

Bright Nebulae

Bright nebulae are interstellar clouds of gas and dust where stars are born and have died. Their complex shapes and rich colors make them objects of great interest and beauty to amateur astronomers. Bright nebulae, also called diffuse or Galactic nebulae, occur in two main classes depending on their source of illumination: emission and reflection, although they occasionally are a combination of the two (R+E). Much less common is a third type of the bright nebula, the supernova remnant (SNR).



Emission nebulae are clouds of dust and glowing hydrogen gas, sometimes referred to as H II regions. The atoms in the cloud are ionized by nearby hot stars and when the excited electrons fall back to their previous energy state, the process releases energy in the form of visible light. Since most of the light visible from emission objects comes from just the three bright lines produced by hydrogen (H β at 4861Å) and oxygen (OIII) at 5007Å and 4959Å, the use of narrow band nebula filters can be helpful in viewing them. Emission nebulae typically appear red in images, but not to the naked eye.

Reflection nebulae have the same composition as emission objects, but lack stars sufficiently hot to cause the gas comprising them to fluoresce. Therefore, they shine merely by the dust in the nebula scattering starlight (the gas does not actually reflect any light). Because these objects scatter starlight of all colors, filters are not generally helpful in viewing them. Reflection nebulae appear blue in images.

A supernova remnant is the remains of a catastrophic stellar explosion, wherein much of a star's material is ejected, often as a highly-structured cloud. These objects have strong lines similar to emission nebulae, hence also benefit from the use of nebula filters.

Among the 150 bright nebulae in this list (a subset of a list compiled for the Astronomical League) are some of the most famous showpieces in the both

the northern and southern skies. The list also contains examples across the entire range of bright nebulae.

Catalog Abbreviations

Ced	Cederblad
DWB	Dickel, Wendker, Bieritz
Gum	Gum
IC	Index Catalog
LBN	Lynd's Bright Nebulae
M	Messier
NGC	New General Catalog
RCW	Rogers, Campbell, Whiteoak
Sh	Sharpless
vdB	van den Bergh

Bright Nebulae

Object	Common Name	RA	Dec
Ced 122		13h 25m 12s	-64° 01' 00"
DWB 111	Propeller Nebula	20h 16m 00s	+43° 40' 00"
GK-N1901	Nova Persei 1901	03h 31m 06s	+43° 54' 00"
Gum 12	Gum Nebula	08h 30m 00s	-45° 00' 00"
Gum 32		10h 46m 06s	-58° 39' 00"
Gum 39		11h 28m 30s	-62° 41' 00"
Gum 41		11h 30m 12s	-63° 50' 00"
IC 59, IC 63	Gamma Cas Nebula	00h 57m 30s	+61° 09' 00"
IC 348		03h 44m 36s	+32° 10' 00"
IC 353		03h 55m 00s	+25° 29' 00"
IC 360		04h 13m 00s	+25° 38' 00"
IC 405	Flaming Star Nebula	05h 16m 12s	+34° 16' 00"
IC 425		05h 37m 06s	+32° 26' 00"
IC 434		05h 41m 00s	-02° 24' 00"
IC 443	Jellyfish Nebula	06h 17m 00s	+22° 29' 00"
IC 468		07h 18m 18s	-13° 06' 00"
IC 848	Soul Nebula	13h 07m 00s	+16° 02' 00"
IC 1287		18h 31m 18s	-10° 50' 00"
IC 1318	Butterfly Nebula	20h 22m 12s	+40° 15' 00"
IC 1340		20h 56m 06s	+31° 04' 00"
IC 1396		21h 39m 00s	+57° 29' 00"
IC 1470		23h 05m 06s	+60° 15' 00"
IC 1805	Heart Nebula	02h 33m 22s	+61° 26' 36"
IC 2118	Witch Head Nebula	05h 06m 54s	-07° 13' 00"
IC 2162		06h 12m 30s	+17° 59' 00"
IC 2169		06h 31m 06s	+09° 54' 00"
IC 2220	Butterfly/ Toby Jug Neb	07h 56m 24s	-59° 07' 00"
IC 2631		11h 09m 30s	-76° 36' 00"
IC 4604	Rho Ophiuchi Nebula	16h 25m 36s	-23° 26' 00"
IC 4628		16h 57m 00s	-40° 20' 00"
IC 4701		18h 16m 18s	-16° 44' 00"
IC 4812		19h 01m 00s	-37° 04' 00"
IC 4954		20h 04m 24s	+29° 15' 00"

Object	Common Name	RA	Dec
IC 5067-68, 70	Pelican Nebula	20h 50m 54s	+44° 21' 00"
IC 5146	Cocoon Nebula	21h 53m 30s	+47° 16' 00"
LBN 8		15h 50m 39s	-05° 59' 01"
LBN 10		15h 53m 38s	-04° 41' 49"
LBN 11		15h 50m 37s	-04° 04' 01"
LBN 19		15h 50m 36s	-02° 49' 01"
LBN 20		16h 26m 44s	-09° 36' 42"
LBN 22		16h 28m 44s	-09° 31' 34"
LBN 26		18h 05m 03s	-24° 19' 44"
LBN 52		18h 19m 55s	-17° 58' 39"
LBN 68		18h 19m 50s	-13° 53' 39"
LBN 70		18h 19m 49s	-12° 58' 39"
LBN 113		20h 13m 34s	+00° 50' 53"
LBN 140		21h 42m 29s	+06° 13' 44"
LBN 185		20h 23m 56s	+34° 19' 45"
LBN 239		20h 13m 44s	+41° 19' 09"
LBN 270		20h 23m 44s	+42° 09' 45"
LBN 306		21h 44m 12s	+29° 53' 48"
LBN 331		20h 13m 32s	+47° 39' 08"
LBN 434		23h 42m 32s	+09° 16' 38"
LBN 534		23h 40m 26s	+48° 46' 38"
LBN 619		00h 53m 42s	+34° 36' 16"
LBN 683		09h 14m 42s	+70° 47' 34"
LBN 896		04h 27m 27s	-06° 13' 21"
LBN 943		06h 33m 40s	05° 37' 39"
LBN 945		05h 15m 28s	-04° 56' 41"
LBN 962		05h 41m 30s	-03° 08' 33"
LBN 991		05h 11m 19s	-12° 26' 23"
LBN 1001		05h 32m 20s	-10° 57' 54"
LBN 1010		05h 42m 18s	-12° 58' 37"
LBN 1064		07h 24m 59s	-29° 05' 59"
LBN 1088		09h 30m 09s	-31° 13' 12"
LBN 1089		09h 57m 14s	-29° 14' 19"
LBN 1090		10h 01m 12s	-32° 14' 28"
LBN 1091		15h 19m 02s	-29° 50' 52"

Object	Common Name	RA	Dec
LBN 1122		15h 40m 40s	-07° 09' 37"
M 1	Crab Nebula	05h 34m 32s	+22° 00' 52"
M 8	Lagoon Nebula	18h 03m 37s	-24° 23' 12"
M 16	Eagle Nebula	18h 18m 48s	-13° 49' 00"
M 17	Omega Nebula	18h 20m 26s	-16° 10' 36"
M 20	Trifid Nebula	18h 02m 23s	-23° 01' 48"
M 42, M 43	Orion Nebula	05h 35m 17s	-05° 23' 28"
M 78		05h 46m 47s	+00° 00' 50"
NGC 281	Pac Man Neb	00h 52m 59s	+56° 37' 19"
NGC 896		02h 24m 48s	+61° 54' 00"
NGC 1333	Embryo Neb	03h 29m 02s	+31° 20' 54"
NGC 1491	Fossil Footprint Neb	04h 02m 54s	+57° 17' 00"
NGC 1499	California Nebula	04h 00m 42s	+36° 37' 00"
NGC 1554-55	Hind's Nebula	04h 21m 48s	+19° 32' 00"
NGC 1579	Northern Trifid Nebula	04h 30m 42s	+35° 15' 00"
NGC 1624		04h 40m 00s	+50° 27' 00"
NGC 1931		05h 31m	+34° 15' 00"
NGC 1973, 75, 77	Running Man Neb	05h 35m 15s	-04° 48' 23"
NGC 1990	Epsilon Orionis Neb	05h 36m 16s	-01° 12' 07"
NGC 1999	Rubber Stamp Neb	05h 36m 27s	-06° 43' 18"
NGC 2024	Flame Nebula	05h 41m 54s	-01° 51' 00"
NGC 2070	Tarantula Nebula	05h 38m 38s	-69° 05' 42"
NGC 2149		06h 03m 31s	-09° 43' 50"
NGC 2174	Monkey Head Nebula	06h 09m 42s	+20° 30' 00"
NGC 2237, 38, 39, 46	Rosette Nebula	06h 33m 45s	+04° 59' 54"
NGC 2261	Hubble's Var. Neb	06h 39m 10s	+08° 45' 00"
NGC 2264	Cone Nebula	06h 41m	+09° 53' 00"
NGC 2296		06h 48m 39s	-16° 54' 04"
NGC 2327	Seagull Nebula	07h 04m 07s	-11° 18' 51"
NGC 2359	Thor's Helmet	07h 18m 30s	-13° 13' 48"
NGC 2736	Pencil Nebula	09h 00m 17s	-45° 54' 57"
NGC 3199		10h 16m 33s	-57° 56' 02"
NGC 3372	Eta Carina/Keyhole Neb	10h 45m 08s	-59° 52' 04"
NGC 3503		11h 01m 17s	-59° 50' 17"
NGC 3579		11h 11m 59s	-61° 15' 00"

Object	Common Name	RA	Dec
NGC 6164-5		16h 33m 41s	-48° 04' 59"
NGC 6188		16h 40m 05s	-48° 47' 00"
NGC 6334	Cat's Paw Nebula	17h 19m 58s	-35° 57' 47"
NGC 6357	Lobster Neb	17h 24m 00s	-34° 20' 00"
NGC 6729	R CrA Nebula	19h 01m 54s	-36° 57' 12"
NGC 6820		19h 42m 28s	+23° 05' 15"
NGC 6888	Crescent Nebula	20h 12m 07s	+38° 21' 18"
NGC 6960	Veil Nebula West	20h 45m 38s	+30° 42' 30"
NGC 6974	Veil Nebula Central	20h 51m 04s	+31° 49' 41"
NGC 6992, 95	Veil Nebula East	20h 56m 19s	+31° 44' 34"
NGC 7000	North America Nebula	20h 59m 17s	+44° 31' 44"
NGC 7023	Iris Nebula	21h 01m 36s	+68° 10' 10"
NGC 7538	Northern Lagoon Neb	23h 13m 46s	+61° 28' 21"
NGC 7635	Bubble Nebula	23h 20m 48s	+61° 12' 06"
RCW 47		10h 05m 12s	-58° 57' 00"
RCW 50		10h 27m 24s	-57° 09' 00"
RCW 58		11h 06m 18s	-65° 34' 00"
RCW 59		11h 37m 00s	-57° 00' 00"
RCW 102		16h 17m 48s	-51° 55' 00"
RCW 104		16h 23m 59s	-51° 30' 59"
Sh 2-12		17h 35m 55s	-32° 35' 58"
Sh 2-13		17h 30m 28s	-31° 33' 46"
Sh 2-46		18h 06m 11s	-14° 09' 31"
Sh 2-82		19h 30m 20s	+18° 16' 31"
Sh 2-129		21h 11m 44s	+59° 57' 40"
Sh 2-134		22h 11m 29s	+59° 24' 37"
Sh 2-137		21h 57m 07s	+64° 41' 37"
Sh 2-155	Cave Nebula	22h 56m 43s	+62° 37' 04"
Sh 2-163		23h 33m 19s	+60° 47' 09"
Sh 2-183		00h 53m 59s	+65° 42' 35"
Sh 2-210		04h 30m 59s	+52° 33' 10"
Sh 2-218		05h 41m 16s	+52° 11' 18"
Sh 2-240		05h 41m 00s	+28° 06' 14"
Sh 2-249		06h 20m 58s	+23° 05' 23"
Sh 2-264		05h 35m 12s	+09° 56' 00"

Object	Common Name	RA	Dec
SH 2-276	Barnard's Loop	05h 27m 28s	-03° 57' 55"
Sh 2-280		06h 34m 19s	+02° 32' 23"
Sh 2-285		06h 55m 12s	-00° 30' 37"
Sh 2-304		06h 43m 26s	-24° 07' 59"
vdB 14		03h 29m 00s	+59° 56' 42"
vdB 15		03h 29m 30s	+58° 52' 30"
vdB 18		03h 35m 06s	+38° 00' 00"
vdB 20	Electra Neb	03h 44m 54s	+24° 07' 00"
vdB 21	Maia Nebula	03h 45m 24s	+24° 22' 00"
vdB 22	Merope Nebula	03h 46m 06s	+23° 56' 00"
vdB 23	Alcyone Nebula	03h 47m 12s	+24° 06' 00"
vdBH 81		17h 05m 14s	-51° 06' 07"

Bright Nebulae Log (1)

Object	Date	Object	Date
Ced 122		IC 2169	
DWB 111		IC 2220	
GK-N1901		IC 2631	
Gum 12		IC 4604	
Gum 32		IC 4628	
Gum 39		IC 4701	
Gum 41		IC 4812	
IC 59, IC 63		IC 4954	
IC 348		IC 5067-68, 70	
IC 353		IC 5146	
IC 360		LBN 8	
IC 405		LBN 10	
IC 425		LBN 11	
IC 434		LBN 19	
IC 443		LBN 20	
IC 468		LBN 22	
IC 848		LBN 26	
IC 1287		LBN 52	
IC 1318		LBN 68	
IC 1340		LBN 70	
IC 1396		LBN 113	
IC 1470		LBN 140	
IC 1805		LBN 185	
IC 2118		LBN 239	
IC 2162		LBN 270	

Bright Nebulae Log (2)

Object	Date	Object	Date
LBN 306		M 78	
LBN 331		NGC 281	
LBN 434		NGC 896	
LBN 534		NGC 1333	
LBN 619		NGC 1491	
LBN 683		NGC 1499	
LBN 896		NGC 1554-55	
LBN 943		NGC 1579	
LBN 945		NGC 1624	
LBN 962		NGC 1931	
LBN 991		NGC 1973, 75, 77	
LBN 1001		NGC 1990	
LBN 1010		NGC 1999	
LBN 1064		NGC 2024	
LBN 1088		NGC 2070	
LBN 1089		NGC 2149	
LBN 1090		NGC 2174	
LBN 1091		NGC 2237, 38, 39, 46	
LBN 1122		NGC 2261	
M 1		NGC 2264	
M 8		NGC 2296	
M 16		NGC 2327	
M 17		NGC 2359	
M 20		NGC 2736	
M 42, M 43		NGC 3199	

Bright Nebulae Log (3)

Object	Date	Object	Date
NGC 3372		Sh 2-46	
NGC 3503		Sh 2-82	
NGC 3579		Sh 2-129	
NGC 6164-5		Sh 2-134	
NGC 6188		Sh 2-137	
NGC 6334		Sh 2-155	
NGC 6357		Sh 2-163	
NGC 6729		Sh 2-183	
NGC 6820		Sh 2-210	
NGC 6888		Sh 2-218	
NGC 6960		Sh 2-240	
NGC 6974		Sh 2-249	
NGC 6992, 95		Sh 2-264	
NGC 7000		SH 2-276	
NGC 7023		Sh 2-280	
NGC 7538		Sh 2-285	
NGC 7635		Sh 2-304	
RCW 47		vdB 14	
RCW 50		vdB 15	
RCW 58		vdB 18	
RCW 59		vdB 20	
RCW 102		vdB 21	
RCW 104		vdB 22	
Sh 2-12		vdB 23	
Sh 2-13		vdBH 81	