

E. Longitude 5 0 0.0. Latitude 52 0 0.0. Alt. 0m:

y	m	d	h	m	s	P	Star No	Sp D	Mag v	Mag r	% ill	Elon	Sun Alt	Moon Alt	CA	PA	VA	AA Libration L	B	A m/o	B m/o	RV "/s	Cct o	durn sec	R.A. (J2000) h m s	Dec o m s	Mdist Mm	SV m/s					
26	Oct	8	3	52	5.3	R	1597	K5	8.3	7.5	7-	30	6	91	65S	264	303	243	+5.5	+2.3	+0.1	+1.8	.461	-147.1	10	59	34.7	4	21	14	378.4	1008.7	
26	Oct	16	17	10	35.0	D	2617	cK0	4.6	4.1	32+	69	-5	9	194	70N	71	61	71	-0.2	+6.4	+1.5	-0.4	.349	10.7	18	8	5.0	-28	27	26	403.7	695.4
2617 is double: AB 5.1 5.9 0.26" 12.0, dT = +0.38sec																																	
2617 is a close double. Observations are highly desired																																	
26	Oct	16	18	9	59	m	186346	F5	7.6	7.4	32+	69	5	206	12S	169	151	169	-0.4	+6.4	+9.9	+9.9	.000	-90.0	18	8	52.1	-28	45	19	404.0	728.9	
26	Oct	18	17	54	42.1	d	188689	K2	8.3	7.4	51+	91	14	182	82S	87	85	96	-2.9	+4.4	+1.7	+0.0	.341	-18.5	19	54	10.7	-24	30	31	401.1	699.4	
26	Oct	19	18	36	6.6	d	189638	DK0	7.7		60+	102	17	181	44S	121	120	134	-4.2	+3.1	+2.7	-0.8	.193	-58.7	20	44	49.2	-20	53	34	397.7	715.7	
189638 is double: AB 7.95 9.63 2.05" 97.4, dT = +10sec																																	
189638 is a close double. Observations are highly desired																																	
26	Oct	20	19	4	52.2	D	3157	cF6	7.3		70+	113	22	177	46S	114	116	131	-5.2	+1.7	+2.6	-0.5	.211	-56.7	21	33	40.2	-16	12	4	393.1	733.6	
3157 is double: AB 7.33 10.00 0.90" 2.4, dT = -1.6sec																																	
3157 is a close double. Observations are highly desired																																	
26	Oct	21	21	33	3.9	D	3286	K0	7.2	6.4	79+	126	25	204	65S	93	78	113	-6.3	-0.1	+1.8	-1.0	.322	-39.7	22	24	7.6	-10	11	52	387.3	786.7	
26	Oct	21	22	10	57.1	d	165046	K0	8.5	7.8	79+	126	23	214	51N	29	9	49	-6.3	-0.1	+0.5	+0.6	.390	25.0	22	24	28.6	-9	48	1	387.5	808.1	
26	Oct	22	22	29	56.0	d	146559	kK0	8.6	8.0	87+	138	30	210	83S	75	57	96	-6.6	-1.6	+1.3	-0.4	.405	-21.6	23	12	13.1	-3	56	13	381.2	805.9	
26	Oct	23	0	44	1.6	D	3416	cA3	5.6	5.5	88+	139	16	242	51S	108	74	129	-6.8	-1.9	+1.0	-2.6	.308	-50.6	23	15	34.3	-3	29	47	382.1	899.3	
3416 is double: ** 6.4 6.4 0.050"																																	
3416 has been reported as non-instantaneous (OCcl638). Observations are highly desired																																	
26	Oct	23	23	9	33.1	D	128524	K2	7.6	6.9	94+	151	37	211	49N	30	11	52	-6.4	-3.1	+0.7	+1.0	.407	24.2	0	0	23.5	2	40	32	375.0	812.4	
26	Oct	24	1	38	22.4	d	108995	K2	7.9	7.3	94+	152	20	248	36S	125	90	147	-6.7	-3.3	+1.2	-4.6	.205	-65.8	0	4	37.5	2	56	14	376.1	910.0	
26	Oct	24	18	43	56.6	d	109413	K2	8.0	7.3	97+	162	29	117	67S	99	133	121	-5.3	-3.8	+1.0	+1.4	.378	-41.8	0	43	53.0	7	33	19	371.6	913.8	
26	Oct	24	19	19	40.9	d	109424	K0	8.5	7.8	98+	162	33	125	44S	122	152	144	-5.4	-3.9	+2.1	+0.5	.202	-65.8	0	44							

day	Time	P	Star	Sp	Mag	Mag	%	Elon	Sun	Moon	CA	PA	VA	AA	Libration	A	B	RV	Cct	durn	R.A. (J2000)	Dec	Mdist	SV								
y	m	d	h	m	s	No	D	v	r	V	ill	Alt	Alt	Az	o	o	o	o	o	o	sec	h	m	s	o	m	s	Mm	m/s			
26	Oct	27	0	11	49.4	r	93043	G5	8.7	8.2	99-	168	58	185	87N	234	230	251	-3.2	-5.9	+1.2+1.1	.452	-168.4	2	40	41.6	20	10	53	361.0	807.2	
26	Oct	27	1	2	25.0	R	75531	DG5	7.7		99-	168	56	206	45S	187	170	204	-3.3	-5.9	+0.6+3.8	.228	-119.6	2	43	1.0	20	13	50	361.1	807.0	
75531 is double: AB 7.78 11.41 1.85" 224.0, dT = -6sec																																
75531 is a close double. Observations are highly desired																																
Distance of 75531 to Terminator = 10.8"; to 3km sunlit peak = 2.5"																																
26	Oct	27	2	19	38.1	r	75545	K0	8.6	8.0	99-	167	49	233	82N	240	208	257	-3.4	-6.0	+1.1+0.1	.467	-170.0	2	44	30.9	20	35	15	361.4	832.0	
26	Oct	27	2	59	15.2	R	75558	A0	7.7	7.6	99-	167	44	244	82N	240	204	257	-3.4	-6.0	+1.0-0.2	.478	-168.6	2	45	47.8	20	41	34	361.7	856.0	
26	Oct	27	19	17	41.2	r	512c	F5	8.1	7.8	96-	157	23	80	28N	308	350	322	-1.4	-5.7	+0.7+0.8	.324	121.9	3	31	42.4	23	38	58	362.51077.9		
512 is double: ** 9.0 9.0 0.10" 104.0, dT = +0.28sec																																
512 has been reported as non-instantaneous (OCc 761). Observations are highly desired																																
Distance of 512 to Terminator = 18.2"; to 3km sunlit peak = 7.0"																																
26	Oct	27	19	27	34.8	r	513c	K0	7.3	6.7	96-	157	24	82	38N	299	340	312	-1.4	-5.7	+0.5+1.0	.399	131.2	3	32	0.6	23	38	50	362.41066.5		
513 is double: ** 8.7 8.7 0.10" 90.0, dT = +0.22sec																																
513 has been reported as non-instantaneous (OCc1204). Observations are highly desired																																
26	Oct	27	19	51	24.8	R	75987	pA3	7.2	7.1	96-	157	27	86	56S	213	255	226	-1.3	-5.8	-0.2+2.1	.474	-143.2	3	33	23.7	23	22	6	362.01039.1		
75987 is quadruple: Aa,Ab 7.4 9.1 0.10" : AB 7.2 12.8 33" 170.0, dT = -51sec : AC 7.2 7.7 69" 32.9, dT = +145sec																																
75987 is a close double. Observations are highly desired																																
26	Oct	27	19	53	47.9	r	75988	pG5	7.6	7.0	96-	157	28	87	59S	216	258	229	-1.3	-5.8	-0.2+2.1	.490	-146.2	3	33	26.5	23	23	4	362.01036.4		
75988 is triple: CD 7.7 12.0 10.0" 321.1, dT = +5sec : CA 7.7 7.2 69" 212.9, dT = -140sec																																
26	Oct	27	20	11	1.3	R	75990	cK0	7.5	6.9	96-	157	31	90	30N	306	349	320	-1.3	-5.8	+1.0+0.7	.313	122.7	3	33	51.4	23	49	52	361.71017.3		
75990 is double: ** 8.4 8.4 0.10" 85.0, dT = +0.24sec																																
75990 has been reported as non-instantaneous (OCc 773). Observations are highly desired																																
26	Oct	27	21	23	37.0	r	76021	kG0	8.6	8.3	96-	156	42	105	89S	245	286	259	-1.3	-5.9	+0.5+1.7	.536	-176.7	3	36	28.8	23	47	50	360.7	939.0	
26	Oct	27	21	26	57.7	r	X	66511	p	8.7	8.3	96-	156	42	105	69N	268	309	281	-1.3	-5.9	+0.8+1.3	.505	160.8	3	36	29.7	23	54	46	360.6	935.7
X 66511 is double: AB 8.7 11.0 6.7" 113.1, dT = +12sec																																
X 66511 is a close double. Observations are highly desired																																
26	Oct	28	0	25	58.0	d	536p	B7	5.5	5.5	95-	155	62	163	-35S	122	134	135	-1.5	-6.1	+1.9-1.3	.297	-50.4	3	44	48.2	24	17	22	359.2	810.2	
R536 = Celaeno = 16 Tauri																																
536 is triple: AB 5.4 13.2 89" 264.5, dT = -236sec : AC 5.4 11.5 218" 196.1, dT = +205sec																																
26	Oct	28	0	32	47.0	D	539S	B6	4.3	4.4s	95-	155	62	166	-70S	87	97	100	-1.5	-6.1	+1.5+0.3	.448	-15.1	3	45	12.5	24	28	2	359.1	808.2	
R539 = Taygeta = 19 Tauri																																
539 is multiple: Aa,Ab 4.6 6.1 : AB 0.067" 85.3, dT = +0.15sec : AC 4.3 14.0 53" 53.4, dT = +98sec : AB 4.3 11.0 72" 328.8, dT = -77sec																																
539 is a close double. Observations are highly desired																																
539 = NSV 1264, 4.30, range 0.00, 1Kp, Type SPB, Period 1.5664 days																																
26	Oct	28	0	54	52.9	d	542p	B8	5.8	5.8	95-	154	63	177	-78S	80	82	93	-1.5	-6.1	+1.4+0.4	.458	-7.0	3	45	54.5	24	33	16	359.1	802.7	
R542 = Asterope = 21 Tauri																																
542 is triple: AB 5.8 6.4 150" 130.1, dT = +210sec : AD 5.8 12.7 170" 74.1, dT = +371sec																																
26	Oct	28	0	57	14.0	D	541S	B8	3.9	3.9s	95-	154	63	178	-37S	121	123	134	-1.5	-6.1	+1.8-1.5	.308	-48.1	3	45	49.6	24	22	4	359.1	802.3	
R541 = Maia = 20 Tauri																																
541 is quadruple: Aa,Ab 4.4 5.4 : AB 3.8 13.7 113" 72.6, dT = +244sec : AB 3.8 13.7 113" 72.7, dT = +244sec																																
541 = NSV 1279, 3.87, range 0.00, 4Kp, Type ACV, Period 10.288 days																																

day	Time	P	Star	Sp	Mag	Mag	%	Elon	Sun	Moon	CA	PA	VA	AA	Libration	A	B	RV	Cct	durn	R.A. (J2000)	Dec	Mdist	SV		
y	m d h m s		No	D	v	r V	ill	Alt	Alt	Az	o	o	o	o	L	B	m/o	m/o	"/s	o	sec	h m s	o m s	Mm	m/s	
26	Oct 28	0 57 18.1	r	76104KA7	8.3	8.1v	95-	154	63	179	83S	241	242	254	-1.5	-6.1	+1.3+1.0	.450	-167.9	3	43	43.2	24 22 28	359.1	802.1	
76104 = V0624 Tau, 8.23 to 8.25, V, Type DSCTC, Period 0.0205 days																										
26	Oct 28	1 10 27.9	r	76136KA0	8.5	8.3	95-	154	62	185	27S	185	182	198	-1.5	-6.1	+0.4+5.6	.167	-111.3	3	45	6.5	24 15 49	359.1	800.4	
26	Oct 28	1 10 51.0	R	76113 A2	8.1	8.0v	95-	154	63	185	64N	274	270	286	-1.5	-6.1	+1.5-0.2	.432	160.0	3	44	0.3	24 33 25	359.1	800.4	
76113 = V1187 Tau, 8.28, range 0.02, B, Type DSCTC																										
26	Oct 28	1 12 38.9	R	536pB7	5.5	5.5	95-	154	62	186	45S	203	199	216	-1.5	-6.1	+0.9+2.9	.293	-129.6	3	44	48.2	24 17 22	359.1	800.2	
R536 = Celaeno = 16 Tauri																										
536 is triple: AB 5.4 13.2 89" 264.5, dT = -145sec : AC 5.4 11.5 218" 196.1, dT = -738sec																										
26	Oct 28	1 17 9.7	R	76119pA5	8.1	8.0	95-	154	62	188	77S	235	229	248	-1.6	-6.1	+1.3+1.1	.435	-161.2	3	44	25.7	24 23 41	359.1	799.9	
76119 is double: ** 9.3 9.3 0.10" 139.0, dT = +0.02sec																										
76119 has been reported as non-instantaneous (OCc 776). Observations are highly desired																										
26	Oct 28	1 19 50	Gr	538pB8	5.7	5.7	95-	154	63	**	GRAZE: CA -6.0N; Dist. 87km in az. 165deg. [Lat = 51.18+0.17(E.Long-5.00)]															
26	Oct 28	1 20 7	m	538pB8	5.7	5.7	95-	154	63	189	-6N	344	337	357	-1.6	-6.1	+9.9+9.9	.000	90.0	3	45	9.7	24 50 21	359.1	799.7	
R538 = 18 Tauri																										
538 is quadruple: Aa,Ab 6.4 6.4 0.10" : AB 5.6 14.0 72" 128.9 : AC 5.6 14.8 151" 175.1																										
538 is a close double. Observations are highly desired																										
26	Oct 28	1 36 40.6	R	76152pB9	7.2	7.1S	95-	154	62	197	43S	201	189	213	-1.6	-6.1	+1.0+3.1	.270	-126.0	3	45	37.8	24 20 8	359.1	799.7	
76152 is triple: Aa,Ab 7.4 9.0 0.001" 349.0, dT = 0.00sec : AB 7.2 9.9 177" 164.1, dT = -526sec																										
76152 = NSV 15762, 7.17, , Type VAR:																										
26	Oct 28	1 42 55.8	R	539SB6	4.3	4.4s	95-	154	62	200	82S	240	226	252	-1.6	-6.1	+1.3+0.8	.443	-164.8	3	45	12.5	24 28 2	359.1	800.1	
R539 = Taygeta = 19 Tauri																										
539 is multiple: Aa,Ab 4.6 6.1 : AB 0.067" 85.3, dT = +0.14sec : AC 4.3 14.0 53" 53.4, dT = +119sec : AB 4.3 11.0 72" 328.8, dT = -2.1sec																										
539 is a close double. Observations are highly desired																										
539 = NSV 1264, 4.30, range 0.00, 1Kp, Type SPB, Period 1.5664 days																										
26	Oct 28	1 46 29.0	R	541SB8	3.9	3.9s	95-	154	61	202	49S	207	192	219	-1.6	-6.1	+1.1+2.5	.307	-131.9	3	45	49.6	24 22 4	359.1	800.4	
R541 = Maia = 20 Tauri																										
541 is quadruple: Aa,Ab 4.4 5.4 : AB 3.8 13.7 113" 72.6, dT = +257sec : AB 3.8 13.7 113" 72.7, dT = +257sec																										
541 = NSV 1279, 3.87, range 0.00, 4Kp, Type ACV, Period 10.288 days																										
26	Oct 28	1 52 9.2	r	76149PA2	8.9	s	95-	154	61	204	76S	234	218	247	-1.6	-6.1	+1.3+0.9	.429	-158.8	3	45	34.5	24 27 48	359.1	801.1	
76149 = NSV 1273, 8.59, range 0.01, V, Type DSCT:																										
26	Oct 28	2 6 58.3	R	542pB8	5.8	5.8	95-	154	60	211	89N	249	228	261	-1.6	-6.1	+1.3+0.3	.458	-173.0	3	45	54.5	24 33 16	359.2	803.6	
R542 = Asterope = 21 Tauri																										
542 is triple: AB 5.8 6.4 150" 130.1, dT = +157sec : AD 5.8 12.7 170" 74.1, dT = +371sec																										
26	Oct 28	2 9 20.1	R	543pA0	6.4	6.4	95-	154	60	212	84S	242	221	254	-1.6	-6.1	+1.3+0.5	.447	-165.8	3	46	2.9	24 31 40	359.2	804.1	
R543 = 22 Tauri																										
543 is triple: BC 6.4 15.1 52" 267.9, dT = -103sec : BA 6.4 5.8 150" 310.1, dT = -123sec																										
26	Oct 28	2 33 5.6	R	548pB9	6.8	6.8	95-	154	58	221	71S	229	202	241	-1.7	-6.1	+1.3+0.9	.410	-151.9	3	46	59.4	24 31 12	359.3	810.8	
548 is quadruple: Aa,Ab 6.8 6.9 0.010" 250.5, dT = -0.02sec : AB 6.8 14.8 102" 299.3, dT = -83sec : AC 6.8 13.0 123" 190.1, dT = -233sec																										
548 is a close double. Observations are highly desired																										
26	Oct 28	2 41 40.2	r	76184PA9	8.3	8.1v	95-	154	57	224	46N	292	263	304	-1.7	-6.1	+1.3-1.7	.385	145.6	3	47	3.6	24 49 11	359.3	814.0	
76184 is double: AB 8.7 10.7 0.62" 220.9, dT = -0.5sec																										
76184 is a close double. Observations are highly desired																										
76184 = V0534 Tau, 8.26 to 8.3, V, Type DSCTC, Period 0.032 days																										

day	Time	P	Star	Sp	Mag	Mag	%	Elon	Sun	Moon	CA	PA	VA	AA	Libration	A	B	RV	Cct	durn	R.A. (J2000)	Dec	Mdist	SV
y	m d h m s		No	D	v	r V	ill	Alt	Alt	Az	o	o	o	o	L B	m/o	m/o	"/s	o	sec	h m s	o m s	Mm	m/s
26	Oct 28 2 49 19.1	R	76194PA0		7.7	7.6v	95-	154		56 227	81S	239	210	252	-1.7 -6.1	+1.3+0.3	.445	-161.6		3 47 24.1	24 35 19	359.4	817.2	
76194 is quadruple: ** 7.7 0.050" 298.0, dT = -0.06sec : AB 7.7 14.6 32" 94.3, dT = +60sec : AC 7.7 14.4 130" 62.8, dT = +292sec																								
76194 has been reported as non-instantaneous (OCc1829). Observations are highly desired																								
76194 = V1228 Tau, 7.71, range 0.02, v, Type DSCTC, Period 0.0603 days																								
26	Oct 28 2 54 0.9	r X	4907pB8		8.8	8.6	95-	154		56 229	85N	254	223	266	-1.7 -6.1	+1.3-0.2	.469	-175.5		3 47 26.5	24 39 30	359.4	819.3	
X 4907 is double: AB 8.8 11.3 6.8" 329.9, dT = -3sec																								
X 4907 is a close double. Observations are highly desired																								
26	Oct 28 3 40 57	m	76259cA2		7.4	7.4	95-	153		50 242	11S	170	133	182	-1.7 -6.1	+9.9+9.9	.000	-90.0		3 50 28.1	24 29 44	359.8	845.5	
76259 is double: ** 7.6 8.8 0.015" 114.0																								
76259 has been reported as non-instantaneous (OCc 252). Observations are highly desired																								
Distance of 76259 to Terminator = 4.6"; to 3km sunlit peak = 0.0"																								
26	Oct 28 21 49 34.1	r	76725 K2		8.7	7.9	89-	142		38 94	18S	185	228	193	+0.4 -5.6	-1.3+4.7	.174	-108.4		4 43 5.0	26 14 35	360.5	962.9	
26	Oct 29 0 38 32.6	R	76764cG8		7.9	7.2	89-	141		61 140	48N	300	327	307	+0.3 -5.8	+1.6-0.6	.357	139.5		4 48 20.4	26 57 59	358.9	818.4	
76764 is double: ** 8.6 8.6 0.10" 160.0, dT = +0.21sec																								
76764 has been reported as non-instantaneous (OCc 736). Observations are highly desired																								
26	Oct 29 0 58 58.4	R	76770PF8		8.1	7.8	89-	141		63 149	44N	304	326	312	+0.3 -5.8	+1.7-1.1	.335	136.1		4 49 5.5	27 0 41	358.8	808.9	
76770 is double: ** 8.4 8.4 0.10" 324.0, dT = -0.28sec																								
76770 has been reported as non-instantaneous (OCc 766). Observations are highly desired																								
26	Oct 29 2 50 3.4	R	732pK3		7.5	6.8	88-	140		64 203	60S	228	212	235	+0.1 -5.8	+1.4+1.4	.365	-142.9		4 52 58.2	26 46 39	358.8	795.9	
732 is double: ** 7.9 10.2 0.040" 69.0, dT = +0.1sec																								
732 has been reported as non-instantaneous (OCc 778). Observations are highly desired																								
26	Oct 29 3 31 22.6	r	76825 K5		9.0	8.0	88-	140		60 221	48S	216	189	223	+0.0 -5.8	+1.5+2.0	.293	-129.2		4 54 34.9	26 45 37	359.0	808.3	
26	Oct 29 4 2 8.4	R	76841cK1		7.3	6.7	88-	139		57 232	30N	319	285	326	+0.0 -5.7	+0.9-3.2	.301	129.6		4 55 34.6	27 12 9	359.2	823.6	
76841 is double: ** 7.6 10.1 0.08" 82.0, dT = +0.15sec																								
76841 has been reported as non-instantaneous (OCc 753). Observations are highly desired																								
26	Oct 29 6 25 37	M	750SG2		6.9		87-	138	-1 37	267	13S	183	139	189	-0.1 -5.6	+9.9+9.9	.000	-90.0		5 1 44.3	26 40 16	360.7	946.8	
750 is triple: AB 7.07 9.01 0.19" 235.2 : AB,C 6.8 8.3 78" 159.0																								
750 has been reported as non-instantaneous (S 461). Observations are highly desired																								
Distance of 750 to Terminator = 17.7"; to 3km sunlit peak = 5.0"																								
26	Oct 29 21 31 38.0	r	77561 K0		8.5	8.0	81-	129		26 79	52S	228	271	230	+2.0 -5.0	-0.3+2.2	.472	-143.3		5 47 38.3	26 55 23	362.41035.3		
26	Oct 29 21 52 19.1	R	77588cB8		7.7	7.7	81-	128		29 82	27N	329	13	331	+2.0 -5.0	+1.3-0.7	.246	115.3		5 48 49.0	27 21 50	362.11010.8		
77588 is double: 8.1 9.1																								
26	Oct 29 22 28 55.1	r	77608cK2		8.8	8.3	81-	128		35 89	85S	262	305	263	+2.0 -5.0	+0.4+1.6	.551	-176.7		5 49 45.7	27 7 17	361.6	967.6	
77608 is double: ** 10.0 10.0 0.10" 69.0, dT = +0.18sec																								
77608 has been reported as non-instantaneous (OCc 779). Observations are highly desired																								
26	Oct 29 22 30 42.5	r	77615SG0		8.7	8.4v	81-	128		35 90	47S	223	267	225	+2.0 -5.0	-0.1+2.6	.412	-138.5		5 50 13.1	26 57 43	361.6	965.8	
77615 is quadruple: ** 9.4 9.4 0.001" : AB 9.0 16.7 14.4" 165.0, dT = -18sec : AC 8.7 16.4 31" 323.4, dT = +13sec																								
77615 = V0781 Tau, 8.56 to 8.97, V, Type EW/KW, Period 0.344909 days, Phase 74%																								
26	Oct 30 0 45 9.6	R	77711 F5		7.9	7.6	80-	127		54 120	65N	292	329	293	+2.0 -5.0	+1.3+0.3	.439	156.5		5 55 3.7	27 20 32	360.2	837.2	
26	Oct 30 1 44 16.3	R	77753 G2		7.2	6.7	80-	127		61 140	73N	284	310	285	+1.9 -5.0	+1.4+0.1	.447	166.2		5 57 5.6	27 19 0	359.9	803.4	

day	Time	P	Star	Sp	Mag	Mag	%	Elon	Sun	Moon	CA	PA	VA	AA	Libration	A	B	RV	Cct	durn	R.A. (J2000)	Dec	Mdist	SV									
y	m	d	h	m	s	No	D	v	r	V	ill	Alt	Alt	Az	o	o	o	o	L	B	m/o	m/o	"/s	o	sec	h	m	s	o	m	s	Mm	m/s
26	Oct	30	3	13	14.0	R	906SK1	6.6	6.1	79-	126	65	183	78N	280	278	281	+1.8	-5.0	+1.4	-0.4	.449	174.3	6	0	6.0	27	16	20	359.8	787.3		
906 is quadruple: AB 7.3 8.3 0.31" : AC 7.3 8.3 0.31" : AD 7.3 10.0 21.6"																																	
906 is a close double. Observations are highly desired																																	
26	Oct	30	5	32	30.8	r	77927wA0	8.9	8.8	79-	125	-9	54	240	76S	255	218	255	+1.5	-4.9	+1.3	-0.5	.440	-155.2	6	4	55.6	27	1	4	360.6	847.6	
77927 is double: AB 8.9 13.9 35" 84.2, dT = +78sec																																	
26	Oct	30	6	16	7.8	r	77961 B8	8.6	8.6	78-	125	-3	48	252	83N	276	235	276	+1.5	-4.8	+0.9	-1.3	.503	-175.2	6	6	28.9	27	3	20	361.0	884.6	
26	Oct	30	21	4	4.5	r	1046cF8	7.0	6.7	71-	115	12	64	76S	260	298	256	+3.4	-3.9	-0.3	+1.4	.617	-167.6	6	51	0.4	25	45	37	365.6	1120.4		
1046 is double: ** 7.8 7.8 0.10" 57.0, dT = +0.15sec																																	
1046 has been reported as non-instantaneous (OCc 780). Observations are highly desired																																	
26	Oct	30	21	21	34.0	R	1049 A2	6.8	6.7	71-	115	15	67	56S	240	279	235	+3.4	-3.9	-0.4	+1.8	.523	-147.5	6	51	58.2	25	39	47	365.4	1099.5		
26	Oct	30	21	45	47.6	r	78824 F0	7.9	7.7	71-	115	18	71	80S	264	305	260	+3.5	-3.9	-0.1	+1.5	.598	-172.0	6	52	54.3	25	45	52	365.1	1070.1		
26	Oct	31	0	16	27.9	R	1062cB8	6.4	6.5	70-	114	40	99	48N	317	359	312	+3.5	-4.0	+1.1	-0.2	.380	138.3	6	59	27.9	25	54	51	363.2	897.5		
R1062 = 40 Geminorum																																	
1062 is double: AB 6.4 0.10" 160.2, dT = +0.24sec																																	
1062 is a close double. Observations are highly desired																																	
26	Oct	31	1	7	44	Gr	1068 A2	7.1	7.0	70-	113	49	** GRAZE: CA	1.5S; Dist.183km in az. 166deg. [Lat = 50.30+0.16(E.Long-5.00)]																			
Distance of 1068 to Terminator = 14.0"; to 3km sunlit peak = 0.0"																																	
26	Oct	31	1	16	43	m	78995 A3	7.4	7.2	70-	113	48	113	2S	187	226	182	+3.4	-4.0	+9.9	+9.9	.000	-90.0	7	2	20.5	25	21	52	362.6	844.5		
Distance of 78995 to Terminator = 2.8"; to 3km sunlit peak = 0.0"																																	
26	Oct	31	1	24	11.7	R	1068 A2	7.1	7.0	70-	113	50	115	27S	212	250	207	+3.4	-4.0	+0.5	+5.1	.200	-114.8	7	2	7.2	25	25	32	362.6	838.6		
26	Oct	31	1	26	44.1	R	78984cA0	8.5	8.4	70-	113	50	116	66S	251	289	246	+3.4	-4.0	+1.0	+1.8	.427	-153.9	7	1	42.0	25	34	2	362.5	836.4		
78984 is double: ** 9.3 9.3 0.15" 39.0, dT = +0.3sec																																	
78984 has been reported as non-instantaneous (OCc1058). Observations are highly desired																																	
26	Oct	31	1	37	27.2	R	78998 G5	8.0	7.7e	70-	113	52	118	48N	317	354	312	+3.4	-4.0	+1.3	-0.8	.365	140.7	7	2	23.3	25	50	46	362.4	828.9		
78998 = V0369 Gem, 7.95 to 8.12, V, Type EB, Period 0.423061 days, Phase 1%																																	
26	Oct	31	1	43	20	m	79004 A2	8.3	8.2	70-	113	52	120	3S	188	224	183	+3.4	-4.0	+9.9	+9.9	.000	-90.0	7	3	14.8	25	20	42	362.4	825.5		
Distance of 79004 to Terminator = 6.1"; to 3km sunlit peak = 0.0"																																	
26	Oct	31	1	44	32	Gr	79004 A2	8.3	8.2	70-	113	52	** GRAZE: CA	3.0S; Dist.160km in az. 352deg. [Lat = 53.46+0.09(E.Long-5.00)]																			
26	Oct	31	1	50	4	m	79012 K0	8.1	7.7	69-	113	53	122	3S	188	224	183	+3.4	-4.0	+9.9	+9.9	.000	-90.0	7	3	28.3	25	20	16	362.4	821.1		
Distance of 79012 to Terminator = 7.3"; to 3km sunlit peak = 0.0"																																	
26	Oct	31	1	51	12	Gr	79012 K0	8.1	7.7	69-	113	53	** GRAZE: CA	3.2S; Dist.161km in az. 353deg. [Lat = 53.46+0.07(E.Long-5.00)]																			
26	Oct	31	2	25	52.6	R	79025 K2	8.4	7.6	69-	113	57	134	47S	232	261	226	+3.3	-3.9	+1.3	+2.8	.306	-132.1	7	3	54.6	25	25	11	362.2	801.7		
26	Oct	31	2	34	9.8	R	79026 G0	8.5	8.2	69-	113	58	137	79S	264	292	259	+3.3	-3.9	+1.3	+1.0	.437	-163.9	7	3	55.8	25	32	57	362.1	798.2		
26	Oct	31	3	40	54.7	r	79052 A2	8.8	8.7	69-	112	63	165	89S	275	285	269	+3.2	-3.9	+1.5	+0.0	.442	-171.9	7	6	6.0	25	30	10	362.0	783.7		
26	Oct	31	5	21	13.7	R	79114cA3	8.5	8.3	68-	111	-11	60	213	80S	266	244	260	+3.0	-3.8	+1.5	-0.4	.428	-158.7	7	9	19.2	25	15	43	362.3	807.1	
79114 is double: ** 9.3 9.3 0.10" 104.0, dT = +0.22sec																																	
79114 has been reported as non-instantaneous (OCc1059). Observations are highly desired																																	
26	Oct	31	5	56	11.1	r	79134 K0	8.9	8.3	68-	111	-6	57	226	49S	235	206	229	+3.0	-3.7	+1.9	+0.8	.286	-127.5	7	10	40.8	25	2	43	362.5	826.7	
26	Oct	31	6	8	4.1	r	79137 A0	8.6	8.5	68-	111	-4	56	230	62N	304	272	298	+3.0	-3.7	+0.9	-1.8	.457	164.3	7	11	3.6	25	19	33	362.6	834.9	
26	Oct	31	7	58	29.6	r	1099wM1	5.8	5.0s	67-	110	11	41	259	85S	272	230	266	+2.8	-3.5	+0.7	-1.4	.504	-162.8	7	14	42.0	24	53	6	363.9	932.2	
R1099 = 52 Geminorum																																	
1099 is double: AB 6.0 12.7 32" 282.6, dT = -62sec																																	
1099 = NSV 3469, 5.79, range 0.08, V																																	

day	Time	P	Star	Sp	Mag	Mag	%	Elon	Sun	Moon	CA	PA	VA	AA	Libration	A	B	RV	Cct	durn	R.A.	(J2000)	Dec	Mdist	SV									
y	m	d	h	m	s	No	D	v	r	V	ill	Alt	Alt	Az	o	o	o	o	L	B	m/o	m/o	"/s	o	sec	h	m	s	o	m	s	Mm	m/s	
26	Nov	1	1	20	10	M	1215	K0	6.8	6.2	58-	100	38	103	2S	194	234	183	+4.6	-2.6	+9.9	+9.9	.000	-90.0		8	3	50.5	22	4	15	366.2	878.8	
R1215 = 7 Cancr																																		
Distance of 1215 to Terminator = 14.6"; to 3km sunlit peak = 0.0"																																		
26	Nov	1	1	21	35.4	r	79895	G5	9.0	8.6	58-	100	39	103	58N	313	354	303	+4.6	-2.6	+0.9	-0.1	.429	150.4		8	3	21.2	22	33	46	366.1	876.8	
26	Nov	1	2	45	18.2	R	1222c	G5	7.2	6.8	58-	99	50	124	32N	339	13	329	+4.5	-2.6	+1.1	-2.2	.281	127.7		8	6	34.4	22	27	24	365.4	814.3	
1222 is double: ** 7.2 0.017" 251.9, dT = 0.00sec																																		
1222 has been reported as non-instantaneous (OCcl381). Observations are highly desired																																		
26	Nov	1	3	7	0.7	R	79946	F8	8.6	8.3	58-	99	52	131	61S	253	283	242	+4.5	-2.5	+1.3	+1.7	.372	-145.2		8	6	32.0	22	4	24	365.3	803.2	
26	Nov	1	10	26	2.4	r	1250p	K1	5.8	5.2	55-	96	22	24	273	83S	277	235	265	+3.9	-1.8	+0.2	-1.6	.548	-162.4		8	20	21.0	20	44	52	368.7	1028.6
1250 is double: 3.1 8.9																																		
26	Nov	1	23	50	13	Gr	1340k	A0	6.6	6.6	48-	87	14	**	GRAZE: CA	0.0N	Dist. 83km	in az. 159deg.	[Lat = 51.20+0.24(E.Long-5.00)]															
26	Nov	2	0	39	59.8	R	1343	M4	6.3	5.5v	47-	87	21	87	49N	327	8	312	+5.5	-1.1	+0.6	-0.3	.414	140.5		8	59	10.7	18	8	6	370.9	966.8	
1343 = FZ Cnc, 6.28 to 6.38, Hp, Type SRB, Period 17.6 days																																		
26	Nov	2	0	47	13.7	r	98274	G5	8.8	8.3	47-	87	22	89	67N	310	350	295	+5.5	-1.1	+0.5	+0.4	.495	158.2		8	59	10.7	18	3	37	370.8	958.6	
26	Nov	2	2	33	1.8	r	98310k	F0	8.8	8.7	47-	86	37	111	74N	303	341	288	+5.5	-1.1	+0.9	+0.2	.468	168.6		9	2	37.4	17	44	15	369.6	856.0	
26	Nov	2	2	55	27.3	r	98315k	G0	8.9	8.6	46-	86	40	116	84S	281	316	265	+5.4	-1.0	+1.0	+0.9	.458	-168.0		9	3	8.8	17	34	25	369.4	839.1	
26	Nov	2	4	21	4.5	R	1353k	A2	8.1	8.0	46-	85	50	141	77N	300	324	285	+5.3	-0.9	+1.2	-0.3	.443	176.2		9	5	45.5	17	23	24	368.8	794.8	
R1353 = 71 Cancr																																		
26	Nov	2	4	43	22.8	R	1355	G5	7.6	7.0	46-	85	52	149	58S	255	275	240	+5.2	-0.9	+1.7	+1.5	.328	-138.0		9	6	15.6	17	6	43	368.8	789.0	
26	Nov	2	5	45	26.9	R	98388k	F5	8.4	8.2	45-	85	-8	55	172	23N	354	359	338	+5.1	-0.8	+0.3	-3.3	.255	125.6		9	8	54.4	17	14	3	368.7	785.3
26	Nov	2	5	49	0	Gr	1361k	K0	7.6	7.0	45-	85	-8	54	**	GRAZE: CA	12.1S	Dist. 101km	in az. 33deg.	[Lat = 53.08-0.40(E.Long-5.00)]														
26	Nov	2	5	50	4	M	1361k	K0	7.6	7.0	45-	85	-8	55	174	12S	210	213	194	+5.1	-0.8	+9.9	+9.9	.000	-90.0		9	8	34.2	16	42	6	368.7	785.7
26	Nov	3	10	16	44	Gr	1486d	K4	4.4	3.6	33-	70	21	31	**	GRAZE: CA	12.7S	Dist. 23km	in az. 61deg.	[Lat = 52.42-1.12(E.Long-5.00)]														
26	Nov	3	10	17	32	M	1486d	K4	4.4	3.6	33-	70	21	32	242	13S	213	179	194	+5.2	+1.3	+9.9	+9.9	.000	-90.0		10	7	54.3	9	59	51	374.7	892.7
R1486 = 31 Leonis = A Leonis																																		
1486 is double: AB 4.4 13.6 8.1" 40.9																																		
1486 is a close double. Observations are highly desired																																		
26	Nov	4	5	44	35.4	R	118529k	F8	8.2	8.0	25-	59	-9	38	143	28N	353	15	332	+6.1	+2.3	+0.3	-2.2	.292	131.6		10	50	53.1	5	35	9	377.0	805.7
26	Nov	5	4	34	45.1	D	1685c	G9	4.3	3.8	16-	48	19	118	-34S	167	200	145	+6.4	+3.6	+0.2	-1.3	.342	-44.3		11	36	56.9	-	0	49	25	382.2	886.5
R1685 = upsilon Leonis																																		
1685 is double: ** 4.5 9.0 0.10" 195.0, dT = +0.26sec																																		
1685 has been reported as non-instantaneous (OCcl427). Observations are highly desired																																		
26	Nov	5	5	22	40.5	R	138302	K0	7.7	7.1	16-	47	25	129	61N	319	348	297	+6.3	+3.7	+0.6	-0.2	.443	165.1		11	37	16.8	-	0	34	41	381.6	847.6
26	Nov	5	5	23	18.5	R	1685c	G9	4.3	3.8	16-	47	25	129	59S	260	289	238	+6.3	+3.7	+1.3	+2.0	.328	-135.7		11	36	56.9	-	0	49	25	381.6	847.3
R1685 = upsilon Leonis																																		
1685 is double: ** 4.5 9.0 0.10" 195.0, dT = -0.13sec																																		
1685 has been reported as non-instantaneous (OCcl427). Observations are highly desired																																		
26	Nov	5	5	23	31.6	R	138307	K5	8.4	7.6	16-	47	26	129	48N	333	1	311	+6.3	+3.7	+0.5	-0.7	.403	151.8		11	37	30.1	-	0	32	51	381.6	847.1
26	Nov	13	16	58	30.8	d	187181	K2	8.6	7.9	17+	49	-10	6	208	69N	69	50	72	-1.2	+5.5	+1.1	-0.7	.376	5.3		18	43	18.5	-27	23	22	404.9	741.0
26	Nov	14	18	7	7.5	D	188347k	F6	8.4	8.1	25+	60	7	212	83N	76	54	84	-2.7	+4.4	+1.1	-0.9	.387	-8.8		19	37	2.0	-25	4	49	404.3	768.3	
26	Nov	14	18	18	51.6	D	2864d	B8	4.6	4.6	25+	60	6	215	30N	23	359	31	-2.7	+4.4	+0.1	+0.3	.284	44.4		19	36	42.4	-24	53	1	404.4	778.4	
R2864 = 52 Sagittarii																																		
2864 is double: AB 4.7 9.2 2.3" 175.8, dT = -7sec																																		
2864 is a close double. Observations are highly desired																																		
26	Nov	15	17	52	44.8	d	189269	K0	8.5	7.9	33+	70	14	200	19N	7	353	19	-4.0	+3.2	-0.1	+1.2	.214	55.5		20	25	33.2	-21	39	40	401.8	737.4	