

650 selected DSO List (sorted by constellation - name)													
NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
M 31	NGC 224	Galaxy	AND	3.4	13.5	189'	00 42.7	+41 16	60	Sb			Andromeda Galaxy;Local Group;nearest spiral
M 32	NGC 221	Galaxy	AND	8.1	12.4	8.5'	00 42.7	+40 52	60	E2			Companion to M31; Member of Local Group
M 110	NGC 205	Galaxy	AND	8.1	14	19.5'	00 40.4	+41 41	60	SA0			M31 Companion;UGC 426; Member Local Group
NGC 404	UGC 718	Galaxy	AND	10.3	12.8	4.3'	01 09.4	+35 43	91	E0			Mirach's ghost H II 224;UGC 718;Beta AND sf 6'
NGC 752	OCL 363	Opn CL	AND	5.7	-	50'	01 57.7	+37 40	92	III 1 m	60	9	H VII 32;Best in RFT or binocs;lr scattered cl 70" m 8...
NGC 891	UGC 1831	Galaxy	AND	9.9	13.6	13.1'	02 22.6	+42 21	62	Sb			NGC 1023 group;Lord Rosse drawing shows dark lane
NGC 7662	PK 106-17.1	Pln Neb	AND	8.6	5.6	17"	23 25.9	+42 32	88	4(3)		14	Blue Snowball Nebula;H IV 18;Barnard-cent * variable?
NGC 7686	OCL 251	Opn CL	AND	5.6	-	15'	23 30.1	+49 08	88	IV 1 p	20	6.2	H VIII 69;12* mags 8...13
NGC 2997	ESO 434-35	Galaxy	ANT	9.4	13.7	9.2'	09 45.6	-31 11	365	SBc			H V 50
NGC 6755	OCL 96	Opn CL	AQL	7.5	-	15'	19 07.8	+04 16	251	IV 2 m	100	10.2	H VII 19
NGC 6756	OCL 99	Opn CL	AQL	10.6	-	4'	19 08.7	+04 42	251	I 2 m	40	13	H VII 62
NGC 6760	GCL 109	Glob CL	AQL	9.1	-	2.4'	19 11.2	+01 02	251	IX			
NGC 6781	PK 41-2.1	Pln Neb	AQL	11.8	12.8	111"	19 18.5	+06 32	206	3b(3)		16.9	H III 743;PK41-2.1;opposite dark lane from Altair
M 2	NGC 7089	Glob CL	AQR	6.5	11	11.7'	21 33.5	-00 49	255	II			Lord Rosse-Dark area near core;* mags 13...
M 72	NGC 6981	Glob CL	AQR	9.2	12	5.9'	20 53.5	-12 32	299	IX			3 dea WSW of NGC 7009
M 73	NGC 6994	Opn CL	AQR	9.7	-	2.8'	20 59.0	-12 38	299	IV 1 p	10	10	4 or 5 10th mag stars; Messier saw neb but there is no.
NGC 7009	PK 37-34.1	Pln Neb	AQR	8.3	6.2	28"	21 04.2	-11 22	300	4(6)		12.9	Saturn Nebula;H IV 1;bright blue-green disk
NGC 7184	ESO 601- 9	Galaxy	AQR	10.9	13.1	5.9'	22 02.7	-20 49	346	SBc Ring			H II 1;With Saturn-like inner ring
NGC 7293	PK 36-57.1	Pln Neb	AQR	6.3	13.6	960"	22 29.6	-20 50	347	4(3)		13.5	Helix Nebula;low surf brightness
NGC 7606	MCG - 2-59-	Galaxy	AQR	10.8	13.3	4.2'	23 19.1	-08 29	304	Sbc			H I 104
NGC 7723	MCG - 2-60-	Galaxy	AQR	11.2	13.3	3.5'	23 39.0	-12 58	304	Sbb			H I 110
NGC 7727	MCG - 2-60-	Galaxy	AQR	10.6	13.5	4.7'	23 39.9	-12 18	304	SBap			H I 111;Faint outer arms ext to 5'
NGC 6193	OCL 975	Opn CL	ARA	5.2	-	15'	16 41.3	-48 46	407	II 3 p n	14	5.7	In Ara OB1;30* mags 6...
NGC 6204	OCL 982	Opn CL	ARA	8.2	-	5'	16 46.2	-47 01	407	I 2 p	45	9.8	In Ara OB2
NGC 6352	Dunlop 417	Glob CL	ARA	7.8	-	7.1'	17 25.5	-48 25	408	XI		12	globular ESO 228-SC003
NGC 6397	Lac III-11	Glob CL	ARA	5.3	-	25.7'	17 40.7	-53 40	434	IX		10	Poss nearest glob
NGC 772	UGC 1466	Galaxy	ARI	10.3	13.9	7.5'	01 59.3	+19 00	129	Sb			H I 112;Several tightly coiled arms br on NW side
M 36	NGC 1960	Opn CL	AUR	6	12	12'	05 36.3	+34 08	97	II 3 m	60	8.9	in Aur OB1;incl Struve 737 10.7"sep
M 37	NGC 2099	Opn CL	AUR	5.6	11	24'	05 52.3	+32 33	98	II 1 r	150	9.2	Total population 500*;dark area near center
M 38	NGC 1912	Opn CL	AUR	6.4	12	21'	05 28.7	+35 51	97	III 2 m	100	9.5	in Aur OB1;Burnham-shaped like Greek letter Pi
NGC 1664	OCL 411	Opn CL	AUR	7.6	-	18'	04 51.1	+43 41	65	III 1 p		10.6	H VIII 59;40* mags 11...
NGC 1857	Cr 61	Opn CL	AUR	7	-	6'	05 20.1	+39 21	66	II 2 m	40	7.4	H VII 33
NGC 1907	OCL 434	Opn CL	AUR	8.2	-	7'	05 28.1	+35 20	97	II 1 m n	30	11.3	H VII 39
NGC 1931	OCL 441	CL+Neb	AUR	10.1	-	3'	05 31.4	+34 15	97	I 3 p n:b		11.5	H I 261;Contains triple ADS 4112
NGC 2126	OCL 418	Opn CL	AUR	10.2	-	6'	06 02.5	+49 52	67	II 1 p	40	13	H VIII 68;Scattered 20 * mags 11..14
NGC 2281	OCL 446	Opn CL	AUR	5.4	-	15'	06 48.3	+41 05	68	I 3 p	30	7.3	H VIII 71
IC 405	LBN 795	Brn Neb	AUR	10	-	50'	05 16.5	+34 21	97	E			Flaming Star nebula;variable AE Aur in center
IC 410	NGC 1893	Brn Neb	AUR	7.5	-	11'	05 22.7	+33 25	97	E			Incl cluster NGC 1893
NGC 5248	UGC 8616	Galaxy	BOO	10.3	13.8	5.9'	13 37.5	+08 53	196	SBbc			H I 34;eBN in vB lens w many dk lanes
NGC 5466	GCL 27	Glob CL	BOO	9.1	-	9.2'	14 05.5	+28 32	110	XII			H VI 9
NGC 5557	UGC 9161	Galaxy	BOO	11	12.6	2.4'	14 18.4	+36 30	110	E1			H I 99;BN;no struct
NGC 5676	UGC 9366	Galaxy	BOO	11.2	13.2	3.9'	14 32.8	+49 27	77	Sbc			H I 189;N 5660 at 30' IC 1029 at 26';Many B knotty filam
NGC 5689	UGC 9399	Galaxy	BOO	11.9	13	3.3'	14 35.5	+48 44	77	SBO-a			H I 188;diff Nucl in B bulge w strong dk lane on one side
NGC 1501	PK 144+6.1	Pln Neb	CAM	12	11.6	56"	04 07.0	+60 55	39	3		14.4	H IV 53;PK144+6.1
NGC 1502	OCL 383	Opn CL	CAM	6.9	-	8'	04 07.8	+62 20	18	II 3 p	45	6.9	Incl Stv 484 5"sep PA 130 & Struve 485 18" 6" 11"mul*
NGC 1961	IC 2133	Galaxy	CAM	11	13.7	4.5'	05 42.1	+69 23	20	SBbc			H III 747;hexagonal;2 branch arms w some knots
NGC 2403	UGC 3918	Galaxy	CAM	8.5	14.4	23.4'	07 36.8	+65 36	21	Sbc			in M81 group;many well res irreg arms;broad bar
NGC 2655	UGC 4637	Galaxy	CAM	10.1	13.2	4.9'	08 55.6	+78 13	7	SBO-a			large nucleus w asym dk matter;faint outer whirls
IC 342	UGC 2847	Galaxy	CAM	12	14.9	20.9'	03 46.8	+68 06	18	Sbc			Local Group Member
M 30	NGC 7099	Glob CL	CAP	6.9	11	8.9'	21 40.4	-23 11	346	V			Wm. Herschel saw very elliptical shape
NGC 6907	ESO 528- 3	Galaxy	CAP	11.2	13.4	3.4'	20 25.1	-24 49	343	SBbc			H III 141;S shaped spiral
NGC 2867	PK 278-5.1	Pln Neb	CAR	9.7	6.5	12"	09 21.4	-58 19	425	4		16	
NGC 3372	Dunlop 309	Brn Neb	CAR	3	-	120'	10 45.1	-59 52	427	E			Keyhole Nebula & nova-like var Eta Car; drk lanes
NGC 3532	OCL 839	Opn CL	CAR	3	-	50'	11 05.2	-58 44	427	II 1 m	150	7.1	Fine object
M 52	NGC 7654	Opn CL	CAS	6.9	12	13'	23 24.2	+61 35	15	I 2 r	200	8.2	Messier saw neby there is none
M 103	NGC 581	Opn CL	CAS	7.4	11	6'	01 33.4	+60 39	37	III 2 p	40	10.6	in Cas OB8;incl Struve 131 6-9m 14"
NGC 129	OCL 294	Opn CL	CAS	6.5	-	21'	00 30.0	+60 13	35	IV 2 p	35	8.6	H VIII 79;Contains DL Cas
NGC 136	OCL 295	Opn CL	CAS	11.5	-	1.2'	00 31.5	+61 31	15	II 2 p	20	13	H VI 35;30 F*
NGC 147	UGC 326;D	Galaxy	CAS	9.5	14.5	13.5'	00 33.2	+48 30	60	dE4			Dwarf E1;P w NGC 185 at 58';low surface br; Local Grp

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<b>NGC 185</b>	UGC 396	Galaxy	CAS	9.2	14.3	12.5'	00 39.0	+48 20	60	dE0			H II 707;Dwarf elliptical; Member Local Group
<b>NGC 225</b>	OCL 305	Opn CL	CAS	7	-	12'	00 43.6	+61 46	16	III 1 p n	15	9.3	H VIII 78;W shaped
<b>NGC 278</b>	UGC 528	Galaxy	CAS	10.8	12.2	2.4'	00 52.1	+47 33	60	SBb			Lg B nucl;sev knotty massive arms;B part sharp edge;
<b>NGC 281</b>	IC 11	CL+Neb	CAS	7.4	-	4'	00 53.0	+56 37	36	E+*		9	
<b>NGC 381</b>	OCL 317	Opn CL	CAS	9.3	-	6'	01 08.4	+61 35	16	III 2 p	50	10	H VIII 64;In Cas OB1?
<b>NGC 436</b>	OCL 320	Opn CL	CAS	8.8	-	6'	01 16.0	+58 49	36	I 3 m	30	11.1	H VII 45
<b>NGC 457</b>	OCL 321	Opn CL	CAS	6.4	-	13'	01 19.5	+58 17	36	I 3 r	80	8.6	H VII 42;Phi Cas is not a member; <b>ET Cluster</b>
<b>NGC 559</b>	OCL 322	Opn CL	CAS	9.5	-	4.4'	01 29.5	+63 19	16	II 2 m	60	10.6	H VII 48
<b>NGC 637</b>	OCL 329	Opn CL	CAS	8.2	-	3.5'	01 43.1	+64 02	16	I 3 p	20	10	H VII 49
<b>NGC 654</b>	OCL 330	Opn CL	CAS	6.5	-	5'	01 44.0	+61 53	16	II 3 m	60	7.4	H VII 46;In Cas OB8?;50* mags 11..14
<b>NGC 659</b>	OCL 332	Opn CL	CAS	7.9	-	5'	01 44.4	+60 40	37	III 1 p	40	10.4	H VIII 65;30* mags 12...
<b>NGC 663</b>	OCL 333	Opn CL	CAS	7.1	-	16'	01 46.0	+61 15	16	III 2 m	80	8.4	H VI 31;In Cas OB8;incl Struve 151 152 & 153
<b>NGC 1027</b>	OCL 357	Opn CL	CAS	6.7	-	20'	02 42.6	+61 36	17	III 2 p n	40	9.3	H VIII 66;Scattered group 12*
<b>NGC 7635</b>	LBN 549	Brn Neb	CAS	11	-	15'	23 20.2	+61 11	34	E			<b>Bubble Nebula</b> ;H IV 52;L neb ring
<b>NGC 7789</b>	OCL 269	Opn CL	CAS	6.7	-	16'	23 57.4	+56 43	35	II 1 r	300	10.7	H VI 30;1000 members from 11 to 18 mag
<b>NGC 7790</b>	OCL 276	Opn CL	CAS	8.5	-	17'	23 58.4	+61 13	15	III 2 p	40	10.9	H VII 56;Contains CE Cas
<b>NGC 3918</b>	PK 294+4.1	Pln Neb	CEN	8.4	5.7	12"	11 50.3	-57 11	428	2b		15.5	<b>Blue Planetary</b>
<b>NGC 4945</b>	Dunlop 411	Galaxy	CEN	8.6	13.1	19.8'	13 05.4	-49 28	402	SBc			Nearly edge-on
<b>NGC 5102</b>	ESO 382-50	Galaxy	CEN	9.6	13	8.6'	13 22.0	-36 38	370	E-SO			17' nf Iota CEN
<b>NGC 5128</b>	Dunlop 482	Galaxy	CEN	6.8	13.5	27.6'	13 25.5	-43 01	403	SO			<b>Centaurus A</b> , Dark central band;radio source
<b>NGC 5139</b>	<b>Omeg Cen</b>	Glob CL	CEN	3.9	-	36.3'	13 26.8	-47 29	403	VIII			Stars mags 11...;finest globular;magnificent object
<b>NGC 5286</b>	Dunlop 388	Glob CL	CEN	7.4	-	9.1'	13 46.4	-51 22	430	V			close to a bright star
<b>NGC 40</b>	PK 120+9.1	Pln Neb	CEP	10.7	7.3	60"	00 13.0	+72 31	3	3b(3)		11.5	H IV 58;PK120+9.1;Lord Rosse saw spiral structure
<b>NGC 188</b>	OCL 309	Opn CL	CEP	8.1	-	14'	00 47.5	+85 14	1	II 2 r	20	12.1	
<b>NGC 2300</b>	UGC 3798	Galaxy	CEP	11	12.8	3.5'	07 32.3	+85 43	1	E1			Pair with NGC 2276 at 6' and IC 1455 at 10'; vsBN
<b>NGC 6939</b>	OCL 217	Opn CL	CEP	7.8	-	8'	20 31.5	+60 40	56	I 1 m	80	11.9	H VI 42;Gal N6946 38' SE
<b>NGC 6946</b>	UGC 11597	Galaxy	CEP	8.8	13.8	11.2'	20 34.9	+60 09	56	SBc			H IV 76;One of nearest spirals
<b>NGC 7023</b>	OCL 235	CL+Neb	CEP	7.1	-	5'	21 00.5	+68 10	33	E+*			H IV 74;Complex structure w Br and dark filaments
<b>NGC 7129</b>	OCL 240	CL+Neb	CEP	11.5	-	2.7'	21 43.0	+66 07	33	IV 2 p n:	10	11.5	H IV 75;Sev F * invl
<b>NGC 7142</b>	OCL 241	Opn CL	CEP	9.3	-	4.3'	21 45.2	+65 46	33	II 2 r	100	12.1	H VII 66
<b>NGC 7160</b>	OCL 236	Opn CL	CEP	6.1	-	7'	21 53.7	+62 36	33	II 3 p	12	7	H VIII 67;In Cep OB2
<b>NGC 7380</b>	OCL 244	Opn CL	CEP	7.2	-	12'	22 47.3	+58 08	58	III 3 p n	40	8.6	H VIII 77; In Cep OB1
<b>NGC 7510</b>	OCL 256	Opn CL	CEP	7.9	-	4'	23 11.5	+60 34	58	II 2 m n	60	9.7	H VII 44;L region of F neby to SE
<b>IC 1396</b>	OCL 222	CL+Neb	CEP	3.5	-	89'	21 39.1	+57 30	57	II 3 m n	50	3.8	In Cep OB2;Neby is 165'X135';cluster is Tr 37
<b>M 77</b>	NGC 1068	Galaxy	CET	8.9	12.8	7.3'	02 42.7	-00 01	220	Sbp			Seyfert;brst in NGC 1068 grp
<b>NGC 157</b>	MCG - 2- 2- 4	Galaxy	CET	10.4	12.9	4.1'	00 34.8	-08 24	261	SBbc			H II 3
<b>NGC 210</b>	MCG - 2- 2- 8	Galaxy	CET	10.9	13.8	4.6'	00 40.6	-13 52	261	SBb			H II 452;F outer arms form encircling ring
<b>NGC 246</b>	PK 118-74.1	Pln Neb	CET	10.4	13.5	240"	00 47.1	-11 52	261	3b		11.9	H V 25;PK118-74.1;Galaxy NGC 255 15' NNE
<b>NGC 247</b>	ESO 540-22	Galaxy	CET	9.1	14.4	21'	00 47.1	-20 46	306	SBcd			H V 20
<b>NGC 584</b>	IC 1712;H I 1	Galaxy	CET	10.5	12.9	3.3'	01 31.3	-06 52	263	E4			
<b>NGC 596</b>	MCG - 1- 5- 5	Galaxy	CET	10.9	13	2.8'	01 32.9	-07 02	263	E2			H II 4
<b>NGC 615</b>	MCG - 1- 5- 6	Galaxy	CET	11.6	13.3	3.4'	01 35.1	-07 20	263	Sb			H II 282
<b>NGC 720</b>	MCG - 2- 5- 6	Galaxy	CET	10.2	12.8	4.4'	01 53.0	-13 44	264	E4			H I 105
<b>NGC 779</b>	MCG - 1- 6- 1	Galaxy	CET	11.2	12.7	4.1'	01 59.7	-05 58	264	SBb			H I 101;nearly edge-on spiral
<b>NGC 908</b>	ESO 545-11	Galaxy	CET	10.2	13	6.1'	02 23.1	-21 14	309	SBc			H I 153
<b>NGC 936</b>	UGC 1929	Galaxy	CET	10.1	13.2	4.3'	02 27.6	-01 09	220	SBO-a			H IV 23;Thick central bar;P w NGC 941 12' foll
<b>NGC 1022</b>	MCG - 1- 7- 2	Galaxy	CET	11.3	12.9	2.6'	02 38.5	-06 41	265	SBa			H I 102
<b>NGC 1052</b>	MCG - 1- 7- 3	Galaxy	CET	10.5	12.5	2.8'	02 41.1	-08 15	265	Elliptical			H I 63
<b>NGC 1055</b>	UGC 2173	Galaxy	CET	10.6	13.7	7.6'	02 41.8	+00 27	220	SBb			H I 1= II 6;Nearly edge-on spiral w equatorial dust lane
<b>NGC 5823</b>	OCL 936	Opn CL	CIR	7.9	-	10'	15 05.5	-55 36	431	III 2 m	100	9.7	
<b>M 41</b>	NGC 2287	Opn CL	CMA	4.5	12	38'	06 46.0	-20 45	318	II 3 m	80	6.9	150 members to 13 mag;orange * near center
<b>NGC 2204</b>	OCL 572	Opn CL	CMA	8.6	-	13'	06 15.5	-18 40	317	III 3 m	80	12.2	H VII 13;About 20 F *
<b>NGC 2207</b>	ESO 556- 8	Galaxy	CMA	10.8	13.4	4.2'	06 16.4	-21 22	317	SBbc Rim			Double galaxy or interacting pair
<b>NGC 2354</b>	OCL 639	Opn CL	CMA	6.5	-	20'	07 14.3	-25 42	319	III 2 m	100	9.1	H VII 16
<b>NGC 2359</b>	LBN 1041	Brn Neb	CMA	-	-	10'	07 18.5	-13 14	274	E		11	<b>Duck Neb</b> ;curved filam;cent* Wolf Rayet;UHC helps
<b>NGC 2360</b>	OCL 589	Opn CL	CMA	7.2	-	13'	07 17.7	-15 38	274	II 2 m	80	10.4	H VII 12
<b>NGC 2362</b>	OCL 633	Opn CL	CMA	4.1	-	8'	07 18.7	-24 57	319	I 3 p n	60	4.4	H VII 17;40 * to 13 mag surround Tau Cma;sev pairs
<b>NGC 2383</b>	OCL 616	Opn CL	CMA	8.4	-	6'	07 24.7	-20 57	319	I 3 m	40	9.8	Near cluster NGC 2384
<b>NGC 2384</b>	OCL 618	Opn CL	CMA	7.4	-	2.5'	07 25.2	-21 01	319	IV 3 p	15	8.6	Near cluster NGC 2383
<b>M 44</b>	NGC 2632	Opn CL	CNC	3.1	13	95'	08 40.0	+19 40	141	II 2 m	50	6.3	<b>Beehive Cluster</b> ;200 memb to 14 mag
<b>M 67</b>	NGC 2682	Opn CL	CNC	6.9	13	30'	08 50.8	+11 49	187	II 2 m	200	9.7	500 memb to 16 mag;Mallas-dark spot near center

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NGC 2775	UGC 4820	Galaxy	CNC	10.1	12.9	4.5'	09 10.3	+07 02	187	Sab			N in B smooth lens;many knotty arms form dk lane
NGC 1792	ESO 305- 6	Galaxy	COL	10.2	12.9	5.6'	05 05.2	-37 59	358	SBbc			close to ngc 1808
NGC 1808	ESO 305- 8	Galaxy	COL	9.9	13.3	6.3'	05 07.7	-37 31	358	SBa			F outer arms , close to ngc1792
NGC 1851	Dunlop 508	Glob CL	COL	7.1	-	11'	05 14.1	-40 03	393	II			X-ray source;vRi w F*
M 53	NGC 5024	Glob CL	COM	7.7	12	14.4'	13 12.9	+18 10	150	V			1 deg NE of Alpha Comae Berenices
M 64	NGC 4826	Galaxy	COM	8.5	12.7	10.3'	12 56.7	+21 41	149	Sab			<b>Blackeye Galaxy</b> ;dark marking near center
M 85	NGC 4382	Galaxy	COM	9.1	12.9	7.4'	12 25.4	+18 11	148	Sa			SN 1960r;P w NGC 4394 @ 7.8' foll
M 88	NGC 4501	Galaxy	COM	9.6	13	6.8'	12 32.0	+14 25	193	Sbc			comp @ 6.9';mult arm spiral
M 91	NGC 4548	Galaxy	COM	10.1	13.4	5.2'	12 35.4	+14 30	194	SBb			NGC 4571 @ 27 ' ;H II 120;F outer arms in S patrn
M 98	NGC 4192	Galaxy	COM	10.1	13.6	9.4'	12 13.8	+14 54	193	SBb			6 Comae Berenices is 30' east
M 99	NGC 4254	Galaxy	COM	9.9	13.2	5.3'	12 18.8	+14 25	193	Sc			SN 1967h;Norton-diff for small scope
M 100	NGC 4321	Galaxy	COM	9.4	13.4	7.5'	12 22.9	+15 49	193	SBbc			SN 1901-14-59;NGC 4322 @ 5.2';NGC 4328 @ 6.1'
NGC 4147	NGC 4153	Glob CL	COM	10.3	-	4'	12 10.1	+18 33	148	VI			H I 19;Stars F
NGC 4150	UGC 7165	Galaxy	COM	11.6	13	2.3'	12 10.6	+30 24	107	SO			H I 73
NGC 4203	UGC 7256	Galaxy	COM	10.9	13.3	3.5'	12 15.1	+33 12	107	E-SO Ba			H I 175
NGC 4245	UGC 7328	Galaxy	COM	11.4	13.3	3.3'	12 17.6	+29 36	107	SBO-a F			H I 74
NGC 4251	UGC 7338	Galaxy	COM	10.7	12.4	3.6'	12 18.1	+28 10	107	SBO Rin			H I 89;lens shape
NGC 4274	UGC 7377	Galaxy	COM	10.4	13.3	6.8'	12 19.8	+29 37	107	SBab Ri			H I 75;Saturn-like inner ring w F outer halo
NGC 4278	UGC 7386	Galaxy	COM	10.2	13.1	4'	12 20.1	+29 17	108	Elliptical			Triple chain w NGC 4283 @ 3.6';NGC 4286 @ 8.8'
NGC 4293	UGC 7405	Galaxy	COM	10.4	13.1	5.5'	12 21.2	+18 23	148	SBO-a			H V 5;Spiral pattern dim;heavy dust lanes
NGC 4314	UGC 7443	Galaxy	COM	10.6	13.4	3.9'	12 22.5	+29 54	108	SBa			H I 76
NGC 4350	UGC 7473	Galaxy	COM	11	12.5	2.9'	12 24.0	+16 42	193	SO			H II 86;NGC 4340 @ 5.6';lenticular
NGC 4394	UGC 7523	Galaxy	COM	10.9	13.4	3.4'	12 25.9	+18 13	148	SBab			H II 55;P w NGC 4382 @ 7.8'
NGC 4414	UGC 7539	Galaxy	COM	10.1	12.1	3.6'	12 26.5	+31 13	108	Sc			H I 77
NGC 4419	UGC 7551	Galaxy	COM	11.2	12.4	3.3'	12 26.9	+15 03	193	SBa			H II 113
NGC 4448	UGC 7591	Galaxy	COM	11.1	12.8	3.6'	12 28.3	+28 37	108	SBab Ri			H I 91
NGC 4450	UGC 7594	Galaxy	COM	10.1	13.2	5.4'	12 28.5	+17 05	148	Sab			H II 56
NGC 4459	UGC 7614	Galaxy	COM	10.4	12.7	4'	12 29.0	+13 59	193	Sa			H I 161;comp @ 2.2';NGC 4468 @ 8.5';NGC 4474 @ 13.
NGC 4473	UGC 7631	Galaxy	COM	10.2	12.8	4.2'	12 29.8	+13 26	193	Elliptical			<b>Markarian's chain</b>
NGC 4477	UGC 7638	Galaxy	COM	10.4	13.1	3.7'	12 30.0	+13 38	193	SBO			<b>Markarian's chain</b> ;NGC 4479 @5.3'
NGC 4494	UGC 7662	Galaxy	COM	9.8	12.9	4.5'	12 31.4	+25 46	148	Elliptical			H I 83
NGC 4559	UGC 7766	Galaxy	COM	10	14	11'	12 36.0	+27 58	149	Sbc			H I 92;SN 1941a;multi arm spiral
NGC 4565	UGC 7772	Galaxy	COM	9.6	13.3	14.9'	12 36.3	+25 59	149	Sb			<b>Needle</b> ;NGC 4562 @ 13.4';classic edge-on galaxy
NGC 4689	UGC 7965	Galaxy	COM	10.9	13.7	4.7'	12 47.8	+13 46	194	Sbc			H II 128
NGC 4725	UGC 7989	Galaxy	COM	9.4	14	10.4'	12 50.4	+25 30	149	SBab Ri			H I 84;P w NGC 4712 @ 12 '
NGC 4889	NGC 4884	Galaxy	COM	11.5	13.3	2.8'	13 00.1	+27 59	149	Elliptical			B in Coma cluster;NGC 4872 @ 0.8' sp; 4886 @ 1.1' np
NGC 5053	GCL 23	Glob CL	COM	9.8	-	8.9'	13 16.5	+17 42	150	XI			H VI 7;Low surf brightness;1 deg sf M 53
NGC 6541	Dunlop 473	Glob CL	CRA	6.3	-	13.1'	18 08.0	-43 42	409	III			Stars mags 13...
NGC 6726	ESO 396-N1	Brn Neb	CRA	-	-	2'	19 01.7	-36 53	379	E			Complex neb region w var* TY & R CrA invl
NGC 6727	ESO 396-N1	Brn Neb	CRA	-	-	80'	19 01.7	-36 53	379	R			P w NGC 6726-9
NGC 6729	ESO 396-N*	Brn Neb	CRA	-	-	25'	19 01.9	-36 57	379	E+R			P w NGC 6726-7
NGC 3962	MCG - 2-30-	Galaxy	CRT	10.7	12.6	3.4'	11 54.7	-13 59	282	Elliptical			H I 67
NGC 4027	ESO 572-37	Galaxy	CRV	11.1	13.2	3.3'	11 59.5	-19 16	327	SBd			H II 296
NGC 4038	ESO 572-47	Galaxy	CRV	10.3	13.1	3.4'	12 01.9	-18 52	328	Sp			<b>Antennae H IV 28</b> ;Ringtail Galaxy;two filaments
NGC 4039	ESO 572-48	Galaxy	CRV	10.6	12.1	3.3'	12 01.9	-18 53	328	SB			<b>Antennae H II 282</b>
NGC 4361	ESO 573-PN	Pln Neb	CRV	10.9	11.1	80"	12 24.5	-18 47	328	3a(2)		13.3	H I 65;PK294+43.1
M 3	NGC 5272	Glob CL	CVN	6.3	11	18.6'	13 42.2	+28 23	110	VI			Lord Rosse-sev dark marks within 5' of center
M 51	NGC 5194	Galaxy	CVN	8.4	12.9	10.8'	13 29.9	+47 12	76	Sbc			<b>Whirlpool Gal</b> ;inter. pair;classic spiral, inc ngc5195
M 63	NGC 5055	Galaxy	CVN	8.6	13.3	12.6'	13 15.8	+42 02	76	Sbc			<b>Sunflower</b> , vsB stell. N in B inner lens;many filam
M 94	NGC 4736	Galaxy	CVN	8.2	13.1	12.3'	12 50.9	+41 07	75	Sb Ring			
M 106	NGC 4258	Galaxy	CVN	8.4	13.6	17.4'	12 19.0	+47 18	74	SBbc			H V 43
NGC 4111	UGC 7103	Galaxy	CVN	10.7	12.2	4.6'	12 07.0	+43 04	74	Sa			H I 195;NGC 4109 @ 4.8';UGC 7103;Ho 333a
NGC 4143	UGC 7142	Galaxy	CVN	10.6	11.8	2.9'	12 09.6	+42 32	74	SBO			H IV 54
NGC 4151	UGC 7166	Galaxy	CVN	10.8	14.2	6.8'	12 10.5	+39 24	74	SBab Ri			P w NGC 4145;NGC 4156 @ 5.2';Ho 345c @ 8.8'
NGC 4214	NGC 4228	Galaxy	CVN	9.8	14	8.4'	12 15.6	+36 20	107	Ir			H I 95
NGC 4244	UGC 7322	Galaxy	CVN	10.4	14	15.9'	12 17.5	+37 48	107	Sc			H V 41
NGC 4346	UGC 7463	Galaxy	CVN	11.1	12.6	3.2'	12 23.5	+47 00	74	SBO			H I 210
NGC 4395	UGC 7524	Galaxy	CVN	10.2	15.4	12.3'	12 25.8	+33 33	108	SB Ring			H V 29 , several NGC nebulae inside
NGC 4449	UGC 7592	Galaxy	CVN	9.6	13	6.2'	12 28.2	+44 06	75	Ir			H I 213
NGC 4485	UGC 7648	Galaxy	CVN	11.9	13.2	2.4'	12 30.5	+41 42	75	Ir			H I 197;disrupted;P w NGC 4490 @ 3.5'
NGC 4490	UGC 7651	Galaxy	CVN	9.8	12.9	6.4'	12 30.6	+41 39	75	SBcd			H I 198;disrupted;P w NGC 4485 @ 3.5'

NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
NGC 4618	IC 3667	Galaxy	CVN	10.8	13.5	4.2'	12 41.6	+41 09	75	SB			H I 178;P w NGC 4625 @ 8.3'
NGC 4631	UGC 7865	Galaxy	CVN	9.2	13.1	15.2'	12 42.1	+32 32	108	SBcd			H V 42;P w NGC 4627 @ 2.5' , edge on
NGC 4656	UGC 7907	Galaxy	CVN	10.5	14.5	15.3'	12 44.0	+32 10	108	SB			H I 176; NGC 4657 superimposed
NGC 4800	UGC 8035	Galaxy	CVN	11.5	12	1.6'	12 54.6	+46 32	75	Sb			H I 211
NGC 5005	UGC 8256	Galaxy	CVN	9.8	12.7	5.8'	13 10.9	+37 03	109	SBbc			H I 96;P w NGC 5033;eBN in B lens;sev knotty arms
NGC 5033	UGC 8307	Galaxy	CVN	10.2	14.4	9.8'	13 13.5	+36 36	109	Sc			P w NGC 5005;svBN in B bulge w spir patt of dk lanes
NGC 5273	UGC 8675	Galaxy	CVN	11.6	13.6	2.7'	13 42.1	+35 39	110	SO			H I 98;P w NGC 5276;diff Nuc w 2 weak dark patches
NGC 5350	UGC 8810	Galaxy	CVN	11.3	13.3	3.2'	13 53.4	+40 22	76	SBbc			H II 713;NGC 5353 at 5';vsvBN in B bar;2 knotty arms
NGC 5353	UGC 8813	Galaxy	CVN	11	11.8	2.8'	13 53.4	+40 17	76	SO			P w NGC 5354 at 1.3' n;vsBN;lens: diamond shaped
NGC 5354	UGC 8814	Galaxy	CVN	11.4	11.9	2.2'	13 53.4	+40 18	76	SO			H II 715;similar to N 1316;P w NGC 5353 contact
NGC 5371	NGC 5390	Galaxy	CVN	10.6	13.4	4.2'	13 55.7	+40 28	76	SBbc			vsB diff N;weak bar;sev knotty filam reg arms
M 29	NGC 6913	Opn CL	CYG	6.6	11	7'	20 23.9	+38 32	120	III 3 p n	50	8.6	About 20 stars mags 8...
M 39	NGC 7092	Opn CL	CYG	4.6	11	32'	21 32.2	+48 26	86	III 2 p	30	6.8	Large but loose cluster
NGC 6819	OCL 155	Opn CL	CYG	7.3	-	5'	19 41.3	+40 11	84	I 1 r		11.5	150 stars mags 11-16
NGC 6826	PK 83+12.1	Pln Neb	CYG	8.8	6.9	27"	19 44.8	+50 32	55	3a(2)		10.7	<b>Blinking Planetary</b> ;H IV 73;PK83+12.1
NGC 6834	OCL 134	Opn CL	CYG	7.8	-	5'	19 52.2	+29 24	119	II 2 m	50	9.6	H VIII 16
NGC 6857	Sh2-100	Brn Neb	CYG	11.4	-	0.8'	20 02.8	+33 31	119	E		14.3	oval; not planetary; Sharpless 2-100 is brightcore
NGC 6866	OCL 183	Opn CL	CYG	7.6	-	7'	20 03.9	+44 10	84	II 2 m	80	10.7	H VII 59;50* mags 10...
NGC 6888	LBN 203	Brn Neb	CYG	10	-	20'	20 12.8	+38 19	119	E			<b>Crescent Neb</b> ;Wolf-Rayet * invl
NGC 6910	OCL 181	Opn CL	CYG	7.4	-	8'	20 23.2	+40 47	84	I 2 p n	50	9.6	H VIII 56; <b>In Gamma Cyg nebula</b> and Cyg OB9
NGC 6960	LBN 191	SN Rem	CYG	7	-	210'	20 45.7	+30 43	120				<b>Veil Nebula</b> western part;* 52 CYG invl
NGC 6974	SG 3.202	SN Rem	CYG	-	-		20 51.1	+31 50	120				<b>part of Veil</b>
NGC 6979		Brn Neb	CYG	-	-	3'	20 51.0	+32 08	120	E			H II 206; <b>Portion of Veil Neb</b> between two arcs
NGC 6992	CED 182B	SN Rem	CYG	7	-	60'	20 56.4	+31 43	120	R			<b>Veil Nebula</b> eastern part
NGC 6995	CED 182C	SN Rem	CYG	7	-	12'	20 57.1	+31 13	120	R			part of veil
NGC 7000	LBN 373	Brn Neb	CYG	4	-	120'	21 01.8	+44 12	85	E			<b>North America nebula</b> ;Cl NGC 6997 invl
NGC 7008	PK 93+5.2	Pln Neb	CYG	12	11.8	86"	21 00.5	+54 33	56	3		13.9	H I 192
NGC 7026	PK 89+0.1	Pln Neb	CYG	12	8.5	25"	21 06.3	+47 51	85	3a		14	double at high power
NGC 7027	PK 84-3.1	Pln Neb	CYG	9.6	-	18"	21 07.0	+42 14	85	3a		16.5	bizarre spectrum
NGC 7044	OCL 198	Opn CL	CYG	12	-	6'	21 12.9	+42 29	86	II 2 R		15	H VI 24
NGC 7062	OCL 205	Opn CL	CYG	8.3	-	7'	21 23.5	+46 23	86	III 1 p	30	10.1	H VII 51
NGC 7086	OCL 214	Opn CL	CYG	8.4	-	9'	21 30.5	+51 36	57	II 2 m	50	10.2	H VI 32
NGC 7128	OCL 218	Opn CL	CYG	9.7	-	3.1'	21 44.0	+53 43	57	II 3 m	35	11.5	H VII 40
IC 5067	IC 5070; LBN	Brn Neb	CYG	8	-	60'	20 50.8	+44 21	85	E			<b>Pelican Nebula</b> ;w IC 5067;56 Cyg invl
IC 5146	OCL 213	CL+Neb	CYG	10	-	20'	21 53.4	+47 16	86	IV 2 p n	20	9.6	<b>Cocoon neb</b> ;at end of dark streamer B168
NGC 6905	PK 61-9.1;H	Pln Neb	DEL	12	10	44"	20 22.4	+20 06	163	3(3)		14	<b>Blue Flash Nebula</b>
NGC 6934	GCL 117	Glob CL	DEL	8.9	-	7'	20 34.2	+07 24	209	VIII			H I 103;*10m 2' west
NGC 7006	GCL 119	Glob CL	DEL	10.6	-	2.8'	21 01.5	+16 11	209	I			H I 52;Stars eF;very remote globular
NGC 1549	ESO 157-16	Galaxy	DOR	9.8	13	4.4'	04 15.8	-55 36	420	EO			P w NGC 1553
NGC 1566	ESO 157-20	Galaxy	DOR	9.7	13.9	8.2'	04 20.0	-54 56	420	SBbc			
NGC 1672	ESO 118-43	Galaxy	DOR	9.7	13.4	6.7'	04 45.7	-59 15	421	SBb			
M 102	NGC 5866	Galaxy	DRA	9.9	12.2	6.5'	15 06.5	+55 46	50	Sa			vBN w dk lane and ansae;NGC 5867 small E neb;
NGC 3147	UGC 5532	Galaxy	DRA	10.6	13.3	4.3'	10 16.9	+73 24	8	Sbc			H I 79;vBN;many filam. narrow arms in lens
NGC 4125	UGC 7118	Galaxy	DRA	9.7	12.9	6'	12 08.1	+65 10	25	Elliptical			
NGC 4236	UGC 7306	Galaxy	DRA	9.6	15	22.6'	12 16.7	+69 28	25	SBd			H V 51;P w Ho 357b @ 9';L:F spiral structure
NGC 5907	NGC 5906	Galaxy	DRA	10.3	13.3	11.8'	15 15.9	+56 20	50	Sc			vs bulge nearly hidden by strong dk lane; SN 1940a
NGC 5982	UGC 9961	Galaxy	DRA	11.1	12.9	3'	15 38.7	+59 21	51	E3p			H II 764;vBN;NGC 5985 at 6.2';PA290
NGC 6503	UGC 11012	Galaxy	DRA	10.2	13.1	7'	17 49.5	+70 09	30	Sc			
NGC 6543	PK 96+29.1	Pln Neb	DRA	8.3	5	22"	17 58.6	+66 38	30	3a(2)		11.3	<b>Cat's Eye Nebula</b> ;H IV 37;PK96+29.1
NGC 1084	MCG - 1- 8-	Galaxy	ERI	10.7	12.5	3.5'	02 46.0	-07 35	265	Sc			H I 64
NGC 1232	ESO 547-14	Galaxy	ERI	9.9	13.9	7.1'	03 09.8	-20 35	311	Sc			H II 258;Excellent face-on spiral
NGC 1291	NGC 1269	Galaxy	ERI	8.5	13.1	9.7'	03 17.3	-41 06	390	SBO-a F			comp 2;2';PA138;UGC 2666
NGC 1300	ESO 547-31	Galaxy	ERI	10.4	13.8	5.9'	03 19.7	-19 25	311	SBbc			
NGC 1325	ESO 548- 7	Galaxy	ERI	11.5	13.6	4.8'	03 24.4	-21 33	311	SBbc			H IV 77
NGC 1332	ESO 548-18	Galaxy	ERI	10.3	12.2	4'	03 26.3	-21 20	311	E7			H I 60
NGC 1407	ESO 548-67	Galaxy	ERI	9.7	12.9	4.9'	03 40.2	-18 35	312	EO			H I 107
NGC 1532	ESO 359-27	Galaxy	ERI	9.9	13.8	11.6'	04 12.1	-32 52	356	SBb			NGC 1531 np 2';Nearly edge-on
NGC 1535	PK 206-40.1	Pln Neb	ERI	9.4	7.2	20"	04 14.3	-12 44	268	4(2c)		12.1	H IV 26;PK206-40.1
NGC 1909	IC 2118	Brn Neb	ERI	-	-	180'	05 04.5	-07 16	270	R			<b>Witchhead nebula</b> ; Rigel may be illuminator
NGC 986	ESO 299- 7	Galaxy	FOR	10.9	13.4	4'	02 33.6	-39 03	389	SBab			
NGC 1097	ESO 416-20	Galaxy	FOR	9.5	13.8	9.4'	02 46.3	-30 17	354	SBb			H V 48

650 selected DSO List (sorted by constellation - name)

NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
NGC 1316	ESO 357-22	Galaxy	FOR	8.5	13.4	11.2'	03 22.7	-37 13	355	SBO			Fornax Galaxy Cluster member
NGC 1360	PK 220-53.1	Pln Neb	FOR	9.4	13.7	360"	03 33.2	-25 52	312	3		11.3	
NGC 1365	ESO 358-17	Galaxy	FOR	9.6	14.1	11'	03 33.6	-36 08	355	SBb			Best example of barred spiral;Fornax Gal Cl member
NGC 1374	ESO 358-23	Galaxy	FOR	11.1	12.9	2.7'	03 35.3	-35 14	355	E0			Fornax Galaxy Cluster member
NGC 1380	ESO 358-33	Galaxy	FOR	12.4	12.8	2.4'	03 36.8	-34 44	355	SO			
NGC 1398	ESO 482-22	Galaxy	FOR	9.7	13.5	7.2'	03 38.9	-26 20	312	SBab			
NGC 1399	ESO 358-45	Galaxy	FOR	9.6	13.7	6.6'	03 38.5	-35 27	355	E1p			Fornax Galaxy Cluster member
M 35	NGC 2168	Opn CL	GEM	5.1	12	28'	06 08.9	+24 21	137	III 2 m	200	8.2	Lord Rosse counted 300*;Orange * invl;NGC 2158 30' SW
NGC 2129	OCL 467	Opn CL	GEM	6.7	-	7'	06 00.7	+23 19	136	III 3 p	40	7.4	H VIII 26
NGC 2158	OCL 468	Opn CL	GEM	8.6	-	5'	06 07.4	+24 06	136	II 3 r		12.4	H VI 17;150 F* on edge of M 35
NGC 2266	OCL 471	Opn CL	GEM	9.5	-	7'	06 43.3	+26 58	138	II 2 m	50	11	H VI 21
NGC 2304	OCL 484	Opn CL	GEM	10	-	5'	06 55.2	+17 59	138	II 1 p	30		H VI 2
NGC 2355	NGC 2356	Opn CL	GEM	9.7	-	9'	07 17.0	+13 45	184	II 2 p	40	13	H VI 6
NGC 2371	NGC 2372	Pln Neb	GEM	11.2	10.5	74"	07 25.6	+29 29	100	3a+6		14.9	faint double-lobed planetary;use filter;PK189+19.1
NGC 2372	NGC 2371	Pln Neb	GEM	11.2	10.5	74"	07 25.6	+29 30	100	3a(4)		14.8	faint double-lobed planetary;use filter;PK189+19.1
NGC 2392	PK 197+17.1	Pln Neb	GEM	8.6	6.8	47"	07 29.2	+20 55	139	3b(3b)		10.6	Clown Face or Eskimo Nebula.;1;sev shells
NGC 2395	OCL 502	Opn CL	GEM	8	-	12'	07 27.2	+13 37	184	III 1 p	30	10	H VIII 11
NGC 2420	OCL 488	Opn CL	GEM	8.3	-	10'	07 38.4	+21 34	139	I 2 r	100	11.1	H VI 1
NGC 7424	ESO 346-19	Galaxy	GRU	10.5	15.1	10'	22 57.3	-41 04	415	SBc			face on
NGC 7582	ESO 291-16	Galaxy	GRU	10.6	13	5'	23 18.4	-42 22	415	SBab			Group w NGC 7590 & 7599
M 13	NGC 6205	Glob CL	HER	5.8	12	23.2'	16 41.7	+36 28	114	V			Hercules cluster;Messier said nebula, no stars
M 92	NGC 6341	Glob CL	HER	6.5	11	11.2'	17 17.1	+43 08	81	IV			Lord Rosse saw spiral structure
NGC 6207	UGC 10521	Galaxy	HER	11.6	12.9	3'	16 43.1	+36 50	114	Sc			H II 701;No def nucleus;B * nr center;30' NE from M 13
NGC 6210	PK 43+37.1	Pln Neb	HER	9.7	5.9	20"	16 44.5	+23 48	156	2(3b)		12.5	
NGC 6229	GCL 47	Glob CL	HER	9.4	-	3.8'	16 47.0	+47 32	80	IV			H IV 50;Wm.
NGC 1261	GCL 5	Glob CL	HOR	8.4	-	6.9'	03 12.3	-55 13	419	II			
NGC 1433	ESO 249-14	Galaxy	HOR	9.9	13.7	6.1'	03 42.0	-47 13	391	SBa			
M 48	NGC 2548	Opn CL	HYA	5.8	13	54'	08 13.7	-05 45	275	I 2 m	80	8.2	Messier wrong position by 4 deg in dec;50* 9-13mag;
M 68	NGC 4590	Glob CL	HYA	7.3	13	9.8'	12 39.5	-26 45	329	X			
M 83	NGC 5236	Galaxy	HYA	7.5	12.8	13.1'	13 37.0	-29 52	370	SBc			Fast SupNova producer-4 in 50 yrs
NGC 2784	ESO 497-23	Galaxy	HYA	10.2	12.8	5.7'	09 12.3	-24 10	322	SO			H I 59
NGC 2811	MCG - 3-24-	Galaxy	HYA	11.3	12	2.2'	09 16.2	-16 19	277	SBa			H II 502
NGC 2835	ESO 564-35	Galaxy	HYA	10.5	14	6.3'	09 17.9	-22 21	322	SBc			Fine multi arm spiral
NGC 3109	ESO 499-36	Galaxy	HYA	9.9	14.4	19.7'	10 03.1	-26 10	324	Ir			
NGC 3242	PK 261+32.1	Pln Neb	HYA	8.6	5.4	40"	10 24.8	-18 39	325	4(3b)		12.3	Ghost of Jupiter ; H IV 27
NGC 3621	ESO 377-37	Galaxy	HYA	9.7	14.4	12.4'	11 18.3	-32 49	367	SBcd			H I 241
NGC 3717	ESO 439-15	Galaxy	HYA	11.2	13.1	6.2'	11 31.5	-30 19	367	Sb			Nearly edge-on
NGC 3923	ESO 440-17	Galaxy	HYA	9.8	13.2	6.6'	11 51.0	-28 48	368	Elliptical			H I 259
NGC 4105	ESO 440-54	Galaxy	HYA	10.6	12.5	2.8'	12 06.7	-29 46	368	Elliptical			H II 865;Interacting P w NGC 4106
NGC 5078	ESO 508-48	Galaxy	HYA	11	13	19.5'	13 19.8	-27 25	330	Sa			H II 566;Dust lane;Nearly edge-on
NGC 5694	GCL 29	Glob CL	HYA	10.2	-	3.6'	14 39.6	-26 32	332	VII			H II 196;Rich w eF stars;distant globular
NGC 7090	ESO 188-12	Galaxy	IND	10.7	13	7.3'	21 36.5	-54 33	438	SBc			
NGC 7209	OCL 215	Opn CL	LAC	7.7	-	25'	22 05.1	+46 29	87	III 1 p	25	9	H VII 53
NGC 7243	OCL 221	Opn CL	LAC	6.4	-	21'	22 15.1	+49 54	87	IV 2 p	40	8.5	H VIII 75;Incl Struve 2890 D*
NGC 7296	OCL 228	Opn CL	LAC	9.7	-	4'	22 28.2	+52 17	57	III 2 p	20	10	H VII 41
M 65	NGC 3623	Galaxy	LEO	9.3	12.8	9'	11 18.9	+13 05	191	SBa			M66 subgroup , part of leo's trio
M 66	NGC 3627	Galaxy	LEO	8.9	12.7	9.1'	11 20.2	+13 00	191	SBb			brightest in group;M 65 & NGC 3628 in field
M 95	NGC 3351	Galaxy	LEO	9.7	13.5	7.3'	10 44.0	+11 42	190	SBb			Leo group
M 96	NGC 3368	Galaxy	LEO	9.3	13.1	7.8'	10 46.8	+11 49	190	SBab Ri			comp @ 3.8';PA 205
M 105	NGC 3379	Galaxy	LEO	9.3	12.8	5.3'	10 47.8	+12 35	190	E1			P w NGC 3384 @ 7.2';NGC 3389 @ 10 ' ;Leo Group
NGC 2903	UGC 5079	Galaxy	LEO	9	13.6	12'	09 32.2	+21 30	143	SBbc			H I 56;short B nucleus bar;fine multi arm spiral
NGC 2964	UGC 5183	Galaxy	LEO	11.3	12.8	3'	09 42.9	+31 51	104	SBbc Ri			H I 114;v faint bar;2 mn. knotty arms; Mrk 404 in disc
NGC 3190	UGC 5559	Galaxy	LEO	11.1	13.1	4'	10 18.1	+21 50	144	Sa			H II 44;bright in arp;disturbed edge-on spiral;P w 3187
NGC 3193	UGC 5562	Galaxy	LEO	10.9	13.1	2.9'	10 18.4	+21 54	144	E0			H II 45;NGC 3189-90 group;vB center in smooth nebula
NGC 3226	UGC 5617	Galaxy	LEO	11.4	13.8	2.5'	10 23.4	+19 54	144	Elliptical			H II 28;P w NGC 3227 at 2.3' sf;UGC 5617
NGC 3227	UGC 5620	Galaxy	LEO	10.3	13.4	6.6'	10 23.5	+19 52	144	SBa			P w NGC 3226;vF env surr system;50' E of Gam Leo
NGC 3377	UGC 5899	Galaxy	LEO	10.4	13.4	4.3'	10 47.7	+13 59	190	Elliptical			H II 99;Leo group
NGC 3384	NGC 3371	Galaxy	LEO	9.9	12.6	5.4'	10 48.3	+12 38	190	E7			Leo group;in triple group w NGC 3379 and NGC 3389
NGC 3412	UGC 5952	Galaxy	LEO	10.5	12.6	3.7'	10 50.9	+13 25	190	SBO			H I 27;Leo group
NGC 3489	UGC 6082	Galaxy	LEO	10.3	12.3	3.6'	11 00.3	+13 54	191	SBO-a			H II 101;Leo group
NGC 3521	UGC 6150	Galaxy	LEO	9	13.2	11.2'	11 05.8	-00 02	236	SBbc			H I 13

## 650 selected DSO List (sorted by constellation - name)

NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
<b>NGC 3593</b>	UGC 6272	Galaxy	LEO	10.9	13.3	4.9'	11 14.6	+12 49	191	Sa			H I 29;in NGC 3607 group;BN w L bulge and dk lane
<b>NGC 3607</b>	UGC 6297	Galaxy	LEO	9.9	12.5	4.6'	11 16.9	+18 03	146	E-SO			H II 50;brightest in group;P w NGC 3608 at 6.2';PA10
<b>NGC 3608</b>	UGC 6299	Galaxy	LEO	10.8	13	3.5'	11 17.0	+18 09	146	Elliptical			H II 51;NGC 3607 group;comp 5.9';PA251;0.8'X0.3'
<b>NGC 3626</b>	NGC 3632	Galaxy	LEO	11	12.6	3.2'	11 20.1	+18 21	146	Sa			Indense part of clust;nearest comp 2' PA73 .5'X0.4'
<b>NGC 3628</b>	UGC 6350	Galaxy	LEO	9.5	13.4	13.1'	11 20.3	+13 35	191	Sb			H V 8; <b>Leo's Trio</b> part;disturbed , dust line
<b>NGC 3640</b>	UGC 6368	Galaxy	LEO	10.4	13.2	4.5'	11 21.1	+03 14	236	Elliptical			H II 33;P w NGC 3641 at 2.5';PA170
<b>NGC 3655</b>	UGC 6396	Galaxy	LEO	11.6	12	1.5'	11 22.9	+16 35	191	Sc			H I 5
<b>NGC 3686</b>	UGC 6460	Galaxy	LEO	11.3	13.4	3.1'	11 27.7	+17 13	146	SBbc			H II 160=H III 28
<b>NGC 3810</b>	UGC 6644	Galaxy	LEO	10.8	13.4	4.1'	11 41.0	+11 28	192	Sc			H I 21
<b>NGC 3900</b>	UGC 6786	Galaxy	LEO	11.4	13	3.5'	11 49.2	+27 01	147	Sa Ring			H I 82
<b>NGC 3912</b>	NGC 3899	Galaxy	LEO	12.4	12.6	1.5'	11 50.1	+26 29	147	SBb			H II 342
<b>M 79</b>	NGC 1904	Glob CL	LEP	7.7	12	7.8'	05 24.2	-24 31	315	V			Stars vF
<b>NGC 1964</b>	ESO 554-10	Galaxy	LEP	10.8	13.4	5.5'	05 33.4	-21 57	315	SBb			H IV 21
<b>NGC 5897</b>	GCL 33	Glob CL	LIB	8.4	-	8.7'	15 17.4	-21 01	334	XI			H VI 19
<b>NGC 2859</b>	UGC 5001	Galaxy	LMI	10.9	13.8	4'	09 24.3	+34 31	103	SBO-a F			H I 137;bright nucleus in diff. bar w diff. blobs
<b>NGC 3245</b>	UGC 5663	Galaxy	LMI	10.8	12.6	3.5'	10 27.3	+28 30	105	SO			H I 86
<b>NGC 3277</b>	UGC 5731	Galaxy	LMI	11.7	12.9	2.1'	10 32.9	+28 31	105	Sab			H II 359
<b>NGC 3294</b>	UGC 5753	Galaxy	LMI	11.8	13.7	3.4'	10 36.3	+37 19	105	Sc			H I 164
<b>NGC 3344</b>	UGC 5840	Galaxy	LMI	9.9	13.9	7.1'	10 43.5	+24 55	145	SBbc Ri			H I 81
<b>NGC 3395</b>	UGC 5931	Galaxy	LMI	12.1	12.9	1.7'	10 49.8	+32 59	105	SBc			H I 116;P w NGC 3396;contact disrupted;brightest of 7
<b>NGC 3414</b>	UGC 5959	Galaxy	LMI	11	13.3	3.6'	10 51.3	+27 58	145	SBO			H II 362;P w NGC 3418 at 8';UGC 5959
<b>NGC 3432</b>	UGC 5986	Galaxy	LMI	11.3	13.6	6.6'	10 52.5	+36 37	105	SB			H I 172;P w UGC 5983;maq 17;1.2'X1 '
<b>NGC 3486</b>	UGC 6079	Galaxy	LMI	10.5	14.3	6.8'	11 00.4	+28 59	106	SBc			H I 87
<b>NGC 3504</b>	UGC 6118	Galaxy	LMI	11	12.8	2.7'	11 03.2	+27 58	146	SBab Ri			P w NGC 3512 at 12 ' ;PA72;comp 4 ' ;PA55;0.4'X0.1'
<b>NGC 5643</b>	ESO 272-16	Galaxy	LUP	10	13	4.7'	14 32.7	-44 11	404	SBc			
<b>NGC 5822</b>	OCL 937	Opn CL	LUP	6.5	-	40'	15 04.4	-54 24	431	II 1 r	150	10	
<b>NGC 5824</b>	NGC 5834	Glob CL	LUP	9.1	-	6.2'	15 04.0	-33 04	373	I			
<b>NGC 5927</b>	GCL 35	Glob CL	LUP	8	-	12'	15 28.0	-50 40	431	VIII			
<b>NGC 5986</b>	Dunlop 552	Glob CL	LUP	7.6	-	9.8'	15 46.1	-37 47	374	VII			
<b>IC 4406</b>	PK 319+15.1	Pln Neb	LUP	11	9.1	46"	14 22.4	-44 09	404	4(3)		17.4	Annular;N2-- Stellar ?;pB diffused disk 20"--Hartung
<b>NGC 2419</b>	GCL 12	Glob CL	LYN	10.4	-	6.2'	07 38.1	+38 53	100	II			H I 218;Most distant globular;Brightest * 17 mag
<b>NGC 2683</b>	UGC 4641	Galaxy	LYN	9.8	12.9	8.8'	08 52.7	+33 25	102	Sb			peanut-shaped bulge;many filam; arm w dk lanes 1 side
<b>NGC 2782</b>	UGC 4862	Galaxy	LYN	11.6	13.9	3.7'	09 14.1	+40 07	71	SBa			broad bar w strong dk. lane;asym smooth arms dk lane
<b>M 56</b>	NGC 6779	Glob CL	LYR	8.3	12	5'	19 16.6	+30 11	118	X			Stars 11...
<b>M 57</b>	NGC 6720	Pln Neb	LYR	9.4	9.3	86"	18 53.6	+33 02	117	4(3)		15.8	<b>Ring Nebula</b> ;central* var 14 to 16 mag;PK63+13.1
<b>NGC 6791</b>	OCL 142	Opn CL	LYR	9.5	-	16'	19 20.7	+37 51	118	II 3 r	300	13	very rich
<b>M 50</b>	NGC 2323	Opn CL	MON	5.9	12	16'	07 02.5	-08 23	273	II 3 m	80	7.8	About 100 stars mags 9...14
<b>NGC 2185</b>	LBN 997	Brn Neb	MON	-	-	2'	06 11.0	-06 14	272	R			H IV 20
<b>NGC 2215</b>	OCL 550	Opn CL	MON	8.4	-	11'	06 20.8	-07 17	272	II 2 p	40	10.5	H VII 20
<b>NGC 2232</b>	OCL 545	Opn CL	MON	3.9	-	30'	06 28.0	-04 51	227	IV 3 p	20	5	H VIII 25
<b>NGC 2237</b>	OCL 511	CL+Neb	MON	5.5	-	80'	06 30.9	+05 03	227	E			<b>Rosette nebula</b>
<b>NGC 2238</b>	LBN 948	Brn Neb	MON	6	-	80'	06 30.7	+05 01	227	E			<b>Rosette nebula</b>
<b>NGC 2239</b>	NGC 2244	Opn CL	MON	4.8	-	24'	06 31.9	+04 57	227	II 3 p n	40		H VII 2;In Rosette nebula
<b>NGC 2245</b>	LBN 904	Brn Neb	MON	-	-	2'	06 32.7	+10 09	182	R			H IV 3
<b>NGC 2251</b>	OCL 499	Opn CL	MON	7.3	-	10'	06 34.6	+08 22	182	IV 2 p	30	9.1	H VIII 3
<b>NGC 2261</b>	LBN 920	Brn Neb	MON	-	-	2'	06 39.2	+08 45	182	E+R			<b>Hubble's variable nebula</b> (fan-shape);R Mon invl
<b>NGC 2264</b>	OCL 495	CL+Neb	MON	3.9	-	20'	06 41.0	+09 54	183	III 3 m n:	40	5	<b>Christmas Tree Cluster</b> ; Near Cone nebula
<b>NGC 2286</b>	OCL 548	Opn CL	MON	7.5	-	15'	06 47.7	-03 09	228	IV 3 m	50	9.7	H VIII 31
<b>NGC 2301</b>	OCL 540	Opn CL	MON	6	-	12'	06 51.8	+00 28	228	I 3 m	80	8	H VI 27;60* 8...:blue&gold D* near center
<b>NGC 2311</b>	OCL 553	Opn CL	MON	9.6	-	7'	06 57.8	-04 37	228	III 2 p	50	12	H VIII 60
<b>NGC 2324</b>	OCL 542	Opn CL	MON	8.4	-	8'	07 04.1	+01 03	228	II 2 r	70	10.4	H VII 38
<b>NGC 2335</b>	OCL 562	Opn CL	MON	7.2	-	12'	07 06.8	-10 02	273	III 3 m n	35	9.5	H VIII 32;In CMA OB1
<b>NGC 2343</b>	OCL 565	Opn CL	MON	6.7	-	7'	07 08.1	-10 37	273	III 3 p n	20	8.4	H VIII 33
<b>NGC 2346</b>	PK 215+3.1	Pln Neb	MON	12.5	11.5	60"	07 09.4	-00 48	228	3b(6)		11.3	H IV 65;PK215+3.1; cent* V651 Mon a variable star
<b>NGC 2353</b>	OCL 567	Opn CL	MON	7.1	-	20'	07 14.5	-10 16	274	II 2 p	30	9.2	H VIII 34;In CMA OB1
<b>NGC 2506</b>	OCL 593	Opn CL	MON	7.6	-	7'	08 00.0	-10 46	275	I 2 r	150	10.8	H VI 37
<b>NGC 5946</b>	IC 4550	Glob CL	NOR	8.4	-	7.1'	15 35.5	-50 40	432	IX			
<b>NGC 6067</b>	OCL 953	Opn CL	NOR	5.6	-	13'	16 13.2	-54 13	432	I 2 r	100	8.3	Fine field
<b>NGC 6134</b>	OCL 968	Opn CL	NOR	7.2	-	7'	16 27.8	-49 09	407	II 3 m		9.3	
<b>M 9</b>	NGC 6333	Glob CL	OPH	7.9	11	5.5'	17 19.2	-18 31	337	VIII			Dark neb B64 prominent to west
<b>M 10</b>	NGC 6254	Glob CL	OPH	6.6	12	12.2'	16 57.1	-04 06	247	VII			Lord Rosse reported dark lane in cluster

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M 12	NGC 6218	Glob CL	OPH	6.1	12	14.5'	16 47.2	-01 57	246	IX			Somewhat loose structure
M 14	NGC 6402	Glob CL	OPH	7.6	12	6.7'	17 37.6	-03 15	248	VIII			Many vF stars 14...
M 19	NGC 6273	Glob CL	OPH	6.8	11	5.3'	17 02.6	-26 16	337	VIII			One of the most oblate globulars
M 62	NGC 6266	Glob CL	OPH	6.4	11	14.1'	17 01.2	-30 07	376	IV			Asymmetrical
M 107	NGC 6171	Glob CL	OPH	7.8	12	3.3'	16 32.5	-13 03	291	X			H VI 40
NGC 6235	GCL 48	Glob CL	OPH	8.9	-	1.9'	16 53.4	-22 11	337	X			H II 584
NGC 6284	GCL 53	Glob CL	OPH	9	-	2.7'	17 04.5	-24 46	337	IX			H VI 11
NGC 6287	GCL 54	Glob CL	OPH	9.2	-	2.7'	17 05.2	-22 42	337	VII			H II 195
NGC 6293	GCL 55	Glob CL	OPH	8.2	-	3.5'	17 10.2	-26 35	337	IV			H VI 12
NGC 6304	GCL 56	Glob CL	OPH	8.4	-	3.8'	17 14.5	-29 28	376	VI			H I 147
NGC 6309	PK 9+14.1	Pln Neb	OPH	11.6	8.6	20"	17 14.1	-12 55	292	3b(6)		16.3	<b>Box Nebula</b>
NGC 6316	GCL 57	Glob CL	OPH	8.1	-	4.9'	17 16.6	-28 08	376	III			H I 45
NGC 6342	GCL 61	Glob CL	OPH	9.5	-	3'	17 21.2	-19 35	338	IV			H I 149
NGC 6355	GCL 63	Glob CL	OPH	8.6	-	6.1'	17 24.0	-26 21	338				H I 46
NGC 6356	GCL 62	Glob CL	OPH	8.2	-	3.5'	17 23.6	-17 49	338	II			H I 48
NGC 6366	GCL 65	Glob CL	OPH	9.5	-	5.8'	17 27.7	-05 05	248	XI			
NGC 6369	PK 2+5.1;H I	Pln Neb	OPH	11	10.5	30"	17 29.3	-23 46	338	4(2)		15.1	<b>Little Ghost Nebula</b>
NGC 6401	GCL 73	Glob CL	OPH	7.4	-	1'	17 38.6	-23 55	338	IX			H I 44
NGC 6426	GCL 76	Glob CL	OPH	10.9	-	3.2'	17 44.9	+03 10	248	IX			H II 587
NGC 6517	GCL 81	Glob CL	OPH	10.3	-	1'	18 01.8	-08 58	294	IV			H II 199
NGC 6572	PK 34+11.1	Pln Neb	OPH	8	4.3	15"	18 12.1	+06 51	204	2a		12	
NGC 6633	OCL 90	Opn CL	OPH	4.6	-	27'	18 27.3	+06 31	205	III 2 m	30	7.6	H VIII 72
B 65-67	LDN 1772-3;	Drk Neb	OPH	--	--	12'	17 19.6	-26 42	338	6 lr			<b>Pipe nebula</b> (stem); 2 deg south of Theta Oph;
M 42	NGC 1976	CL+Neb	ORI	4	11	90'	05 35.3	-05 23	225	E+R			<b>Orion neb</b> Trapezium* 6.7-7.7m;>50 var* invl
M 43	NGC 1982	Brn Neb	ORI	7	13	20'	05 35.5	-05 16	225	E			H III 1 ?;detached <b>part of Orion Nebula</b>
M 78	NGC 2068	Brn Neb	ORI	8	12	8'	05 46.8	+00 05	226	E			Comet shaped;2 10mag * invl; 53" sep
NGC 1788	LBN 916	Brn Neb	ORI	-	-	5'	05 06.9	-03 20	225	R			H V 32; possible reflection nebula
NGC 1973	CED 55B	Brn Neb	ORI	7	-	5'	05 35.1	-04 44	225	E			
NGC 1980	OCL 529	CL+Neb	ORI	2.5	-	14'	05 35.4	-05 55	270	III 3 m n:			H V 31
NGC 1999	LBN 979	Brn Neb	ORI	-	-	2'	05 36.4	-06 43	271	E+R			H IV 33
NGC 2022	PK 196-10.1	Pln Neb	ORI	11.7	9.2	28"	05 42.1	+09 05	181	4(2)		15.8	small;faint and distinct w annular form;PK196-10.1
NGC 2024	CED 55P	Brn Neb	ORI	-	-	30'	05 41.7	-01 51	226	E			<b>Tank Track Neb; flame</b> , masked by Zeta Ori
NGC 2169	OCL 481	Opn CL	ORI	5.9	-	7'	06 08.4	+13 58	182	I 3 p n	30	6.9	H VIII 24;In nebula Ced 78
NGC 2175	OCL 476	CL+Neb	ORI	6.8	-	18'	06 09.6	+20 29	137	IV 3 p n	60	7.6	In Gem OB1?
NGC 2186	OCL 498	Opn CL	ORI	8.7	-	4'	06 12.1	+05 28	227	II 2 p	30	9.8	H VII 25
NGC 2194	OCL 495	Opn CL	ORI	8.5	-	10'	06 13.8	+12 48	182	III 1 r	80	12.1	H VI 5;faint;rich;look for 2169 nearby
IC 434	LBN 954	Brn Neb	ORI	11	-	90'	05 41.0	-02 27	226	E			<b>Contains Horsehead neb</b> (B33)
B 33	LDN 1630	Drk Neb	ORI	--	--	6'	05 40.9	-02 28	226	4 lr			<b>Horsehead nebula</b> ;part of dark following cloud
NGC 6752	Dunlop 295	Glob CL	PAV	5.4	-	20.4'	19 10.9	-59 59	435	VI			Fine cluster
M 15	NGC 7078	Glob CL	PEG	6.4	11	12.3'	21 30.0	+12 10	210	IV			Stars mags 13...
NGC 7217	UGC 11914	Galaxy	PEG	10.1	12.7	4'	22 07.9	+31 22	122	Sb			H II 207;vB diff Nuc .35'X0.27'many knotty arms
NGC 7320	UGC 12101	Galaxy	PEG	12.6	13.5	2.3'	22 36.1	+33 57	123	Scd			<b>Brightest in Stephan's Quintet</b>
NGC 7331	UGC 12113	Galaxy	PEG	9.5	13.3	10.2'	22 37.1	+34 25	123	SBc			Brightest in group of F obj;sev dark lanes
NGC 7448	UGC 12294	Galaxy	PEG	11.7	12.9	2.6'	23 00.1	+15 59	213	Sbc			H II 251;Brightest in group;UGC 12294;Arp 13
NGC 7479	UGC 12343	Galaxy	PEG	10.9	13.4	4'	23 04.9	+12 19	213	SBbc			H I 55;excellent barred spiral
NGC 7619	UGC 12523	Galaxy	PEG	11.1	12.9	2.8'	23 20.2	+08 12	214	Elliptical			H II 439;UGC 12523
NGC 7814	UGC 8	Galaxy	PEG	10.6	13.2	4.7'	00 03.2	+16 09	170	Sab			H II 240;Equatorial dust lane;Nearly edge-on
M 34	NGC 1039	Opn CL	PER	5.2	-	35'	02 42.1	+42 47	62	II 3 m	100	7.3	At least 80 true members;sev D* incl h1123 & O Stv 44
M 76	NGC 650/1	Pln Neb	PER	10.1	10.4	163"	01 42.3	+51 35	37	3(6)		17.6	<b>Little Dumbbell</b> or <b>Cork Nebula</b> ;PK130-10.1
NGC 869	OCL 350	Opn CL	PER	5.3	-	30'	02 19.1	+57 08	37	I 3 r	200	6.6	<b>h Per</b> ; H VI 33;in Per OB1;Double Cluster w NGC 884
NGC 884	OCL 353	Opn CL	PER	6.1	-	30'	02 22.5	+57 09	37	I 3 r	150	8.1	H VI 34;chi Per;in Per OB1;Double Cluster w NGC 869
NGC 1023	UGC 2154	Galaxy	PER	9.4	12.8	8.1'	02 40.4	+39 04	62	E7p			brtst in grp;more neb 10' E;lens shp F tuft on E tip
NGC 1245	OCL 389	Opn CL	PER	8.4	-	10'	03 14.7	+47 14	63	III 1 r	200	11.2	H VI 25
NGC 1275	3C84;UGC 2	Galaxy	PER	11.9	13.1	2.3'	03 19.8	+41 31	63	SO			Seyfert;brtst in Persus Cl;center obj in dense galaxy cl
NGC 1342	OCL 401	Opn CL	PER	6.7	-	14'	03 31.7	+37 22	94	III 3 p	40	8.8	H VIII 88
NGC 1444	OCL 394	Opn CL	PER	6.6	-	4'	03 49.4	+52 40	39	IV 1 p	37	6.8	H VIII 80;In Cam OB1?
NGC 1491	LBN 704	Brn Neb	PER	-	-	6'	04 03.2	+51 19	39	E			H I 258
NGC 1499	LBN 756	Brn Neb	PER	5	-	160'	04 03.2	+36 22	95	E			<b>California Nebula</b> ;0.6 deg from Xi Per
NGC 1513	OCL 398	Opn CL	PER	8.4	-	9'	04 09.9	+49 31	64	II 1 m	50	11.2	H VII 60
NGC 1528	OCL 397	Opn CL	PER	6.4	-	24'	04 15.3	+51 13	39	II 2 m	40	8.8	H VII 61;80 * mag 8...;1 deg NNW from b1 PER
NGC 1545	OCL 399	Opn CL	PER	6.2	-	18'	04 20.9	+50 15	39	II 2 p	20	7.1	H VIII 85

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<b>M 74</b>	NGC 628	Galaxy	PSC	9.4	14.2	10'	01 36.7	+15 47	173	Sc			Fine face on spiral
<b>NGC 488</b>	UGC 907	Galaxy	PSC	10.3	13.4	5.4'	01 21.8	+05 15	218	Sb Ring			delicate spiral pattern
<b>NGC 524</b>	UGC 968	Galaxy	PSC	10.3	12.3	3.2'	01 24.8	+09 32	173	Sa			H I 151
<b>M 46</b>	NGC 2437	Opn CL	PUP	6.1	13	27'	07 41.8	-14 49	274	III 2 m	100	8.7	PLNNB NGC 2438 on N edge;150 * 10-13 mag
<b>M 47</b>	NGC 2422	Opn CL	PUP	4.4	11	30'	07 36.6	-14 29	274	III 2 m	30	5.7	H VIII 38;Messier gave poor postion;Stv 1121,1120 invl
<b>M 93</b>	NGC 2447	Opn CL	PUP	6.2	12	22'	07 44.5	-23 51	320	IV 1 p	80	8.2	63 members to 13 mag;wedge shaped center
<b>NGC 2421</b>	OCL 626	Opn CL	PUP	8.3	-	10'	07 36.2	-20 37	319	I 2 m	70	10.4	H VII 67
<b>NGC 2423</b>	OCL 592	Opn CL	PUP	6.7	-	19'	07 37.1	-13 52	274	IV 2 m	40	9	H VII 28
<b>NGC 2438</b>	PK 231+4.2	Pln Neb	PUP	11	11.7	65"	07 41.8	-14 44	274	4(2)		17.5	H IV 39;PK231+4.2 , <b>inside M46</b>
<b>NGC 2439</b>	OCL 688	Opn CL	PUP	6.9	-	10'	07 40.8	-31 42	362	II 3 m	80	8.9	
<b>NGC 2440</b>	PK 234+2.1	Pln Neb	PUP	11.5	6.4	54"	07 41.9	-18 13	319	5(3)		17.5	almost starlike;irregular at high power;PK234+2.1
<b>NGC 2467</b>	OCL 668	CL+Neb	PUP	7.1	-	15'	07 52.5	-26 26	320	I 3 m n:b	50		Scattered stars 8..12 w vF haze of neb;in PUP OB1
<b>NGC 2477</b>	OCL 720	Opn CL	PUP	5.8	-	27'	07 52.2	-38 32	362	I 2 r :b	200	12	<b>300 *</b> to 12 mag;Shapley--richest of OPNCL
<b>NGC 2479</b>	OCL 623	Opn CL	PUP	9.6	-	7'	07 55.1	-17 42	320	III 1 m	45		H VII 58
<b>NGC 2482</b>	OCL 653	Opn CL	PUP	7.3	-	12'	07 55.2	-24 15	320	III 1 m	40	10	H VII 10
<b>NGC 2489</b>	OCL 690	Opn CL	PUP	7.9	-	8'	07 56.3	-30 04	362	II 2 m	45	11.1	H VII 23
<b>NGC 2509</b>	OCL 630	Opn CL	PUP	9.3	-	8'	08 00.8	-19 03	320	II 1 p	70		H VIII 1
<b>NGC 2527</b>	NGC 2520	Opn CL	PUP	6.5	-	22'	08 05.0	-28 09	362	III 1 p	40	8.6	H VIII 30
<b>NGC 2539</b>	OCL 611	Opn CL	PUP	6.5	-	22'	08 10.6	-12 49	275	II 1 m	50	9.1	Rich cluster;near M46 and M47;D* 19 Pup in field
<b>NGC 2567</b>	OCL 708	Opn CL	PUP	7.4	-	10'	08 18.5	-30 39	362	III 2 m	40	10.1	H VII 64
<b>NGC 2571</b>	OCL 701	Opn CL	PUP	7	-	13'	08 18.9	-29 45	362	IV 1 p	30	8.8	H VI 39
<b>NGC 2613</b>	ESO 495-18	Galaxy	PYX	10.3	12.9	7.1'	08 33.4	-22 58	321	Sb			1.2 deg W from D* Burnham 208;Nearly edge-on
<b>NGC 2627</b>	OCL 714	Opn CL	PYX	8.4	-	11'	08 37.2	-29 57	363	III 2 m	60	11	H VII 63
<b>NGC 55</b>	Dunlop 507	Galaxy	SCL	7.9	13.4	31.2'	00 14.9	-39 11	386	SBp			Sculptor Galaxy Group
<b>NGC 253</b>	ESO 474-29	Galaxy	SCL	7.2	12.7	26.4'	00 47.6	-25 18	306	SBc			<b>sculptor galaxy</b> , arms more defined by dust
<b>NGC 288</b>	ESO 474-SC	Glob CL	SCL	8.1	-	13.8'	00 52.8	-26 35	307	X			H VI 20;loose structured globular
<b>NGC 300</b>	ESO 295-20	Galaxy	SCL	8.1	14.3	19.3'	00 54.9	-37 41	351	Scd			Large S-shaped;loose structured spiral
<b>NGC 613</b>	ESO 413-11	Galaxy	SCL	10.1	13.3	5.2'	01 34.3	-29 25	352	SBbc			H I 281
<b>NGC 7793</b>	ESO 349-12	Galaxy	SCL	9.1	13.4	9.6'	23 57.8	-32 36	350	Scd			
<b>M 4</b>	NGC 6121	Glob CL	SCO	5.4	12	26.3'	16 23.6	-26 32	336	IX			Look for central bar structure
<b>M 6</b>	NGC 6405	Opn CL	SCO	4.2	10	20'	17 40.3	-32 15	377	III 2 p	80	6.2	<b>Butterfly cluster</b> ;51 members to 10.5 mag incl var* BM 5
<b>M 7</b>	NGC 6475	Opn CL	SCO	3.3	12	80'	17 53.9	-34 48	377	II 2 r	80	5.6	80 members to 10th mag; <b>Ptolemy's cluster</b>
<b>M 80</b>	NGC 6093	Glob CL	SCO	7.3	11	5.1'	16 17.0	-22 59	336	II			Extremely rich and compressed
<b>NGC 6124</b>	Dunlop 514	Opn CL	SCO	5.8	-	29'	16 25.3	-40 39	407	II 3 m	100	8.7	
<b>NGC 6144</b>	GCL 42	Glob CL	SCO	9.1	-	6.2'	16 27.2	-26 01	336	XI			H VI 10
<b>NGC 6192</b>	OCL 988	Opn CL	SCO	8.5	-	9'	16 40.4	-43 22	407	I 2 p	60	11	
<b>NGC 6222</b>	NGC 6216	Opn CL	SCO	10	-	4'	16 49.4	-44 44	407				
<b>NGC 6231</b>	Dunlop 520	Opn CL	SCO	2.6	-	15'	16 54.2	-41 49	407	I 3 r n	93	4.7	<b>Table of Scorpius</b>
<b>NGC 6242</b>	OCL 1001	Opn CL	SCO	6.4	-	9'	16 55.6	-39 28	407	I 3 m		7.3	
<b>NGC 6259</b>	OCL 996	Opn CL	SCO	8	-	10'	17 00.8	-44 39	407	III 2 m	120	11.6	
<b>NGC 6281</b>	OCL 1003	Opn CL	SCO	5.4	-	200'	17 04.7	-37 59	376	II 2 p n		7.9	
<b>NGC 6302</b>	PK 349+1.1	Pln Neb	SCO	12.8	9	72"	17 13.7	-37 06	376	6		16.6	<b>Bug or Bipolar Nebula</b> ;flattened figure 8 shape
<b>NGC 6334</b>	ESO 392-EN	Brn Neb	SCO	-	-	120'	17 20.8	-36 06	376	E			<b>Bear's Claw nebula</b>
<b>NGC 6388</b>	GCL 70	Glob CL	SCO	6.8	-	8.7'	17 36.3	-44 44	408	III			
<b>NGC 6441</b>	GCL 78	Glob CL	SCO	7.4	-	7.8'	17 50.2	-37 03	377	III			
<b>NGC 6451</b>	OCL 1035	Opn CL	SCO	8.2	-	8'	17 50.7	-30 13	377	II 1 p n	80	12	<b>Tom Thumb cluster</b> H VI 13;Dark lane down center;
<b>NGC 6453</b>	GCL 79	Glob CL	SCO	10.2	-	3.5'	17 50.9	-34 36	377	IV			on edge on <b>M7</b>
<b>M 11</b>	NGC 6705	Opn CL	SCT	5.8	9	14'	18 51.1	-06 16	295	I 2 r	500	8	500 stars to 14th mag; <b>Wild duck cluster</b>
<b>M 26</b>	NGC 6694	Opn CL	SCT	8	12	15'	18 45.2	-09 24	295	I 1 m	30	10.3	Finderscope will show why Messier included it;70*,14 m
<b>NGC 6649</b>	OCL 66	Opn CL	SCT	8.9	-	6'	18 33.5	-10 24	295	II 2 m	50	11.6	With Cepheid V367 Sct & D* Struve 2325
<b>NGC 6664</b>	OCL 68	Opn CL	SCT	7.8	-	16'	18 36.6	-07 49	295	III 2 m	50	10.1	H VIII 12;Contains Cepheid variable EV Sct
<b>NGC 6712</b>	GCL 103	Glob CL	SCT	8.2	-	4.3'	18 53.1	-08 42	295	IX			H I 47
<b>M 5</b>	NGC 5904	Glob CL	SER	5.7	11	19.9'	15 18.6	+02 05	244	V			st mags 11....superb cluster
<b>M 16</b>	NGC 6611	CL+Neb	SER	6	12	7'	18 18.8	-13 47	294	II 3 m n:	60	11	<b>Star Queen or Eagle Nebula</b> ;stars mags 8...
<b>NGC 6118</b>	UGC 10350	Galaxy	SER	11.7	13.9	4.7'	16 21.8	-02 17	246	Sc			H II 402;Low surface brightness
<b>NGC 6535</b>	GCL 83	Glob CL	SER	9.3	-	1.3'	18 03.8	-00 18	249	XI			
<b>NGC 6539</b>	GCL 85	Glob CL	SER	8.9	-	2.5'	18 04.8	-07 35	294	X			In heavily obscured area
<b>NGC 2974</b>	MCG 0-25-	Galaxy	SEX	10.9	13	3.4'	09 42.6	-03 42	233	Sa			H I 61;bright nucleus;10m * @ 0.7'
<b>NGC 3115</b>	MCG - 1-26-	Galaxy	SEX	8.9	11.9	7.3'	10 05.2	-07 43	279	E6			<b>Spindle Galaxy</b> H I 163;
<b>NGC 3166</b>	UGC 5516	Galaxy	SEX	10.4	12.9	4.8'	10 13.8	+03 26	234	SBO-a			H I 3;brightest in group
<b>NGC 3169</b>	UGC 5525	Galaxy	SEX	10.2	12.8	4.2'	10 14.2	+03 28	234	Sa			H I 4;eF corona vis to approx 8X6;P w NGC 3166



## 650 selected DSO List (sorted by constellation - name)

NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
<b>M 71</b>	NGC 6838	Glob CL	SGE	8.3	12	6.1'	19 53.8	+18 47	162				Arrowhead shape; stars have few metals
<b>M 8</b>	NGC 6523	CL+Neb	SGR	5	13	45'	18 03.7	-24 23	339	E			<b>Lagoon Nebula</b> ;NGC 6530 invl;dark lane crosses
<b>M 17</b>	NGC 6618	CL+Neb	SGR	6	13	11'	18 20.8	-16 11	294	III 3 m n	40	9.3	<b>Omega nebula</b> ; <b>Swan Nebula</b> ;many F outer loops;use fil
<b>M 18</b>	NGC 6613	Opn CL	SGR	6.9	12	9'	18 19.9	-17 08	339	II 3 p n	20	8.6	12 * mag 9-10; 1 deg S of M17
<b>M 20</b>	NGC 6514	CL+Neb	SGR	6.3	13	28'	18 02.7	-22 58	339	E+*	67	6	<b>Trifid nebula</b> ;sev dark lanes;H IV 41 & V 10;D* HN 40 in
<b>M 21</b>	NGC 6531	Opn CL	SGR	5.9	11	13'	18 04.2	-22 29	339	I 3 m	70	7.3	In Sgr OB1;36 members to 12th mag
<b>M 22</b>	NGC 6656	Glob CL	SGR	5.2	11	24'	18 36.4	-23 54	340	VII			Stars mags 11...;one of finest globs
<b>M 23</b>	NGC 6494	Opn CL	SGR	5.5	13	27'	17 57.1	-18 59	339	III 1 m	150	9.2	100 members to 13th mag
<b>M 24</b>	IC 4715	Opn CL	SGR	3.1	4.3	95'	18 26.6	-18 23	339				<b>Small Sagittarius Star Cloud</b> ; dark neb , 6603 invl
<b>M 25</b>	IC 4725	Opn CL	SGR	4.6	12	29'	18 31.8	-19 07	340	I 2 p	30	6.7	Contains U Sgr;Stars mags 6...10
<b>M 28</b>	NGC 6626	Glob CL	SGR	6.9	11	15'	18 24.5	-24 52	340	IV			45' NW from Lambda Sgr;* mags 14...
<b>M 54</b>	NGC 6715	Glob CL	SGR	7.7	11	9.1'	18 55.1	-30 29	378	III			* mags 15...
<b>M 55</b>	NGC 6809	Glob CL	SGR	6.3	13	19'	19 40.0	-30 58	379	XI			* mags 15...
<b>M 69</b>	NGC 6637	Glob CL	SGR	7.7	11	7.1'	18 31.4	-32 21	378	V			
<b>M 70</b>	NGC 6681	Glob CL	SGR	7.8	11	7.8'	18 43.2	-32 18	378	V			Curved arc of stars to NE;* mags 14...
<b>M 75</b>	NGC 6864	Glob CL	SGR	8.6	11	6'	20 06.1	-21 55	343	I			* mags 17...
<b>NGC 6440</b>	GCL 77	Glob CL	SGR	9.3	-	1.7'	17 48.9	-20 22	338	V			H I 150;* eF
<b>NGC 6445</b>	PK 8+3.1;H I	Pln Neb	SGR	13	9.6	35"	17 49.3	-20 01	338	3b(3)		19	<b>Little Gem , crescent nebula</b>
<b>NGC 6520</b>	OCL 10	Opn CL	SGR	7.6	-	6'	18 03.4	-27 53	339	I 2 m n	60	9	H VII 7;Dark neb B86 on W edge
<b>NGC 6522</b>	GCL 82	Glob CL	SGR	9.9	-	5.6'	18 03.6	-30 02	377	VI			H I 49
<b>NGC 6528</b>	GCL 84	Glob CL	SGR	9.5	-	3.7'	18 04.8	-30 03	377	V			H II 200;* mags 16...;Gamma Sgr in field
<b>NGC 6544</b>	GCL 87	Glob CL	SGR	7.5	-	8.4'	18 07.3	-25 00	339	IX			H II 197
<b>NGC 6553</b>	GCL 88	Glob CL	SGR	8.3	-	3.2'	18 09.3	-25 54	339	XI			H IV 12;* mags 20...
<b>NGC 6568</b>	OCL 28	Opn CL	SGR	8.6	-	13'	18 12.8	-21 35	339	III 1 m	50		H VII 30
<b>NGC 6569</b>	GCL 91	Glob CL	SGR	8.4	-	5.8'	18 13.6	-31 50	377	VIII			H II 201;D* Burnham 1353 in field
<b>NGC 6583</b>	OCL 27	Opn CL	SGR	10	-	2.8'	18 15.8	-22 08	339	II 1 m	35		H VII 31
<b>NGC 6603</b>		Opn CL	SGR	11.1	-	5'	18 18.4	-18 24	339	I 1 r n	100	14	Within star cloud <b>Messier 24</b>
<b>NGC 6624</b>	GCL 93	Glob CL	SGR	7.6	-	5.9'	18 23.7	-30 22	378	VI			H I 50
<b>NGC 6629</b>	PK 9-5.1;H II	Pln Neb	SGR	10.5	8.2	16"	18 25.7	-23 12	340	2a		12.9	
<b>NGC 6638</b>	GCL 95	Glob CL	SGR	9.2	-	2.2'	18 30.9	-25 30	340	VI			H I 51
<b>NGC 6642</b>	GCL 97	Glob CL	SGR	8.8	-	0.8'	18 31.9	-23 29	340	IV			H II 205;* mags 15....
<b>NGC 6645</b>	OCL 48	Opn CL	SGR	8.5	-	10'	18 32.0	-16 53	295	III 1 m	40	12	H VI 23
<b>NGC 6652</b>	GCL 98	Glob CL	SGR	8.5	-	3.5'	18 35.8	-32 59	378	VI			
<b>NGC 6723</b>	Dunlop 573	Glob CL	SGR	6.8	-	11'	18 59.6	-36 38	378	VII			
<b>NGC 6818</b>	PK 25-17.1	Pln Neb	SGR	10	7	22"	19 44.0	-14 09	297	4		15	<b>Little Gem Nebula</b> ;PK25-17.1
<b>NGC 6822</b>	IC 4895	Galaxy	SGR	8.8	14.5	15.4'	19 44.9	-14 48	297	Ir+			<b>Barnard's Galaxy</b> ;IC 1308 =HII req; in Local Group
<b>B 86</b>	LDN 93	Drk Neb	SGR	--	--	4'	18 02.7	-27 50	339	5 Ir G			<b>Ink Spot Neb , On Sgr star cloud (see M24 img)</b>
<b>M 1</b>	NGC 1952	SN Rem	TAU	8.4	11	8'	05 34.5	+22 01	135				<b>Crab Nebula</b> ; filaments;pulsar 16m;3C144
<b>M 45</b>	Mel 22	CL+Neb	TAU	1.2	11	100'	03 47.0	+24 07	132	I 3 r n	100	2.9	<b>Pleiades</b> ;nebys NGC 1432 and 1435 involved
<b>NGC 1514</b>	PK 165-15.1	Pln Neb	TAU	10.8	12.6	120"	04 09.3	+30 47	95	3(2)		9.5	H IV 69;PK165-15.1
<b>NGC 1647</b>	OCL 457	Opn CL	TAU	6.4	-	45'	04 45.9	+19 06	134	II 2 m	200	8.6	H VIII 8
<b>NGC 1817</b>	OCL 463	Opn CL	TAU	7.7	-	16'	05 12.4	+16 41	180	III 1 m	60	11.2	H VII 4;50 * mags 10 to 14
<b>M 33</b>	NGC 598	Galaxy	TRI	5.7	14.2	68.7'	01 33.9	+30 39	91	Sc			<b>Pinwheel Galaxy</b> ;Local Group;H V 17
<b>NGC 672</b>	UGC 1256	Galaxy	TRI	10.9	13.9	7.5'	01 47.9	+27 26	128	SBc			H I 157;Brightest in group;coarse spiral . P w IC1727
<b>NGC 925</b>	UGC 1913	Galaxy	TRI	10.1	14.4	10.9'	02 27.3	+33 35	93	SBcd			H III 177;NGC 1023 group;coarse spiral
<b>M 40</b>	Winnecke 4	2 Stars	UMA	9	-		12 21.9	+58 06	47				D* 9 & 9.3 mag 50" sep; No nebulae
<b>M 81</b>	NGC 3031	Galaxy	UMA	6.9	13.2	24.9'	09 55.6	+69 04	23	Sb			brightest in group;fine spiral
<b>M 82</b>	NGC 3034	Galaxy	UMA	8.4	12.5	10.5'	09 55.9	+69 41	23	Sd			M81 group;eruptive;H IV 79
<b>M 97</b>	NGC 3587	Pln Neb	UMA	11	12.1	202"	11 14.8	+55 01	46	3a		14	<b>Owl Nebula</b> ;PK148+57.1
<b>M 101</b>	NGC 5457	Galaxy	UMA	7.9	14.9	28.5'	14 03.2	+54 21	49	SBc			P w NGC 5474;SN 1909;spir galax w one heavy arm;
<b>M 108</b>	NGC 3556	Galaxy	UMA	10	13.1	8.6'	11 11.5	+55 40	46	SBc			H V 46;M 97 is 48' SE;nearly edge-on
<b>M 109</b>	NGC 3992	Galaxy	UMA	9.8	13.6	7.5'	11 57.6	+53 22	47	SBbc			H IV 61;theta struc barred sp;Gamma UMa 40' NW
<b>NGC 2681</b>	UGC 4645	Galaxy	UMA	10.3	12.8	3.7'	08 53.5	+51 19	44	SBO-a			H I 242;Compact center and distinct spiral arms
<b>NGC 2742</b>	NGC 2816	Galaxy	UMA	11.4	13	3'	09 07.6	+60 29	44	Sc			H I 249;bright nucleus;several filamentary knotty arms
<b>NGC 2768</b>	UGC 4821	Galaxy	UMA	9.9	13.7	8.2'	09 11.6	+60 02	44	E5			vsvB center; smooth neb in lens and external envelope
<b>NGC 2787</b>	UGC 4914	Galaxy	UMA	10.8	12.6	3.1'	09 19.3	+69 12	23	SBO-a			H I 216;B nucl in B inner lens;strong narrow bar w blobs
<b>NGC 2841</b>	UGC 4966	Galaxy	UMA	9.2	12.7	7.7'	09 22.0	+50 59	44	Sb			H I 205;fine spiral w symmetrical whorls
<b>NGC 2950</b>	UGC 5176	Galaxy	UMA	10.9	12.5	2.7'	09 42.6	+58 51	45	SBO Rin			H IV 68
<b>NGC 2976</b>	UGC 5221	Galaxy	UMA	10.2	13	6.2'	09 47.2	+67 55	23	Scp			B main body;chaotic inner w many dk lane;F outer disc
<b>NGC 2985</b>	UGC 5253	Galaxy	UMA	10.4	13.3	4.6'	09 50.4	+72 17	23	Sb			diff BN;many poor res knotty arms; P w NGC 3027
<b>NGC 3077</b>	UGC 5398	Galaxy	UMA	9.9	13.1	5.2'	10 03.3	+68 44	23	Sd			m81 group;dust streamers tending to radial direction

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NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
NGC 3079	UGC 5387	Galaxy	UMA	10.9	13.4	8.1'	10 02.0	+55 41	45	SBc			H V 47;brightest of 3;comp 6.5 nf;0.9'X0.4';mag 14.6
NGC 3184	UGC 5557	Galaxy	UMA	9.8	13.9	7.6'	10 18.3	+41 25	72	SBc			svBN;smooth lens w spiral pattern of dark markings
NGC 3198	UGC 5572	Galaxy	UMA	10.3	13.8	8.1'	10 19.9	+45 33	72	SBc Ring			H I 199;svBN in bar partly obscured on one side
NGC 3310	UGC 5786	Galaxy	UMA	10.8	12.8	2.8'	10 38.8	+53 30	46	SBbc/P			H IV 60;UGC 5786
NGC 3359	UGC 5873	Galaxy	UMA	10.6	14.2	7.5'	10 46.6	+63 13	24	SBc			H V 52
NGC 3610	UGC 6319	Galaxy	UMA	10.8	12.8	2.5'	11 18.4	+58 47	46	Elliptical			H I 270;comp 3.7';PA232;0.25'X0.25'
NGC 3613	UGC 6323	Galaxy	UMA	10.9	13	3.6'	11 18.6	+58 00	46	Elliptical			H I 271;P w NGC 3619 at 15.7' PA158
NGC 3619	UGC 6330	Galaxy	UMA	11.5	13.4	3.5'	11 19.4	+57 45	46	Sa			H I 244;P w NGC 3613 @ 15'
NGC 3631	UGC 6360	Galaxy	UMA	10.4	13.7	5'	11 21.0	+53 10	46	Sc			H I 226;SN 1964a;UGC 6360;Arp 27
NGC 3665	UGC 6426	Galaxy	UMA	10.8	12.4	3.5'	11 24.7	+38 46	106	SO			H I 219;P w NGC 3658
NGC 3675	UGC 6439	Galaxy	UMA	10.2	13.2	6.2'	11 26.1	+43 35	73	Sb			H I 194;in field of 56 UMa
NGC 3718	UGC 6524	Galaxy	UMA	10.8	14.4	8.2'	11 32.6	+53 04	47	SBap			P w NGC 3729 at 11.5'ENE;cent dust lane sprl arms
NGC 3726	UGC 6537	Galaxy	UMA	10.4	13.8	6'	11 33.3	+47 02	73	SBc Ring			H II 730;well defined spiral pattern
NGC 3729	UGC 6547	Galaxy	UMA	11.4	13.1	2.9'	11 33.8	+53 08	47	SB/P			H I 222;in field w NGC 3718
NGC 3813	UGC 6651	Galaxy	UMA	11.6	12.5	2'	11 41.3	+36 33	107	Sb			H I 94
NGC 3877	UGC 6745	Galaxy	UMA	11	13	5.3'	11 46.1	+47 30	74	Sc			H I 201;edge on spiral;16' south from Chi UMa
NGC 3893	UGC 6778	Galaxy	UMA	10.5	13	4.5'	11 48.6	+48 43	74	SBc			H II 738;P w NGC 3896 at 3.9';PA125
NGC 3898	UGC 6787	Galaxy	UMA	10.7	13.2	3.8'	11 49.3	+56 05	47	Sab			H I 228;comp 5 ' ;PA60;0.7'X0.12';NGC 3888 15' south
NGC 3938	UGC 6856	Galaxy	UMA	10.4	13.8	5.1'	11 52.8	+44 07	74	Sc			H I 203;Fine face on spiral
NGC 3941	UGC 6857	Galaxy	UMA	10.3	12.5	3.5'	11 52.9	+36 59	107	SBO			H I 173
NGC 3945	UGC 6860	Galaxy	UMA	10.9	13.9	6.4'	11 53.2	+60 40	47	SBO-a F			H I 251
NGC 3949	UGC 6869	Galaxy	UMA	11.1	12.6	2.9'	11 53.7	+47 52	74	Sbc			H I 202;comp 4.4';PA273;0.3'X0.1'
NGC 3953	UGC 6870	Galaxy	UMA	10.1	13.4	6.9'	11 53.8	+52 19	47	SBbc			H V 45;comps 3.9';PA190;0.3'X0.1';4.6';PA156;0.4'X0.4'
NGC 3982	UGC 6918	Galaxy	UMA	11	12.5	2.3'	11 56.5	+55 07	47	SBb			H IV 62
NGC 3998	UGC 6946	Galaxy	UMA	10.7	12.5	2.7'	11 57.9	+55 27	47	SO			H I 229;comp 4.7';PA145;0.3'X0.3'
NGC 4013	UGC 6963	Galaxy	UMA	11.2	12.9	4.8'	11 58.5	+43 57	74	Sb			H II 733;edge on
NGC 4026	UGC 6985	Galaxy	UMA	10.8	12.7	4.7'	11 59.4	+50 58	47	SO			H I 223;edge on lens shape
NGC 4036	UGC 7005	Galaxy	UMA	10.7	12.7	4'	12 01.5	+61 54	25	E6			H I 253;NGC 4041 @ 15';spindle shape
NGC 4041	UGC 7014	Galaxy	UMA	11.3	13.2	2.7'	12 02.2	+62 08	25	Sbc			H I 252
NGC 4051	UGC 7030	Galaxy	UMA	10.2	13.3	5.3'	12 03.2	+44 32	74	SBbc			H IV 56;thick spiral arms
NGC 4085	UGC 7075	Galaxy	UMA	12.4	13.1	2.5'	12 05.4	+50 21	47	SBc			H I 224;P w NGC 4088;UGC 7075;Ho 326b
NGC 4088	UGC 7081	Galaxy	UMA	10.6	13.2	5.6'	12 05.6	+50 32	47	SBbc			P w 4085 11' to south;distorted spir arms;UGC 7081
NGC 4096	UGC 7090	Galaxy	UMA	10.9	13.4	6.5'	12 06.0	+47 29	74	SBc			H I 207;nearly edge on
NGC 4102	UGC 7096	Galaxy	UMA	11.2	12.8	3.1'	12 06.4	+52 43	47	SBb Ring			H I 225
NGC 4605	UGC 7831	Galaxy	UMA	10.3	12.9	5.9'	12 40.0	+61 36	26	SBc/P			H I 254
NGC 5322	UGC 8745	Galaxy	UMA	10.2	13.6	6'	13 49.2	+60 11	49	E2			H I 256;B diff. N;smooth neb
NGC 5473	UGC 9011	Galaxy	UMA	11.4	12.8	2.2'	14 04.7	+54 54	49	E2			H I 231;svBN;sh. bar;F lens;in field of M 101
NGC 5474	UGC 9013	Galaxy	UMA	10.8	13.9	5'	14 05.0	+53 40	49	Sc			low surf. bright;smooth part res cent w vsFN;asym
NGC 5631	UGC 9261	Galaxy	UMA	11.5	12.5	2'	14 26.6	+56 35	49	SO			vB diff N w F dk crescent on one side;
NGC 6217	UGC 10470	Galaxy	UMI	11.2	13.2	3.3'	16 32.6	+78 12	11	SBbc Ring			H I 280;Narrow filaments;Arp 185;UGC 10470
NGC 2547	OCL 753	Opn CL	VEL	4.7	-	20'	08 10.2	-49 12	396	II 2 p n	80	6.5	
NGC 3132	PK 272+12.1	Pln Neb	VEL	8.2	8.2	84"	10 07.0	-40 26	399	4(2)		15.8	<b>Eight-Burst Nebula</b> ; actual central star is 15.8 mag
NGC 3201	Dunlop 445	Glob CL	VEL	6.8	-	18.2'	10 17.6	-46 25	399	X			* mags 13...; loose structured globular
M 49	NGC 4472	Galaxy	VIR	8.4	13.2	9.8'	12 29.8	+08 00	193	E4			NGC 4467 @ 4.2';NGC 4470 @ 10.5';NGC 4465 @ 5.8'
M 58	NGC 4579	Galaxy	VIR	9.7	13.1	6'	12 37.7	+11 49	194	SBb			fine compact spiral
M 59	NGC 4621	Galaxy	VIR	9.6	12.9	5.3'	12 42.0	+11 39	194	E3			B diff N;smooth arms
M 60	NGC 4649	Galaxy	VIR	8.8	12.9	7.6'	12 43.7	+11 33	194	E1			NGC 4647 @ 2.5'
M 61	NGC 4303	Galaxy	VIR	9.6	13.4	6.5'	12 21.9	+04 28	238	SBbc Ring			SN 1926;1961;1964;NGC 4301 @ 10 ' ;H I 139;L face-on
M 84	NGC 4374	Galaxy	VIR	9.1	13	6.7'	12 25.1	+12 53	193	E1			<b>Markarian's chain;center of Virgo cluster</b>
M 86	NGC 4406	Galaxy	VIR	8.9	13.2	9.8'	12 26.2	+12 57	193	E3			<b>Markarian's chain;</b>
M 87	NGC 4486	Galaxy	VIR	8.6	13	8.7'	12 30.8	+12 23	193	E1p			<b>B in Virgo cluster</b> ;NGC 4486A @ 7.5' ssf;
M 89	NGC 4552	Galaxy	VIR	9.8	13.2	5.3'	12 35.7	+12 33	194	EO			
M 90	NGC 4569	Galaxy	VIR	9.5	13.4	9.9'	12 36.8	+13 10	194	SBab			IC 3583 @ 6 ' ;vseBN in B diff bar w much dark matter
M 104	NGC 4594	Galaxy	VIR	8	11.6	8.6'	12 40.0	-11 37	284	Sab			<b>Sombbrero Galaxy</b> ; H I 43;dark equatorial lane;
NGC 4030	UGC 6993	Galaxy	VIR	10.6	13.2	4.2'	12 00.4	-01 06	238	Sbc			H I 121;fine nearly face on spiral
NGC 4179	UGC 7214	Galaxy	VIR	11	12.5	4.2'	12 12.9	+01 18	238	SO			H I 9;edge on spindle shape
NGC 4216	UGC 7284	Galaxy	VIR	10	12.8	7.8'	12 15.9	+13 09	193	SBb			H I 35;UGC 7284;edge on streak;two other in field
NGC 4261	UGC 7360	Galaxy	VIR	10.4	13.3	3.8'	12 19.4	+05 49	193	E2			NGC 4264 @ 3.4';NGC 4257 @ 7.1';UGC 7360;3C270
NGC 4273	UGC 7380	Galaxy	VIR	11.9	13.1	2.3'	12 19.9	+05 21	238	SBc			H II 569;SN 1936a;NGC 4277 @ 2 '
NGC 4281	UGC 7389	Galaxy	VIR	11.3	12.8	3'	12 20.4	+05 23	238	Sa			H II 573
NGC 4365	UGC 7488	Galaxy	VIR	9.6	13.4	6.5'	12 24.5	+07 19	193	Elliptical			H I 30;NGC 4370 @ 10 '

## 650 selected DSO List (sorted by constellation - name)

NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
NGC 4371	UGC 7493	Galaxy	VIR	10.8	13.1	4'	12 24.9	+11 42	193	SBO-a F			H I 22
NGC 4388	UGC 7520	Galaxy	VIR	11	13	5.6'	12 25.8	+12 40	193	Sb			H II 168;edge on lens shape;16' SE from M 84
NGC 4429	UGC 7568	Galaxy	VIR	10	12.8	5.8'	12 27.4	+11 06	193	Sa			H II 65;oval w large outer ring
NGC 4435	UGC 7575	Galaxy	VIR	10.8	12.5	3'	12 27.7	+13 05	193	SBO			Markarian's chain;NGC 4438 @ 4.3' SSE
NGC 4438	UGC 7574	Galaxy	VIR	10.2	13.6	8.5'	12 27.8	+13 00	193	Sa			Markarian's chain;NGC 4435 @ 4.4';long filaments
NGC 4442	UGC 7583	Galaxy	VIR	10.4	12.6	4.5'	12 28.1	+09 48	193	SBO			H II 156
NGC 4478	UGC 7645	Galaxy	VIR	11.4	12.7	1.8'	12 30.3	+12 20	193	E1			H II 124;NGC 4476 @ 4.5';NGC 4486 @ 8.6'
NGC 4517	NGC 4437	Galaxy	VIR	10.4	13.3	10.2'	12 32.8	+00 07	239	Sc			4517A @ 17 ' ;long narrow streak w dust patches
NGC 4526	NGC 4560	Galaxy	VIR	9.7	12.7	7'	12 34.0	+07 42	194	SBO			H I 31;lenticular;between two 7th mag stars
NGC 4527	UGC 7721	Galaxy	VIR	10.5	13.1	5.9'	12 34.1	+02 39	239	SBbc			H II 37;SN 1915a;NGC 4536 @ 29
NGC 4535	UGC 7727	Galaxy	VIR	10	13.7	6.9'	12 34.3	+08 12	194	SBc			H II 500;Ho 420b @ 5 ' ;S-shaped spiral
NGC 4536	UGC 7732	Galaxy	VIR	10.6	13.9	7.1'	12 34.4	+02 11	239	SBbc			NGC 4533 @ 8.2';high tilt spiral w long curvd arms
NGC 4546	MCG - 1-32-	Galaxy	VIR	10.3	11.9	3.3'	12 35.5	-03 48	239	E-SO Ba			H I 160
NGC 4550	UGC 7757	Galaxy	VIR	11.7	12.8	3.3'	12 35.5	+12 13	194	SBO			H I 36;NGC 4551 @ 3 '
NGC 4567	UGC 7777	Galaxy	VIR	11.3	13.1	3.1'	12 36.5	+11 15	194	Sbc			Siamese Twins H IV 8;NGC 4568 @ 1.2
NGC 4568	UGC 7776	Galaxy	VIR	10.8	13.1	4.6'	12 36.6	+11 14	194	Sbc			Siamese Twins;;NGC 4567 @ 1.2';overlaps 4567;
NGC 4570	UGC 7785	Galaxy	VIR	10.9	12.4	3.7'	12 36.9	+07 15	194	SO			H I 32;lens shaped;in field of R VIR
NGC 4596	UGC 7828	Galaxy	VIR	10.4	13	4'	12 39.9	+10 11	194	SBO-a			H I 24;NGC 4608 @ 19 ' ;disc w projecting ansae
NGC 4636	NGC 4624?	Galaxy	VIR	9.5	13.1	5.9'	12 42.8	+02 41	239	Elliptical			H II 38
NGC 4643	UGC 7895	Galaxy	VIR	10.8	12.7	3.1'	12 43.3	+01 59	239	SBO-a			H I 10;Saturn-like central mass w projecting ansae
NGC 4654	IC 3708	Galaxy	VIR	10.5	13.2	5'	12 43.9	+13 08	194	SBc Ring			H II 126
NGC 4660	UGC 7914	Galaxy	VIR	11.2	12.6	2.1'	12 44.5	+11 11	194	E5			H II 71;comp 5.5';25' SSE from M60
NGC 4665	NGC 4624	Galaxy	VIR	10.5	13.1	3.5'	12 45.1	+03 03	239	SBO-a			H I 142
NGC 4666	UGC 7926	Galaxy	VIR	10.7	12.5	4.5'	12 45.1	-00 28	239	SBc			H I 15;NGC 4668 @ 7.3';NGC 4653 @ 20 ' ;edge on
NGC 4697	MCG - 1-33-	Galaxy	VIR	9.2	13.1	6.2'	12 48.6	-05 48	284	Elliptical			H I 39
NGC 4698	UGC 7970	Galaxy	VIR	10.6	12.9	4'	12 48.4	+08 29	194	Sab			H I 8
NGC 4699	MCG - 1-33-	Galaxy	VIR	9.5	11.9	3.8'	12 49.0	-08 40	284	SBb			H I 129
NGC 4753	UGC 8009	Galaxy	VIR	9.9	12.9	5.1'	12 52.4	-01 12	239	SO			H I 16;SN 1965i
NGC 4754	UGC 8010	Galaxy	VIR	10.6	13.1	4.4'	12 52.3	+11 19	194	SBO			H I 25;P w NGC 4762 11' to NW
NGC 4762	UGC 8016	Galaxy	VIR	10.3	13	8.6'	12 52.9	+11 14	194	SBO			H II 75;NGC 4754 @ 10.5';thick streak w tufts at ends
NGC 4781	MCG - 2-33-	Galaxy	VIR	11.1	12.8	3.4'	12 54.4	-10 32	284	SBcd			H I 134;Coarse spiral
NGC 4845	UGC 8078	Galaxy	VIR	11.2	13.1	4.9'	12 58.0	+01 35	239	Sab			H II 536;edge on w dust lane
NGC 4856	MCG - 2-33-	Galaxy	VIR	10.5	12.1	3.9'	12 59.4	-15 03	284	SBO-a			H I 68
NGC 4866	UGC 8102	Galaxy	VIR	11.2	13.4	6.4'	12 59.5	+14 10	194	Sa			H I 162;UGC 8091 @ 11.8';lens shaped
NGC 4900	UGC 8116	Galaxy	VIR	11.4	12.9	2.2'	13 00.7	+02 30	239	SBc			H I 143
NGC 4902	MCG - 2-33-	Galaxy	VIR	10.9	13.1	2.9'	13 01.0	-14 31	284	SBb			H I 69;Theta shaped center;triskelion arm pattern
NGC 4958	MCG - 1-33-	Galaxy	VIR	10.7	12.3	3.9'	13 05.8	-08 01	285	SBO			H I 130;Lenticular
NGC 4995	MCG - 1-34-	Galaxy	VIR	11.1	12.5	2.4'	13 09.7	-07 50	285	SBb			H I 42;Dense spiral
NGC 5054	MCG - 3-34-	Galaxy	VIR	10.9	13.7	5.1'	13 17.0	-16 38	285	Sbc			H II 513;Three branch spiral
NGC 5068	ESO 576-29	Galaxy	VIR	10	14	7.3'	13 18.9	-21 02	330	SBc			H II 312;Coarse spiral;NGC 5087 in field
NGC 5247	ESO 577-14	Galaxy	VIR	10	13.4	5.4'	13 38.0	-17 53	331	SBbc			H II 297;Fine S-shaped double arm spiral
NGC 5363	UGC 8847	Galaxy	VIR	10.1	12.5	4.6'	13 56.1	+05 15	241	Sa			H I 6;P w NGC 5364 at 14.5' 2 B dif N in contact
NGC 5364	NGC 5317	Galaxy	VIR	10.5	14.1	6.1'	13 56.2	+05 01	241	SBc/P			H II 534;sBN in smooth cent w dk matter
NGC 5427	MCG - 1-36-	Galaxy	VIR	11.4	13.3	2.9'	14 03.4	-06 02	286	SBc			H II 310;Face on spiral;P w NGC 5426 @ 2.8' south
NGC 5566	UGC 9175	Galaxy	VIR	10.6	13.3	6.6'	14 20.3	+03 56	242	SBab Ring			H I 144;double galaxy
NGC 5576	UGC 9183	Galaxy	VIR	11	13.2	3'	14 21.1	+03 16	242	E2			triple group w NGC 5574 at 2.9' and NGC 5577 at 10.3'
NGC 5634	GCL 28	Glob CL	VIR	9.5	-	4.9'	14 29.6	-05 59	287	IV			H I 70;11 mag star on E edge
NGC 5746	UGC 9499	Galaxy	VIR	10.3	12.6	6.9'	14 44.9	+01 57	243	SBb			H I 126;vsBN in B cent.bulge;NGC 5740 at 18';edge on
NGC 5813	UGC 9655	Galaxy	VIR	10.5	13.2	4'	15 01.2	+01 42	243	E1			In NGC 5846 group;P w NGC 5814 at 5';NGC 8506, 21'
NGC 5846	UGC 9706	Galaxy	VIR	10	13	4'	15 06.5	+01 36	243	E0			Brightest in group; NGC 5846A at 1';NGC 5850 near
NGC 5850	UGC 9715	Galaxy	VIR	10.8	13.6	4.5'	15 07.1	+01 33	243	SBab			H II 543;In NGC 5846 group;vBN w bar
3C 273	PGC 41121	Quasar	VIR	13	-	0	12 29.1	+02 03	238				Brightest quasar; ~2 billion light years, 12.8-13m
M 27	NGC 6853	Pln Neb	VUL	7.3	11.2	480"	19 59.6	+22 43	162	3(2)		14.1	dumbbell neb. PK60-3.1;Lord Rosse drew 18" invl
NGC 6802	OCL 114	Opn CL	VUL	8.8	-	3.2'	19 30.6	+20 16	162	III 1 m	50	12.9	H VI 14;Bar shaped elong N-S
NGC 6823	OCL 124	Opn CL	VUL	7.1	-	12'	19 43.2	+23 18	162	I 3 p n	30	8.8	H VII 18;In Vul OB1 w nebula NGC 6820;30 * mags 11..1
NGC 6830	OCL 125	Opn CL	VUL	7.9	-	12'	19 51.0	+23 06	162	II 2 p	20	9.9	H VII 9
NGC 6885	OCL 152	Opn CL	VUL	8.1	-	7'	20 11.9	+26 29	163	III 2 p	30	6	also ngc 6882 , H VIII 20;With 20 Vul
NGC 6940	OCL 141	Opn CL	VUL	6.3	-	31'	20 34.4	+28 17	120	III 2 m	60	9.3	H VII 8;100 * mags 9...