

## Herschel 400 Observing List

### Evening of 2010 Aug 7 at Britstown - Kambro

Sunset 18:02, Twilight ends 19:18, Twilight begins 05:45, Sunrise 07:01, Moon rise 05:25, Moon set 15:08  
 Completely dark from 19:18 to 05:25. Waning Crescent Moon. All times local (GMT+2).

Listing All Classes visible above the perfect horizon and in complete darkness after 19:18 and before 05:25.  
 The minimum visual difficulty is: visible (at any difficulty).

Cls	Primary ID	Alternate ID	Con	RA (Ap)	Dec (Ap)	Mag	Size	SBr	Begin	Optimum	End	Difficulty	Optimum EP	Ur. 2	
Gal	NGC 4449	MCG 7-26-9	CVn	87.17465	44.0361	9.5	5.2'x 3.3'	20.7	18:50	19:02	■	19:18	challenging	E-Lux 2" 26mm	37
Gal	NGC 5195	Arp 85	CVn	02.61113	47.2144	10.5	5.6'x 4.5'	22.1	18:51	19:07	■	19:38	very challenging	E-Lux 2" 40mm	37
PNe	NGC 6629	He 2-399	Sgr	76.59801	-23.1963	10.5	16"	16.3	18:52	21:47	■	02:18	obvious	Plössl 6mm	145
Gal	NGC 3379	M 105	Leo	62.09669	12.5260	10.2	5.0'x 4.6'	21.7	18:53	19:07	■	19:23	challenging	E-Lux 2" 40mm	92
Gal	NGC 4203	MCG 6-27-40	Com	83.90453	33.1410	11.7	3.4'x 1.7'	21.7	18:53	19:09	■	19:36	very challenging	Celestron Plössl 15r54	
Gal	NGC 3115	Spindle Galaxy	Sex	51.43939	-7.7705	10.0	7.6'x 3.5'	21.7	18:53	19:07	■	19:25	challenging	Celestron Plössl 32r133	
Glob	NGC 6401		Oph	64.82543	-23.9162	7.4	4.8'		18:54	21:00	■	01:31	obvious	Ultima 42mm	146
PNe	NGC 6369	Little Ghost Nebula	Oph	62.50594	-23.7682	11.0	30"	18.1	18:54	20:51	■	01:22	easy	Celestron Plössl 9mr146	
Gal	NGC 5033	MCG 6-29-62	CVn	98.48829	36.5398	10.7	9.5'x 4.3'	22.9	18:54	19:10	■	19:52	very challenging	E-Lux 2" 40mm	53
PNe	NGC 3242	Ghost of Jupiter	Hya	56.31901	-18.6971	8.6	40"	16.3	18:54	19:10	■	19:50	obvious	E-Lux 2" 26mm 2.0x 151	
Gal	NGC 4245	MCG 5-29-49	Com	84.53752	29.5507	12.3	2.7'x 1.8'	22.2	18:54	19:08	■	19:41	very challenging	Celestron Plössl 15r54	
Glob	NGC 6316		Oph	59.33022	-28.1525	8.1	5.4'		18:54	20:38	■	01:08	easy	Ultima 42mm	146
Gal	NGC 4150	MCG 5-29-29	Com	82.77526	30.3440	12.5	2.1'x 1.4'	21.8	18:54	19:07	■	19:38	very challenging	E-Lux 2" 26mm 2.0x 54	
PNe	NGC 6818	Little Gem	Sgr	96.15061	-14.1257	10.0	22"	16.4	18:55	23:05	■	03:17	obvious	Celestron Plössl 15r125.0x	
Gal	NGC 3489	MCG 2-28-39	Leo	65.21710	13.8446	11.1	3.5'x 2.1'	21.4	18:55	19:09	■	19:27	very challenging	E-Lux 2" 40mm 2.0x 92	
Gal	NGC 3607	MCG 3-29-20	Leo	69.36669	17.9956	10.9	4.6'x 4.0'	22.2	18:55	19:09	■	19:30	very challenging	Celestron Plössl 32r73	
Gal	NGC 3608	MCG 3-29-22	Leo	69.38545	18.0912	11.6	3.0'x 2.2'	21.8	18:55	19:09	■	19:30	very challenging	E-Lux 2" 40mm 2.0x 73	
Gal	NGC 3626	MCG 3-29-32	Leo	70.15553	18.2993	11.8	3.0'x 2.0'	21.9	18:55	19:09	■	19:32	very challenging	Celestron Plössl 32r72 2.0x	
Gal	NGC 4274	MCG 5-29-60	Com	85.09418	29.5568	11.3	5.0'x 2.1'	22.0	18:55	19:09	■	19:42	very challenging	E-Lux 2" 40mm 2.0x 54	
Gal	NGC 4314	MCG 5-29-75	Com	85.76788	29.8377	11.4	3.8'x 3.6'	22.4	18:55	19:09	■	19:42	very challenging	Celestron Plössl 32r54	
Gal	NGC 5273	MCG 6-30-72	CVn	05.65478	35.6034	12.5	2.5'x 1.8'	22.3	18:55	19:13	■	20:06	very challenging	Celestron Plössl 15r53	
Open	NGC 6520	Collinder 361	Sgr	71.02724	-27.8881	7.6	5.0'		18:56	21:25	■	02:03	obvious	E-Lux 2" 40mm	145
Glob	NGC 6235		Oph	53.52133	-22.1948	8.9	5.0'		18:56	20:16	■	00:15	detectable	Ultima 42mm	146
Gal	NGC 3686	MCG 3-29-51	Leo	72.07196	17.1662	12.0	2.9'x 2.2'	22.1	18:56	19:08	■	19:35	very challenging	E-Lux 2" 40mm 2.0x 91	
Glob	NGC 6355		Oph	61.16563	-26.3637	8.6	4.2'		18:56	20:46	■	01:11	easy	Ultima 42mm	146
Glob	NGC 4147		Com	82.66097	18.4835	10.4	4.4'		18:56	19:12	■	19:49	very challenging	Ultima 42mm	72

Cls	Primary ID	Alternate ID	Con	RA (Ap)	Dec (Ap)	Mag	Size	SBr	Begin	Optimum	End	Difficulty	Optimum EP	Ur. 2
Gal	NGC 4438	Arp 120	Vir	87.07666	12.9508	10.9	8.9'x 5.1'	23.2	18:57	19:14	20:06	challenging	Ultima 42mm	91
Open	NGC 6451	Tom Thumb Cluster	Sco	67.85112	-30.2134	8.2	7.0'		18:57	21:13	01:27	easy	Ultima 42mm	164
Gal	NGC 3628	Arp 317	Leo	70.20894	13.5334	10.0	12.3'x 3.3'	22.2	18:57	19:09	19:36	challenging	E-Lux 2" 26mm	92
Glob	NGC 6284		Oph	56.29180	-24.7804	8.9	6.2'		18:57	20:26	00:18	detectable	Ultima 42mm	146
Gal	NGC 4293	MCG 3-32-6	Com	85.43846	18.3246	11.1	6.0'x 4.1'	22.7	18:57	19:13	19:54	challenging	Celestron Plössl 32r72	
Open	NGC 6514	M 20	Sgr	70.84560	-22.9712	5.2	28.0'		18:57	21:25	01:41	easy	Plössl 4mm	145
Glob	NGC 6171	M 107	Oph	48.28922	-13.0759	7.8	13.0'		18:58	19:55	23:22	detectable	Ultima 42mm	127
Glob	NGC 6624		Sgr	76.09764	-30.3527	7.6	8.8'		18:58	21:45	02:07	easy	Ultima 42mm	163
Glob	NGC 6293		Oph	57.71529	-26.5957	8.3	8.2'		18:58	20:32	00:29	detectable	Ultima 42mm	146
Glob	NGC 6287		Oph	56.45591	-22.7234	9.3	4.8'		18:58	20:27	00:16	detectable	Ultima 42mm	146
Glob	NGC 6304		Oph	58.81112	-29.4748	8.3	8.0'		18:58	20:36	00:39	detectable	Ultima 42mm	146
Glob	NGC 6144		Sco	46.97851	-26.0467	9.0	7.4'		18:58	19:49	23:26	detectable	Ultima 42mm	147
Gal	NGC 4866	MCG 2-33-45	Vir	94.99641	14.1142	12.0	6.0'x 1.0'	22.1	18:58	19:16	20:24	challenging	E-Lux 2" 26mm 2.0x 90	
Glob	NGC 6544		Sgr	72.00667	-24.9968	7.5	9.2'		18:58	21:29	01:43	easy	Ultima 42mm	145
Glob	NGC 6440		Sgr	67.38788	-20.3632	9.3	4.4'		18:58	21:10	01:02	detectable	Ultima 42mm	146
Gal	NGC 4656	MCG 5-30-66	CVn	91.12003	32.1139	9.7	8.5'x 1.1'	20.3	18:59	19:09	19:30	detectable	Celestron Plössl 32r53 2.0x	
Glob	NGC 6569		Sgr	73.59146	-31.8238	8.4	6.4'		18:59	21:35	01:51	easy	Ultima 42mm	163
Glob	NGC 6342		Oph	60.45694	-19.5972	9.5	4.4'		18:59	20:43	00:27	detectable	Ultima 42mm	146
Glob	NGC 5694		Hya	20.05953	-26.5863	10.2	4.3'		18:59	19:22	21:36	detectable	Ultima 42mm	148
Gal	NGC 4490	Cocoon Galaxy	CVn	87.78088	41.5872	9.8	6.3'x 2.0'	20.7	18:59	19:06	19:12	challenging	Celestron Plössl 15r37 2.0x	
Glob	NGC 5897		Lib	29.50877	-21.0505	8.4	11.0'		18:59	19:24	22:10	detectable	Ultima 42mm	148
Glob	NGC 6356		Oph	61.05908	-17.8231	8.2	10.0'		18:59	20:45	00:22	detectable	Ultima 42mm	146
Open	NGC 6633	Collinder 380	Oph	76.95039	6.5171	5.6	20.0'		18:59	21:49	01:07	easy	Ultima 42mm	86
Glob	NGC 5634		Vir	17.54793	-6.0243	9.5	5.5'		18:59	19:21	21:16	detectable	Ultima 42mm	129
PNe	NGC 4361	PN G294.1+43.6	Crv	86.26725	-18.8455	10.9	1.3'	20.2	19:00	19:17	20:09	detectable	Celestron Plössl 15r150	
Gal	NGC 5846	MCG 0-38-25	Vir	26.76150	1.5652	11.1	3.7'x 3.5'	22.0	19:00	19:23	21:33	detectable	Celestron Plössl 32r108	
Glob	NGC 6553		Sgr	72.49542	-25.9063	8.3	9.2'		19:00	21:31	01:20	detectable	Ultima 42mm	145
Gal	NGC 4594	M 104	Vir	90.13659	-11.6824	9.1	9.1'x 5.6'	21.5	19:00	19:18	20:09	easy	Ultima 42mm	130
Gal	NGC 4781	MCG -2-33-49	Vir	93.73875	-10.5952	11.4	3.4'x 1.4'	21.2	19:00	19:18	20:20	detectable	E-Lux 2" 26mm 2.0x 130	
Gal	NGC 4699	MCG -1-33-13	Vir	92.39877	-8.7232	10.4	4.0'x 3.0'	21.2	19:00	19:18	20:11	detectable	E-Lux 2" 26mm	130
Gal	NGC 4697	MCG -1-33-10	Vir	92.28878	-5.8595	10.1	5.8'x 3.6'	21.5	19:00	19:18	20:04	detectable	Celestron Plössl 32r130	
Glob	NGC 6642		Sgr	78.14649	-23.4667	8.9	5.8'		19:00	21:53	01:47	detectable	Ultima 42mm	145
Gal	NGC 5557	MCG 6-31-93	Boo	14.72072	36.4481	11.9	2.3'x 1.3'	21.2	19:00	19:14	19:53	difficult	E-Lux 2" 26mm 2.0x 52	
Gal	NGC 5576	MCG 1-37-7	Vir	15.40317	3.2229	11.8	2.8'x 1.9'	21.7	19:00	19:20	20:53	detectable	Celestron Plössl 32r109 2.0x	
Gal	NGC 4278	MCG 5-29-62	Com	85.16274	29.2242	11.0	3.3'x 3.1'	21.7	19:00	19:09	19:19	difficult	E-Lux 2" 26mm	72

Cls	Primary ID	Alternate ID	Con	RA (Ap)	Dec (Ap)	Mag	Size	SBr	Begin	Optimum	End	Difficulty	Optimum EP	Ur. 2
Gal	NGC 4414	MCG 5-29-85	Com	86.74541	31.1657	11.0	2.8'x 1.6'	20.7	19:00	19:09	19:23	difficult	E-Lux 2" 26mm 2.0x 54	
Gal	NGC 4631	Whale Galaxy	CVn	90.66223	32.4865	9.5	13.2'x 2.4'	21.4	19:00	19:09	19:23	difficult	E-Lux 2" 26mm 2.0x 53	
Gal	NGC 4546	MCG -1-32-27	Vir	89.01096	-3.8522	11.3	3.2'x 1.9'	21.4	19:01	19:17	19:46	detectable	Celestron Plössl 32r111.0x	
Gal	NGC 4900	MCG 1-33-35	Vir	95.30074	2.4435	11.9	2.1'x 2.0'	21.7	19:01	19:17	19:53	detectable	Celestron Plössl 32r110.0x	
Gal	NGC 5005	MCG 6-29-52	CVn	97.85830	37.0042	10.5	5.4'x 2.0'	21.2	19:01	19:09	19:27	difficult	Celestron Plössl 32r53 2.0x	
Gal	NGC 4494	MCG 4-30-2	Com	87.98325	25.7178	10.7	4.4'x 4.2'	22.0	19:01	19:11	19:27	difficult	Celestron Plössl 32r72	
Gal	NGC 5364	MCG 1-36-3	Vir	09.18617	4.9636	11.1	4.9'x 2.6'	22.0	19:01	19:19	20:33	detectable	Ultima 42mm 2.0x 109	
Gal	NGC 5363	MCG 1-36-2	Vir	09.16654	5.2032	11.1	4.4'x 2.9'	22.0	19:01	19:19	20:35	detectable	E-Lux 2" 26mm 109	
Glob	NGC 6528		Sgr	71.38454	-30.0562	9.6	5.0'		19:01	21:26	01:10	detectable	Ultima 42mm 163	
Gal	NGC 3655	MCG 3-29-39	Leo	70.86677	16.5317	12.3	1.5'x 1.0'	20.8	19:01	19:08	19:16	challenging	E-Lux 2" 26mm 2.0x 92	
Gal	NGC 5746	MCG 0-38-5	Vir	21.37226	1.9104	11.4	6.8'x 1.1'	21.7	19:01	19:21	20:59	difficult	Celestron Plössl 32r109.0x	
Gal	NGC 3621	MCG -5-27-8	Hya	69.69571	-32.8723	10.1	10.5'x 4.5'	22.4	19:01	19:16	19:28	detectable	E-Lux 2" 40mm 169	
Gal	NGC 4303	M 61	Vir	85.61577	4.4157	10.2	6.3'x 5.8'	22.2	19:01	19:16	19:50	detectable	Ultima 42mm 111	
Gal	NGC 4448	MCG 5-29-89	Com	87.19614	28.5639	12.0	1.8'x 1.1'	20.8	19:02	19:10	19:24	difficult	E-Lux 2" 26mm 2.0x 72	
Gal	NGC 4725	MCG 4-30-22	Com	92.74204	25.4446	9.9	9.5'x 6.6'	22.5	19:02	19:12	19:32	difficult	Ultima 42mm 71	
Glob	NGC 6517		Oph	70.61656	-8.9572	10.1	4.0'		19:02	21:23	00:36	detectable	Ultima 42mm 126	
Gal	NGC 4856	MCG -2-33-78	Vir	94.98051	-15.1010	11.4	4.2'x 1.7'	21.7	19:02	19:18	20:26	detectable	Celestron Plössl 15r130	
Gal	NGC 4958	MCG -1-33-84	Vir	96.59314	-8.0778	11.5	4.5'x 1.1'	21.4	19:02	19:18	20:21	detectable	E-Lux 2" 26mm 2.0x 130	
Gal	NGC 4995	MCG -1-34-7	Vir	97.56095	-7.8895	11.9	2.5'x 1.6'	21.6	19:02	19:18	20:25	detectable	Celestron Plössl 15r130	
Gal	NGC 5248	MCG 2-35-15	Boo	04.51971	8.8317	10.9	4.8'x 3.0'	21.9	19:02	19:18	20:10	detectable	E-Lux 2" 26mm 90	
Gal	NGC 4478	MCG 2-32-99	Vir	87.70846	12.2698	12.2	1.7'x 1.4'	21.3	19:02	19:14	19:45	detectable	E-Lux 2" 26mm 2.0x 91	
Gal	NGC 4435	Arp 120	Vir	87.05446	13.0210	11.5	3.0'x 2.0'	21.6	19:02	19:14	19:42	detectable	Celestron Plössl 32r91 2.0x	
Gal	NGC 4473	MCG 2-32-93	Com	87.58921	13.3714	11.1	4.1'x 2.4'	21.7	19:02	19:14	19:42	detectable	E-Lux 2" 40mm 2.0x 91	
Gal	NGC 5566	Arp 286	Vir	15.22066	3.8855	11.4	5.8'x 2.0'	22.2	19:02	19:20	20:36	difficult	Celestron Plössl 32r109.0x	
PNe	NGC 6445	He 2-290	Sgr	67.47954	-20.0125	13.0	35"	20.5	19:02	21:11	00:29	difficult	E-Lux 2" 26mm 2.0x 146	
Gal	NGC 4251	MCG 5-29-50	Com	84.66890	28.1179	11.6	2.8'x 1.5'	21.3	19:02	19:09	19:19	challenging	E-Lux 2" 26mm 2.0x 72	
Gal	NGC 3521	MCG 0-28-30	Leo	66.58942	-0.0925	9.9	9.5'x 4.6'	22.1	19:03	19:11	19:23	difficult	E-Lux 2" 40mm 112	
Gal	NGC 4027	Arp 22	Crv	80.01185	-19.3260	11.6	3.4'x 2.5'	22.1	19:03	19:17	19:44	detectable	Ultima 42mm 2.0x 150	
Gal	NGC 4038	The Antennae	Crv	80.60703	-18.9282	10.9	4.4'x 2.7'	21.7	19:03	19:17	19:46	detectable	Ultima 42mm 2.0x 150	
Gal	NGC 4666	Superwind Galaxy	Vir	91.42370	-0.5202	11.5	4.6'x 1.5'	21.8	19:03	19:17	19:48	difficult	E-Lux 2" 26mm 2.0x 110	
Gal	NGC 4643	MCG 0-33-5	Vir	90.97153	1.9193	11.6	3.2'x 2.6'	22.0	19:03	19:17	19:38	detectable	Ultima 42mm 2.0x 110	
Gal	NGC 4636	MCG 1-32-137	Vir	90.84509	2.6296	10.4	7.2'x 5.6'	22.6	19:03	19:17	19:34	detectable	Ultima 42mm 110	
Gal	NGC 5054	MCG -3-34-39	Vir	99.38668	-16.6913	11.6	4.7'x 3.0'	22.6	19:03	19:19	20:18	difficult	E-Lux 2" 26mm 130	
Gal	NGC 4350	MCG 3-32-23	Com	86.12580	16.6345	11.9	2.8'x 1.1'	21.2	19:03	19:13	19:35	difficult	E-Lux 2" 26mm 2.0x 91	
Gal	NGC 4450	MCG 3-32-48	Com	87.25842	17.0272	10.8	5.6'x 4.4'	22.4	19:03	19:13	19:35	difficult	E-Lux 2" 40mm 91	

Cls	Primary ID	Alternate ID	Con	RA (Ap)	Dec (Ap)	Mag	Size	SBr	Begin	Optimum	End	Difficulty	Optimum EP	Ur. 2
Open	NGC 6583	Collinder 370	Sgr	74.12387	-22.1326	10.0	5.0'		19:03	21:38	00:54	detectable	E-Lux 2" 40mm	145
Gal	NGC 4753	MCG 0-33-16	Vir	93.23018	-1.2577	10.9	5.9'x 2.8'	22.1	19:03	19:17	19:56	detectable	E-Lux 2" 26mm	110
Glob	NGC 6638		Sgr	77.90748	-25.4887	9.2	7.3'		19:03	21:53	01:20	detectable	Ultima 42mm	145
Gal	NGC 3810	MCG 2-30-10	Leo	75.38231	11.4132	11.3	3.6'x 2.5'	21.8	19:03	19:12	19:24	difficult	Ultima 42mm 2.0x	91
Gal	NGC 4565	MCG 4-30-6	Com	89.21928	25.9305	10.1	14.5'x 2.3'	22.1	19:03	19:12	19:24	challenging	Celestron Plössl 32n72 2.0x	
Gal	NGC 3962	MCG -2-30-40	Crt	78.80320	-14.0353	11.6	3.7'x 2.8'	22.3	19:03	19:16	19:30	difficult	E-Lux 2" 26mm	131
Gal	NGC 4030	MCG 0-31-16	Vir	80.23411	-1.1602	11.2	3.6'x 2.8'	21.8	19:03	19:16	19:46	detectable	E-Lux 2" 26mm	111
Gal	NGC 4179	MCG 0-31-38	Vir	83.35396	1.2404	11.8	4.3'x 1.1'	21.7	19:03	19:16	19:41	difficult	E-Lux 2" 26mm 2.0x	111
Gal	NGC 4273	MCG 1-32-8	Vir	85.11949	5.2852	12.3	2.0'x 1.5'	21.6	19:03	19:16	19:45	difficult	E-Lux 2" 26mm 2.0x	111
Gal	NGC 4570	MCG 1-32-114	Vir	89.35927	7.1880	11.7	3.8'x 0.9'	21.2	19:03	19:16	19:48	difficult	E-Lux 2" 26mm 2.0x	90
Gal	NGC 4365	MCG 1-32-48	Vir	86.25414	7.2590	10.5	6.2'x 4.6'	22.3	19:03	19:16	19:46	detectable	E-Lux 2" 40mm	91
Gal	NGC 4526	MCG 1-32-100	Vir	88.64884	7.6409	10.6	7.9'x 2.9'	22.1	19:03	19:16	19:46	difficult	E-Lux 2" 26mm	91
Gal	NGC 4535	Lost Galaxy	Vir	88.72075	8.1396	10.5	7.2'x 6.3'	22.8	19:03	19:16	19:43	difficult	Ultima 42mm	91
Gal	NGC 4698	MCG 2-33-24	Vir	92.23164	8.4299	11.6	3.8'x 2.0'	21.9	19:03	19:16	19:22	difficult	Celestron Plössl 32n90 2.0x	
Gal	NGC 4442	MCG 2-32-68	Vir	87.15225	9.7453	11.4	4.8'x 2.1'	22.0	19:03	19:16	19:39	difficult	E-Lux 2" 40mm 2.0x	91
Gal	NGC 4596	MCG 2-32-170	Vir	90.11947	10.1178	11.4	4.0'x 3.3'	22.3	19:03	19:16	19:43	difficult	E-Lux 2" 26mm	90
Gal	NGC 4660	MCG 2-33-6	Vir	91.26858	11.1330	12.1	2.1'x 1.6'	21.5	19:03	19:16	19:50	detectable	E-Lux 2" 26mm 2.0x	90
Gal	NGC 4754	MCG 2-33-30	Vir	93.20811	11.2568	11.5	4.4'x 2.3'	22.2	19:03	19:16	19:46	difficult	E-Lux 2" 40mm 2.0x	90
Gal	NGC 4654		Vir	91.12088	13.0690	11.5	4.0'x 2.5'		19:03	19:16	19:43	difficult	Ultima 42mm 2.0x	90
Open	NGC 6568	Collinder 369	Sgr	73.35234	-21.6018	8.6	12.0'		19:03	21:34	00:47	detectable	Ultima 42mm	145
Gal	NGC 4371	MCG 2-32-33	Vir	86.36685	11.6460	11.8	3.9'x 1.9'	22.1	19:04	19:14	19:34	difficult	Celestron Plössl 32n91 2.0x	
Gal	NGC 4477	MCG 2-32-97	Com	87.64452	13.5785	11.3	3.9'x 3.5'	22.3	19:04	19:14	19:38	difficult	E-Lux 2" 26mm	91
Gal	NGC 4459	MCG 2-32-83	Com	87.38547	13.9206	11.4	4.6'x 3.7'	22.6	19:04	19:14	19:32	challenging	Celestron Plössl 32n91	
Gal	NGC 4559	MCG 5-30-30	Com	89.12256	27.9029	10.3	10.0'x 4.3'	22.5	19:04	19:11	19:21	challenging	E-Lux 2" 40mm	72
Glob	NGC 5466		Boo	11.48462	28.4866	9.2	9.0'		19:04	19:16	19:49	challenging	Ultima 42mm	70
Gal	NGC 4429	MCG 2-32-61	Vir	86.99654	11.0493	11.0	5.6'x 2.5'	22.0	19:04	19:15	19:40	difficult	Ultima 42mm 2.0x	91
Gal	NGC 4548	M 91	Com	88.99503	14.4386	10.9	5.4'x 4.6'	22.5	19:04	19:15	19:38	difficult	E-Lux 2" 40mm	91
Gal	NGC 4536	MCG 0-32-23	Vir	88.74855	2.1304	11.1	7.2'x 3.0'	22.6	19:04	19:17	19:29	difficult	E-Lux 2" 26mm	111
Gal	NGC 4527	MCG 1-32-101	Vir	88.67288	2.5938	11.5	6.0'x 1.9'	22.3	19:04	19:17	19:27	difficult	Celestron Plössl 32n111 2.0x	
Gal	NGC 4624	MCG 1-33-5	Vir	91.41173	2.9976	11.5	4.3'	22.8	19:04	19:17	19:36	difficult	E-Lux 2" 40mm	110
Gal	NGC 4216	MCG 2-31-72	Vir	84.11225	13.0916	11.0	7.9'x 1.9'	22.1	19:05	19:13	19:29	challenging	Celestron Plössl 15n91 2.0x	
Gal	NGC 4419	MCG 3-32-38	Com	86.87106	14.9890	12.0	3.5'x 1.2'	21.7	19:05	19:13	19:33	challenging	E-Lux 2" 26mm 2.0x	91
Gal	NGC 4394	MCG 3-32-35	Com	86.61671	18.1561	11.6	3.6'x 3.5'	22.5	19:05	19:13	19:27	challenging	E-Lux 2" 26mm	72
Gal	NGC 4281	MCG 1-32-12	Vir	85.22643	5.3277	12.3	3.1'x 1.7'	22.2	19:05	19:16	19:35	challenging	Celestron Plössl 15n111	
Gal	NGC 4261	MCG 1-31-52	Vir	84.98355	5.7669	11.4	4.2'x 3.4'	22.4	19:05	19:16	19:39	difficult	E-Lux 2" 26mm	91

Cls	Primary ID	Alternate ID	Con	RA (Ap)	Dec (Ap)	Mag	Size	SBr	Begin	Optimum	End	Difficulty	Optimum EP	Ur. 2
Gal	NGC 4762	MCG 2-33-33	Vir	93.36786	11.1736	11.1	8.5'x 3.2'	22.8	19:05	19:16 ■	19:37	challenging	E-Lux 2" 26mm	90
Gal	NGC 4689	MCG 2-33-22	Com	92.07517	13.7050	11.6	3.9'x 3.1'	22.4	19:05	19:16 ■	19:41	difficult	E-Lux 2" 26mm	90
Gal	NGC 6207	MCG 6-37-7	Her	50.86647	36.8161	11.9	2.9'x 1.3'	21.5	19:05	20:04 ■	21:39	difficult	E-Lux 2" 26mm 2.0x 50	
Gal	NGC 3640	MCG 1-29-33	Leo	70.41539	3.1766	11.3	4.4'x 3.8'	22.5	19:06	19:12 ■	19:23	challenging	Celestron Plössl 32r112	
Gal	NGC 6118	MCG 0-42-2	Ser	45.59690	-2.3083	12.4	4.5'x 1.8'	22.8	19:06	19:44 ■	21:43	challenging	Celestron Plössl 15r107	
Glob	NGC 6712		Sct	83.42092	-8.6902	8.1	9.8'		19:06	22:14 ■	01:44	detectable	Ultima 42mm	125
Gal	NGC 4550	MCG 2-32-147	Vir	89.01298	12.1630	12.5	3.2'x 0.7'	21.6	19:06	19:15 ■	19:33	challenging	E-Lux 2" 26mm 2.0x 91	
Gal	NGC 4845	MCG 0-33-25	Vir	94.64246	1.5184	12.1	5.4'x 1.2'	22.3	19:06	19:17 ■	19:44	challenging	E-Lux 2" 26mm 2.0x 110	
Glob	NGC 6426		Oph	66.36575	3.1674	10.9	4.2'		19:09	21:07 ■	23:19	challenging	Ultima 42mm	106
Glob	NGC 6229		Her	51.82694	47.5134	9.4	4.5'		19:10	20:09 ■	21:11	challenging	Ultima 42mm	35
Open	NGC 6645	Collinder 383	Sgr	78.31754	-16.8744	8.5	14.0'		19:10	21:54 ■	00:53	detectable	Ultima 42mm	126
Open	NGC 6664	Collinder 385	Sct	79.30738	-7.8028	8.5	12.0'		19:10	21:58 ■	00:57	detectable	Ultima 42mm	125
Glob	NGC 6522		Sgr	71.07615	-30.0348	9.9	9.4'		19:13	21:25 ■	23:51	challenging	Ultima 42mm	163
Open	NGC 6755	Collinder 397	Aql	87.09508	4.2859	8.6	14.0'		20:03	22:29 ■	00:54	detectable	Ultima 42mm	105
Open	NGC 6756	OCL 99	Aql	87.31548	4.7245	10.6	4.0'		20:03	22:31 ■	00:58	detectable	Celestron Plössl 32r105	
PNe	NGC 6781	PN G041.8-02.9	Aql	89.75581	6.5607	11.8	1.9'	21.8	20:15	22:40 ■	01:04	difficult	E-Lux 2" 40mm 2.0x 85	
PNe	NGC 7009	Saturn Nebula	Aqr	16.19979	-11.3181	8.3	28"	15.3	20:19	00:25 ■	04:32	obvious	Celestron Plössl 9mr123	
Open	NGC 6802	Collinder 400	Vul	92.77077	20.2870	11.7	5.0'		20:38	22:52 ■	01:06	very challenging	E-Lux 2" 40mm	66
Glob	NGC 6934		Del	08.68543	7.4444	8.9	7.1'		21:00	23:55 ■	02:51	detectable	Ultima 42mm	84
PNe	NGC 6826	Blinking Planetary	Cyg	96.28248	50.5539	8.8	27"	15.7	21:03	23:06 ■	01:09	easy	Celestron Plössl 9mr33	
Open	NGC 6823	Collinder 405	Vul	95.90977	23.3283	7.1	6.0'		21:13	23:04 ■	00:56	obvious	Ultima 42mm	66
Open	NGC 6830	Collinder 406	Vul	97.86879	23.1301	8.9	5.0'		21:18	23:12 ■	01:07	easy	E-Lux 2" 40mm	66
Open	NGC 6866	Collinder 412	Cyg	01.07591	44.1913	9.1	14.0'		21:26	23:25 ■	01:24	very challenging	Ultima 42mm	32
PNe	NGC 6905	He 2-466	Del	05.72344	20.1416	12.0	44"	20.0	21:28	23:44 ■	01:58	detectable	E-Lux 2" 26mm 2.0x 66	
Open	NGC 6910	Collinder 420	Cyg	05.90458	40.8154	7.3	10.0'		21:49	23:44 ■	01:38	detectable	Ultima 42mm	32
Glob	NGC 7006		Del	15.50433	16.2330	10.6	3.6'		22:05	00:23 ■	02:39	difficult	E-Lux 2" 40mm	83
Open	NGC 6885	Collinder 417	Vul	03.12490	26.5131	5.7	20.0'		22:12	23:33 ■	00:55	easy	Ultima 42mm	66
Open	NGC 6834	Collinder 407	Cyg	98.16593	29.4388	9.7	5.0'		22:48	23:13 ■	23:39	detectable	E-Lux 2" 40mm	66
Open	NGC 6940	Collinder 424	Vul	08.72905	28.3227	7.2	25.0'		23:00	23:55 ■	00:51	detectable	Ultima 42mm	66
Open	NGC 7062	Collinder 434	Cyg	20.96992	46.4260	8.3	5.0'		23:13	00:44 ■	02:15	detectable	E-Lux 2" 40mm	32
Gal	NGC 7217	MCG 5-52-1	Peg	32.09716	31.4134	11.1	3.9'x 3.3'	22.0	23:33	01:28 ■	03:24	detectable	E-Lux 2" 26mm	46
Open	NGC 7243	Collinder 448	Lac	33.89916	49.9525	6.7	29.0'		23:39	01:36 ■	03:33	challenging	Plössl 4mm	31
Gal	NGC 7606	MCG -2-59-12	Aqr	49.91649	-8.4231	11.7	3.8'x 2.3'	22.2	23:42	02:39 ■	05:35	detectable	E-Lux 2" 40mm 2.0x 122	
Gal	NGC 7448	Arp 13	Peg	45.15573	16.0398	12.1	2.3'x 1.0'	21.1	23:46	02:21 ■	04:55	detectable	E-Lux 2" 26mm 2.0x 82	
PNe	NGC 7662	Blue Snowball	And	51.61241	42.5940	8.6	17"	14.5	23:58	02:46 ■	05:34	obvious	Plössl 6mm	30

Cls	Primary ID	Alternate ID	Con	RA (Ap)	Dec (Ap)	Mag	Size	SBr	Begin	Optimum	End	Difficulty	Optimum EP	Ur. 2
Gal	NGC 7723	MCG -2-60-5	Aqr	54.88321	-12.8986	11.9	3.3'x 2.3'	22.2	23:59	03:00	05:51	detectable	E-Lux 2" 40mm 2.0x	121
Gal	NGC 7727	Arp 222	Aqr	55.11990	-12.2285	11.6	3.7'x 2.9'	22.3	00:00	03:01	05:50	detectable	E-Lux 2" 26mm	121
Gal	NGC 253	Sculptor Galaxy	ScI	12.02590	-25.2256	7.9	28.2'x 5.5'	21.5	00:02	04:08	06:05	easy	Ultima 42mm	158
Gal	NGC 7479	MCG 2-58-60	Peg	46.37796	12.3830	11.7	3.7'x 2.8'	22.4	00:06	02:26	04:45	detectable	E-Lux 2" 26mm	82
Open	NGC 7296	Collinder 451	Lac	37.12550	52.3720	9.7	4.0'		00:08	01:49	03:29	challenging	Celestron Plössl 32r19	
Gal	NGC 7331	MCG 6-49-45	Peg	39.39915	34.4732	10.2	9.1'x 3.4'	22.1	00:14	01:58	03:42	detectable	E-Lux 2" 26mm	46
Open	NGC 7209	Collinder 444	Lac	31.39579	46.5366	7.8	14.0'		00:29	01:26	02:23	difficult	Ultima 42mm	31
Gal	NGC 157	MCG -2-2-56	Cet	8.83639	-8.3337	11.0	4.1'x 2.3'	21.6	00:32	03:55	06:03	detectable	E-Lux 2" 40mm 2.0x	121
Glob	NGC 288		ScI	13.32420	-26.5203	8.1	13.0'		00:40	04:13	06:02	detectable	Ultima 42mm	158
Open	NGC 7686	Collinder 456	And	52.66639	49.1923	5.6	14.0'		01:01	02:50	04:40	easy	Ultima 42mm	30
Gal	NGC 247	MCG -4-3-5	Cet	11.92483	-20.6975	9.7	20.0'x 5.0'	22.8	01:03	04:08	06:01	detectable	Ultima 42mm	158
PNe	NGC 246	PN G118.8-74.7	Cet	11.90475	-11.8096	10.4	4.0'	22.0	01:05	04:08	06:01	detectable	Ultima 42mm	140
Gal	NGC 7814	MCG 3-1-20	Peg	0.95693	16.2066	11.6	4.9'x 2.1'	22.3	01:14	03:24	05:32	difficult	E-Lux 2" 40mm 2.0x	81
Gal	NGC 613	MCG -5-4-44	ScI	23.70645	-29.3576	10.7	5.5'x 4.4'	22.3	01:16	04:55	06:03	detectable	E-Lux 2" 40mm	158
Gal	NGC 779	MCG -1-6-16	Cet	30.06568	-5.9092	11.9	1.5'x 0.6'	20.0	01:37	05:19	06:07	detectable	Celestron Plössl 9mr139	
Gal	NGC 584	MCG -1-4-60	Cet	22.97616	-6.8096	11.3	3.7'x 2.4'	21.8	01:38	04:52	06:04	detectable	E-Lux 2" 40mm 2.0x	140
Gal	NGC 596	MCG -1-5-5	Cet	23.35566	-6.9731	11.8	2.5'x 1.8'	21.6	01:39	04:53	06:03	detectable	Celestron Plössl 15r140	
Gal	NGC 720	MCG -2-5-68	Cet	28.38714	-13.6819	11.1	4.7'x 2.5'	21.9	01:53	05:13	06:03	detectable	Ultima 42mm 2.0x	139
Gal	NGC 185	MCG 8-2-10	Cas	9.89760	48.3954	10.2	10.7'x 8.9'	23.3	02:00	03:59	05:55	very challenging	Ultima 42mm	30
Gal	NGC 488	MCG 1-4-33	Psc	20.58965	5.3151	11.1	5.0'x 3.6'	22.4	02:02	04:42	06:00	detectable	Celestron Plössl 32r120	
Gal	NGC 524	MCG 1-4-53	Psc	21.34507	9.5966	11.4	3.3'	22.1	02:05	04:45	06:01	detectable	E-Lux 2" 26mm	100
Gal	NGC 615	MCG -1-5-8	Cet	23.91281	-7.2820	12.4	3.0'x 1.1'	21.9	02:09	04:55	06:02	difficult	E-Lux 2" 26mm 2.0x	140
Gal	NGC 908	MCG -4-6-35	Cet	35.89650	-21.1807	10.8	6.2'x 2.8'	22.0	02:18	05:32	06:03	detectable	E-Lux 2" 26mm	157
Gal	NGC 1084	MCG -1-8-7	Eri	41.63491	-7.5303	11.2	3.1'x 2.0'	21.3	02:38	05:31	06:04	detectable	Celestron Plössl 32r139	139.0x
Gal	NGC 1052	MCG -1-7-34	Cet	40.40484	-8.2058	11.4	2.9'x 2.0'	21.5	02:38	05:31	06:04	detectable	Celestron Plössl 32r139	139.0x
Gal	NGC 205	M 110	And	10.24652	41.7441	8.9	17.8'x 9.8'	22.6	02:43	04:01	05:19	difficult	Ultima 42mm	30
Gal	NGC 598	M 33	Tri	23.61891	30.7148	6.4	61.7'x 36.3'	22.9	02:48	04:54	06:01	detectable	Celestron Plössl 15r62	
Gal	NGC 936	MCG 0-7-17	Cet	37.04665	-1.1048	11.2	4.5'x 3.4'	22.3	02:57	05:31	06:02	detectable	E-Lux 2" 26mm	119
Gal	NGC 772	Arp 78	Ari	29.98550	19.0608	10.6	5.9'x 3.2'	21.9	02:57	05:19	06:01	detectable	E-Lux 2" 26mm	80
Open	NGC 752	Collinder 23	And	29.58595	37.8364	6.6	75.0'		02:59	05:17	06:05	very challenging	Celestron Plössl 15r62	
Gal	NGC 1022	MCG -1-7-25	Cet	39.77261	-6.6279	12.1	2.6'x 1.9'	22.0	03:00	05:31	06:02	detectable	Celestron Plössl 32r139	139.0x
Gal	NGC 404	Mirach's Ghost	And	17.51857	35.7750	11.2	4.7'	22.7	03:04	04:30	05:47	difficult	E-Lux 2" 40mm	62
Gal	NGC 278	MCG 8-2-16	Cas	13.17719	47.6077	11.5	2.3'x 2.3'	21.5	03:17	04:12	05:09	difficult	E-Lux 2" 40mm 2.0x	44
PNe	NGC 1535	Cleopatra's Eye	Eri	63.69193	-12.7093	9.4	20"	15.6	03:26	05:43	06:12	obvious	Celestron Plössl 15r137	137.0x
Gal	NGC 1407	MCG -3-10-30	Eri	55.17199	-18.5418	10.7	5.5'x 5.0'	22.4	03:27	05:41	06:03	detectable	Ultima 42mm	156

Cls	Primary ID	Alternate ID	Con	RA (Ap)	Dec (Ap)	Mag	Size	SBr	Begin	Optimum	End	Difficulty	Optimum EP	Ur. 2
Gal	NGC 1055	MCG 0-7-81	Cet	40.57940	0.4904	11.4	6.2'x 2.9'	22.7	03:32	05:31	06:00	difficult	E-Lux 2" 26mm	119
Gal	NGC 891	MCG 7-5-46	And	35.81361	42.3935	10.9	11.7'x 2.3'	22.6	03:34	05:32	06:08	very challenging	E-Lux 2" 26mm 2.0x 44	
Gal	NGC 1023	Arp 135	Per	40.27266	39.1080	9.6	7.6'x 2.8'	21.1	04:04	05:40	06:04	detectable	E-Lux 2" 26mm	61
Open	NGC 457	ET Cluster	Cas	20.07347	58.3408	5.1	20.0'		04:18	04:40	05:02	challenging	Ultima 42mm	29
Open	NGC 2362	Collinder 136	CMa	09.77904	-24.9728	3.8	5.0'		04:27	05:49	06:12	obvious	E-Lux 2" 40mm	154
Open	NGC 1342	Collinder 40	Per	53.08472	37.4118	7.2	15.0'		04:45	05:46	06:02	detectable	Ultima 42mm	60
Gal	NGC 1964	MCG -4-14-3	Lep	83.45189	-21.9365	11.5	5.2'x 2.2'	22.3	04:48	05:45	05:59	difficult	E-Lux 2" 40mm 2.0x 155	
Open	NGC 869	h Persei	Per	34.94538	57.1751	4.3	18.0'		04:48	05:32	06:03	detectable	Ultima 42mm	29
PNe	NGC 2022	PN G196.6-10.9	Ori	85.67249	9.0924	11.7	28"	18.7	04:52	05:47	06:05	detectable	Celestron Plössl 9mr96	
Open	NGC 884	Chi Persei	Per	35.77138	57.1829	4.4	18.0'		04:52	05:40	06:03	detectable	Ultima 42mm	29
Open	NGC 2354	Collinder 131	CMa	08.64880	-25.7066	8.9	18.0'		04:55	05:48	06:04	very challenging	Ultima 42mm	154
Open	NGC 2232	Collinder 93	Mon	96.94357	-4.7633	4.2	53.0'		04:59	05:47	06:03	easy	Celestron Plössl 15n116	
Open	NGC 1980	Collinder 72	Ori	83.98067	-5.9061	2.5	20.0'		05:01	05:46	06:09	obvious	Ultima 42mm	136
Open	NGC 2169	37 Cluster	Ori	92.25146	13.9638	7.0	5.0'		05:03	05:49	06:07	easy	E-Lux 2" 40mm	96
Neb	NGC 1788	LBN 916	Ori	76.85905	-3.3171		10.0'x 6.0'		05:04	05:44	05:58	challenging	Ultima 42mm	117
Open	NGC 2343	Collinder 128	Mon	07.14959	-10.6322	7.5	5.0'		05:07	05:49	06:05	easy	E-Lux 2" 40mm	135
Open	NGC 2360	Collinder 134	CMa	09.54836	-15.6595	9.1	13.0'		05:09	05:49	06:05	challenging	Ultima 42mm	135
Open	NGC 1817	Collinder 60	Tau	78.21765	16.7032	7.8	16.0'		05:10	05:47	06:01	detectable	Ultima 42mm	97
Open	NGC 2353	Collinder 130	Mon	08.74999	-10.2838	5.2	18.0'		05:12	05:49	06:05	easy	Ultima 42mm	135
Open	NGC 1444	Collinder 43	Per	57.55963	52.6884	6.4	4.0'		05:15	05:53	06:09	easy	Celestron Plössl 32n28	
Open	NGC 1931	Collinder 68	Aur	83.03169	34.2519	10.1	5.0'		05:15	05:53	06:09	very challenging	E-Lux 2" 40mm	59
Open	NGC 2129	Collinder 77	Gem	90.44166	23.3223	7.0	5.0'		05:15	05:52	06:08	easy	E-Lux 2" 40mm	76
Open	NGC 2186	Collinder 85	Ori	93.17133	5.4567	9.2	5.0'		05:15	05:48	06:02	detectable	E-Lux 2" 40mm	116
Open	NGC 1857	Collinder 61	Aur	80.21054	39.3528	8.4	10.0'		05:15	05:56	06:10	challenging	Ultima 42mm	59
Open	NGC 2244	Collinder 99	Mon	98.12045	4.9349	5.2	29.0'		05:16	05:49	06:03	easy	Plössl 4mm	116
Open	NGC 2204	Collinder 88	CMa	94.00300	-18.6661	9.3	10.0'		05:16	05:46	05:58	difficult	Ultima 42mm	154
Open	NGC 2422	M 47	Pup	14.26661	-14.5059	4.3	25.0'		05:17	05:50	06:06	easy	Ultima 42mm	135
Open	NGC 2301	Collinder 119	Mon	03.07379	0.4483	6.3	14.0'		05:18	05:49	06:03	easy	Ultima 42mm	115
Neb	NGC 2024	Flame Nebula	Ori	85.55990	-1.8430		20.0'		05:18	05:46	05:56	challenging	Ultima 42mm	116
Open	NGC 2264	Collinder 112	Mon	00.38804	9.8856	4.1	39.0'		05:21	05:50	06:04	easy	Celestron Plössl 32n95	
Neb	NGC 1999	LBN 979	Ori	84.22979	-6.7079		2.0'		05:22	05:46	05:56	very challenging	Ultima 42mm	136
Open	NGC 1545	Collinder 49	Per	65.44132	50.2764	4.6	18.0'		05:23	05:54	06:10	easy	Ultima 42mm	42
Open	NGC 1664	Collinder 56	Aur	72.96738	43.6913	7.2	9.0'		05:25	05:52	06:06	detectable	Ultima 42mm	42
Open	NGC 2421	Collinder 151	Pup	14.16817	-20.6341	9.0	6.0'		05:27	05:50	06:00	detectable	Ultima 42mm	153
Open	NGC 2571	Collinder 181	Pup	24.83886	-29.7826	7.4	8.0'		05:27	05:52	06:04	detectable	Ultima 42mm	171

Cls	Primary ID	Alternate ID	Con	RA (Ap)	Dec (Ap)	Mag	Size	SBr	Begin	Optimum	End	Difficulty	Optimum EP	Ur. 2
Open	NGC 2423	Collinder 153	Pup	14.39643	-13.8944	7.0	12.0'		05:27	05:51 ■	06:03	detectable	Ultima 42mm	135
Open	NGC 2335	Collinder 127	Mon	06.82938	-10.0435	9.3	6.0'		05:27	05:49 ■	05:59	detectable	Ultima 42mm	135
Open	NGC 2489	Collinder 169	Pup	19.16594	-30.0906	9.3	6.0'		05:28	05:50 ■	06:00	detectable	Ultima 42mm	171
PNe	NGC 2440	PN G234.8+02.4	Pup	15.59759	-18.2325	11.5	54"	19.9	05:29	05:51 ■	06:01	difficult	E-Lux 2" 26mm 2.0x	153
PNe	NGC 2438	PN G231.8+04.1	Pup	15.58490	-14.7558	11.0	1.1'	19.8	05:30	05:51 ■	06:02	detectable	E-Lux 2" 26mm 2.0x	135
Open	NGC 2567	Collinder 180	Pup	24.73771	-30.6726	8.4	7.0'		05:31	05:52 ■	06:03	detectable	Ultima 42mm	171
Open	NGC 2311	Collinder 123	Mon	04.57679	-4.6247	9.6	6.0'		05:31	05:49 ■	05:59	difficult	Ultima 42mm	115
Open	NGC 2286	Collinder 117	Mon	02.04924	-3.1588	8.3	14.0'		05:31	05:49 ■	05:57	difficult	Ultima 42mm	115
Open	NGC 2324	Collinder 125	Mon	06.16591	1.0301	7.9	10.6'		05:32	05:50 ■	06:00	detectable	Ultima 42mm	115
Open	NGC 2527	Collinder 174	Pup	21.34812	-28.1760	8.3	10.0'		05:34	05:51 ■	06:02	detectable	Ultima 42mm	153
Open	NGC 2251	Collinder 101	Mon	98.80320	8.3590	8.8	10.0'		05:36	05:50 ■	05:58	difficult	Ultima 42mm	96
Open	NGC 1528	Collinder 47	Per	64.05130	51.2393	6.4	16.0'		05:38	05:54 ■	06:04	difficult	Ultima 42mm	42
Open	NGC 2482	Collinder 166	Pup	18.91054	-24.2854	8.8	10.0'		05:39	05:51 ■	05:59	difficult	Ultima 42mm	153
Open	NGC 2509	Collinder 171	Pup	20.31663	-19.0801	9.3	6.0'		05:40	05:52 ■	06:01	difficult	Ultima 42mm	153
Open	NGC 2627	Collinder 188	Pyx	29.41939	-29.9918	8.4	8.0'		05:42	05:54 ■	06:03	difficult	Ultima 42mm	171
Open	NGC 2539	Collinder 176	Pup	22.77744	-12.8492	8.0	9.0'		05:43	05:56 ■	06:02	difficult	Ultima 42mm	134
Open	NGC 2215	Collinder 90	Mon	95.33259	-7.2865	8.6	7.0'		05:44	05:47 ■	06:01	detectable	Ultima 42mm	136
Open	NGC 1647	Collinder 54	Tau	71.63697	19.1347	6.2	40.0'		05:45	05:46 ■	06:00	detectable	Celestron Plössl 32mm	77
Open	NGC 2304	Collinder 120	Gem	03.95064	17.9748	10.0	3.0'		05:45	05:56 ■	06:02	challenging	E-Lux 2" 26mm	76

Symbol Key:

Open	Open Cluster	Doub	Double or Multiple Star	Con	Constellation
Glob	Globular Cluster	Bin	Binary Star (with orbit)	MSS	Major Solar System Object
PNe	Planetary Nebula	Var	Variable Star	Com	Comet
Neb	Diffuse Nebula	DVar	Double & Variable	MP	Minor Planet
Gal	Galaxy	BVar	Binary & Variable		
GalCl	Galaxy Cluster				
Dark	Dark Nebula				
QSO	Quasar				

Observation status: Y = observed, N = not observed, R = re-observe  
Quality of opportunity (Q): A = optimum, B = near optimum, F = far from optimum