

## 666 selected DSO list (sorted by name)

666 selected DSO List (sorted by name)													
NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
M 1	NGC 1952	SN Rem	TAU	8.4	11	8'	05 34.5	+22 01	135				Crab Nebula; filaments;pulsar 16m;3C144
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 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 4	NGC 6121	Glob CL	SCO	5.4	12	26.3'	16 23.6	-26 32	336	IX			Look for central bar structure
M 5	NGC 5904	Glob CL	SER	5.7	11	19.9'	15 18.6	+02 05	244	V			st mags 11...;superb cluster
M 6	NGC 6405	Opn CL	SCO	4.2	10	20'	17 40.3	-32 15	377	III 2 p	80	6.2	Butterfly cluster;51 members to 10.5 mag incl var* BM 5
M 7	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; Ptolemy's cluster
M 8	NGC 6523	CL+Neb	SGR	5	13	45'	18 03.7	-24 23	339	E			Lagoon Nebula;NGC 6530 invl;dark lane crosses
M 9	NGC 6333	Glob CL	OPH	7.9	11	5.5'	17 19.2	-18 31	337	VIII			Dark neb B64 prominent to west
M 10	NGC 6254	Glob CL	OPH	6.6	12	12.2'	16 57.1	-04 06	247	VII			Lord Rosse reported dark lane in cluster
M 11	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;Wild duck cluster
M 12	NGC 6218	Glob CL	OPH	6.1	12	14.5'	16 47.2	-01 57	246	IX			Somewhat loose structure
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 14	NGC 6402	Glob CL	OPH	7.6	12	6.7'	17 37.6	-03 15	248	VIII			Many vF stars 14...
M 15	NGC 7078	Glob CL	PEG	6.4	11	12.3'	21 30.0	+12 10	210	IV			Stars mags 13...
M 16	NGC 6611	CL+Neb	SER	6	12	7'	18 18.8	-13 47	294	II 3 m n	60	11	Star Queen or Eagle Nebula;stars mags 8...
M 17	NGC 6618	CL+Neb	SGR	6	13	11'	18 20.8	-16 11	294	III 3 m n	40	9.3	Omega nebula;Swan Nebula;many F outer loops;use fil
M 18	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
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 20	NGC 6514	CL+Neb	SGR	6.3	13	28'	18 02.7	-22 58	339	E+*	67	6	Trifid nebula;sev dark lanes;H IV 41 & V 10;D* HN 40 in
M 21	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
M 22	NGC 6656	Glob CL	SGR	5.2	11	24'	18 36.4	-23 54	340	VII			Stars mags 11...;one of finest globs
M 23	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
M 24	IC 4715	Opn CL	SGR	3.1	4.3	95'	18 26.6	-18 23	339				Small Sagittarius Star Cloud; dark neb , 6603 invl
M 25	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
M 26	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
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
M 28	NGC 6626	Glob CL	SGR	6.9	11	15'	18 24.5	-24 52	340	IV			45' NW from Lambda Sgr;* mags 14...
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 30	NGC 7099	Glob CL	CAP	6.9	11	8.9'	21 40.4	-23 11	346	V			Wm. Herschel saw very elliptical shape
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 33	NGC 598	Galaxy	TRI	5.7	14.2	68.7'	01 33.9	+30 39	91	Sc			Pinwheel Galaxy;Local Group;H V 17
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 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' SV
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
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
M 40	Winnecke 4	2 Stars	UMA	9	-		12 21.9	+58 06	47				D* 9 & 9.3 mag 50" sep; No nebulae
M 41	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
M 42	NGC 1976	CL+Neb	ORI	4	11	90'	05 35.3	-05 23	225	E+R			Orion neb 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 part of Orion Nebula
M 44	NGC 2632	Opn CL	CNC	3.1	13	95'	08 40.0	+19 40	141	II 2 m	50	6.3	Beehive Cluster;200 memb to 14 mag
M 45	Mel 22	CL+Neb	TAU	1.2	11	100'	03 47.0	+24 07	132	I 3 r n	100	2.9	Pleiades;nebys NGC 1432 and 1435 involved
M 46	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
M 47	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 position;Stv 1121,1120 invl
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 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 50	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
M 51	NGC 5194	Galaxy	CVN	8.4	12.9	10.8'	13 29.9	+47 12	76	Sbc			Whirlpool Gal;inter. pair;classic spiral, inc ngc5195
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 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 54	NGC 6715	Glob CL	SGR	7.7	11	9.1'	18 55.1	-30 29	378	III			* mags 15...
M 55	NGC 6809	Glob CL	SGR	6.3	13	19'	19 40.0	-30 58	379	XI			* mags 15...
M 56	NGC 6779	Glob CL	LYR	8.3	12	5'	19 16.6	+30 11	118	X			Stars 11...
M 57	NGC 6720	Pln Neb	LYR	9.4	9.3	86"	18 53.6	+33 02	117	4(3)		15.8	Ring Nebula;central* var 14 to 16 mag;PK63+13.1
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

666 selected DSO list (sorted by name)

NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
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 Ri			SN 1926;1961;1964;NGC 4301 @ 10 ' ;H I 139;L face-on
M 62	NGC 6266	Glob CL	OPH	6.4	11	14.1'	17 01.2	-30 07	376	IV			Asymmetrical
M 63	NGC 5055	Galaxy	CVN	8.6	13.3	12.6'	13 15.8	+42 02	76	Sbc			<b>Sunflower</b> , vsvB stell. N in B inner lens;many filam
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 65	NGC 3623	Galaxy	LEO	9.3	12.8	9'	11 18.9	+13 05	191	SBa			M66 subgroup , part of <b>leo's trio</b>
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 67	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
M 68	NGC 4590	Glob CL	HYA	7.3	13	9.8'	12 39.5	-26 45	329	X			
M 69	NGC 6637	Glob CL	SGR	7.7	11	7.1'	18 31.4	-32 21	378	V			
M 70	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...
M 71	NGC 6838	Glob CL	SGE	8.3	12	6.1'	19 53.8	+18 47	162				Arrowhead shape; stars have few metals
M 72	NGC 6981	Glob CL	AQR	9.2	12	5.9'	20 53.5	-12 32	299	IX			3 deg WSW of NGC 7009
M 73	NGC 6994	Opn CL	AQR	9.7	-	2.8'	20 59.0	-12 38	299	IV 1 p	:t4	10	4 or 5 10th mag stars; Messier saw neb but there is no.
M 74	NGC 628	Galaxy	PSC	9.4	14.2	10'	01 36.7	+15 47	173	Sc			Fine face on spiral
M 75	NGC 6864	Glob CL	SGR	8.6	11	6'	20 06.1	-21 55	343	I			* mags 17...
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</b> Nebula;PK130-10.1
M 77	NGC 1068	Galaxy	CET	8.9	12.8	7.3'	02 42.7	-00 01	220	Sbp			Seyfert;brst in NGC 1068 grp
M 78	NGC 2068	Brn Neb	ORI	8	12	8'	05 46.8	+00 05	226	E			Comet shaped;2 10mag * invl; 53" sep
M 79	NGC 1904	Glob CL	LEP	7.7	12	7.8'	05 24.2	-24 31	315	V			Stars vF
M 80	NGC 6093	Glob CL	SCO	7.3	11	5.1'	16 17.0	-22 59	336	II			Extremely rich and compressed
M 81	NGC 3031	Galaxy	UMA	6.9	13.2	24.9'	09 55.6	+69 04	23	Sb			brightest in group;fine spiral
M 82	NGC 3034	Galaxy	UMA	8.4	12.5	10.5'	09 55.9	+69 41	23	Sd			M81 group;eruptive;H IV 79
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
M 84	NGC 4374	Galaxy	VIR	9.1	13	6.7'	12 25.1	+12 53	193	E1			<b>Markarian's chain</b> ;center of <b>Virgo cluster</b>
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 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 88	NGC 4501	Galaxy	COM	9.6	13	6.8'	12 32.0	+14 25	193	Sbc			comp @ 6.9';mult arm spiral
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 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 pattn
M 92	NGC 6341	Glob CL	HER	6.5	11	11.2'	17 17.1	+43 08	81	IV			Lord Rosse saw spiral structure
M 93	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
M 94	NGC 4736	Galaxy	CVN	8.2	13.1	12.3'	12 50.9	+41 07	75	Sb Ring			
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 97	NGC 3587	Pln Neb	UMA	11	12.1	202"	11 14.8	+55 01	46	3a		14	<b>Owl Nebula</b> ;PK148+57.1
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'
M 101	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;
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;
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"
M 104	NGC 4594	Galaxy	VIR	8	11.6	8.6'	12 40.0	-11 37	284	Sab			<b>Sombrero Galaxy</b> ; H I 43;dark equatorial lane;
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
M 106	NGC 4258	Galaxy	CVN	8.4	13.6	17.4'	12 19.0	+47 18	74	SBbc			H V 43
M 107	NGC 6171	Glob CL	OPH	7.8	12	3.3'	16 32.5	-13 03	291	X			H VI 40
M 108	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
M 109	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
M 110	NGC 205	Galaxy	AND	8.1	14	19.5'	00 40.4	+41 41	60	SA0			<b>M31 Companion</b> ;UGC 426; Member Local Group
NGC 40	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
NGC 55	Dunlop 507	Galaxy	SCL	7.9	13.4	31.2'	00 14.9	-39 11	386	Sbp			Sculptor Galaxy Group
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
NGC 157	MCG - 2- 2-	Galaxy	CET	10.4	12.9	4.1'	00 34.8	-08 24	261	SBbc			H II 3
NGC 185	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
NGC 188	OCL 309	Opn CL	CEP	8.1	-	14'	00 47.5	+85 14	1	II 2 r	20	12.1	
NGC 210	MCG - 2- 2-	Galaxy	CET	10.9	13.8	4.6'	00 40.6	-13 52	261	SBb			H II 452;F outer arms form encircling ring
NGC 225	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

## 666 selected DSO list (sorted by name)

NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
NGC 246	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
NGC 247	ESO 540-22	Galaxy	CET	9.1	14.4	21'	00 47.1	-20 46	306	SBcd			H V 20
NGC 253	ESO 474-29	Galaxy	SCL	7.2	12.7	26.4'	00 47.6	-25 18	306	SBc			sculptor galaxy, arms more defined by dust
NGC 278	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;
NGC 281	IC 11	CL+Neb	CAS	7.4	-	4'	00 53.0	+56 37	36	E+*		9	
NGC 288	ESO 474-SC	Glob CL	SCL	8.1	-	13.8'	00 52.8	-26 35	307	X			H VI 20;loose structured globular
NGC 300	ESO 295-20	Galaxy	SCL	8.1	14.3	19.3'	00 54.9	-37 41	351	Scd			Large S-shaped;loose structured spiral
NGC 381	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?
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 436	OCL 320	Opn CL	CAS	8.8	-	6'	01 16.0	+58 49	36	I 3 m	30	11.1	H VII 45
NGC 457	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; ET Cluster
NGC 488	UGC 907	Galaxy	PSC	10.3	13.4	5.4'	01 21.8	+05 15	218	Sb Ring			delicate spiral pattern
NGC 524	UGC 968	Galaxy	PSC	10.3	12.3	3.2'	01 24.8	+09 32	173	Sa			H I 151
NGC 559	OCL 322	Opn CL	CAS	9.5	-	4.4'	01 29.5	+63 19	16	II 2 m	60	10.6	H VII 48
NGC 584	IC 1712;H I	Galaxy	CET	10.5	12.9	3.3'	01 31.3	-06 52	263	E4			
NGC 596	MCG - 1- 5-	Galaxy	CET	10.9	13	2.8'	01 32.9	-07 02	263	E2			H II 4
NGC 613	ESO 413-11	Galaxy	SCL	10.1	13.3	5.2'	01 34.3	-29 25	352	SBbc			H I 281
NGC 615	MCG - 1- 5-	Galaxy	CET	11.6	13.3	3.4'	01 35.1	-07 20	263	Sb			H II 282
NGC 637	OCL 329	Opn CL	CAS	8.2	-	3.5'	01 43.1	+64 02	16	I 3 p	20	10	H VII 49
NGC 654	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
NGC 659	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...
NGC 663	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
NGC 672	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
NGC 720	MCG - 2- 5-	Galaxy	CET	10.2	12.8	4.4'	01 53.0	-13 44	264	E4			H I 105
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;Irr scattered cl 70* m 8...
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
NGC 779	MCG - 1- 6-	Galaxy	CET	11.2	12.7	4.1'	01 59.7	-05 58	264	SBb			H I 101;nearly edge-on spiral
NGC 869	OCL 350	Opn CL	PER	5.3	-	30'	02 19.1	+57 08	37	I 3 r	200	6.6	h Per; 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 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 908	ESO 545-11	Galaxy	CET	10.2	13	6.1'	02 23.1	-21 14	309	SBc			H I 153
NGC 925	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
NGC 936	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
NGC 986	ESO 299- 7	Galaxy	FOR	10.9	13.4	4'	02 33.6	-39 03	389	SBab			
NGC 1022	MCG - 1- 7-	Galaxy	CET	11.3	12.9	2.6'	02 38.5	-06 41	265	SBa			H I 102
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 1027	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*
NGC 1052	MCG - 1- 7-	Galaxy	CET	10.5	12.5	2.8'	02 41.1	-08 15	265	Elliptical			H I 63
NGC 1055	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
NGC 1084	MCG - 1- 8-	Galaxy	ERI	10.7	12.5	3.5'	02 46.0	-07 35	265	Sc			H I 64
NGC 1097	ESO 416-20	Galaxy	FOR	9.5	13.8	9.4'	02 46.3	-30 17	354	SBb			H V 48
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 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 1261	GCL 5	Glob CL	HOR	8.4	-	6.9'	03 12.3	-55 13	419	II			
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 galxy cl
NGC 1291	NGC 1269	Galaxy	ERI	8.5	13.1	9.7'	03 17.3	-41 06	390	SBO-a R			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 1316	ESO 357-22	Galaxy	FOR	8.5	13.4	11.2'	03 22.7	-37 13	355	SBO			Fornax Galaxy Cluster member
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 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 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
NGC 1407	ESO 548-67	Galaxy	ERI	9.7	12.9	4.9'	03 40.2	-18 35	312	EO			H I 107
NGC 1433	ESO 249-14	Galaxy	HOR	9.9	13.7	6.1'	03 42.0	-47 13	391	SBa			
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

## 666 selected DSO list (sorted by name)

NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
NGC 1499	LBN 756	Brn Neb	PER	5	-	160'	04 03.2	+36 22	95	E			California Nebula;0.6 deg from Xi Per
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 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 1514	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
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 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 1545	OCL 399	Opn CL	PER	6.2	-	18'	04 20.9	+50 15	39	II 2 p	20	7.1	H VIII 85
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 1647	OCL 457	Opn CL	TAU	6.4	-	45'	04 45.9	+19 06	134	II 2 m	200	8.6	H VIII 8
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 1672	ESO 118-43	Galaxy	DOR	9.7	13.4	6.7'	04 45.7	-59 15	421	SBb			
NGC 1788	LBN 916	Brn Neb	ORI	-	-	5'	05 06.9	-03 20	225	R			H V 32; possible reflection nebula
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 1817	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
NGC 1851	Dunlop 508	Glob CL	COL	7.1	-	11'	05 14.1	-40 03	393	II			X-ray source;vRi w F*
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 1909	IC 2118	Brn Neb	ERI	-	-	180'	05 04.5	-07 16	270	R			Witchhead nebula; Rigel may be illuminator
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 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 1964	ESO 554-10	Galaxy	LEP	10.8	13.4	5.5'	05 33.4	-21 57	315	SBb			H IV 21
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			Tank Track Neb; flame, masked by Zeta Ori
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 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 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 2185	LBN 997	Brn Neb	MON	-	-	2'	06 11.0	-06 14	272	R			H IV 20
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
NGC 2204	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 *
NGC 2207	ESO 556- 8	Galaxy	CMA	10.8	13.4	4.2'	06 16.4	-21 22	317	SBbc Ri			Double galaxy or interacting pair
NGC 2215	OCL 550	Opn CL	MON	8.4	-	11'	06 20.8	-07 17	272	II 2 p	40	10.5	H VII 20
NGC 2232	OCL 545	Opn CL	MON	3.9	-	30'	06 28.0	-04 51	227	IV 3 p	20	5	H VIII 25
NGC 2237	OCL 511	CL+Neb	MON	5.5	-	80'	06 30.9	+05 03	227	E			Rosette nebula
NGC 2238	LBN 948	Brn Neb	MON	6	-	80'	06 30.7	+05 01	227	E			Rosette nebula
NGC 2239	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
NGC 2245	LBN 904	Brn Neb	MON	-	-	2'	06 32.7	+10 09	182	R			H IV 3
NGC 2251	OCL 499	Opn CL	MON	7.3	-	10'	06 34.6	+08 22	182	IV 2 p	30	9.1	H VIII 3
NGC 2261	LBN 920	Brn Neb	MON	-	-	2'	06 39.2	+08 45	182	E+R			Hubble's variable nebula (fan-shape);R Mon invl
NGC 2264	OCL 495	CL+Neb	MON	3.9	-	20'	06 41.0	+09 54	183	III 3 m n:	40	5	Christmas Tree Cluster; Near Cone nebula
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 2281	OCL 446	Opn CL	AUR	5.4	-	15'	06 48.3	+41 05	68	I 3 p	30	7.3	H VIII 71
NGC 2286	OCL 548	Opn CL	MON	7.5	-	15'	06 47.7	-03 09	228	IV 3 m	50	9.7	H VIII 31
NGC 2300	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
NGC 2301	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
NGC 2304	OCL 484	Opn CL	GEM	10	-	5'	06 55.2	+17 59	138	II 1 p	30		H VI 2
NGC 2311	OCL 553	Opn CL	MON	9.6	-	7'	06 57.8	-04 37	228	III 2 p	50	12	H VIII 60
NGC 2324	OCL 542	Opn CL	MON	8.4	-	8'	07 04.1	+01 03	228	II 2 r	70	10.4	H VII 38
NGC 2335	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
NGC 2343	OCL 565	Opn CL	MON	6.7	-	7'	07 08.1	-10 37	273	III 3 p n	20	8.4	H VIII 33
NGC 2346	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
NGC 2353	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

## 666 selected DSO list (sorted by name)

NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
NGC 2354	OCL 639	Opn CL	CMA	6.5	-	20'	07 14.3	-25 42	319	III 2 m	100	9.1	H VII 16
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 2359	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
NGC 2360	OCL 589	Opn CL	CMA	7.2	-	13'	07 17.7	-15 38	274	II 2 m	80	10.4	H VII 12
NGC 2362	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
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 2383	OCL 616	Opn CL	CMA	8.4	-	6'	07 24.7	-20 57	319	I 3 m	40	9.8	Near cluster NGC 2384
NGC 2384	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
NGC 2392	PK 197+17.1	Pln Neb	GEM	8.6	6.8	47"	07 29.2	+20 55	139	3b(3b)		10.6	<b>Clown Face or Eskimo Nebula</b> ;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 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 2419	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
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 2421	OCL 626	Opn CL	PUP	8.3	-	10'	07 36.2	-20 37	319	I 2 m	70	10.4	H VII 67
NGC 2423	OCL 592	Opn CL	PUP	6.7	-	19'	07 37.1	-13 52	274	IV 2 m	40	9	H VII 28
NGC 2438	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>
NGC 2439	OCL 688	Opn CL	PUP	6.9	-	10'	07 40.8	-31 42	362	II 3 m	80	8.9	
NGC 2440	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
NGC 2467	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
NGC 2477	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
NGC 2479	OCL 623	Opn CL	PUP	9.6	-	7'	07 55.1	-17 42	320	III 1 m	45		H VII 58
NGC 2482	OCL 653	Opn CL	PUP	7.3	-	12'	07 55.2	-24 15	320	III 1 m	40	10	H VII 10
NGC 2489	OCL 690	Opn CL	PUP	7.9	-	8'	07 56.3	-30 04	362	II 2 m	45	11.1	H VII 23
NGC 2506	OCL 593	Opn CL	MON	7.6	-	7'	08 00.0	-10 46	275	I 2 r	150	10.8	H VI 37
NGC 2509	OCL 630	Opn CL	PUP	9.3	-	8'	08 00.8	-19 03	320	II 1 p	70		H VIII 1
NGC 2527	NGC 2520	Opn CL	PUP	6.5	-	22'	08 05.0	-28 09	362	III 1 p	40	8.6	H VIII 30
NGC 2539	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
NGC 2547	OCL 753	Opn CL	VEL	4.7	-	20'	08 10.2	-49 12	396	II 2 p n	80	6.5	
NGC 2567	OCL 708	Opn CL	PUP	7.4	-	10'	08 18.5	-30 39	362	III 2 m	40	10.1	H VII 64
NGC 2571	OCL 701	Opn CL	PUP	7	-	13'	08 18.9	-29 45	362	IV 1 p	30	8.8	H VI 39
NGC 2613	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
NGC 2627	OCL 714	Opn CL	PYX	8.4	-	11'	08 37.2	-29 57	363	III 2 m	60	11	H VII 63
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
NGC 2681	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
NGC 2683	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
NGC 2742	NGC 2816	Galaxy	UMA	11.4	13	3'	09 07.6	+60 29	44	Sc			H I 249;bright nucleus;several filamentary knotty arms
NGC 2768	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
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 2782	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
NGC 2784	ESO 497-23	Galaxy	HYA	10.2	12.8	5.7'	09 12.3	-24 10	322	SO			H I 59
NGC 2787	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
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 2841	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
NGC 2859	UGC 5001	Galaxy	LMI	10.9	13.8	4'	09 24.3	+34 31	103	SBO-a R			H I 137;bright nucleus in diff. bar w diff. blobs
NGC 2867	PK 278-5.1	Pln Neb	CAR	9.7	6.5	12"	09 21.4	-58 19	425	4		16	
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 2950	UGC 5176	Galaxy	UMA	10.9	12.5	2.7'	09 42.6	+58 51	45	SBO Rin			H IV 68
NGC 2964	UGC 5183	Galaxy	LEO	11.3	12.8	3'	09 42.9	+31 51	104	SBbc Rin			H I 114;vfaint bar;2 mn. knotty arms; Mrk 404 in disc
NGC 2974	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'
NGC 2976	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
NGC 2985	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
NGC 2997	ESO 434-35	Galaxy	ANT	9.4	13.7	9.2'	09 45.6	-31 11	365	SBc			H V 50
NGC 3077	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
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 3109	ESO 499-36	Galaxy	HYA	9.9	14.4	19.7'	10 03.1	-26 10	324	Ir			
NGC 3115	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;
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 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 3166	UGC 5516	Galaxy	SEX	10.4	12.9	4.8'	10 13.8	+03 26	234	SBO-a			H I 3;brightest in group

## 666 selected DSO list (sorted by name)

NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
NGC 3169	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
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 3190	UGC 5559	Galaxy	LEO	11.1	13.1	4'	10 18.1	+21 50	144	Sa			H II 44;bright in grp;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 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 3201	Dunlop 445	Glob CL	VEL	6.8	-	18.2'	10 17.6	-46 25	399	X			* mags 13...; loose structured globular
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 3242	PK 261+32.1	Pln Neb	HYA	8.6	5.4	40"	10 24.8	-18 39	325	4(3b)		12.3	<b>Ghost of Jupiter</b> ; H IV 27
NGC 3245	UGC 5663	Galaxy	LMI	10.8	12.6	3.5'	10 27.3	+28 30	105	SO			H I 86
NGC 3277	UGC 5731	Galaxy	LMI	11.7	12.9	2.1'	10 32.9	+28 31	105	Sab			H II 359
NGC 3294	UGC 5753	Galaxy	LMI	11.8	13.7	3.4'	10 36.3	+37 19	105	Sc			H I 164
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 3344	UGC 5840	Galaxy	LMI	9.9	13.9	7.1'	10 43.5	+24 55	145	SBbc Ring			H I 81
NGC 3359	UGC 5873	Galaxy	UMA	10.6	14.2	7.5'	10 46.6	+63 13	24	SBc			H V 52
NGC 3372	Dunlop 309	Brn Neb	CAR	3	-	120'	10 45.1	-59 52	427	E			<b>Keyhole Nebula</b> & nova-like var <b>Eta Car</b> ; drk lanes
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 3395	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
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 3414	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
NGC 3432	UGC 5986	Galaxy	LMI	11.3	13.6	6.6'	10 52.5	+36 37	105	SB			H I 172;P w UGC 5983;mag 17;1.2'X1 '
NGC 3486	UGC 6079	Galaxy	LMI	10.5	14.3	6.8'	11 00.4	+28 59	106	SBc			H I 87
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 3504	UGC 6118	Galaxy	LMI	11	12.8	2.7'	11 03.2	+27 58	146	SBab Ring			P w NGC 3512 at 12 ' ;PA72;comp 4 ' ;PA55;0.4'X0.1'
NGC 3521	UGC 6150	Galaxy	LEO	9	13.2	11.2'	11 05.8	-00 02	236	SBbc			H I 13
NGC 3532	OCL 839	Opn CL	CAR	3	-	50'	11 05.2	-58 44	427	II 1 m	150	7.1	Fine object
NGC 3593	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
NGC 3607	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
NGC 3608	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'
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 3621	ESO 377-37	Galaxy	HYA	9.7	14.4	12.4'	11 18.3	-32 49	367	SBcd			H I 241
NGC 3626	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'
NGC 3628	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
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 3640	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
NGC 3655	UGC 6396	Galaxy	LEO	11.6	12	1.5'	11 22.9	+16 35	191	Sc			H I 5
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 3686	UGC 6460	Galaxy	LEO	11.3	13.4	3.1'	11 27.7	+17 13	146	SBbc			H II 160=H III 28
NGC 3717	ESO 439-15	Galaxy	HYA	11.2	13.1	6.2'	11 31.5	-30 19	367	Sb			Nearly edge-on
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 3810	UGC 6644	Galaxy	LEO	10.8	13.4	4.1'	11 41.0	+11 28	192	Sc			H I 21
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 3900	UGC 6786	Galaxy	LEO	11.4	13	3.5'	11 49.2	+27 01	147	Sa Ring			H I 82
NGC 3912	NGC 3899	Galaxy	LEO	12.4	12.6	1.5'	11 50.1	+26 29	147	SBb			H II 342
NGC 3918	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>
NGC 3923	ESO 440-17	Galaxy	HYA	9.8	13.2	6.6'	11 51.0	-28 48	368	Elliptical			H I 259
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 R			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 3962	MCG - 2-30-	Galaxy	CRT	10.7	12.6	3.4'	11 54.7	-13 59	282	Elliptical			H I 67

666 selected DSO list (sorted by name)

NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
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 4027	ESO 572-37	Galaxy	CRV	11.1	13.2	3.3'	11 59.5	-19 16	327	SBd			H II 296
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 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 4038	ESO 572-47	Galaxy	CRV	10.3	13.1	3.4'	12 01.9	-18 52	328	Sp			Antennae H IV 28;Ringtail Galaxy;two filaments
NGC 4039	ESO 572-48	Galaxy	CRV	10.6	12.1	3.3'	12 01.9	-18 53	328	SB			Antennae H II 282
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 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 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 4125	UGC 7118	Galaxy	DRA	9.7	12.9	6'	12 08.1	+65 10	25	Elliptical			
NGC 4143	UGC 7142	Galaxy	CVN	10.6	11.8	2.9'	12 09.6	+42 32	74	SBO			H IV 54
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 4151	UGC 7166	Galaxy	CVN	10.8	14.2	6.8'	12 10.5	+39 24	74	SBab Ring			P w NGC 4145;NGC 4156 @ 5.2';Ho 345c @ 8.8'
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 4203	UGC 7256	Galaxy	COM	10.9	13.3	3.5'	12 15.1	+33 12	107	E-SO Bar			H I 175
NGC 4214	NGC 4228	Galaxy	CVN	9.8	14	8.4'	12 15.6	+36 20	107	Ir			H I 95
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 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 4244	UGC 7322	Galaxy	CVN	10.4	14	15.9'	12 17.5	+37 48	107	Sc			H V 41
NGC 4245	UGC 7328	Galaxy	COM	11.4	13.3	3.3'	12 17.6	+29 36	107	SBO-a Ring			H I 74
NGC 4251	UGC 7338	Galaxy	COM	10.7	12.4	3.6'	12 18.1	+28 10	107	SBO Ring			H I 89;lens shape
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 4274	UGC 7377	Galaxy	COM	10.4	13.3	6.8'	12 19.8	+29 37	107	SBab Ring			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 4281	UGC 7389	Galaxy	VIR	11.3	12.8	3'	12 20.4	+05 23	238	Sa			H II 573
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 4346	UGC 7463	Galaxy	CVN	11.1	12.6	3.2'	12 23.5	+47 00	74	SBO			H I 210
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 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
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'
NGC 4371	UGC 7493	Galaxy	VIR	10.8	13.1	4'	12 24.9	+11 42	193	SBO-a Ring			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 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 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 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 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 4448	UGC 7591	Galaxy	COM	11.1	12.8	3.6'	12 28.3	+28 37	108	SBab Ring			H I 91
NGC 4449	UGC 7592	Galaxy	CVN	9.6	13	6.2'	12 28.2	+44 06	75	Ir			H I 213
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 @ 13.3'
NGC 4473	UGC 7631	Galaxy	COM	10.2	12.8	4.2'	12 29.8	+13 26	193	Elliptical			Markarian's chain
NGC 4477	UGC 7638	Galaxy	COM	10.4	13.1	3.7'	12 30.0	+13 38	193	SBO			Markarian's chain;NGC 4479 @ 5.3'
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 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'
NGC 4494	UGC 7662	Galaxy	COM	9.8	12.9	4.5'	12 31.4	+25 46	148	Elliptical			H I 83

## 666 selected DSO list (sorted by name)

NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
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 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 4567	UGC 7777	Galaxy	VIR	11.3	13.1	3.1'	12 36.5	+11 15	194	Sbc			<b>Siamese Twins</b> 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			<b>Siamese Twins</b> ;;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 4605	UGC 7831	Galaxy	UMA	10.3	12.9	5.9'	12 40.0	+61 36	26	SBc/P			H I 254
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 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 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 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 4689	UGC 7965	Galaxy	COM	10.9	13.7	4.7'	12 47.8	+13 46	194	Sbc			H II 128
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 4725	UGC 7989	Galaxy	COM	9.4	14	10.4'	12 50.4	+25 30	149	SBab Ring			H I 84;P w NGC 4712 @ 12 '
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 4800	UGC 8035	Galaxy	CVN	11.5	12	1.6'	12 54.6	+46 32	75	Sb			H I 211
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 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 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 4945	Dunlop 411	Galaxy	CEN	8.6	13.1	19.8'	13 05.4	-49 28	402	SBc			Nearly edge-on
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 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 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 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 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 5102	ESO 382-50	Galaxy	CEN	9.6	13	8.6'	13 22.0	-36 38	370	E-SO			17' nf Iota CEN
NGC 5128	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
NGC 5139	Omeg Cen	Glob CL	CEN	3.9	-	36.3'	13 26.8	-47 29	403	VIII			Stars mags 11...;finest globular;magnificent object
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 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 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 5286	Dunlop 388	Glob CL	CEN	7.4	-	9.1'	13 46.4	-51 22	430	V			close to a bright star
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 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;vsvBN;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 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



666 selected DSO list (sorted by name)

NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
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
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 5466	GCL 27	Glob CL	BOO	9.1	-	9.2'	14 05.5	+28 32	110	XII			H VI 9
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 5557	UGC 9161	Galaxy	BOO	11	12.6	2.4'	14 18.4	+36 30	110	E1			H I 99;BN;no struct
NGC 5566	UGC 9175	Galaxy	VIR	10.6	13.3	6.6'	14 20.3	+03 56	242	SBab Ri			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 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 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 5643	ESO 272-16	Galaxy	LUP	10	13	4.7'	14 32.7	-44 11	404	SBc			
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 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 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 5822	OCL 937	Opn CL	LUP	6.5	-	40'	15 04.4	-54 24	431	II 1 r	150	10	
NGC 5823	OCL 936	Opn CL	CIR	7.9	-	10'	15 05.5	-55 36	431	III 2 m	100	9.7	
NGC 5824	NGC 5834	Glob CL	LUP	9.1	-	6.2'	15 04.0	-33 04	373	I			
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
NGC 5897	GCL 33	Glob CL	LIB	8.4	-	8.7'	15 17.4	-21 01	334	XI			H VI 19
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 5927	GCL 35	Glob CL	LUP	8	-	12'	15 28.0	-50 40	431	VIII			
NGC 5946	IC 4550	Glob CL	NOR	8.4	-	7.1'	15 35.5	-50 40	432	IX			
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 5986	Dunlop 552	Glob CL	LUP	7.6	-	9.8'	15 46.1	-37 47	374	VII			
NGC 6067	OCL 953	Opn CL	NOR	5.6	-	13'	16 13.2	-54 13	432	I 2 r	100	8.3	Fine field
NGC 6118	UGC 10350	Galaxy	SER	11.7	13.9	4.7'	16 21.8	-02 17	246	Sc			H II 402;Low surface brightness
NGC 6124	Dunlop 514	Opn CL	SCO	5.8	-	29'	16 25.3	-40 39	407	II 3 m	100	8.7	
NGC 6134	OCL 968	Opn CL	NOR	7.2	-	7'	16 27.8	-49 09	407	II 3 m		9.3	
NGC 6144	GCL 42	Glob CL	SCO	9.1	-	6.2'	16 27.2	-26 01	336	XI			H VI 10
NGC 6192	OCL 988	Opn CL	SCO	8.5	-	9'	16 40.4	-43 22	407	I 2 p	60	11	
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 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 6217	UGC 10470	Galaxy	UMI	11.2	13.2	3.3'	16 32.6	+78 12	11	SBbc Ri			H I 280;Narrow filaments;Arp 185;UGC 10470
NGC 6222	NGC 6216	Opn CL	SCO	10	-	4'	16 49.4	-44 44	407				
NGC 6229	GCL 47	Glob CL	HER	9.4	-	3.8'	16 47.0	+47 32	80	IV			H IV 50;Wm.
NGC 6231	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>
NGC 6235	GCL 48	Glob CL	OPH	8.9	-	1.9'	16 53.4	-22 11	337	X			H II 584
NGC 6242	OCL 1001	Opn CL	SCO	6.4	-	9'	16 55.6	-39 28	407	I 3 m		7.3	
NGC 6259	OCL 996	Opn CL	SCO	8	-	10'	17 00.8	-44 39	407	III 2 m	120	11.6	
NGC 6281	OCL 1003	Opn CL	SCO	5.4	-	200'	17 04.7	-37 59	376	II 2 p n		7.9	
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 6302	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
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 6334	ESO 392-EN	Brit Neb	SCO	-	-	120'	17 20.8	-36 06	376	E			<b>Bear's Claw nebula</b>
NGC 6342	GCL 61	Glob CL	OPH	9.5	-	3'	17 21.2	-19 35	338	IV			H I 149
NGC 6352	Dunlop 417	Glob CL	ARA	7.8	-	7.1'	17 25.5	-48 25	408	XI		12	globular ESO 228-SC003
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	Pln Neb	OPH	11	10.5	30"	17 29.3	-23 46	338	4(2)		15.1	<b>Little Ghost Nebula</b>
NGC 6388	GCL 70	Glob CL	SCO	6.8	-	8.7'	17 36.3	-44 44	408	III			
NGC 6397	Lac III-11	Glob CL	ARA	5.3	-	25.7'	17 40.7	-53 40	434	IX		10	Poss nearest glob

## 666 selected DSO list (sorted by name)

NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
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 6440	GCL 77	Glob CL	SGR	9.3	-	1.7'	17 48.9	-20 22	338	V			H I 150;* eF
NGC 6441	GCL 78	Glob CL	SCO	7.4	-	7.8'	17 50.2	-37 03	377	III			
NGC 6445	PK 8+3.1;H	Pln Neb	SGR	13	9.6	35"	17 49.3	-20 01	338	3b(3)		19	Little Gem , crescent nebula
NGC 6451	OCL 1035	Opn CL	SCO	8.2	-	8'	17 50.7	-30 13	377	II 1 p n	80	12	Tom Thumb cluster H VI 13;Dark lane down center;
NGC 6453	GCL 79	Glob CL	SCO	10.2	-	3.5'	17 50.9	-34 36	377	IV			on edge on M7
NGC 6503	UGC 11012	Galaxy	DRA	10.2	13.1	7'	17 49.5	+70 09	30	Sc			
NGC 6517	GCL 81	Glob CL	OPH	10.3	-	1'	18 01.8	-08 58	294	IV			H II 199
NGC 6520	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
NGC 6522	GCL 82	Glob CL	SGR	9.9	-	5.6'	18 03.6	-30 02	377	VI			H I 49
NGC 6528	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
NGC 6535	GCL 83	Glob CL	SER	9.3	-	1.3'	18 03.8	-00 18	249	XI			
NGC 6539	GCL 85	Glob CL	SER	8.9	-	2.5'	18 04.8	-07 35	294	X			In heavily obscured area
NGC 6541	Dunlop 473	Glob CL	CRA	6.3	-	13.1'	18 08.0	-43 42	409	III			Stars mags 13...
NGC 6543	PK 96+29.1	Pln Neb	DRA	8.3	5	22"	17 58.6	+66 38	30	3a(2)		11.3	Cat's Eye Nebula;H IV 37;PK96+29.1
NGC 6544	GCL 87	Glob CL	SGR	7.5	-	8.4'	18 07.3	-25 00	339	IX			H II 197
NGC 6553	GCL 88	Glob CL	SGR	8.3	-	3.2'	18 09.3	-25 54	339	XI			H IV 12;* mags 20...
NGC 6568	OCL 28	Opn CL	SGR	8.6	-	13'	18 12.8	-21 35	339	III 1 m	50		H VII 30
NGC 6569	GCL 91	Glob CL	SGR	8.4	-	5.8'	18 13.6	-31 50	377	VIII			H II 201;D* Burnham 1353 in field
NGC 6572	PK 34+11.1	Pln Neb	OPH	8	4.3	15"	18 12.1	+06 51	204	2a		12	
NGC 6583	OCL 27	Opn CL	SGR	10	-	2.8'	18 15.8	-22 08	339	II 1 m	35		H VII 31
NGC 6603		Opn CL	SGR	11.1	-	5'	18 18.4	-18 24	339	I 1 r n	100	14	Within star cloud Messier 24
NGC 6624	GCL 93	Glob CL	SGR	7.6	-	5.9'	18 23.7	-30 22	378	VI			H I 50
NGC 6629	PK 9-5.1;H I	Pln Neb	SGR	10.5	8.2	16"	18 25.7	-23 12	340	2a		12.9	
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
NGC 6638	GCL 95	Glob CL	SGR	9.2	-	2.2'	18 30.9	-25 30	340	VI			H I 51
NGC 6642	GCL 97	Glob CL	SGR	8.8	-	0.8'	18 31.9	-23 29	340	IV			H II 205;* mags 15....
NGC 6645	OCL 48	Opn CL	SGR	8.5	-	10'	18 32.0	-16 53	295	III 1 m	40	12	H VI 23
NGC 6649	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
NGC 6652	GCL 98	Glob CL	SGR	8.5	-	3.5'	18 35.8	-32 59	378	VI			
NGC 6664	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
NGC 6712	GCL 103	Glob CL	SCT	8.2	-	4.3'	18 53.1	-08 42	295	IX			H I 47
NGC 6723	Dunlop 573	Glob CL	SGR	6.8	-	11'	18 59.6	-36 38	378	VII			
NGC 6726	ESO 396-N1	Brit Neb	CRA	-	-	2'	19 01.7	-36 53	379	E			Complex neb region w var* TY & R CrA invl
NGC 6727	ESO 396-N1	Brit Neb	CRA	-	-	80'	19 01.7	-36 53	379	R			P w NGC 6726-9
NGC 6729	ESO 396-N*	Brit Neb	CRA	-	-	25'	19 01.9	-36 57	379	E+R			P w NGC 6726-7
NGC 6752	Dunlop 295	Glob CL	PAV	5.4	-	20.4'	19 10.9	-59 59	435	VI			Fine cluster
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
NGC 6791	OCL 142	Opn CL	LYR	9.5	-	16'	19 20.7	+37 51	118	II 3 r	300	13	very rich
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 6818	PK 25-17.1	Pln Neb	SGR	10	7	22"	19 44.0	-14 09	297	4		15	Little Gem Nebula;PK25-17.1
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 6822	IC 4895	Galaxy	SGR	8.8	14.5	15.4'	19 44.9	-14 48	297	Ir+			Barnard's Galaxy;IC 1308 =HII reg; in Local Group
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 6826	PK 83+12.1	Pln Neb	CYG	8.8	6.9	27"	19 44.8	+50 32	55	3a(2)		10.7	Blinking Planetary;H IV 73;PK83+12.1
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 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	Brit 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 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 6888	LBN 203	Brit Neb	CYG	10	-	20'	20 12.8	+38 19	119	E			Crescent Neb.;Wolf-Rayet * invl
NGC 6905	PK 61-9.1;H	Pln Neb	DEL	12	10	44"	20 22.4	+20 06	163	3(3)		14	Blue Flash Nebula
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 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;In Gamma Cyg nebula and Cyg OB9
NGC 6934	GCL 117	Glob CL	DEL	8.9	-	7'	20 34.2	+07 24	209	VIII			H I 103;*10m 2' west
NGC 6939	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
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...

## 666 selected DSO list (sorted by name)

NAME	OTHER	TYPE	CON	MAG	S.B.	SIZE	RA	DEC	U2K	Class	ns	bs	SAC NOTES
NGC 6946	UGC 11597	Galaxy	CEP	8.8	13.8	11.2'	20 34.9	+60 09	56	SBc			H IV 76;One of nearest spirals
NGC 6960	LBN 191	SN Rem	CYG	7	-	210'	20 45.7	+30 43	120				Veil Nebula western part;* 52 CYG invl
NGC 6974	SG 3.202	SN Rem	CYG	-	-		20 51.1	+31 50	120				part of Veil
NGC 6979		Brn Neb	CYG	-	-	3'	20 51.0	+32 08	120	E			H II 206;Portion of Veil Neb between two arcs
NGC 6992	CED 182B	SN Rem	CYG	7	-	60'	20 56.4	+31 43	120	R			Veil Nebula 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			North America nebula;CI NGC 6997 invl
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 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 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 7023	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
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 7090	ESO 188-12	Galaxy	IND	10.7	13	7.3'	21 36.5	-54 33	438	SBc			
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
NGC 7129	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
NGC 7142	OCL 241	Opn CL	CEP	9.3	-	4.3'	21 45.2	+65 46	33	II 2 r	100	12.1	H VII 66
NGC 7160	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
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 7209	OCL 215	Opn CL	LAC	7.7	-	25'	22 05.1	+46 29	87	III 1 p	25	9	H VII 53
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 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 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 7296	OCL 228	Opn CL	LAC	9.7	-	4'	22 28.2	+52 17	57	III 2 p	20	10	H VII 41
NGC 7320	UGC 12101	Galaxy	PEG	12.6	13.5	2.3'	22 36.1	+33 57	123	Scd			Brightest in Stephan's Quintet
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 7380	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
NGC 7424	ESO 346-19	Galaxy	GRU	10.5	15.1	10'	22 57.3	-41 04	415	SBc			face on
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 7510	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
NGC 7582	ESO 291-16	Galaxy	GRU	10.6	13	5'	23 18.4	-42 22	415	SBab			Group w NGC 7590 & 7599
NGC 7606	MCG - 2-59-	Galaxy	AQR	10.8	13.3	4.2'	23 19.1	-08 29	304	Sbc			H I 104
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 7635	LBN 549	Brn Neb	CAS	11	-	15'	23 20.2	+61 11	34	E			Bubble Nebula;H IV 52;L neb ring
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 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 7789	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
NGC 7790	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
NGC 7793	ESO 349-12	Galaxy	SCL	9.1	13.4	9.6'	23 57.8	-32 36	350	Scd			
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
3C 273	PGC 41121	Quasar	VIR	13	-	0	12 29.1	+02 03	238				Brightest quasar; ~2 billion light years, 12.8-13m
IC 342	UGC 2847	Galaxy	CAM	12	14.9	20.9'	03 46.8	+68 06	18	SBc			Local Group Member
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
IC 434	LBN 954	Brn Neb	ORI	11	-	90'	05 41.0	-02 27	226	E			Contains Horsehead neb (B33)
B 33	LDN 1630	Drk Neb	ORI	--	--	6'	05 40.9	-02 28	226	4 lr			Horsehead nebula;part of dark following cloud
IC 1396	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
IC 4406	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
IC 5067	IC 5070; LBN	Brn Neb	CYG	8	-	60'	20 50.8	+44 21	85	E			Pelican Nebula;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	Cocoon neb;at end of dark streamer B168
B 65-67	LDN 1772-3;	Drk Neb	OPH	--	--	12'	17 19.6	-26 42	338	6 lr			Pipe nebula (stem); 2 deg south of Theta Oph;
B 86	LDN 93	Drk Neb	SGR	--	--	4'	18 02.7	-27 50	339	5 lr G			Ink Spot Neb ,On Sgr star cloud (see M24 img)