

h		Moon (15 th Oct)				Lunar Distance (objects with largest hourly LD delta)							
Wed	GHA	ν	Dec	d	HP	-AcruX	-Sun	-Venus	-Regulus	+Jupiter	+Pollux	+Capella	+Aldebaran
0	253°07.7	9.9'	N21°43.3	-10.8'	57.2'	95°39.7	74°36.0	54°02.2	23°02.2	13°47.9	14°04.9	47°45.3	57°46.9
1	267°36.6	10.0'	21°32.5	-10.9'	57.2'	95°18.0	74°05.5	53°32.3	22°29.2	14°19.2	14°37.5	48°15.4	58°19.1
2	282°05.6	10.1'	21°21.6	-11.0'	57.1'	94°56.3	73°35.1	53°02.5	21°56.3	14°50.5	15°10.0	48°45.5	58°51.3
3	296°34.8	10.3'	21°10.6	-11.1'	57.1'	94°34.6	73°04.6	52°32.7	21°23.4	15°21.9	15°42.5	49°15.7	59°23.5
4	311°04.0	10.4'	20°59.5	-11.2'	57.1'	94°12.9	72°34.2	52°03.0	20°50.5	15°53.4	16°15.0	49°45.9	59°55.6
5	325°33.4	10.5'	20°48.3	-11.3'	57.1'	93°51.2	72°03.9	51°33.2	20°17.7	16°25.0	16°47.5	50°16.1	60°27.7
6	340°02.9	10.6'	N20°37.1	-11.4'	57.0'	93°29.5	71°33.6	51°03.6	19°44.9	16°56.5	17°20.0	50°46.3	60°59.9
7	354°32.5	10.7'	20°25.7	-11.5'	57.0'	93°07.9	71°03.3	50°33.9	19°12.1	17°28.1	17°52.5	51°16.5	61°31.9
8	9°02.2	10.8'	20°14.2	-11.6'	57.0'	92°46.2	70°33.0	50°04.3	18°39.4	17°59.8	18°25.0	51°46.7	62°04.0
9	23°32.0	10.9'	20°02.6	-11.7'	56.9'	92°24.5	70°02.8	49°34.7	18°06.7	18°31.4	18°57.4	52°16.9	62°36.0
10	38°02.0	11.0'	19°51.0	-11.7'	56.9'	92°02.9	69°32.6	49°05.1	17°34.0	19°03.1	19°29.9	52°47.2	63°08.0
11	52°32.0	11.2'	19°39.2	-11.8'	56.9'	91°41.3	69°02.4	48°35.6	17°01.4	19°34.8	20°02.3	53°17.4	63°40.0
12	67°02.2	11.3'	N19°27.4	-11.9'	56.9'	91°19.7	68°32.3	48°06.1	16°28.8	20°06.5	20°34.7	53°47.7	64°12.0
13	81°32.4	11.4'	19°15.5	-12.0'	56.8'	90°58.1	68°02.2	47°36.6	15°56.3	20°38.2	21°07.1	54°17.9	64°43.9
14	96°02.8	11.5'	19°03.5	-12.1'	56.8'	90°36.5	67°32.1	47°07.2	15°23.8	21°09.9	21°39.5	54°48.2	65°15.9
15	110°33.3	11.6'	18°51.4	-12.2'	56.8'	90°14.9	67°02.0	46°37.8	14°51.3	21°41.6	22°11.9	55°18.4	65°47.8
16	125°03.9	11.7'	18°39.3	-12.2'	56.7'	89°53.4	66°32.0	46°08.4	14°18.8	22°13.3	22°44.2	55°48.7	66°19.6
17	139°34.5	11.8'	18°27.1	-12.3'	56.7'	89°31.9	66°02.0	45°39.1	13°46.4	22°45.0	23°16.5	56°19.0	66°51.5
18	154°05.3	11.9'	N18°14.8	-12.4'	56.7'	89°10.4	65°32.1	45°09.8	13°14.1	23°16.7	23°48.8	56°49.2	67°23.3
19	168°36.2	12.0'	18°02.4	-12.5'	56.7'	88°48.9	65°02.1	44°40.5	12°41.7	23°48.5	24°21.1	57°19.5	67°55.1
20	183°07.2	12.1'	17°49.9	-12.5'	56.6'	88°27.5	64°32.2	44°11.3	12°09.4	24°20.2	24°53.4	57°49.7	68°26.9
21	197°38.3	12.2'	17°37.4	-12.6'	56.6'	88°06.0	64°02.4	43°42.1	11°37.2	24°51.8	25°25.6	58°20.0	68°58.7
22	212°09.5	12.3'	17°24.8	-12.7'	56.6'	87°44.6	63°32.5	43°12.9	11°05.0	25°23.5	25°57.8	58°50.2	69°30.4
23	226°40.8	12.4'	17°12.1	-12.7'	56.6'	87°23.3	63°02.7	42°43.7	10°32.8	25°55.2	26°30.0	59°20.5	70°02.1
15 th	SD = 15.6' Mer. pass. 07:23					Sun SD = 16.0'							

h		Moon (16 th Oct)				Lunar Distance (objects with largest hourly LD delta)							
Thu	GHA	ν	Dec	d	HP	-AcruX	-Sun	-Venus	-Regulus	+Jupiter	+Pollux	+Capella	+Aldebaran
0	241°12.2	12.5'	N16°59.4	-12.8'	56.5'	87°01.9	62°33.0	42°14.6	10°00.7	26°26.9	27°02.2	59°50.7	70°33.8
1	255°43.7	12.6'	16°46.6	-12.9'	56.5'	86°40.6	62°03.2	41°45.5	9°28.6	26°58.5	27°34.3	60°21.0	71°05.4
2	270°15.3	12.7'	16°33.7	-12.9'	56.5'	86°19.3	61°33.5	41°16.4	8°56.6	27°30.2	28°06.4	60°51.2	71°37.1
3	284°47.0	12.8'	16°20.8	-13.0'	56.4'	85°58.0	61°03.8	40°47.4	8°24.7	28°01.8	28°38.5	61°21.4	72°08.7
4	299°18.8	12.9'	16°07.8	-13.1'	56.4'	85°36.8	60°34.1	40°18.4	7°52.8	28°33.4	29°10.6	61°51.6	72°40.3
5	313°50.6	13.0'	15°54.7	-13.1'	56.4'	85°15.6	60°04.5	39°49.4	7°21.0	29°05.0	29°42.6	62°21.9	73°11.9
6	328°22.6	13.1'	N15°41.6	-13.2'	56.4'	84°54.4	59°34.9	39°20.5	6°49.2	29°36.6	30°14.7	62°52.1	73°43.4
7	342°54.7	13.1'	15°28.4	-13.2'	56.3'	84°33.3	59°05.3	38°51.6	6°17.6	30°08.2	30°46.7	63°22.3	74°14.9
8	357°26.8	13.2'	15°15.2	-13.3'	56.3'	84°12.2	58°35.7	38°22.7	5°46.1	30°39.7	31°18.7	63°52.5	74°46.4
9	1°59.0	13.3'	15°01.9	-13.3'	56.3'	83°51.1	58°06.2	37°53.8	5°14.7	31°11.3	31°50.6	64°22.6	75°17.9
10	26°31.4	13.4'	14°48.5	-13.4'	56.3'	83°30.1	57°36.7	37°25.0	4°43.5	31°42.8	32°22.5	64°52.8	75°49.4
11	41°03.8	13.5'	14°35.1	-13.5'	56.2'	83°09.1	57°07.2	36°56.2	4°12.5	32°14.3	32°54.5	65°23.0	76°20.8
12	55°36.3	13.6'	N14°21.7	-13.5'	56.2'	82°48.1	56°37.8	36°27.4	3°41.8	32°45.8	33°26.3	65°53.2	76°52.2
13	70°08.8	13.7'	14°08.2	-13.6'	56.2'	82°27.2	56°08.4	35°58.7	3°11.6	33°17.3	33°58.2	66°23.3	77°23.6
14	84°41.5	13.7'	13°54.6	-13.6'	56.2'	82°06.3	55°39.0	35°30.0	2°42.1	33°48.7	34°30.1	66°53.4	77°54.9
15	99°14.2	13.8'	13°41.0	-13.7'	56.1'	81°45.4	55°09.6	35°01.3	2°10.4	34°20.1	35°01.9	67°23.6	78°26.3
16	113°47.1	13.9'	13°27.4	-13.7'	56.1'	81°24.6	54°40.3	34°32.7	1°40.7	34°51.6	35°33.7	67°53.7	78°57.6
17	128°20.0	14.0'	13°13.7	-13.7'	56.1'	81°03.9	54°11.0	34°04.0	1°10.0	35°23.0	36°05.4	68°23.8	79°28.9
18	142°53.0	14.1'	N12°59.9	-13.8'	56.1'	80°43.2	53°41.7	33°35.4	0°40.0	35°54.4	36°37.2	68°53.9	80°00.2
19	157°26.0	14.1'	12°46.1	-13.8'	56.0'	80°22.5	53°12.4	33°06.9	0°10.0	36°25.7	37°08.9	69°24.0	80°31.4
20	171°59.2	14.2'	12°32.3	-13.9'	56.0'	80°01.9	52°43.2	32°38.3	0°40.0	36°57.1	37°40.6	69°54.0	81°02.6
21	186°32.4	14.3'	12°18.4	-13.9'	56.0'	79°41.3	52°14.0	32°09.8	0°10.0	37°28.4	38°12.3	70°24.1	81°33.8
22	201°05.6	14.4'	12°04.5	-14.0'	56.0'	79°20.8	51°44.8	31°41.3	0°40.0	37°59.7	38°44.0	70°54.1	82°05.0
23	215°39.0	14.4'	11°50.5	-14.0'	56.0'	79°00.3	51°15.6	31°12.9	0°10.0	38°31.0	39°15.6	71°24.2	82°36.2
16 th	SD = 15.4' Mer. pass. 08:11					Sun SD = 16.0'							

h		Moon (17 th Oct)				Lunar Distance (objects with largest hourly LD delta)							
Fri	GHA	ν	Dec	d	HP	-AcruX	-Sun	-Venus	+Regulus	+Jupiter	+Pollux	+Capella	+Aldebaran
0	230°12.4	14.5'	N11°36.5	-14.0'	55.9'	78°39.8	50°46.5	30°44.5		39°02.3	39°47.2	71°54.2	83°07.3
1	244°45.9	14.6'	11°22.5	-14.1'	55.9'	78°19.4	50°17.4	30°16.1	3°33.1	39°33.5	40°18.8	72°24.2	83°38.4
2	259°19.5	14.6'	11°08.4	-14.1'	55.9'	77°59.1	49°48.3	29°47.7	4°03.3	40°04.8	40°50.4	72°54.2	84°09.5
3	273°53.1	14.7'	10°54.3	-14.1'	55.9'	77°38.8	49°19.2	29°19.4	4°33.8	40°36.0	41°21.9	73°24.2	84°40.6
4	288°26.8	14.8'	10°40.2	-14.2'	55.8'	77°18.6	48°50.2	28°51.0	5°04.5	41°07.2	41°53.5	73°54.2	85°11.6
5	303°00.6	14.8'	10°26.0	-14.2'	55.8'	76°58.4	48°21.2	28°22.8	5°35.4	41°38.4	42°25.0	74°24.1	85°42.7
6	317°34.4	14.9'	N10°11.8	-14.2'	55.8'	76°38.3	47°52.2	27°54.5	6°06.4	42°09.5	42°56.5	74°54.1	86°13.7
7	332°08.3	15.0'	09°57.6	-14.3'	55.8'	76°18.2	47°23.2	27°26.3	6°37.4	42°40.7	43°27.9	75°24.0	86°44.7
8	346°42.3	15.0'	09°43.3	-14.3'	55.7'	75°58.2	46°54.3	26°58.1	7°08.5	43°11.8	43°59.4	75°53.9	87°15.6
9	1°16.3	15.1'	09°29.0	-14.3'	55.7'	75°38.2	46°25.4	26°29.9	7°39.6	43°42.9	44°30.8	76°23.8	87°46.6
10	15°50.4	15.1'	09°14.7	-14.3'	55.7'	75°18.3	45°56.5	26°01.8	8°10.7	44°14.0	45°02.2	76°53.7	88°17.5
11	30°24.5	15.2'	09°00.3	-14.4'	55.7'	74°58.5	45°27.6	25°33.7	8°41.9	44°45.1	45°33.6	77°23.6	88°48.4
12	44°58.7	15.2'	N08°46.0	-14.4'	55.7'	74°38.7	44°58.8	25°05.6	9°13.0	45°16.1	46°04.9	77°53.4	89°19.3
13	59°33.0	15.3'	08°31.6	-14.4'	55.6'	74°19.0	44°30.0	24°37.6	9°44.2	45°47.2	46°36.3	78°23.3	89°50.1
14	74°07.3	15.4'	08°17.1	-14.4'	55.6'	73°59.4	44°01.2	24°09.6	10°15.4	46°18.2	47°07.6	78°53.1	90°20.9
15	88°41.6	15.4'	08°02.7	-14.5'	55.6'	73°39.8	43°32.4	23°41.6	10°46.6	46°49.2	47°38.9	79°22.9	90°51.8
16	103°16.0	15.5'	07°48.2	-14.5'	55.6'	73°20.2	43°03.6	23°13.6	11°17.7	47°20.2	48°10.2	79°52.7	91°22.5
17	117°50.5	15.5'	07°33.7	-14.5'	55.6'	73°00.8	42°34.9	22°45.7	11°48.9	47°51.1	48°41.4	80°22.5	91°53.3
18	132°25.0	15.6'	N07°19.2	-14.5'	55.5'	72°41.4	42°06.2	22°17.8	12°20.0	48°22.1	49°12.6	80°52.2	92°24.1
19	146°59.6	15.6'	07°04.7	-14.5'	55.5'	72°22.1	41°37.5	21°50.0	12°51.2	48°53.0	49°43.9	81°22.0	92°54.8
20	161°34.2	15.7'	06°50.2	-14.6'	55.5'	72°02.8	41°08.9	21°22.2	13°22.3	49°23.9	50°15.1	81°51.7	93°25.5
21	176°08.8	15.7'	06°35.6	-14.6'	55.5'	71°43.6	40°40.2	20°54.4	13°53.4	49°54.8	50°46.2	82°21.4	93°56.2
22	190°43.5	15.7'	06°21.0	-14.6'	55.4'	71°24.5	40°11.6	20°26.6	14°24.5	50°25.7	51°17.4	82°51.2	94°26.9
23	205°18.3	15.8'	06°06.4	-14.6'	55.4'	71°05.5	39°42.7	19°58.9	14°55.6	50°56.5	51°48.5	83°20.8	94°57.5
17 th	SD =												

Moon (18 th Oct)						Lunar Distance (objects with largest hourly LD delta)							
Sat	GHA	ν	Dec	d	HP	-Acruz	-Venus	+Regulus	+Jupiter	+Pollux	+Betelgeuse	+Capella	+Aldebaran
0	219°53.0	15.8'	N05°51.8	-14.6'	55.4'	70°46.5	19°31.3	15°26.7	51°27.3	52°19.6	77°06.2	83°50.5	95°28.1
1	234°27.9	15.9'	05°37.2	-14.6'	55.4'	70°27.6	19°03.6	15°57.7	51°58.2	52°50.7	77°35.2	84°20.2	95°58.7
2	249°02.7	15.9'	05°22.6	-14.6'	55.4'	70°08.8	18°36.0	16°28.8	52°29.0	53°21.8	78°04.1	84°49.8	96°29.3
3	263°37.6	15.9'	05°07.9	-14.7'	55.3'	69°50.0	18°08.5	16°59.8	52°59.7	53°52.9	78°33.0	85°19.4	96°59.9
4	278°12.6	16.0'	04°53.3	-14.7'	55.3'	69°31.4	17°41.0	17°30.8	53°30.5	54°23.9	79°01.9	85°49.0	97°30.4
5	292°47.6	16.0'	04°38.6	-14.7'	55.3'	69°12.8	17°13.5	18°01.8	54°01.3	54°54.9	79°30.8	86°18.6	98°01.0
6	307°22.6	16.1'	N04°23.9	-14.7'	55.3'	68°54.3	16°46.1	18°32.8	54°32.0	55°25.9	79°59.7	86°48.2	98°31.5
7	321°57.6	16.1'	04°09.3	-14.7'	55.3'	68°35.8	16°18.7	19°03.8	55°02.7	55°56.9	80°28.6	87°17.7	99°01.9
8	336°32.7	16.1'	03°54.6	-14.7'	55.3'	68°17.5	15°51.4	19°34.7	55°33.4	56°27.9	80°57.5	87°47.3	99°32.4
9	351°07.9	16.2'	03°39.9	-14.7'	55.2'	67°59.2	15°24.1	20°05.7	56°04.1	56°58.8	81°26.3	88°16.8	100°02.9
10	5°43.0	16.2'	03°25.2	-14.7'	55.2'	67°41.1	14°56.9	20°36.6	56°34.7	57°29.8	81°55.2	88°46.3	100°33.3
11	20°18.2	16.2'	03°10.5	-14.7'	55.2'	67°23.0	14°29.7	21°07.5	57°05.4	58°00.7	82°24.0	89°15.8	101°03.7
12	34°53.4	16.2'	N02°55.8	-14.7'	55.2'	67°05.0	14°02.6	21°38.4	57°36.0	58°31.6	82°52.8	89°45.3	101°34.1
13	49°28.6	16.3'	02°41.1	-14.7'	55.2'	66°47.1	13°35.6	22°09.3	58°06.6	59°02.4	83°21.6	90°14.7	102°04.4
14	64°03.9	16.3'	02°26.4	-14.7'	55.1'	66°29.2	13°08.6	22°40.1	58°37.2	59°33.3	83°50.4	90°44.2	102°34.8
15	78°39.2	16.3'	02°11.7	-14.7'	55.1'	66°11.5	12°41.8	23°11.0	59°07.8	60°04.1	84°19.2	91°13.6	103°05.1
16	93°14.5	16.3'	01°57.0	-14.7'	55.1'	65°53.9	12°15.0	23°41.8	59°38.4	60°35.0	84°48.0	91°43.0	103°35.4
17	107°49.8	16.4'	01°42.2	-14.7'	55.1'	65°36.3	11°48.3	24°12.6	60°08.9	61°05.8	85°16.8	92°12.4	104°05.7
18	122°25.2	16.4'	N01°27.5	-14.7'	55.1'	65°18.9	11°21.7	24°43.4	60°39.5	61°36.6	85°45.5	92°41.7	104°36.0
19	137°00.6	16.4'	01°12.8	-14.7'	55.1'	65°01.5	10°55.2	25°14.2	61°10.0	62°07.3	86°14.2	93°11.1	105°06.2
20	151°36.0	16.4'	00°58.2	-14.7'	55.0'	64°44.3	10°28.8	25°44.9	61°40.5	62°38.1	86°43.0	93°40.4	105°36.4
21	166°11.4	16.4'	00°43.5	-14.7'	55.0'	64°27.1	10°02.5	26°15.7	62°11.0	63°08.8	87°11.7	94°09.7	106°06.6
22	180°46.8	16.5'	00°28.8	-14.7'	55.0'	64°10.1	9°36.4	26°46.4	62°41.4	63°39.6	87°40.3	94°39.0	106°36.8
23	195°22.3	16.5'	00°14.1	-14.7'	55.0'	63°53.1	9°10.5	27°17.1	63°11.9	64°10.3	88°09.0	95°08.3	107°07.0
18 th	SD = 15.1' Mer. pass. 09:36												

Moon (19 th Oct)						Lunar Distance (objects with largest hourly LD delta)							
Sun	GHA	ν	Dec	d	HP	-Acruz	-Venus	+Regulus	+Jupiter	+Pollux	+Betelgeuse	+Capella	+Aldebaran
0	209°57.8	16.5'	S00°00.6	-14.7'	55.0'	63°36.3	8°44.8	27°47.8	63°42.3	64°40.9	88°37.7	95°37.5	107°37.1
1	224°33.2	16.5'	00°15.2	-14.7'	54.9'	63°19.5	8°19.2	28°18.5	64°12.7	65°11.6	89°06.3	96°06.8	108°07.3
2	239°08.7	16.5'	00°29.9	-14.6'	54.9'	63°02.9	7°53.9	28°49.1	64°43.1	65°42.3	89°35.0	96°36.0	108°37.4
3	253°44.3	16.5'	00°44.5	-14.6'	54.9'	62°46.3	7°29.0	29°19.8	65°13.5	66°12.9	90°03.6	97°05.2	109°07.5
4	268°19.8	16.5'	00°59.2	-14.6'	54.9'	62°29.9	7°04.3	29°50.4	65°43.9	66°43.5	90°32.2	97°34.4	109°37.5
5	282°55.3	16.5'	01°13.8	-14.6'	54.9'	62°13.6	6°40.0	30°21.0	66°14.3	67°14.1	91°00.8	98°03.5	110°07.6
6	297°30.8	16.5'	S01°28.4	-14.6'	54.9'	61°57.4	6°16.2	30°51.6	66°44.6	67°44.7	91°29.3	98°32.7	110°37.6
7	312°06.4	16.6'	01°43.0	-14.6'	54.8'	61°41.3	5°53.0	31°22.2	67°14.9	68°15.3	91°57.9	99°01.8	111°07.6
8	326°42.0	16.6'	01°57.6	-14.6'	54.8'	61°25.4	5°30.4	31°52.8	67°45.3	68°45.9	92°26.4	99°30.9	111°37.6
9	341°17.5	16.6'	02°12.1	-14.6'	54.8'	61°09.5	5°08.6	32°23.4	68°15.6	69°16.4	92°55.0	100°00.0	112°07.6
10	355°53.1	16.6'	02°26.7	-14.5'	54.8'	60°53.8		32°53.9	68°45.9	69°46.9	93°23.5	100°29.1	112°37.5
11	10°28.7	16.6'	02°41.2	-14.5'	54.8'	60°38.2		33°24.4	69°16.1	70°17.5	93°51.9	100°58.1	113°07.5
12	25°04.2	16.6'	S02°55.7	-14.5'	54.8'	60°22.7		33°54.9	69°46.4	70°48.0	94°20.4	101°27.1	113°37.4
13	39°39.8	16.6'	03°10.2	-14.5'	54.8'	60°07.3		34°25.4	70°16.6	71°18.4	94°48.9	101°56.1	114°07.3
14	54°15.4	16.6'	03°24.7	-14.5'	54.7'	59°52.0		34°55.9	70°46.9	71°48.9	95°17.3	102°25.1	114°37.1
15	68°50.9	16.6'	03°39.2	-14.4'	54.7'	59°36.9		35°26.4	71°17.1	72°19.4	95°45.7	102°54.1	115°07.0
16	83°26.5	16.6'	03°53.6	-14.4'	54.7'			35°56.8	71°47.3	72°49.8	96°14.1	103°23.0	115°36.8
17	98°02.1	16.6'	04°08.0	-14.4'	54.7'			36°27.3	72°17.5	73°20.2	96°42.5	103°52.0	116°06.6
18	112°37.7	16.6'	S04°22.4	-14.4'	54.7'			36°57.7	72°47.6	73°50.6	97°10.9	104°20.9	116°36.4
19	127°13.2	16.6'	04°36.8	-14.3'	54.7'			37°28.1	73°17.8	74°21.0	97°39.3	104°49.8	117°06.2
20	141°48.8	16.6'	04°51.2	-14.3'	54.7'			37°58.5	73°47.9	74°51.4	98°07.6	105°18.6	117°36.0
21	156°24.3	16.5'	05°05.5	-14.3'	54.6'			38°28.9	74°18.1	75°21.8	98°35.9	105°47.5	118°05.7
22	170°59.9	16.5'	05°19.8	-14.3'	54.6'			38°59.3	74°48.2	75°52.1	99°04.2	106°16.3	118°35.4
23	185°35.4	16.5'	05°34.0	-14.2'	54.6'			39°29.6	75°18.3	76°22.5	99°32.5	106°45.1	119°05.1
19 th	SD = 15.0' Mer. pass. 10:17												

Moon (20 th Oct)						Lunar Distance (objects with largest hourly LD delta)							
Mon	GHA	ν	Dec	d	HP	+Venus	+Regulus	+Procyon	+Jupiter	+Pollux	+Betelgeuse	+Capella	+Aldebaran
0	200°10.9	16.5'	S05°48.3	-14.2'	54.6'		39°59.9	74°03.7	75°48.4	76°52.8	100°00.7	107°13.9	119°34.8
1	214°46.5	16.5'	06°02.5	-14.2'	54.6'		40°30.3	74°32.1	76°18.5	77°23.1	100°29.0	107°42.6	
2	229°22.0	16.5'	06°16.7	-14.2'	54.6'		41°00.6	75°00.4	76°48.5	77°53.4	100°57.2	108°11.3	
3	243°57.5	16.5'	06°30.9	-14.1'	54.6'		41°30.9	75°28.8	77°18.6	78°23.7	101°25.4	108°40.1	
4	258°32.9	16.5'	06°45.0	-14.1'	54.5'	5°40.1	42°01.2	75°57.1	77°48.6	78°53.9	101°53.6	109°08.8	
5	273°08.4	16.4'	06°59.1	-14.1'	54.5'	6°02.7	42°31.4	76°25.5	78°18.7	79°24.2	102°21.7	109°37.4	
6	287°43.8	16.4'	S07°13.1	-14.0'	54.5'	6°25.9	43°01.7	76°53.8	78°48.7	79°54.4	102°49.9	110°06.1	
7	302°19.3	16.4'	07°27.2	-14.0'	54.5'	6°49.6	43°32.0	77°22.1	79°18.7	80°24.7	103°18.0	110°34.7	
8	316°54.7	16.4'	07°41.2	-14.0'	54.5'	7°13.7	44°02.2	77°50.4	79°48.7	80°54.9	103°46.1	111°03.3	
9	331°30.1	16.4'	07°55.1	-13.9'	54.5'	7°38.1	44°32.4	78°18.8	80°18.6	81°25.1	104°14.2	111°31.9	
10	346°05.5	16.4'	08°09.1	-13.9'	54.5'	8°02.8	45°02.6	78°47.1	80°48.6	81°55.3	104°42.2	112°00.4	
11	0°40.8	16.3'	08°22.9	-13.9'	54.4'	8°27.7	45°32.8	79°15.4	81°18.6	82°25.5	105°10.3	112°28.9	
12	15°16.2	16.3'	S08°36.8	-13.8'	54.4'	8°52.8	46°03.0	79°43.7	81°48.5	82°55.6	105°38.3	112°57.4	
13	29°51.5	16.3'	08°50.6	-13.8'	54.4'	9°18.1	46°33.2	80°12.0	82°18.4	83°25.8	106°06.3	113°25.9	
14	44°26.8	16.3'	09°04.4	-13.7'	54.4'	9°43.5	47°03.3	80°40.2	82°48.3	83°55.9	106°34.2	113°54.4	
15	59°02.1	16.2'	09°18.1	-13.7'	54.4'	10°09.1	47°33.5	81°08.5	83°18.2	84°26.0	107°02.2	114°22.8	
16	73°37.3	16.2'	09°31.8	-13.7'	54.4'								
17	88°12.5	16.2'	09°45.5	-13.6'	54.4'								
18	102°47.7	16.2'	S09°59.1	-13.6'	54.4'								
19	117°22.9	16.1'	10°12.7	-13.5'	54.4'								
20	131°58.0	16.1'	10°26.2	-13.5'	54.3'								
21	146°33.1	16.1'	10°39.7	-13.4'	54.3'								
22	161°08.2	16.0'	10°53.1	-13.4'	54.3'								
23	175°43.3	16.0'	11°06.5	-13.3'	54.3'								
20 th	SD = 14.9' Mer. pass. 10:57												

h Moon (21 st Oct)						
Tue	GHA	ν	Dec	d	HP	
0	190°18.3	16.0'	S11°19.9	-13.3'	54.3'	New Moon
1	204°53.3	16.0'	11°33.2	-13.2'	54.3'	New Moon
2	219°28.2	15.9'	11°46.4	-13.2'	54.3'	New Moon
3	234°03.1	15.9'	11°59.6	-13.2'	54.3'	New Moon
4	248°38.0	15.8'	12°12.8	-13.1'	54.3'	New Moon
5	263°12.9	15.8'	12°25.9	-13.0'	54.2'	New Moon
6	277°47.7	15.8'	S12°38.9	-13.0'	54.2'	New Moon
7	292°22.5	15.7'	12°51.9	-12.9'	54.2'	New Moon
8	306°57.2	15.7'	13°04.8	-12.9'	54.2'	New Moon
9	321°31.9	15.7'	13°17.7	-12.8'	54.2'	New Moon
10	336°06.6	15.6'	13°30.6	-12.8'	54.2'	New Moon
11	350°41.2	15.6'	13°43.3	-12.7'	54.2'	New Moon
12	5°15.7	15.5'	S13°56.1	-12.7'	54.2'	New Moon
13	19°50.3	15.5'	14°08.7	-12.6'	54.2'	New Moon
14	34°24.8	15.5'	14°21.3	-12.5'	54.2'	New Moon
15	48°59.2	15.4'	14°33.9	-12.5'	54.1'	New Moon
16	63°33.6	15.4'	14°46.3	-12.4'	54.1'	New Moon
17	78°08.0	15.3'	14°58.8	-12.4'	54.1'	New Moon
18	92°42.3	15.3'	S15°11.1	-12.3'	54.1'	New Moon
19	107°16.6	15.2'	15°23.4	-12.2'	54.1'	New Moon
20	121°50.8	15.2'	15°35.7	-12.2'	54.1'	New Moon
21	136°25.0	15.1'	15°47.8	-12.1'	54.1'	New Moon
22	150°59.1	15.1'	15°59.9	-12.0'	54.1'	New Moon
23	165°33.2	15.0'	16°12.0	-12.0'	54.1'	New Moon
21 st	SD = 14.8'		Mer. pass. 11:38			

h Moon (22 nd Oct)						Lunar Distance (objects with largest hourly LD delta)					
Wed	GHA	ν	Dec	d	HP	-Fomalhaut	-Altair	-Antares	-Mars	+Arcturus	
0	180°07.2	15.0'	S16°24.0	-11.9'	54.1'						New Moon
1	194°41.2	14.9'	16°35.9	-11.8'	54.1'						New Moon
2	209°15.1	14.9'	16°47.7	-11.8'	54.1'						New Moon
3	223°49.0	14.8'	16°59.5	-11.7'	54.0'						New Moon
4	238°22.9	14.8'	17°11.2	-11.6'	54.0'						New Moon
5	252°56.6	14.7'	17°22.8	-11.6'	54.0'						New Moon
6	267°30.4	14.7'	S17°34.3	-11.5'	54.0'						New Moon
7	282°04.0	14.6'	17°45.8	-11.4'	54.0'						New Moon
8	296°37.6	14.6'	17°57.2	-11.3'	54.0'						New Moon
9	311°11.2	14.5'	18°08.6	-11.3'	54.0'	112°10.6	86°21.1	31°26.6	12°36.4		
10	325°44.7	14.5'	18°19.8	-11.2'	54.0'	111°42.9	85°56.2	30°56.9	12°10.2		
11	340°18.2	14.4'	18°31.0	-11.1'	54.0'	111°15.3	85°31.3	30°27.2	11°44.1		
12	354°51.6	14.3'	S18°42.1	-11.0'	54.0'	110°47.6	85°06.4	29°57.5	11°18.2		
13	9°24.9	14.3'	18°53.1	-10.9'	54.0'	110°19.9	84°41.5	29°27.8	10°52.5		
14	23°58.2	14.2'	19°04.1	-10.9'	54.0'	109°52.3	84°16.6	28°58.1	10°27.0		
15	38°31.4	14.2'	19°15.0	-10.8'	54.0'	109°24.6	83°51.8	28°28.4	10°01.7		
16	53°04.6	14.1'	19°25.7	-10.7'	54.0'	108°56.9	83°26.9	27°58.8	9°36.6		
17	67°37.7	14.1'	19°36.5	-10.6'	54.0'	108°29.2	83°02.1	27°29.1	9°11.8		
18	82°10.8	14.0'	S19°47.1	-10.5'	54.0'	108°01.5	82°37.3	26°59.5	8°47.3		
19	96°43.8	13.9'	19°57.6	-10.5'	54.0'	107°33.8	82°12.5	26°29.8	8°23.2		
20	111°16.7	13.9'	20°08.1	-10.4'	53.9'	107°06.1	81°47.7	26°00.2	7°59.5		
21	125°49.6	13.8'	20°18.5	-10.3'	53.9'	106°38.4	81°22.9	25°30.5	7°36.3		
22	140°22.4	13.8'	20°28.7	-10.2'	53.9'	106°10.7	80°58.1	25°00.9	7°13.6		
23	154°55.1	13.7'	20°38.9	-10.1'	53.9'	105°43.0	80°33.4	24°31.3	6°51.5	40°22.3	
22 nd	SD = 14.7'		Mer. pass. 12:21								

h Moon (23 rd Oct)						Lunar Distance (objects with largest hourly LD delta)						
Thu	GHA	ν	Dec	d	HP	-Saturn	-Fomalhaut	-Achernar	-Altair	-Antares	±Mars	+Arcturus
0	169°27.8	13.6'	S20°49.1	-10.0'	53.9'		105°15.3		80°08.7	24°01.7	6°30.2	40°37.7
1	184°00.5	13.6'	20°59.1	-9.9'	53.9'		104°47.5		79°44.0	23°32.1	6°09.8	40°53.3
2	198°33.1	13.5'	21°09.0	-9.8'	53.9'		104°19.8		79°19.3	23°02.5		41°09.1
3	213°05.6	13.5'	21°18.9	-9.8'	53.9'		103°52.1		78°54.6	22°32.9		41°25.1
4	227°38.0	13.4'	21°28.6	-9.7'	53.9'		103°24.4		78°30.0	22°03.3		41°41.3
5	242°10.4	13.3'	21°38.3	-9.6'	53.9'		102°56.6		78°05.4	21°33.7		41°57.7
6	256°42.7	13.3'	S21°47.9	-9.5'	53.9'		102°28.9		77°40.8	21°04.1		42°14.3
7	271°15.0	13.2'	21°57.3	-9.4'	53.9'		102°01.2		77°16.2	20°34.6		42°31.1
8	285°47.2	13.1'	22°06.7	-9.3'	53.9'		101°33.4		76°51.6	20°05.0		42°48.1
9	300°19.4	13.1'	22°16.0	-9.2'	53.9'		101°05.7		76°27.1	19°35.4		43°05.2
10	314°51.4	13.0'	22°25.2	-9.1'	53.9'		100°38.0		76°02.6	19°05.9		43°22.5
11	329°23.5	13.0'	22°34.3	-9.0'	53.9'		100°10.2		75°38.1	18°36.3		43°40.0
12	343°55.4	12.9'	S22°43.3	-8.9'	53.9'		99°42.5		75°13.6	18°06.8		43°57.7
13	358°27.3	12.8'	22°52.2	-8.8'	53.9'		99°14.7		74°49.2	17°37.2		44°15.5
14	12°59.1	12.8'	23°01.0	-8.7'	53.9'		98°47.0		74°24.8	17°07.7		44°33.5
15	27°30.9	12.7'	23°09.7	-8.6'	53.9'		98°19.2		74°00.4	16°38.2		44°51.7
16	42°02.6	12.6'	23°18.3	-8.5'	53.9'		97°51.5		73°36.0	16°08.6		45°10.0
17	56°34.3	12.6'	23°26.8	-8.4'	53.9'		97°23.8	96°30.3	73°11.7	15°39.1		45°28.5
18	71°05.9	12.5'	S23°35.2	-8.3'	53.9'		96°56.0	96°15.3	72°47.4	15°09.6		45°47.1
19	85°37.4	12.5'	23°43.5	-8.2'	53.9'		96°28.3	96°00.3	72°23.1	14°40.1		46°05.8
20	100°08.8	12.4'	23°51.7	-8.1'	53.9'	119°55.8	96°00.5	95°45.2	71°58.8	14°10.6		46°24.7
21	114°40.2	12.3'	23°59.8	-8.0'	53.9'	119°26.2	95°32.8	95°30.1	71°34.6	13°41.1		46°43.8
22	129°11.6	12.3'	24°07.8	-7.9'	53.9'	118°56.6	95°05.0	95°15.1	71°10.4	13°11.6	6°49.4	47°02.9
23	143°42.8	12.2'	24°15.7	-7.8'	53.9'	118°27.0	94°37.3	94°59.9	70°46.2	12°42.1	7°11.3	47°22.2
23 rd	SD = 14.7'		Mer. pass. 13:06									

h Moon (24 th Oct)						Lunar Distance (objects with largest hourly LD delta)						
Fri	GHA	ν	Dec	d	HP	-Saturn	-Achernar	-Fomalhaut	-Altair	-Antares	+Mars	+Arcturus
0	158°14.0	12.1'	S24°23.4	-7.7'	53.9'	117°57.4	94°44.8	94°09.5	70°22.1	12°12.6	7°33.8	47°41.7
1	172°45.2	12.1'	24°31.1	-7.6'	53.9'	117°27.8	94°29.7	93°41.8	69°58.0	11°43.1	7°56.9	48°01.2
2	187°16.3	12.0'	24°38.7	-7.4'	53.9'	116°58.3	94°14.5	93°14.0	69°33.9	11°13.6	8°20.4	48°20.9
3	201°47.3	12.0'	24°46.1	-7.3'	53.9'	116°28.7	93°59.4	92°46.3	69°09.9	10°44.1	8°44.4	48°40.8
4	216°18.3	11.9'	24°53.4	-7.2'	53.9'	115°59.1	93°44.2	92°18.5	68°45.9	10°14.6	9°08.7	49°00.7
5	230°49.2	11.8'	25°00.7	-7.1'	53.9'	115°29.5	93°29.0	91°50.8	68°21.9	9°45.2	9°33.3	49°20.7
6	245°20.0	11.8'	S25°07.8	-7.0'	53.9'	114°59.9	93°13.8	91°23.0	67°58.0	9°15.7	9°58.2	49°40.9
7	259°50.8	11.7'	25°14.8	-6.9'	53.9'	114°30.3	92°58.6	90°55.3	67°34.1	8°46.2	10°23.3	50°01.2
8	274°21.5	11.7'	25°21.6	-6.8'	53.9'	114°00.7	92°43.4	90°27.5	67°10.2	8°16.8	10°48.6	50°21.6
9	288°52.2	11.6'	25°28.4	-6.7'	53.9'	113°31.1	92°28.2	89°59.8	66°46.4	7°47.3	11°14.2	50°42.1
10	303°22.8	11.5'	25°35.1	-6.5'	53.9'	113°01.5	92°12.9	89°32.0	66°22.6	7°17.9	11°39.8	51°02.7
11	317°53.3	11.5'	25°41.6	-6.4'	53.9'	112°31.9	91°57.7	89°04.3	65°58.8	6°48.5	12°05.7	51°23.4
12	332°23.8	11.4'	S25°48.0	-6.3'	53.9'	112°02.4	91°42.4	88°36.5	65°35.1	6°19.1	12°31.6	51°44.2
13	346°54.3	11.4'	25°54.3	-6.2'	53.9'	111°32.8	91°27.2	88°08.8	65°11.5	5°49.7	12°57.7	52°05.2
14	1°24.6	11.3'	26°00.5	-6.1'	53.9'	111°03.2	91°11.9	87°41.0	64°47.8	5°20.3	13°23.9	52°26.2
15	15°55.0	11.3'	26°06.6	-6.0'	53.9'	110°33.6	90°56.7	87°13.3	64°24.2	4°50.9	13°50.2	52°47.3
16	30°25.2	11.2'	26°12.5	-5.8'	53.9'	110°04.0	90°41.4	86°45.5	64°00.7	4°21.6	14°16.6	53°08.5
17	44°55.4	11.2'	26°18.4	-5.7'	53.9'	109°34.4	90°26.2	86°17.8	63°37.2	3°52.3	14°43.1	53°29.8
18	59°25.6	11.1'	S26°24.1	-5.6'	53.9'	109°04.8	90°10.9	85°50.1	63°13.8	3°23.1	15°09.6	53°51.2
19	73°55.7	11.0'	26°29.7	-5.5'	53.9'	108°35.2	89°55.6	85°22.3	62°50.3	2°54.0	15°36.2	54°12.6
20	88°25.7	11.0'	26°35.2	-5.3'	53.9'	108°05.6	89°40.4	84°54.6	62°27.0	2°25.0	16°02.9	54°34.2
21	102°55.7	10.9'	26°40.5	-5.2'	53.9'	107°36.0	89°25.1	84°26.8	62°03.7	1°56.3	16°29.6	54°55.8
22	117°25.7	10.9'	26°45.7	-5.1'	53.9'	107°06.4	89°09.8	83°59.1	61°40.4	1°28.2	16°56.4	55°17.6
23	131°55.5	10.8'	26°50.8	-5.0'	53.9'	106°36.8	88°54.6	83°31.4	61°17.2	17°23.3	17°23.3	55°39.4
24 th	SD = 14.7' Mer. pass. 13:54											

h Moon (25 th Oct)						Lunar Distance (objects with largest hourly LD delta)							
Sat	GHA	ν	Dec	d	HP	-Saturn	-Achernar	-Fomalhaut	-Altair	+Antares	+Mars	+Sun	+Arcturus
0	146°25.4	10.8'	S26°55.8	-4.8'	53.9'	106°07.2	88°39.3	83°03.6	60°54.0		17°50.2		56°01.3
1	160°55.2	10.7'	27°00.6	-4.7'	53.9'	105°37.6	88°24.0	82°35.9	60°30.9		18°17.1		56°23.2
2	175°24.9	10.7'	27°05.4	-4.6'	53.9'	105°08.0	88°08.8	82°08.2	60°07.9		18°44.1		56°45.3
3	189°54.6	10.6'	27°10.0	-4.5'	54.0'	104°38.4	87°53.5	81°40.4	59°44.9		19°11.1		57°07.4
4	204°24.2	10.6'	27°14.4	-4.3'	54.0'	104°08.7	87°38.3	81°12.7	59°21.9		19°38.1		57°29.6
5	218°53.8	10.5'	27°18.8	-4.2'	54.0'	103°39.1	87°23.0	80°45.0	58°59.0	2°07.8	20°05.2		57°51.8
6	233°23.4	10.5'	S27°23.0	-4.1'	54.0'	103°09.5	87°07.8	80°17.2	58°36.2	2°36.6	20°32.3		58°14.2
7	247°52.9	10.5'	27°27.1	-4.0'	54.0'	102°39.8	86°52.6	79°49.5	58°13.4	3°05.7	20°59.5	41°18.9	58°36.6
8	262°22.3	10.4'	27°31.0	-3.8'	54.0'	102°10.2	86°37.4	79°21.8	57°50.7	3°34.9	21°26.6	41°45.8	58°59.1
9	276°51.7	10.4'	27°34.9	-3.7'	54.0'	101°40.6	86°22.2	78°54.1	57°28.1	4°04.1	21°53.8	42°12.8	59°21.6
10	291°21.1	10.3'	27°38.6	-3.6'	54.0'	101°10.9	86°07.0	78°26.3	57°05.5	4°33.5	22°21.1	42°39.7	59°44.2
11	305°50.4	10.3'	27°42.1	-3.4'	54.0'	100°41.3	85°51.8	77°58.6	56°43.0	5°02.9	22°48.3	43°06.7	60°06.9
12	320°19.7	10.2'	S27°45.6	-3.3'	54.0'	100°11.6	85°36.6	77°30.9	56°20.5	5°32.3	23°15.6	43°33.7	60°29.6
13	334°48.9	10.2'	27°48.9	-3.2'	54.0'	99°42.0	85°21.4	77°03.2	55°58.1	6°01.8	23°42.9	44°00.6	60°52.4
14	349°18.1	10.2'	27°52.0	-3.0'	54.0'	99°12.3	85°06.3	76°35.5	55°35.8	6°31.3	24°10.3	44°27.6	61°15.3
15	3°47.3	10.1'	27°55.1	-2.9'	54.0'	98°42.6	84°51.2	76°07.8	55°13.5	7°00.8	24°37.6	44°54.6	61°38.2
16	18°16.4	10.1'	27°58.0	-2.8'	54.0'	98°12.9	84°36.0	75°40.0	54°51.4	7°30.3	25°05.0	45°21.6	62°01.2
17	32°45.5	10.1'	28°00.8	-2.6'	54.1'	97°43.3	84°20.9	75°12.3	54°29.3	7°59.8	25°32.4	45°48.6	62°24.2
18	47°14.6	10.0'	S28°03.4	-2.5'	54.1'	97°13.6	84°05.8	74°44.6	54°07.2	8°29.4	25°59.8	46°15.7	62°47.3
19	61°43.6	10.0'	28°05.9	-2.4'	54.1'	96°43.9	83°50.7	74°16.9	53°45.3	8°58.9	26°27.2	46°42.7	63°10.5
20	76°12.6	10.0'	28°08.3	-2.2'	54.1'	96°14.2	83°35.7	73°49.2	53°23.4	9°28.5	26°54.7	47°09.7	63°33.7
21	90°41.5	9.9'	28°10.5	-2.1'	54.1'	95°44.4	83°20.6	73°21.5	53°01.6	9°58.1	27°22.2	47°36.8	63°57.0
22	105°10.5	9.9'	28°12.6	-2.0'	54.1'	95°14.7	83°05.6	72°53.8	52°39.9	10°27.7	27°49.7	48°03.8	64°20.3
23	119°39.3	9.9'	28°14.5	-1.8'	54.1'	94°45.0	82°50.6	72°26.1	52°18.3	10°57.3	28°17.2	48°30.9	64°43.7
25 th	SD = 14.7' Mer. pass. 14:44					Sun SD = 16.1'							

h Moon (26 th Oct)						Lunar Distance (objects with largest hourly LD delta)							
Sun	GHA	ν	Dec	d	HP	-Saturn	-Fomalhaut	-Altair	+Antares	+Mars	+Hadar	+Sun	+Arcturus
0	134°08.2	9.8'	S28°16.4	-1.7'	54.1'	94°15.2	71°58.4	51°56.8	11°26.9	28°44.7		48°58.0	65°07.1
1	148°37.0	9.8'	28°18.1	-1.6'	54.1'	93°45.5	71°30.7	51°35.3	11°56.6	29°12.3		49°25.0	65°30.6
2	163°05.8	9.8'	28°19.6	-1.4'	54.1'	93°15.7	71°03.0	51°14.0	12°26.2	29°39.8		49°52.1	65°54.1
3	177°34.6	9.8'	28°21.0	-1.3'	54.1'	92°46.0	70°35.4	50°52.7	12°55.9	30°07.4		50°19.2	66°17.7
4	192°03.4	9.7'	28°22.3	-1.1'	54.2'	92°16.2	70°07.7	50°31.5	13°25.5	30°35.0		50°46.3	66°41.3
5	206°32.1	9.7'	28°23.4	-1.0'	54.2'	91°46.4	69°40.0	50°10.5	13°55.2	31°02.7		51°13.5	67°05.0
6	221°00.8	9.7'	S28°24.4	-0.9'	54.2'	91°16.6	69°12.3	49°49.5	14°24.9	31°30.3		51°40.6	67°28.7
7	235°29.5	9.7'	28°25.3	-0.7'	54.2'	90°46.8	68°44.7	49°28.6	14°54.6	31°58.0	47°33.7	52°07.7	67°52.5
8	249°58.2	9.6'	28°26.0	-0.6'	54.2'	90°17.0	68°17.0	49°07.9	15°24.3	32°25.6	47°48.9	52°34.9	68°16.3
9	264°26.8	9.6'	28°26.6	-0.4'	54.2'	89°47.2	67°49.3	48°47.2	15°54.0	32°53.3	48°04.4	53°02.1	68°40.1
10	278°55.5	9.6'	28°27.0	-0.3'	54.2'	89°17.3	67°21.7	48°26.7	16°23.8	33°21.0	48°20.0	53°29.2	69°04.0
11	293°24.1	9.6'	28°27.3	-0.2'	54.2'	88°47.5	66°54.0	48°06.2	16°53.5	33°48.8	48°35.8	53°56.4	69°28.0
12	307°52.7	9.6'	S28°27.5	-0.0'	54.3'	88°17.6	66°26.4	47°45.9	17°23.3	34°16.5	48°51.7	54°23.6	69°52.0
13	322°21.2	9.6'	28°27.5	0.1'	54.3'	87°47.8	65°58.7	47°25.7	17°53.1	34°44.3	49°07.8	54°50.8	70°16.0
14	336°49.8	9.6'	28°27.4	0.3'	54.3'	87°17.9	65°31.1	47°05.6	18°22.9	35°12.1	49°24.1	55°18.1	70°40.1
15	351°18.4	9.5'	28°27.2	0.4'	54.3'	86°48.0	65°03.4	46°45.7	18°52.7	35°39.9	49°40.6	55°45.3	71°04.2
16	5°46.9	9.5'	28°26.8	0.5'	54.3'	86°18.1	64°35.8	46°25.8	19°22.5	36°07.7	49°57.2	56°12.6	71°28.3
17	20°15.5	9.5'	28°26.2	0.7'	54.3'	85°48.2	64°08.2	46°06.1	19°52.3	36°35.5	50°13.9	56°39.8	71°52.5
18	34°44.0	9.5'	S28°25.5	0.8'	54.3'	85°18.2	63°40.5	45°46.6	20°22.1	37°03.4	50°30.8	57°07.1	72°16.8
19	49°12.5	9.5'	28°24.7	1.0'	54.4'	84°48.3	63°12.9	45°27.1	20°52.0	37°31.3	50°47.9	57°34.4	72°41.1
20	63°41.0	9.5'	28°23.8	1.1'	54.4'	84°18.3	62°45.3	45°07.8	21°21.9	37°59.1		58°01.7	73°05.4
21	78°09.5	9.5'	28°22.7	1.2'	54.4'	83°48.3	62°17.7	44°48.7	21°51.7	38°27.1		58°29.1	73°29.7
22	92°38.0	9.5'	28°21.4	1.4'	54.4'	83°18.3	61°50.1	44°29.7	22°21.6	38°55.0		58°56.4	73°54.1
23	107°06.5	9.5'	28°20.0	1.5'	54.4'	82°48.3	61°22.5	44°10.8	22°51.6	39°22.9		59°23.8	74°18.5
26 th	SD = 14.8' Mer. pass. 15:36					Sun SD = 16.1'							

Moon (27 th Oct)						Lunar Distance (objects with largest hourly LD delta)							
h	GHA	ν	Dec	d	HP	-Saturn	-Fomalhaut	-Altair	+Antares	+Mars	+Rigel Kent.	+Sun	+Arcturus
0	121°35.0	9.5'	S28°18.5	1.7'	54.4'	82°18.3	60°54.9	43°52.1	23°21.5	39°50.9	48°06.5	59°51.1	74°43.0
1	136°03.5	9.5'	28°16.8	1.8'	54.5'	81°48.3	60°27.4	43°33.6	23°51.4	40°18.9	48°23.7	60°18.5	75°07.5
2	150°32.0	9.5'	28°15.0	1.9'	54.5'	81°18.2	59°59.8	43°15.2	24°21.4	40°46.9	48°41.0	60°45.9	75°32.0
3	165°00.5	9.5'	28°13.1	2.1'	54.5'	80°48.2	59°32.2	42°56.9	24°51.4	41°14.9	48°58.5	61°13.3	75°56.6
4	179°29.0	9.5'	28°11.0	2.2'	54.5'	80°18.1	59°04.7	42°38.9	25°21.4	41°43.0	49°16.2	61°40.8	76°21.2
5	193°57.5	9.5'	28°08.8	2.4'	54.5'	79°48.0	58°37.2	42°21.0	25°51.4	42°11.0	49°34.0	62°08.2	76°45.9
6	208°26.0	9.5'	S28°06.4	2.5'	54.5'	79°17.9	58°09.6	42°03.3	26°21.4	42°39.1	49°51.9	62°35.7	77°10.5
7	222°54.6	9.5'	28°03.9	2.7'	54.6'	78°47.7	57°42.1	41°45.8	26°51.5	43°07.2	50°10.1	63°03.2	77°35.2
8	237°23.1	9.5'	28°01.2	2.8'	54.6'	78°17.6	57°14.6	41°28.4	27°21.5	43°35.3	50°28.3	63°30.7	78°00.0
9	251°51.6	9.5'	27°58.4	2.9'	54.6'	77°47.4	56°47.1	41°11.3	27°51.6	44°03.5	50°46.7	63°58.2	78°24.8
10	266°20.2	9.6'	27°55.5	3.1'	54.6'	77°17.2	56°19.6	40°54.3	28°21.7	44°31.7	51°05.3	64°25.8	78°49.6
11	280°48.7	9.6'	27°52.4	3.2'	54.6'	76°47.0	55°52.1	40°37.5	28°51.9	44°59.8	51°24.0	64°53.3	79°14.4
12	295°17.3	9.6'	S27°49.2	3.4'	54.6'	76°16.8	55°24.7	40°21.0	29°22.0	45°28.0	51°42.8	65°20.9	79°39.3
13	309°45.8	9.6'	27°45.8	3.5'	54.7'	75°46.6	54°57.2	40°04.6	29°52.2	45°56.3	52°01.8	65°48.5	80°04.2
14	324°14.4	9.6'	27°42.3	3.6'	54.7'	75°16.3	54°29.8	39°48.5	30°22.3	46°24.5	52°20.9	66°16.1	80°29.1
15	338°43.0	9.6'	27°38.7	3.8'	54.7'	74°46.0	54°02.4	39°32.6	30°52.5	46°52.8	52°40.2	66°43.8	80°54.1
16	353°11.7	9.6'	27°34.9	3.9'	54.7'	74°15.7	53°35.0	39°16.9	31°22.8	47°21.1	52°59.6	67°11.5	81°19.1
17	7°40.3	9.7'	27°31.0	4.1'	54.7'	73°45.4	53°07.6	39°01.4	31°53.0	47°49.4	53°19.1	67°39.1	81°44.1
18	22°08.9	9.7'	S27°27.0	4.2'	54.8'	73°15.1	52°40.2	38°46.2	32°23.3	48°17.8	53°38.7	68°06.8	82°09.1
19	36°37.6	9.7'	27°22.8	4.3'	54.8'	72°44.7	52°12.9		32°53.6	48°46.1	53°58.5	68°34.6	82°34.2
20	51°06.3	9.7'	27°18.4	4.5'	54.8'	72°14.3	51°45.5		33°23.9	49°14.5	54°18.4	69°02.3	82°59.3
21	65°35.0	9.7'	27°14.0	4.6'	54.8'	71°43.9	51°18.2		33°54.2	49°42.9	54°38.4	69°30.1	83°24.5
22	80°03.7	9.8'	27°09.4	4.7'	54.9'	71°13.5	50°50.9		34°24.5	50°11.4	54°58.5	69°57.9	83°49.7
23	94°32.5	9.8'	27°04.6	4.9'	54.9'	70°43.0	50°23.7		34°54.9	50°39.8	55°18.8	70°25.7	84°14.9
27 th	SD = 14.8' Mer. pass. 16:28						Sun SD = 16.1'						

Moon (28 th Oct)						Lunar Distance (objects with largest hourly LD delta)						
Tue	GHA	ν	Dec	d	HP	-Saturn	-Fomalhaut	+Antares	+Mars	+Rigel Kent.	+Sun	+Arcturus
0	109°01.3	9.8'	S26°59.7	5.0'	54.9'	70°12.5	49°56.4	35°25.3	51°08.3	55°39.2	70°53.5	84°40.1
1	123°30.1	9.8'	26°54.7	5.2'	54.9'	69°42.1	49°29.2	35°55.7	51°36.8	55°59.7	71°21.4	85°05.3
2	137°58.9	9.8'	26°49.5	5.3'	54.9'	69°11.5	49°02.0	36°26.2	52°05.4	56°20.3	71°49.3	85°30.6
3	152°27.7	9.9'	26°44.2	5.4'	55.0'	68°41.0	48°34.8	36°56.7	52°33.9	56°41.0	72°17.2	85°55.9
4	166°56.6	9.9'	26°38.8	5.6'	55.0'	68°10.4	48°07.7	37°27.1	53°02.5	57°01.9	72°45.1	86°21.2
5	181°25.5	9.9'	26°33.2	5.7'	55.0'	67°39.8	47°40.6	37°57.7	53°31.1	57°22.8	73°13.1	86°46.6
6	195°54.5	10.0'	S26°27.5	5.8'	55.0'	67°09.2	47°13.5	38°28.2	53°59.8	57°43.9	73°41.7	87°12.0
7	210°23.4	10.0'	26°21.7	6.0'	55.1'	66°38.6	46°46.4	38°58.8	54°28.5	58°05.0	74°09.1	87°37.4
8	224°52.4	10.0'	26°15.7	6.1'	55.1'	66°07.9	46°19.4	39°29.4	54°57.1	58°26.3	74°37.1	88°02.8
9	239°21.4	10.0'	26°09.6	6.2'	55.1'	65°37.2	45°52.4	40°00.0	55°25.9	58°47.7	75°05.2	88°28.3
10	253°50.5	10.1'	26°03.4	6.4'	55.1'	65°06.5	45°25.5	40°30.6	55°54.6	59°09.2	75°33.3	88°53.8
11	268°19.5	10.1'	25°57.0	6.5'	55.2'	64°35.8	44°58.6	41°01.3	56°23.4	59°30.7	76°01.4	89°19.3
12	282°48.6	10.1'	S25°50.5	6.6'	55.2'	64°05.0	44°31.7	41°32.0	56°52.2	59°52.4	76°29.5	89°44.8
13	297°17.8	10.2'	25°43.9	6.8'	55.2'	63°34.2	44°04.9	42°02.7	57°21.0	60°14.2	76°57.7	90°10.3
14	311°47.0	10.2'	25°37.1	6.9'	55.2'	63°03.4	43°38.1	42°33.5	57°49.9	60°36.1	77°25.9	90°35.9
15	326°16.2	10.2'	25°30.2	7.0'	55.3'	62°32.5	43°11.4	43°04.3	58°18.8	60°58.0	77°54.1	91°01.5
16	340°45.4	10.3'	25°23.1	7.2'	55.3'	62°01.6	42°44.7	43°35.1	58°47.7	61°20.1	78°22.4	91°27.1
17	355°14.7	10.3'	25°16.0	7.3'	55.3'	61°30.7	42°18.0	44°05.9	59°16.7	61°42.3	78°50.7	91°52.8
18	9°44.0	10.3'	S25°08.7	7.4'	55.4'	60°59.8	41°51.5	44°36.8	59°45.7	62°04.5	79°19.0	92°18.4
19	24°13.3	10.4'	25°01.2	7.6'	55.4'	60°28.8	41°24.9	45°07.7	60°14.7	62°26.9	79°47.3	92°44.1
20	38°42.7	10.4'	24°53.7	7.7'	55.4'	59°57.9	40°58.5	45°38.6	60°43.7	62°49.3	80°15.7	93°09.8
21	53°12.1	10.4'	24°46.0	7.8'	55.4'	59°26.8	40°32.0	46°09.6	61°12.8	63°11.8	80°44.1	93°35.5
22	67°41.6	10.5'	24°38.2	7.9'	55.5'	58°55.8	40°05.7	46°40.6	61°41.9	63°34.4	81°12.5	94°01.3
23	82°11.1	10.5'	24°30.2	8.1'	55.5'	58°24.7	39°39.4	47°11.6	62°11.0	63°57.2	81°41.0	94°27.0
28 th	SD = 15.0' Mer. pass. 17:20						Sun SD = 16.1'					

Moon (29 th Oct)						Lunar Distance (objects with largest hourly LD delta)						
Wed	GHA	ν	Dec	d	HP	-Saturn	-Fomalhaut	+Antares	+Mars	+Rigel Kent.	+Sun	+Arcturus
0	96°40.6	10.6'	S24°22.2	8.2'	55.5'	57°53.6	39°13.2	47°42.7	62°40.2	64°19.9	82°09.5	94°52.8
1	111°10.1	10.6'	24°14.0	8.3'	55.5'	57°22.4	38°47.1	48°13.8	63°09.4	64°42.8	82°38.0	95°18.6
2	125°39.7	10.6'	24°05.6	8.5'	55.6'	56°51.3	38°21.0	48°44.9	63°38.6	65°05.8	83°06.6	95°44.4
3	140°09.4	10.7'	23°57.2	8.6'	55.6'	56°20.1	37°55.0	49°16.0	64°07.9	65°28.8	83°35.2	96°10.3
4	154°39.0	10.7'	23°48.6	8.7'	55.6'	55°48.8	37°29.1	49°47.2	64°37.2	65°51.9	84°03.8	96°36.1
5	169°08.8	10.7'	23°39.9	8.8'	55.7'	55°17.6	37°03.3	50°18.4	65°06.5	66°15.2	84°32.4	97°02.0
6	183°38.5	10.8'	S23°31.1	8.9'	55.7'	54°46.3	36°37.6	50°49.7	65°35.9	66°38.4	85°01.1	97°27.9
7	198°08.3	10.8'	23°22.1	9.1'	55.7'	54°14.9	36°12.0	51°21.0	66°05.3	67°01.8	85°29.9	97°53.8
8	212°38.1	10.9'	23°13.1	9.2'	55.8'	53°43.6	35°46.5	51°52.3	66°34.7	67°25.3	85°58.6	98°19.7
9	227°08.0	10.9'	23°03.9	9.3'	55.8'	53°12.2	35°21.1	52°23.6	67°04.2	67°48.8	86°27.4	98°45.7
10	241°37.9	10.9'	22°54.6	9.4'	55.8'	52°40.7	34°55.8	52°55.0	67°33.7	68°12.4	86°56.2	99°11.6
11	256°07.8	11.0'	22°45.1	9.6'	55.9'	52°09.3	34°30.6	53°26.5	68°03.2	68°36.0	87°25.1	99°37.6
12	270°37.8	11.0'	S22°35.6	9.7'	55.9'	51°37.8	34°05.5	53°57.9	68°32.8	68°59.8	87°54.0	100°03.6
13	285°07.8	11.1'	22°25.9	9.8'	55.9'	51°06.2	33°40.6	54°29.4	69°02.4	69°23.6	88°22.9	100°29.6
14	299°37.9	11.1'	22°16.1	9.9'	55.9'	50°34.7	33°15.8	55°00.9	69°32.1	69°47.5	88°51.9	100°55.6
15	314°08.0	11.1'	22°06.2	10.0'	56.0'	50°03.1	32°51.2	55°32.5	70°01.8	70°11.5	89°20.9	101°21.6
16	328°38.1	11.2'	21°56.2	10.1'	56.0'	49°31.4	32°26.7	56°04.1	70°31.5	70°35.5	89°49.9	101°47.6
17	343°08.3	11.2'	21°46.0	10.3'	56.0'	48°59.8	32°02.3	56°35.7	71°01.3	70°59.7	90°19.0	102°13.6
18	357°38.5	11.3'	S21°35.8	10.4'	56.1'	48°28.1	31°38.1	57°07.4	71°31.1	71°23.8	90°48.1	102°39.6
19	12°08.8	11.3'	21°25.4	10.5'	56.1'	47°56.3	31°14.1	57°39.1	72°00.9	71°48.1	91°17.2	103°05.6
20	26°39.0	11.3'	21°14.9	10.6'	56.1'	47°24.5	30°50.3	58°10.9	72°30.8	72°12.4	91°46.4	103°31.6
21	41°09.4	11.4'	21°04.3	10.7'	56.2'	46°52.7	30°26.7	58°42.7	73°00.7	72°36.8	92°15.7	103°57.6
22	55°39.7	11.4'	20°53.6	10.8'	56.2'	46°20.9	30°03.2	59°14.5	73°30.6	73°01.3	92°44.9	104°23.6
23	70°10.1	11.4'	20°42.7	10.9'	56.2'	45°49.0	29°40.0	59°46.4	74°00.6	73°25.8	93°14.2	104°49.6
29 th	SD = 15.1' Mer. pass. 18:10						Sun SD = 16.1'					

Moon (30 th Oct)						Lunar Distance (objects with largest hourly LD delta)							
Thu	GHA	ν	Dec	d	HP	-Capella	-Aldebaran	-Rigel	-Saturn	+Antares	+Rigel Kent.	+Mars	+Sun
0	84°40.6	11.5'	S20°31.8	11.1'	56.3'		119°04.5	118°51.6	45°17.0	60°18.3	73°50.4	74°30.7	93°43.6
1	99°11.1	11.5'	20°20.7	11.2'	56.3'		118°33.2	118°28.0	44°45.1	60°50.2	74°15.1	75°00.7	94°12.9
2	113°41.6	11.6'	20°09.6	11.3'	56.4'		118°02.0	118°04.3	44°13.1	61°22.2	74°39.8	75°30.8	94°42.4
3	128°12.1	11.6'	19°58.3	11.4'	56.4'		117°30.6	117°40.5	43°41.0	61°54.2	75°04.6	76°01.0	95°11.8
4	142°42.7	11.6'	19°46.9	11.5'	56.4'		116°59.2	117°16.6	43°08.9	62°26.3	75°29.4	76°31.2	95°41.3
5	157°13.3	11.7'	19°35.4	11.6'	56.5'		116°27.8	116°52.6	42°36.8	62°58.4	75°54.3	77°01.4	96°10.9
6	171°44.0	11.7'	S19°23.8	11.7'	56.5'		115°56.3	116°28.5	42°04.7	63°30.6	76°19.3	77°31.7	96°40.4
7	186°14.7	11.7'	19°12.1	11.8'	56.5'		115°24.8	116°04.3	41°32.5	64°02.7	76°44.3	78°02.0	97°10.1
8	200°45.4	11.8'	19°00.3	11.9'	56.6'		114°53.3	115°40.0	41°00.2	64°35.0	77°09.4	78°32.4	97°39.7
9	215°16.2	11.8'	18°48.3	12.0'	56.6'		114°21.7	115°15.6	40°28.0	65°07.3	77°34.6	79°02.8	98°09.4
10	229°47.0	11.8'	18°36.3	12.1'	56.6'		113°50.0	114°51.1	39°55.7	65°39.6	77°59.8	79°33.2	98°39.2
11	244°17.8	11.9'	18°24.2	12.2'	56.7'		113°18.3	114°26.5	39°23.3	66°11.9	78°25.1	80°03.7	99°08.9
12	258°48.7	11.9'	S18°11.9	12.3'	56.7'		112°46.5	114°01.9	38°50.9	66°44.3	78°50.4	80°34.2	99°38.8
13	273°19.5	11.9'	17°59.6	12.4'	56.7'		112°14.7	113°37.1	38°18.5	67°16.8	79°15.8	81°04.8	100°08.6
14	287°50.5	12.0'	17°47.2	12.5'	56.8'		111°42.9	113°12.3	37°46.0	67°49.3	79°41.2	81°35.4	100°38.6
15	302°21.4	12.0'	17°34.6	12.6'	56.8'		111°11.0	112°47.3	37°13.5	68°21.8	80°06.7	82°06.0	101°08.5
16	316°52.4	12.0'	17°22.0	12.7'	56.9'		110°39.0	112°22.3	36°41.0	68°54.4	80°32.3	82°36.7	101°38.5
17	331°23.4	12.0'	17°09.2	12.8'	56.9'		110°07.0	111°57.2	36°08.4	69°27.0	80°57.9	83°07.5	102°08.6
18	345°54.5	12.1'	S16°56.4	12.9'	56.9'		109°35.0	111°32.0	35°35.7	69°59.7	81°23.6	83°38.3	102°38.7
19	0°25.5	12.1'	16°43.5	13.0'	57.0'	119°43.6	109°02.9	111°06.7	35°03.1	70°32.4	81°49.3	84°09.1	103°08.8
20	14°56.7	12.1'	16°30.4	13.1'	57.0'	119°12.9	108°30.8	110°41.4	34°30.3	71°05.1	82°15.1	84°40.0	103°39.0
21	29°27.8	12.2'	16°17.3	13.2'	57.1'	118°42.1	107°58.6	110°15.9	33°57.6	71°37.9	82°40.9	85°10.9	104°09.2
22	43°58.9	12.2'	16°04.1	13.3'	57.1'	118°11.3	107°26.4	109°50.4	33°24.8	72°10.8	83°06.8	85°41.9	104°39.5
23	58°30.1	12.2'	15°50.8	13.4'	57.1'	117°40.4	106°54.1	109°24.8	32°52.0	72°43.7	83°32.7	86°12.9	105°09.8
30 th	SD = 15.3' Mer. pass. 18:58					Sun SD = 16.1'							

Moon (31 st Oct)						Lunar Distance (objects with largest hourly LD delta)							
Fri	GHA	ν	Dec	d	HP	-Betelgeuse	-Capella	-Aldebaran	-Saturn	+Antares	+Rigel Kent.	+Mars	+Sun
0	73°01.3	12.2'	S15°37.4	13.5'	57.2'		117°09.5	106°21.8	32°19.1	73°16.6	83°58.7	86°44.0	105°40.1
1	87°32.6	12.3'	15°23.9	13.6'	57.2'		116°38.5	105°49.4	31°46.2	73°49.6	84°24.7	87°15.1	106°10.5
2	102°03.8	12.3'	15°10.3	13.7'	57.2'		116°07.5	105°16.9	31°13.2	74°22.6	84°50.7	87°46.2	106°41.0
3	116°35.1	12.3'	14°56.6	13.8'	57.3'		115°36.3	104°44.5	30°40.2	74°55.7	85°16.9	88°17.4	107°11.5
4	131°06.4	12.3'	14°42.8	13.9'	57.3'		115°05.2	104°11.9	30°07.2	75°28.8	85°43.0	88°48.7	107°42.0
5	145°37.7	12.3'	14°28.9	14.0'	57.4'		114°33.9	103°39.4	29°34.1	76°02.0	86°09.2	89°20.0	108°12.6
6	160°09.1	12.4'	S14°15.0	14.0'	57.4'		114°02.6	103°06.7	29°01.0	76°35.2	86°35.5	89°51.3	108°43.2
7	174°40.4	12.4'	14°00.9	14.1'	57.4'	119°49.8	113°31.2	102°34.1	28°27.9	77°08.5	87°01.8	90°22.7	109°13.9
8	189°11.8	12.4'	13°46.8	14.2'	57.5'	119°19.5	112°59.8	102°01.3	27°54.7	77°41.8	87°28.1	90°54.1	109°44.6
9	203°43.2	12.4'	13°32.6	14.3'	57.5'	118°49.0	112°28.3	101°28.6	27°21.4	78°15.1	87°54.5	91°25.6	110°15.4
10	218°14.6	12.4'	13°18.3	14.4'	57.6'	118°18.5	111°56.8	100°55.7	26°48.2	78°48.6	88°21.0	91°57.1	110°46.2
11	232°46.1	12.4'	13°03.9	14.5'	57.6'	117°48.0	111°25.2	100°22.9	26°14.9	79°22.0	88°47.4	92°28.7	111°17.1
12	247°17.5	12.5'	S12°49.5	14.5'	57.6'	117°17.3	110°53.5	99°49.9	25°41.5	79°55.5	89°13.9	93°00.3	111°48.0
13	261°49.0	12.5'	12°34.9	14.6'	57.7'	116°46.6	110°21.8	99°17.0	25°08.1	80°29.1	89°40.5	93°32.0	112°19.0
14	276°20.4	12.5'	12°20.3	14.7'	57.7'	116°15.8	109°50.0	98°44.0	24°34.7	81°02.7	90°07.1	94°03.7	112°50.0
15	290°51.9	12.5'	12°05.6	14.8'	57.8'	115°45.0	109°18.2	98°10.9	24°01.3	81°36.3	90°33.7	94°35.5	113°21.0
16	305°23.4	12.5'	11°50.8	14.9'	57.8'	115°14.1	108°46.3	97°37.8	23°27.8	82°10.0	91°00.4	95°07.3	113°52.1
17	319°54.9	12.5'	11°36.0	14.9'	57.8'	114°43.1	108°14.3	97°04.6	22°54.3	82°43.8	91°27.1	95°39.2	114°23.3
18	334°26.5	12.5'	S11°21.0	15.0'	57.9'	114°12.0	107°42.3	96°31.4	22°20.7	83°17.6	91°53.8	96°11.1	114°54.5
19	348°58.0	12.5'	11°06.0	15.1'	57.9'	113°40.9	107°10.2	95°58.1	21°47.1	83°51.4	92°20.6	96°43.1	115°25.8
20	3°29.5	12.5'	10°51.0	15.2'	58.0'	113°09.7	106°38.1	95°24.8	21°13.5	84°25.3	92°47.4	97°15.1	115°57.1
21	18°01.1	12.5'	10°35.8	15.2'	58.0'	112°38.4	106°05.9	94°51.4	20°39.9	84°59.3	93°14.3	97°47.2	116°28.4
22	32°32.6	12.6'	10°20.6	15.3'	58.0'	112°07.1	105°33.6	94°18.0	20°06.2	85°33.3	93°41.1	98°19.3	116°59.8
23	47°04.2	12.6'	10°05.3	15.4'	58.1'	111°35.7	105°01.3	93°44.5	19°32.5	86°07.3	94°08.0	98°51.5	117°31.2
31 st	SD = 15.6' Mer. pass. 19:46					Sun SD = 16.1'							

Moon (1 st Nov)						Lunar Distance (objects with largest hourly LD delta)							
Sat	GHA	ν	Dec	d	HP	-Betelgeuse	-Capella	-Aldebaran	-Saturn	+Antares	+Rigel Kent.	+Mars	+Sun
0	61°35.7	12.6'	S09°49.9	15.4'	58.1'	111°04.2	104°29.0	93°11.0	18°58.8	86°41.4	94°35.0	99°23.7	118°02.7
1	76°07.3	12.6'	09°34.4	15.5'	58.2'	110°32.7	103°56.6	92°37.4	18°25.1	87°15.6	95°02.0	99°55.9	118°34.3
2	90°38.9	12.6'	09°18.9	15.6'	58.2'	110°01.1	103°24.1	92°03.8	17°51.3	87°49.8	95°28.9	100°28.3	119°05.9
3	105°10.4	12.6'	09°03.4	15.6'	58.3'	109°29.4	102°51.5	91°30.1	17°17.6	88°24.0	95°56.0	101°00.6	119°37.5
4	119°42.0	12.6'	08°47.7	15.7'	58.3'	108°57.7	102°19.0	90°56.4	16°43.8	88°58.3	96°23.0	101°33.0	
5	134°13.5	12.6'	08°32.0	15.8'	58.3'	108°25.9	101°46.3	90°22.6	16°10.0	89°32.7	96°50.1	102°05.5	
6	148°45.1	12.6'	S08°16.2	15.8'	58.4'	107°54.0	101°13.6	89°48.8	15°36.2	90°07.1	97°17.2	102°38.0	
7	163°16.6	12.5'	08°00.4	15.9'	58.4'	107°22.1	100°40.9	89°14.9	15°02.5	90°41.6	97°44.3	103°10.6	
8	177°48.2	12.5'	07°44.5	16.0'	58.5'	106°50.1	100°08.1	88°41.0	14°28.7	91°16.1	98°11.5	103°43.2	
9	192°19.7	12.5'	07°28.6	16.0'	58.5'	106°18.1	99°35.2	88°07.0	13°54.9	91°50.6	98°38.6	104°15.9	
10	206°51.3	12.5'	07°12.5	16.1'	58.5'	105°46.0	99°02.3	87°33.0	13°21.2	92°25.2	99°05.8	104°48.6	
11	221°22.8	12.5'	06°56.5	16.1'	58.6'	105°13.8	98°29.3	86°58.9	12°47.6	92°59.9	99°33.0	105°21.3	
12	235°54.3	12.5'	S06°40.3	16.2'	58.6'	104°41.6	97°56.3	86°24.8	12°13.9	93°34.6	100°00.2	105°54.2	
13	250°25.8	12.5'	06°24.2	16.2'	58.7'	104°09.3	97°23.2	85°50.6	11°40.4	94°09.3	100°27.5	106°27.0	
14	264°57.3	12.5'	06°07.9	16.3'	58.7'	103°36.9	96°50.1	85°16.4	11°06.9	94°44.2	100°54.7	106°59.9	
15	279°28.7	12.5'	05°51.6	16.3'	58.7'	103°04.5	96°16.9	84°42.1	10°33.5	95°19.0	101°22.0	107°32.9	
16	294°00.2	12.4'	05°35.3	16.4'	58.8'	102°32.1	95°43.7	84°07.8	10°00.3	95°53.9	101°49.2	108°05.9	
17	308°31.6	12.4'	05°18.9	16.4'	58.8'	101°59.5	95°10.4	83°33.5	9°27.2	96°28.9	102°16.5	108°39.0	
18	323°03.1	12.4'	S05°02.4	16.5'	58.9'	101°27.0	94°37.1	82°59.0	8°54.3	97°03.9	102°43.8	109°12.1	
19	337°34.5	12.4'	04°45.9	16.5'	58.9'	100°54.3	94°03.7	82°24.6	8°21.7	97°39.0	103°11.1	109°45.3	
20	352°05.9	12.4'	04°29.4	16.6'	58.9'	100°21.6	93°30.3	81°50.1	7°49.4	98°14.1	103°38.4	110°18.5	
21	6°37.2	12.3'	04°12.8	16.6'	59.0'	99°48.9	92°56.8	81°15.5	7°17.5	98°49.3	104°05.8	110°51.7	
22	21°08.6	12.3'	03°56.2	16.7'	59.0'	99°16.1	92°23.2	80°40.9	6°46.2	99°24.5	104°33.1	111°25.0	
23	35°39.9	12.3'	03°39.5	16.7'	59.1'	98°43.2	91°49.7	80°06.2	6°15.5	99°59.7	105°00.4	111°58.4	
1 st	SD = 15.9' Mer. pass. 20:33					Sun SD = 16.1'							

Moon (2 nd Nov)						Lunar Distance (objects with largest hourly LD delta)							
h	GHA	ν	Dec	d	HP	-Pollux	-Jupiter	-Capella	-Aldebaran	+Fomalhaut	+Altair	+Antares	+Mars
0	50°11.2	12.3'	S03°22.8	16.8'	59.1'			91°16.0	79°31.5	26°50.3	54°33.8	100°35.1	112°31.8
1	64°42.4	12.2'	03°06.0	16.8'	59.1'			90°42.4	78°56.8	27°13.7	55°00.2	101°10.4	113°05.3
2	79°13.7	12.2'	02°49.2	16.8'	59.2'			90°08.6	78°22.0	27°37.5	55°26.8	101°45.8	113°38.8
3	93°44.9	12.2'	02°32.4	16.9'	59.2'			89°34.8	77°47.2	28°01.8	55°53.5	102°21.3	114°12.3
4	108°16.1	12.1'	02°15.5	16.9'	59.3'			89°01.0	77°12.3	28°26.4	56°20.4	102°56.8	114°45.9
5	122°47.2	12.1'	01°58.6	16.9'	59.3'	119°36.9		88°27.2	76°37.3	28°51.4	56°47.5	103°32.4	115°19.6
6	137°18.3	12.1'	S01°41.7	17.0'	59.3'	119°01.3		87°53.2	76°02.3	29°16.8	57°14.6	104°08.0	115°53.3
7	151°49.4	12.0'	01°24.7	17.0'	59.4'	118°25.7		87°19.3	75°27.3	29°42.5	57°41.9	104°43.7	116°27.1
8	166°20.4	12.0'	01°07.7	17.0'	59.4'	117°50.0	119°34.3	86°45.3	74°52.3	30°08.6	58°09.4	105°19.4	117°00.9
9	180°51.5	12.0'	00°50.7	17.1'	59.5'	117°14.3	118°58.8	86°11.2	74°17.1	30°35.0	58°37.0	105°55.2	117°34.7
10	195°22.4	11.9'	00°33.7	17.1'	59.5'	116°38.5	118°23.1	85°37.1	73°42.0	31°01.8	59°04.7	106°31.0	118°08.6
11	209°53.3	11.9'	S00°16.6	17.1'	59.5'	116°02.7	117°47.5	85°03.0	73°06.8	31°28.8	59°32.5	107°06.8	118°42.5
12	224°24.2	11.8'	N00°00.5	17.1'	59.6'	115°26.9	117°11.7	84°28.8	72°31.5	31°56.2	60°00.5	107°42.8	119°16.5
13	238°55.1	11.8'	00°17.7	17.1'	59.6'	114°50.9	116°35.9	83°54.6	71°56.2	32°23.8	60°28.5	108°18.7	119°50.6
14	253°25.9	11.8'	00°34.8	17.2'	59.6'	114°15.0	116°00.1	83°20.3	71°20.9	32°51.7	60°56.7	108°54.7	
15	267°56.6	11.7'	00°52.0	17.2'	59.7'	113°39.0	115°24.2	82°46.0	70°45.5	33°19.9	61°25.1	109°30.8	
16	282°27.3	11.7'	01°09.2	17.2'	59.7'	113°02.9	114°48.3	82°11.6	70°10.1	33°48.3	61°53.5	110°06.9	
17	296°58.0	11.6'	01°26.4	17.2'	59.8'	112°26.8	114°12.3	81°37.2	69°34.6	34°17.0	62°22.0	110°43.0	
18	311°28.6	11.6'	N01°43.6	17.2'	59.8'	111°50.6	113°36.3	81°02.8	68°59.1	34°45.9	62°50.7	111°19.2	
19	325°59.2	11.5'	02°00.8	17.2'	59.8'	111°14.4	113°00.2	80°28.3	68°23.6	35°15.0	63°19.5	111°55.5	
20	340°29.7	11.5'	02°18.0	17.3'	59.9'	110°38.2	112°24.1	79°53.8	67°48.0	35°44.4	63°48.3	112°31.8	
21	355°00.1	11.4'	02°35.3	17.3'	59.9'	110°01.9	111°48.0	79°19.3	67°12.4	36°14.0	64°17.3	113°08.1	
22	9°30.5	11.3'	02°52.6	17.3'	59.9'	109°25.5	111°11.7	78°44.7	66°36.7	36°43.8	64°46.4	113°44.5	
23	24°00.9	11.3'	03°09.8	17.3'	60.0'	108°49.2	110°35.5	78°10.1	66°01.0	37°13.9	65°15.6	114°20.9	
2 nd	SD = 16.1' Mer. pass. 21:21												

Moon (3 rd Nov)						Lunar Distance (objects with largest hourly LD delta)							
h	GHA	ν	Dec	d	HP	-Jupiter	-Pollux	-Capella	-Aldebaran	+Saturn	+Fomalhaut	+Altair	+Antares
0	38°31.1	11.2'	N03°27.1	17.3'	60.0'	109°59.2	108°12.7	77°35.4	65°25.3	10°09.5	37°44.1	65°44.9	114°57.4
1	53°01.4	11.2'	03°44.4	17.3'	60.0'	109°22.8	107°36.2	77°00.8	64°49.5	10°44.4	38°14.5	66°14.3	115°33.9
2	67°31.5	11.1'	04°01.6	17.3'	60.1'	108°46.4	106°59.7	76°26.0	64°13.7	11°19.4	38°45.1	66°43.8	116°10.5
3	82°01.6	11.0'	04°18.9	17.3'	60.1'	108°10.0	106°23.2	75°51.3	63°37.9	11°54.7	39°15.9	67°13.4	116°47.1
4	96°31.7	11.0'	04°36.2	17.3'	60.1'	107°33.5	105°46.5	75°16.5	63°02.0	12°30.1	39°46.8	67°43.0	117°23.7
5	111°01.6	10.9'	04°53.4	17.3'	60.2'	106°57.0	105°09.9	74°41.7	62°26.1	13°05.7	40°17.9	68°12.8	118°00.4
6	125°31.5	10.8'	N05°10.7	17.3'	60.2'	106°20.4	104°33.2	74°06.9	61°50.2	13°41.4	40°49.2	68°42.6	118°37.2
7	140°01.4	10.8'	05°27.9	17.2'	60.2'	105°43.8	103°56.4	73°32.0	61°14.2	14°17.3	41°20.7	69°12.6	119°13.9
8	154°31.1	10.7'	05°45.2	17.2'	60.3'	105°07.1	103°19.7	72°57.1	60°38.2	14°53.3	41°52.3	69°42.6	119°50.8
9	169°00.8	10.6'	06°02.4	17.2'	60.3'	104°30.4	102°42.8	72°22.1	60°02.1	15°29.4	42°24.0	70°12.7	
10	183°30.5	10.6'	06°19.6	17.2'	60.3'	103°53.7	102°06.0	71°47.2	59°26.1	16°05.6	42°55.9	70°42.9	
11	198°00.0	10.5'	06°36.8	17.2'	60.4'	103°16.9	101°29.1	71°12.2	58°50.0	16°41.9	43°27.9	71°13.2	
12	212°29.5	10.4'	N06°54.0	17.2'	60.4'	102°40.0	100°52.1	70°37.2	58°13.8	17°18.3	44°00.1	71°43.5	
13	226°58.9	10.3'	07°11.2	17.1'	60.4'	102°03.2	100°15.1	70°02.2	57°37.7	17°54.8	44°32.4	72°13.9	
14	241°28.2	10.2'	07°28.3	17.1'	60.5'	101°26.3	99°38.1	69°27.1	57°01.5	18°31.4	45°04.9	72°44.4	
15	255°57.5	10.2'	07°45.4	17.1'	60.5'	100°49.3	99°01.0	68°52.1	56°25.3	19°08.0	45°37.4	73°15.0	
16	270°26.7	10.1'	08°02.5	17.1'	60.5'	100°12.3	98°23.9	68°17.0	55°49.0	19°44.7	46°10.1	73°45.6	
17	284°55.8	10.0'	08°19.6	17.0'	60.6'	99°35.3	97°46.8	67°41.9	55°12.8	20°21.5	46°42.9	74°16.3	
18	299°24.8	9.9'	N08°36.6	17.0'	60.6'	98°58.2	97°09.6	67°06.8	54°36.5	20°58.3	47°15.9	74°47.1	
19	313°53.7	9.8'	08°53.6	17.0'	60.6'	98°21.1	96°32.4	66°31.6	54°00.2	21°35.2	47°48.9	75°17.9	
20	328°22.5	9.8'	09°10.6	16.9'	60.6'	97°44.0	95°55.1	65°56.5	53°23.9	22°12.2	48°22.1	75°48.8	
21	342°51.3	9.7'	09°27.5	16.9'	60.7'	97°06.8	95°17.8	65°21.3	52°47.5	22°49.2	48°55.3	76°19.8	
22	357°19.9	9.6'	09°44.4	16.9'	60.7'	96°29.6	94°40.5	64°46.1	52°11.2	23°26.3	49°28.7	76°50.8	
23	11°48.5	9.5'	10°01.3	16.8'	60.7'	95°52.3	94°03.1	64°10.9	51°34.8	24°03.4	50°02.1	77°21.9	
3 rd	SD = 16.4' Mer. pass. 22:11												

Moon (4 th Nov)						Lunar Distance (objects with largest hourly LD delta)							
h	GHA	ν	Dec	d	HP	-Regulus	-Jupiter	-Pollux	-Aldebaran	+Saturn	+Fomalhaut	+Altair	+Vega
0	26°17.0	9.4'	N10°18.1	16.8'	60.7'		95°15.1	93°25.8	50°58.4	24°40.6	50°35.7	77°53.0	89°30.6
1	40°45.4	9.3'	10°34.9	16.7'	60.8'		94°37.7	92°48.3	50°22.0	25°17.9	51°09.4	78°24.2	89°45.8
2	55°13.7	9.2'	10°51.6	16.7'	60.8'		94°00.4	92°10.9	49°45.6	25°55.1	51°43.1	78°55.5	90°01.0
3	69°41.9	9.1'	11°08.3	16.6'	60.8'		93°23.0	91°33.4	49°09.2	26°32.5	52°16.9	79°26.8	90°16.2
4	84°10.0	9.0'	11°24.9	16.6'	60.8'		92°45.6	90°55.8	48°32.7	27°09.8	52°50.9	79°58.1	90°31.4
5	98°38.0	8.9'	11°41.4	16.5'	60.9'		92°08.2	90°18.3	47°56.3	27°47.3	53°24.9	80°29.5	90°46.7
6	113°06.0	8.8'	N11°58.0	16.5'	60.9'		91°30.7	89°40.7	47°19.8	28°24.7	53°59.0	81°01.0	91°01.9
7	127°33.8	8.7'	12°14.4	16.4'	60.9'		90°53.2	89°03.1	46°43.3	29°02.2	54°33.1	81°32.5	91°17.2
8	142°01.5	8.6'	12°30.8	16.3'	60.9'		90°15.6	88°25.4	46°06.9	29°39.7	55°07.4	82°04.0	91°32.4
9	156°29.1	8.5'	12°47.1	16.3'	61.0'		89°38.1	87°47.8	45°30.4	30°17.3	55°41.7	82°35.6	91°47.7
10	170°56.7	8.4'	13°03.4	16.2'	61.0'		89°00.5	87°10.1	44°53.9	30°54.9	56°16.1	83°07.2	92°02.9
11	185°24.1	8.3'	13°19.6	16.1'	61.0'		88°22.9	86°32.3	44°17.5	31°32.6	56°50.6	83°38.8	92°18.2
12	199°51.4	8.2'	N13°35.7	16.1'	61.0'		87°45.2	85°54.6	43°41.0	32°10.2	57°25.1	84°10.5	92°33.4
13	214°18.6	8.1'	13°51.8	16.0'	61.0'		87°07.5	85°16.8	43°04.5	32°48.0	57°59.7	84°42.2	92°48.7
14	228°45.7	8.0'	14°07.8	15.9'	61.1'		86°29.8	84°39.0	42°28.1	33°25.7	58°34.4	85°14.0	93°03.9
15	243°12.7	7.9'	14°23.7	15.8'	61.1'		85°52.1	84°01.2	41°51.6	34°03.5	59°09.1	85°45.8	93°19.2
16	257°39.6	7.8'	14°39.5	15.7'	61.1'		85°14.4	83°23.3	41°15.2	34°41.3	59°43.9	86°17.6	93°34.4
17	272°06.4	7.7'	14°55.3	15.7'	61.1'	119°37.5	84°36.6	82°45.4	40°38.8	35°19.1	60°18.8	86°49.4	93°49.6
18	286°33.1	7.6'	N15°10.9	15.6'	61.1'	118°59.6	83°58.8	82°07.5	40°02.4	35°57.0	60°53.7	87°21.3	94°04.8
19	300°59.7	7.5'	15°26.5	15.5'	61.1'	118°21.7	83°21.0	81°29.6	39°26.0	36°34.9	61°28.6	87°53.2	94°20.0
20	315°26.1	7.4'	15°42.0	15.4'	61.2'	117°43.7	82°43.1	80°51.7	38°49.6	37°12.8	62°03.7	88°25.1	94°35.1
21	329°52.5	7.2'	15°57.4	15.3'	61.2'	117°05.7	82°05.3	80°13.7	38°13.3	37°50.7	62°38.7	88°57.0	94°50.3
22	344°18.7	7.1'	16°12.7	15.2'	61.2'	116°27.7	81°27.4	79°35.7	37°37.0	38°28.7	63°13.9	89°29.0	95°05.4
23	358°44.9	7.0'	16°27.9	15.1'	61.2'	115°49.6	80°49.5	78°57.7	37°00.7	39°06.7	63°49.0	90°01.0	95°20.5
4 th	SD = 16.6' Mer. pass. 23:05												

h		Moon (5 th Nov)				Lunar Distance (objects with largest hourly LD delta)							
Wed	GHA	ν	Dec	d	HP	-Regulus	-Jupiter	-Pollux	-Aldebaran	+Saturn	+Fomalhaut	+Achernar	+Altair
0	13°10.9	6.9'	N16°43.0	15.0'	61.2'	115°11.6	80°11.6	78°19.7	36°24.5	39°44.7	64°24.3	74°01.8	90°32.9
1	27°36.8	6.8'	16°58.1	14.9'	61.2'	114°33.5	79°33.7	77°41.7	35°48.3	40°22.7	64°59.5	74°19.1	91°04.9
2	42°02.6	6.7'	17°13.0	14.8'	61.2'	113°55.4	78°55.7	77°03.6	35°12.1	41°00.7	65°34.8	74°36.6	91°37.0
3	56°28.2	6.6'	17°27.8	14.7'	61.3'	113°17.3	78°17.8	76°25.5	34°36.0	41°38.8	66°10.2	74°54.2	92°09.0
4	70°53.8	6.4'	17°42.5	14.6'	61.3'	112°39.2	77°39.8	75°47.5	33°59.9	42°16.9	66°45.5	75°11.8	92°41.0
5	85°19.3	6.3'	17°57.1	14.5'	61.3'	112°01.1	77°01.8	75°09.4	33°23.9	42°55.0	67°21.0	75°29.6	93°13.0
6	99°44.6	6.2'	N18°11.5	14.4'	61.3'	111°22.9	76°23.8	74°31.3	32°48.0	43°33.1	67°56.4	75°47.4	93°45.1
7	114°09.8	6.1'	18°25.9	14.2'	61.3'	110°44.8	75°45.8	73°53.1	32°12.1	44°11.2	68°31.9	76°05.3	94°17.1
8	128°34.9	6.0'	18°40.1	14.1'	61.3'	110°06.6	75°07.7	73°15.0	31°36.2	44°49.4	69°07.5	76°23.4	94°49.2
9	142°59.9	5.9'	18°54.3	14.0'	61.3'	109°28.4	74°29.7	72°36.9	31°00.5	45°27.6	69°43.0	76°41.5	95°21.2
10	157°24.8	5.8'	19°08.3	13.9'	61.3'	108°50.3	73°51.6	71°58.7	30°24.8	46°05.7	70°18.6	76°59.6	95°53.2
11	171°49.5	5.6'	19°22.1	13.8'	61.3'	108°12.1	73°13.6	71°20.6	29°49.2	46°43.9	70°54.2	77°17.9	96°25.3
12	186°14.2	5.5'	N19°35.9	13.6'	61.3'	107°33.8	72°35.5	70°42.4	29°13.7	47°22.1	71°29.9	77°36.2	96°57.3
13	200°38.7	5.4'	19°49.5	13.5'	61.3'	106°55.6	71°57.4	70°04.2	28°38.3	48°00.3	72°05.5	77°54.7	97°29.3
14	215°03.1	5.3'	20°03.0	13.4'	61.4'	106°17.4	71°19.4	69°26.0	28°03.0	48°38.5	72°41.2	78°13.1	98°01.3
15	229°27.4	5.2'	20°16.4	13.2'	61.4'	105°39.2	70°41.3	68°47.8	27°27.8	49°16.8	73°16.9	78°31.7	98°33.3
16	243°51.6	5.1'	20°29.6	13.1'	61.4'	105°00.9	70°03.2	68°09.6	26°52.8	49°55.0	73°52.7	78°50.3	99°05.3
17	258°15.7	5.0'	20°42.7	12.9'	61.4'	104°22.7	69°25.1	67°31.4	26°17.9	50°33.2	74°28.4	79°09.0	99°37.3
18	272°39.6	4.8'	N20°55.6	12.8'	61.4'	103°44.5	68°47.0	66°53.2	25°43.1	51°11.5	75°04.2	79°27.8	100°09.2
19	287°03.5	4.7'	21°08.4	12.6'	61.4'	103°06.2	68°08.9	66°15.0	25°08.4	51°49.7	75°40.0	79°46.6	100°41.1
20	301°27.2	4.6'	21°21.0	12.5'	61.4'	102°28.0	67°30.8	65°36.8	24°34.0	52°28.0	76°15.8	80°05.5	101°13.1
21	315°50.8	4.5'	21°33.5	12.3'	61.4'	101°49.7	66°52.7	64°58.6	23°59.7	53°06.2	76°51.6	80°24.4	101°44.9
22	330°14.3	4.4'	21°45.9	12.2'	61.4'	101°11.5	66°14.6	64°20.4	23°25.6	53°44.5	77°27.5	80°43.4	102°16.8
23	344°37.7	4.3'	21°58.1	12.0'	61.4'	100°33.2	65°36.5	63°42.2	22°51.7	54°22.7	78°03.3	81°02.4	102°48.6
5 th	SD = 16.7'				Mer. pass. ---								

h		Moon (6 th Nov)				Lunar Distance (objects with largest hourly LD delta)							
Thu	GHA	ν	Dec	d	HP	-Regulus	-Procyon	-Jupiter	-Pollux	+Saturn	+Fomalhaut	+Achernar	+Altair
0	359°01.0	4.2'	N22°10.1	11.9'	61.4'	99°55.0	68°21.8	64°58.3	63°04.0	55°01.0	78°39.2	81°21.5	103°20.4
1	13°24.2	4.1'	22°22.0	11.7'	61.4'	99°16.7	67°46.3	64°20.2	62°25.8	55°39.2	79°15.1	81°40.7	103°52.2
2	27°47.2	4.0'	22°33.7	11.6'	61.4'	98°38.5	67°10.7	63°42.2	61°47.6	56°17.5	79°50.9	81°59.9	104°23.9
3	42°10.2	3.8'	22°45.3	11.4'	61.4'	98°00.2	66°35.2	63°04.1	61°09.4	56°55.8	80°26.8	82°19.1	104°55.6
4	56°33.0	3.7'	22°56.7	11.2'	61.4'	97°22.0	65°59.7	62°26.0	60°31.2	57°34.0	81°02.7	82°38.3	105°27.2
5	70°55.8	3.6'	23°07.9	11.1'	61.4'	96°43.8	65°24.2	61°47.9	59°53.0	58°12.3	81°38.6	82°57.6	105°58.8
6	85°18.4	3.5'	N23°19.0	10.9'	61.4'	96°05.5	64°48.8	61°09.8	59°14.8	58°50.5	82°14.5	83°17.0	106°30.4
7	99°40.9	3.4'	23°29.9	10.7'	61.4'	95°27.3	64°13.4	60°31.7	58°36.7	59°28.7	82°50.3	83°36.4	107°01.9
8	114°03.4	3.3'	23°40.6	10.5'	61.3'	94°49.1	63°38.0	59°53.7	57°58.5	60°07.0	83°26.2	83°55.8	107°33.4
9	128°25.7	3.2'	23°51.1	10.4'	61.3'	94°10.9	63°02.7	59°15.6	57°20.3	60°45.2	84°02.1	84°15.2	108°04.8
10	142°47.9	3.1'	24°01.5	10.2'	61.3'	93°32.7	62°27.4	58°37.6	56°42.2	61°23.4	84°38.0	84°34.7	108°36.2
11	157°10.1	3.0'	24°11.7	10.0'	61.3'	92°54.5	61°52.1	57°59.6	56°04.1	62°01.6	85°13.9	84°54.1	109°07.5
12	171°32.1	2.9'	N24°21.7	9.8'	61.3'	92°16.3	61°16.9	57°21.5	55°25.9	62°39.8	85°49.8	85°13.7	109°38.8
13	185°54.1	2.9'	24°31.5	9.6'	61.3'	91°38.2	60°41.8	56°43.5	54°47.8	63°18.0	86°25.6	85°33.2	110°10.0
14	200°15.9	2.8'	24°41.2	9.5'	61.3'	91°00.0	60°06.7	56°05.5	54°09.7	63°56.2	87°01.5	85°52.7	110°41.1
15	214°37.7	2.7'	24°50.6	9.3'	61.3'	90°21.9	59°31.6	55°27.6	53°31.6	64°34.3	87°37.3	86°12.3	111°12.2
16	228°59.4	2.6'	24°59.9	9.1'	61.3'	89°43.7	58°56.6	54°49.6	52°53.6	65°12.5	88°13.2	86°31.9	111°43.2
17	243°21.0	2.5'	25°09.0	8.9'	61.3'	89°05.6	58°21.6	54°11.7	52°15.5	65°50.6	88°49.0	86°51.4	112°14.2
18	257°42.5	2.4'	N25°17.9	8.7'	61.3'	88°27.5	57°46.7	53°33.7	51°37.5	66°28.7	89°24.8	87°11.0	112°45.0
19	272°03.9	2.3'	25°26.6	8.5'	61.2'	87°49.4	57°11.9	52°55.8	50°59.5	67°06.8	90°00.6	87°30.6	113°15.8
20	286°25.2	2.3'	25°35.1	8.3'	61.2'	87°11.4	56°37.1	52°17.9	50°21.5	67°44.9	90°36.4	87°50.2	113°46.5
21	300°46.5	2.2'	25°43.4	8.1'	61.2'	86°33.3	56°02.4	51°40.0	49°43.5	68°23.0	91°12.1	88°09.8	114°17.2
22	315°07.7	2.1'	25°51.5	7.9'	61.2'	85°55.3	55°27.7	51°02.2	49°05.5	69°01.1	91°47.9	88°29.5	114°47.8
23	329°28.8	2.0'	25°59.4	7.7'	61.2'	85°17.3	54°53.1	50°24.4	48°27.6	69°39.1	92°23.6	88°49.1	115°18.2
6 th	SD = 16.7'				Mer. pass. 00:04								

h		Moon (7 th Nov)				Lunar Distance (objects with largest hourly LD delta)							
Fri	GHA	ν	Dec	d	HP	-Regulus	-Procyon	-Jupiter	-Pollux	+Saturn	+Achernar	+Fomalhaut	+Altair
0	343°49.9	2.0'	N26°07.1	7.5'	61.2'	84°39.3	54°18.6	49°46.5	47°49.6	70°17.1	89°08.7	92°59.3	115°48.6
1	358°10.8	1.9'	26°14.6	7.3'	61.2'	84°01.3	53°44.2	49°08.8	47°11.7	70°55.1	89°28.3	93°35.0	116°18.9
2	12°31.8	1.9'	26°21.9	7.1'	61.2'	83°23.4	53°09.8	48°31.0	46°33.9	71°33.1	89°47.9	94°10.7	116°49.1
3	26°52.6	1.8'	26°29.0	6.9'	61.1'	82°45.5	52°35.5	47°53.2	45°56.0	72°11.1	90°07.4	94°46.3	117°19.3
4	41°13.4	1.7'	26°35.9	6.7'	61.1'	82°07.5	52°01.2	47°15.5	45°18.2	72°49.0	90°27.0	95°21.9	117°49.3
5	55°34.1	1.7'	26°42.6	6.5'	61.1'	81°29.7	51°27.1	46°37.8	44°40.3	73°26.9	90°46.5	95°57.5	118°19.2
6	69°54.8	1.6'	N26°49.1	6.3'	61.1'	80°51.8	50°53.0	46°00.2	44°02.6	74°04.8	91°06.1	96°33.1	118°49.0
7	84°15.4	1.6'	26°55.4	6.1'	61.1'	80°14.0	50°19.1	45°22.5	43°24.8	74°42.7	91°25.6	97°08.6	119°18.7
8	98°36.0	1.5'	27°01.4	5.8'	61.0'	79°36.1	49°45.2	44°44.9	42°47.1	75°20.5	91°45.1	97°44.1	119°48.3
9	112°56.6	1.5'	27°07.3	5.6'	61.0'	78°58.4	49°11.4	44°07.3	42°09.4	75°58.3	92°04.6	98°19.6	
10	127°17.0	1.5'	27°12.9	5.4'	61.0'	78°20.6	48°37.7	43°29.8	41°31.7	76°36.1	92°24.0	98°55.0	
11	141°37.5	1.4'	27°18.3	5.2'	61.0'	77°42.9	48°04.1	42°52.3	40°54.0	77°13.9	92°43.4	99°30.4	
12	155°57.9	1.4'	N27°23.5	5.0'	61.0'	77°05.2	47°30.6	42°14.8	40°16.4	77°51.6	93°02.8	100°05.8	
13	170°18.3	1.4'	27°28.5	4.8'	60.9'	76°27.5	46°57.2	41°37.3	39°38.8	78°29.3	93°22.2	100°41.1	
14	184°38.6	1.3'	27°33.3	4.6'	60.9'	75°49.8	46°23.9	40°59.9	39°01.3	79°07.0	93°41.5	101°16.4	
15	198°59.0	1.3'	27°37.9	4.3'	60.9'	75°12.2	45°50.8	40°22.5	38°23.8	79°44.7	94°00.8	101°51.7	
16	213°19.3	1.3'	27°42.2	4.1'	60.9'	74°34.6	45°17.7	39°45.1	37°46.3	80°22.3	94°20.1	102°26.9	
17	227°39.5	1.3'	27°46.3	3.9'	60.9'	73°57.1	44°44.8	39°07.8	37°08.8	80°59.9	94°39.3	103°02.1	
18	241°59.8	1.2'	N27°50.3	3.7'	60.8'	73°19.5	44°12.0	38°30.5	36°31.4	81°37.4	94°58.5	103°37.2	
19	256°20.0	1.2'	27°53.9	3.5'	60.8'	72°42.0	43°39.3	37°53.3	35°54.0	82°15.0	95°17.6	104°12.3	
20	270°40.3	1.2'	27°57.4	3.3'	60.8'	72°04.6	43°06.8	37°16.1	35°16.6	82°52.5	95°36.7	104°47.4	
21	285°00.5	1.2'	28°00.7	3.0'	60.8'	71°27.1	42°34.3	36°38.9	34°39.3	83°29.9	95°55.7	105°22.4	
22	299°20.7	1.2'	28°03.7	2.8'	60.7'	70°49.7	42°02.1	36°01.8	34°02.0	84°07.3	96°14.7	105°57.4	
23	313°41.0	1.2'	28°06.5	2.6'	60.7'	70°12.4	41°30.0	35°24.7	33°24.8	84°44.7	96°33.7	106°32.3	
7 th	SD = 16.7'				Mer. pass. 01:08								