

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182	31.5 +00.2	S 02 59.2	+01.0	170	14.3 -00.4	S 07 07.4	+01.2	151	34.2 -32.1	S 10 07.4	+12.7	00
01	197	31.7 +00.2	S 03 00.2	+00.9	185	13.9 -00.5	S 07 08.6	+01.3	166	02.1 -32.2	S 10 20.1	+12.6	01
02	212	31.9 +00.2	S 03 01.1	+01.0	200	13.4 -00.4	S 07 09.9	+01.2	180	29.9 -32.2	S 10 32.7	+12.6	02
03	227	32.1 +00.2	S 03 02.1	+01.0	215	13.0 -00.4	S 07 11.1	+01.3	194	57.7 -32.2	S 10 45.3	+12.5	03
04	242	32.3 +00.2	S 03 03.1	+00.9	230	12.6 -00.4	S 07 12.4	+01.2	209	25.5 -32.3	S 10 57.8	+12.4	04
05	257	32.5 +00.3	S 03 04.0	+01.0	245	12.2 -00.4	S 07 13.6	+01.2	223	53.2 -32.2	S 11 10.2	+12.3	05
06	272	32.8 +00.2	S 03 05.0	+01.0	260	11.8 -00.4	S 07 14.8	+01.3	238	21.0 -32.2	S 11 22.5	+12.2	06
07	287	33.0 +00.2	S 03 06.0	+00.9	275	11.4 -00.4	S 07 16.1	+01.2	252	48.8 -32.2	S 11 34.7	+12.2	07
08	302	33.2 +00.2	S 03 06.9	+01.0	290	11.0 -00.4	S 07 17.3	+01.2	267	16.6 -32.3	S 11 46.9	+12.0	08
09	317	33.4 +00.2	S 03 07.9	+01.0	305	10.6 -00.4	S 07 18.5	+01.3	281	44.3 -32.2	S 11 58.9	+12.0	09
10	332	33.6 +00.2	S 03 08.9	+01.0	320	10.2 -00.5	S 07 19.8	+01.2	296	12.1 -32.3	S 12 10.9	+11.9	10
11	347	33.8 +00.2	S 03 09.9	+00.9	335	09.7 -00.4	S 07 21.0	+01.2	310	39.8 -32.2	S 12 22.8	+11.8	11
12	2	34.0 +00.2	S 03 10.8	+01.0	350	09.3 -00.4	S 07 22.2	+01.3	325	07.6 -32.3	S 12 34.6	+11.7	12
13	17	34.2 +00.2	S 03 11.8	+01.0	5	08.9 -00.4	S 07 23.5	+01.2	339	35.3 -32.3	S 12 46.3	+11.7	13
14	32	34.4 +00.2	S 03 12.8	+00.9	20	08.5 -00.4	S 07 24.7	+01.2	354	03.0 -32.2	S 12 58.0	+11.5	14
15	47	34.6 +00.2	S 03 13.7	+01.0	35	08.1 -00.4	S 07 25.9	+01.3	8	30.8 -32.3	S 13 09.5	+11.4	15
16	62	34.8 +00.2	S 03 14.7	+01.0	50	07.7 -00.4	S 07 27.2	+01.2	22	58.5 -32.3	S 13 20.9	+11.4	16
17	77	35.0 +00.2	S 03 15.7	+00.9	65	07.3 -00.4	S 07 28.4	+01.3	37	26.2 -32.3	S 13 32.3	+11.2	17
18	92	35.2 +00.2	S 03 16.6	+01.0	80	06.9 -00.5	S 07 29.7	+01.2	51	53.9 -32.4	S 13 43.5	+11.2	18
19	107	35.4 +00.2	S 03 17.6	+01.0	95	06.4 -00.4	S 07 30.9	+01.2	66	21.5 -32.3	S 13 54.7	+11.1	19
20	122	35.6 +00.2	S 03 18.6	+00.9	110	06.0 -00.4	S 07 32.1	+01.3	80	49.2 -32.3	S 14 05.8	+10.9	20
21	137	35.8 +00.2	S 03 19.5	+01.0	125	05.6 -00.4	S 07 33.4	+01.2	95	16.9 -32.4	S 14 16.7	+10.9	21
22	152	36.0 +00.2	S 03 20.5	+01.0	140	05.2 -00.4	S 07 34.6	+01.2	109	44.5 -32.3	S 14 27.6	+10.7	22
23	167	36.2 +00.2	S 03 21.5	+01.0	155	04.8 -00.4	S 07 35.8	+01.2	124	12.2 -32.4	S 14 38.3	+10.7	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 173° 173° 173° 173° 172° 172°												
	Greenwich Culmination Time: 11:49												
	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 161° 161° 160° 160° 160° 160°												
	Greenwich Culmination Time: 12:39												
	UT 02 06 10 14 18 22												
	SD 16'3 16'3 16'2 16'2 16'2 16'1												
	HP 59'9 59'8 59'6 59'5 59'3 59'2												
	SHA 141° 139° 136° 134° 132° 129°												
	Greenwich Culmination Time: 14:24												

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	190	55.5 +01.0	N 01 42.9	-00.7	112	15.6 +02.1	S 22 39.0	+00.0	84	12.7 +02.4	S 22 31.0	+00.0	00
01	205	56.5 +01.0	N 01 42.2	-00.6	127	17.7 +02.1	S 22 39.0	+00.1	99	15.1 +02.4	S 22 31.0	+00.0	01
02	220	57.5 +01.0	N 01 41.6	-00.7	142	19.8 +02.1	S 22 39.1	+00.0	114	17.5 +02.4	S 22 31.0	+00.0	02
03	235	58.5 +01.0	N 01 40.9	-00.6	157	21.9 +02.0	S 22 39.1	+00.0	129	19.9 +02.4	S 22 31.0	+00.0	03
04	250	59.5 +01.0	N 01 40.3	-00.7	172	23.9 +02.1	S 22 39.1	+00.1	144	22.3 +02.4	S 22 31.0	+00.0	04
05	266	00.5 +01.0	N 01 39.6	-00.6	187	26.0 +02.1	S 22 39.2	+00.0	159	24.7 +02.4	S 22 31.0	+00.0	05
06	281	01.5 +01.0	N 01 39.0	-00.7	202	28.1 +02.1	S 22 39.2	+00.0	174	27.1 +02.4	S 22 31.0	+00.0	06
07	296	02.5 +01.0	N 01 38.3	-00.6	217	30.2 +02.1	S 22 39.2	+00.1	189	29.5 +02.4	S 22 31.0	+00.0	07
08	311	03.5 +01.0	N 01 37.7	-00.7	232	32.3 +02.1	S 22 39.3	+00.0	204	31.9 +02.4	S 22 31.0	+00.0	08
09	326	04.5 +01.0	N 01 37.0	-00.6	247	34.4 +02.1	S 22 39.3	+00.1	219	34.3 +02.4	S 22 31.0	+00.0	09
10	341	05.5 +01.0	N 01 36.4	-00.7	262	36.5 +02.1	S 22 39.4	+00.0	234	36.7 +02.4	S 22 31.0	+00.0	10
11	356	06.5 +01.0	N 01 35.7	-00.6	277	38.6 +02.1	S 22 39.4	+00.0	249	39.1 +02.5	S 22 31.0	+00.0	11
12	11	07.5 +00.9	N 01 35.1	-00.7	292	40.7 +02.1	S 22 39.4	+00.1	264	41.6 +02.4	S 22 31.0	+00.0	12
13	26	08.4 +01.0	N 01 34.4	-00.6	307	42.8 +02.1	S 22 39.5	+00.0	279	44.0 +02.4	S 22 31.0	+00.0	13
14	41	09.4 +01.0	N 01 33.8	-00.7	322	44.9 +02.0	S 22 39.5	+00.0	294	46.4 +02.4	S 22 31.0	+00.0	14
15	56	10.4 +01.0	N 01 33.1	-00.6	337	46.9 +02.1	S 22 39.5	+00.1	309	48.8 +02.4	S 22 31.0	+00.0	15
16	71	11.4 +01.0	N 01 32.5	-00.7	352	49.0 +02.1	S 22 39.6	+00.0	324	51.2 +02.4	S 22 31.0	+00.0	16
17	86	12.4 +01.0	N 01 31.8	-00.6	7	51.1 +02.1	S 22 39.6	+00.1	339	53.6 +02.4	S 22 31.0	+00.0	17
18	101	13.4 +01.0	N 01 31.2	-00.7	22	53.2 +02.1	S 22 39.7	+00.0	354	56.0 +02.4	S 22 31.0	+00.0	18
19	116	14.4 +01.0	N 01 30.5	-00.6	37	55.3 +02.1	S 22 39.7	+00.0	9	58.4 +02.4	S 22 31.0	+00.0	19
20	131	15.4 +01.0	N 01 29.9	-00.7	52	57.4 +02.1	S 22 39.7	+00.1	25	00.8 +02.4	S 22 31.0	+00.0	20
21	146	16.4 +01.0	N 01 29.2	-00.6	67	59.5 +02.1	S 22 39.8	+00.0	40	03.2 +02.4	S 22 31.0	+00.0	21
22	161	17.4 +01.0	N 01 28.6	-00.7	83	01.6 +02.1	S 22 39.8	+00.0	55	05.6 +02.4	S 22 31.0	+00.0	22
23	176	18.4 +01.0	N 01 27.9	-00.6	98	03.7 +02.0	S 22 39.8	+00.1	70	08.0 +02.4	S 22 31.0	+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 181° 181° 181° 181° 181° 181°												
	Greenwich Culmination Time: 11:15												
	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 103° 103° 103° 103° 103° 103°												
	Greenwich Culmination Time: 16:28												
	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 075° 075° 075° 075° 075° 075°												
	Greenwich Culmination Time: 18:20												

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 36.4 +00.2	S	03 22.5 +00.9	170 04.4 -00.4	S	07 37.0 +01.3	138 39.8 -32.3	S	14 49.0 +10.6	00			
01	197 36.6 +00.2	S	03 23.4 +01.0	185 04.0 -00.5	S	07 38.3 +01.2	153 07.5 -32.4	S	14 59.6 +10.4	01			
02	212 36.8 +00.2	S	03 24.4 +01.0	200 03.5 -00.4	S	07 39.5 +01.2	167 35.1 -32.4	S	15 10.0 +10.4	02			
03	227 37.0 +00.2	S	03 25.4 +00.9	215 03.1 -00.4	S	07 40.7 +01.3	182 02.7 -32.4	S	15 20.4 +10.2	03			
04	242 37.2 +00.2	S	03 26.3 +01.0	230 02.7 -00.4	S	07 42.0 +01.2	196 30.3 -32.4	S	15 30.6 +10.2	04			
05	257 37.4 +00.2	S	03 27.3 +01.0	245 02.3 -00.4	S	07 43.2 +01.2	210 57.9 -32.4	S	15 40.8 +10.0	05			
06	272 37.6 +00.2	S	03 28.3 +00.9	260 01.9 -00.4	S	07 44.4 +01.3	225 25.5 -32.4	S	15 50.8 +10.0	06			
07	287 37.8 +00.2	S	03 29.2 +01.0	275 01.5 -00.5	S	07 45.7 +01.2	239 53.1 -32.4	S	16 00.8 +09.8	07			
08	302 38.0 +00.2	S	03 30.2 +01.0	290 01.0 -00.4	S	07 46.9 +01.2	254 20.7 -32.5	S	16 10.6 +09.7	08			
09	317 38.2 +00.2	S	03 31.2 +00.9	305 00.6 -00.4	S	07 48.1 +01.3	268 48.2 -32.4	S	16 20.3 +09.6	09			
10	332 38.4 +00.2	S	03 32.1 +01.0	320 00.2 -00.4	S	07 49.4 +01.2	283 15.8 -32.4	S	16 29.9 +09.5	10			
11	347 38.6 +00.2	S	03 33.1 +01.0	334 59.8 -00.4	S	07 50.6 +01.2	297 43.4 -32.5	S	16 39.4 +09.4	11			
12	2 38.8 +00.2	S	03 34.1 +00.9	349 59.4 -00.5	S	07 51.8 +01.2	312 10.9 -32.5	S	16 48.8 +09.3	12			
13	17 39.0 +00.2	S	03 35.0 +01.0	4 58.9 -00.4	S	07 53.0 +01.3	326 38.4 -32.4	S	16 58.1 +09.1	13			
14	32 39.2 +00.2	S	03 36.0 +01.0	19 58.5 -00.4	S	07 54.3 +01.2	341 06.0 -32.5	S	17 07.2 +09.1	14			
15	47 39.4 +00.2	S	03 37.0 +00.9	34 58.1 -00.4	S	07 55.5 +01.2	355 33.5 -32.5	S	17 16.3 +08.9	15			
16	62 39.6 +00.2	S	03 37.9 +01.0	49 57.7 -00.4	S	07 56.7 +01.3	10 01.0 -32.5	S	17 25.2 +08.9	16			
17	77 39.8 +00.2	S	03 38.9 +01.0	64 57.3 -00.4	S	07 58.0 +01.2	24 28.5 -32.5	S	17 34.1 +08.7	17			
18	92 40.0 +00.2	S	03 39.9 +01.0	79 56.9 -00.5	S	07 59.2 +01.2	38 56.0 -32.5	S	17 42.8 +08.6	18			
19	107 40.2 +00.2	S	03 40.9 +00.9	94 56.4 -00.4	S	08 00.4 +01.2	53 23.5 -32.5	S	17 51.4 +08.4	19			
20	122 40.4 +00.2	S	03 41.8 +01.0	109 56.0 -00.4	S	08 01.6 +01.3	67 51.0 -32.5	S	17 59.8 +08.4	20			
21	137 40.6 +00.1	S	03 42.8 +01.0	124 55.6 -00.4	S	08 02.9 +01.2	82 18.5 -32.5	S	18 08.2 +08.2	21			
22	152 40.7 +00.2	S	03 43.8 +00.9	139 55.2 -00.5	S	08 04.1 +01.2	96 46.0 -32.5	S	18 16.4 +08.2	22			
23	167 40.9 +00.2	S	03 44.7 +01.0	154 54.7 -00.4	S	08 05.3 +01.2	111 13.5 -32.5	S	18 24.6 +08.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'1 16'0 16'0 16'0 15'9 15'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 59'0 58'9 58'7 58'5 58'4 58'2						
	SHA 172° 172° 172° 172° 172° 171°			SHA 160° 159° 159° 159° 159° 159°			SHA 127° 125° 122° 120° 118° 115°						
	Greenwich Culmination Time: 11:49			Greenwich Culmination Time: 12:40			Greenwich Culmination Time: 15:18						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	191 19.4 +01.0	N	01 27.3 -00.7	113 05.7 +02.1	S	22 39.9 +00.0	85 10.4 +02.4	S	22 31.0 +00.0	00			
01	206 20.4 +01.0	N	01 26.6 -00.6	128 07.8 +02.1	S	22 39.9 +00.0	100 12.8 +02.4	S	22 31.0 +00.0	01			
02	221 21.4 +00.9	N	01 26.0 -00.7	143 09.9 +02.1	S	22 39.9 +00.1	115 15.2 +02.4	S	22 31.0 +00.0	02			
03	236 22.3 +01.0	N	01 25.3 -00.6	158 12.0 +02.1	S	22 40.0 +00.0	130 17.6 +02.4	S	22 31.0 +00.0	03			
04	251 23.3 +01.0	N	01 24.7 -00.7	173 14.1 +02.1	S	22 40.0 +00.1	145 20.0 +02.4	S	22 31.0 +00.0	04			
05	266 24.3 +01.0	N	01 24.0 -00.6	188 16.2 +02.1	S	22 40.1 +00.0	160 22.4 +02.4	S	22 31.0 +00.0	05			
06	281 25.3 +01.0	N	01 23.4 -00.7	203 18.3 +02.0	S	22 40.1 +00.0	175 24.8 +02.4	S	22 31.0 +00.0	06			
07	296 26.3 +01.0	N	01 22.7 -00.6	218 20.3 +02.1	S	22 40.1 +00.1	190 27.2 +02.4	S	22 31.0 +00.0	07			
08	311 27.3 +01.0	N	01 22.1 -00.7	233 22.4 +02.1	S	22 40.2 +00.0	205 29.6 +02.4	S	22 31.0 +00.0	08			
09	326 28.3 +01.0	N	01 21.4 -00.6	248 24.5 +02.1	S	22 40.2 +00.0	220 32.0 +02.4	S	22 31.0 +00.0	09			
10	341 29.3 +01.0	N	01 20.8 -00.7	263 26.6 +02.1	S	22 40.2 +00.1	235 34.4 +02.4	S	22 31.0 +00.0	10			
11	356 30.3 +01.0	N	01 20.1 -00.6	278 28.7 +02.1	S	22 40.3 +00.0	250 36.8 +02.4	S	22 31.0 +00.0	11			
12	11 31.3 +01.0	N	01 19.5 -00.6	293 30.8 +02.1	S	22 40.3 +00.0	265 39.2 +02.4	S	22 31.0 +00.0	12			
13	26 32.3 +01.0	N	01 18.9 -00.7	308 32.9 +02.0	S	22 40.3 +00.1	280 41.6 +02.4	S	22 31.0 +00.0	13			
14	41 33.3 +01.0	N	01 18.2 -00.6	323 34.9 +02.1	S	22 40.4 +00.0	295 44.0 +02.4	S	22 31.0 +00.0	14			
15	56 34.3 +01.0	N	01 17.6 -00.7	338 37.0 +02.1	S	22 40.4 +00.1	310 46.4 +02.4	S	22 31.0 +00.0	15			
16	71 35.3 +00.9	N	01 16.9 -00.6	353 39.1 +02.1	S	22 40.5 +00.0	325 48.8 +02.4	S	22 31.0 +00.0	16			
17	86 36.2 +01.0	N	01 16.3 -00.7	8 41.2 +02.1	S	22 40.5 +00.0	340 51.2 +02.4	S	22 31.0 +00.0	17			
18	101 37.2 +01.0	N	01 15.6 -00.6	23 43.3 +02.1	S	22 40.5 +00.1	355 53.6 +02.4	S	22 31.0 -00.1	18			
19	116 38.2 +01.0	N	01 15.0 -00.7	38 45.4 +02.0	S	22 40.6 +00.0	10 56.0 +02.4	S	22 30.9 +00.0	19			
20	131 39.2 +01.0	N	01 14.3 -00.6	53 47.4 +02.1	S	22 40.6 +00.0	25 58.4 +02.4	S	22 30.9 +00.0	20			
21	146 40.2 +01.0	N	01 13.7 -00.7	68 49.5 +02.1	S	22 40.6 +00.1	41 00.8 +02.4	S	22 30.9 +00.0	21			
22	161 41.2 +01.0	N	01 13.0 -00.6	83 51.6 +02.1	S	22 40.7 +00.0	56 03.2 +02.4	S	22 30.9 +00.0	22			
23	176 42.2 +01.0	N	01 12.4 -00.7	98 53.7 +02.1	S	22 40.7 +00.0	71 05.6 +02.4	S	22 30.9 +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 181° 181° 181° 181° 180° 180°			SHA 103° 103° 103° 103° 103° 103°			SHA 075° 075° 075° 075° 075° 075°						
	Greenwich Culmination Time: 11:13			Greenwich Culmination Time: 16:25			Greenwich Culmination Time: 18:16						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 41.1 +00.2	S	03 45.7 +01.0	169 54.3 -00.4	S	08 06.5 +01.3	125 41.0 -32.6	S	18 32.6 +07.9	00			
01	197 41.3 +00.2	S	03 46.7 +00.9	184 53.9 -00.4	S	08 07.8 +01.2	140 08.4 -32.5	S	18 40.5 +07.7	01			
02	212 41.5 +00.2	S	03 47.6 +01.0	199 53.5 -00.4	S	08 09.0 +01.2	154 35.9 -32.5	S	18 48.2 +07.7	02			
03	227 41.7 +00.2	S	03 48.6 +01.0	214 53.1 -00.5	S	08 10.2 +01.2	169 03.4 -32.6	S	18 55.9 +07.5	03			
04	242 41.9 +00.2	S	03 49.6 +00.9	229 52.6 -00.4	S	08 11.4 +01.3	183 30.8 -32.5	S	19 03.4 +07.4	04			
05	257 42.1 +00.2	S	03 50.5 +01.0	244 52.2 -00.4	S	08 12.7 +01.2	197 58.3 -32.5	S	19 10.8 +07.3	05			
06	272 42.3 +00.2	S	03 51.5 +01.0	259 51.8 -00.4	S	08 13.9 +01.2	212 25.8 -32.6	S	19 18.1 +07.2	06			
07	287 42.5 +00.2	S	03 52.5 +00.9	274 51.4 -00.5	S	08 15.1 +01.2	226 53.2 -32.5	S	19 25.3 +07.0	07			
08	302 42.7 +00.2	S	03 53.4 +01.0	289 50.9 -00.4	S	08 16.3 +01.2	241 20.7 -32.5	S	19 32.3 +07.0	08			
09	317 42.9 +00.2	S	03 54.4 +01.0	304 50.5 -00.4	S	08 17.5 +01.3	255 48.2 -32.6	S	19 39.3 +06.8	09			
10	332 43.1 +00.2	S	03 55.4 +00.9	319 50.1 -00.4	S	08 18.8 +01.2	270 15.6 -32.5	S	19 46.1 +06.6	10			
11	347 43.3 +00.2	S	03 56.3 +01.0	334 49.7 -00.5	S	08 20.0 +01.2	284 43.1 -32.5	S	19 52.7 +06.6	11			
12	2 43.5 +00.2	S	03 57.3 +01.0	349 49.2 -00.4	S	08 21.2 +01.2	299 10.6 -32.6	S	19 59.3 +06.4	12			
13	17 43.7 +00.2	S	03 58.3 +00.9	4 48.8 -00.4	S	08 22.4 +01.3	313 38.0 -32.5	S	20 05.7 +06.3	13			
14	32 43.9 +00.2	S	03 59.2 +01.0	19 48.4 -00.4	S	08 23.7 +01.2	328 05.5 -32.5	S	20 12.0 +06.2	14			
15	47 44.1 +00.2	S	04 00.2 +01.0	34 48.0 -00.5	S	08 24.9 +01.2	342 33.0 -32.5	S	20 18.2 +06.1	15			
16	62 44.3 +00.2	S	04 01.2 +00.9	49 47.5 -00.4	S	08 26.1 +01.2	357 00.5 -32.6	S	20 24.3 +05.9	16			
17	77 44.5 +00.2	S	04 02.1 +01.0	64 47.1 -00.4	S	08 27.3 +01.2	11 27.9 -32.5	S	20 30.2 +05.8	17			
18	92 44.7 +00.2	S	04 03.1 +01.0	79 46.7 -00.4	S	08 28.5 +01.3	25 55.4 -32.5	S	20 36.0 +05.7	18			
19	107 44.9 +00.2	S	04 04.1 +00.9	94 46.3 -00.5	S	08 29.8 +01.2	40 22.9 -32.5	S	20 41.7 +05.6	19			
20	122 45.1 +00.2	S	04 05.0 +01.0	109 45.8 -00.4	S	08 31.0 +01.2	54 50.4 -32.5	S	20 47.3 +05.4	20			
21	137 45.3 +00.1	S	04 06.0 +00.9	124 45.4 -00.4	S	08 32.2 +01.2	69 17.9 -32.5	S	20 52.7 +05.3	21			
22	152 45.4 +00.2	S	04 06.9 +01.0	139 45.0 -00.5	S	08 33.4 +01.2	83 45.4 -32.4	S	20 58.0 +05.2	22			
23	167 45.6 +00.2	S	04 07.9 +01.0	154 44.5 -00.4	S	08 34.6 +01.2	98 13.0 -32.5	S	21 03.2 +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 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'8 15'8 15'7 15'7 15'6 15'6						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 58'1 57'9 57'7 57'6 57'4 57'3						
	SHA 171° 171° 171° 171° 171° 170°			SHA 158° 158° 158° 158° 158° 157°			SHA 113° 111° 108° 106° 104° 101°						
	Greenwich Culmination Time: 11:49			Greenwich Culmination Time: 12:40			Greenwich Culmination Time: 16:12						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	191 43.2 +01.0	N	01 11.7 -00.6	113 55.8 +02.0	S	22 40.7 +00.1	86 08.0 +02.4	S	22 30.9 +00.0	00			
01	206 44.2 +01.0	N	01 11.1 -00.7	128 57.8 +02.1	S	22 40.8 +00.0	101 10.4 +02.4	S	22 30.9 +00.0	01			
02	221 45.2 +01.0	N	01 10.4 -00.6	143 59.9 +02.1	S	22 40.8 +00.1	116 12.8 +02.4	S	22 30.9 +00.0	02			
03	236 46.2 +01.0	N	01 09.8 -00.7	159 02.0 +02.1	S	22 40.9 +00.0	131 15.2 +02.4	S	22 30.9 +00.0	03			
04	251 47.2 +01.0	N	01 09.1 -00.6	174 04.1 +02.1	S	22 40.9 +00.0	146 17.6 +02.4	S	22 30.9 +00.0	04			
05	266 48.2 +01.0	N	01 08.5 -00.7	189 06.2 +02.1	S	22 40.9 +00.1	161 20.0 +02.4	S	22 30.9 +00.0	05			
06	281 49.2 +00.9	N	01 07.8 -00.6	204 08.3 +02.0	S	22 41.0 +00.0	176 22.4 +02.4	S	22 30.9 +00.0	06			
07	296 50.1 +01.0	N	01 07.2 -00.7	219 10.3 +02.1	S	22 41.0 +00.0	191 24.8 +02.4	S	22 30.9 +00.0	07			
08	311 51.1 +01.0	N	01 06.5 -00.6	234 12.4 +02.1	S	22 41.0 +00.1	206 27.2 +02.4	S	22 30.9 +00.0	08			
09	326 52.1 +01.0	N	01 05.9 -00.7	249 14.5 +02.1	S	22 41.1 +00.0	221 29.6 +02.4	S	22 30.9 +00.0	09			
10	341 53.1 +01.0	N	01 05.2 -00.6	264 16.6 +02.1	S	22 41.1 +00.0	236 32.0 +02.4	S	22 30.9 +00.0	10			
11	356 54.1 +01.0	N	01 04.6 -00.7	279 18.7 +02.0	S	22 41.1 +00.1	251 34.4 +02.4	S	22 30.9 +00.0	11			
12	11 55.1 +01.0	N	01 03.9 -00.6	294 20.7 +02.1	S	22 41.2 +00.0	266 36.8 +02.4	S	22 30.9 +00.0	12			
13	26 56.1 +01.0	N	01 03.3 -00.7	309 22.8 +02.1	S	22 41.2 +00.1	281 39.2 +02.4	S	22 30.9 +00.0	13			
14	41 57.1 +01.0	N	01 02.6 -00.6	324 24.9 +02.1	S	22 41.3 +00.0	296 41.6 +02.4	S	22 30.9 +00.0	14			
15	56 58.1 +01.0	N	01 02.0 -00.7	339 27.0 +02.0	S	22 41.3 +00.0	311 44.0 +02.4	S	22 30.9 +00.0	15			
16	71 59.1 +01.0	N	01 01.3 -00.6	354 29.0 +02.1	S	22 41.3 +00.1	326 46.4 +02.4	S	22 30.9 +00.0	16			
17	87 00.1 +01.0	N	01 00.7 -00.7	9 31.1 +02.1	S	22 41.4 +00.0	341 48.8 +02.4	S	22 30.9 +00.0	17			
18	102 01.1 +01.0	N	01 00.0 -00.6	24 33.2 +02.1	S	22 41.4 +00.0	356 51.2 +02.4	S	22 30.9 +00.0	18			
19	117 02.1 +00.9	N	00 59.4 -00.7	39 35.3 +02.1	S	22 41.4 +00.1	11 53.6 +02.4	S	22 30.9 +00.0	19			
20	132 03.0 +01.0	N	00 58.7 -00.6	54 37.4 +02.0	S	22 41.5 +00.0	26 56.0 +02.4	S	22 30.9 +00.0	20			
21	147 04.0 +01.0	N	00 58.1 -00.7	69 39.4 +02.1	S	22 41.5 +00.1	41 58.4 +02.4	S	22 30.9 +00.0	21			
22	162 05.0 +01.0	N	00 57.4 -00.6	84 41.5 +02.1	S	22 41.6 +00.0	57 00.8 +02.4	S	22 30.9 +00.0	22			
23	177 06.0 +01.0	N	00 56.8 -00.7	99 43.6 +02.1	S	22 41.6 +00.0	72 03.2 +02.4	S	22 30.9 +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 180° 180° 180° 180° 180° 180°			SHA 103° 102° 102° 102° 102° 102°			SHA 075° 075° 075° 075° 075° 075°						
	Greenwich Culmination Time: 11:12			Greenwich Culmination Time: 16:22			Greenwich Culmination Time: 18:12						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 45.8 +00.2	S	04 08.9 +00.9	169 44.1 -00.4	S	08 35.8 +01.3	112 40.5 -32.5	S	21 08.3 +04.9	00			
01	197 46.0 +00.2	S	04 09.8 +01.0	184 43.7 -00.4	S	08 37.1 +01.2	127 08.0 -32.4	S	21 13.2 +04.8	01			
02	212 46.2 +00.2	S	04 10.8 +01.0	199 43.3 -00.5	S	08 38.3 +01.2	141 35.6 -32.4	S	21 18.0 +04.7	02			
03	227 46.4 +00.2	S	04 11.8 +00.9	214 42.8 -00.4	S	08 39.5 +01.2	156 03.2 -32.5	S	21 22.7 +04.5	03			
04	242 46.6 +00.2	S	04 12.7 +01.0	229 42.4 -00.4	S	08 40.7 +01.2	170 30.7 -32.4	S	21 27.2 +04.4	04			
05	257 46.8 +00.2	S	04 13.7 +01.0	244 42.0 -00.5	S	08 41.9 +01.2	184 58.3 -32.4	S	21 31.6 +04.3	05			
06	272 47.0 +00.2	S	04 14.7 +00.9	259 41.5 -00.4	S	08 43.1 +01.3	199 25.9 -32.4	S	21 35.9 +04.2	06			
07	287 47.2 +00.2	S	04 15.6 +01.0	274 41.1 -00.4	S	08 44.4 +01.2	213 53.5 -32.3	S	21 40.1 +04.1	07			
08	302 47.4 +00.2	S	04 16.6 +01.0	289 40.7 -00.5	S	08 45.6 +01.2	228 21.2 -32.4	S	21 44.2 +03.9	08			
09	317 47.6 +00.2	S	04 17.6 +00.9	304 40.2 -00.4	S	08 46.8 +01.2	242 48.8 -32.3	S	21 48.1 +03.8	09			
10	332 47.8 +00.2	S	04 18.5 +01.0	319 39.8 -00.4	S	08 48.0 +01.2	257 16.5 -32.4	S	21 51.9 +03.6	10			
11	347 48.0 +00.2	S	04 19.5 +01.0	334 39.4 -00.4	S	08 49.2 +01.2	271 44.1 -32.3	S	21 55.5 +03.6	11			
12	2 48.2 +00.1	S	04 20.5 +00.9	349 39.0 -00.5	S	08 50.4 +01.2	286 11.8 -32.3	S	21 59.1 +03.4	12			
13	17 48.3 +00.2	S	04 21.4 +01.0	4 38.5 -00.4	S	08 51.6 +01.3	300 39.5 -32.2	S	22 02.5 +03.3	13			
14	32 48.5 +00.2	S	04 22.4 +00.9	19 38.1 -00.4	S	08 52.9 +01.2	315 07.3 -32.3	S	22 05.8 +03.1	14			
15	47 48.7 +00.2	S	04 23.3 +01.0	34 37.7 -00.5	S	08 54.1 +01.2	329 35.0 -32.2	S	22 08.9 +03.1	15			
16	62 48.9 +00.2	S	04 24.3 +01.0	49 37.2 -00.4	S	08 55.3 +01.2	344 02.8 -32.2	S	22 12.0 +02.9	16			
17	77 49.1 +00.2	S	04 25.3 +00.9	64 36.8 -00.4	S	08 56.5 +01.2	358 30.6 -32.2	S	22 14.9 +02.7	17			
18	92 49.3 +00.2	S	04 26.2 +01.0	79 36.4 -00.5	S	08 57.7 +01.2	12 58.4 -32.2	S	22 17.6 +02.7	18			
19	107 49.5 +00.2	S	04 27.2 +01.0	94 35.9 -00.4	S	08 58.9 +01.2	27 26.2 -32.2	S	22 20.3 +02.5	19			
20	122 49.7 +00.2	S	04 28.2 +00.9	109 35.5 -00.5	S	09 00.1 +01.2	41 54.0 -32.1	S	22 22.8 +02.4	20			
21	137 49.9 +00.2	S	04 29.1 +01.0	124 35.0 -00.4	S	09 01.3 +01.3	56 21.9 -32.1	S	22 25.2 +02.3	21			
22	152 50.1 +00.2	S	04 30.1 +01.0	139 34.6 -00.4	S	09 02.6 +01.2	70 49.8 -32.1	S	22 27.5 +02.2	22			
23	167 50.3 +00.1	S	04 31.1 +00.9	154 34.2 -00.5	S	09 03.8 +01.2	85 17.7 -32.0	S	22 29.7 +02.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'6 15'5 15'5 15'4 15'4 15'4						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 57'1 57'0 56'8 56'7 56'5 56'4						
	SHA 170° 170° 170° 170° 170° 170°			SHA 157° 157° 157° 157° 156° 156°			SHA 099° 097° 094° 092° 090° 088°						
	Greenwich Culmination Time: 11:48			Greenwich Culmination Time: 12:41			Greenwich Culmination Time: 17:06						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	192 07.0 +01.0	N	00 56.1 -00.6	114 45.7 +02.0	S	22 41.6 +00.1	87 05.6 +02.3	S	22 30.9 +00.0	00			
01	207 08.0 +01.0	N	00 55.5 -00.7	129 47.7 +02.1	S	22 41.7 +00.0	102 07.9 +02.4	S	22 30.9 +00.0	01			
02	222 09.0 +01.0	N	00 54.8 -00.6	144 49.8 +02.1	S	22 41.7 +00.0	117 10.3 +02.4	S	22 30.9 +00.0	02			
03	237 10.0 +01.0	N	00 54.2 -00.7	159 51.9 +02.1	S	22 41.7 +00.1	132 12.7 +02.4	S	22 30.9 +00.0	03			
04	252 11.0 +01.0	N	00 53.5 -00.6	174 54.0 +02.0	S	22 41.8 +00.0	147 15.1 +02.4	S	22 30.9 +00.0	04			
05	267 12.0 +01.0	N	00 52.9 -00.7	189 56.0 +02.1	S	22 41.8 +00.0	162 17.5 +02.4	S	22 30.9 +00.0	05			
06	282 13.0 +01.0	N	00 52.2 -00.6	204 58.1 +02.1	S	22 41.8 +00.1	177 19.9 +02.4	S	22 30.9 +00.0	06			
07	297 14.0 +01.0	N	00 51.6 -00.7	220 00.2 +02.1	S	22 41.9 +00.0	192 22.3 +02.4	S	22 30.9 +00.0	07			
08	312 15.0 +00.9	N	00 50.9 -00.6	235 02.3 +02.0	S	22 41.9 +00.1	207 24.7 +02.4	S	22 30.9 +00.0	08			
09	327 15.9 +01.0	N	00 50.3 -00.7	250 04.3 +02.1	S	22 42.0 +00.0	222 27.1 +02.4	S	22 30.9 -00.1	09			
10	342 16.9 +01.0	N	00 49.6 -00.6	265 06.4 +02.1	S	22 42.0 +00.0	237 29.5 +02.4	S	22 30.8 +00.0	10			
11	357 17.9 +01.0	N	00 49.0 -00.7	280 08.5 +02.1	S	22 42.0 +00.1	252 31.9 +02.4	S	22 30.8 +00.0	11			
12	12 18.9 +01.0	N	00 48.3 -00.6	295 10.6 +02.0	S	22 42.1 +00.0	267 34.3 +02.4	S	22 30.8 +00.0	12			
13	27 19.9 +01.0	N	00 47.7 -00.7	310 12.6 +02.1	S	22 42.1 +00.0	282 36.7 +02.4	S	22 30.8 +00.0	13			
14	42 20.9 +01.0	N	00 47.0 -00.6	325 14.7 +02.1	S	22 42.1 +00.1	297 39.1 +02.4	S	22 30.8 +00.0	14			
15	57 21.9 +01.0	N	00 46.4 -00.7	340 16.8 +02.0	S	22 42.2 +00.0	312 41.5 +02.3	S	22 30.8 +00.0	15			
16	72 22.9 +01.0	N	00 45.7 -00.6	355 18.8 +02.1	S	22 42.2 +00.0	327 43.8 +02.4	S	22 30.8 +00.0	16			
17	87 23.9 +01.0	N	00 45.1 -00.7	10 20.9 +02.1	S	22 42.2 +00.1	342 46.2 +02.4	S	22 30.8 +00.0	17			
18	102 24.9 +01.0	N	00 44.4 -00.6	25 23.0 +02.1	S	22 42.3 +00.0	357 48.6 +02.4	S	22 30.8 +00.0	18			
19	117 25.9 +01.0	N	00 43.8 -00.7	40 25.1 +02.0	S	22 42.3 +00.1	12 51.0 +02.4	S	22 30.8 +00.0	19			
20	132 26.9 +00.9	N	00 43.1 -00.6	55 27.1 +02.1	S	22 42.4 +00.0	27 53.4 +02.4	S	22 30.8 +00.0	20			
21	147 27.8 +01.0	N	00 42.5 -00.7	70 29.2 +02.1	S	22 42.4 +00.0	42 55.8 +02.4	S	22 30.8 +00.0	21			
22	162 28.8 +01.0	N	00 41.8 -00.6	85 31.3 +02.0	S	22 42.4 +00.1	57 58.2 +02.4	S	22 30.8 +00.0	22			
23	177 29.8 +01.0	N	00 41.2 -00.7	100 33.3 +02.1	S	22 42.5 +00.0	73 00.6 +02.4	S	22 30.8 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 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 180° 180° 179° 179° 179° 179°			SHA 102° 102° 102° 102° 102° 102°			SHA 075° 075° 075° 075° 075° 075°						
	Greenwich Culmination Time: 11:10			Greenwich Culmination Time: 16:18			Greenwich Culmination Time: 18:08						

UT	Sun				Venus				Moon				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	182 50.4 +00.2	S	04 32.0 +01.0	169 33.7 -00.4	S	09 05.0 +01.2	99 45.7 -32.0	S	22 31.7 +01.9	00							
01	197 50.6 +00.2	S	04 33.0 +00.9	184 33.3 -00.4	S	09 06.2 +01.2	114 13.7 -32.0	S	22 33.6 +01.8	01							
02	212 50.8 +00.2	S	04 33.9 +01.0	199 32.9 -00.5	S	09 07.4 +01.2	128 41.7 -32.0	S	22 35.4 +01.6	02							
03	227 51.0 +00.2	S	04 34.9 +01.0	214 32.4 -00.4	S	09 08.6 +01.2	143 09.7 -31.9	S	22 37.0 +01.5	03							
04	242 51.2 +00.2	S	04 35.9 +00.9	229 32.0 -00.4	S	09 09.8 +01.2	157 37.8 -31.9	S	22 38.5 +01.4	04							
05	257 51.4 +00.2	S	04 36.8 +01.0	244 31.6 -00.5	S	09 11.0 +01.2	172 05.9 -31.9	S	22 39.9 +01.3	05							
06	272 51.6 +00.2	S	04 37.8 +01.0	259 31.1 -00.4	S	09 12.2 +01.2	186 34.0 -31.9	S	22 41.2 +01.2	06							
07	287 51.8 +00.2	S	04 38.8 +00.9	274 30.7 -00.5	S	09 13.4 +01.2	201 02.1 -31.8	S	22 42.4 +01.0	07							
08	302 52.0 +00.2	S	04 39.7 +01.0	289 30.2 -00.4	S	09 14.6 +01.2	215 30.3 -31.8	S	22 43.4 +00.9	08							
09	317 52.2 +00.1	S	04 40.7 +00.9	304 29.8 -00.4	S	09 15.8 +01.2	229 58.5 -31.7	S	22 44.3 +00.8	09							
10	332 52.3 +00.2	S	04 41.6 +01.0	319 29.4 -00.5	S	09 17.0 +01.3	244 26.8 -31.7	S	22 45.1 +00.7	10							
11	347 52.5 +00.2	S	04 42.6 +01.0	334 28.9 -00.4	S	09 18.3 +01.2	258 55.1 -31.7	S	22 45.8 +00.5	11							
12	2 52.7 +00.2	S	04 43.6 +00.9	349 28.5 -00.5	S	09 19.5 +01.2	273 23.4 -31.7	S	22 46.3 +00.5	12							
13	17 52.9 +00.2	S	04 44.5 +01.0	4 28.0 -00.4	S	09 20.7 +01.2	287 51.7 -31.6	S	22 46.8 +00.3	13							
14	32 53.1 +00.2	S	04 45.5 +01.0	19 27.6 -00.4	S	09 21.9 +01.2	302 20.1 -31.6	S	22 47.1 +00.1	14							
15	47 53.3 +00.2	S	04 46.5 +00.9	34 27.2 -00.5	S	09 23.1 +01.2	316 48.5 -31.5	S	22 47.2 +00.1	15							
16	62 53.5 +00.2	S	04 47.4 +01.0	49 26.7 -00.4	S	09 24.3 +01.2	331 17.0 -31.5	S	22 47.3 -00.1	16							
17	77 53.7 +00.2	S	04 48.4 +00.9	64 26.3 -00.5	S	09 25.5 +01.2	345 45.5 -31.5	S	22 47.2 -00.1	17							
18	92 53.9 +00.1	S	04 49.3 +01.0	79 25.8 -00.4	S	09 26.7 +01.2	0 14.0 -31.4	S	22 47.1 -00.3	18							
19	107 54.0 +00.2	S	04 50.3 +01.0	94 25.4 -00.4	S	09 27.9 +01.2	14 42.6 -31.4	S	22 46.8 -00.4	19							
20	122 54.2 +00.2	S	04 51.3 +00.9	109 25.0 -00.5	S	09 29.1 +01.2	29 11.2 -31.4	S	22 46.4 -00.6	20							
21	137 54.4 +00.2	S	04 52.2 +01.0	124 24.5 -00.4	S	09 30.3 +01.2	43 39.8 -31.3	S	22 45.8 -00.6	21							
22	152 54.6 +00.2	S	04 53.2 +00.9	139 24.1 -00.5	S	09 31.5 +01.2	58 08.5 -31.2	S	22 45.2 -00.8	22							
23	167 54.8 +00.2	S	04 54.1 +01.0	154 23.6 -00.4	S	09 32.7 +01.2	72 37.3 -31.3	S	22 44.4 -00.9	23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT			
SD	16'0	16'0	16'0	16'0	16'0	16'0	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD			
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	169°	169°	169°	169°	169°	169°	SHA	156°	156°	156°	156°	155°	155°	SHA			
Greenwich Culmination Time: 11:48						Greenwich Culmination Time: 12:42						Greenwich Culmination Time: 17:59					

UT	Mars				Jupiter				Saturn				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	192 30.8 +01.0	N	00 40.5 -00.6	115 35.4 +02.1	S	22 42.5 +00.0	88 03.0 +02.4	S	22 30.8 +00.0	00							
01	207 31.8 +01.0	N	00 39.9 -00.7	130 37.5 +02.1	S	22 42.5 +00.1	103 05.4 +02.4	S	22 30.8 +00.0	01							
02	222 32.8 +01.0	N	00 39.2 -00.6	145 39.6 +02.0	S	22 42.6 +00.0	118 07.8 +02.3	S	22 30.8 +00.0	02							
03	237 33.8 +01.0	N	00 38.6 -00.7	160 41.6 +02.1	S	22 42.6 +00.0	133 10.1 +02.4	S	22 30.8 +00.0	03							
04	252 34.8 +01.0	N	00 37.9 -00.6	175 43.7 +02.1	S	22 42.6 +00.1	148 12.5 +02.4	S	22 30.8 +00.0	04							
05	267 35.8 +01.0	N	00 37.3 -00.7	190 45.8 +02.0	S	22 42.7 +00.0	163 14.9 +02.4	S	22 30.8 +00.0	05							
06	282 36.8 +01.0	N	00 36.6 -00.6	205 47.8 +02.1	S	22 42.7 +00.1	178 17.3 +02.4	S	22 30.8 +00.0	06							
07	297 37.8 +01.0	N	00 36.0 -00.7	220 49.9 +02.1	S	22 42.8 +00.0	193 19.7 +02.4	S	22 30.8 +00.0	07							
08	312 38.8 +00.9	N	00 35.3 -00.6	235 52.0 +02.0	S	22 42.8 +00.0	208 22.1 +02.4	S	22 30.8 +00.0	08							
09	327 39.7 +01.0	N	00 34.7 -00.7	250 54.0 +02.1	S	22 42.8 +00.1	223 24.5 +02.4	S	22 30.8 +00.0	09							
10	342 40.7 +01.0	N	00 34.0 -00.6	265 56.1 +02.1	S	22 42.9 +00.0	238 26.9 +02.4	S	22 30.8 +00.0	10							
11	357 41.7 +01.0	N	00 33.4 -00.7	280 58.2 +02.0	S	22 42.9 +00.0	253 29.3 +02.3	S	22 30.8 +00.0	11							
12	12 42.7 +01.0	N	00 32.7 -00.6	296 00.2 +02.1	S	22 42.9 +00.1	268 31.6 +02.4	S	22 30.8 +00.0	12							
13	27 43.7 +01.0	N	00 32.1 -00.7	311 02.3 +02.1	S	22 43.0 +00.0	283 34.0 +02.4	S	22 30.8 +00.0	13							
14	42 44.7 +01.0	N	00 31.4 -00.6	326 04.4 +02.0	S	22 43.0 +00.1	298 36.4 +02.4	S	22 30.8 +00.0	14							
15	57 45.7 +01.0	N	00 30.8 -00.7	341 06.4 +02.1	S	22 43.1 +00.0	313 38.8 +02.4	S	22 30.8 +00.0	15							
16	72 46.7 +01.0	N	00 30.1 -00.6	356 08.5 +02.1	S	22 43.1 +00.0	328 41.2 +02.4	S	22 30.8 -00.1	16							
17	87 47.7 +01.0	N	00 29.5 -00.7	11 10.6 +02.0	S	22 43.1 +00.1	343 43.6 +02.4	S	22 30.7 +00.0	17							
18	102 48.7 +01.0	N	00 28.8 -00.6	26 12.6 +02.1	S	22 43.2 +00.0	358 46.0 +02.4	S	22 30.7 +00.0	18							
19	117 49.7 +01.0	N	00 28.2 -00.7	41 14.7 +02.1	S	22 43.2 +00.0	13 48.4 +02.3	S	22 30.7 +00.0	19							
20	132 50.7 +00.9	N	00 27.5 -00.6	56 16.8 +02.0	S	22 43.2 +00.1	28 50.7 +02.4	S	22 30.7 +00.0	20							
21	147 51.6 +01.0	N	00 26.9 -00.7	71 18.8 +02.1	S	22 43.3 +00.0	43 53.1 +02.4	S	22 30.7 +00.0	21							
22	162 52.6 +01.0	N	00 26.2 -00.6	86 20.9 +02.1	S	22 43.3 +00.0	58 55.5 +02.4	S	22 30.7 +00.0	22							
23	177 53.6 +01.0	N	00 25.6 -00.7	101 23.0 +02.0	S	22 43.3 +00.1	73 57.9 +02.4	S	22 30.7 +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	179°	179°	179°	179°	179°	179°	SHA	102°	102°	102°	102°	102°	102°	SHA			
Greenwich Culmination Time: 11:09						Greenwich Culmination Time: 16:15						Greenwich Culmination Time: 18:04					

UT	Sun				Venus				Moon				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	182 55.0 +00.2	S	04 55.1 +01.0	169 23.2 -00.5	S	09 33.9 +01.2	87 06.0 -31.1	S	22 43.5 -01.0	00							
01	197 55.2 +00.1	S	04 56.1 +00.9	184 22.7 -00.4	S	09 35.1 +01.2	101 34.9 -31.2	S	22 42.5 -01.1	01							
02	212 55.3 +00.2	S	04 57.0 +01.0	199 22.3 -00.4	S	09 36.3 +01.2	116 03.7 -31.1	S	22 41.4 -01.2	02							
03	227 55.5 +00.2	S	04 58.0 +00.9	214 21.9 -00.5	S	09 37.5 +01.2	130 32.6 -31.0	S	22 40.2 -01.4	03							
04	242 55.7 +00.2	S	04 58.9 +01.0	229 21.4 -00.4	S	09 38.7 +01.2	145 01.6 -31.1	S	22 38.8 -01.5	04							
05	257 55.9 +00.2	S	04 59.9 +01.0	244 21.0 -00.5	S	09 39.9 +01.2	159 30.5 -30.9	S	22 37.3 -01.5	05							
06	272 56.1 +00.2	S	05 00.9 +00.9	259 20.5 -00.4	S	09 41.1 +01.2	173 59.6 -30.9	S	22 35.8 -01.7	06							
07	287 56.3 +00.2	S	05 01.8 +01.0	274 20.1 -00.5	S	09 42.3 +01.2	188 28.7 -30.9	S	22 34.1 -01.8	07							
08	302 56.5 +00.2	S	05 02.8 +00.9	289 19.6 -00.4	S	09 43.5 +01.2	202 57.8 -30.8	S	22 32.3 -02.0	08							
09	317 56.7 +00.1	S	05 03.7 +01.0	304 19.2 -00.5	S	09 44.7 +01.2	217 27.0 -30.8	S	22 30.3 -02.0	09							
10	332 56.8 +00.2	S	05 04.7 +01.0	319 18.7 -00.4	S	09 45.9 +01.2	231 56.2 -30.8	S	22 28.3 -02.1	10							
11	347 57.0 +00.2	S	05 05.7 +00.9	334 18.3 -00.5	S	09 47.1 +01.2	246 25.4 -30.6	S	22 26.2 -02.3	11							
12	2 57.2 +00.2	S	05 06.6 +01.0	349 17.8 -00.4	S	09 48.3 +01.2	260 54.8 -30.7	S	22 23.9 -02.3	12							
13	17 57.4 +00.2	S	05 07.6 +00.9	4 17.4 -00.5	S	09 49.5 +01.2	275 24.1 -30.6	S	22 21.6 -02.5	13							
14	32 57.6 +00.2	S	05 08.5 +01.0	19 16.9 -00.4	S	09 50.7 +01.2	289 53.5 -30.5	S	22 19.1 -02.6	14							
15	47 57.8 +00.1	S	05 09.5 +01.0	34 16.5 -00.5	S	09 51.9 +01.2	304 23.0 -30.5	S	22 16.5 -02.7	15							
16	62 57.9 +00.2	S	05 10.5 +00.9	49 16.0 -00.4	S	09 53.1 +01.2	318 52.5 -30.5	S	22 13.8 -02.8	16							
17	77 58.1 +00.2	S	05 11.4 +01.0	64 15.6 -00.5	S	09 54.3 +01.1	333 22.0 -30.3	S	22 11.0 -02.9	17							
18	92 58.3 +00.2	S	05 12.4 +00.9	79 15.1 -00.4	S	09 55.4 +01.2	347 51.7 -30.4	S	22 08.1 -03.0	18							
19	107 58.5 +00.2	S	05 13.3 +01.0	94 14.7 -00.5	S	09 56.6 +01.2	2 21.3 -30.3	S	22 05.1 -03.1	19							
20	122 58.7 +00.2	S	05 14.3 +00.9	109 14.2 -00.4	S	09 57.8 +01.2	16 51.0 -30.2	S	22 02.0 -03.3	20							
21	137 58.9 +00.1	S	05 15.2 +01.0	124 13.8 -00.5	S	09 59.0 +01.2	31 20.8 -30.2	S	21 58.7 -03.3	21							
22	152 59.0 +00.2	S	05 16.2 +01.0	139 13.3 -00.4	S	10 00.2 +01.2	45 50.6 -30.2	S	21 55.4 -03.4	22							
23	167 59.2 +00.2	S	05 17.2 +00.9	154 12.9 -00.5	S	10 01.4 +01.2	60 20.4 -30.0	S	21 52.0 -03.6	23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT			
SD	16'0	16'0	16'0	16'0	16'0	16'0	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD			
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	168°	168°	168°	168°	168°	168°	SHA	155°	155°	155°	154°	154°	154°	SHA			
Greenwich Culmination Time: 11:48						Greenwich Culmination Time: 12:42						Greenwich Culmination Time: 18:50					

UT	Mars				Jupiter				Saturn				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	192 54.6 +01.0	N	00 24.9 -00.6	116 25.0 +02.1	S	22 43.4 +00.0	89 00.3 +02.4	S	22 30.7 +00.0	00							
01	207 55.6 +01.0	N	00 24.3 -00.7	131 27.1 +02.1	S	22 43.4 +00.1	104 02.7 +02.4	S	22 30.7 +00.0	01							
02	222 56.6 +01.0	N	00 23.6 -00.6	146 29.2 +02.0	S	22 43.5 +00.0	119 05.1 +02.3	S	22 30.7 +00.0	02							
03	237 57.6 +01.0	N	00 23.0 -00.7	161 31.2 +02.1	S	22 43.5 +00.0	134 07.4 +02.4	S	22 30.7 +00.0	03							
04	252 58.6 +01.0	N	00 22.3 -00.6	176 33.3 +02.0	S	22 43.5 +00.1	149 09.8 +02.4	S	22 30.7 +00.0	04							
05	267 59.6 +01.0	N	00 21.7 -00.7	191 35.3 +02.1	S	22 43.6 +00.0	164 12.2 +02.4	S	22 30.7 +00.0	05							
06	283 00.6 +01.0	N	00 21.0 -00.6	206 37.4 +02.1	S	22 43.6 +00.0	179 14.6 +02.4	S	22 30.7 +00.0	06							
07	298 01.6 +01.0	N	00 20.4 -00.7	221 39.5 +02.0	S	22 43.6 +00.1	194 17.0 +02.4	S	22 30.7 +00.0	07							
08	313 02.6 +00.9	N	00 19.7 -00.6	236 41.5 +02.1	S	22 43.7 +00.0	209 19.4 +02.3	S	22 30.7 +00.0	08							
09	328 03.5 +01.0	N	00 19.1 -00.7	251 43.6 +02.1	S	22 43.7 +00.0	224 21.7 +02.4	S	22 30.7 +00.0	09							
10	343 04.5 +01.0	N	00 18.4 -00.6	266 45.7 +02.0	S	22 43.7 +00.1	239 24.1 +02.4	S	22 30.7 +00.0	10							
11	358 05.5 +01.0	N	00 17.8 -00.7	281 47.7 +02.1	S	22 43.8 +00.0	254 26.5 +02.4	S	22 30.7 +00.0	11							
12	13 06.5 +01.0	N	00 17.1 -00.6	296 49.8 +02.0	S	22 43.8 +00.1	269 28.9 +02.4	S	22 30.7 +00.0	12							
13	28 07.5 +01.0	N	00 16.5 -00.7	311 51.8 +02.1	S	22 43.9 +00.0	284 31.3 +02.4	S	22 30.7 +00.0	13							
14	43 08.5 +01.0	N	00 15.8 -00.6	326 53.9 +02.1	S	22 43.9 +00.0	299 33.7 +02.4	S	22 30.7 +00.0	14							
15	58 09.5 +01.0	N	00 15.2 -00.7	341 56.0 +02.0	S	22 43.9 +00.1	314 36.1 +02.3	S	22 30.7 +00.0	15							
16	73 10.5 +01.0	N	00 14.5 -00.6	356 58.0 +02.1	S	22 44.0 +00.0	329 38.4 +02.4	S	22 30.7 +00.0	16							
17	88 11.5 +01.0	N	00 13.9 -00.7	12 00.1 +02.1	S	22 44.0 +00.0	344 40.8 +02.4	S	22 30.7 +00.0	17							
18	103 12.5 +01.0	N	00 13.2 -00.6	27 02.2 +02.0	S	22 44.0 +00.1	359 43.2 +02.4	S	22 30.7 +00.0	18							
19	118 13.5 +00.9	N	00 12.6 -00.7	42 04.2 +02.1	S	22 44.1 +00.0	14 45.6 +02.4	S	22 30.7 -00.1	19							
20	133 14.4 +01.0	N	00 11.9 -00.7	57 06.3 +02.0	S	22 44.1 +00.1	29 48.0 +02.3	S	22 30.6 +00.0	20							
21	148 15.4 +01.0	N	00 11.2 -00.6	72 08.3 +02.1	S	22 44.2 +00.0	44 50.3 +02.4	S	22 30.6 +00.0	21							
22	163 16.4 +01.0	N	00 10.6 -00.7	87 10.4 +02.1	S	22 44.2 +00.0	59 52.7 +02.4	S	22 30.6 +00.0	22							
23	178 17.4 +01.0	N	00 09.9 -00.6	102 12.5 +02.0	S	22 44.2 +00.1	74 55.1 +02.4	S	22 30.6 +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	178°	178°	178°	178°	178°	178°	SHA	102°	102°	102°	102°	102°	102°	SHA			
Greenwich Culmination Time: 11:07						Greenwich Culmination Time: 16:12						Greenwich Culmination Time: 18:01					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 59.4 +00.2	S	05 18.1 +01.0	169 12.4 -00.4	S	10 02.6 +01.2	74 50.4 -30.1	S	21 48.4 -03.6	00			
01	197 59.6 +00.2	S	05 19.1 +00.9	184 12.0 -00.5	S	10 03.8 +01.2	89 20.3 -30.0	S	21 44.8 -03.8	01			
02	212 59.8 +00.2	S	05 20.0 +01.0	199 11.5 -00.4	S	10 05.0 +01.2	103 50.3 -29.9	S	21 41.0 -03.8	02			
03	227 60.0 +00.1	S	05 21.0 +01.0	214 11.1 -00.5	S	10 06.2 +01.2	118 20.4 -29.9	S	21 37.2 -04.0	03			
04	243 00.1 +00.2	S	05 22.0 +00.9	229 10.6 -00.4	S	10 07.4 +01.2	132 50.5 -29.8	S	21 33.2 -04.0	04			
05	258 00.3 +00.2	S	05 22.9 +01.0	244 10.2 -00.5	S	10 08.6 +01.1	147 20.7 -29.7	S	21 29.2 -04.2	05			
06	273 00.5 +00.2	S	05 23.9 +00.9	259 09.7 -00.4	S	10 09.7 +01.2	161 51.0 -29.8	S	21 25.0 -04.2	06			
07	288 00.7 +00.2	S	05 24.8 +01.0	274 09.3 -00.5	S	10 10.9 +01.2	176 21.2 -29.6	S	21 20.8 -04.4	07			
08	303 00.9 +00.2	S	05 25.8 +00.9	289 08.8 -00.4	S	10 12.1 +01.2	190 51.6 -29.6	S	21 16.4 -04.4	08			
09	318 01.1 +00.1	S	05 26.7 +01.0	304 08.4 -00.5	S	10 13.3 +01.2	205 22.0 -29.6	S	21 12.0 -04.6	09			
10	333 01.2 +00.2	S	05 27.7 +01.0	319 07.9 -00.5	S	10 14.5 +01.2	219 52.4 -29.5	S	21 07.4 -04.6	10			
11	348 01.4 +00.2	S	05 28.7 +00.9	334 07.4 -00.4	S	10 15.7 +01.2	234 22.9 -29.4	S	21 02.8 -04.8	11			
12	3 01.6 +00.2	S	05 29.6 +01.0	349 07.0 -00.5	S	10 16.9 +01.2	248 53.5 -29.4	S	20 58.0 -04.8	12			
13	18 01.8 +00.2	S	05 30.6 +00.9	4 06.5 -00.4	S	10 18.1 +01.1	263 24.1 -29.4	S	20 53.2 -04.9	13			
14	33 02.0 +00.1	S	05 31.5 +01.0	19 06.1 -00.5	S	10 19.2 +01.2	277 54.7 -29.2	S	20 48.3 -05.1	14			
15	48 02.1 +00.2	S	05 32.5 +00.9	34 05.6 -00.4	S	10 20.4 +01.2	292 25.5 -29.3	S	20 43.2 -05.1	15			
16	63 02.3 +00.2	S	05 33.4 +01.0	49 05.2 -00.5	S	10 21.6 +01.2	306 56.2 -29.1	S	20 38.1 -05.2	16			
17	78 02.5 +00.2	S	05 34.4 +00.9	64 04.7 -00.5	S	10 22.8 +01.2	321 27.1 -29.2	S	20 32.9 -05.3	17			
18	93 02.7 +00.2	S	05 35.3 +01.0	79 04.2 -00.4	S	10 24.0 +01.2	335 57.9 -29.0	S	20 27.6 -05.4	18			
19	108 02.9 +00.1	S	05 36.3 +01.0	94 03.8 -00.5	S	10 25.2 +01.2	350 28.9 -29.0	S	20 22.2 -05.5	19			
20	123 03.0 +00.2	S	05 37.3 +00.9	109 03.3 -00.4	S	10 26.4 +01.1	4 59.9 -29.0	S	20 16.7 -05.6	20			
21	138 03.2 +00.2	S	05 38.2 +01.0	124 02.9 -00.5	S	10 27.5 +01.2	19 30.9 -28.9	S	20 11.1 -05.6	21			
22	153 03.4 +00.2	S	05 39.2 +00.9	139 02.4 -00.4	S	10 28.7 +01.2	34 02.0 -28.8	S	20 05.5 -05.8	22			
23	168 03.6 +00.2	S	05 40.1 +01.0	154 02.0 -00.5	S	10 29.9 +01.2	48 33.2 -28.8	S	19 59.7 -05.8	23			
UT	02 06 10 14 18 22			UT	02 06 10 14 18 22			UT	02 06 10 14 18 22				
SD	16'0 16'0 16'0 16'0 16'0 16'0			SD	00'1 00'1 00'1 00'1 00'1 00'1			SD	15'0 14'9 14'9 14'9 14'9 14'9				
HP	00'1 00'1 00'1 00'1 00'1 00'1			HP	00'1 00'1 00'1 00'1 00'1 00'1			HP	54'9 54'8 54'7 54'7 54'6 54'5				
SHA	168° 167° 167° 167° 167° 167°			SHA	154° 154° 153° 153° 153° 153°			SHA	058° 056° 054° 052° 050° 048°				
Greenwich Culmination Time: 11:47				Greenwich Culmination Time: 12:43				Greenwich Culmination Time: 19:39					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	193 18.4 +01.0	N	00 09.3 -00.7	117 14.5 +02.1	S	22 44.3 +00.0	89 57.5 +02.4	S	22 30.6 +00.0	00			
01	208 19.4 +01.0	N	00 08.6 -00.6	132 16.6 +02.0	S	22 44.3 +00.0	104 59.9 +02.4	S	22 30.6 +00.0	01			
02	223 20.4 +01.0	N	00 08.0 -00.7	147 18.6 +02.1	S	22 44.3 +00.1	120 02.3 +02.3	S	22 30.6 +00.0	02			
03	238 21.4 +01.0	N	00 07.3 -00.6	162 20.7 +02.0	S	22 44.4 +00.0	135 04.6 +02.4	S	22 30.6 +00.0	03			
04	253 22.4 +01.0	N	00 06.7 -00.7	177 22.7 +02.1	S	22 44.4 +00.0	150 07.0 +02.4	S	22 30.6 +00.0	04			
05	268 23.4 +01.0	N	00 06.0 -00.6	192 24.8 +02.1	S	22 44.4 +00.1	165 09.4 +02.4	S	22 30.6 +00.0	05			
06	283 24.4 +00.9	N	00 05.4 -00.7	207 26.9 +02.0	S	22 44.5 +00.0	180 11.8 +02.4	S	22 30.6 +00.0	06			
07	298 25.3 +01.0	N	00 04.7 -00.6	222 28.9 +02.1	S	22 44.5 +00.1	195 14.2 +02.3	S	22 30.6 +00.0	07			
08	313 26.3 +01.0	N	00 04.1 -00.7	237 31.0 +02.0	S	22 44.6 +00.0	210 16.5 +02.4	S	22 30.6 +00.0	08			
09	328 27.3 +01.0	N	00 03.4 -00.6	252 33.0 +02.1	S	22 44.6 +00.0	225 18.9 +02.4	S	22 30.6 +00.0	09			
10	343 28.3 +01.0	N	00 02.8 -00.7	267 35.1 +02.1	S	22 44.6 +00.1	240 21.3 +02.4	S	22 30.6 +00.0	10			
11	358 29.3 +01.0	N	00 02.1 -00.6	282 37.2 +02.0	S	22 44.7 +00.0	255 23.7 +02.4	S	22 30.6 +00.0	11			
12	13 30.3 +01.0	N	00 01.5 -00.7	297 39.2 +02.1	S	22 44.7 +00.0	270 26.1 +02.3	S	22 30.6 +00.0	12			
13	28 31.3 +01.0	N	00 00.8 -00.6	312 41.3 +02.0	S	22 44.7 +00.1	285 28.4 +02.4	S	22 30.6 +00.0	13			
14	43 32.3 +01.0	N	00 00.2 -00.7	327 43.3 +02.1	S	22 44.8 +00.0	300 30.8 +02.4	S	22 30.6 +00.0	14			
15	58 33.3 +01.0	S	00 00.5 +00.6	342 45.4 +02.0	S	22 44.8 +00.0	315 33.2 +02.4	S	22 30.6 +00.0	15			
16	73 34.3 +01.0	S	00 01.1 +00.7	357 47.4 +02.1	S	22 44.8 +00.1	330 35.6 +02.4	S	22 30.6 +00.0	16			
17	88 35.3 +00.9	S	00 01.8 +00.6	12 49.5 +02.0	S	22 44.9 +00.0	345 38.0 +02.3	S	22 30.6 +00.0	17			
18	103 36.2 +01.0	S	00 02.4 +00.7	27 51.5 +02.1	S	22 44.9 +00.1	0 40.3 +02.4	S	22 30.6 +00.0	18			
19	118 37.2 +01.0	S	00 03.1 +00.6	42 53.6 +02.1	S	22 45.0 +00.0	15 42.7 +02.4	S	22 30.6 -00.1	19			
20	133 38.2 +01.0	S	00 03.7 +00.7	57 55.7 +02.0	S	22 45.0 +00.0	30 45.1 +02.4	S	22 30.5 +00.0	20			
21	148 39.2 +01.0	S	00 04.4 +00.6	72 57.7 +02.1	S	22 45.0 +00.1	45 47.5 +02.3	S	22 30.5 +00.0	21			
22	163 40.2 +01.0	S	00 05.0 +00.7	87 59.8 +02.0	S	22 45.1 +00.0	60 49.8 +02.4	S	22 30.5 +00.0	22			
23	178 41.2 +01.0	S	00 05.7 +00.6	103 01.8 +02.1	S	22 45.1 +00.0	75 52.2 +02.4	S	22 30.5 +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	178° 178° 178° 178° 178° 177°			SHA	102° 102° 102° 102° 102° 102°			SHA	075° 075° 075° 075° 075° 075°				
Greenwich Culmination Time: 11:06				Greenwich Culmination Time: 16:08				Greenwich Culmination Time: 17:57					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	183 03.8 +00.1	S	05 41.1 +00.9	169 01.5 -00.5	S	10 31.1 +01.2	63 04.4 -28.7	S	19 53.9 -06.0	00										
01	198 03.9 +00.2	S	05 42.0 +01.0	184 01.0 -00.4	S	10 32.3 +01.1	77 35.7 -28.7	S	19 47.9 -06.0	01										
02	213 04.1 +00.2	S	05 43.0 +00.9	199 00.6 -00.5	S	10 33.4 +01.2	92 07.0 -28.6	S	19 41.9 -06.1	02										
03	228 04.3 +00.2	S	05 43.9 +01.0	214 00.1 -00.5	S	10 34.6 +01.2	106 38.4 -28.6	S	19 35.8 -06.2	03										
04	243 04.5 +00.1	S	05 44.9 +00.9	228 59.6 -00.4	S	10 35.8 +01.2	121 09.8 -28.5	S	19 29.6 -06.3	04										
05	258 04.6 +00.2	S	05 45.8 +01.0	243 59.2 -00.5	S	10 37.0 +01.2	135 41.3 -28.5	S	19 23.3 -06.4	05										
06	273 04.8 +00.2	S	05 46.8 +01.0	258 58.7 -00.4	S	10 38.2 +01.1	150 12.8 -28.4	S	19 16.9 -06.4	06										
07	288 05.0 +00.2	S	05 47.8 +00.9	273 58.3 -00.5	S	10 39.3 +01.2	164 44.4 -28.4	S	19 10.5 -06.5	07										
08	303 05.2 +00.2	S	05 48.7 +01.0	288 57.8 -00.5	S	10 40.5 +01.2	179 16.0 -28.3	S	19 04.0 -06.7	08										
09	318 05.4 +00.1	S	05 49.7 +00.9	303 57.3 -00.4	S	10 41.7 +01.2	193 47.7 -28.2	S	18 57.3 -06.7	09										
10	333 05.5 +00.2	S	05 50.6 +01.0	318 56.9 -00.5	S	10 42.9 +01.2	208 19.5 -28.2	S	18 50.6 -06.7	10										
11	348 05.7 +00.2	S	05 51.6 +00.9	333 56.4 -00.5	S	10 44.1 +01.1	222 51.3 -28.1	S	18 43.9 -06.9	11										
12	3 05.9 +00.2	S	05 52.5 +01.0	348 55.9 -00.4	S	10 45.2 +01.2	237 23.2 -28.1	S	18 37.0 -06.9	12										
13	18 06.1 +00.1	S	05 53.5 +00.9	3 55.5 -00.5	S	10 46.4 +01.2	251 55.1 -28.0	S	18 30.1 -07.1	13										
14	33 06.2 +00.2	S	05 54.4 +01.0	18 55.0 -00.5	S	10 47.6 +01.2	266 27.1 -28.0	S	18 23.0 -07.1	14										
15	48 06.4 +00.2	S	05 55.4 +00.9	33 54.5 -00.4	S	10 48.8 +01.1	280 59.1 -27.9	S	18 15.9 -07.1	15										
16	63 06.6 +00.2	S	05 56.3 +01.0	48 54.1 -00.5	S	10 49.9 +01.2	295 31.2 -27.9	S	18 08.8 -07.3	16										
17	78 06.8 +00.1	S	05 57.3 +00.9	63 53.6 -00.5	S	10 51.1 +01.2	310 03.3 -27.8	S	18 01.5 -07.3	17										
18	93 06.9 +00.2	S	05 58.2 +01.0	78 53.1 -00.4	S	10 52.3 +01.2	324 35.5 -27.8	S	17 54.2 -07.4	18										
19	108 07.1 +00.2	S	05 59.2 +00.9	93 52.7 -00.5	S	10 53.5 +01.1	339 07.7 -27.7	S	17 46.8 -07.5	19										
20	123 07.3 +00.2	S	06 00.1 +01.0	108 52.2 -00.5	S	10 54.6 +01.2	353 40.0 -27.7	S	17 39.3 -07.5	20										
21	138 07.5 +00.1	S	06 01.1 +00.9	123 51.7 -00.4	S	10 55.8 +01.2	8 12.3 -27.6	S	17 31.8 -07.7	21										
22	153 07.6 +00.2	S	06 02.0 +01.0	138 51.3 -00.5	S	10 57.0 +01.2	22 44.7 -27.6	S	17 24.1 -07.7	22										
23	168 07.8 +00.2	S	06 03.0 +01.0	153 50.8 -00.5	S	10 58.2 +01.1	37 17.1 -27.5	S	17 16.4 -07.8	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'0	16'0	16'0	16'0	16'0	16'0	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD						
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	167°	166°	166°	166°	166°	166°	SHA	153°	152°	152°	152°	152°	152°	SHA						
Greenwich Culmination Time: 11:47							Greenwich Culmination Time: 12:44							Greenwich Culmination Time: 20:26						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	193 42.2 +01.0	S	00 06.3 +00.7	118 03.9 +02.0	S	22 45.1 +00.1	90 54.6 +02.4	S	22 30.5 +00.0	00										
01	208 43.2 +01.0	S	00 07.0 +00.6	133 05.9 +02.1	S	22 45.2 +00.0	105 57.0 +02.4	S	22 30.5 +00.0	01										
02	223 44.2 +01.0	S	00 07.6 +00.7	148 08.0 +02.0	S	22 45.2 +00.0	120 59.4 +02.3	S	22 30.5 +00.0	02										
03	238 45.2 +00.9	S	00 08.3 +00.6	163 10.0 +02.1	S	22 45.2 +00.1	136 01.7 +02.4	S	22 30.5 +00.0	03										
04	253 46.1 +01.0	S	00 08.9 +00.7	178 12.1 +02.0	S	22 45.3 +00.0	151 04.1 +02.4	S	22 30.5 +00.0	04										
05	268 47.1 +01.0	S	00 09.6 +00.6	193 14.1 +02.1	S	22 45.3 +00.1	166 06.5 +02.4	S	22 30.5 +00.0	05										
06	283 48.1 +01.0	S	00 10.2 +00.7	208 16.2 +02.0	S	22 45.4 +00.0	181 08.9 +02.3	S	22 30.5 +00.0	06										
07	298 49.1 +01.0	S	00 10.9 +00.6	223 18.2 +02.1	S	22 45.4 +00.0	196 11.2 +02.4	S	22 30.5 +00.0	07										
08	313 50.1 +01.0	S	00 11.5 +00.7	238 20.3 +02.0	S	22 45.4 +00.1	211 13.6 +02.4	S	22 30.5 +00.0	08										
09	328 51.1 +01.0	S	00 12.2 +00.6	253 22.3 +02.1	S	22 45.5 +00.0	226 16.0 +02.4	S	22 30.5 +00.0	09										
10	343 52.1 +01.0	S	00 12.8 +00.7	268 24.4 +02.0	S	22 45.5 +00.0	241 18.4 +02.3	S	22 30.5 +00.0	10										
11	358 53.1 +01.0	S	00 13.5 +00.6	283 26.4 +02.1	S	22 45.5 +00.1	256 20.7 +02.4	S	22 30.5 +00.0	11										
12	13 54.1 +01.0	S	00 14.1 +00.7	298 28.5 +02.0	S	22 45.6 +00.0	271 23.1 +02.4	S	22 30.5 +00.0	12										
13	28 55.1 +00.9	S	00 14.8 +00.6	313 30.5 +02.1	S	22 45.6 +00.0	286 25.5 +02.4	S	22 30.5 +00.0	13										
14	43 56.0 +01.0	S	00 15.4 +00.7	328 32.6 +02.0	S	22 45.6 +00.1	301 27.9 +02.3	S	22 30.5 +00.0	14										
15	58 57.0 +01.0	S	00 16.1 +00.6	343 34.6 +02.1	S	22 45.7 +00.0	316 30.2 +02.4	S	22 30.5 +00.0	15										
16	73 58.0 +01.0	S	00 16.7 +00.7	358 36.7 +02.0	S	22 45.7 +00.1	331 32.6 +02.4	S	22 30.5 +00.0	16										
17	88 59.0 +01.0	S	00 17.4 +00.6	13 38.7 +02.1	S	22 45.8 +00.0	346 35.0 +02.4	S	22 30.5 -00.1	17										
18	104 00.0 +01.0	S	00 18.0 +00.7	28 40.8 +02.0	S	22 45.8 +00.0	1 37.4 +02.3	S	22 30.4 +00.0	18										
19	119 01.0 +01.0	S	00 18.7 +00.6	43 42.8 +02.1	S	22 45.8 +00.1	16 39.7 +02.4	S	22 30.4 +00.0	19										
20	134 02.0 +01.0	S	00 19.3 +00.7	58 44.9 +02.0	S	22 45.9 +00.0	31 42.1 +02.4	S	22 30.4 +00.0	20										
21	149 03.0 +01.0	S	00 20.0 +00.6	73 46.9 +02.1	S	22 45.9 +00.0	46 44.5 +02.4	S	22 30.4 +00.0	21										
22	164 04.0 +01.0	S	00 20.6 +00.7	88 49.0 +02.0	S	22 45.9 +00.1	61 46.9 +02.3	S	22 30.4 +00.0	22										
23	179 05.0 +00.9	S	00 21.3 +00.6	103 51.0 +02.1	S	22 46.0 +00.0	76 49.2 +02.4	S	22 30.4 +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	177°	177°	177°	177°	177°	177°	SHA	102°	102°	102°	102°	102°	102°	SHA						
Greenwich Culmination Time: 11:04							Greenwich Culmination Time: 16:05							Greenwich Culmination Time: 17:53						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 08.0 +00.2	S	06 04.0 +00.9	168 50.3 -00.4	S	10 59.3 +01.2	51 49.6 -27.5	S	17 08.6 -07.8	00			
01	198 08.2 +00.1	S	06 04.9 +01.0	183 49.9 -00.5	S	11 00.5 +01.2	66 22.1 -27.4	S	17 00.8 -07.9	01			
02	213 08.3 +00.2	S	06 05.9 +00.9	198 49.4 -00.5	S	11 01.7 +01.1	80 54.7 -27.3	S	16 52.9 -08.0	02			
03	228 08.5 +00.2	S	06 06.8 +01.0	213 48.9 -00.4	S	11 02.8 +01.2	95 27.4 -27.4	S	16 44.9 -08.1	03			
04	243 08.7 +00.2	S	06 07.8 +00.9	228 48.5 -00.5	S	11 04.0 +01.2	110 00.0 -27.2	S	16 36.8 -08.1	04			
05	258 08.9 +00.1	S	06 08.7 +01.0	243 48.0 -00.5	S	11 05.2 +01.2	124 32.8 -27.2	S	16 28.7 -08.2	05			
06	273 09.0 +00.2	S	06 09.7 +00.9	258 47.5 -00.5	S	11 06.4 +01.1	139 05.6 -27.2	S	16 20.5 -08.2	06			
07	288 09.2 +00.2	S	06 10.6 +01.0	273 47.0 -00.4	S	11 07.5 +01.2	153 38.4 -27.1	S	16 12.3 -08.4	07			
08	303 09.4 +00.2	S	06 11.6 +00.9	288 46.6 -00.5	S	11 08.7 +01.2	168 11.3 -27.1	S	16 03.9 -08.4	08			
09	318 09.6 +00.1	S	06 12.5 +01.0	303 46.1 -00.5	S	11 09.9 +01.1	182 44.2 -27.0	S	15 55.5 -08.4	09			
10	333 09.7 +00.2	S	06 13.5 +00.9	318 45.6 -00.4	S	11 11.0 +01.2	197 17.2 -27.0	S	15 47.1 -08.5	10			
11	348 09.9 +00.2	S	06 14.4 +01.0	333 45.2 -00.5	S	11 12.2 +01.2	211 50.2 -27.0	S	15 38.6 -08.6	11			
12	3 10.1 +00.1	S	06 15.4 +00.9	348 44.7 -00.5	S	11 13.4 +01.1	226 23.2 -26.9	S	15 30.0 -08.7	12			
13	18 10.2 +00.2	S	06 16.3 +01.0	3 44.2 -00.5	S	11 14.5 +01.2	240 56.3 -26.8	S	15 21.3 -08.7	13			
14	33 10.4 +00.2	S	06 17.3 +00.9	18 43.7 -00.4	S	11 15.7 +01.2	255 29.5 -26.8	S	15 12.6 -08.8	14			
15	48 10.6 +00.2	S	06 18.2 +01.0	33 43.3 -00.5	S	11 16.9 +01.1	270 02.7 -26.8	S	15 03.8 -08.8	15			
16	63 10.8 +00.1	S	06 19.2 +00.9	48 42.8 -00.5	S	11 18.0 +01.2	284 35.9 -26.7	S	14 55.0 -08.9	16			
17	78 10.9 +00.2	S	06 20.1 +01.0	63 42.3 -00.5	S	11 19.2 +01.1	299 09.2 -26.6	S	14 46.1 -09.0	17			
18	93 11.1 +00.2	S	06 21.1 +00.9	78 41.8 -00.4	S	11 20.3 +01.2	313 42.6 -26.7	S	14 37.1 -09.0	18			
19	108 11.3 +00.1	S	06 22.0 +01.0	93 41.4 -00.5	S	11 21.5 +01.2	328 15.9 -26.6	S	14 28.1 -09.1	19			
20	123 11.4 +00.2	S	06 23.0 +00.9	108 40.9 -00.5	S	11 22.7 +01.1	342 49.3 -26.5	S	14 19.0 -09.1	20			
21	138 11.6 +00.2	S	06 23.9 +01.0	123 40.4 -00.5	S	11 23.8 +01.2	357 22.8 -26.5	S	14 09.9 -09.2	21			
22	153 11.8 +00.2	S	06 24.9 +00.9	138 39.9 -00.5	S	11 25.0 +01.2	11 56.3 -26.5	S	14 00.7 -09.2	22			
23	168 12.0 +00.1	S	06 25.8 +00.9	153 39.4 -00.4	S	11 26.2 +01.1	26 29.8 -26.4	S	13 51.5 -09.4	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 14'8 14'8 14'7 14'7 14'7 14'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 54'2 54'1 54'1 54'1 54'1 54'0						
	SHA 166° 166° 165° 165° 165° 165°			SHA 151° 151° 151° 151° 151° 150°			SHA 034° 032° 030° 028° 026° 024°						
	Greenwich Culmination Time: 11:47			Greenwich Culmination Time: 12:45			Greenwich Culmination Time: 21:10						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	194 05.9 +01.0	S	00 21.9 +00.7	118 53.1 +02.0	S	22 46.0 +00.1	91 51.6 +02.4	S	22 30.4 +00.0	00			
01	209 06.9 +01.0	S	00 22.6 +00.6	133 55.1 +02.1	S	22 46.1 +00.0	106 54.0 +02.3	S	22 30.4 +00.0	01			
02	224 07.9 +01.0	S	00 23.2 +00.7	148 57.2 +02.0	S	22 46.1 +00.0	121 56.3 +02.4	S	22 30.4 +00.0	02			
03	239 08.9 +01.0	S	00 23.9 +00.6	163 59.2 +02.1	S	22 46.1 +00.1	136 58.7 +02.4	S	22 30.4 +00.0	03			
04	254 09.9 +01.0	S	00 24.5 +00.7	179 01.3 +02.0	S	22 46.2 +00.0	152 01.1 +02.4	S	22 30.4 +00.0	04			
05	269 10.9 +01.0	S	00 25.2 +00.6	194 03.3 +02.1	S	22 46.2 +00.0	167 03.5 +02.3	S	22 30.4 +00.0	05			
06	284 11.9 +01.0	S	00 25.8 +00.7	209 05.4 +02.0	S	22 46.2 +00.1	182 05.8 +02.4	S	22 30.4 +00.0	06			
07	299 12.9 +01.0	S	00 26.5 +00.6	224 07.4 +02.1	S	22 46.3 +00.0	197 08.2 +02.4	S	22 30.4 +00.0	07			
08	314 13.9 +00.9	S	00 27.1 +00.7	239 09.5 +02.0	S	22 46.3 +00.0	212 10.6 +02.4	S	22 30.4 +00.0	08			
09	329 14.8 +01.0	S	00 27.8 +00.6	254 11.5 +02.1	S	22 46.3 +00.1	227 13.0 +02.3	S	22 30.4 +00.0	09			
10	344 15.8 +01.0	S	00 28.4 +00.7	269 13.6 +02.0	S	22 46.4 +00.0	242 15.3 +02.4	S	22 30.4 +00.0	10			
11	359 16.8 +01.0	S	00 29.1 +00.6	284 15.6 +02.1	S	22 46.4 +00.1	257 17.7 +02.4	S	22 30.4 +00.0	11			
12	14 17.8 +01.0	S	00 29.7 +00.7	299 17.7 +02.0	S	22 46.5 +00.0	272 20.1 +02.3	S	22 30.4 +00.0	12			
13	29 18.8 +01.0	S	00 30.4 +00.6	314 19.7 +02.0	S	22 46.5 +00.0	287 22.4 +02.4	S	22 30.4 -00.1	13			
14	44 19.8 +01.0	S	00 31.0 +00.7	329 21.7 +02.1	S	22 46.5 +00.1	302 24.8 +02.4	S	22 30.3 +00.0	14			
15	59 20.8 +01.0	S	00 31.7 +00.6	344 23.8 +02.0	S	22 46.6 +00.0	317 27.2 +02.3	S	22 30.3 +00.0	15			
16	74 21.8 +01.0	S	00 32.3 +00.7	359 25.8 +02.1	S	22 46.6 +00.0	332 29.5 +02.4	S	22 30.3 +00.0	16			
17	89 22.8 +00.9	S	00 33.0 +00.6	14 27.9 +02.0	S	22 46.6 +00.1	347 31.9 +02.4	S	22 30.3 +00.0	17			
18	104 23.7 +01.0	S	00 33.6 +00.7	29 29.9 +02.1	S	22 46.7 +00.0	2 34.3 +02.4	S	22 30.3 +00.0	18			
19	119 24.7 +01.0	S	00 34.3 +00.6	44 32.0 +02.0	S	22 46.7 +00.0	17 36.7 +02.3	S	22 30.3 +00.0	19			
20	134 25.7 +01.0	S	00 34.9 +00.7	59 34.0 +02.1	S	22 46.7 +00.1	32 39.0 +02.4	S	22 30.3 +00.0	20			
21	149 26.7 +01.0	S	00 35.6 +00.6	74 36.1 +02.0	S	22 46.8 +00.0	47 41.4 +02.4	S	22 30.3 +00.0	21			
22	164 27.7 +01.0	S	00 36.2 +00.7	89 38.1 +02.0	S	22 46.8 +00.1	62 43.8 +02.3	S	22 30.3 +00.0	22			
23	179 28.7 +01.0	S	00 36.9 +00.6	104 40.1 +02.1	S	22 46.9 +00.0	77 46.1 +02.4	S	22 30.3 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 177° 177° 177° 176° 176° 176°			SHA 102° 102° 101° 101° 101° 101°			SHA 075° 075° 075° 075° 075° 075°						
	Greenwich Culmination Time: 11:02			Greenwich Culmination Time: 16:02			Greenwich Culmination Time: 17:49						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 12.1 +00.2	S 06 26.7 +01.0	168 39.0 -00.5	S 11 27.3 +01.2	41 03.4 -26.4	S 13 42.1 -09.3	00						
01	198 12.3 +00.2	S 06 27.7 +00.9	183 38.5 -00.5	S 11 28.5 +01.1	55 37.0 -26.3	S 13 32.8 -09.4	01						
02	213 12.5 +00.1	S 06 28.6 +01.0	198 38.0 -00.5	S 11 29.6 +01.2	70 10.7 -26.3	S 13 23.4 -09.5	02						
03	228 12.6 +00.2	S 06 29.6 +00.9	213 37.5 -00.4	S 11 30.8 +01.2	84 44.4 -26.3	S 13 13.9 -09.5	03						
04	243 12.8 +00.2	S 06 30.5 +01.0	228 37.1 -00.5	S 11 32.0 +01.1	99 18.1 -26.2	S 13 04.4 -09.6	04						
05	258 13.0 +00.1	S 06 31.5 +00.9	243 36.6 -00.5	S 11 33.1 +01.2	113 51.9 -26.2	S 12 54.8 -09.6	05						
06	273 13.1 +00.2	S 06 32.4 +01.0	258 36.1 -00.5	S 11 34.3 +01.1	128 25.7 -26.1	S 12 45.2 -09.7	06						
07	288 13.3 +00.2	S 06 33.4 +00.9	273 35.6 -00.5	S 11 35.4 +01.2	142 59.6 -26.2	S 12 35.5 -09.8	07						
08	303 13.5 +00.2	S 06 34.3 +01.0	288 35.1 -00.5	S 11 36.6 +01.1	157 33.4 -26.0	S 12 25.7 -09.7	08						
09	318 13.7 +00.1	S 06 35.3 +00.9	303 34.6 -00.4	S 11 37.7 +01.2	172 07.4 -26.1	S 12 16.0 -09.9	09						
10	333 13.8 +00.2	S 06 36.2 +01.0	318 34.2 -00.5	S 11 38.9 +01.2	186 41.3 -26.0	S 12 06.1 -09.9	10						
11	348 14.0 +00.2	S 06 37.2 +00.9	333 33.7 -00.5	S 11 40.1 +01.1	201 15.3 -26.0	S 11 56.2 -09.9	11						
12	3 14.2 +00.1	S 06 38.1 +01.0	348 33.2 -00.5	S 11 41.2 +01.2	215 49.3 -25.9	S 11 46.3 -10.0	12						
13	18 14.3 +00.2	S 06 39.1 +00.9	3 32.7 -00.5	S 11 42.4 +01.1	230 23.4 -25.9	S 11 36.3 -10.0	13						
14	33 14.5 +00.2	S 06 40.0 +01.0	18 32.2 -00.4	S 11 43.5 +01.2	244 57.5 -25.9	S 11 26.3 -10.1	14						
15	48 14.7 +00.1	S 06 41.0 +00.9	33 31.8 -00.5	S 11 44.7 +01.1	259 31.6 -25.8	S 11 16.2 -10.1	15						
16	63 14.8 +00.2	S 06 41.9 +00.9	48 31.3 -00.5	S 11 45.8 +01.2	274 05.8 -25.9	S 11 06.1 -10.1	16						
17	78 15.0 +00.2	S 06 42.8 +01.0	63 30.8 -00.5	S 11 47.0 +01.1	288 39.9 -25.7	S 10 56.0 -10.2	17						
18	93 15.2 +00.1	S 06 43.8 +00.9	78 30.3 -00.5	S 11 48.1 +01.2	303 14.2 -25.8	S 10 45.8 -10.3	18						
19	108 15.3 +00.2	S 06 44.7 +01.0	93 29.8 -00.5	S 11 49.3 +01.1	317 48.4 -25.7	S 10 35.5 -10.3	19						
20	123 15.5 +00.2	S 06 45.7 +00.9	108 29.3 -00.5	S 11 50.4 +01.2	332 22.7 -25.7	S 10 25.2 -10.3	20						
21	138 15.7 +00.1	S 06 46.6 +01.0	123 28.8 -00.4	S 11 51.6 +01.1	346 57.0 -25.7	S 10 14.9 -10.4	21						
22	153 15.8 +00.2	S 06 47.6 +00.9	138 28.4 -00.5	S 11 52.7 +01.2	1 31.3 -25.6	S 10 04.5 -10.4	22						
23	168 16.0 +00.2	S 06 48.5 +01.0	153 27.9 -00.5	S 11 53.9 +01.1	16 05.7 -25.6	S 09 54.1 -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	16'0 16'0 16'0 16'0 16'0 16'0		SD	00'1 00'1 00'1 00'1 00'1 00'1		SD	14'7 14'7 14'7 14'7 14'7 14'7						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	54'0 54'0 54'0 54'0 54'0 54'0						
SHA	165° 165° 165° 164° 164° 164°		SHA	150° 150° 150° 150° 149° 149°		SHA	022° 020° 018° 016° 014° 012°						
Greenwich Culmination Time: 11:47			Greenwich Culmination Time: 12:45			Greenwich Culmination Time: 21:53							

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	194 29.7 +01.0	S 00 37.5 +00.7	119 42.2 +02.0	S 22 46.9 +00.0	92 48.5 +02.4	S 22 30.3 +00.0	00						
01	209 30.7 +01.0	S 00 38.2 +00.6	134 44.2 +02.1	S 22 46.9 +00.1	107 50.9 +02.3	S 22 30.3 +00.0	01						
02	224 31.7 +00.9	S 00 38.8 +00.7	149 46.3 +02.0	S 22 47.0 +00.0	122 53.2 +02.4	S 22 30.3 +00.0	02						
03	239 32.6 +01.0	S 00 39.5 +00.6	164 48.3 +02.1	S 22 47.0 +00.0	137 55.6 +02.4	S 22 30.3 +00.0	03						
04	254 33.6 +01.0	S 00 40.1 +00.7	179 50.4 +02.0	S 22 47.0 +00.1	152 58.0 +02.3	S 22 30.3 +00.0	04						
05	269 34.6 +01.0	S 00 40.8 +00.6	194 52.4 +02.0	S 22 47.1 +00.0	168 00.3 +02.4	S 22 30.3 +00.0	05						
06	284 35.6 +01.0	S 00 41.4 +00.7	209 54.4 +02.1	S 22 47.1 +00.0	183 02.7 +02.4	S 22 30.3 +00.0	06						
07	299 36.6 +01.0	S 00 42.1 +00.6	224 56.5 +02.0	S 22 47.1 +00.1	198 05.1 +02.3	S 22 30.3 -00.1	07						
08	314 37.6 +01.0	S 00 42.7 +00.7	239 58.5 +02.1	S 22 47.2 +00.0	213 07.4 +02.4	S 22 30.2 +00.0	08						
09	329 38.6 +01.0	S 00 43.4 +00.6	255 00.6 +02.0	S 22 47.2 +00.1	228 09.8 +02.4	S 22 30.2 +00.0	09						
10	344 39.6 +01.0	S 00 44.0 +00.7	270 02.6 +02.1	S 22 47.3 +00.0	243 12.2 +02.4	S 22 30.2 +00.0	10						
11	359 40.6 +00.9	S 00 44.7 +00.6	285 04.7 +02.0	S 22 47.3 +00.0	258 14.6 +02.3	S 22 30.2 +00.0	11						
12	14 41.5 +01.0	S 00 45.3 +00.7	300 06.7 +02.0	S 22 47.3 +00.1	273 16.9 +02.4	S 22 30.2 +00.0	12						
13	29 42.5 +01.0	S 00 46.0 +00.6	315 08.7 +02.1	S 22 47.4 +00.0	288 19.3 +02.4	S 22 30.2 +00.0	13						
14	44 43.5 +01.0	S 00 46.6 +00.7	330 10.8 +02.0	S 22 47.4 +00.0	303 21.7 +02.3	S 22 30.2 +00.0	14						
15	59 44.5 +01.0	S 00 47.3 +00.6	345 12.8 +02.1	S 22 47.4 +00.1	318 24.0 +02.4	S 22 30.2 +00.0	15						
16	74 45.5 +01.0	S 00 47.9 +00.7	0 14.9 +02.0	S 22 47.5 +00.0	333 26.4 +02.3	S 22 30.2 +00.0	16						
17	89 46.5 +01.0	S 00 48.6 +00.6	15 16.9 +02.0	S 22 47.5 +00.0	348 28.7 +02.4	S 22 30.2 +00.0	17						
18	104 47.5 +01.0	S 00 49.2 +00.7	30 18.9 +02.1	S 22 47.5 +00.1	3 31.1 +02.4	S 22 30.2 +00.0	18						
19	119 48.5 +00.9	S 00 49.9 +00.6	45 21.0 +02.0	S 22 47.6 +00.0	18 33.5 +02.3	S 22 30.2 +00.0	19						
20	134 49.4 +01.0	S 00 50.5 +00.7	60 23.0 +02.0	S 22 47.6 +00.1	33 35.8 +02.4	S 22 30.2 +00.0	20						
21	149 50.4 +01.0	S 00 51.2 +00.6	75 25.0 +02.1	S 22 47.7 +00.0	48 38.2 +02.4	S 22 30.2 +00.0	21						
22	164 51.4 +01.0	S 00 51.8 +00.7	90 27.1 +02.0	S 22 47.7 +00.0	63 40.6 +02.3	S 22 30.2 +00.0	22						
23	179 52.4 +01.0	S 00 52.5 +00.6	105 29.1 +02.1	S 22 47.7 +00.1	78 42.9 +02.4	S 22 30.2 +00.0	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	00'0 00'0 00'0 00'0 00'0 00'0		SD	00'3 00'3 00'3 00'3 00'3 00'3		SD	00'1 00'1 00'1 00'1 00'1 00'1						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'0 00'0 00'0 00'0 00'0 00'0		HP	00'0 00'0 00'0 00'0 00'0 00'0						
SHA	176° 176° 176° 176° 176° 176°		SHA	101° 101° 101° 101° 101° 101°		SHA	074° 074° 074° 074° 074° 074°						
Greenwich Culmination Time: 11:01			Greenwich Culmination Time: 15:59			Greenwich Culmination Time: 17:45							

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 16.2 +00.1	S 06 49.5 +00.9	168 27.4 -00.5	S 11 55.0 +01.2	30 40.1 -25.6	S 09 43.6 -10.5	00						00
01	198 16.3 +00.2	S 06 50.4 +00.9	183 26.9 -00.5	S 11 56.2 +01.1	45 14.5 -25.6	S 09 33.1 -10.5	01						01
02	213 16.5 +00.1	S 06 51.3 +01.0	198 26.4 -00.5	S 11 57.3 +01.2	59 48.9 -25.5	S 09 22.6 -10.6	02						02
03	228 16.6 +00.2	S 06 52.3 +00.9	213 25.9 -00.5	S 11 58.5 +01.1	74 23.4 -25.5	S 09 12.0 -10.6	03						03
04	243 16.8 +00.2	S 06 53.2 +01.0	228 25.4 -00.5	S 11 59.6 +01.2	88 57.9 -25.5	S 09 01.4 -10.7	04						04
05	258 17.0 +00.1	S 06 54.2 +00.9	243 24.9 -00.5	S 12 00.8 +01.1	103 32.4 -25.5	S 08 50.7 -10.6	05						05
06	273 17.1 +00.2	S 06 55.1 +01.0	258 24.4 -00.4	S 12 01.9 +01.2	118 06.9 -25.4	S 08 40.1 -10.8	06						06
07	288 17.3 +00.2	S 06 56.1 +00.9	273 24.0 -00.5	S 12 03.1 +01.1	132 41.5 -25.5	S 08 29.3 -10.7	07						07
08	303 17.5 +00.1	S 06 57.0 +00.9	288 23.5 -00.5	S 12 04.2 +01.2	147 16.0 -25.4	S 08 18.6 -10.8	08						08
09	318 17.6 +00.2	S 06 57.9 +01.0	303 23.0 -00.5	S 12 05.4 +01.1	161 50.6 -25.4	S 08 07.8 -10.8	09						09
10	333 17.8 +00.2	S 06 58.9 +00.9	318 22.5 -00.5	S 12 06.5 +01.2	176 25.2 -25.3	S 07 57.0 -10.9	10						10
11	348 18.0 +00.1	S 06 59.8 +01.0	333 22.0 -00.5	S 12 07.7 +01.1	190 59.9 -25.4	S 07 46.1 -10.9	11						11
12	3 18.1 +00.2	S 07 00.8 +00.9	348 21.5 -00.5	S 12 08.8 +01.1	205 34.5 -25.3	S 07 35.2 -10.9	12						12
13	18 18.3 +00.1	S 07 01.7 +01.0	3 21.0 -00.5	S 12 09.9 +01.2	220 09.2 -25.3	S 07 24.3 -11.0	13						13
14	33 18.4 +00.2	S 07 02.7 +00.9	18 20.5 -00.5	S 12 11.1 +01.1	234 43.9 -25.3	S 07 13.3 -11.0	14						14
15	48 18.6 +00.2	S 07 03.6 +00.9	33 20.0 -00.5	S 12 12.2 +01.2	249 18.6 -25.3	S 07 02.3 -11.0	15						15
16	63 18.8 +00.1	S 07 04.5 +01.0	48 19.5 -00.5	S 12 13.4 +01.1	263 53.3 -25.2	S 06 51.3 -11.0	16						16
17	78 18.9 +00.2	S 07 05.5 +00.9	63 19.0 -00.5	S 12 14.5 +01.2	278 28.1 -25.3	S 06 40.3 -11.1	17						17
18	93 19.1 +00.2	S 07 06.4 +01.0	78 18.5 -00.5	S 12 15.7 +01.1	293 02.8 -25.2	S 06 29.2 -11.1	18						18
19	108 19.3 +00.1	S 07 07.4 +00.9	93 18.0 -00.5	S 12 16.8 +01.1	307 37.6 -25.2	S 06 18.1 -11.1	19						19
20	123 19.4 +00.2	S 07 08.3 +01.0	108 17.5 -00.5	S 12 17.9 +01.2	322 12.4 -25.2	S 06 07.0 -11.2	20						20
21	138 19.6 +00.1	S 07 09.3 +00.9	123 17.0 -00.5	S 12 19.1 +01.1	336 47.2 -25.2	S 05 55.8 -11.2	21						21
22	153 19.7 +00.2	S 07 10.2 +00.9	138 16.5 -00.5	S 12 20.2 +01.1	351 22.0 -25.2	S 05 44.6 -11.2	22						22
23	168 19.9 +00.2	S 07 11.1 +01.0	153 16.0 -00.4	S 12 21.3 +01.2	5 56.8 -25.2	S 05 33.4 -11.2	23						23
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22			UT	02 06 10 14 18 22					
SD	16'0 16'0 16'0 16'0 16'0 16'0		SD	00'1 00'1 00'1 00'1 00'1 00'1			SD	14'7 14'7 14'7 14'7 14'7 14'7					
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'1 00'1 00'1 00'1 00'1 00'1			HP	54'0 54'0 54'0 54'0 54'0 54'1					
SHA	164° 164° 164° 163° 163° 163°		SHA	149° 149° 149° 148° 148° 148°			SHA	010° 009° 007° 005° 003° 001°					
Greenwich Culmination Time: 11:46				Greenwich Culmination Time: 12:46				Greenwich Culmination Time: 22:35					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	194 53.4 +01.0	S 00 53.1 +00.7	120 31.2 +02.0	S 22 47.8 +00.0	93 45.3 +02.4	S 22 30.2 +00.0	00						00
01	209 54.4 +01.0	S 00 53.8 +00.6	135 33.2 +02.0	S 22 47.8 +00.0	108 47.7 +02.3	S 22 30.2 -00.1	01						01
02	224 55.4 +01.0	S 00 54.4 +00.7	150 35.2 +02.1	S 22 47.8 +00.1	123 50.0 +02.4	S 22 30.1 +00.0	02						02
03	239 56.4 +01.0	S 00 55.1 +00.6	165 37.3 +02.0	S 22 47.9 +00.0	138 52.4 +02.4	S 22 30.1 +00.0	03						03
04	254 57.4 +00.9	S 00 55.7 +00.7	180 39.3 +02.0	S 22 47.9 +00.0	153 54.8 +02.3	S 22 30.1 +00.0	04						04
05	269 58.3 +01.0	S 00 56.4 +00.7	195 41.3 +02.1	S 22 47.9 +00.1	168 57.1 +02.4	S 22 30.1 +00.0	05						05
06	284 59.3 +01.0	S 00 57.1 +00.6	210 43.4 +02.0	S 22 48.0 +00.0	183 59.5 +02.4	S 22 30.1 +00.0	06						06
07	300 00.3 +01.0	S 00 57.7 +00.7	225 45.4 +02.1	S 22 48.0 +00.0	199 01.9 +02.3	S 22 30.1 +00.0	07						07
08	315 01.3 +01.0	S 00 58.4 +00.6	240 47.5 +02.0	S 22 48.0 +00.1	214 04.2 +02.4	S 22 30.1 +00.0	08						08
09	330 02.3 +01.0	S 00 59.0 +00.7	255 49.5 +02.0	S 22 48.1 +00.0	229 06.6 +02.3	S 22 30.1 +00.0	09						09
10	345 03.3 +01.0	S 00 59.7 +00.6	270 51.5 +02.1	S 22 48.1 +00.1	244 08.9 +02.4	S 22 30.1 +00.0	10						10
11	0 04.3 +01.0	S 01 00.3 +00.7	285 53.6 +02.0	S 22 48.2 +00.0	259 11.3 +02.4	S 22 30.1 +00.0	11						11
12	15 05.3 +00.9	S 01 01.0 +00.6	300 55.6 +02.0	S 22 48.2 +00.0	274 13.7 +02.3	S 22 30.1 +00.0	12						12
13	30 06.2 +01.0	S 01 01.6 +00.7	315 57.6 +02.1	S 22 48.2 +00.1	289 16.0 +02.4	S 22 30.1 +00.0	13						13
14	45 07.2 +01.0	S 01 02.3 +00.6	330 59.7 +02.0	S 22 48.3 +00.0	304 18.4 +02.4	S 22 30.1 +00.0	14						14
15	60 08.2 +01.0	S 01 02.9 +00.7	346 01.7 +02.0	S 22 48.3 +00.0	319 20.8 +02.3	S 22 30.1 +00.0	15						15
16	75 09.2 +01.0	S 01 03.6 +00.6	1 03.7 +02.1	S 22 48.3 +00.1	334 23.1 +02.4	S 22 30.1 +00.0	16						16
17	90 10.2 +01.0	S 01 04.2 +00.7	16 05.8 +02.0	S 22 48.4 +00.0	349 25.5 +02.3	S 22 30.1 -00.1	17						17
18	105 11.2 +01.0	S 01 04.9 +00.6	31 07.8 +02.0	S 22 48.4 +00.0	4 27.8 +02.4	S 22 30.0 +00.0	18						18
19	120 12.2 +01.0	S 01 05.5 +00.7	46 09.8 +02.1	S 22 48.4 +00.1	19 30.2 +02.4	S 22 30.0 +00.0	19						19
20	135 13.2 +00.9	S 01 06.2 +00.6	61 11.9 +02.0	S 22 48.5 +00.0	34 32.6 +02.3	S 22 30.0 +00.0	20						20
21	150 14.1 +01.0	S 01 06.8 +00.7	76 13.9 +02.0	S 22 48.5 +00.1	49 34.9 +02.4	S 22 30.0 +00.0	21						21
22	165 15.1 +01.0	S 01 07.5 +00.6	91 15.9 +02.1	S 22 48.6 +00.0	64 37.3 +02.3	S 22 30.0 +00.0	22						22
23	180 16.1 +01.0	S 01 08.1 +00.7	106 18.0 +02.0	S 22 48.6 +00.0	79 39.6 +02.4	S 22 30.0 +00.0	23						23
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22			UT	02 06 10 14 18 22					
SD	00'0 00'0 00'0 00'0 00'0 00'0		SD	00'3 00'3 00'3 00'3 00'3 00'3			SD	00'1 00'1 00'1 00'1 00'1 00'1					
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'0 00'0 00'0 00'0 00'0 00'0			HP	00'0 00'0 00'0 00'0 00'0 00'0					
SHA	176° 175° 175° 175° 175° 175°		SHA	101° 101° 101° 101° 101° 101°			SHA	074° 074° 074° 074° 074° 074°					
Greenwich Culmination Time: 10:59				Greenwich Culmination Time: 15:55				Greenwich Culmination Time: 17:42					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 20.1 +00.1	S	07 12.1 +00.9	168 15.6 -00.5	S	12 22.5 +01.1	20 31.6 -25.1	S	05 22.2 -11.3	00			
01	198 20.2 +00.2	S	07 13.0 +01.0	183 15.1 -00.5	S	12 23.6 +01.2	35 06.5 -25.2	S	05 10.9 -11.3	01			
02	213 20.4 +00.1	S	07 14.0 +00.9	198 14.6 -00.5	S	12 24.8 +01.1	49 41.3 -25.1	S	04 59.6 -11.3	02			
03	228 20.5 +00.2	S	07 14.9 +00.9	213 14.1 -00.5	S	12 25.9 +01.1	64 16.2 -25.1	S	04 48.3 -11.3	03			
04	243 20.7 +00.2	S	07 15.8 +01.0	228 13.6 -00.5	S	12 27.0 +01.2	78 51.1 -25.2	S	04 37.0 -11.3	04			
05	258 20.9 +00.1	S	07 16.8 +00.9	243 13.1 -00.5	S	12 28.2 +01.1	93 25.9 -25.1	S	04 25.7 -11.4	05			
06	273 21.0 +00.2	S	07 17.7 +00.9	258 12.6 -00.5	S	12 29.3 +01.1	108 00.8 -25.1	S	04 14.3 -11.4	06			
07	288 21.2 +00.1	S	07 18.6 +01.0	273 12.1 -00.5	S	12 30.4 +01.2	122 35.7 -25.1	S	04 02.9 -11.4	07			
08	303 21.3 +00.2	S	07 19.6 +00.9	288 11.6 -00.5	S	12 31.6 +01.1	137 10.6 -25.1	S	03 51.5 -11.4	08			
09	318 21.5 +00.2	S	07 20.5 +01.0	303 11.1 -00.5	S	12 32.7 +01.1	151 45.5 -25.1	S	03 40.1 -11.4	09			
10	333 21.7 +00.1	S	07 21.5 +00.9	318 10.6 -00.5	S	12 33.8 +01.2	166 20.4 -25.1	S	03 28.7 -11.5	10			
11	348 21.8 +00.2	S	07 22.4 +00.9	333 10.1 -00.6	S	12 35.0 +01.1	180 55.3 -25.1	S	03 17.2 -11.5	11			
12	3 22.0 +00.1	S	07 23.3 +01.0	348 09.5 -00.5	S	12 36.1 +01.1	195 30.2 -25.1	S	03 05.7 -11.5	12			
13	18 22.1 +00.2	S	07 24.3 +00.9	3 09.0 -00.5	S	12 37.2 +01.2	210 05.1 -25.1	S	02 54.2 -11.5	13			
14	33 22.3 +00.1	S	07 25.2 +01.0	18 08.5 -00.5	S	12 38.4 +01.1	224 40.0 -25.1	S	02 42.7 -11.5	14			
15	48 22.4 +00.2	S	07 26.2 +00.9	33 08.0 -00.5	S	12 39.5 +01.1	239 14.9 -25.1	S	02 31.2 -11.5	15			
16	63 22.6 +00.2	S	07 27.1 +00.9	48 07.5 -00.5	S	12 40.6 +01.2	253 49.8 -25.1	S	02 19.7 -11.6	16			
17	78 22.8 +00.1	S	07 28.0 +01.0	63 07.0 -00.5	S	12 41.8 +01.1	268 24.7 -25.1	S	02 08.1 -11.5	17			
18	93 22.9 +00.2	S	07 29.0 +00.9	78 06.5 -00.5	S	12 42.9 +01.1	282 59.6 -25.1	S	01 56.6 -11.6	18			
19	108 23.1 +00.1	S	07 29.9 +00.9	93 06.0 -00.5	S	12 44.0 +01.1	297 34.5 -25.1	S	01 45.0 -11.6	19			
20	123 23.2 +00.2	S	07 30.8 +01.0	108 05.5 -00.5	S	12 45.1 +01.2	312 09.4 -25.1	S	01 33.4 -11.6	20			
21	138 23.4 +00.1	S	07 31.8 +00.9	123 05.0 -00.5	S	12 46.3 +01.1	326 44.3 -25.1	S	01 21.8 -11.6	21			
22	153 23.5 +00.2	S	07 32.7 +01.0	138 04.5 -00.5	S	12 47.4 +01.1	341 19.2 -25.1	S	01 10.2 -11.6	22			
23	168 23.7 +00.1	S	07 33.7 +00.9	153 04.0 -00.5	S	12 48.5 +01.1	355 54.1 -25.1	S	00 58.6 -11.6	23			
UT	02 06 10 14 18 22			UT	02 06 10 14 18 22			UT	02 06 10 14 18 22				
SD	16'0 16'0 16'0 16'0 16'0 16'0			SD	00'1 00'1 00'1 00'1 00'1 00'1			SD	14'7 14'7 14'8 14'8 14'8 14'8				
HP	00'1 00'1 00'1 00'1 00'1 00'1			HP	00'1 00'1 00'1 00'1 00'1 00'1			HP	54'1 54'1 54'1 54'2 54'2 54'2				
SHA	163° 163° 163° 163° 162° 162°			SHA	148° 148° 147° 147° 147° 147°			SHA	359° 357° 356° 354° 352° 350°				
Greenwich Culmination Time: 11:46				Greenwich Culmination Time: 12:47				Greenwich Culmination Time: 23:16					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	195 17.1 +01.0	S	01 08.8 +00.6	121 20.0 +02.0	S	22 48.6 +00.1	94 42.0 +02.4	S	22 30.0 +00.0	00			
01	210 18.1 +01.0	S	01 09.4 +00.7	136 22.0 +02.1	S	22 48.7 +00.0	109 44.4 +02.3	S	22 30.0 +00.0	01			
02	225 19.1 +01.0	S	01 10.1 +00.6	151 24.1 +02.0	S	22 48.7 +00.0	124 46.7 +02.4	S	22 30.0 +00.0	02			
03	240 20.1 +00.9	S	01 10.7 +00.7	166 26.1 +02.0	S	22 48.7 +00.1	139 49.1 +02.3	S	22 30.0 +00.0	03			
04	255 21.0 +01.0	S	01 11.4 +00.6	181 28.1 +02.1	S	22 48.8 +00.0	154 51.4 +02.4	S	22 30.0 +00.0	04			
05	270 22.0 +01.0	S	01 12.0 +00.7	196 30.2 +02.0	S	22 48.8 +00.0	169 53.8 +02.4	S	22 30.0 +00.0	05			
06	285 23.0 +01.0	S	01 12.7 +00.6	211 32.2 +02.0	S	22 48.8 +00.1	184 56.2 +02.3	S	22 30.0 +00.0	06			
07	300 24.0 +01.0	S	01 13.3 +00.7	226 34.2 +02.1	S	22 48.9 +00.0	199 58.5 +02.4	S	22 30.0 +00.0	07			
08	315 25.0 +01.0	S	01 14.0 +00.6	241 36.3 +02.0	S	22 48.9 +00.1	215 00.9 +02.3	S	22 30.0 +00.0	08			
09	330 26.0 +01.0	S	01 14.6 +00.7	256 38.3 +02.0	S	22 49.0 +00.0	230 03.2 +02.4	S	22 30.0 -00.1	09			
10	345 27.0 +01.0	S	01 15.3 +00.6	271 40.3 +02.1	S	22 49.0 +00.0	245 05.6 +02.4	S	22 29.9 +00.0	10			
11	0 28.0 +00.9	S	01 15.9 +00.7	286 42.4 +02.0	S	22 49.0 +00.1	260 08.0 +02.3	S	22 29.9 +00.0	11			
12	15 28.9 +01.0	S	01 16.6 +00.6	301 44.4 +02.0	S	22 49.1 +00.0	275 10.3 +02.4	S	22 29.9 +00.0	12			
13	30 29.9 +01.0	S	01 17.2 +00.7	316 46.4 +02.0	S	22 49.1 +00.0	290 12.7 +02.3	S	22 29.9 +00.0	13			
14	45 30.9 +01.0	S	01 17.9 +00.6	331 48.4 +02.1	S	22 49.1 +00.1	305 15.0 +02.4	S	22 29.9 +00.0	14			
15	60 31.9 +01.0	S	01 18.5 +00.7	346 50.5 +02.0	S	22 49.2 +00.0	320 17.4 +02.4	S	22 29.9 +00.0	15			
16	75 32.9 +01.0	S	01 19.2 +00.6	1 52.5 +02.0	S	22 49.2 +00.0	335 19.8 +02.3	S	22 29.9 +00.0	16			
17	90 33.9 +01.0	S	01 19.8 +00.7	16 54.5 +02.1	S	22 49.2 +00.1	350 22.1 +02.4	S	22 29.9 +00.0	17			
18	105 34.9 +00.9	S	01 20.5 +00.6	31 56.6 +02.0	S	22 49.3 +00.0	5 24.5 +02.3	S	22 29.9 +00.0	18			
19	120 35.8 +01.0	S	01 21.1 +00.7	46 58.6 +02.0	S	22 49.3 +00.0	20 26.8 +02.4	S	22 29.9 +00.0	19			
20	135 36.8 +01.0	S	01 21.8 +00.6	62 00.6 +02.1	S	22 49.3 +00.1	35 29.2 +02.3	S	22 29.9 +00.0	20			
21	150 37.8 +01.0	S	01 22.4 +00.7	77 02.7 +02.0	S	22 49.4 +00.0	50 31.5 +02.4	S	22 29.9 +00.0	21			
22	165 38.8 +01.0	S	01 23.1 +00.6	92 04.7 +02.0	S	22 49.4 +00.1	65 33.9 +02.4	S	22 29.9 +00.0	22			
23	180 39.8 +01.0	S	01 23.7 +00.7	107 06.7 +02.0	S	22 49.5 +00.0	80 36.3 +02.3	S	22 29.9 +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	175° 175° 175° 175° 175° 174°			SHA	101° 101° 101° 101° 101° 101°			SHA	074° 074° 074° 074° 074° 074°				
Greenwich Culmination Time: 10:58				Greenwich Culmination Time: 15:52				Greenwich Culmination Time: 17:38					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 23.8 +00.2	S	07 34.6 +00.9	168 03.5 -00.5	S	12 49.6 +01.2	10 29.0 -25.2	S	00 47.0 -11.7	00			
01	198 24.0 +00.2	S	07 35.5 +01.0	183 03.0 -00.5	S	12 50.8 +01.1	25 03.8 -25.1	S	00 35.3 -11.6	01			
02	213 24.2 +00.1	S	07 36.5 +00.9	198 02.5 -00.5	S	12 51.9 +01.1	39 38.7 -25.2	S	00 23.7 -11.6	02			
03	228 24.3 +00.2	S	07 37.4 +00.9	213 02.0 -00.6	S	12 53.0 +01.1	54 13.5 -25.1	S	00 12.1 -11.7	03			
04	243 24.5 +00.1	S	07 38.3 +01.0	228 01.4 -00.5	S	12 54.1 +01.2	68 48.4 -25.2	S	00 00.4 -11.6	04			
05	258 24.6 +00.2	S	07 39.3 +00.9	243 00.9 -00.5	S	12 55.3 +01.1	83 23.2 -25.2	N	00 11.2 +11.7	05			
06	273 24.8 +00.1	S	07 40.2 +00.9	258 00.4 -00.5	S	12 56.4 +01.1	97 58.0 -25.2	N	00 22.9 +11.7	06			
07	288 24.9 +00.2	S	07 41.1 +01.0	272 59.9 -00.5	S	12 57.5 +01.1	112 32.8 -25.2	N	00 34.6 +11.6	07			
08	303 25.1 +00.1	S	07 42.1 +00.9	287 59.4 -00.5	S	12 58.6 +01.1	127 07.6 -25.2	N	00 46.2 +11.7	08			
09	318 25.2 +00.2	S	07 43.0 +00.9	302 58.9 -00.5	S	12 59.7 +01.2	141 42.4 -25.2	N	00 57.9 +11.7	09			
10	333 25.4 +00.1	S	07 43.9 +01.0	317 58.4 -00.5	S	13 00.9 +01.1	156 17.2 -25.2	N	01 09.6 +11.6	10			
11	348 25.5 +00.2	S	07 44.9 +00.9	332 57.9 -00.5	S	13 02.0 +01.1	170 52.0 -25.3	N	01 21.2 +11.7	11			
12	3 25.7 +00.1	S	07 45.8 +00.9	347 57.4 -00.6	S	13 03.1 +01.1	185 26.7 -25.3	N	01 32.9 +11.7	12			
13	18 25.8 +00.2	S	07 46.7 +01.0	2 56.8 -00.5	S	13 04.2 +01.1	200 01.4 -25.3	N	01 44.6 +11.6	13			
14	33 26.0 +00.1	S	07 47.7 +00.9	17 56.3 -00.5	S	13 05.3 +01.2	214 36.1 -25.3	N	01 56.2 +11.7	14			
15	48 26.1 +00.2	S	07 48.6 +00.9	32 55.8 -00.5	S	13 06.5 +01.1	229 10.8 -25.3	N	02 07.9 +11.6	15			
16	63 26.3 +00.1	S	07 49.5 +01.0	47 55.3 -00.5	S	13 07.6 +01.1	243 45.5 -25.4	N	02 19.5 +11.7	16			
17	78 26.4 +00.2	S	07 50.5 +00.9	62 54.8 -00.5	S	13 08.7 +01.1	258 20.1 -25.3	N	02 31.2 +11.6	17			
18	93 26.6 +00.2	S	07 51.4 +00.9	77 54.3 -00.5	S	13 09.8 +01.1	272 54.8 -25.4	N	02 42.8 +11.7	18			
19	108 26.8 +00.1	S	07 52.3 +01.0	92 53.8 -00.6	S	13 10.9 +01.1	287 29.4 -25.4	N	02 54.5 +11.6	19			
20	123 26.9 +00.2	S	07 53.3 +00.9	107 53.2 -00.5	S	13 12.0 +01.1	302 04.0 -25.5	N	03 06.1 +11.7	20			
21	138 27.1 +00.1	S	07 54.2 +00.9	122 52.7 -00.5	S	13 13.1 +01.2	316 38.5 -25.4	N	03 17.8 +11.6	21			
22	153 27.2 +00.2	S	07 55.1 +01.0	137 52.2 -00.5	S	13 14.3 +01.1	331 13.1 -25.5	N	03 29.4 +11.6	22			
23	168 27.4 +00.1	S	07 56.1 +00.9	152 51.7 -00.5	S	13 15.4 +01.1	345 47.6 -25.5	N	03 41.0 +11.6	23			
UT	02 06 10 14 18 22			UT	02 06 10 14 18 22			UT	02 06 10 14 18 22				
SD	16'0 16'0 16'0 16'0 16'0 16'0			SD	00'1 00'1 00'1 00'1 00'1 00'1			SD	14'8 14'8 14'8 14'8 14'8 14'8				
HP	00'1 00'1 00'1 00'1 00'1 00'1			HP	00'1 00'1 00'1 00'1 00'1 00'1			HP	54'3 54'3 54'3 54'4 54'4 54'5				
SHA	162° 162° 162° 162° 161° 161°			SHA	147° 146° 146° 146° 146° 146°			SHA	348° 346° 345° 343° 341° 339°				
Greenwich Culmination Time: 11:46				Greenwich Culmination Time: 12:48				Greenwich Culmination Time: 23:58					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	195 40.8 +01.0	S	01 24.4 +00.6	122 08.7 +02.1	S	22 49.5 +00.0	95 38.6 +02.4	S	22 29.9 -00.1	00			
01	210 41.8 +00.9	S	01 25.0 +00.7	137 10.8 +02.0	S	22 49.5 +00.1	110 41.0 +02.3	S	22 29.8 +00.0	01			
02	225 42.7 +01.0	S	01 25.7 +00.6	152 12.8 +02.0	S	22 49.6 +00.0	125 43.3 +02.4	S	22 29.8 +00.0	02			
03	240 43.7 +01.0	S	01 26.3 +00.7	167 14.8 +02.0	S	22 49.6 +00.0	140 45.7 +02.3	S	22 29.8 +00.0	03			
04	255 44.7 +01.0	S	01 27.0 +00.6	182 16.8 +02.1	S	22 49.6 +00.1	155 48.0 +02.4	S	22 29.8 +00.0	04			
05	270 45.7 +01.0	S	01 27.6 +00.7	197 18.9 +02.0	S	22 49.7 +00.0	170 50.4 +02.3	S	22 29.8 +00.0	05			
06	285 46.7 +01.0	S	01 28.3 +00.6	212 20.9 +02.0	S	22 49.7 +00.0	185 52.7 +02.4	S	22 29.8 +00.0	06			
07	300 47.7 +01.0	S	01 28.9 +00.7	227 22.9 +02.0	S	22 49.7 +00.1	200 55.1 +02.4	S	22 29.8 +00.0	07			
08	315 48.7 +00.9	S	01 29.6 +00.6	242 24.9 +02.1	S	22 49.8 +00.0	215 57.5 +02.3	S	22 29.8 +00.0	08			
09	330 49.6 +01.0	S	01 30.2 +00.7	257 27.0 +02.0	S	22 49.8 +00.0	230 59.8 +02.4	S	22 29.8 +00.0	09			
10	345 50.6 +01.0	S	01 30.9 +00.6	272 29.0 +02.0	S	22 49.8 +00.1	246 02.2 +02.3	S	22 29.8 +00.0	10			
11	0 51.6 +01.0	S	01 31.5 +00.7	287 31.0 +02.1	S	22 49.9 +00.0	261 04.5 +02.4	S	22 29.8 +00.0	11			
12	15 52.6 +01.0	S	01 32.2 +00.6	302 33.1 +02.0	S	22 49.9 +00.1	276 06.9 +02.3	S	22 29.8 +00.0	12			
13	30 53.6 +01.0	S	01 32.8 +00.7	317 35.1 +02.0	S	22 50.0 +00.0	291 09.2 +02.4	S	22 29.8 +00.0	13			
14	45 54.6 +01.0	S	01 33.5 +00.6	332 37.1 +02.0	S	22 50.0 +00.0	306 11.6 +02.3	S	22 29.8 +00.0	14			
15	60 55.6 +00.9	S	01 34.1 +00.7	347 39.1 +02.1	S	22 50.0 +00.1	321 13.9 +02.4	S	22 29.8 -00.1	15			
16	75 56.5 +01.0	S	01 34.8 +00.6	2 41.2 +02.0	S	22 50.1 +00.0	336 16.3 +02.3	S	22 29.7 +00.0	16			
17	90 57.5 +01.0	S	01 35.4 +00.7	17 43.2 +02.0	S	22 50.1 +00.0	351 18.6 +02.4	S	22 29.7 +00.0	17			
18	105 58.5 +01.0	S	01 36.1 +00.6	32 45.2 +02.0	S	22 50.1 +00.1	6 21.0 +02.3	S	22 29.7 +00.0	18			
19	120 59.5 +01.0	S	01 36.7 +00.7	47 47.2 +02.0	S	22 50.2 +00.0	21 23.3 +02.4	S	22 29.7 +00.0	19			
20	136 00.5 +01.0	S	01 37.4 +00.6	62 49.2 +02.1	S	22 50.2 +00.0	36 25.7 +02.4	S	22 29.7 +00.0	20			
21	151 01.5 +01.0	S	01 38.0 +00.7	77 51.3 +02.0	S	22 50.2 +00.1	51 28.1 +02.3	S	22 29.7 +00.0	21			
22	166 02.5 +00.9	S	01 38.7 +00.6	92 53.3 +02.0	S	22 50.3 +00.0	66 30.4 +02.4	S	22 29.7 +00.0	22			
23	181 03.4 +01.0	S	01 39.3 +00.7	107 55.3 +02.0	S	22 50.3 +00.0	81 32.8 +02.3	S	22 29.7 +00.0	23			
UT	02 06 10 14 18 22			UT	02 06 10 14 18 22			UT	02 06 10 14 18 22				
SD	00'0 00'0 00'0 00'0 00'0 00'0			SD	00'3 00'3 00'3 00'3 00'3 00'3			SD	00'1 00'1 00'1 00'1 00'1 00'1				
HP	00'1 00'1 00'1 00'1 00'1 00'1			HP	00'0 00'0 00'0 00'0 00'0 00'0			HP	00'0 00'0 00'0 00'0 00'0 00'0				
SHA	174° 174° 174° 174° 174° 174°			SHA	101° 101° 101° 101° 101° 101°			SHA	074° 074° 074° 074° 074° 074°				
Greenwich Culmination Time: 10:56				Greenwich Culmination Time: 15:49				Greenwich Culmination Time: 17:34					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 27.5 +00.2	S	07 57.0 +00.9	167 51.2 -00.5	S	13 16.5 +01.1	0 22.1 -25.5	N	03 52.6 +11.6	00			
01	198 27.7 +00.1	S	07 57.9 +01.0	182 50.7 -00.6	S	13 17.6 +01.1	14 56.6 -25.6	N	04 04.2 +11.6	01			
02	213 27.8 +00.1	S	07 58.9 +00.9	197 50.1 -00.5	S	13 18.7 +01.1	29 31.0 -25.5	N	04 15.8 +11.6	02			
03	228 27.9 +00.2	S	07 59.8 +00.9	212 49.6 -00.5	S	13 19.8 +01.1	44 05.5 -25.7	N	04 27.4 +11.5	03			
04	243 28.1 +00.1	S	08 00.7 +01.0	227 49.1 -00.5	S	13 20.9 +01.1	58 39.8 -25.6	N	04 38.9 +11.6	04			
05	258 28.2 +00.2	S	08 01.7 +00.9	242 48.6 -00.5	S	13 22.0 +01.2	73 14.2 -25.6	N	04 50.5 +11.5	05			
06	273 28.4 +00.1	S	08 02.6 +00.9	257 48.1 -00.6	S	13 23.2 +01.1	87 48.6 -25.7	N	05 02.0 +11.5	06			
07	288 28.5 +00.2	S	08 03.5 +00.9	272 47.5 -00.5	S	13 24.3 +01.1	102 22.9 -25.8	N	05 13.5 +11.5	07			
08	303 28.7 +00.1	S	08 04.4 +01.0	287 47.0 -00.5	S	13 25.4 +01.1	116 57.1 -25.7	N	05 25.0 +11.5	08			
09	318 28.8 +00.2	S	08 05.4 +00.9	302 46.5 -00.5	S	13 26.5 +01.1	131 31.4 -25.8	N	05 36.5 +11.5	09			
10	333 29.0 +00.1	S	08 06.3 +00.9	317 46.0 -00.6	S	13 27.6 +01.1	146 05.6 -25.8	N	05 48.0 +11.4	10			
11	348 29.1 +00.2	S	08 07.2 +01.0	332 45.4 -00.5	S	13 28.7 +01.1	160 39.8 -25.9	N	05 59.4 +11.5	11			
12	3 29.3 +00.1	S	08 08.2 +00.9	347 44.9 -00.5	S	13 29.8 +01.1	175 13.9 -25.8	N	06 10.9 +11.4	12			
13	18 29.4 +00.2	S	08 09.1 +00.9	2 44.4 -00.5	S	13 30.9 +01.1	189 48.1 -26.0	N	06 22.3 +11.4	13			
14	33 29.6 +00.1	S	08 10.0 +01.0	17 43.9 -00.6	S	13 32.0 +01.1	204 22.1 -25.9	N	06 33.7 +11.4	14			
15	48 29.7 +00.2	S	08 11.0 +00.9	32 43.3 -00.5	S	13 33.1 +01.1	218 56.2 -26.0	N	06 45.1 +11.3	15			
16	63 29.9 +00.1	S	08 11.9 +00.9	47 42.8 -00.5	S	13 34.2 +01.1	233 30.2 -26.0	N	06 56.4 +11.4	16			
17	78 30.0 +00.2	S	08 12.8 +00.9	62 42.3 -00.5	S	13 35.3 +01.1	248 04.2 -26.1	N	07 07.8 +11.3	17			
18	93 30.2 +00.1	S	08 13.7 +01.0	77 41.8 -00.6	S	13 36.4 +01.1	262 38.1 -26.1	N	07 19.1 +11.3	18			
19	108 30.3 +00.1	S	08 14.7 +00.9	92 41.2 -00.5	S	13 37.5 +01.1	277 12.0 -26.1	N	07 30.4 +11.2	19			
20	123 30.4 +00.2	S	08 15.6 +00.9	107 40.7 -00.5	S	13 38.6 +01.1	291 45.9 -26.2	N	07 41.6 +11.3	20			
21	138 30.6 +00.1	S	08 16.5 +00.9	122 40.2 -00.5	S	13 39.7 +01.1	306 19.7 -26.2	N	07 52.9 +11.2	21			
22	153 30.7 +00.2	S	08 17.4 +01.0	137 39.1 -00.6	S	13 40.8 +01.1	320 53.5 -26.3	N	08 04.1 +11.1	22			
23	168 30.9 +00.1	S	08 18.4 +00.9	152 39.7 -00.5	S	13 41.9 +01.1	335 27.2 -26.2	N	08 15.2 +11.2	23			
UT	02 06 10 14 18 22			UT	02 06 10 14 18 22			UT	02 06 10 14 18 22				
SD	16'0 16'0 16'0 16'0 16'0 16'0			SD	00'1 00'1 00'1 00'1 00'1 00'1			SD	14'9 14'9 14'9 14'9 14'9 14'9				
HP	00'1 00'1 00'1 00'1 00'1 00'1			HP	00'1 00'1 00'1 00'1 00'1 00'1			HP	54'5 54'6 54'6 54'7 54'7 54'8				
SHA	161° 161° 161° 161° 161° 160°			SHA	146° 145° 145° 145° 145° 145°			SHA	337° 335° 333° 332° 330° 328°				
Greenwich Culmination Time: 11:46				Greenwich Culmination Time: 12:49				Greenwich Culmination Time: -1:00					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	196 04.4 +01.0	S	01 40.0 +00.6	122 57.3 +02.1	S	22 50.3 +00.1	96 35.1 +02.4	S	22 29.7 +00.0	00			
01	211 05.4 +01.0	S	01 40.6 +00.7	137 59.4 +02.0	S	22 50.4 +00.0	111 37.5 +02.3	S	22 29.7 +00.0	01			
02	226 06.4 +01.0	S	01 41.3 +00.6	153 01.4 +02.0	S	22 50.4 +00.1	126 39.8 +02.4	S	22 29.7 +00.0	02			
03	241 07.4 +01.0	S	01 41.9 +00.6	168 03.4 +02.0	S	22 50.5 +00.0	141 42.2 +02.3	S	22 29.7 +00.0	03			
04	256 08.4 +01.0	S	01 42.5 +00.7	183 05.4 +02.0	S	22 50.5 +00.0	156 44.5 +02.4	S	22 29.7 -00.1	04			
05	271 09.4 +00.9	S	01 43.2 +00.6	198 07.4 +02.1	S	22 50.5 +00.1	171 46.9 +02.3	S	22 29.6 +00.0	05			
06	286 10.3 +01.0	S	01 43.8 +00.7	213 09.5 +02.0	S	22 50.6 +00.0	186 49.2 +02.4	S	22 29.6 +00.0	06			
07	301 11.3 +01.0	S	01 44.5 +00.6	228 11.5 +02.0	S	22 50.6 +00.0	201 51.6 +02.3	S	22 29.6 +00.0	07			
08	316 12.3 +01.0	S	01 45.1 +00.7	243 13.5 +02.0	S	22 50.6 +00.1	216 53.9 +02.4	S	22 29.6 +00.0	08			
09	331 13.3 +01.0	S	01 45.8 +00.6	258 15.5 +02.1	S	22 50.7 +00.0	231 56.3 +02.3	S	22 29.6 +00.0	09			
10	346 14.3 +01.0	S	01 46.4 +00.7	273 17.6 +02.0	S	22 50.7 +00.0	246 58.6 +02.4	S	22 29.6 +00.0	10			
11	1 15.3 +00.9	S	01 47.1 +00.6	288 19.6 +02.0	S	22 50.7 +00.1	262 01.0 +02.3	S	22 29.6 +00.0	11			
12	16 16.2 +01.0	S	01 47.7 +00.7	303 21.6 +02.0	S	22 50.8 +00.0	277 03.3 +02.4	S	22 29.6 +00.0	12			
13	31 17.2 +01.0	S	01 48.4 +00.6	318 23.6 +02.0	S	22 50.8 +00.0	292 05.7 +02.3	S	22 29.6 +00.0	13			
14	46 18.2 +01.0	S	01 49.0 +00.7	333 25.6 +02.1	S	22 50.8 +00.1	307 08.0 +02.4	S	22 29.6 +00.0	14			
15	61 19.2 +01.0	S	01 49.7 +00.6	348 27.7 +02.0	S	22 50.9 +00.0	322 10.4 +02.3	S	22 29.6 +00.0	15			
16	76 20.2 +01.0	S	01 50.3 +00.7	3 29.7 +02.0	S	22 50.9 +00.1	337 12.7 +02.4	S	22 29.6 +00.0	16			
17	91 21.2 +00.9	S	01 51.0 +00.6	18 31.7 +02.0	S	22 51.0 +00.0	352 15.1 +02.3	S	22 29.6 +00.0	17			
18	106 22.1 +01.0	S	01 51.6 +00.7	33 33.7 +02.0	S	22 51.0 +00.0	7 17.4 +02.4	S	22 29.6 -00.1	18			
19	121 23.1 +01.0	S	01 52.3 +00.6	48 35.7 +02.1	S	22 51.0 +00.1	22 19.8 +02.3	S	22 29.5 +00.0	19			
20	136 24.1 +01.0	S	01 52.9 +00.7	63 37.8 +02.0	S	22 51.1 +00.0	37 22.1 +02.4	S	22 29.5 +00.0	20			
21	151 25.1 +01.0	S	01 53.6 +00.6	78 39.8 +02.0	S	22 51.1 +00.0	52 24.5 +02.3	S	22 29.5 +00.0	21			
22	166 26.1 +01.0	S	01 54.2 +00.7	93 41.8 +02.0	S	22 51.1 +00.1	67 26.8 +02.4	S	22 29.5 +00.0	22			
23	181 27.1 +01.0	S	01 54.9 +00.6	108 43.8 +02.0	S	22 51.2 +00.0	82 29.2 +02.3	S	22 29.5 +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	174° 174° 174° 173° 173° 173°			SHA	101° 101° 101° 101° 101° 101°			SHA	074° 074° 074° 074° 074° 074°				
Greenwich Culmination Time: 10:54				Greenwich Culmination Time: 15:46				Greenwich Culmination Time: 17:30					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 31.0 +00.2	S 08 19.3 +00.9	167 38.6 -00.5	S 13 43.0 +01.1	350 01.0 -26.4	N 08 26.4 +11.1	00						
01	198 31.2 +00.1	S 08 20.2 +01.0	182 38.1 -00.6	S 13 44.1 +01.1	4 34.6 -26.4	N 08 37.5 +11.1	01						
02	213 31.3 +00.2	S 08 21.2 +00.9	197 37.5 -00.5	S 13 45.2 +01.1	19 08.2 -26.4	N 08 48.6 +11.1	02						
03	228 31.5 +00.1	S 08 22.1 +00.9	212 37.0 -00.5	S 13 46.3 +01.1	33 41.8 -26.5	N 08 59.7 +11.0	03						
04	243 31.6 +00.1	S 08 23.0 +00.9	227 36.5 -00.6	S 13 47.4 +01.1	48 15.3 -26.5	N 09 10.7 +11.0	04						
05	258 31.7 +00.2	S 08 23.9 +01.0	242 35.9 -00.5	S 13 48.5 +01.1	62 48.8 -26.5	N 09 21.7 +11.0	05						
06	273 31.9 +00.1	S 08 24.9 +00.9	257 35.4 -00.5	S 13 49.6 +01.1	77 22.3 -26.6	N 09 32.7 +10.9	06						
07	288 32.0 +00.2	S 08 25.8 +00.9	272 34.9 -00.6	S 13 50.7 +01.1	91 55.7 -26.7	N 09 43.6 +10.9	07						
08	303 32.2 +00.1	S 08 26.7 +00.9	287 34.3 -00.5	S 13 51.8 +01.1	106 29.0 -26.7	N 09 54.5 +10.9	08						
09	318 32.3 +00.2	S 08 27.6 +01.0	302 33.8 -00.5	S 13 52.9 +01.1	121 02.3 -26.7	N 10 05.4 +10.8	09						
10	333 32.5 +00.1	S 08 28.6 +00.9	317 33.3 -00.6	S 13 54.0 +01.1	135 35.6 -26.8	N 10 16.2 +10.8	10						
11	348 32.6 +00.1	S 08 29.5 +00.9	332 32.7 -00.5	S 13 55.1 +01.1	150 08.8 -26.9	N 10 27.0 +10.7	11						
12	3 32.7 +00.2	S 08 30.4 +00.9	347 32.2 -00.5	S 13 56.2 +01.1	164 41.9 -26.9	N 10 37.7 +10.7	12						
13	18 32.9 +00.1	S 08 31.3 +01.0	2 31.7 -00.6	S 13 57.3 +01.0	179 15.0 -26.9	N 10 48.4 +10.7	13						
14	33 33.0 +00.2	S 08 32.3 +00.9	17 31.1 -00.5	S 13 58.3 +01.1	193 48.1 -27.0	N 10 59.1 +10.6	14						
15	48 33.2 +00.1	S 08 33.2 +00.9	32 30.6 -00.5	S 13 59.4 +01.1	208 21.1 -27.1	N 11 09.7 +10.6	15						
16	63 33.3 +00.1	S 08 34.1 +00.9	47 30.1 -00.6	S 14 00.5 +01.1	222 54.0 -27.1	N 11 20.3 +10.6	16						
17	78 33.4 +00.2	S 08 35.0 +01.0	62 29.5 -00.5	S 14 01.6 +01.1	237 26.9 -27.1	N 11 30.9 +10.5	17						
18	93 33.6 +00.1	S 08 36.0 +00.9	77 29.0 -00.5	S 14 02.7 +01.1	251 59.8 -27.2	N 11 41.4 +10.4	18						
19	108 33.7 +00.2	S 08 36.9 +00.9	92 28.5 -00.6	S 14 03.8 +01.1	266 32.6 -27.3	N 11 51.8 +10.4	19						
20	123 33.9 +00.1	S 08 37.8 +00.9	107 27.9 -00.5	S 14 04.9 +01.1	281 05.3 -27.3	N 12 02.2 +10.4	20						
21	138 34.0 +00.1	S 08 38.7 +00.9	122 27.4 -00.6	S 14 06.0 +01.0	295 38.0 -27.4	N 12 12.6 +10.3	21						
22	153 34.1 +00.2	S 08 39.6 +01.0	137 26.8 -00.5	S 14 07.0 +01.1	310 10.6 -27.4	N 12 22.9 +10.3	22						
23	168 34.3 +00.1	S 08 40.6 +00.9	152 26.3 -00.5	S 14 08.1 +01.1	324 43.2 -27.5	N 12 33.2 +10.2	23						
UT	02 06 10 14 18 22	SD 16'0 16'0 16'0 16'0 16'0 16'0	UT	02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	UT	02 06 10 14 18 22	SD 14'9 15'0 15'0 15'0 15'0 15'0					
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'9 54'9 55'0 55'0 55'1 55'2		HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 160° 160° 160° 160° 160° 159°		SHA 144° 144° 144° 144° 144° 143°		SHA 326° 324° 322° 320° 318° 316°		SHA 074° 074° 074° 074° 074° 074°						
	Greenwich Culmination Time: 11:45		Greenwich Culmination Time: 12:49		Greenwich Culmination Time: 00:41								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	196 28.1 +00.9	S 01 55.5 +00.7	123 45.8 +02.0	S 22 51.2 +00.0	97 31.5 +02.4	S 22 29.5 +00.0	00						
01	211 29.0 +01.0	S 01 56.2 +00.6	138 47.8 +02.1	S 22 51.2 +00.1	112 33.9 +02.3	S 22 29.5 +00.0	01						
02	226 30.0 +01.0	S 01 56.8 +00.7	153 49.9 +02.0	S 22 51.3 +00.0	127 36.2 +02.4	S 22 29.5 +00.0	02						
03	241 31.0 +01.0	S 01 57.5 +00.6	168 51.9 +02.0	S 22 51.3 +00.0	142 38.6 +02.3	S 22 29.5 +00.0	03						
04	256 32.0 +01.0	S 01 58.1 +00.7	183 53.9 +02.0	S 22 51.3 +00.1	157 40.9 +02.3	S 22 29.5 +00.0	04						
05	271 33.0 +01.0	S 01 58.8 +00.6	198 55.9 +02.0	S 22 51.4 +00.0	172 43.2 +02.4	S 22 29.5 +00.0	05						
06	286 34.0 +00.9	S 01 59.4 +00.7	213 57.9 +02.0	S 22 51.4 +00.1	187 45.6 +02.3	S 22 29.5 +00.0	06						
07	301 34.9 +01.0	S 02 00.1 +00.6	228 59.9 +02.1	S 22 51.5 +00.0	202 47.9 +02.4	S 22 29.5 -00.1	07						
08	316 35.9 +01.0	S 02 00.7 +00.7	244 02.0 +02.0	S 22 51.5 +00.0	217 50.3 +02.3	S 22 29.4 +00.0	08						
09	331 36.9 +01.0	S 02 01.4 +00.6	259 04.0 +02.0	S 22 51.5 +00.1	232 52.6 +02.4	S 22 29.4 +00.0	09						
10	346 37.9 +01.0	S 02 02.0 +00.7	274 06.0 +02.0	S 22 51.6 +00.0	247 55.0 +02.3	S 22 29.4 +00.0	10						
11	1 38.9 +01.0	S 02 02.7 +00.6	289 08.0 +02.0	S 22 51.6 +00.0	262 57.3 +02.4	S 22 29.4 +00.0	11						
12	16 39.9 +00.9	S 02 03.3 +00.7	304 10.0 +02.0	S 22 51.6 +00.1	277 59.7 +02.3	S 22 29.4 +00.0	12						
13	31 40.8 +01.0	S 02 04.0 +00.6	319 12.0 +02.1	S 22 51.7 +00.0	293 02.0 +02.4	S 22 29.4 +00.0	13						
14	46 41.8 +01.0	S 02 04.6 +00.7	334 14.1 +02.0	S 22 51.7 +00.0	308 04.4 +02.3	S 22 29.4 +00.0	14						
15	61 42.8 +01.0	S 02 05.3 +00.6	349 16.1 +02.0	S 22 51.7 +00.1	323 06.7 +02.4	S 22 29.4 +00.0	15						
16	76 43.8 +01.0	S 02 05.9 +00.7	4 18.1 +02.0	S 22 51.8 +00.0	338 09.1 +02.3	S 22 29.4 +00.0	16						
17	91 44.8 +01.0	S 02 06.6 +00.6	19 20.1 +02.0	S 22 51.8 +00.0	353 11.4 +02.3	S 22 29.4 +00.0	17						
18	106 45.8 +00.9	S 02 07.2 +00.7	34 22.1 +02.0	S 22 51.8 +00.1	8 13.7 +02.4	S 22 29.4 +00.0	18						
19	121 46.7 +01.0	S 02 07.9 +00.6	49 24.1 +02.0	S 22 51.9 +00.0	23 16.1 +02.3	S 22 29.4 -00.1	19						
20	136 47.7 +01.0	S 02 08.5 +00.7	64 26.1 +02.1	S 22 51.9 +00.0	38 18.4 +02.4	S 22 29.3 +00.0	20						
21	151 48.7 +01.0	S 02 09.2 +00.6	79 28.2 +02.0	S 22 51.9 +00.1	53 20.8 +02.3	S 22 29.3 +00.0	21						
22	166 49.7 +01.0	S 02 09.8 +00.7	94 30.2 +02.0	S 22 52.0 +00.0	68 23.1 +02.4	S 22 29.3 +00.0	22						
23	181 50.7 +00.9	S 02 10.5 +00.6	109 32.2 +02.0	S 22 52.0 +00.1	83 25.5 +02.3	S 22 29.3 +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						
	SHA 173° 173° 173° 173° 173° 173°		SHA 101° 100° 100° 100° 100° 100°		SHA 074° 074° 074° 074° 074° 074°		SHA 074° 074° 074° 074° 074° 074°						
	Greenwich Culmination Time: 10:53		Greenwich Culmination Time: 15:42		Greenwich Culmination Time: 17:27								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 34.4 +00.1	S 08 41.5 +00.9	167 25.8 -00.6	S 14 09.2 +01.1	339 15.7 -27.5	N 12 43.4 +10.2	00						
01	198 34.5 +00.2	S 08 42.4 +00.9	182 25.2 -00.5	S 14 10.3 +01.1	353 48.2 -27.6	N 12 53.6 +10.1	01						
02	213 34.7 +00.1	S 08 43.3 +01.0	197 24.7 -00.6	S 14 11.4 +01.1	8 20.6 -27.7	N 13 03.7 +10.1	02						
03	228 34.8 +00.2	S 08 44.3 +00.9	212 24.1 -00.5	S 14 12.5 +01.1	22 52.9 -27.7	N 13 13.8 +10.0	03						
04	243 35.0 +00.1	S 08 45.2 +00.9	227 23.6 -00.5	S 14 13.6 +01.0	37 25.2 -27.8	N 13 23.8 +09.9	04						
05	258 35.1 +00.1	S 08 46.1 +00.9	242 23.1 -00.6	S 14 14.6 +01.1	51 57.4 -27.8	N 13 33.7 +10.0	05						
06	273 35.2 +00.2	S 08 47.0 +00.9	257 22.5 -00.5	S 14 15.7 +01.1	66 29.6 -27.9	N 13 43.7 +09.8	06						
07	288 35.4 +00.1	S 08 47.9 +01.0	272 22.0 -00.6	S 14 16.8 +01.1	81 01.7 -27.9	N 13 53.5 +09.8	07						
08	303 35.5 +00.1	S 08 48.9 +00.9	287 21.4 -00.5	S 14 17.9 +01.1	95 33.8 -28.0	N 14 03.3 +09.7	08						
09	318 35.6 +00.2	S 08 49.8 +00.9	302 20.9 -00.6	S 14 19.0 +01.0	110 05.8 -28.1	N 14 13.0 +09.7	09						
10	333 35.8 +00.1	S 08 50.7 +00.9	317 20.3 -00.5	S 14 20.0 +01.1	124 37.7 -28.2	N 14 22.7 +09.6	10						
11	348 35.9 +00.1	S 08 51.6 +00.9	332 19.8 -00.6	S 14 21.1 +01.1	139 09.5 -28.2	N 14 32.3 +09.6	11						
12	3 36.0 +00.2	S 08 52.5 +01.0	347 19.2 -00.5	S 14 22.2 +01.1	153 41.3 -28.2	N 14 41.9 +09.5	12						
13	18 36.2 +00.1	S 08 53.5 +00.9	2 18.7 -00.5	S 14 23.3 +01.0	168 13.1 -28.3	N 14 51.4 +09.4	13						
14	33 36.3 +00.2	S 08 54.4 +00.9	17 18.2 -00.6	S 14 24.3 +01.1	182 44.8 -28.4	N 15 00.8 +09.4	14						
15	48 36.5 +00.1	S 08 55.3 +00.9	32 17.6 -00.5	S 14 25.4 +01.1	197 16.4 -28.5	N 15 10.2 +09.3	15						
16	63 36.6 +00.1	S 08 56.2 +00.9	47 17.1 -00.6	S 14 26.5 +01.1	211 47.9 -28.5	N 15 19.5 +09.2	16						
17	78 36.7 +00.2	S 08 57.1 +00.9	62 16.5 -00.5	S 14 27.6 +01.0	226 19.4 -28.6	N 15 28.7 +09.2	17						
18	93 36.9 +00.1	S 08 58.0 +01.0	77 16.0 -00.6	S 14 28.6 +01.1	240 50.8 -28.6	N 15 37.9 +09.1	18						
19	108 37.0 +00.1	S 08 59.0 +00.9	92 15.4 -00.5	S 14 29.7 +01.1	255 22.2 -28.7	N 15 47.0 +09.1	19						
20	123 37.1 +00.2	S 08 59.9 +00.9	107 14.9 -00.6	S 14 30.8 +01.1	269 53.5 -28.8	N 15 56.1 +08.9	20						
21	138 37.3 +00.1	S 09 00.8 +00.9	122 14.3 -00.5	S 14 31.9 +01.0	284 24.7 -28.9	N 16 05.0 +08.9	21						
22	153 37.4 +00.1	S 09 01.7 +00.9	137 13.8 -00.6	S 14 32.9 +01.1	298 55.8 -28.9	N 16 13.9 +08.9	22						
23	168 37.5 +00.2	S 09 02.6 +01.0	152 13.2 -00.5	S 14 34.0 +01.1	313 26.9 -29.0	N 16 22.8 +08.7	23						
UT	02 06 10 14 18 22	SD 16'0 16'0 16'0 16'0 16'0 16'0	UT	02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	UT	02 06 10 14 18 22	SD 15'1 15'1 15'1 15'1 15'1 15'2					
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'2 55'3 55'4 55'5 55'5 55'6		HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 159° 159° 159° 159° 159° 158°		SHA 143° 143° 143° 143° 142° 142°		SHA 314° 312° 310° 308° 306° 304°		SHA 074° 074° 074° 074° 074° 074°						
	Greenwich Culmination Time: 11:45		Greenwich Culmination Time: 12:50		Greenwich Culmination Time: 01:25								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	196 51.6 +01.0	S 02 11.1 +00.7	124 34.2 +02.0	S 22 52.1 +00.0	98 27.8 +02.4	S 22 29.3 +00.0	00						
01	211 52.6 +01.0	S 02 11.8 +00.6	139 36.2 +02.0	S 22 52.1 +00.0	113 30.2 +02.3	S 22 29.3 +00.0	01						
02	226 53.6 +01.0	S 02 12.4 +00.7	154 38.2 +02.0	S 22 52.1 +00.1	128 32.5 +02.3	S 22 29.3 +00.0	02						
03	241 54.6 +01.0	S 02 13.1 +00.6	169 40.2 +02.0	S 22 52.2 +00.0	143 34.8 +02.4	S 22 29.3 +00.0	03						
04	256 55.6 +01.0	S 02 13.7 +00.7	184 42.2 +02.1	S 22 52.2 +00.0	158 37.2 +02.3	S 22 29.3 +00.0	04						
05	271 56.6 +00.9	S 02 14.4 +00.6	199 44.3 +02.0	S 22 52.2 +00.1	173 39.5 +02.4	S 22 29.3 +00.0	05						
06	286 57.5 +01.0	S 02 15.0 +00.7	214 46.3 +02.0	S 22 52.3 +00.0	188 41.9 +02.3	S 22 29.3 +00.0	06						
07	301 58.5 +01.0	S 02 15.7 +00.6	229 48.3 +02.0	S 22 52.3 +00.0	203 44.2 +02.4	S 22 29.3 -00.1	07						
08	316 59.5 +01.0	S 02 16.3 +00.7	244 50.3 +02.0	S 22 52.3 +00.1	218 46.6 +02.3	S 22 29.2 +00.0	08						
09	332 00.5 +01.0	S 02 17.0 +00.6	259 52.3 +02.0	S 22 52.4 +00.0	233 48.9 +02.3	S 22 29.2 +00.0	09						
10	347 01.5 +01.0	S 02 17.6 +00.7	274 54.3 +02.0	S 22 52.4 +00.0	248 51.2 +02.4	S 22 29.2 +00.0	10						
11	2 02.5 +00.9	S 02 18.3 +00.6	289 56.3 +02.0	S 22 52.4 +00.1	263 53.6 +02.3	S 22 29.2 +00.0	11						
12	17 03.4 +01.0	S 02 18.9 +00.7	304 58.3 +02.0	S 22 52.5 +00.0	278 55.9 +02.4	S 22 29.2 +00.0	12						
13	32 04.4 +01.0	S 02 19.6 +00.6	320 00.3 +02.1	S 22 52.5 +00.0	293 58.3 +02.3	S 22 29.2 +00.0	13						
14	47 05.4 +01.0	S 02 20.2 +00.6	335 02.4 +02.0	S 22 52.5 +00.1	309 00.6 +02.4	S 22 29.2 +00.0	14						
15	62 06.4 +01.0	S 02 20.8 +00.7	350 04.4 +02.0	S 22 52.6 +00.0	324 03.0 +02.3	S 22 29.2 +00.0	15						
16	77 07.4 +00.9	S 02 21.5 +00.6	5 06.4 +02.0	S 22 52.6 +00.1	339 05.3 +02.3	S 22 29.2 +00.0	16						
17	92 08.3 +01.0	S 02 22.1 +00.7	20 08.4 +02.0	S 22 52.7 +00.0	354 07.6 +02.4	S 22 29.2 +00.0	17						
18	107 09.3 +01.0	S 02 22.8 +00.6	35 10.4 +02.0	S 22 52.7 +00.0	9 10.0 +02.3	S 22 29.2 +00.0	18						
19	122 10.3 +01.0	S 02 23.4 +00.7	50 12.4 +02.0	S 22 52.7 +00.1	24 12.3 +02.4	S 22 29.2 -00.1	19						
20	137 11.3 +01.0	S 02 24.1 +00.6	65 14.4 +02.0	S 22 52.8 +00.0	39 14.7 +02.3	S 22 29.1 +00.0	20						
21	152 12.3 +01.0	S 02 24.7 +00.7	80 16.4 +02.0	S 22 52.8 +00.0	54 17.0 +02.3	S 22 29.1 +00.0	21						
22	167 13.3 +00.9	S 02 25.4 +00.6	95 18.4 +02.0	S 22 52.8 +00.1	69 19.3 +02.4	S 22 29.1 +00.0	22						
23	182 14.2 +01.0	S 02 26.0 +00.7	110 20.4 +02.0	S 22 52.9 +00.0	84 21.7 +02.3	S 22 29.1 +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						
	SHA 173° 172° 172° 172° 172° 172°		SHA 100° 100° 100° 100° 100° 100°		SHA 074° 074° 074° 074° 074° 074°								
	Greenwich Culmination Time: 10:51		Greenwich Culmination Time: 15:39		Greenwich Culmination Time: 17:23								

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	183 37.7 +00.1	S	09 03.6 +00.9	167 12.7 -00.6	S	14 35.1 +01.0	327 57.9 -29.0	N	16 31.5 +08.7	00										
01	198 37.8 +00.1	S	09 04.5 +00.9	182 12.1 -00.5	S	14 36.1 +01.1	342 28.9 -29.1	N	16 40.2 +08.6	01										
02	213 37.9 +00.1	S	09 05.4 +00.9	197 11.6 -00.6	S	14 37.2 +01.1	356 59.8 -29.2	N	16 48.8 +08.6	02										
03	228 38.0 +00.2	S	09 06.3 +00.9	212 11.0 -00.6	S	14 38.3 +01.0	11 30.6 -29.3	N	16 57.4 +08.4	03										
04	243 38.2 +00.1	S	09 07.2 +00.9	227 10.4 -00.5	S	14 39.3 +01.1	26 01.3 -29.3	N	17 05.8 +08.4	04										
05	258 38.3 +00.1	S	09 08.1 +00.9	242 09.9 -00.6	S	14 40.4 +01.1	40 32.0 -29.4	N	17 14.2 +08.3	05										
06	273 38.4 +00.2	S	09 09.0 +01.0	257 09.3 -00.5	S	14 41.5 +01.0	55 02.6 -29.4	N	17 22.5 +08.3	06										
07	288 38.6 +00.1	S	09 10.0 +00.9	272 08.8 -00.6	S	14 42.5 +01.1	69 33.2 -29.5	N	17 30.8 +08.1	07										
08	303 38.7 +00.1	S	09 10.9 +00.9	287 08.2 -00.5	S	14 43.6 +01.1	84 03.7 -29.6	N	17 38.9 +08.1	08										
09	318 38.8 +00.2	S	09 11.8 +00.9	302 07.7 -00.6	S	14 44.7 +01.0	98 34.1 -29.7	N	17 47.0 +08.0	09										
10	333 39.0 +00.1	S	09 12.7 +00.9	317 07.1 -00.5	S	14 45.7 +01.1	113 04.4 -29.7	N	17 55.0 +07.9	10										
11	348 39.1 +00.1	S	09 13.6 +00.9	332 06.6 -00.6	S	14 46.8 +01.1	127 34.7 -29.8	N	18 02.9 +07.8	11										
12	3 39.2 +00.1	S	09 14.5 +01.0	347 06.0 -00.6	S	14 47.9 +01.0	142 04.9 -29.9	N	18 10.7 +07.8	12										
13	18 39.3 +00.2	S	09 15.5 +00.9	2 05.4 -00.5	S	14 48.9 +01.1	156 35.0 -29.9	N	18 18.5 +07.6	13										
14	33 39.5 +00.1	S	09 16.4 +00.9	17 04.9 -00.6	S	14 50.0 +01.1	171 05.1 -30.0	N	18 26.1 +07.6	14										
15	48 39.6 +00.1	S	09 17.3 +00.9	32 04.3 -00.5	S	14 51.1 +01.0	185 35.1 -30.1	N	18 33.7 +07.5	15										
16	63 39.7 +00.2	S	09 18.2 +00.9	47 03.8 -00.6	S	14 52.1 +01.1	200 05.0 -30.2	N	18 41.2 +07.4	16										
17	78 39.9 +00.1	S	09 19.1 +00.9	62 03.2 -00.6	S	14 53.2 +01.0	214 34.8 -30.2	N	18 48.6 +07.3	17										
18	93 40.0 +00.1	S	09 20.0 +00.9	77 02.6 -00.5	S	14 54.2 +01.1	229 04.6 -30.3	N	18 55.9 +07.2	18										
19	108 40.1 +00.1	S	09 20.9 +00.9	92 02.1 -00.6	S	14 55.3 +01.0	243 34.3 -30.3	N	19 03.1 +07.1	19										
20	123 40.2 +00.2	S	09 21.8 +01.0	107 01.5 -00.5	S	14 56.3 +01.1	258 04.0 -30.5	N	19 10.2 +07.0	20										
21	138 40.4 +00.1	S	09 22.8 +00.9	122 01.0 -00.6	S	14 57.4 +01.1	272 33.5 -30.5	N	19 17.2 +07.0	21										
22	153 40.5 +00.1	S	09 23.7 +00.9	137 00.4 -00.6	S	14 58.5 +01.0	287 03.0 -30.5	N	19 24.2 +06.8	22										
23	168 40.6 +00.1	S	09 24.6 +00.9	151 59.8 -00.5	S	14 59.5 +01.1	301 32.5 -30.7	N	19 31.0 +06.8	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'0	16'0	16'0	16'0	16'0	16'0	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD						
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	158°	158°	158°	158°	158°	158°	SHA	142°	142°	141°	141°	141°	141°	SHA						
Greenwich Culmination Time: 11:45							Greenwich Culmination Time: 12:51							Greenwich Culmination Time: 02:12						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	197 15.2 +01.0	S	02 26.7 +00.6	125 22.4 +02.0	S	22 52.9 +00.0	99 24.0 +02.4	S	22 29.1 +00.0	00										
01	212 16.2 +01.0	S	02 27.3 +00.7	140 24.4 +02.1	S	22 52.9 +00.1	114 26.4 +02.3	S	22 29.1 +00.0	01										
02	227 17.2 +01.0	S	02 28.0 +00.6	155 26.5 +02.0	S	22 53.0 +00.0	129 28.7 +02.3	S	22 29.1 +00.0	02										
03	242 18.2 +00.9	S	02 28.6 +00.7	170 28.5 +02.0	S	22 53.0 +00.0	144 31.0 +02.4	S	22 29.1 +00.0	03										
04	257 19.1 +01.0	S	02 29.3 +00.6	185 30.5 +02.0	S	22 53.0 +00.1	159 33.4 +02.3	S	22 29.1 +00.0	04										
05	272 20.1 +01.0	S	02 29.9 +00.7	200 32.5 +02.0	S	22 53.1 +00.0	174 35.7 +02.4	S	22 29.1 +00.0	05										
06	287 21.1 +01.0	S	02 30.6 +00.6	215 34.5 +02.0	S	22 53.1 +00.0	189 38.1 +02.3	S	22 29.1 +00.0	06										
07	302 22.1 +01.0	S	02 31.2 +00.7	230 36.5 +02.0	S	22 53.1 +00.1	204 40.4 +02.3	S	22 29.1 -00.1	07										
08	317 23.1 +00.9	S	02 31.9 +00.6	245 38.5 +02.0	S	22 53.2 +00.0	219 42.7 +02.4	S	22 29.0 +00.0	08										
09	332 24.0 +01.0	S	02 32.5 +00.7	260 40.5 +02.0	S	22 53.2 +00.0	234 45.1 +02.3	S	22 29.0 +00.0	09										
10	347 25.0 +01.0	S	02 33.2 +00.6	275 42.5 +02.0	S	22 53.2 +00.1	249 47.4 +02.4	S	22 29.0 +00.0	10										
11	2 26.0 +01.0	S	02 33.8 +00.7	290 44.5 +02.0	S	22 53.3 +00.0	264 49.8 +02.3	S	22 29.0 +00.0	11										
12	17 27.0 +01.0	S	02 34.5 +00.6	305 46.5 +02.0	S	22 53.3 +00.1	279 52.1 +02.3	S	22 29.0 +00.0	12										
13	32 28.0 +00.9	S	02 35.1 +00.7	320 48.5 +02.0	S	22 53.4 +00.0	294 54.4 +02.4	S	22 29.0 +00.0	13										
14	47 28.9 +01.0	S	02 35.8 +00.6	335 50.5 +02.0	S	22 53.4 +00.0	309 56.8 +02.3	S	22 29.0 +00.0	14										
15	62 29.9 +01.0	S	02 36.4 +00.7	350 52.5 +02.0	S	22 53.4 +00.1	324 59.1 +02.3	S	22 29.0 +00.0	15										
16	77 30.9 +01.0	S	02 37.1 +00.6	5 54.5 +02.0	S	22 53.5 +00.0	340 01.4 +02.4	S	22 29.0 +00.0	16										
17	92 31.9 +01.0	S	02 37.7 +00.7	20 56.5 +02.1	S	22 53.5 +00.0	355 03.8 +02.3	S	22 29.0 +00.0	17										
18	107 32.9 +00.9	S	02 38.4 +00.6	35 58.6 +02.0	S	22 53.5 +00.1	10 06.1 +02.3	S	22 29.0 -00.1	18										
19	122 33.8 +01.0	S	02 39.0 +00.6	51 00.6 +02.0	S	22 53.6 +00.0	25 08.4 +02.4	S	22 28.9 +00.0	19										
20	137 34.8 +01.0	S	02 39.6 +00.7	66 02.6 +02.0	S	22 53.6 +00.0	40 10.8 +02.3	S	22 28.9 +00.0	20										
21	152 35.8 +01.0	S	02 40.3 +00.6	81 04.6 +02.0	S	22 53.6 +00.1	55 13.1 +02.4	S	22 28.9 +00.0	21										
22	167 36.8 +01.0	S	02 40.9 +00.7	96 06.6 +02.0	S	22 53.7 +00.0	70 15.5 +02.3	S	22 28.9 +00.0	22										
23	182 37.8 +00.9	S	02 41.6 +00.6	111 08.6 +02.0	S	22 53.7 +00.0	85 17.8 +02.3	S	22 28.9 +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	172°	172°	172°	172°	172°	172°	SHA	100°	100°	100°	100°	100°	100°	SHA						
Greenwich Culmination Time: 10:50							Greenwich Culmination Time: 15:36							Greenwich Culmination Time: 17:19						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 64%				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	183 40.7 +00.2	S 09	25.5 +00.9	166 59.3 -00.6	S 15	00.6 +01.0	316 01.8 -30.7	N 19	37.8 +06.6				
01	198 40.9 +00.1	S 09	26.4 +00.9	181 58.7 -00.6	S 15	01.6 +01.1	330 31.1 -30.8	N 19	44.4 +06.6				
02	213 41.0 +00.1	S 09	27.3 +00.9	196 58.1 -00.5	S 15	02.7 +01.0	345 00.3 -30.8	N 19	51.0 +06.4				
03	228 41.1 +00.1	S 09	28.2 +00.9	211 57.6 -00.6	S 15	03.7 +01.1	359 29.5 -30.9	N 19	57.4 +06.4				
04	243 41.2 +00.2	S 09	29.1 +00.9	226 57.0 -00.5	S 15	04.8 +01.0	13 58.6 -31.0	N 20	03.8 +06.2				
05	258 41.4 +00.1	S 09	30.0 +01.0	241 56.5 -00.6	S 15	05.8 +01.1	28 27.6 -31.1	N 20	10.0 +06.2				
06	273 41.5 +00.1	S 09	31.0 +00.9	256 55.9 -00.6	S 15	06.9 +01.0	42 56.5 -31.1	N 20	16.2 +06.0				
07	288 41.6 +00.1	S 09	31.9 +00.9	271 55.3 -00.5	S 15	07.9 +01.1	57 25.4 -31.2	N 20	22.2 +06.0				
08	303 41.7 +00.2	S 09	32.8 +00.9	286 54.8 -00.6	S 15	09.0 +01.0	71 54.2 -31.2	N 20	28.2 +05.8				
09	318 41.9 +00.1	S 09	33.7 +00.9	301 54.2 -00.6	S 15	10.0 +01.1	86 23.0 -31.4	N 20	34.0 +05.8				
10	333 42.0 +00.1	S 09	34.6 +00.9	316 53.6 -00.6	S 15	11.1 +01.0	100 51.6 -31.3	N 20	39.8 +05.6				
11	348 42.1 +00.1	S 09	35.5 +00.9	331 53.0 -00.5	S 15	12.1 +01.1	115 20.3 -31.5	N 20	45.4 +05.6				
12	3 42.2 +00.2	S 09	36.4 +00.9	346 52.5 -00.6	S 15	13.2 +01.0	129 48.8 -31.5	N 20	51.0 +05.4				
13	18 42.4 +00.1	S 09	37.3 +00.9	1 51.9 -00.6	S 15	14.2 +01.1	144 17.3 -31.6	N 20	56.4 +05.3				
14	33 42.5 +00.1	S 09	38.2 +00.9	16 51.3 -00.5	S 15	15.3 +01.0	158 45.7 -31.7	N 21	01.7 +05.2				
15	48 42.6 +00.1	S 09	39.1 +00.9	31 50.8 -00.6	S 15	16.3 +01.1	173 14.0 -31.7	N 21	06.9 +05.1				
16	63 42.7 +00.1	S 09	40.0 +00.9	46 50.2 -00.6	S 15	17.4 +01.0	187 42.3 -31.8	N 21	12.0 +05.0				
17	78 42.8 +00.2	S 09	40.9 +01.0	61 49.6 -00.5	S 15	18.4 +01.1	202 10.5 -31.9	N 21	17.0 +04.9				
18	93 43.0 +00.1	S 09	41.9 +00.9	76 49.1 -00.6	S 15	19.5 +01.0	216 38.6 -31.9	N 21	21.9 +04.7				
19	108 43.1 +00.1	S 09	42.8 +00.9	91 48.5 -00.6	S 15	20.5 +01.0	231 06.7 -32.0	N 21	26.6 +04.7				
20	123 43.2 +00.1	S 09	43.7 +00.9	106 47.9 -00.6	S 15	21.5 +01.1	245 34.7 -32.0	N 21	31.3 +04.5				
21	138 43.3 +00.1	S 09	44.6 +00.9	121 47.3 -00.5	S 15	22.6 +01.0	260 02.7 -32.1	N 21	35.8 +04.5				
22	153 43.4 +00.2	S 09	45.5 +00.9	136 46.8 -00.6	S 15	23.6 +01.1	274 30.6 -32.2	N 21	40.3 +04.3				
23	168 43.6 +00.1	S 09	46.4 +00.9	151 46.2 -00.6	S 15	24.7 +01.0	288 58.4 -32.2	N 21	44.6 +04.2				
	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 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'3 15'3 15'4 15'4 15'4 15'4						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 56'2 56'3 56'4 56'5 56'6 56'7						
	SHA 157° 157° 157° 157° 157° 157°			SHA 141° 140° 140° 140° 140° 140°			SHA 289° 287° 284° 282° 280° 277°						
	Greenwich Culmination Time: 11:45			Greenwich Culmination Time: 12:52			Greenwich Culmination Time: 03:02						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	197 38.7 +01.0	S 02	42.2 +00.7	126 10.6 +02.0	S 22	53.7 +00.1	100 20.1 +02.4	S 22	28.9 +00.0				
01	212 39.7 +01.0	S 02	42.9 +00.6	141 12.6 +02.0	S 22	53.8 +00.0	115 22.5 +02.3	S 22	28.9 +00.0				
02	227 40.7 +01.0	S 02	43.5 +00.7	156 14.6 +02.0	S 22	53.8 +00.0	130 24.8 +02.3	S 22	28.9 +00.0				
03	242 41.7 +01.0	S 02	44.2 +00.6	171 16.6 +02.0	S 22	53.8 +00.1	145 27.1 +02.4	S 22	28.9 +00.0				
04	257 42.7 +00.9	S 02	44.8 +00.7	186 18.6 +02.0	S 22	53.9 +00.0	160 29.5 +02.3	S 22	28.9 +00.0				
05	272 43.6 +01.0	S 02	45.5 +00.6	201 20.6 +02.0	S 22	53.9 +00.0	175 31.8 +02.3	S 22	28.9 -00.1				
06	287 44.6 +01.0	S 02	46.1 +00.7	216 22.6 +02.0	S 22	53.9 +00.1	190 34.1 +02.4	S 22	28.8 +00.0				
07	302 45.6 +01.0	S 02	46.8 +00.6	231 24.6 +02.0	S 22	54.0 +00.0	205 36.5 +02.3	S 22	28.8 +00.0				
08	317 46.6 +01.0	S 02	47.4 +00.7	246 26.6 +02.0	S 22	54.0 +00.0	220 38.8 +02.3	S 22	28.8 +00.0				
09	332 47.6 +00.9	S 02	48.1 +00.6	261 28.6 +02.0	S 22	54.0 +00.1	235 41.1 +02.4	S 22	28.8 +00.0				
10	347 48.5 +01.0	S 02	48.7 +00.7	276 30.6 +02.0	S 22	54.1 +00.0	250 43.5 +02.3	S 22	28.8 +00.0				
11	2 49.5 +01.0	S 02	49.4 +00.6	291 32.6 +02.0	S 22	54.1 +00.0	265 45.8 +02.3	S 22	28.8 +00.0				
12	17 50.5 +01.0	S 02	50.0 +00.7	306 34.6 +02.0	S 22	54.1 +00.1	280 48.1 +02.4	S 22	28.8 +00.0				
13	32 51.5 +01.0	S 02	50.7 +00.6	321 36.6 +02.0	S 22	54.2 +00.0	295 50.5 +02.3	S 22	28.8 +00.0				
14	47 52.5 +00.9	S 02	51.3 +00.7	336 38.6 +02.0	S 22	54.2 +00.1	310 52.8 +02.4	S 22	28.8 +00.0				
15	62 53.4 +01.0	S 02	52.0 +00.6	351 40.6 +02.0	S 22	54.3 +00.0	325 55.2 +02.3	S 22	28.8 +00.0				
16	77 54.4 +01.0	S 02	52.6 +00.7	6 42.6 +02.0	S 22	54.3 +00.0	340 57.5 +02.3	S 22	28.8 -00.1				
17	92 55.4 +01.0	S 02	53.3 +00.6	21 44.6 +02.0	S 22	54.3 +00.1	355 59.8 +02.3	S 22	28.7 +00.0				
18	107 56.4 +01.0	S 02	53.9 +00.6	36 46.6 +02.0	S 22	54.4 +00.0	11 02.1 +02.4	S 22	28.7 +00.0				
19	122 57.4 +00.9	S 02	54.5 +00.7	51 48.6 +02.0	S 22	54.4 +00.0	26 04.5 +02.3	S 22	28.7 +00.0				
20	137 58.3 +01.0	S 02	55.2 +00.6	66 50.6 +02.0	S 22	54.4 +00.1	41 06.8 +02.3	S 22	28.7 +00.0				
21	152 59.3 +01.0	S 02	55.8 +00.7	81 52.6 +02.0	S 22	54.5 +00.0	56 09.1 +02.4	S 22	28.7 +00.0				
22	168 00.3 +01.0	S 02	56.5 +00.6	96 54.6 +02.0	S 22	54.5 +00.0	71 11.5 +02.3	S 22	28.7 +00.0				
23	183 01.3 +00.9	S 02	57.1 +00.7	111 56.6 +02.0	S 22	54.5 +00.1	86 13.8 +02.3	S 22	28.7 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 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 171° 171° 171° 171° 171° 171°			SHA 100° 100° 100° 100° 100° 100°			SHA 074° 074° 074° 074° 074° 074°						
	Greenwich Culmination Time: 10:48			Greenwich Culmination Time: 15:33			Greenwich Culmination Time: 17:15						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 43.7 +00.1	S 09	47.3 +00.9	166 45.6 -00.6	S 15	25.7 +01.0	303 26.2 -32.3	N 21	48.8 +04.0	00			
01	198 43.8 +00.1	S 09	48.2 +00.9	181 45.0 -00.5	S 15	26.7 +01.1	317 53.9 -32.4	N 21	52.8 +04.0	01			
02	213 43.9 +00.1	S 09	49.1 +00.9	196 44.5 -00.6	S 15	27.8 +01.0	332 21.5 -32.4	N 21	56.8 +03.8	02			
03	228 44.0 +00.2	S 09	50.0 +00.9	211 43.9 -00.6	S 15	28.8 +01.1	346 49.1 -32.5	N 22	00.6 +03.7	03			
04	243 44.2 +00.1	S 09	50.9 +00.9	226 43.3 -00.6	S 15	29.9 +01.0	1 16.6 -32.5	N 22	04.3 +03.6	04			
05	258 44.3 +00.1	S 09	51.8 +00.9	241 42.7 -00.5	S 15	30.9 +01.0	15 44.1 -32.6	N 22	07.9 +03.5	05			
06	273 44.4 +00.1	S 09	52.7 +00.9	256 42.2 -00.6	S 15	31.9 +01.1	30 11.5 -32.7	N 22	11.4 +03.3	06			
07	288 44.5 +00.1	S 09	53.6 +00.9	271 41.6 -00.6	S 15	33.0 +01.0	44 38.8 -32.7	N 22	14.7 +03.3	07			
08	303 44.6 +00.1	S 09	54.5 +00.9	286 41.0 -00.6	S 15	34.0 +01.0	59 06.1 -32.7	N 22	18.0 +03.1	08			
09	318 44.7 +00.2	S 09	55.4 +00.9	301 40.4 -00.6	S 15	35.0 +01.1	73 33.4 -32.8	N 22	21.1 +03.0	09			
10	333 44.9 +00.1	S 09	56.3 +00.9	316 39.8 -00.5	S 15	36.1 +01.0	88 00.6 -32.9	N 22	24.1 +02.8	10			
11	348 45.0 +00.1	S 09	57.2 +00.9	331 39.3 -00.6	S 15	37.1 +01.0	102 27.7 -32.9	N 22	26.9 +02.7	11			
12	3 45.1 +00.1	S 09	58.1 +00.9	346 38.7 -00.6	S 15	38.1 +01.1	116 54.8 -33.0	N 22	29.6 +02.6	12			
13	18 45.2 +00.1	S 09	59.0 +00.9	1 38.1 -00.6	S 15	39.2 +01.0	131 21.8 -33.1	N 22	32.2 +02.5	13			
14	33 45.3 +00.1	S 09	59.9 +00.9	16 37.5 -00.6	S 15	40.2 +01.0	145 48.7 -33.0	N 22	34.7 +02.4	14			
15	48 45.4 +00.2	S 10	00.8 +00.9	31 36.9 -00.6	S 15	41.2 +01.0	160 15.7 -33.2	N 22	37.1 +02.2	15			
16	63 45.6 +00.1	S 10	01.7 +00.9	46 36.3 -00.5	S 15	42.2 +01.1	174 42.5 -33.2	N 22	39.3 +02.1	16			
17	78 45.7 +00.1	S 10	02.6 +00.9	61 35.8 -00.6	S 15	43.3 +01.0	189 09.3 -33.2	N 22	41.4 +01.9	17			
18	93 45.8 +00.1	S 10	03.5 +00.9	76 35.2 -00.6	S 15	44.3 +01.0	203 36.1 -33.3	N 22	43.3 +01.9	18			
19	108 45.9 +00.1	S 10	04.4 +01.0	91 34.6 -00.6	S 15	45.3 +01.1	218 02.8 -33.3	N 22	45.2 +01.7	19			
20	123 46.0 +00.1	S 10	05.4 +00.9	106 34.0 -00.6	S 15	46.4 +01.0	232 29.5 -33.4	N 22	46.9 +01.5	20			
21	138 46.1 +00.1	S 10	06.3 +00.9	121 33.4 -00.6	S 15	47.4 +01.0	246 56.1 -33.4	N 22	48.4 +01.5	21			
22	153 46.2 +00.2	S 10	07.2 +00.9	136 32.8 -00.6	S 15	48.4 +01.0	261 22.7 -33.4	N 22	49.9 +01.3	22			
23	168 46.4 +00.1	S 10	08.1 +00.9	151 32.2 -00.5	S 15	49.4 +01.0	275 49.3 -33.5	N 22	51.2 +01.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'5 15'5 15'5 15'6 15'6 15'6						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 56'8 56'9 57'0 57'1 57'2 57'3						
	SHA 156° 156° 156° 156° 156° 156°			SHA 139° 139° 139° 139° 139° 138°			SHA 275° 273° 270° 268° 266° 263°						
	Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 12:53			Greenwich Culmination Time: 03:54						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	198 02.2 +01.0	S 02	57.8 +00.6	126 58.6 +02.0	S 22	54.6 +00.0	101 16.1 +02.4	S 22	28.7 +00.0	00			
01	213 03.2 +01.0	S 02	58.4 +00.7	142 00.6 +02.0	S 22	54.6 +00.0	116 18.5 +02.3	S 22	28.7 +00.0	01			
02	228 04.2 +01.0	S 02	59.1 +00.6	157 02.6 +02.0	S 22	54.6 +00.1	131 20.8 +02.3	S 22	28.7 -00.1	02			
03	243 05.2 +01.0	S 02	59.7 +00.7	172 04.6 +02.0	S 22	54.7 +00.0	146 23.1 +02.4	S 22	28.6 +00.0	03			
04	258 06.2 +00.9	S 03	00.4 +00.6	187 06.6 +02.0	S 22	54.7 +00.0	161 25.5 +02.3	S 22	28.6 +00.0	04			
05	273 07.1 +01.0	S 03	01.0 +00.7	202 08.6 +02.0	S 22	54.7 +00.1	176 27.8 +02.3	S 22	28.6 +00.0	05			
06	288 08.1 +01.0	S 03	01.7 +00.6	217 10.6 +02.0	S 22	54.8 +00.0	191 30.1 +02.4	S 22	28.6 +00.0	06			
07	303 09.1 +01.0	S 03	02.3 +00.7	232 12.6 +02.0	S 22	54.8 +00.0	206 32.5 +02.3	S 22	28.6 +00.0	07			
08	318 10.1 +00.9	S 03	03.0 +00.6	247 14.6 +02.0	S 22	54.8 +00.1	221 34.8 +02.3	S 22	28.6 +00.0	08			
09	333 11.0 +01.0	S 03	03.6 +00.7	262 16.6 +02.0	S 22	54.9 +00.0	236 37.1 +02.4	S 22	28.6 +00.0	09			
10	348 12.0 +01.0	S 03	04.3 +00.6	277 18.6 +02.0	S 22	54.9 +00.0	251 39.5 +02.3	S 22	28.6 +00.0	10			
11	3 13.0 +01.0	S 03	04.9 +00.7	292 20.6 +02.0	S 22	54.9 +00.1	266 41.8 +02.3	S 22	28.6 +00.0	11			
12	18 14.0 +01.0	S 03	05.6 +00.6	307 22.6 +02.0	S 22	55.0 +00.0	281 44.1 +02.3	S 22	28.6 -00.1	12			
13	33 15.0 +00.9	S 03	06.2 +00.6	322 24.6 +02.0	S 22	55.0 +00.0	296 46.4 +02.4	S 22	28.5 +00.0	13			
14	48 15.9 +01.0	S 03	06.8 +00.7	337 26.6 +02.0	S 22	55.0 +00.1	311 48.8 +02.3	S 22	28.5 +00.0	14			
15	63 16.9 +01.0	S 03	07.5 +00.6	352 28.6 +02.0	S 22	55.1 +00.0	326 51.1 +02.3	S 22	28.5 +00.0	15			
16	78 17.9 +01.0	S 03	08.1 +00.7	7 30.6 +01.9	S 22	55.1 +00.0	341 53.4 +02.4	S 22	28.5 +00.0	16			
17	93 18.9 +00.9	S 03	08.8 +00.6	22 32.5 +02.0	S 22	55.1 +00.1	356 55.8 +02.3	S 22	28.5 +00.0	17			
18	108 19.8 +01.0	S 03	09.4 +00.7	37 34.5 +02.0	S 22	55.2 +00.0	11 58.1 +02.3	S 22	28.5 +00.0	18			
19	123 20.8 +01.0	S 03	10.1 +00.6	52 36.5 +02.0	S 22	55.2 +00.1	27 00.4 +02.3	S 22	28.5 +00.0	19			
20	138 21.8 +01.0	S 03	10.7 +00.7	67 38.5 +02.0	S 22	55.3 +00.0	42 02.7 +02.4	S 22	28.5 +00.0	20			
21	153 22.8 +01.0	S 03	11.4 +00.6	82 40.5 +02.0	S 22	55.3 +00.0	57 05.1 +02.3	S 22	28.5 +00.0	21			
22	168 23.8 +00.9	S 03	12.0 +00.7	97 42.5 +02.0	S 22	55.3 +00.1	72 07.4 +02.3	S 22	28.5 +00.0	22			
23	183 24.7 +01.0	S 03	12.7 +00.6	112 44.5 +02.0	S 22	55.4 +00.0	87 09.7 +02.4	S 22	28.5 -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 171° 171° 171° 171° 170° 170°			SHA 100° 100° 100° 100° 100° 100°			SHA 074° 074° 074° 074° 074° 074°						
	Greenwich Culmination Time: 10:47			Greenwich Culmination Time: 15:30			Greenwich Culmination Time: 17:12						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 46.5 +00.1	S	10 09.0 +00.8	166 31.7 -00.6	S	15 50.4 +01.1	290 15.8 -33.6	N	22 52.3 +01.1	00			
01	198 46.6 +00.1	S	10 09.8 +00.9	181 31.1 -00.6	S	15 51.5 +01.0	304 42.2 -33.5	N	22 53.4 +00.9	01			
02	213 46.7 +00.1	S	10 10.7 +00.9	196 30.5 -00.6	S	15 52.5 +01.0	319 08.7 -33.7	N	22 54.3 +00.7	02			
03	228 46.8 +00.1	S	10 11.6 +00.9	211 29.9 -00.6	S	15 53.5 +01.0	333 35.0 -33.6	N	22 55.0 +00.7	03			
04	243 46.9 +00.1	S	10 12.5 +00.9	226 29.3 -00.6	S	15 54.5 +01.1	348 01.4 -33.7	N	22 55.7 +00.5	04			
05	258 47.0 +00.1	S	10 13.4 +00.9	241 28.7 -00.6	S	15 55.6 +01.0	2 27.7 -33.8	N	22 56.2 +00.3	05			
06	273 47.1 +00.1	S	10 14.3 +00.9	256 28.1 -00.6	S	15 56.6 +01.0	16 53.9 -33.7	N	22 56.5 +00.2	06			
07	288 47.2 +00.2	S	10 15.2 +00.9	271 27.5 -00.6	S	15 57.6 +01.0	31 20.2 -33.8	N	22 56.7 +00.1	07			
08	303 47.4 +00.1	S	10 16.1 +00.9	286 26.9 -00.5	S	15 58.6 +01.0	45 46.4 -33.9	N	22 56.8 +00.0	08			
09	318 47.5 +00.1	S	10 17.0 +00.9	301 26.4 -00.6	S	15 59.6 +01.0	60 12.5 -33.9	N	22 56.8 -00.2	09			
10	333 47.6 +00.1	S	10 17.9 +00.9	316 25.8 -00.6	S	16 00.6 +01.1	74 38.6 -33.9	N	22 56.6 -00.3	10			
11	348 47.7 +00.1	S	10 18.8 +00.9	331 25.2 -00.6	S	16 01.7 +01.0	89 04.7 -33.9	N	22 56.3 -00.5	11			
12	3 47.8 +00.1	S	10 19.7 +00.9	346 24.6 -00.6	S	16 02.7 +01.0	103 30.8 -34.0	N	22 55.8 -00.6	12			
13	18 47.9 +00.1	S	10 20.6 +00.9	1 24.0 -00.6	S	16 03.7 +01.0	117 56.8 -33.9	N	22 55.2 -00.8	13			
14	33 48.0 +00.1	S	10 21.5 +00.9	16 23.4 -00.6	S	16 04.7 +01.0	132 22.9 -34.1	N	22 54.4 -00.8	14			
15	48 48.1 +00.1	S	10 22.4 +00.9	31 22.8 -00.6	S	16 05.7 +01.0	146 48.8 -34.0	N	22 53.6 -01.1	15			
16	63 48.2 +00.1	S	10 23.3 +00.9	46 22.2 -00.6	S	16 06.7 +01.0	161 14.8 -34.1	N	22 52.5 -01.1	16			
17	78 48.3 +00.1	S	10 24.2 +00.9	61 21.6 -00.6	S	16 07.7 +01.0	175 40.7 -34.1	N	22 51.4 -01.3	17			
18	93 48.4 +00.2	S	10 25.1 +00.9	76 21.0 -00.6	S	16 08.7 +01.1	190 06.6 -34.1	N	22 50.1 -01.5	18			
19	108 48.6 +00.1	S	10 26.0 +00.9	91 20.4 -00.6	S	16 09.8 +01.0	204 32.5 -34.1	N	22 48.6 -01.6	19			
20	123 48.7 +00.1	S	10 26.9 +00.9	106 19.8 -00.6	S	16 10.8 +01.0	218 58.4 -34.2	N	22 47.0 -01.7	20			
21	138 48.8 +00.1	S	10 27.8 +00.9	121 19.2 -00.6	S	16 11.8 +01.0	233 24.2 -34.1	N	22 45.3 -01.9	21			
22	153 48.9 +00.1	S	10 28.7 +00.9	136 18.6 -00.6	S	16 12.8 +01.0	247 50.1 -34.2	N	22 43.4 -02.0	22			
23	168 49.0 +00.1	S	10 29.6 +00.9	151 18.0 -00.6	S	16 13.8 +01.0	262 15.9 -34.2	N	22 41.4 -02.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'6 15'7 15'7 15'7 15'8 15'8						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 57'4 57'5 57'6 57'7 57'8 58'0						
	SHA 156° 155° 155° 155° 155° 155°			SHA 138° 138° 138° 138° 137° 137°			SHA 261° 258° 256° 254° 251° 249°						
	Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 12:54			Greenwich Culmination Time: 04:49						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	198 25.7 +01.0	S	03 13.3 +00.7	127 46.5 +02.0	S	22 55.4 +00.0	102 12.1 +02.3	S	22 28.4 +00.0	00			
01	213 26.7 +01.0	S	03 14.0 +00.6	142 48.5 +02.0	S	22 55.4 +00.1	117 14.4 +02.3	S	22 28.4 +00.0	01			
02	228 27.7 +00.9	S	03 14.6 +00.7	157 50.5 +02.0	S	22 55.5 +00.0	132 16.7 +02.3	S	22 28.4 +00.0	02			
03	243 28.6 +01.0	S	03 15.3 +00.6	172 52.5 +02.0	S	22 55.5 +00.0	147 19.0 +02.4	S	22 28.4 +00.0	03			
04	258 29.6 +01.0	S	03 15.9 +00.6	187 54.5 +02.0	S	22 55.5 +00.1	162 21.4 +02.3	S	22 28.4 +00.0	04			
05	273 30.6 +01.0	S	03 16.5 +00.7	202 56.5 +02.0	S	22 55.6 +00.0	177 23.7 +02.3	S	22 28.4 +00.0	05			
06	288 31.6 +00.9	S	03 17.2 +00.6	217 58.5 +02.0	S	22 55.6 +00.0	192 26.0 +02.4	S	22 28.4 +00.0	06			
07	303 32.5 +01.0	S	03 17.8 +00.7	233 00.5 +02.0	S	22 55.6 +00.1	207 28.4 +02.3	S	22 28.4 +00.0	07			
08	318 33.5 +01.0	S	03 18.5 +00.6	248 02.5 +01.9	S	22 55.7 +00.0	222 30.7 +02.3	S	22 28.4 -00.1	08			
09	333 34.5 +01.0	S	03 19.1 +00.7	263 04.4 +02.0	S	22 55.7 +00.0	237 33.0 +02.3	S	22 28.3 +00.0	09			
10	348 35.5 +00.9	S	03 19.8 +00.6	278 06.4 +02.0	S	22 55.7 +00.1	252 35.3 +02.4	S	22 28.3 +00.0	10			
11	3 36.4 +01.0	S	03 20.4 +00.7	293 08.4 +02.0	S	22 55.8 +00.0	267 37.7 +02.3	S	22 28.3 +00.0	11			
12	18 37.4 +01.0	S	03 21.1 +00.6	308 10.4 +02.0	S	22 55.8 +00.0	282 40.0 +02.3	S	22 28.3 +00.0	12			
13	33 38.4 +01.0	S	03 21.7 +00.7	323 12.4 +02.0	S	22 55.8 +00.1	297 42.3 +02.3	S	22 28.3 +00.0	13			
14	48 39.4 +01.0	S	03 22.4 +00.6	338 14.4 +02.0	S	22 55.9 +00.0	312 44.6 +02.4	S	22 28.3 +00.0	14			
15	63 40.4 +00.9	S	03 23.0 +00.7	353 16.4 +02.0	S	22 55.9 +00.0	327 47.0 +02.3	S	22 28.3 +00.0	15			
16	78 41.3 +01.0	S	03 23.7 +00.6	8 18.4 +02.0	S	22 55.9 +00.1	342 49.3 +02.3	S	22 28.3 +00.0	16			
17	93 42.3 +01.0	S	03 24.3 +00.6	23 20.4 +02.0	S	22 56.0 +00.0	357 51.6 +02.3	S	22 28.3 +00.0	17			
18	108 43.3 +01.0	S	03 24.9 +00.7	38 22.4 +02.0	S	22 56.0 +00.0	12 53.9 +02.4	S	22 28.3 -00.1	18			
19	123 44.3 +00.9	S	03 25.6 +00.6	53 24.4 +02.0	S	22 56.0 +00.1	27 56.3 +02.3	S	22 28.2 +00.0	19			
20	138 45.2 +01.0	S	03 26.2 +00.7	68 26.4 +01.9	S	22 56.1 +00.0	42 58.6 +02.3	S	22 28.2 +00.0	20			
21	153 46.2 +01.0	S	03 26.9 +00.6	83 28.3 +02.0	S	22 56.1 +00.0	58 00.9 +02.3	S	22 28.2 +00.0	21			
22	168 47.2 +01.0	S	03 27.5 +00.7	98 30.3 +02.0	S	22 56.1 +00.1	73 03.2 +02.4	S	22 28.2 +00.0	22			
23	183 48.2 +00.9	S	03 28.2 +00.6	113 32.3 +02.0	S	22 56.2 +00.0	88 05.6 +02.3	S	22 28.2 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 170° 170° 170° 170° 170° 170°			SHA 100° 100° 100° 100° 099° 099°			SHA 074° 074° 074° 074° 074° 074°						
	Greenwich Culmination Time: 10:45			Greenwich Culmination Time: 15:26			Greenwich Culmination Time: 17:08						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 49.1 +00.1	S 10 30.5 +00.9	166 17.4 -00.6	S 16 14.8 +01.0	276 41.7 -34.3	N 22 39.3 -02.3	00						
01	198 49.2 +00.1	S 10 31.4 +00.9	181 16.8 -00.6	S 16 15.8 +01.0	291 07.4 -34.2	N 22 37.0 -02.4	01						
02	213 49.3 +00.1	S 10 32.3 +00.8	196 16.2 -00.6	S 16 16.8 +01.0	305 33.2 -34.2	N 22 34.6 -02.6	02						
03	228 49.4 +00.1	S 10 33.1 +00.9	211 15.6 -00.6	S 16 17.8 +01.0	319 59.0 -34.3	N 22 32.0 -02.7	03						
04	243 49.5 +00.1	S 10 34.0 +00.9	226 15.0 -00.6	S 16 18.8 +01.0	334 24.7 -34.3	N 22 29.3 -02.9	04						
05	258 49.6 +00.1	S 10 34.9 +00.9	241 14.4 -00.6	S 16 19.8 +01.0	348 50.4 -34.3	N 22 26.4 -03.0	05						
06	273 49.7 +00.1	S 10 35.8 +00.9	256 13.8 -00.6	S 16 20.8 +01.0	3 16.1 -34.2	N 22 23.4 -03.1	06						
07	288 49.8 +00.1	S 10 36.7 +00.9	271 13.2 -00.6	S 16 21.8 +01.0	17 41.9 -34.3	N 22 20.3 -03.3	07						
08	303 49.9 +00.1	S 10 37.6 +00.9	286 12.6 -00.6	S 16 22.8 +01.0	32 07.6 -34.4	N 22 17.0 -03.4	08						
09	318 50.0 +00.1	S 10 38.5 +00.9	301 12.0 -00.6	S 16 23.8 +01.0	46 33.2 -34.3	N 22 13.6 -03.6	09						
10	333 50.1 +00.1	S 10 39.4 +00.9	316 11.4 -00.6	S 16 24.8 +01.0	60 58.9 -34.3	N 22 10.0 -03.7	10						
11	348 50.2 +00.1	S 10 40.3 +00.9	331 10.8 -00.6	S 16 25.8 +01.0	75 24.6 -34.3	N 22 06.3 -03.8	11						
12	3 50.3 +00.1	S 10 41.2 +00.9	346 10.2 -00.6	S 16 26.8 +01.0	89 50.3 -34.3	N 22 02.5 -04.0	12						
13	18 50.4 +00.1	S 10 42.1 +00.8	1 09.6 -00.6	S 16 27.8 +01.0	104 16.0 -34.3	N 21 58.5 -04.1	13						
14	33 50.5 +00.1	S 10 42.9 +00.9	16 09.0 -00.6	S 16 28.8 +01.0	118 41.7 -34.4	N 21 54.4 -04.3	14						
15	48 50.6 +00.1	S 10 43.8 +00.9	31 08.4 -00.7	S 16 29.8 +01.0	133 07.3 -34.3	N 21 50.1 -04.4	15						
16	63 50.7 +00.1	S 10 44.7 +00.9	46 07.7 -00.6	S 16 30.8 +01.0	147 33.0 -34.3	N 21 45.7 -04.5	16						
17	78 50.8 +00.1	S 10 45.6 +00.9	61 07.1 -00.6	S 16 31.8 +01.0	161 58.7 -34.3	N 21 41.2 -04.7	17						
18	93 50.9 +00.1	S 10 46.5 +00.9	76 06.5 -00.6	S 16 32.8 +01.0	176 24.4 -34.3	N 21 36.5 -04.8	18						
19	108 51.0 +00.1	S 10 47.4 +00.9	91 05.9 -00.6	S 16 33.8 +01.0	190 50.1 -34.3	N 21 31.7 -05.0	19						
20	123 51.1 +00.1	S 10 48.3 +00.9	106 05.3 -00.6	S 16 34.8 +01.0	205 15.8 -34.3	N 21 26.7 -05.1	20						
21	138 51.2 +00.1	S 10 49.2 +00.9	121 04.7 -00.6	S 16 35.8 +01.0	219 41.5 -34.3	N 21 21.6 -05.2	21						
22	153 51.3 +00.1	S 10 50.1 +00.8	136 04.1 -00.6	S 16 36.8 +01.0	234 07.2 -34.3	N 21 16.4 -05.4	22						
23	168 51.4 +00.1	S 10 50.9 +00.9	151 03.5 -00.6	S 16 37.8 +00.9	248 32.9 -34.3	N 21 11.0 -05.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16°1 16°1 16°1 16°1 16°1 16°1		SD 00°1 00°1 00°1 00°1 00°1 00°1		SD 15°8 15°9 15°9 15°9 15°9 16°0								
	HP 00°1 00°1 00°1 00°1 00°1 00°1		HP 00°1 00°1 00°1 00°1 00°1 00°1		HP 58°1 58°2 58°3 58°4 58°5 58°6								
	SHA 155° 154° 154° 154° 154° 154°		SHA 137° 137° 137° 136° 136° 136°		SHA 246° 244° 241° 239° 237° 234°								
	Greenwich Culmination Time: 11:44		Greenwich Culmination Time: 12:55		Greenwich Culmination Time: 05:46								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	198 49.1 +01.0	S 03 28.8 +00.7	128 34.3 +02.0	S 22 56.2 +00.0	103 07.9 +02.3	S 22 28.2 +00.0	00						
01	213 50.1 +01.0	S 03 29.5 +00.6	143 36.3 +02.0	S 22 56.2 +00.1	118 10.2 +02.3	S 22 28.2 +00.0	01						
02	228 51.1 +01.0	S 03 30.1 +00.7	158 38.3 +02.0	S 22 56.3 +00.0	133 12.5 +02.4	S 22 28.2 +00.0	02						
03	243 52.1 +00.9	S 03 30.8 +00.6	173 40.3 +02.0	S 22 56.3 +00.0	148 14.9 +02.3	S 22 28.2 +00.0	03						
04	258 53.0 +01.0	S 03 31.4 +00.7	188 42.3 +02.0	S 22 56.3 +00.1	163 17.2 +02.3	S 22 28.2 -00.1	04						
05	273 54.0 +01.0	S 03 32.1 +00.6	203 44.3 +01.9	S 22 56.4 +00.0	178 19.5 +02.3	S 22 28.1 +00.0	05						
06	288 55.0 +01.0	S 03 32.7 +00.6	218 46.2 +02.0	S 22 56.4 +00.0	193 21.8 +02.3	S 22 28.1 +00.0	06						
07	303 56.0 +00.9	S 03 33.3 +00.7	233 48.2 +02.0	S 22 56.4 +00.1	208 24.1 +02.4	S 22 28.1 +00.0	07						
08	318 56.9 +01.0	S 03 34.0 +00.6	248 50.2 +02.0	S 22 56.5 +00.0	223 26.5 +02.3	S 22 28.1 +00.0	08						
09	333 57.9 +01.0	S 03 34.6 +00.7	263 52.2 +02.0	S 22 56.5 +00.0	238 28.8 +02.3	S 22 28.1 +00.0	09						
10	348 58.9 +01.0	S 03 35.3 +00.6	278 54.2 +02.0	S 22 56.5 +00.1	253 31.1 +02.3	S 22 28.1 +00.0	10						
11	3 59.9 +00.9	S 03 35.9 +00.7	293 56.2 +02.0	S 22 56.6 +00.0	268 33.4 +02.4	S 22 28.1 +00.0	11						
12	19 00.8 +01.0	S 03 36.6 +00.6	308 58.2 +02.0	S 22 56.6 +00.0	283 35.8 +02.3	S 22 28.1 +00.0	12						
13	34 01.8 +01.0	S 03 37.2 +00.7	324 00.2 +01.9	S 22 56.6 +00.1	298 38.1 +02.3	S 22 28.1 -00.1	13						
14	49 02.8 +01.0	S 03 37.9 +00.6	339 02.1 +02.0	S 22 56.7 +00.0	313 40.4 +02.3	S 22 28.0 +00.0	14						
15	64 03.8 +00.9	S 03 38.5 +00.7	354 04.1 +02.0	S 22 56.7 +00.0	328 42.7 +02.3	S 22 28.0 +00.0	15						
16	79 04.7 +01.0	S 03 39.2 +00.6	9 06.1 +02.0	S 22 56.7 +00.1	343 45.0 +02.4	S 22 28.0 +00.0	16						
17	94 05.7 +01.0	S 03 39.8 +00.6	24 08.1 +02.0	S 22 56.8 +00.0	358 47.4 +02.3	S 22 28.0 +00.0	17						
18	109 06.7 +00.9	S 03 40.4 +00.7	39 10.1 +02.0	S 22 56.8 +00.0	13 49.7 +02.3	S 22 28.0 +00.0	18						
19	124 07.6 +01.0	S 03 41.1 +00.6	54 12.1 +02.0	S 22 56.8 +00.1	28 52.0 +02.3	S 22 28.0 +00.0	19						
20	139 08.6 +01.0	S 03 41.7 +00.7	69 14.1 +01.9	S 22 56.9 +00.0	43 54.3 +02.3	S 22 28.0 +00.0	20						
21	154 09.6 +01.0	S 03 42.4 +00.6	84 16.0 +02.0	S 22 56.9 +00.0	58 56.6 +02.4	S 22 28.0 +00.0	21						
22	169 10.6 +00.9	S 03 43.0 +00.7	99 18.0 +02.0	S 22 56.9 +00.1	73 59.0 +02.3	S 22 28.0 -00.1	22						
23	184 11.5 +01.0	S 03 43.7 +00.6	114 20.0 +02.0	S 22 57.0 +00.0	89 01.3 +02.3	S 22 27.9 +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 170° 170° 169° 169° 169° 169°		SHA 099° 099° 099° 099° 099° 099°		SHA 074° 074° 074° 074° 074° 074°								
	Greenwich Culmination Time: 10:44		Greenwich Culmination Time: 15:23		Greenwich Culmination Time: 17:04								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 51.5 +00.1	S 10	51.8 +00.9	166 02.9 -00.6	S 16	38.7 +01.0	262 58.6 -34.3	N 21	05.5 -05.7	00			
01	198 51.6 +00.1	S 10	52.7 +00.9	181 02.3 -00.7	S 16	39.7 +01.0	277 24.3 -34.2	N 20	59.8 -05.8	01			
02	213 51.7 +00.1	S 10	53.6 +00.9	196 01.6 -00.6	S 16	40.7 +01.0	291 50.1 -34.2	N 20	54.0 -05.9	02			
03	228 51.8 +00.1	S 10	54.5 +00.9	211 01.0 -00.6	S 16	41.7 +01.0	306 15.9 -34.3	N 20	48.1 -06.1	03			
04	243 51.9 +00.1	S 10	55.4 +00.9	226 00.4 -00.6	S 16	42.7 +01.0	320 41.6 -34.2	N 20	42.0 -06.2	04			
05	258 52.0 +00.1	S 10	56.3 +00.8	240 59.8 -00.6	S 16	43.7 +01.0	335 07.4 -34.2	N 20	35.8 -06.3	05			
06	273 52.1 +00.1	S 10	57.1 +00.9	255 59.2 -00.6	S 16	44.7 +00.9	349 33.2 -34.2	N 20	29.5 -06.5	06			
07	288 52.2 +00.1	S 10	58.0 +00.9	270 58.6 -00.6	S 16	45.6 +01.0	3 59.0 -34.2	N 20	23.0 -06.6	07			
08	303 52.3 +00.1	S 10	58.9 +00.9	285 58.0 -00.7	S 16	46.6 +01.0	18 24.8 -34.1	N 20	16.4 -06.7	08			
09	318 52.4 +00.1	S 10	59.8 +00.9	300 57.3 -00.6	S 16	47.6 +01.0	32 50.7 -34.2	N 20	09.7 -06.9	09			
10	333 52.5 +00.1	S 11	00.7 +00.9	315 56.7 -00.6	S 16	48.6 +01.0	47 16.5 -34.1	N 20	02.8 -07.0	10			
11	348 52.6 +00.1	S 11	01.6 +00.8	330 56.1 -00.6	S 16	49.6 +01.0	61 42.4 -34.1	N 19	55.8 -07.1	11			
12	3 52.7 +00.1	S 11	02.4 +00.9	345 55.5 -00.6	S 16	50.6 +00.9	76 08.3 -34.1	N 19	48.7 -07.3	12			
13	18 52.8 +00.1	S 11	03.3 +00.9	0 54.9 -00.7	S 16	51.5 +01.0	90 34.2 -34.0	N 19	41.4 -07.4	13			
14	33 52.9 +00.1	S 11	04.2 +00.9	15 54.2 -00.6	S 16	52.5 +01.0	105 00.2 -34.1	N 19	34.0 -07.5	14			
15	48 53.0 +00.1	S 11	05.1 +00.9	30 53.6 -00.6	S 16	53.5 +01.0	119 26.1 -34.0	N 19	26.5 -07.6	15			
16	63 53.1 +00.1	S 11	06.0 +00.9	45 53.0 -00.6	S 16	54.5 +00.9	133 52.1 -34.0	N 19	18.9 -07.8	16			
17	78 53.2 +00.1	S 11	06.9 +00.8	60 52.4 -00.6	S 16	55.4 +01.0	148 18.1 -33.9	N 19	11.1 -07.9	17			
18	93 53.3 +00.1	S 11	07.7 +00.9	75 51.8 -00.7	S 16	56.4 +01.0	162 44.2 -34.0	N 19	03.2 -08.1	18			
19	108 53.4 +00.0	S 11	08.6 +00.9	90 51.1 -00.6	S 16	57.4 +01.0	177 10.2 -33.9	N 18	55.1 -08.1	19			
20	123 53.4 +00.1	S 11	09.5 +00.9	105 50.5 -00.6	S 16	58.4 +00.9	191 36.3 -33.9	N 18	47.0 -08.3	20			
21	138 53.5 +00.1	S 11	10.4 +00.9	120 49.9 -00.6	S 16	59.3 +01.0	206 02.4 -33.9	N 18	38.7 -08.4	21			
22	153 53.6 +00.1	S 11	11.3 +00.8	135 49.3 -00.7	S 17	00.3 +01.0	220 28.5 -33.9	N 18	30.3 -08.5	22			
23	168 53.7 +00.1	S 11	12.1 +00.9	150 48.6 -00.6	S 17	01.3 +01.0	234 54.6 -33.8	N 18	21.8 -08.7	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'0 16'0 16'1 16'1 16'1 16'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 58'8 58'9 59'0 59'1 59'2 59'3						
	SHA 154° 153° 153° 153° 153° 153°			SHA 136° 136° 135° 135° 135° 135°			SHA 232° 229° 227° 224° 222° 219°						
	Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 12:56			Greenwich Culmination Time: 06:43						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	199 12.5 +01.0	S 03	44.3 +00.7	129 22.0 +02.0	S 22	57.0 +00.0	104 03.6 +02.3	S 22	27.9 +00.0	00			
01	214 13.5 +01.0	S 03	45.0 +00.6	144 24.0 +02.0	S 22	57.0 +00.1	119 05.9 +02.3	S 22	27.9 +00.0	01			
02	229 14.5 +00.9	S 03	45.6 +00.7	159 26.0 +02.0	S 22	57.1 +00.0	134 08.2 +02.4	S 22	27.9 +00.0	02			
03	244 15.4 +01.0	S 03	46.3 +00.6	174 28.0 +01.9	S 22	57.1 +00.0	149 10.6 +02.3	S 22	27.9 +00.0	03			
04	259 16.4 +01.0	S 03	46.9 +00.6	189 29.9 +02.0	S 22	57.1 +00.1	164 12.9 +02.3	S 22	27.9 +00.0	04			
05	274 17.4 +01.0	S 03	47.5 +00.7	204 31.9 +02.0	S 22	57.2 +00.0	179 15.2 +02.3	S 22	27.9 +00.0	05			
06	289 18.4 +00.9	S 03	48.2 +00.6	219 33.9 +02.0	S 22	57.2 +00.0	194 17.5 +02.3	S 22	27.9 +00.0	06			
07	304 19.3 +01.0	S 03	48.8 +00.7	234 35.9 +02.0	S 22	57.2 +00.1	209 19.8 +02.4	S 22	27.9 -00.1	07			
08	319 20.3 +01.0	S 03	49.5 +00.6	249 37.9 +02.0	S 22	57.3 +00.0	224 22.2 +02.3	S 22	27.8 +00.0	08			
09	334 21.3 +00.9	S 03	50.1 +00.7	264 39.9 +01.9	S 22	57.3 +00.0	239 24.5 +02.3	S 22	27.8 +00.0	09			
10	349 22.2 +01.0	S 03	50.8 +00.6	279 41.8 +02.0	S 22	57.3 +00.1	254 26.8 +02.3	S 22	27.8 +00.0	10			
11	4 23.2 +01.0	S 03	51.4 +00.7	294 43.8 +02.0	S 22	57.4 +00.0	269 29.1 +02.3	S 22	27.8 +00.0	11			
12	19 24.2 +01.0	S 03	52.1 +00.6	309 45.8 +02.0	S 22	57.4 +00.0	284 31.4 +02.4	S 22	27.8 +00.0	12			
13	34 25.2 +00.9	S 03	52.7 +00.6	324 47.8 +02.0	S 22	57.4 +00.1	299 33.8 +02.3	S 22	27.8 +00.0	13			
14	49 26.1 +01.0	S 03	53.3 +00.7	339 49.8 +02.0	S 22	57.5 +00.0	314 36.1 +02.3	S 22	27.8 +00.0	14			
15	64 27.1 +01.0	S 03	54.0 +00.6	354 51.8 +01.9	S 22	57.5 +00.0	329 38.4 +02.3	S 22	27.8 +00.0	15			
16	79 28.1 +01.0	S 03	54.6 +00.7	9 53.7 +02.0	S 22	57.5 +00.1	344 40.7 +02.3	S 22	27.8 -00.1	16			
17	94 29.1 +00.9	S 03	55.3 +00.6	24 55.7 +02.0	S 22	57.6 +00.0	359 43.0 +02.3	S 22	27.7 +00.0	17			
18	109 30.0 +01.0	S 03	55.9 +00.7	39 57.7 +02.0	S 22	57.6 +00.0	14 45.3 +02.4	S 22	27.7 +00.0	18			
19	124 31.0 +01.0	S 03	56.6 +00.6	54 59.7 +02.0	S 22	57.6 +00.1	29 47.7 +02.3	S 22	27.7 +00.0	19			
20	139 32.0 +00.9	S 03	57.2 +00.7	70 01.7 +01.9	S 22	57.7 +00.0	44 50.0 +02.3	S 22	27.7 +00.0	20			
21	154 32.9 +01.0	S 03	57.9 +00.6	85 03.6 +02.0	S 22	57.7 +00.0	59 52.3 +02.3	S 22	27.7 +00.0	21			
22	169 33.9 +01.0	S 03	58.5 +00.6	100 05.6 +02.0	S 22	57.7 +00.1	74 54.6 +02.3	S 22	27.7 +00.0	22			
23	184 34.9 +01.0	S 03	59.1 +00.7	115 07.6 +02.0	S 22	57.8 +00.0	89 56.9 +02.3	S 22	27.7 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 169° 169° 169° 169° 169° 169°			SHA 099° 099° 099° 099° 099° 099°			SHA 074° 074° 074° 074° 074° 074°						
	Greenwich Culmination Time: 10:42			Greenwich Culmination Time: 15:20			Greenwich Culmination Time: 17:01						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 53.8 +00.1	S	11 13.0 +00.9	165 48.0 -00.6	S	17 02.3 +00.9	249 20.8 -33.8	N	18 13.1 -08.8				
01	198 53.9 +00.1	S	11 13.9 +00.9	180 47.4 -00.6	S	17 03.2 +01.0	263 47.0 -33.7	N	18 04.3 -08.9				
02	213 54.0 +00.1	S	11 14.8 +00.9	195 46.8 -00.7	S	17 04.2 +01.0	278 13.3 -33.8	N	17 55.4 -09.0				
03	228 54.1 +00.1	S	11 15.7 +00.8	210 46.1 -00.6	S	17 05.2 +00.9	292 39.5 -33.7	N	17 46.4 -09.1				
04	243 54.2 +00.1	S	11 16.5 +00.9	225 45.5 -00.6	S	17 06.1 +01.0	307 05.8 -33.7	N	17 37.3 -09.3				
05	258 54.3 +00.1	S	11 17.4 +00.9	240 44.9 -00.6	S	17 07.1 +01.0	321 32.1 -33.7	N	17 28.0 -09.4				
06	273 54.4 +00.0	S	11 18.3 +00.9	255 44.3 -00.7	S	17 08.1 +00.9	335 58.4 -33.6	N	17 18.6 -09.5				
07	288 54.4 +00.1	S	11 19.2 +00.9	270 43.6 -00.6	S	17 09.0 +01.0	350 24.8 -33.6	N	17 09.1 -09.6				
08	303 54.5 +00.1	S	11 20.1 +00.8	285 43.0 -00.6	S	17 10.0 +01.0	4 51.2 -33.6	N	16 59.5 -09.7				
09	318 54.6 +00.1	S	11 20.9 +00.9	300 42.4 -00.7	S	17 11.0 +00.9	19 17.6 -33.5	N	16 49.8 -09.8				
10	333 54.7 +00.1	S	11 21.8 +00.9	315 41.7 -00.6	S	17 11.9 +01.0	33 44.1 -33.5	N	16 40.0 -10.0				
11	348 54.8 +00.1	S	11 22.7 +00.9	330 41.1 -00.6	S	17 12.9 +01.0	48 10.6 -33.5	N	16 30.0 -10.0				
12	3 54.9 +00.1	S	11 23.6 +00.8	345 40.5 -00.6	S	17 13.9 +00.9	62 37.1 -33.4	N	16 20.0 -10.2				
13	18 55.0 +00.1	S	11 24.4 +00.9	0 39.9 -00.7	S	17 14.8 +01.0	77 03.7 -33.5	N	16 09.8 -10.3				
14	33 55.1 +00.0	S	11 25.3 +00.9	15 39.2 -00.6	S	17 15.8 +00.9	91 30.2 -33.4	N	15 59.5 -10.4				
15	48 55.1 +00.1	S	11 26.2 +00.9	30 38.6 -00.6	S	17 16.7 +01.0	105 56.8 -33.3	N	15 49.1 -10.5				
16	63 55.2 +00.1	S	11 27.1 +00.8	45 38.0 -00.7	S	17 17.7 +01.0	120 23.5 -33.3	N	15 38.6 -10.6				
17	78 55.3 +00.1	S	11 27.9 +00.9	60 37.3 -00.6	S	17 18.7 +00.9	134 50.2 -33.3	N	15 28.0 -10.7				
18	93 55.4 +00.1	S	11 28.8 +00.9	75 36.7 -00.6	S	17 19.6 +01.0	149 16.9 -33.3	N	15 17.3 -10.8				
19	108 55.5 +00.1	S	11 29.7 +00.9	90 36.1 -00.7	S	17 20.6 +00.9	163 43.6 -33.2	N	15 06.5 -10.9				
20	123 55.6 +00.1	S	11 30.6 +00.8	105 35.4 -00.6	S	17 21.5 +01.0	178 10.4 -33.2	N	14 55.6 -11.0				
21	138 55.7 +00.0	S	11 31.4 +00.9	120 34.8 -00.7	S	17 22.5 +00.9	192 37.2 -33.2	N	14 44.6 -11.1				
22	153 55.7 +00.1	S	11 32.3 +00.9	135 34.1 -00.6	S	17 23.4 +01.0	207 04.0 -33.2	N	14 33.5 -11.3				
23	168 55.8 +00.1	S	11 33.2 +00.9	150 33.5 -00.6	S	17 24.4 +00.9	221 30.8 -33.1	N	14 22.2 -11.3				
	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°1 00°1 00°1 00°1 00°1 00°1			SD 16°2 16°2 16°2 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°4 59°5 59°6 59°7 59°8 59°9						
	SHA 153° 153° 152° 152° 152° 152°			SHA 135° 134° 134° 134° 134° 134°			SHA 217° 215° 212° 210° 207° 205°						
	Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 12:57			Greenwich Culmination Time: 07:39						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	199 35.9 +00.9	S	03 59.8 +00.6	130 09.6 +02.0	S	22 57.8 +00.0	104 59.2 +02.4	S	22 27.7 +00.0				
01	214 36.8 +01.0	S	04 00.4 +00.7	145 11.6 +01.9	S	22 57.8 +00.1	120 01.6 +02.3	S	22 27.7 -00.1				
02	229 37.8 +01.0	S	04 01.1 +00.6	160 13.5 +02.0	S	22 57.9 +00.0	135 03.9 +02.3	S	22 27.6 +00.0				
03	244 38.8 +00.9	S	04 01.7 +00.7	175 15.5 +02.0	S	22 57.9 +00.0	150 06.2 +02.3	S	22 27.6 +00.0				
04	259 39.7 +01.0	S	04 02.4 +00.6	190 17.5 +02.0	S	22 57.9 +00.1	165 08.5 +02.3	S	22 27.6 +00.0				
05	274 40.7 +01.0	S	04 03.0 +00.7	205 19.5 +02.0	S	22 58.0 +00.0	180 10.8 +02.3	S	22 27.6 +00.0				
06	289 41.7 +01.0	S	04 03.7 +00.6	220 21.5 +01.9	S	22 58.0 +00.0	195 13.1 +02.4	S	22 27.6 +00.0				
07	304 42.7 +00.9	S	04 04.3 +00.6	235 23.4 +02.0	S	22 58.0 +00.1	210 15.5 +02.3	S	22 27.6 +00.0				
08	319 43.6 +01.0	S	04 04.9 +00.7	250 25.4 +02.0	S	22 58.1 +00.0	225 17.8 +02.3	S	22 27.6 +00.0				
09	334 44.6 +01.0	S	04 05.6 +00.6	265 27.4 +02.0	S	22 58.1 +00.0	240 20.1 +02.3	S	22 27.6 +00.0				
10	349 45.6 +00.9	S	04 06.2 +00.7	280 29.4 +02.0	S	22 58.1 +00.1	255 22.4 +02.3	S	22 27.6 -00.1				
11	4 46.5 +01.0	S	04 06.9 +00.6	295 31.4 +01.9	S	22 58.2 +00.0	270 24.7 +02.3	S	22 27.5 +00.0				
12	19 47.5 +01.0	S	04 07.5 +00.7	310 33.3 +02.0	S	22 58.2 +00.0	285 27.0 +02.3	S	22 27.5 +00.0				
13	34 48.5 +01.0	S	04 08.2 +00.6	325 35.3 +02.0	S	22 58.2 +00.1	300 29.3 +02.4	S	22 27.5 +00.0				
14	49 49.5 +00.9	S	04 08.8 +00.7	340 37.3 +02.0	S	22 58.3 +00.0	315 31.7 +02.3	S	22 27.5 +00.0				
15	64 50.4 +01.0	S	04 09.5 +00.6	355 39.3 +01.9	S	22 58.3 +00.0	330 34.0 +02.3	S	22 27.5 +00.0				
16	79 51.4 +01.0	S	04 10.1 +00.6	10 41.2 +02.0	S	22 58.3 +00.1	345 36.3 +02.3	S	22 27.5 +00.0				
17	94 52.4 +00.9	S	04 10.7 +00.7	25 43.2 +02.0	S	22 58.4 +00.0	0 38.6 +02.3	S	22 27.5 +00.0				
18	109 53.3 +01.0	S	04 11.4 +00.6	40 45.2 +02.0	S	22 58.4 +00.0	15 40.9 +02.3	S	22 27.5 -00.1				
19	124 54.3 +01.0	S	04 12.0 +00.7	55 47.2 +02.0	S	22 58.4 +00.1	30 43.2 +02.3	S	22 27.4 +00.0				
20	139 55.3 +01.0	S	04 12.7 +00.6	70 49.2 +01.9	S	22 58.5 +00.0	45 45.5 +02.3	S	22 27.4 +00.0				
21	154 56.3 +00.9	S	04 13.3 +00.7	85 51.1 +02.0	S	22 58.5 +00.0	60 47.8 +02.4	S	22 27.4 +00.0				
22	169 57.2 +01.0	S	04 14.0 +00.6	100 53.1 +02.0	S	22 58.5 +00.1	75 50.2 +02.3	S	22 27.4 +00.0				
23	184 58.2 +01.0	S	04 14.6 +00.6	115 55.1 +02.0	S	22 58.6 +00.0	90 52.5 +02.3	S	22 27.4 +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 168° 168° 168° 168° 168° 168°			SHA 099° 099° 099° 099° 099° 099°			SHA 074° 074° 074° 074° 074° 074°						
	Greenwich Culmination Time: 10:40			Greenwich Culmination Time: 15:17			Greenwich Culmination Time: 16:57						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 55.9 +00.1	S 11 34.1 +00.8	165 32.9 -00.7	S 17 25.3 +01.0	235 57.7 -33.1	N 14 10.9 -11.4	00						
01	198 56.0 +00.1	S 11 34.9 +00.9	180 32.2 -00.6	S 17 26.3 +00.9	250 24.6 -33.0	N 13 59.5 -11.5	01						
02	213 56.1 +00.1	S 11 35.8 +00.9	195 31.6 -00.6	S 17 27.2 +01.0	264 51.6 -33.0	N 13 48.0 -11.6	02						
03	228 56.2 +00.0	S 11 36.7 +00.8	210 31.0 -00.7	S 17 28.2 +00.9	279 18.6 -33.0	N 13 36.4 -11.7	03						
04	243 56.2 +00.1	S 11 37.5 +00.9	225 30.3 -00.6	S 17 29.1 +01.0	293 45.6 -33.0	N 13 24.7 -11.7	04						
05	258 56.3 +00.1	S 11 38.4 +00.9	240 29.7 -00.7	S 17 30.1 +00.9	308 12.6 -32.9	N 13 13.0 -11.9	05						
06	273 56.4 +00.1	S 11 39.3 +00.9	255 29.0 -00.6	S 17 31.0 +01.0	322 39.7 -32.9	N 13 01.1 -12.0	06						
07	288 56.5 +00.1	S 11 40.2 +00.8	270 28.4 -00.7	S 17 32.0 +00.9	337 06.8 -32.9	N 12 49.1 -12.0	07						
08	303 56.6 +00.1	S 11 41.0 +00.9	285 27.7 -00.6	S 17 32.9 +01.0	351 33.9 -32.8	N 12 37.1 -12.2	08						
09	318 56.7 +00.0	S 11 41.9 +00.9	300 27.1 -00.6	S 17 33.9 +00.9	6 01.1 -32.8	N 12 24.9 -12.2	09						
10	333 56.7 +00.1	S 11 42.8 +00.8	315 26.5 -00.7	S 17 34.8 +01.0	20 28.3 -32.8	N 12 12.7 -12.3	10						
11	348 56.8 +00.1	S 11 43.6 +00.9	330 25.8 -00.6	S 17 35.8 +00.9	34 55.5 -32.7	N 12 00.4 -12.4	11						
12	3 56.9 +00.1	S 11 44.5 +00.9	345 25.2 -00.7	S 17 36.7 +01.0	49 22.8 -32.7	N 11 48.0 -12.5	12						
13	18 57.0 +00.1	S 11 45.4 +00.9	0 24.5 -00.6	S 17 37.7 +00.9	63 50.1 -32.7	N 11 35.5 -12.5	13						
14	33 57.1 +00.0	S 11 46.3 +00.8	15 23.9 -00.7	S 17 38.6 +00.9	78 17.4 -32.7	N 11 23.0 -12.6	14						
15	48 57.1 +00.1	S 11 47.1 +00.9	30 23.2 -00.6	S 17 39.5 +01.0	92 44.7 -32.6	N 11 10.4 -12.7	15						
16	63 57.2 +00.1	S 11 48.0 +00.9	45 22.6 -00.7	S 17 40.5 +00.9	107 12.1 -32.6	N 10 57.7 -12.8	16						
17	78 57.3 +00.1	S 11 48.9 +00.8	60 21.9 -00.6	S 17 41.4 +01.0	121 39.5 -32.6	N 10 44.9 -12.9	17						
18	93 57.4 +00.1	S 11 49.7 +00.9	75 21.3 -00.6	S 17 42.4 +00.9	136 06.9 -32.6	N 10 32.0 -12.9	18						
19	108 57.5 +00.0	S 11 50.6 +00.9	90 20.7 -00.7	S 17 43.3 +00.9	150 34.3 -32.5	N 10 19.1 -13.0	19						
20	123 57.5 +00.1	S 11 51.5 +00.8	105 20.0 -00.6	S 17 44.2 +01.0	165 01.8 -32.5	N 10 06.1 -13.0	20						
21	138 57.6 +00.1	S 11 52.3 +00.9	120 19.4 -00.7	S 17 45.2 +00.9	179 29.3 -32.4	N 09 53.1 -13.2	21						
22	153 57.7 +00.1	S 11 53.2 +00.9	135 18.7 -00.6	S 17 46.1 +00.9	193 56.9 -32.5	N 09 39.9 -13.2	22						
23	168 57.8 +00.0	S 11 54.1 +00.8	150 18.1 -00.7	S 17 47.0 +01.0	208 24.4 -32.4	N 09 26.7 -13.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'3 16'4 16'4 16'4 16'4 16'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'0 60'1 60'2 60'2 60'3 60'4								
	SHA 152° 152° 151° 151° 151° 151°		SHA 133° 133° 133° 133° 133° 132°		SHA 203° 200° 198° 196° 193° 191°								
	Greenwich Culmination Time: 11:44		Greenwich Culmination Time: 12:58		Greenwich Culmination Time: 08:35								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	199 59.2 +00.9	S 04 15.2 +00.7	130 57.1 +01.9	S 22 58.6 +00.0	105 54.8 +02.3	S 22 27.4 +00.0	00						
01	215 00.1 +01.0	S 04 15.9 +00.6	145 59.0 +02.0	S 22 58.6 +00.1	120 57.1 +02.3	S 22 27.4 +00.0	01						
02	230 01.1 +01.0	S 04 16.5 +00.7	161 01.0 +02.0	S 22 58.7 +00.0	135 59.4 +02.3	S 22 27.4 +00.0	02						
03	245 02.1 +00.9	S 04 17.2 +00.6	176 03.0 +02.0	S 22 58.7 +00.0	151 01.7 +02.3	S 22 27.4 -00.1	03						
04	260 03.0 +01.0	S 04 17.8 +00.7	191 05.0 +01.9	S 22 58.7 +00.1	166 04.0 +02.3	S 22 27.3 +00.0	04						
05	275 04.0 +01.0	S 04 18.5 +00.6	206 06.9 +02.0	S 22 58.8 +00.0	181 06.3 +02.4	S 22 27.3 +00.0	05						
06	290 05.0 +00.9	S 04 19.1 +00.6	221 08.9 +02.0	S 22 58.8 +00.0	196 08.7 +02.3	S 22 27.3 +00.0	06						
07	305 05.9 +01.0	S 04 19.7 +00.7	236 10.9 +02.0	S 22 58.8 +00.1	211 11.0 +02.3	S 22 27.3 +00.0	07						
08	320 06.9 +01.0	S 04 20.4 +00.6	251 12.9 +01.9	S 22 58.9 +00.0	226 13.3 +02.3	S 22 27.3 +00.0	08						
09	335 07.9 +01.0	S 04 21.0 +00.7	266 14.8 +02.0	S 22 58.9 +00.0	241 15.6 +02.3	S 22 27.3 +00.0	09						
10	350 08.9 +00.9	S 04 21.7 +00.6	281 16.8 +02.0	S 22 58.9 +00.1	256 17.9 +02.3	S 22 27.3 +00.0	10						
11	5 09.8 +01.0	S 04 22.3 +00.7	296 18.8 +02.0	S 22 59.0 +00.0	271 20.2 +02.3	S 22 27.3 -00.1	11						
12	20 10.8 +01.0	S 04 23.0 +00.6	311 20.8 +01.9	S 22 59.0 +00.0	286 22.5 +02.3	S 22 27.2 +00.0	12						
13	35 11.8 +00.9	S 04 23.6 +00.6	326 22.7 +02.0	S 22 59.0 +00.1	301 24.8 +02.3	S 22 27.2 +00.0	13						
14	50 12.7 +01.0	S 04 24.2 +00.7	341 24.7 +02.0	S 22 59.1 +00.0	316 27.1 +02.3	S 22 27.2 +00.0	14						
15	65 13.7 +01.0	S 04 24.9 +00.6	356 26.7 +02.0	S 22 59.1 +00.0	331 29.4 +02.4	S 22 27.2 +00.0	15						
16	80 14.7 +00.9	S 04 25.5 +00.7	11 28.7 +01.9	S 22 59.1 +00.1	346 31.8 +02.3	S 22 27.2 +00.0	16						
17	95 15.6 +01.0	S 04 26.2 +00.6	26 30.6 +02.0	S 22 59.2 +00.0	1 34.1 +02.3	S 22 27.2 +00.0	17						
18	110 16.6 +01.0	S 04 26.8 +00.7	41 32.6 +02.0	S 22 59.2 +00.0	16 36.4 +02.3	S 22 27.2 +00.0	18						
19	125 17.6 +00.9	S 04 27.5 +00.6	56 34.6 +01.9	S 22 59.2 +00.1	31 38.7 +02.3	S 22 27.2 -00.1	19						
20	140 18.5 +01.0	S 04 28.1 +00.6	71 36.5 +02.0	S 22 59.3 +00.0	46 41.0 +02.3	S 22 27.1 +00.0	20						
21	155 19.5 +01.0	S 04 28.7 +00.7	86 38.5 +02.0	S 22 59.3 +00.0	61 43.3 +02.3	S 22 27.1 +00.0	21						
22	170 20.5 +01.0	S 04 29.4 +00.6	101 40.5 +02.0	S 22 59.3 +00.1	76 45.6 +02.3	S 22 27.1 +00.0	22						
23	185 21.5 +00.9	S 04 30.0 +00.7	116 42.5 +01.9	S 22 59.4 +00.0	91 47.9 +02.3	S 22 27.1 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 168° 168° 168° 168° 167° 167°		SHA 099° 099° 099° 099° 099° 099°		SHA 074° 074° 074° 074° 074° 074°								
	Greenwich Culmination Time: 10:39		Greenwich Culmination Time: 15:14		Greenwich Culmination Time: 16:53								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 57.8 +00.1	S 11 54.9 +00.9	165 17.4 -00.6	S 17 48.0 +00.9	222 52.0 -32.4	N 09 13.5 -13.4	00						
01	198 57.9 +00.1	S 11 55.8 +00.9	180 16.8 -00.7	S 17 48.9 +00.9	237 19.6 -32.4	N 09 00.1 -13.4	01						
02	213 58.0 +00.1	S 11 56.7 +00.8	195 16.1 -00.6	S 17 49.8 +01.0	251 47.2 -32.3	N 08 46.7 -13.4	02						
03	228 58.1 +00.0	S 11 57.5 +00.9	210 15.5 -00.7	S 17 50.8 +00.9	266 14.9 -32.4	N 08 33.3 -13.5	03						
04	243 58.1 +00.1	S 11 58.4 +00.8	225 14.8 -00.7	S 17 51.7 +00.9	280 42.5 -32.3	N 08 19.8 -13.6	04						
05	258 58.2 +00.1	S 11 59.2 +00.9	240 14.1 -00.6	S 17 52.6 +01.0	295 10.2 -32.3	N 08 06.2 -13.6	05						
06	273 58.3 +00.1	S 12 00.1 +00.9	255 13.5 -00.7	S 17 53.6 +00.9	309 37.9 -32.2	N 07 52.6 -13.7	06						
07	288 58.4 +00.0	S 12 01.0 +00.8	270 12.8 -00.6	S 17 54.5 +00.9	324 05.7 -32.3	N 07 38.9 -13.7	07						
08	303 58.4 +00.1	S 12 01.8 +00.9	285 12.2 -00.7	S 17 55.4 +00.9	338 33.4 -32.2	N 07 25.2 -13.8	08						
09	318 58.5 +00.1	S 12 02.7 +00.9	300 11.5 -00.6	S 17 56.3 +01.0	353 01.2 -32.2	N 07 11.4 -13.8	09						
10	333 58.6 +00.1	S 12 03.6 +00.8	315 10.9 -00.7	S 17 57.3 +00.9	7 29.0 -32.1	N 06 57.6 -13.9	10						
11	348 58.7 +00.0	S 12 04.4 +00.9	330 10.2 -00.6	S 17 58.2 +00.9	21 56.9 -32.2	N 06 43.7 -14.0	11						
12	3 58.7 +00.1	S 12 05.3 +00.8	345 09.6 -00.7	S 17 59.1 +00.9	36 24.7 -32.2	N 06 29.7 -13.9	12						
13	18 58.8 +00.1	S 12 06.1 +00.9	0 08.9 -00.7	S 18 00.0 +01.0	50 52.5 -32.1	N 06 15.8 -14.1	13						
14	33 58.9 +00.1	S 12 07.0 +00.9	15 08.2 -00.6	S 18 01.0 +00.9	65 20.4 -32.1	N 06 01.7 -14.0	14						
15	48 59.0 +00.0	S 12 07.9 +00.8	30 07.6 -00.7	S 18 01.9 +00.9	79 48.3 -32.1	N 05 47.7 -14.1	15						
16	63 59.0 +00.1	S 12 08.7 +00.9	45 06.9 -00.6	S 18 02.8 +00.9	94 16.2 -32.1	N 05 33.6 -14.1	16						
17	78 59.1 +00.1	S 12 09.6 +00.9	60 06.3 -00.7	S 18 03.7 +01.0	108 44.1 -32.0	N 05 19.5 -14.2	17						
18	93 59.2 +00.0	S 12 10.5 +00.8	75 05.6 -00.7	S 18 04.7 +00.9	123 12.1 -32.1	N 05 05.3 -14.2	18						
19	108 59.2 +00.1	S 12 11.3 +00.9	90 04.9 -00.6	S 18 05.6 +00.9	137 40.0 -32.0	N 04 51.1 -14.3	19						
20	123 59.3 +00.1	S 12 12.2 +00.8	105 04.3 -00.7	S 18 06.5 +00.9	152 08.0 -32.0	N 04 36.8 -14.3	20						
21	138 59.4 +00.0	S 12 13.0 +00.9	120 03.6 -00.6	S 18 07.4 +00.9	166 36.0 -32.0	N 04 22.5 -14.3	21						
22	153 59.4 +00.1	S 12 13.9 +00.8	135 03.0 -00.7	S 18 08.3 +00.9	181 04.0 -32.0	N 04 08.2 -14.3	22						
23	168 59.5 +00.1	S 12 14.7 +00.9	150 02.3 -00.7	S 18 09.2 +01.0	195 32.0 -32.0	N 03 53.9 -14.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'5 16'5 16'5 16'5 16'5 16'5								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'4 60'5 60'5 60'6 60'6 60'6								
	SHA 151° 151° 150° 150° 150° 150°		SHA 132° 132° 132° 131° 131° 131°		SHA 189° 186° 184° 182° 179° 177°								
	Greenwich Culmination Time: 11:44		Greenwich Culmination Time: 12:59		Greenwich Culmination Time: 09:28								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	200 22.4 +01.0	S 04 30.7 +00.6	131 44.4 +02.0	S 22 59.4 +00.0	106 50.2 +02.3	S 22 27.1 +00.0	00						
01	215 23.4 +01.0	S 04 31.3 +00.7	146 46.4 +02.0	S 22 59.4 +00.1	121 52.5 +02.3	S 22 27.1 +00.0	01						
02	230 24.4 +00.9	S 04 32.0 +00.6	161 48.4 +02.0	S 22 59.5 +00.0	136 54.8 +02.4	S 22 27.1 +00.0	02						
03	245 25.3 +01.0	S 04 32.6 +00.6	176 50.4 +01.9	S 22 59.5 +00.0	151 57.2 +02.3	S 22 27.1 +00.0	03						
04	260 26.3 +01.0	S 04 33.2 +00.7	191 52.3 +02.0	S 22 59.5 +00.0	166 59.5 +02.3	S 22 27.1 -00.1	04						
05	275 27.3 +00.9	S 04 33.9 +00.6	206 54.3 +02.0	S 22 59.5 +00.1	182 01.8 +02.3	S 22 27.0 +00.0	05						
06	290 28.2 +01.0	S 04 34.5 +00.7	221 56.3 +01.9	S 22 59.6 +00.0	197 04.1 +02.3	S 22 27.0 +00.0	06						
07	305 29.2 +01.0	S 04 35.2 +00.6	236 58.2 +02.0	S 22 59.6 +00.0	212 06.4 +02.3	S 22 27.0 +00.0	07						
08	320 30.2 +00.9	S 04 35.8 +00.6	252 00.2 +02.0	S 22 59.6 +00.1	227 08.7 +02.3	S 22 27.0 +00.0	08						
09	335 31.1 +01.0	S 04 36.4 +00.7	267 02.2 +01.9	S 22 59.7 +00.0	242 11.0 +02.3	S 22 27.0 +00.0	09						
10	350 32.1 +01.0	S 04 37.1 +00.6	282 04.1 +02.0	S 22 59.7 +00.0	257 13.3 +02.3	S 22 27.0 +00.0	10						
11	5 33.1 +00.9	S 04 37.7 +00.7	297 06.1 +02.0	S 22 59.7 +00.1	272 15.6 +02.3	S 22 27.0 +00.0	11						
12	20 34.0 +01.0	S 04 38.4 +00.6	312 08.1 +02.0	S 22 59.8 +00.0	287 17.9 +02.3	S 22 27.0 -00.1	12						
13	35 35.0 +01.0	S 04 39.0 +00.7	327 10.1 +01.9	S 22 59.8 +00.0	302 20.2 +02.3	S 22 26.9 +00.0	13						
14	50 36.0 +00.9	S 04 39.7 +00.6	342 12.0 +02.0	S 22 59.8 +00.1	317 22.5 +02.3	S 22 26.9 +00.0	14						
15	65 36.9 +01.0	S 04 40.3 +00.6	357 14.0 +02.0	S 22 59.9 +00.0	332 24.8 +02.3	S 22 26.9 +00.0	15						
16	80 37.9 +01.0	S 04 40.9 +00.7	12 16.0 +01.9	S 22 59.9 +00.0	347 27.1 +02.3	S 22 26.9 +00.0	16						
17	95 38.9 +00.9	S 04 41.6 +00.6	27 17.9 +02.0	S 22 59.9 +00.1	2 29.4 +02.4	S 22 26.9 +00.0	17						
18	110 39.8 +01.0	S 04 42.2 +00.7	42 19.9 +02.0	S 22 60.0 +00.0	17 31.8 +02.3	S 22 26.9 +00.0	18						
19	125 40.8 +01.0	S 04 42.9 +00.6	57 21.9 +01.9	S 22 60.0 +00.0	32 34.1 +02.3	S 22 26.9 +00.0	19						
20	140 41.8 +00.9	S 04 43.5 +00.6	72 23.8 +02.0	S 23 00.0 +00.1	47 36.4 +02.3	S 22 26.9 -00.1	20						
21	155 42.7 +01.0	S 04 44.1 +00.7	87 25.8 +02.0	S 23 00.1 +00.0	62 38.7 +02.3	S 22 26.8 +00.0	21						
22	170 43.7 +01.0	S 04 44.8 +00.6	102 27.8 +01.9	S 23 00.1 +00.0	77 41.0 +02.3	S 22 26.8 +00.0	22						
23	185 44.7 +00.9	S 04 45.4 +00.7	117 29.7 +02.0	S 23 00.1 +00.1	92 43.3 +02.3	S 22 26.8 +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 167° 167° 167° 167° 167° 167°		SHA 099° 099° 099° 098° 098° 098°		SHA 074° 074° 074° 074° 074° 074°								
	Greenwich Culmination Time: 10:37		Greenwich Culmination Time: 15:11		Greenwich Culmination Time: 16:50								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 59.6 +00.1	S 12 15.6 +00.9	165 01.6 -00.6	S 18 10.2 +00.9	210 00.0 -32.0	N 03 39.5 -14.3	00						
01	198 59.7 +00.0	S 12 16.5 +00.8	180 01.0 -00.7	S 18 11.1 +00.9	224 28.0 -31.9	N 03 25.2 -14.5	01						
02	213 59.7 +00.1	S 12 17.3 +00.9	195 00.3 -00.7	S 18 12.0 +00.9	238 56.1 -32.0	N 03 10.7 -14.4	02						
03	228 59.8 +00.1	S 12 18.2 +00.8	209 59.6 -00.6	S 18 12.9 +00.9	253 24.1 -31.9	N 02 56.3 -14.4	03						
04	243 59.9 +00.0	S 12 19.0 +00.9	224 59.0 -00.7	S 18 13.8 +00.9	267 52.2 -31.9	N 02 41.9 -14.5	04						
05	258 59.9 +00.1	S 12 19.9 +00.8	239 58.3 -00.7	S 18 14.7 +00.9	282 20.3 -32.0	N 02 27.4 -14.5	05						
06	273 60.0 +00.1	S 12 20.7 +00.9	254 57.6 -00.6	S 18 15.6 +00.9	296 48.3 -31.9	N 02 12.9 -14.5	06						
07	289 00.1 +00.0	S 12 21.6 +00.9	269 57.0 -00.7	S 18 16.5 +00.9	311 16.4 -31.9	N 01 58.4 -14.5	07						
08	304 00.1 +00.1	S 12 22.5 +00.8	284 56.3 -00.7	S 18 17.4 +00.9	325 44.5 -31.9	N 01 43.9 -14.6	08						
09	319 00.2 +00.1	S 12 23.3 +00.9	299 55.6 -00.6	S 18 18.3 +01.0	340 12.6 -31.9	N 01 29.3 -14.5	09						
10	334 00.3 +00.0	S 12 24.2 +00.8	314 55.0 -00.7	S 18 19.3 +00.9	354 40.7 -31.9	N 01 14.8 -14.6	10						
11	349 00.3 +00.1	S 12 25.0 +00.9	329 54.3 -00.7	S 18 20.2 +00.9	9 08.8 -31.9	N 01 00.2 -14.5	11						
12	4 00.4 +00.1	S 12 25.9 +00.8	344 53.6 -00.6	S 18 21.1 +00.9	23 36.9 -31.9	N 00 45.7 -14.6	12						
13	19 00.5 +00.0	S 12 26.7 +00.9	359 53.0 -00.7	S 18 22.0 +00.9	38 05.0 -31.9	N 00 31.1 -14.6	13						
14	34 00.5 +00.1	S 12 27.6 +00.8	14 52.3 -00.7	S 18 22.9 +00.9	52 33.1 -31.9	N 00 16.5 -14.5	14						
15	49 00.6 +00.0	S 12 28.4 +00.9	29 51.6 -00.6	S 18 23.8 +00.9	67 01.2 -31.9	N 00 02.0 -14.6	15						
16	64 00.6 +00.1	S 12 29.3 +00.8	44 51.0 -00.7	S 18 24.7 +00.9	81 29.3 -31.8	S 00 12.6 +14.6	16						
17	79 00.7 +00.1	S 12 30.1 +00.9	59 50.3 -00.7	S 18 25.6 +00.9	95 57.5 -31.9	S 00 27.2 +14.5	17						
18	94 00.8 +00.0	S 12 31.0 +00.8	74 49.6 -00.7	S 18 26.5 +00.9	110 25.6 -31.9	S 00 41.7 +14.6	18						
19	109 00.8 +00.1	S 12 31.8 +00.9	89 48.9 -00.6	S 18 27.4 +00.9	124 53.7 -31.9	S 00 56.3 +14.5	19						
20	124 00.9 +00.1	S 12 32.7 +00.8	104 48.3 -00.7	S 18 28.3 +00.9	139 21.8 -31.9	S 01 10.8 +14.6	20						
21	139 01.0 +00.0	S 12 33.5 +00.9	119 47.6 -00.7	S 18 29.2 +00.9	153 49.9 -31.9	S 01 25.4 +14.5	21						
22	154 01.0 +00.1	S 12 34.4 +00.8	134 46.9 -00.7	S 18 30.1 +00.9	168 18.0 -31.9	S 01 39.9 +14.6	22						
23	169 01.1 +00.0	S 12 35.2 +00.9	149 46.2 -00.6	S 18 31.0 +00.8	182 46.1 -31.9	S 01 54.5 +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	16'1 16'1 16'1 16'1 16'1 16'1		SD	00'1 00'1 00'1 00'1 00'1 00'1		SD	16'5 16'5 16'5 16'5 16'5 16'5						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	60'6 60'7 60'7 60'7 60'6 60'6						
SHA	150° 150° 150° 149° 149° 149°		SHA	131° 131° 130° 130° 130° 130°		SHA	175° 172° 170° 168° 166° 163°						
Greenwich Culmination Time: 11:43				Greenwich Culmination Time: 13:00				Greenwich Culmination Time: 10:22					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	200 45.6 +01.0	S 04 46.1 +00.6	132 31.7 +02.0	S 23 00.2 +00.0	107 45.6 +02.3	S 22 26.8 +00.0	00						
01	215 46.6 +01.0	S 04 46.7 +00.7	147 33.7 +01.9	S 23 00.2 +00.0	122 47.9 +02.3	S 22 26.8 +00.0	01						
02	230 47.6 +00.9	S 04 47.4 +00.6	162 35.6 +02.0	S 23 00.2 +00.1	137 50.2 +02.3	S 22 26.8 +00.0	02						
03	245 48.5 +01.0	S 04 48.0 +00.6	177 37.6 +02.0	S 23 00.3 +00.0	152 52.5 +02.3	S 22 26.8 -00.1	03						
04	260 49.5 +01.0	S 04 48.6 +00.7	192 39.6 +01.9	S 23 00.3 +00.0	167 54.8 +02.3	S 22 26.7 +00.0	04						
05	275 50.5 +00.9	S 04 49.3 +00.6	207 41.5 +02.0	S 23 00.3 +00.0	182 57.1 +02.3	S 22 26.7 +00.0	05						
06	290 51.4 +01.0	S 04 49.9 +00.7	222 43.5 +02.0	S 23 00.3 +00.1	197 59.4 +02.3	S 22 26.7 +00.0	06						
07	305 52.4 +01.0	S 04 50.6 +00.6	237 45.5 +01.9	S 23 00.4 +00.0	213 01.7 +02.3	S 22 26.7 +00.0	07						
08	320 53.4 +00.9	S 04 51.2 +00.6	252 47.4 +02.0	S 23 00.4 +00.0	228 04.0 +02.3	S 22 26.7 +00.0	08						
09	335 54.3 +01.0	S 04 51.8 +00.7	267 49.4 +02.0	S 23 00.4 +00.1	243 06.3 +02.3	S 22 26.7 +00.0	09						
10	350 55.3 +01.0	S 04 52.5 +00.6	282 51.4 +01.9	S 23 00.5 +00.0	258 08.6 +02.3	S 22 26.7 +00.0	10						
11	5 56.3 +00.9	S 04 53.1 +00.7	297 53.3 +02.0	S 23 00.5 +00.0	273 10.9 +02.3	S 22 26.7 -00.1	11						
12	20 57.2 +01.0	S 04 53.8 +00.6	312 55.3 +02.0	S 23 00.5 +00.1	288 13.2 +02.3	S 22 26.6 +00.0	12						
13	35 58.2 +01.0	S 04 54.4 +00.6	327 57.3 +01.9	S 23 00.6 +00.0	303 15.5 +02.3	S 22 26.6 +00.0	13						
14	50 59.2 +00.9	S 04 55.0 +00.7	342 59.2 +02.0	S 23 00.6 +00.0	318 17.8 +02.3	S 22 26.6 +00.0	14						
15	66 00.1 +01.0	S 04 55.7 +00.6	358 01.2 +02.0	S 23 00.6 +00.1	333 20.1 +02.3	S 22 26.6 +00.0	15						
16	81 01.1 +00.9	S 04 56.3 +00.7	13 03.2 +01.9	S 23 00.7 +00.0	348 22.4 +02.3	S 22 26.6 +00.0	16						
17	96 02.0 +01.0	S 04 57.0 +00.6	28 05.1 +02.0	S 23 00.7 +00.0	3 24.7 +02.3	S 22 26.6 +00.0	17						
18	111 03.0 +01.0	S 04 57.6 +00.6	43 07.1 +02.0	S 23 00.7 +00.1	18 27.0 +02.3	S 22 26.6 +00.0	18						
19	126 04.0 +00.9	S 04 58.2 +00.7	58 09.1 +01.9	S 23 00.8 +00.0	33 29.3 +02.3	S 22 26.6 -00.1	19						
20	141 04.9 +01.0	S 04 58.9 +00.6	73 11.0 +02.0	S 23 00.8 +00.0	48 31.6 +02.3	S 22 26.5 +00.0	20						
21	156 05.9 +01.0	S 04 59.5 +00.7	88 13.0 +01.9	S 23 00.8 +00.1	63 33.9 +02.3	S 22 26.5 +00.0	21						
22	171 06.9 +00.9	S 05 00.2 +00.6	103 14.9 +02.0	S 23 00.9 +00.0	78 36.2 +02.3	S 22 26.5 +00.0	22						
23	186 07.8 +01.0	S 05 00.8 +00.6	118 16.9 +02.0	S 23 00.9 +00.0	93 38.5 +02.3	S 22 26.5 +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	167° 167° 166° 166° 166° 166°		SHA	098° 098° 098° 098° 098° 098°		SHA	074° 074° 074° 074° 074° 074°						
Greenwich Culmination Time: 10:36				Greenwich Culmination Time: 15:07				Greenwich Culmination Time: 16:46					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 02.5 +00.1	S 12 56.4 +00.8	164 29.2 -00.7	S 18 53.1 +00.8	184 25.7 -32.2	S 07 48.9 +13.6	00						
01	199 02.6 +00.0	S 12 57.2 +00.9	179 28.5 -00.7	S 18 53.9 +00.9	198 53.5 -32.2	S 08 02.5 +13.6	01						
02	214 02.6 +00.1	S 12 58.1 +00.8	194 27.8 -00.7	S 18 54.8 +00.9	213 21.3 -32.2	S 08 16.1 +13.5	02						
03	229 02.7 +00.0	S 12 58.9 +00.9	209 27.1 -00.7	S 18 55.7 +00.8	227 49.1 -32.3	S 08 29.6 +13.5	03						
04	244 02.7 +00.1	S 12 59.8 +00.8	224 26.4 -00.7	S 18 56.5 +00.9	242 16.8 -32.2	S 08 43.1 +13.4	04						
05	259 02.8 +00.0	S 13 00.6 +00.8	239 25.7 -00.7	S 18 57.4 +00.9	256 44.6 -32.3	S 08 56.5 +13.4	05						
06	274 02.8 +00.1	S 13 01.4 +00.9	254 25.0 -00.7	S 18 58.3 +00.9	271 12.3 -32.3	S 09 09.9 +13.2	06						
07	289 02.9 +00.0	S 13 02.3 +00.8	269 24.3 -00.7	S 18 59.2 +00.8	285 40.0 -32.4	S 09 23.1 +13.2	07						
08	304 02.9 +00.1	S 13 03.1 +00.9	284 23.6 -00.7	S 19 00.0 +00.9	300 07.6 -32.3	S 09 36.3 +13.2	08						
09	319 03.0 +00.0	S 13 04.0 +00.8	299 22.9 -00.7	S 19 00.9 +00.8	314 35.3 -32.4	S 09 49.5 +13.1	09						
10	334 03.0 +00.1	S 13 04.8 +00.8	314 22.2 -00.7	S 19 01.7 +00.9	329 02.9 -32.4	S 10 02.6 +13.0	10						
11	349 03.1 +00.0	S 13 05.6 +00.9	329 21.5 -00.7	S 19 02.6 +00.9	343 30.5 -32.4	S 10 15.6 +12.9	11						
12	4 03.1 +00.1	S 13 06.5 +00.8	344 20.8 -00.6	S 19 03.5 +00.8	357 58.1 -32.4	S 10 28.5 +12.9	12						
13	19 03.2 +00.0	S 13 07.3 +00.8	359 20.2 -00.7	S 19 04.3 +00.9	12 25.7 -32.5	S 10 41.4 +12.8	13						
14	34 03.2 +00.1	S 13 08.1 +00.9	14 19.5 -00.7	S 19 05.2 +00.9	26 53.2 -32.5	S 10 54.2 +12.7	14						
15	49 03.3 +00.0	S 13 09.0 +00.8	29 18.8 -00.7	S 19 06.1 +00.8	41 20.7 -32.5	S 11 06.9 +12.6	15						
16	64 03.3 +00.1	S 13 09.8 +00.9	44 18.1 -00.7	S 19 06.9 +00.9	55 48.2 -32.5	S 11 19.5 +12.6	16						
17	79 03.4 +00.0	S 13 10.7 +00.8	59 17.4 -00.7	S 19 07.8 +00.8	70 15.7 -32.5	S 11 32.1 +12.5	17						
18	94 03.4 +00.1	S 13 11.5 +00.8	74 16.7 -00.7	S 19 08.6 +00.9	84 43.2 -32.6	S 11 44.6 +12.4	18						
19	109 03.5 +00.0	S 13 12.3 +00.9	89 16.0 -00.7	S 19 09.5 +00.9	99 10.6 -32.6	S 11 57.0 +12.3	19						
20	124 03.5 +00.1	S 13 13.2 +00.8	104 15.3 -00.7	S 19 10.4 +00.8	113 38.0 -32.6	S 12 09.3 +12.2	20						
21	139 03.6 +00.0	S 13 14.0 +00.8	119 14.6 -00.7	S 19 11.2 +00.9	128 05.4 -32.7	S 12 21.5 +12.1	21						
22	154 03.6 +00.1	S 13 14.8 +00.9	134 13.9 -00.7	S 19 12.1 +00.8	142 32.7 -32.6	S 12 33.6 +12.1	22						
23	169 03.7 +00.0	S 13 15.7 +00.8	149 13.2 -00.7	S 19 12.9 +00.9	157 00.1 -32.7	S 12 45.7 +12.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'4 16'4 16'4 16'4 16'3 16'3								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'3 60'2 60'1 60'0 59'9 59'8								
	SHA 148° 148° 148° 147° 147° 147°		SHA 128° 128° 128° 128° 127° 127°		SHA 147° 145° 143° 140° 138° 136°								
	Greenwich Culmination Time: 11:43		Greenwich Culmination Time: 13:02		Greenwich Culmination Time: 12:08								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	201 31.9 +01.0	S 05 16.8 +00.6	134 05.9 +02.0	S 23 01.7 +00.0	109 36.0 +02.3	S 22 26.2 -00.1	00						
01	216 32.9 +00.9	S 05 17.4 +00.7	149 07.9 +02.0	S 23 01.7 +00.0	124 38.3 +02.3	S 22 26.1 +00.0	01						
02	231 33.8 +01.0	S 05 18.1 +00.6	164 09.9 +01.9	S 23 01.7 +00.1	139 40.6 +02.3	S 22 26.1 +00.0	02						
03	246 34.8 +01.0	S 05 18.7 +00.6	179 11.8 +02.0	S 23 01.8 +00.0	154 42.9 +02.3	S 22 26.1 +00.0	03						
04	261 35.8 +00.9	S 05 19.3 +00.7	194 13.8 +01.9	S 23 01.8 +00.0	169 45.2 +02.3	S 22 26.1 +00.0	04						
05	276 36.7 +01.0	S 05 20.0 +00.6	209 15.7 +02.0	S 23 01.8 +00.1	184 47.5 +02.3	S 22 26.1 +00.0	05						
06	291 37.7 +01.0	S 05 20.6 +00.7	224 17.7 +02.0	S 23 01.9 +00.0	199 49.8 +02.3	S 22 26.1 +00.0	06						
07	306 38.7 +00.9	S 05 21.3 +00.6	239 19.7 +01.9	S 23 01.9 +00.0	214 52.1 +02.3	S 22 26.1 -00.1	07						
08	321 39.6 +01.0	S 05 21.9 +00.6	254 21.6 +02.0	S 23 01.9 +00.0	229 54.4 +02.3	S 22 26.0 +00.0	08						
09	336 40.6 +00.9	S 05 22.5 +00.7	269 23.6 +01.9	S 23 01.9 +00.1	244 56.7 +02.3	S 22 26.0 +00.0	09						
10	351 41.5 +01.0	S 05 23.2 +00.6	284 25.5 +02.0	S 23 02.0 +00.0	259 59.0 +02.3	S 22 26.0 +00.0	10						
11	6 42.5 +01.0	S 05 23.8 +00.7	299 27.5 +01.9	S 23 02.0 +00.0	275 01.3 +02.3	S 22 26.0 +00.0	11						
12	21 43.5 +00.9	S 05 24.5 +00.6	314 29.4 +02.0	S 23 02.0 +00.1	290 03.6 +02.3	S 22 26.0 +00.0	12						
13	36 44.4 +01.0	S 05 25.1 +00.6	329 31.4 +02.0	S 23 02.1 +00.0	305 05.9 +02.3	S 22 26.0 +00.0	13						
14	51 45.4 +00.9	S 05 25.7 +00.7	344 33.4 +01.9	S 23 02.1 +00.0	320 08.2 +02.3	S 22 26.0 +00.0	14						
15	66 46.3 +01.0	S 05 26.4 +00.6	359 35.3 +02.0	S 23 02.1 +00.1	335 10.5 +02.3	S 22 26.0 -00.1	15						
16	81 47.3 +01.0	S 05 27.0 +00.6	14 37.3 +01.9	S 23 02.2 +00.0	350 12.8 +02.3	S 22 25.9 +00.0	16						
17	96 48.3 +00.9	S 05 27.6 +00.7	29 39.2 +02.0	S 23 02.2 +00.0	5 15.1 +02.2	S 22 25.9 +00.0	17						
18	111 49.2 +01.0	S 05 28.3 +00.6	44 41.2 +01.9	S 23 02.2 +00.1	20 17.3 +02.3	S 22 25.9 +00.0	18						
19	126 50.2 +01.0	S 05 28.9 +00.7	59 43.1 +02.0	S 23 02.3 +00.0	35 19.6 +02.3	S 22 25.9 +00.0	19						
20	141 51.2 +00.9	S 05 29.6 +00.6	74 45.1 +02.0	S 23 02.3 +00.0	50 21.9 +02.3	S 22 25.9 +00.0	20						
21	156 52.1 +01.0	S 05 30.2 +00.6	89 47.1 +01.9	S 23 02.3 +00.0	65 24.2 +02.3	S 22 25.9 +00.0	21						
22	171 53.1 +00.9	S 05 30.8 +00.7	104 49.0 +02.0	S 23 02.3 +00.1	80 26.5 +02.3	S 22 25.9 -00.1	22						
23	186 54.0 +01.0	S 05 31.5 +00.6	119 51.0 +01.9	S 23 02.4 +00.0	95 28.8 +02.3	S 22 25.8 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 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 165° 165° 165° 165° 165° 165°		SHA 098° 098° 098° 098° 098° 098°		SHA 074° 074° 074° 074° 073° 073°								
	Greenwich Culmination Time: 10:33		Greenwich Culmination Time: 15:01		Greenwich Culmination Time: 16:39								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184	03.7 +00.1	S 13 16.5 +00.8		164	12.5 -00.7	S 19 13.8 +00.8		171	27.4 -32.7	S 12 57.7 +11.9		00
01	199	03.8 +00.0	S 13 17.3 +00.9		179	11.8 -00.7	S 19 14.6 +00.9		185	54.7 -32.8	S 13 09.6 +11.7		01
02	214	03.8 +00.0	S 13 18.2 +00.8		194	11.1 -00.8	S 19 15.5 +00.8		200	21.9 -32.7	S 13 21.3 +11.7		02
03	229	03.8 +00.1	S 13 19.0 +00.8		209	10.3 -00.7	S 19 16.3 +00.9		214	49.2 -32.8	S 13 33.0 +11.7		03
04	244	03.9 +00.0	S 13 19.8 +00.9		224	09.6 -00.7	S 19 17.2 +00.8		229	16.4 -32.8	S 13 44.7 +11.5		04
05	259	03.9 +00.1	S 13 20.7 +00.8		239	08.9 -00.7	S 19 18.0 +00.9		243	43.6 -32.8	S 13 56.2 +11.4		05
06	274	04.0 +00.0	S 13 21.5 +00.8		254	08.2 -00.7	S 19 18.9 +00.8		258	10.8 -32.9	S 14 07.6 +11.3		06
07	289	04.0 +00.1	S 13 22.3 +00.9		269	07.5 -00.7	S 19 19.7 +00.9		272	37.9 -32.8	S 14 18.9 +11.2		07
08	304	04.1 +00.0	S 13 23.2 +00.8		284	06.8 -00.7	S 19 20.6 +00.8		287	05.1 -32.9	S 14 30.1 +11.1		08
09	319	04.1 +00.0	S 13 24.0 +00.8		299	06.1 -00.7	S 19 21.4 +00.8		301	32.2 -32.9	S 14 41.2 +11.1		09
10	334	04.1 +00.1	S 13 24.8 +00.8		314	05.4 -00.7	S 19 22.2 +00.9		315	59.3 -33.0	S 14 52.3 +10.9		10
11	349	04.2 +00.0	S 13 25.6 +00.9		329	04.7 -00.7	S 19 23.1 +00.8		330	26.3 -32.9	S 15 03.2 +10.8		11
12	4	04.2 +00.1	S 13 26.5 +00.8		344	04.0 -00.7	S 19 23.9 +00.9		344	53.4 -33.0	S 15 14.0 +10.7		12
13	19	04.3 +00.0	S 13 27.3 +00.8		359	03.3 -00.7	S 19 24.8 +00.8		359	20.4 -33.0	S 15 24.7 +10.6		13
14	34	04.3 +00.1	S 13 28.1 +00.9		14	02.6 -00.7	S 19 25.6 +00.9		13	47.4 -33.1	S 15 35.3 +10.5		14
15	49	04.4 +00.0	S 13 29.0 +00.8		29	01.9 -00.8	S 19 26.5 +00.8		28	14.3 -33.0	S 15 45.8 +10.4		15
16	64	04.4 +00.0	S 13 29.8 +00.8		44	01.1 -00.7	S 19 27.3 +00.8		42	41.3 -33.1	S 15 56.2 +10.3		16
17	79	04.4 +00.1	S 13 30.6 +00.8		59	00.4 -00.7	S 19 28.1 +00.9		57	08.2 -33.1	S 16 06.5 +10.2		17
18	94	04.5 +00.0	S 13 31.4 +00.9		73	59.7 -00.7	S 19 29.0 +00.8		71	35.1 -33.1	S 16 16.7 +10.0		18
19	109	04.5 +00.0	S 13 32.3 +00.8		88	59.0 -00.7	S 19 29.8 +00.8		86	02.0 -33.1	S 16 26.7 +10.0		19
20	124	04.5 +00.1	S 13 33.1 +00.8		103	58.3 -00.7	S 19 30.6 +00.9		100	28.9 -33.1	S 16 36.7 +09.8		20
21	139	04.6 +00.0	S 13 33.9 +00.8		118	57.6 -00.7	S 19 31.5 +00.8		114	55.8 -33.2	S 16 46.5 +09.8		21
22	154	04.6 +00.1	S 13 34.7 +00.9		133	56.9 -00.7	S 19 32.3 +00.8		129	22.6 -33.2	S 16 56.3 +09.6		22
23	169	04.7 +00.0	S 13 35.6 +00.8		148	56.2 -00.8	S 19 33.1 +00.9		143	49.4 -33.2	S 17 05.9 +09.5		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 16'1 16'1 16'1 16'1 16'1 16'1				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 16'3 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 59'7 59'6 59'5 59'4 59'3 59'1				
	SHA 147° 147° 147° 146° 146° 146°				SHA 127° 127° 127° 126° 126° 126°				SHA 133° 131° 129° 126° 124° 121°				
	Greenwich Culmination Time: 11:43				Greenwich Culmination Time: 13:03				Greenwich Culmination Time: 13:02				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	201	55.0 +01.0	S 05 32.1 +00.6		134	52.9 +02.0	S 23 02.4 +00.0		110	31.1 +02.3	S 22 25.8 +00.0		00
01	216	56.0 +00.9	S 05 32.7 +00.7		149	54.9 +01.9	S 23 02.4 +00.1		125	33.4 +02.3	S 22 25.8 +00.0		01
02	231	56.9 +01.0	S 05 33.4 +00.6		164	56.8 +02.0	S 23 02.5 +00.0		140	35.7 +02.3	S 22 25.8 +00.0		02
03	246	57.9 +00.9	S 05 34.0 +00.7		179	58.8 +01.9	S 23 02.5 +00.0		155	38.0 +02.3	S 22 25.8 +00.0		03
04	261	58.8 +01.0	S 05 34.7 +00.6		195	00.7 +02.0	S 23 02.5 +00.1		170	40.3 +02.3	S 22 25.8 +00.0		04
05	276	59.8 +01.0	S 05 35.3 +00.6		210	02.7 +01.9	S 23 02.6 +00.0		185	42.6 +02.3	S 22 25.8 -00.1		05
06	292	00.8 +00.9	S 05 35.9 +00.7		225	04.6 +02.0	S 23 02.6 +00.0		200	44.9 +02.3	S 22 25.7 +00.0		06
07	307	01.7 +01.0	S 05 36.6 +00.6		240	06.6 +02.0	S 23 02.6 +00.1		215	47.2 +02.2	S 22 25.7 +00.0		07
08	322	02.7 +00.9	S 05 37.2 +00.6		255	08.6 +01.9	S 23 02.7 +00.0		230	49.4 +02.3	S 22 25.7 +00.0		08
09	337	03.6 +01.0	S 05 37.8 +00.7		270	10.5 +02.0	S 23 02.7 +00.0		245	51.7 +02.3	S 22 25.7 +00.0		09
10	352	04.6 +01.0	S 05 38.5 +00.6		285	12.5 +01.9	S 23 02.7 +00.0		260	54.0 +02.3	S 22 25.7 +00.0		10
11	7	05.6 +00.9	S 05 39.1 +00.7		300	14.4 +02.0	S 23 02.7 +00.1		275	56.3 +02.3	S 22 25.7 +00.0		11
12	22	06.5 +01.0	S 05 39.8 +00.6		315	16.4 +01.9	S 23 02.8 +00.0		290	58.6 +02.3	S 22 25.7 -00.1		12
13	37	07.5 +00.9	S 05 40.4 +00.6		330	18.3 +02.0	S 23 02.8 +00.0		306	00.9 +02.3	S 22 25.6 +00.0		13
14	52	08.4 +01.0	S 05 41.0 +00.7		345	20.3 +01.9	S 23 02.8 +00.1		321	03.2 +02.3	S 22 25.6 +00.0		14
15	67	09.4 +01.0	S 05 41.7 +00.6		0	22.2 +02.0	S 23 02.9 +00.0		336	05.5 +02.3	S 22 25.6 +00.0		15
16	82	10.4 +00.9	S 05 42.3 +00.6		15	24.2 +01.9	S 23 02.9 +00.0		351	07.8 +02.3	S 22 25.6 +00.0		16
17	97	11.3 +01.0	S 05 42.9 +00.7		30	26.1 +02.0	S 23 02.9 +00.1		6	10.1 +02.3	S 22 25.6 +00.0		17
18	112	12.3 +00.9	S 05 43.6 +00.6		45	28.1 +01.9	S 23 03.0 +00.0		21	12.4 +02.3	S 22 25.6 -00.1		18
19	127	13.2 +01.0	S 05 44.2 +00.7		60	30.0 +02.0	S 23 03.0 +00.0		36	14.7 +02.2	S 22 25.5 +00.0		19
20	142	14.2 +00.9	S 05 44.9 +00.6		75	32.0 +01.9	S 23 03.0 +00.0		51	16.9 +02.3	S 22 25.5 +00.0		20
21	157	15.1 +01.0	S 05 45.5 +00.6		90	33.9 +02.0	S 23 03.0 +00.1		66	19.2 +02.3	S 22 25.5 +00.0		21
22	172	16.1 +01.0	S 05 46.1 +00.7		105	35.9 +01.9	S 23 03.1 +00.0		81	21.5 +02.3	S 22 25.5 +00.0		22
23	187	17.1 +00.9	S 05 46.8 +00.6		120	37.8 +02.0	S 23 03.1 +00.0		96	23.8 +02.3	S 22 25.5 +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 165° 165° 165° 165° 164° 164°				SHA 098° 098° 098° 098° 098° 098°				SHA 073° 073° 073° 073° 073° 073°				
	Greenwich Culmination Time: 10:31				Greenwich Culmination Time: 14:58				Greenwich Culmination Time: 16:35				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 04.7 +00.0	S 13 36.4 +00.8	163 55.4 -00.7	S 19 34.0 +00.8	158 16.2 -33.2	S 17 15.4 +09.4	00						
01	199 04.7 +00.1	S 13 37.2 +00.8	178 54.7 -00.7	S 19 34.8 +00.8	172 43.0 -33.3	S 17 24.8 +09.3	01						
02	214 04.8 +00.0	S 13 38.0 +00.9	193 54.0 -00.7	S 19 35.6 +00.9	187 09.7 -33.2	S 17 34.1 +09.1	02						
03	229 04.8 +00.0	S 13 38.9 +00.8	208 53.3 -00.7	S 19 36.5 +00.8	201 36.5 -33.3	S 17 43.2 +09.0	03						
04	244 04.8 +00.1	S 13 39.7 +00.8	223 52.6 -00.7	S 19 37.3 +00.8	216 03.2 -33.3	S 17 52.2 +09.0	04						
05	259 04.9 +00.0	S 13 40.5 +00.8	238 51.9 -00.8	S 19 38.1 +00.8	230 29.9 -33.3	S 18 01.2 +08.7	05						
06	274 04.9 +00.1	S 13 41.3 +00.9	253 51.1 -00.7	S 19 38.9 +00.9	244 56.6 -33.3	S 18 09.9 +08.7	06						
07	289 05.0 +00.0	S 13 42.2 +00.8	268 50.4 -00.7	S 19 39.8 +00.8	259 23.3 -33.3	S 18 18.6 +08.6	07						
08	304 05.0 +00.0	S 13 43.0 +00.8	283 49.7 -00.7	S 19 40.6 +00.8	273 50.0 -33.4	S 18 27.2 +08.4	08						
09	319 05.0 +00.1	S 13 43.8 +00.8	298 49.0 -00.7	S 19 41.4 +00.8	288 16.6 -33.4	S 18 35.6 +08.3	09						
10	334 05.1 +00.0	S 13 44.6 +00.8	313 48.3 -00.8	S 19 42.2 +00.8	302 43.2 -33.3	S 18 43.9 +08.2	10						
11	349 05.1 +00.0	S 13 45.4 +00.9	328 47.5 -00.7	S 19 43.0 +00.9	317 09.9 -33.4	S 18 52.1 +08.0	11						
12	4 05.1 +00.1	S 13 46.3 +00.8	343 46.8 -00.7	S 19 43.9 +00.8	331 36.5 -33.4	S 19 00.1 +08.0	12						
13	19 05.2 +00.0	S 13 47.1 +00.8	358 46.1 -00.7	S 19 44.7 +00.8	346 03.1 -33.4	S 19 08.1 +07.8	13						
14	34 05.2 +00.0	S 13 47.9 +00.8	13 45.4 -00.7	S 19 45.5 +00.8	0 29.7 -33.4	S 19 15.9 +07.7	14						
15	49 05.2 +00.1	S 13 48.7 +00.8	28 44.7 -00.8	S 19 46.3 +00.8	14 56.3 -33.5	S 19 23.6 +07.5	15						
16	64 05.3 +00.0	S 13 49.5 +00.9	43 43.9 -00.7	S 19 47.1 +00.8	29 22.8 -33.4	S 19 31.1 +07.4	16						
17	79 05.3 +00.0	S 13 50.4 +00.8	58 43.2 -00.7	S 19 47.9 +00.9	43 49.4 -33.4	S 19 38.5 +07.3	17						
18	94 05.3 +00.1	S 13 51.2 +00.8	73 42.5 -00.7	S 19 48.8 +00.8	58 16.0 -33.5	S 19 45.8 +07.2	18						
19	109 05.4 +00.0	S 13 52.0 +00.8	88 41.8 -00.8	S 19 49.6 +00.8	72 42.5 -33.4	S 19 53.0 +07.1	19						
20	124 05.4 +00.0	S 13 52.8 +00.8	103 41.0 -00.7	S 19 50.4 +00.8	87 09.1 -33.5	S 20 00.1 +06.9	20						
21	139 05.4 +00.0	S 13 53.6 +00.8	118 40.3 -00.7	S 19 51.2 +00.8	101 35.6 -33.4	S 20 07.0 +06.7	21						
22	154 05.4 +00.1	S 13 54.4 +00.9	133 39.6 -00.8	S 19 52.0 +00.8	116 02.2 -33.5	S 20 13.7 +06.7	22						
23	169 05.5 +00.0	S 13 55.3 +00.8	148 38.8 -00.7	S 19 52.8 +00.8	130 28.7 -33.5	S 20 20.4 +06.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'1 16'0 16'0 16'0 15'9 15'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 59'0 58'8 58'7 58'6 58'4 58'3								
	SHA 146° 146° 146° 145° 145° 145°		SHA 126° 126° 125° 125° 125° 125°		SHA 119° 117° 114° 112° 110° 107°								
	Greenwich Culmination Time: 11:43		Greenwich Culmination Time: 13:04		Greenwich Culmination Time: 13:57								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	202 18.0 +01.0	S 05 47.4 +00.6	135 39.8 +01.9	S 23 03.1 +00.1	111 26.1 +02.3	S 22 25.5 +00.0	00						
01	217 19.0 +00.9	S 05 48.0 +00.7	150 41.7 +02.0	S 23 03.2 +00.0	126 28.4 +02.3	S 22 25.5 -00.1	01						
02	232 19.9 +01.0	S 05 48.7 +00.6	165 43.7 +01.9	S 23 03.2 +00.0	141 30.7 +02.3	S 22 25.4 +00.0	02						
03	247 20.9 +01.0	S 05 49.3 +00.6	180 45.6 +02.0	S 23 03.2 +00.1	156 33.0 +02.3	S 22 25.4 +00.0	03						
04	262 21.9 +00.9	S 05 49.9 +00.7	195 47.6 +01.9	S 23 03.3 +00.0	171 35.3 +02.3	S 22 25.4 +00.0	04						
05	277 22.8 +01.0	S 05 50.6 +00.6	210 49.5 +02.0	S 23 03.3 +00.0	186 37.6 +02.2	S 22 25.4 +00.0	05						
06	292 23.8 +00.9	S 05 51.2 +00.6	225 51.5 +01.9	S 23 03.3 +00.0	201 39.8 +02.3	S 22 25.4 +00.0	06						
07	307 24.7 +01.0	S 05 51.8 +00.7	240 53.4 +02.0	S 23 03.3 +00.1	216 42.1 +02.3	S 22 25.4 +00.0	07						
08	322 25.7 +00.9	S 05 52.5 +00.6	255 55.4 +01.9	S 23 03.4 +00.0	231 44.4 +02.3	S 22 25.4 -00.1	08						
09	337 26.6 +01.0	S 05 53.1 +00.7	270 57.3 +02.0	S 23 03.4 +00.0	246 46.7 +02.3	S 22 25.3 +00.0	09						
10	352 27.6 +01.0	S 05 53.8 +00.6	285 59.3 +01.9	S 23 03.4 +00.1	261 49.0 +02.3	S 22 25.3 +00.0	10						
11	7 28.6 +00.9	S 05 54.4 +00.6	301 01.2 +02.0	S 23 03.5 +00.0	276 51.3 +02.3	S 22 25.3 +00.0	11						
12	22 29.5 +01.0	S 05 55.0 +00.7	316 03.2 +01.9	S 23 03.5 +00.0	291 53.6 +02.3	S 22 25.3 +00.0	12						
13	37 30.5 +00.9	S 05 55.7 +00.6	331 05.1 +02.0	S 23 03.5 +00.1	306 55.9 +02.2	S 22 25.3 +00.0	13						
14	52 31.4 +01.0	S 05 56.3 +00.6	346 07.1 +01.9	S 23 03.6 +00.0	321 58.1 +02.3	S 22 25.3 +00.0	14						
15	67 32.4 +00.9	S 05 56.9 +00.7	1 09.0 +02.0	S 23 03.6 +00.0	337 00.4 +02.3	S 22 25.3 -00.1	15						
16	82 33.3 +01.0	S 05 57.6 +00.6	16 11.0 +01.9	S 23 03.6 +00.0	352 02.7 +02.3	S 22 25.2 +00.0	16						
17	97 34.3 +01.0	S 05 58.2 +00.6	31 12.9 +02.0	S 23 03.6 +00.1	7 05.0 +02.3	S 22 25.2 +00.0	17						
18	112 35.3 +00.9	S 05 58.8 +00.7	46 14.9 +01.9	S 23 03.7 +00.0	22 07.3 +02.3	S 22 25.2 +00.0	18						
19	127 36.2 +01.0	S 05 59.5 +00.6	61 16.8 +02.0	S 23 03.7 +00.0	37 09.6 +02.3	S 22 25.2 +00.0	19						
20	142 37.2 +00.9	S 06 00.1 +00.6	76 18.8 +01.9	S 23 03.7 +00.1	52 11.9 +02.3	S 22 25.2 +00.0	20						
21	157 38.1 +01.0	S 06 00.7 +00.7	91 20.7 +02.0	S 23 03.8 +00.0	67 14.2 +02.2	S 22 25.2 -00.1	21						
22	172 39.1 +00.9	S 06 01.4 +00.6	106 22.7 +01.9	S 23 03.8 +00.0	82 16.4 +02.3	S 22 25.1 +00.0	22						
23	187 40.0 +01.0	S 06 02.0 +00.6	121 24.6 +02.0	S 23 03.8 +00.0	97 18.7 +02.3	S 22 25.1 +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 164° 164° 164° 164° 164° 164°		SHA 098° 098° 098° 098° 097° 097°		SHA 073° 073° 073° 073° 073° 073°								
	Greenwich Culmination Time: 10:30		Greenwich Culmination Time: 14:55		Greenwich Culmination Time: 16:31								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 12%				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	184 05.5 +00.0	S 13	56.1 +00.8	163 38.1 -00.7	S 19	53.6 +00.8	144 55.2 -33.5	S 20	26.9 +06.4	00			
01	199 05.5 +00.1	S 13	56.9 +00.8	178 37.4 -00.7	S 19	54.4 +00.8	159 21.7 -33.4	S 20	33.3 +06.3	01			
02	214 05.6 +00.0	S 13	57.7 +00.8	193 36.7 -00.8	S 19	55.2 +00.9	173 48.3 -33.5	S 20	39.6 +06.1	02			
03	229 05.6 +00.0	S 13	58.5 +00.8	208 35.9 -00.7	S 19	56.1 +00.8	188 14.8 -33.5	S 20	45.7 +06.0	03			
04	244 05.6 +00.1	S 13	59.3 +00.8	223 35.2 -00.7	S 19	56.9 +00.8	202 41.3 -33.4	S 20	51.7 +05.8	04			
05	259 05.7 +00.0	S 14	00.1 +00.9	238 34.5 -00.8	S 19	57.7 +00.8	217 07.9 -33.5	S 20	57.5 +05.8	05			
06	274 05.7 +00.0	S 14	01.0 +00.8	253 33.7 -00.7	S 19	58.5 +00.8	231 34.4 -33.5	S 21	03.3 +05.5	06			
07	289 05.7 +00.0	S 14	01.8 +00.8	268 33.0 -00.7	S 19	59.3 +00.8	246 00.9 -33.4	S 21	08.8 +05.5	07			
08	304 05.7 +00.1	S 14	02.6 +00.8	283 32.3 -00.8	S 20	00.1 +00.8	260 27.5 -33.5	S 21	14.3 +05.3	08			
09	319 05.8 +00.0	S 14	03.4 +00.8	298 31.5 -00.7	S 20	00.9 +00.8	274 54.0 -33.4	S 21	19.6 +05.2	09			
10	334 05.8 +00.0	S 14	04.2 +00.8	313 30.8 -00.7	S 20	01.7 +00.8	289 20.6 -33.4	S 21	24.8 +05.1	10			
11	349 05.8 +00.0	S 14	05.0 +00.8	328 30.1 -00.8	S 20	02.5 +00.8	303 47.2 -33.5	S 21	29.9 +04.9	11			
12	4 05.8 +00.1	S 14	05.8 +00.8	343 29.3 -00.7	S 20	03.3 +00.8	318 13.7 -33.4	S 21	34.8 +04.8	12			
13	19 05.9 +00.0	S 14	06.6 +00.8	358 28.6 -00.7	S 20	04.1 +00.8	332 40.3 -33.4	S 21	39.6 +04.6	13			
14	34 05.9 +00.0	S 14	07.4 +00.9	13 27.9 -00.8	S 20	04.9 +00.8	347 06.9 -33.4	S 21	44.2 +04.6	14			
15	49 05.9 +00.0	S 14	08.3 +00.8	28 27.1 -00.7	S 20	05.7 +00.7	1 33.5 -33.4	S 21	48.8 +04.3	15			
16	64 05.9 +00.1	S 14	09.1 +00.8	43 26.4 -00.7	S 20	06.4 +00.8	16 00.1 -33.3	S 21	53.1 +04.3	16			
17	79 06.0 +00.0	S 14	09.9 +00.8	58 25.7 -00.8	S 20	07.2 +00.8	30 26.8 -33.4	S 21	57.4 +04.1	17			
18	94 06.0 +00.0	S 14	10.7 +00.8	73 24.9 -00.7	S 20	08.0 +00.8	44 53.4 -33.3	S 22	01.5 +04.0	18			
19	109 06.0 +00.0	S 14	11.5 +00.8	88 24.2 -00.8	S 20	08.8 +00.8	59 20.1 -33.4	S 22	05.5 +03.8	19			
20	124 06.0 +00.1	S 14	12.3 +00.8	103 23.4 -00.7	S 20	09.6 +00.8	73 46.7 -33.3	S 22	09.3 +03.7	20			
21	139 06.1 +00.0	S 14	13.1 +00.8	118 22.7 -00.7	S 20	10.4 +00.8	88 13.4 -33.3	S 22	13.0 +03.6	21			
22	154 06.1 +00.0	S 14	13.9 +00.8	133 22.0 -00.8	S 20	11.2 +00.8	102 40.1 -33.2	S 22	16.6 +03.5	22			
23	169 06.1 +00.0	S 14	14.7 +00.8	148 21.2 -00.7	S 20	12.0 +00.8	117 06.9 -33.3	S 22	20.1 +03.3	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'8 15'8 15'8 15'7 15'7 15'6						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 58'1 58'0 57'8 57'7 57'5 57'4						
	SHA 145° 145° 145° 145° 144° 144°			SHA 125° 124° 124° 124° 124° 123°			SHA 105° 102° 100° 098° 095° 093°						
	Greenwich Culmination Time: 11:43			Greenwich Culmination Time: 13:06			Greenwich Culmination Time: 14:53						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	202 41.0 +01.0	S 06	02.6 +00.7	136 26.6 +01.9	S 23	03.8 +00.1	112 21.0 +02.3	S 22	25.1 +00.0	00			
01	217 42.0 +00.9	S 06	03.3 +00.6	151 28.5 +02.0	S 23	03.9 +00.0	127 23.3 +02.3	S 22	25.1 +00.0	01			
02	232 42.9 +01.0	S 06	03.9 +00.6	166 30.5 +01.9	S 23	03.9 +00.0	142 25.6 +02.3	S 22	25.1 +00.0	02			
03	247 43.9 +00.9	S 06	04.5 +00.7	181 32.4 +02.0	S 23	03.9 +00.1	157 27.9 +02.3	S 22	25.1 +00.0	03			
04	262 44.8 +01.0	S 06	05.2 +00.6	196 34.4 +01.9	S 23	04.0 +00.0	172 30.2 +02.2	S 22	25.1 -00.1	04			
05	277 45.8 +00.9	S 06	05.8 +00.7	211 36.3 +02.0	S 23	04.0 +00.0	187 32.4 +02.3	S 22	25.0 +00.0	05			
06	292 46.7 +01.0	S 06	06.5 +00.6	226 38.3 +01.9	S 23	04.0 +00.1	202 34.7 +02.3	S 22	25.0 +00.0	06			
07	307 47.7 +00.9	S 06	07.1 +00.6	241 40.2 +01.9	S 23	04.1 +00.0	217 37.0 +02.3	S 22	25.0 +00.0	07			
08	322 48.6 +01.0	S 06	07.7 +00.7	256 42.1 +02.0	S 23	04.1 +00.0	232 39.3 +02.3	S 22	25.0 +00.0	08			
09	337 49.6 +01.0	S 06	08.4 +00.6	271 44.1 +01.9	S 23	04.1 +00.0	247 41.6 +02.3	S 22	25.0 +00.0	09			
10	352 50.6 +00.9	S 06	09.0 +00.6	286 46.0 +02.0	S 23	04.1 +00.1	262 43.9 +02.2	S 22	25.0 -00.1	10			
11	7 51.5 +01.0	S 06	09.6 +00.7	301 48.0 +01.9	S 23	04.2 +00.0	277 46.1 +02.3	S 22	24.9 +00.0	11			
12	22 52.5 +00.9	S 06	10.3 +00.6	316 49.9 +02.0	S 23	04.2 +00.0	292 48.4 +02.3	S 22	24.9 +00.0	12			
13	37 53.4 +01.0	S 06	10.9 +00.6	331 51.9 +01.9	S 23	04.2 +00.1	307 50.7 +02.3	S 22	24.9 +00.0	13			
14	52 54.4 +00.9	S 06	11.5 +00.7	346 53.8 +02.0	S 23	04.3 +00.0	322 53.0 +02.3	S 22	24.9 +00.0	14			
15	67 55.3 +01.0	S 06	12.2 +00.6	1 55.8 +01.9	S 23	04.3 +00.0	337 55.3 +02.3	S 22	24.9 +00.0	15			
16	82 56.3 +00.9	S 06	12.8 +00.6	16 57.7 +02.0	S 23	04.3 +00.0	352 57.6 +02.3	S 22	24.9 +00.0	16			
17	97 57.2 +01.0	S 06	13.4 +00.7	31 59.7 +01.9	S 23	04.3 +00.1	7 59.9 +02.2	S 22	24.9 -00.1	17			
18	112 58.2 +00.9	S 06	14.1 +00.6	47 01.6 +01.9	S 23	04.4 +00.0	23 02.1 +02.3	S 22	24.8 +00.0	18			
19	127 59.1 +01.0	S 06	14.7 +00.6	62 03.5 +02.0	S 23	04.4 +00.0	38 04.4 +02.3	S 22	24.8 +00.0	19			
20	143 00.1 +01.0	S 06	15.3 +00.7	77 05.5 +01.9	S 23	04.4 +00.1	53 06.7 +02.3	S 22	24.8 +00.0	20			
21	158 01.1 +00.9	S 06	16.0 +00.6	92 07.4 +02.0	S 23	04.5 +00.0	68 09.0 +02.3	S 22	24.8 +00.0	21			
22	173 02.0 +01.0	S 06	16.6 +00.6	107 09.4 +01.9	S 23	04.5 +00.0	83 11.3 +02.3	S 22	24.8 +00.0	22			
23	188 03.0 +00.9	S 06	17.2 +00.7	122 11.3 +02.0	S 23	04.5 +00.0	98 13.6 +02.2	S 22	24.8 -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 164° 164° 163° 163° 163° 163°			SHA 097° 097° 097° 097° 097° 097°			SHA 073° 073° 073° 073° 073° 073°						
	Greenwich Culmination Time: 10:28			Greenwich Culmination Time: 14:52			Greenwich Culmination Time: 16:28						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 06.1 +00.0	S 14 15.5 +00.8	163 20.5 -00.8	S 20 12.8 +00.7	131 33.6 -33.2	S 22 23.4 +03.1	00						
01	199 06.1 +00.1	S 14 16.3 +00.8	178 19.7 -00.7	S 20 13.5 +00.8	146 00.4 -33.2	S 22 26.5 +03.1	01						
02	214 06.2 +00.0	S 14 17.1 +00.8	193 19.0 -00.7	S 20 14.3 +00.8	160 27.2 -33.2	S 22 29.6 +02.9	02						
03	229 06.2 +00.0	S 14 17.9 +00.8	208 18.3 -00.8	S 20 15.1 +00.8	174 54.0 -33.1	S 22 32.5 +02.7	03						
04	244 06.2 +00.0	S 14 18.7 +00.8	223 17.5 -00.7	S 20 15.9 +00.8	189 20.9 -33.2	S 22 35.2 +02.7	04						
05	259 06.2 +00.0	S 14 19.5 +00.8	238 16.8 -00.8	S 20 16.7 +00.8	203 47.7 -33.1	S 22 37.9 +02.5	05						
06	274 06.2 +00.1	S 14 20.3 +00.9	253 16.0 -00.7	S 20 17.5 +00.7	218 14.6 -33.1	S 22 40.4 +02.3	06						
07	289 06.3 +00.0	S 14 21.2 +00.8	268 15.3 -00.8	S 20 18.2 +00.8	232 41.5 -33.0	S 22 42.7 +02.3	07						
08	304 06.3 +00.0	S 14 22.0 +00.8	283 14.5 -00.7	S 20 19.0 +00.8	247 08.5 -33.0	S 22 45.0 +02.0	08						
09	319 06.3 +00.0	S 14 22.8 +00.8	298 13.8 -00.7	S 20 19.8 +00.8	261 35.5 -33.0	S 22 47.0 +02.0	09						
10	334 06.3 +00.0	S 14 23.6 +00.8	313 13.1 -00.8	S 20 20.6 +00.7	276 02.5 -33.0	S 22 49.0 +01.8	10						
11	349 06.3 +00.1	S 14 24.4 +00.8	328 12.3 -00.7	S 20 21.3 +00.8	290 29.5 -32.9	S 22 50.8 +01.7	11						
12	4 06.4 +00.0	S 14 25.2 +00.8	343 11.6 -00.8	S 20 22.1 +00.8	304 56.6 -32.9	S 22 52.5 +01.6	12						
13	19 06.4 +00.0	S 14 26.0 +00.8	358 10.8 -00.7	S 20 22.9 +00.8	319 23.7 -32.8	S 22 54.1 +01.4	13						
14	34 06.4 +00.0	S 14 26.8 +00.8	13 10.1 -00.8	S 20 23.7 +00.7	333 50.9 -32.9	S 22 55.5 +01.3	14						
15	49 06.4 +00.0	S 14 27.6 +00.8	28 09.3 -00.7	S 20 24.4 +00.8	348 18.0 -32.7	S 22 56.8 +01.2	15						
16	64 06.4 +00.0	S 14 28.4 +00.8	43 08.6 -00.8	S 20 25.2 +00.8	2 45.3 -32.8	S 22 58.0 +01.1	16						
17	79 06.4 +00.1	S 14 29.2 +00.8	58 07.8 -00.7	S 20 26.0 +00.7	17 12.5 -32.7	S 22 59.1 +00.9	17						
18	94 06.5 +00.0	S 14 30.0 +00.8	73 07.1 -00.8	S 20 26.7 +00.8	31 39.8 -32.7	S 22 60.0 +00.7	18						
19	109 06.5 +00.0	S 14 30.8 +00.8	88 06.3 -00.7	S 20 27.5 +00.8	46 07.1 -32.6	S 23 00.7 +00.7	19						
20	124 06.5 +00.0	S 14 31.6 +00.8	103 05.6 -00.8	S 20 28.3 +00.7	60 34.5 -32.6	S 23 01.4 +00.5	20						
21	139 06.5 +00.0	S 14 32.4 +00.8	118 04.8 -00.7	S 20 29.0 +00.8	75 01.9 -32.5	S 23 01.9 +00.4	21						
22	154 06.5 +00.0	S 14 33.2 +00.7	133 04.1 -00.8	S 20 29.8 +00.8	89 29.4 -32.5	S 23 02.3 +00.3	22						
23	169 06.5 +00.0	S 14 33.9 +00.8	148 03.3 -00.7	S 20 30.6 +00.7	103 56.9 -32.5	S 23 02.6 +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	16'1 16'1 16'1 16'1 16'1 16'1		SD	00'1 00'1 00'1 00'1 00'1 00'1		SD	15'6 15'6 15'5 15'5 15'4 15'4						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	57'2 57'1 56'9 56'8 56'6 56'5						
SHA	144° 144° 144° 144° 143° 143°		SHA	123° 123° 123° 123° 122° 122°		SHA	090° 088° 086° 083° 081° 079°						
Greenwich Culmination Time: 11:43			Greenwich Culmination Time: 13:07			Greenwich Culmination Time: 15:48							

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	203 03.9 +01.0	S 06 17.9 +00.6	137 13.3 +01.9	S 23 04.5 +00.1	113 15.8 +02.3	S 22 24.7 +00.0	00						
01	218 04.9 +00.9	S 06 18.5 +00.6	152 15.2 +01.9	S 23 04.6 +00.0	128 18.1 +02.3	S 22 24.7 +00.0	01						
02	233 05.8 +01.0	S 06 19.1 +00.7	167 17.1 +02.0	S 23 04.6 +00.0	143 20.4 +02.3	S 22 24.7 +00.0	02						
03	248 06.8 +00.9	S 06 19.8 +00.6	182 19.1 +01.9	S 23 04.6 +00.1	158 22.7 +02.3	S 22 24.7 +00.0	03						
04	263 07.7 +01.0	S 06 20.4 +00.6	197 21.0 +02.0	S 23 04.7 +00.0	173 25.0 +02.2	S 22 24.7 +00.0	04						
05	278 08.7 +00.9	S 06 21.0 +00.7	212 23.0 +01.9	S 23 04.7 +00.0	188 27.2 +02.3	S 22 24.7 -00.1	05						
06	293 09.6 +01.0	S 06 21.7 +00.6	227 24.9 +02.0	S 23 04.7 +00.1	203 29.5 +02.3	S 22 24.6 +00.0	06						
07	308 10.6 +01.0	S 06 22.3 +00.6	242 26.9 +01.9	S 23 04.8 +00.0	218 31.8 +02.3	S 22 24.6 +00.0	07						
08	323 11.6 +00.9	S 06 22.9 +00.7	257 28.8 +01.9	S 23 04.8 +00.0	233 34.1 +02.3	S 22 24.6 +00.0	08						
09	338 12.5 +01.0	S 06 23.6 +00.6	272 30.7 +02.0	S 23 04.8 +00.0	248 36.4 +02.3	S 22 24.6 +00.0	09						
10	353 13.5 +00.9	S 06 24.2 +00.6	287 32.7 +01.9	S 23 04.8 +00.1	263 38.7 +02.2	S 22 24.6 +00.0	10						
11	8 14.4 +01.0	S 06 24.8 +00.7	302 34.6 +02.0	S 23 04.9 +00.0	278 40.9 +02.3	S 22 24.6 +00.0	11						
12	23 15.4 +00.9	S 06 25.5 +00.6	317 36.6 +01.9	S 23 04.9 +00.0	293 43.2 +02.3	S 22 24.6 -00.1	12						
13	38 16.3 +01.0	S 06 26.1 +00.6	332 38.5 +02.0	S 23 04.9 +00.1	308 45.5 +02.3	S 22 24.5 +00.0	13						
14	53 17.3 +00.9	S 06 26.7 +00.6	347 40.5 +01.9	S 23 05.0 +00.0	323 47.8 +02.3	S 22 24.5 +00.0	14						
15	68 18.2 +01.0	S 06 27.3 +00.7	2 42.4 +01.9	S 23 05.0 +00.0	338 50.1 +02.2	S 22 24.5 +00.0	15						
16	83 19.2 +00.9	S 06 28.0 +00.6	17 44.3 +02.0	S 23 05.0 +00.0	353 52.3 +02.3	S 22 24.5 +00.0	16						
17	98 20.1 +01.0	S 06 28.6 +00.6	32 46.3 +01.9	S 23 05.0 +00.1	8 54.6 +02.3	S 22 24.5 +00.0	17						
18	113 21.1 +00.9	S 06 29.2 +00.7	47 48.2 +02.0	S 23 05.1 +00.0	23 56.9 +02.3	S 22 24.5 -00.1	18						
19	128 22.0 +01.0	S 06 29.9 +00.6	62 50.2 +01.9	S 23 05.1 +00.0	38 59.2 +02.3	S 22 24.4 +00.0	19						
20	143 23.0 +00.9	S 06 30.5 +00.6	77 52.1 +01.9	S 23 05.1 +00.1	54 01.5 +02.2	S 22 24.4 +00.0	20						
21	158 23.9 +01.0	S 06 31.1 +00.7	92 54.0 +02.0	S 23 05.2 +00.0	69 03.7 +02.3	S 22 24.4 +00.0	21						
22	173 24.9 +00.9	S 06 31.8 +00.6	107 56.0 +01.9	S 23 05.2 +00.0	84 06.0 +02.3	S 22 24.4 +00.0	22						
23	188 25.8 +01.0	S 06 32.4 +00.6	122 57.9 +02.0	S 23 05.2 +00.0	99 08.3 +02.3	S 22 24.4 +00.0	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	00'0 00'0 00'0 00'0 00'0 00'0		SD	00'3 00'3 00'3 00'3 00'3 00'3		SD	00'1 00'1 00'1 00'1 00'1 00'1						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'0 00'0 00'0 00'0 00'0 00'0		HP	00'0 00'0 00'0 00'0 00'0 00'0						
SHA	163° 163° 163° 163° 163° 163°		SHA	097° 097° 097° 097° 097° 097°		SHA	073° 073° 073° 073° 073° 073°						
Greenwich Culmination Time: 10:27			Greenwich Culmination Time: 14:49			Greenwich Culmination Time: 16:24							

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 06.5 +00.1	S 14 34.7 +00.8	163 02.6 -00.8	S 20 31.3 +00.8	118 24.4 -32.4	S 23 02.7 +00.0	00						
01	199 06.6 +00.0	S 14 35.5 +00.8	178 01.8 -00.7	S 20 32.1 +00.8	132 52.0 -32.4	S 23 02.7 -00.1	01						
02	214 06.6 +00.0	S 14 36.3 +00.8	193 01.1 -00.8	S 20 32.9 +00.7	147 19.6 -32.3	S 23 02.6 -00.3	02						
03	229 06.6 +00.0	S 14 37.1 +00.8	208 00.3 -00.8	S 20 33.6 +00.8	161 47.3 -32.3	S 23 02.3 -00.3	03						
04	244 06.6 +00.0	S 14 37.9 +00.8	222 59.5 -00.7	S 20 34.4 +00.7	176 15.0 -32.2	S 23 02.0 -00.5	04						
05	259 06.6 +00.0	S 14 38.7 +00.8	237 58.8 -00.8	S 20 35.1 +00.8	190 42.8 -32.2	S 23 01.5 -00.7	05						
06	274 06.6 +00.0	S 14 39.5 +00.8	252 58.0 -00.7	S 20 35.9 +00.8	205 10.6 -32.2	S 23 00.8 -00.7	06						
07	289 06.6 +00.0	S 14 40.3 +00.8	267 57.3 -00.8	S 20 36.7 +00.7	219 38.4 -32.0	S 23 00.1 -00.9	07						
08	304 06.6 +00.0	S 14 41.1 +00.8	282 56.5 -00.7	S 20 37.4 +00.8	234 06.4 -32.1	S 22 59.2 -01.0	08						
09	319 06.6 +00.1	S 14 41.9 +00.8	297 55.8 -00.8	S 20 38.2 +00.7	248 34.3 -32.0	S 22 58.2 -01.1	09						
10	334 06.7 +00.0	S 14 42.7 +00.8	312 55.0 -00.8	S 20 38.9 +00.8	263 02.3 -31.9	S 22 57.1 -01.2	10						
11	349 06.7 +00.0	S 14 43.5 +00.8	327 54.2 -00.7	S 20 39.7 +00.7	277 30.4 -31.9	S 22 55.9 -01.4	11						
12	4 06.7 +00.0	S 14 44.3 +00.8	342 53.5 -00.8	S 20 40.4 +00.8	291 58.5 -31.8	S 22 54.5 -01.5	12						
13	19 06.7 +00.0	S 14 45.1 +00.8	357 52.7 -00.7	S 20 41.2 +00.7	306 26.7 -31.8	S 22 53.0 -01.6	13						
14	34 06.7 +00.0	S 14 45.9 +00.7	12 52.0 -00.8	S 20 41.9 +00.8	320 54.9 -31.7	S 22 51.4 -01.7	14						
15	49 06.7 +00.0	S 14 46.6 +00.8	27 51.2 -00.8	S 20 42.7 +00.7	335 23.2 -31.6	S 22 49.7 -01.8	15						
16	64 06.7 +00.0	S 14 47.4 +00.8	42 50.4 -00.7	S 20 43.4 +00.8	349 51.6 -31.7	S 22 47.9 -02.0	16						
17	79 06.7 +00.0	S 14 48.2 +00.8	57 49.7 -00.8	S 20 44.2 +00.7	4 19.9 -31.5	S 22 45.9 -02.1	17						
18	94 06.7 +00.0	S 14 49.0 +00.8	72 48.9 -00.8	S 20 44.9 +00.7	18 48.4 -31.5	S 22 43.8 -02.2	18						
19	109 06.7 +00.0	S 14 49.8 +00.8	87 48.1 -00.7	S 20 45.6 +00.8	33 16.9 -31.4	S 22 41.6 -02.3	19						
20	124 06.7 +00.0	S 14 50.6 +00.8	102 47.4 -00.8	S 20 46.4 +00.7	47 45.5 -31.4	S 22 39.3 -02.4	20						
21	139 06.7 +00.1	S 14 51.4 +00.8	117 46.6 -00.7	S 20 47.1 +00.8	62 14.1 -31.3	S 22 36.9 -02.6	21						
22	154 06.8 +00.0	S 14 52.2 +00.7	132 45.9 -00.8	S 20 47.9 +00.7	76 42.8 -31.3	S 22 34.3 -02.6	22						
23	169 06.8 +00.0	S 14 52.9 +00.8	147 45.1 -00.8	S 20 48.6 +00.8	91 11.5 -31.2	S 22 31.7 -02.8	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'4 15'3 15'3 15'3 15'2 15'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 56'4 56'2 56'1 56'0 55'8 55'7								
	SHA 143° 143° 143° 143° 142° 142°		SHA 122° 122° 122° 121° 121° 121°		SHA 076° 074° 072° 069° 067° 065°								
	Greenwich Culmination Time: 11:43		Greenwich Culmination Time: 13:08		Greenwich Culmination Time: 16:42								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	203 26.8 +00.9	S 06 33.0 +00.7	137 59.9 +01.9	S 23 05.2 +00.1	114 10.6 +02.2	S 22 24.4 -00.1	00						
01	218 27.7 +01.0	S 06 33.7 +00.6	153 01.8 +01.9	S 23 05.3 +00.0	129 12.8 +02.3	S 22 24.3 +00.0	01						
02	233 28.7 +00.9	S 06 34.3 +00.6	168 03.7 +02.0	S 23 05.3 +00.0	144 15.1 +02.3	S 22 24.3 +00.0	02						
03	248 29.6 +01.0	S 06 34.9 +00.7	183 05.7 +01.9	S 23 05.3 +00.1	159 17.4 +02.3	S 22 24.3 +00.0	03						
04	263 30.6 +01.0	S 06 35.6 +00.6	198 07.6 +02.0	S 23 05.4 +00.0	174 19.7 +02.3	S 22 24.3 +00.0	04						
05	278 31.6 +00.9	S 06 36.2 +00.6	213 09.6 +01.9	S 23 05.4 +00.0	189 22.0 +02.2	S 22 24.3 +00.0	05						
06	293 32.5 +01.0	S 06 36.8 +00.7	228 11.5 +01.9	S 23 05.4 +00.0	204 24.2 +02.3	S 22 24.3 -00.1	06						
07	308 33.5 +00.9	S 06 37.5 +00.6	243 13.4 +02.0	S 23 05.4 +00.1	219 26.5 +02.3	S 22 24.2 +00.0	07						
08	323 34.4 +01.0	S 06 38.1 +00.6	258 15.4 +01.9	S 23 05.5 +00.0	234 28.8 +02.3	S 22 24.2 +00.0	08						
09	338 35.4 +00.9	S 06 38.7 +00.6	273 17.3 +02.0	S 23 05.5 +00.0	249 31.1 +02.3	S 22 24.2 +00.0	09						
10	353 36.3 +01.0	S 06 39.3 +00.7	288 19.3 +01.9	S 23 05.5 +00.1	264 33.4 +02.2	S 22 24.2 +00.0	10						
11	8 37.3 +00.9	S 06 40.0 +00.6	303 21.2 +01.9	S 23 05.6 +00.0	279 35.6 +02.3	S 22 24.2 +00.0	11						
12	23 38.2 +01.0	S 06 40.6 +00.6	318 23.1 +02.0	S 23 05.6 +00.0	294 37.9 +02.3	S 22 24.2 +00.0	12						
13	38 39.2 +00.9	S 06 41.2 +00.7	333 25.1 +01.9	S 23 05.6 +00.0	309 40.2 +02.3	S 22 24.2 -00.1	13						
14	53 40.1 +01.0	S 06 41.9 +00.6	348 27.0 +01.9	S 23 05.6 +00.1	324 42.5 +02.2	S 22 24.1 +00.0	14						
15	68 41.1 +00.9	S 06 42.5 +00.6	3 28.9 +02.0	S 23 05.7 +00.0	339 44.7 +02.3	S 22 24.1 +00.0	15						
16	83 42.0 +01.0	S 06 43.1 +00.7	18 30.9 +01.9	S 23 05.7 +00.0	354 47.0 +02.3	S 22 24.1 +00.0	16						
17	98 43.0 +00.9	S 06 43.8 +00.6	33 32.8 +02.0	S 23 05.7 +00.0	9 49.3 +02.3	S 22 24.1 +00.0	17						
18	113 43.9 +01.0	S 06 44.4 +00.6	48 34.8 +01.9	S 23 05.7 +00.1	24 51.6 +02.2	S 22 24.1 +00.0	18						
19	128 44.9 +00.9	S 06 45.0 +00.7	63 36.7 +01.9	S 23 05.8 +00.0	39 53.8 +02.3	S 22 24.1 -00.1	19						
20	143 45.8 +01.0	S 06 45.7 +00.6	78 38.6 +02.0	S 23 05.8 +00.0	54 56.1 +02.3	S 22 24.0 +00.0	20						
21	158 46.8 +00.9	S 06 46.3 +00.6	93 40.6 +01.9	S 23 05.8 +00.1	69 58.4 +02.3	S 22 24.0 +00.0	21						
22	173 47.7 +01.0	S 06 46.9 +00.6	108 42.5 +01.9	S 23 05.9 +00.0	85 00.7 +02.2	S 22 24.0 +00.0	22						
23	188 48.7 +00.9	S 06 47.5 +00.7	123 44.4 +02.0	S 23 05.9 +00.0	100 02.9 +02.3	S 22 24.0 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 162° 162° 162° 162° 162° 162°		SHA 097° 097° 097° 097° 097° 097°		SHA 073° 073° 073° 073° 073° 073°								
	Greenwich Culmination Time: 10:25		Greenwich Culmination Time: 14:46		Greenwich Culmination Time: 16:20								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 06.8 +00.0	S 15 12.5 +00.8	162 25.8 -00.8	S 21 06.8 +00.7	93 30.3 -29.6	S 20 50.2 -05.4	00						
01	199 06.8 +00.0	S 15 13.3 +00.7	177 25.0 -00.8	S 21 07.5 +00.7	108 00.7 -29.5	S 20 44.8 -05.4	01						
02	214 06.8 +00.0	S 15 14.0 +00.8	192 24.2 -00.7	S 21 08.2 +00.7	122 31.2 -29.5	S 20 39.4 -05.6	02						
03	229 06.8 +00.0	S 15 14.8 +00.8	207 23.5 -00.8	S 21 08.9 +00.7	137 01.7 -29.4	S 20 33.8 -05.7	03						
04	244 06.8 +00.0	S 15 15.6 +00.8	222 22.7 -00.8	S 21 09.6 +00.7	151 32.3 -29.4	S 20 28.1 -05.7	04						
05	259 06.8 +00.0	S 15 16.4 +00.7	237 21.9 -00.8	S 21 10.3 +00.8	166 02.9 -29.2	S 20 22.4 -05.9	05						
06	274 06.8 +00.0	S 15 17.1 +00.8	252 21.1 -00.8	S 21 11.1 +00.7	180 33.7 -29.3	S 20 16.5 -05.9	06						
07	289 06.8 -00.1	S 15 17.9 +00.8	267 20.3 -00.7	S 21 11.8 +00.7	195 04.4 -29.1	S 20 10.6 -06.0	07						
08	304 06.7 +00.0	S 15 18.7 +00.7	282 19.6 -00.8	S 21 12.5 +00.7	209 35.3 -29.1	S 20 04.6 -06.1	08						
09	319 06.7 +00.0	S 15 19.4 +00.8	297 18.8 -00.8	S 21 13.2 +00.7	224 06.2 -29.0	S 19 58.5 -06.2	09						
10	334 06.7 +00.0	S 15 20.2 +00.8	312 18.0 -00.8	S 21 13.9 +00.7	238 37.2 -29.0	S 19 52.3 -06.3	10						
11	349 06.7 +00.0	S 15 21.0 +00.8	327 17.2 -00.8	S 21 14.6 +00.7	253 08.2 -28.9	S 19 46.0 -06.4	11						
12	4 06.7 +00.0	S 15 21.8 +00.7	342 16.4 -00.8	S 21 15.3 +00.7	267 39.3 -28.8	S 19 39.6 -06.4	12						
13	19 06.7 +00.0	S 15 22.5 +00.8	357 15.6 -00.7	S 21 16.0 +00.7	282 10.5 -28.8	S 19 33.2 -06.6	13						
14	34 06.7 +00.0	S 15 23.3 +00.8	12 14.9 -00.8	S 21 16.7 +00.7	296 41.7 -28.7	S 19 26.6 -06.6	14						
15	49 06.7 +00.0	S 15 24.1 +00.7	27 14.1 -00.8	S 21 17.4 +00.7	311 13.0 -28.6	S 19 20.0 -06.7	15						
16	64 06.7 +00.0	S 15 24.8 +00.8	42 13.3 -00.8	S 21 18.1 +00.7	325 44.4 -28.6	S 19 13.3 -06.8	16						
17	79 06.7 +00.0	S 15 25.6 +00.8	57 12.5 -00.8	S 21 18.8 +00.7	340 15.8 -28.5	S 19 06.5 -06.9	17						
18	94 06.7 +00.0	S 15 26.4 +00.7	72 11.7 -00.8	S 21 19.5 +00.7	354 47.3 -28.4	S 18 59.6 -06.9	18						
19	109 06.7 +00.0	S 15 27.1 +00.8	87 10.9 -00.8	S 21 20.2 +00.7	9 18.9 -28.4	S 18 52.7 -07.0	19						
20	124 06.7 -00.1	S 15 27.9 +00.8	102 10.1 -00.7	S 21 20.9 +00.7	23 50.5 -28.4	S 18 45.7 -07.2	20						
21	139 06.6 +00.0	S 15 28.7 +00.7	117 09.4 -00.8	S 21 21.6 +00.7	38 22.1 -28.2	S 18 38.5 -07.1	21						
22	154 06.6 +00.0	S 15 29.4 +00.8	132 08.6 -00.8	S 21 22.3 +00.7	52 53.9 -28.2	S 18 31.4 -07.3	22						
23	169 06.6 +00.0	S 15 30.2 +00.8	147 07.8 -00.8	S 21 23.0 +00.6	67 25.7 -28.2	S 18 24.1 -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 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'0 15'0 14'9 14'9 14'9 14'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'0 54'9 54'8 54'7 54'7 54'6								
	SHA 141° 141° 141° 141° 140° 140°		SHA 119° 119° 119° 119° 119° 118°		SHA 049° 047° 045° 043° 041° 039°								
	Greenwich Culmination Time: 11:43		Greenwich Culmination Time: 13:10		Greenwich Culmination Time: 18:21								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	204 12.4 +00.9	S 07 03.3 +00.6	139 32.8 +01.9	S 23 06.6 +00.0	115 59.8 +02.3	S 22 23.6 -00.1	00						
01	219 13.3 +01.0	S 07 03.9 +00.6	154 34.7 +02.0	S 23 06.6 +00.0	131 02.1 +02.2	S 22 23.5 +00.0	01						
02	234 14.3 +00.9	S 07 04.5 +00.7	169 36.7 +01.9	S 23 06.6 +00.1	146 04.3 +02.3	S 22 23.5 +00.0	02						
03	249 15.2 +01.0	S 07 05.2 +00.6	184 38.6 +01.9	S 23 06.7 +00.0	161 06.6 +02.3	S 22 23.5 +00.0	03						
04	264 16.2 +00.9	S 07 05.8 +00.6	199 40.5 +02.0	S 23 06.7 +00.0	176 08.9 +02.2	S 22 23.5 +00.0	04						
05	279 17.1 +01.0	S 07 06.4 +00.6	214 42.5 +01.9	S 23 06.7 +00.0	191 11.1 +02.3	S 22 23.5 +00.0	05						
06	294 18.1 +00.9	S 07 07.0 +00.7	229 44.4 +01.9	S 23 06.7 +00.1	206 13.4 +02.3	S 22 23.5 -00.1	06						
07	309 19.0 +00.9	S 07 07.7 +00.6	244 46.3 +02.0	S 23 06.8 +00.0	221 15.7 +02.3	S 22 23.4 +00.0	07						
08	324 19.9 +01.0	S 07 08.3 +00.6	259 48.3 +01.9	S 23 06.8 +00.0	236 18.0 +02.2	S 22 23.4 +00.0	08						
09	339 20.9 +00.9	S 07 08.9 +00.6	274 50.2 +01.9	S 23 06.8 +00.0	251 20.2 +02.3	S 22 23.4 +00.0	09						
10	354 21.8 +01.0	S 07 09.5 +00.7	289 52.1 +01.9	S 23 06.8 +00.1	266 22.5 +02.3	S 22 23.4 +00.0	10						
11	9 22.8 +00.9	S 07 10.2 +00.6	304 54.0 +02.0	S 23 06.9 +00.0	281 24.8 +02.2	S 22 23.4 +00.0	11						
12	24 23.7 +01.0	S 07 10.8 +00.6	319 56.0 +01.9	S 23 06.9 +00.0	296 27.0 +02.3	S 22 23.4 -00.1	12						
13	39 24.7 +00.9	S 07 11.4 +00.7	334 57.9 +01.9	S 23 06.9 +00.1	311 29.3 +02.3	S 22 23.3 +00.0	13						
14	54 25.6 +01.0	S 07 12.1 +00.6	349 59.8 +02.0	S 23 07.0 +00.0	326 31.6 +02.3	S 22 23.3 +00.0	14						
15	69 26.6 +00.9	S 07 12.7 +00.6	5 01.8 +01.9	S 23 07.0 +00.0	341 33.9 +02.2	S 22 23.3 +00.0	15						
16	84 27.5 +01.0	S 07 13.3 +00.6	20 03.7 +01.9	S 23 07.0 +00.0	356 36.1 +02.3	S 22 23.3 +00.0	16						
17	99 28.5 +00.9	S 07 13.9 +00.7	35 05.6 +02.0	S 23 07.0 +00.1	11 38.4 +02.3	S 22 23.3 +00.0	17						
18	114 29.4 +01.0	S 07 14.6 +00.6	50 07.6 +01.9	S 23 07.1 +00.0	26 40.7 +02.2	S 22 23.3 -00.1	18						
19	129 30.4 +00.9	S 07 15.2 +00.6	65 09.5 +01.9	S 23 07.1 +00.0	41 42.9 +02.3	S 22 23.2 +00.0	19						
20	144 31.3 +00.9	S 07 15.8 +00.6	80 11.4 +01.9	S 23 07.1 +00.0	56 45.2 +02.3	S 22 23.2 +00.0	20						
21	159 32.2 +01.0	S 07 16.4 +00.7	95 13.3 +02.0	S 23 07.1 +00.1	71 47.5 +02.2	S 22 23.2 +00.0	21						
22	174 33.2 +00.9	S 07 17.1 +00.6	110 15.3 +01.9	S 23 07.2 +00.0	86 49.7 +02.3	S 22 23.2 +00.0	22						
23	189 34.1 +01.0	S 07 17.7 +00.6	125 17.2 +01.9	S 23 07.2 +00.0	101 52.0 +02.3	S 22 23.2 -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 161° 161° 161° 161° 161° 161°		SHA 097° 097° 097° 096° 096° 096°		SHA 073° 073° 073° 073° 073° 073°								
	Greenwich Culmination Time: 10:22		Greenwich Culmination Time: 14:39		Greenwich Culmination Time: 16:13								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 06.6 +00.0	S 15 31.0 +00.7	162 07.0 -00.8	S 21 23.6 +00.7	81 57.5 -28.0	S 18 16.7 -07.4	00						
01	199 06.6 +00.0	S 15 31.7 +00.8	177 06.2 -00.8	S 21 24.3 +00.7	96 29.5 -28.0	S 18 09.3 -07.5	01						
02	214 06.6 +00.0	S 15 32.5 +00.8	192 05.4 -00.8	S 21 25.0 +00.7	111 01.5 -28.0	S 18 01.8 -07.6	02						
03	229 06.6 +00.0	S 15 33.3 +00.7	207 04.6 -00.8	S 21 25.7 +00.7	125 33.5 -27.9	S 17 54.2 -07.6	03						
04	244 06.6 -00.1	S 15 34.0 +00.8	222 03.8 -00.8	S 21 26.4 +00.7	140 05.6 -27.8	S 17 46.6 -07.8	04						
05	259 06.5 +00.0	S 15 34.8 +00.8	237 03.0 -00.8	S 21 27.1 +00.7	154 37.8 -27.8	S 17 38.8 -07.8	05						
06	274 06.5 +00.0	S 15 35.6 +00.7	252 02.2 -00.8	S 21 27.8 +00.6	169 10.0 -27.7	S 17 31.0 -07.8	06						
07	289 06.5 +00.0	S 15 36.3 +00.8	267 01.4 -00.8	S 21 28.4 +00.7	183 42.3 -27.7	S 17 23.2 -08.0	07						
08	304 06.5 +00.0	S 15 37.1 +00.7	282 00.6 -00.7	S 21 29.1 +00.7	198 14.6 -27.6	S 17 15.2 -08.0	08						
09	319 06.5 +00.0	S 15 37.8 +00.8	296 59.9 -00.8	S 21 29.8 +00.7	212 47.0 -27.5	S 17 07.2 -08.1	09						
10	334 06.5 +00.0	S 15 38.6 +00.8	311 59.1 -00.8	S 21 30.5 +00.7	227 19.5 -27.5	S 16 59.1 -08.1	10						
11	349 06.5 -00.1	S 15 39.4 +00.7	326 58.3 -00.8	S 21 31.2 +00.6	241 52.0 -27.5	S 16 51.0 -08.2	11						
12	4 06.4 +00.0	S 15 40.1 +00.8	341 57.5 -00.8	S 21 31.8 +00.7	256 24.5 -27.3	S 16 42.8 -08.3	12						
13	19 06.4 +00.0	S 15 40.9 +00.7	356 56.7 -00.8	S 21 32.5 +00.7	270 57.2 -27.4	S 16 34.5 -08.4	13						
14	34 06.4 +00.0	S 15 41.6 +00.8	11 55.9 -00.8	S 21 33.2 +00.7	285 29.8 -27.2	S 16 26.1 -08.4	14						
15	49 06.4 +00.0	S 15 42.4 +00.8	26 55.1 -00.8	S 21 33.9 +00.6	300 02.6 -27.2	S 16 17.7 -08.5	15						
16	64 06.4 +00.0	S 15 43.2 +00.7	41 54.3 -00.8	S 21 34.5 +00.7	314 35.4 -27.2	S 16 09.2 -08.6	16						
17	79 06.4 -00.1	S 15 43.9 +00.8	56 53.5 -00.8	S 21 35.2 +00.7	329 08.2 -27.1	S 16 00.6 -08.6	17						
18	94 06.3 +00.0	S 15 44.7 +00.7	71 52.7 -00.8	S 21 35.9 +00.7	343 41.1 -27.0	S 15 52.0 -08.7	18						
19	109 06.3 +00.0	S 15 45.4 +00.8	86 51.9 -00.8	S 21 36.6 +00.6	358 14.1 -27.0	S 15 43.3 -08.7	19						
20	124 06.3 +00.0	S 15 46.2 +00.7	101 51.1 -00.8	S 21 37.2 +00.7	12 47.1 -27.0	S 15 34.6 -08.8	20						
21	139 06.3 +00.0	S 15 46.9 +00.8	116 50.3 -00.8	S 21 37.9 +00.7	27 20.1 -26.9	S 15 25.8 -08.9	21						
22	154 06.3 +00.0	S 15 47.7 +00.8	131 49.5 -00.8	S 21 38.6 +00.6	41 53.2 -26.8	S 15 16.9 -08.9	22						
23	169 06.3 -00.1	S 15 48.5 +00.7	146 48.7 -00.8	S 21 39.2 +00.7	56 26.4 -26.8	S 15 08.0 -09.0	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 00'1 00'1 00'1 00'1 00'1 00'1	UT	02 06 10 14 18 22	SD 14'9 14'8 14'8 14'8 14'8 14'8					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 54'5 54'5 54'4 54'4 54'3 54'3						
	SHA 140° 140° 140° 140° 139° 139°			SHA 118° 118° 118° 117° 117° 117°			SHA 037° 035° 033° 031° 029° 027°						
	Greenwich Culmination Time: 11:43			Greenwich Culmination Time: 13:12			Greenwich Culmination Time: 19:07						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	204 35.1 +00.9	S 07 18.3 +00.6	140 19.1 +02.0	S 23 07.2 +00.1	116 54.3 +02.2	S 22 23.1 +00.0	00						
01	219 36.0 +01.0	S 07 18.9 +00.7	155 21.1 +01.9	S 23 07.3 +00.0	131 56.5 +02.3	S 22 23.1 +00.0	01						
02	234 37.0 +00.9	S 07 19.6 +00.6	170 23.0 +01.9	S 23 07.3 +00.0	146 58.8 +02.3	S 22 23.1 +00.0	02						
03	249 37.9 +01.0	S 07 20.2 +00.6	185 24.9 +02.0	S 23 07.3 +00.0	162 01.1 +02.3	S 22 23.1 +00.0	03						
04	264 38.9 +00.9	S 07 20.8 +00.6	200 26.9 +01.9	S 23 07.3 +00.1	177 03.4 +02.2	S 22 23.1 +00.0	04						
05	279 39.8 +00.9	S 07 21.4 +00.7	215 28.8 +01.9	S 23 07.4 +00.0	192 05.6 +02.3	S 22 23.1 -00.1	05						
06	294 40.7 +01.0	S 07 22.1 +00.6	230 30.7 +01.9	S 23 07.4 +00.0	207 07.9 +02.3	S 22 23.0 +00.0	06						
07	309 41.7 +00.9	S 07 22.7 +00.6	245 32.6 +02.0	S 23 07.4 +00.0	222 10.2 +02.2	S 22 23.0 +00.0	07						
08	324 42.6 +01.0	S 07 23.3 +00.7	260 34.6 +01.9	S 23 07.4 +00.1	237 12.4 +02.3	S 22 23.0 +00.0	08						
09	339 43.6 +00.9	S 07 24.0 +00.6	275 36.5 +01.9	S 23 07.5 +00.0	252 14.7 +02.3	S 22 23.0 +00.0	09						
10	354 44.5 +01.0	S 07 24.6 +00.6	290 38.4 +01.9	S 23 07.5 +00.0	267 17.0 +02.2	S 22 23.0 +00.0	10						
11	9 45.5 +00.9	S 07 25.2 +00.6	305 40.3 +02.0	S 23 07.5 +00.0	282 19.2 +02.3	S 22 23.0 -00.1	11						
12	24 46.4 +01.0	S 07 25.8 +00.7	320 42.3 +01.9	S 23 07.5 +00.1	297 21.5 +02.3	S 22 22.9 +00.0	12						
13	39 47.4 +00.9	S 07 26.5 +00.6	335 44.2 +01.9	S 23 07.6 +00.0	312 23.8 +02.2	S 22 22.9 +00.0	13						
14	54 48.3 +00.9	S 07 27.1 +00.6	350 46.1 +02.0	S 23 07.6 +00.0	327 26.0 +02.3	S 22 22.9 +00.0	14						
15	69 49.2 +01.0	S 07 27.7 +00.6	5 48.1 +01.9	S 23 07.6 +00.0	342 28.3 +02.3	S 22 22.9 +00.0	15						
16	84 50.2 +00.9	S 07 28.3 +00.7	20 50.0 +01.9	S 23 07.6 +00.1	357 30.6 +02.2	S 22 22.9 -00.1	16						
17	99 51.1 +01.0	S 07 29.0 +00.6	35 51.9 +01.9	S 23 07.7 +00.0	12 32.8 +02.3	S 22 22.8 +00.0	17						
18	114 52.1 +00.9	S 07 29.6 +00.6	50 53.8 +02.0	S 23 07.7 +00.0	27 35.1 +02.3	S 22 22.8 +00.0	18						
19	129 53.0 +01.0	S 07 30.2 +00.6	65 55.8 +01.9	S 23 07.7 +00.1	42 37.4 +02.2	S 22 22.8 +00.0	19						
20	144 54.0 +00.9	S 07 30.8 +00.7	80 57.7 +01.9	S 23 07.8 +00.0	57 39.6 +02.3	S 22 22.8 +00.0	20						
21	159 54.9 +00.9	S 07 31.5 +00.6	95 59.6 +01.9	S 23 07.8 +00.0	72 41.9 +02.3	S 22 22.8 +00.0	21						
22	174 55.8 +01.0	S 07 32.1 +00.6	111 01.5 +02.0	S 23 07.8 +00.0	87 44.2 +02.2	S 22 22.8 -00.1	22						
23	189 56.8 +00.9	S 07 32.7 +00.6	126 03.5 +01.9	S 23 07.8 +00.1	102 46.4 +02.3	S 22 22.7 +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						
	SHA 161° 160° 160° 160° 160° 160°			SHA 096° 096° 096° 096° 096° 096°			SHA 073° 073° 073° 073° 073° 073°						
	Greenwich Culmination Time: 10:21			Greenwich Culmination Time: 14:36			Greenwich Culmination Time: 16:09						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 32%				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	184 06.2 +00.0	S	15 49.2 +00.8	161 47.9 -00.8	S	21 39.9 +00.7	70 59.6 -26.8	S	14 59.0 -09.1	00			
01	199 06.2 +00.0	S	15 50.0 +00.7	176 47.1 -00.8	S	21 40.6 +00.6	85 32.8 -26.7	S	14 49.9 -09.1	01			
02	214 06.2 +00.0	S	15 50.7 +00.8	191 46.3 -00.8	S	21 41.2 +00.7	100 06.1 -26.6	S	14 40.8 -09.1	02			
03	229 06.2 -00.1	S	15 51.5 +00.7	206 45.5 -00.8	S	21 41.9 +00.6	114 39.5 -26.6	S	14 31.7 -09.3	03			
04	244 06.1 +00.0	S	15 52.2 +00.8	221 44.7 -00.8	S	21 42.5 +00.7	129 12.9 -26.6	S	14 22.4 -09.3	04			
05	259 06.1 +00.0	S	15 53.0 +00.7	236 43.9 -00.8	S	21 43.2 +00.7	143 46.3 -26.5	S	14 13.1 -09.3	05			
06	274 06.1 +00.0	S	15 53.7 +00.8	251 43.1 -00.8	S	21 43.9 +00.6	158 19.8 -26.4	S	14 03.8 -09.4	06			
07	289 06.1 +00.0	S	15 54.5 +00.7	266 42.3 -00.8	S	21 44.5 +00.7	172 53.4 -26.5	S	13 54.4 -09.4	07			
08	304 06.1 -00.1	S	15 55.2 +00.8	281 41.5 -00.9	S	21 45.2 +00.6	187 26.9 -26.3	S	13 45.0 -09.5	08			
09	319 06.0 +00.0	S	15 56.0 +00.7	296 40.6 -00.8	S	21 45.8 +00.7	202 00.6 -26.4	S	13 35.5 -09.6	09			
10	334 06.0 +00.0	S	15 56.7 +00.8	311 39.8 -00.8	S	21 46.5 +00.6	216 34.2 -26.2	S	13 25.9 -09.6	10			
11	349 06.0 +00.0	S	15 57.5 +00.7	326 39.0 -00.8	S	21 47.1 +00.7	231 08.0 -26.3	S	13 16.3 -09.7	11			
12	4 06.0 -00.1	S	15 58.2 +00.8	341 38.2 -00.8	S	21 47.8 +00.6	245 41.7 -26.2	S	13 06.6 -09.7	12			
13	19 05.9 +00.0	S	15 59.0 +00.7	356 37.4 -00.8	S	21 48.4 +00.7	260 15.5 -26.1	S	12 56.9 -09.8	13			
14	34 05.9 +00.0	S	15 59.7 +00.8	11 36.6 -00.8	S	21 49.1 +00.6	274 49.4 -26.2	S	12 47.1 -09.8	14			
15	49 05.9 +00.0	S	16 00.5 +00.7	26 35.8 -00.8	S	21 49.7 +00.7	289 23.2 -26.0	S	12 37.3 -09.8	15			
16	64 05.9 -00.1	S	16 01.2 +00.8	41 35.0 -00.8	S	21 50.4 +00.6	303 57.2 -26.1	S	12 27.5 -09.9	16			
17	79 05.8 +00.0	S	16 02.0 +00.7	56 34.2 -00.8	S	21 51.0 +00.7	318 31.1 -26.0	S	12 17.6 -10.0	17			
18	94 05.8 +00.0	S	16 02.7 +00.8	71 33.4 -00.8	S	21 51.7 +00.6	333 05.1 -25.9	S	12 07.6 -10.0	18			
19	109 05.8 +00.0	S	16 03.5 +00.7	86 32.6 -00.9	S	21 52.3 +00.7	347 39.2 -26.0	S	11 57.6 -10.1	19			
20	124 05.8 -00.1	S	16 04.2 +00.8	101 31.7 -00.8	S	21 53.0 +00.6	2 13.2 -25.9	S	11 47.5 -10.1	20			
21	139 05.7 +00.0	S	16 05.0 +00.7	116 30.9 -00.8	S	21 53.6 +00.7	16 47.3 -25.8	S	11 37.4 -10.1	21			
22	154 05.7 +00.0	S	16 05.7 +00.7	131 30.1 -00.8	S	21 54.3 +00.6	31 21.5 -25.8	S	11 27.3 -10.2	22			
23	169 05.7 -00.1	S	16 06.4 +00.8	146 29.3 -00.8	S	21 54.9 +00.6	45 55.7 -25.8	S	11 17.1 -10.3	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 14'8 14'8 14'8 14'8 14'7 14'7					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 54'2 54'2 54'2 54'2 54'1 54'1					
	SHA 139° 139° 139° 139° 138° 138°			SHA 117° 117° 116° 116° 116° 116°				SHA 025° 023° 021° 019° 017° 016°					
	Greenwich Culmination Time: 11:43			Greenwich Culmination Time: 13:13				Greenwich Culmination Time: 19:50					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	204 57.7 +01.0	S	07 33.3 +00.6	141 05.4 +01.9	S	23 07.9 +00.0	117 48.7 +02.3	S	22 22.7 +00.0	00			
01	219 58.7 +00.9	S	07 33.9 +00.7	156 07.3 +01.9	S	23 07.9 +00.0	132 51.0 +02.2	S	22 22.7 +00.0	01			
02	234 59.6 +01.0	S	07 34.6 +00.6	171 09.2 +02.0	S	23 07.9 +00.0	147 53.2 +02.3	S	22 22.7 +00.0	02			
03	250 00.6 +00.9	S	07 35.2 +00.6	186 11.2 +01.9	S	23 07.9 +00.1	162 55.5 +02.2	S	22 22.7 -00.1	03			
04	265 01.5 +00.9	S	07 35.8 +00.6	201 13.1 +01.9	S	23 08.0 +00.0	177 57.7 +02.3	S	22 22.6 +00.0	04			
05	280 02.4 +01.0	S	07 36.4 +00.7	216 15.0 +01.9	S	23 08.0 +00.0	193 00.0 +02.3	S	22 22.6 +00.0	05			
06	295 03.4 +00.9	S	07 37.1 +00.6	231 16.9 +02.0	S	23 08.0 +00.0	208 02.3 +02.2	S	22 22.6 +00.0	06			
07	310 04.3 +01.0	S	07 37.7 +00.6	246 18.9 +01.9	S	23 08.0 +00.1	223 04.5 +02.3	S	22 22.6 +00.0	07			
08	325 05.3 +00.9	S	07 38.3 +00.6	261 20.8 +01.9	S	23 08.1 +00.0	238 06.8 +02.3	S	22 22.6 +00.0	08			
09	340 06.2 +00.9	S	07 38.9 +00.7	276 22.7 +01.9	S	23 08.1 +00.0	253 09.1 +02.2	S	22 22.6 -00.1	09			
10	355 07.1 +01.0	S	07 39.6 +00.6	291 24.6 +02.0	S	23 08.1 +00.0	268 11.3 +02.3	S	22 22.5 +00.0	10			
11	10 08.1 +00.9	S	07 40.2 +00.6	306 26.6 +01.9	S	23 08.1 +00.1	283 13.6 +02.3	S	22 22.5 +00.0	11			
12	25 09.0 +01.0	S	07 40.8 +00.6	321 28.5 +01.9	S	23 08.2 +00.0	298 15.9 +02.2	S	22 22.5 +00.0	12			
13	40 10.0 +00.9	S	07 41.4 +00.7	336 30.4 +01.9	S	23 08.2 +00.0	313 18.1 +02.3	S	22 22.5 +00.0	13			
14	55 10.9 +00.9	S	07 42.1 +00.6	351 32.3 +02.0	S	23 08.2 +00.0	328 20.4 +02.2	S	22 22.5 -00.1	14			
15	70 11.8 +01.0	S	07 42.7 +00.6	6 34.3 +01.9	S	23 08.2 +00.1	343 22.6 +02.3	S	22 22.4 +00.0	15			
16	85 12.8 +00.9	S	07 43.3 +00.6	21 36.2 +01.9	S	23 08.3 +00.0	358 24.9 +02.3	S	22 22.4 +00.0	16			
17	100 13.7 +01.0	S	07 43.9 +00.6	36 38.1 +01.9	S	23 08.3 +00.0	13 27.2 +02.2	S	22 22.4 +00.0	17			
18	115 14.7 +00.9	S	07 44.5 +00.7	51 40.0 +02.0	S	23 08.3 +00.0	28 29.4 +02.3	S	22 22.4 +00.0	18			
19	130 15.6 +01.0	S	07 45.2 +00.6	66 42.0 +01.9	S	23 08.3 +00.1	43 31.7 +02.3	S	22 22.4 +00.0	19			
20	145 16.6 +00.9	S	07 45.8 +00.6	81 43.9 +01.9	S	23 08.4 +00.0	58 34.0 +02.2	S	22 22.4 -00.1	20			
21	160 17.5 +00.9	S	07 46.4 +00.6	96 45.8 +01.9	S	23 08.4 +00.0	73 36.2 +02.3	S	22 22.3 +00.0	21			
22	175 18.4 +01.0	S	07 47.0 +00.7	111 47.7 +01.9	S	23 08.4 +00.0	88 38.5 +02.2	S	22 22.3 +00.0	22			
23	190 19.4 +00.9	S	07 47.7 +00.6	126 49.6 +02.0	S	23 08.4 +00.1	103 40.7 +02.3	S	22 22.3 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0					
	SHA 160° 160° 160° 160° 160° 159°			SHA 096° 096° 096° 096° 096° 096°				SHA 073° 073° 073° 073° 073° 073°					
	Greenwich Culmination Time: 10:19			Greenwich Culmination Time: 14:33				Greenwich Culmination Time: 16:06					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 05.6 +00.0	S 16 07.2 +00.7	161 28.5 -00.8	S 21 55.5 +00.7	60 29.9 -25.8	S 11 06.8 -10.3	00						
01	199 05.6 +00.0	S 16 07.9 +00.8	176 27.7 -00.8	S 21 56.2 +00.6	75 04.1 -25.7	S 10 56.5 -10.3	01						
02	214 05.6 +00.0	S 16 08.7 +00.7	191 26.9 -00.8	S 21 56.8 +00.6	89 38.4 -25.7	S 10 46.2 -10.3	02						
03	229 05.6 -00.1	S 16 09.4 +00.8	206 26.1 -00.9	S 21 57.4 +00.7	104 12.7 -25.6	S 10 35.9 -10.5	03						
04	244 05.5 +00.0	S 16 10.2 +00.7	221 25.2 -00.8	S 21 58.1 +00.6	118 47.1 -25.7	S 10 25.4 -10.4	04						
05	259 05.5 +00.0	S 16 10.9 +00.7	236 24.4 -00.8	S 21 58.7 +00.6	133 21.4 -25.6	S 10 15.0 -10.5	05						
06	274 05.5 -00.1	S 16 11.6 +00.8	251 23.6 -00.8	S 21 59.3 +00.7	147 55.8 -25.5	S 10 04.5 -10.5	06						
07	289 05.4 +00.0	S 16 12.4 +00.7	266 22.8 -00.8	S 21 60.0 +00.6	162 30.3 -25.6	S 09 54.0 -10.6	07						
08	304 05.4 +00.0	S 16 13.1 +00.8	281 22.0 -00.8	S 22 00.6 +00.6	177 04.7 -25.5	S 09 43.4 -10.6	08						
09	319 05.4 -00.1	S 16 13.9 +00.7	296 21.2 -00.9	S 22 01.2 +00.7	191 39.2 -25.5	S 09 32.8 -10.7	09						
10	334 05.3 +00.0	S 16 14.6 +00.7	311 20.3 -00.8	S 22 01.9 +00.6	206 13.7 -25.4	S 09 22.1 -10.7	10						
11	349 05.3 +00.0	S 16 15.3 +00.8	326 19.5 -00.8	S 22 02.5 +00.6	220 48.3 -25.5	S 09 11.4 -10.7	11						
12	4 05.3 -00.1	S 16 16.1 +00.7	341 18.7 -00.8	S 22 03.1 +00.6	235 22.8 -25.4	S 09 00.7 -10.8	12						
13	19 05.2 +00.0	S 16 16.8 +00.7	356 17.9 -00.8	S 22 03.7 +00.7	249 57.4 -25.3	S 08 49.9 -10.8	13						
14	34 05.2 +00.0	S 16 17.5 +00.8	11 17.1 -00.9	S 22 04.4 +00.6	264 32.1 -25.4	S 08 39.1 -10.8	14						
15	49 05.2 -00.1	S 16 18.3 +00.7	26 16.2 -00.8	S 22 05.0 +00.6	279 06.7 -25.4	S 08 28.3 -10.9	15						
16	64 05.1 +00.0	S 16 19.0 +00.8	41 15.4 -00.8	S 22 05.6 +00.6	293 41.3 -25.3	S 08 17.4 -10.9	16						
17	79 05.1 +00.0	S 16 19.8 +00.7	56 14.6 -00.8	S 22 06.2 +00.7	308 16.0 -25.3	S 08 06.5 -10.9	17						
18	94 05.1 -00.1	S 16 20.5 +00.7	71 13.8 -00.8	S 22 06.9 +00.6	322 50.7 -25.2	S 07 55.6 -11.0	18						
19	109 05.0 +00.0	S 16 21.2 +00.8	86 13.0 -00.9	S 22 07.5 +00.6	337 25.5 -25.3	S 07 44.6 -11.0	19						
20	124 05.0 +00.0	S 16 22.0 +00.7	101 12.1 -00.8	S 22 08.1 +00.6	352 00.2 -25.2	S 07 33.6 -11.0	20						
21	139 05.0 -00.1	S 16 22.7 +00.7	116 11.3 -00.8	S 22 08.7 +00.6	6 35.0 -25.3	S 07 22.6 -11.1	21						
22	154 04.9 +00.0	S 16 23.4 +00.8	131 10.5 -00.8	S 22 09.3 +00.6	21 09.7 -25.2	S 07 11.5 -11.0	22						
23	169 04.9 +00.0	S 16 24.2 +00.7	146 09.7 -00.9	S 22 09.9 +00.7	35 44.5 -25.2	S 07 00.5 -11.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'7 14'7 14'7 14'7 14'7 14'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'1 54'1 54'1 54'1 54'1 54'1								
	SHA 138° 138° 138° 138° 137° 137°		SHA 115° 115° 115° 115° 115° 114°		SHA 014° 012° 010° 008° 006° 004°								
	Greenwich Culmination Time: 11:43		Greenwich Culmination Time: 13:14		Greenwich Culmination Time: 20:32								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	205 20.3 +01.0	S 07 48.3 +00.6	141 51.6 +01.9	S 23 08.5 +00.0	118 43.0 +02.3	S 22 22.3 +00.0	00						
01	220 21.3 +00.9	S 07 48.9 +00.6	156 53.5 +01.9	S 23 08.5 +00.0	133 45.3 +02.2	S 22 22.3 -00.1	01						
02	235 22.2 +00.9	S 07 49.5 +00.6	171 55.4 +01.9	S 23 08.5 +00.1	148 47.5 +02.3	S 22 22.2 +00.0	02						
03	250 23.1 +01.0	S 07 50.1 +00.7	186 57.3 +02.0	S 23 08.6 +00.0	163 49.8 +02.3	S 22 22.2 +00.0	03						
04	265 24.1 +00.9	S 07 50.8 +00.6	201 59.3 +01.9	S 23 08.6 +00.0	178 52.1 +02.2	S 22 22.2 +00.0	04						
05	280 25.0 +00.9	S 07 51.4 +00.6	217 01.2 +01.9	S 23 08.6 +00.0	193 54.3 +02.3	S 22 22.2 +00.0	05						
06	295 25.9 +01.0	S 07 52.0 +00.6	232 03.1 +01.9	S 23 08.6 +00.1	208 56.6 +02.2	S 22 22.2 +00.0	06						
07	310 26.9 +00.9	S 07 52.6 +00.7	247 05.0 +01.9	S 23 08.7 +00.0	223 58.8 +02.3	S 22 22.2 -00.1	07						
08	325 27.8 +01.0	S 07 53.3 +00.6	262 06.9 +02.0	S 23 08.7 +00.0	239 01.1 +02.3	S 22 22.1 +00.0	08						
09	340 28.8 +00.9	S 07 53.9 +00.6	277 08.9 +01.9	S 23 08.7 +00.0	254 03.4 +02.2	S 22 22.1 +00.0	09						
10	355 29.7 +00.9	S 07 54.5 +00.6	292 10.8 +01.9	S 23 08.7 +00.1	269 05.6 +02.3	S 22 22.1 +00.0	10						
11	10 30.6 +01.0	S 07 55.1 +00.6	307 12.7 +01.9	S 23 08.8 +00.0	284 07.9 +02.2	S 22 22.1 +00.0	11						
12	25 31.6 +00.9	S 07 55.7 +00.7	322 14.6 +01.9	S 23 08.8 +00.0	299 10.1 +02.3	S 22 22.1 -00.1	12						
13	40 32.5 +01.0	S 07 56.4 +00.6	337 16.5 +02.0	S 23 08.8 +00.0	314 12.4 +02.3	S 22 22.0 +00.0	13						
14	55 33.5 +00.9	S 07 57.0 +00.6	352 18.5 +01.9	S 23 08.8 +00.1	329 14.7 +02.2	S 22 22.0 +00.0	14						
15	70 34.4 +00.9	S 07 57.6 +00.6	7 20.4 +01.9	S 23 08.9 +00.0	344 16.9 +02.3	S 22 22.0 +00.0	15						
16	85 35.3 +01.0	S 07 58.2 +00.6	22 22.3 +01.9	S 23 08.9 +00.0	359 19.2 +02.2	S 22 22.0 +00.0	16						
17	100 36.3 +00.9	S 07 58.8 +00.7	37 24.2 +01.9	S 23 08.9 +00.0	14 21.4 +02.3	S 22 22.0 -00.1	17						
18	115 37.2 +00.9	S 07 59.5 +00.6	52 26.1 +02.0	S 23 08.9 +00.1	29 23.7 +02.3	S 22 21.9 +00.0	18						
19	130 38.1 +01.0	S 08 00.1 +00.6	67 28.1 +01.9	S 23 09.0 +00.0	44 26.0 +02.2	S 22 21.9 +00.0	19						
20	145 39.1 +00.9	S 08 00.7 +00.6	82 30.0 +01.9	S 23 09.0 +00.0	59 28.2 +02.3	S 22 21.9 +00.0	20						
21	160 40.0 +01.0	S 08 01.3 +00.7	97 31.9 +01.9	S 23 09.0 +00.0	74 30.5 +02.2	S 22 21.9 +00.0	21						
22	175 41.0 +00.9	S 08 02.0 +00.6	112 33.8 +01.9	S 23 09.0 +00.1	89 32.7 +02.3	S 22 21.9 +00.0	22						
23	190 41.9 +00.9	S 08 02.6 +00.6	127 35.7 +02.0	S 23 09.1 +00.0	104 35.0 +02.3	S 22 21.9 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 159° 159° 159° 159° 159° 159°		SHA 096° 096° 096° 096° 096° 096°		SHA 073° 073° 073° 073° 073° 073°								
	Greenwich Culmination Time: 10:18		Greenwich Culmination Time: 14:30		Greenwich Culmination Time: 16:02								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 04.9 -00.1	S 16 24.9 +00.7	161 08.8 -00.8	S 22 10.6 +00.6	50 19.3 -25.1	S 06 49.3 -11.1	00						
01	199 04.8 +00.0	S 16 25.6 +00.8	176 08.0 -00.8	S 22 11.2 +00.6	64 54.2 -25.2	S 06 38.2 -11.2	01						
02	214 04.8 -00.1	S 16 26.4 +00.7	191 07.2 -00.8	S 22 11.8 +00.6	79 29.0 -25.2	S 06 27.0 -11.2	02						
03	229 04.7 +00.0	S 16 27.1 +00.7	206 06.4 -00.9	S 22 12.4 +00.6	94 03.8 -25.1	S 06 15.8 -11.2	03						
04	244 04.7 +00.0	S 16 27.8 +00.7	221 05.5 -00.8	S 22 13.0 +00.6	108 38.7 -25.1	S 06 04.6 -11.3	04						
05	259 04.7 -00.1	S 16 28.5 +00.8	236 04.7 -00.8	S 22 13.6 +00.6	123 13.6 -25.1	S 05 53.3 -11.3	05						
06	274 04.6 +00.0	S 16 29.3 +00.7	251 03.9 -00.8	S 22 14.2 +00.6	137 48.5 -25.1	S 05 42.0 -11.3	06						
07	289 04.6 +00.0	S 16 30.0 +00.7	266 03.1 -00.9	S 22 14.8 +00.6	152 23.4 -25.1	S 05 30.7 -11.3	07						
08	304 04.6 -00.1	S 16 30.7 +00.8	281 02.2 -00.8	S 22 15.4 +00.6	166 58.3 -25.1	S 05 19.4 -11.4	08						
09	319 04.5 +00.0	S 16 31.5 +00.7	296 01.4 -00.8	S 22 16.0 +00.6	181 33.2 -25.1	S 05 08.0 -11.4	09						
10	334 04.5 -00.1	S 16 32.2 +00.7	311 00.6 -00.9	S 22 16.6 +00.6	196 08.1 -25.1	S 04 56.6 -11.4	10						
11	349 04.4 +00.0	S 16 32.9 +00.7	325 59.7 -00.8	S 22 17.2 +00.6	210 43.0 -25.0	S 04 45.2 -11.4	11						
12	4 04.4 -00.1	S 16 33.6 +00.8	340 58.9 -00.8	S 22 17.8 +00.6	225 18.0 -25.1	S 04 33.8 -11.5	12						
13	19 04.3 +00.0	S 16 34.4 +00.7	355 58.1 -00.8	S 22 18.4 +00.6	239 52.9 -25.0	S 04 22.3 -11.5	13						
14	34 04.3 +00.0	S 16 35.1 +00.7	10 57.3 -00.9	S 22 19.0 +00.6	254 27.9 -25.1	S 04 10.8 -11.4	14						
15	49 04.3 -00.1	S 16 35.8 +00.7	25 56.4 -00.8	S 22 19.6 +00.6	269 02.8 -25.0	S 03 59.4 -11.6	15						
16	64 04.2 +00.0	S 16 36.5 +00.8	40 55.6 -00.8	S 22 20.2 +00.6	283 37.8 -25.1	S 03 47.8 -11.5	16						
17	79 04.2 -00.1	S 16 37.3 +00.7	55 54.8 -00.9	S 22 20.8 +00.6	298 12.7 -25.0	S 03 36.3 -11.5	17						
18	94 04.1 +00.0	S 16 38.0 +00.7	70 53.9 -00.8	S 22 21.4 +00.6	312 47.7 -25.0	S 03 24.8 -11.6	18						
19	109 04.1 -00.1	S 16 38.7 +00.7	85 53.1 -00.8	S 22 22.0 +00.6	327 22.7 -25.1	S 03 13.2 -11.6	19						
20	124 04.0 +00.0	S 16 39.4 +00.8	100 52.3 -00.9	S 22 22.6 +00.6	341 57.6 -25.0	S 03 01.6 -11.6	20						
21	139 04.0 +00.0	S 16 40.2 +00.7	115 51.4 -00.8	S 22 23.2 +00.6	356 32.6 -25.1	S 02 50.0 -11.6	21						
22	154 04.0 -00.1	S 16 40.9 +00.7	130 50.6 -00.8	S 22 23.8 +00.6	11 07.5 -25.0	S 02 38.4 -11.6	22						
23	169 03.9 +00.0	S 16 41.6 +00.7	145 49.8 -00.9	S 22 24.4 +00.5	25 42.5 -25.1	S 02 26.8 -11.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'8 14'8 14'8 14'8 14'8 14'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'1 54'2 54'2 54'2 54'2 54'3								
	SHA 137° 137° 137° 137° 136° 136°		SHA 114° 114° 114° 113° 113° 113°		SHA 003° 001° 359° 357° 355° 353°								
	Greenwich Culmination Time: 11:43		Greenwich Culmination Time: 13:16		Greenwich Culmination Time: 21:14								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	205 42.8 +01.0	S 08 03.2 +00.6	142 37.7 +01.9	S 23 09.1 +00.0	119 37.3 +02.2	S 22 21.8 +00.0	00						
01	220 43.8 +00.9	S 08 03.8 +00.6	157 39.6 +01.9	S 23 09.1 +00.0	134 39.5 +02.3	S 22 21.8 +00.0	01						
02	235 44.7 +00.9	S 08 04.4 +00.7	172 41.5 +01.9	S 23 09.1 +00.0	149 41.8 +02.2	S 22 21.8 +00.0	02						
03	250 45.6 +01.0	S 08 05.1 +00.6	187 43.4 +01.9	S 23 09.1 +00.1	164 44.0 +02.3	S 22 21.8 +00.0	03						
04	265 46.6 +00.9	S 08 05.7 +00.6	202 45.3 +02.0	S 23 09.2 +00.0	179 46.3 +02.3	S 22 21.8 -00.1	04						
05	280 47.5 +01.0	S 08 06.3 +00.6	217 47.3 +01.9	S 23 09.2 +00.0	194 48.6 +02.2	S 22 21.7 +00.0	05						
06	295 48.5 +00.9	S 08 06.9 +00.6	232 49.2 +01.9	S 23 09.2 +00.0	209 50.8 +02.3	S 22 21.7 +00.0	06						
07	310 49.4 +00.9	S 08 07.5 +00.7	247 51.1 +01.9	S 23 09.2 +00.1	224 53.1 +02.2	S 22 21.7 +00.0	07						
08	325 50.3 +01.0	S 08 08.2 +00.6	262 53.0 +01.9	S 23 09.3 +00.0	239 55.3 +02.3	S 22 21.7 +00.0	08						
09	340 51.3 +00.9	S 08 08.8 +00.6	277 54.9 +01.9	S 23 09.3 +00.0	254 57.6 +02.2	S 22 21.7 -00.1	09						
10	355 52.2 +00.9	S 08 09.4 +00.6	292 56.8 +02.0	S 23 09.3 +00.0	269 59.8 +02.3	S 22 21.6 +00.0	10						
11	10 53.1 +01.0	S 08 10.0 +00.6	307 58.8 +01.9	S 23 09.3 +00.1	285 02.1 +02.3	S 22 21.6 +00.0	11						
12	25 54.1 +00.9	S 08 10.6 +00.6	323 00.7 +01.9	S 23 09.4 +00.0	300 04.4 +02.2	S 22 21.6 +00.0	12						
13	40 55.0 +00.9	S 08 11.2 +00.7	338 02.6 +01.9	S 23 09.4 +00.0	315 06.6 +02.3	S 22 21.6 +00.0	13						
14	55 55.9 +01.0	S 08 11.9 +00.6	353 04.5 +01.9	S 23 09.4 +00.0	330 08.9 +02.2	S 22 21.6 -00.1	14						
15	70 56.9 +00.9	S 08 12.5 +00.6	8 06.4 +01.9	S 23 09.4 +00.1	345 11.1 +02.3	S 22 21.5 +00.0	15						
16	85 57.8 +01.0	S 08 13.1 +00.6	23 08.3 +02.0	S 23 09.5 +00.0	0 13.4 +02.2	S 22 21.5 +00.0	16						
17	100 58.8 +00.9	S 08 13.7 +00.6	38 10.3 +01.9	S 23 09.5 +00.0	15 15.6 +02.3	S 22 21.5 +00.0	17						
18	115 59.7 +00.9	S 08 14.3 +00.7	53 12.2 +01.9	S 23 09.5 +00.0	30 17.9 +02.3	S 22 21.5 +00.0	18						
19	131 00.6 +01.0	S 08 15.0 +00.6	68 14.1 +01.9	S 23 09.5 +00.1	45 20.2 +02.2	S 22 21.5 -00.1	19						
20	146 01.6 +00.9	S 08 15.6 +00.6	83 16.0 +01.9	S 23 09.6 +00.0	60 22.4 +02.3	S 22 21.4 +00.0	20						
21	161 02.5 +00.9	S 08 16.2 +00.6	98 17.9 +01.9	S 23 09.6 +00.0	75 24.7 +02.2	S 22 21.4 +00.0	21						
22	176 03.4 +01.0	S 08 16.8 +00.6	113 19.8 +02.0	S 23 09.6 +00.0	90 26.9 +02.3	S 22 21.4 +00.0	22						
23	191 04.4 +00.9	S 08 17.4 +00.7	128 21.8 +01.9	S 23 09.6 +00.1	105 29.2 +02.2	S 22 21.4 +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 159° 159° 159° 158° 158° 158°		SHA 096° 096° 096° 096° 096° 096°		SHA 073° 073° 073° 073° 073° 073°								
	Greenwich Culmination Time: 10:16		Greenwich Culmination Time: 14:27		Greenwich Culmination Time: 15:59								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 03.9 -00.1	S 16 42.3 +00.7	160 48.9 -00.8	S 22 24.9 +00.6	40 17.4 -25.0	S 02 15.1 -11.7	00						
01	199 03.8 +00.0	S 16 43.0 +00.8	175 48.1 -00.8	S 22 25.5 +00.6	54 52.4 -25.1	S 02 03.4 -11.6	01						
02	214 03.8 -00.1	S 16 43.8 +00.7	190 47.3 -00.9	S 22 26.1 +00.6	69 27.3 -25.1	S 01 51.8 -11.7	02						
03	229 03.7 +00.0	S 16 44.5 +00.7	205 46.4 -00.8	S 22 26.7 +00.6	84 02.2 -25.0	S 01 40.1 -11.7	03						
04	244 03.7 -00.1	S 16 45.2 +00.7	220 45.6 -00.9	S 22 27.3 +00.6	98 37.2 -25.1	S 01 28.4 -11.7	04						
05	259 03.6 +00.0	S 16 45.9 +00.7	235 44.7 -00.8	S 22 27.9 +00.5	113 12.1 -25.1	S 01 16.7 -11.7	05						
06	274 03.6 -00.1	S 16 46.6 +00.7	250 43.9 -00.8	S 22 28.4 +00.6	127 47.0 -25.1	S 01 05.0 -11.8	06						
07	289 03.5 +00.0	S 16 47.3 +00.8	265 43.1 -00.9	S 22 29.0 +00.6	142 21.9 -25.1	S 00 53.2 -11.7	07						
08	304 03.5 -00.1	S 16 48.1 +00.7	280 42.2 -00.8	S 22 29.6 +00.6	156 56.8 -25.1	S 00 41.5 -11.8	08						
09	319 03.4 +00.0	S 16 48.8 +00.7	295 41.4 -00.9	S 22 30.2 +00.5	171 31.7 -25.2	S 00 29.7 -11.7	09						
10	334 03.4 -00.1	S 16 49.5 +00.7	310 40.5 -00.8	S 22 30.7 +00.6	186 06.5 -25.1	S 00 18.0 -11.8	10						
11	349 03.3 +00.0	S 16 50.2 +00.7	325 39.7 -00.8	S 22 31.3 +00.6	200 41.4 -25.2	S 00 06.2 -11.8	11						
12	4 03.3 -00.1	S 16 50.9 +00.7	340 38.9 -00.9	S 22 31.9 +00.6	215 16.2 -25.1	N 00 05.6 +11.7	12						
13	19 03.2 +00.0	S 16 51.6 +00.7	355 38.0 -00.8	S 22 32.5 +00.5	229 51.1 -25.2	N 00 17.3 +11.8	13						
14	34 03.2 -00.1	S 16 52.3 +00.8	10 37.2 -00.9	S 22 33.0 +00.6	244 25.9 -25.2	N 00 29.1 +11.8	14						
15	49 03.1 +00.0	S 16 53.1 +00.7	25 36.3 -00.8	S 22 33.6 +00.6	259 00.7 -25.3	N 00 40.9 +11.8	15						
16	64 03.1 -00.1	S 16 53.8 +00.7	40 35.5 -00.8	S 22 34.2 +00.5	273 35.4 -25.2	N 00 52.7 +11.8	16						
17	79 03.0 +00.0	S 16 54.5 +00.7	55 34.7 -00.9	S 22 34.7 +00.6	288 10.2 -25.3	N 01 04.5 +11.8	17						
18	94 03.0 -00.1	S 16 55.2 +00.7	70 33.8 -00.8	S 22 35.3 +00.6	302 44.9 -25.2	N 01 16.3 +11.8	18						
19	109 02.9 +00.0	S 16 55.9 +00.7	85 33.0 -00.9	S 22 35.9 +00.5	317 19.7 -25.3	N 01 28.1 +11.8	19						
20	124 02.9 -00.1	S 16 56.6 +00.7	100 32.1 -00.8	S 22 36.4 +00.6	331 54.4 -25.3	N 01 39.9 +11.8	20						
21	139 02.8 +00.0	S 16 57.3 +00.7	115 31.3 -00.9	S 22 37.0 +00.6	346 29.1 -25.4	N 01 51.7 +11.8	21						
22	154 02.8 -00.1	S 16 58.0 +00.7	130 30.4 -00.8	S 22 37.6 +00.5	1 03.7 -25.3	N 02 03.5 +11.8	22						
23	169 02.7 +00.0	S 16 58.7 +00.8	145 29.6 -00.9	S 22 38.1 +00.6	15 38.4 -25.4	N 02 15.3 +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 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'8 14'8 14'8 14'8 14'8 14'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'3 54'4 54'4 54'4 54'5 54'5								
	SHA 136° 136° 136° 136° 135° 135°		SHA 113° 113° 112° 112° 112° 112°		SHA 351° 350° 348° 346° 344° 342°								
	Greenwich Culmination Time: 11:43		Greenwich Culmination Time: 13:17		Greenwich Culmination Time: 21:55								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	206 05.3 +00.9	S 08 18.1 +00.6	143 23.7 +01.9	S 23 09.7 +00.0	120 31.4 +02.3	S 22 21.4 +00.0	00						
01	221 06.2 +01.0	S 08 18.7 +00.6	158 25.6 +01.9	S 23 09.7 +00.0	135 33.7 +02.2	S 22 21.4 -00.1	01						
02	236 07.2 +00.9	S 08 19.3 +00.6	173 27.5 +01.9	S 23 09.7 +00.0	150 35.9 +02.3	S 22 21.3 +00.0	02						
03	251 08.1 +00.9	S 08 19.9 +00.6	188 29.4 +01.9	S 23 09.7 +00.1	165 38.2 +02.2	S 22 21.3 +00.0	03						
04	266 09.0 +01.0	S 08 20.5 +00.6	203 31.3 +02.0	S 23 09.8 +00.0	180 40.4 +02.3	S 22 21.3 +00.0	04						
05	281 10.0 +00.9	S 08 21.1 +00.7	218 33.3 +01.9	S 23 09.8 +00.0	195 42.7 +02.3	S 22 21.3 +00.0	05						
06	296 10.9 +00.9	S 08 21.8 +00.6	233 35.2 +01.9	S 23 09.8 +00.0	210 45.0 +02.2	S 22 21.3 -00.1	06						
07	311 11.8 +01.0	S 08 22.4 +00.6	248 37.1 +01.9	S 23 09.8 +00.1	225 47.2 +02.3	S 22 21.2 +00.0	07						
08	326 12.8 +00.9	S 08 23.0 +00.6	263 39.0 +01.9	S 23 09.9 +00.0	240 49.5 +02.2	S 22 21.2 +00.0	08						
09	341 13.7 +00.9	S 08 23.6 +00.6	278 40.9 +01.9	S 23 09.9 +00.0	255 51.7 +02.3	S 22 21.2 +00.0	09						
10	356 14.6 +01.0	S 08 24.2 +00.6	293 42.8 +01.9	S 23 09.9 +00.0	270 54.0 +02.2	S 22 21.2 +00.0	10						
11	11 15.6 +00.9	S 08 24.8 +00.7	308 44.7 +02.0	S 23 09.9 +00.0	285 56.2 +02.3	S 22 21.2 -00.1	11						
12	26 16.5 +00.9	S 08 25.5 +00.6	323 46.7 +01.9	S 23 09.9 +00.1	300 58.5 +02.2	S 22 21.1 +00.0	12						
13	41 17.4 +01.0	S 08 26.1 +00.6	338 48.6 +01.9	S 23 10.0 +00.0	316 00.7 +02.3	S 22 21.1 +00.0	13						
14	56 18.4 +00.9	S 08 26.7 +00.6	353 50.5 +01.9	S 23 10.0 +00.0	331 03.0 +02.2	S 22 21.1 +00.0	14						
15	71 19.3 +00.9	S 08 27.3 +00.6	8 52.4 +01.9	S 23 10.0 +00.0	346 05.2 +02.3	S 22 21.1 +00.0	15						
16	86 20.2 +01.0	S 08 27.9 +00.6	23 54.3 +01.9	S 23 10.0 +00.1	1 07.5 +02.3	S 22 21.1 -00.1	16						
17	101 21.2 +00.9	S 08 28.5 +00.7	38 56.2 +01.9	S 23 10.1 +00.0	16 09.8 +02.2	S 22 21.0 +00.0	17						
18	116 22.1 +00.9	S 08 29.2 +00.6	53 58.1 +02.0	S 23 10.1 +00.0	31 12.0 +02.3	S 22 21.0 +00.0	18						
19	131 23.0 +01.0	S 08 29.8 +00.6	69 00.1 +01.9	S 23 10.1 +00.0	46 14.3 +02.2	S 22 21.0 +00.0	19						
20	146 24.0 +00.9	S 08 30.4 +00.6	84 02.0 +01.9	S 23 10.1 +00.1	61 16.5 +02.3	S 22 21.0 +00.0	20						
21	161 24.9 +00.9	S 08 31.0 +00.6	99 03.9 +01.9	S 23 10.2 +00.0	76 18.8 +02.2	S 22 21.0 -00.1	21						
22	176 25.8 +01.0	S 08 31.6 +00.6	114 05.8 +01.9	S 23 10.2 +00.0	91 21.0 +02.3	S 22 20.9 +00.0	22						
23	191 26.8 +00.9	S 08 32.2 +00.7	129 07.7 +01.9	S 23 10.2 +00.0	106 23.3 +02.2	S 22 20.9 +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 158° 158° 158° 158° 158° 158°		SHA 095° 095° 095° 095° 095° 095°		SHA 073° 073° 073° 073° 073° 073°								
	Greenwich Culmination Time: 10:15		Greenwich Culmination Time: 14:24		Greenwich Culmination Time: 15:55								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 02.7 -00.1	S 16 59.5 +00.7	160 28.7 -00.8	S 22 38.7 +00.5	30 13.0 -25.4	N 02 27.1 +11.8	00						
01	199 02.6 +00.0	S 17 00.2 +00.7	175 27.9 -00.8	S 22 39.2 +00.6	44 47.6 -25.5	N 02 38.9 +11.8	01						
02	214 02.6 -00.1	S 17 00.9 +00.7	190 27.1 -00.9	S 22 39.8 +00.6	59 22.1 -25.4	N 02 50.7 +11.7	02						
03	229 02.5 -00.1	S 17 01.6 +00.7	205 26.2 -00.8	S 22 40.4 +00.5	73 56.7 -25.5	N 03 02.4 +11.8	03						
04	244 02.4 +00.0	S 17 02.3 +00.7	220 25.4 -00.9	S 22 40.9 +00.6	88 31.2 -25.5	N 03 14.2 +11.8	04						
05	259 02.4 -00.1	S 17 03.0 +00.7	235 24.5 -00.8	S 22 41.5 +00.5	103 05.7 -25.6	N 03 26.0 +11.8	05						
06	274 02.3 +00.0	S 17 03.7 +00.7	250 23.7 -00.9	S 22 42.0 +00.6	117 40.1 -25.5	N 03 37.8 +11.7	06						
07	289 02.3 -00.1	S 17 04.4 +00.7	265 22.8 -00.8	S 22 42.6 +00.5	132 14.6 -25.6	N 03 49.5 +11.8	07						
08	304 02.2 +00.0	S 17 05.1 +00.7	280 22.0 -00.9	S 22 43.1 +00.6	146 49.0 -25.6	N 04 01.3 +11.7	08						
09	319 02.2 -00.1	S 17 05.8 +00.7	295 21.1 -00.8	S 22 43.7 +00.5	161 23.4 -25.7	N 04 13.0 +11.8	09						
10	334 02.1 -00.1	S 17 06.5 +00.7	310 20.3 -00.9	S 22 44.2 +00.6	175 57.7 -25.7	N 04 24.8 +11.7	10						
11	349 02.0 +00.0	S 17 07.2 +00.7	325 19.4 -00.8	S 22 44.8 +00.5	190 32.0 -25.7	N 04 36.5 +11.7	11						
12	4 02.0 -00.1	S 17 07.9 +00.7	340 18.6 -00.9	S 22 45.3 +00.6	205 06.3 -25.8	N 04 48.2 +11.7	12						
13	19 01.9 +00.0	S 17 08.6 +00.7	355 17.7 -00.8	S 22 45.9 +00.5	219 40.5 -25.8	N 04 59.9 +11.7	13						
14	34 01.9 -00.1	S 17 09.3 +00.7	10 16.9 -00.9	S 22 46.4 +00.5	234 14.7 -25.8	N 05 11.6 +11.7	14						
15	49 01.8 -00.1	S 17 10.0 +00.7	25 16.0 -00.8	S 22 46.9 +00.6	248 48.9 -25.9	N 05 23.3 +11.6	15						
16	64 01.7 +00.0	S 17 10.7 +00.7	40 15.2 -00.9	S 22 47.5 +00.5	263 23.0 -25.9	N 05 34.9 +11.7	16						
17	79 01.7 -00.1	S 17 11.4 +00.7	55 14.3 -00.9	S 22 48.0 +00.6	277 57.1 -25.9	N 05 46.6 +11.6	17						
18	94 01.6 +00.0	S 17 12.1 +00.7	70 13.4 -00.8	S 22 48.6 +00.5	292 31.2 -26.0	N 05 58.2 +11.6	18						
19	109 01.6 -00.1	S 17 12.8 +00.7	85 12.6 -00.9	S 22 49.1 +00.5	307 05.2 -26.0	N 06 09.8 +11.6	19						
20	124 01.5 -00.1	S 17 13.5 +00.7	100 11.7 -00.8	S 22 49.6 +00.6	321 39.2 -26.1	N 06 21.4 +11.6	20						
21	139 01.4 +00.0	S 17 14.2 +00.7	115 10.9 -00.9	S 22 50.2 +00.5	336 13.1 -26.0	N 06 33.0 +11.6	21						
22	154 01.4 -00.1	S 17 14.9 +00.7	130 10.0 -00.8	S 22 50.7 +00.5	350 47.1 -26.2	N 06 44.6 +11.5	22						
23	169 01.3 -00.1	S 17 15.6 +00.7	145 09.2 -00.9	S 22 51.2 +00.6	5 20.9 -26.2	N 06 56.1 +11.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 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 15'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'6 54'7 54'7 54'8 54'8 54'9								
	SHA 135° 135° 135° 135° 134° 134°		SHA 112° 111° 111° 111° 111° 110°		SHA 340° 339° 337° 335° 333° 331°								
	Greenwich Culmination Time: 11:43		Greenwich Culmination Time: 13:18		Greenwich Culmination Time: 22:37								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	206 27.7 +00.9	S 08 32.9 +00.6	144 09.6 +01.9	S 23 10.2 +00.1	121 25.5 +02.3	S 22 20.9 +00.0	00						
01	221 28.6 +01.0	S 08 33.5 +00.6	159 11.5 +01.9	S 23 10.3 +00.0	136 27.8 +02.2	S 22 20.9 +00.0	01						
02	236 29.6 +00.9	S 08 34.1 +00.6	174 13.4 +02.0	S 23 10.3 +00.0	151 30.0 +02.3	S 22 20.9 -00.1	02						
03	251 30.5 +00.9	S 08 34.7 +00.6	189 15.4 +01.9	S 23 10.3 +00.0	166 32.3 +02.2	S 22 20.8 +00.0	03						
04	266 31.4 +01.0	S 08 35.3 +00.6	204 17.3 +01.9	S 23 10.3 +00.0	181 34.5 +02.3	S 22 20.8 +00.0	04						
05	281 32.4 +00.9	S 08 35.9 +00.7	219 19.2 +01.9	S 23 10.3 +00.1	196 36.8 +02.2	S 22 20.8 +00.0	05						
06	296 33.3 +00.9	S 08 36.6 +00.6	234 21.1 +01.9	S 23 10.4 +00.0	211 39.0 +02.3	S 22 20.8 +00.0	06						
07	311 34.2 +00.9	S 08 37.2 +00.6	249 23.0 +01.9	S 23 10.4 +00.0	226 41.3 +02.2	S 22 20.8 -00.1	07						
08	326 35.1 +01.0	S 08 37.8 +00.6	264 24.9 +01.9	S 23 10.4 +00.0	241 43.5 +02.3	S 22 20.7 +00.0	08						
09	341 36.1 +00.9	S 08 38.4 +00.6	279 26.8 +01.9	S 23 10.4 +00.1	256 45.8 +02.2	S 22 20.7 +00.0	09						
10	356 37.0 +00.9	S 08 39.0 +00.6	294 28.7 +02.0	S 23 10.5 +00.0	271 48.0 +02.3	S 22 20.7 +00.0	10						
11	11 37.9 +01.0	S 08 39.6 +00.6	309 30.7 +01.9	S 23 10.5 +00.0	286 50.3 +02.2	S 22 20.7 +00.0	11						
12	26 38.9 +00.9	S 08 40.2 +00.7	324 32.6 +01.9	S 23 10.5 +00.0	301 52.5 +02.3	S 22 20.7 -00.1	12						
13	41 39.8 +00.9	S 08 40.9 +00.6	339 34.5 +01.9	S 23 10.5 +00.1	316 54.8 +02.2	S 22 20.6 +00.0	13						
14	56 40.7 +01.0	S 08 41.5 +00.6	354 36.4 +01.9	S 23 10.6 +00.0	331 57.0 +02.3	S 22 20.6 +00.0	14						
15	71 41.7 +00.9	S 08 42.1 +00.6	9 38.3 +01.9	S 23 10.6 +00.0	346 59.3 +02.2	S 22 20.6 +00.0	15						
16	86 42.6 +00.9	S 08 42.7 +00.6	24 40.2 +01.9	S 23 10.6 +00.0	2 01.5 +02.3	S 22 20.6 +00.0	16						
17	101 43.5 +00.9	S 08 43.3 +00.6	39 42.1 +01.9	S 23 10.6 +00.0	17 03.8 +02.2	S 22 20.6 -00.1	17						
18	116 44.4 +01.0	S 08 43.9 +00.6	54 44.0 +01.9	S 23 10.6 +00.1	32 06.0 +02.3	S 22 20.5 +00.0	18						
19	131 45.4 +00.9	S 08 44.5 +00.7	69 45.9 +01.9	S 23 10.7 +00.0	47 08.3 +02.2	S 22 20.5 +00.0	19						
20	146 46.3 +00.9	S 08 45.2 +00.6	84 47.8 +02.0	S 23 10.7 +00.0	62 10.5 +02.3	S 22 20.5 +00.0	20						
21	161 47.2 +01.0	S 08 45.8 +00.6	99 49.8 +01.9	S 23 10.7 +00.0	77 12.8 +02.2	S 22 20.5 +00.0	21						
22	176 48.2 +00.9	S 08 46.4 +00.6	114 51.7 +01.9	S 23 10.7 +00.1	92 15.0 +02.3	S 22 20.5 -00.1	22						
23	191 49.1 +00.9	S 08 47.0 +00.6	129 53.6 +01.9	S 23 10.8 +00.0	107 17.3 +02.2	S 22 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 158° 157° 157° 157° 157° 157°		SHA 095° 095° 095° 095° 095° 095°		SHA 073° 073° 073° 073° 072° 072°								
	Greenwich Culmination Time: 10:13		Greenwich Culmination Time: 14:21		Greenwich Culmination Time: 15:51								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 01.2 +00.0	S 17 16.3 +00.7	160 08.3 -00.8	S 22 51.8 +00.5	19 54.7 -26.2	N 07 07.7 +11.5	00						
01	199 01.2 -00.1	S 17 17.0 +00.7	175 07.5 -00.9	S 22 52.3 +00.5	34 28.5 -26.3	N 07 19.2 +11.4	01						
02	214 01.1 +00.0	S 17 17.7 +00.7	190 06.6 -00.9	S 22 52.8 +00.6	49 02.2 -26.3	N 07 30.6 +11.5	02						
03	229 01.1 -00.1	S 17 18.4 +00.7	205 05.7 -00.8	S 22 53.4 +00.5	63 35.9 -26.3	N 07 42.1 +11.4	03						
04	244 01.0 -00.1	S 17 19.1 +00.7	220 04.9 -00.9	S 22 53.9 +00.5	78 09.6 -26.4	N 07 53.5 +11.4	04						
05	259 00.9 +00.0	S 17 19.8 +00.7	235 04.0 -00.8	S 22 54.4 +00.5	92 43.2 -26.5	N 08 04.9 +11.4	05						
06	274 00.9 -00.1	S 17 20.5 +00.7	250 03.2 -00.9	S 22 54.9 +00.6	107 16.7 -26.5	N 08 16.3 +11.4	06						
07	289 00.8 -00.1	S 17 21.2 +00.7	265 02.3 -00.8	S 22 55.5 +00.5	121 50.2 -26.5	N 08 27.7 +11.3	07						
08	304 00.7 +00.0	S 17 21.9 +00.7	280 01.5 -00.9	S 22 56.0 +00.5	136 23.7 -26.6	N 08 39.0 +11.3	08						
09	319 00.7 -00.1	S 17 22.6 +00.6	295 00.6 -00.9	S 22 56.5 +00.5	150 57.1 -26.6	N 08 50.3 +11.2	09						
10	334 00.6 -00.1	S 17 23.2 +00.7	309 59.7 -00.8	S 22 57.0 +00.6	165 30.5 -26.7	N 09 01.5 +11.3	10						
11	349 00.5 +00.0	S 17 23.9 +00.7	324 58.9 -00.9	S 22 57.6 +00.5	180 03.8 -26.8	N 09 12.8 +11.2	11						
12	4 00.5 -00.1	S 17 24.6 +00.7	339 58.0 -00.8	S 22 58.1 +00.5	194 37.0 -26.8	N 09 24.0 +11.2	12						
13	19 00.4 -00.1	S 17 25.3 +00.7	354 57.2 -00.9	S 22 58.6 +00.5	209 10.2 -26.8	N 09 35.2 +11.1	13						
14	34 00.3 +00.0	S 17 26.0 +00.7	9 56.3 -00.9	S 22 59.1 +00.5	223 43.4 -26.9	N 09 46.3 +11.1	14						
15	49 00.3 -00.1	S 17 26.7 +00.7	24 55.4 -00.8	S 22 59.6 +00.5	238 16.5 -27.0	N 09 57.4 +11.1	15						
16	64 00.2 -00.1	S 17 27.4 +00.7	39 54.6 -00.9	S 23 00.1 +00.5	252 49.5 -27.0	N 10 08.5 +11.0	16						
17	79 00.1 -00.1	S 17 28.1 +00.7	54 53.7 -00.9	S 23 00.6 +00.6	267 22.5 -27.0	N 10 19.5 +11.0	17						
18	94 00.0 +00.0	S 17 28.8 +00.6	69 52.8 -00.8	S 23 01.2 +00.5	281 55.5 -27.1	N 10 30.5 +11.0	18						
19	108 60.0 -00.1	S 17 29.4 +00.7	84 52.0 -00.9	S 23 01.7 +00.5	296 28.4 -27.2	N 10 41.5 +10.9	19						
20	123 59.9 -00.1	S 17 30.1 +00.7	99 51.1 -00.9	S 23 02.2 +00.5	311 01.2 -27.2	N 10 52.4 +10.9	20						
21	138 59.8 +00.0	S 17 30.8 +00.7	114 50.2 -00.8	S 23 02.7 +00.5	325 34.0 -27.3	N 11 03.3 +10.8	21						
22	153 59.8 -00.1	S 17 31.5 +00.7	129 49.4 -00.9	S 23 03.2 +00.5	340 06.7 -27.4	N 11 14.1 +10.9	22						
23	168 59.7 -00.1	S 17 32.2 +00.7	144 48.5 -00.8	S 23 03.7 +00.5	354 39.3 -27.4	N 11 25.0 +10.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 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 55'0 55'0 55'1 55'2 55'3 55'3								
	SHA 134° 134° 134° 134° 133° 133°		SHA 110° 110° 110° 110° 109° 109°		SHA 329° 327° 325° 323° 321° 319°								
	Greenwich Culmination Time: 11:43		Greenwich Culmination Time: 13:20		Greenwich Culmination Time: 23:22								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	206 50.0 +01.0	S 08 47.6 +00.6	144 55.5 +01.9	S 23 10.8 +00.0	122 19.5 +02.3	S 22 20.4 +00.0	00						
01	221 51.0 +00.9	S 08 48.2 +00.6	159 57.4 +01.9	S 23 10.8 +00.0	137 21.8 +02.2	S 22 20.4 +00.0	01						
02	236 51.9 +00.9	S 08 48.8 +00.7	174 59.3 +01.9	S 23 10.8 +00.0	152 24.0 +02.3	S 22 20.4 +00.0	02						
03	251 52.8 +00.9	S 08 49.5 +00.6	190 01.2 +01.9	S 23 10.8 +00.1	167 26.3 +02.2	S 22 20.4 -00.1	03						
04	266 53.7 +01.0	S 08 50.1 +00.6	205 03.1 +01.9	S 23 10.9 +00.0	182 28.5 +02.3	S 22 20.3 +00.0	04						
05	281 54.7 +00.9	S 08 50.7 +00.6	220 05.0 +01.9	S 23 10.9 +00.0	197 30.8 +02.2	S 22 20.3 +00.0	05						
06	296 55.6 +00.9	S 08 51.3 +00.6	235 06.9 +01.9	S 23 10.9 +00.0	212 33.0 +02.3	S 22 20.3 +00.0	06						
07	311 56.5 +00.9	S 08 51.9 +00.6	250 08.8 +02.0	S 23 10.9 +00.1	227 35.3 +02.2	S 22 20.3 -00.1	07						
08	326 57.4 +01.0	S 08 52.5 +00.6	265 10.8 +01.9	S 23 11.0 +00.0	242 37.5 +02.3	S 22 20.2 +00.0	08						
09	341 58.4 +00.9	S 08 53.1 +00.7	280 12.7 +01.9	S 23 11.0 +00.0	257 39.8 +02.2	S 22 20.2 +00.0	09						
10	356 59.3 +00.9	S 08 53.8 +00.6	295 14.6 +01.9	S 23 11.0 +00.0	272 42.0 +02.3	S 22 20.2 +00.0	10						
11	12 00.2 +01.0	S 08 54.4 +00.6	310 16.5 +01.9	S 23 11.0 +00.0	287 44.3 +02.2	S 22 20.2 +00.0	11						
12	27 01.2 +00.9	S 08 55.0 +00.6	325 18.4 +01.9	S 23 11.0 +00.1	302 46.5 +02.3	S 22 20.2 -00.1	12						
13	42 02.1 +00.9	S 08 55.6 +00.6	340 20.3 +01.9	S 23 11.1 +00.0	317 48.8 +02.2	S 22 20.1 +00.0	13						
14	57 03.0 +00.9	S 08 56.2 +00.6	355 22.2 +01.9	S 23 11.1 +00.0	332 51.0 +02.3	S 22 20.1 +00.0	14						
15	72 03.9 +01.0	S 08 56.8 +00.6	10 24.1 +01.9	S 23 11.1 +00.0	347 53.3 +02.2	S 22 20.1 +00.0	15						
16	87 04.9 +00.9	S 08 57.4 +00.6	25 26.0 +01.9	S 23 11.1 +00.1	2 55.5 +02.3	S 22 20.1 +00.0	16						
17	102 05.8 +00.9	S 08 58.0 +00.7	40 27.9 +01.9	S 23 11.2 +00.0	17 57.8 +02.2	S 22 20.1 -00.1	17						
18	117 06.7 +01.0	S 08 58.7 +00.6	55 29.8 +01.9	S 23 11.2 +00.0	33 00.0 +02.3	S 22 20.0 +00.0	18						
19	132 07.7 +00.9	S 08 59.3 +00.6	70 31.7 +02.0	S 23 11.2 +00.0	48 02.3 +02.2	S 22 20.0 +00.0	19						
20	147 08.6 +00.9	S 08 59.9 +00.6	85 33.7 +01.9	S 23 11.2 +00.0	63 04.5 +02.2	S 22 20.0 +00.0	20						
21	162 09.5 +00.9	S 09 00.5 +00.6	100 35.6 +01.9	S 23 11.2 +00.1	78 06.7 +02.3	S 22 20.0 +00.0	21						
22	177 10.4 +01.0	S 09 01.1 +00.6	115 37.5 +01.9	S 23 11.3 +00.0	93 09.0 +02.2	S 22 20.0 -00.1	22						
23	192 11.4 +00.9	S 09 01.7 +00.6	130 39.4 +01.9	S 23 11.3 +00.0	108 11.2 +02.3	S 22 19.9 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 157° 157° 157° 157° 157° 156°		SHA 095° 095° 095° 095° 095° 095°		SHA 072° 072° 072° 072° 072° 072°								
	Greenwich Culmination Time: 10:12		Greenwich Culmination Time: 14:18		Greenwich Culmination Time: 15:48								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 59.6 +00.0	S 17 32.9 +00.6	159 47.7 -00.9	S 23 04.2 +00.5	9 11.9 -27.4	N 11 35.7 +10.7	00						
01	198 59.6 -00.1	S 17 33.5 +00.7	174 46.8 -00.9	S 23 04.7 +00.5	23 44.5 -27.5	N 11 46.4 +10.7	01						
02	213 59.5 -00.1	S 17 34.2 +00.7	189 45.9 -00.8	S 23 05.2 +00.5	38 17.0 -27.6	N 11 57.1 +10.6	02						
03	228 59.4 -00.1	S 17 34.9 +00.7	204 45.1 -00.9	S 23 05.7 +00.5	52 49.4 -27.7	N 12 07.7 +10.6	03						
04	243 59.3 +00.0	S 17 35.6 +00.7	219 44.2 -00.9	S 23 06.2 +00.5	67 21.7 -27.7	N 12 18.3 +10.6	04						
05	258 59.3 -00.1	S 17 36.3 +00.7	234 43.3 -00.9	S 23 06.7 +00.5	81 54.0 -27.7	N 12 28.9 +10.4	05						
06	273 59.2 -00.1	S 17 37.0 +00.6	249 42.4 -00.8	S 23 07.2 +00.5	96 26.3 -27.9	N 12 39.3 +10.5	06						
07	288 59.1 -00.1	S 17 37.6 +00.7	264 41.6 -00.9	S 23 07.7 +00.5	110 58.4 -27.9	N 12 49.8 +10.4	07						
08	303 59.0 +00.0	S 17 38.3 +00.7	279 40.7 -00.9	S 23 08.2 +00.5	125 30.5 -27.9	N 13 00.2 +10.3	08						
09	318 59.0 -00.1	S 17 39.0 +00.7	294 39.8 -00.8	S 23 08.7 +00.5	140 02.6 -28.0	N 13 10.5 +10.3	09						
10	333 58.9 -00.1	S 17 39.7 +00.7	309 39.0 -00.9	S 23 09.2 +00.5	154 34.6 -28.1	N 13 20.8 +10.2	10						
11	348 58.8 -00.1	S 17 40.4 +00.6	324 38.1 -00.9	S 23 09.7 +00.5	169 06.5 -28.2	N 13 31.0 +10.2	11						
12	3 58.7 +00.0	S 17 41.0 +00.7	339 37.2 -00.8	S 23 10.2 +00.5	183 38.3 -28.2	N 13 41.2 +10.1	12						
13	18 58.7 -00.1	S 17 41.7 +00.7	354 36.4 -00.9	S 23 10.7 +00.4	198 10.1 -28.3	N 13 51.3 +10.1	13						
14	33 58.6 -00.1	S 17 42.4 +00.7	9 35.5 -00.9	S 23 11.1 +00.5	212 41.8 -28.3	N 14 01.4 +10.0	14						
15	48 58.5 -00.1	S 17 43.1 +00.6	24 34.6 -00.9	S 23 11.6 +00.5	227 13.5 -28.4	N 14 11.4 +09.9	15						
16	63 58.4 -00.1	S 17 43.7 +00.7	39 33.7 -00.8	S 23 12.1 +00.5	241 45.1 -28.5	N 14 21.3 +09.9	16						
17	78 58.3 +00.0	S 17 44.4 +00.7	54 32.9 -00.9	S 23 12.6 +00.5	256 16.6 -28.5	N 14 31.2 +09.9	17						
18	93 58.3 -00.1	S 17 45.1 +00.7	69 32.0 -00.9	S 23 13.1 +00.5	270 48.1 -28.7	N 14 41.1 +09.7	18						
19	108 58.2 -00.1	S 17 45.8 +00.6	84 31.1 -00.8	S 23 13.6 +00.5	285 19.4 -28.7	N 14 50.8 +09.7	19						
20	123 58.1 -00.1	S 17 46.4 +00.7	99 30.3 -00.9	S 23 14.1 +00.4	299 50.7 -28.7	N 15 00.5 +09.7	20						
21	138 58.0 -00.1	S 17 47.1 +00.7	114 29.4 -00.9	S 23 14.5 +00.5	314 22.0 -28.8	N 15 10.2 +09.5	21						
22	153 57.9 +00.0	S 17 47.8 +00.6	129 28.5 -00.9	S 23 15.0 +00.5	328 53.2 -28.9	N 15 19.7 +09.6	22						
23	168 57.9 -00.1	S 17 48.4 +00.7	144 27.6 -00.8	S 23 15.5 +00.5	343 24.3 -29.0	N 15 29.3 +09.4	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 15'1 15'1 15'2 15'2 15'2					
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'4 55'5 55'6 55'6 55'7 55'8		HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 133° 133° 133° 133° 132° 132°		SHA 109° 109° 108° 108° 108° 108°		SHA 317° 315° 313° 311° 309° 307°		SHA 072° 072° 072° 072° 072° 072°						
	Greenwich Culmination Time: 11:44		Greenwich Culmination Time: 13:21		Greenwich Culmination Time: -1:00								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	207 12.3 +00.9	S 09 02.3 +00.6	145 41.3 +01.9	S 23 11.3 +00.0	123 13.5 +02.2	S 22 19.9 +00.0	00						
01	222 13.2 +00.9	S 09 02.9 +00.6	160 43.2 +01.9	S 23 11.3 +00.1	138 15.7 +02.3	S 22 19.9 +00.0	01						
02	237 14.1 +01.0	S 09 03.5 +00.7	175 45.1 +01.9	S 23 11.4 +00.0	153 18.0 +02.2	S 22 19.9 +00.0	02						
03	252 15.1 +00.9	S 09 04.2 +00.6	190 47.0 +01.9	S 23 11.4 +00.0	168 20.2 +02.3	S 22 19.9 -00.1	03						
04	267 16.0 +00.9	S 09 04.8 +00.6	205 48.9 +01.9	S 23 11.4 +00.0	183 22.5 +02.2	S 22 19.8 +00.0	04						
05	282 16.9 +00.9	S 09 05.4 +00.6	220 50.8 +01.9	S 23 11.4 +00.0	198 24.7 +02.3	S 22 19.8 +00.0	05						
06	297 17.8 +01.0	S 09 06.0 +00.6	235 52.7 +01.9	S 23 11.4 +00.1	213 27.0 +02.2	S 22 19.8 +00.0	06						
07	312 18.8 +00.9	S 09 06.6 +00.6	250 54.6 +01.9	S 23 11.5 +00.0	228 29.2 +02.2	S 22 19.8 -00.1	07						
08	327 19.7 +00.9	S 09 07.2 +00.6	265 56.5 +01.9	S 23 11.5 +00.0	243 31.4 +02.3	S 22 19.7 +00.0	08						
09	342 20.6 +00.9	S 09 07.8 +00.6	280 58.4 +01.9	S 23 11.5 +00.0	258 33.7 +02.2	S 22 19.7 +00.0	09						
10	357 21.5 +01.0	S 09 08.4 +00.6	296 00.3 +01.9	S 23 11.5 +00.1	273 35.9 +02.3	S 22 19.7 +00.0	10						
11	12 22.5 +00.9	S 09 09.0 +00.7	311 02.2 +01.9	S 23 11.6 +00.0	288 38.2 +02.2	S 22 19.7 +00.0	11						
12	27 23.4 +00.9	S 09 09.7 +00.6	326 04.1 +02.0	S 23 11.6 +00.0	303 40.4 +02.3	S 22 19.7 -00.1	12						
13	42 24.3 +00.9	S 09 10.3 +00.6	341 06.1 +01.9	S 23 11.6 +00.0	318 42.7 +02.2	S 22 19.6 +00.0	13						
14	57 25.2 +01.0	S 09 10.9 +00.6	356 08.0 +01.9	S 23 11.6 +00.0	333 44.9 +02.3	S 22 19.6 +00.0	14						
15	72 26.2 +00.9	S 09 11.5 +00.6	11 09.9 +01.9	S 23 11.6 +00.1	348 47.2 +02.2	S 22 19.6 +00.0	15						
16	87 27.1 +00.9	S 09 12.1 +00.6	26 11.8 +01.9	S 23 11.7 +00.0	3 49.4 +02.2	S 22 19.6 +00.0	16						
17	102 28.0 +00.9	S 09 12.7 +00.6	41 13.7 +01.9	S 23 11.7 +00.0	18 51.6 +02.3	S 22 19.6 -00.1	17						
18	117 28.9 +01.0	S 09 13.3 +00.6	56 15.6 +01.9	S 23 11.7 +00.0	33 53.9 +02.2	S 22 19.5 +00.0	18						
19	132 29.9 +00.9	S 09 13.9 +00.6	71 17.5 +01.9	S 23 11.7 +00.0	48 56.1 +02.3	S 22 19.5 +00.0	19						
20	147 30.8 +00.9	S 09 14.5 +00.6	86 19.4 +01.9	S 23 11.7 +00.1	63 58.4 +02.2	S 22 19.5 +00.0	20						
21	162 31.7 +00.9	S 09 15.1 +00.6	101 21.3 +01.9	S 23 11.8 +00.0	79 00.6 +02.3	S 22 19.5 -00.1	21						
22	177 32.6 +00.9	S 09 15.7 +00.7	116 23.2 +01.9	S 23 11.8 +00.0	94 02.9 +02.2	S 22 19.4 +00.0	22						
23	192 33.5 +01.0	S 09 16.4 +00.6	131 25.1 +01.9	S 23 11.8 +00.0	109 05.1 +02.3	S 22 19.4 +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		HP 00'0 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 156° 156° 156° 156° 156° 156°		SHA 095° 095° 095° 095° 095° 095°		SHA 072° 072° 072° 072° 072° 072°		SHA 072° 072° 072° 072° 072° 072°						
	Greenwich Culmination Time: 10:10		Greenwich Culmination Time: 14:15		Greenwich Culmination Time: 15:44								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 57.8 -00.1	S	17 49.1 +00.7	159 26.8 -00.9	S	23 16.0 +00.4	357 55.3 -29.0	N	15 38.7 +09.4	00			
01	198 57.7 -00.1	S	17 49.8 +00.7	174 25.9 -00.9	S	23 16.4 +00.5	12 26.3 -29.1	N	15 48.1 +09.3	01			
02	213 57.6 -00.1	S	17 50.5 +00.6	189 25.0 -00.9	S	23 16.9 +00.5	26 57.2 -29.2	N	15 57.4 +09.2	02			
03	228 57.5 +00.0	S	17 51.1 +00.7	204 24.1 -00.8	S	23 17.4 +00.5	41 28.0 -29.2	N	16 06.6 +09.2	03			
04	243 57.5 -00.1	S	17 51.8 +00.7	219 23.3 -00.9	S	23 17.9 +00.4	55 58.8 -29.4	N	16 15.8 +09.1	04			
05	258 57.4 -00.1	S	17 52.5 +00.6	234 22.4 -00.9	S	23 18.3 +00.5	70 29.4 -29.3	N	16 24.9 +09.0	05			
06	273 57.3 -00.1	S	17 53.1 +00.7	249 21.5 -00.9	S	23 18.8 +00.5	85 00.1 -29.5	N	16 33.9 +08.9	06			
07	288 57.2 -00.1	S	17 53.8 +00.7	264 20.6 -00.9	S	23 19.3 +00.4	99 30.6 -29.5	N	16 42.8 +08.9	07			
08	303 57.1 -00.1	S	17 54.5 +00.6	279 19.7 -00.8	S	23 19.7 +00.5	114 01.1 -29.6	N	16 51.7 +08.8	08			
09	318 57.0 +00.0	S	17 55.1 +00.7	294 18.9 -00.9	S	23 20.2 +00.5	128 31.5 -29.7	N	17 00.5 +08.7	09			
10	333 57.0 -00.1	S	17 55.8 +00.7	309 18.0 -00.9	S	23 20.7 +00.4	143 01.8 -29.8	N	17 09.2 +08.7	10			
11	348 56.9 -00.1	S	17 56.5 +00.6	324 17.1 -00.9	S	23 21.1 +00.5	157 32.0 -29.8	N	17 17.9 +08.5	11			
12	3 56.8 -00.1	S	17 57.1 +00.7	339 16.2 -00.9	S	23 21.6 +00.5	172 02.2 -29.9	N	17 26.4 +08.5	12			
13	18 56.7 -00.1	S	17 57.8 +00.7	354 15.3 -00.8	S	23 22.1 +00.4	186 32.3 -29.9	N	17 34.9 +08.4	13			
14	33 56.6 -00.1	S	17 58.5 +00.6	9 14.5 -00.9	S	23 22.5 +00.5	201 02.4 -30.1	N	17 43.3 +08.3	14			
15	48 56.5 -00.1	S	17 59.1 +00.7	24 13.6 -00.9	S	23 23.0 +00.4	215 32.3 -30.1	N	17 51.6 +08.3	15			
16	63 56.4 +00.0	S	17 59.8 +00.6	39 12.7 -00.9	S	23 23.4 +00.5	230 02.2 -30.2	N	17 59.9 +08.1	16			
17	78 56.4 -00.1	S	18 00.4 +00.7	54 11.8 -00.9	S	23 23.9 +00.4	244 32.0 -30.2	N	18 08.0 +08.1	17			
18	93 56.3 -00.1	S	18 01.1 +00.7	69 10.9 -00.8	S	23 24.3 +00.5	259 01.8 -30.4	N	18 16.1 +07.9	18			
19	108 56.2 -00.1	S	18 01.8 +00.6	84 10.1 -00.9	S	23 24.8 +00.4	273 31.4 -30.4	N	18 24.0 +07.9	19			
20	123 56.1 -00.1	S	18 02.4 +00.7	99 09.2 -00.9	S	23 25.2 +00.5	288 01.0 -30.4	N	18 31.9 +07.8	20			
21	138 56.0 -00.1	S	18 03.1 +00.6	114 08.3 -00.9	S	23 25.7 +00.5	302 30.6 -30.6	N	18 39.7 +07.7	21			
22	153 55.9 -00.1	S	18 03.7 +00.7	129 07.4 -00.9	S	23 26.2 +00.4	317 00.0 -30.6	N	18 47.4 +07.6	22			
23	168 55.8 -00.1	S	18 04.4 +00.7	144 06.5 -00.9	S	23 26.6 +00.4	331 29.4 -30.7	N	18 55.0 +07.6	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 15'2 15'2 15'3 15'3 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 55'9 56'0 56'0 56'1 56'2 56'3					
	SHA 132° 132° 132° 132° 131° 131°			SHA 108° 107° 107° 107° 107° 106°				SHA 305° 303° 301° 299° 296° 294°					
	Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 13:22				Greenwich Culmination Time: 00:08					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	207 34.5 +00.9	S	09 17.0 +00.6	146 27.0 +01.9	S	23 11.8 +00.1	124 07.4 +02.2	S	22 19.4 +00.0	00			
01	222 35.4 +00.9	S	09 17.6 +00.6	161 28.9 +01.9	S	23 11.9 +00.0	139 09.6 +02.2	S	22 19.4 +00.0	01			
02	237 36.3 +00.9	S	09 18.2 +00.6	176 30.8 +01.9	S	23 11.9 +00.0	154 11.8 +02.3	S	22 19.4 -00.1	02			
03	252 37.2 +01.0	S	09 18.8 +00.6	191 32.7 +01.9	S	23 11.9 +00.0	169 14.1 +02.2	S	22 19.3 +00.0	03			
04	267 38.2 +00.9	S	09 19.4 +00.6	206 34.6 +01.9	S	23 11.9 +00.0	184 16.3 +02.3	S	22 19.3 +00.0	04			
05	282 39.1 +00.9	S	09 20.0 +00.6	221 36.5 +01.9	S	23 11.9 +00.1	199 18.6 +02.2	S	22 19.3 +00.0	05			
06	297 40.0 +00.9	S	09 20.6 +00.6	236 38.4 +01.9	S	23 12.0 +00.0	214 20.8 +02.3	S	22 19.3 +00.0	06			
07	312 40.9 +01.0	S	09 21.2 +00.6	251 40.3 +01.9	S	23 12.0 +00.0	229 23.1 +02.2	S	22 19.3 -00.1	07			
08	327 41.9 +00.9	S	09 21.8 +00.6	266 42.2 +01.9	S	23 12.0 +00.0	244 25.3 +02.2	S	22 19.2 +00.0	08			
09	342 42.8 +00.9	S	09 22.4 +00.7	281 44.1 +01.9	S	23 12.0 +00.0	259 27.5 +02.3	S	22 19.2 +00.0	09			
10	357 43.7 +00.9	S	09 23.1 +00.6	296 46.0 +01.9	S	23 12.0 +00.1	274 29.8 +02.2	S	22 19.2 +00.0	10			
11	12 44.6 +00.9	S	09 23.7 +00.6	311 47.9 +01.9	S	23 12.1 +00.0	289 32.0 +02.3	S	22 19.2 -00.1	11			
12	27 45.5 +01.0	S	09 24.3 +00.6	326 49.8 +01.9	S	23 12.1 +00.0	304 34.3 +02.2	S	22 19.1 +00.0	12			
13	42 46.5 +00.9	S	09 24.9 +00.6	341 51.7 +01.9	S	23 12.1 +00.0	319 36.5 +02.2	S	22 19.1 +00.0	13			
14	57 47.4 +00.9	S	09 25.5 +00.6	356 53.6 +01.9	S	23 12.1 +00.0	334 38.7 +02.3	S	22 19.1 +00.0	14			
15	72 48.3 +00.9	S	09 26.1 +00.6	11 55.5 +01.9	S	23 12.1 +00.1	349 41.0 +02.2	S	22 19.1 +00.0	15			
16	87 49.2 +00.9	S	09 26.7 +00.6	26 57.4 +01.9	S	23 12.2 +00.0	4 43.2 +02.3	S	22 19.1 -00.1	16			
17	102 50.1 +01.0	S	09 27.3 +00.6	41 59.3 +01.9	S	23 12.2 +00.0	19 45.5 +02.2	S	22 19.0 +00.0	17			
18	117 51.1 +00.9	S	09 27.9 +00.6	57 01.2 +01.9	S	23 12.2 +00.0	34 47.7 +02.2	S	22 19.0 +00.0	18			
19	132 52.0 +00.9	S	09 28.5 +00.6	72 03.1 +01.9	S	23 12.2 +00.0	49 49.9 +02.3	S	22 19.0 +00.0	19			
20	147 52.9 +00.9	S	09 29.1 +00.6	87 05.0 +01.9	S	23 12.2 +00.1	64 52.2 +02.2	S	22 19.0 +00.0	20			
21	162 53.8 +00.9	S	09 29.7 +00.6	102 06.9 +01.9	S	23 12.3 +00.0	79 54.4 +02.3	S	22 19.0 -00.1	21			
22	177 54.7 +01.0	S	09 30.3 +00.6	117 08.8 +01.9	S	23 12.3 +00.0	94 56.7 +02.2	S	22 18.9 +00.0	22			
23	192 55.7 +00.9	S	09 30.9 +00.7	132 10.7 +01.9	S	23 12.3 +00.0	109 58.9 +02.2	S	22 18.9 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'0 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 156° 156° 155° 155° 155° 155°			SHA 095° 095° 095° 094° 094° 094°				SHA 072° 072° 072° 072° 072° 072°					
	Greenwich Culmination Time: 10:09			Greenwich Culmination Time: 14:12				Greenwich Culmination Time: 15:41					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	183 55.7 -00.1	S	18 05.1 +00.6	159 05.6 -00.8	S	23 27.0 +00.5	345 58.7 -30.8	N	19 02.6 +07.4	00										
01	198 55.6 +00.0	S	18 05.7 +00.7	174 04.8 -00.9	S	23 27.5 +00.4	0 27.9 -30.8	N	19 10.0 +07.3	01										
02	213 55.6 -00.1	S	18 06.4 +00.6	189 03.9 -00.9	S	23 27.9 +00.5	14 57.1 -30.9	N	19 17.3 +07.3	02										
03	228 55.5 -00.1	S	18 07.0 +00.7	204 03.0 -00.9	S	23 28.4 +00.4	29 26.2 -31.0	N	19 24.6 +07.1	03										
04	243 55.4 -00.1	S	18 07.7 +00.6	219 02.1 -00.9	S	23 28.8 +00.5	43 55.2 -31.0	N	19 31.7 +07.0	04										
05	258 55.3 -00.1	S	18 08.3 +00.7	234 01.2 -00.9	S	23 29.3 +00.4	58 24.2 -31.2	N	19 38.7 +07.0	05										
06	273 55.2 -00.1	S	18 09.0 +00.7	249 00.3 -00.9	S	23 29.7 +00.5	72 53.0 -31.2	N	19 45.7 +06.8	06										
07	288 55.1 -00.1	S	18 09.7 +00.6	263 59.4 -00.8	S	23 30.2 +00.4	87 21.8 -31.2	N	19 52.5 +06.8	07										
08	303 55.0 -00.1	S	18 10.3 +00.7	278 58.6 -00.9	S	23 30.6 +00.4	101 50.6 -31.4	N	19 59.3 +06.6	08										
09	318 54.9 -00.1	S	18 11.0 +00.6	293 57.7 -00.9	S	23 31.0 +00.5	116 19.2 -31.4	N	20 05.9 +06.6	09										
10	333 54.8 -00.1	S	18 11.6 +00.7	308 56.8 -00.9	S	23 31.5 +00.4	130 47.8 -31.4	N	20 12.5 +06.4	10										
11	348 54.7 -00.1	S	18 12.3 +00.6	323 55.9 -00.9	S	23 31.9 +00.4	145 16.4 -31.6	N	20 18.9 +06.3	11										
12	3 54.6 -00.1	S	18 12.9 +00.7	338 55.0 -00.9	S	23 32.3 +00.5	159 44.8 -31.6	N	20 25.2 +06.3	12										
13	18 54.5 -00.1	S	18 13.6 +00.6	353 54.1 -00.9	S	23 32.8 +00.4	174 13.2 -31.7	N	20 31.5 +06.1	13										
14	33 54.4 -00.1	S	18 14.2 +00.7	8 53.2 -00.9	S	23 33.2 +00.4	188 41.5 -31.7	N	20 37.6 +06.0	14										
15	48 54.3 +00.0	S	18 14.9 +00.6	23 52.3 -00.9	S	23 33.6 +00.5	203 09.8 -31.8	N	20 43.6 +05.9	15										
16	63 54.3 -00.1	S	18 15.5 +00.7	38 51.4 -00.8	S	23 34.1 +00.4	217 38.0 -31.9	N	20 49.5 +05.8	16										
17	78 54.2 -00.1	S	18 16.2 +00.6	53 50.6 -00.9	S	23 34.5 +00.4	232 06.1 -32.0	N	20 55.3 +05.7	17										
18	93 54.1 -00.1	S	18 16.8 +00.7	68 49.7 -00.9	S	23 34.9 +00.4	246 34.1 -32.0	N	21 01.0 +05.5	18										
19	108 54.0 -00.1	S	18 17.5 +00.6	83 48.8 -00.9	S	23 35.3 +00.5	261 02.1 -32.1	N	21 06.5 +05.5	19										
20	123 53.9 -00.1	S	18 18.1 +00.7	98 47.9 -00.9	S	23 35.8 +00.4	275 30.0 -32.1	N	21 12.0 +05.3	20										
21	138 53.8 -00.1	S	18 18.8 +00.6	113 47.0 -00.9	S	23 36.2 +00.4	289 57.9 -32.2	N	21 17.3 +05.3	21										
22	153 53.7 -00.1	S	18 19.4 +00.6	128 46.1 -00.9	S	23 36.6 +00.4	304 25.7 -32.3	N	21 22.6 +05.1	22										
23	168 53.6 -00.1	S	18 20.0 +00.7	143 45.2 -00.9	S	23 37.0 +00.4	318 53.4 -32.3	N	21 27.7 +05.0	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	131°	131°	131°	131°	130°	130°	SHA	106°	106°	106°	106°	105°	105°	SHA						
Greenwich Culmination Time: 11:44							Greenwich Culmination Time: 13:24							Greenwich Culmination Time: 00:58						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	207 56.6 +00.9	S	09 31.6 +00.6	147 12.6 +01.9	S	23 12.3 +00.0	125 01.1 +02.3	S	22 18.9 +00.0	00										
01	222 57.5 +00.9	S	09 32.2 +00.6	162 14.5 +02.0	S	23 12.3 +00.1	140 03.4 +02.2	S	22 18.9 -00.1	01										
02	237 58.4 +00.9	S	09 32.8 +00.6	177 16.5 +01.9	S	23 12.4 +00.0	155 05.6 +02.3	S	22 18.8 +00.0	02										
03	252 59.3 +01.0	S	09 33.4 +00.6	192 18.4 +01.9	S	23 12.4 +00.0	170 07.9 +02.2	S	22 18.8 +00.0	03										
04	268 00.3 +00.9	S	09 34.0 +00.6	207 20.3 +01.9	S	23 12.4 +00.0	185 10.1 +02.2	S	22 18.8 +00.0	04										
05	283 01.2 +00.9	S	09 34.6 +00.6	222 22.2 +01.9	S	23 12.4 +00.1	200 12.3 +02.3	S	22 18.8 +00.0	05										
06	298 02.1 +00.9	S	09 35.2 +00.6	237 24.1 +01.9	S	23 12.5 +00.0	215 14.6 +02.2	S	22 18.8 -00.1	06										
07	313 03.0 +00.9	S	09 35.8 +00.6	252 26.0 +01.9	S	23 12.5 +00.0	230 16.8 +02.3	S	22 18.7 +00.0	07										
08	328 03.9 +01.0	S	09 36.4 +00.6	267 27.9 +01.8	S	23 12.5 +00.0	245 19.1 +02.2	S	22 18.7 +00.0	08										
09	343 04.9 +00.9	S	09 37.0 +00.6	282 29.7 +01.9	S	23 12.5 +00.0	260 21.3 +02.2	S	22 18.7 +00.0	09										
10	358 05.8 +00.9	S	09 37.6 +00.6	297 31.6 +01.9	S	23 12.5 +00.1	275 23.5 +02.3	S	22 18.7 -00.1	10										
11	13 06.7 +00.9	S	09 38.2 +00.6	312 33.5 +01.9	S	23 12.6 +00.0	290 25.8 +02.2	S	22 18.6 +00.0	11										
12	28 07.6 +00.9	S	09 38.8 +00.6	327 35.4 +01.9	S	23 12.6 +00.0	305 28.0 +02.3	S	22 18.6 +00.0	12										
13	43 08.5 +01.0	S	09 39.4 +00.6	342 37.3 +01.9	S	23 12.6 +00.0	320 30.3 +02.2	S	22 18.6 +00.0	13										
14	58 09.5 +00.9	S	09 40.0 +00.6	357 39.2 +01.9	S	23 12.6 +00.0	335 32.5 +02.2	S	22 18.6 +00.0	14										
15	73 10.4 +00.9	S	09 40.6 +00.6	12 41.1 +01.9	S	23 12.6 +00.1	350 34.7 +02.3	S	22 18.6 -00.1	15										
16	88 11.3 +00.9	S	09 41.2 +00.6	27 43.0 +01.9	S	23 12.7 +00.0	5 37.0 +02.2	S	22 18.5 +00.0	16										
17	103 12.2 +00.9	S	09 41.8 +00.7	42 44.9 +01.9	S	23 12.7 +00.0	20 39.2 +02.2	S	22 18.5 +00.0	17										
18	118 13.1 +00.9	S	09 42.5 +00.6	57 46.8 +01.9	S	23 12.7 +00.0	35 41.4 +02.3	S	22 18.5 +00.0	18										
19	133 14.0 +01.0	S	09 43.1 +00.6	72 48.7 +01.9	S	23 12.7 +00.0	50 43.7 +02.2	S	22 18.5 -00.1	19										
20	148 15.0 +00.9	S	09 43.7 +00.6	87 50.6 +01.9	S	23 12.7 +00.1	65 45.9 +02.3	S	22 18.4 +00.0	20										
21	163 15.9 +00.9	S	09 44.3 +00.6	102 52.5 +01.9	S	23 12.8 +00.0	80 48.2 +02.2	S	22 18.4 +00.0	21										
22	178 16.8 +00.9	S	09 44.9 +00.6	117 54.4 +01.9	S	23 12.8 +00.0	95 50.4 +02.2	S	22 18.4 +00.0	22										
23	193 17.7 +00.9	S	09 45.5 +00.6	132 56.3 +01.9	S	23 12.8 +00.0	110 52.6 +02.3	S	22 18.4 +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	155°	155°	155°	155°	155°	155°	SHA	094°	094°	094°	094°	094°	094°	SHA						
Greenwich Culmination Time: 10:07							Greenwich Culmination Time: 14:09							Greenwich Culmination Time: 15:37						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 53.5 -00.1	S	18 20.7 +00.6	158 44.3 -00.9	S	23 37.4 +00.5	333 21.1 -32.4	N	21 32.7 +04.9	00			
01	198 53.4 -00.1	S	18 21.3 +00.7	173 43.4 -00.9	S	23 37.9 +00.4	347 48.7 -32.5	N	21 37.6 +04.7	01			
02	213 53.3 -00.1	S	18 22.0 +00.6	188 42.5 -00.9	S	23 38.3 +00.4	2 16.2 -32.5	N	21 42.3 +04.7	02			
03	228 53.2 -00.1	S	18 22.6 +00.7	203 41.6 -00.9	S	23 38.7 +00.4	16 43.7 -32.6	N	21 47.0 +04.5	03			
04	243 53.1 -00.1	S	18 23.3 +00.6	218 40.7 -00.9	S	23 39.1 +00.4	31 11.1 -32.6	N	21 51.5 +04.4	04			
05	258 53.0 -00.1	S	18 23.9 +00.7	233 39.8 -00.8	S	23 39.5 +00.4	45 38.5 -32.7	N	21 55.9 +04.3	05			
06	273 52.9 -00.1	S	18 24.6 +00.6	248 39.0 -00.9	S	23 39.9 +00.4	60 05.8 -32.7	N	22 00.2 +04.1	06			
07	288 52.8 -00.1	S	18 25.2 +00.6	263 38.1 -00.9	S	23 40.3 +00.5	74 33.1 -32.8	N	22 04.3 +04.1	07			
08	303 52.7 -00.1	S	18 25.8 +00.7	278 37.2 -00.9	S	23 40.8 +00.4	89 00.3 -32.9	N	22 08.4 +03.9	08			
09	318 52.6 -00.1	S	18 26.5 +00.6	293 36.3 -00.9	S	23 41.2 +00.4	103 27.4 -32.9	N	22 12.3 +03.8	09			
10	333 52.5 -00.1	S	18 27.1 +00.7	308 35.4 -00.9	S	23 41.6 +00.4	117 54.5 -33.0	N	22 16.1 +03.7	10			
11	348 52.4 -00.1	S	18 27.8 +00.6	323 34.5 -00.9	S	23 42.0 +00.4	132 21.5 -33.0	N	22 19.8 +03.5	11			
12	3 52.3 -00.1	S	18 28.4 +00.6	338 33.6 -00.9	S	23 42.4 +00.4	146 48.5 -33.1	N	22 23.3 +03.4	12			
13	18 52.2 -00.1	S	18 29.0 +00.7	353 32.7 -00.9	S	23 42.8 +00.4	161 15.4 -33.1	N	22 26.7 +03.3	13			
14	33 52.1 -00.1	S	18 29.7 +00.6	8 31.8 -00.9	S	23 43.2 +00.4	175 42.3 -33.2	N	22 30.0 +03.2	14			
15	48 52.0 -00.2	S	18 30.3 +00.6	23 30.9 -00.9	S	23 43.6 +00.4	190 09.1 -33.2	N	22 33.2 +03.0	15			
16	63 51.8 -00.1	S	18 30.9 +00.7	38 30.0 -00.9	S	23 44.0 +00.4	204 35.9 -33.3	N	22 36.2 +02.9	16			
17	78 51.7 -00.1	S	18 31.6 +00.6	53 29.1 -00.9	S	23 44.4 +00.4	219 02.6 -33.3	N	22 39.1 +02.8	17			
18	93 51.6 -00.1	S	18 32.2 +00.6	68 28.2 -00.9	S	23 44.8 +00.4	233 29.3 -33.4	N	22 41.9 +02.6	18			
19	108 51.5 -00.1	S	18 32.8 +00.7	83 27.3 -00.9	S	23 45.2 +00.4	247 55.9 -33.4	N	22 44.5 +02.5	19			
20	123 51.4 -00.1	S	18 33.5 +00.6	98 26.4 -00.9	S	23 45.6 +00.4	262 22.5 -33.4	N	22 47.0 +02.4	20			
21	138 51.3 -00.1	S	18 34.1 +00.6	113 25.5 -00.9	S	23 46.0 +00.4	276 49.1 -33.5	N	22 49.4 +02.2	21			
22	153 51.2 -00.1	S	18 34.7 +00.7	128 24.6 -00.9	S	23 46.4 +00.4	291 15.6 -33.5	N	22 51.6 +02.1	22			
23	168 51.1 -00.1	S	18 35.4 +00.6	143 23.7 -00.9	S	23 46.8 +00.3	305 42.1 -33.6	N	22 53.7 +02.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 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 15'5 15'5 15'6 15'6 15'6						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 56'8 56'9 57'0 57'1 57'2 57'3						
	SHA 130° 130° 130° 130° 129° 129°			SHA 105° 105° 104° 104° 104° 104°			SHA 278° 276° 274° 271° 269° 267°						
	Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 13:25			Greenwich Culmination Time: 01:50						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	208 18.6 +00.9	S	09 46.1 +00.6	147 58.2 +01.9	S	23 12.8 +00.0	125 54.9 +02.2	S	22 18.4 -00.1	00			
01	223 19.5 +01.0	S	09 46.7 +00.6	163 00.1 +01.9	S	23 12.8 +00.0	140 57.1 +02.2	S	22 18.3 +00.0	01			
02	238 20.5 +00.9	S	09 47.3 +00.6	178 02.0 +01.9	S	23 12.8 +00.1	155 59.3 +02.3	S	22 18.3 +00.0	02			
03	253 21.4 +00.9	S	09 47.9 +00.6	193 03.9 +01.9	S	23 12.9 +00.0	171 01.6 +02.2	S	22 18.3 +00.0	03			
04	268 22.3 +00.9	S	09 48.5 +00.6	208 05.8 +01.9	S	23 12.9 +00.0	186 03.8 +02.3	S	22 18.3 -00.1	04			
05	283 23.2 +00.9	S	09 49.1 +00.6	223 07.7 +01.9	S	23 12.9 +00.0	201 06.1 +02.2	S	22 18.2 +00.0	05			
06	298 24.1 +00.9	S	09 49.7 +00.6	238 09.6 +01.9	S	23 12.9 +00.0	216 08.3 +02.2	S	22 18.2 +00.0	06			
07	313 25.0 +01.0	S	09 50.3 +00.6	253 11.5 +01.9	S	23 12.9 +00.1	231 10.5 +02.3	S	22 18.2 +00.0	07			
08	328 26.0 +00.9	S	09 50.9 +00.6	268 13.4 +01.9	S	23 13.0 +00.0	246 12.8 +02.2	S	22 18.2 +00.0	08			
09	343 26.9 +00.9	S	09 51.5 +00.6	283 15.3 +01.9	S	23 13.0 +00.0	261 15.0 +02.2	S	22 18.2 -00.1	09			
10	358 27.8 +00.9	S	09 52.1 +00.6	298 17.2 +01.9	S	23 13.0 +00.0	276 17.2 +02.3	S	22 18.1 +00.0	10			
11	13 28.7 +00.9	S	09 52.7 +00.6	313 19.1 +01.9	S	23 13.0 +00.0	291 19.5 +02.2	S	22 18.1 +00.0	11			
12	28 29.6 +00.9	S	09 53.3 +00.6	328 21.0 +01.9	S	23 13.0 +00.1	306 21.7 +02.2	S	22 18.1 +00.0	12			
13	43 30.5 +01.0	S	09 53.9 +00.6	343 22.9 +01.9	S	23 13.1 +00.0	321 23.9 +02.3	S	22 18.1 -00.1	13			
14	58 31.5 +00.9	S	09 54.5 +00.6	358 24.8 +01.9	S	23 13.1 +00.0	336 26.2 +02.2	S	22 18.0 +00.0	14			
15	73 32.4 +00.9	S	09 55.1 +00.6	13 26.7 +01.9	S	23 13.1 +00.0	351 28.4 +02.3	S	22 18.0 +00.0	15			
16	88 33.3 +00.9	S	09 55.7 +00.6	28 28.6 +01.9	S	23 13.1 +00.0	6 30.7 +02.2	S	22 18.0 +00.0	16			
17	103 34.2 +00.9	S	09 56.3 +00.6	43 30.5 +01.9	S	23 13.1 +00.1	21 32.9 +02.2	S	22 18.0 -00.1	17			
18	118 35.1 +00.9	S	09 56.9 +00.6	58 32.4 +01.9	S	23 13.2 +00.0	36 35.1 +02.3	S	22 17.9 +00.0	18			
19	133 36.0 +00.9	S	09 57.5 +00.6	73 34.3 +01.9	S	23 13.2 +00.0	51 37.4 +02.2	S	22 17.9 +00.0	19			
20	148 36.9 +01.0	S	09 58.1 +00.6	88 36.2 +01.9	S	23 13.2 +00.0	66 39.6 +02.2	S	22 17.9 +00.0	20			
21	163 37.9 +00.9	S	09 58.7 +00.6	103 38.1 +01.9	S	23 13.2 +00.0	81 41.8 +02.3	S	22 17.9 +00.0	21			
22	178 38.8 +00.9	S	09 59.3 +00.6	118 40.0 +01.8	S	23 13.2 +00.1	96 44.1 +02.2	S	22 17.9 -00.1	22			
23	193 39.7 +00.9	S	09 59.9 +00.6	133 41.8 +01.9	S	23 13.3 +00.0	111 46.3 +02.2	S	22 17.8 +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 154° 154° 154° 154° 154° 154°			SHA 094° 094° 094° 094° 094° 094°			SHA 072° 072° 072° 072° 072° 072°						
	Greenwich Culmination Time: 10:06			Greenwich Culmination Time: 14:06			Greenwich Culmination Time: 15:34						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 51.0 -00.1	S	18 36.0 +00.6	158 22.8 -00.9	S	23 47.1 +00.4	320 08.5 -33.6	N	22 55.7 +01.8	00			
01	198 50.9 -00.1	S	18 36.6 +00.7	173 21.9 -00.9	S	23 47.5 +00.4	334 34.9 -33.7	N	22 57.5 +01.7	01			
02	213 50.8 -00.1	S	18 37.3 +00.6	188 21.0 -00.9	S	23 47.9 +00.4	349 01.2 -33.7	N	22 59.2 +01.6	02			
03	228 50.7 -00.1	S	18 37.9 +00.6	203 20.1 -00.9	S	23 48.3 +00.4	3 27.5 -33.7	N	23 00.8 +01.4	03			
04	243 50.6 -00.1	S	18 38.5 +00.7	218 19.2 -00.9	S	23 48.7 +00.4	17 53.8 -33.8	N	23 02.2 +01.3	04			
05	258 50.5 -00.2	S	18 39.2 +00.6	233 18.3 -00.9	S	23 49.1 +00.4	32 20.0 -33.7	N	23 03.5 +01.2	05			
06	273 50.3 -00.1	S	18 39.8 +00.6	248 17.4 -00.9	S	23 49.5 +00.3	46 46.3 -33.9	N	23 04.7 +01.0	06			
07	288 50.2 -00.1	S	18 40.4 +00.6	263 16.5 -00.9	S	23 49.8 +00.4	61 12.4 -33.8	N	23 05.7 +00.9	07			
08	303 50.1 -00.1	S	18 41.0 +00.7	278 15.6 -00.9	S	23 50.2 +00.4	75 38.6 -33.9	N	23 06.6 +00.8	08			
09	318 50.0 -00.1	S	18 41.7 +00.6	293 14.7 -00.9	S	23 50.6 +00.4	90 04.7 -33.9	N	23 07.4 +00.6	09			
10	333 49.9 -00.1	S	18 42.3 +00.6	308 13.8 -00.9	S	23 51.0 +00.4	104 30.8 -34.0	N	23 08.0 +00.5	10			
11	348 49.8 -00.1	S	18 42.9 +00.6	323 12.9 -00.9	S	23 51.4 +00.3	118 56.8 -33.9	N	23 08.5 +00.3	11			
12	3 49.7 -00.1	S	18 43.5 +00.7	338 12.0 -00.9	S	23 51.7 +00.4	133 22.9 -34.0	N	23 08.8 +00.2	12			
13	18 49.6 -00.1	S	18 44.2 +00.6	353 11.1 -01.0	S	23 52.1 +00.4	147 48.9 -34.0	N	23 09.0 +00.0	13			
14	33 49.5 -00.2	S	18 44.8 +00.6	8 10.1 -00.9	S	23 52.5 +00.3	162 14.9 -34.0	N	23 09.0 +00.0	14			
15	48 49.3 -00.1	S	18 45.4 +00.6	23 09.2 -00.9	S	23 52.8 +00.4	176 40.9 -34.1	N	23 09.0 -00.3	15			
16	63 49.2 -00.1	S	18 46.0 +00.7	38 08.3 -00.9	S	23 53.2 +00.4	191 06.8 -34.1	N	23 08.7 -00.3	16			
17	78 49.1 -00.1	S	18 46.7 +00.6	53 07.4 -00.9	S	23 53.6 +00.4	205 32.7 -34.1	N	23 08.4 -00.5	17			
18	93 49.0 -00.1	S	18 47.3 +00.6	68 06.5 -00.9	S	23 54.0 +00.3	219 58.6 -34.1	N	23 07.9 -00.7	18			
19	108 48.9 -00.1	S	18 47.9 +00.6	83 05.6 -00.9	S	23 54.3 +00.4	234 24.5 -34.1	N	23 07.2 -00.8	19			
20	123 48.8 -00.1	S	18 48.5 +00.6	98 04.7 -00.9	S	23 54.7 +00.4	248 50.4 -34.1	N	23 06.4 -00.9	20			
21	138 48.7 -00.2	S	18 49.1 +00.6	113 03.8 -00.9	S	23 55.1 +00.3	263 16.3 -34.2	N	23 05.5 -01.1	21			
22	153 48.5 -00.1	S	18 49.7 +00.7	128 02.9 -00.9	S	23 55.4 +00.4	277 42.1 -34.1	N	23 04.4 -01.2	22			
23	168 48.4 -00.1	S	18 50.4 +00.6	143 02.0 -00.9	S	23 55.8 +00.3	292 08.0 -34.2	N	23 03.2 -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 16'2 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 15'7 15'7 15'7 15'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 57'3 57'4 57'5 57'6 57'6 57'7						
	SHA 129° 129° 129° 128° 128° 128°			SHA 103° 103° 103° 103° 103° 102°			SHA 264° 262° 259° 257° 254° 252°						
	Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 13:27			Greenwich Culmination Time: 02:45						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	208 40.6 +00.9	S	10 00.5 +00.6	148 43.7 +01.9	S	23 13.3 +00.0	126 48.5 +02.3	S	22 17.8 +00.0	00			
01	223 41.5 +00.9	S	10 01.1 +00.7	163 45.6 +01.9	S	23 13.3 +00.0	141 50.8 +02.2	S	22 17.8 +00.0	01			
02	238 42.4 +00.9	S	10 01.8 +00.6	178 47.5 +01.9	S	23 13.3 +00.0	156 53.0 +02.2	S	22 17.8 -00.1	02			
03	253 43.3 +01.0	S	10 02.4 +00.6	193 49.4 +01.9	S	23 13.3 +00.0	171 55.2 +02.3	S	22 17.7 +00.0	03			
04	268 44.3 +00.9	S	10 03.0 +00.6	208 51.3 +01.9	S	23 13.3 +00.1	186 57.5 +02.2	S	22 17.7 +00.0	04			
05	283 45.2 +00.9	S	10 03.6 +00.6	223 53.2 +01.9	S	23 13.4 +00.0	201 59.7 +02.2	S	22 17.7 +00.0	05			
06	298 46.1 +00.9	S	10 04.2 +00.6	238 55.1 +01.9	S	23 13.4 +00.0	217 01.9 +02.3	S	22 17.7 +00.0	06			
07	313 47.0 +00.9	S	10 04.8 +00.6	253 57.0 +01.9	S	23 13.4 +00.0	232 04.2 +02.2	S	22 17.7 -00.1	07			
08	328 47.9 +00.9	S	10 05.4 +00.6	268 58.9 +01.9	S	23 13.4 +00.0	247 06.4 +02.2	S	22 17.6 +00.0	08			
09	343 48.8 +00.9	S	10 06.0 +00.6	284 00.8 +01.9	S	23 13.4 +00.1	262 08.6 +02.3	S	22 17.6 +00.0	09			
10	358 49.7 +00.9	S	10 06.6 +00.6	299 02.7 +01.9	S	23 13.5 +00.0	277 10.9 +02.2	S	22 17.6 +00.0	10			
11	13 50.6 +01.0	S	10 07.2 +00.6	314 04.6 +01.9	S	23 13.5 +00.0	292 13.1 +02.2	S	22 17.6 -00.1	11			
12	28 51.6 +00.9	S	10 07.8 +00.6	329 06.5 +01.9	S	23 13.5 +00.0	307 15.3 +02.3	S	22 17.5 +00.0	12			
13	43 52.5 +00.9	S	10 08.4 +00.6	344 08.4 +01.9	S	23 13.5 +00.0	322 17.6 +02.2	S	22 17.5 +00.0	13			
14	58 53.4 +00.9	S	10 09.0 +00.6	359 10.3 +01.9	S	23 13.5 +00.1	337 19.8 +02.2	S	22 17.5 +00.0	14			
15	73 54.3 +00.9	S	10 09.6 +00.6	14 12.2 +01.8	S	23 13.6 +00.0	352 22.0 +02.3	S	22 17.5 -00.1	15			
16	88 55.2 +00.9	S	10 10.2 +00.6	29 14.0 +01.9	S	23 13.6 +00.0	7 24.3 +02.2	S	22 17.4 +00.0	16			
17	103 56.1 +00.9	S	10 10.8 +00.6	44 15.9 +01.9	S	23 13.6 +00.0	22 26.5 +02.2	S	22 17.4 +00.0	17			
18	118 57.0 +00.9	S	10 11.4 +00.6	59 17.8 +01.9	S	23 13.6 +00.0	37 28.7 +02.3	S	22 17.4 +00.0	18			
19	133 57.9 +00.9	S	10 12.0 +00.6	74 19.7 +01.9	S	23 13.6 +00.0	52 31.0 +02.2	S	22 17.4 +00.0	19			
20	148 58.8 +01.0	S	10 12.6 +00.6	89 21.6 +01.9	S	23 13.6 +00.1	67 33.2 +02.2	S	22 17.4 -00.1	20			
21	163 59.8 +00.9	S	10 13.2 +00.6	104 23.5 +01.9	S	23 13.7 +00.0	82 35.4 +02.2	S	22 17.3 +00.0	21			
22	179 00.7 +00.9	S	10 13.8 +00.6	119 25.4 +01.9	S	23 13.7 +00.0	97 37.6 +02.3	S	22 17.3 +00.0	22			
23	194 01.6 +00.9	S	10 14.4 +00.6	134 27.3 +01.9	S	23 13.7 +00.0	112 39.9 +02.2	S	22 17.3 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 154° 154° 154° 154° 153° 153°			SHA 094° 094° 094° 094° 094° 094°			SHA 072° 072° 072° 072° 072° 072°						
	Greenwich Culmination Time: 10:04			Greenwich Culmination Time: 14:03			Greenwich Culmination Time: 15:30						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 48.3 -00.1	S	18 51.0 +00.6	158 01.1 -00.9	S	23 56.1 +00.4	306 33.8 -34.2	N	23 01.9 -01.5	00			
01	198 48.2 -00.1	S	18 51.6 +00.6	173 00.2 -00.9	S	23 56.5 +00.4	320 59.6 -34.2	N	23 00.4 -01.7	01			
02	213 48.1 -00.1	S	18 52.2 +00.6	187 59.3 -00.9	S	23 56.9 +00.3	335 25.4 -34.1	N	22 58.7 -01.7	02			
03	228 48.0 -00.2	S	18 52.8 +00.7	202 58.4 -01.0	S	23 57.2 +00.4	349 51.3 -34.2	N	22 57.0 -01.9	03			
04	243 47.8 -00.1	S	18 53.5 +00.6	217 57.4 -00.9	S	23 57.6 +00.3	4 17.1 -34.2	N	22 55.1 -02.1	04			
05	258 47.7 -00.1	S	18 54.1 +00.6	232 56.5 -00.9	S	23 57.9 +00.4	18 42.9 -34.2	N	22 53.0 -02.2	05			
06	273 47.6 -00.1	S	18 54.7 +00.6	247 55.6 -00.9	S	23 58.3 +00.3	33 08.7 -34.2	N	22 50.8 -02.3	06			
07	288 47.5 -00.1	S	18 55.3 +00.6	262 54.7 -00.9	S	23 58.6 +00.4	47 34.5 -34.2	N	22 48.5 -02.5	07			
08	303 47.4 -00.2	S	18 55.9 +00.6	277 53.8 -00.9	S	23 59.0 +00.3	62 00.3 -34.2	N	22 46.0 -02.6	08			
09	318 47.2 -00.1	S	18 56.5 +00.6	292 52.9 -00.9	S	23 59.3 +00.4	76 26.1 -34.2	N	22 43.4 -02.8	09			
10	333 47.1 -00.1	S	18 57.1 +00.6	307 52.0 -00.9	S	23 59.7 +00.3	90 51.9 -34.2	N	22 40.6 -02.9	10			
11	348 47.0 -00.1	S	18 57.7 +00.7	322 51.1 -00.9	S	24 00.0 +00.4	105 17.7 -34.2	N	22 37.7 -03.0	11			
12	3 46.9 -00.1	S	18 58.4 +00.6	337 50.2 -00.9	S	24 00.4 +00.3	119 43.5 -34.2	N	22 34.7 -03.2	12			
13	18 46.8 -00.2	S	18 59.0 +00.6	352 49.3 -01.0	S	24 00.7 +00.4	134 09.3 -34.2	N	22 31.5 -03.4	13			
14	33 46.6 -00.1	S	18 59.6 +00.6	7 48.3 -00.9	S	24 01.1 +00.3	148 35.1 -34.1	N	22 28.1 -03.4	14			
15	48 46.5 -00.1	S	19 00.2 +00.6	22 47.4 -00.9	S	24 01.4 +00.3	163 01.0 -34.2	N	22 24.7 -03.6	15			
16	63 46.4 -00.1	S	19 00.8 +00.6	37 46.5 -00.9	S	24 01.7 +00.4	177 26.8 -34.1	N	22 21.1 -03.8	16			
17	78 46.3 -00.2	S	19 01.4 +00.6	52 45.6 -00.9	S	24 02.1 +00.3	191 52.7 -34.2	N	22 17.3 -03.8	17			
18	93 46.1 -00.1	S	19 02.0 +00.6	67 44.7 -00.9	S	24 02.4 +00.4	206 18.5 -34.1	N	22 13.5 -04.1	18			
19	108 46.0 -00.1	S	19 02.6 +00.6	82 43.8 -00.9	S	24 02.8 +00.3	220 44.4 -34.1	N	22 09.4 -04.1	19			
20	123 45.9 -00.1	S	19 03.2 +00.6	97 42.9 -01.0	S	24 03.1 +00.3	235 10.3 -34.1	N	22 05.3 -04.3	20			
21	138 45.8 -00.1	S	19 03.8 +00.6	112 41.9 -00.9	S	24 03.4 +00.4	249 36.2 -34.1	N	22 01.0 -04.4	21			
22	153 45.7 -00.2	S	19 04.4 +00.6	127 41.0 -00.9	S	24 03.8 +00.3	264 02.1 -34.0	N	21 56.6 -04.6	22			
23	168 45.5 -00.1	S	19 05.0 +00.6	142 40.1 -00.9	S	24 04.1 +00.3	278 28.1 -34.1	N	21 52.0 -04.7	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'7 15'8 15'8 15'8 15'8 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 57'9 58'0 58'1 58'2						
	SHA 128° 128° 128° 127° 127° 127°			SHA 102° 102° 102° 101° 101° 101°			SHA 250° 247° 245° 242° 240° 237°						
	Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 13:28			Greenwich Culmination Time: 03:42						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	209 02.5 +00.9	S	10 15.0 +00.6	149 29.2 +01.9	S	23 13.7 +00.0	127 42.1 +02.2	S	22 17.3 -00.1	00			
01	224 03.4 +00.9	S	10 15.6 +00.5	164 31.1 +01.9	S	23 13.7 +00.1	142 44.3 +02.3	S	22 17.2 +00.0	01			
02	239 04.3 +00.9	S	10 16.1 +00.6	179 33.0 +01.9	S	23 13.8 +00.0	157 46.6 +02.2	S	22 17.2 +00.0	02			
03	254 05.2 +00.9	S	10 16.7 +00.6	194 34.9 +01.9	S	23 13.8 +00.0	172 48.8 +02.2	S	22 17.2 +00.0	03			
04	269 06.1 +00.9	S	10 17.3 +00.6	209 36.8 +01.9	S	23 13.8 +00.0	187 51.0 +02.3	S	22 17.2 -00.1	04			
05	284 07.0 +01.0	S	10 17.9 +00.6	224 38.7 +01.8	S	23 13.8 +00.0	202 53.3 +02.2	S	22 17.1 +00.0	05			
06	299 08.0 +00.9	S	10 18.5 +00.6	239 40.5 +01.9	S	23 13.8 +00.0	217 55.5 +02.2	S	22 17.1 +00.0	06			
07	314 08.9 +00.9	S	10 19.1 +00.6	254 42.4 +01.9	S	23 13.8 +00.1	232 57.7 +02.3	S	22 17.1 +00.0	07			
08	329 09.8 +00.9	S	10 19.7 +00.6	269 44.3 +01.9	S	23 13.9 +00.0	247 60.0 +02.2	S	22 17.1 -00.1	08			
09	344 10.7 +00.9	S	10 20.3 +00.6	284 46.2 +01.9	S	23 13.9 +00.0	263 02.2 +02.2	S	22 17.0 +00.0	09			
10	359 11.6 +00.9	S	10 20.9 +00.6	299 48.1 +01.9	S	23 13.9 +00.0	278 04.4 +02.2	S	22 17.0 +00.0	10			
11	14 12.5 +00.9	S	10 21.5 +00.6	314 50.0 +01.9	S	23 13.9 +00.0	293 06.6 +02.3	S	22 17.0 +00.0	11			
12	29 13.4 +00.9	S	10 22.1 +00.6	329 51.9 +01.9	S	23 13.9 +00.0	308 08.9 +02.2	S	22 17.0 +00.0	12			
13	44 14.3 +00.9	S	10 22.7 +00.6	344 53.8 +01.9	S	23 13.9 +00.1	323 11.1 +02.2	S	22 17.0 -00.1	13			
14	59 15.2 +00.9	S	10 23.3 +00.6	359 55.7 +01.9	S	23 14.0 +00.0	338 13.3 +02.3	S	22 16.9 +00.0	14			
15	74 16.1 +00.9	S	10 23.9 +00.6	14 57.6 +01.9	S	23 14.0 +00.0	353 15.6 +02.2	S	22 16.9 +00.0	15			
16	89 17.0 +00.9	S	10 24.5 +00.6	29 59.5 +01.8	S	23 14.0 +00.0	8 17.8 +02.2	S	22 16.9 +00.0	16			
17	104 17.9 +01.0	S	10 25.1 +00.6	45 01.3 +01.9	S	23 14.0 +00.0	23 20.0 +02.3	S	22 16.9 -00.1	17			
18	119 18.9 +00.9	S	10 25.7 +00.6	60 03.2 +01.9	S	23 14.0 +00.1	38 22.3 +02.2	S	22 16.8 +00.0	18			
19	134 19.8 +00.9	S	10 26.3 +00.6	75 05.1 +01.9	S	23 14.1 +00.0	53 24.5 +02.2	S	22 16.8 +00.0	19			
20	149 20.7 +00.9	S	10 26.9 +00.6	90 07.0 +01.9	S	23 14.1 +00.0	68 26.7 +02.2	S	22 16.8 +00.0	20			
21	164 21.6 +00.9	S	10 27.5 +00.6	105 08.9 +01.9	S	23 14.1 +00.0	83 28.9 +02.3	S	22 16.8 -00.1	21			
22	179 22.5 +00.9	S	10 28.1 +00.6	120 10.8 +01.9	S	23 14.1 +00.0	98 31.2 +02.2	S	22 16.7 +00.0	22			
23	194 23.4 +00.9	S	10 28.7 +00.6	135 12.7 +01.9	S	23 14.1 +00.0	113 33.4 +02.2	S	22 16.7 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 153° 153° 153° 153° 153° 153°			SHA 094° 094° 094° 094° 094° 094°			SHA 072° 072° 072° 072° 072° 072°						
	Greenwich Culmination Time: 10:03			Greenwich Culmination Time: 14:00			Greenwich Culmination Time: 15:26						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 45.4 -00.1	S	19 05.6 +00.6	157 39.2 -00.9	S	24 04.4 +00.4	292 54.0 -34.0	N	21 47.3 -04.9	00			
01	198 45.3 -00.1	S	19 06.2 +00.6	172 38.3 -00.9	S	24 04.8 +00.3	307 20.0 -34.0	N	21 42.4 -04.9	01			
02	213 45.2 -00.2	S	19 06.8 +00.6	187 37.4 -00.9	S	24 05.1 +00.3	321 46.0 -34.0	N	21 37.5 -05.1	02			
03	228 45.0 -00.1	S	19 07.4 +00.6	202 36.5 -01.0	S	24 05.4 +00.3	336 12.0 -33.9	N	21 32.4 -05.3	03			
04	243 44.9 -00.1	S	19 08.0 +00.6	217 35.5 -00.9	S	24 05.7 +00.4	350 38.1 -33.9	N	21 27.1 -05.4	04			
05	258 44.8 -00.2	S	19 08.6 +00.6	232 34.6 -00.9	S	24 06.1 +00.3	5 04.2 -34.0	N	21 21.7 -05.5	05			
06	273 44.6 -00.1	S	19 09.2 +00.6	247 33.7 -00.9	S	24 06.4 +00.3	19 30.2 -33.8	N	21 16.2 -05.6	06			
07	288 44.5 -00.1	S	19 09.8 +00.6	262 32.8 -00.9	S	24 06.7 +00.3	33 56.4 -33.9	N	21 10.6 -05.8	07			
08	303 44.4 -00.1	S	19 10.4 +00.6	277 31.9 -00.9	S	24 07.0 +00.3	48 22.5 -33.8	N	21 04.8 -05.9	08			
09	318 44.3 -00.2	S	19 11.0 +00.6	292 31.0 -01.0	S	24 07.3 +00.4	62 48.7 -33.8	N	20 58.9 -06.1	09			
10	333 44.1 -00.1	S	19 11.6 +00.6	307 30.0 -00.9	S	24 07.7 +00.3	77 14.9 -33.8	N	20 52.8 -06.1	10			
11	348 44.0 -00.1	S	19 12.2 +00.6	322 29.1 -00.9	S	24 08.0 +00.3	91 41.1 -33.7	N	20 46.7 -06.3	11			
12	3 43.9 -00.2	S	19 12.8 +00.6	337 28.2 -00.9	S	24 08.3 +00.3	106 07.4 -33.8	N	20 40.4 -06.5	12			
13	18 43.7 -00.1	S	19 13.4 +00.6	352 27.3 -00.9	S	24 08.6 +00.3	120 33.6 -33.6	N	20 33.9 -06.5	13			
14	33 43.6 -00.1	S	19 14.0 +00.6	7 26.4 -01.0	S	24 08.9 +00.3	134 60.0 -33.7	N	20 27.4 -06.7	14			
15	48 43.5 -00.2	S	19 14.6 +00.6	22 25.4 -00.9	S	24 09.2 +00.4	149 26.3 -33.6	N	20 20.7 -06.8	15			
16	63 43.3 -00.1	S	19 15.2 +00.6	37 24.5 -00.9	S	24 09.6 +00.3	163 52.7 -33.6	N	20 13.9 -07.0	16			
17	78 43.2 -00.1	S	19 15.8 +00.6	52 23.6 -00.9	S	24 09.9 +00.3	178 19.1 -33.5	N	20 06.9 -07.1	17			
18	93 43.1 -00.1	S	19 16.4 +00.6	67 22.7 -00.9	S	24 10.2 +00.3	192 45.6 -33.6	N	19 59.8 -07.2	18			
19	108 43.0 -00.2	S	19 17.0 +00.6	82 21.8 -01.0	S	24 10.5 +00.3	207 12.0 -33.5	N	19 52.6 -07.3	19			
20	123 42.8 -00.1	S	19 17.6 +00.6	97 20.8 -00.9	S	24 10.8 +00.3	221 38.5 -33.4	N	19 45.3 -07.4	20			
21	138 42.7 -00.1	S	19 18.2 +00.6	112 19.9 -00.9	S	24 11.1 +00.3	236 05.1 -33.4	N	19 37.9 -07.6	21			
22	153 42.6 -00.2	S	19 18.8 +00.6	127 19.0 -00.9	S	24 11.4 +00.3	250 31.7 -33.4	N	19 30.3 -07.7	22			
23	168 42.4 -00.1	S	19 19.4 +00.5	142 18.1 -00.9	S	24 11.7 +00.3	264 58.3 -33.3	N	19 22.6 -07.8	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 15'9 15'9 15'9 15'9 15'9 16'0						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 58'2 58'3 58'4 58'5 58'5 58'6						
	SHA 127° 127° 127° 126° 126° 126°			SHA 101° 101° 100° 100° 100° 100°			SHA 235° 233° 230° 228° 225° 223°						
	Greenwich Culmination Time: 11:45			Greenwich Culmination Time: 13:30			Greenwich Culmination Time: 04:38						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	209 24.3 +00.9	S	10 29.3 +00.6	150 14.6 +01.9	S	23 14.1 +00.1	128 35.6 +02.3	S	22 16.7 +00.0	00			
01	224 25.2 +00.9	S	10 29.9 +00.6	165 16.5 +01.9	S	23 14.2 +00.0	143 37.9 +02.2	S	22 16.7 -00.1	01			
02	239 26.1 +00.9	S	10 30.5 +00.6	180 18.4 +01.8	S	23 14.2 +00.0	158 40.1 +02.2	S	22 16.6 +00.0	02			
03	254 27.0 +00.9	S	10 31.1 +00.6	195 20.2 +01.9	S	23 14.2 +00.0	173 42.3 +02.2	S	22 16.6 +00.0	03			
04	269 27.9 +00.9	S	10 31.7 +00.6	210 22.1 +01.9	S	23 14.2 +00.0	188 44.5 +02.3	S	22 16.6 +00.0	04			
05	284 28.8 +00.9	S	10 32.3 +00.6	225 24.0 +01.9	S	23 14.2 +00.0	203 46.8 +02.2	S	22 16.6 -00.1	05			
06	299 29.7 +01.0	S	10 32.9 +00.6	240 25.9 +01.9	S	23 14.2 +00.1	218 49.0 +02.2	S	22 16.5 +00.0	06			
07	314 30.7 +00.9	S	10 33.5 +00.6	255 27.8 +01.9	S	23 14.3 +00.0	233 51.2 +02.3	S	22 16.5 +00.0	07			
08	329 31.6 +00.9	S	10 34.1 +00.6	270 29.7 +01.9	S	23 14.3 +00.0	248 53.5 +02.2	S	22 16.5 +00.0	08			
09	344 32.5 +00.9	S	10 34.7 +00.5	285 31.6 +01.9	S	23 14.3 +00.0	263 55.7 +02.2	S	22 16.5 +00.0	09			
10	359 33.4 +00.9	S	10 35.2 +00.6	300 33.5 +01.9	S	23 14.3 +00.0	278 57.9 +02.2	S	22 16.5 -00.1	10			
11	14 34.3 +00.9	S	10 35.8 +00.6	315 35.4 +01.8	S	23 14.3 +00.0	294 00.1 +02.3	S	22 16.4 +00.0	11			
12	29 35.2 +00.9	S	10 36.4 +00.6	330 37.2 +01.9	S	23 14.3 +00.1	309 02.4 +02.2	S	22 16.4 +00.0	12			
13	44 36.1 +00.9	S	10 37.0 +00.6	345 39.1 +01.9	S	23 14.4 +00.0	324 04.6 +02.2	S	22 16.4 +00.0	13			
14	59 37.0 +00.9	S	10 37.6 +00.6	0 41.0 +01.9	S	23 14.4 +00.0	339 06.8 +02.2	S	22 16.4 -00.1	14			
15	74 37.9 +00.9	S	10 38.2 +00.6	15 42.9 +01.9	S	23 14.4 +00.0	354 09.0 +02.3	S	22 16.3 +00.0	15			
16	89 38.8 +00.9	S	10 38.8 +00.6	30 44.8 +01.9	S	23 14.4 +00.0	9 11.3 +02.2	S	22 16.3 +00.0	16			
17	104 39.7 +00.9	S	10 39.4 +00.6	45 46.7 +01.9	S	23 14.4 +00.0	24 13.5 +02.2	S	22 16.3 +00.0	17			
18	119 40.6 +00.9	S	10 40.0 +00.6	60 48.6 +01.9	S	23 14.4 +00.1	39 15.7 +02.2	S	22 16.3 -00.1	18			
19	134 41.5 +00.9	S	10 40.6 +00.6	75 50.5 +01.8	S	23 14.5 +00.0	54 17.9 +02.3	S	22 16.2 +00.0	19			
20	149 42.4 +00.9	S	10 41.2 +00.6	90 52.3 +01.9	S	23 14.5 +00.0	69 20.2 +02.2	S	22 16.2 +00.0	20			
21	164 43.3 +00.9	S	10 41.8 +00.6	105 54.2 +01.9	S	23 14.5 +00.0	84 22.4 +02.2	S	22 16.2 +00.0	21			
22	179 44.2 +00.9	S	10 42.4 +00.6	120 56.1 +01.9	S	23 14.5 +00.0	99 24.6 +02.2	S	22 16.2 -00.1	22			
23	194 45.1 +00.9	S	10 43.0 +00.6	135 58.0 +01.9	S	23 14.5 +00.0	114 26.8 +02.3	S	22 16.1 +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 153° 153° 152° 152° 152° 152°			SHA 093° 093° 093° 093° 093° 093°			SHA 072° 072° 072° 072° 072° 072°						
	Greenwich Culmination Time: 10:01			Greenwich Culmination Time: 13:57			Greenwich Culmination Time: 15:23						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 42.3 -00.1	S	19 19.9 +00.6	157 17.2 -01.0	S	24 12.0 +00.3	279 25.0 -33.3	N	19 14.8 -07.9	00			
01	198 42.2 -00.2	S	19 20.5 +00.6	172 16.2 -00.9	S	24 12.3 +00.3	293 51.7 -33.3	N	19 06.9 -08.1	01			
02	213 42.0 -00.1	S	19 21.1 +00.6	187 15.3 -00.9	S	24 12.6 +00.3	308 18.4 -33.2	N	18 58.8 -08.1	02			
03	228 41.9 -00.2	S	19 21.7 +00.6	202 14.4 -00.9	S	24 12.9 +00.3	322 45.2 -33.2	N	18 50.7 -08.3	03			
04	243 41.7 -00.1	S	19 22.3 +00.6	217 13.5 -00.9	S	24 13.2 +00.3	337 12.0 -33.2	N	18 42.4 -08.4	04			
05	258 41.6 -00.1	S	19 22.9 +00.6	232 12.6 -01.0	S	24 13.5 +00.3	351 38.8 -33.1	N	18 34.0 -08.5	05			
06	273 41.5 -00.2	S	19 23.5 +00.6	247 11.6 -00.9	S	24 13.8 +00.3	6 05.7 -33.1	N	18 25.5 -08.7	06			
07	288 41.3 -00.1	S	19 24.1 +00.5	262 10.7 -00.9	S	24 14.1 +00.3	20 32.6 -33.0	N	18 16.8 -08.7	07			
08	303 41.2 -00.1	S	19 24.6 +00.6	277 09.8 -00.9	S	24 14.4 +00.2	34 59.6 -33.0	N	18 08.1 -08.9	08			
09	318 41.1 -00.2	S	19 25.2 +00.6	292 08.9 -01.0	S	24 14.6 +00.3	49 26.6 -32.9	N	17 59.2 -08.9	09			
10	333 40.9 -00.1	S	19 25.8 +00.6	307 07.9 -00.9	S	24 14.9 +00.3	63 53.7 -33.0	N	17 50.3 -09.1	10			
11	348 40.8 -00.2	S	19 26.4 +00.6	322 07.0 -00.9	S	24 15.2 +00.3	78 20.7 -32.8	N	17 41.2 -09.2	11			
12	3 40.6 -00.1	S	19 27.0 +00.5	337 06.1 -00.9	S	24 15.5 +00.3	92 47.9 -32.9	N	17 32.0 -09.3	12			
13	18 40.5 -00.1	S	19 27.5 +00.6	352 05.2 -01.0	S	24 15.8 +00.3	107 15.0 -32.8	N	17 22.7 -09.4	13			
14	33 40.4 -00.2	S	19 28.1 +00.6	7 04.2 -00.9	S	24 16.1 +00.3	121 42.2 -32.7	N	17 13.3 -09.5	14			
15	48 40.2 -00.1	S	19 28.7 +00.6	22 03.3 -00.9	S	24 16.4 +00.2	136 09.5 -32.7	N	17 03.8 -09.7	15			
16	63 40.1 -00.1	S	19 29.3 +00.6	37 02.4 -00.9	S	24 16.6 +00.3	150 36.8 -32.7	N	16 54.1 -09.7	16			
17	78 40.0 -00.2	S	19 29.9 +00.5	52 01.5 -01.0	S	24 16.9 +00.3	165 04.1 -32.6	N	16 44.4 -09.8	17			
18	93 39.8 -00.1	S	19 30.4 +00.6	67 00.5 -00.9	S	24 17.2 +00.3	179 31.5 -32.6	N	16 34.6 -10.0	18			
19	108 39.7 -00.2	S	19 31.0 +00.6	81 59.6 -00.9	S	24 17.5 +00.3	193 58.9 -32.5	N	16 24.6 -10.0	19			
20	123 39.5 -00.1	S	19 31.6 +00.6	96 58.7 -00.9	S	24 17.8 +00.2	208 26.4 -32.5	N	16 14.6 -10.1	20			
21	138 39.4 -00.2	S	19 32.2 +00.6	111 57.8 -01.0	S	24 18.0 +00.3	222 53.9 -32.5	N	16 04.5 -10.3	21			
22	153 39.2 -00.1	S	19 32.8 +00.5	126 56.8 -00.9	S	24 18.3 +00.3	237 21.4 -32.4	N	15 54.2 -10.3	22			
23	168 39.1 -00.1	S	19 33.3 +00.6	141 55.9 -00.9	S	24 18.6 +00.2	251 49.0 -32.4	N	15 43.9 -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			SD 16'0 16'0 16'0 16'0 16'1 16'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 58'7 58'7 58'8 58'9 58'9 59'0						
	SHA 126° 126° 126° 125° 125° 125°			SHA 099° 099° 099° 099° 099° 098°			SHA 220° 218° 216° 213° 211° 209°						
	Greenwich Culmination Time: 11:45			Greenwich Culmination Time: 13:31			Greenwich Culmination Time: 05:34						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	209 46.0 +00.9	S	10 43.6 +00.6	150 59.9 +01.9	S	23 14.5 +00.1	129 29.1 +02.2	S	22 16.1 +00.0	00			
01	224 46.9 +00.9	S	10 44.2 +00.5	166 01.8 +01.9	S	23 14.6 +00.0	144 31.3 +02.2	S	22 16.1 +00.0	01			
02	239 47.8 +00.9	S	10 44.7 +00.6	181 03.7 +01.9	S	23 14.6 +00.0	159 33.5 +02.3	S	22 16.1 -00.1	02			
03	254 48.7 +01.0	S	10 45.3 +00.6	196 05.6 +01.8	S	23 14.6 +00.0	174 35.8 +02.2	S	22 16.0 +00.0	03			
04	269 49.7 +00.9	S	10 45.9 +00.6	211 07.4 +01.9	S	23 14.6 +00.0	189 38.0 +02.2	S	22 16.0 +00.0	04			
05	284 50.6 +00.9	S	10 46.5 +00.6	226 09.3 +01.9	S	23 14.6 +00.0	204 40.2 +02.2	S	22 16.0 +00.0	05			
06	299 51.5 +00.9	S	10 47.1 +00.6	241 11.2 +01.9	S	23 14.6 +00.1	219 42.4 +02.3	S	22 16.0 -00.1	06			
07	314 52.4 +00.9	S	10 47.7 +00.6	256 13.1 +01.9	S	23 14.7 +00.0	234 44.7 +02.2	S	22 15.9 +00.0	07			
08	329 53.3 +00.9	S	10 48.3 +00.6	271 15.0 +01.9	S	23 14.7 +00.0	249 46.9 +02.2	S	22 15.9 +00.0	08			
09	344 54.2 +00.9	S	10 48.9 +00.6	286 16.9 +01.9	S	23 14.7 +00.0	264 49.1 +02.2	S	22 15.9 +00.0	09			
10	359 55.1 +00.9	S	10 49.5 +00.6	301 18.8 +01.8	S	23 14.7 +00.0	279 51.3 +02.3	S	22 15.9 -00.1	10			
11	14 56.0 +00.9	S	10 50.1 +00.6	316 20.6 +01.9	S	23 14.7 +00.0	294 53.6 +02.2	S	22 15.8 +00.0	11			
12	29 56.9 +00.9	S	10 50.7 +00.6	331 22.5 +01.9	S	23 14.7 +00.1	309 55.8 +02.2	S	22 15.8 +00.0	12			
13	44 57.8 +00.9	S	10 51.3 +00.6	346 24.4 +01.9	S	23 14.8 +00.0	324 58.0 +02.2	S	22 15.8 +00.0	13			
14	59 58.7 +00.9	S	10 51.9 +00.5	1 26.3 +01.9	S	23 14.8 +00.0	340 00.2 +02.2	S	22 15.8 -00.1	14			
15	74 59.6 +00.9	S	10 52.4 +00.6	16 28.2 +01.9	S	23 14.8 +00.0	355 02.4 +02.3	S	22 15.7 +00.0	15			
16	90 00.5 +00.9	S	10 53.0 +00.6	31 30.1 +01.9	S	23 14.8 +00.0	10 04.7 +02.2	S	22 15.7 +00.0	16			
17	105 01.4 +00.9	S	10 53.6 +00.6	46 32.0 +01.8	S	23 14.8 +00.0	25 06.9 +02.2	S	22 15.7 +00.0	17			
18	120 02.3 +00.9	S	10 54.2 +00.6	61 33.8 +01.9	S	23 14.8 +00.1	40 09.1 +02.2	S	22 15.7 +00.0	18			
19	135 03.2 +00.9	S	10 54.8 +00.6	76 35.7 +01.9	S	23 14.9 +00.0	55 11.3 +02.3	S	22 15.7 -00.1	19			
20	150 04.1 +00.9	S	10 55.4 +00.6	91 37.6 +01.9	S	23 14.9 +00.0	70 13.6 +02.2	S	22 15.6 +00.0	20			
21	165 05.0 +00.9	S	10 56.0 +00.6	106 39.5 +01.9	S	23 14.9 +00.0	85 15.8 +02.2	S	22 15.6 +00.0	21			
22	180 05.9 +00.9	S	10 56.6 +00.6	121 41.4 +01.9	S	23 14.9 +00.0	100 18.0 +02.2	S	22 15.6 +00.0	22			
23	195 06.8 +00.9	S	10 57.2 +00.6	136 43.3 +01.8	S	23 14.9 +00.0	115 20.2 +02.3	S	22 15.6 -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 152° 152° 152° 152° 152° 151°			SHA 093° 093° 093° 093° 093° 093°			SHA 072° 072° 072° 072° 072° 072°						
	Greenwich Culmination Time: 10:00			Greenwich Culmination Time: 13:54			Greenwich Culmination Time: 15:19						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 39.0 -00.2	S	19 33.9 +00.6	156 55.0 -01.0	S	24 18.8 +00.3	266 16.6 -32.4	N	15 33.4 -10.5	00			
01	198 38.8 -00.1	S	19 34.5 +00.6	171 54.0 -00.9	S	24 19.1 +00.3	280 44.2 -32.3	N	15 22.9 -10.6	01			
02	213 38.7 -00.2	S	19 35.1 +00.5	186 53.1 -00.9	S	24 19.4 +00.2	295 11.9 -32.2	N	15 12.3 -10.7	02			
03	228 38.5 -00.1	S	19 35.6 +00.6	201 52.2 -00.9	S	24 19.6 +00.3	309 39.7 -32.2	N	15 01.6 -10.9	03			
04	243 38.4 -00.2	S	19 36.2 +00.6	216 51.3 -01.0	S	24 19.9 +00.3	324 07.5 -32.2	N	14 50.7 -10.9	04			
05	258 38.2 -00.1	S	19 36.8 +00.5	231 50.3 -00.9	S	24 20.2 +00.2	338 35.3 -32.2	N	14 39.8 -11.0	05			
06	273 38.1 -00.2	S	19 37.3 +00.6	246 49.4 -00.9	S	24 20.4 +00.3	353 03.1 -32.1	N	14 28.8 -11.1	06			
07	288 37.9 -00.1	S	19 37.9 +00.6	261 48.5 -00.9	S	24 20.7 +00.3	7 31.0 -32.0	N	14 17.7 -11.1	07			
08	303 37.8 -00.1	S	19 38.5 +00.6	276 47.6 -01.0	S	24 21.0 +00.2	21 59.0 -32.0	N	14 06.6 -11.3	08			
09	318 37.7 -00.2	S	19 39.1 +00.5	291 46.6 -00.9	S	24 21.2 +00.3	36 27.0 -32.0	N	13 55.3 -11.4	09			
10	333 37.5 -00.1	S	19 39.6 +00.6	306 45.7 -00.9	S	24 21.5 +00.2	50 55.0 -32.0	N	13 43.9 -11.4	10			
11	348 37.4 -00.2	S	19 40.2 +00.6	321 44.8 -01.0	S	24 21.7 +00.3	65 23.0 -31.9	N	13 32.5 -11.5	11			
12	3 37.2 -00.1	S	19 40.8 +00.5	336 43.8 -00.9	S	24 22.0 +00.2	79 51.1 -31.8	N	13 21.0 -11.6	12			
13	18 37.1 -00.2	S	19 41.3 +00.6	351 42.9 -00.9	S	24 22.2 +00.3	94 19.3 -31.9	N	13 09.4 -11.7	13			
14	33 36.9 -00.1	S	19 41.9 +00.6	6 42.0 -01.0	S	24 22.5 +00.3	108 47.4 -31.8	N	12 57.7 -11.8	14			
15	48 36.8 -00.2	S	19 42.5 +00.5	21 41.0 -00.9	S	24 22.8 +00.2	123 15.6 -31.7	N	12 45.9 -11.8	15			
16	63 36.6 -00.1	S	19 43.0 +00.6	36 40.1 -00.9	S	24 23.0 +00.3	137 43.9 -31.7	N	12 34.1 -12.0	16			
17	78 36.5 -00.2	S	19 43.6 +00.5	51 39.2 -01.0	S	24 23.3 +00.2	152 12.2 -31.7	N	12 22.1 -12.0	17			
18	93 36.3 -00.1	S	19 44.1 +00.6	66 38.2 -00.9	S	24 23.5 +00.2	166 40.5 -31.7	N	12 10.1 -12.0	18			
19	108 36.2 -00.2	S	19 44.7 +00.6	81 37.3 -00.9	S	24 23.7 +00.3	181 08.8 -31.6	N	11 58.1 -12.2	19			
20	123 36.0 -00.1	S	19 45.3 +00.5	96 36.4 -00.9	S	24 24.0 +00.2	195 37.2 -31.6	N	11 45.9 -12.2	20			
21	138 35.9 -00.2	S	19 45.8 +00.6	111 35.5 -01.0	S	24 24.2 +00.3	210 05.6 -31.5	N	11 33.7 -12.3	21			
22	153 35.7 -00.1	S	19 46.4 +00.6	126 34.5 -00.9	S	24 24.5 +00.2	224 34.1 -31.6	N	11 21.4 -12.4	22			
23	168 35.6 -00.2	S	19 47.0 +00.5	141 33.6 -00.9	S	24 24.7 +00.3	239 02.5 -31.4	N	11 09.0 -12.4	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 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 16'1 16'1 16'1 16'1 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 59'1 59'1 59'2 59'2 59'3 59'4						
	SHA 125° 125° 124° 124° 124° 124°			SHA 098° 098° 098° 097° 097° 097°			SHA 206° 204° 202° 199° 197° 195°						
	Greenwich Culmination Time: 11:45			Greenwich Culmination Time: 13:33			Greenwich Culmination Time: 06:28						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	210 07.7 +00.9	S	10 57.8 +00.6	151 45.1 +01.9	S	23 14.9 +00.1	130 22.5 +02.2	S	22 15.5 +00.0	00			
01	225 08.6 +00.9	S	10 58.4 +00.5	166 47.0 +01.9	S	23 15.0 +00.0	145 24.7 +02.2	S	22 15.5 +00.0	01			
02	240 09.5 +00.9	S	10 58.9 +00.6	181 48.9 +01.9	S	23 15.0 +00.0	160 26.9 +02.2	S	22 15.5 +00.0	02			
03	255 10.4 +00.9	S	10 59.5 +00.6	196 50.8 +01.9	S	23 15.0 +00.0	175 29.1 +02.2	S	22 15.5 -00.1	03			
04	270 11.3 +00.9	S	11 00.1 +00.6	211 52.7 +01.9	S	23 15.0 +00.0	190 31.3 +02.3	S	22 15.4 +00.0	04			
05	285 12.2 +00.9	S	11 00.7 +00.6	226 54.6 +01.9	S	23 15.0 +00.0	205 33.6 +02.2	S	22 15.4 +00.0	05			
06	300 13.1 +00.9	S	11 01.3 +00.6	241 56.5 +01.8	S	23 15.0 +00.0	220 35.8 +02.2	S	22 15.4 +00.0	06			
07	315 14.0 +00.9	S	11 01.9 +00.6	256 58.3 +01.9	S	23 15.0 +00.1	235 38.0 +02.2	S	22 15.4 -00.1	07			
08	330 14.9 +00.9	S	11 02.5 +00.6	272 00.2 +01.9	S	23 15.1 +00.0	250 40.2 +02.3	S	22 15.3 +00.0	08			
09	345 15.8 +00.9	S	11 03.1 +00.6	287 02.1 +01.9	S	23 15.1 +00.0	265 42.5 +02.2	S	22 15.3 +00.0	09			
10	0 16.7 +00.9	S	11 03.7 +00.6	302 04.0 +01.9	S	23 15.1 +00.0	280 44.7 +02.2	S	22 15.3 +00.0	10			
11	15 17.6 +00.9	S	11 04.3 +00.5	317 05.9 +01.9	S	23 15.1 +00.0	295 46.9 +02.2	S	22 15.3 -00.1	11			
12	30 18.5 +00.9	S	11 04.8 +00.6	332 07.8 +01.8	S	23 15.1 +00.0	310 49.1 +02.2	S	22 15.2 +00.0	12			
13	45 19.4 +00.9	S	11 05.4 +00.6	347 09.6 +01.9	S	23 15.1 +00.1	325 51.3 +02.3	S	22 15.2 +00.0	13			
14	60 20.3 +00.9	S	11 06.0 +00.6	2 11.5 +01.9	S	23 15.2 +00.0	340 53.6 +02.2	S	22 15.2 +00.0	14			
15	75 21.2 +00.9	S	11 06.6 +00.6	17 13.4 +01.9	S	23 15.2 +00.0	355 55.8 +02.2	S	22 15.2 -00.1	15			
16	90 22.1 +00.9	S	11 07.2 +00.6	32 15.3 +01.9	S	23 15.2 +00.0	10 58.0 +02.2	S	22 15.1 +00.0	16			
17	105 23.0 +00.9	S	11 07.8 +00.6	47 17.2 +01.9	S	23 15.2 +00.0	26 00.2 +02.3	S	22 15.1 +00.0	17			
18	120 23.9 +00.9	S	11 08.4 +00.6	62 19.1 +01.8	S	23 15.2 +00.0	41 02.5 +02.2	S	22 15.1 +00.0	18			
19	135 24.8 +00.9	S	11 09.0 +00.5	77 20.9 +01.9	S	23 15.2 +00.0	56 04.7 +02.2	S	22 15.1 -00.1	19			
20	150 25.7 +00.9	S	11 09.5 +00.6	92 22.8 +01.9	S	23 15.2 +00.1	71 06.9 +02.2	S	22 15.0 +00.0	20			
21	165 26.6 +00.9	S	11 10.1 +00.6	107 24.7 +01.9	S	23 15.3 +00.0	86 09.1 +02.2	S	22 15.0 +00.0	21			
22	180 27.5 +00.9	S	11 10.7 +00.6	122 26.6 +01.9	S	23 15.3 +00.0	101 11.3 +02.3	S	22 15.0 +00.0	22			
23	195 28.4 +00.9	S	11 11.3 +00.6	137 28.5 +01.8	S	23 15.3 +00.0	116 13.6 +02.2	S	22 15.0 -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 151° 151° 151° 151° 151° 151°			SHA 093° 093° 093° 093° 093° 093°			SHA 072° 072° 072° 072° 072° 072°						
	Greenwich Culmination Time: 09:58			Greenwich Culmination Time: 13:51			Greenwich Culmination Time: 15:16						

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	183 35.4 -00.1	S	19 47.5 +00.6	156 32.7 -01.0	S	24 25.0 +00.2	253 31.1 -31.5	N	10 56.6 -12.5	00										
01	198 35.3 -00.2	S	19 48.1 +00.5	171 31.7 -00.9	S	24 25.2 +00.2	267 59.6 -31.4	N	10 44.1 -12.6	01										
02	213 35.1 -00.1	S	19 48.6 +00.6	186 30.8 -00.9	S	24 25.4 +00.3	282 28.2 -31.4	N	10 31.5 -12.6	02										
03	228 35.0 -00.2	S	19 49.2 +00.6	201 29.9 -01.0	S	24 25.7 +00.2	296 56.8 -31.4	N	10 18.9 -12.7	03										
04	243 34.8 -00.1	S	19 49.8 +00.5	216 28.9 -00.9	S	24 25.9 +00.2	311 25.4 -31.3	N	10 06.2 -12.8	04										
05	258 34.7 -00.2	S	19 50.3 +00.6	231 28.0 -00.9	S	24 26.1 +00.3	325 54.1 -31.3	N	09 53.4 -12.8	05										
06	273 34.5 -00.2	S	19 50.9 +00.5	246 27.1 -01.0	S	24 26.4 +00.2	340 22.8 -31.3	N	09 40.6 -12.9	06										
07	288 34.3 -00.1	S	19 51.4 +00.6	261 26.1 -00.9	S	24 26.6 +00.2	354 51.5 -31.2	N	09 27.7 -13.0	07										
08	303 34.2 -00.2	S	19 52.0 +00.5	276 25.2 -00.9	S	24 26.8 +00.3	9 20.3 -31.2	N	09 14.7 -13.0	08										
09	318 34.0 -00.1	S	19 52.5 +00.6	291 24.3 -01.0	S	24 27.1 +00.2	23 49.1 -31.2	N	09 01.7 -13.0	09										
10	333 33.9 -00.2	S	19 53.1 +00.5	306 23.3 -00.9	S	24 27.3 +00.2	38 17.9 -31.2	N	08 48.7 -13.2	10										
11	348 33.7 -00.1	S	19 53.6 +00.6	321 22.4 -00.9	S	24 27.5 +00.2	52 46.7 -31.1	N	08 35.5 -13.1	11										
12	3 33.6 -00.2	S	19 54.2 +00.5	336 21.5 -01.0	S	24 27.7 +00.3	67 15.6 -31.1	N	08 22.4 -13.3	12										
13	18 33.4 -00.1	S	19 54.7 +00.6	351 20.5 -00.9	S	24 28.0 +00.2	81 44.5 -31.1	N	08 09.1 -13.2	13										
14	33 33.3 -00.2	S	19 55.3 +00.5	6 19.6 -00.9	S	24 28.2 +00.2	96 13.4 -31.1	N	07 55.9 -13.4	14										
15	48 33.1 -00.2	S	19 55.8 +00.6	21 18.7 -01.0	S	24 28.4 +00.2	110 42.3 -31.0	N	07 42.5 -13.3	15										
16	63 32.9 -00.1	S	19 56.4 +00.5	36 17.7 -00.9	S	24 28.6 +00.3	125 11.3 -31.1	N	07 29.2 -13.5	16										
17	78 32.8 -00.2	S	19 56.9 +00.6	51 16.8 -01.0	S	24 28.9 +00.2	139 40.2 -31.0	N	07 15.7 -13.4	17										
18	93 32.6 -00.1	S	19 57.5 +00.5	66 15.8 -00.9	S	24 29.1 +00.2	154 09.2 -31.0	N	07 02.3 -13.5	18										
19	108 32.5 -00.2	S	19 58.0 +00.6	81 14.9 -00.9	S	24 29.3 +00.2	168 38.2 -30.9	N	06 48.8 -13.6	19										
20	123 32.3 -00.1	S	19 58.6 +00.5	96 14.0 -01.0	S	24 29.5 +00.2	183 07.3 -31.0	N	06 35.2 -13.6	20										
21	138 32.2 -00.2	S	19 59.1 +00.6	111 13.0 -00.9	S	24 29.7 +00.2	197 36.3 -30.9	N	06 21.6 -13.6	21										
22	153 32.0 -00.2	S	19 59.7 +00.5	126 12.1 -00.9	S	24 29.9 +00.2	212 05.4 -30.9	N	06 08.0 -13.7	22										
23	168 31.8 -00.1	S	20 00.2 +00.6	141 11.2 -01.0	S	24 30.1 +00.2	226 34.5 -30.9	N	05 54.3 -13.7	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	16'2	16'2	16'2	16'2	16'2	16'2
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	59'4	59'5	59'5	59'5	59'6	59'6
SHA	124°	124°	123°	123°	123°	123°	SHA	097°	096°	096°	096°	096°	096°	SHA	193°	190°	188°	186°	184°	181°
Greenwich Culmination Time: 11:45							Greenwich Culmination Time: 13:34							Greenwich Culmination Time: 07:21						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	210 29.3 +00.9	S	11 11.9 +00.6	152 30.3 +01.9	S	23 15.3 +00.0	131 15.8 +02.2	S	22 14.9 +00.0	00										
01	225 30.2 +00.9	S	11 12.5 +00.6	167 32.2 +01.9	S	23 15.3 +00.0	146 18.0 +02.2	S	22 14.9 +00.0	01										
02	240 31.1 +00.8	S	11 13.1 +00.6	182 34.1 +01.9	S	23 15.3 +00.0	161 20.2 +02.2	S	22 14.9 +00.0	02										
03	255 31.9 +00.9	S	11 13.7 +00.5	197 36.0 +01.9	S	23 15.3 +00.1	176 22.4 +02.3	S	22 14.9 -00.1	03										
04	270 32.8 +00.9	S	11 14.2 +00.6	212 37.9 +01.9	S	23 15.4 +00.0	191 24.7 +02.2	S	22 14.8 +00.0	04										
05	285 33.7 +00.9	S	11 14.8 +00.6	227 39.8 +01.8	S	23 15.4 +00.0	206 26.9 +02.2	S	22 14.8 +00.0	05										
06	300 34.6 +00.9	S	11 15.4 +00.6	242 41.6 +01.9	S	23 15.4 +00.0	221 29.1 +02.2	S	22 14.8 +00.0	06										
07	315 35.5 +00.9	S	11 16.0 +00.6	257 43.5 +01.9	S	23 15.4 +00.0	236 31.3 +02.2	S	22 14.8 -00.1	07										
08	330 36.4 +00.9	S	11 16.6 +00.6	272 45.4 +01.9	S	23 15.4 +00.0	251 33.5 +02.3	S	22 14.7 +00.0	08										
09	345 37.3 +00.9	S	11 17.2 +00.6	287 47.3 +01.9	S	23 15.4 +00.0	266 35.8 +02.2	S	22 14.7 +00.0	09										
10	0 38.2 +00.9	S	11 17.8 +00.6	302 49.2 +01.8	S	23 15.4 +00.1	281 38.0 +02.2	S	22 14.7 +00.0	10										
11	15 39.1 +00.9	S	11 18.4 +00.5	317 51.0 +01.9	S	23 15.5 +00.0	296 40.2 +02.2	S	22 14.7 -00.1	11										
12	30 40.0 +00.9	S	11 18.9 +00.6	332 52.9 +01.9	S	23 15.5 +00.0	311 42.4 +02.2	S	22 14.6 +00.0	12										
13	45 40.9 +00.9	S	11 19.5 +00.6	347 54.8 +01.9	S	23 15.5 +00.0	326 44.6 +02.2	S	22 14.6 +00.0	13										
14	60 41.8 +00.9	S	11 20.1 +00.6	2 56.7 +01.9	S	23 15.5 +00.0	341 46.8 +02.3	S	22 14.6 -00.1	14										
15	75 42.7 +00.9	S	11 20.7 +00.6	17 58.6 +01.8	S	23 15.5 +00.0	356 49.1 +02.2	S	22 14.5 +00.0	15										
16	90 43.6 +00.9	S	11 21.3 +00.6	33 00.4 +01.9	S	23 15.5 +00.0	11 51.3 +02.2	S	22 14.5 +00.0	16										
17	105 44.5 +00.9	S	11 21.9 +00.6	48 02.3 +01.9	S	23 15.5 +00.1	26 53.5 +02.2	S	22 14.5 +00.0	17										
18	120 45.4 +00.9	S	11 22.5 +00.5	63 04.2 +01.9	S	23 15.6 +00.0	41 55.7 +02.2	S	22 14.5 -00.1	18										
19	135 46.3 +00.9	S	11 23.0 +00.6	78 06.1 +01.9	S	23 15.6 +00.0	56 57.9 +02.3	S	22 14.4 +00.0	19										
20	150 47.2 +00.9	S	11 23.6 +00.6	93 08.0 +01.8	S	23 15.6 +00.0	72 00.2 +02.2	S	22 14.4 +00.0	20										
21	165 48.1 +00.9	S	11 24.2 +00.6	108 09.8 +01.9	S	23 15.6 +00.0	87 02.4 +02.2	S	22 14.4 +00.0	21										
22	180 49.0 +00.9	S	11 24.8 +00.6	123 11.7 +01.9	S	23 15.6 +00.0	102 04.6 +02.2	S	22 14.4 -00.1	22										
23	195 49.9 +00.8	S	11 25.4 +00.6	138 13.6 +01.9	S	23 15.6 +00.0	117 06.8 +02.2	S	22 14.3 +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	00'1	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	151°	151°	151°	150°	150°	150°	SHA	093°	093°	093°	093°	093°	093°	SHA	072°	072°	072°	072°	071°	071°
Greenwich Culmination Time: 09:57							Greenwich Culmination Time: 13:48							Greenwich Culmination Time: 15:12						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 31.7 -00.2	S	20 00.8 +00.5	156 10.2 -00.9	S	24 30.3 +00.3	241 03.6 -30.9	N	05 40.6 -13.8	00			
01	198 31.5 -00.1	S	20 01.3 +00.6	171 09.3 -00.9	S	24 30.6 +00.2	255 32.7 -30.8	N	05 26.8 -13.8	01			
02	213 31.4 -00.2	S	20 01.9 +00.5	186 08.4 -01.0	S	24 30.8 +00.2	270 01.9 -30.9	N	05 13.0 -13.8	02			
03	228 31.2 -00.2	S	20 02.4 +00.5	201 07.4 -00.9	S	24 31.0 +00.2	284 31.0 -30.8	N	04 59.2 -13.8	03			
04	243 31.0 -00.1	S	20 02.9 +00.6	216 06.5 -01.0	S	24 31.2 +00.2	299 00.2 -30.9	N	04 45.4 -13.9	04			
05	258 30.9 -00.2	S	20 03.5 +00.5	231 05.5 -00.9	S	24 31.4 +00.2	313 29.3 -30.8	N	04 31.5 -13.9	05			
06	273 30.7 -00.2	S	20 04.0 +00.6	246 04.6 -00.9	S	24 31.6 +00.2	327 58.5 -30.8	N	04 17.6 -14.0	06			
07	288 30.5 -00.1	S	20 04.6 +00.5	261 03.7 -01.0	S	24 31.8 +00.2	342 27.7 -30.8	N	04 03.6 -14.0	07			
08	303 30.4 -00.2	S	20 05.1 +00.5	276 02.7 -00.9	S	24 32.0 +00.2	356 56.9 -30.8	N	03 49.6 -14.0	08			
09	318 30.2 -00.1	S	20 05.6 +00.6	291 01.8 -01.0	S	24 32.2 +00.2	11 26.1 -30.7	N	03 35.6 -14.0	09			
10	333 30.1 -00.2	S	20 06.2 +00.5	306 00.8 -00.9	S	24 32.4 +00.2	25 55.4 -30.8	N	03 21.6 -14.0	10			
11	348 29.9 -00.2	S	20 06.7 +00.6	320 59.9 -00.9	S	24 32.6 +00.2	40 24.6 -30.8	N	03 07.6 -14.1	11			
12	3 29.7 -00.1	S	20 07.3 +00.5	335 59.0 -01.0	S	24 32.8 +00.2	54 53.8 -30.7	N	02 53.5 -14.1	12			
13	18 29.6 -00.2	S	20 07.8 +00.5	350 58.0 -00.9	S	24 33.0 +00.2	69 23.1 -30.8	N	02 39.4 -14.1	13			
14	33 29.4 -00.2	S	20 08.3 +00.6	5 57.1 -00.9	S	24 33.2 +00.1	83 52.3 -30.7	N	02 25.3 -14.1	14			
15	48 29.2 -00.1	S	20 08.9 +00.5	20 56.2 -01.0	S	24 33.3 +00.2	98 21.6 -30.8	N	02 11.2 -14.1	15			
16	63 29.1 -00.2	S	20 09.4 +00.5	35 55.2 -00.9	S	24 33.5 +00.2	112 50.8 -30.7	N	01 57.1 -14.2	16			
17	78 28.9 -00.2	S	20 09.9 +00.6	50 54.3 -01.0	S	24 33.7 +00.2	127 20.1 -30.8	N	01 42.9 -14.1	17			
18	93 28.7 -00.1	S	20 10.5 +00.5	65 53.3 -00.9	S	24 33.9 +00.2	141 49.3 -30.7	N	01 28.8 -14.2	18			
19	108 28.6 -00.2	S	20 11.0 +00.5	80 52.4 -00.9	S	24 34.1 +00.2	156 18.6 -30.8	N	01 14.6 -14.2	19			
20	123 28.4 -00.2	S	20 11.5 +00.6	95 51.5 -01.0	S	24 34.3 +00.2	170 47.8 -30.7	N	01 00.4 -14.2	20			
21	138 28.2 -00.1	S	20 12.1 +00.5	110 50.5 -00.9	S	24 34.5 +00.1	185 17.1 -30.8	N	00 46.2 -14.2	21			
22	153 28.1 -00.2	S	20 12.6 +00.5	125 49.6 -01.0	S	24 34.6 +00.2	199 46.3 -30.7	N	00 32.0 -14.2	22			
23	168 27.9 -00.2	S	20 13.1 +00.6	140 48.6 -00.9	S	24 34.8 +00.2	214 15.6 -30.8	N	00 17.8 -14.2	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 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 16'3 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 59'6 59'7 59'7 59'7 59'7 59'8						
	SHA 123° 123° 122° 122° 122° 122°			SHA 095° 095° 095° 095° 094° 094°			SHA 179° 177° 175° 173° 170° 168°						
	Greenwich Culmination Time: 11:46			Greenwich Culmination Time: 13:36			Greenwich Culmination Time: 08:12						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	210 50.7 +00.9	S	11 26.0 +00.5	153 15.5 +01.9	S	23 15.6 +00.1	132 09.0 +02.2	S	22 14.3 +00.0	00			
01	225 51.6 +00.9	S	11 26.5 +00.6	168 17.4 +01.8	S	23 15.7 +00.0	147 11.2 +02.3	S	22 14.3 +00.0	01			
02	240 52.5 +00.9	S	11 27.1 +00.6	183 19.2 +01.9	S	23 15.7 +00.0	162 13.5 +02.2	S	22 14.3 -00.1	02			
03	255 53.4 +00.9	S	11 27.7 +00.6	198 21.1 +01.9	S	23 15.7 +00.0	177 15.7 +02.2	S	22 14.2 +00.0	03			
04	270 54.3 +00.9	S	11 28.3 +00.6	213 23.0 +01.9	S	23 15.7 +00.0	192 17.9 +02.2	S	22 14.2 +00.0	04			
05	285 55.2 +00.9	S	11 28.9 +00.6	228 24.9 +01.9	S	23 15.7 +00.0	207 20.1 +02.2	S	22 14.2 +00.0	05			
06	300 56.1 +00.9	S	11 29.5 +00.5	243 26.8 +01.8	S	23 15.7 +00.0	222 22.3 +02.2	S	22 14.2 -00.1	06			
07	315 57.0 +00.9	S	11 30.0 +00.6	258 28.6 +01.9	S	23 15.7 +00.1	237 24.5 +02.3	S	22 14.1 +00.0	07			
08	330 57.9 +00.9	S	11 30.6 +00.6	273 30.5 +01.9	S	23 15.8 +00.0	252 26.8 +02.2	S	22 14.1 +00.0	08			
09	345 58.8 +00.9	S	11 31.2 +00.6	288 32.4 +01.9	S	23 15.8 +00.0	267 29.0 +02.2	S	22 14.1 +00.0	09			
10	0 59.7 +00.9	S	11 31.8 +00.6	303 34.3 +01.9	S	23 15.8 +00.0	282 31.2 +02.2	S	22 14.1 -00.1	10			
11	16 00.6 +00.9	S	11 32.4 +00.6	318 36.2 +01.8	S	23 15.8 +00.0	297 33.4 +02.2	S	22 14.0 +00.0	11			
12	31 01.5 +00.8	S	11 33.0 +00.5	333 38.0 +01.9	S	23 15.8 +00.0	312 35.6 +02.2	S	22 14.0 +00.0	12			
13	46 02.3 +00.9	S	11 33.5 +00.6	348 39.9 +01.9	S	23 15.8 +00.0	327 37.8 +02.3	S	22 14.0 +00.0	13			
14	61 03.2 +00.9	S	11 34.1 +00.6	3 41.8 +01.9	S	23 15.8 +00.1	342 40.1 +02.2	S	22 14.0 -00.1	14			
15	76 04.1 +00.9	S	11 34.7 +00.6	18 43.7 +01.8	S	23 15.9 +00.0	357 42.3 +02.2	S	22 13.9 +00.0	15			
16	91 05.0 +00.9	S	11 35.3 +00.6	33 45.5 +01.9	S	23 15.9 +00.0	12 44.5 +02.2	S	22 13.9 +00.0	16			
17	106 05.9 +00.9	S	11 35.9 +00.6	48 47.4 +01.9	S	23 15.9 +00.0	27 46.7 +02.2	S	22 13.9 +00.0	17			
18	121 06.8 +00.9	S	11 36.5 +00.5	63 49.3 +01.9	S	23 15.9 +00.0	42 48.9 +02.2	S	22 13.9 -00.1	18			
19	136 07.7 +00.9	S	11 37.0 +00.6	78 51.2 +01.9	S	23 15.9 +00.0	57 51.1 +02.3	S	22 13.8 +00.0	19			
20	151 08.6 +00.9	S	11 37.6 +00.6	93 53.1 +01.8	S	23 15.9 +00.0	72 53.4 +02.2	S	22 13.8 +00.0	20			
21	166 09.5 +00.9	S	11 38.2 +00.6	108 54.9 +01.9	S	23 15.9 +00.0	87 55.6 +02.2	S	22 13.8 -00.1	21			
22	181 10.4 +00.9	S	11 38.8 +00.6	123 56.8 +01.9	S	23 15.9 +00.1	102 57.8 +02.2	S	22 13.7 +00.0	22			
23	196 11.3 +00.8	S	11 39.4 +00.5	138 58.7 +01.9	S	23 16.0 +00.0	117 60.0 +02.2	S	22 13.7 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 150° 150° 150° 150° 150° 150°			SHA 093° 093° 092° 092° 092° 092°			SHA 071° 071° 071° 071° 071° 071°						
	Greenwich Culmination Time: 09:56			Greenwich Culmination Time: 13:45			Greenwich Culmination Time: 15:09						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 27.7 -00.1	S 20	13.7 +00.5	155 47.7 -01.0	S 24	35.0 +00.2	228 44.8 -30.7	N 00	03.6 -14.2	00	00	03.6 -14.2	00
01	198 27.6 -00.2	S 20	14.2 +00.5	170 46.7 -00.9	S 24	35.2 +00.2	243 14.1 -30.8	S 00	10.6 +14.2	01	00	10.6 +14.2	01
02	213 27.4 -00.2	S 20	14.7 +00.5	185 45.8 -00.9	S 24	35.4 +00.1	257 43.3 -30.8	S 00	24.8 +14.2	02	00	24.8 +14.2	02
03	228 27.2 -00.2	S 20	15.2 +00.6	200 44.9 -01.0	S 24	35.5 +00.2	272 12.5 -30.8	S 00	39.0 +14.2	03	00	39.0 +14.2	03
04	243 27.0 -00.1	S 20	15.8 +00.5	215 43.9 -00.9	S 24	35.7 +00.2	286 41.7 -30.7	S 00	53.2 +14.3	04	00	53.2 +14.3	04
05	258 26.9 -00.2	S 20	16.3 +00.5	230 43.0 -01.0	S 24	35.9 +00.1	301 11.0 -30.8	S 01	07.5 +14.2	05	01	07.5 +14.2	05
06	273 26.7 -00.2	S 20	16.8 +00.5	245 42.0 -00.9	S 24	36.0 +00.2	315 40.2 -30.8	S 01	21.7 +14.2	06	01	21.7 +14.2	06
07	288 26.5 -00.1	S 20	17.3 +00.6	260 41.1 -00.9	S 24	36.2 +00.2	330 09.4 -30.9	S 01	35.9 +14.1	07	01	35.9 +14.1	07
08	303 26.4 -00.2	S 20	17.9 +00.5	275 40.2 -01.0	S 24	36.4 +00.1	344 38.5 -30.8	S 01	50.0 +14.2	08	01	50.0 +14.2	08
09	318 26.2 -00.2	S 20	18.4 +00.5	290 39.2 -00.9	S 24	36.5 +00.2	359 07.7 -30.8	S 02	04.2 +14.2	09	02	04.2 +14.2	09
10	333 26.0 -00.2	S 20	18.9 +00.5	305 38.3 -01.0	S 24	36.7 +00.2	13 36.9 -30.9	S 02	18.4 +14.2	10	02	18.4 +14.2	10
11	348 25.8 -00.1	S 20	19.4 +00.6	320 37.3 -00.9	S 24	36.9 +00.1	28 06.0 -30.8	S 02	32.6 +14.1	11	02	32.6 +14.1	11
12	3 25.7 -00.2	S 20	20.0 +00.5	335 36.4 -01.0	S 24	37.0 +00.2	42 35.2 -30.9	S 02	46.7 +14.1	12	02	46.7 +14.1	12
13	18 25.5 -00.2	S 20	20.5 +00.5	350 35.4 -00.9	S 24	37.2 +00.2	57 04.3 -30.9	S 03	00.8 +14.1	13	03	00.8 +14.1	13
14	33 25.3 -00.1	S 20	21.0 +00.5	5 34.5 -00.9	S 24	37.4 +00.1	71 33.4 -30.9	S 03	14.9 +14.1	14	03	14.9 +14.1	14
15	48 25.2 -00.2	S 20	21.5 +00.5	20 33.6 -01.0	S 24	37.5 +00.2	86 02.5 -30.9	S 03	29.0 +14.1	15	03	29.0 +14.1	15
16	63 25.0 -00.2	S 20	22.0 +00.6	35 32.6 -00.9	S 24	37.7 +00.1	100 31.6 -31.0	S 03	43.1 +14.1	16	03	43.1 +14.1	16
17	78 24.8 -00.2	S 20	22.6 +00.5	50 31.7 -01.0	S 24	37.8 +00.2	115 00.6 -30.9	S 03	57.2 +14.0	17	03	57.2 +14.0	17
18	93 24.6 -00.1	S 20	23.1 +00.5	65 30.7 -00.9	S 24	38.0 +00.2	129 29.7 -31.0	S 04	11.2 +14.0	18	04	11.2 +14.0	18
19	108 24.5 -00.2	S 20	23.6 +00.5	80 29.8 -01.0	S 24	38.2 +00.1	143 58.7 -31.0	S 04	25.2 +14.0	19	04	25.2 +14.0	19
20	123 24.3 -00.2	S 20	24.1 +00.5	95 28.8 -00.9	S 24	38.3 +00.2	158 27.7 -31.0	S 04	39.2 +13.9	20	04	39.2 +13.9	20
21	138 24.1 -00.2	S 20	24.6 +00.5	110 27.9 -00.9	S 24	38.5 +00.1	172 56.7 -31.1	S 04	53.1 +14.0	21	04	53.1 +14.0	21
22	153 23.9 -00.2	S 20	25.1 +00.6	125 27.0 -01.0	S 24	38.6 +00.2	187 25.6 -31.0	S 05	07.1 +13.9	22	05	07.1 +13.9	22
23	168 23.7 -00.1	S 20	25.7 +00.5	140 26.0 -00.9	S 24	38.8 +00.1	201 54.6 -31.1	S 05	21.0 +13.8	23	05	21.0 +13.8	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 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 59'8 59'8 59'8 59'7 59'7						
	SHA 122° 122° 121° 121° 121° 121°			SHA 094° 094° 094° 093° 093° 093°			SHA 166° 164° 162° 159° 157° 155°						
	Greenwich Culmination Time: 11:46			Greenwich Culmination Time: 13:37			Greenwich Culmination Time: 09:03						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	211 12.1 +00.9	S 11	39.9 +00.6	154 00.6 +01.8	S 23	16.0 +00.0	133 02.2 +02.2	S 22	13.7 +00.0	00	00	13.7 +00.0	00
01	226 13.0 +00.9	S 11	40.5 +00.6	169 02.4 +01.9	S 23	16.0 +00.0	148 04.4 +02.2	S 22	13.7 -00.1	01	00	13.7 -00.1	01
02	241 13.9 +00.9	S 11	41.1 +00.6	184 04.3 +01.9	S 23	16.0 +00.0	163 06.6 +02.3	S 22	13.6 +00.0	02	00	13.6 +00.0	02
03	256 14.8 +00.9	S 11	41.7 +00.6	199 06.2 +01.9	S 23	16.0 +00.0	178 08.9 +02.2	S 22	13.6 +00.0	03	00	13.6 +00.0	03
04	271 15.7 +00.9	S 11	42.3 +00.6	214 08.1 +01.8	S 23	16.0 +00.0	193 11.1 +02.2	S 22	13.6 +00.0	04	00	13.6 +00.0	04
05	286 16.6 +00.9	S 11	42.9 +00.5	229 09.9 +01.9	S 23	16.0 +00.1	208 13.3 +02.2	S 22	13.6 -00.1	05	00	13.6 -00.1	05
06	301 17.5 +00.9	S 11	43.4 +00.6	244 11.8 +01.9	S 23	16.1 +00.0	223 15.5 +02.2	S 22	13.5 +00.0	06	00	13.5 +00.0	06
07	316 18.4 +00.9	S 11	44.0 +00.6	259 13.7 +01.9	S 23	16.1 +00.0	238 17.7 +02.2	S 22	13.5 +00.0	07	00	13.5 +00.0	07
08	331 19.3 +00.9	S 11	44.6 +00.6	274 15.6 +01.9	S 23	16.1 +00.0	253 19.9 +02.2	S 22	13.5 +00.0	08	00	13.5 +00.0	08
09	346 20.2 +00.8	S 11	45.2 +00.6	289 17.5 +01.8	S 23	16.1 +00.0	268 22.1 +02.3	S 22	13.5 -00.1	09	00	13.5 -00.1	09
10	1 21.0 +00.9	S 11	45.8 +00.5	304 19.3 +01.9	S 23	16.1 +00.0	283 24.4 +02.2	S 22	13.4 +00.0	10	00	13.4 +00.0	10
11	16 21.9 +00.9	S 11	46.3 +00.6	319 21.2 +01.9	S 23	16.1 +00.0	298 26.6 +02.2	S 22	13.4 +00.0	11	00	13.4 +00.0	11
12	31 22.8 +00.9	S 11	46.9 +00.6	334 23.1 +01.9	S 23	16.1 +00.0	313 28.8 +02.2	S 22	13.4 +00.0	12	00	13.4 +00.0	12
13	46 23.7 +00.9	S 11	47.5 +00.6	349 25.0 +01.8	S 23	16.1 +00.1	328 31.0 +02.2	S 22	13.4 -00.1	13	00	13.4 -00.1	13
14	61 24.6 +00.9	S 11	48.1 +00.6	4 26.8 +01.9	S 23	16.2 +00.0	343 33.2 +02.2	S 22	13.3 +00.0	14	00	13.3 +00.0	14
15	76 25.5 +00.9	S 11	48.7 +00.5	19 28.7 +01.9	S 23	16.2 +00.0	358 35.4 +02.2	S 22	13.3 +00.0	15	00	13.3 +00.0	15
16	91 26.4 +00.9	S 11	49.2 +00.6	34 30.6 +01.9	S 23	16.2 +00.0	13 37.6 +02.3	S 22	13.3 -00.1	16	00	13.3 -00.1	16
17	106 27.3 +00.8	S 11	49.8 +00.6	49 32.5 +01.8	S 23	16.2 +00.0	28 39.9 +02.2	S 22	13.2 +00.0	17	00	13.2 +00.0	17
18	121 28.1 +00.9	S 11	50.4 +00.6	64 34.3 +01.9	S 23	16.2 +00.0	43 42.1 +02.2	S 22	13.2 +00.0	18	00	13.2 +00.0	18
19	136 29.0 +00.9	S 11	51.0 +00.5	79 36.2 +01.9	S 23	16.2 +00.0	58 44.3 +02.2	S 22	13.2 +00.0	19	00	13.2 +00.0	19
20	151 29.9 +00.9	S 11	51.5 +00.6	94 38.1 +01.9	S 23	16.2 +00.0	73 46.5 +02.2	S 22	13.2 -00.1	20	00	13.2 -00.1	20
21	166 30.8 +00.9	S 11	52.1 +00.6	109 40.0 +01.8	S 23	16.2 +00.1	88 48.7 +02.2	S 22	13.1 +00.0	21	00	13.1 +00.0	21
22	181 31.7 +00.9	S 11	52.7 +00.6	124 41.8 +01.9	S 23	16.3 +00.0	103 50.9 +02.2	S 22	13.1 +00.0	22	00	13.1 +00.0	22
23	196 32.6 +00.9	S 11	53.3 +00.6	139 43.7 +01.9	S 23	16.3 +00.0	118 53.1 +02.2	S 22	13.1 +00.0	23	00	13.1 +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 149° 149° 149° 149° 149° 149°			SHA 092° 092° 092° 092° 092° 092°			SHA 071° 071° 071° 071° 071° 071°						
	Greenwich Culmination Time: 09:54			Greenwich Culmination Time: 13:42			Greenwich Culmination Time: 15:05						

UT	Sun				Venus				Moon				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	183 23.6 -00.2	S 20 26.2 +00.5	155 25.1 -01.0	S 24 38.9 +00.2	216 23.5 -31.1	S 05 34.8 +13.9	00							
01	198 23.4 -00.2	S 20 26.7 +00.5	170 24.1 -00.9	S 24 39.1 +00.1	230 52.4 -31.2	S 05 48.7 +13.8	01							
02	213 23.2 -00.2	S 20 27.2 +00.5	185 23.2 -01.0	S 24 39.2 +00.1	245 21.2 -31.1	S 06 02.5 +13.7	02							
03	228 23.0 -00.1	S 20 27.7 +00.5	200 22.2 -00.9	S 24 39.3 +00.2	259 50.1 -31.2	S 06 16.2 +13.7	03							
04	243 22.9 -00.2	S 20 28.2 +00.5	215 21.3 -00.9	S 24 39.5 +00.1	274 18.9 -31.2	S 06 29.9 +13.7	04							
05	258 22.7 -00.2	S 20 28.7 +00.5	230 20.4 -01.0	S 24 39.6 +00.2	288 47.7 -31.2	S 06 43.6 +13.7	05							
06	273 22.5 -00.2	S 20 29.2 +00.6	245 19.4 -00.9	S 24 39.8 +00.1	303 16.5 -31.3	S 06 57.3 +13.6	06							
07	288 22.3 -00.2	S 20 29.8 +00.5	260 18.5 -01.0	S 24 39.9 +00.1	317 45.2 -31.3	S 07 10.9 +13.5	07							
08	303 22.1 -00.1	S 20 30.3 +00.5	275 17.5 -00.9	S 24 40.0 +00.2	332 13.9 -31.3	S 07 24.4 +13.6	08							
09	318 22.0 -00.2	S 20 30.8 +00.5	290 16.6 -01.0	S 24 40.2 +00.1	346 42.6 -31.4	S 07 38.0 +13.4	09							
10	333 21.8 -00.2	S 20 31.3 +00.5	305 15.6 -00.9	S 24 40.3 +00.1	1 11.2 -31.3	S 07 51.4 +13.5	10							
11	348 21.6 -00.2	S 20 31.8 +00.5	320 14.7 -01.0	S 24 40.4 +00.2	15 39.9 -31.4	S 08 04.9 +13.3	11							
12	3 21.4 -00.2	S 20 32.3 +00.5	335 13.7 -00.9	S 24 40.6 +00.1	30 08.5 -31.5	S 08 18.2 +13.4	12							
13	18 21.2 -00.1	S 20 32.8 +00.5	350 12.8 -01.0	S 24 40.7 +00.1	44 37.0 -31.4	S 08 31.6 +13.2	13							
14	33 21.1 -00.2	S 20 33.3 +00.5	5 11.8 -00.9	S 24 40.8 +00.2	59 05.6 -31.5	S 08 44.8 +13.2	14							
15	48 20.9 -00.2	S 20 33.8 +00.5	20 10.9 -00.9	S 24 41.0 +00.1	73 34.1 -31.6	S 08 58.0 +13.2	15							
16	63 20.7 -00.2	S 20 34.3 +00.5	35 10.0 -01.0	S 24 41.1 +00.1	88 02.5 -31.5	S 09 11.2 +13.1	16							
17	78 20.5 -00.2	S 20 34.8 +00.5	50 09.0 -00.9	S 24 41.2 +00.1	102 31.0 -31.6	S 09 24.3 +13.1	17							
18	93 20.3 -00.2	S 20 35.3 +00.5	65 08.1 -01.0	S 24 41.3 +00.2	116 59.4 -31.6	S 09 37.4 +13.0	18							
19	108 20.1 -00.1	S 20 35.8 +00.5	80 07.1 -00.9	S 24 41.5 +00.1	131 27.8 -31.7	S 09 50.4 +12.9	19							
20	123 20.0 -00.2	S 20 36.3 +00.5	95 06.2 -01.0	S 24 41.6 +00.1	145 56.1 -31.7	S 10 03.3 +12.8	20							
21	138 19.8 -00.2	S 20 36.8 +00.5	110 05.2 -00.9	S 24 41.7 +00.1	160 24.4 -31.7	S 10 16.1 +12.9	21							
22	153 19.6 -00.2	S 20 37.3 +00.5	125 04.3 -01.0	S 24 41.8 +00.1	174 52.7 -31.8	S 10 29.0 +12.7	22							
23	168 19.4 -00.2	S 20 37.8 +00.5	140 03.3 -00.9	S 24 41.9 +00.2	189 20.9 -31.8	S 10 41.7 +12.7	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 121° 120° 120° 120° 120° 120°	Greenwich Culmination Time: 11:46	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 093° 092° 092° 092° 092° 092°	Greenwich Culmination Time: 13:39	UT 02 06 10 14 18 22	SD 16'3 16'3 16'3 16'2 16'2 16'2	HP 59'7 59'7 59'7 59'6 59'6 59'5	SHA 153° 150° 148° 146° 144° 141°	Greenwich Culmination Time: 09:55

UT	Mars				Jupiter				Saturn				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	211 33.5 +00.9	S 11 53.9 +00.5	154 45.6 +01.9	S 23 16.3 +00.0	133 55.3 +02.3	S 22 13.1 -00.1	00							
01	226 34.4 +00.8	S 11 54.4 +00.6	169 47.5 +01.8	S 23 16.3 +00.0	148 57.6 +02.2	S 22 13.0 +00.0	01							
02	241 35.2 +00.9	S 11 55.0 +00.6	184 49.3 +01.9	S 23 16.3 +00.0	163 59.8 +02.2	S 22 13.0 +00.0	02							
03	256 36.1 +00.9	S 11 55.6 +00.6	199 51.2 +01.9	S 23 16.3 +00.0	179 02.0 +02.2	S 22 13.0 +00.0	03							
04	271 37.0 +00.9	S 11 56.2 +00.5	214 53.1 +01.9	S 23 16.3 +00.0	194 04.2 +02.2	S 22 13.0 -00.1	04							
05	286 37.9 +00.9	S 11 56.7 +00.6	229 55.0 +01.8	S 23 16.3 +00.1	209 06.4 +02.2	S 22 12.9 +00.0	05							
06	301 38.8 +00.9	S 11 57.3 +00.6	244 56.8 +01.9	S 23 16.4 +00.0	224 08.6 +02.2	S 22 12.9 +00.0	06							
07	316 39.7 +00.9	S 11 57.9 +00.6	259 58.7 +01.9	S 23 16.4 +00.0	239 10.8 +02.2	S 22 12.9 -00.1	07							
08	331 40.6 +00.8	S 11 58.5 +00.6	275 00.6 +01.9	S 23 16.4 +00.0	254 13.0 +02.2	S 22 12.8 +00.0	08							
09	346 41.4 +00.9	S 11 59.1 +00.5	290 02.5 +01.8	S 23 16.4 +00.0	269 15.2 +02.3	S 22 12.8 +00.0	09							
10	1 42.3 +00.9	S 11 59.6 +00.6	305 04.3 +01.9	S 23 16.4 +00.0	284 17.5 +02.2	S 22 12.8 +00.0	10							
11	16 43.2 +00.9	S 12 00.2 +00.6	320 06.2 +01.9	S 23 16.4 +00.0	299 19.7 +02.2	S 22 12.8 -00.1	11							
12	31 44.1 +00.9	S 12 00.8 +00.6	335 08.1 +01.9	S 23 16.4 +00.0	314 21.9 +02.2	S 22 12.7 +00.0	12							
13	46 45.0 +00.9	S 12 01.4 +00.5	350 10.0 +01.8	S 23 16.4 +00.0	329 24.1 +02.2	S 22 12.7 +00.0	13							
14	61 45.9 +00.8	S 12 01.9 +00.6	5 11.8 +01.9	S 23 16.4 +00.1	344 26.3 +02.2	S 22 12.7 +00.0	14							
15	76 46.7 +00.9	S 12 02.5 +00.6	20 13.7 +01.9	S 23 16.5 +00.0	359 28.5 +02.2	S 22 12.7 -00.1	15							
16	91 47.6 +00.9	S 12 03.1 +00.6	35 15.6 +01.8	S 23 16.5 +00.0	14 30.7 +02.2	S 22 12.6 +00.0	16							
17	106 48.5 +00.9	S 12 03.7 +00.5	50 17.4 +01.9	S 23 16.5 +00.0	29 32.9 +02.2	S 22 12.6 +00.0	17							
18	121 49.4 +00.9	S 12 04.2 +00.6	65 19.3 +01.9	S 23 16.5 +00.0	44 35.1 +02.3	S 22 12.6 +00.0	18							
19	136 50.3 +00.9	S 12 04.8 +00.6	80 21.2 +01.9	S 23 16.5 +00.0	59 37.4 +02.2	S 22 12.6 -00.1	19							
20	151 51.2 +00.9	S 12 05.4 +00.6	95 23.1 +01.8	S 23 16.5 +00.0	74 39.6 +02.2	S 22 12.5 +00.0	20							
21	166 52.1 +00.8	S 12 06.0 +00.5	110 24.9 +01.9	S 23 16.5 +00.0	89 41.8 +02.2	S 22 12.5 +00.0	21							
22	181 52.9 +00.9	S 12 06.5 +00.6	125 26.8 +01.9	S 23 16.5 +00.1	104 44.0 +02.2	S 22 12.5 -00.1	22							
23	196 53.8 +00.9	S 12 07.1 +00.6	140 28.7 +01.9	S 23 16.6 +00.0	119 46.2 +02.2	S 22 12.4 +00.0	23							
UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 149° 149° 149° 149° 148° 148°	Greenwich Culmination Time: 09:53	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 092° 092° 092° 092° 092° 092°	Greenwich Culmination Time: 13:39	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 071° 071° 071° 071° 071° 071°	Greenwich Culmination Time: 15:02

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 19.2 -00.2	S 20 38.3 +00.5	155 02.4 -01.0	S 24 42.1 +00.1	203 49.1 -31.8	S 10 54.4 +12.6	00						
01	198 19.0 -00.2	S 20 38.8 +00.5	170 01.4 -00.9	S 24 42.2 +00.1	218 17.3 -31.9	S 11 07.0 +12.5	01						
02	213 18.8 -00.1	S 20 39.3 +00.5	185 00.5 -01.0	S 24 42.3 +00.1	232 45.4 -31.9	S 11 19.5 +12.5	02						
03	228 18.7 -00.2	S 20 39.8 +00.5	199 59.5 -00.9	S 24 42.4 +00.1	247 13.5 -31.9	S 11 32.0 +12.3	03						
04	243 18.5 -00.2	S 20 40.3 +00.5	214 58.6 -00.9	S 24 42.5 +00.1	261 41.6 -32.0	S 11 44.3 +12.4	04						
05	258 18.3 -00.2	S 20 40.8 +00.5	229 57.7 -01.0	S 24 42.6 +00.1	276 09.6 -32.0	S 11 56.7 +12.2	05						
06	273 18.1 -00.2	S 20 41.3 +00.5	244 56.7 -00.9	S 24 42.7 +00.1	290 37.6 -32.1	S 12 08.9 +12.2	06						
07	288 17.9 -00.2	S 20 41.8 +00.5	259 55.8 -01.0	S 24 42.8 +00.2	305 05.5 -32.1	S 12 21.1 +12.1	07						
08	303 17.7 -00.2	S 20 42.3 +00.5	274 54.8 -00.9	S 24 43.0 +00.1	319 33.4 -32.1	S 12 33.2 +12.0	08						
09	318 17.5 -00.1	S 20 42.8 +00.5	289 53.9 -01.0	S 24 43.1 +00.1	334 01.3 -32.2	S 12 45.2 +11.9	09						
10	333 17.4 -00.2	S 20 43.3 +00.5	304 52.9 -00.9	S 24 43.2 +00.1	348 29.1 -32.2	S 12 57.1 +11.8	10						
11	348 17.2 -00.2	S 20 43.8 +00.4	319 52.0 -01.0	S 24 43.3 +00.1	2 56.9 -32.2	S 13 08.9 +11.8	11						
12	3 17.0 -00.2	S 20 44.2 +00.5	334 51.0 -00.9	S 24 43.4 +00.1	17 24.7 -32.3	S 13 20.7 +11.7	12						
13	18 16.8 -00.2	S 20 44.7 +00.5	349 50.1 -01.0	S 24 43.5 +00.1	31 52.4 -32.3	S 13 32.4 +11.6	13						
14	33 16.6 -00.2	S 20 45.2 +00.5	4 49.1 -00.9	S 24 43.6 +00.1	46 20.1 -32.4	S 13 44.0 +11.5	14						
15	48 16.4 -00.2	S 20 45.7 +00.5	19 48.2 -01.0	S 24 43.7 +00.1	60 47.7 -32.4	S 13 55.5 +11.4	15						
16	63 16.2 -00.2	S 20 46.2 +00.5	34 47.2 -00.9	S 24 43.8 +00.1	75 15.3 -32.4	S 14 06.9 +11.3	16						
17	78 16.0 -00.2	S 20 46.7 +00.5	49 46.3 -01.0	S 24 43.9 +00.0	89 42.9 -32.5	S 14 18.2 +11.2	17						
18	93 15.8 -00.2	S 20 47.2 +00.5	64 45.3 -00.9	S 24 43.9 +00.1	104 10.4 -32.5	S 14 29.4 +11.2	18						
19	108 15.6 -00.2	S 20 47.7 +00.4	79 44.4 -01.0	S 24 44.0 +00.1	118 37.9 -32.5	S 14 40.6 +11.0	19						
20	123 15.4 -00.1	S 20 48.1 +00.5	94 43.4 -00.9	S 24 44.1 +00.1	133 05.4 -32.6	S 14 51.6 +11.0	20						
21	138 15.3 -00.2	S 20 48.6 +00.5	109 42.5 -01.0	S 24 44.2 +00.1	147 32.8 -32.6	S 15 02.6 +10.8	21						
22	153 15.1 -00.2	S 20 49.1 +00.5	124 41.5 -00.9	S 24 44.3 +00.1	162 00.2 -32.7	S 15 13.4 +10.8	22						
23	168 14.9 -00.2	S 20 49.6 +00.5	139 40.6 -01.0	S 24 44.4 +00.1	176 27.5 -32.7	S 15 24.2 +10.7	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 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 59'2 59'2		HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 120° 119° 119° 119° 119° 119°		SHA 091° 091° 091° 091° 090° 090°		SHA 139° 137° 134° 132° 130° 127°		SHA 071° 071° 071° 071° 071° 071°						
	Greenwich Culmination Time: 11:46		Greenwich Culmination Time: 13:40		Greenwich Culmination Time: 10:47								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	211 54.7 +00.9	S 12 07.7 +00.6	155 30.6 +01.8	S 23 16.6 +00.0	134 48.4 +02.2	S 22 12.4 +00.0	00						
01	226 55.6 +00.9	S 12 08.3 +00.5	170 32.4 +01.9	S 23 16.6 +00.0	149 50.6 +02.2	S 22 12.4 +00.0	01						
02	241 56.5 +00.8	S 12 08.8 +00.6	185 34.3 +01.9	S 23 16.6 +00.0	164 52.8 +02.2	S 22 12.4 -00.1	02						
03	256 57.3 +00.9	S 12 09.4 +00.6	200 36.2 +01.8	S 23 16.6 +00.0	179 55.0 +02.2	S 22 12.3 +00.0	03						
04	271 58.2 +00.9	S 12 10.0 +00.6	215 38.0 +01.9	S 23 16.6 +00.0	194 57.2 +02.3	S 22 12.3 +00.0	04						
05	286 59.1 +00.9	S 12 10.6 +00.5	230 39.9 +01.9	S 23 16.6 +00.0	209 59.5 +02.2	S 22 12.3 +00.0	05						
06	301 60.0 +00.9	S 12 11.1 +00.6	245 41.8 +01.9	S 23 16.6 +00.0	225 01.7 +02.2	S 22 12.3 -00.1	06						
07	317 00.9 +00.9	S 12 11.7 +00.6	260 43.7 +01.8	S 23 16.6 +00.1	240 03.9 +02.2	S 22 12.2 +00.0	07						
08	332 01.8 +00.8	S 12 12.3 +00.6	275 45.5 +01.9	S 23 16.7 +00.0	255 06.1 +02.2	S 22 12.2 +00.0	08						
09	347 02.6 +00.9	S 12 12.9 +00.5	290 47.4 +01.9	S 23 16.7 +00.0	270 08.3 +02.2	S 22 12.2 -00.1	09						
10	2 03.5 +00.9	S 12 13.4 +00.6	305 49.3 +01.9	S 23 16.7 +00.0	285 10.5 +02.2	S 22 12.1 +00.0	10						
11	17 04.4 +00.9	S 12 14.0 +00.6	320 51.2 +01.8	S 23 16.7 +00.0	300 12.7 +02.2	S 22 12.1 +00.0	11						
12	32 05.3 +00.9	S 12 14.6 +00.5	335 53.0 +01.9	S 23 16.7 +00.0	315 14.9 +02.2	S 22 12.1 +00.0	12						
13	47 06.2 +00.8	S 12 15.1 +00.6	350 54.9 +01.9	S 23 16.7 +00.0	330 17.1 +02.2	S 22 12.1 -00.1	13						
14	62 07.0 +00.9	S 12 15.7 +00.6	5 56.8 +01.8	S 23 16.7 +00.0	345 19.3 +02.2	S 22 12.0 +00.0	14						
15	77 07.9 +00.9	S 12 16.3 +00.6	20 58.6 +01.9	S 23 16.7 +00.0	0 21.5 +02.2	S 22 12.0 +00.0	15						
16	92 08.8 +00.9	S 12 16.9 +00.5	36 00.5 +01.9	S 23 16.7 +00.0	15 23.7 +02.3	S 22 12.0 +00.0	16						
17	107 09.7 +00.9	S 12 17.4 +00.6	51 02.4 +01.8	S 23 16.7 +00.1	30 26.0 +02.2	S 22 12.0 -00.1	17						
18	122 10.6 +00.8	S 12 18.0 +00.6	66 04.2 +01.9	S 23 16.8 +00.0	45 28.2 +02.2	S 22 11.9 +00.0	18						
19	137 11.4 +00.9	S 12 18.6 +00.6	81 06.1 +01.9	S 23 16.8 +00.0	60 30.4 +02.2	S 22 11.9 +00.0	19						
20	152 12.3 +00.9	S 12 19.2 +00.5	96 08.0 +01.9	S 23 16.8 +00.0	75 32.6 +02.2	S 22 11.9 -00.1	20						
21	167 13.2 +00.9	S 12 19.7 +00.6	111 09.9 +01.8	S 23 16.8 +00.0	90 34.8 +02.2	S 22 11.8 +00.0	21						
22	182 14.1 +00.9	S 12 20.3 +00.6	126 11.7 +01.9	S 23 16.8 +00.0	105 37.0 +02.2	S 22 11.8 +00.0	22						
23	197 15.0 +00.8	S 12 20.9 +00.5	141 13.6 +01.9	S 23 16.8 +00.0	120 39.2 +02.2	S 22 11.8 +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						
	SHA 148° 148° 148° 148° 148° 148°		SHA 092° 092° 092° 092° 092° 092°		SHA 071° 071° 071° 071° 071° 071°		SHA 071° 071° 071° 071° 071° 071°						
	Greenwich Culmination Time: 09:51		Greenwich Culmination Time: 13:36		Greenwich Culmination Time: 14:58								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 14.7 -00.2	S	20 50.1 +00.5	154 39.6 -00.9	S	24 44.5 +00.1	190 54.8 -32.7	S	15 34.9 +10.5	00			
01	198 14.5 -00.2	S	20 50.6 +00.4	169 38.7 -00.9	S	24 44.6 +00.0	205 22.1 -32.8	S	15 45.4 +10.5	01			
02	213 14.3 -00.2	S	20 51.0 +00.5	184 37.8 -01.0	S	24 44.6 +00.1	219 49.3 -32.8	S	15 55.9 +10.3	02			
03	228 14.1 -00.2	S	20 51.5 +00.5	199 36.8 -00.9	S	24 44.7 +00.1	234 16.5 -32.8	S	16 06.2 +10.3	03			
04	243 13.9 -00.2	S	20 52.0 +00.5	214 35.9 -01.0	S	24 44.8 +00.1	248 43.7 -32.9	S	16 16.5 +10.2	04			
05	258 13.7 -00.2	S	20 52.5 +00.5	229 34.9 -00.9	S	24 44.9 +00.1	263 10.8 -32.9	S	16 26.7 +10.0	05			
06	273 13.5 -00.2	S	20 53.0 +00.4	244 34.0 -01.0	S	24 45.0 +00.0	277 37.9 -33.0	S	16 36.7 +09.9	06			
07	288 13.3 -00.2	S	20 53.4 +00.5	259 33.0 -00.9	S	24 45.0 +00.1	292 04.9 -33.0	S	16 46.6 +09.9	07			
08	303 13.1 -00.2	S	20 53.9 +00.5	274 32.1 -01.0	S	24 45.1 +00.1	306 31.9 -33.0	S	16 56.5 +09.7	08			
09	318 12.9 -00.2	S	20 54.4 +00.5	289 31.1 -00.9	S	24 45.2 +00.1	320 58.9 -33.1	S	17 06.2 +09.6	09			
10	333 12.7 -00.2	S	20 54.9 +00.4	304 30.2 -01.0	S	24 45.3 +00.0	335 25.8 -33.0	S	17 15.8 +09.5	10			
11	348 12.5 -00.2	S	20 55.3 +00.5	319 29.2 -00.9	S	24 45.3 +00.1	349 52.8 -33.2	S	17 25.3 +09.4	11			
12	3 12.3 -00.2	S	20 55.8 +00.5	334 28.3 -01.0	S	24 45.4 +00.1	4 19.6 -33.1	S	17 34.7 +09.2	12			
13	18 12.1 -00.2	S	20 56.3 +00.5	349 27.3 -00.9	S	24 45.5 +00.0	18 46.5 -33.2	S	17 43.9 +09.2	13			
14	33 11.9 -00.2	S	20 56.8 +00.4	4 26.4 -01.0	S	24 45.5 +00.1	33 13.3 -33.2	S	17 53.1 +09.1	14			
15	48 11.7 -00.2	S	20 57.2 +00.5	19 25.4 -00.9	S	24 45.6 +00.1	47 40.1 -33.3	S	18 02.2 +08.9	15			
16	63 11.5 -00.2	S	20 57.7 +00.5	34 24.5 -01.0	S	24 45.7 +00.0	62 06.8 -33.3	S	18 11.1 +08.8	16			
17	78 11.3 -00.2	S	20 58.2 +00.4	49 23.5 -00.9	S	24 45.7 +00.1	76 33.5 -33.3	S	18 19.9 +08.7	17			
18	93 11.1 -00.2	S	20 58.6 +00.5	64 22.6 -01.0	S	24 45.8 +00.1	91 00.2 -33.3	S	18 28.6 +08.6	18			
19	108 10.9 -00.2	S	20 59.1 +00.5	79 21.6 -00.9	S	24 45.9 +00.0	105 26.9 -33.4	S	18 37.2 +08.4	19			
20	123 10.7 -00.2	S	20 59.6 +00.4	94 20.7 -01.0	S	24 45.9 +00.1	119 53.5 -33.4	S	18 45.6 +08.3	20			
21	138 10.5 -00.2	S	21 00.0 +00.5	109 19.7 -00.9	S	24 46.0 +00.0	134 20.1 -33.4	S	18 53.9 +08.2	21			
22	153 10.3 -00.2	S	21 00.5 +00.5	124 18.8 -01.0	S	24 46.0 +00.1	148 46.7 -33.5	S	19 02.1 +08.1	22			
23	168 10.1 -00.2	S	21 01.0 +00.4	139 17.8 -00.9	S	24 46.1 +00.0	163 13.2 -33.4	S	19 10.2 +08.0	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 16'1 16'1 16'0 16'0 16'0 16'0						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 59'1 59'0 58'9 58'8 58'7 58'6						
	SHA 119° 118° 118° 118° 118° 118°			SHA 090° 090° 089° 089° 089° 089°			SHA 125° 123° 120° 118° 116° 113°						
	Greenwich Culmination Time: 11:47			Greenwich Culmination Time: 13:42			Greenwich Culmination Time: 11:42						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	212 15.8 +00.9	S	12 21.4 +00.6	156 15.5 +01.8	S	23 16.8 +00.0	135 41.4 +02.2	S	22 11.8 -00.1	00			
01	227 16.7 +00.9	S	12 22.0 +00.6	171 17.3 +01.9	S	23 16.8 +00.0	150 43.6 +02.2	S	22 11.7 +00.0	01			
02	242 17.6 +00.9	S	12 22.6 +00.6	186 19.2 +01.9	S	23 16.8 +00.1	165 45.8 +02.2	S	22 11.7 +00.0	02			
03	257 18.5 +00.9	S	12 23.2 +00.5	201 21.1 +01.9	S	23 16.9 +00.0	180 48.0 +02.2	S	22 11.7 -00.1	03			
04	272 19.4 +00.8	S	12 23.7 +00.6	216 23.0 +01.8	S	23 16.9 +00.0	195 50.2 +02.2	S	22 11.6 +00.0	04			
05	287 20.2 +00.9	S	12 24.3 +00.6	231 24.8 +01.9	S	23 16.9 +00.0	210 52.4 +02.2	S	22 11.6 +00.0	05			
06	302 21.1 +00.9	S	12 24.9 +00.5	246 26.7 +01.9	S	23 16.9 +00.0	225 54.6 +02.3	S	22 11.6 +00.0	06			
07	317 22.0 +00.9	S	12 25.4 +00.6	261 28.6 +01.8	S	23 16.9 +00.0	240 56.9 +02.2	S	22 11.6 -00.1	07			
08	332 22.9 +00.9	S	12 26.0 +00.6	276 30.4 +01.9	S	23 16.9 +00.0	255 59.1 +02.2	S	22 11.5 +00.0	08			
09	347 23.8 +00.8	S	12 26.6 +00.5	291 32.3 +01.9	S	23 16.9 +00.0	271 01.3 +02.2	S	22 11.5 +00.0	09			
10	2 24.6 +00.9	S	12 27.1 +00.6	306 34.2 +01.8	S	23 16.9 +00.0	286 03.5 +02.2	S	22 11.5 +00.0	10			
11	17 25.5 +00.9	S	12 27.7 +00.6	321 36.0 +01.9	S	23 16.9 +00.0	301 05.7 +02.2	S	22 11.5 -00.1	11			
12	32 26.4 +00.9	S	12 28.3 +00.6	336 37.9 +01.9	S	23 16.9 +00.1	316 07.9 +02.2	S	22 11.4 +00.0	12			
13	47 27.3 +00.8	S	12 28.9 +00.5	351 39.8 +01.9	S	23 17.0 +00.0	331 10.1 +02.2	S	22 11.4 +00.0	13			
14	62 28.1 +00.9	S	12 29.4 +00.6	6 41.7 +01.8	S	23 17.0 +00.0	346 12.3 +02.2	S	22 11.4 -00.1	14			
15	77 29.0 +00.9	S	12 30.0 +00.6	21 43.5 +01.9	S	23 17.0 +00.0	1 14.5 +02.2	S	22 11.3 +00.0	15			
16	92 29.9 +00.9	S	12 30.6 +00.5	36 45.4 +01.9	S	23 17.0 +00.0	16 16.7 +02.2	S	22 11.3 +00.0	16			
17	107 30.8 +00.9	S	12 31.1 +00.6	51 47.3 +01.8	S	23 17.0 +00.0	31 18.9 +02.2	S	22 11.3 +00.0	17			
18	122 31.7 +00.8	S	12 31.7 +00.6	66 49.1 +01.9	S	23 17.0 +00.0	46 21.1 +02.2	S	22 11.3 -00.1	18			
19	137 32.5 +00.9	S	12 32.3 +00.5	81 51.0 +01.9	S	23 17.0 +00.0	61 23.3 +02.2	S	22 11.2 +00.0	19			
20	152 33.4 +00.9	S	12 32.8 +00.6	96 52.9 +01.8	S	23 17.0 +00.0	76 25.5 +02.2	S	22 11.2 +00.0	20			
21	167 34.3 +00.9	S	12 33.4 +00.6	111 54.7 +01.9	S	23 17.0 +00.0	91 27.7 +02.2	S	22 11.2 -00.1	21			
22	182 35.2 +00.8	S	12 34.0 +00.5	126 56.6 +01.9	S	23 17.0 +00.1	106 29.9 +02.2	S	22 11.1 +00.0	22			
23	197 36.0 +00.9	S	12 34.5 +00.6	141 58.5 +01.8	S	23 17.1 +00.0	121 32.1 +02.3	S	22 11.1 +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 148° 147° 147° 147° 147° 147°			SHA 092° 092° 092° 091° 091° 091°			SHA 071° 071° 071° 071° 071° 071°						
	Greenwich Culmination Time: 09:50			Greenwich Culmination Time: 13:33			Greenwich Culmination Time: 14:55						

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	183 09.9 -00.2	S	21 01.4 +00.5	154 16.9 -01.0	S	24 46.1 +00.1	177 39.8 -33.5	S	19 18.2 +07.8	00										
01	198 09.7 -00.2	S	21 01.9 +00.5	169 15.9 -00.9	S	24 46.2 +00.0	192 06.3 -33.6	S	19 26.0 +07.8	01										
02	213 09.5 -00.2	S	21 02.4 +00.4	184 15.0 -01.0	S	24 46.2 +00.1	206 32.7 -33.5	S	19 33.8 +07.5	02										
03	228 09.3 -00.2	S	21 02.8 +00.5	199 14.0 -00.9	S	24 46.3 +00.0	220 59.2 -33.6	S	19 41.3 +07.5	03										
04	243 09.1 -00.2	S	21 03.3 +00.5	214 13.1 -01.0	S	24 46.3 +00.1	235 25.6 -33.6	S	19 48.8 +07.3	04										
05	258 08.9 -00.2	S	21 03.8 +00.4	229 12.1 -00.9	S	24 46.4 +00.0	249 52.0 -33.6	S	19 56.1 +07.2	05										
06	273 08.7 -00.2	S	21 04.2 +00.5	244 11.2 -01.0	S	24 46.4 +00.1	264 18.4 -33.6	S	20 03.3 +07.1	06										
07	288 08.5 -00.2	S	21 04.7 +00.4	259 10.2 -00.9	S	24 46.5 +00.0	278 44.8 -33.7	S	20 10.4 +07.0	07										
08	303 08.3 -00.2	S	21 05.1 +00.5	274 09.3 -01.0	S	24 46.5 +00.1	293 11.1 -33.6	S	20 17.4 +06.8	08										
09	318 08.1 -00.2	S	21 05.6 +00.5	289 08.3 -00.9	S	24 46.6 +00.0	307 37.5 -33.7	S	20 24.2 +06.7	09										
10	333 07.9 -00.2	S	21 06.1 +00.4	304 07.4 -01.0	S	24 46.6 +00.1	322 03.8 -33.7	S	20 30.9 +06.5	10										
11	348 07.7 -00.2	S	21 06.5 +00.5	319 06.4 -00.9	S	24 46.7 +00.0	336 30.1 -33.8	S	20 37.4 +06.5	11										
12	3 07.5 -00.2	S	21 07.0 +00.4	334 05.5 -01.0	S	24 46.7 +00.0	350 56.3 -33.7	S	20 43.9 +06.3	12										
13	18 07.3 -00.2	S	21 07.4 +00.5	349 04.5 -00.9	S	24 46.7 +00.1	5 22.6 -33.7	S	20 50.2 +06.1	13										
14	33 07.1 -00.2	S	21 07.9 +00.4	4 03.6 -01.0	S	24 46.8 +00.0	19 48.9 -33.8	S	20 56.3 +06.0	14										
15	48 06.9 -00.2	S	21 08.3 +00.5	19 02.6 -00.9	S	24 46.8 +00.0	34 15.1 -33.8	S	21 02.3 +05.9	15										
16	63 06.7 -00.2	S	21 08.8 +00.5	34 01.7 -01.0	S	24 46.8 +00.1	48 41.3 -33.7	S	21 08.2 +05.8	16										
17	78 06.5 -00.2	S	21 09.3 +00.4	49 00.7 -00.9	S	24 46.9 +00.0	63 07.6 -33.8	S	21 14.0 +05.6	17										
18	93 06.3 -00.2	S	21 09.7 +00.5	63 59.8 -01.0	S	24 46.9 +00.0	77 33.8 -33.8	S	21 19.6 +05.5	18										
19	108 06.1 -00.2	S	21 10.2 +00.4	78 58.8 -00.9	S	24 46.9 +00.1	91 60.0 -33.8	S	21 25.1 +05.4	19										
20	123 05.9 -00.2	S	21 10.6 +00.5	93 57.9 -01.0	S	24 47.0 +00.0	106 26.2 -33.8	S	21 30.5 +05.2	20										
21	138 05.7 -00.2	S	21 11.1 +00.4	108 56.9 -00.9	S	24 47.0 +00.0	120 52.4 -33.8	S	21 35.7 +05.1	21										
22	153 05.5 -00.3	S	21 11.5 +00.5	123 56.0 -01.0	S	24 47.0 +00.0	135 18.6 -33.8	S	21 40.8 +04.9	22										
23	168 05.2 -00.2	S	21 12.0 +00.4	138 55.0 -00.9	S	24 47.0 +00.1	149 44.8 -33.9	S	21 45.7 +04.8	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	15'9	15'9	15'9	15'8	15'8	15'8
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	58'5	58'4	58'3	58'2	58'0	57'9
SHA	117°	117°	117°	117°	117°	117°	SHA	089°	088°	088°	088°	088°	087°	SHA	111°	108°	106°	104°	101°	099°
Greenwich Culmination Time: 11:47							Greenwich Culmination Time: 13:43							Greenwich Culmination Time: 12:37						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	212 36.9 +00.9	S	12 35.1 +00.6	157 00.3 +01.9	S	23 17.1 +00.0	136 34.4 +02.2	S	22 11.1 +00.0	00										
01	227 37.8 +00.9	S	12 35.7 +00.5	172 02.2 +01.9	S	23 17.1 +00.0	151 36.6 +02.2	S	22 11.1 -00.1	01										
02	242 38.7 +00.8	S	12 36.2 +00.6	187 04.1 +01.8	S	23 17.1 +00.0	166 38.8 +02.2	S	22 11.0 +00.0	02										
03	257 39.5 +00.9	S	12 36.8 +00.6	202 05.9 +01.9	S	23 17.1 +00.0	181 41.0 +02.2	S	22 11.0 +00.0	03										
04	272 40.4 +00.9	S	12 37.4 +00.5	217 07.8 +01.9	S	23 17.1 +00.0	196 43.2 +02.2	S	22 11.0 -00.1	04										
05	287 41.3 +00.9	S	12 37.9 +00.6	232 09.7 +01.8	S	23 17.1 +00.0	211 45.4 +02.2	S	22 10.9 +00.0	05										
06	302 42.2 +00.8	S	12 38.5 +00.6	247 11.5 +01.9	S	23 17.1 +00.0	226 47.6 +02.2	S	22 10.9 +00.0	06										
07	317 43.0 +00.9	S	12 39.1 +00.5	262 13.4 +01.9	S	23 17.1 +00.0	241 49.8 +02.2	S	22 10.9 +00.0	07										
08	332 43.9 +00.9	S	12 39.6 +00.6	277 15.3 +01.9	S	23 17.1 +00.0	256 52.0 +02.2	S	22 10.9 -00.1	08										
09	347 44.8 +00.9	S	12 40.2 +00.6	292 17.2 +01.8	S	23 17.1 +00.1	271 54.2 +02.2	S	22 10.8 +00.0	09										
10	2 45.7 +00.8	S	12 40.8 +00.5	307 19.0 +01.9	S	23 17.2 +00.0	286 56.4 +02.2	S	22 10.8 +00.0	10										
11	17 46.5 +00.9	S	12 41.3 +00.6	322 20.9 +01.9	S	23 17.2 +00.0	301 58.6 +02.2	S	22 10.8 -00.1	11										
12	32 47.4 +00.9	S	12 41.9 +00.6	337 22.8 +01.8	S	23 17.2 +00.0	317 00.8 +02.2	S	22 10.7 +00.0	12										
13	47 48.3 +00.9	S	12 42.5 +00.5	352 24.6 +01.9	S	23 17.2 +00.0	332 03.0 +02.2	S	22 10.7 +00.0	13										
14	62 49.2 +00.8	S	12 43.0 +00.6	7 26.5 +01.9	S	23 17.2 +00.0	347 05.2 +02.2	S	22 10.7 +00.0	14										
15	77 50.0 +00.9	S	12 43.6 +00.6	22 28.4 +01.8	S	23 17.2 +00.0	2 07.4 +02.2	S	22 10.7 -00.1	15										
16	92 50.9 +00.9	S	12 44.2 +00.5	37 30.2 +01.9	S	23 17.2 +00.0	17 09.6 +02.2	S	22 10.6 +00.0	16										
17	107 51.8 +00.8	S	12 44.7 +00.6	52 32.1 +01.9	S	23 17.2 +00.0	32 11.8 +02.2	S	22 10.6 +00.0	17										
18	122 52.6 +00.9	S	12 45.3 +00.6	67 34.0 +01.8	S	23 17.2 +00.0	47 14.0 +02.2	S	22 10.6 +00.0	18										
19	137 53.5 +00.9	S	12 45.9 +00.5	82 35.8 +01.9	S	23 17.2 +00.0	62 16.2 +02.2	S	22 10.6 -00.1	19										
20	152 54.4 +00.9	S	12 46.4 +00.6	97 37.7 +01.9	S	23 17.2 +00.1	77 18.4 +02.2	S	22 10.5 +00.0	20										
21	167 55.3 +00.8	S	12 47.0 +00.6	112 39.6 +01.8	S	23 17.3 +00.0	92 20.6 +02.2	S	22 10.5 +00.0	21										
22	182 56.1 +00.9	S	12 47.6 +00.5	127 41.4 +01.9	S	23 17.3 +00.0	107 22.8 +02.2	S	22 10.5 -00.1	22										
23	197 57.0 +00.9	S	12 48.1 +00.6	142 43.3 +01.9	S	23 17.3 +00.0	122 25.0 +02.2	S	22 10.4 +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	00'1	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	147°	147°	147°	147°	147°	146°	SHA	091°	091°	091°	091°	091°	091°	SHA	071°	071°	071°	071°	071°	071°
Greenwich Culmination Time: 09:48							Greenwich Culmination Time: 13:30							Greenwich Culmination Time: 14:51						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 05.0 -00.2	S 21 12.4 +00.5	153 54.1 -01.0	S 24 47.1 +00.0	164 10.9 -33.8	S 21 50.5 +04.7	00						
01	198 04.8 -00.2	S 21 12.9 +00.4	168 53.1 -00.9	S 24 47.1 +00.0	178 37.1 -33.8	S 21 55.2 +04.5	01						
02	213 04.6 -00.2	S 21 13.3 +00.5	183 52.2 -01.0	S 24 47.1 +00.0	193 03.3 -33.8	S 21 59.7 +04.4	02						
03	228 04.4 -00.2	S 21 13.8 +00.4	198 51.2 -00.9	S 24 47.1 +00.0	207 29.5 -33.8	S 22 04.1 +04.3	03						
04	243 04.2 -00.2	S 21 14.2 +00.5	213 50.3 -01.0	S 24 47.1 +00.0	221 55.7 -33.8	S 22 08.4 +04.1	04						
05	258 04.0 -00.2	S 21 14.7 +00.4	228 49.3 -00.9	S 24 47.1 +00.1	236 21.9 -33.8	S 22 12.5 +04.0	05						
06	273 03.8 -00.2	S 21 15.1 +00.4	243 48.4 -01.0	S 24 47.2 +00.0	250 48.1 -33.8	S 22 16.5 +03.8	06						
07	288 03.6 -00.2	S 21 15.5 +00.5	258 47.4 -00.9	S 24 47.2 +00.0	265 14.3 -33.8	S 22 20.3 +03.7	07						
08	303 03.4 -00.3	S 21 16.0 +00.4	273 46.5 -01.0	S 24 47.2 +00.0	279 40.5 -33.7	S 22 24.0 +03.6	08						
09	318 03.1 -00.2	S 21 16.4 +00.5	288 45.5 -00.9	S 24 47.2 +00.0	294 06.8 -33.8	S 22 27.6 +03.4	09						
10	333 02.9 -00.2	S 21 16.9 +00.4	303 44.6 -01.0	S 24 47.2 +00.0	308 33.0 -33.8	S 22 31.0 +03.3	10						
11	348 02.7 -00.2	S 21 17.3 +00.5	318 43.6 -00.9	S 24 47.2 +00.0	322 59.2 -33.7	S 22 34.3 +03.2	11						
12	3 02.5 -00.2	S 21 17.8 +00.4	333 42.7 -01.0	S 24 47.2 +00.0	337 25.5 -33.7	S 22 37.5 +03.0	12						
13	18 02.3 -00.2	S 21 18.2 +00.4	348 41.7 -00.9	S 24 47.2 +00.0	351 51.8 -33.7	S 22 40.5 +02.8	13						
14	33 02.1 -00.2	S 21 18.6 +00.5	3 40.8 -01.0	S 24 47.2 +00.0	6 18.1 -33.7	S 22 43.3 +02.8	14						
15	48 01.9 -00.2	S 21 19.1 +00.4	18 39.8 -00.9	S 24 47.2 +00.0	20 44.4 -33.7	S 22 46.1 +02.6	15						
16	63 01.7 -00.3	S 21 19.5 +00.5	33 38.9 -00.9	S 24 47.2 +00.0	35 10.7 -33.6	S 22 48.7 +02.4	16						
17	78 01.4 -00.2	S 21 20.0 +00.4	48 38.0 -01.0	S 24 47.2 +00.0	49 37.1 -33.7	S 22 51.1 +02.4	17						
18	93 01.2 -00.2	S 21 20.4 +00.4	63 37.0 -00.9	S 24 47.2 +00.0	64 03.4 -33.6	S 22 53.5 +02.1	18						
19	108 01.0 -00.2	S 21 20.8 +00.5	78 36.1 -01.0	S 24 47.2 +00.0	78 29.8 -33.5	S 22 55.6 +02.1	19						
20	123 00.8 -00.2	S 21 21.3 +00.4	93 35.1 -00.9	S 24 47.2 +00.0	92 56.3 -33.6	S 22 57.7 +01.9	20						
21	138 00.6 -00.2	S 21 21.7 +00.4	108 34.2 -01.0	S 24 47.2 +00.0	107 22.7 -33.5	S 22 59.6 +01.8	21						
22	153 00.4 -00.2	S 21 22.1 +00.5	123 33.2 -00.9	S 24 47.2 +00.0	121 49.2 -33.5	S 23 01.4 +01.6	22						
23	168 00.2 -00.3	S 21 22.6 +00.4	138 32.3 -01.0	S 24 47.2 +00.0	136 15.7 -33.5	S 23 03.0 +01.5	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 15'7 15'7 15'7 15'6 15'6 15'6					
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 57'8 57'7 57'6 57'4 57'3 57'2		HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 116° 116° 116° 116° 116° 115°		SHA 087° 087° 087° 086° 086° 086°		SHA 096° 094° 092° 089° 087° 084°		SHA 096° 094° 092° 089° 087° 084°						
	Greenwich Culmination Time: 11:47		Greenwich Culmination Time: 13:45		Greenwich Culmination Time: 13:33								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	212 57.9 +00.9	S 12 48.7 +00.6	157 45.2 +01.8	S 23 17.3 +00.0	137 27.2 +02.2	S 22 10.4 +00.0	00						
01	227 58.8 +00.8	S 12 49.3 +00.5	172 47.0 +01.9	S 23 17.3 +00.0	152 29.4 +02.2	S 22 10.4 +00.0	01						
02	242 59.6 +00.9	S 12 49.8 +00.6	187 48.9 +01.9	S 23 17.3 +00.0	167 31.6 +02.2	S 22 10.4 -00.1	02						
03	258 00.5 +00.9	S 12 50.4 +00.6	202 50.8 +01.8	S 23 17.3 +00.0	182 33.8 +02.3	S 22 10.3 +00.0	03						
04	273 01.4 +00.8	S 12 51.0 +00.5	217 52.6 +01.9	S 23 17.3 +00.0	197 36.1 +02.2	S 22 10.3 +00.0	04						
05	288 02.2 +00.9	S 12 51.5 +00.6	232 54.5 +01.9	S 23 17.3 +00.0	212 38.3 +02.2	S 22 10.3 -00.1	05						
06	303 03.1 +00.9	S 12 52.1 +00.5	247 56.4 +01.8	S 23 17.3 +00.0	227 40.5 +02.2	S 22 10.2 +00.0	06						
07	318 04.0 +00.9	S 12 52.6 +00.6	262 58.2 +01.9	S 23 17.3 +00.1	242 42.7 +02.2	S 22 10.2 +00.0	07						
08	333 04.9 +00.8	S 12 53.2 +00.6	278 00.1 +01.9	S 23 17.4 +00.0	257 44.9 +02.2	S 22 10.2 +00.0	08						
09	348 05.7 +00.9	S 12 53.8 +00.5	293 02.0 +01.8	S 23 17.4 +00.0	272 47.1 +02.2	S 22 10.2 -00.1	09						
10	3 06.6 +00.9	S 12 54.3 +00.6	308 03.8 +01.9	S 23 17.4 +00.0	287 49.3 +02.2	S 22 10.1 +00.0	10						
11	18 07.5 +00.8	S 12 54.9 +00.6	323 05.7 +01.8	S 23 17.4 +00.0	302 51.5 +02.2	S 22 10.1 +00.0	11						
12	33 08.3 +00.9	S 12 55.5 +00.5	338 07.5 +01.9	S 23 17.4 +00.0	317 53.7 +02.2	S 22 10.1 -00.1	12						
13	48 09.2 +00.9	S 12 56.0 +00.6	353 09.4 +01.9	S 23 17.4 +00.0	332 55.9 +02.2	S 22 10.0 +00.0	13						
14	63 10.1 +00.8	S 12 56.6 +00.5	8 11.3 +01.8	S 23 17.4 +00.0	347 58.1 +02.2	S 22 10.0 +00.0	14						
15	78 10.9 +00.9	S 12 57.1 +00.6	23 13.1 +01.9	S 23 17.4 +00.0	3 00.3 +02.2	S 22 10.0 -00.1	15						
16	93 11.8 +00.9	S 12 57.7 +00.6	38 15.0 +01.9	S 23 17.4 +00.0	18 02.5 +02.2	S 22 09.9 +00.0	16						
17	108 12.7 +00.9	S 12 58.3 +00.5	53 16.9 +01.8	S 23 17.4 +00.0	33 04.7 +02.2	S 22 09.9 +00.0	17						
18	123 13.6 +00.8	S 12 58.8 +00.6	68 18.7 +01.9	S 23 17.4 +00.0	48 06.9 +02.2	S 22 09.9 +00.0	18						
19	138 14.4 +00.9	S 12 59.4 +00.6	83 20.6 +01.9	S 23 17.4 +00.1	63 09.1 +02.2	S 22 09.9 -00.1	19						
20	153 15.3 +00.9	S 12 60.0 +00.5	98 22.5 +01.8	S 23 17.5 +00.0	78 11.3 +02.2	S 22 09.8 +00.0	20						
21	168 16.2 +00.8	S 13 00.5 +00.6	113 24.3 +01.9	S 23 17.5 +00.0	93 13.5 +02.2	S 22 09.8 +00.0	21						
22	183 17.0 +00.9	S 13 01.1 +00.5	128 26.2 +01.9	S 23 17.5 +00.0	108 15.7 +02.2	S 22 09.8 -00.1	22						
23	198 17.9 +00.9	S 13 01.6 +00.6	143 28.1 +01.8	S 23 17.5 +00.0	123 17.9 +02.2	S 22 09.7 +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						
	SHA 146° 146° 146° 146° 146° 146°		SHA 091° 091° 091° 091° 091° 091°		SHA 071° 071° 071° 071° 071° 071°		SHA 071° 071° 071° 071° 071° 071°						
	Greenwich Culmination Time: 09:47		Greenwich Culmination Time: 13:27		Greenwich Culmination Time: 14:48								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 59.9 -00.2	S 21 23.0 +00.4	153 31.3 -00.9	S 24 47.2 +00.0	150 42.2 -33.5	S 23 04.5 +01.3	00						
01	197 59.7 -00.2	S 21 23.4 +00.5	168 30.4 -01.0	S 24 47.2 +00.0	165 08.7 -33.4	S 23 05.8 +01.3	01						
02	212 59.5 -00.2	S 21 23.9 +00.4	183 29.4 -00.9	S 24 47.2 +00.0	179 35.3 -33.4	S 23 07.1 +01.0	02						
03	227 59.3 -00.2	S 21 24.3 +00.4	198 28.5 -01.0	S 24 47.2 +00.0	194 01.9 -33.3	S 23 08.1 +01.0	03						
04	242 59.1 -00.2	S 21 24.7 +00.4	213 27.5 -00.9	S 24 47.2 +00.0	208 28.6 -33.3	S 23 09.1 +00.8	04						
05	257 58.9 -00.3	S 21 25.1 +00.5	228 26.6 -01.0	S 24 47.2 -00.1	222 55.3 -33.3	S 23 09.9 +00.7	05						
06	272 58.6 -00.2	S 21 25.6 +00.4	243 25.6 -00.9	S 24 47.1 +00.0	237 22.0 -33.2	S 23 10.6 +00.5	06						
07	287 58.4 -00.2	S 21 26.0 +00.4	258 24.7 -01.0	S 24 47.1 +00.0	251 48.8 -33.2	S 23 11.1 +00.4	07						
08	302 58.2 -00.2	S 21 26.4 +00.5	273 23.7 -00.9	S 24 47.1 +00.0	266 15.6 -33.2	S 23 11.5 +00.3	08						
09	317 58.0 -00.2	S 21 26.9 +00.4	288 22.8 -01.0	S 24 47.1 +00.0	280 42.4 -33.1	S 23 11.8 +00.2	09						
10	332 57.8 -00.2	S 21 27.3 +00.4	303 21.8 -00.9	S 24 47.1 -00.1	295 09.3 -33.1	S 23 12.0 +00.0	10						
11	347 57.6 -00.3	S 21 27.7 +00.4	318 20.9 -01.0	S 24 47.0 +00.0	309 36.2 -33.0	S 23 12.0 -00.2	11						
12	2 57.3 -00.2	S 21 28.1 +00.5	333 19.9 -00.9	S 24 47.0 +00.0	324 03.2 -33.0	S 23 11.8 -00.2	12						
13	17 57.1 -00.2	S 21 28.6 +00.4	348 19.0 -01.0	S 24 47.0 +00.0	338 30.2 -33.0	S 23 11.6 -00.4	13						
14	32 56.9 -00.2	S 21 29.0 +00.4	3 18.0 -00.9	S 24 47.0 -00.1	352 57.2 -32.9	S 23 11.2 -00.5	14						
15	47 56.7 -00.2	S 21 29.4 +00.4	18 17.1 -01.0	S 24 46.9 +00.0	7 24.3 -32.8	S 23 10.7 -00.7	15						
16	62 56.5 -00.3	S 21 29.8 +00.4	33 16.1 -00.9	S 24 46.9 +00.0	21 51.5 -32.8	S 23 10.0 -00.8	16						
17	77 56.2 -00.2	S 21 30.2 +00.5	48 15.2 -01.0	S 24 46.9 -00.1	36 18.7 -32.8	S 23 09.2 -00.9	17						
18	92 56.0 -00.2	S 21 30.7 +00.4	63 14.2 -00.9	S 24 46.8 +00.0	50 45.9 -32.7	S 23 08.3 -01.0	18						
19	107 55.8 -00.2	S 21 31.1 +00.4	78 13.3 -01.0	S 24 46.8 +00.0	65 13.2 -32.7	S 23 07.3 -01.2	19						
20	122 55.6 -00.3	S 21 31.5 +00.4	93 12.3 -00.9	S 24 46.8 -00.1	79 40.5 -32.6	S 23 06.1 -01.3	20						
21	137 55.3 -00.2	S 21 31.9 +00.4	108 11.4 -01.0	S 24 46.7 +00.0	94 07.9 -32.5	S 23 04.8 -01.4	21						
22	152 55.1 -00.2	S 21 32.3 +00.4	123 10.4 -00.9	S 24 46.7 +00.0	108 35.4 -32.5	S 23 03.4 -01.5	22						
23	167 54.9 -00.2	S 21 32.7 +00.5	138 09.5 -01.0	S 24 46.7 -00.1	123 02.9 -32.5	S 23 01.9 -01.7	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 15'5 15'5 15'5 15'4 15'4 15'4					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 57'1 56'9 56'8 56'7 56'5 56'4						
	SHA 115° 115° 115° 115° 115° 114°			SHA 086° 086° 085° 085° 085° 085°			SHA 082° 080° 077° 075° 072° 070°						
	Greenwich Culmination Time: 11:48			Greenwich Culmination Time: 13:46			Greenwich Culmination Time: 14:29						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	213 18.8 +00.8	S 13 02.2 +00.6	158 29.9 +01.9	S 23 17.5 +00.0	138 20.1 +02.2	S 22 09.7 +00.0	00						
01	228 19.6 +00.9	S 13 02.8 +00.5	173 31.8 +01.9	S 23 17.5 +00.0	153 22.3 +02.2	S 22 09.7 +00.0	01						
02	243 20.5 +00.9	S 13 03.3 +00.6	188 33.7 +01.8	S 23 17.5 +00.0	168 24.5 +02.2	S 22 09.7 -00.1	02						
03	258 21.4 +00.8	S 13 03.9 +00.5	203 35.5 +01.9	S 23 17.5 +00.0	183 26.7 +02.2	S 22 09.6 +00.0	03						
04	273 22.2 +00.9	S 13 04.4 +00.6	218 37.4 +01.9	S 23 17.5 +00.0	198 28.9 +02.2	S 22 09.6 +00.0	04						
05	288 23.1 +00.9	S 13 05.0 +00.6	233 39.3 +01.8	S 23 17.5 +00.0	213 31.1 +02.2	S 22 09.6 -00.1	05						
06	303 24.0 +00.8	S 13 05.6 +00.5	248 41.1 +01.9	S 23 17.5 +00.0	228 33.3 +02.2	S 22 09.5 +00.0	06						
07	318 24.8 +00.9	S 13 06.1 +00.6	263 43.0 +01.8	S 23 17.5 +00.0	243 35.5 +02.2	S 22 09.5 +00.0	07						
08	333 25.7 +00.9	S 13 06.7 +00.5	278 44.8 +01.9	S 23 17.5 +00.0	258 37.7 +02.2	S 22 09.5 +00.0	08						
09	348 26.6 +00.8	S 13 07.2 +00.6	293 46.7 +01.9	S 23 17.5 +00.1	273 39.9 +02.2	S 22 09.5 -00.1	09						
10	3 27.4 +00.9	S 13 07.8 +00.6	308 48.6 +01.8	S 23 17.6 +00.0	288 42.1 +02.2	S 22 09.4 +00.0	10						
11	18 28.3 +00.9	S 13 08.4 +00.5	323 50.4 +01.9	S 23 17.6 +00.0	303 44.3 +02.2	S 22 09.4 +00.0	11						
12	33 29.2 +00.8	S 13 08.9 +00.6	338 52.3 +01.9	S 23 17.6 +00.0	318 46.5 +02.2	S 22 09.4 -00.1	12						
13	48 30.0 +00.9	S 13 09.5 +00.5	353 54.2 +01.8	S 23 17.6 +00.0	333 48.7 +02.2	S 22 09.3 +00.0	13						
14	63 30.9 +00.9	S 13 10.0 +00.6	8 56.0 +01.9	S 23 17.6 +00.0	348 50.9 +02.2	S 22 09.3 +00.0	14						
15	78 31.8 +00.8	S 13 10.6 +00.5	23 57.9 +01.9	S 23 17.6 +00.0	3 53.1 +02.2	S 22 09.3 +00.0	15						
16	93 32.6 +00.9	S 13 11.1 +00.6	38 59.8 +01.8	S 23 17.6 +00.0	18 55.3 +02.2	S 22 09.3 -00.1	16						
17	108 33.5 +00.9	S 13 11.7 +00.6	54 01.6 +01.9	S 23 17.6 +00.0	33 57.5 +02.2	S 22 09.2 +00.0	17						
18	123 34.4 +00.8	S 13 12.3 +00.5	69 03.5 +01.8	S 23 17.6 +00.0	48 59.7 +02.2	S 22 09.2 +00.0	18						
19	138 35.2 +00.9	S 13 12.8 +00.6	84 05.3 +01.9	S 23 17.6 +00.0	64 01.9 +02.2	S 22 09.2 -00.1	19						
20	153 36.1 +00.9	S 13 13.4 +00.5	99 07.2 +01.9	S 23 17.6 +00.0	79 04.1 +02.2	S 22 09.1 +00.0	20						
21	168 37.0 +00.8	S 13 13.9 +00.6	114 09.1 +01.8	S 23 17.6 +00.0	94 06.3 +02.2	S 22 09.1 +00.0	21						
22	183 37.8 +00.9	S 13 14.5 +00.5	129 10.9 +01.9	S 23 17.6 +00.1	109 08.5 +02.2	S 22 09.1 -00.1	22						
23	198 38.7 +00.9	S 13 15.0 +00.6	144 12.8 +01.9	S 23 17.7 +00.0	124 10.7 +02.1	S 22 09.0 +00.0	23						
UT	02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	UT	02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	UT	02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 146° 146° 145° 145° 145° 145°			SHA 091° 091° 091° 091° 091° 091°			SHA 071° 071° 071° 071° 071° 071°						
	Greenwich Culmination Time: 09:46			Greenwich Culmination Time: 13:24			Greenwich Culmination Time: 14:44						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 54.7 -00.2	S 21 33.2 +00.4	153 08.5 -00.9	S 24 46.6 +00.0	137 30.4 -32.3	S 23 00.2 -01.8	00						
01	197 54.5 -00.3	S 21 33.6 +00.4	168 07.6 -01.0	S 24 46.6 -00.1	151 58.1 -32.4	S 22 58.4 -01.9	01						
02	212 54.2 -00.2	S 21 34.0 +00.4	183 06.6 -00.9	S 24 46.5 +00.0	166 25.7 -32.2	S 22 56.5 -02.1	02						
03	227 54.0 -00.2	S 21 34.4 +00.4	198 05.7 -00.9	S 24 46.5 -00.1	180 53.5 -32.3	S 22 54.4 -02.1	03						
04	242 53.8 -00.2	S 21 34.8 +00.4	213 04.8 -01.0	S 24 46.4 +00.0	195 21.2 -32.1	S 22 52.3 -02.3	04						
05	257 53.6 -00.3	S 21 35.2 +00.4	228 03.8 -00.9	S 24 46.4 +00.0	209 49.1 -32.1	S 22 50.0 -02.4	05						
06	272 53.3 -00.2	S 21 35.6 +00.5	243 02.9 -01.0	S 24 46.4 -00.1	224 17.0 -32.0	S 22 47.6 -02.6	06						
07	287 53.1 -00.2	S 21 36.1 +00.4	258 01.9 -00.9	S 24 46.3 +00.0	238 45.0 -32.0	S 22 45.0 -02.6	07						
08	302 52.9 -00.2	S 21 36.5 +00.4	273 01.0 -01.0	S 24 46.3 -00.1	253 13.0 -31.9	S 22 42.4 -02.8	08						
09	317 52.7 -00.3	S 21 36.9 +00.4	288 00.0 -00.9	S 24 46.2 -00.1	267 41.1 -31.9	S 22 39.6 -02.9	09						
10	332 52.4 -00.2	S 21 37.3 +00.4	302 59.1 -01.0	S 24 46.1 +00.0	282 09.2 -31.7	S 22 36.7 -03.0	10						
11	347 52.2 -00.2	S 21 37.7 +00.4	317 58.1 -00.9	S 24 46.1 -00.1	296 37.5 -31.8	S 22 33.7 -03.1	11						
12	2 52.0 -00.2	S 21 38.1 +00.4	332 57.2 -01.0	S 24 46.0 +00.0	311 05.7 -31.6	S 22 30.6 -03.3	12						
13	17 51.8 -00.3	S 21 38.5 +00.4	347 56.2 -00.9	S 24 46.0 -00.1	325 34.1 -31.6	S 22 27.3 -03.3	13						
14	32 51.5 -00.2	S 21 38.9 +00.4	2 55.3 -01.0	S 24 45.9 +00.0	340 02.5 -31.5	S 22 24.0 -03.5	14						
15	47 51.3 -00.2	S 21 39.3 +00.4	17 54.3 -00.9	S 24 45.9 -00.1	354 31.0 -31.5	S 22 20.5 -03.6	15						
16	62 51.1 -00.2	S 21 39.7 +00.4	32 53.4 -01.0	S 24 45.8 -00.1	8 59.5 -31.4	S 22 16.9 -03.7	16						
17	77 50.9 -00.3	S 21 40.1 +00.4	47 52.4 -00.9	S 24 45.7 +00.0	23 28.1 -31.3	S 22 13.2 -03.8	17						
18	92 50.6 -00.2	S 21 40.5 +00.4	62 51.5 -01.0	S 24 45.7 -00.1	37 56.8 -31.2	S 22 09.4 -03.9	18						
19	107 50.4 -00.2	S 21 40.9 +00.4	77 50.5 -00.9	S 24 45.6 -00.1	52 25.6 -31.2	S 22 05.5 -04.1	19						
20	122 50.2 -00.3	S 21 41.3 +00.4	92 49.6 -00.9	S 24 45.5 +00.0	66 54.4 -31.1	S 22 01.4 -04.1	20						
21	137 49.9 -00.2	S 21 41.7 +00.4	107 48.7 -01.0	S 24 45.5 -00.1	81 23.3 -31.1	S 21 57.3 -04.3	21						
22	152 49.7 -00.2	S 21 42.1 +00.4	122 47.7 -00.9	S 24 45.4 -00.1	95 52.2 -31.0	S 21 53.0 -04.3	22						
23	167 49.5 -00.2	S 21 42.5 +00.4	137 46.8 -01.0	S 24 45.3 +00.0	110 21.2 -30.9	S 21 48.7 -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	15'3 15'3 15'3 15'2 15'2 15'2						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	56'3 56'2 56'1 55'9 55'8 55'7						
SHA	114° 114° 114° 114° 114° 113°		SHA	084° 084° 084° 084° 084° 083°		SHA	068° 065° 063° 061° 059° 056°						
Greenwich Culmination Time: 11:48				Greenwich Culmination Time: 13:48				Greenwich Culmination Time: 15:22					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	213 39.6 +00.8	S 13 15.6 +00.6	159 14.7 +01.8	S 23 17.7 +00.0	139 12.8 +02.2	S 22 09.0 +00.0	00						
01	228 40.4 +00.9	S 13 16.2 +00.5	174 16.5 +01.9	S 23 17.7 +00.0	154 15.0 +02.2	S 22 09.0 +00.0	01						
02	243 41.3 +00.9	S 13 16.7 +00.6	189 18.4 +01.8	S 23 17.7 +00.0	169 17.2 +02.2	S 22 09.0 -00.1	02						
03	258 42.2 +00.8	S 13 17.3 +00.5	204 20.2 +01.9	S 23 17.7 +00.0	184 19.4 +02.2	S 22 08.9 +00.0	03						
04	273 43.0 +00.9	S 13 17.8 +00.6	219 22.1 +01.9	S 23 17.7 +00.0	199 21.6 +02.2	S 22 08.9 +00.0	04						
05	288 43.9 +00.9	S 13 18.4 +00.5	234 24.0 +01.8	S 23 17.7 +00.0	214 23.8 +02.2	S 22 08.9 -00.1	05						
06	303 44.8 +00.8	S 13 18.9 +00.6	249 25.8 +01.9	S 23 17.7 +00.0	229 26.0 +02.2	S 22 08.8 +00.0	06						
07	318 45.6 +00.9	S 13 19.5 +00.6	264 27.7 +01.9	S 23 17.7 +00.0	244 28.2 +02.2	S 22 08.8 +00.0	07						
08	333 46.5 +00.8	S 13 20.1 +00.5	279 29.6 +01.8	S 23 17.7 +00.0	259 30.4 +02.2	S 22 08.8 -00.1	08						
09	348 47.3 +00.9	S 13 20.6 +00.6	294 31.4 +01.9	S 23 17.7 +00.0	274 32.6 +02.2	S 22 08.7 +00.0	09						
10	3 48.2 +00.9	S 13 21.2 +00.5	309 33.3 +01.8	S 23 17.7 +00.0	289 34.8 +02.2	S 22 08.7 +00.0	10						
11	18 49.1 +00.8	S 13 21.7 +00.6	324 35.1 +01.9	S 23 17.7 +00.0	304 37.0 +02.2	S 22 08.7 +00.0	11						
12	33 49.9 +00.9	S 13 22.3 +00.5	339 37.0 +01.9	S 23 17.7 +00.0	319 39.2 +02.2	S 22 08.7 -00.1	12						
13	48 50.8 +00.9	S 13 22.8 +00.6	354 38.9 +01.8	S 23 17.7 +00.0	334 41.4 +02.2	S 22 08.6 +00.0	13						
14	63 51.7 +00.8	S 13 23.4 +00.5	9 40.7 +01.9	S 23 17.7 +00.1	349 43.6 +02.2	S 22 08.6 +00.0	14						
15	78 52.5 +00.9	S 13 23.9 +00.6	24 42.6 +01.8	S 23 17.8 +00.0	4 45.8 +02.2	S 22 08.6 -00.1	15						
16	93 53.4 +00.8	S 13 24.5 +00.6	39 44.4 +01.9	S 23 17.8 +00.0	19 48.0 +02.2	S 22 08.5 +00.0	16						
17	108 54.2 +00.9	S 13 25.1 +00.5	54 46.3 +01.9	S 23 17.8 +00.0	34 50.2 +02.2	S 22 08.5 +00.0	17						
18	123 55.1 +00.9	S 13 25.6 +00.6	69 48.2 +01.8	S 23 17.8 +00.0	49 52.4 +02.2	S 22 08.5 +00.0	18						
19	138 56.0 +00.8	S 13 26.2 +00.5	84 50.0 +01.9	S 23 17.8 +00.0	64 54.6 +02.2	S 22 08.5 -00.1	19						
20	153 56.8 +00.9	S 13 26.7 +00.6	99 51.9 +01.9	S 23 17.8 +00.0	79 56.8 +02.2	S 22 08.4 +00.0	20						
21	168 57.7 +00.9	S 13 27.3 +00.5	114 53.8 +01.8	S 23 17.8 +00.0	94 59.0 +02.2	S 22 08.4 +00.0	21						
22	183 58.6 +00.8	S 13 27.8 +00.6	129 55.6 +01.9	S 23 17.8 +00.0	110 01.2 +02.2	S 22 08.4 -00.1	22						
23	198 59.4 +00.9	S 13 28.4 +00.5	144 57.5 +01.8	S 23 17.8 +00.0	125 03.4 +02.2	S 22 08.3 +00.0	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	00'0 00'0 00'0 00'0 00'0 00'0		SD	00'3 00'3 00'3 00'3 00'3 00'3		SD	00'1 00'1 00'1 00'1 00'1 00'1						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'0 00'0 00'0 00'0 00'0 00'0		HP	00'0 00'0 00'0 00'0 00'0 00'0						
SHA	145° 145° 145° 145° 145° 144°		SHA	091° 091° 091° 091° 090° 090°		SHA	071° 071° 071° 071° 071° 071°						
Greenwich Culmination Time: 09:44				Greenwich Culmination Time: 13:21				Greenwich Culmination Time: 14:40					

UT	Sun				Venus				Moon				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	182 49.3 -00.3	S 21 42.9 +00.4	152 45.8 -00.9	S 24 45.3 -00.1	124 50.3 -30.8	S 21 44.2 -04.6	00							
01	197 49.0 -00.2	S 21 43.3 +00.4	167 44.9 -01.0	S 24 45.2 -00.1	139 19.5 -30.8	S 21 39.6 -04.6	01							
02	212 48.8 -00.2	S 21 43.7 +00.4	182 43.9 -00.9	S 24 45.1 -00.1	153 48.7 -30.7	S 21 35.0 -04.8	02							
03	227 48.6 -00.3	S 21 44.1 +00.4	197 43.0 -01.0	S 24 45.0 +00.0	168 18.0 -30.6	S 21 30.2 -04.9	03							
04	242 48.3 -00.2	S 21 44.5 +00.4	212 42.0 -00.9	S 24 45.0 -00.1	182 47.4 -30.5	S 21 25.3 -05.0	04							
05	257 48.1 -00.2	S 21 44.9 +00.4	227 41.1 -01.0	S 24 44.9 -00.1	197 16.9 -30.5	S 21 20.3 -05.1	05							
06	272 47.9 -00.3	S 21 45.3 +00.4	242 40.1 -00.9	S 24 44.8 -00.1	211 46.4 -30.4	S 21 15.2 -05.2	06							
07	287 47.6 -00.2	S 21 45.7 +00.4	257 39.2 -00.9	S 24 44.7 +00.0	226 16.0 -30.4	S 21 10.0 -05.3	07							
08	302 47.4 -00.2	S 21 46.1 +00.4	272 38.3 -01.0	S 24 44.7 -00.1	240 45.6 -30.2	S 21 04.7 -05.4	08							
09	317 47.2 -00.3	S 21 46.5 +00.4	287 37.3 -00.9	S 24 44.6 -00.1	255 15.4 -30.2	S 20 59.3 -05.4	09							
10	332 46.9 -00.2	S 21 46.9 +00.4	302 36.4 -01.0	S 24 44.5 -00.1	269 45.2 -30.1	S 20 53.9 -05.6	10							
11	347 46.7 -00.2	S 21 47.3 +00.4	317 35.4 -00.9	S 24 44.4 -00.1	284 15.1 -30.1	S 20 48.3 -05.7	11							
12	2 46.5 -00.3	S 21 47.7 +00.3	332 34.5 -01.0	S 24 44.3 -00.1	298 45.0 -30.0	S 20 42.6 -05.8	12							
13	17 46.2 -00.2	S 21 48.0 +00.4	347 33.5 -00.9	S 24 44.2 -00.1	313 15.0 -29.8	S 20 36.8 -05.9	13							
14	32 46.0 -00.2	S 21 48.4 +00.4	2 32.6 -01.0	S 24 44.1 -00.1	327 45.2 -29.9	S 20 30.9 -05.9	14							
15	47 45.8 -00.3	S 21 48.8 +00.4	17 31.6 -00.9	S 24 44.0 +00.0	342 15.3 -29.7	S 20 25.0 -06.1	15							
16	62 45.5 -00.2	S 21 49.2 +00.4	32 30.7 -00.9	S 24 44.0 -00.1	356 45.6 -29.7	S 20 18.9 -06.2	16							
17	77 45.3 -00.2	S 21 49.6 +00.4	47 29.8 -01.0	S 24 43.9 -00.1	11 15.9 -29.6	S 20 12.7 -06.2	17							
18	92 45.1 -00.3	S 21 50.0 +00.4	62 28.8 -00.9	S 24 43.8 -00.1	25 46.3 -29.6	S 20 06.5 -06.3	18							
19	107 44.8 -00.2	S 21 50.4 +00.3	77 27.9 -01.0	S 24 43.7 -00.1	40 16.7 -29.4	S 20 00.2 -06.5	19							
20	122 44.6 -00.2	S 21 50.7 +00.4	92 26.9 -00.9	S 24 43.6 -00.1	54 47.3 -29.4	S 19 53.7 -06.5	20							
21	137 44.4 -00.3	S 21 51.1 +00.4	107 26.0 -01.0	S 24 43.5 -00.1	69 17.9 -29.3	S 19 47.2 -06.6	21							
22	152 44.1 -00.2	S 21 51.5 +00.4	122 25.0 -00.9	S 24 43.4 -00.1	83 48.6 -29.3	S 19 40.6 -06.7	22							
23	167 43.9 -00.2	S 21 51.9 +00.4	137 24.1 -00.9	S 24 43.3 -00.1	98 19.3 -29.1	S 19 33.9 -06.7	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 113° 113° 113° 113° 112° 112°	Greenwich Culmination Time: 11:48	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 083° 083° 083° 082° 082° 082°	Greenwich Culmination Time: 13:49	UT 02 06 10 14 18 22	SD 15'2 15'1 15'1 15'1 15'0 15'0	HP 55'6 55'5 55'4 55'3 55'2 55'1	SHA 054° 052° 050° 048° 045° 043°	Greenwich Culmination Time: 16:13

UT	Mars				Jupiter				Saturn				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	214 00.3 +00.8	S 13 28.9 +00.6	159 59.3 +01.9	S 23 17.8 +00.0	140 05.6 +02.2	S 22 08.3 +00.0	00							
01	229 01.1 +00.9	S 13 29.5 +00.5	175 01.2 +01.9	S 23 17.8 +00.0	155 07.8 +02.2	S 22 08.3 -00.1	01							
02	244 02.0 +00.9	S 13 30.0 +00.6	190 03.1 +01.8	S 23 17.8 +00.0	170 10.0 +02.2	S 22 08.2 +00.0	02							
03	259 02.9 +00.8	S 13 30.6 +00.5	205 04.9 +01.9	S 23 17.8 +00.0	185 12.2 +02.2	S 22 08.2 +00.0	03							
04	274 03.7 +00.9	S 13 31.1 +00.6	220 06.8 +01.8	S 23 17.8 +00.0	200 14.4 +02.1	S 22 08.2 +00.0	04							
05	289 04.6 +00.8	S 13 31.7 +00.5	235 08.6 +01.9	S 23 17.8 +00.0	215 16.5 +02.2	S 22 08.2 -00.1	05							
06	304 05.4 +00.9	S 13 32.2 +00.6	250 10.5 +01.9	S 23 17.8 +00.1	230 18.7 +02.2	S 22 08.1 +00.0	06							
07	319 06.3 +00.9	S 13 32.8 +00.5	265 12.4 +01.8	S 23 17.9 +00.0	245 20.9 +02.2	S 22 08.1 +00.0	07							
08	334 07.2 +00.8	S 13 33.3 +00.6	280 14.2 +01.9	S 23 17.9 +00.0	260 23.1 +02.2	S 22 08.1 -00.1	08							
09	349 08.0 +00.9	S 13 33.9 +00.5	295 16.1 +01.8	S 23 17.9 +00.0	275 25.3 +02.2	S 22 08.0 +00.0	09							
10	4 08.9 +00.8	S 13 34.4 +00.6	310 17.9 +01.9	S 23 17.9 +00.0	290 27.5 +02.2	S 22 08.0 +00.0	10							
11	19 09.7 +00.9	S 13 35.0 +00.6	325 19.8 +01.9	S 23 17.9 +00.0	305 29.7 +02.2	S 22 08.0 -00.1	11							
12	34 10.6 +00.9	S 13 35.6 +00.5	340 21.7 +01.8	S 23 17.9 +00.0	320 31.9 +02.2	S 22 07.9 +00.0	12							
13	49 11.5 +00.8	S 13 36.1 +00.6	355 23.5 +01.9	S 23 17.9 +00.0	335 34.1 +02.2	S 22 07.9 +00.0	13							
14	64 12.3 +00.9	S 13 36.7 +00.5	10 25.4 +01.8	S 23 17.9 +00.0	350 36.3 +02.2	S 22 07.9 +00.0	14							
15	79 13.2 +00.8	S 13 37.2 +00.6	25 27.2 +01.9	S 23 17.9 +00.0	5 38.5 +02.2	S 22 07.9 -00.1	15							
16	94 14.0 +00.9	S 13 37.8 +00.5	40 29.1 +01.9	S 23 17.9 +00.0	20 40.7 +02.2	S 22 07.8 +00.0	16							
17	109 14.9 +00.9	S 13 38.3 +00.6	55 31.0 +01.8	S 23 17.9 +00.0	35 42.9 +02.2	S 22 07.8 +00.0	17							
18	124 15.8 +00.8	S 13 38.9 +00.5	70 32.8 +01.9	S 23 17.9 +00.0	50 45.1 +02.2	S 22 07.8 -00.1	18							
19	139 16.6 +00.9	S 13 39.4 +00.6	85 34.7 +01.8	S 23 17.9 +00.0	65 47.3 +02.2	S 22 07.7 +00.0	19							
20	154 17.5 +00.8	S 13 40.0 +00.5	100 36.5 +01.9	S 23 17.9 +00.0	80 49.5 +02.2	S 22 07.7 +00.0	20							
21	169 18.3 +00.9	S 13 40.5 +00.6	115 38.4 +01.9	S 23 17.9 +00.0	95 51.7 +02.2	S 22 07.7 -00.1	21							
22	184 19.2 +00.8	S 13 41.1 +00.5	130 40.3 +01.8	S 23 17.9 +00.0	110 53.9 +02.1	S 22 07.6 +00.0	22							
23	199 20.0 +00.9	S 13 41.6 +00.6	145 42.1 +01.9	S 23 17.9 +00.0	125 56.0 +02.2	S 22 07.6 +00.0	23							
UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 144° 144° 144° 144° 144° 144°	Greenwich Culmination Time: 09:43	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 090° 090° 090° 090° 090° 090°	Greenwich Culmination Time: 13:18	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 071° 071° 070° 070° 070° 070°	Greenwich Culmination Time: 14:37

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 20%				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	182 43.7 -00.3	S 21 52.3 +00.4	152 23.2 -01.0	S 24 43.2 -00.1	112 50.2 -29.1	S 19 27.2 -06.9	00						
01	197 43.4 -00.2	S 21 52.7 +00.3	167 22.2 -00.9	S 24 43.1 -00.1	127 21.1 -29.1	S 19 20.3 -06.9	01						
02	212 43.2 -00.2	S 21 53.0 +00.4	182 21.3 -01.0	S 24 43.0 -00.1	141 52.0 -28.9	S 19 13.4 -07.1	02						
03	227 43.0 -00.3	S 21 53.4 +00.4	197 20.3 -00.9	S 24 42.9 -00.2	156 23.1 -28.9	S 19 06.3 -07.1	03						
04	242 42.7 -00.2	S 21 53.8 +00.4	212 19.4 -01.0	S 24 42.7 -00.1	170 54.2 -28.8	S 18 59.2 -07.2	04						
05	257 42.5 -00.3	S 21 54.2 +00.3	227 18.4 -00.9	S 24 42.6 -00.1	185 25.4 -28.8	S 18 52.0 -07.2	05						
06	272 42.2 -00.2	S 21 54.5 +00.4	242 17.5 -00.9	S 24 42.5 -00.1	199 56.6 -28.7	S 18 44.8 -07.4	06						
07	287 42.0 -00.2	S 21 54.9 +00.4	257 16.6 -01.0	S 24 42.4 -00.1	214 27.9 -28.6	S 18 37.4 -07.4	07						
08	302 41.8 -00.3	S 21 55.3 +00.4	272 15.6 -00.9	S 24 42.3 -00.1	228 59.3 -28.5	S 18 30.0 -07.5	08						
09	317 41.5 -00.2	S 21 55.7 +00.3	287 14.7 -01.0	S 24 42.2 -00.1	243 30.8 -28.5	S 18 22.5 -07.6	09						
10	332 41.3 -00.3	S 21 56.0 +00.4	302 13.7 -00.9	S 24 42.1 -00.1	258 02.3 -28.4	S 18 14.9 -07.7	10						
11	347 41.0 -00.2	S 21 56.4 +00.4	317 12.8 -01.0	S 24 42.0 -00.2	272 33.9 -28.3	S 18 07.2 -07.7	11						
12	2 40.8 -00.2	S 21 56.8 +00.4	332 11.8 -00.9	S 24 41.8 -00.1	287 05.6 -28.2	S 17 59.5 -07.8	12						
13	17 40.6 -00.3	S 21 57.2 +00.3	347 10.9 -00.9	S 24 41.7 -00.1	301 37.4 -28.2	S 17 51.7 -07.9	13						
14	32 40.3 -00.2	S 21 57.5 +00.4	2 10.0 -01.0	S 24 41.6 -00.1	316 09.2 -28.2	S 17 43.8 -08.0	14						
15	47 40.1 -00.3	S 21 57.9 +00.4	17 09.0 -00.9	S 24 41.5 -00.1	330 41.0 -28.0	S 17 35.8 -08.0	15						
16	62 39.8 -00.2	S 21 58.3 +00.3	32 08.1 -01.0	S 24 41.4 -00.2	345 13.0 -28.0	S 17 27.8 -08.1	16						
17	77 39.6 -00.2	S 21 58.6 +00.4	47 07.1 -00.9	S 24 41.2 -00.1	359 45.0 -27.9	S 17 19.7 -08.2	17						
18	92 39.4 -00.3	S 21 59.0 +00.4	62 06.2 -00.9	S 24 41.1 -00.1	14 17.1 -27.9	S 17 11.5 -08.3	18						
19	107 39.1 -00.2	S 21 59.4 +00.3	77 05.3 -01.0	S 24 41.0 -00.2	28 49.2 -27.8	S 17 03.2 -08.3	19						
20	122 38.9 -00.3	S 21 59.7 +00.4	92 04.3 -00.9	S 24 40.8 -00.1	43 21.4 -27.7	S 16 54.9 -08.4	20						
21	137 38.6 -00.2	S 22 00.1 +00.4	107 03.4 -01.0	S 24 40.7 -00.1	57 53.7 -27.7	S 16 46.5 -08.4	21						
22	152 38.4 -00.2	S 22 00.5 +00.3	122 02.4 -00.9	S 24 40.6 -00.1	72 26.0 -27.6	S 16 38.1 -08.5	22						
23	167 38.2 -00.3	S 22 00.8 +00.4	137 01.5 -00.9	S 24 40.5 -00.2	86 58.4 -27.5	S 16 29.6 -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 16'2 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 14'9 14'9 14'9 14'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'0 54'9 54'9 54'8 54'7 54'6								
	SHA 112° 112° 112° 112° 111° 111°		SHA 082° 081° 081° 081° 081° 081°		SHA 041° 039° 037° 035° 033° 031°								
	Greenwich Culmination Time: 11:49		Greenwich Culmination Time: 13:51		Greenwich Culmination Time: 17:01								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	214 20.9 +00.9	S 13 42.2 +00.5	160 44.0 +01.8	S 23 17.9 +00.0	140 58.2 +02.2	S 22 07.6 -00.1	00						
01	229 21.8 +00.8	S 13 42.7 +00.6	175 45.8 +01.9	S 23 17.9 +00.1	156 00.4 +02.2	S 22 07.5 +00.0	01						
02	244 22.6 +00.9	S 13 43.3 +00.5	190 47.7 +01.9	S 23 18.0 +00.0	171 02.6 +02.2	S 22 07.5 +00.0	02						
03	259 23.5 +00.8	S 13 43.8 +00.5	205 49.6 +01.8	S 23 18.0 +00.0	186 04.8 +02.2	S 22 07.5 +00.0	03						
04	274 24.3 +00.9	S 13 44.3 +00.6	220 51.4 +01.9	S 23 18.0 +00.0	201 07.0 +02.2	S 22 07.5 -00.1	04						
05	289 25.2 +00.8	S 13 44.9 +00.5	235 53.3 +01.8	S 23 18.0 +00.0	216 09.2 +02.2	S 22 07.4 +00.0	05						
06	304 26.0 +00.9	S 13 45.4 +00.6	250 55.1 +01.9	S 23 18.0 +00.0	231 11.4 +02.2	S 22 07.4 +00.0	06						
07	319 26.9 +00.9	S 13 46.0 +00.5	265 57.0 +01.8	S 23 18.0 +00.0	246 13.6 +02.2	S 22 07.4 -00.1	07						
08	334 27.8 +00.8	S 13 46.5 +00.6	280 58.8 +01.9	S 23 18.0 +00.0	261 15.8 +02.2	S 22 07.3 +00.0	08						
09	349 28.6 +00.9	S 13 47.1 +00.5	296 00.7 +01.9	S 23 18.0 +00.0	276 18.0 +02.2	S 22 07.3 +00.0	09						
10	4 29.5 +00.8	S 13 47.6 +00.6	311 02.6 +01.8	S 23 18.0 +00.0	291 20.2 +02.2	S 22 07.3 -00.1	10						
11	19 30.3 +00.9	S 13 48.2 +00.5	326 04.4 +01.9	S 23 18.0 +00.0	306 22.4 +02.2	S 22 07.2 +00.0	11						
12	34 31.2 +00.8	S 13 48.7 +00.6	341 06.3 +01.8	S 23 18.0 +00.0	321 24.6 +02.2	S 22 07.2 +00.0	12						
13	49 32.0 +00.9	S 13 49.3 +00.5	356 08.1 +01.9	S 23 18.0 +00.0	336 26.8 +02.1	S 22 07.2 +00.0	13						
14	64 32.9 +00.8	S 13 49.8 +00.6	11 10.0 +01.9	S 23 18.0 +00.0	351 28.9 +02.2	S 22 07.2 -00.1	14						
15	79 33.7 +00.9	S 13 50.4 +00.5	26 11.9 +01.8	S 23 18.0 +00.0	6 31.1 +02.2	S 22 07.1 +00.0	15						
16	94 34.6 +00.9	S 13 50.9 +00.6	41 13.7 +01.9	S 23 18.0 +00.0	21 33.3 +02.2	S 22 07.1 +00.0	16						
17	109 35.5 +00.8	S 13 51.5 +00.5	56 15.6 +01.8	S 23 18.0 +00.0	36 35.5 +02.2	S 22 07.1 -00.1	17						
18	124 36.3 +00.9	S 13 52.0 +00.6	71 17.4 +01.9	S 23 18.0 +00.0	51 37.7 +02.2	S 22 07.0 +00.0	18						
19	139 37.2 +00.8	S 13 52.6 +00.5	86 19.3 +01.8	S 23 18.0 +00.0	66 39.9 +02.2	S 22 07.0 +00.0	19						
20	154 38.0 +00.9	S 13 53.1 +00.6	101 21.1 +01.9	S 23 18.0 +00.0	81 42.1 +02.2	S 22 07.0 -00.1	20						
21	169 38.9 +00.8	S 13 53.7 +00.5	116 23.0 +01.9	S 23 18.0 +00.0	96 44.3 +02.2	S 22 06.9 +00.0	21						
22	184 39.7 +00.9	S 13 54.2 +00.5	131 24.9 +01.8	S 23 18.0 +00.0	111 46.5 +02.2	S 22 06.9 +00.0	22						
23	199 40.6 +00.8	S 13 54.7 +00.6	146 26.7 +01.9	S 23 18.0 +00.0	126 48.7 +02.2	S 22 06.9 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 144° 144° 144° 143° 143° 143°		SHA 090° 090° 090° 090° 090° 090°		SHA 070° 070° 070° 070° 070° 070°								
	Greenwich Culmination Time: 09:42		Greenwich Culmination Time: 13:15		Greenwich Culmination Time: 14:33								

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	182 37.9 -00.2	S	22 01.2 +00.4	152 00.6 -01.0	S	24 40.3 -00.1	101 30.9 -27.5	S	16 21.0 -08.7	00										
01	197 37.7 -00.3	S	22 01.6 +00.3	166 59.6 -00.9	S	24 40.2 -00.2	116 03.4 -27.4	S	16 12.3 -08.7	01										
02	212 37.4 -00.2	S	22 01.9 +00.4	181 58.7 -01.0	S	24 40.0 -00.1	130 36.0 -27.4	S	16 03.6 -08.7	02										
03	227 37.2 -00.3	S	22 02.3 +00.3	196 57.7 -00.9	S	24 39.9 -00.1	145 08.6 -27.2	S	15 54.9 -08.9	03										
04	242 36.9 -00.2	S	22 02.6 +00.4	211 56.8 -00.9	S	24 39.8 -00.2	159 41.4 -27.3	S	15 46.0 -08.9	04										
05	257 36.7 -00.2	S	22 03.0 +00.4	226 55.9 -01.0	S	24 39.6 -00.1	174 14.1 -27.1	S	15 37.1 -09.0	05										
06	272 36.5 -00.3	S	22 03.4 +00.3	241 54.9 -00.9	S	24 39.5 -00.2	188 47.0 -27.1	S	15 28.1 -09.0	06										
07	287 36.2 -00.2	S	22 03.7 +00.4	256 54.0 -01.0	S	24 39.3 -00.1	203 19.9 -27.1	S	15 19.1 -09.1	07										
08	302 36.0 -00.3	S	22 04.1 +00.3	271 53.0 -00.9	S	24 39.2 -00.1	217 52.8 -27.0	S	15 10.0 -09.1	08										
09	317 35.7 -00.2	S	22 04.4 +00.4	286 52.1 -00.9	S	24 39.1 -00.2	232 25.8 -26.9	S	15 00.9 -09.2	09										
10	332 35.5 -00.3	S	22 04.8 +00.3	301 51.2 -01.0	S	24 38.9 -00.1	246 58.9 -26.9	S	14 51.7 -09.3	10										
11	347 35.2 -00.2	S	22 05.1 +00.4	316 50.2 -00.9	S	24 38.8 -00.2	261 32.0 -26.8	S	14 42.4 -09.3	11										
12	2 35.0 -00.3	S	22 05.5 +00.4	331 49.3 -00.9	S	24 38.6 -00.1	276 05.2 -26.8	S	14 33.1 -09.4	12										
13	17 34.7 -00.2	S	22 05.9 +00.3	346 48.4 -01.0	S	24 38.5 -00.2	290 38.4 -26.7	S	14 23.7 -09.4	13										
14	32 34.5 -00.2	S	22 06.2 +00.4	1 47.4 -00.9	S	24 38.3 -00.1	305 11.7 -26.7	S	14 14.3 -09.5	14										
15	47 34.3 -00.3	S	22 06.6 +00.3	16 46.5 -01.0	S	24 38.2 -00.2	319 45.0 -26.6	S	14 04.8 -09.5	15										
16	62 34.0 -00.2	S	22 06.9 +00.4	31 45.5 -00.9	S	24 38.0 -00.2	334 18.4 -26.5	S	13 55.3 -09.6	16										
17	77 33.8 -00.3	S	22 07.3 +00.3	46 44.6 -00.9	S	24 37.8 -00.1	348 51.9 -26.5	S	13 45.7 -09.6	17										
18	92 33.5 -00.2	S	22 07.6 +00.4	61 43.7 -01.0	S	24 37.7 -00.2	3 25.4 -26.5	S	13 36.1 -09.7	18										
19	107 33.3 -00.3	S	22 08.0 +00.3	76 42.7 -00.9	S	24 37.5 -00.1	17 58.9 -26.4	S	13 26.4 -09.8	19										
20	122 33.0 -00.2	S	22 08.3 +00.4	91 41.8 -00.9	S	24 37.4 -00.2	32 32.5 -26.3	S	13 16.6 -09.8	20										
21	137 32.8 -00.3	S	22 08.7 +00.3	106 40.9 -01.0	S	24 37.2 -00.2	47 06.2 -26.4	S	13 06.8 -09.8	21										
22	152 32.5 -00.2	S	22 09.0 +00.4	121 39.9 -00.9	S	24 37.0 -00.1	61 39.8 -26.2	S	12 57.0 -09.9	22										
23	167 32.3 -00.3	S	22 09.4 +00.3	136 39.0 -00.9	S	24 36.9 -00.2	76 13.6 -26.2	S	12 47.1 -09.9	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	14'9	14'9	14'8	14'8	14'8	14'8
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	54'6	54'5	54'5	54'4	54'4	54'3
SHA	111°	111°	111°	110°	110°	110°	SHA	080°	080°	080°	080°	079°	079°	SHA	029°	027°	025°	023°	021°	019°
Greenwich Culmination Time: 11:49							Greenwich Culmination Time: 13:52							Greenwich Culmination Time: 17:45						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	214 41.4 +00.9	S	13 55.3 +00.5	161 28.6 +01.8	S	23 18.0 +00.1	141 50.9 +02.2	S	22 06.8 +00.0	00										
01	229 42.3 +00.8	S	13 55.8 +00.6	176 30.4 +01.9	S	23 18.1 +00.0	156 53.1 +02.1	S	22 06.8 +00.0	01										
02	244 43.1 +00.9	S	13 56.4 +00.5	191 32.3 +01.9	S	23 18.1 +00.0	171 55.2 +02.2	S	22 06.8 +00.0	02										
03	259 44.0 +00.8	S	13 56.9 +00.6	206 34.2 +01.8	S	23 18.1 +00.0	186 57.4 +02.2	S	22 06.8 -00.1	03										
04	274 44.8 +00.9	S	13 57.5 +00.5	221 36.0 +01.9	S	23 18.1 +00.0	201 59.6 +02.2	S	22 06.7 +00.0	04										
05	289 45.7 +00.8	S	13 58.0 +00.6	236 37.9 +01.8	S	23 18.1 +00.0	217 01.8 +02.2	S	22 06.7 +00.0	05										
06	304 46.5 +00.9	S	13 58.6 +00.5	251 39.7 +01.9	S	23 18.1 +00.0	232 04.0 +02.2	S	22 06.7 -00.1	06										
07	319 47.4 +00.9	S	13 59.1 +00.5	266 41.6 +01.8	S	23 18.1 +00.0	247 06.2 +02.2	S	22 06.6 +00.0	07										
08	334 48.3 +00.8	S	13 59.6 +00.6	281 43.4 +01.9	S	23 18.1 +00.0	262 08.4 +02.2	S	22 06.6 +00.0	08										
09	349 49.1 +00.9	S	14 00.2 +00.5	296 45.3 +01.9	S	23 18.1 +00.0	277 10.6 +02.2	S	22 06.6 -00.1	09										
10	4 50.0 +00.8	S	14 00.7 +00.6	311 47.2 +01.8	S	23 18.1 +00.0	292 12.8 +02.2	S	22 06.5 +00.0	10										
11	19 50.8 +00.9	S	14 01.3 +00.5	326 49.0 +01.9	S	23 18.1 +00.0	307 15.0 +02.2	S	22 06.5 +00.0	11										
12	34 51.7 +00.8	S	14 01.8 +00.6	341 50.9 +01.8	S	23 18.1 +00.0	322 17.2 +02.1	S	22 06.5 -00.1	12										
13	49 52.5 +00.9	S	14 02.4 +00.5	356 52.7 +01.9	S	23 18.1 +00.0	337 19.3 +02.2	S	22 06.4 +00.0	13										
14	64 53.4 +00.8	S	14 02.9 +00.5	11 54.6 +01.8	S	23 18.1 +00.0	352 21.5 +02.2	S	22 06.4 +00.0	14										
15	79 54.2 +00.9	S	14 03.4 +00.6	26 56.4 +01.9	S	23 18.1 +00.0	7 23.7 +02.2	S	22 06.4 -00.1	15										
16	94 55.1 +00.8	S	14 04.0 +00.5	41 58.3 +01.8	S	23 18.1 +00.0	22 25.9 +02.2	S	22 06.3 +00.0	16										
17	109 55.9 +00.9	S	14 04.5 +00.6	57 00.1 +01.9	S	23 18.1 +00.0	37 28.1 +02.2	S	22 06.3 +00.0	17										
18	124 56.8 +00.8	S	14 05.1 +00.5	72 02.0 +01.9	S	23 18.1 +00.0	52 30.3 +02.2	S	22 06.3 +00.0	18										
19	139 57.6 +00.9	S	14 05.6 +00.6	87 03.9 +01.8	S	23 18.1 +00.0	67 32.5 +02.2	S	22 06.3 -00.1	19										
20	154 58.5 +00.8	S	14 06.2 +00.5	102 05.7 +01.9	S	23 18.1 +00.0	82 34.7 +02.2	S	22 06.2 +00.0	20										
21	169 59.3 +00.9	S	14 06.7 +00.5	117 07.6 +01.8	S	23 18.1 +00.0	97 36.9 +02.2	S	22 06.2 +00.0	21										
22	185 00.2 +00.8	S	14 07.2 +00.6	132 09.4 +01.9	S	23 18.1 +00.0	112 39.1 +02.1	S	22 06.2 -00.1	22										
23	200 01.0 +00.9	S	14 07.8 +00.5	147 11.3 +01.8	S	23 18.1 +00.0	127 41.2 +02.2	S	22 06.1 +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	00'1	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	143°	143°	143°	143°	143°	143°	SHA	090°	090°	090°	090°	090°	090°	SHA	070°	070°	070°	070°	070°	070°
Greenwich Culmination Time: 09:40							Greenwich Culmination Time: 13:12							Greenwich Culmination Time: 14:30						

UT	Sun				Venus				Moon				UT										
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec											
00	182	32.0	-00.2	S 22 09.7	+00.3	151	38.1	-01.0	S 24 36.7	-00.2	90	47.4	-26.2	S 12 37.2	-10.0	00							
01	197	31.8	-00.3	S 22 10.0	+00.4	166	37.1	-00.9	S 24 36.5	-00.1	105	21.2	-26.1	S 12 27.2	-10.1	01							
02	212	31.5	-00.2	S 22 10.4	+00.3	181	36.2	-00.9	S 24 36.4	-00.2	119	55.1	-26.1	S 12 17.1	-10.0	02							
03	227	31.3	-00.3	S 22 10.7	+00.4	196	35.3	-01.0	S 24 36.2	-00.2	134	29.0	-26.0	S 12 07.1	-10.2	03							
04	242	31.0	-00.2	S 22 11.1	+00.3	211	34.3	-00.9	S 24 36.0	-00.1	149	03.0	-26.0	S 11 56.9	-10.1	04							
05	257	30.8	-00.3	S 22 11.4	+00.4	226	33.4	-01.0	S 24 35.9	-00.2	163	37.0	-25.9	S 11 46.8	-10.3	05							
06	272	30.5	-00.2	S 22 11.8	+00.3	241	32.4	-00.9	S 24 35.7	-00.2	178	11.1	-25.9	S 11 36.5	-10.2	06							
07	287	30.3	-00.3	S 22 12.1	+00.3	256	31.5	-00.9	S 24 35.5	-00.2	192	45.2	-25.9	S 11 26.3	-10.3	07							
08	302	30.0	-00.2	S 22 12.4	+00.4	271	30.6	-01.0	S 24 35.3	-00.1	207	19.3	-25.8	S 11 16.0	-10.4	08							
09	317	29.8	-00.3	S 22 12.8	+00.3	286	29.6	-00.9	S 24 35.2	-00.2	221	53.5	-25.8	S 11 05.6	-10.4	09							
10	332	29.5	-00.2	S 22 13.1	+00.3	301	28.7	-00.9	S 24 35.0	-00.2	236	27.7	-25.7	S 10 55.2	-10.4	10							
11	347	29.3	-00.3	S 22 13.4	+00.4	316	27.8	-01.0	S 24 34.8	-00.2	251	02.0	-25.7	S 10 44.8	-10.4	11							
12	2	29.0	-00.2	S 22 13.8	+00.3	331	26.8	-00.9	S 24 34.6	-00.1	265	36.3	-25.7	S 10 34.4	-10.6	12							
13	17	28.8	-00.3	S 22 14.1	+00.4	346	25.9	-00.9	S 24 34.5	-00.2	280	10.6	-25.6	S 10 23.8	-10.5	13							
14	32	28.5	-00.2	S 22 14.5	+00.3	1	25.0	-01.0	S 24 34.3	-00.2	294	45.0	-25.6	S 10 13.3	-10.6	14							
15	47	28.3	-00.3	S 22 14.8	+00.3	16	24.0	-00.9	S 24 34.1	-00.2	309	19.4	-25.5	S 10 02.7	-10.6	15							
16	62	28.0	-00.2	S 22 15.1	+00.4	31	23.1	-00.9	S 24 33.9	-00.2	323	53.9	-25.6	S 09 52.1	-10.7	16							
17	77	27.8	-00.3	S 22 15.5	+00.3	46	22.2	-00.9	S 24 33.7	-00.2	338	28.3	-25.4	S 09 41.4	-10.7	17							
18	92	27.5	-00.2	S 22 15.8	+00.3	61	21.3	-01.0	S 24 33.5	-00.2	353	02.9	-25.5	S 09 30.7	-10.7	18							
19	107	27.3	-00.3	S 22 16.1	+00.4	76	20.3	-00.9	S 24 33.3	-00.2	7	37.4	-25.4	S 09 20.0	-10.8	19							
20	122	27.0	-00.2	S 22 16.5	+00.3	91	19.4	-00.9	S 24 33.1	-00.1	22	12.0	-25.4	S 09 09.2	-10.8	20							
21	137	26.8	-00.3	S 22 16.8	+00.3	106	18.5	-01.0	S 24 33.0	-00.2	36	46.6	-25.4	S 08 58.4	-10.8	21							
22	152	26.5	-00.3	S 22 17.1	+00.3	121	17.5	-00.9	S 24 32.8	-00.2	51	21.2	-25.3	S 08 47.6	-10.9	22							
23	167	26.2	-00.2	S 22 17.4	+00.4	136	16.6	-00.9	S 24 32.6	-00.2	65	55.9	-25.4	S 08 36.7	-10.9	23							
	UT	02	06	10	14	18	22		UT	02	06	10	14	18	22		UT	02	06	10	14	18	22
	SD	16'2	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	00'1	00'1	00'1	00'1	00'1	00'1		HP	54'3	54'3	54'2	54'2	54'2	54'2
	SHA	110°	110°	110°	109°	109°	109°		SHA	079°	079°	079°	078°	078°	078°		SHA	017°	015°	014°	012°	010°	008°
	Greenwich Culmination Time: 11:50								Greenwich Culmination Time: 13:54								Greenwich Culmination Time: 18:28						

UT	Mars				Jupiter				Saturn				UT										
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec											
00	215	01.9	+00.8	S 14 08.3	+00.6	162	13.1	+01.9	S 23 18.1	+00.0	142	43.4	+02.2	S 22 06.1	+00.0	00							
01	230	02.7	+00.9	S 14 08.9	+00.5	177	15.0	+01.9	S 23 18.1	+00.0	157	45.6	+02.2	S 22 06.1	-00.1	01							
02	245	03.6	+00.8	S 14 09.4	+00.5	192	16.9	+01.8	S 23 18.1	+00.0	172	47.8	+02.2	S 22 06.0	+00.0	02							
03	260	04.4	+00.9	S 14 09.9	+00.6	207	18.7	+01.9	S 23 18.1	+00.0	187	50.0	+02.2	S 22 06.0	+00.0	03							
04	275	05.3	+00.8	S 14 10.5	+00.5	222	20.6	+01.8	S 23 18.1	+00.0	202	52.2	+02.2	S 22 06.0	-00.1	04							
05	290	06.1	+00.9	S 14 11.0	+00.6	237	22.4	+01.9	S 23 18.1	+00.1	217	54.4	+02.2	S 22 05.9	+00.0	05							
06	305	07.0	+00.8	S 14 11.6	+00.5	252	24.3	+01.8	S 23 18.2	+00.0	232	56.6	+02.2	S 22 05.9	+00.0	06							
07	320	07.8	+00.9	S 14 12.1	+00.5	267	26.1	+01.9	S 23 18.2	+00.0	247	58.8	+02.1	S 22 05.9	-00.1	07							
08	335	08.7	+00.8	S 14 12.6	+00.6	282	28.0	+01.8	S 23 18.2	+00.0	263	00.9	+02.2	S 22 05.8	+00.0	08							
09	350	09.5	+00.9	S 14 13.2	+00.5	297	29.8	+01.9	S 23 18.2	+00.0	278	03.1	+02.2	S 22 05.8	+00.0	09							
10	5	10.4	+00.8	S 14 13.7	+00.6	312	31.7	+01.9	S 23 18.2	+00.0	293	05.3	+02.2	S 22 05.8	+00.0	10							
11	20	11.2	+00.8	S 14 14.3	+00.5	327	33.6	+01.8	S 23 18.2	+00.0	308	07.5	+02.2	S 22 05.8	-00.1	11							
12	35	12.0	+00.9	S 14 14.8	+00.5	342	35.4	+01.9	S 23 18.2	+00.0	323	09.7	+02.2	S 22 05.7	+00.0	12							
13	50	12.9	+00.8	S 14 15.3	+00.6	357	37.3	+01.8	S 23 18.2	+00.0	338	11.9	+02.2	S 22 05.7	+00.0	13							
14	65	13.7	+00.9	S 14 15.9	+00.5	12	39.1	+01.9	S 23 18.2	+00.0	353	14.1	+02.2	S 22 05.7	-00.1	14							
15	80	14.6	+00.8	S 14 16.4	+00.6	27	41.0	+01.8	S 23 18.2	+00.0	8	16.3	+02.2	S 22 05.6	+00.0	15							
16	95	15.4	+00.9	S 14 17.0	+00.5	42	42.8	+01.9	S 23 18.2	+00.0	23	18.5	+02.1	S 22 05.6	+00.0	16							
17	110	16.3	+00.8	S 14 17.5	+00.5	57	44.7	+01.8	S 23 18.2	+00.0	38	20.6	+02.2	S 22 05.6	-00.1	17							
18	125	17.1	+00.9	S 14 18.0	+00.6	72	46.5	+01.9	S 23 18.2	+00.0	53	22.8	+02.2	S 22 05.5	+00.0	18							
19	140	18.0	+00.8	S 14 18.6	+00.5	87	48.4	+01.8	S 23 18.2	+00.0	68	25.0	+02.2	S 22 05.5	+00.0	19							
20	155	18.8	+00.9	S 14 19.1	+00.5	102	50.2	+01.9	S 23 18.2	+00.0	83	27.2	+02.2	S 22 05.5	-00.1	20							
21	170	19.7	+00.8	S 14 19.6	+00.6	117	52.1	+01.9	S 23 18.2	+00.0	98	29.4	+02.2	S 22 05.4	+00.0	21							
22	185	20.5	+00.9	S 14 20.2	+00.5	132	54.0	+01.8	S 23 18.2	+00.0	113	31.6	+02.2	S 22 05.4	+00.0	22							
23	200	21.4	+00.8	S 14 20.7	+00.6	147	55.8	+01.9	S 23 18.2	+00.0	128	33.8	+02.2	S 22 05.4	-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	142°	142°	142°	142°	142°	142°		SHA	090°	090°	090°	090°	090°	089°		SHA	070°	070°	070°	070°	070°	070°
	Greenwich Culmination Time: 09:39								Greenwich Culmination Time: 13:09								Greenwich Culmination Time: 14:26						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 26.0 -00.3	S	22 17.8 +00.3	151 15.7 -01.0	S	24 32.4 -00.2	80 30.5 -25.2	S	08 25.8 -10.9	00			
01	197 25.7 -00.2	S	22 18.1 +00.3	166 14.7 -00.9	S	24 32.2 -00.2	95 05.3 -25.3	S	08 14.9 -11.0	01			
02	212 25.5 -00.3	S	22 18.4 +00.3	181 13.8 -00.9	S	24 32.0 -00.2	109 40.0 -25.2	S	08 03.9 -11.0	02			
03	227 25.2 -00.2	S	22 18.7 +00.4	196 12.9 -01.0	S	24 31.8 -00.2	124 14.8 -25.2	S	07 52.9 -11.0	03			
04	242 25.0 -00.3	S	22 19.1 +00.3	211 11.9 -00.9	S	24 31.6 -00.2	138 49.6 -25.2	S	07 41.9 -11.1	04			
05	257 24.7 -00.2	S	22 19.4 +00.3	226 11.0 -00.9	S	24 31.4 -00.2	153 24.4 -25.2	S	07 30.8 -11.1	05			
06	272 24.5 -00.3	S	22 19.7 +00.3	241 10.1 -00.9	S	24 31.2 -00.2	167 59.2 -25.1	S	07 19.7 -11.1	06			
07	287 24.2 -00.3	S	22 20.0 +00.4	256 09.2 -01.0	S	24 31.0 -00.2	182 34.1 -25.2	S	07 08.6 -11.1	07			
08	302 23.9 -00.2	S	22 20.4 +00.3	271 08.2 -00.9	S	24 30.8 -00.3	197 08.9 -25.1	S	06 57.5 -11.2	08			
09	317 23.7 -00.3	S	22 20.7 +00.3	286 07.3 -00.9	S	24 30.5 -00.2	211 43.8 -25.0	S	06 46.3 -11.2	09			
10	332 23.4 -00.2	S	22 21.0 +00.3	301 06.4 -01.0	S	24 30.3 -00.2	226 18.8 -25.1	S	06 35.1 -11.2	10			
11	347 23.2 -00.3	S	22 21.3 +00.3	316 05.4 -00.9	S	24 30.1 -00.2	240 53.7 -25.1	S	06 23.9 -11.3	11			
12	2 22.9 -00.2	S	22 21.6 +00.4	331 04.5 -00.9	S	24 29.9 -00.2	255 28.6 -25.0	S	06 12.6 -11.3	12			
13	17 22.7 -00.3	S	22 22.0 +00.3	346 03.6 -00.9	S	24 29.7 -00.2	270 03.6 -25.0	S	06 01.3 -11.3	13			
14	32 22.4 -00.3	S	22 22.3 +00.3	1 02.7 -01.0	S	24 29.5 -00.2	284 38.6 -25.0	S	05 50.0 -11.3	14			
15	47 22.1 -00.2	S	22 22.6 +00.3	16 01.7 -00.9	S	24 29.3 -00.2	299 13.6 -25.0	S	05 38.7 -11.3	15			
16	62 21.9 -00.3	S	22 22.9 +00.3	31 00.8 -00.9	S	24 29.1 -00.3	313 48.6 -25.0	S	05 27.4 -11.4	16			
17	77 21.6 -00.2	S	22 23.2 +00.3	45 59.9 -00.9	S	24 28.8 -00.2	328 23.6 -25.0	S	05 16.0 -11.4	17			
18	92 21.4 -00.3	S	22 23.5 +00.3	60 59.0 -01.0	S	24 28.6 -00.2	342 58.6 -24.9	S	05 04.6 -11.4	18			
19	107 21.1 -00.2	S	22 23.8 +00.4	75 58.0 -00.9	S	24 28.4 -00.2	357 33.7 -25.0	S	04 53.2 -11.5	19			
20	122 20.9 -00.3	S	22 24.2 +00.3	90 57.1 -00.9	S	24 28.2 -00.2	12 08.7 -24.9	S	04 41.7 -11.4	20			
21	137 20.6 -00.3	S	22 24.5 +00.3	105 56.2 -01.0	S	24 28.0 -00.3	26 43.8 -24.9	S	04 30.3 -11.5	21			
22	152 20.3 -00.2	S	22 24.8 +00.3	120 55.2 -00.9	S	24 27.7 -00.2	41 18.9 -24.9	S	04 18.8 -11.5	22			
23	167 20.1 -00.3	S	22 25.1 +00.3	135 54.3 -00.9	S	24 27.5 -00.2	55 54.0 -25.0	S	04 07.3 -11.5	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 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 00'1 00'1 00'1 00'1 00'1 00'1			HP 54'2 54'2 54'2 54'2 54'2 54'2						
	SHA 109° 109° 108° 108° 108° 108°			SHA 078° 077° 077° 077° 077° 077°			SHA 006° 004° 002° 001° 359° 357°						
	Greenwich Culmination Time: 11:50			Greenwich Culmination Time: 13:55			Greenwich Culmination Time: 19:10						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	215 22.2 +00.9	S	14 21.3 +00.5	162 57.7 +01.8	S	23 18.2 +00.0	143 36.0 +02.1	S	22 05.3 +00.0	00			
01	230 23.1 +00.8	S	14 21.8 +00.5	177 59.5 +01.9	S	23 18.2 +00.0	158 38.1 +02.2	S	22 05.3 +00.0	01			
02	245 23.9 +00.8	S	14 22.3 +00.6	193 01.4 +01.8	S	23 18.2 +00.0	173 40.3 +02.2	S	22 05.3 -00.1	02			
03	260 24.7 +00.9	S	14 22.9 +00.5	208 03.2 +01.9	S	23 18.2 +00.0	188 42.5 +02.2	S	22 05.2 +00.0	03			
04	275 25.6 +00.8	S	14 23.4 +00.5	223 05.1 +01.8	S	23 18.2 +00.0	203 44.7 +02.2	S	22 05.2 +00.0	04			
05	290 26.4 +00.9	S	14 23.9 +00.6	238 06.9 +01.9	S	23 18.2 +00.0	218 46.9 +02.2	S	22 05.2 +00.0	05			
06	305 27.3 +00.8	S	14 24.5 +00.5	253 08.8 +01.8	S	23 18.2 +00.0	233 49.1 +02.2	S	22 05.2 -00.1	06			
07	320 28.1 +00.9	S	14 25.0 +00.6	268 10.6 +01.9	S	23 18.2 +00.0	248 51.3 +02.2	S	22 05.1 +00.0	07			
08	335 29.0 +00.8	S	14 25.6 +00.5	283 12.5 +01.9	S	23 18.2 +00.0	263 53.5 +02.1	S	22 05.1 +00.0	08			
09	350 29.8 +00.9	S	14 26.1 +00.5	298 14.4 +01.8	S	23 18.2 +00.0	278 55.6 +02.2	S	22 05.1 -00.1	09			
10	5 30.7 +00.8	S	14 26.6 +00.6	313 16.2 +01.9	S	23 18.2 +00.0	293 57.8 +02.2	S	22 05.0 +00.0	10			
11	20 31.5 +00.8	S	14 27.2 +00.5	328 18.1 +01.8	S	23 18.2 +00.0	309 00.0 +02.2	S	22 05.0 +00.0	11			
12	35 32.3 +00.9	S	14 27.7 +00.5	343 19.9 +01.9	S	23 18.2 +00.0	324 02.2 +02.2	S	22 05.0 -00.1	12			
13	50 33.2 +00.8	S	14 28.2 +00.6	358 21.8 +01.8	S	23 18.2 +00.0	339 04.4 +02.2	S	22 04.9 +00.0	13			
14	65 34.0 +00.9	S	14 28.8 +00.5	13 23.6 +01.9	S	23 18.2 +00.0	354 06.6 +02.2	S	22 04.9 +00.0	14			
15	80 34.9 +00.8	S	14 29.3 +00.5	28 25.5 +01.8	S	23 18.2 +00.0	9 08.8 +02.1	S	22 04.9 -00.1	15			
16	95 35.7 +00.9	S	14 29.8 +00.6	43 27.3 +01.9	S	23 18.2 +00.0	24 10.9 +02.2	S	22 04.8 +00.0	16			
17	110 36.6 +00.8	S	14 30.4 +00.5	58 29.2 +01.8	S	23 18.2 +00.0	39 13.1 +02.2	S	22 04.8 +00.0	17			
18	125 37.4 +00.8	S	14 30.9 +00.5	73 31.0 +01.9	S	23 18.2 +00.0	54 15.3 +02.2	S	22 04.8 -00.1	18			
19	140 38.2 +00.9	S	14 31.4 +00.6	88 32.9 +01.8	S	23 18.2 +00.0	69 17.5 +02.2	S	22 04.7 +00.0	19			
20	155 39.1 +00.8	S	14 32.0 +00.5	103 34.7 +01.9	S	23 18.2 +00.0	84 19.7 +02.2	S	22 04.7 +00.0	20			
21	170 39.9 +00.9	S	14 32.5 +00.5	118 36.6 +01.9	S	23 18.2 +00.0	99 21.9 +02.2	S	22 04.7 -00.1	21			
22	185 40.8 +00.8	S	14 33.0 +00.6	133 38.5 +01.8	S	23 18.2 +00.0	114 24.1 +02.1	S	22 04.6 +00.0	22			
23	200 41.6 +00.9	S	14 33.6 +00.5	148 40.3 +01.9	S	23 18.2 +00.0	129 26.2 +02.2	S	22 04.6 +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 142° 142° 142° 141° 141° 141°			SHA 089° 089° 089° 089° 089° 089°			SHA 070° 070° 070° 070° 070° 070°						
	Greenwich Culmination Time: 09:37			Greenwich Culmination Time: 13:06			Greenwich Culmination Time: 14:23						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 19.8 -00.2	S	22 25.4 +00.3	150 53.4 -00.9	S	24 27.3 -00.3	70 29.0 -24.9	S	03 55.8 -11.5	00			
01	197 19.6 -00.3	S	22 25.7 +00.3	165 52.5 -01.0	S	24 27.0 -00.2	85 04.1 -24.9	S	03 44.3 -11.6	01			
02	212 19.3 -00.3	S	22 26.0 +00.3	180 51.5 -00.9	S	24 26.8 -00.2	99 39.2 -24.9	S	03 32.7 -11.6	02			
03	227 19.0 -00.2	S	22 26.3 +00.3	195 50.6 -00.9	S	24 26.6 -00.2	114 14.3 -24.9	S	03 21.1 -11.6	03			
04	242 18.8 -00.3	S	22 26.6 +00.3	210 49.7 -00.9	S	24 26.4 -00.3	128 49.4 -24.9	S	03 09.5 -11.6	04			
05	257 18.5 -00.2	S	22 26.9 +00.3	225 48.8 -00.9	S	24 26.1 -00.2	143 24.5 -24.9	S	02 57.9 -11.6	05			
06	272 18.3 -00.3	S	22 27.2 +00.4	240 47.9 -01.0	S	24 25.9 -00.2	157 59.6 -24.9	S	02 46.3 -11.6	06			
07	287 18.0 -00.3	S	22 27.6 +00.3	255 46.9 -00.9	S	24 25.7 -00.3	172 34.7 -24.9	S	02 34.7 -11.6	07			
08	302 17.7 -00.2	S	22 27.9 +00.3	270 46.0 -00.9	S	24 25.4 -00.2	187 09.8 -24.9	S	02 23.1 -11.7	08			
09	317 17.5 -00.3	S	22 28.2 +00.3	285 45.1 -00.9	S	24 25.2 -00.3	201 44.9 -24.9	S	02 11.4 -11.7	09			
10	332 17.2 -00.3	S	22 28.5 +00.3	300 44.2 -01.0	S	24 24.9 -00.2	216 20.0 -24.9	S	01 59.7 -11.7	10			
11	347 16.9 -00.2	S	22 28.8 +00.3	315 43.2 -00.9	S	24 24.7 -00.2	230 55.1 -24.9	S	01 48.0 -11.6	11			
12	2 16.7 -00.3	S	22 29.1 +00.3	330 42.3 -00.9	S	24 24.5 -00.3	245 30.2 -25.0	S	01 36.4 -11.8	12			
13	17 16.4 -00.2	S	22 29.4 +00.3	345 41.4 -00.9	S	24 24.2 -00.2	260 05.2 -24.9	S	01 24.6 -11.7	13			
14	32 16.2 -00.3	S	22 29.7 +00.3	0 40.5 -00.9	S	24 24.0 -00.3	274 40.3 -24.9	S	01 12.9 -11.7	14			
15	47 15.9 -00.3	S	22 30.0 +00.3	15 39.6 -01.0	S	24 23.7 -00.2	289 15.4 -25.0	S	01 01.2 -11.7	15			
16	62 15.6 -00.2	S	22 30.3 +00.3	30 38.6 -00.9	S	24 23.5 -00.3	303 50.4 -24.9	S	00 49.5 -11.8	16			
17	77 15.4 -00.3	S	22 30.6 +00.2	45 37.7 -00.9	S	24 23.2 -00.2	318 25.5 -25.0	S	00 37.7 -11.7	17			
18	92 15.1 -00.3	S	22 30.8 +00.3	60 36.8 -00.9	S	24 23.0 -00.3	333 00.5 -25.0	S	00 26.0 -11.8	18			
19	107 14.8 -00.2	S	22 31.1 +00.3	75 35.9 -01.0	S	24 22.7 -00.2	347 35.5 -25.0	S	00 14.2 -11.7	19			
20	122 14.6 -00.3	S	22 31.4 +00.3	90 34.9 -00.9	S	24 22.5 -00.3	2 10.5 -25.0	S	00 02.5 -11.8	20			
21	137 14.3 -00.3	S	22 31.7 +00.3	105 34.0 -00.9	S	24 22.2 -00.2	16 45.5 -25.0	N	00 09.3 +11.8	21			
22	152 14.0 -00.2	S	22 32.0 +00.3	120 33.1 -00.9	S	24 22.0 -00.3	31 20.5 -25.0	N	00 21.1 +11.8	22			
23	167 13.8 -00.3	S	22 32.3 +00.3	135 32.2 -00.9	S	24 21.7 -00.3	45 55.5 -25.1	N	00 32.9 +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 16'2 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 00'1 00'1 00'1 00'1 00'1 00'1			HP 54'3 54'3 54'3 54'4 54'4 54'4						
	SHA 108° 108° 107° 107° 107° 107°			SHA 076° 076° 076° 076° 075° 075°			SHA 355° 353° 351° 350° 348° 346°						
	Greenwich Culmination Time: 11:50			Greenwich Culmination Time: 13:57			Greenwich Culmination Time: 19:51						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	215 42.5 +00.8	S	14 34.1 +00.5	163 42.2 +01.8	S	23 18.2 +00.0	144 28.4 +02.2	S	22 04.6 -00.1	00			
01	230 43.3 +00.8	S	14 34.6 +00.6	178 44.0 +01.9	S	23 18.2 +00.0	159 30.6 +02.2	S	22 04.5 +00.0	01			
02	245 44.1 +00.9	S	14 35.2 +00.5	193 45.9 +01.8	S	23 18.2 +00.0	174 32.8 +02.2	S	22 04.5 +00.0	02			
03	260 45.0 +00.8	S	14 35.7 +00.5	208 47.7 +01.9	S	23 18.2 +00.0	189 35.0 +02.2	S	22 04.5 -00.1	03			
04	275 45.8 +00.9	S	14 36.2 +00.6	223 49.6 +01.8	S	23 18.2 +00.0	204 37.2 +02.2	S	22 04.4 +00.0	04			
05	290 46.7 +00.8	S	14 36.8 +00.5	238 51.4 +01.9	S	23 18.2 +00.0	219 39.4 +02.1	S	22 04.4 +00.0	05			
06	305 47.5 +00.8	S	14 37.3 +00.5	253 53.3 +01.8	S	23 18.2 +00.0	234 41.5 +02.2	S	22 04.4 -00.1	06			
07	320 48.3 +00.9	S	14 37.8 +00.6	268 55.1 +01.9	S	23 18.2 +00.0	249 43.7 +02.2	S	22 04.3 +00.0	07			
08	335 49.2 +00.8	S	14 38.4 +00.5	283 57.0 +01.8	S	23 18.2 +00.0	264 45.9 +02.2	S	22 04.3 +00.0	08			
09	350 50.0 +00.9	S	14 38.9 +00.5	298 58.8 +01.9	S	23 18.2 +00.0	279 48.1 +02.2	S	22 04.3 +00.0	09			
10	5 50.9 +00.8	S	14 39.4 +00.5	314 00.7 +01.8	S	23 18.2 +00.0	294 50.3 +02.2	S	22 04.3 -00.1	10			
11	20 51.7 +00.8	S	14 39.9 +00.6	329 02.5 +01.9	S	23 18.2 +00.0	309 52.5 +02.2	S	22 04.2 +00.0	11			
12	35 52.5 +00.9	S	14 40.5 +00.5	344 04.4 +01.8	S	23 18.2 +00.0	324 54.7 +02.1	S	22 04.2 +00.0	12			
13	50 53.4 +00.8	S	14 41.0 +00.5	359 06.2 +01.9	S	23 18.2 +00.0	339 56.8 +02.2	S	22 04.2 -00.1	13			
14	65 54.2 +00.9	S	14 41.5 +00.6	14 08.1 +01.8	S	23 18.2 +00.0	354 59.0 +02.2	S	22 04.1 +00.0	14			
15	80 55.1 +00.8	S	14 42.1 +00.5	29 09.9 +01.9	S	23 18.2 +00.0	10 01.2 +02.2	S	22 04.1 +00.0	15			
16	95 55.9 +00.8	S	14 42.6 +00.5	44 11.8 +01.9	S	23 18.2 +00.0	25 03.4 +02.2	S	22 04.1 -00.1	16			
17	110 56.7 +00.9	S	14 43.1 +00.6	59 13.7 +01.8	S	23 18.2 +00.0	40 05.6 +02.2	S	22 04.0 +00.0	17			
18	125 57.6 +00.8	S	14 43.7 +00.5	74 15.5 +01.9	S	23 18.2 +00.0	55 07.8 +02.1	S	22 04.0 +00.0	18			
19	140 58.4 +00.9	S	14 44.2 +00.5	89 17.4 +01.8	S	23 18.2 +00.0	70 09.9 +02.2	S	22 04.0 -00.1	19			
20	155 59.3 +00.8	S	14 44.7 +00.5	104 19.2 +01.9	S	23 18.2 +00.0	85 12.1 +02.2	S	22 03.9 +00.0	20			
21	171 00.1 +00.8	S	14 45.2 +00.6	119 21.1 +01.8	S	23 18.2 +00.0	100 14.3 +02.2	S	22 03.9 +00.0	21			
22	186 00.9 +00.9	S	14 45.8 +00.5	134 22.9 +01.9	S	23 18.2 +00.0	115 16.5 +02.2	S	22 03.9 -00.1	22			
23	201 01.8 +00.8	S	14 46.3 +00.5	149 24.8 +01.8	S	23 18.2 +00.0	130 18.7 +02.2	S	22 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						
	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 141° 141° 141° 141° 141° 141°			SHA 089° 089° 089° 089° 089° 089°			SHA 070° 070° 070° 070° 070° 070°						
	Greenwich Culmination Time: 09:36			Greenwich Culmination Time: 13:03			Greenwich Culmination Time: 14:20						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 13.5 -00.3	S	22 32.6 +00.3	150 31.3 -00.9	S	24 21.4 -00.2	60 30.4 -25.0	N	00 44.7 +11.8				
01	197 13.2 -00.2	S	22 32.9 +00.3	165 30.4 -01.0	S	24 21.2 -00.3	75 05.4 -25.1	N	00 56.5 +11.7				
02	212 13.0 -00.3	S	22 33.2 +00.3	180 29.4 -00.9	S	24 20.9 -00.2	89 40.3 -25.1	N	01 08.2 +11.8				
03	227 12.7 -00.3	S	22 33.5 +00.3	195 28.5 -00.9	S	24 20.7 -00.3	104 15.2 -25.1	N	01 20.0 +11.8				
04	242 12.4 -00.2	S	22 33.8 +00.2	210 27.6 -00.9	S	24 20.4 -00.3	118 50.1 -25.2	N	01 31.8 +11.8				
05	257 12.2 -00.3	S	22 34.0 +00.3	225 26.7 -00.9	S	24 20.1 -00.2	133 24.9 -25.2	N	01 43.6 +11.8				
06	272 11.9 -00.3	S	22 34.3 +00.3	240 25.8 -01.0	S	24 19.9 -00.3	147 59.7 -25.1	N	01 55.4 +11.8				
07	287 11.6 -00.2	S	22 34.6 +00.3	255 24.8 -00.9	S	24 19.6 -00.3	162 34.6 -25.3	N	02 07.2 +11.8				
08	302 11.4 -00.3	S	22 34.9 +00.3	270 23.9 -00.9	S	24 19.3 -00.2	177 09.3 -25.2	N	02 19.0 +11.8				
09	317 11.1 -00.3	S	22 35.2 +00.3	285 23.0 -00.9	S	24 19.1 -00.3	191 44.1 -25.3	N	02 30.8 +11.8				
10	332 10.8 -00.2	S	22 35.5 +00.3	300 22.1 -00.9	S	24 18.8 -00.3	206 18.8 -25.3	N	02 42.6 +11.8				
11	347 10.6 -00.3	S	22 35.8 +00.2	315 21.2 -00.9	S	24 18.5 -00.3	220 53.5 -25.3	N	02 54.4 +11.8				
12	2 10.3 -00.3	S	22 36.0 +00.3	330 20.3 -00.9	S	24 18.2 -00.2	235 28.2 -25.3	N	03 06.2 +11.8				
13	17 10.0 -00.2	S	22 36.3 +00.3	345 19.4 -01.0	S	24 18.0 -00.3	250 02.9 -25.4	N	03 18.0 +11.7				
14	32 09.8 -00.3	S	22 36.6 +00.3	0 18.4 -00.9	S	24 17.7 -00.3	264 37.5 -25.4	N	03 29.7 +11.8				
15	47 09.5 -00.3	S	22 36.9 +00.3	15 17.5 -00.9	S	24 17.4 -00.3	279 12.1 -25.4	N	03 41.5 +11.8				
16	62 09.2 -00.2	S	22 37.2 +00.2	30 16.6 -00.9	S	24 17.1 -00.2	293 46.7 -25.5	N	03 53.3 +11.7				
17	77 09.0 -00.3	S	22 37.4 +00.3	45 15.7 -00.9	S	24 16.9 -00.3	308 21.2 -25.5	N	04 05.0 +11.8				
18	92 08.7 -00.3	S	22 37.7 +00.3	60 14.8 -00.9	S	24 16.6 -00.3	322 55.7 -25.5	N	04 16.8 +11.7				
19	107 08.4 -00.2	S	22 38.0 +00.3	75 13.9 -00.9	S	24 16.3 -00.3	337 30.2 -25.6	N	04 28.5 +11.8				
20	122 08.2 -00.3	S	22 38.3 +00.2	90 13.0 -01.0	S	24 16.0 -00.3	352 04.6 -25.6	N	04 40.3 +11.7				
21	137 07.9 -00.3	S	22 38.5 +00.3	105 12.0 -00.9	S	24 15.7 -00.3	6 39.0 -25.7	N	04 52.0 +11.7				
22	152 07.6 -00.2	S	22 38.8 +00.3	120 11.1 -00.9	S	24 15.4 -00.2	21 13.3 -25.6	N	05 03.7 +11.7				
23	167 07.4 -00.3	S	22 39.1 +00.3	135 10.2 -00.9	S	24 15.2 -00.3	35 47.7 -25.8	N	05 15.4 +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 00'1 00'1 00'1 00'1 00'1 00'1				SD 14'8 14'9 14'9 14'9 14'9 14'9					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 54'5 54'6 54'6 54'7 54'7 54'8					
	SHA 107° 106° 106° 106° 106° 106°			SHA 075° 075° 074° 074° 074° 074°				SHA 344° 342° 340° 339° 337° 335°					
	Greenwich Culmination Time: 11:51			Greenwich Culmination Time: 13:58				Greenwich Culmination Time: 20:32					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	216 02.6 +00.9	S	14 46.8 +00.6	164 26.6 +01.9	S	23 18.2 +00.0	145 20.9 +02.1	S	22 03.8 +00.0				
01	231 03.5 +00.8	S	14 47.4 +00.5	179 28.5 +01.8	S	23 18.2 +00.1	160 23.0 +02.2	S	22 03.8 -00.1				
02	246 04.3 +00.8	S	14 47.9 +00.5	194 30.3 +01.9	S	23 18.3 +00.0	175 25.2 +02.2	S	22 03.7 +00.0				
03	261 05.1 +00.9	S	14 48.4 +00.5	209 32.2 +01.8	S	23 18.3 +00.0	190 27.4 +02.2	S	22 03.7 +00.0				
04	276 06.0 +00.8	S	14 48.9 +00.6	224 34.0 +01.9	S	23 18.3 -00.1	205 29.6 +02.2	S	22 03.7 -00.1				
05	291 06.8 +00.8	S	14 49.5 +00.5	239 35.9 +01.8	S	23 18.2 +00.0	220 31.8 +02.2	S	22 03.6 +00.0				
06	306 07.6 +00.9	S	14 50.0 +00.5	254 37.7 +01.9	S	23 18.2 +00.0	235 34.0 +02.1	S	22 03.6 +00.0				
07	321 08.5 +00.8	S	14 50.5 +00.6	269 39.6 +01.8	S	23 18.2 +00.0	250 36.1 +02.2	S	22 03.6 -00.1				
08	336 09.3 +00.8	S	14 51.1 +00.5	284 41.4 +01.9	S	23 18.2 +00.0	265 38.3 +02.2	S	22 03.5 +00.0				
09	351 10.1 +00.9	S	14 51.6 +00.5	299 43.3 +01.8	S	23 18.2 +00.0	280 40.5 +02.2	S	22 03.5 +00.0				
10	6 11.0 +00.8	S	14 52.1 +00.5	314 45.1 +01.9	S	23 18.2 +00.0	295 42.7 +02.2	S	22 03.5 -00.1				
11	21 11.8 +00.9	S	14 52.6 +00.6	329 47.0 +01.8	S	23 18.2 +00.0	310 44.9 +02.2	S	22 03.4 +00.0				
12	36 12.7 +00.8	S	14 53.2 +00.5	344 48.8 +01.9	S	23 18.2 +00.0	325 47.1 +02.1	S	22 03.4 +00.0				
13	51 13.5 +00.8	S	14 53.7 +00.5	359 50.7 +01.8	S	23 18.2 +00.0	340 49.2 +02.2	S	22 03.4 -00.1				
14	66 14.3 +00.9	S	14 54.2 +00.5	14 52.5 +01.9	S	23 18.2 +00.0	355 51.4 +02.2	S	22 03.3 +00.0				
15	81 15.2 +00.8	S	14 54.7 +00.6	29 54.4 +01.8	S	23 18.2 +00.0	10 53.6 +02.2	S	22 03.3 +00.0				
16	96 16.0 +00.8	S	14 55.3 +00.5	44 56.2 +01.9	S	23 18.2 +00.0	25 55.8 +02.2	S	22 03.3 -00.1				
17	111 16.8 +00.9	S	14 55.8 +00.5	59 58.1 +01.8	S	23 18.2 +00.0	40 58.0 +02.2	S	22 03.2 +00.0				
18	126 17.7 +00.8	S	14 56.3 +00.5	74 59.9 +01.9	S	23 18.2 +00.0	56 00.2 +02.1	S	22 03.2 +00.0				
19	141 18.5 +00.8	S	14 56.8 +00.6	90 01.8 +01.8	S	23 18.2 +00.0	71 02.3 +02.2	S	22 03.2 -00.1				
20	156 19.3 +00.9	S	14 57.4 +00.5	105 03.6 +01.9	S	23 18.2 +00.0	86 04.5 +02.2	S	22 03.1 +00.0				
21	171 20.2 +00.8	S	14 57.9 +00.5	120 05.5 +01.8	S	23 18.2 +00.0	101 06.7 +02.2	S	22 03.1 +00.0				
22	186 21.0 +00.8	S	14 58.4 +00.5	135 07.3 +01.9	S	23 18.2 +00.0	116 08.9 +02.2	S	22 03.1 -00.1				
23	201 21.8 +00.9	S	14 58.9 +00.6	150 09.2 +01.8	S	23 18.2 +00.0	131 11.1 +02.1	S	22 03.0 +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 141° 140° 140° 140° 140° 140°			SHA 089° 089° 089° 089° 089° 089°				SHA 070° 070° 070° 070° 070° 070°					
	Greenwich Culmination Time: 09:35			Greenwich Culmination Time: 13:00				Greenwich Culmination Time: 14:16					

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	182 07.1 -00.3	S	22 39.4 +00.2	150 09.3 -00.9	S	24 14.9 -00.3	50 21.9 -25.7	N	05 27.1 +11.6	00										
01	197 06.8 -00.3	S	22 39.6 +00.3	165 08.4 -00.9	S	24 14.6 -00.3	64 56.2 -25.8	N	05 38.7 +11.7	01										
02	212 06.5 -00.2	S	22 39.9 +00.3	180 07.5 -00.9	S	24 14.3 -00.3	79 30.4 -25.9	N	05 50.4 +11.7	02										
03	227 06.3 -00.3	S	22 40.2 +00.2	195 06.6 -00.9	S	24 14.0 -00.3	94 04.5 -25.8	N	06 02.1 +11.6	03										
04	242 06.0 -00.3	S	22 40.4 +00.3	210 05.7 -01.0	S	24 13.7 -00.3	108 38.7 -26.0	N	06 13.7 +11.6	04										
05	257 05.7 -00.2	S	22 40.7 +00.3	225 04.7 -00.9	S	24 13.4 -00.3	123 12.7 -25.9	N	06 25.3 +11.6	05										
06	272 05.5 -00.3	S	22 41.0 +00.3	240 03.8 -00.9	S	24 13.1 -00.3	137 46.8 -26.1	N	06 36.9 +11.6	06										
07	287 05.2 -00.3	S	22 41.3 +00.2	255 02.9 -00.9	S	24 12.8 -00.3	152 20.7 -26.0	N	06 48.5 +11.5	07										
08	302 04.9 -00.3	S	22 41.5 +00.3	270 02.0 -00.9	S	24 12.5 -00.3	166 54.7 -26.1	N	07 00.0 +11.6	08										
09	317 04.6 -00.2	S	22 41.8 +00.2	285 01.1 -00.9	S	24 12.2 -00.3	181 28.6 -26.2	N	07 11.6 +11.5	09										
10	332 04.4 -00.3	S	22 42.0 +00.3	300 00.2 -00.9	S	24 11.9 -00.3	196 02.4 -26.2	N	07 23.1 +11.5	10										
11	347 04.1 -00.3	S	22 42.3 +00.3	314 59.3 -00.9	S	24 11.6 -00.3	210 36.2 -26.2	N	07 34.6 +11.5	11										
12	2 03.8 -00.3	S	22 42.6 +00.2	329 58.4 -00.9	S	24 11.3 -00.3	225 10.0 -26.3	N	07 46.1 +11.4	12										
13	17 03.5 -00.2	S	22 42.8 +00.3	344 57.5 -00.9	S	24 11.0 -00.3	239 43.7 -26.4	N	07 57.5 +11.5	13										
14	32 03.3 -00.3	S	22 43.1 +00.3	359 56.6 -00.9	S	24 10.7 -00.3	254 17.3 -26.4	N	08 09.0 +11.4	14										
15	47 03.0 -00.3	S	22 43.4 +00.2	14 55.7 -00.9	S	24 10.4 -00.3	268 50.9 -26.4	N	08 20.4 +11.4	15										
16	62 02.7 -00.2	S	22 43.6 +00.3	29 54.8 -01.0	S	24 10.1 -00.3	283 24.5 -26.5	N	08 31.8 +11.3	16										
17	77 02.5 -00.3	S	22 43.9 +00.2	44 53.8 -00.9	S	24 09.8 -00.3	297 58.0 -26.6	N	08 43.1 +11.3	17										
18	92 02.2 -00.3	S	22 44.1 +00.3	59 52.9 -00.9	S	24 09.5 -00.3	312 31.4 -26.6	N	08 54.4 +11.3	18										
19	107 01.9 -00.3	S	22 44.4 +00.3	74 52.0 -00.9	S	24 09.2 -00.4	327 04.8 -26.7	N	09 05.7 +11.3	19										
20	122 01.6 -00.2	S	22 44.7 +00.2	89 51.1 -00.9	S	24 08.8 -00.3	341 38.1 -26.7	N	09 17.0 +11.3	20										
21	137 01.4 -00.3	S	22 44.9 +00.3	104 50.2 -00.9	S	24 08.5 -00.3	356 11.4 -26.8	N	09 28.3 +11.2	21										
22	152 01.1 -00.3	S	22 45.2 +00.2	119 49.3 -00.9	S	24 08.2 -00.3	10 44.6 -26.9	N	09 39.5 +11.2	22										
23	167 00.8 -00.3	S	22 45.4 +00.3	134 48.4 -00.9	S	24 07.9 -00.3	25 17.7 -26.9	N	09 50.7 +11.1	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	15'0	15'0	15'0	15'0	15'0	15'1
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	54'9	55'0	55'0	55'1	55'2	55'3
SHA	106°	105°	105°	105°	105°	105°	SHA	074°	073°	073°	073°	073°	072°	SHA	333°	331°	329°	327°	325°	323°
Greenwich Culmination Time: 11:51							Greenwich Culmination Time: 14:00							Greenwich Culmination Time: 21:15						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	216 22.7 +00.8	S	14 59.5 +00.5	165 11.0 +01.9	S	23 18.2 +00.0	146 13.2 +02.2	S	22 03.0 +00.0	00										
01	231 23.5 +00.8	S	14 60.0 +00.5	180 12.9 +01.8	S	23 18.2 +00.0	161 15.4 +02.2	S	22 03.0 -00.1	01										
02	246 24.3 +00.9	S	15 00.5 +00.5	195 14.7 +01.9	S	23 18.2 +00.0	176 17.6 +02.2	S	22 02.9 +00.0	02										
03	261 25.2 +00.8	S	15 01.0 +00.6	210 16.6 +01.8	S	23 18.2 +00.0	191 19.8 +02.2	S	22 02.9 +00.0	03										
04	276 26.0 +00.8	S	15 01.6 +00.5	225 18.4 +01.9	S	23 18.2 +00.0	206 22.0 +02.2	S	22 02.9 -00.1	04										
05	291 26.8 +00.9	S	15 02.1 +00.5	240 20.3 +01.8	S	23 18.2 +00.0	221 24.2 +02.1	S	22 02.8 +00.0	05										
06	306 27.7 +00.8	S	15 02.6 +00.5	255 22.1 +01.9	S	23 18.2 +00.0	236 26.3 +02.2	S	22 02.8 +00.0	06										
07	321 28.5 +00.8	S	15 03.1 +00.6	270 24.0 +01.8	S	23 18.2 +00.0	251 28.5 +02.2	S	22 02.8 -00.1	07										
08	336 29.3 +00.9	S	15 03.7 +00.5	285 25.8 +01.9	S	23 18.2 +00.0	266 30.7 +02.2	S	22 02.7 +00.0	08										
09	351 30.2 +00.8	S	15 04.2 +00.5	300 27.7 +01.8	S	23 18.2 +00.0	281 32.9 +02.2	S	22 02.7 +00.0	09										
10	6 31.0 +00.8	S	15 04.7 +00.5	315 29.5 +01.9	S	23 18.2 +00.0	296 35.1 +02.1	S	22 02.7 -00.1	10										
11	21 31.8 +00.9	S	15 05.2 +00.5	330 31.4 +01.8	S	23 18.2 +00.0	311 37.2 +02.2	S	22 02.6 +00.0	11										
12	36 32.7 +00.8	S	15 05.7 +00.6	345 33.2 +01.9	S	23 18.2 +00.0	326 39.4 +02.2	S	22 02.6 +00.0	12										
13	51 33.5 +00.8	S	15 06.3 +00.5	0 35.1 +01.8	S	23 18.2 +00.0	341 41.6 +02.2	S	22 02.6 -00.1	13										
14	66 34.3 +00.9	S	15 06.8 +00.5	15 36.9 +01.9	S	23 18.2 +00.0	356 43.8 +02.2	S	22 02.5 +00.0	14										
15	81 35.2 +00.8	S	15 07.3 +00.5	30 38.8 +01.8	S	23 18.2 +00.0	11 46.0 +02.1	S	22 02.5 +00.0	15										
16	96 36.0 +00.8	S	15 07.8 +00.6	45 40.6 +01.9	S	23 18.2 +00.0	26 48.1 +02.2	S	22 02.5 -00.1	16										
17	111 36.8 +00.9	S	15 08.4 +00.5	60 42.5 +01.8	S	23 18.2 +00.0	41 50.3 +02.2	S	22 02.4 +00.0	17										
18	126 37.7 +00.8	S	15 08.9 +00.5	75 44.3 +01.9	S	23 18.2 +00.0	56 52.5 +02.2	S	22 02.4 +00.0	18										
19	141 38.5 +00.8	S	15 09.4 +00.5	90 46.2 +01.8	S	23 18.2 +00.0	71 54.7 +02.2	S	22 02.4 -00.1	19										
20	156 39.3 +00.8	S	15 09.9 +00.5	105 48.0 +01.9	S	23 18.2 +00.0	86 56.9 +02.1	S	22 02.3 +00.0	20										
21	171 40.1 +00.9	S	15 10.4 +00.6	120 49.9 +01.8	S	23 18.2 +00.0	101 59.0 +02.2	S	22 02.3 +00.0	21										
22	186 41.0 +00.8	S	15 11.0 +00.5	135 51.7 +01.9	S	23 18.2 +00.0	117 01.2 +02.2	S	22 02.3 -00.1	22										
23	201 41.8 +00.8	S	15 11.5 +00.5	150 53.6 +01.8	S	23 18.2 +00.0	132 03.4 +02.2	S	22 02.2 +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	00'1	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	140°	140°	140°	140°	139°	139°	SHA	089°	089°	089°	089°	089°	088°	SHA	070°	070°	070°	070°	070°	070°
Greenwich Culmination Time: 09:33							Greenwich Culmination Time: 12:57							Greenwich Culmination Time: 14:13						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 00.5 -00.2	S	22 45.7 +00.2	149 47.5 -00.9	S	24 07.6 -00.3	39 50.8 -26.9	N	10 01.8 +11.1	00			
01	197 00.3 -00.3	S	22 45.9 +00.3	164 46.6 -00.9	S	24 07.3 -00.4	54 23.9 -27.1	N	10 12.9 +11.1	01			
02	211 60.0 -00.3	S	22 46.2 +00.2	179 45.7 -00.9	S	24 06.9 -00.3	68 56.8 -27.0	N	10 24.0 +11.1	02			
03	226 59.7 -00.3	S	22 46.4 +00.3	194 44.8 -00.9	S	24 06.6 -00.3	83 29.8 -27.2	N	10 35.1 +11.0	03			
04	241 59.4 -00.2	S	22 46.7 +00.2	209 43.9 -00.9	S	24 06.3 -00.3	98 02.6 -27.2	N	10 46.1 +11.0	04			
05	256 59.2 -00.3	S	22 46.9 +00.3	224 43.0 -00.9	S	24 06.0 -00.4	112 35.4 -27.3	N	10 57.1 +10.9	05			
06	271 58.9 -00.3	S	22 47.2 +00.2	239 42.1 -00.9	S	24 05.6 -00.3	127 08.1 -27.3	N	11 08.0 +10.9	06			
07	286 58.6 -00.3	S	22 47.4 +00.3	254 41.2 -00.9	S	24 05.3 -00.3	141 40.8 -27.4	N	11 18.9 +10.9	07			
08	301 58.3 -00.3	S	22 47.7 +00.2	269 40.3 -00.9	S	24 05.0 -00.4	156 13.4 -27.5	N	11 29.8 +10.8	08			
09	316 58.0 -00.2	S	22 47.9 +00.3	284 39.4 -00.9	S	24 04.6 -00.3	170 45.9 -27.5	N	11 40.6 +10.8	09			
10	331 57.8 -00.3	S	22 48.2 +00.2	299 38.5 -00.9	S	24 04.3 -00.3	185 18.4 -27.6	N	11 51.4 +10.7	10			
11	346 57.5 -00.3	S	22 48.4 +00.3	314 37.6 -00.9	S	24 04.0 -00.3	199 50.8 -27.7	N	12 02.1 +10.7	11			
12	1 57.2 -00.3	S	22 48.7 +00.2	329 36.7 -00.9	S	24 03.7 -00.4	214 23.1 -27.8	N	12 12.8 +10.6	12			
13	16 56.9 -00.2	S	22 48.9 +00.3	344 35.8 -00.9	S	24 03.3 -00.3	228 55.3 -27.8	N	12 23.4 +10.6	13			
14	31 56.7 -00.3	S	22 49.2 +00.2	359 34.9 -00.9	S	24 03.0 -00.4	243 27.5 -27.9	N	12 34.0 +10.6	14			
15	46 56.4 -00.3	S	22 49.4 +00.2	14 34.0 -00.9	S	24 02.6 -00.3	257 59.6 -27.9	N	12 44.6 +10.5	15			
16	61 56.1 -00.3	S	22 49.6 +00.3	29 33.1 -00.9	S	24 02.3 -00.3	272 31.7 -28.0	N	12 55.1 +10.5	16			
17	76 55.8 -00.3	S	22 49.9 +00.2	44 32.2 -00.9	S	24 02.0 -00.4	287 03.7 -28.1	N	13 05.6 +10.4	17			
18	91 55.5 -00.2	S	22 50.1 +00.3	59 31.3 -00.9	S	24 01.6 -00.3	301 35.6 -28.2	N	13 16.0 +10.3	18			
19	106 55.3 -00.3	S	22 50.4 +00.2	74 30.4 -00.9	S	24 01.3 -00.4	316 07.4 -28.2	N	13 26.3 +10.3	19			
20	121 55.0 -00.3	S	22 50.6 +00.2	89 29.5 -00.9	S	24 00.9 -00.3	330 39.2 -28.4	N	13 36.6 +10.3	20			
21	136 54.7 -00.3	S	22 50.8 +00.3	104 28.6 -00.9	S	24 00.6 -00.4	345 10.8 -28.3	N	13 46.9 +10.2	21			
22	151 54.4 -00.2	S	22 51.1 +00.2	119 27.7 -00.9	S	24 00.2 -00.3	359 42.5 -28.5	N	13 57.1 +10.1	22			
23	166 54.2 -00.3	S	22 51.3 +00.2	134 26.8 -00.9	S	23 59.9 -00.4	14 14.0 -28.5	N	14 07.2 +10.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 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 15'1 15'2 15'2 15'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 55'4 55'5 55'6 55'7 55'7 55'8						
	SHA 104° 104° 104° 104° 104° 104°			SHA 072° 072° 072° 072° 071° 071°			SHA 321° 319° 317° 315° 313° 311°						
	Greenwich Culmination Time: 11:52			Greenwich Culmination Time: 14:01			Greenwich Culmination Time: 22:01						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	216 42.6 +00.9	S	15 12.0 +00.5	165 55.4 +01.9	S	23 18.2 +00.0	147 05.6 +02.2	S	22 02.2 +00.0	00			
01	231 43.5 +00.8	S	15 12.5 +00.5	180 57.3 +01.8	S	23 18.2 +00.0	162 07.8 +02.1	S	22 02.2 -00.1	01			
02	246 44.3 +00.8	S	15 13.0 +00.6	195 59.1 +01.9	S	23 18.2 +00.0	177 09.9 +02.2	S	22 02.1 +00.0	02			
03	261 45.1 +00.9	S	15 13.6 +00.5	211 01.0 +01.8	S	23 18.2 +00.0	192 12.1 +02.2	S	22 02.1 +00.0	03			
04	276 46.0 +00.8	S	15 14.1 +00.5	226 02.8 +01.9	S	23 18.2 +00.0	207 14.3 +02.2	S	22 02.1 -00.1	04			
05	291 46.8 +00.8	S	15 14.6 +00.5	241 04.7 +01.8	S	23 18.2 +00.0	222 16.5 +02.2	S	22 02.0 +00.0	05			
06	306 47.6 +00.8	S	15 15.1 +00.5	256 06.5 +01.9	S	23 18.2 +00.0	237 18.7 +02.1	S	22 02.0 +00.0	06			
07	321 48.4 +00.9	S	15 15.6 +00.5	271 08.4 +01.8	S	23 18.2 +00.0	252 20.8 +02.2	S	22 02.0 -00.1	07			
08	336 49.3 +00.8	S	15 16.1 +00.6	286 10.2 +01.9	S	23 18.2 +00.0	267 23.0 +02.2	S	22 01.9 +00.0	08			
09	351 50.1 +00.8	S	15 16.7 +00.5	301 12.1 +01.8	S	23 18.2 +00.0	282 25.2 +02.2	S	22 01.9 +00.0	09			
10	6 50.9 +00.9	S	15 17.2 +00.5	316 13.9 +01.9	S	23 18.2 +00.0	297 27.4 +02.2	S	22 01.9 -00.1	10			
11	21 51.8 +00.8	S	15 17.7 +00.5	331 15.8 +01.8	S	23 18.2 +00.0	312 29.6 +02.1	S	22 01.8 +00.0	11			
12	36 52.6 +00.8	S	15 18.2 +00.5	346 17.6 +01.9	S	23 18.2 +00.0	327 31.7 +02.2	S	22 01.8 +00.0	12			
13	51 53.4 +00.8	S	15 18.7 +00.6	1 19.5 +01.8	S	23 18.2 +00.0	342 33.9 +02.2	S	22 01.8 -00.1	13			
14	66 54.2 +00.9	S	15 19.3 +00.5	16 21.3 +01.9	S	23 18.2 +00.0	357 36.1 +02.2	S	22 01.7 +00.0	14			
15	81 55.1 +00.8	S	15 19.8 +00.5	31 23.2 +01.8	S	23 18.2 +00.0	12 38.3 +02.2	S	22 01.7 +00.0	15			
16	96 55.9 +00.8	S	15 20.3 +00.5	46 25.0 +01.9	S	23 18.2 +00.0	27 40.5 +02.1	S	22 01.7 -00.1	16			
17	111 56.7 +00.8	S	15 20.8 +00.5	61 26.9 +01.8	S	23 18.2 +00.0	42 42.6 +02.2	S	22 01.6 +00.0	17			
18	126 57.5 +00.9	S	15 21.3 +00.5	76 28.7 +01.9	S	23 18.2 +00.0	57 44.8 +02.2	S	22 01.6 +00.0	18			
19	141 58.4 +00.8	S	15 21.8 +00.5	91 30.6 +01.8	S	23 18.2 +00.0	72 47.0 +02.2	S	22 01.6 -00.1	19			
20	156 59.2 +00.8	S	15 22.3 +00.6	106 32.4 +01.9	S	23 18.2 +00.0	87 49.2 +02.2	S	22 01.5 +00.0	20			
21	172 00.0 +00.8	S	15 22.9 +00.5	121 34.3 +01.8	S	23 18.2 +00.0	102 51.4 +02.1	S	22 01.5 +00.0	21			
22	187 00.8 +00.9	S	15 23.4 +00.5	136 36.1 +01.9	S	23 18.2 +00.0	117 53.5 +02.2	S	22 01.5 -00.1	22			
23	202 01.7 +00.8	S	15 23.9 +00.5	151 38.0 +01.8	S	23 18.2 +00.0	132 55.7 +02.2	S	22 01.4 +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 139° 139° 139° 139° 139° 139°			SHA 088° 088° 088° 088° 088° 088°			SHA 070° 070° 070° 070° 070° 070°						
	Greenwich Culmination Time: 09:32			Greenwich Culmination Time: 12:54			Greenwich Culmination Time: 14:09						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 53.9 -00.3	S	22 51.5 +00.3	149 25.9 -00.9	S	23 59.5 -00.3	28 45.5 -28.7	N	14 17.3 +10.1	00			
01	196 53.6 -00.3	S	22 51.8 +00.2	164 25.0 -00.9	S	23 59.2 -00.4	43 16.8 -28.7	N	14 27.4 +09.9	01			
02	211 53.3 -00.3	S	22 52.0 +00.2	179 24.1 -00.9	S	23 58.8 -00.3	57 48.1 -28.7	N	14 37.3 +09.9	02			
03	226 53.0 -00.2	S	22 52.2 +00.3	194 23.2 -00.9	S	23 58.5 -00.4	72 19.4 -28.9	N	14 47.2 +09.9	03			
04	241 52.8 -00.3	S	22 52.5 +00.2	209 22.3 -00.9	S	23 58.1 -00.3	86 50.5 -28.9	N	14 57.1 +09.8	04			
05	256 52.5 -00.3	S	22 52.7 +00.2	224 21.4 -00.9	S	23 57.8 -00.4	101 21.6 -29.0	N	15 06.9 +09.7	05			
06	271 52.2 -00.3	S	22 52.9 +00.3	239 20.5 -00.9	S	23 57.4 -00.3	115 52.6 -29.1	N	15 16.6 +09.7	06			
07	286 51.9 -00.3	S	22 53.2 +00.2	254 19.6 -00.9	S	23 57.1 -00.4	130 23.5 -29.1	N	15 26.3 +09.6	07			
08	301 51.6 -00.3	S	22 53.4 +00.2	269 18.7 -00.8	S	23 56.7 -00.3	144 54.4 -29.3	N	15 35.9 +09.5	08			
09	316 51.3 -00.2	S	22 53.6 +00.3	284 17.9 -00.9	S	23 56.4 -00.4	159 25.1 -29.3	N	15 45.4 +09.5	09			
10	331 51.1 -00.3	S	22 53.9 +00.2	299 17.0 -00.9	S	23 56.0 -00.4	173 55.8 -29.4	N	15 54.9 +09.4	10			
11	346 50.8 -00.3	S	22 54.1 +00.2	314 16.1 -00.9	S	23 55.6 -00.3	188 26.4 -29.5	N	16 04.3 +09.3	11			
12	1 50.5 -00.3	S	22 54.3 +00.2	329 15.2 -00.9	S	23 55.3 -00.4	202 56.9 -29.6	N	16 13.6 +09.3	12			
13	16 50.2 -00.3	S	22 54.5 +00.3	344 14.3 -00.9	S	23 54.9 -00.4	217 27.3 -29.6	N	16 22.9 +09.2	13			
14	31 49.9 -00.2	S	22 54.8 +00.2	359 13.4 -00.9	S	23 54.5 -00.3	231 57.7 -29.7	N	16 32.1 +09.1	14			
15	46 49.7 -00.3	S	22 55.0 +00.2	14 12.5 -00.9	S	23 54.2 -00.4	246 28.0 -29.8	N	16 41.2 +09.0	15			
16	61 49.4 -00.3	S	22 55.2 +00.2	29 11.6 -00.9	S	23 53.8 -00.4	260 58.2 -29.9	N	16 50.2 +09.0	16			
17	76 49.1 -00.3	S	22 55.4 +00.2	44 10.7 -00.9	S	23 53.4 -00.3	275 28.3 -30.0	N	16 59.2 +08.9	17			
18	91 48.8 -00.3	S	22 55.6 +00.3	59 09.8 -00.9	S	23 53.1 -00.4	289 58.3 -30.1	N	17 08.1 +08.8	18			
19	106 48.5 -00.3	S	22 55.9 +00.2	74 08.9 -00.8	S	23 52.7 -00.4	304 28.2 -30.1	N	17 16.9 +08.7	19			
20	121 48.2 -00.2	S	22 56.1 +00.2	89 08.1 -00.9	S	23 52.3 -00.4	318 58.1 -30.2	N	17 25.6 +08.6	20			
21	136 48.0 -00.3	S	22 56.3 +00.2	104 07.2 -00.9	S	23 51.9 -00.3	333 27.9 -30.3	N	17 34.2 +08.6	21			
22	151 47.7 -00.3	S	22 56.5 +00.2	119 06.3 -00.9	S	23 51.6 -00.4	347 57.6 -30.4	N	17 42.8 +08.5	22			
23	166 47.4 -00.3	S	22 56.7 +00.3	134 05.4 -00.9	S	23 51.2 -00.4	2 27.2 -30.5	N	17 51.3 +08.4	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 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 15'3 15'3 15'3 15'4 15'4						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 55'9 56'0 56'1 56'3 56'4 56'5						
	SHA 103° 103° 103° 103° 103° 102°			SHA 071° 071° 070° 070° 070° 070°			SHA 309° 307° 305° 303° 301° 299°						
	Greenwich Culmination Time: 11:52			Greenwich Culmination Time: 14:03			Greenwich Culmination Time: 22:49						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	217 02.5 +00.8	S	15 24.4 +00.5	166 39.8 +01.9	S	23 18.2 -00.1	147 57.9 +02.2	S	22 01.4 +00.0	00			
01	232 03.3 +00.8	S	15 24.9 +00.5	181 41.7 +01.8	S	23 18.1 +00.0	163 00.1 +02.1	S	22 01.4 -00.1	01			
02	247 04.1 +00.9	S	15 25.4 +00.6	196 43.5 +01.8	S	23 18.1 +00.0	178 02.2 +02.2	S	22 01.3 +00.0	02			
03	262 05.0 +00.8	S	15 26.0 +00.5	211 45.3 +01.9	S	23 18.1 +00.0	193 04.4 +02.2	S	22 01.3 +00.0	03			
04	277 05.8 +00.8	S	15 26.5 +00.5	226 47.2 +01.8	S	23 18.1 +00.0	208 06.6 +02.2	S	22 01.3 -00.1	04			
05	292 06.6 +00.8	S	15 27.0 +00.5	241 49.0 +01.9	S	23 18.1 +00.0	223 08.8 +02.2	S	22 01.2 +00.0	05			
06	307 07.4 +00.9	S	15 27.5 +00.5	256 50.9 +01.8	S	23 18.1 +00.0	238 11.0 +02.1	S	22 01.2 +00.0	06			
07	322 08.3 +00.8	S	15 28.0 +00.5	271 52.7 +01.9	S	23 18.1 +00.0	253 13.1 +02.2	S	22 01.2 -00.1	07			
08	337 09.1 +00.8	S	15 28.5 +00.5	286 54.6 +01.8	S	23 18.1 +00.0	268 15.3 +02.2	S	22 01.1 +00.0	08			
09	352 09.9 +00.8	S	15 29.0 +00.6	301 56.4 +01.9	S	23 18.1 +00.0	283 17.5 +02.2	S	22 01.1 +00.0	09			
10	7 10.7 +00.9	S	15 29.6 +00.5	316 58.3 +01.8	S	23 18.1 +00.0	298 19.7 +02.1	S	22 01.1 -00.1	10			
11	22 11.6 +00.8	S	15 30.1 +00.5	332 00.1 +01.9	S	23 18.1 +00.0	313 21.8 +02.2	S	22 01.0 +00.0	11			
12	37 12.4 +00.8	S	15 30.6 +00.5	347 02.0 +01.8	S	23 18.1 +00.0	328 24.0 +02.2	S	22 01.0 -00.1	12			
13	52 13.2 +00.8	S	15 31.1 +00.5	2 03.8 +01.9	S	23 18.1 +00.0	343 26.2 +02.2	S	22 00.9 +00.0	13			
14	67 14.0 +00.9	S	15 31.6 +00.5	17 05.7 +01.8	S	23 18.1 +00.0	358 28.4 +02.2	S	22 00.9 +00.0	14			
15	82 14.9 +00.8	S	15 32.1 +00.5	32 07.5 +01.9	S	23 18.1 +00.0	13 30.6 +02.1	S	22 00.9 -00.1	15			
16	97 15.7 +00.8	S	15 32.6 +00.5	47 09.4 +01.8	S	23 18.1 +00.0	28 32.7 +02.2	S	22 00.8 +00.0	16			
17	112 16.5 +00.8	S	15 33.1 +00.6	62 11.2 +01.9	S	23 18.1 +00.0	43 34.9 +02.2	S	22 00.8 +00.0	17			
18	127 17.3 +00.9	S	15 33.7 +00.5	77 13.1 +01.8	S	23 18.1 +00.0	58 37.1 +02.2	S	22 00.8 -00.1	18			
19	142 18.2 +00.8	S	15 34.2 +00.5	92 14.9 +01.9	S	23 18.1 +00.0	73 39.3 +02.1	S	22 00.7 +00.0	19			
20	157 19.0 +00.8	S	15 34.7 +00.5	107 16.8 +01.8	S	23 18.1 +00.0	88 41.4 +02.2	S	22 00.7 +00.0	20			
21	172 19.8 +00.8	S	15 35.2 +00.5	122 18.6 +01.8	S	23 18.1 +00.0	103 43.6 +02.2	S	22 00.7 -00.1	21			
22	187 20.6 +00.8	S	15 35.7 +00.5	137 20.4 +01.9	S	23 18.1 +00.0	118 45.8 +02.2	S	22 00.6 +00.0	22			
23	202 21.4 +00.9	S	15 36.2 +00.5	152 22.3 +01.8	S	23 18.1 +00.0	133 48.0 +02.1	S	22 00.6 +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 139° 138° 138° 138° 138° 138°			SHA 088° 088° 088° 088° 088° 088°			SHA 070° 070° 069° 069° 069° 069°						
	Greenwich Culmination Time: 09:31			Greenwich Culmination Time: 12:51			Greenwich Culmination Time: 14:06						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 47.1 -00.3	S	22 57.0 +00.2	149 04.5 -00.9	S	23 50.8 -00.4	16 56.7 -30.6	N	17 59.7 +08.3	00			
01	196 46.8 -00.3	S	22 57.2 +00.2	164 03.6 -00.9	S	23 50.4 -00.4	31 26.1 -30.6	N	18 08.0 +08.2	01			
02	211 46.5 -00.2	S	22 57.4 +00.2	179 02.7 -00.9	S	23 50.0 -00.3	45 55.5 -30.7	N	18 16.2 +08.2	02			
03	226 46.3 -00.3	S	22 57.6 +00.2	194 01.8 -00.8	S	23 49.7 -00.4	60 24.8 -30.8	N	18 24.4 +08.0	03			
04	241 46.0 -00.3	S	22 57.8 +00.2	209 01.0 -00.9	S	23 49.3 -00.4	74 54.0 -30.9	N	18 32.4 +08.0	04			
05	256 45.7 -00.3	S	22 58.0 +00.2	224 00.1 -00.9	S	23 48.9 -00.4	89 23.1 -31.0	N	18 40.4 +07.9	05			
06	271 45.4 -00.3	S	22 58.2 +00.3	238 59.2 -00.9	S	23 48.5 -00.4	103 52.1 -31.1	N	18 48.3 +07.8	06			
07	286 45.1 -00.3	S	22 58.5 +00.2	253 58.3 -00.9	S	23 48.1 -00.4	118 21.0 -31.1	N	18 56.1 +07.7	07			
08	301 44.8 -00.3	S	22 58.7 +00.2	268 57.4 -00.9	S	23 47.7 -00.4	132 49.9 -31.2	N	19 03.8 +07.6	08			
09	316 44.5 -00.2	S	22 58.9 +00.2	283 56.5 -00.8	S	23 47.3 -00.4	147 18.7 -31.3	N	19 11.4 +07.5	09			
10	331 44.3 -00.3	S	22 59.1 +00.2	298 55.7 -00.9	S	23 46.9 -00.3	161 47.4 -31.4	N	19 18.9 +07.4	10			
11	346 44.0 -00.3	S	22 59.3 +00.2	313 54.8 -00.9	S	23 46.6 -00.4	176 16.0 -31.5	N	19 26.3 +07.3	11			
12	1 43.7 -00.3	S	22 59.5 +00.2	328 53.9 -00.9	S	23 46.2 -00.4	190 44.5 -31.5	N	19 33.6 +07.2	12			
13	16 43.4 -00.3	S	22 59.7 +00.2	343 53.0 -00.9	S	23 45.8 -00.4	205 13.0 -31.7	N	19 40.8 +07.1	13			
14	31 43.1 -00.3	S	22 59.9 +00.2	358 52.1 -00.9	S	23 45.4 -00.4	219 41.3 -31.7	N	19 47.9 +07.0	14			
15	46 42.8 -00.3	S	23 00.1 +00.2	13 51.2 -00.8	S	23 45.0 -00.4	234 09.6 -31.8	N	19 54.9 +06.9	15			
16	61 42.5 -00.2	S	23 00.3 +00.2	28 50.4 -00.9	S	23 44.6 -00.4	248 37.8 -31.9	N	20 01.8 +06.8	16			
17	76 42.3 -00.3	S	23 00.5 +00.2	43 49.5 -00.9	S	23 44.2 -00.4	263 05.9 -31.9	N	20 08.6 +06.7	17			
18	91 42.0 -00.3	S	23 00.7 +00.2	58 48.6 -00.9	S	23 43.8 -00.4	277 34.0 -32.1	N	20 15.3 +06.6	18			
19	106 41.7 -00.3	S	23 00.9 +00.2	73 47.7 -00.9	S	23 43.4 -00.4	292 01.9 -32.1	N	20 21.9 +06.4	19			
20	121 41.4 -00.3	S	23 01.1 +00.2	88 46.8 -00.8	S	23 43.0 -00.4	306 29.8 -32.2	N	20 28.3 +06.4	20			
21	136 41.1 -00.3	S	23 01.3 +00.2	103 46.0 -00.9	S	23 42.6 -00.4	320 57.6 -32.3	N	20 34.7 +06.3	21			
22	151 40.8 -00.3	S	23 01.5 +00.2	118 45.1 -00.9	S	23 42.2 -00.4	335 25.3 -32.3	N	20 41.0 +06.1	22			
23	166 40.5 -00.3	S	23 01.7 +00.2	133 44.2 -00.9	S	23 41.8 -00.5	349 53.0 -32.4	N	20 47.1 +06.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 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 15'4 15'4 15'5 15'5 15'5 15'5						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 56'6 56'7 56'8 56'9 57'0 57'1						
	SHA 102° 102° 102° 102° 102° 101°			SHA 070° 069° 069° 069° 069° 068°			SHA 296° 294° 292° 290° 287° 285°						
	Greenwich Culmination Time: 11:53			Greenwich Culmination Time: 14:04			Greenwich Culmination Time: 23:41						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	217 22.3 +00.8	S	15 36.7 +00.5	167 24.1 +01.9	S	23 18.1 +00.0	148 50.1 +02.2	S	22 00.6 -00.1	00			
01	232 23.1 +00.8	S	15 37.2 +00.5	182 26.0 +01.8	S	23 18.1 +00.0	163 52.3 +02.2	S	22 00.5 +00.0	01			
02	247 23.9 +00.8	S	15 37.7 +00.6	197 27.8 +01.9	S	23 18.1 +00.0	178 54.5 +02.2	S	22 00.5 +00.0	02			
03	262 24.7 +00.8	S	15 38.3 +00.5	212 29.7 +01.8	S	23 18.1 +00.0	193 56.7 +02.2	S	22 00.5 -00.1	03			
04	277 25.5 +00.9	S	15 38.8 +00.5	227 31.5 +01.9	S	23 18.1 -00.1	208 58.9 +02.1	S	22 00.4 +00.0	04			
05	292 26.4 +00.8	S	15 39.3 +00.5	242 33.4 +01.8	S	23 18.0 +00.0	224 01.0 +02.2	S	22 00.4 +00.0	05			
06	307 27.2 +00.8	S	15 39.8 +00.5	257 35.2 +01.9	S	23 18.0 +00.0	239 03.2 +02.2	S	22 00.4 -00.1	06			
07	322 28.0 +00.8	S	15 40.3 +00.5	272 37.1 +01.8	S	23 18.0 +00.0	254 05.4 +02.2	S	22 00.3 +00.0	07			
08	337 28.8 +00.8	S	15 40.8 +00.5	287 38.9 +01.9	S	23 18.0 +00.0	269 07.6 +02.1	S	22 00.3 +00.0	08			
09	352 29.6 +00.9	S	15 41.3 +00.5	302 40.8 +01.8	S	23 18.0 +00.0	284 09.7 +02.2	S	22 00.3 -00.1	09			
10	7 30.5 +00.8	S	15 41.8 +00.5	317 42.6 +01.9	S	23 18.0 +00.0	299 11.9 +02.2	S	22 00.2 +00.0	10			
11	22 31.3 +00.8	S	15 42.3 +00.5	332 44.5 +01.8	S	23 18.0 +00.0	314 14.1 +02.2	S	22 00.2 +00.0	11			
12	37 32.1 +00.8	S	15 42.8 +00.5	347 46.3 +01.9	S	23 18.0 +00.0	329 16.3 +02.1	S	22 00.2 -00.1	12			
13	52 32.9 +00.8	S	15 43.3 +00.6	2 48.2 +01.8	S	23 18.0 +00.0	344 18.4 +02.2	S	22 00.1 +00.0	13			
14	67 33.7 +00.9	S	15 43.9 +00.5	17 50.0 +01.8	S	23 18.0 +00.0	359 20.6 +02.2	S	22 00.1 +00.0	14			
15	82 34.6 +00.8	S	15 44.4 +00.5	32 51.8 +01.9	S	23 18.0 +00.0	14 22.8 +02.2	S	22 00.1 -00.1	15			
16	97 35.4 +00.8	S	15 44.9 +00.5	47 53.7 +01.8	S	23 18.0 +00.0	29 25.0 +02.1	S	22 00.0 +00.0	16			
17	112 36.2 +00.8	S	15 45.4 +00.5	62 55.5 +01.9	S	23 18.0 +00.0	44 27.1 +02.2	S	21 60.0 -00.1	17			
18	127 37.0 +00.8	S	15 45.9 +00.5	77 57.4 +01.8	S	23 18.0 +00.0	59 29.3 +02.2	S	21 59.9 +00.0	18			
19	142 37.8 +00.9	S	15 46.4 +00.5	92 59.2 +01.9	S	23 18.0 +00.0	74 31.5 +02.2	S	21 59.9 +00.0	19			
20	157 38.7 +00.8	S	15 46.9 +00.5	108 01.1 +01.8	S	23 18.0 +00.0	89 33.7 +02.1	S	21 59.9 -00.1	20			
21	172 39.5 +00.8	S	15 47.4 +00.5	123 02.9 +01.9	S	23 18.0 +00.0	104 35.8 +02.2	S	21 59.8 +00.0	21			
22	187 40.3 +00.8	S	15 47.9 +00.5	138 04.8 +01.8	S	23 18.0 +00.0	119 38.0 +02.2	S	21 59.8 +00.0	22			
23	202 41.1 +00.8	S	15 48.4 +00.5	153 06.6 +01.9	S	23 18.0 +00.0	134 40.2 +02.2	S	21 59.8 -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 138° 138° 138° 138° 137° 137°			SHA 088° 088° 088° 088° 088° 088°			SHA 069° 069° 069° 069° 069° 069°						
	Greenwich Culmination Time: 09:29			Greenwich Culmination Time: 12:48			Greenwich Culmination Time: 14:02						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 40.2 -00.2	S	23 01.9 +00.2	148 43.3 -00.9	S	23 41.3 -00.4	4 20.6 -32.6	N	20 53.2 +05.9	00			
01	196 40.0 -00.3	S	23 02.1 +00.2	163 42.4 -00.8	S	23 40.9 -00.4	18 48.0 -32.5	N	20 59.1 +05.8	01			
02	211 39.7 -00.3	S	23 02.3 +00.2	178 41.6 -00.9	S	23 40.5 -00.4	33 15.5 -32.7	N	21 04.9 +05.7	02			
03	226 39.4 -00.3	S	23 02.5 +00.2	193 40.7 -00.9	S	23 40.1 -00.4	47 42.8 -32.7	N	21 10.6 +05.6	03			
04	241 39.1 -00.3	S	23 02.7 +00.2	208 39.8 -00.9	S	23 39.7 -00.4	62 10.1 -32.9	N	21 16.2 +05.5	04			
05	256 38.8 -00.3	S	23 02.9 +00.2	223 38.9 -00.8	S	23 39.3 -00.4	76 37.2 -32.8	N	21 21.7 +05.3	05			
06	271 38.5 -00.3	S	23 03.1 +00.2	238 38.1 -00.9	S	23 38.9 -00.4	91 04.4 -33.0	N	21 27.0 +05.2	06			
07	286 38.2 -00.3	S	23 03.3 +00.2	253 37.2 -00.9	S	23 38.5 -00.5	105 31.4 -33.0	N	21 32.2 +05.1	07			
08	301 37.9 -00.3	S	23 03.5 +00.2	268 36.3 -00.9	S	23 38.0 -00.4	119 58.4 -33.1	N	21 37.3 +05.0	08			
09	316 37.6 -00.2	S	23 03.7 +00.2	283 35.4 -00.8	S	23 37.6 -00.4	134 25.3 -33.2	N	21 42.3 +04.9	09			
10	331 37.4 -00.3	S	23 03.9 +00.1	298 34.6 -00.9	S	23 37.2 -00.4	148 52.1 -33.2	N	21 47.2 +04.7	10			
11	346 37.1 -00.3	S	23 04.0 +00.2	313 33.7 -00.9	S	23 36.8 -00.4	163 18.9 -33.3	N	21 51.9 +04.6	11			
12	1 36.8 -00.3	S	23 04.2 +00.2	328 32.8 -00.9	S	23 36.4 -00.5	177 45.6 -33.4	N	21 56.5 +04.5	12			
13	16 36.5 -00.3	S	23 04.4 +00.2	343 31.9 -00.8	S	23 35.9 -00.4	192 12.2 -33.4	N	22 01.0 +04.4	13			
14	31 36.2 -00.3	S	23 04.6 +00.2	358 31.1 -00.9	S	23 35.5 -00.4	206 38.8 -33.6	N	22 05.4 +04.2	14			
15	46 35.9 -00.3	S	23 04.8 +00.2	13 30.2 -00.9	S	23 35.1 -00.5	221 05.2 -33.5	N	22 09.6 +04.1	15			
16	61 35.6 -00.3	S	23 05.0 +00.2	28 29.3 -00.8	S	23 34.6 -00.4	235 31.7 -33.7	N	22 13.7 +04.0	16			
17	76 35.3 -00.3	S	23 05.2 +00.1	43 28.5 -00.9	S	23 34.2 -00.4	249 58.0 -33.7	N	22 17.7 +03.9	17			
18	91 35.0 -00.3	S	23 05.3 +00.2	58 27.6 -00.9	S	23 33.8 -00.4	264 24.3 -33.7	N	22 21.6 +03.7	18			
19	106 34.7 -00.2	S	23 05.5 +00.2	73 26.7 -00.9	S	23 33.4 -00.5	278 50.6 -33.8	N	22 25.3 +03.6	19			
20	121 34.5 -00.3	S	23 05.7 +00.2	88 25.8 -00.8	S	23 32.9 -00.4	293 16.8 -33.9	N	22 28.9 +03.4	20			
21	136 34.2 -00.3	S	23 05.9 +00.2	103 25.0 -00.9	S	23 32.5 -00.4	307 42.9 -33.9	N	22 32.3 +03.3	21			
22	151 33.9 -00.3	S	23 06.1 +00.2	118 24.1 -00.9	S	23 32.1 -00.5	322 09.0 -34.0	N	22 35.6 +03.2	22			
23	166 33.6 -00.3	S	23 06.3 +00.1	133 23.2 -00.8	S	23 31.6 -00.4	336 35.0 -34.1	N	22 38.8 +03.1	23			
UT	02 06 10 14 18 22			UT	02 06 10 14 18 22			UT	02 06 10 14 18 22				
SD	16'2 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 15'7				
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	57'2 57'3 57'4 57'5 57'5 57'6				
SHA	101° 101° 101° 101° 100° 100°			SHA	068° 068° 068° 068° 067° 067°			SHA	283° 280° 278° 276° 273° 271°				
Greenwich Culmination Time: 11:53				Greenwich Culmination Time: 14:05				Greenwich Culmination Time: -1:00					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	217 41.9 +00.8	S	15 48.9 +00.5	168 08.5 +01.8	S	23 18.0 +00.0	149 42.4 +02.1	S	21 59.7 +00.0	00			
01	232 42.7 +00.9	S	15 49.4 +00.5	183 10.3 +01.8	S	23 18.0 +00.0	164 44.5 +02.2	S	21 59.7 +00.0	01			
02	247 43.6 +00.8	S	15 49.9 +00.5	198 12.1 +01.9	S	23 18.0 -00.1	179 46.7 +02.2	S	21 59.7 -00.1	02			
03	262 44.4 +00.8	S	15 50.4 +00.5	213 14.0 +01.8	S	23 17.9 +00.0	194 48.9 +02.2	S	21 59.6 +00.0	03			
04	277 45.2 +00.8	S	15 50.9 +00.5	228 15.8 +01.9	S	23 17.9 +00.0	209 51.1 +02.1	S	21 59.6 +00.0	04			
05	292 46.0 +00.8	S	15 51.4 +00.6	243 17.7 +01.8	S	23 17.9 +00.0	224 53.2 +02.2	S	21 59.6 -00.1	05			
06	307 46.8 +00.8	S	15 52.0 +00.5	258 19.5 +01.9	S	23 17.9 +00.0	239 55.4 +02.2	S	21 59.5 +00.0	06			
07	322 47.6 +00.9	S	15 52.5 +00.5	273 21.4 +01.8	S	23 17.9 +00.0	254 57.6 +02.2	S	21 59.5 +00.0	07			
08	337 48.5 +00.8	S	15 53.0 +00.5	288 23.2 +01.9	S	23 17.9 +00.0	269 59.8 +02.1	S	21 59.5 -00.1	08			
09	352 49.3 +00.8	S	15 53.5 +00.5	303 25.1 +01.8	S	23 17.9 +00.0	285 01.9 +02.2	S	21 59.4 +00.0	09			
10	7 50.1 +00.8	S	15 54.0 +00.5	318 26.9 +01.9	S	23 17.9 +00.0	300 04.1 +02.2	S	21 59.4 +00.0	10			
11	22 50.9 +00.8	S	15 54.5 +00.5	333 28.8 +01.8	S	23 17.9 +00.0	315 06.3 +02.2	S	21 59.4 -00.1	11			
12	37 51.7 +00.8	S	15 55.0 +00.5	348 30.6 +01.8	S	23 17.9 +00.0	330 08.5 +02.1	S	21 59.3 +00.0	12			
13	52 52.5 +00.9	S	15 55.5 +00.5	3 32.4 +01.9	S	23 17.9 +00.0	345 10.6 +02.2	S	21 59.3 -00.1	13			
14	67 53.4 +00.8	S	15 56.0 +00.5	18 34.3 +01.8	S	23 17.9 +00.0	0 12.8 +02.2	S	21 59.2 +00.0	14			
15	82 54.2 +00.8	S	15 56.5 +00.5	33 36.1 +01.9	S	23 17.9 +00.0	15 15.0 +02.2	S	21 59.2 +00.0	15			
16	97 55.0 +00.8	S	15 57.0 +00.5	48 38.0 +01.8	S	23 17.9 +00.0	30 17.2 +02.1	S	21 59.2 -00.1	16			
17	112 55.8 +00.8	S	15 57.5 +00.5	63 39.8 +01.9	S	23 17.9 +00.0	45 19.3 +02.2	S	21 59.1 +00.0	17			
18	127 56.6 +00.8	S	15 58.0 +00.5	78 41.7 +01.8	S	23 17.9 +00.0	60 21.5 +02.2	S	21 59.1 +00.0	18			
19	142 57.4 +00.8	S	15 58.5 +00.5	93 43.5 +01.9	S	23 17.9 +00.0	75 23.7 +02.1	S	21 59.1 -00.1	19			
20	157 58.2 +00.8	S	15 59.0 +00.5	108 45.4 +01.8	S	23 17.9 +00.0	90 25.8 +02.2	S	21 59.0 +00.0	20			
21	172 59.0 +00.9	S	15 59.5 +00.5	123 47.2 +01.9	S	23 17.9 -00.1	105 28.0 +02.2	S	21 59.0 +00.0	21			
22	187 59.9 +00.8	S	16 00.0 +00.5	138 49.1 +01.8	S	23 17.8 +00.0	120 30.2 +02.2	S	21 59.0 -00.1	22			
23	203 00.7 +00.8	S	16 00.5 +00.5	153 50.9 +01.8	S	23 17.8 +00.0	135 32.4 +02.1	S	21 58.9 +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	137° 137° 137° 137° 137° 137°			SHA	088° 088° 088° 088° 088° 088°			SHA	069° 069° 069° 069° 069° 069°				
Greenwich Culmination Time: 09:28				Greenwich Culmination Time: 12:45				Greenwich Culmination Time: 13:59					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 33.3 -00.3	S	23 06.4 +00.2	148 22.4 -00.9	S	23 31.2 -00.5	351 00.9 -34.1	N	22 41.9 +02.9	00			
01	196 33.0 -00.3	S	23 06.6 +00.2	163 21.5 -00.9	S	23 30.7 -00.4	5 26.8 -34.1	N	22 44.8 +02.8	01			
02	211 32.7 -00.3	S	23 06.8 +00.2	178 20.6 -00.8	S	23 30.3 -00.4	19 52.7 -34.2	N	22 47.6 +02.6	02			
03	226 32.4 -00.3	S	23 07.0 +00.1	193 19.8 -00.9	S	23 29.9 -00.5	34 18.5 -34.3	N	22 50.2 +02.5	03			
04	241 32.1 -00.3	S	23 07.1 +00.2	208 18.9 -00.9	S	23 29.4 -00.4	48 44.2 -34.3	N	22 52.7 +02.4	04			
05	256 31.8 -00.3	S	23 07.3 +00.2	223 18.0 -00.8	S	23 29.0 -00.5	63 09.9 -34.3	N	22 55.1 +02.2	05			
06	271 31.5 -00.3	S	23 07.5 +00.2	238 17.2 -00.9	S	23 28.5 -00.4	77 35.6 -34.4	N	22 57.3 +02.1	06			
07	286 31.2 -00.3	S	23 07.7 +00.1	253 16.3 -00.9	S	23 28.1 -00.5	92 01.2 -34.4	N	22 59.4 +01.9	07			
08	301 30.9 -00.2	S	23 07.8 +00.2	268 15.4 -00.8	S	23 27.6 -00.4	106 26.8 -34.5	N	23 01.3 +01.8	08			
09	316 30.7 -00.3	S	23 08.0 +00.2	283 14.6 -00.9	S	23 27.2 -00.5	120 52.3 -34.5	N	23 03.1 +01.7	09			
10	331 30.4 -00.3	S	23 08.2 +00.1	298 13.7 -00.9	S	23 26.7 -00.4	135 17.8 -34.6	N	23 04.8 +01.5	10			
11	346 30.1 -00.3	S	23 08.3 +00.2	313 12.8 -00.8	S	23 26.3 -00.5	149 43.2 -34.6	N	23 06.3 +01.4	11			
12	1 29.8 -00.3	S	23 08.5 +00.2	328 12.0 -00.9	S	23 25.8 -00.4	164 08.6 -34.6	N	23 07.7 +01.2	12			
13	16 29.5 -00.3	S	23 08.7 +00.1	343 11.1 -00.8	S	23 25.4 -00.5	178 34.0 -34.7	N	23 08.9 +01.1	13			
14	31 29.2 -00.3	S	23 08.8 +00.2	358 10.3 -00.9	S	23 24.9 -00.4	192 59.3 -34.7	N	23 10.0 +01.0	14			
15	46 28.9 -00.3	S	23 09.0 +00.2	13 09.4 -00.9	S	23 24.5 -00.5	207 24.6 -34.7	N	23 11.0 +00.8	15			
16	61 28.6 -00.3	S	23 09.2 +00.1	28 08.5 -00.8	S	23 24.0 -00.4	221 49.9 -34.8	N	23 11.8 +00.6	16			
17	76 28.3 -00.3	S	23 09.3 +00.2	43 07.7 -00.9	S	23 23.6 -00.5	236 15.1 -34.8	N	23 12.4 +00.5	17			
18	91 28.0 -00.3	S	23 09.5 +00.2	58 06.8 -00.9	S	23 23.1 -00.5	250 40.3 -34.8	N	23 12.9 +00.4	18			
19	106 27.7 -00.3	S	23 09.7 +00.1	73 05.9 -00.8	S	23 22.6 -00.4	265 05.5 -34.8	N	23 13.3 +00.2	19			
20	121 27.4 -00.3	S	23 09.8 +00.2	88 05.1 -00.9	S	23 22.2 -00.5	279 30.7 -34.9	N	23 13.5 +00.1	20			
21	136 27.1 -00.3	S	23 10.0 +00.2	103 04.2 -00.8	S	23 21.7 -00.4	293 55.8 -34.9	N	23 13.6 -00.1	21			
22	151 26.8 -00.3	S	23 10.2 +00.1	118 03.4 -00.9	S	23 21.3 -00.5	308 20.9 -34.9	N	23 13.5 -00.2	22			
23	166 26.5 -00.3	S	23 10.3 +00.2	133 02.5 -00.8	S	23 20.8 -00.5	322 46.0 -35.0	N	23 13.3 -00.4	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 15'7 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 57'7 57'8 57'9 58'0 58'1 58'1						
	SHA 100° 100° 100° 100° 099° 099°			SHA 067° 067° 066° 066° 066° 066°			SHA 268° 266° 263° 261° 259° 256°						
	Greenwich Culmination Time: 11:54			Greenwich Culmination Time: 14:07			Greenwich Culmination Time: 00:37						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	218 01.5 +00.8	S	16 01.0 +00.5	168 52.7 +01.9	S	23 17.8 +00.0	150 34.5 +02.2	S	21 58.9 +00.0	00			
01	233 02.3 +00.8	S	16 01.5 +00.5	183 54.6 +01.8	S	23 17.8 +00.0	165 36.7 +02.2	S	21 58.9 -00.1	01			
02	248 03.1 +00.8	S	16 02.0 +00.5	198 56.4 +01.9	S	23 17.8 +00.0	180 38.9 +02.2	S	21 58.8 +00.0	02			
03	263 03.9 +00.8	S	16 02.5 +00.5	213 58.3 +01.8	S	23 17.8 +00.0	195 41.1 +02.1	S	21 58.8 +00.0	03			
04	278 04.7 +00.9	S	16 03.0 +00.5	229 00.1 +01.9	S	23 17.8 +00.0	210 43.2 +02.2	S	21 58.8 -00.1	04			
05	293 05.6 +00.8	S	16 03.5 +00.5	244 02.0 +01.8	S	23 17.8 +00.0	225 45.4 +02.2	S	21 58.7 +00.0	05			
06	308 06.4 +00.8	S	16 04.0 +00.5	259 03.8 +01.9	S	23 17.8 +00.0	240 47.6 +02.2	S	21 58.7 -00.1	06			
07	323 07.2 +00.8	S	16 04.5 +00.5	274 05.7 +01.8	S	23 17.8 +00.0	255 49.8 +02.1	S	21 58.6 +00.0	07			
08	338 08.0 +00.8	S	16 05.0 +00.5	289 07.5 +01.8	S	23 17.8 +00.0	270 51.9 +02.2	S	21 58.6 +00.0	08			
09	353 08.8 +00.8	S	16 05.5 +00.5	304 09.3 +01.9	S	23 17.8 +00.0	285 54.1 +02.2	S	21 58.6 -00.1	09			
10	8 09.6 +00.8	S	16 06.0 +00.5	319 11.2 +01.8	S	23 17.8 +00.0	300 56.3 +02.1	S	21 58.5 +00.0	10			
11	23 10.4 +00.8	S	16 06.5 +00.5	334 13.0 +01.9	S	23 17.8 +00.0	315 58.4 +02.2	S	21 58.5 +00.0	11			
12	38 11.2 +00.8	S	16 07.0 +00.5	349 14.9 +01.8	S	23 17.8 +00.0	331 00.6 +02.2	S	21 58.5 -00.1	12			
13	53 12.0 +00.9	S	16 07.5 +00.5	4 16.7 +01.9	S	23 17.8 -00.1	346 02.8 +02.2	S	21 58.4 +00.0	13			
14	68 12.9 +00.8	S	16 08.0 +00.5	19 18.6 +01.8	S	23 17.7 +00.0	1 05.0 +02.1	S	21 58.4 +00.0	14			
15	83 13.7 +00.8	S	16 08.5 +00.5	34 20.4 +01.9	S	23 17.7 +00.0	16 07.1 +02.2	S	21 58.4 -00.1	15			
16	98 14.5 +00.8	S	16 09.0 +00.5	49 22.3 +01.8	S	23 17.7 +00.0	31 09.3 +02.2	S	21 58.3 +00.0	16			
17	113 15.3 +00.8	S	16 09.5 +00.5	64 24.1 +01.8	S	23 17.7 +00.0	46 11.5 +02.2	S	21 58.3 +00.0	17			
18	128 16.1 +00.8	S	16 10.0 +00.5	79 25.9 +01.9	S	23 17.7 +00.0	61 13.7 +02.1	S	21 58.3 -00.1	18			
19	143 16.9 +00.8	S	16 10.5 +00.5	94 27.8 +01.8	S	23 17.7 +00.0	76 15.8 +02.2	S	21 58.2 +00.0	19			
20	158 17.7 +00.8	S	16 11.0 +00.5	109 29.6 +01.9	S	23 17.7 +00.0	91 18.0 +02.2	S	21 58.2 -00.1	20			
21	173 18.5 +00.8	S	16 11.5 +00.5	124 31.5 +01.8	S	23 17.7 +00.0	106 20.2 +02.1	S	21 58.1 +00.0	21			
22	188 19.3 +00.8	S	16 12.0 +00.5	139 33.3 +01.9	S	23 17.7 +00.0	121 22.3 +02.2	S	21 58.1 +00.0	22			
23	203 20.1 +00.8	S	16 12.5 +00.5	154 35.2 +01.8	S	23 17.7 +00.0	136 24.5 +02.2	S	21 58.1 -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 137° 136° 136° 136° 136° 136°			SHA 087° 087° 087° 087° 087° 087°			SHA 069° 069° 069° 069° 069° 069°						
	Greenwich Culmination Time: 09:27			Greenwich Culmination Time: 12:42			Greenwich Culmination Time: 13:55						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 26.2 -00.3	S	23 10.5 +00.1	148 01.7 -00.9	S	23 20.3 -00.4	337 11.0 -34.9	N	23 12.9 -00.5	00			
01	196 25.9 -00.2	S	23 10.6 +00.2	163 00.8 -00.9	S	23 19.9 -00.5	351 36.1 -35.0	N	23 12.4 -00.7	01			
02	211 25.7 -00.3	S	23 10.8 +00.2	177 59.9 -00.8	S	23 19.4 -00.5	6 01.1 -35.0	N	23 11.7 -00.8	02			
03	226 25.4 -00.3	S	23 11.0 +00.1	192 59.1 -00.9	S	23 18.9 -00.5	20 26.1 -34.9	N	23 10.9 -01.0	03			
04	241 25.1 -00.3	S	23 11.1 +00.2	207 58.2 -00.8	S	23 18.4 -00.4	34 51.2 -35.1	N	23 09.9 -01.1	04			
05	256 24.8 -00.3	S	23 11.3 +00.1	222 57.4 -00.9	S	23 18.0 -00.5	49 16.1 -35.0	N	23 08.8 -01.3	05			
06	271 24.5 -00.3	S	23 11.4 +00.2	237 56.5 -00.8	S	23 17.5 -00.5	63 41.1 -35.0	N	23 07.5 -01.4	06			
07	286 24.2 -00.3	S	23 11.6 +00.1	252 55.7 -00.9	S	23 17.0 -00.5	78 06.1 -35.0	N	23 06.1 -01.5	07			
08	301 23.9 -00.3	S	23 11.7 +00.2	267 54.8 -00.8	S	23 16.5 -00.4	92 31.1 -35.1	N	23 04.6 -01.7	08			
09	316 23.6 -00.3	S	23 11.9 +00.1	282 54.0 -00.9	S	23 16.1 -00.5	106 56.0 -35.0	N	23 02.9 -01.9	09			
10	331 23.3 -00.3	S	23 12.0 +00.2	297 53.1 -00.9	S	23 15.6 -00.5	121 21.0 -35.0	N	23 01.0 -02.0	10			
11	346 23.0 -00.3	S	23 12.2 +00.1	312 52.2 -00.8	S	23 15.1 -00.5	135 46.0 -35.1	N	22 59.0 -02.1	11			
12	1 22.7 -00.3	S	23 12.3 +00.2	327 51.4 -00.9	S	23 14.6 -00.5	150 10.9 -35.0	N	22 56.9 -02.3	12			
13	16 22.4 -00.3	S	23 12.5 +00.1	342 50.5 -00.8	S	23 14.1 -00.4	164 35.9 -35.0	N	22 54.6 -02.5	13			
14	31 22.1 -00.3	S	23 12.6 +00.2	357 49.7 -00.9	S	23 13.7 -00.5	179 00.9 -35.1	N	22 52.1 -02.6	14			
15	46 21.8 -00.3	S	23 12.8 +00.1	12 48.8 -00.8	S	23 13.2 -00.5	193 25.8 -35.0	N	22 49.5 -02.7	15			
16	61 21.5 -00.3	S	23 12.9 +00.2	27 48.0 -00.9	S	23 12.7 -00.5	207 50.8 -35.0	N	22 46.8 -02.9	16			
17	76 21.2 -00.3	S	23 13.1 +00.1	42 47.1 -00.8	S	23 12.2 -00.5	222 15.8 -35.0	N	22 43.9 -03.0	17			
18	91 20.9 -00.3	S	23 13.2 +00.2	57 46.3 -00.9	S	23 11.7 -00.5	236 40.8 -35.0	N	22 40.9 -03.2	18			
19	106 20.6 -00.3	S	23 13.4 +00.1	72 45.4 -00.8	S	23 11.2 -00.5	251 05.8 -35.0	N	22 37.7 -03.3	19			
20	121 20.3 -00.3	S	23 13.5 +00.1	87 44.6 -00.9	S	23 10.7 -00.5	265 30.8 -34.9	N	22 34.4 -03.5	20			
21	136 20.0 -00.3	S	23 13.6 +00.2	102 43.7 -00.8	S	23 10.2 -00.4	279 55.9 -35.0	N	22 30.9 -03.6	21			
22	151 19.7 -00.3	S	23 13.8 +00.1	117 42.9 -00.9	S	23 09.8 -00.5	294 20.9 -34.9	N	22 27.3 -03.8	22			
23	166 19.4 -00.3	S	23 13.9 +00.2	132 42.0 -00.8	S	23 09.3 -00.5	308 46.0 -34.9	N	22 23.5 -03.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'9 15'9 15'9 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 58'2 58'3 58'4 58'4 58'5 58'5						
	SHA 099° 099° 099° 098° 098° 098°			SHA 066° 065° 065° 065° 065° 064°			SHA 254° 251° 249° 246° 244° 241°						
	Greenwich Culmination Time: 11:54			Greenwich Culmination Time: 14:08			Greenwich Culmination Time: 01:34						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	218 20.9 +00.9	S	16 13.0 +00.5	169 37.0 +01.9	S	23 17.7 +00.0	151 26.7 +02.2	S	21 58.0 +00.0	00			
01	233 21.8 +00.8	S	16 13.5 +00.5	184 38.9 +01.8	S	23 17.7 +00.0	166 28.9 +02.1	S	21 58.0 +00.0	01			
02	248 22.6 +00.8	S	16 14.0 +00.5	199 40.7 +01.8	S	23 17.7 +00.0	181 31.0 +02.2	S	21 58.0 -00.1	02			
03	263 23.4 +00.8	S	16 14.5 +00.5	214 42.5 +01.9	S	23 17.7 +00.0	196 33.2 +02.2	S	21 57.9 +00.0	03			
04	278 24.2 +00.8	S	16 15.0 +00.5	229 44.4 +01.8	S	23 17.7 -00.1	211 35.4 +02.1	S	21 57.9 +00.0	04			
05	293 25.0 +00.8	S	16 15.5 +00.5	244 46.2 +01.9	S	23 17.6 +00.0	226 37.5 +02.2	S	21 57.9 -00.1	05			
06	308 25.8 +00.8	S	16 16.0 +00.5	259 48.1 +01.8	S	23 17.6 +00.0	241 39.7 +02.2	S	21 57.8 +00.0	06			
07	323 26.6 +00.8	S	16 16.5 +00.4	274 49.9 +01.9	S	23 17.6 +00.0	256 41.9 +02.2	S	21 57.8 +00.0	07			
08	338 27.4 +00.8	S	16 16.9 +00.5	289 51.8 +01.8	S	23 17.6 +00.0	271 44.1 +02.1	S	21 57.8 -00.1	08			
09	353 28.2 +00.8	S	16 17.4 +00.5	304 53.6 +01.8	S	23 17.6 +00.0	286 46.2 +02.2	S	21 57.7 +00.0	09			
10	8 29.0 +00.8	S	16 17.9 +00.5	319 55.4 +01.9	S	23 17.6 +00.0	301 48.4 +02.2	S	21 57.7 -00.1	10			
11	23 29.8 +00.8	S	16 18.4 +00.5	334 57.3 +01.8	S	23 17.6 +00.0	316 50.6 +02.1	S	21 57.6 +00.0	11			
12	38 30.6 +00.8	S	16 18.9 +00.5	349 59.1 +01.9	S	23 17.6 +00.0	331 52.7 +02.2	S	21 57.6 +00.0	12			
13	53 31.4 +00.9	S	16 19.4 +00.5	5 01.0 +01.8	S	23 17.6 +00.0	346 54.9 +02.2	S	21 57.6 -00.1	13			
14	68 32.3 +00.8	S	16 19.9 +00.5	20 02.8 +01.9	S	23 17.6 +00.0	1 57.1 +02.2	S	21 57.5 +00.0	14			
15	83 33.1 +00.8	S	16 20.4 +00.5	35 04.7 +01.8	S	23 17.6 +00.0	16 59.3 +02.1	S	21 57.5 +00.0	15			
16	98 33.9 +00.8	S	16 20.9 +00.5	50 06.5 +01.9	S	23 17.6 +00.0	32 01.4 +02.2	S	21 57.5 -00.1	16			
17	113 34.7 +00.8	S	16 21.4 +00.5	65 08.4 +01.8	S	23 17.6 +00.0	47 03.6 +02.2	S	21 57.4 +00.0	17			
18	128 35.5 +00.8	S	16 21.9 +00.5	80 10.2 +01.8	S	23 17.6 -00.1	62 05.8 +02.1	S	21 57.4 +00.0	18			
19	143 36.3 +00.8	S	16 22.4 +00.5	95 12.0 +01.9	S	23 17.5 +00.0	77 07.9 +02.2	S	21 57.4 -00.1	19			
20	158 37.1 +00.8	S	16 22.9 +00.5	110 13.9 +01.8	S	23 17.5 +00.0	92 10.1 +02.2	S	21 57.3 +00.0	20			
21	173 37.9 +00.8	S	16 23.4 +00.5	125 15.7 +01.9	S	23 17.5 +00.0	107 12.3 +02.1	S	21 57.3 +00.0	21			
22	188 38.7 +00.8	S	16 23.9 +00.4	140 17.6 +01.8	S	23 17.5 +00.0	122 14.4 +02.2	S	21 57.3 -00.1	22			
23	203 39.5 +00.8	S	16 24.3 +00.5	155 19.4 +01.9	S	23 17.5 +00.0	137 16.6 +02.2	S	21 57.2 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 136° 136° 136° 136° 135° 135°			SHA 087° 087° 087° 087° 087° 087°			SHA 069° 069° 069° 069° 069° 069°						
	Greenwich Culmination Time: 09:26			Greenwich Culmination Time: 12:39			Greenwich Culmination Time: 13:52						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 19.1 -00.3	S	23 14.1 +00.1	147 41.2 -00.9	S	23 08.8 -00.5	323 11.1 -34.9	N	22 19.6 -04.0	00			
01	196 18.8 -00.3	S	23 14.2 +00.1	162 40.3 -00.8	S	23 08.3 -00.5	337 36.2 -34.9	N	22 15.6 -04.2	01			
02	211 18.5 -00.3	S	23 14.3 +00.2	177 39.5 -00.8	S	23 07.8 -00.5	352 01.3 -34.8	N	22 11.4 -04.4	02			
03	226 18.2 -00.3	S	23 14.5 +00.1	192 38.7 -00.9	S	23 07.3 -00.5	6 26.5 -34.9	N	22 07.0 -04.5	03			
04	241 17.9 -00.3	S	23 14.6 +00.2	207 37.8 -00.8	S	23 06.8 -00.5	20 51.6 -34.8	N	22 02.5 -04.6	04			
05	256 17.6 -00.3	S	23 14.8 +00.1	222 37.0 -00.9	S	23 06.3 -00.5	35 16.8 -34.7	N	21 57.9 -04.7	05			
06	271 17.3 -00.3	S	23 14.9 +00.1	237 36.1 -00.8	S	23 05.8 -00.5	49 42.1 -34.8	N	21 53.2 -04.9	06			
07	286 17.0 -00.3	S	23 15.0 +00.2	252 35.3 -00.9	S	23 05.3 -00.5	64 07.3 -34.7	N	21 48.3 -05.1	07			
08	301 16.7 -00.3	S	23 15.2 +00.1	267 34.4 -00.8	S	23 04.8 -00.5	78 32.6 -34.7	N	21 43.2 -05.2	08			
09	316 16.4 -00.3	S	23 15.3 +00.1	282 33.6 -00.9	S	23 04.3 -00.6	92 57.9 -34.7	N	21 38.0 -05.3	09			
10	331 16.1 -00.3	S	23 15.4 +00.2	297 32.7 -00.8	S	23 03.7 -00.5	107 23.2 -34.6	N	21 32.7 -05.5	10			
11	346 15.8 -00.3	S	23 15.6 +00.1	312 31.9 -00.8	S	23 03.2 -00.5	121 48.6 -34.6	N	21 27.2 -05.6	11			
12	1 15.5 -00.3	S	23 15.7 +00.1	327 31.1 -00.9	S	23 02.7 -00.5	136 14.0 -34.5	N	21 21.6 -05.7	12			
13	16 15.2 -00.3	S	23 15.8 +00.1	342 30.2 -00.8	S	23 02.2 -00.5	150 39.5 -34.5	N	21 15.9 -05.9	13			
14	31 14.9 -00.3	S	23 15.9 +00.2	357 29.4 -00.9	S	23 01.7 -00.5	165 05.0 -34.5	N	21 10.0 -06.0	14			
15	46 14.6 -00.3	S	23 16.1 +00.1	12 28.5 -00.8	S	23 01.2 -00.5	179 30.5 -34.4	N	21 04.0 -06.2	15			
16	61 14.3 -00.3	S	23 16.2 +00.1	27 27.7 -00.8	S	23 00.7 -00.5	193 56.1 -34.4	N	20 57.8 -06.2	16			
17	76 14.0 -00.3	S	23 16.3 +00.2	42 26.9 -00.9	S	23 00.2 -00.5	208 21.7 -34.4	N	20 51.6 -06.4	17			
18	91 13.7 -00.3	S	23 16.5 +00.1	57 26.0 -00.8	S	22 59.7 -00.6	222 47.3 -34.3	N	20 45.2 -06.6	18			
19	106 13.4 -00.3	S	23 16.6 +00.1	72 25.2 -00.9	S	22 59.1 -00.5	237 13.0 -34.3	N	20 38.6 -06.7	19			
20	121 13.1 -00.3	S	23 16.7 +00.1	87 24.3 -00.8	S	22 58.6 -00.5	251 38.7 -34.2	N	20 31.9 -06.8	20			
21	136 12.8 -00.3	S	23 16.8 +00.1	102 23.5 -00.8	S	22 58.1 -00.5	266 04.5 -34.2	N	20 25.1 -06.9	21			
22	151 12.5 -00.3	S	23 16.9 +00.2	117 22.7 -00.9	S	22 57.6 -00.5	280 30.3 -34.2	N	20 18.2 -07.1	22			
23	166 12.2 -00.3	S	23 17.1 +00.1	132 21.8 -00.8	S	22 57.1 -00.6	294 56.1 -34.1	N	20 11.1 -07.2	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'3 16'3 16'3 16'3 16'3			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'0 16'0 16'0 16'0 16'0 16'0						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 58'6 58'7 58'7 58'8 58'8 58'8						
	SHA 098° 098° 097° 097° 097° 097°			SHA 064° 064° 064° 064° 063° 063°			SHA 239° 236° 234° 231° 229° 226°						
	Greenwich Culmination Time: 11:54			Greenwich Culmination Time: 14:10			Greenwich Culmination Time: 02:33						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	218 40.3 +00.8	S	16 24.8 +00.5	170 21.3 +01.8	S	23 17.5 +00.0	152 18.8 +02.2	S	21 57.2 -00.1	00			
01	233 41.1 +00.8	S	16 25.3 +00.5	185 23.1 +01.8	S	23 17.5 +00.0	167 21.0 +02.1	S	21 57.1 +00.0	01			
02	248 41.9 +00.8	S	16 25.8 +00.5	200 24.9 +01.9	S	23 17.5 +00.0	182 23.1 +02.2	S	21 57.1 +00.0	02			
03	263 42.7 +00.8	S	16 26.3 +00.5	215 26.8 +01.8	S	23 17.5 +00.0	197 25.3 +02.2	S	21 57.1 -00.1	03			
04	278 43.5 +00.8	S	16 26.8 +00.5	230 28.6 +01.9	S	23 17.5 +00.0	212 27.5 +02.1	S	21 57.0 +00.0	04			
05	293 44.3 +00.8	S	16 27.3 +00.5	245 30.5 +01.8	S	23 17.5 +00.0	227 29.6 +02.2	S	21 57.0 +00.0	05			
06	308 45.1 +00.8	S	16 27.8 +00.5	260 32.3 +01.9	S	23 17.5 +00.0	242 31.8 +02.2	S	21 57.0 -00.1	06			
07	323 45.9 +00.8	S	16 28.3 +00.5	275 34.2 +01.8	S	23 17.5 -00.1	257 34.0 +02.2	S	21 56.9 +00.0	07			
08	338 46.7 +00.8	S	16 28.8 +00.5	290 36.0 +01.8	S	23 17.4 +00.0	272 36.2 +02.1	S	21 56.9 +00.0	08			
09	353 47.5 +00.8	S	16 29.3 +00.4	305 37.8 +01.9	S	23 17.4 +00.0	287 38.3 +02.2	S	21 56.9 -00.1	09			
10	8 48.3 +00.8	S	16 29.7 +00.5	320 39.7 +01.8	S	23 17.4 +00.0	302 40.5 +02.2	S	21 56.8 +00.0	10			
11	23 49.1 +00.8	S	16 30.2 +00.5	335 41.5 +01.9	S	23 17.4 +00.0	317 42.7 +02.1	S	21 56.8 -00.1	11			
12	38 49.9 +00.8	S	16 30.7 +00.5	350 43.4 +01.8	S	23 17.4 +00.0	332 44.8 +02.2	S	21 56.7 +00.0	12			
13	53 50.7 +00.9	S	16 31.2 +00.5	5 45.2 +01.9	S	23 17.4 +00.0	347 47.0 +02.2	S	21 56.7 +00.0	13			
14	68 51.6 +00.8	S	16 31.7 +00.5	20 47.1 +01.8	S	23 17.4 +00.0	2 49.2 +02.1	S	21 56.7 -00.1	14			
15	83 52.4 +00.8	S	16 32.2 +00.5	35 48.9 +01.8	S	23 17.4 +00.0	17 51.3 +02.2	S	21 56.6 +00.0	15			
16	98 53.2 +00.8	S	16 32.7 +00.5	50 50.7 +01.9	S	23 17.4 +00.0	32 53.5 +02.2	S	21 56.6 +00.0	16			
17	113 54.0 +00.8	S	16 33.2 +00.5	65 52.6 +01.8	S	23 17.4 +00.0	47 55.7 +02.1	S	21 56.6 -00.1	17			
18	128 54.8 +00.8	S	16 33.7 +00.4	80 54.4 +01.9	S	23 17.4 -00.1	62 57.8 +02.2	S	21 56.5 +00.0	18			
19	143 55.6 +00.8	S	16 34.1 +00.5	95 56.3 +01.8	S	23 17.3 +00.0	78 00.0 +02.2	S	21 56.5 +00.0	19			
20	158 56.4 +00.8	S	16 34.6 +00.5	110 58.1 +01.9	S	23 17.3 +00.0	93 02.2 +02.2	S	21 56.5 -00.1	20			
21	173 57.2 +00.8	S	16 35.1 +00.5	125 60.0 +01.8	S	23 17.3 +00.0	108 04.4 +02.1	S	21 56.4 +00.0	21			
22	188 58.0 +00.8	S	16 35.6 +00.5	141 01.8 +01.8	S	23 17.3 +00.0	123 06.5 +02.2	S	21 56.4 -00.1	22			
23	203 58.8 +00.8	S	16 36.1 +00.5	156 03.6 +01.9	S	23 17.3 +00.0	138 08.7 +02.2	S	21 56.3 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 135° 135° 135° 135° 135° 135°			SHA 087° 087° 087° 087° 087° 087°			SHA 069° 069° 069° 069° 069° 069°						
	Greenwich Culmination Time: 09:24			Greenwich Culmination Time: 12:37			Greenwich Culmination Time: 13:48						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181	11.9 -00.3	S 23 17.2 +00.1		147	21.0 -00.8	S 22 56.5 -00.5		309	22.0 -34.0	N 20 03.9 -07.3		00
01	196	11.6 -00.3	S 23 17.3 +00.1		162	20.2 -00.9	S 22 56.0 -00.5		323	48.0 -34.0	N 19 56.6 -07.5		01
02	211	11.3 -00.3	S 23 17.4 +00.2		177	19.3 -00.8	S 22 55.5 -00.5		338	14.0 -34.0	N 19 49.1 -07.5		02
03	226	11.0 -00.3	S 23 17.6 +00.1		192	18.5 -00.8	S 22 55.0 -00.6		352	40.0 -33.9	N 19 41.6 -07.7		03
04	241	10.7 -00.3	S 23 17.7 +00.1		207	17.7 -00.9	S 22 54.4 -00.5		7	06.1 -33.8	N 19 33.9 -07.8		04
05	256	10.4 -00.3	S 23 17.8 +00.1		222	16.8 -00.8	S 22 53.9 -00.5		21	32.3 -33.8	N 19 26.1 -08.0		05
06	271	10.1 -00.3	S 23 17.9 +00.1		237	16.0 -00.8	S 22 53.4 -00.6		35	58.5 -33.8	N 19 18.1 -08.1		06
07	286	09.8 -00.3	S 23 18.0 +00.1		252	15.2 -00.9	S 22 52.8 -00.5		50	24.7 -33.7	N 19 10.0 -08.1		07
08	301	09.5 -00.3	S 23 18.1 +00.1		267	14.3 -00.8	S 22 52.3 -00.5		64	51.0 -33.7	N 19 01.9 -08.3		08
09	316	09.2 -00.3	S 23 18.2 +00.2		282	13.5 -00.8	S 22 51.8 -00.6		79	17.3 -33.6	N 18 53.6 -08.5		09
10	331	08.9 -00.3	S 23 18.4 +00.1		297	12.7 -00.9	S 22 51.2 -00.5		93	43.7 -33.5	N 18 45.1 -08.5		10
11	346	08.6 -00.3	S 23 18.5 +00.1		312	11.8 -00.8	S 22 50.7 -00.5		108	10.2 -33.5	N 18 36.6 -08.6		11
12	1	08.3 -00.3	S 23 18.6 +00.1		327	11.0 -00.8	S 22 50.2 -00.6		122	36.7 -33.4	N 18 28.0 -08.8		12
13	16	08.0 -00.3	S 23 18.7 +00.1		342	10.2 -00.9	S 22 49.6 -00.5		137	03.3 -33.4	N 18 19.2 -08.9		13
14	31	07.7 -00.3	S 23 18.8 +00.1		357	09.3 -00.8	S 22 49.1 -00.6		151	29.9 -33.4	N 18 10.3 -09.0		14
15	46	07.4 -00.3	S 23 18.9 +00.1		12	08.5 -00.8	S 22 48.5 -00.5		165	56.5 -33.2	N 18 01.3 -09.1		15
16	61	07.1 -00.3	S 23 19.0 +00.1		27	07.7 -00.8	S 22 48.0 -00.5		180	23.3 -33.3	N 17 52.2 -09.2		16
17	76	06.8 -00.3	S 23 19.1 +00.1		42	06.9 -00.9	S 22 47.5 -00.6		194	50.0 -33.1	N 17 43.0 -09.3		17
18	91	06.5 -00.3	S 23 19.2 +00.1		57	06.0 -00.8	S 22 46.9 -00.5		209	16.9 -33.2	N 17 33.7 -09.5		18
19	106	06.2 -00.3	S 23 19.3 +00.1		72	05.2 -00.8	S 22 46.4 -00.6		223	43.7 -33.0	N 17 24.2 -09.5		19
20	121	05.9 -00.3	S 23 19.4 +00.1		87	04.4 -00.8	S 22 45.8 -00.5		238	10.7 -33.0	N 17 14.7 -09.6		20
21	136	05.6 -00.3	S 23 19.5 +00.2		102	03.6 -00.9	S 22 45.3 -00.6		252	37.7 -33.0	N 17 05.1 -09.8		21
22	151	05.3 -00.3	S 23 19.7 +00.1		117	02.7 -00.8	S 22 44.7 -00.5		267	04.7 -32.8	N 16 55.3 -09.8		22
23	166	05.0 -00.3	S 23 19.8 +00.1		132	01.9 -00.8	S 22 44.2 -00.6		281	31.9 -32.9	N 16 45.5 -10.0		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 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 16'0 16'1 16'1 16'1 16'1 16'1				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 58'9 58'9 59'0 59'0 59'0 59'0				
	SHA 097° 097° 096° 096° 096° 096°				SHA 063° 063° 062° 062° 062° 062°				SHA 224° 221° 219° 217° 214° 212°				
	Greenwich Culmination Time: 11:55				Greenwich Culmination Time: 14:11				Greenwich Culmination Time: 03:30				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	218	59.6 +00.8	S 16 36.6 +00.5		171	05.5 +01.8	S 23 17.3 +00.0		153	10.9 +02.1	S 21 56.3 +00.0		00
01	234	00.4 +00.8	S 16 37.1 +00.5		186	07.3 +01.9	S 23 17.3 +00.0		168	13.0 +02.2	S 21 56.3 -00.1		01
02	249	01.2 +00.8	S 16 37.6 +00.4		201	09.2 +01.8	S 23 17.3 +00.0		183	15.2 +02.2	S 21 56.2 +00.0		02
03	264	02.0 +00.8	S 16 38.0 +00.5		216	11.0 +01.8	S 23 17.3 +00.0		198	17.4 +02.1	S 21 56.2 +00.0		03
04	279	02.8 +00.8	S 16 38.5 +00.5		231	12.8 +01.9	S 23 17.3 +00.0		213	19.5 +02.2	S 21 56.2 -00.1		04
05	294	03.6 +00.8	S 16 39.0 +00.5		246	14.7 +01.8	S 23 17.3 +00.0		228	21.7 +02.2	S 21 56.1 +00.0		05
06	309	04.4 +00.8	S 16 39.5 +00.5		261	16.5 +01.9	S 23 17.3 -00.1		243	23.9 +02.1	S 21 56.1 +00.0		06
07	324	05.2 +00.8	S 16 40.0 +00.5		276	18.4 +01.8	S 23 17.2 +00.0		258	26.0 +02.2	S 21 56.1 -00.1		07
08	339	06.0 +00.8	S 16 40.5 +00.4		291	20.2 +01.9	S 23 17.2 +00.0		273	28.2 +02.2	S 21 56.0 +00.0		08
09	354	06.8 +00.8	S 16 40.9 +00.5		306	22.1 +01.8	S 23 17.2 +00.0		288	30.4 +02.1	S 21 56.0 -00.1		09
10	9	07.6 +00.8	S 16 41.4 +00.5		321	23.9 +01.8	S 23 17.2 +00.0		303	32.5 +02.2	S 21 55.9 +00.0		10
11	24	08.4 +00.7	S 16 41.9 +00.5		336	25.7 +01.9	S 23 17.2 +00.0		318	34.7 +02.2	S 21 55.9 +00.0		11
12	39	09.1 +00.8	S 16 42.4 +00.5		351	27.6 +01.8	S 23 17.2 +00.0		333	36.9 +02.2	S 21 55.9 -00.1		12
13	54	09.9 +00.8	S 16 42.9 +00.5		6	29.4 +01.9	S 23 17.2 +00.0		348	39.1 +02.1	S 21 55.8 +00.0		13
14	69	10.7 +00.8	S 16 43.4 +00.5		21	31.3 +01.8	S 23 17.2 +00.0		3	41.2 +02.2	S 21 55.8 +00.0		14
15	84	11.5 +00.8	S 16 43.9 +00.4		36	33.1 +01.8	S 23 17.2 +00.0		18	43.4 +02.2	S 21 55.8 -00.1		15
16	99	12.3 +00.8	S 16 44.3 +00.5		51	34.9 +01.9	S 23 17.2 -00.1		33	45.6 +02.1	S 21 55.7 +00.0		16
17	114	13.1 +00.8	S 16 44.8 +00.5		66	36.8 +01.8	S 23 17.1 +00.0		48	47.7 +02.2	S 21 55.7 -00.1		17
18	129	13.9 +00.8	S 16 45.3 +00.5		81	38.6 +01.9	S 23 17.1 +00.0		63	49.9 +02.2	S 21 55.6 +00.0		18
19	144	14.7 +00.8	S 16 45.8 +00.5		96	40.5 +01.8	S 23 17.1 +00.0		78	52.1 +02.1	S 21 55.6 +00.0		19
20	159	15.5 +00.8	S 16 46.3 +00.5		111	42.3 +01.9	S 23 17.1 +00.0		93	54.2 +02.2	S 21 55.6 -00.1		20
21	174	16.3 +00.8	S 16 46.8 +00.4		126	44.2 +01.8	S 23 17.1 +00.0		108	56.4 +02.2	S 21 55.5 +00.0		21
22	189	17.1 +00.8	S 16 47.2 +00.5		141	46.0 +01.8	S 23 17.1 +00.0		123	58.6 +02.1	S 21 55.5 +00.0		22
23	204	17.9 +00.8	S 16 47.7 +00.5		156	47.8 +01.9	S 23 17.1 +00.0		139	00.7 +02.2	S 21 55.5 -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 135° 134° 134° 134° 134° 134°				SHA 087° 087° 087° 087° 087° 087°				SHA 069° 069° 069° 069° 069° 069°				
	Greenwich Culmination Time: 09:23				Greenwich Culmination Time: 12:34				Greenwich Culmination Time: 13:45				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 04.7 -00.3	S	23 19.9 +00.1	147 01.1 -00.8	S	22 43.6 -00.5	295 59.0 -32.8	N	16 35.5 -10.0	00			
01	196 04.4 -00.3	S	23 20.0 +00.1	162 00.3 -00.9	S	22 43.1 -00.6	310 26.2 -32.7	N	16 25.5 -10.2	01			
02	211 04.1 -00.3	S	23 20.1 +00.1	176 59.4 -00.8	S	22 42.5 -00.5	324 53.5 -32.7	N	16 15.3 -10.2	02			
03	226 03.8 -00.4	S	23 20.2 +00.1	191 58.6 -00.8	S	22 42.0 -00.6	339 20.8 -32.6	N	16 05.1 -10.4	03			
04	241 03.4 -00.3	S	23 20.3 +00.1	206 57.8 -00.8	S	22 41.4 -00.6	353 48.2 -32.5	N	15 54.7 -10.4	04			
05	256 03.1 -00.3	S	23 20.4 +00.0	221 57.0 -00.8	S	22 40.8 -00.5	8 15.7 -32.5	N	15 44.3 -10.6	05			
06	271 02.8 -00.3	S	23 20.4 +00.1	236 56.2 -00.9	S	22 40.3 -00.6	22 43.2 -32.5	N	15 33.7 -10.6	06			
07	286 02.5 -00.3	S	23 20.5 +00.1	251 55.3 -00.8	S	22 39.7 -00.5	37 10.7 -32.3	N	15 23.1 -10.7	07			
08	301 02.2 -00.3	S	23 20.6 +00.1	266 54.5 -00.8	S	22 39.2 -00.6	51 38.4 -32.4	N	15 12.4 -10.8	08			
09	316 01.9 -00.3	S	23 20.7 +00.1	281 53.7 -00.8	S	22 38.6 -00.6	66 06.0 -32.2	N	15 01.6 -10.9	09			
10	331 01.6 -00.3	S	23 20.8 +00.1	296 52.9 -00.8	S	22 38.0 -00.5	80 33.8 -32.3	N	14 50.7 -11.0	10			
11	346 01.3 -00.3	S	23 20.9 +00.1	311 52.1 -00.9	S	22 37.5 -00.6	95 01.5 -32.1	N	14 39.7 -11.1	11			
12	1 01.0 -00.3	S	23 21.0 +00.1	326 51.2 -00.8	S	22 36.9 -00.6	109 29.4 -32.1	N	14 28.6 -11.1	12			
13	16 00.7 -00.3	S	23 21.1 +00.1	341 50.4 -00.8	S	22 36.3 -00.5	123 57.3 -32.1	N	14 17.5 -11.3	13			
14	31 00.4 -00.3	S	23 21.2 +00.1	356 49.6 -00.8	S	22 35.8 -00.6	138 25.2 -32.0	N	14 06.2 -11.3	14			
15	46 00.1 -00.3	S	23 21.3 +00.1	11 48.8 -00.8	S	22 35.2 -00.6	152 53.2 -32.0	N	13 54.9 -11.4	15			
16	60 59.8 -00.3	S	23 21.4 +00.1	26 48.0 -00.8	S	22 34.6 -00.5	167 21.2 -31.9	N	13 43.5 -11.5	16			
17	75 59.5 -00.3	S	23 21.5 +00.0	41 47.2 -00.9	S	22 34.1 -00.6	181 49.3 -31.8	N	13 32.0 -11.5	17			
18	90 59.2 -00.3	S	23 21.5 +00.1	56 46.3 -00.8	S	22 33.5 -00.6	196 17.5 -31.8	N	13 20.5 -11.7	18			
19	105 58.9 -00.3	S	23 21.6 +00.1	71 45.5 -00.8	S	22 32.9 -00.5	210 45.7 -31.7	N	13 08.8 -11.7	19			
20	120 58.6 -00.3	S	23 21.7 +00.1	86 44.7 -00.8	S	22 32.4 -00.6	225 14.0 -31.7	N	12 57.1 -11.8	20			
21	135 58.3 -00.3	S	23 21.8 +00.1	101 43.9 -00.8	S	22 31.8 -00.6	239 42.3 -31.6	N	12 45.3 -11.9	21			
22	150 58.0 -00.3	S	23 21.9 +00.1	116 43.1 -00.8	S	22 31.2 -00.6	254 10.7 -31.6	N	12 33.4 -11.9	22			
23	165 57.7 -00.4	S	23 22.0 +00.1	131 42.3 -00.8	S	22 30.6 -00.6	268 39.1 -31.6	N	12 21.5 -12.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 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 16'1 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 59'1 59'1 59'1 59'1 59'1 59'2						
	SHA 096° 095° 095° 095° 095° 095°			SHA 062° 061° 061° 061° 061° 060°			SHA 209° 207° 205° 203° 200° 198°						
	Greenwich Culmination Time: 11:55			Greenwich Culmination Time: 14:12			Greenwich Culmination Time: 04:25						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	219 18.7 +00.8	S	16 48.2 +00.5	171 49.7 +01.8	S	23 17.1 +00.0	154 02.9 +02.2	S	21 55.4 +00.0	00			
01	234 19.5 +00.8	S	16 48.7 +00.5	186 51.5 +01.9	S	23 17.1 +00.0	169 05.1 +02.1	S	21 55.4 +00.0	01			
02	249 20.3 +00.8	S	16 49.2 +00.4	201 53.4 +01.8	S	23 17.1 +00.0	184 07.2 +02.2	S	21 55.4 -00.1	02			
03	264 21.1 +00.8	S	16 49.6 +00.5	216 55.2 +01.8	S	23 17.1 -00.1	199 09.4 +02.2	S	21 55.3 +00.0	03			
04	279 21.9 +00.8	S	16 50.1 +00.5	231 57.0 +01.9	S	23 17.0 +00.0	214 11.6 +02.1	S	21 55.3 -00.1	04			
05	294 22.7 +00.8	S	16 50.6 +00.5	246 58.9 +01.8	S	23 17.0 +00.0	229 13.7 +02.2	S	21 55.2 +00.0	05			
06	309 23.5 +00.8	S	16 51.1 +00.5	262 00.7 +01.9	S	23 17.0 +00.0	244 15.9 +02.2	S	21 55.2 +00.0	06			
07	324 24.3 +00.8	S	16 51.6 +00.4	277 02.6 +01.8	S	23 17.0 +00.0	259 18.1 +02.1	S	21 55.2 -00.1	07			
08	339 25.1 +00.8	S	16 52.0 +00.5	292 04.4 +01.9	S	23 17.0 +00.0	274 20.2 +02.2	S	21 55.1 +00.0	08			
09	354 25.9 +00.8	S	16 52.5 +00.5	307 06.3 +01.8	S	23 17.0 +00.0	289 22.4 +02.2	S	21 55.1 +00.0	09			
10	9 26.7 +00.8	S	16 53.0 +00.5	322 08.1 +01.8	S	23 17.0 +00.0	304 24.6 +02.1	S	21 55.1 -00.1	10			
11	24 27.5 +00.7	S	16 53.5 +00.5	337 09.9 +01.9	S	23 17.0 +00.0	319 26.7 +02.2	S	21 55.0 +00.0	11			
12	39 28.2 +00.8	S	16 54.0 +00.4	352 11.8 +01.8	S	23 17.0 -00.1	334 28.9 +02.2	S	21 55.0 -00.1	12			
13	54 29.0 +00.8	S	16 54.4 +00.5	7 13.6 +01.9	S	23 16.9 +00.0	349 31.1 +02.1	S	21 54.9 +00.0	13			
14	69 29.8 +00.8	S	16 54.9 +00.5	22 15.5 +01.8	S	23 16.9 +00.0	4 33.2 +02.2	S	21 54.9 +00.0	14			
15	84 30.6 +00.8	S	16 55.4 +00.5	37 17.3 +01.8	S	23 16.9 +00.0	19 35.4 +02.2	S	21 54.9 -00.1	15			
16	99 31.4 +00.8	S	16 55.9 +00.5	52 19.1 +01.9	S	23 16.9 +00.0	34 37.6 +02.1	S	21 54.8 +00.0	16			
17	114 32.2 +00.8	S	16 56.4 +00.4	67 21.0 +01.8	S	23 16.9 +00.0	49 39.7 +02.2	S	21 54.8 +00.0	17			
18	129 33.0 +00.8	S	16 56.8 +00.5	82 22.8 +01.9	S	23 16.9 +00.0	64 41.9 +02.2	S	21 54.8 -00.1	18			
19	144 33.8 +00.8	S	16 57.3 +00.5	97 24.7 +01.8	S	23 16.9 +00.0	79 44.1 +02.1	S	21 54.7 +00.0	19			
20	159 34.6 +00.8	S	16 57.8 +00.5	112 26.5 +01.8	S	23 16.9 +00.0	94 46.2 +02.2	S	21 54.7 -00.1	20			
21	174 35.4 +00.8	S	16 58.3 +00.4	127 28.3 +01.9	S	23 16.9 +00.0	109 48.4 +02.2	S	21 54.6 +00.0	21			
22	189 36.2 +00.8	S	16 58.7 +00.5	142 30.2 +01.8	S	23 16.9 -00.1	124 50.6 +02.1	S	21 54.6 +00.0	22			
23	204 37.0 +00.8	S	16 59.2 +00.5	157 32.0 +01.9	S	23 16.8 +00.0	139 52.7 +02.2	S	21 54.6 -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 134° 134° 134° 134° 133° 133°			SHA 086° 086° 086° 086° 086° 086°			SHA 069° 069° 069° 069° 069° 069°						
	Greenwich Culmination Time: 09:22			Greenwich Culmination Time: 12:31			Greenwich Culmination Time: 13:41						

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	180 57.3 -00.3	S	23 22.1 +00.0	146 41.5 -00.9	S	22 30.0 -00.5	283 07.5 -31.5	N	12 09.5 -12.1	00										
01	195 57.0 -00.3	S	23 22.1 +00.1	161 40.6 -00.8	S	22 29.5 -00.6	297 36.0 -31.4	N	11 57.4 -12.2	01										
02	210 56.7 -00.3	S	23 22.2 +00.1	176 39.8 -00.8	S	22 28.9 -00.6	312 04.6 -31.4	N	11 45.2 -12.2	02										
03	225 56.4 -00.3	S	23 22.3 +00.1	191 39.0 -00.8	S	22 28.3 -00.6	326 33.2 -31.3	N	11 33.0 -12.2	03										
04	240 56.1 -00.3	S	23 22.4 +00.1	206 38.2 -00.8	S	22 27.7 -00.6	341 01.9 -31.3	N	11 20.8 -12.4	04										
05	255 55.8 -00.3	S	23 22.5 +00.0	221 37.4 -00.8	S	22 27.1 -00.6	355 30.6 -31.3	N	11 08.4 -12.4	05										
06	270 55.5 -00.3	S	23 22.5 +00.1	236 36.6 -00.8	S	22 26.5 -00.5	9 59.3 -31.2	N	10 56.0 -12.5	06										
07	285 55.2 -00.3	S	23 22.6 +00.1	251 35.8 -00.8	S	22 26.0 -00.6	24 28.1 -31.1	N	10 43.5 -12.5	07										
08	300 54.9 -00.3	S	23 22.7 +00.1	266 35.0 -00.8	S	22 25.4 -00.6	38 57.0 -31.1	N	10 31.0 -12.6	08										
09	315 54.6 -00.3	S	23 22.8 +00.0	281 34.2 -00.8	S	22 24.8 -00.6	53 25.9 -31.1	N	10 18.4 -12.6	09										
10	330 54.3 -00.3	S	23 22.8 +00.1	296 33.4 -00.8	S	22 24.2 -00.6	67 54.8 -31.0	N	10 05.8 -12.8	10										
11	345 54.0 -00.3	S	23 22.9 +00.1	311 32.6 -00.9	S	22 23.6 -00.6	82 23.8 -31.0	N	09 53.0 -12.7	11										
12	0 53.7 -00.3	S	23 23.0 +00.0	326 31.7 -00.8	S	22 23.0 -00.6	96 52.8 -30.9	N	09 40.3 -12.8	12										
13	15 53.4 -00.3	S	23 23.0 +00.1	341 30.9 -00.8	S	22 22.4 -00.6	111 21.9 -30.9	N	09 27.5 -12.9	13										
14	30 53.1 -00.4	S	23 23.1 +00.1	356 30.1 -00.8	S	22 21.8 -00.6	125 51.0 -30.9	N	09 14.6 -12.9	14										
15	45 52.7 -00.3	S	23 23.2 +00.1	11 29.3 -00.8	S	22 21.2 -00.6	140 20.1 -30.8	N	09 01.7 -13.0	15										
16	60 52.4 -00.3	S	23 23.3 +00.0	26 28.5 -00.8	S	22 20.6 -00.6	154 49.3 -30.8	N	08 48.7 -13.0	16										
17	75 52.1 -00.3	S	23 23.3 +00.1	41 27.7 -00.8	S	22 20.0 -00.6	169 18.5 -30.7	N	08 35.7 -13.1	17										
18	90 51.8 -00.3	S	23 23.4 +00.1	56 26.9 -00.8	S	22 19.4 -00.6	183 47.8 -30.7	N	08 22.6 -13.1	18										
19	105 51.5 -00.3	S	23 23.5 +00.0	71 26.1 -00.8	S	22 18.8 -00.6	198 17.1 -30.7	N	08 09.5 -13.1	19										
20	120 51.2 -00.3	S	23 23.5 +00.1	86 25.3 -00.8	S	22 18.2 -00.6	212 46.4 -30.6	N	07 56.4 -13.2	20										
21	135 50.9 -00.3	S	23 23.6 +00.1	101 24.5 -00.8	S	22 17.6 -00.6	227 15.8 -30.6	N	07 43.2 -13.3	21										
22	150 50.6 -00.3	S	23 23.7 +00.0	116 23.7 -00.8	S	22 17.0 -00.6	241 45.2 -30.6	N	07 29.9 -13.3	22										
23	165 50.3 -00.3	S	23 23.7 +00.1	131 22.9 -00.8	S	22 16.4 -00.6	256 14.6 -30.5	N	07 16.6 -13.3	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
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						
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	095°	094°	094°	094°	094°	094°	SHA	060°	060°	060°	060°	059°	059°	SHA						
Greenwich Culmination Time: 11:56							Greenwich Culmination Time: 14:14							Greenwich Culmination Time: 05:18						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	219 37.8 +00.7	S	16 59.7 +00.5	172 33.9 +01.8	S	23 16.8 +00.0	154 54.9 +02.2	S	21 54.5 +00.0	00										
01	234 38.5 +00.8	S	17 00.2 +00.4	187 35.7 +01.8	S	23 16.8 +00.0	169 57.1 +02.1	S	21 54.5 +00.0	01										
02	249 39.3 +00.8	S	17 00.6 +00.5	202 37.5 +01.9	S	23 16.8 +00.0	184 59.2 +02.2	S	21 54.5 -00.1	02										
03	264 40.1 +00.8	S	17 01.1 +00.5	217 39.4 +01.8	S	23 16.8 +00.0	200 01.4 +02.2	S	21 54.4 +00.0	03										
04	279 40.9 +00.8	S	17 01.6 +00.5	232 41.2 +01.9	S	23 16.8 +00.0	215 03.6 +02.1	S	21 54.4 -00.1	04										
05	294 41.7 +00.8	S	17 02.1 +00.4	247 43.1 +01.8	S	23 16.8 +00.0	230 05.7 +02.2	S	21 54.3 +00.0	05										
06	309 42.5 +00.8	S	17 02.5 +00.5	262 44.9 +01.9	S	23 16.8 +00.0	245 07.9 +02.2	S	21 54.3 +00.0	06										
07	324 43.3 +00.8	S	17 03.0 +00.5	277 46.8 +01.8	S	23 16.8 -00.1	260 10.1 +02.1	S	21 54.3 -00.1	07										
08	339 44.1 +00.8	S	17 03.5 +00.5	292 48.6 +01.8	S	23 16.7 +00.0	275 12.2 +02.2	S	21 54.2 +00.0	08										
09	354 44.9 +00.8	S	17 04.0 +00.4	307 50.4 +01.9	S	23 16.7 +00.0	290 14.4 +02.2	S	21 54.2 +00.0	09										
10	9 45.7 +00.7	S	17 04.4 +00.5	322 52.3 +01.8	S	23 16.7 +00.0	305 16.6 +02.1	S	21 54.2 -00.1	10										
11	24 46.4 +00.8	S	17 04.9 +00.5	337 54.1 +01.9	S	23 16.7 +00.0	320 18.7 +02.2	S	21 54.1 +00.0	11										
12	39 47.2 +00.8	S	17 05.4 +00.5	352 56.0 +01.8	S	23 16.7 +00.0	335 20.9 +02.2	S	21 54.1 -00.1	12										
13	54 48.0 +00.8	S	17 05.9 +00.4	7 57.8 +01.8	S	23 16.7 +00.0	350 23.1 +02.1	S	21 54.0 +00.0	13										
14	69 48.8 +00.8	S	17 06.3 +00.5	22 59.6 +01.9	S	23 16.7 +00.0	5 25.2 +02.2	S	21 54.0 +00.0	14										
15	84 49.6 +00.8	S	17 06.8 +00.5	38 01.5 +01.8	S	23 16.7 +00.0	20 27.4 +02.2	S	21 54.0 -00.1	15										
16	99 50.4 +00.8	S	17 07.3 +00.5	53 03.3 +01.9	S	23 16.7 -00.1	35 29.6 +02.1	S	21 53.9 +00.0	16										
17	114 51.2 +00.8	S	17 07.8 +00.4	68 05.2 +01.8	S	23 16.6 +00.0	50 31.7 +02.2	S	21 53.9 +00.0	17										
18	129 52.0 +00.8	S	17 08.2 +00.5	83 07.0 +01.8	S	23 16.6 +00.0	65 33.9 +02.1	S	21 53.9 -00.1	18										
19	144 52.8 +00.7	S	17 08.7 +00.5	98 08.8 +01.9	S	23 16.6 +00.0	80 36.0 +02.2	S	21 53.8 +00.0	19										
20	159 53.5 +00.8	S	17 09.2 +00.5	113 10.7 +01.8	S	23 16.6 +00.0	95 38.2 +02.2	S	21 53.8 -00.1	20										
21	174 54.3 +00.8	S	17 09.7 +00.4	128 12.5 +01.9	S	23 16.6 +00.0	110 40.4 +02.1	S	21 53.7 +00.0	21										
22	189 55.1 +00.8	S	17 10.1 +00.5	143 14.4 +01.8	S	23 16.6 +00.0	125 42.5 +02.2	S	21 53.7 +00.0	22										
23	204 55.9 +00.8	S	17 10.6 +00.5	158 16.2 +01.8	S	23 16.6 +00.0	140 44.7 +02.2	S	21 53.7 -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°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	133°	133°	133°	133°	133°	133°	SHA	086°	086°	086°	086°	086°	086°	SHA						
Greenwich Culmination Time: 09:20							Greenwich Culmination Time: 12:28							Greenwich Culmination Time: 13:38						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 50.0 -00.3	S	23 23.8 +00.0	146 22.1 -00.8	S	22 15.8 -00.6	270 44.1 -30.5	N	07 03.3 -13.3	00			
01	195 49.7 -00.3	S	23 23.8 +00.1	161 21.3 -00.8	S	22 15.2 -00.6	285 13.6 -30.5	N	06 50.0 -13.4	01			
02	210 49.4 -00.3	S	23 23.9 +00.1	176 20.5 -00.8	S	22 14.6 -00.6	299 43.1 -30.4	N	06 36.6 -13.5	02			
03	225 49.1 -00.4	S	23 24.0 +00.0	191 19.7 -00.8	S	22 14.0 -00.6	314 12.7 -30.4	N	06 23.1 -13.4	03			
04	240 48.7 -00.3	S	23 24.0 +00.1	206 18.9 -00.8	S	22 13.4 -00.6	328 42.3 -30.4	N	06 09.7 -13.5	04			
05	255 48.4 -00.3	S	23 24.1 +00.0	221 18.1 -00.8	S	22 12.8 -00.6	343 11.9 -30.3	N	05 56.2 -13.6	05			
06	270 48.1 -00.3	S	23 24.1 +00.1	236 17.3 -00.8	S	22 12.2 -00.7	357 41.6 -30.3	N	05 42.6 -13.5	06			
07	285 47.8 -00.3	S	23 24.2 +00.1	251 16.5 -00.8	S	22 11.5 -00.6	12 11.3 -30.3	N	05 29.1 -13.6	07			
08	300 47.5 -00.3	S	23 24.3 +00.0	266 15.7 -00.8	S	22 10.9 -00.6	26 41.0 -30.3	N	05 15.5 -13.6	08			
09	315 47.2 -00.3	S	23 24.3 +00.1	281 14.9 -00.7	S	22 10.3 -00.6	41 10.7 -30.2	N	05 01.9 -13.7	09			
10	330 46.9 -00.3	S	23 24.4 +00.0	296 14.2 -00.8	S	22 09.7 -00.6	55 40.5 -30.2	N	04 48.2 -13.7	10			
11	345 46.6 -00.3	S	23 24.4 +00.1	311 13.4 -00.8	S	22 09.1 -00.6	70 10.3 -30.2	N	04 34.5 -13.6	11			
12	0 46.3 -00.3	S	23 24.5 +00.0	326 12.6 -00.8	S	22 08.5 -00.7	84 40.1 -30.2	N	04 20.9 -13.8	12			
13	15 46.0 -00.3	S	23 24.5 +00.1	341 11.8 -00.8	S	22 07.8 -00.6	99 09.9 -30.2	N	04 07.1 -13.7	13			
14	30 45.7 -00.3	S	23 24.6 +00.0	356 11.0 -00.8	S	22 07.2 -00.6	113 39.7 -30.1	N	03 53.4 -13.8	14			
15	45 45.4 -00.4	S	23 24.6 +00.1	11 10.2 -00.8	S	22 06.6 -00.6	128 09.6 -30.1	N	03 39.6 -13.7	15			
16	60 45.0 -00.3	S	23 24.7 +00.0	26 09.4 -00.8	S	22 06.0 -00.7	142 39.5 -30.1	N	03 25.9 -13.8	16			
17	75 44.7 -00.3	S	23 24.7 +00.1	41 08.6 -00.8	S	22 05.3 -00.6	157 09.4 -30.1	N	03 12.1 -13.8	17			
18	90 44.4 -00.3	S	23 24.8 +00.0	56 07.8 -00.8	S	22 04.7 -00.6	171 39.3 -30.1	N	02 58.3 -13.9	18			
19	105 44.1 -00.3	S	23 24.8 +00.1	71 07.0 -00.8	S	22 04.1 -00.6	186 09.2 -30.0	N	02 44.4 -13.8	19			
20	120 43.8 -00.3	S	23 24.9 +00.0	86 06.2 -00.8	S	22 03.5 -00.7	200 39.2 -30.0	N	02 30.6 -13.9	20			
21	135 43.5 -00.3	S	23 24.9 +00.1	101 05.4 -00.7	S	22 02.8 -00.6	215 09.2 -30.1	N	02 16.7 -13.8	21			
22	150 43.2 -00.3	S	23 25.0 +00.0	116 04.7 -00.8	S	22 02.2 -00.6	229 39.1 -30.0	N	02 02.9 -13.9	22			
23	165 42.9 -00.3	S	23 25.0 +00.0	131 03.9 -00.8	S	22 01.6 -00.7	244 09.1 -30.0	N	01 49.0 -13.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 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 16'1 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 59'2 59'2 59'2 59'2 59'2 59'2						
	SHA 093° 093° 093° 093° 093° 093°			SHA 059° 059° 059° 058° 058° 058°			SHA 182° 180° 178° 176° 174° 171°						
	Greenwich Culmination Time: 11:56			Greenwich Culmination Time: 14:15			Greenwich Culmination Time: 06:09						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	219 56.7 +00.8	S	17 11.1 +00.4	173 18.0 +01.9	S	23 16.6 -00.1	155 46.9 +02.1	S	21 53.6 +00.0	00			
01	234 57.5 +00.8	S	17 11.5 +00.5	188 19.9 +01.8	S	23 16.5 +00.0	170 49.0 +02.2	S	21 53.6 +00.0	01			
02	249 58.3 +00.8	S	17 12.0 +00.5	203 21.7 +01.9	S	23 16.5 +00.0	185 51.2 +02.2	S	21 53.6 -00.1	02			
03	264 59.1 +00.7	S	17 12.5 +00.4	218 23.6 +01.8	S	23 16.5 +00.0	200 53.4 +02.1	S	21 53.5 +00.0	03			
04	279 59.8 +00.8	S	17 12.9 +00.5	233 25.4 +01.8	S	23 16.5 +00.0	215 55.5 +02.2	S	21 53.5 -00.1	04			
05	295 00.6 +00.8	S	17 13.4 +00.5	248 27.2 +01.9	S	23 16.5 +00.0	230 57.7 +02.2	S	21 53.4 +00.0	05			
06	310 01.4 +00.8	S	17 13.9 +00.5	263 29.1 +01.8	S	23 16.5 +00.0	245 59.9 +02.1	S	21 53.4 +00.0	06			
07	325 02.2 +00.8	S	17 14.4 +00.4	278 30.9 +01.9	S	23 16.5 +00.0	261 02.0 +02.2	S	21 53.4 -00.1	07			
08	340 03.0 +00.8	S	17 14.8 +00.5	293 32.8 +01.8	S	23 16.5 -00.1	276 04.2 +02.2	S	21 53.3 +00.0	08			
09	355 03.8 +00.8	S	17 15.3 +00.5	308 34.6 +01.8	S	23 16.4 +00.0	291 06.4 +02.1	S	21 53.3 +00.0	09			
10	10 04.6 +00.7	S	17 15.8 +00.4	323 36.4 +01.9	S	23 16.4 +00.0	306 08.5 +02.2	S	21 53.3 -00.1	10			
11	25 05.3 +00.8	S	17 16.2 +00.5	338 38.3 +01.8	S	23 16.4 +00.0	321 10.7 +02.1	S	21 53.2 +00.0	11			
12	40 06.1 +00.8	S	17 16.7 +00.5	353 40.1 +01.9	S	23 16.4 +00.0	336 12.8 +02.2	S	21 53.2 -00.1	12			
13	55 06.9 +00.8	S	17 17.2 +00.4	8 42.0 +01.8	S	23 16.4 +00.0	351 15.0 +02.2	S	21 53.1 +00.0	13			
14	70 07.7 +00.8	S	17 17.6 +00.5	23 43.8 +01.8	S	23 16.4 +00.0	6 17.2 +02.1	S	21 53.1 +00.0	14			
15	85 08.5 +00.8	S	17 18.1 +00.5	38 45.6 +01.9	S	23 16.4 +00.0	21 19.3 +02.2	S	21 53.1 -00.1	15			
16	100 09.3 +00.7	S	17 18.6 +00.4	53 47.5 +01.8	S	23 16.4 +00.0	36 21.5 +02.2	S	21 53.0 +00.0	16			
17	115 10.0 +00.8	S	17 19.0 +00.5	68 49.3 +01.9	S	23 16.4 -00.1	51 23.7 +02.1	S	21 53.0 -00.1	17			
18	130 10.8 +00.8	S	17 19.5 +00.5	83 51.2 +01.8	S	23 16.3 +00.0	66 25.8 +02.2	S	21 52.9 +00.0	18			
19	145 11.6 +00.8	S	17 20.0 +00.4	98 53.0 +01.8	S	23 16.3 +00.0	81 28.0 +02.2	S	21 52.9 +00.0	19			
20	160 12.4 +00.8	S	17 20.4 +00.5	113 54.8 +01.9	S	23 16.3 +00.0	96 30.2 +02.1	S	21 52.9 -00.1	20			
21	175 13.2 +00.8	S	17 20.9 +00.5	128 56.7 +01.8	S	23 16.3 +00.0	111 32.3 +02.2	S	21 52.8 +00.0	21			
22	190 14.0 +00.7	S	17 21.4 +00.4	143 58.5 +01.9	S	23 16.3 +00.0	126 34.5 +02.1	S	21 52.8 +00.0	22			
23	205 14.7 +00.8	S	17 21.8 +00.5	159 00.4 +01.8	S	23 16.3 +00.0	141 36.6 +02.2	S	21 52.8 -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 133° 132° 132° 132° 132° 132°			SHA 086° 086° 086° 086° 086° 086°			SHA 068° 068° 068° 068° 068° 068°						
	Greenwich Culmination Time: 09:19			Greenwich Culmination Time: 12:25			Greenwich Culmination Time: 13:34						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 42.6 -00.3	S 23 25.0 +00.1	146 03.1 -00.8	S 22 00.9 -00.6	258 39.1 -30.0	N 01 35.1 -13.9	00					00	
01	195 42.3 -00.4	S 23 25.1 +00.0	161 02.3 -00.8	S 22 00.3 -00.6	273 09.1 -29.9	N 01 21.2 -13.9	01					01	
02	210 41.9 -00.3	S 23 25.1 +00.1	176 01.5 -00.8	S 21 59.7 -00.7	287 39.2 -30.0	N 01 07.3 -13.9	02					02	
03	225 41.6 -00.3	S 23 25.2 +00.0	191 00.7 -00.8	S 21 59.0 -00.6	302 09.2 -30.0	N 00 53.4 -13.9	03					03	
04	240 41.3 -00.3	S 23 25.2 +00.0	205 59.9 -00.7	S 21 58.4 -00.6	316 39.2 -29.9	N 00 39.5 -13.9	04					04	
05	255 41.0 -00.3	S 23 25.2 +00.1	220 59.2 -00.8	S 21 57.8 -00.7	331 09.3 -30.0	N 00 25.6 -13.9	05					05	
06	270 40.7 -00.3	S 23 25.3 +00.0	235 58.4 -00.8	S 21 57.1 -00.6	345 39.3 -29.9	N 00 11.7 -13.9	06					06	
07	285 40.4 -00.3	S 23 25.3 +00.1	250 57.6 -00.8	S 21 56.5 -00.7	0 09.4 -30.0	S 00 02.2 +13.9	07					07	
08	300 40.1 -00.3	S 23 25.4 +00.0	265 56.8 -00.8	S 21 55.8 -00.6	14 39.4 -29.9	S 00 16.1 +13.9	08					08	
09	315 39.8 -00.3	S 23 25.4 +00.0	280 56.0 -00.8	S 21 55.2 -00.7	29 09.5 -30.0	S 00 30.0 +13.9	09					09	
10	330 39.5 -00.3	S 23 25.4 +00.1	295 55.2 -00.7	S 21 54.5 -00.6	43 39.5 -29.9	S 00 43.9 +13.9	10					10	
11	345 39.2 -00.3	S 23 25.5 +00.0	310 54.5 -00.8	S 21 53.9 -00.6	58 09.6 -30.0	S 00 57.8 +13.9	11					11	
12	0 38.9 -00.4	S 23 25.5 +00.0	325 53.7 -00.8	S 21 53.3 -00.7	72 39.6 -29.9	S 01 11.7 +13.8	12					12	
13	15 38.5 -00.3	S 23 25.5 +00.1	340 52.9 -00.8	S 21 52.6 -00.6	87 09.7 -29.9	S 01 25.5 +13.9	13					13	
14	30 38.2 -00.3	S 23 25.6 +00.0	355 52.1 -00.8	S 21 52.0 -00.7	101 39.8 -30.0	S 01 39.4 +13.9	14					14	
15	45 37.9 -00.3	S 23 25.6 +00.0	10 51.3 -00.7	S 21 51.3 -00.6	116 09.8 -30.0	S 01 53.3 +13.8	15					15	
16	60 37.6 -00.3	S 23 25.6 +00.0	25 50.6 -00.8	S 21 50.7 -00.7	130 39.8 -29.9	S 02 07.1 +13.8	16					16	
17	75 37.3 -00.3	S 23 25.6 +00.1	40 49.8 -00.8	S 21 50.0 -00.6	145 09.9 -30.0	S 02 20.9 +13.9	17					17	
18	90 37.0 -00.3	S 23 25.7 +00.0	55 49.0 -00.8	S 21 49.4 -00.7	159 39.9 -29.9	S 02 34.8 +13.8	18					18	
19	105 36.7 -00.3	S 23 25.7 +00.0	70 48.2 -00.7	S 21 48.7 -00.7	174 10.0 -30.0	S 02 48.6 +13.7	19					19	
20	120 36.4 -00.3	S 23 25.7 +00.1	85 47.5 -00.8	S 21 48.0 -00.6	188 40.0 -30.0	S 03 02.3 +13.8	20					20	
21	135 36.1 -00.4	S 23 25.8 +00.0	100 46.7 -00.8	S 21 47.4 -00.7	203 10.0 -30.0	S 03 16.1 +13.8	21					21	
22	150 35.7 -00.3	S 23 25.8 +00.0	115 45.9 -00.8	S 21 46.7 -00.6	217 40.0 -30.0	S 03 29.9 +13.7	22					22	
23	165 35.4 -00.3	S 23 25.8 +00.0	130 45.1 -00.7	S 21 46.1 -00.7	232 10.0 -30.0	S 03 43.6 +13.7	23					23	
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'3 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 16'1 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 59'1 59'1 59'1 59'1 59'1 59'0								
	SHA 092° 092° 092° 092° 092° 091°		SHA 058° 057° 057° 057° 057° 057°		SHA 169° 167° 165° 163° 161° 158°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 14:16		Greenwich Culmination Time: 06:59								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	220 15.5 +00.8	S 17 22.3 +00.5	174 02.2 +01.8	S 23 16.3 -00.1	156 38.8 +02.2	S 21 52.7 +00.0	00					00	
01	235 16.3 +00.8	S 17 22.8 +00.4	189 04.0 +01.9	S 23 16.2 +00.0	171 41.0 +02.1	S 21 52.7 -00.1	01					01	
02	250 17.1 +00.8	S 17 23.2 +00.5	204 05.9 +01.8	S 23 16.2 +00.0	186 43.1 +02.2	S 21 52.6 +00.0	02					02	
03	265 17.9 +00.8	S 17 23.7 +00.5	219 07.7 +01.9	S 23 16.2 +00.0	201 45.3 +02.2	S 21 52.6 +00.0	03					03	
04	280 18.7 +00.7	S 17 24.2 +00.4	234 09.6 +01.8	S 23 16.2 +00.0	216 47.5 +02.1	S 21 52.6 -00.1	04					04	
05	295 19.4 +00.8	S 17 24.6 +00.5	249 11.4 +01.8	S 23 16.2 +00.0	231 49.6 +02.2	S 21 52.5 +00.0	05					05	
06	310 20.2 +00.8	S 17 25.1 +00.5	264 13.2 +01.9	S 23 16.2 +00.0	246 51.8 +02.2	S 21 52.5 +00.0	06					06	
07	325 21.0 +00.8	S 17 25.6 +00.4	279 15.1 +01.8	S 23 16.2 +00.0	261 54.0 +02.1	S 21 52.5 -00.1	07					07	
08	340 21.8 +00.8	S 17 26.0 +00.5	294 16.9 +01.8	S 23 16.2 -00.1	276 56.1 +02.2	S 21 52.4 +00.0	08					08	
09	355 22.6 +00.7	S 17 26.5 +00.5	309 18.7 +01.9	S 23 16.1 +00.0	291 58.3 +02.1	S 21 52.4 -00.1	09					09	
10	10 23.3 +00.8	S 17 27.0 +00.4	324 20.6 +01.8	S 23 16.1 +00.0	307 00.4 +02.2	S 21 52.3 +00.0	10					10	
11	25 24.1 +00.8	S 17 27.4 +00.5	339 22.4 +01.9	S 23 16.1 +00.0	322 02.6 +02.2	S 21 52.3 +00.0	11					11	
12	40 24.9 +00.8	S 17 27.9 +00.4	354 24.3 +01.8	S 23 16.1 +00.0	337 04.8 +02.1	S 21 52.3 -00.1	12					12	
13	55 25.7 +00.8	S 17 28.3 +00.5	9 26.1 +01.8	S 23 16.1 +00.0	352 06.9 +02.2	S 21 52.2 +00.0	13					13	
14	70 26.5 +00.7	S 17 28.8 +00.5	24 27.9 +01.9	S 23 16.1 +00.0	7 09.1 +02.2	S 21 52.2 -00.1	14					14	
15	85 27.2 +00.8	S 17 29.3 +00.4	39 29.8 +01.8	S 23 16.1 -00.1	22 11.3 +02.1	S 21 52.1 +00.0	15					15	
16	100 28.0 +00.8	S 17 29.7 +00.5	54 31.6 +01.9	S 23 16.0 +00.0	37 13.4 +02.2	S 21 52.1 +00.0	16					16	
17	115 28.8 +00.8	S 17 30.2 +00.5	69 33.5 +01.8	S 23 16.0 +00.0	52 15.6 +02.1	S 21 52.1 -00.1	17					17	
18	130 29.6 +00.8	S 17 30.7 +00.4	84 35.3 +01.8	S 23 16.0 +00.0	67 17.7 +02.2	S 21 52.0 +00.0	18					18	
19	145 30.4 +00.7	S 17 31.1 +00.5	99 37.1 +01.9	S 23 16.0 +00.0	82 19.9 +02.2	S 21 52.0 +00.0	19					19	
20	160 31.1 +00.8	S 17 31.6 +00.4	114 39.0 +01.8	S 23 16.0 +00.0	97 22.1 +02.1	S 21 52.0 -00.1	20					20	
21	175 31.9 +00.8	S 17 32.0 +00.5	129 40.8 +01.9	S 23 16.0 +00.0	112 24.2 +02.2	S 21 51.9 +00.0	21					21	
22	190 32.7 +00.8	S 17 32.5 +00.5	144 42.7 +01.8	S 23 16.0 +00.0	127 26.4 +02.2	S 21 51.9 -00.1	22					22	
23	205 33.5 +00.8	S 17 33.0 +00.4	159 44.5 +01.8	S 23 16.0 -00.1	142 28.6 +02.1	S 21 51.8 +00.0	23					23	
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 132° 132° 132° 132° 131° 131°		SHA 086° 086° 086° 086° 086° 086°		SHA 068° 068° 068° 068° 068° 068°								
	Greenwich Culmination Time: 09:18		Greenwich Culmination Time: 12:22		Greenwich Culmination Time: 13:31								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 35.1 -00.3	S	23 25.8 +00.1	145 44.4 -00.8	S	21 45.4 -00.6	246 40.0 -30.1	S	03 57.3 +13.7	00			
01	195 34.8 -00.3	S	23 25.9 +00.0	160 43.6 -00.8	S	21 44.8 -00.7	261 09.9 -30.0	S	04 11.0 +13.6	01			
02	210 34.5 -00.3	S	23 25.9 +00.0	175 42.8 -00.8	S	21 44.1 -00.7	275 39.9 -30.1	S	04 24.6 +13.7	02			
03	225 34.2 -00.3	S	23 25.9 +00.0	190 42.0 -00.7	S	21 43.4 -00.6	290 09.8 -30.1	S	04 38.3 +13.6	03			
04	240 33.9 -00.3	S	23 25.9 +00.0	205 41.3 -00.8	S	21 42.8 -00.7	304 39.7 -30.0	S	04 51.9 +13.5	04			
05	255 33.6 -00.3	S	23 25.9 +00.1	220 40.5 -00.8	S	21 42.1 -00.7	319 09.7 -30.2	S	05 05.4 +13.6	05			
06	270 33.3 -00.4	S	23 26.0 +00.0	235 39.7 -00.7	S	21 41.4 -00.6	333 39.5 -30.1	S	05 19.0 +13.5	06			
07	285 32.9 -00.3	S	23 26.0 +00.0	250 39.0 -00.8	S	21 40.8 -00.7	348 09.4 -30.1	S	05 32.5 +13.5	07			
08	300 32.6 -00.3	S	23 26.0 +00.0	265 38.2 -00.8	S	21 40.1 -00.7	2 39.3 -30.2	S	05 46.0 +13.4	08			
09	315 32.3 -00.3	S	23 26.0 +00.0	280 37.4 -00.7	S	21 39.4 -00.6	17 09.1 -30.2	S	05 59.4 +13.4	09			
10	330 32.0 -00.3	S	23 26.0 +00.0	295 36.7 -00.8	S	21 38.8 -00.7	31 38.9 -30.2	S	06 12.8 +13.4	10			
11	345 31.7 -00.3	S	23 26.0 +00.1	310 35.9 -00.8	S	21 38.1 -00.7	46 08.7 -30.2	S	06 26.2 +13.3	11			
12	0 31.4 -00.3	S	23 26.1 +00.0	325 35.1 -00.7	S	21 37.4 -00.6	60 38.5 -30.3	S	06 39.5 +13.3	12			
13	15 31.1 -00.3	S	23 26.1 +00.0	340 34.4 -00.8	S	21 36.8 -00.7	75 08.2 -30.2	S	06 52.8 +13.3	13			
14	30 30.8 -00.3	S	23 26.1 +00.0	355 33.6 -00.8	S	21 36.1 -00.7	89 38.0 -30.3	S	07 06.1 +13.2	14			
15	45 30.5 -00.4	S	23 26.1 +00.0	10 32.8 -00.7	S	21 35.4 -00.7	104 07.7 -30.3	S	07 19.3 +13.2	15			
16	60 30.1 -00.3	S	23 26.1 +00.0	25 32.1 -00.8	S	21 34.7 -00.7	118 37.4 -30.4	S	07 32.5 +13.1	16			
17	75 29.8 -00.3	S	23 26.1 +00.0	40 31.3 -00.8	S	21 34.0 -00.6	133 07.0 -30.4	S	07 45.6 +13.1	17			
18	90 29.5 -00.3	S	23 26.1 +00.0	55 30.5 -00.7	S	21 33.4 -00.7	147 36.6 -30.4	S	07 58.7 +13.1	18			
19	105 29.2 -00.3	S	23 26.1 +00.0	70 29.8 -00.8	S	21 32.7 -00.7	162 06.2 -30.4	S	08 11.8 +13.0	19			
20	120 28.9 -00.3	S	23 26.1 +00.0	85 29.0 -00.8	S	21 32.0 -00.7	176 35.8 -30.5	S	08 24.8 +12.9	20			
21	135 28.6 -00.3	S	23 26.1 +00.0	100 28.2 -00.7	S	21 31.3 -00.7	191 05.3 -30.5	S	08 37.7 +12.9	21			
22	150 28.3 -00.3	S	23 26.1 +00.0	115 27.5 -00.8	S	21 30.6 -00.6	205 34.8 -30.5	S	08 50.6 +12.9	22			
23	165 28.0 -00.3	S	23 26.1 +00.1	130 26.7 -00.7	S	21 30.0 -00.7	220 04.3 -30.5	S	09 03.5 +12.7	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 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 59'0 59'0 59'0 58'9 58'9 58'8						
	SHA 091° 091° 091° 091° 090° 090°			SHA 056° 056° 056° 056° 055° 055°			SHA 156° 154° 152° 150° 148° 145°						
	Greenwich Culmination Time: 11:57			Greenwich Culmination Time: 14:17			Greenwich Culmination Time: 07:49						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	220 34.3 +00.7	S	17 33.4 +00.5	174 46.3 +01.9	S	23 15.9 +00.0	157 30.7 +02.2	S	21 51.8 +00.0	00			
01	235 35.0 +00.8	S	17 33.9 +00.4	189 48.2 +01.8	S	23 15.9 +00.0	172 32.9 +02.1	S	21 51.8 -00.1	01			
02	250 35.8 +00.8	S	17 34.3 +00.5	204 50.0 +01.9	S	23 15.9 +00.0	187 35.0 +02.2	S	21 51.7 +00.0	02			
03	265 36.6 +00.8	S	17 34.8 +00.5	219 51.9 +01.8	S	23 15.9 +00.0	202 37.2 +02.2	S	21 51.7 -00.1	03			
04	280 37.4 +00.7	S	17 35.3 +00.4	234 53.7 +01.8	S	23 15.9 +00.0	217 39.4 +02.1	S	21 51.6 +00.0	04			
05	295 38.1 +00.8	S	17 35.7 +00.5	249 55.5 +01.9	S	23 15.9 +00.0	232 41.5 +02.2	S	21 51.6 +00.0	05			
06	310 38.9 +00.8	S	17 36.2 +00.4	264 57.4 +01.8	S	23 15.9 -00.1	247 43.7 +02.2	S	21 51.6 -00.1	06			
07	325 39.7 +00.8	S	17 36.6 +00.5	279 59.2 +01.8	S	23 15.8 +00.0	262 45.9 +02.1	S	21 51.5 +00.0	07			
08	340 40.5 +00.8	S	17 37.1 +00.5	295 01.0 +01.9	S	23 15.8 +00.0	277 48.0 +02.2	S	21 51.5 -00.1	08			
09	355 41.3 +00.7	S	17 37.6 +00.4	310 02.9 +01.8	S	23 15.8 +00.0	292 50.2 +02.1	S	21 51.4 +00.0	09			
10	10 42.0 +00.8	S	17 38.0 +00.5	325 04.7 +01.9	S	23 15.8 +00.0	307 52.3 +02.2	S	21 51.4 +00.0	10			
11	25 42.8 +00.8	S	17 38.5 +00.4	340 06.6 +01.8	S	23 15.8 +00.0	322 54.5 +02.2	S	21 51.4 -00.1	11			
12	40 43.6 +00.8	S	17 38.9 +00.5	355 08.4 +01.8	S	23 15.8 +00.0	337 56.7 +02.1	S	21 51.3 +00.0	12			
13	55 44.4 +00.7	S	17 39.4 +00.5	10 10.2 +01.9	S	23 15.8 -00.1	352 58.8 +02.2	S	21 51.3 +00.0	13			
14	70 45.1 +00.8	S	17 39.9 +00.4	25 12.1 +01.8	S	23 15.7 +00.0	8 01.0 +02.2	S	21 51.3 -00.1	14			
15	85 45.9 +00.8	S	17 40.3 +00.5	40 13.9 +01.9	S	23 15.7 +00.0	23 03.2 +02.1	S	21 51.2 +00.0	15			
16	100 46.7 +00.8	S	17 40.8 +00.4	55 15.8 +01.8	S	23 15.7 +00.0	38 05.3 +02.2	S	21 51.2 -00.1	16			
17	115 47.5 +00.7	S	17 41.2 +00.5	70 17.6 +01.8	S	23 15.7 +00.0	53 07.5 +02.1	S	21 51.1 +00.0	17			
18	130 48.2 +00.8	S	17 41.7 +00.4	85 19.4 +01.9	S	23 15.7 +00.0	68 09.6 +02.2	S	21 51.1 +00.0	18			
19	145 49.0 +00.8	S	17 42.1 +00.5	100 21.3 +01.8	S	23 15.7 -00.1	83 11.8 +02.2	S	21 51.1 -00.1	19			
20	160 49.8 +00.8	S	17 42.6 +00.5	115 23.1 +01.8	S	23 15.6 +00.0	98 14.0 +02.1	S	21 51.0 +00.0	20			
21	175 50.6 +00.7	S	17 43.1 +00.4	130 24.9 +01.9	S	23 15.6 +00.0	113 16.1 +02.2	S	21 51.0 -00.1	21			
22	190 51.3 +00.8	S	17 43.5 +00.5	145 26.8 +01.8	S	23 15.6 +00.0	128 18.3 +02.1	S	21 50.9 +00.0	22			
23	205 52.1 +00.8	S	17 44.0 +00.4	160 28.6 +01.9	S	23 15.6 +00.0	143 20.4 +02.2	S	21 50.9 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 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 131° 131° 131° 131° 131° 131°			SHA 085° 085° 085° 085° 085° 085°			SHA 068° 068° 068° 068° 068° 068°						
	Greenwich Culmination Time: 09:17			Greenwich Culmination Time: 12:19			Greenwich Culmination Time: 13:28						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 27.7 -00.4	S	23 26.2 +00.0	145 26.0 -00.8	S	21 29.3 -00.7	234 33.8 -30.6	S	09 16.2 +12.8	00			
01	195 27.3 -00.3	S	23 26.2 +00.0	160 25.2 -00.8	S	21 28.6 -00.7	249 03.2 -30.6	S	09 29.0 +12.7	01			
02	210 27.0 -00.3	S	23 26.2 +00.0	175 24.4 -00.7	S	21 27.9 -00.7	263 32.6 -30.7	S	09 41.7 +12.6	02			
03	225 26.7 -00.3	S	23 26.2 +00.0	190 23.7 -00.8	S	21 27.2 -00.7	278 01.9 -30.6	S	09 54.3 +12.6	03			
04	240 26.4 -00.3	S	23 26.2 +00.0	205 22.9 -00.7	S	21 26.5 -00.7	292 31.3 -30.7	S	10 06.9 +12.5	04			
05	255 26.1 -00.3	S	23 26.2 +00.0	220 22.2 -00.8	S	21 25.8 -00.7	307 00.6 -30.8	S	10 19.4 +12.4	05			
06	270 25.8 -00.3	S	23 26.2 +00.0	235 21.4 -00.7	S	21 25.1 -00.6	321 29.8 -30.8	S	10 31.8 +12.4	06			
07	285 25.5 -00.3	S	23 26.2 +00.0	250 20.7 -00.8	S	21 24.5 -00.7	335 59.0 -30.8	S	10 44.2 +12.3	07			
08	300 25.2 -00.3	S	23 26.2 +00.0	265 19.9 -00.8	S	21 23.8 -00.7	350 28.2 -30.8	S	10 56.5 +12.3	08			
09	315 24.9 -00.4	S	23 26.2 -00.1	280 19.1 -00.7	S	21 23.1 -00.7	4 57.4 -30.9	S	11 08.8 +12.2	09			
10	330 24.5 -00.3	S	23 26.1 +00.0	295 18.4 -00.8	S	21 22.4 -00.7	19 26.5 -30.9	S	11 21.0 +12.1	10			
11	345 24.2 -00.3	S	23 26.1 +00.0	310 17.6 -00.7	S	21 21.7 -00.7	33 55.6 -31.0	S	11 33.1 +12.1	11			
12	0 23.9 -00.3	S	23 26.1 +00.0	325 16.9 -00.8	S	21 21.0 -00.7	48 24.6 -31.0	S	11 45.2 +12.0	12			
13	15 23.6 -00.3	S	23 26.1 +00.0	340 16.1 -00.7	S	21 20.3 -00.7	62 53.6 -31.0	S	11 57.2 +11.9	13			
14	30 23.3 -00.3	S	23 26.1 +00.0	355 15.4 -00.8	S	21 19.6 -00.7	77 22.6 -31.1	S	12 09.1 +11.9	14			
15	45 23.0 -00.3	S	23 26.1 +00.0	10 14.6 -00.7	S	21 18.9 -00.7	91 51.5 -31.1	S	12 21.0 +11.8	15			
16	60 22.7 -00.3	S	23 26.1 +00.0	25 13.9 -00.8	S	21 18.2 -00.7	106 20.4 -31.2	S	12 32.8 +11.7	16			
17	75 22.4 -00.4	S	23 26.1 +00.0	40 13.1 -00.7	S	21 17.5 -00.7	120 49.2 -31.2	S	12 44.5 +11.6	17			
18	90 22.0 -00.3	S	23 26.1 +00.0	55 12.4 -00.8	S	21 16.8 -00.7	135 18.0 -31.2	S	12 56.1 +11.6	18			
19	105 21.7 -00.3	S	23 26.1 +00.0	70 11.6 -00.7	S	21 16.1 -00.7	149 46.8 -31.3	S	13 07.7 +11.4	19			
20	120 21.4 -00.3	S	23 26.1 -00.1	85 10.9 -00.8	S	21 15.4 -00.8	164 15.5 -31.3	S	13 19.1 +11.4	20			
21	135 21.1 -00.3	S	23 26.0 +00.0	100 10.1 -00.7	S	21 14.6 -00.7	178 44.2 -31.4	S	13 30.5 +11.4	21			
22	150 20.8 -00.3	S	23 26.0 +00.0	115 09.4 -00.8	S	21 13.9 -00.7	193 12.8 -31.4	S	13 41.9 +11.2	22			
23	165 20.5 -00.3	S	23 26.0 +00.0	130 08.6 -00.7	S	21 13.2 -00.7	207 41.4 -31.4	S	13 53.1 +11.2	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 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 16'0 16'0 16'0 16'0 16'0 16'0						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 58'8 58'8 58'7 58'7 58'6 58'6						
	SHA 090° 090° 090° 090° 089° 089°			SHA 055° 055° 055° 054° 054° 054°			SHA 143° 141° 139° 137° 134° 132°						
	Greenwich Culmination Time: 11:58			Greenwich Culmination Time: 14:18			Greenwich Culmination Time: 08:39						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	220 52.9 +00.8	S	17 44.4 +00.5	175 30.5 +01.8	S	23 15.6 +00.0	158 22.6 +02.2	S	21 50.9 -00.1	00			
01	235 53.7 +00.7	S	17 44.9 +00.4	190 32.3 +01.8	S	23 15.6 +00.0	173 24.8 +02.1	S	21 50.8 +00.0	01			
02	250 54.4 +00.8	S	17 45.3 +00.5	205 34.1 +01.9	S	23 15.6 -00.1	188 26.9 +02.2	S	21 50.8 -00.1	02			
03	265 55.2 +00.8	S	17 45.8 +00.4	220 36.0 +01.8	S	23 15.5 +00.0	203 29.1 +02.2	S	21 50.7 +00.0	03			
04	280 56.0 +00.8	S	17 46.2 +00.5	235 37.8 +01.9	S	23 15.5 +00.0	218 31.3 +02.1	S	21 50.7 +00.0	04			
05	295 56.8 +00.7	S	17 46.7 +00.4	250 39.7 +01.8	S	23 15.5 +00.0	233 33.4 +02.2	S	21 50.7 -00.1	05			
06	310 57.5 +00.8	S	17 47.1 +00.5	265 41.5 +01.8	S	23 15.5 +00.0	248 35.6 +02.1	S	21 50.6 +00.0	06			
07	325 58.3 +00.8	S	17 47.6 +00.5	280 43.3 +01.9	S	23 15.5 +00.0	263 37.7 +02.2	S	21 50.6 +00.0	07			
08	340 59.1 +00.7	S	17 48.1 +00.4	295 45.2 +01.8	S	23 15.5 +00.0	278 39.9 +02.2	S	21 50.6 -00.1	08			
09	355 59.8 +00.8	S	17 48.5 +00.5	310 47.0 +01.8	S	23 15.5 -00.1	293 42.1 +02.1	S	21 50.5 +00.0	09			
10	11 00.6 +00.8	S	17 49.0 +00.4	325 48.8 +01.9	S	23 15.4 +00.0	308 44.2 +02.2	S	21 50.5 -00.1	10			
11	26 01.4 +00.8	S	17 49.4 +00.5	340 50.7 +01.8	S	23 15.4 +00.0	323 46.4 +02.1	S	21 50.4 +00.0	11			
12	41 02.2 +00.7	S	17 49.9 +00.4	355 52.5 +01.9	S	23 15.4 +00.0	338 48.5 +02.2	S	21 50.4 +00.0	12			
13	56 02.9 +00.8	S	17 50.3 +00.5	10 54.4 +01.8	S	23 15.4 +00.0	353 50.7 +02.2	S	21 50.4 -00.1	13			
14	71 03.7 +00.8	S	17 50.8 +00.4	25 56.2 +01.8	S	23 15.4 +00.0	8 52.9 +02.1	S	21 50.3 +00.0	14			
15	86 04.5 +00.7	S	17 51.2 +00.5	40 58.0 +01.9	S	23 15.4 -00.1	23 55.0 +02.2	S	21 50.3 -00.1	15			
16	101 05.2 +00.8	S	17 51.7 +00.4	55 59.9 +01.8	S	23 15.3 +00.0	38 57.2 +02.1	S	21 50.2 +00.0	16			
17	116 06.0 +00.8	S	17 52.1 +00.5	71 01.7 +01.9	S	23 15.3 +00.0	53 59.3 +02.2	S	21 50.2 +00.0	17			
18	131 06.8 +00.8	S	17 52.6 +00.4	86 03.6 +01.8	S	23 15.3 +00.0	69 01.5 +02.2	S	21 50.2 -00.1	18			
19	146 07.6 +00.7	S	17 53.0 +00.5	101 05.4 +01.8	S	23 15.3 +00.0	84 03.7 +02.1	S	21 50.1 +00.0	19			
20	161 08.3 +00.8	S	17 53.5 +00.4	116 07.2 +01.9	S	23 15.3 +00.0	99 05.8 +02.2	S	21 50.1 -00.1	20			
21	176 09.1 +00.8	S	17 53.9 +00.5	131 09.1 +01.8	S	23 15.3 -00.1	114 08.0 +02.1	S	21 50.0 +00.0	21			
22	191 09.9 +00.7	S	17 54.4 +00.4	146 10.9 +01.8	S	23 15.2 +00.0	129 10.1 +02.2	S	21 50.0 +00.0	22			
23	206 10.6 +00.8	S	17 54.8 +00.5	161 12.7 +01.9	S	23 15.2 +00.0	144 12.3 +02.2	S	21 50.0 -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 131° 130° 130° 130° 130° 130°			SHA 085° 085° 085° 085° 085° 085°			SHA 068° 068° 068° 068° 068° 068°						
	Greenwich Culmination Time: 09:15			Greenwich Culmination Time: 12:16			Greenwich Culmination Time: 13:24						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 20.2 -00.3	S	23 26.0 +00.0	145 07.9 -00.8	S	21 12.5 -00.7	222 10.0 -31.5	S	14 04.3 +11.0	00			
01	195 19.9 -00.3	S	23 26.0 +00.0	160 07.1 -00.7	S	21 11.8 -00.7	236 38.5 -31.5	S	14 15.3 +11.0	01			
02	210 19.6 -00.4	S	23 26.0 +00.0	175 06.4 -00.7	S	21 11.1 -00.7	251 07.0 -31.6	S	14 26.3 +10.9	02			
03	225 19.2 -00.3	S	23 26.0 -00.1	190 05.7 -00.8	S	21 10.4 -00.7	265 35.4 -31.6	S	14 37.2 +10.9	03			
04	240 18.9 -00.3	S	23 25.9 +00.0	205 04.9 -00.7	S	21 09.7 -00.7	280 03.8 -31.7	S	14 48.1 +10.7	04			
05	255 18.6 -00.3	S	23 25.9 +00.0	220 04.2 -00.8	S	21 09.0 -00.8	294 32.1 -31.6	S	14 58.8 +10.6	05			
06	270 18.3 -00.3	S	23 25.9 +00.0	235 03.4 -00.7	S	21 08.2 -00.7	309 00.5 -31.8	S	15 09.4 +10.6	06			
07	285 18.0 -00.3	S	23 25.9 -00.1	250 02.7 -00.8	S	21 07.5 -00.7	323 28.7 -31.8	S	15 20.0 +10.4	07			
08	300 17.7 -00.3	S	23 25.8 +00.0	265 01.9 -00.7	S	21 06.8 -00.7	337 56.9 -31.8	S	15 30.4 +10.4	08			
09	315 17.4 -00.3	S	23 25.8 +00.0	280 01.2 -00.7	S	21 06.1 -00.7	352 25.1 -31.8	S	15 40.8 +10.3	09			
10	330 17.1 -00.4	S	23 25.8 +00.0	295 00.5 -00.8	S	21 05.4 -00.8	6 53.3 -32.0	S	15 51.1 +10.2	10			
11	345 16.7 -00.3	S	23 25.8 +00.0	309 59.7 -00.7	S	21 04.6 -00.7	21 21.3 -31.9	S	16 01.3 +10.1	11			
12	0 16.4 -00.3	S	23 25.8 -00.1	324 59.0 -00.8	S	21 03.9 -00.7	35 49.4 -32.0	S	16 11.4 +09.9	12			
13	15 16.1 -00.3	S	23 25.7 +00.0	339 58.2 -00.7	S	21 03.2 -00.7	50 17.4 -32.0	S	16 21.3 +09.9	13			
14	30 15.8 -00.3	S	23 25.7 +00.0	354 57.5 -00.7	S	21 02.5 -00.8	64 45.4 -32.1	S	16 31.2 +09.8	14			
15	45 15.5 -00.3	S	23 25.7 -00.1	9 56.8 -00.8	S	21 01.7 -00.7	79 13.3 -32.1	S	16 41.0 +09.7	15			
16	60 15.2 -00.3	S	23 25.6 +00.0	24 56.0 -00.7	S	21 01.0 -00.7	93 41.2 -32.2	S	16 50.7 +09.6	16			
17	75 14.9 -00.3	S	23 25.6 +00.0	39 55.3 -00.7	S	21 00.3 -00.7	108 09.0 -32.2	S	17 00.3 +09.5	17			
18	90 14.6 -00.4	S	23 25.6 -00.1	54 54.6 -00.8	S	20 59.6 -00.8	122 36.8 -32.2	S	17 09.8 +09.4	18			
19	105 14.2 -00.3	S	23 25.5 +00.0	69 53.8 -00.7	S	20 58.8 -00.7	137 04.6 -32.3	S	17 19.2 +09.2	19			
20	120 13.9 -00.3	S	23 25.5 +00.0	84 53.1 -00.8	S	20 58.1 -00.7	151 32.3 -32.3	S	17 28.4 +09.2	20			
21	135 13.6 -00.3	S	23 25.5 +00.0	99 52.3 -00.7	S	20 57.4 -00.8	165 60.0 -32.4	S	17 37.6 +09.1	21			
22	150 13.3 -00.3	S	23 25.5 -00.1	114 51.6 -00.7	S	20 56.6 -00.7	180 27.6 -32.4	S	17 46.7 +08.9	22			
23	165 13.0 -00.3	S	23 25.4 +00.0	129 50.9 -00.7	S	20 55.9 -00.7	194 55.2 -32.5	S	17 55.6 +08.9	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 15'9 15'9 15'9 15'9 15'9 15'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 58'5 58'5 58'4 58'3 58'3 58'2						
	SHA 089° 089° 089° 088° 088° 088°			SHA 054° 054° 053° 053° 053° 053°			SHA 130° 128° 125° 123° 121° 118°						
	Greenwich Culmination Time: 11:58			Greenwich Culmination Time: 14:20			Greenwich Culmination Time: 09:31						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	221 11.4 +00.8	S	17 55.3 +00.4	176 14.6 +01.8	S	23 15.2 +00.0	159 14.5 +02.1	S	21 49.9 +00.0	00			
01	236 12.2 +00.7	S	17 55.7 +00.5	191 16.4 +01.9	S	23 15.2 +00.0	174 16.6 +02.2	S	21 49.9 -00.1	01			
02	251 12.9 +00.8	S	17 56.2 +00.4	206 18.3 +01.8	S	23 15.2 +00.0	189 18.8 +02.1	S	21 49.8 +00.0	02			
03	266 13.7 +00.8	S	17 56.6 +00.5	221 20.1 +01.8	S	23 15.2 +00.0	204 20.9 +02.2	S	21 49.8 +00.0	03			
04	281 14.5 +00.8	S	17 57.1 +00.4	236 21.9 +01.9	S	23 15.2 -00.1	219 23.1 +02.2	S	21 49.8 -00.1	04			
05	296 15.3 +00.7	S	17 57.5 +00.5	251 23.8 +01.8	S	23 15.1 +00.0	234 25.3 +02.1	S	21 49.7 +00.0	05			
06	311 16.0 +00.8	S	17 58.0 +00.4	266 25.6 +01.9	S	23 15.1 +00.0	249 27.4 +02.2	S	21 49.7 -00.1	06			
07	326 16.8 +00.8	S	17 58.4 +00.5	281 27.5 +01.8	S	23 15.1 +00.0	264 29.6 +02.1	S	21 49.6 +00.0	07			
08	341 17.6 +00.7	S	17 58.9 +00.4	296 29.3 +01.8	S	23 15.1 +00.0	279 31.7 +02.2	S	21 49.6 +00.0	08			
09	356 18.3 +00.8	S	17 59.3 +00.5	311 31.1 +01.9	S	23 15.1 +00.0	294 33.9 +02.2	S	21 49.6 -00.1	09			
10	11 19.1 +00.8	S	17 59.8 +00.4	326 33.0 +01.8	S	23 15.1 -00.1	309 36.1 +02.1	S	21 49.5 +00.0	10			
11	26 19.9 +00.7	S	18 00.2 +00.5	341 34.8 +01.8	S	23 15.0 +00.0	324 38.2 +02.2	S	21 49.5 -00.1	11			
12	41 20.6 +00.8	S	18 00.7 +00.4	356 36.6 +01.9	S	23 15.0 +00.0	339 40.4 +02.1	S	21 49.4 +00.0	12			
13	56 21.4 +00.8	S	18 01.1 +00.4	11 38.5 +01.8	S	23 15.0 +00.0	354 42.5 +02.2	S	21 49.4 +00.0	13			
14	71 22.2 +00.7	S	18 01.5 +00.5	26 40.3 +01.9	S	23 15.0 +00.0	9 44.7 +02.2	S	21 49.4 -00.1	14			
15	86 22.9 +00.8	S	18 02.0 +00.4	41 42.2 +01.8	S	23 15.0 +00.0	24 46.9 +02.1	S	21 49.3 +00.0	15			
16	101 23.7 +00.8	S	18 02.4 +00.5	56 44.0 +01.8	S	23 15.0 -00.1	39 49.0 +02.2	S	21 49.3 +00.0	16			
17	116 24.5 +00.7	S	18 02.9 +00.4	71 45.8 +01.9	S	23 14.9 +00.0	54 51.2 +02.1	S	21 49.3 -00.1	17			
18	131 25.2 +00.8	S	18 03.3 +00.5	86 47.7 +01.8	S	23 14.9 +00.0	69 53.3 +02.2	S	21 49.2 +00.0	18			
19	146 26.0 +00.8	S	18 03.8 +00.4	101 49.5 +01.8	S	23 14.9 +00.0	84 55.5 +02.2	S	21 49.2 -00.1	19			
20	161 26.8 +00.7	S	18 04.2 +00.5	116 51.3 +01.9	S	23 14.9 +00.0	99 57.7 +02.1	S	21 49.1 +00.0	20			
21	176 27.5 +00.8	S	18 04.7 +00.4	131 53.2 +01.8	S	23 14.9 +00.0	114 59.8 +02.2	S	21 49.1 +00.0	21			
22	191 28.3 +00.8	S	18 05.1 +00.5	146 55.0 +01.9	S	23 14.9 -00.1	130 02.0 +02.1	S	21 49.1 -00.1	22			
23	206 29.1 +00.7	S	18 05.6 +00.4	161 56.9 +01.8	S	23 14.8 +00.0	145 04.1 +02.2	S	21 49.0 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 130° 130° 130° 130° 129° 129°			SHA 085° 085° 085° 085° 085° 085°			SHA 068° 068° 068° 068° 068° 068°						
	Greenwich Culmination Time: 09:14			Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 13:21						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	180 12.7 -00.3	S 23 25.4 -00.1	144 50.2 -00.8	S 20 55.2 -00.8	209 22.7 -32.4	S 18 04.5 +08.7	00							
01	195 12.4 -00.3	S 23 25.3 +00.0	159 49.4 -00.7	S 20 54.4 -00.7	223 50.3 -32.6	S 18 13.2 +08.7	01							
02	210 12.1 -00.4	S 23 25.3 +00.0	174 48.7 -00.7	S 20 53.7 -00.8	238 17.7 -32.5	S 18 21.9 +08.5	02							
03	225 11.7 -00.3	S 23 25.3 -00.1	189 48.0 -00.8	S 20 52.9 -00.7	252 45.2 -32.6	S 18 30.4 +08.4	03							
04	240 11.4 -00.3	S 23 25.2 +00.0	204 47.2 -00.7	S 20 52.2 -00.7	267 12.6 -32.7	S 18 38.8 +08.3	04							
05	255 11.1 -00.3	S 23 25.2 +00.0	219 46.5 -00.7	S 20 51.5 -00.8	281 39.9 -32.7	S 18 47.1 +08.2	05							
06	270 10.8 -00.3	S 23 25.2 -00.1	234 45.8 -00.8	S 20 50.7 -00.7	296 07.2 -32.7	S 18 55.3 +08.0	06							
07	285 10.5 -00.3	S 23 25.1 +00.0	249 45.0 -00.7	S 20 50.0 -00.8	310 34.5 -32.7	S 19 03.3 +08.0	07							
08	300 10.2 -00.3	S 23 25.1 -00.1	264 44.3 -00.7	S 20 49.2 -00.7	325 01.8 -32.8	S 19 11.3 +07.8	08							
09	315 09.9 -00.3	S 23 25.0 +00.0	279 43.6 -00.7	S 20 48.5 -00.8	339 29.0 -32.8	S 19 19.1 +07.7	09							
10	330 09.6 -00.3	S 23 25.0 -00.1	294 42.9 -00.8	S 20 47.7 -00.7	353 56.2 -32.9	S 19 26.8 +07.6	10							
11	345 09.3 -00.4	S 23 24.9 +00.0	309 42.1 -00.7	S 20 47.0 -00.7	8 23.3 -32.9	S 19 34.4 +07.5	11							
12	0 08.9 -00.3	S 23 24.9 -00.1	324 41.4 -00.7	S 20 46.3 -00.8	22 50.4 -32.9	S 19 41.9 +07.4	12							
13	15 08.6 -00.3	S 23 24.8 +00.0	339 40.7 -00.7	S 20 45.5 -00.7	37 17.5 -33.0	S 19 49.3 +07.2	13							
14	30 08.3 -00.3	S 23 24.8 +00.0	354 40.0 -00.8	S 20 44.8 -00.8	51 44.5 -32.9	S 19 56.5 +07.1	14							
15	45 08.0 -00.3	S 23 24.8 -00.1	9 39.2 -00.7	S 20 44.0 -00.7	66 11.6 -33.1	S 20 03.6 +07.0	15							
16	60 07.7 -00.3	S 23 24.7 +00.0	24 38.5 -00.7	S 20 43.3 -00.8	80 38.5 -33.0	S 20 10.6 +06.9	16							
17	75 07.4 -00.3	S 23 24.7 -00.1	39 37.8 -00.7	S 20 42.5 -00.8	95 05.5 -33.1	S 20 17.5 +06.7	17							
18	90 07.1 -00.3	S 23 24.6 +00.0	54 37.1 -00.8	S 20 41.7 -00.7	109 32.4 -33.1	S 20 24.2 +06.7	18							
19	105 06.8 -00.4	S 23 24.6 -00.1	69 36.3 -00.7	S 20 41.0 -00.8	123 59.3 -33.1	S 20 30.9 +06.5	19							
20	120 06.4 -00.3	S 23 24.5 +00.0	84 35.6 -00.7	S 20 40.2 -00.7	138 26.2 -33.2	S 20 37.4 +06.3	20							
21	135 06.1 -00.3	S 23 24.5 -00.1	99 34.9 -00.7	S 20 39.5 -00.8	152 53.0 -33.2	S 20 43.7 +06.3	21							
22	150 05.8 -00.3	S 23 24.4 -00.1	114 34.2 -00.7	S 20 38.7 -00.7	167 19.8 -33.2	S 20 50.0 +06.1	22							
23	165 05.5 -00.3	S 23 24.3 +00.0	129 33.5 -00.8	S 20 38.0 -00.8	181 46.6 -33.2	S 20 56.1 +06.0	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 088° 088° 088° 087° 087° 087°	Greenwich Culmination Time: 11:59	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 052° 052° 052° 052° 052° 051°	Greenwich Culmination Time: 14:21	UT 02 06 10 14 18 22	SD 15'8 15'8 15'8 15'8 15'8 15'7	HP 58'1 58'1 58'0 57'9 57'8 57'7	SHA 116° 114° 111° 109° 107° 104°	Greenwich Culmination Time: 10:25

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	221 29.8 +00.8	S 18 06.0 +00.4	176 58.7 +01.8	S 23 14.8 +00.0	160 06.3 +02.2	S 21 49.0 -00.1	00							
01	236 30.6 +00.8	S 18 06.4 +00.5	192 00.5 +01.9	S 23 14.8 +00.0	175 08.5 +02.1	S 21 48.9 +00.0	01							
02	251 31.4 +00.7	S 18 06.9 +00.4	207 02.4 +01.8	S 23 14.8 +00.0	190 10.6 +02.2	S 21 48.9 +00.0	02							
03	266 32.1 +00.8	S 18 07.3 +00.5	222 04.2 +01.8	S 23 14.8 +00.0	205 12.8 +02.1	S 21 48.9 -00.1	03							
04	281 32.9 +00.7	S 18 07.8 +00.4	237 06.0 +01.9	S 23 14.8 -00.1	220 14.9 +02.2	S 21 48.8 +00.0	04							
05	296 33.6 +00.8	S 18 08.2 +00.5	252 07.9 +01.8	S 23 14.7 +00.0	235 17.1 +02.1	S 21 48.8 -00.1	05							
06	311 34.4 +00.8	S 18 08.7 +00.4	267 09.7 +01.9	S 23 14.7 +00.0	250 19.2 +02.2	S 21 48.7 +00.0	06							
07	326 35.2 +00.7	S 18 09.1 +00.4	282 11.6 +01.8	S 23 14.7 +00.0	265 21.4 +02.2	S 21 48.7 +00.0	07							
08	341 35.9 +00.8	S 18 09.5 +00.5	297 13.4 +01.8	S 23 14.7 +00.0	280 23.6 +02.1	S 21 48.7 -00.1	08							
09	356 36.7 +00.8	S 18 10.0 +00.4	312 15.2 +01.9	S 23 14.7 -00.1	295 25.7 +02.2	S 21 48.6 +00.0	09							
10	11 37.5 +00.7	S 18 10.4 +00.5	327 17.1 +01.8	S 23 14.6 +00.0	310 27.9 +02.1	S 21 48.6 -00.1	10							
11	26 38.2 +00.8	S 18 10.9 +00.4	342 18.9 +01.8	S 23 14.6 +00.0	325 30.0 +02.2	S 21 48.5 +00.0	11							
12	41 39.0 +00.8	S 18 11.3 +00.4	357 20.7 +01.9	S 23 14.6 +00.0	340 32.2 +02.2	S 21 48.5 +00.0	12							
13	56 39.8 +00.7	S 18 11.7 +00.5	12 22.6 +01.8	S 23 14.6 +00.0	355 34.4 +02.1	S 21 48.5 -00.1	13							
14	71 40.5 +00.8	S 18 12.2 +00.4	27 24.4 +01.9	S 23 14.6 +00.0	10 36.5 +02.2	S 21 48.4 +00.0	14							
15	86 41.3 +00.7	S 18 12.6 +00.5	42 26.3 +01.8	S 23 14.6 -00.1	25 38.7 +02.1	S 21 48.4 -00.1	15							
16	101 42.0 +00.8	S 18 13.1 +00.4	57 28.1 +01.8	S 23 14.5 +00.0	40 40.8 +02.2	S 21 48.3 +00.0	16							
17	116 42.8 +00.8	S 18 13.5 +00.4	72 29.9 +01.9	S 23 14.5 +00.0	55 43.0 +02.1	S 21 48.3 +00.0	17							
18	131 43.6 +00.7	S 18 13.9 +00.5	87 31.8 +01.8	S 23 14.5 +00.0	70 45.1 +02.2	S 21 48.3 -00.1	18							
19	146 44.3 +00.8	S 18 14.4 +00.4	102 33.6 +01.9	S 23 14.5 +00.0	85 47.3 +02.2	S 21 48.2 +00.0	19							
20	161 45.1 +00.8	S 18 14.8 +00.5	117 35.5 +01.8	S 23 14.5 +00.0	100 49.5 +02.1	S 21 48.2 -00.1	20							
21	176 45.9 +00.7	S 18 15.3 +00.4	132 37.3 +01.8	S 23 14.5 -00.1	115 51.6 +02.2	S 21 48.1 +00.0	21							
22	191 46.6 +00.8	S 18 15.7 +00.4	147 39.1 +01.9	S 23 14.4 +00.0	130 53.8 +02.1	S 21 48.1 +00.0	22							
23	206 47.4 +00.7	S 18 16.1 +00.5	162 41.0 +01.8	S 23 14.4 +00.0	145 55.9 +02.2	S 21 48.1 -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 129° 129° 129° 129° 129° 129°	Greenwich Culmination Time: 09:13	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 085° 085° 085° 085° 085° 085°	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 00'0 00'0 00'0 00'0 00'0 00'0	SHA 068° 068° 068° 068° 068° 068°	Greenwich Culmination Time: 13:17

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 05.2 -00.3	S 23 24.3 -00.1	144 32.7 -00.7	S 20 37.2 -00.8	196 13.4 -33.3	S 21 02.1 +05.8	00						
01	195 04.9 -00.3	S 23 24.2 +00.0	159 32.0 -00.7	S 20 36.4 -00.7	210 40.1 -33.2	S 21 07.9 +05.8	01						
02	210 04.6 -00.3	S 23 24.2 -00.1	174 31.3 -00.7	S 20 35.7 -00.8	225 06.9 -33.3	S 21 13.7 +05.6	02						
03	225 04.3 -00.3	S 23 24.1 +00.0	189 30.6 -00.7	S 20 34.9 -00.7	239 33.6 -33.3	S 21 19.3 +05.5	03						
04	240 04.0 -00.4	S 23 24.1 -00.1	204 29.9 -00.7	S 20 34.2 -00.8	254 00.3 -33.4	S 21 24.8 +05.3	04						
05	255 03.6 -00.3	S 23 24.0 -00.1	219 29.2 -00.7	S 20 33.4 -00.8	268 26.9 -33.3	S 21 30.1 +05.2	05						
06	270 03.3 -00.3	S 23 23.9 +00.0	234 28.5 -00.8	S 20 32.6 -00.7	282 53.6 -33.4	S 21 35.3 +05.1	06						
07	285 03.0 -00.3	S 23 23.9 -00.1	249 27.7 -00.7	S 20 31.9 -00.8	297 20.2 -33.4	S 21 40.4 +04.9	07						
08	300 02.7 -00.3	S 23 23.8 +00.0	264 27.0 -00.7	S 20 31.1 -00.8	311 46.8 -33.4	S 21 45.3 +04.9	08						
09	315 02.4 -00.3	S 23 23.8 -00.1	279 26.3 -00.7	S 20 30.3 -00.7	326 13.4 -33.4	S 21 50.2 +04.6	09						
10	330 02.1 -00.3	S 23 23.7 -00.1	294 25.6 -00.7	S 20 29.6 -00.8	340 40.0 -33.4	S 21 54.8 +04.6	10						
11	345 01.8 -00.3	S 23 23.6 +00.0	309 24.9 -00.7	S 20 28.8 -00.8	355 06.6 -33.5	S 21 59.4 +04.4	11						
12	0 01.5 -00.3	S 23 23.6 -00.1	324 24.2 -00.7	S 20 28.0 -00.8	9 33.1 -33.4	S 22 03.8 +04.3	12						
13	15 01.2 -00.4	S 23 23.5 -00.1	339 23.5 -00.7	S 20 27.2 -00.7	23 59.7 -33.5	S 22 08.1 +04.1	13						
14	30 00.8 -00.3	S 23 23.4 +00.0	354 22.8 -00.8	S 20 26.5 -00.8	38 26.2 -33.4	S 22 12.2 +04.1	14						
15	45 00.5 -00.3	S 23 23.4 -00.1	9 22.0 -00.7	S 20 25.7 -00.8	52 52.8 -33.5	S 22 16.3 +03.8	15						
16	60 00.2 -00.3	S 23 23.3 -00.1	24 21.3 -00.7	S 20 24.9 -00.8	67 19.3 -33.5	S 22 20.1 +03.8	16						
17	74 59.9 -00.3	S 23 23.2 +00.0	39 20.6 -00.7	S 20 24.1 -00.7	81 45.8 -33.5	S 22 23.9 +03.6	17						
18	89 59.6 -00.3	S 23 23.2 -00.1	54 19.9 -00.7	S 20 23.4 -00.8	96 12.3 -33.4	S 22 27.5 +03.5	18						
19	104 59.3 -00.3	S 23 23.1 -00.1	69 19.2 -00.7	S 20 22.6 -00.8	110 38.9 -33.5	S 22 31.0 +03.3	19						
20	119 59.0 -00.3	S 23 23.0 -00.1	84 18.5 -00.7	S 20 21.8 -00.8	125 05.4 -33.5	S 22 34.3 +03.2	20						
21	134 58.7 -00.3	S 23 22.9 +00.0	99 17.8 -00.7	S 20 21.0 -00.8	139 31.9 -33.5	S 22 37.5 +03.1	21						
22	149 58.4 -00.4	S 23 22.9 -00.1	114 17.1 -00.7	S 20 20.2 -00.7	153 58.4 -33.5	S 22 40.6 +02.9	22						
23	164 58.0 -00.3	S 23 22.8 -00.1	129 16.4 -00.7	S 20 19.5 -00.8	168 24.9 -33.4	S 22 43.5 +02.8	23						
UT	02 06 10 14 18 22	UT	02 06 10 14 18 22	UT	02 06 10 14 18 22								
SD	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	15'7 15'7 15'7 15'6 15'6 15'6								
HP	00'1 00'1 00'1 00'1 00'1 00'1	HP	00'1 00'1 00'1 00'1 00'1 00'1	HP	57'7 57'6 57'5 57'4 57'3 57'2								
SHA	087° 087° 086° 086° 086° 086°	SHA	051° 051° 051° 051° 050° 050°	SHA	102° 099° 097° 095° 092° 090°								
Greenwich Culmination Time: 11:59			Greenwich Culmination Time: 14:22			Greenwich Culmination Time: 11:20							

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	221 48.1 +00.8	S 18 16.6 +00.4	177 42.8 +01.8	S 23 14.4 +00.0	160 58.1 +02.2	S 21 48.0 +00.0	00						
01	236 48.9 +00.8	S 18 17.0 +00.5	192 44.6 +01.9	S 23 14.4 +00.0	176 00.3 +02.1	S 21 48.0 -00.1	01						
02	251 49.7 +00.7	S 18 17.5 +00.4	207 46.5 +01.8	S 23 14.4 -00.1	191 02.4 +02.2	S 21 47.9 +00.0	02						
03	266 50.4 +00.8	S 18 17.9 +00.4	222 48.3 +01.9	S 23 14.3 +00.0	206 04.6 +02.1	S 21 47.9 +00.0	03						
04	281 51.2 +00.7	S 18 18.3 +00.5	237 50.2 +01.8	S 23 14.3 +00.0	221 06.7 +02.2	S 21 47.9 -00.1	04						
05	296 51.9 +00.8	S 18 18.8 +00.4	252 52.0 +01.8	S 23 14.3 +00.0	236 08.9 +02.1	S 21 47.8 +00.0	05						
06	311 52.7 +00.8	S 18 19.2 +00.4	267 53.8 +01.9	S 23 14.3 +00.0	251 11.0 +02.2	S 21 47.8 -00.1	06						
07	326 53.5 +00.7	S 18 19.6 +00.5	282 55.7 +01.8	S 23 14.3 +00.0	266 13.2 +02.2	S 21 47.7 +00.0	07						
08	341 54.2 +00.8	S 18 20.1 +00.4	297 57.5 +01.8	S 23 14.3 -00.1	281 15.4 +02.1	S 21 47.7 -00.1	08						
09	356 55.0 +00.7	S 18 20.5 +00.5	312 59.3 +01.9	S 23 14.2 +00.0	296 17.5 +02.2	S 21 47.6 +00.0	09						
10	11 55.7 +00.8	S 18 21.0 +00.4	328 01.2 +01.8	S 23 14.2 +00.0	311 19.7 +02.1	S 21 47.6 +00.0	10						
11	26 56.5 +00.8	S 18 21.4 +00.4	343 03.0 +01.9	S 23 14.2 +00.0	326 21.8 +02.2	S 21 47.6 -00.1	11						
12	41 57.3 +00.7	S 18 21.8 +00.5	358 04.9 +01.8	S 23 14.2 +00.0	341 24.0 +02.1	S 21 47.5 +00.0	12						
13	56 58.0 +00.8	S 18 22.3 +00.4	13 06.7 +01.8	S 23 14.2 -00.1	356 26.1 +02.2	S 21 47.5 -00.1	13						
14	71 58.8 +00.7	S 18 22.7 +00.4	28 08.5 +01.9	S 23 14.1 +00.0	11 28.3 +02.2	S 21 47.4 +00.0	14						
15	86 59.5 +00.8	S 18 23.1 +00.5	43 10.4 +01.8	S 23 14.1 +00.0	26 30.5 +02.1	S 21 47.4 +00.0	15						
16	102 00.3 +00.7	S 18 23.6 +00.4	58 12.2 +01.8	S 23 14.1 +00.0	41 32.6 +02.2	S 21 47.4 -00.1	16						
17	117 01.0 +00.8	S 18 24.0 +00.4	73 14.0 +01.9	S 23 14.1 +00.0	56 34.8 +02.1	S 21 47.3 +00.0	17						
18	132 01.8 +00.8	S 18 24.4 +00.5	88 15.9 +01.8	S 23 14.1 -00.1	71 36.9 +02.2	S 21 47.3 -00.1	18						
19	147 02.6 +00.7	S 18 24.9 +00.4	103 17.7 +01.9	S 23 14.0 +00.0	86 39.1 +02.2	S 21 47.2 +00.0	19						
20	162 03.3 +00.8	S 18 25.3 +00.4	118 19.6 +01.8	S 23 14.0 +00.0	101 41.3 +02.1	S 21 47.2 +00.0	20						
21	177 04.1 +00.7	S 18 25.7 +00.5	133 21.4 +01.8	S 23 14.0 +00.0	116 43.4 +02.2	S 21 47.2 -00.1	21						
22	192 04.8 +00.8	S 18 26.2 +00.4	148 23.2 +01.9	S 23 14.0 +00.0	131 45.6 +02.1	S 21 47.1 +00.0	22						
23	207 05.6 +00.7	S 18 26.6 +00.4	163 25.1 +01.8	S 23 14.0 +00.0	146 47.7 +02.2	S 21 47.1 -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	129° 128° 128° 128° 128° 128°	SHA	084° 084° 084° 084° 084° 084°	SHA	068° 068° 068° 068° 068° 068°								
Greenwich Culmination Time: 09:12			Greenwich Culmination Time: 12:07			Greenwich Culmination Time: 13:14							

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 57.7 -00.3	S	23 22.7 +00.0	144 15.7 -00.7	S	20 18.7 -00.8	182 51.5 -33.5	S	22 46.3 +02.7	00			
01	194 57.4 -00.3	S	23 22.7 -00.1	159 15.0 -00.7	S	20 17.9 -00.8	197 18.0 -33.5	S	22 49.0 +02.5	01			
02	209 57.1 -00.3	S	23 22.6 -00.1	174 14.3 -00.7	S	20 17.1 -00.8	211 44.5 -33.4	S	22 51.5 +02.4	02			
03	224 56.8 -00.3	S	23 22.5 -00.1	189 13.6 -00.7	S	20 16.3 -00.8	226 11.1 -33.5	S	22 53.9 +02.2	03			
04	239 56.5 -00.3	S	23 22.4 -00.1	204 12.9 -00.7	S	20 15.5 -00.8	240 37.6 -33.4	S	22 56.1 +02.1	04			
05	254 56.2 -00.3	S	23 22.3 +00.0	219 12.2 -00.7	S	20 14.7 -00.8	255 04.2 -33.4	S	22 58.2 +02.0	05			
06	269 55.9 -00.3	S	23 22.3 -00.1	234 11.5 -00.7	S	20 13.9 -00.7	269 30.8 -33.4	S	23 00.2 +01.9	06			
07	284 55.6 -00.4	S	23 22.2 -00.1	249 10.8 -00.7	S	20 13.2 -00.8	283 57.4 -33.4	S	23 02.1 +01.7	07			
08	299 55.2 -00.3	S	23 22.1 -00.1	264 10.1 -00.7	S	20 12.4 -00.8	298 24.0 -33.4	S	23 03.8 +01.5	08			
09	314 54.9 -00.3	S	23 22.0 -00.1	279 09.4 -00.7	S	20 11.6 -00.8	312 50.6 -33.3	S	23 05.3 +01.5	09			
10	329 54.6 -00.3	S	23 21.9 +00.0	294 08.7 -00.7	S	20 10.8 -00.8	327 17.3 -33.4	S	23 06.8 +01.3	10			
11	344 54.3 -00.3	S	23 21.9 -00.1	309 08.0 -00.7	S	20 10.0 -00.8	341 43.9 -33.3	S	23 08.1 +01.1	11			
12	359 54.0 -00.3	S	23 21.8 -00.1	324 07.3 -00.7	S	20 09.2 -00.8	356 10.6 -33.3	S	23 09.2 +01.1	12			
13	14 53.7 -00.3	S	23 21.7 -00.1	339 06.6 -00.7	S	20 08.4 -00.8	10 37.3 -33.3	S	23 10.3 +00.8	13			
14	29 53.4 -00.3	S	23 21.6 -00.1	354 05.9 -00.7	S	20 07.6 -00.8	25 04.0 -33.2	S	23 11.1 +00.8	14			
15	44 53.1 -00.3	S	23 21.5 -00.1	9 05.2 -00.7	S	20 06.8 -00.8	39 30.8 -33.2	S	23 11.9 +00.6	15			
16	59 52.8 -00.3	S	23 21.4 -00.1	24 04.5 -00.7	S	20 06.0 -00.8	53 57.6 -33.2	S	23 12.5 +00.5	16			
17	74 52.5 -00.4	S	23 21.3 -00.1	39 03.8 -00.7	S	20 05.2 -00.8	68 24.4 -33.2	S	23 13.0 +00.4	17			
18	89 52.1 -00.3	S	23 21.2 +00.0	54 03.1 -00.7	S	20 04.4 -00.8	82 51.2 -33.2	S	23 13.4 +00.2	18			
19	104 51.8 -00.3	S	23 21.2 -00.1	69 02.4 -00.7	S	20 03.6 -00.8	97 18.0 -33.1	S	23 13.6 +00.1	19			
20	119 51.5 -00.3	S	23 21.1 -00.1	84 01.7 -00.6	S	20 02.8 -00.8	111 44.9 -33.1	S	23 13.7 -00.1	20			
21	134 51.2 -00.3	S	23 21.0 -00.1	99 01.1 -00.7	S	20 02.0 -00.8	126 11.8 -33.0	S	23 13.6 -00.2	21			
22	149 50.9 -00.3	S	23 20.9 -00.1	114 00.4 -00.7	S	20 01.2 -00.8	140 38.8 -33.0	S	23 13.4 -00.3	22			
23	164 50.6 -00.3	S	23 20.8 -00.1	128 59.7 -00.7	S	20 00.4 -00.8	155 05.8 -33.0	S	23 13.1 -00.4	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 15'6 15'5 15'5 15'5 15'5 15'4						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 57'1 57'0 56'9 56'8 56'7 56'6						
	SHA 086° 085° 085° 085° 085° 085°			SHA 050° 050° 050° 049° 049° 049°			SHA 087° 085° 083° 080° 078° 076°						
	Greenwich Culmination Time: 12:00			Greenwich Culmination Time: 14:23			Greenwich Culmination Time: 12:15						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	222 06.3 +00.8	S	18 27.0 +00.5	178 26.9 +01.8	S	23 14.0 -00.1	161 49.9 +02.1	S	21 47.0 +00.0	00			
01	237 07.1 +00.8	S	18 27.5 +00.4	193 28.7 +01.9	S	23 13.9 +00.0	176 52.0 +02.2	S	21 47.0 +00.0	01			
02	252 07.9 +00.7	S	18 27.9 +00.4	208 30.6 +01.8	S	23 13.9 +00.0	191 54.2 +02.2	S	21 47.0 -00.1	02			
03	267 08.6 +00.8	S	18 28.3 +00.5	223 32.4 +01.8	S	23 13.9 +00.0	206 56.4 +02.1	S	21 46.9 +00.0	03			
04	282 09.4 +00.7	S	18 28.8 +00.4	238 34.2 +01.9	S	23 13.9 +00.0	221 58.5 +02.2	S	21 46.9 -00.1	04			
05	297 10.1 +00.8	S	18 29.2 +00.4	253 36.1 +01.8	S	23 13.9 -00.1	237 00.7 +02.1	S	21 46.8 +00.0	05			
06	312 10.9 +00.7	S	18 29.6 +00.5	268 37.9 +01.9	S	23 13.8 +00.0	252 02.8 +02.2	S	21 46.8 +00.0	06			
07	327 11.6 +00.8	S	18 30.1 +00.4	283 39.8 +01.8	S	23 13.8 +00.0	267 05.0 +02.1	S	21 46.8 -00.1	07			
08	342 12.4 +00.7	S	18 30.5 +00.4	298 41.6 +01.8	S	23 13.8 +00.0	282 07.1 +02.2	S	21 46.7 +00.0	08			
09	357 13.1 +00.8	S	18 30.9 +00.4	313 43.4 +01.9	S	23 13.8 +00.0	297 09.3 +02.1	S	21 46.7 -00.1	09			
10	12 13.9 +00.8	S	18 31.3 +00.5	328 45.3 +01.8	S	23 13.8 -00.1	312 11.4 +02.2	S	21 46.6 +00.0	10			
11	27 14.7 +00.7	S	18 31.8 +00.4	343 47.1 +01.8	S	23 13.7 +00.0	327 13.6 +02.2	S	21 46.6 +00.0	11			
12	42 15.4 +00.8	S	18 32.2 +00.4	358 48.9 +01.9	S	23 13.7 +00.0	342 15.8 +02.1	S	21 46.6 -00.1	12			
13	57 16.2 +00.7	S	18 32.6 +00.5	13 50.8 +01.8	S	23 13.7 +00.0	357 17.9 +02.2	S	21 46.5 +00.0	13			
14	72 16.9 +00.8	S	18 33.1 +00.4	28 52.6 +01.9	S	23 13.7 +00.0	12 20.1 +02.1	S	21 46.5 -00.1	14			
15	87 17.7 +00.7	S	18 33.5 +00.4	43 54.5 +01.8	S	23 13.7 -00.1	27 22.2 +02.2	S	21 46.4 +00.0	15			
16	102 18.4 +00.8	S	18 33.9 +00.4	58 56.3 +01.8	S	23 13.6 +00.0	42 24.4 +02.1	S	21 46.4 +00.0	16			
17	117 19.2 +00.7	S	18 34.3 +00.5	73 58.1 +01.9	S	23 13.6 +00.0	57 26.5 +02.2	S	21 46.4 -00.1	17			
18	132 19.9 +00.8	S	18 34.8 +00.4	88 60.0 +01.8	S	23 13.6 +00.0	72 28.7 +02.2	S	21 46.3 +00.0	18			
19	147 20.7 +00.7	S	18 35.2 +00.4	104 01.8 +01.8	S	23 13.6 +00.0	87 30.9 +02.1	S	21 46.3 -00.1	19			
20	162 21.4 +00.8	S	18 35.6 +00.5	119 03.6 +01.9	S	23 13.6 -00.1	102 33.0 +02.2	S	21 46.2 +00.0	20			
21	177 22.2 +00.7	S	18 36.1 +00.4	134 05.5 +01.8	S	23 13.5 +00.0	117 35.2 +02.1	S	21 46.2 -00.1	21			
22	192 22.9 +00.8	S	18 36.5 +00.4	149 07.3 +01.9	S	23 13.5 +00.0	132 37.3 +02.2	S	21 46.1 +00.0	22			
23	207 23.7 +00.8	S	18 36.9 +00.4	164 09.2 +01.8	S	23 13.5 +00.0	147 39.5 +02.1	S	21 46.1 +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 128° 128° 128° 128° 127° 127°			SHA 084° 084° 084° 084° 084° 084°			SHA 068° 068° 068° 068° 068° 068°						
	Greenwich Culmination Time: 09:11			Greenwich Culmination Time: 12:04			Greenwich Culmination Time: 13:10						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 50.3 -00.3	S	23 20.7 -00.1	143 59.0 -00.7	S	19 59.6 -00.8	169 32.8 -32.9	S	23 12.7 -00.6	00			
01	194 50.0 -00.3	S	23 20.6 -00.1	158 58.3 -00.7	S	19 58.8 -00.9	183 59.9 -32.9	S	23 12.1 -00.7	01			
02	209 49.7 -00.3	S	23 20.5 -00.1	173 57.6 -00.7	S	19 57.9 -00.8	198 27.0 -32.9	S	23 11.4 -00.9	02			
03	224 49.4 -00.4	S	23 20.4 -00.1	188 56.9 -00.7	S	19 57.1 -00.8	212 54.1 -32.8	S	23 10.5 -00.9	03			
04	239 49.0 -00.3	S	23 20.3 -00.1	203 56.2 -00.6	S	19 56.3 -00.8	227 21.3 -32.8	S	23 09.6 -01.1	04			
05	254 48.7 -00.3	S	23 20.2 -00.1	218 55.6 -00.7	S	19 55.5 -00.8	241 48.5 -32.8	S	23 08.5 -01.3	05			
06	269 48.4 -00.3	S	23 20.1 -00.1	233 54.9 -00.7	S	19 54.7 -00.8	256 15.7 -32.6	S	23 07.2 -01.3	06			
07	284 48.1 -00.3	S	23 20.0 -00.1	248 54.2 -00.7	S	19 53.9 -00.8	270 43.1 -32.7	S	23 05.9 -01.5	07			
08	299 47.8 -00.3	S	23 19.9 -00.1	263 53.5 -00.7	S	19 53.1 -00.8	285 10.4 -32.6	S	23 04.4 -01.6	08			
09	314 47.5 -00.3	S	23 19.8 -00.1	278 52.8 -00.7	S	19 52.3 -00.9	299 37.8 -32.6	S	23 02.8 -01.8	09			
10	329 47.2 -00.3	S	23 19.7 -00.1	293 52.1 -00.7	S	19 51.4 -00.8	314 05.2 -32.5	S	23 01.0 -01.8	10			
11	344 46.9 -00.3	S	23 19.6 -00.1	308 51.4 -00.6	S	19 50.6 -00.8	328 32.7 -32.4	S	22 59.2 -02.0	11			
12	359 46.6 -00.3	S	23 19.5 -00.1	323 50.8 -00.7	S	19 49.8 -00.8	343 00.3 -32.5	S	22 57.2 -02.1	12			
13	14 46.3 -00.3	S	23 19.4 -00.1	338 50.1 -00.7	S	19 49.0 -00.8	357 27.8 -32.3	S	22 55.1 -02.3	13			
14	29 46.0 -00.4	S	23 19.3 -00.1	353 49.4 -00.7	S	19 48.2 -00.9	11 55.5 -32.3	S	22 52.8 -02.4	14			
15	44 45.6 -00.3	S	23 19.2 -00.1	8 48.7 -00.7	S	19 47.3 -00.8	26 23.2 -32.3	S	22 50.4 -02.4	15			
16	59 45.3 -00.3	S	23 19.1 -00.1	23 48.0 -00.6	S	19 46.5 -00.8	40 50.9 -32.2	S	22 48.0 -02.7	16			
17	74 45.0 -00.3	S	23 19.0 -00.1	38 47.4 -00.7	S	19 45.7 -00.8	55 18.7 -32.1	S	22 45.3 -02.7	17			
18	89 44.7 -00.3	S	23 18.9 -00.1	53 46.7 -00.7	S	19 44.9 -00.9	69 46.6 -32.1	S	22 42.6 -02.9	18			
19	104 44.4 -00.3	S	23 18.8 -00.2	68 46.0 -00.7	S	19 44.0 -00.8	84 14.5 -32.0	S	22 39.7 -02.9	19			
20	119 44.1 -00.3	S	23 18.6 -00.1	83 45.3 -00.6	S	19 43.2 -00.8	98 42.5 -32.0	S	22 36.8 -03.1	20			
21	134 43.8 -00.3	S	23 18.5 -00.1	98 44.7 -00.7	S	19 42.4 -00.8	113 10.5 -31.9	S	22 33.7 -03.2	21			
22	149 43.5 -00.3	S	23 18.4 -00.1	113 44.0 -00.7	S	19 41.6 -00.9	127 38.6 -31.9	S	22 30.5 -03.4	22			
23	164 43.2 -00.3	S	23 18.3 -00.1	128 43.3 -00.7	S	19 40.7 -00.8	142 06.7 -31.8	S	22 27.1 -03.4	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 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 15'4 15'4 15'3 15'3 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 56'5 56'4 56'3 56'2 56'1 56'0						
	SHA 085° 084° 084° 084° 084° 084°			SHA 049° 048° 048° 048° 048° 048°			SHA 073° 071° 068° 066° 064° 062°						
	Greenwich Culmination Time: 12:00			Greenwich Culmination Time: 14:24			Greenwich Culmination Time: 13:10						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	222 24.5 +00.7	S	18 37.3 +00.5	179 11.0 +01.8	S	23 13.5 +00.0	162 41.6 +02.2	S	21 46.1 -00.1	00			
01	237 25.2 +00.8	S	18 37.8 +00.4	194 12.8 +01.9	S	23 13.5 -00.1	177 43.8 +02.2	S	21 46.0 +00.0	01			
02	252 26.0 +00.7	S	18 38.2 +00.4	209 14.7 +01.8	S	23 13.4 +00.0	192 46.0 +02.1	S	21 46.0 -00.1	02			
03	267 26.7 +00.8	S	18 38.6 +00.4	224 16.5 +01.8	S	23 13.4 +00.0	207 48.1 +02.2	S	21 45.9 +00.0	03			
04	282 27.5 +00.7	S	18 39.0 +00.5	239 18.3 +01.9	S	23 13.4 +00.0	222 50.3 +02.1	S	21 45.9 +00.0	04			
05	297 28.2 +00.8	S	18 39.5 +00.4	254 20.2 +01.8	S	23 13.4 +00.0	237 52.4 +02.2	S	21 45.9 -00.1	05			
06	312 29.0 +00.7	S	18 39.9 +00.4	269 22.0 +01.8	S	23 13.4 -00.1	252 54.6 +02.1	S	21 45.8 +00.0	06			
07	327 29.7 +00.8	S	18 40.3 +00.4	284 23.8 +01.9	S	23 13.3 +00.0	267 56.7 +02.2	S	21 45.8 -00.1	07			
08	342 30.5 +00.7	S	18 40.7 +00.5	299 25.7 +01.8	S	23 13.3 +00.0	282 58.9 +02.1	S	21 45.7 +00.0	08			
09	357 31.2 +00.8	S	18 41.2 +00.4	314 27.5 +01.9	S	23 13.3 +00.0	298 01.0 +02.2	S	21 45.7 +00.0	09			
10	12 32.0 +00.7	S	18 41.6 +00.4	329 29.4 +01.8	S	23 13.3 +00.0	313 03.2 +02.2	S	21 45.7 -00.1	10			
11	27 32.7 +00.8	S	18 42.0 +00.4	344 31.2 +01.8	S	23 13.3 -00.1	328 05.4 +02.1	S	21 45.6 +00.0	11			
12	42 33.5 +00.7	S	18 42.4 +00.5	359 33.0 +01.9	S	23 13.2 +00.0	343 07.5 +02.2	S	21 45.6 -00.1	12			
13	57 34.2 +00.8	S	18 42.9 +00.4	14 34.9 +01.8	S	23 13.2 +00.0	358 09.7 +02.1	S	21 45.5 +00.0	13			
14	72 35.0 +00.7	S	18 43.3 +00.4	29 36.7 +01.8	S	23 13.2 +00.0	13 11.8 +02.2	S	21 45.5 -00.1	14			
15	87 35.7 +00.8	S	18 43.7 +00.4	44 38.5 +01.9	S	23 13.2 -00.1	28 14.0 +02.1	S	21 45.4 +00.0	15			
16	102 36.5 +00.7	S	18 44.1 +00.5	59 40.4 +01.8	S	23 13.1 +00.0	43 16.1 +02.2	S	21 45.4 +00.0	16			
17	117 37.2 +00.8	S	18 44.6 +00.4	74 42.2 +01.9	S	23 13.1 +00.0	58 18.3 +02.1	S	21 45.4 -00.1	17			
18	132 38.0 +00.7	S	18 45.0 +00.4	89 44.1 +01.8	S	23 13.1 -00.1	73 20.4 +02.2	S	21 45.3 +00.0	18			
19	147 38.7 +00.8	S	18 45.4 +00.4	104 45.9 +01.9	S	23 13.0 +00.0	88 22.6 +02.2	S	21 45.3 -00.1	19			
20	162 39.5 +00.7	S	18 45.8 +00.4	119 47.8 +01.8	S	23 13.0 +00.0	103 24.8 +02.1	S	21 45.2 +00.0	20			
21	177 40.2 +00.8	S	18 46.2 +00.5	134 49.6 +01.9	S	23 13.0 +00.0	118 26.9 +02.2	S	21 45.2 +00.0	21			
22	192 41.0 +00.7	S	18 46.7 +00.4	149 51.5 +01.8	S	23 13.0 +00.0	133 29.1 +02.1	S	21 45.2 -00.1	22			
23	207 41.7 +00.8	S	18 47.1 +00.4	164 53.3 +01.8	S	23 13.0 +00.0	148 31.2 +02.2	S	21 45.1 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 127° 127° 127° 127° 127° 127°			SHA 084° 084° 084° 084° 084° 084°			SHA 067° 067° 067° 067° 067° 067°						
	Greenwich Culmination Time: 09:09			Greenwich Culmination Time: 12:01			Greenwich Culmination Time: 13:07						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 42.9 -00.3	S	23 18.2 -00.1	143 42.6 -00.6	S	19 39.9 -00.8	156 34.9 -31.7	S	22 23.7 -03.6	00			
01	194 42.6 -00.3	S	23 18.1 -00.1	158 42.0 -00.7	S	19 39.1 -00.9	171 03.2 -31.7	S	22 20.1 -03.7	01			
02	209 42.3 -00.4	S	23 18.0 -00.1	173 41.3 -00.7	S	19 38.2 -00.8	185 31.5 -31.6	S	22 16.4 -03.8	02			
03	224 41.9 -00.3	S	23 17.9 -00.2	188 40.6 -00.7	S	19 37.4 -00.8	199 59.9 -31.6	S	22 12.6 -03.9	03			
04	239 41.6 -00.3	S	23 17.7 -00.1	203 39.9 -00.6	S	19 36.6 -00.9	214 28.3 -31.5	S	22 08.7 -04.0	04			
05	254 41.3 -00.3	S	23 17.6 -00.1	218 39.3 -00.7	S	19 35.7 -00.8	228 56.8 -31.4	S	22 04.7 -04.2	05			
06	269 41.0 -00.3	S	23 17.5 -00.1	233 38.6 -00.7	S	19 34.9 -00.8	243 25.4 -31.3	S	22 00.5 -04.2	06			
07	284 40.7 -00.3	S	23 17.4 -00.1	248 37.9 -00.6	S	19 34.1 -00.9	257 54.1 -31.3	S	21 56.3 -04.4	07			
08	299 40.4 -00.3	S	23 17.3 -00.2	263 37.3 -00.7	S	19 33.2 -00.8	272 22.8 -31.3	S	21 51.9 -04.5	08			
09	314 40.1 -00.3	S	23 17.1 -00.1	278 36.6 -00.7	S	19 32.4 -00.9	286 51.5 -31.1	S	21 47.4 -04.5	09			
10	329 39.8 -00.3	S	23 17.0 -00.1	293 35.9 -00.6	S	19 31.5 -00.8	301 20.4 -31.1	S	21 42.9 -04.7	10			
11	344 39.5 -00.3	S	23 16.9 -00.1	308 35.3 -00.7	S	19 30.7 -00.8	315 49.3 -31.0	S	21 38.2 -04.8	11			
12	359 39.2 -00.3	S	23 16.8 -00.2	323 34.6 -00.7	S	19 29.9 -00.9	330 18.3 -31.0	S	21 33.4 -04.9	12			
13	14 38.9 -00.3	S	23 16.6 -00.1	338 33.9 -00.6	S	19 29.0 -00.8	344 47.3 -30.9	S	21 28.5 -05.1	13			
14	29 38.6 -00.3	S	23 16.5 -00.1	353 33.3 -00.7	S	19 28.2 -00.9	359 16.4 -30.8	S	21 23.4 -05.1	14			
15	44 38.3 -00.4	S	23 16.4 -00.1	8 32.6 -00.7	S	19 27.3 -00.8	13 45.6 -30.7	S	21 18.3 -05.2	15			
16	59 37.9 -00.3	S	23 16.3 -00.2	23 31.9 -00.6	S	19 26.5 -00.9	28 14.9 -30.7	S	21 13.1 -05.3	16			
17	74 37.6 -00.3	S	23 16.1 -00.1	38 31.3 -00.7	S	19 25.6 -00.8	42 44.2 -30.6	S	21 07.8 -05.4	17			
18	89 37.3 -00.3	S	23 16.0 -00.1	53 30.6 -00.7	S	19 24.8 -00.9	57 13.6 -30.6	S	21 02.4 -05.6	18			
19	104 37.0 -00.3	S	23 15.9 -00.1	68 29.9 -00.6	S	19 23.9 -00.8	71 43.0 -30.4	S	20 56.8 -05.6	19			
20	119 36.7 -00.3	S	23 15.8 -00.2	83 29.3 -00.7	S	19 23.1 -00.9	86 12.6 -30.4	S	20 51.2 -05.7	20			
21	134 36.4 -00.3	S	23 15.6 -00.1	98 28.6 -00.6	S	19 22.2 -00.8	100 42.2 -30.3	S	20 45.5 -05.9	21			
22	149 36.1 -00.3	S	23 15.5 -00.1	113 28.0 -00.7	S	19 21.4 -00.9	115 11.9 -30.3	S	20 39.6 -05.9	22			
23	164 35.8 -00.3	S	23 15.4 -00.2	128 27.3 -00.7	S	19 20.5 -00.8	129 41.6 -30.2	S	20 33.7 -06.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 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 15'2 15'2 15'2 15'2 15'1 15'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 55'9 55'8 55'7 55'6 55'6 55'5						
	SHA 083° 083° 083° 083° 083° 083°			SHA 047° 047° 047° 047° 047° 046°			SHA 059° 057° 055° 053° 050° 048°						
	Greenwich Culmination Time: 12:01			Greenwich Culmination Time: 14:25			Greenwich Culmination Time: 14:03						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	222 42.5 +00.7	S	18 47.5 +00.4	179 55.1 +01.9	S	23 13.0 +00.0	163 33.4 +02.1	S	21 45.1 -00.1	00			
01	237 43.2 +00.8	S	18 47.9 +00.4	194 57.0 +01.8	S	23 13.0 -00.1	178 35.5 +02.2	S	21 45.0 +00.0	01			
02	252 44.0 +00.7	S	18 48.3 +00.5	209 58.8 +01.8	S	23 12.9 +00.0	193 37.7 +02.1	S	21 45.0 +00.0	02			
03	267 44.7 +00.7	S	18 48.8 +00.4	225 00.6 +01.9	S	23 12.9 +00.0	208 39.8 +02.2	S	21 45.0 -00.1	03			
04	282 45.4 +00.8	S	18 49.2 +00.4	240 02.5 +01.8	S	23 12.9 +00.0	223 42.0 +02.2	S	21 44.9 +00.0	04			
05	297 46.2 +00.7	S	18 49.6 +00.4	255 04.3 +01.8	S	23 12.9 +00.0	238 44.2 +02.1	S	21 44.9 -00.1	05			
06	312 46.9 +00.8	S	18 50.0 +00.4	270 06.1 +01.9	S	23 12.9 -00.1	253 46.3 +02.2	S	21 44.8 +00.0	06			
07	327 47.7 +00.7	S	18 50.4 +00.5	285 08.0 +01.8	S	23 12.8 +00.0	268 48.5 +02.1	S	21 44.8 -00.1	07			
08	342 48.4 +00.8	S	18 50.9 +00.4	300 09.8 +01.8	S	23 12.8 +00.0	283 50.6 +02.2	S	21 44.7 +00.0	08			
09	357 49.2 +00.7	S	18 51.3 +00.4	315 11.6 +01.9	S	23 12.8 +00.0	298 52.8 +02.1	S	21 44.7 +00.0	09			
10	12 49.9 +00.8	S	18 51.7 +00.4	330 13.5 +01.8	S	23 12.8 +00.0	313 54.9 +02.2	S	21 44.7 -00.1	10			
11	27 50.7 +00.7	S	18 52.1 +00.4	345 15.3 +01.9	S	23 12.8 -00.1	328 57.1 +02.1	S	21 44.6 +00.0	11			
12	42 51.4 +00.8	S	18 52.5 +00.4	0 17.2 +01.8	S	23 12.7 +00.0	343 59.2 +02.2	S	21 44.6 -00.1	12			
13	57 52.2 +00.7	S	18 52.9 +00.5	15 19.0 +01.8	S	23 12.7 +00.0	359 01.4 +02.2	S	21 44.5 +00.0	13			
14	72 52.9 +00.8	S	18 53.4 +00.4	30 20.8 +01.9	S	23 12.7 +00.0	14 03.6 +02.1	S	21 44.5 +00.0	14			
15	87 53.7 +00.7	S	18 53.8 +00.4	45 22.7 +01.8	S	23 12.7 +00.0	29 05.7 +02.2	S	21 44.5 -00.1	15			
16	102 54.4 +00.8	S	18 54.2 +00.4	60 24.5 +01.8	S	23 12.7 -00.1	44 07.9 +02.1	S	21 44.4 +00.0	16			
17	117 55.2 +00.7	S	18 54.6 +00.4	75 26.3 +01.9	S	23 12.6 +00.0	59 10.0 +02.2	S	21 44.4 -00.1	17			
18	132 55.9 +00.7	S	18 55.0 +00.4	90 28.2 +01.8	S	23 12.6 +00.0	74 12.2 +02.1	S	21 44.3 +00.0	18			
19	147 56.6 +00.8	S	18 55.4 +00.5	105 30.0 +01.9	S	23 12.6 +00.0	89 14.3 +02.2	S	21 44.3 +00.0	19			
20	162 57.4 +00.7	S	18 55.9 +00.4	120 31.9 +01.8	S	23 12.6 -00.1	104 16.5 +02.1	S	21 44.3 -00.1	20			
21	177 58.1 +00.8	S	18 56.3 +00.4	135 33.7 +01.8	S	23 12.5 +00.0	119 18.6 +02.2	S	21 44.2 +00.0	21			
22	192 58.9 +00.7	S	18 56.7 +00.4	150 35.5 +01.9	S	23 12.5 +00.0	134 20.8 +02.1	S	21 44.2 -00.1	22			
23	207 59.6 +00.8	S	18 57.1 +00.4	165 37.4 +01.8	S	23 12.5 +00.0	149 22.9 +02.2	S	21 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 126° 126° 126° 126° 126° 126°			SHA 084° 084° 084° 084° 084° 084°			SHA 067° 067° 067° 067° 067° 067°						
	Greenwich Culmination Time: 09:08			Greenwich Culmination Time: 11:58			Greenwich Culmination Time: 13:03						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 35.5 -00.3	S	23 15.2 -00.1	143 26.6 -00.6	S	19 19.7 -00.9	144 11.4 -30.1	S	20 27.7 -06.1	00			
01	194 35.2 -00.3	S	23 15.1 -00.1	158 26.0 -00.7	S	19 18.8 -00.8	158 41.3 -30.0	S	20 21.6 -06.2	01			
02	209 34.9 -00.3	S	23 15.0 -00.2	173 25.3 -00.6	S	19 18.0 -00.9	173 11.3 -30.0	S	20 15.4 -06.3	02			
03	224 34.6 -00.3	S	23 14.8 -00.1	188 24.7 -00.7	S	19 17.1 -00.8	187 41.3 -29.9	S	20 09.1 -06.4	03			
04	239 34.3 -00.3	S	23 14.7 -00.1	203 24.0 -00.6	S	19 16.3 -00.9	202 11.4 -29.8	S	20 02.7 -06.5	04			
05	254 34.0 -00.3	S	23 14.6 -00.2	218 23.4 -00.7	S	19 15.4 -00.8	216 41.6 -29.7	S	19 56.2 -06.6	05			
06	269 33.7 -00.3	S	23 14.4 -00.1	233 22.7 -00.7	S	19 14.6 -00.9	231 11.9 -29.7	S	19 49.6 -06.7	06			
07	284 33.4 -00.4	S	23 14.3 -00.2	248 22.0 -00.6	S	19 13.7 -00.9	245 42.2 -29.6	S	19 42.9 -06.7	07			
08	299 33.0 -00.3	S	23 14.1 -00.1	263 21.4 -00.7	S	19 12.8 -00.8	260 12.6 -29.5	S	19 36.2 -06.9	08			
09	314 32.7 -00.3	S	23 14.0 -00.1	278 20.7 -00.6	S	19 12.0 -00.9	274 43.1 -29.5	S	19 29.3 -06.9	09			
10	329 32.4 -00.3	S	23 13.9 -00.2	293 20.1 -00.7	S	19 11.1 -00.9	289 13.6 -29.4	S	19 22.4 -07.1	10			
11	344 32.1 -00.3	S	23 13.7 -00.1	308 19.4 -00.6	S	19 10.2 -00.8	303 44.2 -29.3	S	19 15.3 -07.1	11			
12	359 31.8 -00.3	S	23 13.6 -00.2	323 18.8 -00.7	S	19 09.4 -00.9	318 14.9 -29.2	S	19 08.2 -07.2	12			
13	14 31.5 -00.3	S	23 13.4 -00.1	338 18.1 -00.6	S	19 08.5 -00.8	332 45.7 -29.2	S	19 01.0 -07.2	13			
14	29 31.2 -00.3	S	23 13.3 -00.2	353 17.5 -00.7	S	19 07.7 -00.9	347 16.5 -29.1	S	18 53.8 -07.4	14			
15	44 30.9 -00.3	S	23 13.1 -00.1	8 16.8 -00.6	S	19 06.8 -00.9	1 47.4 -29.0	S	18 46.4 -07.4	15			
16	59 30.6 -00.3	S	23 13.0 -00.2	23 16.2 -00.7	S	19 05.9 -00.8	16 18.4 -28.9	S	18 39.0 -07.6	16			
17	74 30.3 -00.3	S	23 12.8 -00.1	38 15.5 -00.6	S	19 05.1 -00.9	30 49.5 -28.9	S	18 31.4 -07.6	17			
18	89 30.0 -00.3	S	23 12.7 -00.2	53 14.9 -00.7	S	19 04.2 -00.9	45 20.6 -28.8	S	18 23.8 -07.7	18			
19	104 29.7 -00.3	S	23 12.5 -00.1	68 14.2 -00.6	S	19 03.3 -00.9	59 51.8 -28.7	S	18 16.1 -07.7	19			
20	119 29.4 -00.3	S	23 12.4 -00.2	83 13.6 -00.7	S	19 02.4 -00.8	74 23.1 -28.7	S	18 08.4 -07.9	20			
21	134 29.1 -00.3	S	23 12.2 -00.1	98 12.9 -00.6	S	19 01.6 -00.9	88 54.4 -28.6	S	18 00.5 -07.9	21			
22	149 28.8 -00.3	S	23 12.1 -00.2	113 12.3 -00.6	S	19 00.7 -00.9	103 25.8 -28.5	S	17 52.6 -08.0	22			
23	164 28.5 -00.3	S	23 11.9 -00.1	128 11.7 -00.7	S	18 59.8 -00.9	117 57.3 -28.4	S	17 44.6 -08.0	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 15'1 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 55'0 55'0						
	SHA 082° 082° 082° 082° 082° 081°			SHA 046° 046° 046° 046° 045° 045°			SHA 046° 044° 042° 040° 037° 035°						
	Greenwich Culmination Time: 12:01			Greenwich Culmination Time: 14:26			Greenwich Culmination Time: 14:52						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	223 00.4 +00.7	S	18 57.5 +00.4	180 39.2 +01.8	S	23 12.5 +00.0	164 25.1 +02.2	S	21 44.1 -00.1	00			
01	238 01.1 +00.8	S	18 57.9 +00.5	195 41.0 +01.9	S	23 12.5 -00.1	179 27.3 +02.1	S	21 44.0 +00.0	01			
02	253 01.9 +00.7	S	18 58.4 +00.4	210 42.9 +01.8	S	23 12.4 +00.0	194 29.4 +02.2	S	21 44.0 +00.0	02			
03	268 02.6 +00.7	S	18 58.8 +00.4	225 44.7 +01.9	S	23 12.4 +00.0	209 31.6 +02.1	S	21 44.0 -00.1	03			
04	283 03.3 +00.8	S	18 59.2 +00.4	240 46.6 +01.8	S	23 12.4 +00.0	224 33.7 +02.2	S	21 43.9 +00.0	04			
05	298 04.1 +00.7	S	18 59.6 +00.4	255 48.4 +01.8	S	23 12.4 -00.1	239 35.9 +02.1	S	21 43.9 -00.1	05			
06	313 04.8 +00.8	S	19 00.0 +00.4	270 50.2 +01.9	S	23 12.3 +00.0	254 38.0 +02.2	S	21 43.8 +00.0	06			
07	328 05.6 +00.7	S	19 00.4 +00.4	285 52.1 +01.8	S	23 12.3 +00.0	269 40.2 +02.1	S	21 43.8 +00.0	07			
08	343 06.3 +00.8	S	19 00.8 +00.4	300 53.9 +01.8	S	23 12.3 +00.0	284 42.3 +02.2	S	21 43.8 -00.1	08			
09	358 07.1 +00.7	S	19 01.2 +00.5	315 55.7 +01.9	S	23 12.3 +00.0	299 44.5 +02.1	S	21 43.7 +00.0	09			
10	13 07.8 +00.7	S	19 01.7 +00.4	330 57.6 +01.8	S	23 12.3 -00.1	314 46.6 +02.2	S	21 43.7 -00.1	10			
11	28 08.5 +00.8	S	19 02.1 +00.4	345 59.4 +01.8	S	23 12.2 +00.0	329 48.8 +02.2	S	21 43.6 +00.0	11			
12	43 09.3 +00.7	S	19 02.5 +00.4	1 01.2 +01.9	S	23 12.2 +00.0	344 51.0 +02.1	S	21 43.6 -00.1	12			
13	58 10.0 +00.8	S	19 02.9 +00.4	16 03.1 +01.8	S	23 12.2 +00.0	359 53.1 +02.2	S	21 43.5 +00.0	13			
14	73 10.8 +00.7	S	19 03.3 +00.4	31 04.9 +01.9	S	23 12.2 -00.1	14 55.3 +02.1	S	21 43.5 +00.0	14			
15	88 11.5 +00.7	S	19 03.7 +00.4	46 06.8 +01.8	S	23 12.1 +00.0	29 57.4 +02.2	S	21 43.5 -00.1	15			
16	103 12.2 +00.8	S	19 04.1 +00.4	61 08.6 +01.8	S	23 12.1 +00.0	44 59.6 +02.1	S	21 43.4 +00.0	16			
17	118 13.0 +00.7	S	19 04.5 +00.4	76 10.4 +01.9	S	23 12.1 +00.0	60 01.7 +02.2	S	21 43.4 -00.1	17			
18	133 13.7 +00.8	S	19 04.9 +00.5	91 12.3 +01.8	S	23 12.1 +00.0	75 03.9 +02.1	S	21 43.3 +00.0	18			
19	148 14.5 +00.7	S	19 05.4 +00.4	106 14.1 +01.8	S	23 12.1 -00.1	90 06.0 +02.2	S	21 43.3 -00.1	19			
20	163 15.2 +00.7	S	19 05.8 +00.4	121 15.9 +01.9	S	23 12.0 +00.0	105 08.2 +02.1	S	21 43.2 +00.0	20			
21	178 15.9 +00.8	S	19 06.2 +00.4	136 17.8 +01.8	S	23 12.0 +00.0	120 10.3 +02.2	S	21 43.2 +00.0	21			
22	193 16.7 +00.7	S	19 06.6 +00.4	151 19.6 +01.9	S	23 12.0 +00.0	135 12.5 +02.2	S	21 43.2 -00.1	22			
23	208 17.4 +00.8	S	19 07.0 +00.4	166 21.5 +01.8	S	23 12.0 -00.1	150 14.7 +02.1	S	21 43.1 +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 126° 126° 126° 125° 125° 125°			SHA 083° 083° 083° 083° 083° 083°			SHA 067° 067° 067° 067° 067° 067°						
	Greenwich Culmination Time: 09:07			Greenwich Culmination Time: 11:55			Greenwich Culmination Time: 13:00						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 28.2 -00.3	S	23 11.8 -00.2	143 11.0 -00.6	S	18 58.9 -00.8	132 28.9 -28.4	S	17 36.6 -08.2	00			
01	194 27.9 -00.3	S	23 11.6 -00.1	158 10.4 -00.7	S	18 58.1 -00.9	147 00.5 -28.3	S	17 28.4 -08.2	01			
02	209 27.6 -00.3	S	23 11.5 -00.2	173 09.7 -00.6	S	18 57.2 -00.9	161 32.2 -28.3	S	17 20.2 -08.3	02			
03	224 27.3 -00.3	S	23 11.3 -00.1	188 09.1 -00.7	S	18 56.3 -00.9	176 03.9 -28.1	S	17 11.9 -08.3	03			
04	239 27.0 -00.3	S	23 11.2 -00.2	203 08.4 -00.6	S	18 55.4 -00.8	190 35.8 -28.1	S	17 03.6 -08.4	04			
05	254 26.7 -00.3	S	23 11.0 -00.1	218 07.8 -00.6	S	18 54.6 -00.9	205 07.7 -28.1	S	16 55.2 -08.5	05			
06	269 26.4 -00.3	S	23 10.9 -00.2	233 07.2 -00.7	S	18 53.7 -00.9	219 39.6 -27.9	S	16 46.7 -08.6	06			
07	284 26.1 -00.4	S	23 10.7 -00.2	248 06.5 -00.6	S	18 52.8 -00.9	234 11.7 -27.9	S	16 38.1 -08.6	07			
08	299 25.7 -00.3	S	23 10.5 -00.1	263 05.9 -00.7	S	18 51.9 -00.9	248 43.8 -27.9	S	16 29.5 -08.7	08			
09	314 25.4 -00.3	S	23 10.4 -00.2	278 05.2 -00.6	S	18 51.0 -00.8	263 15.9 -27.7	S	16 20.8 -08.8	09			
10	329 25.1 -00.3	S	23 10.2 -00.1	293 04.6 -00.6	S	18 50.2 -00.9	277 48.2 -27.7	S	16 12.0 -08.8	10			
11	344 24.8 -00.3	S	23 10.1 -00.2	308 04.0 -00.7	S	18 49.3 -00.9	292 20.5 -27.6	S	16 03.2 -08.9	11			
12	359 24.5 -00.3	S	23 09.9 -00.2	323 03.3 -00.6	S	18 48.4 -00.9	306 52.9 -27.6	S	15 54.3 -09.0	12			
13	14 24.2 -00.3	S	23 09.7 -00.1	338 02.7 -00.6	S	18 47.5 -00.9	321 25.3 -27.5	S	15 45.3 -09.0	13			
14	29 23.9 -00.3	S	23 09.6 -00.2	353 02.1 -00.7	S	18 46.6 -00.9	335 57.8 -27.4	S	15 36.3 -09.1	14			
15	44 23.6 -00.3	S	23 09.4 -00.2	8 01.4 -00.6	S	18 45.7 -00.9	350 30.4 -27.4	S	15 27.2 -09.1	15			
16	59 23.3 -00.3	S	23 09.2 -00.1	23 00.8 -00.6	S	18 44.8 -00.9	5 03.0 -27.3	S	15 18.1 -09.2	16			
17	74 23.0 -00.3	S	23 09.1 -00.2	38 00.2 -00.7	S	18 43.9 -00.8	19 35.7 -27.3	S	15 08.9 -09.2	17			
18	89 22.7 -00.3	S	23 08.9 -00.2	52 59.5 -00.6	S	18 43.1 -00.9	34 08.4 -27.2	S	14 59.7 -09.4	18			
19	104 22.4 -00.3	S	23 08.7 -00.1	67 58.9 -00.6	S	18 42.2 -00.9	48 41.2 -27.1	S	14 50.3 -09.3	19			
20	119 22.1 -00.3	S	23 08.6 -00.2	82 58.3 -00.7	S	18 41.3 -00.9	63 14.1 -27.0	S	14 41.0 -09.5	20			
21	134 21.8 -00.3	S	23 08.4 -00.2	97 57.6 -00.6	S	18 40.4 -00.9	77 47.1 -27.0	S	14 31.5 -09.4	21			
22	149 21.5 -00.3	S	23 08.2 -00.1	112 57.0 -00.6	S	18 39.5 -00.9	92 20.1 -27.0	S	14 22.1 -09.6	22			
23	164 21.2 -00.3	S	23 08.1 -00.2	127 56.4 -00.7	S	18 38.6 -00.9	106 53.1 -26.9	S	14 12.5 -09.6	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 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 15'0 14'9 14'9 14'9 14'9 14'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 54'9 54'8 54'7 54'7 54'6 54'6						
	SHA 081° 081° 081° 081° 080° 080°			SHA 045° 045° 045° 044° 044° 044°			SHA 033° 031° 029° 027° 025° 023°						
	Greenwich Culmination Time: 12:02			Greenwich Culmination Time: 14:27			Greenwich Culmination Time: 15:39						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	223 18.2 +00.7	S	19 07.4 +00.4	181 23.3 +01.8	S	23 11.9 +00.0	165 16.8 +02.2	S	21 43.1 -00.1	00			
01	238 18.9 +00.7	S	19 07.8 +00.4	196 25.1 +01.9	S	23 11.9 +00.0	180 19.0 +02.1	S	21 43.0 +00.0	01			
02	253 19.6 +00.8	S	19 08.2 +00.4	211 27.0 +01.8	S	23 11.9 +00.0	195 21.1 +02.2	S	21 43.0 +00.0	02			
03	268 20.4 +00.7	S	19 08.6 +00.4	226 28.8 +01.8	S	23 11.9 -00.1	210 23.3 +02.1	S	21 43.0 -00.1	03			
04	283 21.1 +00.8	S	19 09.0 +00.4	241 30.6 +01.9	S	23 11.8 +00.0	225 25.4 +02.2	S	21 42.9 +00.0	04			
05	298 21.9 +00.7	S	19 09.4 +00.4	256 32.5 +01.8	S	23 11.8 +00.0	240 27.6 +02.1	S	21 42.9 -00.1	05			
06	313 22.6 +00.7	S	19 09.8 +00.5	271 34.3 +01.9	S	23 11.8 +00.0	255 29.7 +02.2	S	21 42.8 +00.0	06			
07	328 23.3 +00.8	S	19 10.3 +00.4	286 36.2 +01.8	S	23 11.8 +00.0	270 31.9 +02.1	S	21 42.8 -00.1	07			
08	343 24.1 +00.7	S	19 10.7 +00.4	301 38.0 +01.8	S	23 11.8 -00.1	285 34.0 +02.2	S	21 42.7 +00.0	08			
09	358 24.8 +00.8	S	19 11.1 +00.4	316 39.8 +01.9	S	23 11.7 +00.0	300 36.2 +02.1	S	21 42.7 +00.0	09			
10	13 25.6 +00.7	S	19 11.5 +00.4	331 41.7 +01.8	S	23 11.7 +00.0	315 38.3 +02.2	S	21 42.7 -00.1	10			
11	28 26.3 +00.7	S	19 11.9 +00.4	346 43.5 +01.8	S	23 11.7 +00.0	330 40.5 +02.2	S	21 42.6 +00.0	11			
12	43 27.0 +00.8	S	19 12.3 +00.4	1 45.3 +01.9	S	23 11.7 -00.1	345 42.7 +02.1	S	21 42.6 -00.1	12			
13	58 27.8 +00.7	S	19 12.7 +00.4	16 47.2 +01.8	S	23 11.6 +00.0	0 44.8 +02.2	S	21 42.5 +00.0	13			
14	73 28.5 +00.7	S	19 13.1 +00.4	31 49.0 +01.9	S	23 11.6 +00.0	15 47.0 +02.1	S	21 42.5 +00.0	14			
15	88 29.2 +00.8	S	19 13.5 +00.4	46 50.9 +01.8	S	23 11.6 +00.0	30 49.1 +02.2	S	21 42.5 -00.1	15			
16	103 30.0 +00.7	S	19 13.9 +00.4	61 52.7 +01.8	S	23 11.6 -00.1	45 51.3 +02.1	S	21 42.4 +00.0	16			
17	118 30.7 +00.8	S	19 14.3 +00.4	76 54.5 +01.9	S	23 11.5 +00.0	60 53.4 +02.2	S	21 42.4 -00.1	17			
18	133 31.5 +00.7	S	19 14.7 +00.4	91 56.4 +01.8	S	23 11.5 +00.0	75 55.6 +02.1	S	21 42.3 +00.0	18			
19	148 32.2 +00.7	S	19 15.1 +00.4	106 58.2 +01.8	S	23 11.5 +00.0	90 57.7 +02.2	S	21 42.3 -00.1	19			
20	163 32.9 +00.8	S	19 15.5 +00.4	122 00.0 +01.9	S	23 11.5 -00.1	105 59.9 +02.1	S	21 42.2 +00.0	20			
21	178 33.7 +00.7	S	19 15.9 +00.4	137 01.9 +01.8	S	23 11.4 +00.0	121 02.0 +02.2	S	21 42.2 +00.0	21			
22	193 34.4 +00.7	S	19 16.3 +00.4	152 03.7 +01.9	S	23 11.4 +00.0	136 04.2 +02.1	S	21 42.2 -00.1	22			
23	208 35.1 +00.8	S	19 16.7 +00.4	167 05.6 +01.8	S	23 11.4 +00.0	151 06.3 +02.2	S	21 42.1 +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 125° 125° 125° 125° 125° 125°			SHA 083° 083° 083° 083° 083° 083°			SHA 067° 067° 067° 067° 067° 067°						
	Greenwich Culmination Time: 09:06			Greenwich Culmination Time: 11:52			Greenwich Culmination Time: 12:57						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 20.9 -00.3	S	23 07.9 -00.2	142 55.7 -00.6	S	18 37.7 -00.9	121 26.2 -26.8	S	14 02.9 -09.6	00			
01	194 20.6 -00.3	S	23 07.7 -00.2	157 55.1 -00.6	S	18 36.8 -00.9	135 59.4 -26.8	S	13 53.3 -09.7	01			
02	209 20.3 -00.3	S	23 07.5 -00.1	172 54.5 -00.6	S	18 35.9 -00.9	150 32.6 -26.7	S	13 43.6 -09.8	02			
03	224 20.0 -00.3	S	23 07.4 -00.2	187 53.9 -00.7	S	18 35.0 -00.9	165 05.9 -26.6	S	13 33.8 -09.8	03			
04	239 19.7 -00.3	S	23 07.2 -00.2	202 53.2 -00.6	S	18 34.1 -00.9	179 39.3 -26.6	S	13 24.0 -09.8	04			
05	254 19.4 -00.3	S	23 07.0 -00.2	217 52.6 -00.6	S	18 33.2 -00.9	194 12.7 -26.6	S	13 14.2 -09.9	05			
06	269 19.1 -00.3	S	23 06.8 -00.1	232 52.0 -00.6	S	18 32.3 -00.9	208 46.1 -26.4	S	13 04.3 -10.0	06			
07	284 18.8 -00.3	S	23 06.7 -00.2	247 51.4 -00.7	S	18 31.4 -00.9	223 19.7 -26.5	S	12 54.3 -10.0	07			
08	299 18.5 -00.3	S	23 06.5 -00.2	262 50.7 -00.6	S	18 30.5 -00.9	237 53.2 -26.4	S	12 44.3 -10.0	08			
09	314 18.2 -00.3	S	23 06.3 -00.2	277 50.1 -00.6	S	18 29.6 -00.9	252 26.8 -26.3	S	12 34.3 -10.1	09			
10	329 17.9 -00.3	S	23 06.1 -00.1	292 49.5 -00.6	S	18 28.7 -00.9	267 00.5 -26.3	S	12 24.2 -10.1	10			
11	344 17.6 -00.3	S	23 06.0 -00.2	307 48.9 -00.6	S	18 27.8 -00.9	281 34.2 -26.2	S	12 14.1 -10.2	11			
12	359 17.3 -00.3	S	23 05.8 -00.2	322 48.3 -00.7	S	18 26.9 -00.9	296 08.0 -26.2	S	12 03.9 -10.2	12			
13	14 17.0 -00.3	S	23 05.6 -00.2	337 47.6 -00.6	S	18 26.0 -01.0	310 41.8 -26.1	S	11 53.7 -10.3	13			
14	29 16.7 -00.3	S	23 05.4 -00.2	352 47.0 -00.6	S	18 25.0 -00.9	325 15.7 -26.1	S	11 43.4 -10.3	14			
15	44 16.4 -00.3	S	23 05.2 -00.2	7 46.4 -00.6	S	18 24.1 -00.9	339 49.6 -26.0	S	11 33.1 -10.4	15			
16	59 16.1 -00.3	S	23 05.0 -00.2	22 45.8 -00.6	S	18 23.2 -00.9	354 23.6 -26.0	S	11 22.7 -10.4	16			
17	74 15.8 -00.3	S	23 04.8 -00.1	37 45.2 -00.7	S	18 22.3 -00.9	8 57.6 -25.9	S	11 12.3 -10.4	17			
18	89 15.5 -00.3	S	23 04.7 -00.2	52 44.5 -00.6	S	18 21.4 -00.9	23 31.7 -25.9	S	11 01.9 -10.5	18			
19	104 15.2 -00.3	S	23 04.5 -00.2	67 43.9 -00.6	S	18 20.5 -00.9	38 05.8 -25.9	S	10 51.4 -10.5	19			
20	119 14.9 -00.3	S	23 04.3 -00.2	82 43.3 -00.6	S	18 19.6 -00.9	52 39.9 -25.8	S	10 40.9 -10.5	20			
21	134 14.6 -00.3	S	23 04.1 -00.2	97 42.7 -00.6	S	18 18.7 -00.9	67 14.1 -25.8	S	10 30.4 -10.6	21			
22	149 14.3 -00.3	S	23 03.9 -00.2	112 42.1 -00.6	S	18 17.8 -01.0	81 48.3 -25.7	S	10 19.8 -10.7	22			
23	164 14.0 -00.3	S	23 03.7 -00.2	127 41.5 -00.6	S	18 16.8 -00.9	96 22.6 -25.7	S	10 09.1 -10.6	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 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 54'5 54'4 54'4 54'4 54'3 54'3						
	SHA 080° 080° 080° 080° 079° 079°			SHA 044° 043° 043° 043° 043° 043°			SHA 021° 019° 017° 016° 014° 012°						
	Greenwich Culmination Time: 12:02			Greenwich Culmination Time: 14:28			Greenwich Culmination Time: 16:23						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	223 35.9 +00.7	S	19 17.1 +00.4	182 07.4 +01.8	S	23 11.4 -00.1	166 08.5 +02.1	S	21 42.1 -00.1	00			
01	238 36.6 +00.7	S	19 17.5 +00.4	197 09.2 +01.9	S	23 11.3 +00.0	181 10.6 +02.2	S	21 42.0 +00.0	01			
02	253 37.3 +00.8	S	19 17.9 +00.4	212 11.1 +01.8	S	23 11.3 +00.0	196 12.8 +02.2	S	21 42.0 -00.1	02			
03	268 38.1 +00.7	S	19 18.3 +00.4	227 12.9 +01.9	S	23 11.3 +00.0	211 15.0 +02.1	S	21 41.9 +00.0	03			
04	283 38.8 +00.7	S	19 18.7 +00.4	242 14.8 +01.8	S	23 11.3 +00.0	226 17.1 +02.2	S	21 41.9 +00.0	04			
05	298 39.5 +00.8	S	19 19.1 +00.4	257 16.6 +01.8	S	23 11.3 -00.1	241 19.3 +02.1	S	21 41.9 -00.1	05			
06	313 40.3 +00.7	S	19 19.5 +00.4	272 18.4 +01.9	S	23 11.2 +00.0	256 21.4 +02.2	S	21 41.8 +00.0	06			
07	328 41.0 +00.7	S	19 19.9 +00.4	287 20.3 +01.8	S	23 11.2 +00.0	271 23.6 +02.1	S	21 41.8 -00.1	07			
08	343 41.7 +00.8	S	19 20.3 +00.4	302 22.1 +01.8	S	23 11.2 +00.0	286 25.7 +02.2	S	21 41.7 +00.0	08			
09	358 42.5 +00.7	S	19 20.7 +00.4	317 23.9 +01.9	S	23 11.2 -00.1	301 27.9 +02.1	S	21 41.7 -00.1	09			
10	13 43.2 +00.7	S	19 21.1 +00.4	332 25.8 +01.8	S	23 11.1 +00.0	316 30.0 +02.2	S	21 41.6 +00.0	10			
11	28 43.9 +00.8	S	19 21.5 +00.4	347 27.6 +01.9	S	23 11.1 +00.0	331 32.2 +02.1	S	21 41.6 +00.0	11			
12	43 44.7 +00.7	S	19 21.9 +00.4	2 29.5 +01.8	S	23 11.1 +00.0	346 34.3 +02.2	S	21 41.6 -00.1	12			
13	58 45.4 +00.7	S	19 22.3 +00.4	17 31.3 +01.8	S	23 11.1 -00.1	1 36.5 +02.1	S	21 41.5 +00.0	13			
14	73 46.1 +00.8	S	19 22.7 +00.4	32 33.1 +01.9	S	23 11.0 +00.0	16 38.6 +02.2	S	21 41.5 -00.1	14			
15	88 46.9 +00.7	S	19 23.1 +00.4	47 35.0 +01.8	S	23 11.0 +00.0	31 40.8 +02.1	S	21 41.4 +00.0	15			
16	103 47.6 +00.7	S	19 23.5 +00.4	62 36.8 +01.8	S	23 11.0 +00.0	46 42.9 +02.2	S	21 41.4 -00.1	16			
17	118 48.3 +00.8	S	19 23.9 +00.4	77 38.6 +01.9	S	23 11.0 -00.1	61 45.1 +02.1	S	21 41.3 +00.0	17			
18	133 49.1 +00.7	S	19 24.3 +00.4	92 40.5 +01.8	S	23 10.9 +00.0	76 47.2 +02.2	S	21 41.3 +00.0	18			
19	148 49.8 +00.7	S	19 24.7 +00.4	107 42.3 +01.9	S	23 10.9 +00.0	91 49.4 +02.2	S	21 41.3 -00.1	19			
20	163 50.5 +00.8	S	19 25.1 +00.4	122 44.2 +01.8	S	23 10.9 +00.0	106 51.6 +02.1	S	21 41.2 +00.0	20			
21	178 51.3 +00.7	S	19 25.5 +00.4	137 46.0 +01.8	S	23 10.9 -00.1	121 53.7 +02.2	S	21 41.2 -00.1	21			
22	193 52.0 +00.7	S	19 25.9 +00.4	152 47.8 +01.9	S	23 10.8 +00.0	136 55.9 +02.1	S	21 41.1 +00.0	22			
23	208 52.7 +00.8	S	19 26.3 +00.4	167 49.7 +01.8	S	23 10.8 +00.0	151 58.0 +02.2	S	21 41.1 +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 124° 124° 124° 124° 124° 124°			SHA 083° 083° 083° 083° 083° 083°			SHA 067° 067° 067° 067° 067° 067°						
	Greenwich Culmination Time: 09:05			Greenwich Culmination Time: 11:50			Greenwich Culmination Time: 12:53						

