	S 20 32.9 -00.1	22													
23	224 04.6 +00.6	S 23 31.2 -00.1	213 04.2 +02.0	S 22 01.2 +00.0	203 57.0 +02.2	S 20 32.8 +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	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	00'0	00'0					
SHA	081°	080°	080°	080°	080°	080°	SHA	069°	069°	069°	069°	069°	069°	069°	069°					
Greenwich Culmination Time: 08:04							Greenwich Culmination Time: 08:49							Greenwich Culmination Time: 09:26						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 57.8 +00.2	S	07 06.6 -01.0	136 03.4 -00.1	N	11 21.0 +01.2	99 21.5 -28.8	N	17 53.5 +08.1				
01	191 58.0 +00.1	S	07 05.6 -00.9	151 03.3 -00.1	N	11 22.2 +01.2	113 52.7 -28.8	N	18 01.6 +08.1				
02	206 58.1 +00.1	S	07 04.7 -01.0	166 03.2 -00.1	N	11 23.4 +01.2	128 23.9 -28.9	N	18 09.7 +08.0				
03	221 58.2 +00.1	S	07 03.7 -00.9	181 03.1 -00.1	N	11 24.6 +01.2	142 55.0 -29.0	N	18 17.7 +07.9				
04	236 58.3 +00.2	S	07 02.8 -01.0	196 03.0 -00.1	N	11 25.8 +01.2	157 26.0 -29.1	N	18 25.6 +07.8				
05	251 58.5 +00.1	S	07 01.8 -01.0	211 02.9 -00.1	N	11 27.0 +01.1	171 56.9 -29.2	N	18 33.4 +07.8				
06	266 58.6 +00.1	S	07 00.8 -00.9	226 02.8 -00.1	N	11 28.1 +01.2	186 27.7 -29.2	N	18 41.2 +07.7				
07	281 58.7 +00.2	S	06 59.9 -01.0	241 02.7 -00.1	N	11 29.3 +01.2	200 58.5 -29.4	N	18 48.9 +07.6				
08	296 58.9 +00.1	S	06 58.9 -00.9	256 02.6 -00.1	N	11 30.5 +01.2	215 29.1 -29.4	N	18 56.5 +07.5				
09	311 59.0 +00.1	S	06 58.0 -01.0	271 02.5 -00.1	N	11 31.7 +01.2	229 59.7 -29.4	N	19 04.0 +07.4				
10	326 59.1 +00.1	S	06 57.0 -00.9	286 02.4 -00.1	N	11 32.9 +01.2	244 30.3 -29.6	N	19 11.4 +07.3				
11	341 59.2 +00.2	S	06 56.1 -01.0	301 02.3 -00.1	N	11 34.1 +01.2	259 00.7 -29.7	N	19 18.7 +07.3				
12	356 59.4 +00.1	S	06 55.1 -01.0	316 02.2 -00.1	N	11 35.3 +01.2	273 31.0 -29.7	N	19 26.0 +07.1				
13	11 59.5 +00.1	S	06 54.1 -00.9	331 02.1 +00.0	N	11 36.5 +01.2	288 01.3 -29.8	N	19 33.1 +07.1				
14	26 59.6 +00.2	S	06 53.2 -01.0	346 02.1 -00.1	N	11 37.7 +01.2	302 31.5 -29.9	N	19 40.2 +07.0				
15	41 59.8 +00.1	S	06 52.2 -00.9	1 02.0 -00.1	N	11 38.9 +01.1	317 01.6 -30.0	N	19 47.2 +06.9				
16	56 59.9 +00.1	S	06 51.3 -01.0	16 01.9 -00.1	N	11 40.0 +01.2	331 31.6 -30.0	N	19 54.1 +06.8				
17	72 00.0 +00.1	S	06 50.3 -00.9	31 01.8 -00.1	N	11 41.2 +01.2	346 01.6 -30.2	N	20 00.9 +06.7				
18	87 00.1 +00.2	S	06 49.4 -01.0	46 01.7 -00.1	N	11 42.4 +01.2	0 31.4 -30.2	N	20 07.6 +06.7				
19	102 00.3 +00.1	S	06 48.4 -01.0	61 01.6 -00.1	N	11 43.6 +01.2	15 01.2 -30.3	N	20 14.3 +06.5				
20	117 00.4 +00.1	S	06 47.4 -00.9	76 01.5 -00.1	N	11 44.8 +01.2	29 30.9 -30.4	N	20 20.8 +06.4				
21	132 00.5 +00.2	S	06 46.5 -01.0	91 01.4 -00.1	N	11 46.0 +01.2	44 00.5 -30.5	N	20 27.2 +06.4				
22	147 00.7 +00.1	S	06 45.5 -00.9	106 01.3 -00.1	N	11 47.2 +01.1	58 30.0 -30.5	N	20 33.6 +06.2				
23	162 00.8 +00.1	S	06 44.6 -01.0	121 01.2 -00.1	N	11 48.3 +01.2	72 59.5 -30.7	N	20 39.8 +06.2				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 15'1 15'1 15'1 15'2 15'2 15'2					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 55'4 55'5 55'6 55'7 55'8 56'0					
	SHA 017° 016° 016° 016° 016° 016°			SHA 336° 336° 335° 335° 335° 335°				SHA 298° 296° 294° 292° 290° 287°					
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 14:55				Greenwich Culmination Time: 17:57					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	239 19.1 +00.6	S	23 29.1 -00.1	228 53.5 +02.0	S	21 59.7 -00.1	219 52.2 +02.3	S	20 31.7 +00.0				
01	254 19.7 +00.6	S	23 29.0 -00.1	243 55.5 +02.0	S	21 59.6 +00.0	234 54.5 +02.2	S	20 31.7 -00.1				
02	269 20.3 +00.6	S	23 28.9 -00.1	258 57.5 +02.0	S	21 59.6 -00.1	249 56.7 +02.2	S	20 31.6 +00.0				
03	284 20.9 +00.6	S	23 28.8 -00.1	273 59.5 +01.9	S	21 59.5 -00.1	264 58.9 +02.2	S	20 31.6 -00.1				
04	299 21.5 +00.6	S	23 28.7 -00.1	289 01.4 +02.0	S	21 59.4 +00.0	280 01.1 +02.2	S	20 31.5 +00.0				
05	314 22.1 +00.5	S	23 28.6 -00.1	304 03.4 +02.0	S	21 59.4 -00.1	295 03.3 +02.2	S	20 31.5 -00.1				
06	329 22.6 +00.6	S	23 28.5 +00.0	319 05.4 +02.0	S	21 59.3 -00.1	310 05.5 +02.2	S	20 31.4 +00.0				
07	344 23.2 +00.6	S	23 28.5 -00.1	334 07.4 +02.0	S	21 59.2 +00.0	325 07.7 +02.2	S	20 31.4 -00.1				
08	359 23.8 +00.6	S	23 28.4 -00.1	349 09.4 +01.9	S	21 59.2 -00.1	340 09.9 +02.2	S	20 31.3 +00.0				
09	14 24.4 +00.6	S	23 28.3 -00.1	4 11.3 +02.0	S	21 59.1 +00.0	355 12.1 +02.3	S	20 31.3 +00.0				
10	29 25.0 +00.6	S	23 28.2 -00.1	19 13.3 +02.0	S	21 59.1 -00.1	10 14.4 +02.2	S	20 31.3 -00.1				
11	44 25.6 +00.5	S	23 28.1 -00.1	34 15.3 +02.0	S	21 59.0 -00.1	25 16.6 +02.2	S	20 31.2 +00.0				
12	59 26.1 +00.6	S	23 28.0 -00.1	49 17.3 +01.9	S	21 58.9 +00.0	40 18.8 +02.2	S	20 31.2 -00.1				
13	74 26.7 +00.6	S	23 27.9 -00.1	64 19.2 +02.0	S	21 58.9 -00.1	55 21.0 +02.2	S	20 31.1 +00.0				
14	89 27.3 +00.6	S	23 27.8 -00.1	79 21.2 +02.0	S	21 58.8 +00.0	70 23.2 +02.2	S	20 31.1 -00.1				
15	104 27.9 +00.6	S	23 27.7 -00.1	94 23.2 +02.0	S	21 58.8 -00.1	85 25.4 +02.2	S	20 31.0 +00.0				
16	119 28.5 +00.6	S	23 27.6 -00.1	109 25.2 +02.0	S	21 58.7 -00.1	100 27.6 +02.2	S	20 31.0 -00.1				
17	134 29.1 +00.5	S	23 27.5 -00.1	124 27.2 +01.9	S	21 58.6 +00.0	115 29.8 +02.3	S	20 30.9 +00.0				
18	149 29.6 +00.6	S	23 27.4 -00.1	139 29.1 +02.0	S	21 58.6 -00.1	130 32.1 +02.2	S	20 30.9 -00.1				
19	164 30.2 +00.6	S	23 27.3 -00.1	154 31.1 +02.0	S	21 58.5 -00.1	145 34.3 +02.2	S	20 30.8 +00.0				
20	179 30.8 +00.6	S	23 27.2 -00.1	169 33.1 +02.0	S	21 58.4 +00.0	160 36.5 +02.2	S	20 30.8 +00.0				
21	194 31.4 +00.6	S	23 27.1 -00.1	184 35.1 +02.0	S	21 58.4 -00.1	175 38.7 +02.2	S	20 30.8 -00.1				
22	209 32.0 +00.6	S	23 27.0 -00.1	199 37.1 +01.9	S	21 58.3 +00.0	190 40.9 +02.2	S	20 30.7 +00.0				
23	224 32.6 +00.5	S	23 26.9 -00.1	214 39.0 +02.0	S	21 58.3 -00.1	205 43.1 +02.2	S	20 30.7 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'0 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 079° 079° 079° 079° 079° 078°			SHA 069° 069° 069° 069° 069° 068°				SHA 060° 060° 060° 060° 060° 060°					
	Greenwich Culmination Time: 08:02			Greenwich Culmination Time: 08:43				Greenwich Culmination Time: 09:19					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 26%				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 00.9 +00.2	S 06	43.6 -01.0	136 01.1 -00.1	N 11	49.5 +01.2	87 28.8 -30.7	N 20	46.0 +06.0				
01	192 01.1 +00.1	S 06	42.6 -00.9	151 01.0 -00.1	N 11	50.7 +01.2	101 58.1 -30.8	N 20	52.0 +06.0				
02	207 01.2 +00.1	S 06	41.7 -01.0	166 00.9 -00.1	N 11	51.9 +01.2	116 27.3 -30.9	N 20	58.0 +05.8				
03	222 01.3 +00.2	S 06	40.7 -00.9	181 00.8 -00.1	N 11	53.1 +01.2	130 56.4 -30.9	N 21	03.8 +05.8				
04	237 01.5 +00.1	S 06	39.8 -01.0	196 00.7 -00.1	N 11	54.3 +01.1	145 25.5 -31.1	N 21	09.6 +05.6				
05	252 01.6 +00.1	S 06	38.8 -01.0	211 00.6 -00.1	N 11	55.4 +01.2	159 54.4 -31.1	N 21	15.2 +05.5				
06	267 01.7 +00.2	S 06	37.8 -00.9	226 00.5 -00.1	N 11	56.6 +01.2	174 23.3 -31.3	N 21	20.7 +05.5				
07	282 01.9 +00.1	S 06	36.9 -01.0	241 00.4 -00.1	N 11	57.8 +01.2	188 52.0 -31.3	N 21	26.2 +05.3				
08	297 02.0 +00.1	S 06	35.9 -00.9	256 00.3 -00.1	N 11	59.0 +01.2	203 20.7 -31.4	N 21	31.5 +05.2				
09	312 02.1 +00.2	S 06	35.0 -01.0	271 00.2 -00.1	N 12	00.2 +01.1	217 49.3 -31.4	N 21	36.7 +05.1				
10	327 02.3 +00.1	S 06	34.0 -01.0	286 00.1 -00.1	N 12	01.3 +01.2	232 17.9 -31.6	N 21	41.8 +05.0				
11	342 02.4 +00.1	S 06	33.0 -00.9	301 00.0 -00.1	N 12	02.5 +01.2	246 46.3 -31.6	N 21	46.8 +04.9				
12	357 02.5 +00.2	S 06	32.1 -01.0	315 59.9 -00.1	N 12	03.7 +01.2	261 14.7 -31.8	N 21	51.7 +04.8				
13	12 02.7 +00.1	S 06	31.1 -01.0	330 59.8 -00.1	N 12	04.9 +01.2	275 42.9 -31.8	N 21	56.5 +04.7				
14	27 02.8 +00.1	S 06	30.1 -00.9	345 59.7 -00.1	N 12	06.1 +01.1	290 11.1 -31.8	N 22	01.2 +04.5				
15	42 02.9 +00.2	S 06	29.2 -01.0	0 59.6 -00.1	N 12	07.2 +01.2	304 39.3 -32.0	N 22	05.7 +04.5				
16	57 03.1 +00.1	S 06	28.2 -00.9	15 59.5 +00.0	N 12	08.4 +01.2	319 07.3 -32.1	N 22	10.2 +04.3				
17	72 03.2 +00.1	S 06	27.3 -01.0	30 59.5 -00.1	N 12	09.6 +01.2	333 35.2 -32.1	N 22	14.5 +04.2				
18	87 03.3 +00.2	S 06	26.3 -01.0	45 59.4 -00.1	N 12	10.8 +01.1	348 03.1 -32.2	N 22	18.7 +04.1				
19	102 03.5 +00.1	S 06	25.3 -00.9	60 59.3 -00.1	N 12	11.9 +01.2	2 30.9 -32.3	N 22	22.8 +04.0				
20	117 03.6 +00.2	S 06	24.4 -01.0	75 59.2 -00.1	N 12	13.1 +01.2	16 58.6 -32.4	N 22	26.8 +03.8				
21	132 03.8 +00.1	S 06	23.4 -01.0	90 59.1 -00.1	N 12	14.3 +01.2	31 26.2 -32.4	N 22	30.6 +03.8				
22	147 03.9 +00.1	S 06	22.4 -00.9	105 59.0 -00.1	N 12	15.5 +01.1	45 53.8 -32.5	N 22	34.4 +03.6				
23	162 04.0 +00.2	S 06	21.5 -01.0	120 58.9 -00.1	N 12	16.6 +01.2	60 21.3 -32.6	N 22	38.0 +03.5				
	UT 02 06 10 14 18 22 SD 16'1 16'1 16'1 16'1 16'1 16'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 016° 016° 015° 015° 015° 015° Greenwich Culmination Time: 12:11	UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 335° 335° 334° 334° 334° 334° Greenwich Culmination Time: 14:56	UT 02 06 10 14 18 22 SD 15'3 15'3 15'4 15'4 15'4 15'5 HP 56'1 56'2 56'4 56'5 56'7 56'8 SHA 285° 283° 281° 278° 276° 274° Greenwich Culmination Time: 18:49										
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	239 33.1 +00.6	S 23	26.8 -00.1	229 41.0 +02.0	S 21	58.2 -00.1	220 45.3 +02.3	S 20	30.6 +00.0				
01	254 33.7 +00.6	S 23	26.7 -00.1	244 43.0 +02.0	S 21	58.1 +00.0	235 47.6 +02.2	S 20	30.6 -00.1				
02	269 34.3 +00.6	S 23	26.6 -00.1	259 45.0 +02.0	S 21	58.1 -00.1	250 49.8 +02.2	S 20	30.5 +00.0				
03	284 34.9 +00.6	S 23	26.5 -00.1	274 47.0 +01.9	S 21	58.0 -00.1	265 52.0 +02.2	S 20	30.5 -00.1				
04	299 35.5 +00.6	S 23	26.4 -00.1	289 48.9 +02.0	S 21	57.9 +00.0	280 54.2 +02.2	S 20	30.4 +00.0				
05	314 36.1 +00.5	S 23	26.3 -00.1	304 50.9 +02.0	S 21	57.9 -00.1	295 56.4 +02.2	S 20	30.4 -00.1				
06	329 36.6 +00.6	S 23	26.2 -00.1	319 52.9 +02.0	S 21	57.8 +00.0	310 58.6 +02.2	S 20	30.3 +00.0				
07	344 37.2 +00.6	S 23	26.1 -00.1	334 54.9 +02.0	S 21	57.8 -00.1	326 00.8 +02.3	S 20	30.3 +00.0				
08	359 37.8 +00.6	S 23	26.0 -00.1	349 56.9 +01.9	S 21	57.7 -00.1	341 03.1 +02.2	S 20	30.3 -00.1				
09	14 38.4 +00.6	S 23	25.9 -00.1	4 58.8 +02.0	S 21	57.6 +00.0	356 05.3 +02.2	S 20	30.2 +00.0				
10	29 39.0 +00.6	S 23	25.8 -00.1	20 00.8 +02.0	S 21	57.6 -00.1	11 07.5 +02.2	S 20	30.2 -00.1				
11	44 39.6 +00.5	S 23	25.7 -00.1	35 02.8 +02.0	S 21	57.5 +00.0	26 09.7 +02.2	S 20	30.1 +00.0				
12	59 40.1 +00.6	S 23	25.6 -00.1	50 04.8 +02.0	S 21	57.5 -00.1	41 11.9 +02.2	S 20	30.1 -00.1				
13	74 40.7 +00.6	S 23	25.5 -00.1	65 06.8 +02.0	S 21	57.4 -00.1	56 14.1 +02.2	S 20	30.0 +00.0				
14	89 41.3 +00.6	S 23	25.4 -00.1	80 08.8 +01.9	S 21	57.3 +00.0	71 16.3 +02.3	S 20	30.0 -00.1				
15	104 41.9 +00.6	S 23	25.3 -00.1	95 10.7 +02.0	S 21	57.3 -00.1	86 18.6 +02.2	S 20	29.9 +00.0				
16	119 42.5 +00.6	S 23	25.2 -00.1	110 12.7 +02.0	S 21	57.2 -00.1	101 20.8 +02.2	S 20	29.9 +00.0				
17	134 43.1 +00.5	S 23	25.1 -00.1	125 14.7 +02.0	S 21	57.1 +00.0	116 23.0 +02.2	S 20	29.9 -00.1				
18	149 43.6 +00.6	S 23	25.0 -00.1	140 16.7 +02.0	S 21	57.1 -00.1	131 25.2 +02.2	S 20	29.8 +00.0				
19	164 44.2 +00.6	S 23	24.9 -00.1	155 18.7 +02.0	S 21	57.0 +00.0	146 27.4 +02.2	S 20	29.8 -00.1				
20	179 44.8 +00.6	S 23	24.8 -00.1	170 20.7 +01.9	S 21	57.0 -00.1	161 29.6 +02.3	S 20	29.7 +00.0				
21	194 45.4 +00.6	S 23	24.7 -00.1	185 22.6 +02.0	S 21	56.9 -00.1	176 31.9 +02.2	S 20	29.7 -00.1				
22	209 46.0 +00.6	S 23	24.6 -00.1	200 24.6 +02.0	S 21	56.8 +00.0	191 34.1 +02.2	S 20	29.6 +00.0				
23	224 46.6 +00.5	S 23	24.5 -00.1	215 26.6 +02.0	S 21	56.8 -00.1	206 36.3 +02.2	S 20	29.6 -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 078° 078° 078° 078° 078° 078° Greenwich Culmination Time: 08:01	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 068° 068° 068° 068° 068° 068° Greenwich Culmination Time: 08:40	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 060° 060° 059° 059° 059° 059° Greenwich Culmination Time: 09:15										

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 11.0 +00.1	S 05 34.1 -01.0	135 54.3 -00.1	N 13 13.5 +01.2	47 29.2 -35.2	N 22 49.3 -03.4	00						
01	192 11.1 +00.2	S 05 33.1 -00.9	150 54.2 -00.1	N 13 14.7 +01.1	61 54.0 -35.3	N 22 45.9 -03.6	01						
02	207 11.3 +00.1	S 05 32.2 -01.0	165 54.1 -00.1	N 13 15.8 +01.2	76 18.7 -35.3	N 22 42.3 -03.7	02						
03	222 11.4 +00.1	S 05 31.2 -01.0	180 54.0 -00.1	N 13 17.0 +01.1	90 43.4 -35.3	N 22 38.6 -03.9	03						
04	237 11.5 +00.2	S 05 30.2 -00.9	195 53.9 +00.0	N 13 18.1 +01.2	105 08.1 -35.3	N 22 34.7 -04.1	04						
05	252 11.7 +00.1	S 05 29.3 -01.0	210 53.9 -00.1	N 13 19.3 +01.1	119 32.8 -35.4	N 22 30.6 -04.2	05						
06	267 11.8 +00.2	S 05 28.3 -01.0	225 53.8 -00.1	N 13 20.4 +01.2	133 57.4 -35.3	N 22 26.4 -04.3	06						
07	282 12.0 +00.1	S 05 27.3 -00.9	240 53.7 -00.1	N 13 21.6 +01.1	148 22.1 -35.4	N 22 22.1 -04.5	07						
08	297 12.1 +00.2	S 05 26.4 -01.0	255 53.6 -00.1	N 13 22.7 +01.2	162 46.7 -35.4	N 22 17.6 -04.7	08						
09	312 12.3 +00.1	S 05 25.4 -01.0	270 53.5 -00.1	N 13 23.9 +01.1	177 11.3 -35.4	N 22 12.9 -04.8	09						
10	327 12.4 +00.2	S 05 24.4 -01.0	285 53.4 -00.1	N 13 25.0 +01.2	191 35.9 -35.4	N 22 08.1 -04.9	10						
11	342 12.6 +00.1	S 05 23.4 -00.9	300 53.3 -00.1	N 13 26.2 +01.1	206 00.5 -35.4	N 22 03.2 -05.2	11						
12	357 12.7 +00.2	S 05 22.5 -01.0	315 53.2 -00.1	N 13 27.3 +01.1	220 25.1 -35.4	N 21 58.0 -05.2	12						
13	12 12.9 +00.1	S 05 21.5 -01.0	330 53.1 -00.1	N 13 28.4 +01.2	234 49.7 -35.4	N 21 52.8 -05.4	13						
14	27 13.0 +00.2	S 05 20.5 -00.9	345 53.0 -00.1	N 13 29.6 +01.1	249 14.3 -35.5	N 21 47.4 -05.6	14						
15	42 13.2 +00.1	S 05 19.6 -01.0	0 52.9 +00.0	N 13 30.7 +01.2	263 38.8 -35.4	N 21 41.8 -05.7	15						
16	57 13.3 +00.2	S 05 18.6 -01.0	15 52.9 -00.1	N 13 31.9 +01.1	278 03.4 -35.4	N 21 36.1 -05.9	16						
17	72 13.5 +00.1	S 05 17.6 -01.0	30 52.8 -00.1	N 13 33.0 +01.1	292 28.0 -35.5	N 21 30.2 -06.0	17						
18	87 13.6 +00.2	S 05 16.6 -00.9	45 52.7 -00.1	N 13 34.1 +01.2	306 52.5 -35.4	N 21 24.2 -06.2	18						
19	102 13.8 +00.1	S 05 15.7 -01.0	60 52.6 -00.1	N 13 35.3 +01.1	321 17.1 -35.4	N 21 18.0 -06.3	19						
20	117 13.9 +00.2	S 05 14.7 -01.0	75 52.5 -00.1	N 13 36.4 +01.2	335 41.7 -35.5	N 21 11.7 -06.5	20						
21	132 14.1 +00.1	S 05 13.7 -01.0	90 52.4 -00.1	N 13 37.6 +01.1	350 06.2 -35.4	N 21 05.2 -06.6	21						
22	147 14.2 +00.2	S 05 12.7 -00.9	105 52.3 -00.1	N 13 38.7 +01.1	4 30.8 -35.4	N 20 58.6 -06.8	22						
23	162 14.4 +00.1	S 05 11.8 -01.0	120 52.2 -00.1	N 13 39.8 +01.2	18 55.4 -35.4	N 20 51.8 -06.9	23						
	UT 02 06 10 14 18 22	SD 16'1 16'1 16'1 16'1 16'1 16'1	UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	UT 02 06 10 14 18 22	SD 16'0 16'1 16'1 16'2 16'2 16'3							
	HP 00'1 00'1 00'1 00'1 00'1 00'1	UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	UT 02 06 10 14 18 22	SD 58'9 59'0 59'2 59'4 59'5 59'7								
	SHA 013° 013° 013° 012° 012° 012°	UT 02 06 10 14 18 22	SD 332° 331° 331° 331° 331° 331°	UT 02 06 10 14 18 22	SD 242° 240° 237° 234° 232° 229°								
	Greenwich Culmination Time: 12:11		Greenwich Culmination Time: 14:56		Greenwich Culmination Time: 21:41								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	240 15.2 +00.6	S 23 18.8 -00.1	232 04.1 +02.0	S 21 53.7 +00.0	223 25.0 +02.2	S 20 27.4 +00.0	00						
01	255 15.8 +00.6	S 23 18.7 -00.1	247 06.1 +02.0	S 21 53.7 -00.1	238 27.2 +02.2	S 20 27.4 -00.1	01						
02	270 16.4 +00.6	S 23 18.6 -00.1	262 08.1 +02.0	S 21 53.6 +00.0	253 29.4 +02.3	S 20 27.3 +00.0	02						
03	285 17.0 +00.5	S 23 18.5 -00.2	277 10.1 +01.9	S 21 53.6 -00.1	268 31.7 +02.2	S 20 27.3 -00.1	03						
04	300 17.5 +00.6	S 23 18.3 -00.1	292 12.0 +02.0	S 21 53.5 -00.1	283 33.9 +02.2	S 20 27.2 +00.0	04						
05	315 18.1 +00.6	S 23 18.2 -00.1	307 14.0 +02.0	S 21 53.4 +00.0	298 36.1 +02.2	S 20 27.2 -00.1	05						
06	330 18.7 +00.6	S 23 18.1 -00.1	322 16.0 +02.0	S 21 53.4 -00.1	313 38.3 +02.3	S 20 27.1 +00.0	06						
07	345 19.3 +00.6	S 23 18.0 -00.2	337 18.0 +02.0	S 21 53.3 +00.0	328 40.6 +02.2	S 20 27.1 +00.0	07						
08	0 19.9 +00.6	S 23 17.8 -00.1	352 20.0 +02.0	S 21 53.3 -00.1	343 42.8 +02.2	S 20 27.1 -00.1	08						
09	15 20.5 +00.6	S 23 17.7 -00.1	7 22.0 +02.0	S 21 53.2 -00.1	358 45.0 +02.2	S 20 27.0 +00.0	09						
10	30 21.1 +00.5	S 23 17.6 -00.1	22 24.0 +02.0	S 21 53.1 +00.0	13 47.2 +02.2	S 20 27.0 -00.1	10						
11	45 21.6 +00.6	S 23 17.5 -00.2	37 26.0 +02.0	S 21 53.1 -00.1	28 49.4 +02.3	S 20 26.9 +00.0	11						
12	60 22.2 +00.6	S 23 17.3 -00.1	52 28.0 +02.0	S 21 53.0 -00.1	43 51.7 +02.2	S 20 26.9 -00.1	12						
13	75 22.8 +00.6	S 23 17.2 -00.1	67 30.0 +02.0	S 21 52.9 +00.0	58 53.9 +02.2	S 20 26.8 +00.0	13						
14	90 23.4 +00.6	S 23 17.1 -00.2	82 32.0 +02.0	S 21 52.9 -00.1	73 56.1 +02.2	S 20 26.8 +00.0	14						
15	105 24.0 +00.6	S 23 16.9 -00.1	97 34.0 +02.0	S 21 52.8 +00.0	88 58.3 +02.3	S 20 26.8 -00.1	15						
16	120 24.6 +00.6	S 23 16.8 -00.1	112 36.0 +02.0	S 21 52.8 -00.1	104 00.6 +02.2	S 20 26.7 +00.0	16						
17	135 25.2 +00.5	S 23 16.7 -00.1	127 38.0 +02.0	S 21 52.7 -00.1	119 02.8 +02.2	S 20 26.7 -00.1	17						
18	150 25.7 +00.6	S 23 16.6 -00.2	142 40.0 +02.0	S 21 52.6 +00.0	134 05.0 +02.2	S 20 26.6 +00.0	18						
19	165 26.3 +00.6	S 23 16.4 -00.1	157 42.0 +02.0	S 21 52.6 -00.1	149 07.2 +02.3	S 20 26.6 -00.1	19						
20	180 26.9 +00.6	S 23 16.3 -00.1	172 44.0 +02.0	S 21 52.5 +00.0	164 09.5 +02.2	S 20 26.5 +00.0	20						
21	195 27.5 +00.6	S 23 16.2 -00.2	187 46.0 +02.0	S 21 52.5 -00.1	179 11.7 +02.2	S 20 26.5 -00.1	21						
22	210 28.1 +00.6	S 23 16.0 -00.1	202 48.0 +02.0	S 21 52.4 -00.1	194 13.9 +02.2	S 20 26.4 +00.0	22						
23	225 28.7 +00.6	S 23 15.9 -00.1	217 50.0 +02.0	S 21 52.3 +00.0	209 16.1 +02.2	S 20 26.4 +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 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 076° 076° 076° 076° 076° 075°	UT 02 06 10 14 18 22	SD 068° 068° 068° 068° 068° 068°	UT 02 06 10 14 18 22	SD 059° 059° 059° 059° 059° 059°								
	Greenwich Culmination Time: 07:58		Greenwich Culmination Time: 08:30		Greenwich Culmination Time: 09:04								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 41%				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 14.5 +00.2	S	05 10.8 -01.0	135 52.1 -00.1	N	13 41.0 +01.1	33 20.0 -35.4	N	20 44.9 -07.1				
01	192 14.7 +00.1	S	05 09.8 -00.9	150 52.0 +00.0	N	13 42.1 +01.2	47 44.6 -35.4	N	20 37.8 -07.2				
02	207 14.8 +00.2	S	05 08.9 -01.0	165 52.0 -00.1	N	13 43.3 +01.1	62 09.2 -35.4	N	20 30.6 -07.4				
03	222 15.0 +00.1	S	05 07.9 -01.0	180 51.9 -00.1	N	13 44.4 +01.1	76 33.8 -35.3	N	20 23.2 -07.5				
04	237 15.1 +00.2	S	05 06.9 -01.0	195 51.8 -00.1	N	13 45.5 +01.2	90 58.5 -35.4	N	20 15.7 -07.6				
05	252 15.3 +00.1	S	05 05.9 -00.9	210 51.7 -00.1	N	13 46.7 +01.1	105 23.1 -35.3	N	20 08.1 -07.8				
06	267 15.4 +00.2	S	05 05.0 -01.0	225 51.6 -00.1	N	13 47.8 +01.1	119 47.8 -35.3	N	20 00.3 -08.0				
07	282 15.6 +00.1	S	05 04.0 -01.0	240 51.5 -00.1	N	13 48.9 +01.2	134 12.5 -35.3	N	19 52.3 -08.0				
08	297 15.7 +00.2	S	05 03.0 -01.0	255 51.4 -00.1	N	13 50.1 +01.1	148 37.2 -35.3	N	19 44.3 -08.3				
09	312 15.9 +00.1	S	05 02.0 -00.9	270 51.3 -00.1	N	13 51.2 +01.1	163 01.9 -35.3	N	19 36.0 -08.3				
10	327 16.0 +00.2	S	05 01.1 -01.0	285 51.2 -00.1	N	13 52.3 +01.2	177 26.6 -35.2	N	19 27.7 -08.5				
11	342 16.2 +00.1	S	05 00.1 -01.0	300 51.1 +00.0	N	13 53.5 +01.1	191 51.4 -35.3	N	19 19.2 -08.7				
12	357 16.3 +00.2	S	04 59.1 -01.0	315 51.1 -00.1	N	13 54.6 +01.1	206 16.1 -35.2	N	19 10.5 -08.8				
13	12 16.5 +00.1	S	04 58.1 -00.9	330 51.0 -00.1	N	13 55.7 +01.1	220 40.9 -35.1	N	19 01.7 -08.9				
14	27 16.6 +00.2	S	04 57.2 -01.0	345 50.9 -00.1	N	13 56.8 +01.2	235 05.8 -35.2	N	18 52.8 -09.0				
15	42 16.8 +00.1	S	04 56.2 -01.0	0 50.8 -00.1	N	13 58.0 +01.1	249 30.6 -35.1	N	18 43.8 -09.2				
16	57 16.9 +00.2	S	04 55.2 -01.0	15 50.7 -00.1	N	13 59.1 +01.1	263 55.5 -35.1	N	18 34.6 -09.4				
17	72 17.1 +00.2	S	04 54.2 -00.9	30 50.6 -00.1	N	14 00.2 +01.2	278 20.4 -35.1	N	18 25.2 -09.4				
18	87 17.3 +00.1	S	04 53.3 -01.0	45 50.5 -00.1	N	14 01.4 +01.1	292 45.3 -35.0	N	18 15.8 -09.6				
19	102 17.4 +00.2	S	04 52.3 -01.0	60 50.4 -00.1	N	14 02.5 +01.1	307 10.3 -35.0	N	18 06.2 -09.8				
20	117 17.6 +00.1	S	04 51.3 -01.0	75 50.3 +00.0	N	14 03.6 +01.1	321 35.3 -35.0	N	17 56.4 -09.8				
21	132 17.7 +00.2	S	04 50.3 -00.9	90 50.3 -00.1	N	14 04.7 +01.2	336 00.3 -35.0	N	17 46.6 -10.0				
22	147 17.9 +00.1	S	04 49.4 -01.0	105 50.2 -00.1	N	14 05.9 +01.1	350 25.3 -34.9	N	17 36.6 -10.1				
23	162 18.0 +00.2	S	04 48.4 -01.0	120 50.1 -00.1	N	14 07.0 +01.1	4 50.4 -34.9	N	17 26.5 -10.3				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 16'3 16'3 16'4 16'4 16'4 16'5						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 59'8 60'0 60'1 60'2 60'4 60'5						
	SHA 012° 012° 012° 012° 011° 011°			SHA 331° 330° 330° 330° 330° 330°			SHA 227° 224° 222° 219° 217° 214°						
	Greenwich Culmination Time: 12:10			Greenwich Culmination Time: 14:56			Greenwich Culmination Time: 22:39						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	240 29.3 +00.6	S	23 15.8 -00.2	232 52.0 +02.0	S	21 52.3 -00.1	224 18.3 +02.3	S	20 26.4 -00.1				
01	255 29.9 +00.5	S	23 15.6 -00.1	247 54.0 +02.0	S	21 52.2 -00.1	239 20.6 +02.2	S	20 26.3 +00.0				
02	270 30.4 +00.6	S	23 15.5 -00.1	262 56.0 +02.0	S	21 52.1 +00.0	254 22.8 +02.2	S	20 26.3 -00.1				
03	285 31.0 +00.6	S	23 15.4 -00.2	277 58.0 +02.0	S	21 52.1 -00.1	269 25.0 +02.2	S	20 26.2 +00.0				
04	300 31.6 +00.6	S	23 15.2 -00.1	292 60.0 +02.0	S	21 52.0 +00.0	284 27.2 +02.3	S	20 26.2 -00.1				
05	315 32.2 +00.6	S	23 15.1 -00.1	308 02.0 +02.0	S	21 52.0 -00.1	299 29.5 +02.2	S	20 26.1 +00.0				
06	330 32.8 +00.6	S	23 15.0 -00.2	323 04.0 +02.0	S	21 51.9 -00.1	314 31.7 +02.2	S	20 26.1 +00.0				
07	345 33.4 +00.6	S	23 14.8 -00.1	338 06.0 +02.0	S	21 51.8 +00.0	329 33.9 +02.2	S	20 26.1 -00.1				
08	0 34.0 +00.5	S	23 14.7 -00.1	353 08.0 +02.0	S	21 51.8 -00.1	344 36.1 +02.3	S	20 26.0 +00.0				
09	15 34.5 +00.6	S	23 14.6 -00.2	8 10.0 +02.0	S	21 51.7 +00.0	359 38.4 +02.2	S	20 26.0 -00.1				
10	30 35.1 +00.6	S	23 14.4 -00.1	23 12.0 +02.0	S	21 51.7 -00.1	14 40.6 +02.2	S	20 25.9 +00.0				
11	45 35.7 +00.6	S	23 14.3 -00.1	38 14.0 +02.0	S	21 51.6 -00.1	29 42.8 +02.2	S	20 25.9 -00.1				
12	60 36.3 +00.6	S	23 14.2 -00.2	53 16.0 +02.0	S	21 51.5 +00.0	44 45.0 +02.3	S	20 25.8 +00.0				
13	75 36.9 +00.6	S	23 14.0 -00.1	68 18.0 +02.0	S	21 51.5 -00.1	59 47.3 +02.2	S	20 25.8 -00.1				
14	90 37.5 +00.6	S	23 13.9 -00.2	83 20.0 +02.0	S	21 51.4 -00.1	74 49.5 +02.2	S	20 25.7 +00.0				
15	105 38.1 +00.5	S	23 13.7 -00.1	98 22.0 +02.0	S	21 51.3 +00.0	89 51.7 +02.2	S	20 25.7 +00.0				
16	120 38.6 +00.6	S	23 13.6 -00.1	113 24.0 +02.0	S	21 51.3 -00.1	104 53.9 +02.3	S	20 25.7 -00.1				
17	135 39.2 +00.6	S	23 13.5 -00.2	128 26.0 +02.0	S	21 51.2 +00.0	119 56.2 +02.2	S	20 25.6 +00.0				
18	150 39.8 +00.6	S	23 13.3 -00.1	143 28.0 +02.0	S	21 51.2 -00.1	134 58.4 +02.2	S	20 25.6 -00.1				
19	165 40.4 +00.6	S	23 13.2 -00.1	158 30.0 +02.0	S	21 51.1 -00.1	150 00.6 +02.2	S	20 25.5 +00.0				
20	180 41.0 +00.6	S	23 13.1 -00.2	173 32.0 +02.0	S	21 51.0 +00.0	165 02.8 +02.3	S	20 25.5 -00.1				
21	195 41.6 +00.6	S	23 12.9 -00.1	188 34.0 +02.0	S	21 51.0 -00.1	180 05.1 +02.2	S	20 25.4 +00.0				
22	210 42.2 +00.6	S	23 12.8 -00.2	203 36.0 +02.0	S	21 50.9 +00.0	195 07.3 +02.2	S	20 25.4 +00.0				
23	225 42.8 +00.5	S	23 12.6 -00.1	218 38.0 +02.0	S	21 50.9 -00.1	210 09.5 +02.3	S	20 25.4 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 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 075° 075° 075° 075° 075° 075°			SHA 068° 068° 068° 068° 068° 068°			SHA 059° 059° 059° 059° 059° 059°						
	Greenwich Culmination Time: 07:57			Greenwich Culmination Time: 08:27			Greenwich Culmination Time: 09:01						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 18.2 +00.1	S 04	47.4 -01.0	135 50.0 -00.1	N 14	08.1 +01.1	19 15.5 -34.9	N 17	16.2 -10.3	00			
01	192 18.3 +00.2	S 04	46.4 -00.9	150 49.9 -00.1	N 14	09.2 +01.2	33 40.6 -34.8	N 17	05.9 -10.5	01			
02	207 18.5 +00.1	S 04	45.5 -01.0	165 49.8 -00.1	N 14	10.4 +01.1	48 05.8 -34.8	N 16	55.4 -10.7	02			
03	222 18.6 +00.2	S 04	44.5 -01.0	180 49.7 -00.1	N 14	11.5 +01.1	62 31.0 -34.8	N 16	44.7 -10.7	03			
04	237 18.8 +00.2	S 04	43.5 -01.0	195 49.6 +00.0	N 14	12.6 +01.1	76 56.2 -34.7	N 16	34.0 -10.9	04			
05	252 19.0 +00.1	S 04	42.5 -00.9	210 49.6 -00.1	N 14	13.7 +01.2	91 21.5 -34.7	N 16	23.1 -10.9	05			
06	267 19.1 +00.2	S 04	41.6 -01.0	225 49.5 -00.1	N 14	14.9 +01.1	105 46.8 -34.7	N 16	12.2 -11.1	06			
07	282 19.3 +00.1	S 04	40.6 -01.0	240 49.4 -00.1	N 14	16.0 +01.1	120 12.1 -34.6	N 16	01.1 -11.2	07			
08	297 19.4 +00.2	S 04	39.6 -01.0	255 49.3 -00.1	N 14	17.1 +01.1	134 37.5 -34.6	N 15	49.9 -11.4	08			
09	312 19.6 +00.1	S 04	38.6 -00.9	270 49.2 -00.1	N 14	18.2 +01.1	149 02.9 -34.5	N 15	38.5 -11.4	09			
10	327 19.7 +00.2	S 04	37.7 -01.0	285 49.1 -00.1	N 14	19.3 +01.1	163 28.4 -34.6	N 15	27.1 -11.6	10			
11	342 19.9 +00.1	S 04	36.7 -01.0	300 49.0 -00.1	N 14	20.4 +01.2	177 53.8 -34.4	N 15	15.5 -11.6	11			
12	357 20.0 +00.2	S 04	35.7 -01.0	315 48.9 +00.0	N 14	21.6 +01.1	192 19.4 -34.5	N 15	03.9 -11.8	12			
13	12 20.2 +00.2	S 04	34.7 -00.9	330 48.9 -00.1	N 14	22.7 +01.1	206 44.9 -34.4	N 14	52.1 -11.9	13			
14	27 20.4 +00.1	S 04	33.8 -01.0	345 48.8 -00.1	N 14	23.8 +01.1	221 10.5 -34.3	N 14	40.2 -12.0	14			
15	42 20.5 +00.2	S 04	32.8 -01.0	0 48.7 -00.1	N 14	24.9 +01.1	235 36.2 -34.4	N 14	28.2 -12.1	15			
16	57 20.7 +00.1	S 04	31.8 -01.0	15 48.6 -00.1	N 14	26.0 +01.1	250 01.8 -34.3	N 14	16.1 -12.2	16			
17	72 20.8 +00.2	S 04	30.8 -01.0	30 48.5 -00.1	N 14	27.1 +01.2	264 27.5 -34.2	N 14	03.9 -12.3	17			
18	87 21.0 +00.1	S 04	29.8 -00.9	45 48.4 -00.1	N 14	28.3 +01.1	278 53.3 -34.2	N 13	51.6 -12.4	18			
19	102 21.1 +00.2	S 04	28.9 -01.0	60 48.3 +00.0	N 14	29.4 +01.1	293 19.1 -34.2	N 13	39.2 -12.5	19			
20	117 21.3 +00.2	S 04	27.9 -01.0	75 48.3 -00.1	N 14	30.5 +01.1	307 44.9 -34.1	N 13	26.7 -12.6	20			
21	132 21.5 +00.1	S 04	26.9 -01.0	90 48.2 -00.1	N 14	31.6 +01.1	322 10.8 -34.1	N 13	14.1 -12.7	21			
22	147 21.6 +00.2	S 04	25.9 -00.9	105 48.1 -00.1	N 14	32.7 +01.1	336 36.7 -34.1	N 13	01.4 -12.8	22			
23	162 21.8 +00.1	S 04	25.0 -01.0	120 48.0 -00.1	N 14	33.8 +01.1	351 02.6 -34.0	N 12	48.6 -12.8	23			
	UT 02 06 10 14 18 22 SD 16'1 16'1 16'1 16'1 16'1 16'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 011° 011° 011° 011° 010° 010° Greenwich Culmination Time: 12:10	UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 330° 329° 329° 329° 329° 329° Greenwich Culmination Time: 14:56	UT 02 06 10 14 18 22 SD 16'5 16'5 16'6 16'6 16'6 16'6 HP 60'6 60'7 60'8 60'9 61'0 61'1 SHA 212° 209° 207° 204° 202° 200° Greenwich Culmination Time: 23:37										
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	240 43.3 +00.6	S 23	12.5 -00.1	233 40.0 +02.0	S 21	50.8 -00.1	225 11.8 +02.2	S 20	25.3 +00.0	00			
01	255 43.9 +00.6	S 23	12.4 -00.2	248 42.0 +02.0	S 21	50.7 +00.0	240 14.0 +02.2	S 20	25.3 -00.1	01			
02	270 44.5 +00.6	S 23	12.2 -00.1	263 44.0 +02.0	S 21	50.7 -00.1	255 16.2 +02.2	S 20	25.2 +00.0	02			
03	285 45.1 +00.6	S 23	12.1 -00.2	278 46.0 +02.0	S 21	50.6 -00.1	270 18.4 +02.3	S 20	25.2 -00.1	03			
04	300 45.7 +00.6	S 23	11.9 -00.1	293 48.0 +02.0	S 21	50.5 +00.0	285 20.7 +02.2	S 20	25.1 +00.0	04			
05	315 46.3 +00.6	S 23	11.8 -00.2	308 50.0 +02.0	S 21	50.5 -00.1	300 22.9 +02.2	S 20	25.1 +00.0	05			
06	330 46.9 +00.6	S 23	11.6 -00.1	323 52.0 +02.0	S 21	50.4 +00.0	315 25.1 +02.2	S 20	25.1 -00.1	06			
07	345 47.5 +00.5	S 23	11.5 -00.1	338 54.0 +02.0	S 21	50.4 -00.1	330 27.3 +02.3	S 20	25.0 +00.0	07			
08	0 48.0 +00.6	S 23	11.4 -00.2	353 56.0 +02.0	S 21	50.3 -00.1	345 29.6 +02.2	S 20	25.0 -00.1	08			
09	15 48.6 +00.6	S 23	11.2 -00.1	8 58.0 +02.0	S 21	50.2 +00.0	0 31.8 +02.2	S 20	24.9 +00.0	09			
10	30 49.2 +00.6	S 23	11.1 -00.2	24 00.0 +02.0	S 21	50.2 -00.1	15 34.0 +02.3	S 20	24.9 -00.1	10			
11	45 49.8 +00.6	S 23	10.9 -00.1	39 02.0 +02.0	S 21	50.1 +00.0	30 36.3 +02.2	S 20	24.8 +00.0	11			
12	60 50.4 +00.6	S 23	10.8 -00.2	54 04.0 +02.0	S 21	50.1 -00.1	45 38.5 +02.2	S 20	24.8 +00.0	12			
13	75 51.0 +00.6	S 23	10.6 -00.1	69 06.0 +02.0	S 21	50.0 -00.1	60 40.7 +02.2	S 20	24.8 -00.1	13			
14	90 51.6 +00.6	S 23	10.5 -00.2	84 08.0 +02.1	S 21	49.9 +00.0	75 42.9 +02.3	S 20	24.7 +00.0	14			
15	105 52.2 +00.5	S 23	10.3 -00.1	99 10.1 +02.0	S 21	49.9 -00.1	90 45.2 +02.2	S 20	24.7 -00.1	15			
16	120 52.7 +00.6	S 23	10.2 -00.1	114 12.1 +02.0	S 21	49.8 +00.0	105 47.4 +02.2	S 20	24.6 +00.0	16			
17	135 53.3 +00.6	S 23	10.1 -00.2	129 14.1 +02.0	S 21	49.8 -00.1	120 49.6 +02.3	S 20	24.6 -00.1	17			
18	150 53.9 +00.6	S 23	09.9 -00.1	144 16.1 +02.0	S 21	49.7 -00.1	135 51.9 +02.2	S 20	24.5 +00.0	18			
19	165 54.5 +00.6	S 23	09.8 -00.2	159 18.1 +02.0	S 21	49.6 +00.0	150 54.1 +02.2	S 20	24.5 +00.0	19			
20	180 55.1 +00.6	S 23	09.6 -00.1	174 20.1 +02.0	S 21	49.6 -00.1	165 56.3 +02.2	S 20	24.5 -00.1	20			
21	195 55.7 +00.6	S 23	09.5 -00.2	189 22.1 +02.0	S 21	49.5 -00.1	180 58.5 +02.3	S 20	24.4 +00.0	21			
22	210 56.3 +00.6	S 23	09.3 -00.1	204 24.1 +02.0	S 21	49.4 +00.0	196 00.8 +02.2	S 20	24.4 -00.1	22			
23	225 56.9 +00.5	S 23	09.2 -00.2	219 26.1 +02.0	S 21	49.4 -00.1	211 03.0 +02.2	S 20	24.3 +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 075° 074° 074° 074° 074° 074° Greenwich Culmination Time: 07:56	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 067° 067° 067° 067° 067° 067° Greenwich Culmination Time: 08:24	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 059° 059° 059° 059° 059° 059° Greenwich Culmination Time: 08:57										

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 21.9 +00.2	S	04 24.0 -01.0	135 47.9 -00.1	N	14 34.9 +01.1	5 28.6 -33.9	N	12 35.8 -13.0				
01	192 22.1 +00.2	S	04 23.0 -01.0	150 47.8 -00.1	N	14 36.0 +01.2	19 54.7 -34.0	N	12 22.8 -13.1				
02	207 22.3 +00.1	S	04 22.0 -01.0	165 47.7 +00.0	N	14 37.2 +01.1	34 20.7 -33.9	N	12 09.7 -13.1				
03	222 22.4 +00.2	S	04 21.0 -00.9	180 47.7 -00.1	N	14 38.3 +01.1	48 46.8 -33.8	N	11 56.6 -13.2				
04	237 22.6 +00.1	S	04 20.1 -01.0	195 47.6 -00.1	N	14 39.4 +01.1	63 13.0 -33.8	N	11 43.4 -13.4				
05	252 22.7 +00.2	S	04 19.1 -01.0	210 47.5 -00.1	N	14 40.5 +01.1	77 39.2 -33.8	N	11 30.0 -13.4				
06	267 22.9 +00.1	S	04 18.1 -01.0	225 47.4 -00.1	N	14 41.6 +01.1	92 05.4 -33.7	N	11 16.6 -13.4				
07	282 23.0 +00.2	S	04 17.1 -00.9	240 47.3 -00.1	N	14 42.7 +01.1	106 31.7 -33.7	N	11 03.2 -13.6				
08	297 23.2 +00.2	S	04 16.2 -01.0	255 47.2 -00.1	N	14 43.8 +01.1	120 58.0 -33.7	N	10 49.6 -13.6				
09	312 23.4 +00.1	S	04 15.2 -01.0	270 47.1 +00.0	N	14 44.9 +01.1	135 24.3 -33.6	N	10 36.0 -13.7				
10	327 23.5 +00.2	S	04 14.2 -01.0	285 47.1 -00.1	N	14 46.0 +01.1	149 50.7 -33.6	N	10 22.3 -13.8				
11	342 23.7 +00.1	S	04 13.2 -01.0	300 47.0 -00.1	N	14 47.1 +01.1	164 17.1 -33.5	N	10 08.5 -13.9				
12	357 23.8 +00.2	S	04 12.2 -00.9	315 46.9 -00.1	N	14 48.2 +01.1	178 43.6 -33.5	N	09 54.6 -13.9				
13	12 24.0 +00.2	S	04 11.3 -01.0	330 46.8 -00.1	N	14 49.3 +01.1	193 10.1 -33.5	N	09 40.7 -14.0				
14	27 24.2 +00.1	S	04 10.3 -01.0	345 46.7 -00.1	N	14 50.4 +01.1	207 36.6 -33.4	N	09 26.7 -14.0				
15	42 24.3 +00.2	S	04 09.3 -01.0	0 46.6 -00.1	N	14 51.5 +01.1	222 03.2 -33.4	N	09 12.7 -14.1				
16	57 24.5 +00.1	S	04 08.3 -01.0	15 46.5 +00.0	N	14 52.6 +01.1	236 29.8 -33.4	N	08 58.6 -14.2				
17	72 24.6 +00.2	S	04 07.3 -00.9	30 46.5 -00.1	N	14 53.7 +01.1	250 56.4 -33.3	N	08 44.4 -14.2				
18	87 24.8 +00.2	S	04 06.4 -01.0	45 46.4 -00.1	N	14 54.8 +01.1	265 23.1 -33.3	N	08 30.2 -14.3				
19	102 25.0 +00.1	S	04 05.4 -01.0	60 46.3 -00.1	N	14 55.9 +01.1	279 49.8 -33.2	N	08 15.9 -14.4				
20	117 25.1 +00.2	S	04 04.4 -01.0	75 46.2 -00.1	N	14 57.0 +01.1	294 16.6 -33.3	N	08 01.5 -14.4				
21	132 25.3 +00.2	S	04 03.4 -01.0	90 46.1 -00.1	N	14 58.1 +01.1	308 43.3 -33.1	N	07 47.1 -14.5				
22	147 25.5 +00.1	S	04 02.4 -00.9	105 46.0 +00.0	N	14 59.2 +01.1	323 10.2 -33.2	N	07 32.6 -14.5				
23	162 25.6 +00.2	S	04 01.5 -01.0	120 46.0 -00.1	N	15 00.3 +01.1	337 37.0 -33.1	N	07 18.1 -14.5				
	UT 02 06 10 14 18 22 SD 16'1 16'1 16'1 16'1 16'1 16'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 010° 010° 010° 010° 010° 009° Greenwich Culmination Time: 12:10	UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 329° 328° 328° 328° 328° 328° Greenwich Culmination Time: 14:56	UT 02 06 10 14 18 22 SD 16'7 16'7 16'7 16'7 16'7 16'7 HP 61'1 61'2 61'2 61'3 61'3 61'3 SHA 197° 195° 192° 190° 188° 185° 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	240 57.4 +00.6	S	23 09.0 -00.1	234 28.1 +02.0	S	21 49.3 +00.0	226 05.2 +02.3	S	20 24.3 -00.1				
01	255 58.0 +00.6	S	23 08.9 -00.2	249 30.1 +02.0	S	21 49.3 -00.1	241 07.5 +02.2	S	20 24.2 +00.0				
02	270 58.6 +00.6	S	23 08.7 -00.1	264 32.1 +02.0	S	21 49.2 -00.1	256 09.7 +02.2	S	20 24.2 +00.0				
03	285 59.2 +00.6	S	23 08.6 -00.2	279 34.1 +02.0	S	21 49.1 +00.0	271 11.9 +02.2	S	20 24.2 -00.1				
04	300 59.8 +00.6	S	23 08.4 -00.1	294 36.1 +02.1	S	21 49.1 -00.1	286 14.1 +02.3	S	20 24.1 +00.0				
05	316 00.4 +00.6	S	23 08.3 -00.2	309 38.2 +02.0	S	21 49.0 +00.0	301 16.4 +02.2	S	20 24.1 -00.1				
06	331 01.0 +00.6	S	23 08.1 -00.1	324 40.2 +02.0	S	21 49.0 -00.1	316 18.6 +02.2	S	20 24.0 +00.0				
07	346 01.6 +00.5	S	23 08.0 -00.2	339 42.2 +02.0	S	21 48.9 -00.1	331 20.8 +02.3	S	20 24.0 -00.1				
08	1 02.1 +00.6	S	23 07.8 -00.1	354 44.2 +02.0	S	21 48.8 +00.0	346 23.1 +02.2	S	20 23.9 +00.0				
09	16 02.7 +00.6	S	23 07.7 -00.2	9 46.2 +02.0	S	21 48.8 -00.1	1 25.3 +02.2	S	20 23.9 +00.0				
10	31 03.3 +00.6	S	23 07.5 -00.1	24 48.2 +02.0	S	21 48.7 +00.0	16 27.5 +02.3	S	20 23.9 -00.1				
11	46 03.9 +00.6	S	23 07.4 -00.2	39 50.2 +02.0	S	21 48.7 -00.1	31 29.8 +02.2	S	20 23.8 +00.0				
12	61 04.5 +00.6	S	23 07.2 -00.2	54 52.2 +02.0	S	21 48.6 -00.1	46 32.0 +02.2	S	20 23.8 -00.1				
13	76 05.1 +00.6	S	23 07.0 -00.1	69 54.2 +02.0	S	21 48.5 +00.0	61 34.2 +02.2	S	20 23.7 +00.0				
14	91 05.7 +00.6	S	23 06.9 -00.2	84 56.2 +02.0	S	21 48.5 -00.1	76 36.4 +02.3	S	20 23.7 -00.1				
15	106 06.3 +00.6	S	23 06.7 -00.1	99 58.2 +02.1	S	21 48.4 -00.1	91 38.7 +02.2	S	20 23.6 +00.0				
16	121 06.9 +00.5	S	23 06.6 -00.2	115 00.3 +02.0	S	21 48.3 +00.0	106 40.9 +02.2	S	20 23.6 +00.0				
17	136 07.4 +00.6	S	23 06.4 -00.1	130 02.3 +02.0	S	21 48.3 -00.1	121 43.1 +02.3	S	20 23.6 -00.1				
18	151 08.0 +00.6	S	23 06.3 -00.2	145 04.3 +02.0	S	21 48.2 +00.0	136 45.4 +02.2	S	20 23.5 +00.0				
19	166 08.6 +00.6	S	23 06.1 -00.1	160 06.3 +02.0	S	21 48.2 -00.1	151 47.6 +02.2	S	20 23.5 -00.1				
20	181 09.2 +00.6	S	23 06.0 -00.2	175 08.3 +02.0	S	21 48.1 -00.1	166 49.8 +02.3	S	20 23.4 +00.0				
21	196 09.8 +00.6	S	23 05.8 -00.2	190 10.3 +02.0	S	21 48.0 +00.0	181 52.1 +02.2	S	20 23.4 -00.1				
22	211 10.4 +00.6	S	23 05.6 -00.1	205 12.3 +02.0	S	21 48.0 -00.1	196 54.3 +02.2	S	20 23.3 +00.0				
23	226 11.0 +00.6	S	23 05.5 -00.2	220 14.3 +02.0	S	21 47.9 +00.0	211 56.5 +02.3	S	20 23.3 +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 074° 074° 074° 073° 073° 073° Greenwich Culmination Time: 07:55	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 067° 067° 067° 067° 067° 067° Greenwich Culmination Time: 08:21	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 059° 059° 059° 059° 059° 059° Greenwich Culmination Time: 08:54										

Table for Sun, Venus, and Moon. Columns include UT, GHA, ddGHA, Dec, dDec, and UT. Includes Greenwich Culmination Time: 12:09.

Table for Mars, Jupiter, and Saturn. Columns include UT, GHA, ddGHA, Dec, dDec, and UT. Includes Greenwich Culmination Time: 07:53, 08:14, and 08:47.

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 33.7 +00.2	S 03 13.4 -01.0	135 41.9 +00.0	N 15 53.4 +01.1	326 02.9 -32.2	S 04 55.7 +14.6	00						
01	192 33.9 +00.1	S 03 12.4 -01.0	150 41.9 -00.1	N 15 54.5 +01.1	340 30.7 -32.2	S 05 10.3 +14.6	01						
02	207 34.0 +00.2	S 03 11.4 -01.0	165 41.8 -00.1	N 15 55.6 +01.0	354 58.5 -32.2	S 05 24.9 +14.6	02						
03	222 34.2 +00.2	S 03 10.4 -01.0	180 41.7 -00.1	N 15 56.6 +01.1	9 26.3 -32.2	S 05 39.5 +14.5	03						
04	237 34.4 +00.1	S 03 09.4 -01.0	195 41.6 -00.1	N 15 57.7 +01.1	23 54.1 -32.2	S 05 54.0 +14.5	04						
05	252 34.5 +00.2	S 03 08.4 -01.0	210 41.5 +00.0	N 15 58.8 +01.0	38 21.9 -32.1	S 06 08.5 +14.4	05						
06	267 34.7 +00.2	S 03 07.4 -00.9	225 41.5 -00.1	N 15 59.8 +01.1	52 49.8 -32.3	S 06 22.9 +14.4	06						
07	282 34.9 +00.2	S 03 06.5 -01.0	240 41.4 -00.1	N 16 00.9 +01.1	67 17.5 -32.2	S 06 37.3 +14.3	07						
08	297 35.1 +00.1	S 03 05.5 -01.0	255 41.3 -00.1	N 16 02.0 +01.0	81 45.3 -32.2	S 06 51.6 +14.3	08						
09	312 35.2 +00.2	S 03 04.5 -01.0	270 41.2 -00.1	N 16 03.0 +01.1	96 13.1 -32.2	S 07 05.9 +14.2	09						
10	327 35.4 +00.2	S 03 03.5 -01.0	285 41.1 +00.0	N 16 04.1 +01.1	110 40.9 -32.2	S 07 20.1 +14.1	10						
11	342 35.6 +00.1	S 03 02.5 -01.0	300 41.1 -00.1	N 16 05.2 +01.0	125 08.7 -32.2	S 07 34.2 +14.1	11						
12	357 35.7 +00.2	S 03 01.5 -00.9	315 41.0 -00.1	N 16 06.2 +01.1	139 36.5 -32.2	S 07 48.3 +14.0	12						
13	12 35.9 +00.2	S 03 00.6 -01.0	330 40.9 -00.1	N 16 07.3 +01.0	154 04.3 -32.3	S 08 02.3 +14.0	13						
14	27 36.1 +00.1	S 02 59.6 -01.0	345 40.8 +00.0	N 16 08.3 +01.1	168 32.0 -32.2	S 08 16.3 +13.9	14						
15	42 36.2 +00.2	S 02 58.6 -01.0	0 40.8 -00.1	N 16 09.4 +01.1	182 59.8 -32.2	S 08 30.2 +13.9	15						
16	57 36.4 +00.2	S 02 57.6 -01.0	15 40.7 -00.1	N 16 10.5 +01.0	197 27.6 -32.3	S 08 44.1 +13.7	16						
17	72 36.6 +00.2	S 02 56.6 -01.0	30 40.6 -00.1	N 16 11.5 +01.1	211 55.3 -32.2	S 08 57.8 +13.7	17						
18	87 36.8 +00.1	S 02 55.6 -00.9	45 40.5 -00.1	N 16 12.6 +01.0	226 23.1 -32.3	S 09 11.5 +13.7	18						
19	102 36.9 +00.2	S 02 54.7 -01.0	60 40.4 +00.0	N 16 13.6 +01.1	240 50.8 -32.3	S 09 25.2 +13.5	19						
20	117 37.1 +00.2	S 02 53.7 -01.0	75 40.4 -00.1	N 16 14.7 +01.1	255 18.5 -32.3	S 09 38.7 +13.5	20						
21	132 37.3 +00.1	S 02 52.7 -01.0	90 40.3 -00.1	N 16 15.8 +01.0	269 46.2 -32.2	S 09 52.2 +13.5	21						
22	147 37.4 +00.2	S 02 51.7 -01.0	105 40.2 -00.1	N 16 16.8 +01.1	284 14.0 -32.3	S 10 05.7 +13.3	22						
23	162 37.6 +00.2	S 02 50.7 -01.0	120 40.1 +00.0	N 16 17.9 +01.0	298 41.7 -32.4	S 10 19.0 +13.3	23						
	UT 02 06 10 14 18 22	SD 16'1 16'1 16'1 16'1 16'1 16'1	UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	UT 02 06 10 14 18 22	SD 16'6 16'6 16'5 16'5 16'5 16'4							
	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 60'8 60'7 60'6 60'5 60'4 60'3		HP 00'0 00'0 00'0 00'0 00'0 00'0							
	SHA 007° 007° 007° 007° 007° 007°	SHA 326° 325° 325° 325° 325° 325°		SHA 155° 152° 150° 148° 146° 143°		SHA 072° 071° 071° 071° 071° 071°							
	Greenwich Culmination Time: 12:09	Greenwich Culmination Time: 14:57		Greenwich Culmination Time: 02:20		Greenwich Culmination Time: 07:53							

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	241 39.9 +00.6	S 22 57.4 -00.2	236 53.2 +02.0	S 21 44.9 +00.0	228 46.0 +02.3	S 20 21.2 +00.0	00						
01	256 40.5 +00.6	S 22 57.2 -00.2	251 55.2 +02.0	S 21 44.9 -00.1	243 48.3 +02.2	S 20 21.2 +00.0	01						
02	271 41.1 +00.6	S 22 57.0 -00.2	266 57.2 +02.0	S 21 44.8 +00.0	258 50.5 +02.2	S 20 21.2 -00.1	02						
03	286 41.7 +00.6	S 22 56.8 -00.1	281 59.2 +02.1	S 21 44.8 -00.1	273 52.7 +02.3	S 20 21.1 +00.0	03						
04	301 42.3 +00.6	S 22 56.7 -00.2	297 01.3 +02.0	S 21 44.7 -00.1	288 55.0 +02.2	S 20 21.1 -00.1	04						
05	316 42.9 +00.5	S 22 56.5 -00.2	312 03.3 +02.0	S 21 44.6 +00.0	303 57.2 +02.3	S 20 21.0 +00.0	05						
06	331 43.4 +00.6	S 22 56.3 -00.2	327 05.3 +02.0	S 21 44.6 -00.1	318 59.5 +02.2	S 20 21.0 +00.0	06						
07	346 44.0 +00.6	S 22 56.1 -00.1	342 07.3 +02.1	S 21 44.5 +00.0	334 01.7 +02.2	S 20 21.0 -00.1	07						
08	1 44.6 +00.6	S 22 56.0 -00.2	357 09.4 +02.0	S 21 44.5 -00.1	349 03.9 +02.3	S 20 20.9 +00.0	08						
09	16 45.2 +00.6	S 22 55.8 -00.2	12 11.4 +02.0	S 21 44.4 -00.1	4 06.2 +02.2	S 20 20.9 -00.1	09						
10	31 45.8 +00.6	S 22 55.6 -00.2	27 13.4 +02.0	S 21 44.3 +00.0	19 08.4 +02.2	S 20 20.8 +00.0	10						
11	46 46.4 +00.6	S 22 55.4 -00.2	42 15.4 +02.0	S 21 44.3 -00.1	34 10.6 +02.3	S 20 20.8 -00.1	11						
12	61 47.0 +00.6	S 22 55.2 -00.1	57 17.4 +02.1	S 21 44.2 -00.1	49 12.9 +02.2	S 20 20.7 +00.0	12						
13	76 47.6 +00.6	S 22 55.1 -00.2	72 19.5 +02.0	S 21 44.1 +00.0	64 15.1 +02.3	S 20 20.7 +00.0	13						
14	91 48.2 +00.6	S 22 54.9 -00.2	87 21.5 +02.0	S 21 44.1 -00.1	79 17.4 +02.2	S 20 20.7 -00.1	14						
15	106 48.8 +00.6	S 22 54.7 -00.2	102 23.5 +02.0	S 21 44.0 +00.0	94 19.6 +02.2	S 20 20.6 +00.0	15						
16	121 49.4 +00.6	S 22 54.5 -00.2	117 25.5 +02.1	S 21 44.0 -00.1	109 21.8 +02.3	S 20 20.6 -00.1	16						
17	136 50.0 +00.5	S 22 54.3 -00.1	132 27.6 +02.0	S 21 43.9 -00.1	124 24.1 +02.2	S 20 20.5 +00.0	17						
18	151 50.5 +00.6	S 22 54.2 -00.2	147 29.6 +02.0	S 21 43.8 +00.0	139 26.3 +02.3	S 20 20.5 +00.0	18						
19	166 51.1 +00.6	S 22 54.0 -00.2	162 31.6 +02.1	S 21 43.8 -00.1	154 28.6 +02.2	S 20 20.5 -00.1	19						
20	181 51.7 +00.6	S 22 53.8 -00.2	177 33.7 +02.0	S 21 43.7 +00.0	169 30.8 +02.2	S 20 20.4 +00.0	20						
21	196 52.3 +00.6	S 22 53.6 -00.2	192 35.7 +02.0	S 21 43.7 -00.1	184 33.0 +02.3	S 20 20.4 -00.1	21						
22	211 52.9 +00.6	S 22 53.4 -00.1	207 37.7 +02.0	S 21 43.6 -00.1	199 35.3 +02.2	S 20 20.3 +00.0	22						
23	226 53.5 +00.6	S 22 53.3 -00.2	222 39.7 +02.1	S 21 43.5 +00.0	214 37.5 +02.3	S 20 20.3 -00.1	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	HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0							
	SHA 072° 071° 071° 071° 071° 071°	SHA 067° 067° 067° 067° 067° 067°		SHA 059° 059° 059° 059° 059° 059°		SHA 059° 059° 059° 059° 059° 059°							
	Greenwich Culmination Time: 07:53	Greenwich Culmination Time: 08:11		Greenwich Culmination Time: 08:43									

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 46.1 +00.2	S	02 02.4 -01.0	135 36.5 -00.1	N	17 08.8 +01.0	287 01.1 -33.0	S	19 16.2 +08.2	00			
01	192 46.3 +00.2	S	02 01.4 -01.0	150 36.4 +00.0	N	17 09.8 +01.0	301 28.1 -33.1	S	19 24.4 +08.0	01			
02	207 46.5 +00.1	S	02 00.4 -01.0	165 36.4 -00.1	N	17 10.8 +01.1	315 55.0 -33.0	S	19 32.4 +07.9	02			
03	222 46.6 +00.2	S	01 59.4 -01.0	180 36.3 -00.1	N	17 11.9 +01.0	330 22.0 -33.1	S	19 40.3 +07.8	03			
04	237 46.8 +00.2	S	01 58.4 -01.0	195 36.2 -00.1	N	17 12.9 +01.0	344 48.9 -33.1	S	19 48.1 +07.6	04			
05	252 47.0 +00.2	S	01 57.4 -00.9	210 36.1 +00.0	N	17 13.9 +01.0	359 15.8 -33.1	S	19 55.7 +07.6	05			
06	267 47.2 +00.1	S	01 56.5 -01.0	225 36.1 -00.1	N	17 14.9 +01.0	13 42.7 -33.0	S	20 03.3 +07.4	06			
07	282 47.3 +00.2	S	01 55.5 -01.0	240 36.0 -00.1	N	17 15.9 +01.1	28 09.7 -33.2	S	20 10.7 +07.2	07			
08	297 47.5 +00.2	S	01 54.5 -01.0	255 35.9 +00.0	N	17 17.0 +01.0	42 36.5 -33.1	S	20 17.9 +07.2	08			
09	312 47.7 +00.2	S	01 53.5 -01.0	270 35.9 -00.1	N	17 18.0 +01.0	57 03.4 -33.1	S	20 25.1 +07.0	09			
10	327 47.9 +00.1	S	01 52.5 -01.0	285 35.8 -00.1	N	17 19.0 +01.0	71 30.3 -33.1	S	20 32.1 +06.9	10			
11	342 48.0 +00.2	S	01 51.5 -01.0	300 35.7 -00.1	N	17 20.0 +01.0	85 57.2 -33.1	S	20 39.0 +06.7	11			
12	357 48.2 +00.2	S	01 50.5 -01.0	315 35.6 +00.0	N	17 21.0 +01.1	100 24.1 -33.2	S	20 45.7 +06.6	12			
13	12 48.4 +00.2	S	01 49.5 -00.9	330 35.6 -00.1	N	17 22.1 +01.0	114 50.9 -33.1	S	20 52.3 +06.5	13			
14	27 48.6 +00.1	S	01 48.6 -01.0	345 35.5 -00.1	N	17 23.1 +01.0	129 17.8 -33.2	S	20 58.8 +06.3	14			
15	42 48.7 +00.2	S	01 47.6 -01.0	0 35.4 +00.0	N	17 24.1 +01.0	143 44.6 -33.1	S	21 05.1 +06.3	15			
16	57 48.9 +00.2	S	01 46.6 -01.0	15 35.4 -00.1	N	17 25.1 +01.0	158 11.5 -33.2	S	21 11.4 +06.1	16			
17	72 49.1 +00.2	S	01 45.6 -01.0	30 35.3 -00.1	N	17 26.1 +01.0	172 38.3 -33.1	S	21 17.5 +05.9	17			
18	87 49.3 +00.2	S	01 44.6 -01.0	45 35.2 +00.0	N	17 27.1 +01.0	187 05.2 -33.2	S	21 23.4 +05.8	18			
19	102 49.5 +00.1	S	01 43.6 -01.0	60 35.2 -00.1	N	17 28.1 +01.0	201 32.0 -33.1	S	21 29.2 +05.7	19			
20	117 49.6 +00.2	S	01 42.6 -01.0	75 35.1 -00.1	N	17 29.1 +01.1	215 58.9 -33.2	S	21 34.9 +05.6	20			
21	132 49.8 +00.2	S	01 41.6 -00.9	90 35.0 +00.0	N	17 30.2 +01.0	230 25.7 -33.1	S	21 40.5 +05.4	21			
22	147 50.0 +00.2	S	01 40.7 -01.0	105 35.0 -00.1	N	17 31.2 +01.0	244 52.6 -33.2	S	21 45.9 +05.3	22			
23	162 50.2 +00.1	S	01 39.7 -01.0	120 34.9 -00.1	N	17 32.2 +01.0	259 19.4 -33.2	S	21 51.2 +05.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 15'9 15'9 15'8 15'8 15'8 15'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 58'4 58'3 58'1 58'0 57'8 57'7						
	SHA 005° 004° 004° 004° 004° 004°			SHA 322° 322° 322° 322° 322° 322°			SHA 113° 110° 108° 106° 103° 101°						
	Greenwich Culmination Time: 12:08			Greenwich Culmination Time: 14:57			Greenwich Culmination Time: 05:03						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	242 22.6 +00.6	S	22 43.9 -00.2	239 19.3 +02.0	S	21 40.6 -00.1	231 27.4 +02.3	S	20 18.3 +00.0	00			
01	257 23.2 +00.6	S	22 43.7 -00.2	254 21.3 +02.1	S	21 40.5 +00.0	246 29.7 +02.2	S	20 18.3 -00.1	01			
02	272 23.8 +00.6	S	22 43.5 -00.2	269 23.4 +02.0	S	21 40.5 -00.1	261 31.9 +02.3	S	20 18.2 +00.0	02			
03	287 24.4 +00.6	S	22 43.3 -00.2	284 25.4 +02.0	S	21 40.4 +00.0	276 34.2 +02.2	S	20 18.2 -00.1	03			
04	302 25.0 +00.6	S	22 43.1 -00.2	299 27.4 +02.1	S	21 40.4 -00.1	291 36.4 +02.3	S	20 18.1 +00.0	04			
05	317 25.6 +00.6	S	22 42.9 -00.2	314 29.5 +02.0	S	21 40.3 -00.1	306 38.7 +02.2	S	20 18.1 +00.0	05			
06	332 26.2 +00.6	S	22 42.7 -00.2	329 31.5 +02.1	S	21 40.2 +00.0	321 40.9 +02.3	S	20 18.1 -00.1	06			
07	347 26.8 +00.6	S	22 42.5 -00.2	344 33.6 +02.0	S	21 40.2 -00.1	336 43.2 +02.2	S	20 18.0 +00.0	07			
08	2 27.4 +00.6	S	22 42.3 -00.2	359 35.6 +02.0	S	21 40.1 +00.0	351 45.4 +02.3	S	20 18.0 -00.1	08			
09	17 28.0 +00.6	S	22 42.1 -00.2	14 37.6 +02.1	S	21 40.1 -00.1	6 47.7 +02.2	S	20 17.9 +00.0	09			
10	32 28.6 +00.6	S	22 41.9 -00.2	29 39.7 +02.0	S	21 40.0 -00.1	21 49.9 +02.3	S	20 17.9 +00.0	10			
11	47 29.2 +00.6	S	22 41.7 -00.2	44 41.7 +02.1	S	21 39.9 +00.0	36 52.2 +02.2	S	20 17.9 -00.1	11			
12	62 29.8 +00.6	S	22 41.5 -00.2	59 43.8 +02.0	S	21 39.9 -00.1	51 54.4 +02.3	S	20 17.8 +00.0	12			
13	77 30.4 +00.6	S	22 41.3 -00.2	74 45.8 +02.0	S	21 39.8 +00.0	66 56.7 +02.2	S	20 17.8 -00.1	13			
14	92 31.0 +00.6	S	22 41.1 -00.2	89 47.8 +02.1	S	21 39.8 -00.1	81 58.9 +02.2	S	20 17.7 +00.0	14			
15	107 31.6 +00.5	S	22 40.9 -00.2	104 49.9 +02.0	S	21 39.7 -00.1	97 01.1 +02.3	S	20 17.7 +00.0	15			
16	122 32.1 +00.6	S	22 40.7 -00.2	119 51.9 +02.1	S	21 39.6 +00.0	112 03.4 +02.2	S	20 17.7 -00.1	16			
17	137 32.7 +00.6	S	22 40.5 -00.2	134 54.0 +02.0	S	21 39.6 -00.1	127 05.6 +02.3	S	20 17.6 +00.0	17			
18	152 33.3 +00.6	S	22 40.3 -00.2	149 56.0 +02.0	S	21 39.5 +00.0	142 07.9 +02.2	S	20 17.6 -00.1	18			
19	167 33.9 +00.6	S	22 40.1 -00.3	164 58.0 +02.1	S	21 39.5 -00.1	157 10.1 +02.3	S	20 17.5 +00.0	19			
20	182 34.5 +00.6	S	22 39.8 -00.2	180 00.1 +02.0	S	21 39.4 +00.0	172 12.4 +02.2	S	20 17.5 +00.0	20			
21	197 35.1 +00.6	S	22 39.6 -00.2	195 02.1 +02.1	S	21 39.4 -00.1	187 14.6 +02.3	S	20 17.5 -00.1	21			
22	212 35.7 +00.6	S	22 39.4 -00.2	210 04.2 +02.0	S	21 39.3 -00.1	202 16.9 +02.2	S	20 17.4 +00.0	22			
23	227 36.3 +00.6	S	22 39.2 -00.2	225 06.2 +02.0	S	21 39.2 +00.0	217 19.1 +02.3	S	20 17.4 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 069° 069° 069° 069° 069° 069°			SHA 066° 066° 066° 066° 066° 066°			SHA 058° 058° 058° 058° 058° 058°						
	Greenwich Culmination Time: 07:50			Greenwich Culmination Time: 08:01			Greenwich Culmination Time: 08:32						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 50.3 +00.2	S 01 38.7 -01.0	135 34.8 -00.1	N 17 33.2 +01.0	273 46.2 -33.1	S 21 56.3 +05.1	00						
01	192 50.5 +00.2	S 01 37.7 -01.0	150 34.7 +00.0	N 17 34.2 +01.0	288 13.1 -33.1	S 22 01.4 +04.8	01						
02	207 50.7 +00.2	S 01 36.7 -01.0	165 34.7 -00.1	N 17 35.2 +01.0	302 40.0 -33.2	S 22 06.2 +04.8	02						
03	222 50.9 +00.2	S 01 35.7 -01.0	180 34.6 -00.1	N 17 36.2 +01.0	317 06.8 -33.1	S 22 11.0 +04.6	03						
04	237 51.1 +00.1	S 01 34.7 -01.0	195 34.5 +00.0	N 17 37.2 +01.0	331 33.7 -33.1	S 22 15.6 +04.5	04						
05	252 51.2 +00.2	S 01 33.7 -01.0	210 34.5 -00.1	N 17 38.2 +01.0	346 00.6 -33.2	S 22 20.1 +04.3	05						
06	267 51.4 +00.2	S 01 32.7 -00.9	225 34.4 -00.1	N 17 39.2 +01.0	0 27.4 -33.1	S 22 24.4 +04.2	06						
07	282 51.6 +00.2	S 01 31.8 -01.0	240 34.3 +00.0	N 17 40.2 +01.0	14 54.3 -33.1	S 22 28.6 +04.1	07						
08	297 51.8 +00.1	S 01 30.8 -01.0	255 34.3 -00.1	N 17 41.2 +01.0	29 21.2 -33.1	S 22 32.7 +04.0	08						
09	312 51.9 +00.2	S 01 29.8 -01.0	270 34.2 -00.1	N 17 42.2 +01.0	43 48.1 -33.0	S 22 36.7 +03.8	09						
10	327 52.1 +00.2	S 01 28.8 -01.0	285 34.1 +00.0	N 17 43.2 +01.0	58 15.1 -33.1	S 22 40.5 +03.6	10						
11	342 52.3 +00.2	S 01 27.8 -01.0	300 34.1 -00.1	N 17 44.2 +01.0	72 42.0 -33.1	S 22 44.1 +03.6	11						
12	357 52.5 +00.2	S 01 26.8 -01.0	315 34.0 -00.1	N 17 45.2 +01.0	87 08.9 -33.0	S 22 47.7 +03.4	12						
13	12 52.7 +00.1	S 01 25.8 -01.0	330 33.9 +00.0	N 17 46.2 +01.0	101 35.9 -33.0	S 22 51.1 +03.2	13						
14	27 52.8 +00.2	S 01 24.8 -00.9	345 33.9 -00.1	N 17 47.2 +01.0	116 02.9 -33.1	S 22 54.3 +03.2	14						
15	42 53.0 +00.2	S 01 23.9 -01.0	0 33.8 -00.1	N 17 48.2 +01.0	130 29.8 -33.0	S 22 57.5 +02.9	15						
16	57 53.2 +00.2	S 01 22.9 -01.0	15 33.7 +00.0	N 17 49.2 +01.0	144 56.8 -32.9	S 23 00.4 +02.9	16						
17	72 53.4 +00.2	S 01 21.9 -01.0	30 33.7 -00.1	N 17 50.2 +01.0	159 23.9 -33.0	S 23 03.3 +02.7	17						
18	87 53.6 +00.1	S 01 20.9 -01.0	45 33.6 -00.1	N 17 51.2 +01.0	173 50.9 -32.9	S 23 06.0 +02.6	18						
19	102 53.7 +00.2	S 01 19.9 -01.0	60 33.5 +00.0	N 17 52.2 +01.0	188 18.0 -33.0	S 23 08.6 +02.5	19						
20	117 53.9 +00.2	S 01 18.9 -01.0	75 33.5 -00.1	N 17 53.2 +01.0	202 45.0 -32.9	S 23 11.1 +02.3	20						
21	132 54.1 +00.2	S 01 17.9 -01.0	90 33.4 +00.0	N 17 54.2 +01.0	217 12.1 -32.9	S 23 13.4 +02.2	21						
22	147 54.3 +00.2	S 01 16.9 -01.0	105 33.4 -00.1	N 17 55.2 +01.0	231 39.2 -32.8	S 23 15.6 +02.0	22						
23	162 54.5 +00.1	S 01 15.9 -00.9	120 33.3 -00.1	N 17 56.2 +01.0	246 06.4 -32.9	S 23 17.6 +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 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'7 15'6 15'6 15'6 15'5 15'5								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 57'5 57'4 57'3 57'1 57'0 56'8								
	SHA 004° 004° 003° 003° 003° 003°		SHA 321° 321° 321° 321° 321° 321°		SHA 099° 096° 094° 091° 089° 087°								
	Greenwich Culmination Time: 12:08		Greenwich Culmination Time: 14:57		Greenwich Culmination Time: 05:58								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	242 36.9 +00.6	S 22 39.0 -00.2	240 08.2 +02.1	S 21 39.2 -00.1	232 21.4 +02.2	S 20 17.3 +00.0	00						
01	257 37.5 +00.6	S 22 38.8 -00.2	255 10.3 +02.0	S 21 39.1 +00.0	247 23.6 +02.3	S 20 17.3 +00.0	01						
02	272 38.1 +00.6	S 22 38.6 -00.2	270 12.3 +02.1	S 21 39.1 -00.1	262 25.9 +02.2	S 20 17.3 -00.1	02						
03	287 38.7 +00.6	S 22 38.4 -00.2	285 14.4 +02.0	S 21 39.0 -00.1	277 28.1 +02.3	S 20 17.2 +00.0	03						
04	302 39.3 +00.6	S 22 38.2 -00.2	300 16.4 +02.1	S 21 38.9 +00.0	292 30.4 +02.2	S 20 17.2 -00.1	04						
05	317 39.9 +00.6	S 22 38.0 -00.2	315 18.5 +02.0	S 21 38.9 -00.1	307 32.6 +02.3	S 20 17.1 +00.0	05						
06	332 40.5 +00.6	S 22 37.8 -00.2	330 20.5 +02.0	S 21 38.8 +00.0	322 34.9 +02.2	S 20 17.1 +00.0	06						
07	347 41.1 +00.6	S 22 37.6 -00.2	345 22.5 +02.1	S 21 38.8 -00.1	337 37.1 +02.3	S 20 17.1 -00.1	07						
08	2 41.7 +00.6	S 22 37.4 -00.3	0 24.6 +02.0	S 21 38.7 -00.1	352 39.4 +02.2	S 20 17.0 +00.0	08						
09	17 42.3 +00.6	S 22 37.1 -00.2	15 26.6 +02.1	S 21 38.6 +00.0	7 41.6 +02.3	S 20 17.0 -00.1	09						
10	32 42.9 +00.6	S 22 36.9 -00.2	30 28.7 +02.0	S 21 38.6 -00.1	22 43.9 +02.2	S 20 16.9 +00.0	10						
11	47 43.5 +00.6	S 22 36.7 -00.2	45 30.7 +02.1	S 21 38.5 +00.0	37 46.1 +02.3	S 20 16.9 +00.0	11						
12	62 44.1 +00.6	S 22 36.5 -00.2	60 32.8 +02.0	S 21 38.5 -00.1	52 48.4 +02.2	S 20 16.9 -00.1	12						
13	77 44.7 +00.6	S 22 36.3 -00.2	75 34.8 +02.1	S 21 38.4 -00.1	67 50.6 +02.3	S 20 16.8 +00.0	13						
14	92 45.3 +00.6	S 22 36.1 -00.2	90 36.9 +02.0	S 21 38.3 +00.0	82 52.9 +02.2	S 20 16.8 -00.1	14						
15	107 45.9 +00.6	S 22 35.9 -00.2	105 38.9 +02.0	S 21 38.3 -00.1	97 55.1 +02.3	S 20 16.7 +00.0	15						
16	122 46.5 +00.6	S 22 35.7 -00.3	120 40.9 +02.1	S 21 38.2 +00.0	112 57.4 +02.2	S 20 16.7 +00.0	16						
17	137 47.1 +00.6	S 22 35.4 -00.2	135 43.0 +02.0	S 21 38.2 -00.1	127 59.6 +02.3	S 20 16.7 -00.1	17						
18	152 47.7 +00.6	S 22 35.2 -00.2	150 45.0 +02.1	S 21 38.1 -00.1	143 01.9 +02.2	S 20 16.6 +00.0	18						
19	167 48.3 +00.6	S 22 35.0 -00.2	165 47.1 +02.0	S 21 38.0 +00.0	158 04.1 +02.3	S 20 16.6 -00.1	19						
20	182 48.9 +00.6	S 22 34.8 -00.2	180 49.1 +02.1	S 21 38.0 -00.1	173 06.4 +02.2	S 20 16.5 +00.0	20						
21	197 49.5 +00.6	S 22 34.6 -00.2	195 51.2 +02.0	S 21 37.9 +00.0	188 08.6 +02.3	S 20 16.5 +00.0	21						
22	212 50.1 +00.6	S 22 34.4 -00.2	210 53.2 +02.1	S 21 37.9 -00.1	203 10.9 +02.2	S 20 16.5 -00.1	22						
23	227 50.7 +00.6	S 22 34.2 -00.3	225 55.3 +02.0	S 21 37.8 +00.0	218 13.1 +02.3	S 20 16.4 +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 069° 068° 068° 068° 068° 068°		SHA 066° 066° 066° 066° 066° 066°		SHA 058° 058° 058° 058° 058° 058°								
	Greenwich Culmination Time: 07:49		Greenwich Culmination Time: 07:58		Greenwich Culmination Time: 08:29								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 59.0 +00.1	S 00	51.2 -01.0	135 31.7 +00.0	N 18	20.8 +01.0	247 34.8 -32.0	S 23	26.0 -01.3	00			
01	192 59.1 +00.2	S 00	50.2 -00.9	150 31.7 -00.1	N 18	21.8 +00.9	262 02.8 -31.9	S 23	24.7 -01.5	01			
02	207 59.3 +00.2	S 00	49.3 -01.0	165 31.6 -00.1	N 18	22.7 +01.0	276 30.9 -31.9	S 23	23.2 -01.6	02			
03	222 59.5 +00.2	S 00	48.3 -01.0	180 31.5 +00.0	N 18	23.7 +01.0	290 59.0 -31.8	S 23	21.6 -01.7	03			
04	237 59.7 +00.2	S 00	47.3 -01.0	195 31.5 -00.1	N 18	24.7 +01.0	305 27.2 -31.8	S 23	19.9 -01.8	04			
05	252 59.9 +00.2	S 00	46.3 -01.0	210 31.4 +00.0	N 18	25.7 +00.9	319 55.4 -31.7	S 23	18.1 -01.9	05			
06	268 00.1 +00.1	S 00	45.3 -01.0	225 31.4 -00.1	N 18	26.6 +01.0	334 23.7 -31.7	S 23	16.2 -02.1	06			
07	283 00.2 +00.2	S 00	44.3 -01.0	240 31.3 -00.1	N 18	27.6 +01.0	348 52.0 -31.7	S 23	14.1 -02.2	07			
08	298 00.4 +00.2	S 00	43.3 -01.0	255 31.2 +00.0	N 18	28.6 +00.9	3 20.3 -31.5	S 23	11.9 -02.3	08			
09	313 00.6 +00.2	S 00	42.3 -01.0	270 31.2 -00.1	N 18	29.5 +01.0	17 48.8 -31.6	S 23	09.6 -02.4	09			
10	328 00.8 +00.2	S 00	41.3 -00.9	285 31.1 +00.0	N 18	30.5 +01.0	32 17.2 -31.5	S 23	07.2 -02.6	10			
11	343 01.0 +00.1	S 00	40.4 -01.0	300 31.1 -00.1	N 18	31.5 +00.9	46 45.7 -31.4	S 23	04.6 -02.7	11			
12	358 01.1 +00.2	S 00	39.4 -01.0	315 31.0 -00.1	N 18	32.4 +01.0	61 14.3 -31.4	S 23	01.9 -02.8	12			
13	13 01.3 +00.2	S 00	38.4 -01.0	330 30.9 +00.0	N 18	33.4 +01.0	75 42.9 -31.3	S 22	59.1 -02.9	13			
14	28 01.5 +00.2	S 00	37.4 -01.0	345 30.9 -00.1	N 18	34.4 +00.9	90 11.6 -31.3	S 22	56.2 -03.0	14			
15	43 01.7 +00.2	S 00	36.4 -01.0	0 30.8 +00.0	N 18	35.3 +01.0	104 40.3 -31.2	S 22	53.2 -03.1	15			
16	58 01.9 +00.2	S 00	35.4 -01.0	15 30.8 -00.1	N 18	36.3 +01.0	119 09.1 -31.1	S 22	50.1 -03.3	16			
17	73 02.1 +00.1	S 00	34.4 -01.0	30 30.7 -00.1	N 18	37.3 +00.9	133 38.0 -31.2	S 22	46.8 -03.4	17			
18	88 02.2 +00.2	S 00	33.4 -01.0	45 30.6 +00.0	N 18	38.2 +01.0	148 06.8 -31.0	S 22	43.4 -03.4	18			
19	103 02.4 +00.2	S 00	32.4 -00.9	60 30.6 -00.1	N 18	39.2 +01.0	162 35.8 -31.0	S 22	40.0 -03.6	19			
20	118 02.6 +00.2	S 00	31.5 -01.0	75 30.5 +00.0	N 18	40.2 +00.9	177 04.8 -30.9	S 22	36.4 -03.7	20			
21	133 02.8 +00.2	S 00	30.5 -01.0	90 30.5 -00.1	N 18	41.1 +01.0	191 33.9 -30.9	S 22	32.7 -03.9	21			
22	148 03.0 +00.2	S 00	29.5 -01.0	105 30.4 +00.0	N 18	42.1 +00.9	206 03.0 -30.8	S 22	28.8 -03.9	22			
23	163 03.2 +00.1	S 00	28.5 -01.0	120 30.4 -00.1	N 18	43.0 +01.0	220 32.2 -30.8	S 22	24.9 -04.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 15'3 15'2 15'2 15'2 15'1 15'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 56'0 55'9 55'8 55'6 55'5 55'4						
	SHA 002° 002° 002° 001° 001° 001°			SHA 319° 319° 319° 319° 319° 319°			SHA 070° 068° 066° 064° 061° 059°						
	Greenwich Culmination Time: 12:07			Greenwich Culmination Time: 14:57			Greenwich Culmination Time: 07:46						
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	243 05.7 +00.6	S 22	28.7 -00.2	241 46.5 +02.1	S 21	36.3 +00.0	234 09.5 +02.2	S 20	15.4 +00.0	00			
01	258 06.3 +00.6	S 22	28.5 -00.3	256 48.6 +02.0	S 21	36.3 -00.1	249 11.7 +02.3	S 20	15.4 +00.0	01			
02	273 06.9 +00.6	S 22	28.2 -00.2	271 50.6 +02.1	S 21	36.2 +00.0	264 14.0 +02.3	S 20	15.4 -00.1	02			
03	288 07.5 +00.6	S 22	28.0 -00.2	286 52.7 +02.0	S 21	36.2 -00.1	279 16.3 +02.2	S 20	15.3 +00.0	03			
04	303 08.1 +00.6	S 22	27.8 -00.2	301 54.7 +02.1	S 21	36.1 +00.0	294 18.5 +02.3	S 20	15.3 +00.0	04			
05	318 08.7 +00.6	S 22	27.6 -00.3	316 56.8 +02.0	S 21	36.1 -00.1	309 20.8 +02.2	S 20	15.3 -00.1	05			
06	333 09.3 +00.6	S 22	27.3 -00.2	331 58.8 +02.1	S 21	36.0 -00.1	324 23.0 +02.3	S 20	15.2 +00.0	06			
07	348 09.9 +00.6	S 22	27.1 -00.2	347 00.9 +02.0	S 21	35.9 +00.0	339 25.3 +02.2	S 20	15.2 -00.1	07			
08	3 10.5 +00.6	S 22	26.9 -00.3	2 02.9 +02.1	S 21	35.9 -00.1	354 27.5 +02.3	S 20	15.1 +00.0	08			
09	18 11.1 +00.6	S 22	26.6 -00.2	17 05.0 +02.1	S 21	35.8 +00.0	9 29.8 +02.2	S 20	15.1 +00.0	09			
10	33 11.7 +00.6	S 22	26.4 -00.2	32 07.1 +02.0	S 21	35.8 -00.1	24 32.0 +02.3	S 20	15.1 -00.1	10			
11	48 12.3 +00.6	S 22	26.2 -00.2	47 09.1 +02.1	S 21	35.7 -00.1	39 34.3 +02.3	S 20	15.0 +00.0	11			
12	63 12.9 +00.6	S 22	26.0 -00.3	62 11.2 +02.0	S 21	35.6 +00.0	54 36.6 +02.2	S 20	15.0 -00.1	12			
13	78 13.5 +00.6	S 22	25.7 -00.2	77 13.2 +02.1	S 21	35.6 -00.1	69 38.8 +02.3	S 20	14.9 +00.0	13			
14	93 14.1 +00.6	S 22	25.5 -00.2	92 15.3 +02.0	S 21	35.5 +00.0	84 41.1 +02.2	S 20	14.9 +00.0	14			
15	108 14.7 +00.6	S 22	25.3 -00.2	107 17.3 +02.1	S 21	35.5 -00.1	99 43.3 +02.3	S 20	14.9 -00.1	15			
16	123 15.3 +00.6	S 22	25.1 -00.3	122 19.4 +02.0	S 21	35.4 +00.0	114 45.6 +02.2	S 20	14.8 +00.0	16			
17	138 15.9 +00.6	S 22	24.8 -00.2	137 21.4 +02.1	S 21	35.4 -00.1	129 47.8 +02.3	S 20	14.8 +00.0	17			
18	153 16.5 +00.6	S 22	24.6 -00.2	152 23.5 +02.1	S 21	35.3 -00.1	144 50.1 +02.3	S 20	14.8 -00.1	18			
19	168 17.1 +00.6	S 22	24.4 -00.3	167 25.6 +02.0	S 21	35.2 +00.0	159 52.4 +02.2	S 20	14.7 +00.0	19			
20	183 17.7 +00.6	S 22	24.1 -00.2	182 27.6 +02.1	S 21	35.2 -00.1	174 54.6 +02.3	S 20	14.7 -00.1	20			
21	198 18.3 +00.6	S 22	23.9 -00.2	197 29.7 +02.0	S 21	35.1 +00.0	189 56.9 +02.2	S 20	14.6 +00.0	21			
22	213 18.9 +00.6	S 22	23.7 -00.3	212 31.7 +02.1	S 21	35.1 -00.1	204 59.1 +02.3	S 20	14.6 +00.0	22			
23	228 19.5 +00.6	S 22	23.4 -00.2	227 33.8 +02.0	S 21	35.0 -00.1	220 01.4 +02.2	S 20	14.6 -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 067° 067° 067° 067° 067° 066°			SHA 066° 066° 066° 066° 066° 066°			SHA 058° 058° 058° 058° 058° 058°						
	Greenwich Culmination Time: 07:47			Greenwich Culmination Time: 07:51			Greenwich Culmination Time: 08:22						

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	178 03.3 +00.2	S	00 27.5 -01.0	135 30.3 -00.1	N	18 44.0 +01.0	235 01.4 -30.7	S	22 20.9 -04.2	00										
01	193 03.5 +00.2	S	00 26.5 -01.0	150 30.2 +00.0	N	18 45.0 +00.9	249 30.7 -30.6	S	22 16.7 -04.3	01										
02	208 03.7 +00.2	S	00 25.5 -01.0	165 30.2 -00.1	N	18 45.9 +01.0	264 00.1 -30.6	S	22 12.4 -04.3	02										
03	223 03.9 +00.2	S	00 24.5 -00.9	180 30.1 +00.0	N	18 46.9 +00.9	278 29.5 -30.6	S	22 08.1 -04.5	03										
04	238 04.1 +00.2	S	00 23.6 -01.0	195 30.1 -00.1	N	18 47.8 +01.0	292 58.9 -30.4	S	22 03.6 -04.6	04										
05	253 04.3 +00.1	S	00 22.6 -01.0	210 30.0 +00.0	N	18 48.8 +00.9	307 28.5 -30.4	S	21 59.0 -04.7	05										
06	268 04.4 +00.2	S	00 21.6 -01.0	225 30.0 -00.1	N	18 49.7 +01.0	321 58.1 -30.4	S	21 54.3 -04.8	06										
07	283 04.6 +00.2	S	00 20.6 -01.0	240 29.9 +00.0	N	18 50.7 +00.9	336 27.7 -30.3	S	21 49.5 -04.9	07										
08	298 04.8 +00.2	S	00 19.6 -01.0	255 29.9 -00.1	N	18 51.6 +01.0	350 57.4 -30.2	S	21 44.6 -05.0	08										
09	313 05.0 +00.2	S	00 18.6 -01.0	270 29.8 -00.1	N	18 52.6 +00.9	5 27.2 -30.1	S	21 39.6 -05.1	09										
10	328 05.2 +00.2	S	00 17.6 -01.0	285 29.7 +00.0	N	18 53.5 +01.0	19 57.1 -30.1	S	21 34.5 -05.2	10										
11	343 05.4 +00.1	S	00 16.6 -01.0	300 29.7 -00.1	N	18 54.5 +00.9	34 27.0 -30.1	S	21 29.3 -05.3	11										
12	358 05.5 +00.2	S	00 15.6 -00.9	315 29.6 +00.0	N	18 55.4 +01.0	48 56.9 -30.0	S	21 24.0 -05.4	12										
13	13 05.7 +00.2	S	00 14.7 -01.0	330 29.6 -00.1	N	18 56.4 +00.9	63 26.9 -29.9	S	21 18.6 -05.5	13										
14	28 05.9 +00.2	S	00 13.7 -01.0	345 29.5 +00.0	N	18 57.3 +01.0	77 57.0 -29.8	S	21 13.1 -05.6	14										
15	43 06.1 +00.2	S	00 12.7 -01.0	0 29.5 -00.1	N	18 58.3 +00.9	92 27.2 -29.8	S	21 07.5 -05.7	15										
16	58 06.3 +00.2	S	00 11.7 -01.0	15 29.4 +00.0	N	18 59.2 +01.0	106 57.4 -29.7	S	21 01.8 -05.9	16										
17	73 06.5 +00.1	S	00 10.7 -01.0	30 29.4 -00.1	N	19 00.2 +00.9	121 27.7 -29.7	S	20 55.9 -05.9	17										
18	88 06.6 +00.2	S	00 09.7 -01.0	45 29.3 +00.0	N	19 01.1 +01.0	135 58.0 -29.6	S	20 50.0 -06.0	18										
19	103 06.8 +00.2	S	00 08.7 -01.0	60 29.3 -00.1	N	19 02.1 +00.9	150 28.4 -29.5	S	20 44.0 -06.1	19										
20	118 07.0 +00.2	S	00 07.7 -01.0	75 29.2 +00.0	N	19 03.0 +01.0	164 58.9 -29.5	S	20 37.9 -06.1	20										
21	133 07.2 +00.2	S	00 06.7 -00.9	90 29.2 -00.1	N	19 04.0 +00.9	179 29.4 -29.4	S	20 31.8 -06.3	21										
22	148 07.4 +00.2	S	00 05.8 -01.0	105 29.1 +00.0	N	19 04.9 +01.0	193 60.0 -29.4	S	20 25.5 -06.4	22										
23	163 07.6 +00.1	S	00 04.8 -01.0	120 29.1 -00.1	N	19 05.9 +00.9	208 30.6 -29.2	S	20 19.1 -06.5	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'1	16'1	16'1	16'1	16'1	16'1	SD	00'2	00'2	00'2	00'2	00'2	00'2	SD						
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'2	00'2	00'2	00'2	00'2	00'2	HP						
SHA	001°	001°	001°	001°	000°	000°	SHA	318°	318°	318°	318°	318°	318°	SHA						
Greenwich Culmination Time: 12:07							Greenwich Culmination Time: 14:58							Greenwich Culmination Time: 08:37						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	243 20.1 +00.6	S	22 23.2 -00.2	242 35.8 +02.1	S	21 34.9 +00.0	235 03.6 +02.3	S	20 14.5 +00.0	00										
01	258 20.7 +00.6	S	22 23.0 -00.3	257 37.9 +02.1	S	21 34.9 -00.1	250 05.9 +02.3	S	20 14.5 +00.0	01										
02	273 21.3 +00.6	S	22 22.7 -00.2	272 40.0 +02.0	S	21 34.8 +00.0	265 08.2 +02.2	S	20 14.5 -00.1	02										
03	288 21.9 +00.6	S	22 22.5 -00.2	287 42.0 +02.1	S	21 34.8 -00.1	280 10.4 +02.3	S	20 14.4 +00.0	03										
04	303 22.5 +00.6	S	22 22.3 -00.3	302 44.1 +02.0	S	21 34.7 +00.0	295 12.7 +02.2	S	20 14.4 -00.1	04										
05	318 23.1 +00.6	S	22 22.0 -00.2	317 46.1 +02.1	S	21 34.7 -00.1	310 14.9 +02.3	S	20 14.3 +00.0	05										
06	333 23.7 +00.6	S	22 21.8 -00.2	332 48.2 +02.1	S	21 34.6 -00.1	325 17.2 +02.3	S	20 14.3 +00.0	06										
07	348 24.3 +00.6	S	22 21.6 -00.3	347 50.3 +02.0	S	21 34.5 +00.0	340 19.5 +02.2	S	20 14.3 -00.1	07										
08	3 24.9 +00.6	S	22 21.3 -00.2	2 52.3 +02.1	S	21 34.5 -00.1	355 21.7 +02.3	S	20 14.2 +00.0	08										
09	18 25.5 +00.6	S	22 21.1 -00.2	17 54.4 +02.0	S	21 34.4 +00.0	10 24.0 +02.2	S	20 14.2 -00.1	09										
10	33 26.1 +00.6	S	22 20.9 -00.3	32 56.4 +02.1	S	21 34.4 -00.1	25 26.2 +02.3	S	20 14.1 +00.0	10										
11	48 26.7 +00.7	S	22 20.6 -00.2	47 58.5 +02.1	S	21 34.3 -00.1	40 28.5 +02.3	S	20 14.1 +00.0	11										
12	63 27.4 +00.6	S	22 20.4 -00.2	63 00.6 +02.0	S	21 34.2 +00.0	55 30.8 +02.2	S	20 14.1 -00.1	12										
13	78 28.0 +00.6	S	22 20.2 -00.3	78 02.6 +02.1	S	21 34.2 -00.1	70 33.0 +02.3	S	20 14.0 +00.0	13										
14	93 28.6 +00.6	S	22 19.9 -00.2	93 04.7 +02.0	S	21 34.1 +00.0	85 35.3 +02.2	S	20 14.0 +00.0	14										
15	108 29.2 +00.6	S	22 19.7 -00.2	108 06.7 +02.1	S	21 34.1 -00.1	100 37.5 +02.3	S	20 14.0 -00.1	15										
16	123 29.8 +00.6	S	22 19.5 -00.3	123 08.8 +02.1	S	21 34.0 +00.0	115 39.8 +02.3	S	20 13.9 +00.0	16										
17	138 30.4 +00.6	S	22 19.2 -00.2	138 10.9 +02.0	S	21 34.0 -00.1	130 42.1 +02.2	S	20 13.9 -00.1	17										
18	153 31.0 +00.6	S	22 19.0 -00.3	153 12.9 +02.1	S	21 33.9 -00.1	145 44.3 +02.3	S	20 13.8 +00.0	18										
19	168 31.6 +00.6	S	22 18.7 -00.2	168 15.0 +02.1	S	21 33.8 +00.0	160 46.6 +02.2	S	20 13.8 +00.0	19										
20	183 32.2 +00.6	S	22 18.5 -00.2	183 17.1 +02.0	S	21 33.8 -00.1	175 48.8 +02.3	S	20 13.8 -00.1	20										
21	198 32.8 +00.6	S	22 18.3 -00.3	198 19.1 +02.1	S	21 33.7 +00.0	190 51.1 +02.3	S	20 13.7 +00.0	21										
22	213 33.4 +00.6	S	22 18.0 -00.2	213 21.2 +02.0	S	21 33.7 -00.1	205 53.4 +02.2	S	20 13.7 +00.0	22										
23	228 34.0 +00.6	S	22 17.8 -00.2	228 23.2 +02.1	S	21 33.6 +00.0	220 55.6 +02.3	S	20 13.7 -00.1	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'0	00'0	00'0	00'0	00'1	00'1	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD						
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						
SHA	066°	066°	066°	066°	066°	065°	SHA	066°	066°	066°	065°	065°	065°	SHA						
Greenwich Culmination Time: 07:46							Greenwich Culmination Time: 07:48							Greenwich Culmination Time: 08:18						

Table with columns for planet names (Sun, Venus, Mars, Jupiter, Saturn, Moon) and rows for Universal Time (UT) from 00 to 23. Each planet section includes columns for GHA, ddGHA, Dec, and dDec. The Moon section includes an 'A: 92%' label. Summary rows at the bottom of each planet section provide SD, HP, and SHA values for specific UT times and the Greenwich Culmination Time.

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 16.6 +00.2	N 00	43.6 +01.0	135 26.8 -00.1	N 19	51.1 +00.9	200 47.4 -26.4	S 13	29.8 -10.0	00			
01	193 16.8 +00.2	N 00	44.6 +01.0	150 26.7 +00.0	N 19	52.0 +00.9	215 21.0 -26.4	S 13	19.8 -10.0	01			
02	208 17.0 +00.2	N 00	45.6 +01.0	165 26.7 +00.0	N 19	52.9 +00.9	229 54.6 -26.3	S 13	09.8 -10.1	02			
03	223 17.2 +00.2	N 00	46.6 +01.0	180 26.7 -00.1	N 19	53.8 +01.0	244 28.3 -26.3	S 12	59.7 -10.1	03			
04	238 17.4 +00.2	N 00	47.6 +01.0	195 26.6 +00.0	N 19	54.8 +00.9	259 02.0 -26.3	S 12	49.6 -10.2	04			
05	253 17.6 +00.2	N 00	48.6 +00.9	210 26.6 -00.1	N 19	55.7 +00.9	273 35.7 -26.1	S 12	39.4 -10.2	05			
06	268 17.8 +00.1	N 00	49.5 +01.0	225 26.5 +00.0	N 19	56.6 +00.9	288 09.6 -26.2	S 12	29.2 -10.3	06			
07	283 17.9 +00.2	N 00	50.5 +01.0	240 26.5 +00.0	N 19	57.5 +00.9	302 43.4 -26.1	S 12	18.9 -10.4	07			
08	298 18.1 +00.2	N 00	51.5 +01.0	255 26.5 -00.1	N 19	58.4 +00.9	317 17.3 -26.0	S 12	08.5 -10.3	08			
09	313 18.3 +00.2	N 00	52.5 +01.0	270 26.4 +00.0	N 19	59.3 +00.9	331 51.3 -26.1	S 11	58.2 -10.5	09			
10	328 18.5 +00.2	N 00	53.5 +01.0	285 26.4 -00.1	N 20	00.2 +00.9	346 25.2 -25.9	S 11	47.7 -10.4	10			
11	343 18.7 +00.2	N 00	54.5 +01.0	300 26.3 +00.0	N 20	01.1 +00.9	0 59.3 -25.9	S 11	37.3 -10.6	11			
12	358 18.9 +00.2	N 00	55.5 +00.9	315 26.3 +00.0	N 20	02.0 +00.8	15 33.4 -25.9	S 11	26.7 -10.5	12			
13	13 19.1 +00.1	N 00	56.4 +01.0	330 26.3 -00.1	N 20	02.8 +00.9	30 07.5 -25.9	S 11	16.2 -10.6	13			
14	28 19.2 +00.2	N 00	57.4 +01.0	345 26.2 +00.0	N 20	03.7 +00.9	44 41.6 -25.8	S 11	05.6 -10.7	14			
15	43 19.4 +00.2	N 00	58.4 +01.0	0 26.2 +00.0	N 20	04.6 +00.9	59 15.8 -25.7	S 10	54.9 -10.6	15			
16	58 19.6 +00.2	N 00	59.4 +01.0	15 26.2 -00.1	N 20	05.5 +00.9	73 50.1 -25.7	S 10	44.3 -10.8	16			
17	73 19.8 +00.2	N 01	00.4 +01.0	30 26.1 +00.0	N 20	06.4 +00.9	88 24.4 -25.7	S 10	33.5 -10.7	17			
18	88 20.0 +00.2	N 01	01.4 +01.0	45 26.1 -00.1	N 20	07.3 +00.9	102 58.7 -25.7	S 10	22.8 -10.8	18			
19	103 20.2 +00.2	N 01	02.4 +01.0	60 26.0 +00.0	N 20	08.2 +00.9	117 33.0 -25.6	S 10	12.0 -10.9	19			
20	118 20.4 +00.2	N 01	03.4 +00.9	75 26.0 +00.0	N 20	09.1 +00.9	132 07.4 -25.5	S 10	01.1 -10.8	20			
21	133 20.6 +00.1	N 01	04.3 +01.0	90 26.0 -00.1	N 20	10.0 +00.9	146 41.9 -25.6	S 09	50.3 -11.0	21			
22	148 20.7 +00.2	N 01	05.3 +01.0	105 25.9 +00.0	N 20	10.9 +00.9	161 16.3 -25.5	S 09	39.3 -10.9	22			
23	163 20.9 +00.2	N 01	06.3 +01.0	120 25.9 +00.0	N 20	11.8 +00.9	175 50.8 -25.4	S 09	28.4 -11.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'0 16'0 16'0 16'0			SD 00'2 00'2 00'2 00'2 00'2 00'2			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 00'2 00'2 00'2 00'2 00'2 00'2			HP 54'2 54'1 54'1 54'1 54'0 54'0						
	SHA 358° 358° 358° 358° 358° 357°			SHA 315° 315° 315° 315° 315° 315°			SHA 020° 018° 016° 014° 012° 010°						
	Greenwich Culmination Time: 12:06			Greenwich Culmination Time: 14:58			Greenwich Culmination Time: 10:55						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	244 03.7 +00.7	S 22	05.7 -00.3	245 04.6 +02.1	S 21	30.8 +00.0	237 46.6 +02.3	S 20	11.8 +00.0	00			
01	259 04.4 +00.6	S 22	05.4 -00.2	260 06.7 +02.1	S 21	30.8 -00.1	252 48.9 +02.2	S 20	11.8 +00.0	01			
02	274 05.0 +00.6	S 22	05.2 -00.3	275 08.8 +02.1	S 21	30.7 -00.1	267 51.1 +02.3	S 20	11.8 -00.1	02			
03	289 05.6 +00.6	S 22	04.9 -00.3	290 10.9 +02.0	S 21	30.6 +00.0	282 53.4 +02.3	S 20	11.7 +00.0	03			
04	304 06.2 +00.6	S 22	04.6 -00.2	305 12.9 +02.1	S 21	30.6 -00.1	297 55.7 +02.2	S 20	11.7 +00.0	04			
05	319 06.8 +00.6	S 22	04.4 -00.3	320 15.0 +02.1	S 21	30.5 +00.0	312 57.9 +02.3	S 20	11.7 -00.1	05			
06	334 07.4 +00.6	S 22	04.1 -00.2	335 17.1 +02.1	S 21	30.5 -00.1	328 00.2 +02.3	S 20	11.6 +00.0	06			
07	349 08.0 +00.6	S 22	03.9 -00.3	350 19.2 +02.0	S 21	30.4 +00.0	343 02.5 +02.2	S 20	11.6 -00.1	07			
08	4 08.6 +00.6	S 22	03.6 -00.2	5 21.2 +02.1	S 21	30.4 -00.1	358 04.7 +02.3	S 20	11.5 +00.0	08			
09	19 09.2 +00.6	S 22	03.4 -00.3	20 23.3 +02.1	S 21	30.3 +00.0	13 07.0 +02.3	S 20	11.5 +00.0	09			
10	34 09.8 +00.7	S 22	03.1 -00.3	35 25.4 +02.1	S 21	30.3 -00.1	28 09.3 +02.2	S 20	11.5 -00.1	10			
11	49 10.5 +00.6	S 22	02.8 -00.2	50 27.5 +02.0	S 21	30.2 -00.1	43 11.5 +02.3	S 20	11.4 +00.0	11			
12	64 11.1 +00.6	S 22	02.6 -00.3	65 29.5 +02.1	S 21	30.1 +00.0	58 13.8 +02.3	S 20	11.4 +00.0	12			
13	79 11.7 +00.6	S 22	02.3 -00.2	80 31.6 +02.1	S 21	30.1 -00.1	73 16.1 +02.2	S 20	11.4 -00.1	13			
14	94 12.3 +00.6	S 22	02.1 -00.3	95 33.7 +02.1	S 21	30.0 +00.0	88 18.3 +02.3	S 20	11.3 +00.0	14			
15	109 12.9 +00.6	S 22	01.8 -00.3	110 35.8 +02.1	S 21	30.0 -00.1	103 20.6 +02.3	S 20	11.3 +00.0	15			
16	124 13.5 +00.6	S 22	01.5 -00.2	125 37.9 +02.0	S 21	29.9 +00.0	118 22.9 +02.3	S 20	11.3 -00.1	16			
17	139 14.1 +00.6	S 22	01.3 -00.3	140 39.9 +02.1	S 21	29.9 -00.1	133 25.2 +02.2	S 20	11.2 +00.0	17			
18	154 14.7 +00.6	S 22	01.0 -00.2	155 42.0 +02.1	S 21	29.8 -00.1	148 27.4 +02.3	S 20	11.2 -00.1	18			
19	169 15.3 +00.7	S 22	00.8 -00.3	170 44.1 +02.1	S 21	29.7 +00.0	163 29.7 +02.3	S 20	11.1 +00.0	19			
20	184 16.0 +00.6	S 22	00.5 -00.3	185 46.2 +02.1	S 21	29.7 -00.1	178 32.0 +02.2	S 20	11.1 +00.0	20			
21	199 16.6 +00.6	S 22	00.2 -00.2	200 48.3 +02.0	S 21	29.6 +00.0	193 34.2 +02.3	S 20	11.1 -00.1	21			
22	214 17.2 +00.6	S 21	60.0 -00.3	215 50.3 +02.1	S 21	29.6 -00.1	208 36.5 +02.3	S 20	11.0 +00.0	22			
23	229 17.8 +00.6	S 21	59.7 -00.3	230 52.4 +02.1	S 21	29.5 +00.0	223 38.8 +02.2	S 20	11.0 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 064° 064° 064° 064° 064° 063°			SHA 065° 065° 065° 065° 065° 065°			SHA 058° 058° 058° 058° 058° 058°						
	Greenwich Culmination Time: 07:43			Greenwich Culmination Time: 07:38			Greenwich Culmination Time: 08:07						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	178 21.1 +00.2	N 01 07.3 +01.0	135 25.9 -00.1	N 20 12.7 +00.8	190 25.4 -25.5	S 09 17.4 -11.0	00										
01	193 21.3 +00.2	N 01 08.3 +01.0	150 25.8 +00.0	N 20 13.5 +00.9	204 59.9 -25.4	S 09 06.4 -11.1	01										
02	208 21.5 +00.2	N 01 09.3 +01.0	165 25.8 +00.0	N 20 14.4 +00.9	219 34.5 -25.3	S 08 55.3 -11.1	02										
03	223 21.7 +00.2	N 01 10.3 +00.9	180 25.8 -00.1	N 20 15.3 +00.9	234 09.2 -25.3	S 08 44.2 -11.1	03										
04	238 21.9 +00.1	N 01 11.2 +01.0	195 25.7 +00.0	N 20 16.2 +00.9	248 43.9 -25.3	S 08 33.1 -11.1	04										
05	253 22.0 +00.2	N 01 12.2 +01.0	210 25.7 +00.0	N 20 17.1 +00.9	263 18.6 -25.3	S 08 22.0 -11.2	05										
06	268 22.2 +00.2	N 01 13.2 +01.0	225 25.7 -00.1	N 20 18.0 +00.9	277 53.3 -25.2	S 08 10.8 -11.2	06										
07	283 22.4 +00.2	N 01 14.2 +01.0	240 25.6 +00.0	N 20 18.9 +00.8	292 28.1 -25.2	S 07 59.6 -11.3	07										
08	298 22.6 +00.2	N 01 15.2 +01.0	255 25.6 +00.0	N 20 19.7 +00.9	307 02.9 -25.2	S 07 48.3 -11.2	08										
09	313 22.8 +00.2	N 01 16.2 +00.9	270 25.6 -00.1	N 20 20.6 +00.9	321 37.7 -25.2	S 07 37.1 -11.3	09										
10	328 23.0 +00.2	N 01 17.1 +01.0	285 25.5 +00.0	N 20 21.5 +00.9	336 12.5 -25.1	S 07 25.8 -11.4	10										
11	343 23.2 +00.2	N 01 18.1 +01.0	300 25.5 +00.0	N 20 22.4 +00.9	350 47.4 -25.1	S 07 14.4 -11.3	11										
12	358 23.4 +00.1	N 01 19.1 +01.0	315 25.5 +00.0	N 20 23.3 +00.8	5 22.3 -25.0	S 07 03.1 -11.4	12										
13	13 23.5 +00.2	N 01 20.1 +01.0	330 25.5 -00.1	N 20 24.1 +00.9	19 57.3 -25.1	S 06 51.7 -11.4	13										
14	28 23.7 +00.2	N 01 21.1 +01.0	345 25.4 +00.0	N 20 25.0 +00.9	34 32.2 -25.0	S 06 40.3 -11.4	14										
15	43 23.9 +00.2	N 01 22.1 +01.0	0 25.4 +00.0	N 20 25.9 +00.9	49 07.2 -25.0	S 06 28.9 -11.5	15										
16	58 24.1 +00.2	N 01 23.1 +00.9	15 25.4 -00.1	N 20 26.8 +00.8	63 42.2 -25.0	S 06 17.4 -11.5	16										
17	73 24.3 +00.2	N 01 24.0 +01.0	30 25.3 +00.0	N 20 27.6 +00.9	78 17.2 -24.9	S 06 05.9 -11.5	17										
18	88 24.5 +00.2	N 01 25.0 +01.0	45 25.3 +00.0	N 20 28.5 +00.9	92 52.3 -24.9	S 05 54.4 -11.5	18										
19	103 24.7 +00.2	N 01 26.0 +01.0	60 25.3 -00.1	N 20 29.4 +00.9	107 27.4 -24.9	S 05 42.9 -11.5	19										
20	118 24.9 +00.1	N 01 27.0 +01.0	75 25.2 +00.0	N 20 30.3 +00.8	122 02.5 -24.9	S 05 31.4 -11.6	20										
21	133 25.0 +00.2	N 01 28.0 +01.0	90 25.2 +00.0	N 20 31.1 +00.9	136 37.6 -24.9	S 05 19.8 -11.6	21										
22	148 25.2 +00.2	N 01 29.0 +01.0	105 25.2 +00.0	N 20 32.0 +00.9	151 12.7 -24.8	S 05 08.2 -11.6	22										
23	163 25.4 +00.2	N 01 30.0 +00.9	120 25.2 -00.1	N 20 32.9 +00.9	165 47.9 -24.9	S 04 56.6 -11.6	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 357° 357° 357° 357° 357° 357°	Greenwich Culmination Time: 12:06		UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'2 00'2 00'2 00'2 00'2 00'2	SHA 314° 314° 314° 314° 314° 314°	Greenwich Culmination Time: 14:58		UT 02 06 10 14 18 22	SD 14'7 14'7 14'7 14'7 14'7 14'7	HP 54'0 54'0 54'0 53'9 53'9 53'9	SHA 009° 007° 005° 003° 001° 359°	Greenwich Culmination Time: 11:37

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	244 18.4 +00.6	S 21 59.4 -00.2	245 54.5 +02.1	S 21 29.5 -00.1	238 41.0 +02.3	S 20 11.0 -00.1	00										
01	259 19.0 +00.6	S 21 59.2 -00.3	260 56.6 +02.1	S 21 29.4 +00.0	253 43.3 +02.3	S 20 10.9 +00.0	01										
02	274 19.6 +00.6	S 21 58.9 -00.2	275 58.7 +02.0	S 21 29.4 -00.1	268 45.6 +02.3	S 20 10.9 +00.0	02										
03	289 20.2 +00.6	S 21 58.7 -00.3	291 00.7 +02.1	S 21 29.3 -00.1	283 47.9 +02.2	S 20 10.9 -00.1	03										
04	304 20.8 +00.7	S 21 58.4 -00.3	306 02.8 +02.1	S 21 29.2 +00.0	298 50.1 +02.3	S 20 10.8 +00.0	04										
05	319 21.5 +00.6	S 21 58.1 -00.2	321 04.9 +02.1	S 21 29.2 -00.1	313 52.4 +02.3	S 20 10.8 +00.0	05										
06	334 22.1 +00.6	S 21 57.9 -00.3	336 07.0 +02.1	S 21 29.1 +00.0	328 54.7 +02.2	S 20 10.8 -00.1	06										
07	349 22.7 +00.6	S 21 57.6 -00.3	351 09.1 +02.0	S 21 29.1 -00.1	343 56.9 +02.3	S 20 10.7 +00.0	07										
08	4 23.3 +00.6	S 21 57.3 -00.2	6 11.1 +02.1	S 21 29.0 +00.0	358 59.2 +02.3	S 20 10.7 -00.1	08										
09	19 23.9 +00.6	S 21 57.1 -00.3	21 13.2 +02.1	S 21 29.0 -00.1	14 01.5 +02.3	S 20 10.6 +00.0	09										
10	34 24.5 +00.6	S 21 56.8 -00.3	36 15.3 +02.1	S 21 28.9 +00.0	29 03.8 +02.2	S 20 10.6 +00.0	10										
11	49 25.1 +00.6	S 21 56.5 -00.2	51 17.4 +02.1	S 21 28.9 -00.1	44 06.0 +02.3	S 20 10.6 -00.1	11										
12	64 25.7 +00.7	S 21 56.3 -00.3	66 19.5 +02.1	S 21 28.8 -00.1	59 08.3 +02.3	S 20 10.5 +00.0	12										
13	79 26.4 +00.6	S 21 56.0 -00.3	81 21.6 +02.0	S 21 28.7 +00.0	74 10.6 +02.3	S 20 10.5 +00.0	13										
14	94 27.0 +00.6	S 21 55.7 -00.2	96 23.6 +02.1	S 21 28.7 -00.1	89 12.9 +02.2	S 20 10.5 -00.1	14										
15	109 27.6 +00.6	S 21 55.5 -00.3	111 25.7 +02.1	S 21 28.6 +00.0	104 15.1 +02.3	S 20 10.4 +00.0	15										
16	124 28.2 +00.6	S 21 55.2 -00.3	126 27.8 +02.1	S 21 28.6 -00.1	119 17.4 +02.3	S 20 10.4 +00.0	16										
17	139 28.8 +00.6	S 21 54.9 -00.2	141 29.9 +02.1	S 21 28.5 +00.0	134 19.7 +02.3	S 20 10.4 -00.1	17										
18	154 29.4 +00.6	S 21 54.7 -00.3	156 32.0 +02.1	S 21 28.5 -00.1	149 22.0 +02.2	S 20 10.3 +00.0	18										
19	169 30.0 +00.7	S 21 54.4 -00.3	171 34.1 +02.0	S 21 28.4 -00.1	164 24.2 +02.3	S 20 10.3 +00.0	19										
20	184 30.7 +00.6	S 21 54.1 -00.3	186 36.1 +02.1	S 21 28.3 +00.0	179 26.5 +02.3	S 20 10.3 -00.1	20										
21	199 31.3 +00.6	S 21 53.8 -00.2	201 38.2 +02.1	S 21 28.3 -00.1	194 28.8 +02.2	S 20 10.2 +00.0	21										
22	214 31.9 +00.6	S 21 53.6 -00.3	216 40.3 +02.1	S 21 28.2 +00.0	209 31.0 +02.3	S 20 10.2 -00.1	22										
23	229 32.5 +00.6	S 21 53.3 -00.3	231 42.4 +02.1	S 21 28.2 -00.1	224 33.3 +02.3	S 20 10.1 +00.0	23										
	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 063° 063° 063° 063° 063° 063°	Greenwich Culmination Time: 07:42		UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 065° 065° 065° 065° 065° 065°	Greenwich Culmination Time: 07:35		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 058° 058° 058° 058° 058° 058°	Greenwich Culmination Time: 08:04

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 25.6 +00.2	N 01 30.9 +01.0	135 25.1 +00.0	N 20 33.8 +00.8	180 23.0 -24.8	S 04 45.0 -11.6	00						
01	193 25.8 +00.2	N 01 31.9 +01.0	150 25.1 +00.0	N 20 34.6 +00.9	194 58.2 -24.8	S 04 33.4 -11.7	01						
02	208 26.0 +00.2	N 01 32.9 +01.0	165 25.1 +00.0	N 20 35.5 +00.9	209 33.4 -24.7	S 04 21.7 -11.6	02						
03	223 26.2 +00.2	N 01 33.9 +01.0	180 25.1 -00.1	N 20 36.4 +00.8	224 08.7 -24.8	S 04 10.1 -11.7	03						
04	238 26.4 +00.1	N 01 34.9 +01.0	195 25.0 +00.0	N 20 37.2 +00.9	238 43.9 -24.8	S 03 58.4 -11.7	04						
05	253 26.5 +00.2	N 01 35.9 +00.9	210 25.0 +00.0	N 20 38.1 +00.9	253 19.1 -24.7	S 03 46.7 -11.7	05						
06	268 26.7 +00.2	N 01 36.8 +01.0	225 25.0 +00.0	N 20 39.0 +00.8	267 54.4 -24.7	S 03 35.0 -11.7	06						
07	283 26.9 +00.2	N 01 37.8 +01.0	240 25.0 -00.1	N 20 39.8 +00.9	282 29.7 -24.7	S 03 23.3 -11.8	07						
08	298 27.1 +00.2	N 01 38.8 +01.0	255 24.9 +00.0	N 20 40.7 +00.8	297 05.0 -24.7	S 03 11.5 -11.7	08						
09	313 27.3 +00.2	N 01 39.8 +01.0	270 24.9 +00.0	N 20 41.5 +00.9	311 40.3 -24.7	S 02 59.8 -11.8	09						
10	328 27.5 +00.2	N 01 40.8 +01.0	285 24.9 +00.0	N 20 42.4 +00.9	326 15.6 -24.7	S 02 48.0 -11.8	10						
11	343 27.7 +00.2	N 01 41.8 +00.9	300 24.9 -00.1	N 20 43.3 +00.8	340 50.9 -24.6	S 02 36.2 -11.7	11						
12	358 27.9 +00.1	N 01 42.7 +01.0	315 24.8 +00.0	N 20 44.1 +00.9	355 26.3 -24.7	S 02 24.5 -11.8	12						
13	13 28.0 +00.2	N 01 43.7 +01.0	330 24.8 +00.0	N 20 45.0 +00.8	10 01.6 -24.6	S 02 12.7 -11.8	13						
14	28 28.2 +00.2	N 01 44.7 +01.0	345 24.8 +00.0	N 20 45.8 +00.9	24 37.0 -24.7	S 02 00.9 -11.8	14						
15	43 28.4 +00.2	N 01 45.7 +01.0	0 24.8 -00.1	N 20 46.7 +00.9	39 12.3 -24.6	S 01 49.1 -11.8	15						
16	58 28.6 +00.2	N 01 46.7 +01.0	15 24.7 +00.0	N 20 47.6 +00.8	53 47.7 -24.6	S 01 37.3 -11.9	16						
17	73 28.8 +00.2	N 01 47.7 +00.9	30 24.7 +00.0	N 20 48.4 +00.9	68 23.1 -24.7	S 01 25.4 -11.8	17						
18	88 29.0 +00.2	N 01 48.6 +01.0	45 24.7 +00.0	N 20 49.3 +00.8	82 58.4 -24.6	S 01 13.6 -11.8	18						
19	103 29.2 +00.2	N 01 49.6 +01.0	60 24.7 +00.0	N 20 50.1 +00.9	97 33.8 -24.6	S 01 01.8 -11.9	19						
20	118 29.4 +00.1	N 01 50.6 +01.0	75 24.7 -00.1	N 20 51.0 +00.8	112 09.2 -24.6	S 00 49.9 -11.8	20						
21	133 29.5 +00.2	N 01 51.6 +01.0	90 24.6 +00.0	N 20 51.8 +00.9	126 44.6 -24.6	S 00 38.1 -11.8	21						
22	148 29.7 +00.2	N 01 52.6 +01.0	105 24.6 +00.0	N 20 52.7 +00.8	141 20.0 -24.7	S 00 26.3 -11.9	22						
23	163 29.9 +00.2	N 01 53.6 +00.9	120 24.6 +00.0	N 20 53.5 +00.9	155 55.3 -24.6	S 00 14.4 -11.8	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 356° 356° 356° 356° 356° 356°	Greenwich Culmination Time: 12:06								
	UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'2 00'2 00'2 00'2 00'2 00'2	SHA 313° 313° 313° 313° 313° 313°	Greenwich Culmination Time: 14:58								
	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 53'9	SHA 358° 356° 354° 352° 350° 349°	Greenwich Culmination Time: 12:18								
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	244 33.1 +00.6	S 21 53.0 -00.2	246 44.5 +02.1	S 21 28.1 +00.0	239 35.6 +02.3	S 20 10.1 +00.0	00						
01	259 33.7 +00.6	S 21 52.8 -00.3	261 46.6 +02.1	S 21 28.1 -00.1	254 37.9 +02.2	S 20 10.1 -00.1	01						
02	274 34.3 +00.7	S 21 52.5 -00.3	276 48.7 +02.1	S 21 28.0 +00.0	269 40.1 +02.3	S 20 10.0 +00.0	02						
03	289 35.0 +00.6	S 21 52.2 -00.3	291 50.8 +02.0	S 21 28.0 -00.1	284 42.4 +02.3	S 20 10.0 +00.0	03						
04	304 35.6 +00.6	S 21 51.9 -00.2	306 52.8 +02.1	S 21 27.9 +00.0	299 44.7 +02.3	S 20 10.0 -00.1	04						
05	319 36.2 +00.6	S 21 51.7 -00.3	321 54.9 +02.1	S 21 27.9 -00.1	314 47.0 +02.2	S 20 09.9 +00.0	05						
06	334 36.8 +00.6	S 21 51.4 -00.3	336 57.0 +02.1	S 21 27.8 -00.1	329 49.2 +02.3	S 20 09.9 +00.0	06						
07	349 37.4 +00.6	S 21 51.1 -00.2	351 59.1 +02.1	S 21 27.7 +00.0	344 51.5 +02.3	S 20 09.9 -00.1	07						
08	4 38.0 +00.6	S 21 50.9 -00.3	7 01.2 +02.1	S 21 27.7 -00.1	359 53.8 +02.3	S 20 09.8 +00.0	08						
09	19 38.6 +00.7	S 21 50.6 -00.3	22 03.3 +02.1	S 21 27.6 +00.0	14 56.1 +02.2	S 20 09.8 +00.0	09						
10	34 39.3 +00.6	S 21 50.3 -00.3	37 05.4 +02.1	S 21 27.6 -00.1	29 58.3 +02.3	S 20 09.8 -00.1	10						
11	49 39.9 +00.6	S 21 50.0 -00.2	52 07.5 +02.0	S 21 27.5 +00.0	45 00.6 +02.3	S 20 09.7 +00.0	11						
12	64 40.5 +00.6	S 21 49.8 -00.3	67 09.5 +02.1	S 21 27.5 -00.1	60 02.9 +02.3	S 20 09.7 +00.0	12						
13	79 41.1 +00.6	S 21 49.5 -00.3	82 11.6 +02.1	S 21 27.4 +00.0	75 05.2 +02.2	S 20 09.7 -00.1	13						
14	94 41.7 +00.6	S 21 49.2 -00.3	97 13.7 +02.1	S 21 27.4 -00.1	90 07.4 +02.3	S 20 09.6 +00.0	14						
15	109 42.3 +00.7	S 21 48.9 -00.2	112 15.8 +02.1	S 21 27.3 -00.1	105 09.7 +02.3	S 20 09.6 +00.0	15						
16	124 43.0 +00.6	S 21 48.7 -00.3	127 17.9 +02.1	S 21 27.2 +00.0	120 12.0 +02.3	S 20 09.6 -00.1	16						
17	139 43.6 +00.6	S 21 48.4 -00.3	142 20.0 +02.1	S 21 27.2 -00.1	135 14.3 +02.3	S 20 09.5 +00.0	17						
18	154 44.2 +00.6	S 21 48.1 -00.3	157 22.1 +02.1	S 21 27.1 +00.0	150 16.6 +02.2	S 20 09.5 -00.1	18						
19	169 44.8 +00.6	S 21 47.8 -00.2	172 24.2 +02.1	S 21 27.1 -00.1	165 18.8 +02.3	S 20 09.4 +00.0	19						
20	184 45.4 +00.6	S 21 47.6 -00.3	187 26.3 +02.1	S 21 27.0 +00.0	180 21.1 +02.3	S 20 09.4 +00.0	20						
21	199 46.0 +00.7	S 21 47.3 -00.3	202 28.4 +02.0	S 21 27.0 -00.1	195 23.4 +02.3	S 20 09.4 -00.1	21						
22	214 46.7 +00.6	S 21 47.0 -00.3	217 30.4 +02.1	S 21 26.9 +00.0	210 25.7 +02.2	S 20 09.3 +00.0	22						
23	229 47.3 +00.6	S 21 46.7 -00.3	232 32.5 +02.1	S 21 26.9 -00.1	225 27.9 +02.3	S 20 09.3 +00.0	23						
	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 063° 062° 062° 062° 062° 062°	Greenwich Culmination Time: 07:41								
	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 065° 065° 065° 065° 065° 065°	Greenwich Culmination Time: 07:31								
	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 058° 058° 058° 058° 058° 058°	Greenwich Culmination Time: 08:00								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	178 30.1 +00.2	N 01 54.5 +01.0	135 24.6 +00.0	N 20 54.4 +00.8	170 30.7 -24.6	S 00 02.6 -11.9	00	00	02.6	-11.9	00		
01	193 30.3 +00.2	N 01 55.5 +01.0	150 24.6 -00.1	N 20 55.2 +00.9	185 06.1 -24.6	N 00 09.3 +11.8	01	00	09.3	+11.8	01		
02	208 30.5 +00.2	N 01 56.5 +01.0	165 24.5 +00.0	N 20 56.1 +00.8	199 41.5 -24.6	N 00 21.1 +11.9	02	00	21.1	+11.9	02		
03	223 30.7 +00.2	N 01 57.5 +01.0	180 24.5 +00.0	N 20 56.9 +00.9	214 16.9 -24.6	N 00 33.0 +11.8	03	00	33.0	+11.8	03		
04	238 30.9 +00.2	N 01 58.5 +01.0	195 24.5 +00.0	N 20 57.8 +00.8	228 52.3 -24.6	N 00 44.8 +11.9	04	00	44.8	+11.9	04		
05	253 31.1 +00.1	N 01 59.5 +00.9	210 24.5 +00.0	N 20 58.6 +00.9	243 27.7 -24.7	N 00 56.7 +11.8	05	00	56.7	+11.8	05		
06	268 31.2 +00.2	N 02 00.4 +01.0	225 24.5 -00.1	N 20 59.5 +00.8	258 03.0 -24.6	N 01 08.5 +11.8	06	01	08.5	+11.8	06		
07	283 31.4 +00.2	N 02 01.4 +01.0	240 24.4 +00.0	N 21 00.3 +00.9	272 38.4 -24.6	N 01 20.3 +11.9	07	01	20.3	+11.9	07		
08	298 31.6 +00.2	N 02 02.4 +01.0	255 24.4 +00.0	N 21 01.2 +00.8	287 13.8 -24.7	N 01 32.2 +11.8	08	01	32.2	+11.8	08		
09	313 31.8 +00.2	N 02 03.4 +01.0	270 24.4 +00.0	N 21 02.0 +00.9	301 49.1 -24.6	N 01 44.0 +11.8	09	01	44.0	+11.8	09		
10	328 32.0 +00.2	N 02 04.4 +00.9	285 24.4 +00.0	N 21 02.9 +00.8	316 24.5 -24.7	N 01 55.8 +11.8	10	01	55.8	+11.8	10		
11	343 32.2 +00.2	N 02 05.3 +01.0	300 24.4 +00.0	N 21 03.7 +00.8	330 59.8 -24.7	N 02 07.6 +11.8	11	02	07.6	+11.8	11		
12	358 32.4 +00.2	N 02 06.3 +01.0	315 24.4 +00.0	N 21 04.5 +00.9	345 35.1 -24.6	N 02 19.4 +11.8	12	02	19.4	+11.8	12		
13	13 32.6 +00.1	N 02 07.3 +01.0	330 24.4 -00.1	N 21 05.4 +00.8	0 10.5 -24.7	N 02 31.2 +11.8	13	02	31.2	+11.8	13		
14	28 32.7 +00.2	N 02 08.3 +01.0	345 24.3 +00.0	N 21 06.2 +00.9	14 45.8 -24.7	N 02 43.0 +11.8	14	02	43.0	+11.8	14		
15	43 32.9 +00.2	N 02 09.3 +01.0	0 24.3 +00.0	N 21 07.1 +00.8	29 21.1 -24.7	N 02 54.8 +11.8	15	02	54.8	+11.8	15		
16	58 33.1 +00.2	N 02 10.3 +00.9	15 24.3 +00.0	N 21 07.9 +00.8	43 56.4 -24.8	N 03 06.6 +11.8	16	03	06.6	+11.8	16		
17	73 33.3 +00.2	N 02 11.2 +01.0	30 24.3 +00.0	N 21 08.7 +00.9	58 31.6 -24.7	N 03 18.4 +11.7	17	03	18.4	+11.7	17		
18	88 33.5 +00.2	N 02 12.2 +01.0	45 24.3 +00.0	N 21 09.6 +00.8	73 06.9 -24.7	N 03 30.1 +11.8	18	03	30.1	+11.8	18		
19	103 33.7 +00.2	N 02 13.2 +01.0	60 24.3 +00.0	N 21 10.4 +00.8	87 42.2 -24.8	N 03 41.9 +11.7	19	03	41.9	+11.7	19		
20	118 33.9 +00.2	N 02 14.2 +01.0	75 24.3 -00.1	N 21 11.2 +00.9	102 17.4 -24.8	N 03 53.6 +11.7	20	03	53.6	+11.7	20		
21	133 34.1 +00.1	N 02 15.2 +00.9	90 24.2 +00.0	N 21 12.1 +00.8	116 52.6 -24.8	N 04 05.3 +11.7	21	04	05.3	+11.7	21		
22	148 34.2 +00.2	N 02 16.1 +01.0	105 24.2 +00.0	N 21 12.9 +00.9	131 27.8 -24.8	N 04 17.0 +11.7	22	04	17.0	+11.7	22		
23	163 34.4 +00.2	N 02 17.1 +01.0	120 24.2 +00.0	N 21 13.8 +00.8	146 03.0 -24.8	N 04 28.7 +11.7	23	04	28.7	+11.7	23		
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 14'7 14'7 14'7 14'7 14'7 14'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1		
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 53'9 53'9 53'9 53'9 53'9 54'0		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 356° 355° 355° 355° 355° 355°		SHA 312° 312° 312° 312° 312° 312°		SHA 347° 345° 343° 341° 339° 338°		SHA 062° 062° 062° 061° 061° 061°		SHA 065° 065° 065° 065° 065° 065°		SHA 058° 058° 058° 058° 058° 058°		
	Greenwich Culmination Time: 12:05		Greenwich Culmination Time: 14:58		Greenwich Culmination Time: 12:59		Greenwich Culmination Time: 07:40		Greenwich Culmination Time: 07:28		Greenwich Culmination Time: 07:56		

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	178 34.6 +00.2	N 02 18.1 +01.0	135 24.2 +00.0	N 21 14.6 +00.8	160 38.2 -24.9	N 04 40.4 +11.7	00										
01	193 34.8 +00.2	N 02 19.1 +01.0	150 24.2 +00.0	N 21 15.4 +00.8	175 13.3 -24.9	N 04 52.1 +11.6	01										
02	208 35.0 +00.2	N 02 20.1 +00.9	165 24.2 +00.0	N 21 16.2 +00.9	189 48.4 -24.8	N 05 03.7 +11.6	02										
03	223 35.2 +00.2	N 02 21.0 +01.0	180 24.2 +00.0	N 21 17.1 +00.8	204 23.6 -25.0	N 05 15.3 +11.7	03										
04	238 35.4 +00.2	N 02 22.0 +01.0	195 24.2 +00.0	N 21 17.9 +00.8	218 58.6 -24.9	N 05 27.0 +11.6	04										
05	253 35.6 +00.2	N 02 23.0 +01.0	210 24.2 +00.0	N 21 18.7 +00.9	233 33.7 -25.0	N 05 38.6 +11.5	05										
06	268 35.8 +00.1	N 02 24.0 +01.0	225 24.2 -00.1	N 21 19.6 +00.8	248 08.7 -24.9	N 05 50.1 +11.6	06										
07	283 35.9 +00.2	N 02 25.0 +00.9	240 24.1 +00.0	N 21 20.4 +00.8	262 43.8 -25.0	N 06 01.7 +11.5	07										
08	298 36.1 +00.2	N 02 25.9 +01.0	255 24.1 +00.0	N 21 21.2 +00.8	277 18.8 -25.1	N 06 13.2 +11.5	08										
09	313 36.3 +00.2	N 02 26.9 +01.0	270 24.1 +00.0	N 21 22.0 +00.9	291 53.7 -25.0	N 06 24.7 +11.5	09										
10	328 36.5 +00.2	N 02 27.9 +01.0	285 24.1 +00.0	N 21 22.9 +00.8	306 28.7 -25.1	N 06 36.2 +11.5	10										
11	343 36.7 +00.2	N 02 28.9 +01.0	300 24.1 +00.0	N 21 23.7 +00.8	321 03.6 -25.1	N 06 47.7 +11.4	11										
12	358 36.9 +00.2	N 02 29.9 +00.9	315 24.1 +00.0	N 21 24.5 +00.8	335 38.5 -25.1	N 06 59.1 +11.4	12										
13	13 37.1 +00.2	N 02 30.8 +01.0	330 24.1 +00.0	N 21 25.3 +00.8	350 13.4 -25.2	N 07 10.5 +11.4	13										
14	28 37.3 +00.1	N 02 31.8 +01.0	345 24.1 +00.0	N 21 26.1 +00.9	4 48.2 -25.2	N 07 21.9 +11.4	14										
15	43 37.4 +00.2	N 02 32.8 +01.0	0 24.1 +00.0	N 21 27.0 +00.8	19 23.0 -25.2	N 07 33.3 +11.4	15										
16	58 37.6 +00.2	N 02 33.8 +01.0	15 24.1 +00.0	N 21 27.8 +00.8	33 57.8 -25.3	N 07 44.7 +11.3	16										
17	73 37.8 +00.2	N 02 34.8 +00.9	30 24.1 +00.0	N 21 28.6 +00.8	48 32.5 -25.3	N 07 56.0 +11.3	17										
18	88 38.0 +00.2	N 02 35.7 +01.0	45 24.1 +00.0	N 21 29.4 +00.8	63 07.2 -25.3	N 08 07.3 +11.2	18										
19	103 38.2 +00.2	N 02 36.7 +01.0	60 24.1 +00.0	N 21 30.2 +00.9	77 41.9 -25.3	N 08 18.5 +11.3	19										
20	118 38.4 +00.2	N 02 37.7 +01.0	75 24.1 +00.0	N 21 31.1 +00.8	92 16.6 -25.4	N 08 29.8 +11.2	20										
21	133 38.6 +00.2	N 02 38.7 +01.0	90 24.1 +00.0	N 21 31.9 +00.8	106 51.2 -25.4	N 08 41.0 +11.1	21										
22	148 38.8 +00.1	N 02 39.7 +00.9	105 24.1 +00.0	N 21 32.7 +00.8	121 25.8 -25.5	N 08 52.1 +11.2	22										
23	163 38.9 +00.2	N 02 40.6 +01.0	120 24.1 +00.0	N 21 33.5 +00.8	136 00.3 -25.5	N 09 03.3 +11.1	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 355° 354° 354° 354° 354° 354°	Greenwich Culmination Time: 12:05		UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'2 00'2 00'2 00'2 00'2 00'2	SHA 311° 311° 311° 311° 311° 311°	Greenwich Culmination Time: 14:58		UT 02 06 10 14 18 22	SD 14'7 14'7 14'7 14'7 14'7 14'7	HP 54'0 54'0 54'0 54'1 54'1 54'1	SHA 336° 334° 332° 330° 328° 327°	Greenwich Culmination Time: 13:40

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	245 02.7 +00.6	S 21 39.7 -00.3	248 24.9 +02.1	S 21 25.5 -00.1	241 24.9 +02.3	S 20 08.4 +00.0	00										
01	260 03.3 +00.7	S 21 39.4 -00.3	263 27.0 +02.1	S 21 25.4 +00.0	256 27.2 +02.3	S 20 08.4 +00.0	01										
02	275 04.0 +00.6	S 21 39.1 -00.3	278 29.1 +02.1	S 21 25.4 -00.1	271 29.5 +02.3	S 20 08.4 -00.1	02										
03	290 04.6 +00.6	S 21 38.8 -00.3	293 31.2 +02.1	S 21 25.3 +00.0	286 31.8 +02.2	S 20 08.3 +00.0	03										
04	305 05.2 +00.6	S 21 38.5 -00.3	308 33.3 +02.1	S 21 25.3 -00.1	301 34.0 +02.3	S 20 08.3 +00.0	04										
05	320 05.8 +00.6	S 21 38.2 -00.3	323 35.4 +02.1	S 21 25.2 +00.0	316 36.3 +02.3	S 20 08.3 -00.1	05										
06	335 06.4 +00.7	S 21 37.9 -00.3	338 37.5 +02.1	S 21 25.2 -00.1	331 38.6 +02.3	S 20 08.2 +00.0	06										
07	350 07.1 +00.6	S 21 37.6 -00.2	353 39.6 +02.1	S 21 25.1 +00.0	346 40.9 +02.3	S 20 08.2 +00.0	07										
08	5 07.7 +00.6	S 21 37.4 -00.3	8 41.7 +02.1	S 21 25.1 -00.1	1 43.2 +02.3	S 20 08.2 -00.1	08										
09	20 08.3 +00.6	S 21 37.1 -00.3	23 43.8 +02.1	S 21 25.0 +00.0	16 45.5 +02.2	S 20 08.1 +00.0	09										
10	35 08.9 +00.7	S 21 36.8 -00.3	38 45.9 +02.1	S 21 25.0 -00.1	31 47.7 +02.3	S 20 08.1 +00.0	10										
11	50 09.6 +00.6	S 21 36.5 -00.3	53 48.0 +02.1	S 21 24.9 -00.1	46 50.0 +02.3	S 20 08.1 -00.1	11										
12	65 10.2 +00.6	S 21 36.2 -00.3	68 50.1 +02.1	S 21 24.8 +00.0	61 52.3 +02.3	S 20 08.0 +00.0	12										
13	80 10.8 +00.6	S 21 35.9 -00.3	83 52.2 +02.1	S 21 24.8 -00.1	76 54.6 +02.3	S 20 08.0 +00.0	13										
14	95 11.4 +00.6	S 21 35.6 -00.3	98 54.3 +02.1	S 21 24.7 +00.0	91 56.9 +02.3	S 20 08.0 -00.1	14										
15	110 12.0 +00.7	S 21 35.3 -00.3	113 56.4 +02.1	S 21 24.7 -00.1	106 59.2 +02.2	S 20 07.9 +00.0	15										
16	125 12.7 +00.6	S 21 35.0 -00.3	128 58.5 +02.1	S 21 24.6 +00.0	122 01.4 +02.3	S 20 07.9 +00.0	16										
17	140 13.3 +00.6	S 21 34.7 -00.2	144 00.6 +02.1	S 21 24.6 -00.1	137 03.7 +02.3	S 20 07.9 -00.1	17										
18	155 13.9 +00.6	S 21 34.5 -00.3	159 02.7 +02.1	S 21 24.5 +00.0	152 06.0 +02.3	S 20 07.8 +00.0	18										
19	170 14.5 +00.6	S 21 34.2 -00.3	174 04.8 +02.1	S 21 24.5 -00.1	167 08.3 +02.3	S 20 07.8 +00.0	19										
20	185 15.1 +00.7	S 21 33.9 -00.3	189 06.9 +02.1	S 21 24.4 +00.0	182 10.6 +02.3	S 20 07.8 -00.1	20										
21	200 15.8 +00.6	S 21 33.6 -00.3	204 09.0 +02.1	S 21 24.4 -00.1	197 12.9 +02.2	S 20 07.7 +00.0	21										
22	215 16.4 +00.6	S 21 33.3 -00.3	219 11.1 +02.1	S 21 24.3 +00.0	212 15.1 +02.3	S 20 07.7 +00.0	22										
23	230 17.0 +00.6	S 21 33.0 -00.3	234 13.2 +02.1	S 21 24.3 -00.1	227 17.4 +02.3	S 20 07.7 -00.1	23										
	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 061° 061° 061° 061° 061° 060°	Greenwich Culmination Time: 07:39		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 065° 064° 064° 064° 064° 064°	Greenwich Culmination Time: 07:25		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 058° 057° 057° 057° 057° 057°	Greenwich Culmination Time: 07:53

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 39.1 +00.2	N 02 41.6 +01.0	135 24.1 +00.0	N 21 34.3 +00.8	150 34.8 -25.5	N 09 14.4 +11.1	00						
01	193 39.3 +00.2	N 02 42.6 +01.0	150 24.1 +00.0	N 21 35.1 +00.8	165 09.3 -25.6	N 09 25.5 +11.0	01						
02	208 39.5 +00.2	N 02 43.6 +01.0	165 24.1 +00.0	N 21 35.9 +00.8	179 43.7 -25.6	N 09 36.5 +11.0	02						
03	223 39.7 +00.2	N 02 44.6 +00.9	180 24.1 +00.0	N 21 36.7 +00.9	194 18.1 -25.6	N 09 47.5 +11.0	03						
04	238 39.9 +00.2	N 02 45.5 +01.0	195 24.1 +00.0	N 21 37.6 +00.8	208 52.5 -25.7	N 09 58.5 +10.9	04						
05	253 40.1 +00.2	N 02 46.5 +01.0	210 24.1 +00.0	N 21 38.4 +00.8	223 26.8 -25.7	N 10 09.4 +10.9	05						
06	268 40.3 +00.2	N 02 47.5 +01.0	225 24.1 +00.0	N 21 39.2 +00.8	238 01.1 -25.8	N 10 20.3 +10.9	06						
07	283 40.5 +00.1	N 02 48.5 +00.9	240 24.1 +00.0	N 21 40.0 +00.8	252 35.3 -25.8	N 10 31.2 +10.8	07						
08	298 40.6 +00.2	N 02 49.4 +01.0	255 24.1 +00.0	N 21 40.8 +00.8	267 09.5 -25.8	N 10 42.0 +10.8	08						
09	313 40.8 +00.2	N 02 50.4 +01.0	270 24.1 +00.0	N 21 41.6 +00.8	281 43.7 -25.9	N 10 52.8 +10.7	09						
10	328 41.0 +00.2	N 02 51.4 +01.0	285 24.1 +00.0	N 21 42.4 +00.8	296 17.8 -26.0	N 11 03.5 +10.7	10						
11	343 41.2 +00.2	N 02 52.4 +01.0	300 24.1 +00.0	N 21 43.2 +00.8	310 51.8 -25.9	N 11 14.2 +10.7	11						
12	358 41.4 +00.2	N 02 53.4 +00.9	315 24.1 +00.0	N 21 44.0 +00.8	325 25.9 -26.1	N 11 24.9 +10.6	12						
13	13 41.6 +00.2	N 02 54.3 +01.0	330 24.1 +00.0	N 21 44.8 +00.8	339 59.8 -26.0	N 11 35.5 +10.6	13						
14	28 41.8 +00.2	N 02 55.3 +01.0	345 24.1 +00.0	N 21 45.6 +00.8	354 33.8 -26.1	N 11 46.1 +10.6	14						
15	43 42.0 +00.1	N 02 56.3 +01.0	0 24.1 +00.0	N 21 46.4 +00.8	9 07.7 -26.2	N 11 56.7 +10.5	15						
16	58 42.1 +00.2	N 02 57.3 +00.9	15 24.1 +00.0	N 21 47.2 +00.8	23 41.5 -26.2	N 12 07.2 +10.4	16						
17	73 42.3 +00.2	N 02 58.2 +01.0	30 24.1 +00.0	N 21 48.0 +00.8	38 15.3 -26.3	N 12 17.6 +10.4	17						
18	88 42.5 +00.2	N 02 59.2 +01.0	45 24.1 +00.0	N 21 48.8 +00.8	52 49.0 -26.3	N 12 28.0 +10.4	18						
19	103 42.7 +00.2	N 03 00.2 +01.0	60 24.1 +00.0	N 21 49.6 +00.8	67 22.7 -26.3	N 12 38.4 +10.3	19						
20	118 42.9 +00.2	N 03 01.2 +00.9	75 24.1 +00.0	N 21 50.4 +00.8	81 56.4 -26.4	N 12 48.7 +10.2	20						
21	133 43.1 +00.2	N 03 02.1 +01.0	90 24.1 +00.0	N 21 51.2 +00.8	96 30.0 -26.5	N 12 58.9 +10.3	21						
22	148 43.3 +00.2	N 03 03.1 +01.0	105 24.1 +00.0	N 21 52.0 +00.8	111 03.5 -26.5	N 13 09.2 +10.1	22						
23	163 43.5 +00.1	N 03 04.1 +01.0	120 24.1 +00.1	N 21 52.8 +00.8	125 37.0 -26.6	N 13 19.3 +10.1	23						
	UT 02 06 10 14 18 22	SD 16'0 16'0 16'0 16'0 16'0 16'0	UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	UT 02 06 10 14 18 22	SD 14'8 14'8 14'8 14'8 14'8 14'8							
	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 00'2 00'2 00'2 00'2 00'2 00'2	HP 54'2 54'2 54'2 54'3 54'3 54'4								
	SHA 354° 354° 353° 353° 353° 353°	SHA 310° 310° 310° 310° 310° 310°		SHA 325° 323° 321° 319° 317° 315°									
	Greenwich Culmination Time: 12:05	Greenwich Culmination Time: 14:58		Greenwich Culmination Time: 14:22									

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	245 17.6 +00.7	S 21 32.7 -00.3	249 15.3 +02.1	S 21 24.2 -00.1	242 19.7 +02.3	S 20 07.6 +00.0	00						
01	260 18.3 +00.6	S 21 32.4 -00.3	264 17.4 +02.1	S 21 24.1 +00.0	257 22.0 +02.3	S 20 07.6 +00.0	01						
02	275 18.9 +00.6	S 21 32.1 -00.3	279 19.5 +02.2	S 21 24.1 -00.1	272 24.3 +02.3	S 20 07.6 -00.1	02						
03	290 19.5 +00.6	S 21 31.8 -00.3	294 21.7 +02.1	S 21 24.0 +00.0	287 26.6 +02.2	S 20 07.5 +00.0	03						
04	305 20.1 +00.6	S 21 31.5 -00.3	309 23.8 +02.1	S 21 24.0 -00.1	302 28.8 +02.3	S 20 07.5 +00.0	04						
05	320 20.7 +00.7	S 21 31.2 -00.3	324 25.9 +02.1	S 21 23.9 +00.0	317 31.1 +02.3	S 20 07.5 -00.1	05						
06	335 21.4 +00.6	S 21 30.9 -00.3	339 28.0 +02.1	S 21 23.9 -00.1	332 33.4 +02.3	S 20 07.4 +00.0	06						
07	350 22.0 +00.6	S 21 30.6 -00.3	354 30.1 +02.1	S 21 23.8 +00.0	347 35.7 +02.3	S 20 07.4 +00.0	07						
08	5 22.6 +00.6	S 21 30.3 -00.3	9 32.2 +02.1	S 21 23.8 -00.1	2 38.0 +02.3	S 20 07.4 -00.1	08						
09	20 23.2 +00.7	S 21 30.0 -00.3	24 34.3 +02.1	S 21 23.7 +00.0	17 40.3 +02.3	S 20 07.3 +00.0	09						
10	35 23.9 +00.6	S 21 29.7 -00.2	39 36.4 +02.1	S 21 23.7 -00.1	32 42.6 +02.2	S 20 07.3 +00.0	10						
11	50 24.5 +00.6	S 21 29.5 -00.3	54 38.5 +02.1	S 21 23.6 +00.0	47 44.8 +02.3	S 20 07.3 -00.1	11						
12	65 25.1 +00.6	S 21 29.2 -00.3	69 40.6 +02.1	S 21 23.6 -00.1	62 47.1 +02.3	S 20 07.2 +00.0	12						
13	80 25.7 +00.7	S 21 28.9 -00.3	84 42.7 +02.1	S 21 23.5 +00.0	77 49.4 +02.3	S 20 07.2 +00.0	13						
14	95 26.4 +00.6	S 21 28.6 -00.3	99 44.8 +02.1	S 21 23.5 -00.1	92 51.7 +02.3	S 20 07.2 -00.1	14						
15	110 27.0 +00.6	S 21 28.3 -00.3	114 46.9 +02.1	S 21 23.4 -00.1	107 54.0 +02.3	S 20 07.1 +00.0	15						
16	125 27.6 +00.6	S 21 28.0 -00.3	129 49.0 +02.1	S 21 23.3 +00.0	122 56.3 +02.3	S 20 07.1 +00.0	16						
17	140 28.2 +00.7	S 21 27.7 -00.3	144 51.1 +02.2	S 21 23.3 -00.1	137 58.6 +02.3	S 20 07.1 -00.1	17						
18	155 28.9 +00.6	S 21 27.4 -00.3	159 53.3 +02.1	S 21 23.2 +00.0	153 00.9 +02.2	S 20 07.0 +00.0	18						
19	170 29.5 +00.6	S 21 27.1 -00.3	174 55.4 +02.1	S 21 23.2 -00.1	168 03.1 +02.3	S 20 07.0 +00.0	19						
20	185 30.1 +00.6	S 21 26.8 -00.3	189 57.5 +02.1	S 21 23.1 +00.0	183 05.4 +02.3	S 20 07.0 -00.1	20						
21	200 30.7 +00.7	S 21 26.5 -00.3	204 59.6 +02.1	S 21 23.1 -00.1	198 07.7 +02.3	S 20 06.9 +00.0	21						
22	215 31.4 +00.6	S 21 26.2 -00.3	220 01.7 +02.1	S 21 23.0 +00.0	213 10.0 +02.3	S 20 06.9 +00.0	22						
23	230 32.0 +00.6	S 21 25.9 -00.3	235 03.8 +02.1	S 21 23.0 -00.1	228 12.3 +02.3	S 20 06.9 -00.1	23						
	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1							
	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 060° 060° 060° 060° 060° 060°	SHA 064° 064° 064° 064° 064° 064°		SHA 057° 057° 057° 057° 057° 057°									
	Greenwich Culmination Time: 07:38	Greenwich Culmination Time: 07:21		Greenwich Culmination Time: 07:49									

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	178 43.6 +00.2	N 03 05.1 +01.0	135 24.2 +00.0	N 21 53.6 +00.8	140 10.4 -26.6	N 13 29.4 +10.1	00						
01	193 43.8 +00.2	N 03 06.1 +00.9	150 24.2 +00.0	N 21 54.4 +00.8	154 43.8 -26.7	N 13 39.5 +10.0	01						
02	208 44.0 +00.2	N 03 07.0 +01.0	165 24.2 +00.0	N 21 55.2 +00.8	169 17.1 -26.7	N 13 49.5 +10.0	02						
03	223 44.2 +00.2	N 03 08.0 +01.0	180 24.2 +00.0	N 21 56.0 +00.7	183 50.4 -26.8	N 13 59.5 +09.9	03						
04	238 44.4 +00.2	N 03 09.0 +01.0	195 24.2 +00.0	N 21 56.7 +00.8	198 23.6 -26.8	N 14 09.4 +09.8	04						
05	253 44.6 +00.2	N 03 10.0 +00.9	210 24.2 +00.0	N 21 57.5 +00.8	212 56.8 -26.9	N 14 19.2 +09.8	05						
06	268 44.8 +00.2	N 03 10.9 +01.0	225 24.2 +00.0	N 21 58.3 +00.8	227 29.9 -26.9	N 14 29.0 +09.7	06						
07	283 45.0 +00.2	N 03 11.9 +01.0	240 24.2 +00.0	N 21 59.1 +00.8	242 03.0 -27.0	N 14 38.7 +09.7	07						
08	298 45.2 +00.1	N 03 12.9 +01.0	255 24.2 +00.0	N 21 59.9 +00.8	256 36.0 -27.1	N 14 48.4 +09.7	08						
09	313 45.3 +00.2	N 03 13.9 +00.9	270 24.2 +00.1	N 22 00.7 +00.8	271 08.9 -27.1	N 14 58.1 +09.5	09						
10	328 45.5 +00.2	N 03 14.8 +01.0	285 24.3 +00.0	N 22 01.5 +00.7	285 41.8 -27.2	N 15 07.6 +09.5	10						
11	343 45.7 +00.2	N 03 15.8 +01.0	300 24.3 +00.0	N 22 02.2 +00.8	300 14.6 -27.2	N 15 17.1 +09.5	11						
12	358 45.9 +00.2	N 03 16.8 +01.0	315 24.3 +00.0	N 22 03.0 +00.8	314 47.4 -27.3	N 15 26.6 +09.4	12						
13	13 46.1 +00.2	N 03 17.8 +00.9	330 24.3 +00.0	N 22 03.8 +00.8	329 20.1 -27.4	N 15 36.0 +09.3	13						
14	28 46.3 +00.2	N 03 18.7 +01.0	345 24.3 +00.0	N 22 04.6 +00.8	343 52.7 -27.4	N 15 45.3 +09.2	14						
15	43 46.5 +00.2	N 03 19.7 +01.0	0 24.3 +00.1	N 22 05.4 +00.8	358 25.3 -27.5	N 15 54.5 +09.2	15						
16	58 46.7 +00.1	N 03 20.7 +01.0	15 24.4 +00.0	N 22 06.2 +00.7	12 57.8 -27.5	N 16 03.7 +09.2	16						
17	73 46.8 +00.2	N 03 21.7 +00.9	30 24.4 +00.0	N 22 06.9 +00.8	27 30.3 -27.6	N 16 12.9 +09.0	17						
18	88 47.0 +00.2	N 03 22.6 +01.0	45 24.4 +00.0	N 22 07.7 +00.8	42 02.7 -27.7	N 16 21.9 +09.0	18						
19	103 47.2 +00.2	N 03 23.6 +01.0	60 24.4 +00.0	N 22 08.5 +00.8	56 35.0 -27.7	N 16 30.9 +09.0	19						
20	118 47.4 +00.2	N 03 24.6 +01.0	75 24.4 +00.0	N 22 09.3 +00.7	71 07.3 -27.8	N 16 39.9 +08.9	20						
21	133 47.6 +00.2	N 03 25.6 +00.9	90 24.4 +00.1	N 22 10.0 +00.8	85 39.5 -27.9	N 16 48.8 +08.8	21						
22	148 47.8 +00.2	N 03 26.5 +01.0	105 24.5 +00.0	N 22 10.8 +00.8	100 11.6 -27.9	N 16 57.6 +08.7	22						
23	163 48.0 +00.2	N 03 27.5 +01.0	120 24.5 +00.0	N 22 11.6 +00.8	114 43.7 -28.0	N 17 06.3 +08.6	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 00'2 00'2 00'2 00'2 00'2 00'2		SD 14'8 14'9 14'9 14'9 14'9 14'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 54'4 54'5 54'6 54'6 54'7 54'8								
	SHA 353° 353° 352° 352° 352° 352°		SHA 309° 309° 309° 309° 309° 309°		SHA 313° 311° 309° 307° 305° 303°								
	Greenwich Culmination Time: 12:04		Greenwich Culmination Time: 14:58		Greenwich Culmination Time: 15:06								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	245 32.6 +00.6	S 21 25.6 -00.3	250 05.9 +02.1	S 21 22.9 +00.0	243 14.6 +02.3	S 20 06.8 +00.0	00						
01	260 33.2 +00.7	S 21 25.3 -00.3	265 08.0 +02.1	S 21 22.9 -00.1	258 16.9 +02.3	S 20 06.8 +00.0	01						
02	275 33.9 +00.6	S 21 25.0 -00.3	280 10.1 +02.1	S 21 22.8 +00.0	273 19.2 +02.2	S 20 06.8 -00.1	02						
03	290 34.5 +00.6	S 21 24.7 -00.3	295 12.2 +02.2	S 21 22.8 -00.1	288 21.4 +02.3	S 20 06.7 +00.0	03						
04	305 35.1 +00.6	S 21 24.4 -00.4	310 14.4 +02.1	S 21 22.7 +00.0	303 23.7 +02.3	S 20 06.7 +00.0	04						
05	320 35.7 +00.7	S 21 24.0 -00.3	325 16.5 +02.1	S 21 22.7 -00.1	318 26.0 +02.3	S 20 06.7 -00.1	05						
06	335 36.4 +00.6	S 21 23.7 -00.3	340 18.6 +02.1	S 21 22.6 +00.0	333 28.3 +02.3	S 20 06.6 +00.0	06						
07	350 37.0 +00.6	S 21 23.4 -00.3	355 20.7 +02.1	S 21 22.6 -00.1	348 30.6 +02.3	S 20 06.6 +00.0	07						
08	5 37.6 +00.6	S 21 23.1 -00.3	10 22.8 +02.1	S 21 22.5 -00.1	3 32.9 +02.3	S 20 06.6 -00.1	08						
09	20 38.2 +00.7	S 21 22.8 -00.3	25 24.9 +02.1	S 21 22.4 +00.0	18 35.2 +02.3	S 20 06.5 +00.0	09						
10	35 38.9 +00.6	S 21 22.5 -00.3	40 27.0 +02.1	S 21 22.4 -00.1	33 37.5 +02.3	S 20 06.5 +00.0	10						
11	50 39.5 +00.6	S 21 22.2 -00.3	55 29.1 +02.1	S 21 22.3 +00.0	48 39.8 +02.2	S 20 06.5 -00.1	11						
12	65 40.1 +00.6	S 21 21.9 -00.3	70 31.2 +02.2	S 21 22.3 -00.1	63 42.0 +02.3	S 20 06.4 +00.0	12						
13	80 40.7 +00.7	S 21 21.6 -00.3	85 33.4 +02.1	S 21 22.2 +00.0	78 44.3 +02.3	S 20 06.4 +00.0	13						
14	95 41.4 +00.6	S 21 21.3 -00.3	100 35.5 +02.1	S 21 22.2 -00.1	93 46.6 +02.3	S 20 06.4 -00.1	14						
15	110 42.0 +00.6	S 21 21.0 -00.3	115 37.6 +02.1	S 21 22.1 +00.0	108 48.9 +02.3	S 20 06.3 +00.0	15						
16	125 42.6 +00.7	S 21 20.7 -00.3	130 39.7 +02.1	S 21 22.1 -00.1	123 51.2 +02.3	S 20 06.3 +00.0	16						
17	140 43.3 +00.6	S 21 20.4 -00.3	145 41.8 +02.1	S 21 22.0 +00.0	138 53.5 +02.3	S 20 06.3 +00.0	17						
18	155 43.9 +00.6	S 21 20.1 -00.3	160 43.9 +02.1	S 21 22.0 -00.1	153 55.8 +02.3	S 20 06.3 -00.1	18						
19	170 44.5 +00.6	S 21 19.8 -00.3	175 46.0 +02.2	S 21 21.9 +00.0	168 58.1 +02.3	S 20 06.2 +00.0	19						
20	185 45.1 +00.7	S 21 19.5 -00.3	190 48.2 +02.1	S 21 21.9 -00.1	184 00.4 +02.3	S 20 06.2 +00.0	20						
21	200 45.8 +00.6	S 21 19.2 -00.3	205 50.3 +02.1	S 21 21.8 +00.0	199 02.7 +02.2	S 20 06.2 -00.1	21						
22	215 46.4 +00.6	S 21 18.9 -00.4	220 52.4 +02.1	S 21 21.8 -00.1	214 04.9 +02.3	S 20 06.1 +00.0	22						
23	230 47.0 +00.6	S 21 18.5 -00.3	235 54.5 +02.1	S 21 21.7 +00.0	229 07.2 +02.3	S 20 06.1 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 060° 059° 059° 059° 059° 059°		SHA 064° 064° 064° 064° 064° 064°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 07:37		Greenwich Culmination Time: 07:18		Greenwich Culmination Time: 07:45								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 48.2 +00.1	N 03 28.5 +01.0	135 24.5 +00.0	N 22 12.4 +00.7	129 15.7 -28.0	N 17 14.9 +08.6	00						
01	193 48.3 +00.2	N 03 29.5 +00.9	150 24.5 +00.0	N 22 13.1 +00.8	143 47.7 -28.2	N 17 23.5 +08.5	01						
02	208 48.5 +00.2	N 03 30.4 +01.0	165 24.5 +00.1	N 22 13.9 +00.8	158 19.5 -28.1	N 17 32.0 +08.5	02						
03	223 48.7 +00.2	N 03 31.4 +01.0	180 24.6 +00.0	N 22 14.7 +00.8	172 51.4 -28.3	N 17 40.5 +08.4	03						
04	238 48.9 +00.2	N 03 32.4 +00.9	195 24.6 +00.0	N 22 15.5 +00.7	187 23.1 -28.3	N 17 48.9 +08.3	04						
05	253 49.1 +00.2	N 03 33.3 +01.0	210 24.6 +00.0	N 22 16.2 +00.8	201 54.8 -28.4	N 17 57.2 +08.2	05						
06	268 49.3 +00.2	N 03 34.3 +01.0	225 24.6 +00.0	N 22 17.0 +00.8	216 26.4 -28.5	N 18 05.4 +08.1	06						
07	283 49.5 +00.2	N 03 35.3 +01.0	240 24.6 +00.1	N 22 17.8 +00.7	230 57.9 -28.5	N 18 13.5 +08.1	07						
08	298 49.7 +00.1	N 03 36.3 +00.9	255 24.7 +00.0	N 22 18.5 +00.8	245 29.4 -28.6	N 18 21.6 +08.0	08						
09	313 49.8 +00.2	N 03 37.2 +01.0	270 24.7 +00.0	N 22 19.3 +00.8	260 00.8 -28.6	N 18 29.6 +07.9	09						
10	328 50.0 +00.2	N 03 38.2 +01.0	285 24.7 +00.0	N 22 20.1 +00.7	274 32.2 -28.8	N 18 37.5 +07.8	10						
11	343 50.2 +00.2	N 03 39.2 +01.0	300 24.7 +00.1	N 22 20.8 +00.8	289 03.4 -28.8	N 18 45.3 +07.8	11						
12	358 50.4 +00.2	N 03 40.2 +00.9	315 24.8 +00.0	N 22 21.6 +00.7	303 34.6 -28.8	N 18 53.1 +07.6	12						
13	13 50.6 +00.2	N 03 41.1 +01.0	330 24.8 +00.0	N 22 22.3 +00.8	318 05.8 -29.0	N 19 00.7 +07.6	13						
14	28 50.8 +00.2	N 03 42.1 +01.0	345 24.8 +00.1	N 22 23.1 +00.8	332 36.8 -29.0	N 19 08.3 +07.5	14						
15	43 51.0 +00.2	N 03 43.1 +00.9	0 24.9 +00.0	N 22 23.9 +00.7	347 07.8 -29.0	N 19 15.8 +07.4	15						
16	58 51.2 +00.1	N 03 44.0 +01.0	15 24.9 +00.0	N 22 24.6 +00.8	1 38.8 -29.2	N 19 23.2 +07.4	16						
17	73 51.3 +00.2	N 03 45.0 +01.0	30 24.9 +00.0	N 22 25.4 +00.7	16 09.6 -29.2	N 19 30.6 +07.2	17						
18	88 51.5 +00.2	N 03 46.0 +01.0	45 24.9 +00.1	N 22 26.1 +00.8	30 40.4 -29.3	N 19 37.8 +07.2	18						
19	103 51.7 +00.2	N 03 47.0 +00.9	60 25.0 +00.0	N 22 26.9 +00.8	45 11.1 -29.4	N 19 45.0 +07.0	19						
20	118 51.9 +00.2	N 03 47.9 +01.0	75 25.0 +00.0	N 22 27.7 +00.7	59 41.7 -29.4	N 19 52.0 +07.0	20						
21	133 52.1 +00.2	N 03 48.9 +01.0	90 25.0 +00.1	N 22 28.4 +00.8	74 12.3 -29.5	N 19 59.0 +06.9	21						
22	148 52.3 +00.2	N 03 49.9 +00.9	105 25.1 +00.0	N 22 29.2 +00.7	88 42.8 -29.6	N 20 05.9 +06.8	22						
23	163 52.5 +00.1	N 03 50.8 +01.0	120 25.1 +00.0	N 22 29.9 +00.8	103 13.2 -29.6	N 20 12.7 +06.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 14'9 15'0 15'0 15'0 15'0 15'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 54'8 54'9 55'0 55'1 55'2 55'3								
	SHA 352° 352° 352° 351° 351° 351°		SHA 308° 308° 308° 308° 308° 308°		SHA 301° 299° 297° 295° 293° 291°								
	Greenwich Culmination Time: 12:04		Greenwich Culmination Time: 14:58		Greenwich Culmination Time: 15:53								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	245 47.6 +00.7	S 21 18.2 -00.3	250 56.6 +02.1	S 21 21.7 -00.1	244 09.5 +02.3	S 20 06.1 -00.1	00						
01	260 48.3 +00.6	S 21 17.9 -00.3	265 58.7 +02.2	S 21 21.6 +00.0	259 11.8 +02.3	S 20 06.0 +00.0	01						
02	275 48.9 +00.6	S 21 17.6 -00.3	281 00.9 +02.1	S 21 21.6 -00.1	274 14.1 +02.3	S 20 06.0 +00.0	02						
03	290 49.5 +00.7	S 21 17.3 -00.3	296 03.0 +02.1	S 21 21.5 +00.0	289 16.4 +02.3	S 20 06.0 -00.1	03						
04	305 50.2 +00.6	S 21 17.0 -00.3	311 05.1 +02.1	S 21 21.5 -00.1	304 18.7 +02.3	S 20 05.9 +00.0	04						
05	320 50.8 +00.6	S 21 16.7 -00.3	326 07.2 +02.1	S 21 21.4 +00.0	319 21.0 +02.3	S 20 05.9 +00.0	05						
06	335 51.4 +00.7	S 21 16.4 -00.3	341 09.3 +02.1	S 21 21.4 -00.1	334 23.3 +02.3	S 20 05.9 -00.1	06						
07	350 52.1 +00.6	S 21 16.1 -00.3	356 11.4 +02.2	S 21 21.3 -00.1	349 25.6 +02.3	S 20 05.8 +00.0	07						
08	5 52.7 +00.6	S 21 15.8 -00.3	11 13.6 +02.1	S 21 21.2 +00.0	4 27.9 +02.3	S 20 05.8 +00.0	08						
09	20 53.3 +00.6	S 21 15.5 -00.4	26 15.7 +02.1	S 21 21.2 -00.1	19 30.2 +02.3	S 20 05.8 -00.1	09						
10	35 53.9 +00.7	S 21 15.1 -00.3	41 17.8 +02.1	S 21 21.1 +00.0	34 32.5 +02.2	S 20 05.7 +00.0	10						
11	50 54.6 +00.6	S 21 14.8 -00.3	56 19.9 +02.1	S 21 21.1 -00.1	49 34.7 +02.3	S 20 05.7 +00.0	11						
12	65 55.2 +00.6	S 21 14.5 -00.3	71 22.0 +02.2	S 21 21.0 +00.0	64 37.0 +02.3	S 20 05.7 -00.1	12						
13	80 55.8 +00.7	S 21 14.2 -00.3	86 24.2 +02.1	S 21 21.0 -00.1	79 39.3 +02.3	S 20 05.6 +00.0	13						
14	95 56.5 +00.6	S 21 13.9 -00.3	101 26.3 +02.1	S 21 20.9 +00.0	94 41.6 +02.3	S 20 05.6 +00.0	14						
15	110 57.1 +00.6	S 21 13.6 -00.3	116 28.4 +02.1	S 21 20.9 -00.1	109 43.9 +02.3	S 20 05.6 -00.1	15						
16	125 57.7 +00.6	S 21 13.3 -00.4	131 30.5 +02.1	S 21 20.8 +00.0	124 46.2 +02.3	S 20 05.5 +00.0	16						
17	140 58.3 +00.7	S 21 12.9 -00.3	146 32.6 +02.2	S 21 20.8 -00.1	139 48.5 +02.3	S 20 05.5 +00.0	17						
18	155 59.0 +00.6	S 21 12.6 -00.3	161 34.8 +02.1	S 21 20.7 +00.0	154 50.8 +02.3	S 20 05.5 -00.1	18						
19	170 59.6 +00.6	S 21 12.3 -00.3	176 36.9 +02.1	S 21 20.7 -00.1	169 53.1 +02.3	S 20 05.4 +00.0	19						
20	186 00.2 +00.7	S 21 12.0 -00.3	191 39.0 +02.1	S 21 20.6 +00.0	184 55.4 +02.3	S 20 05.4 +00.0	20						
21	201 00.9 +00.6	S 21 11.7 -00.3	206 41.1 +02.1	S 21 20.6 -00.1	199 57.7 +02.3	S 20 05.4 +00.0	21						
22	216 01.5 +00.6	S 21 11.4 -00.3	221 43.2 +02.2	S 21 20.5 +00.0	214 60.0 +02.3	S 20 05.4 -00.1	22						
23	231 02.1 +00.7	S 21 11.1 -00.4	236 45.4 +02.1	S 21 20.5 -00.1	230 02.3 +02.3	S 20 05.3 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 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 059° 059° 059° 059° 058° 058°		SHA 064° 064° 064° 064° 064° 064°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 07:36		Greenwich Culmination Time: 07:15		Greenwich Culmination Time: 07:42								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 52.6 +00.2	N 03 51.8 +01.0	135 25.1 +00.1	N 22 30.7 +00.7	117 43.6 -29.7	N 20 19.4 +06.6	00						
01	193 52.8 +00.2	N 03 52.8 +01.0	150 25.2 +00.0	N 22 31.4 +00.8	132 13.9 -29.8	N 20 26.0 +06.6	01						
02	208 53.0 +00.2	N 03 53.8 +00.9	165 25.2 +00.0	N 22 32.2 +00.7	146 44.1 -29.9	N 20 32.6 +06.4	02						
03	223 53.2 +00.2	N 03 54.7 +01.0	180 25.2 +00.1	N 22 32.9 +00.8	161 14.2 -29.9	N 20 39.0 +06.3	03						
04	238 53.4 +00.2	N 03 55.7 +01.0	195 25.3 +00.0	N 22 33.7 +00.7	175 44.3 -30.0	N 20 45.3 +06.3	04						
05	253 53.6 +00.2	N 03 56.7 +00.9	210 25.3 +00.0	N 22 34.4 +00.8	190 14.3 -30.1	N 20 51.6 +06.1	05						
06	268 53.8 +00.2	N 03 57.6 +01.0	225 25.3 +00.1	N 22 35.2 +00.7	204 44.2 -30.2	N 20 57.7 +06.0	06						
07	283 54.0 +00.1	N 03 58.6 +01.0	240 25.4 +00.0	N 22 35.9 +00.8	219 14.0 -30.2	N 21 03.7 +06.0	07						
08	298 54.1 +00.2	N 03 59.6 +00.9	255 25.4 +00.0	N 22 36.7 +00.7	233 43.8 -30.3	N 21 09.7 +05.8	08						
09	313 54.3 +00.2	N 04 00.5 +01.0	270 25.4 +00.1	N 22 37.4 +00.8	248 13.5 -30.3	N 21 15.5 +05.8	09						
10	328 54.5 +00.2	N 04 01.5 +01.0	285 25.5 +00.0	N 22 38.2 +00.7	262 43.2 -30.5	N 21 21.3 +05.6	10						
11	343 54.7 +00.2	N 04 02.5 +01.0	300 25.5 +00.0	N 22 38.9 +00.8	277 12.7 -30.5	N 21 26.9 +05.6	11						
12	358 54.9 +00.2	N 04 03.5 +00.9	315 25.5 +00.1	N 22 39.7 +00.7	291 42.2 -30.5	N 21 32.5 +05.4	12						
13	13 55.1 +00.2	N 04 04.4 +01.0	330 25.6 +00.0	N 22 40.4 +00.7	306 11.7 -30.7	N 21 37.9 +05.3	13						
14	28 55.3 +00.2	N 04 05.4 +01.0	345 25.6 +00.1	N 22 41.1 +00.8	320 41.0 -30.7	N 21 43.2 +05.3	14						
15	43 55.5 +00.1	N 04 06.4 +00.9	0 25.7 +00.0	N 22 41.9 +00.7	335 10.3 -30.8	N 21 48.5 +05.1	15						
16	58 55.6 +00.2	N 04 07.3 +01.0	15 25.7 +00.0	N 22 42.6 +00.8	349 39.5 -30.8	N 21 53.6 +05.0	16						
17	73 55.8 +00.2	N 04 08.3 +01.0	30 25.7 +00.1	N 22 43.4 +00.7	4 08.7 -31.0	N 21 58.6 +04.9	17						
18	88 56.0 +00.2	N 04 09.3 +00.9	45 25.8 +00.0	N 22 44.1 +00.7	18 37.7 -31.0	N 22 03.5 +04.8	18						
19	103 56.2 +00.2	N 04 10.2 +01.0	60 25.8 +00.1	N 22 44.8 +00.8	33 06.7 -31.0	N 22 08.3 +04.7	19						
20	118 56.4 +00.2	N 04 11.2 +01.0	75 25.9 +00.0	N 22 45.6 +00.7	47 35.7 -31.2	N 22 13.0 +04.6	20						
21	133 56.6 +00.2	N 04 12.2 +00.9	90 25.9 +00.1	N 22 46.3 +00.7	62 04.5 -31.2	N 22 17.6 +04.5	21						
22	148 56.8 +00.1	N 04 13.1 +01.0	105 26.0 +00.0	N 22 47.0 +00.8	76 33.3 -31.3	N 22 22.1 +04.3	22						
23	163 56.9 +00.2	N 04 14.1 +01.0	120 26.0 +00.0	N 22 47.8 +00.7	91 02.0 -31.3	N 22 26.4 +04.3	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 351° 351° 351° 351° 350° 350° Greenwich Culmination Time: 12:04				UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 307° 307° 307° 307° 307° 307° Greenwich Culmination Time: 14:58				UT 02 06 10 14 18 22 SD 15'1 15'1 15'1 15'2 15'2 15'2 HP 55'4 55'5 55'6 55'7 55'8 55'9 SHA 289° 287° 284° 282° 280° 278° Greenwich Culmination Time: 16:42					
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	246 02.8 +00.6	S 21 10.7 -00.3	251 47.5 +02.1	S 21 20.4 +00.0	245 04.6 +02.3	S 20 05.3 +00.0	00						
01	261 03.4 +00.6	S 21 10.4 -00.3	266 49.6 +02.1	S 21 20.4 -00.1	260 06.9 +02.3	S 20 05.3 -00.1	01						
02	276 04.0 +00.7	S 21 10.1 -00.3	281 51.7 +02.2	S 21 20.3 +00.0	275 09.2 +02.3	S 20 05.2 +00.0	02						
03	291 04.7 +00.6	S 21 09.8 -00.3	296 53.9 +02.1	S 21 20.3 -00.1	290 11.5 +02.2	S 20 05.2 +00.0	03						
04	306 05.3 +00.6	S 21 09.5 -00.3	311 56.0 +02.1	S 21 20.2 +00.0	305 13.7 +02.3	S 20 05.2 -00.1	04						
05	321 05.9 +00.7	S 21 09.2 -00.4	326 58.1 +02.1	S 21 20.2 -00.1	320 16.0 +02.3	S 20 05.1 +00.0	05						
06	336 06.6 +00.6	S 21 08.8 -00.3	342 00.2 +02.1	S 21 20.1 +00.0	335 18.3 +02.3	S 20 05.1 +00.0	06						
07	351 07.2 +00.6	S 21 08.5 -00.3	357 02.3 +02.2	S 21 20.1 -00.1	350 20.6 +02.3	S 20 05.1 -00.1	07						
08	6 07.8 +00.6	S 21 08.2 -00.3	12 04.5 +02.1	S 21 20.0 +00.0	5 22.9 +02.3	S 20 05.0 +00.0	08						
09	21 08.4 +00.7	S 21 07.9 -00.3	27 06.6 +02.1	S 21 20.0 -00.1	20 25.2 +02.3	S 20 05.0 +00.0	09						
10	36 09.1 +00.6	S 21 07.6 -00.3	42 08.7 +02.1	S 21 19.9 +00.0	35 27.5 +02.3	S 20 05.0 -00.1	10						
11	51 09.7 +00.6	S 21 07.3 -00.4	57 10.8 +02.2	S 21 19.9 -00.1	50 29.8 +02.3	S 20 04.9 +00.0	11						
12	66 10.3 +00.7	S 21 06.9 -00.3	72 13.0 +02.1	S 21 19.8 +00.0	65 32.1 +02.3	S 20 04.9 +00.0	12						
13	81 11.0 +00.6	S 21 06.6 -00.3	87 15.1 +02.1	S 21 19.8 -00.1	80 34.4 +02.3	S 20 04.9 +00.0	13						
14	96 11.6 +00.6	S 21 06.3 -00.3	102 17.2 +02.1	S 21 19.7 +00.0	95 36.7 +02.3	S 20 04.9 -00.1	14						
15	111 12.2 +00.7	S 21 06.0 -00.3	117 19.3 +02.2	S 21 19.7 -00.1	110 39.0 +02.3	S 20 04.8 +00.0	15						
16	126 12.9 +00.6	S 21 05.7 -00.4	132 21.5 +02.1	S 21 19.6 +00.0	125 41.3 +02.3	S 20 04.8 +00.0	16						
17	141 13.5 +00.6	S 21 05.3 -00.3	147 23.6 +02.1	S 21 19.6 -00.1	140 43.6 +02.3	S 20 04.8 -00.1	17						
18	156 14.1 +00.7	S 21 05.0 -00.3	162 25.7 +02.2	S 21 19.5 -00.1	155 45.9 +02.3	S 20 04.7 +00.0	18						
19	171 14.8 +00.6	S 21 04.7 -00.3	177 27.9 +02.1	S 21 19.4 +00.0	170 48.2 +02.3	S 20 04.7 +00.0	19						
20	186 15.4 +00.6	S 21 04.4 -00.4	192 30.0 +02.1	S 21 19.4 -00.1	185 50.5 +02.3	S 20 04.7 -00.1	20						
21	201 16.0 +00.7	S 21 04.0 -00.3	207 32.1 +02.1	S 21 19.3 +00.0	200 52.8 +02.3	S 20 04.6 +00.0	21						
22	216 16.7 +00.6	S 21 03.7 -00.3	222 34.2 +02.2	S 21 19.3 -00.1	215 55.1 +02.3	S 20 04.6 +00.0	22						
23	231 17.3 +00.6	S 21 03.4 -00.3	237 36.4 +02.1	S 21 19.2 +00.0	230 57.4 +02.3	S 20 04.6 -00.1	23						
UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 058° 058° 058° 058° 058° 058° Greenwich Culmination Time: 07:35				UT 02 06 10 14 18 22 SD 00'3 00'3 00'3 00'3 00'3 00'3 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 064° 064° 064° 064° 064° 064° Greenwich Culmination Time: 07:11				UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 057° 057° 057° 057° 057° 057° Greenwich Culmination Time: 07:38					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 57.1 +00.2	N 04 15.1 +00.9	135 26.0 +00.1	N 22 48.5 +00.7	105 30.7 -31.4	N 22 30.7 +04.1	00						
01	193 57.3 +00.2	N 04 16.0 +01.0	150 26.1 +00.0	N 22 49.2 +00.8	119 59.3 -31.5	N 22 34.8 +04.0	01						
02	208 57.5 +00.2	N 04 17.0 +01.0	165 26.1 +00.1	N 22 50.0 +00.7	134 27.8 -31.5	N 22 38.8 +03.9	02						
03	223 57.7 +00.2	N 04 18.0 +00.9	180 26.2 +00.0	N 22 50.7 +00.7	148 56.3 -31.6	N 22 42.7 +03.8	03						
04	238 57.9 +00.2	N 04 18.9 +01.0	195 26.2 +00.1	N 22 51.4 +00.8	163 24.7 -31.7	N 22 46.5 +03.7	04						
05	253 58.1 +00.1	N 04 19.9 +01.0	210 26.3 +00.0	N 22 52.2 +00.7	177 53.0 -31.8	N 22 50.2 +03.5	05						
06	268 58.2 +00.2	N 04 20.9 +00.9	225 26.3 +00.1	N 22 52.9 +00.7	192 21.2 -31.8	N 22 53.7 +03.5	06						
07	283 58.4 +00.2	N 04 21.8 +01.0	240 26.4 +00.0	N 22 53.6 +00.7	206 49.4 -31.8	N 22 57.2 +03.3	07						
08	298 58.6 +00.2	N 04 22.8 +01.0	255 26.4 +00.1	N 22 54.3 +00.8	221 17.6 -32.0	N 23 00.5 +03.2	08						
09	313 58.8 +00.2	N 04 23.8 +00.9	270 26.5 +00.0	N 22 55.1 +00.7	235 45.6 -32.0	N 23 03.7 +03.0	09						
10	328 59.0 +00.2	N 04 24.7 +01.0	285 26.5 +00.1	N 22 55.8 +00.7	250 13.6 -32.0	N 23 06.7 +03.0	10						
11	343 59.2 +00.2	N 04 25.7 +01.0	300 26.6 +00.0	N 22 56.5 +00.7	264 41.6 -32.2	N 23 09.7 +02.8	11						
12	358 59.4 +00.1	N 04 26.7 +00.9	315 26.6 +00.1	N 22 57.2 +00.8	279 09.4 -32.1	N 23 12.5 +02.7	12						
13	13 59.5 +00.2	N 04 27.6 +01.0	330 26.7 +00.0	N 22 58.0 +00.7	293 37.3 -32.3	N 23 15.2 +02.6	13						
14	28 59.7 +00.2	N 04 28.6 +01.0	345 26.7 +00.1	N 22 58.7 +00.7	308 05.0 -32.3	N 23 17.8 +02.5	14						
15	43 59.9 +00.2	N 04 29.6 +00.9	0 26.8 +00.1	N 22 59.4 +00.7	322 32.7 -32.4	N 23 20.3 +02.3	15						
16	59 00.1 +00.2	N 04 30.5 +01.0	15 26.9 +00.0	N 23 00.1 +00.7	337 00.3 -32.4	N 23 22.6 +02.2	16						
17	74 00.3 +00.2	N 04 31.5 +01.0	30 26.9 +00.1	N 23 00.8 +00.8	351 27.9 -32.5	N 23 24.8 +02.1	17						
18	89 00.5 +00.2	N 04 32.5 +00.9	45 27.0 +00.0	N 23 01.6 +00.7	5 55.4 -32.5	N 23 26.9 +01.9	18						
19	104 00.7 +00.1	N 04 33.4 +01.0	60 27.0 +00.1	N 23 02.3 +00.7	20 22.9 -32.6	N 23 28.8 +01.9	19						
20	119 00.8 +00.2	N 04 34.4 +01.0	75 27.1 +00.0	N 23 03.0 +00.7	34 50.3 -32.7	N 23 30.7 +01.7	20						
21	134 01.0 +00.2	N 04 35.4 +00.9	90 27.1 +00.1	N 23 03.7 +00.7	49 17.6 -32.7	N 23 32.4 +01.5	21						
22	149 01.2 +00.2	N 04 36.3 +01.0	105 27.2 +00.0	N 23 04.4 +00.7	63 44.9 -32.7	N 23 33.9 +01.5	22						
23	164 01.4 +00.2	N 04 37.3 +01.0	120 27.2 +00.1	N 23 05.1 +00.8	78 12.2 -32.9	N 23 35.4 +01.3	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 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'3 15'3 15'3 15'4 15'4 15'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 56'0 56'1 56'3 56'4 56'5 56'6								
	SHA 350° 350° 350° 350° 349° 349°		SHA 307° 306° 306° 306° 306° 306°		SHA 276° 273° 271° 269° 266° 264°								
	Greenwich Culmination Time: 12:04		Greenwich Culmination Time: 14:58		Greenwich Culmination Time: 17:35								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	246 17.9 +00.7	S 21 03.1 -00.3	252 38.5 +02.1	S 21 19.2 -00.1	245 59.7 +02.3	S 20 04.5 +00.0	00						
01	261 18.6 +00.6	S 21 02.8 -00.4	267 40.6 +02.2	S 21 19.1 +00.0	261 02.0 +02.3	S 20 04.5 +00.0	01						
02	276 19.2 +00.7	S 21 02.4 -00.3	282 42.8 +02.1	S 21 19.1 -00.1	276 04.3 +02.3	S 20 04.5 -00.1	02						
03	291 19.9 +00.6	S 21 02.1 -00.3	297 44.9 +02.1	S 21 19.0 +00.0	291 06.6 +02.3	S 20 04.4 +00.0	03						
04	306 20.5 +00.6	S 21 01.8 -00.3	312 47.0 +02.1	S 21 19.0 -00.1	306 08.9 +02.3	S 20 04.4 +00.0	04						
05	321 21.1 +00.7	S 21 01.5 -00.4	327 49.1 +02.2	S 21 18.9 +00.0	321 11.2 +02.3	S 20 04.4 +00.0	05						
06	336 21.8 +00.6	S 21 01.1 -00.3	342 51.3 +02.1	S 21 18.9 -00.1	336 13.5 +02.3	S 20 04.4 -00.1	06						
07	351 22.4 +00.6	S 21 00.8 -00.3	357 53.4 +02.1	S 21 18.8 +00.0	351 15.8 +02.3	S 20 04.3 +00.0	07						
08	6 23.0 +00.7	S 21 00.5 -00.3	12 55.5 +02.2	S 21 18.8 -00.1	6 18.1 +02.3	S 20 04.3 +00.0	08						
09	21 23.7 +00.6	S 21 00.2 -00.4	27 57.7 +02.1	S 21 18.7 +00.0	21 20.4 +02.3	S 20 04.3 -00.1	09						
10	36 24.3 +00.6	S 20 59.8 -00.3	42 59.8 +02.1	S 21 18.7 -00.1	36 22.7 +02.3	S 20 04.2 +00.0	10						
11	51 24.9 +00.7	S 20 59.5 -00.3	58 01.9 +02.2	S 21 18.6 +00.0	51 25.0 +02.3	S 20 04.2 +00.0	11						
12	66 25.6 +00.6	S 20 59.2 -00.4	73 04.1 +02.1	S 21 18.6 -00.1	66 27.3 +02.3	S 20 04.2 -00.1	12						
13	81 26.2 +00.6	S 20 58.8 -00.3	88 06.2 +02.1	S 21 18.5 +00.0	81 29.6 +02.3	S 20 04.1 +00.0	13						
14	96 26.8 +00.7	S 20 58.5 -00.3	103 08.3 +02.2	S 21 18.5 -00.1	96 31.9 +02.3	S 20 04.1 +00.0	14						
15	111 27.5 +00.6	S 20 58.2 -00.3	118 10.5 +02.1	S 21 18.4 +00.0	111 34.2 +02.3	S 20 04.1 +00.0	15						
16	126 28.1 +00.6	S 20 57.9 -00.4	133 12.6 +02.1	S 21 18.4 -00.1	126 36.5 +02.3	S 20 04.1 -00.1	16						
17	141 28.7 +00.7	S 20 57.5 -00.3	148 14.7 +02.2	S 21 18.3 +00.0	141 38.8 +02.3	S 20 04.0 +00.0	17						
18	156 29.4 +00.6	S 20 57.2 -00.3	163 16.9 +02.1	S 21 18.3 -00.1	156 41.1 +02.3	S 20 04.0 +00.0	18						
19	171 30.0 +00.7	S 20 56.9 -00.3	178 19.0 +02.1	S 21 18.2 +00.0	171 43.4 +02.3	S 20 04.0 -00.1	19						
20	186 30.7 +00.6	S 20 56.6 -00.4	193 21.1 +02.2	S 21 18.2 -00.1	186 45.7 +02.3	S 20 03.9 +00.0	20						
21	201 31.3 +00.6	S 20 56.2 -00.3	208 23.3 +02.1	S 21 18.1 +00.0	201 48.0 +02.3	S 20 03.9 +00.0	21						
22	216 31.9 +00.7	S 20 55.9 -00.3	223 25.4 +02.1	S 21 18.1 -00.1	216 50.3 +02.3	S 20 03.9 -00.1	22						
23	231 32.6 +00.6	S 20 55.6 -00.4	238 27.5 +02.2	S 21 18.0 +00.0	231 52.6 +02.3	S 20 03.8 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
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	SHA 057° 057° 057° 057° 057° 057°		SHA 064° 064° 064° 064° 064° 064°		SHA 057° 057° 057° 057° 057° 057°								
	Greenwich Culmination Time: 07:34		Greenwich Culmination Time: 07:08		Greenwich Culmination Time: 07:34								