

PER COLLINDER
CATALOGUE OF OPEN GALACTIC CLUSTERS

Explanation to the Catalogue.

The *first* column contains the number of the object in the present Catalogue.

The *second* column gives the N. G. C. number, or the I. C. number, or the number assigned in other sources to objects not in N. G. C. or its sequels (Mel. = Melotte; Harv. = Harvard; Rb = Raab; Tr. = Trümpler).

In the *third* and *fourth* column are given in the upper line the A. R. and Decl. reduced to 1900 and in the lower line the corresponding galactic coordinates l and b . For the position of the Galactic Pole $\alpha = 12^{\text{h}}40^{\text{m}}$, $\delta = +28^{\circ}$, was adopted.

In the following *eight* columns the data are given as resulting from a survey of open galactic clusters by Lundmark, using the Franklin-Adams plates, and by Collinder, using the Franklin-Adams charts. The data are so arranged that the results of Lundmark are given in the upper lines and the results of Collinder in the lower lines.

These eight columns contain in order: *the 5th*: the dimensions in minutes of arc; *the 6th*: the integrated magnitude, the number within brackets indicating the number of individual estimates; *the 7th*: and *8th*: the concentrations, C_N and C_M , respectively; *the 9th*: the number of stars in the cluster; *the 10th*: the class; *the 11th*: the elongation estimated with regard to the equatorial system; *the 12th*: the index of asymmetry, the angles of direction being referred to the equatorial system.

The following *three* columns contain in the upper lines the linear galactic coordinates in light-years as derived from the distances in the last column and in the lower lines the following functions of direction cosines:

$$\begin{aligned}x &= 1000 \times \cos b \cos (l - 330^{\circ}); \\y &= 1000 \times \cos b \sin (l - 330^{\circ}); \\z &= 1000 \times \sin b;\end{aligned}$$

where l and b are the galactic coordinates.

The *last* column of the Table (*the 16th*) contains in the upper lines the mean of the parallaxes as derived from the integrated magnitudes and apparent dimensions and in the lower lines the mean of the corresponding distances expressed in light-years.

When the observers could not measure or evaluate a certain quantity, the sign — is given in the corresponding place of the Table. Uncertainty in data is indicated by \pm or by ?.

The letters a or $n^?$ after the abbreviation for class denote suspected absorption or nebulosity.

Catalogue of Open Clusters.

1931AnLun...2....1C

N r.	NGC	α l	δ b	Dim.	m_t	C_N	C_M	N	Class	E	I_A	X x	Y y	Z z	π Distance
1	103	0 ^h 19 ^m 8 87 ^s .5	+60°47' - 1°1	5'×4'	10 ^m 8 (3)	0.0	0.05	10	Plei.	120°	0.2 (50°)	- 7210 - 462	+13840 + 887	- 300 - 19	0.00023 15600
2	129	0 24.3 88.0	+59 40 - 2.3	11×11 10×7	10.0 (6) 9.6 (3)	0.22 0.1	0.07 0.0	35 20	Plei. Plei.	— 165°	0.3 (150°)	- 4460 - 469	+ 8380 + 882	- 382 - 40	0.00041 9500
3	133	0 25.5 88.3	+62 48 + 0.9	9×6 8×5	9.1 (2) 9.6 (2)	0.1 0.2	0.15 0.0	40 20	Plei. Plei.+	150° 145°	0.4 (150°)	- 4400 - 476	+ 8130 + 879	+ 144 + 15	0.00038 9250
4	136	0 25.9 88.3	+60 58 - 1.0	2×2	11.3 (2)	0.3	0.0	10	Præs.+	—	—	-12800 - 474	+23900 + 882	- 473 - 18	0.00012 27100
5	146	0 27.4 88.5	+62 43 + 0.8	8×6 6×6	9.8 (1) 9.5 (3)	0.09 0.1	0.1 —	20 20	Plei. Plei.	70° —	0.45 (65°)	- 4910 - 476	+ 9050 + 879	+ 144 + 14	0.00033 10300
6	188	0 35.1 89.9	+84 47 +22.8	18×18	9.3 (1)	0.12	0.1	70	Præs.	100°	0.45(280°)	- 3240 - 460	+ 5640 + 800	+ 2730 + 387	0.00064 7050
7	225	0 37.6 89.7	+61 14 - 0.7	15×8 15×10	9.1 (1) 8.8 (2)	0.05 0.0	-0.15 -0.1	22 18	Plei. Plei.	80° 75°	0.4 (70°)	- 847 - 495	+ 1484 + 866	- 20 - 12	0.00191 1710
8	281	0 47.0 90.6	+56 5 - 6.0	22×10	7.4 (3)	0.04	0.3	18	Neb.	80°	0.4 (260°)	- 1890 - 506	+ 3190 + 856	- 390 - 105	0.00093 3730
9	366	1 0.0 92.4	+61 48 0.0	3×3	11.8 (2)	0.05	0.15	10	Plei.	—	0.38 (95°)	-13990 - 536	+22100 + 844	0 0	0.00019 26100
10	381	1 2.1 92.7	+61 0 - 0.8	8×8 7×7	9.2 (1) 9.4 (3)	0.12 0.1	0.1 0.1	28 38	Præs. Præs.	— —	0.4 (20°) 0.4 (10°)	- 5030 - 540	+ 7840 + 842	- 130 - 14	0.00036 9310
11	436	1 9.4 93.8	+58 17 - 3.5	6×5.5 5×5	8.8 (4) 9.8 (2)	0.05 0.2	0.2 0.2	20 25	Plei. Præs.	135° —	— —	- 5770 - 554	+ 8620 + 830	- 630 - 61	0.00031 10400
12	457	1 12.8 94.4	+57 48 - 3.9	13×13 17×12	7.5 (5) 8.4 (2)	0.32 0.3	0.2 0.2	45 40	Præs.- Præs.	— 50°	0.42 (40°)	- 2790 - 562	+ 4090 + 826	- 340 - 68	0.00068 4960
13	559	1 22.8 94.9	+62 47 + 1.2	7.5×7.5 12×9	7.3 (1) 7.5 (1)	0.17 0.1	0.1 0.1	35 35	Præs.- Præs.-	— 90°	0.45(110°)	- 3030 - 572	+ 4350 + 820	+ 110 + 21	0.00063 5300
14	581	1 26.6 95.8	+60 11 - 1.3	6×6 6×5	6.8 (3) 7.0 (2)	0.1 0.1	-0.35 -0.4	25 25	Plei. Præs.---	— 140°	0.15(320°) 0.2 (320°)	- 4750 - 585	+ 6590 + 811	- 190 - 23	0.00040 8120
15	Tr. 1	1 29.0 96.0	+60 46 - 0.6	4×4 —	8.8 (3) 9.0 (2)	0.4 —	0.3 —	15 —	Præs.- —	— —	0.25(330°)	- 6640 - 588	+ 9140 + 809	- 110 - 10	0.00030 11300
16	609	1 30.3 95.5	+64 2 + 2.6	2.5×2.5	12.7 (3)	0.15	0.1	10	Præs.	—	0.48(330°)	-17870 - 582	+24960 + 813	+ 1380 + 45	0.00011 30700
17	637	1 36.0 96.2	+63 30 + 2.2	3×2 3×2	7.1 (1) 7.5 (1)	0.2 —	-0.08 —	12 11	Plei. - Plei.	10° 5°	0.32(190°) 0.35(185°)	- 6670 - 590	+ 9120 + 807	+ 430 + 38	0.00065 11300
18	654	1 37.2 96.8	+61 23 + 0.1	5×5 5×5	10.0 (3) 9.5 (3)	0.2 0.2	-0.2 0.0	25 30	Præs. Præs.	— —	0.35 (0°) 0.3 (330°)	- 7250 - 598	+ 9660 + 798	+ 20 + 2	0.00027 12100
19	659	1 37.4 97.1	+60 12 - 1.0	5×5 3×2	9.8 (1) 9.9 (3)	0.1 0.1	0.2 0.2	25 15	Præs.- Præs.	— 110°	0.3 (160°) 0.4 (130°)	- 8070 - 601	+10680 + 797	- 240 - 18	0.00024 13400
20	663	1 39.2 97.2	+60 44 - 0.4	25×15 15×10	7.1 (5) 7.9 (3)	0.2 0.15	-0.12 -0.1	80 60	Præs. Præs.a	40° 145°	0.28(340°) 0.3 (320°)	- 4890 - 604	+ 6490 + 799	- 50 - 6	0.00040 8120
21		1 44.5 107.3	+26 45 -33.1	7×4.5 7×5	8.1 (3) 8.4 (2)	-0.2 -0.2	-0.4 0.1	12 15	Plei. - Plei. -	130° 140°	0.1 (180°) 0.1 (180°)	- 4520 - 616	+ 4160 + 568	- 4002 - 546	0.00045 7330
22	744	1 51.8 100.2	+54 59 - 5.6	11×11 8×6	9.4 (3) 8.6 (2)	0.05 0.0	-0.05 -0.1	25 12	Plei. Plei.	— 135°	0.4 (215°)	- 4860 - 642	+ 5750 + 760	- 740 - 98	0.00045 7570
23	752	1 51.8 105.4	+37 11 -22.7	50×50 45×37	6.7 (3) 6.5 (4)	0.2 0.1	0.05 -0.1	58 50	Præs. Plei.+a	— 140°	0.40(130°) 0.45(140°)	- 775 - 656	+ 763 + 647	- 460 - 386	0.00275 1180
24	869	2 12.0 102.4	+56 41 - 3.1	30×30 30×30	4.5 (1) 4.1 (3)	0.6 0.6	0.25 0.2	350 250	Præs. Præs.	— —	0.25(100°) 0.3 (130°)	- 4770 - 673	+ 5220 + 736	- 380 - 54	0.00046 7100
25	884	2 15.4 102.9	+56 39 - 3.0	30×30 30×30	4.0 (1) 4.7 (2)	0.5 0.7	0.3 0.4	300 200	Præs.- Præs.	— —	0.25(240°) 0.3 (225°)	- 5520 - 680	+ 5920 + 729	- 420 - 52	0.00040 8120

Catalogue of Open Clusters.

Nr.	NGC	α l	δ b	Dim.	m_t	C_N	C_M	N	Class	E	I_A	X x	Y y	Z z	π Distance
26	IC 1805	2 ^h 25 ^m 2	+61° 0'	20' × 15'	7 ^m 0 (3)	0.1	0.08	30	Plei.	160°	0.4 (160°)	- 8360	+ 9290	+ 320	0.00026
		102 ^s 4	+ 1° 5'	22 × 20	6.6 (2)	0.1	0.1	25	Plei.-	150°	—	- 699	+ 743	+ 26	12500
27	956	2 26.0	+44 12	10 × 6	8.6 (2)	0.0	-0.2	20	Plei.-	150°	—	- 9920	+ 8530	- 3270	0.00024
		109.3	-14.0	9 × 6	9.2 (2)	0.2	0.1	20	Plei.-a	140°	0.4 (320°)	- 735	+ 632	- 242	13500
28	957	2 26.4	+57 5	15 × 7	7.2 (2)	0.08	0.0	25	Præs.	75°	0.35 (100°)	- 3170	+ 3270	- 160	0.00072
		104.1	- 2.0	10 × 5	7.2 (2)	0.0	-0.7	18	Plei.-	85°	0.45 (85°)	- 696	+ 718	- 35	4560
29	Tr. 2	2 30.2	+55 32	20 × 20	6.9 (3)	0.05	0.1	28	Plei.	—	0.3 (345°)	- 1390	+ 1380	- 110	0.00166
		105.2	- 3.2	15 × 7	7.0 (4)	0.1	-0.1	18	Plei.	90°	—	- 708	+ 703	- 56	1960
30	1027	2 35.0	+61 7	24 × 16	7.5 (1)	0.32	0.2	40	Neb. cl.	110°	0.2 (280°)	- 5310	+ 5700	+ 280	0.00042
		103.5	+ 2.1	22 × 18	7.3 (1)	0.2	0.0	40	Neb. cl.	45°	—	- 682	+ 732	+ 36	7790
31	1039	2 35.6	+42 21	40 × 30	6.0 (5)	0.15	0.25	45	Præs.	132°	0.45 (110°)	- 1280	+ 1030	- 440	0.00191
		111.7	-14.8	37 × 30	5.5 (3)	0.3	0.5	60	Præs.	130°	—	- 747	+ 605	- 255	1710
32	IC 1848	2 43.5	+60 1	20 × 15	7.6 (4)	0.1	-0.1	40	Plei.-	90°	0.15 (280°)	- 2480	+ 2490	+ 100	0.00094
		104.9	+ 1.6	20 × 8	6.3 (3)	0.1	+0.3	20	Plei.-	85°	0.1 (265°)	- 706	+ 708	+ 28	3510
33		2 51.5	+60 0	50 × 30	6.2 (3)	0.1	-0.4	40	Plei.	70°	0.3 (230°)	- 1200	+ 1170	+ 50	0.00244
		105.8	+ 1.8	100 × 60	5.6 (2)	0.2	0.2	100	Plei.n?	75°	0.3 (225°)	- 717	+ 697	+ 31	1680
34		2 53.2	+60 0	25 × 25	7.1 (3)	0.08	0.2	30	Plei.	120°	0.4 (100°)	- 1870	+ 1810	+ 100	0.00150
		105.9	+ 2.1	60 × 45	6.4 (2)	0.1	0.2	60	Plei.n?	135°	0.4 (10°)	- 718	+ 696	+ 37	2600
35	1193	2 59.2	+43 59	2 × 1	12.6 (2)	0.05	0.00	6	Plei.	170°	0.46 (170°)	-29530	+21460	- 7220	0.00009
		114.8	-11.3									- 798	+ 580	- 195	37000
36	Tr. 3	3 3.6	+62 52	29 × 18	7.2 (4)	0.1	0.25	42	Plei.	0°	0.4 (225°)	- 2290	+ 2240	+ 300	0.00106
		105.6	+ 5.3	20 × 13	6.9 (3)	0.1	-0.1	30	Plei.-	35°	0.3 (220°)	- 711	+ 697	+ 92	3220
37	1220	3 4.4	+52 57	2.0 × 0.8	11.8 (2)	0.0	0.0	6	Plei.	177°	0.3 (10°)	-24020	+19590	- 1740	0.00011
		110.8	- 3.2									- 775	+ 632	- 56	31000
38	1245	3 7.8	+46 52	12.5 × 7.5	9.0 (4)	0.2	-0.05	70	Præs.+	70°	0.37 (65°)	- 7780	+ 5660	- 1360	0.00039
		114.5	- 8.0	7 × 6	8.8 (2)	0.2	0.0	65	Præs.	70°	0.4 (70°)	- 798	+ 580	- 139	9750
39	Pers. mov. cl.	3 15	+48 15	210 × 160	2.2 (3)	-0.05	-0.1	58	Plei.-	130°	0.38 (315°)	- 480	+ 340	- 60	0.00550
		114.8	- 6.2	220 × 180	2.3 (4)	-0.1	-0.2	60	Plei.-	140°	0.4 (325°)	- 812	+ 573	- 108	592
40	1342	3 25.2	+36 59	17 × 12	7.1 (3)	0.1	0.05	32	Plei.-	70°	0.42 (80°)	- 3280	+ 1750	- 950	0.00086
		123.0	-14.3	17 × 12	7.2 (4)	0.1	-0.1	30	Plei.	70°	—	- 852	+ 454	- 247	3850
41	IC 348	3 38.3	+31 56	3 × 3	8.1 (3)	0.1	0.3	12	Neb. cl.	—	0.15 (80°)	-12160	+ 4650	- 3960	0.00024
		129.1	-16.9	8 × 5	8.0 (1)	0.1	0.6	10	Neb. cl.	90°	0.15 (90°)	- 894	+ 342	- 291	13600
42	Plei.	3 41.5	+23 48	120 × 100	1.6 (3)	0.05	0.1	80	Neb. cl.	130°	0.33 (300°)	- 630	+ 180	- 270	0.00457
		134.7	-22.2	90 × 75	1.5 (3)	0.0	0.1	100	Neb. cl. a	140°	0.3 (280°)	- 886	+ 254	- 378	713
43	1444	3 41.9	+52 21	5 × 3	6.4 (2)	0.0	0.9	15	μ Norm.	60°	0.48 (350°)	- 7070	+ 4800	- 60	0.00050
		115.8	- 0.4	3 × 2.5	6.4 (1)	0.0	1.0	7	μ Norm.	70°	—	- 827	+ 562	- 7	8550
44	1496	3 56.8	+52 20	7.5 × 5	9.6 (2)	0.05	0.2	15	Plei.	125°	0.2 (150°)	- 8540	+ 5380	+ 170	0.00034
		117.8	+ 1.0									- 846	+ 533	+ 17	10100
45	1502	3 58.7	+62 3	7 × 5	5.5 (3)	0.1	0.4	28	μ Norm.	160°	0.22 (150°)	- 5710	+ 4580	+ 1100	0.00044
		111.3	+ 8.5	8 × 7	5.7 (1)	0.4	0.7	15	μ Norm.	135°	0.3 (135°)	- 771	+ 618	+ 148	7410
46	1513	4 2.6	+49 15	10 × 7.5	8.8 (4)	0.1	0.05	40	Præs.	160°	0.3 (140°)	- 6520	+ 3710	- 80	0.00046
		120.3	- 0.6	10 × 8	9.0 (2)	0.1	0.1	40	Præs.-	160°	0.4 (160°)	- 869	+ 495	- 10	7500
47	1528	4 7.8	+50 59	24 × 24	6.4 (4)	0.25	0.08	60	Præs.	—	0.35 (305°)	- 4240	+ 2550	+ 100	0.00066
		119.7	+ 1.2	20 × 15	6.5 (3)	0.1	0.1	50	Præs.	135°	—	- 857	+ 516	+ 21	4950
48	IC 361	4 10.7	+58 3	7 × 6	11.2 (3)	0.2	0.0	40	Præs.+	110°	0.45 (310°)	-14430	+10110	+ 2040	0.00026
		115.1	+ 6.6									- 815	+ 571	+ 195	17700
49	1545	4 13.4	+50 0	20 × 16	8.0 (4)	0.03	0.25	25	Plei.	50°	0.27 (250°)	- 3940	+ 2170	+ 120	0.00076
		121.1	+ 1.5	14 × 12	7.6 (2)	0.1	0.2	18	Plei.+a	175°	0.3 (245°)	- 875	+ 483	+ 26	4500
50	Taur. mov. cl.	4 14	+15 23	360 × 300	0.8 (3)	0.1	0.05	40	Plei.+	150°	0.4 (160°)	- 1110	+ 60	- 460	0.00269
		147.0	-22.4	360 × 280	0.8 (3)	0.2	0.1	36	Plei.+	155°	0.4 (155°)	- 920	+ 48	- 381	1210

Catalogue of Open Clusters.

B5

Nr.	NGC	α l	δ b	Dim.	m_t	C_N	C_M	N	Class	E	l_A	X x	Y y	Z z	π Distance
51	1582	4 ^h 25 ^m 0	+43°38'	40'×35'	6 ^m 7 (4)	0.05	0.2	80	Plei. --	45°	0.2 (30°)	- 3090	+ 1290	- 110	0.00130
		127°4	- 1°9	30×30	7.3 (3)	0.1	0.1	60	Plei. ---a	—	0.2 (355°)	- 922	- 384	- 33	3350
52	1605	4 27.8	+45 2	5×5	11.0 (4)	0.1	0.0	30	Præs.	—	—	-15850	+ 6950	- 160	0.00021
		126.3	- 0.5									- 916	+ 402	- 9	17300
53	1624	4 32.8	+50 15	2.0×1.8	11.8 (3)	0.05	0.2	35	Plei.	45°	0.4 (60°)	-46380	+23450	+ 3170	0.000063
		123.2	+ 3.5									- 892	+ 451	+ 61	52000
54	1647	4 40.2	+18 53	50×40	6.3 (3)	0.15	0.0	60	Præs.	135°	0.4 (100°)	- 2500	+ 90	- 690	0.00126
		148.2	-15.4	40×30	6.1 (2)	0.2	0.0	60	Præs.	90°±	0.4 (90°)	- 960	+ 34	- 265	2600
55	1662	4 42.9	+10 45	20×20	8.2 (2)	0.05	0.05	25	Plei.	—	0.22 (45°)	- 2210	- 210	- 800	0.00138
		155.5	-19.7	18×15	7.9 (2)	—	0.05	14	Plei.	135°	—	- 936	- 90	- 337	2360
56	1664	4 43.9	+43 31	18×18	7.5 (4)	0.22	0.0	60	Præs.+	—	0.15 (165°)	- 2430	+ 930	+ 30	0.00126
		129.4	+ 0.7	12×12	8.4 (3)	0.2	0.0	30	Plei.+a	—	—	- 934	+ 359	+ 12	2600
57	1746	4 57.6	+23 40	50×50	6.0 (3)	0.22	0.03	100	Præs.+	—	0.45 (135°)	- 3210	+ 170	- 520	0.00100
		146.8	- 9.3	45×40	6.2 (3)	0.2	0.1	70	Præs.	145°	0.35 (150°)	- 985	+ 51	- 161	3260
58	1778	5 1.3	+36 55	8×6	8.3 (3)	0.09	0.1	30	Plei.	90°±	0.35 (160°)	- 7390	+ 1760	- 90	0.00044
		136.6	- 0.7	8×4	8.8 (2)	0.2	0.1	15	Plei.	150°	—	- 972	+ 232	- 12	7600
59	1807	5 4.9	+16 24	17×17	7.8 (3)	0.05	0.00	19	Plei.	—	0.45 (55°)	- 2530	- 170	- 540	0.00126
		153.9	-12.1	20×15	8.8 (3)	0.2	0.0	18	Plei.	45°±	0.4 (50°)	- 972	- 67	- 209	2600
60	1817	5 6.3	+16 34	25×23	7.9 (4)	0.12	0.05	65	Præs.	100°±	0.4 (255°)	- 4010	- 270	- 820	0.00081
		153.6	-11.7	20×20	7.8 (4)	0.0	-0.1	85	Præs.	—	—	- 997	- 68	- 203	4020
61	1857	5 13.2	+39 14	8×6	8.6 (3)	0.06	-0.05	30	Plei.	170°	0.47 (0°)	- 6980	+ 1740	+ 320	0.00045
		136.1	+ 2.5	8×6	8.2 (3)	0.1	0.0	40	Plei.	160°	0.45 (0°)	- 970	+ 242	+ 44	7200
62		5 15	+40 53	35×22	4.4 (2)	0.0	-0.4	15	Plei. --	100°	0.2 (320°)	- 1550	+ 390	+ 90	0.00212
		135.7	+ 3.3	30×30	4.1 (3)	0.0	-0.1	15	Plei. --	135°	0.22 (300°)	- 967	+ 246	+ 58	1600
63	1893	5 16.1	+33 18	13×10	8.0 (3)	0.08	0.1	28	Plei.+a	80°	0.15 (250°)	- 5340	+ 800	- 50	0.00060
		141.7	- 0.5	14×10	7.7 (3)	0.2	0.1	30	Plei. a	80°	—	- 989	+ 148	- 9	5400
64	1883	5 18.5	+46 27	2.5×2.5	12.2 (3)	0.03	0.0	12	Plei.	—	0.25 (260°)	-27330	- 9520	+ 3770	0.00012
		130.6	+ 7.4	3×2	11.7 (3)	0.1	—	12	—	80°±	—	- 936	- 326	+ 129	29200
65		5 20	+16 0	240×200	3.0 (4)	0.1	0.0	25	Plei.+	170°	0.35 (300°)	- 520	- 60	- 80	0.00755
		156.2	- 9.3	240×240	3.0 (3)	0.2	-0.2	30	Plei.	—	0.3 (280°)	- 994	- 108	- 160	525
66	1907	5 21.4	+35 14	4.5×4.0	9.9 (2)	0.2	—	15	Præs.	50°	0.4 (285°)	-15370	+ 2710	+ 440	0.00021
		140.3	+ 1.6	3×3	10.7 (3)	0.3	0.4	8	Præs.	—	—	- 985	+ 174	+ 28	15600
67	1912	5 22.0	+35 45	18×18	7.2 (3)	0.25	—	120	Præs. --	—	0.32 (225°)	- 3950	+ 770	+ 140	0.00081
		140.0	+ 2.0	20×20	6.8 (4)	0.3	0.2	120	Præs.a	—	—	- 982	+ 191	+ 35	4020
68	1931	5 24.8	+24 10	1.2×0.7	12.8 (2)	0.18	-0.15	22	Neb. cl.	5°	0.25 (10°)	- 3780	- 0	-53800	0.00006
		150.0	- 4.0									- 70	- 0	- 997	54000
69	Or. cl.	5 29.6	+ 9 52	60×35	3.0 (3)	0.07	-0.25	15	Neb. cl.	150°	0.2 (320°)	- 1080	- 260	- 210	0.00288
		163.5	-10.8	70×35	2.7 (3)	0.1	-0.2	25	Neb. cl.	140°	0.2 (310°)	- 954	- 229	- 187	1130
70	Or. Belt	5 30	- 1 10	240×140	0.6 (3)	0.15	1.0	90	Neb. cl.	125°	0.45 (120°)	- 1000	- 410	- 320	0.00288
		172.5	-16.4	250×120	0.6 (4)	0.2	0.1	125	Neb. cl.	140°	0.4 (140°)	- 886	- 367	- 282	1130
71	1960	5 29.5	+34 4	20×18	7.0 (2)	0.17	0.22	67	Præs.	0°±	0.42 (90°)	- 4380	+ 610	+ 190	0.00060
		142.2	+ 2.4	15×15	6.1 (3)	0.2	0.3	60	Præs.a	—	—	- 990	+ 139	+ 42	4420
72	1980	5 30.5	- 6 0	14×14	2.5 (1)	0.0	-0.08	12	Neb. cl.	—	0.2 (30°)	- 900	- 460	- 340	0.00302
		177.1	-18.7	15×12	2.5 (1)	-0.1	-0.1	12	Neb. cl.	25°	0.2 (20°)	- 843	- 432	- 321	1070
73	1981	5 30.2	- 4 30	30×20	4.2 (3)	-0.05	-0.1	12	Plei. --	170°	0.38 (130°)	- 1690	- 820	- 590	0.00166
		175.7	-17.5	30×20	4.2 (2)	-0.2	-0.3	13	Plei. --	90°	0.4 (110°)	- 860	- 414	- 301	1970
74		5 43.1	+ 7 22	3×3	14.2 (2)	—	—	10±	—	35°	—	-49980	-15260	- 8850	0.00010
		167.0	- 9.6	3×3	14.6 (3)	—	—	12±	—	40°	—	- 943	- 288	- 167	53000
75	2099	5 45.8	+32 31	35×35	6.1 (4)	0.5	0.4	270	Præs.++	—	0.37 (320°)	- 5160	+ 450	+ 400	0.00063
		145.3	+ 4.5	25×25	6.4 (3)	0.4	0.3	250	Præs.++	—	—	- 994	+ 87	+ 78	5190

Catalogue of Open Clusters.

Nr.	NGC	α l	δ b	Dim.	m_t	C_N	C_M	N	Class	E	I_A	X x	Y y	Z z	π Distance
76	2112	5 ^h 48 ^m 7	+ 0°22'	15'×8'	8 ^m 6 (2)	0.24	0.1	90	Præs.+	95°	0.42(285°)	- 6340	- 2760	- 1360	0.00053
		173°6	- 11°1	12×12	9.6 (2)	0.3	0.2	45	Præs.+	—	0.4 (285°)	- 899	- 392	- 193	7050
77	2129	5 55.0	+23 18	5×5	7.2 (3)	0.1	0.3	12	Plei.+	—	—	- 7330	- 550	+ 210	0.00058
		154.3	+ 1.6	5×5	6.7 (3)	0.1	0.2	20	Plei.+	—	—	- 997	- 75	+ 28	7350
78	2126	5 55.2	+49 54	8×4.5	9.8 (7)	0.1	-0.1	28	Plei.	21°	0.2 (10°)	- 10720	+ 3900	+ 2900	0.00031
		130.7	+14.4	6.5×4.5	10.5 (3)	0.1	-0.2	18	Plei.	10°	0.4 (10°)	- 916	+ 333	+ 248	11700
79	2141	5 57.5	+10 26	12×8	10.8 (3)	0.15	0.03	50	Præs.	120°	0.47(120°)	- 12280	- 3470	- 960	0.00042
		165.8	- 4.3									- 959	- 271	- 75	12800
80	Tr. 4	5 58.9	+24 0	5×5	8.5 (4)	0.1	0.05	15	Plei.+	—	0.27(160°)	- 10170	- 740	+ 480	0.00032
		154.2	+ 2.7	5×4	9.7 (3)	0.1	0.2	15	Plei.	140°	0.3 (155°)	- 997	- 73	+ 47	10200
81	2158	6 1.3	+24 6	4×4	11.6 (3)	0.1	0.05	25	Præs.	—	0.46(115°)	- 23900	- 1680	+ 1320	0.00016
		154.3	+ 3.2	3×2	12.1 (3)	0.4	0.2	—	Præs.+	110°	—	- 996	- 70	+ 55	24000
82	2168	6 2.7	+24 21	50×50	5.5 (3)	0.1	0.1	270	Præs.—	110°	0.27(295°)	- 3760	- 260	+ 240	0.00087
		154.3	+ 3.6	32×30	5.8 (3)	0.1	0.0	175	Præs.— a	140°	0.3 (280°)	- 996	- 70	+ 63	3780
83	2169	6 2.8	+13 58	5.5×5.5	7.5 (2)	-0.2	-0.15	20	Plei.—	—	0.15 (90°)	- 7050	- 1670	- 170	0.00062
		163.3	- 1.4	5×4	6.6 (2)	-0.2	-0.2	8	Plei.—	110°	0.1 (100°)	- 973	- 230	- 24	7250
84	2175	6 3.8	+20 20	18×18	6.7 (2)	0.03	1.0	15	Neb. cl.	—	0.05(200°)	- 8600	- 1240	+ 290	0.00042
		158.2	+ 1.9	15×15	6.8 (2)	-0.2	0.7	16	μ Norm.	—	0.09(180°)	- 989	- 143	+ 33	8700
85	2186	6 6.8	+ 5 28	5×3	9.3 (3)	0.1	-0.1	15	Præs.	80°	0.25 (90°)	- 10220	- 3960	- 900	0.00030
		171.2	- 4.7	4×3	9.0 (2)	0.2	—	10	Præs.	80°	0.25 (90°)	- 929	- 360	- 82	11000
86	2192	6 8.2	+39 53	7×5	10.9 (4)	0.15	0.0	30	Plei.+	45°	—	- 14620	+ 2330	+ 3160	0.00027
		141.0	+12.0									- 962	+ 153	+ 208	15200
87	2194	6 8.2	+12 50	11×9	10.4 (3)	0.25	0.05	70	Præs.+	135°±	0.4 (130°)	- 7150	- 1790	- 100	0.00031
		164.9	- 0.8	4×4	10.3 (3)	0.2	0.0	35	Præs.+	—	0.47(170°)	- 969	- 242	- 14	7380
88	2204	6 11.3	-18 37	13×13	9.1 (3)	0.15	0.03	90	Præs.	—	0.43(190°)	- 5610	- 5430	- 2050	0.00048
		193.5	- 14.7	12×12	9.6 (3)	0.3	0.1	65	Præs.	—	—	- 694	- 671	- 254	8090
89	9-12 Gem.	6 12	+23 40	40×30	5.6 (3)	0.0	0.2	17	Plei.	160°	0.23 (20°)	- 1620	- 170	+ 150	0.00200
		156.5	+ 5.2	45×35	5.8 (3)	0.1	0.2	20	Plei.	170°	0.35 (0°)	- 992	- 104	+ 91	1630
90	2215	6 16.0	- 7 15	12×10	8.6 (5)	0.1	0.2	25	Plei.	90°±	0.33(190°)	- 5370	- 3490	- 990	0.00052
		183.6	- 8.7	11×9	8.6 (2)	0.0	0.2	22	Plei.	50°	0.4 (210°)	- 828	- 538	- 152	6490
91		6 16.3	+ 2 24	25×10	6.0 (4)	0.02	-0.25	15	Plei.—	140°	0.4 (225°)	- 2570	- 1220	- 210	0.00116
		175.4	- 4.2	25×10	6.9 (3)	-0.2	-0.4	20	Plei.—	145°	0.35(270°)	- 900	- 427	- 73	2860
92		6 17.5	+ 5 11	12×10	8.7 (3)	-0.35	-0.5	20	Neb. cl.	50°	0.08(250°)	- 5830	- 2470	- 310	0.00054
		173.0	- 2.8	12×10	8.4 (3)	0.1	-0.3	30	Neb. cl.	45°	0.1 (280°)	- 920	- 390	- 49	6340
93	2232	6 21.8	- 4 41	30×10	4.3 (1)	-0.05	0.2	15	Plei.	135°	0.35(130°)	- 1550	- 660	- 200	0.00206
		181.4	- 6.6	30×10	4.0 (2)	0.1	0.1	18	Plei.—	140°	—	- 914	- 338	- 115	1700
94	2236	6 24.3	+ 6 54	7×7	11.9 (3)	0.14	0.18	15	Præs.	—	0.25 (95°)	- 18910	- 7650	0	0.00021
		172.1	0.0	4×3	11.4 (2)	0.1	0.1	18	Plei.—	90°	0.3 (100°)	- 927	- 375	0	20400
95		6 25.0	+10 0	24×14	6.7 (3)	0.06	-0.05	12	Neb. cl.	175°	0.42 (0°)	- 3000	- 1060	+ 70	0.00105
		169.4	+ 1.2	22×12	6.9 (3)	0.1	0.1	10	Neb. cl., a	170°	0.4 (350°)	- 943	- 332	+ 21	3180
96		6 25.1	+ 2 56	12×4	9.3 (3)	0.03	0.08	11	Plei.	45°	0.38 (50°)	- 6750	- 3370	- 290	0.00048
		176.5	- 2.2	12×4	8.9 (3)	0.1	0.0	12	Plei.	40°	—	- 894	- 446	- 38	7550
97		6 25.9	+ 5 59	25×18	5.4 (3)	0.0	-0.35	8	Plei.—	70°	0.35(235°)	- 1810	- 770	- 20	0.00163
		173.1	- 0.7	25×20	5.3 (3)	0.0	-0.4	9	Plei.	70°	0.3 (230°)	- 920	- 392	- 12	1970
98	2243	6 26.0	-31 13	5×5	10.2 (5)	0.5	0.3	40	Præs.+	—	0.42(200°)	- 8420	- 12500	- 4490	0.00022
		206.9	-16.8	4×3	10.9 (4)	—	—	—	Præs.?	10°	0.4 (190°)	- 540	- 801	- 288	15600
99	2244	6 27.0	+ 4 56	25×25	5.2 (2)	0.1	0.15	12	Neb. cl.	—	0.43 (80°)	- 6220	- 2770	- 70	0.00048
		174.1	- 0.6	20×20	5.3 (2)	0.3	0.1	18	Plei.+	—	0.4 (65°)	- 913	- 407	- 10	6810
100	2250	6 27.8	- 4 58	10×6	8.9 (4)	0.02	0.0	25	Plei.—	90°	0.3 (100°)	- 6270	- 4050	- 770	0.00045
		182.9	- 5.9									- 836	- 540	- 103	7500

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Nr.	NGC	α l	δ b	Dim.	m_t	C_N	C_M	N	Class	E	I_A	X x	Y y	Z z	π Distance
101	2251	6 ^h 29 ^m 3	+ 8°26'	15'×6'	8 ^m 5 (3)	-0.2	0.1	35	Plei. --	140°	0.18 (330°)	- 5660	- 2200	+ 170	0.00056
		171°3	+ 1°6	12×5	8.4 (2)	0.0	-0.1	20	Plei. --	140°	—	- 932	- 363	+ 28	6070
102	2252	6 29.6	+ 5 27	20×20	7.4 (3)	0.02	-0.1	75	Plei. + a	40°?	0.15 (260°)	- 4740	- 2140	- 10	0.00063
		174.3	- 0.1	7×7	8.0 (3)	-0.1	-0.2	10±	Plei.	110°	—	- 911	- 411	- 2	5200
103	2254	6 30.6	+ 7 45	4×4	10.7 (1)	0.05	0.1	10	Plei. --	—	0.4 (220°)	-16480	- 6690	+ 500	0.00019
		172.1	+ 1.6	4×4	11.1 (3)	0.1	0.1	20	Plei. --	—	—	- 926	- 376	+ 28	17800
104		6 31.1	+ 4 54	22×1.5	9.5 (1)	0.1?	0.0	25	Chain	0°	—	- 7490	- 3560	- 40	0.00044
		175.4	- 0.3	16×1	9.7 (2)	0.1	0.0	15	Chain	0°	—	- 903	- 429	- 5	8300
105	Tr. 5	6 31.2	+ 9 31	8×8	11.0 (1)	0.08	-0.05	34	Plei. --	—	0.3 (80°)	-13670	- 5140	+ 640	0.00030
		170.6	+ 2.5	8×6	10.8 (2)	0.1	0.0	20	Plei. --	95°	—	- 936	- 352	+ 44	14600
106		6 31.9	+ 6 2	50×40	4.6 (3)	0.07	-0.45	22	Plei. --	90°	0.2 (10°)	- 910	- 400	+ 20	0.00345
		173.8	+ 1.1	50×35	4.6 (3)	0.2	-0.2	23	Plei. --	110°	0.2 (10°)	- 915	- 404	+ 19	990
107		6 32.3	+ 4 49	40×30	5.4 (2)	0.00	-0.35	15	Plei. --	70°	0.3 (65°)	- 1590	- 760	+ 10	0.00182
		175.5	+ 0.4	40×30	5.4 (2)	-0.2	-0.5	30	Plei. --	120°±	0.25 (100°)	- 903	- 430	+ 7	1760
108	2259	6 33.0	+10 58	5×4	10.8 (3)	0.1	0.05	20	Plei. +	30°	0.4 (280°)	-16050	- 5540	+ 1070	0.00022
		169.5	+ 3.6									- 944	- 326	+ 63	17000
109	2262	6 33.2	+ 1 16	5×2	11.3 (2)	0.0	0.1	10±	Plei.	45°	—	-16720	- 9010	- 400	0.00021
		178.3	- 1.2									- 880	- 474	- 21	19000
110		6 33.2	+ 2 6	12×12	10.4 (3)	0.2	-0.1	105	Præs. +	—	0.4 (190°)	-10480	- 5430	- 170	0.00044
		177.4	- 0.8	15×9	10.6 (2)	0.1	0.0	60	Præs.	0°	—	- 888	- 460	- 14	11800
111		6 33.3	+ 6 59	3.2×3.2	7.0 (2)	0.3±	10 ±	8	μ Norm.	—	—	- 7450	- 3170	+ 210	0.00036
		173.0	+ 1.5	3.5×3	7.1 (2)	0.5	0.9	8	μ Norm.	0°	—	- 920	- 391	+ 26	8100
112	2264	6 35.5	+ 9 59	50×22	4.1 (3)	-0.1	-0.3	60	Plei. --	175°	0.13 (355°)	- 1920	- 740	+ 130	0.00158
		170.6	+ 3.7	32×22	4.1 (1)	—	—	45	μ Norm.	175°	0.2 (355°)	- 932	- 357	+ 65	2060
113	2266	6 37.0	+27 4	5×5	9.8 (3)	0.38	0.1±	30	Præs. ++	—	0.43 (140°)	-10990	- 770	+ 2270	0.00029
		155.4	+11.7	5×4	9.1 (3)	0.4	0.2	50±	Præs.	140°	—	- 981	- 69	+ 203	11200
114	2269	6 38.6	+ 4 40	4×4	9.2 (3)	0.11	0.15	14	Plei. +	—	0.4 (330°)	-12240	- 5890	+ 450	0.00024
		175.7	+ 1.9	4×2.5	10.4 (3)	—	0.4	6±	Plei.	150°	—	- 900	- 433	+ 33	13600
115		6 41.3	+ 1 52	10×5	9.1 (4)	0.08	-0.05	30	Plei. --	30°	0.36 (40°)	- 7110	- 3990	+ 250	0.00042
		179.3	+ 1.8	9×6	9.2 (3)	0.0	-0.1	25	Plei. - a	20°	—	- 872	- 489	+ 31	8150
116	2281	6 42.3	+41 10	25×18	6.7 (4)	0.15	0.05	50	Plei. +	150°	0.4 (45°)	- 2090	+ 290	+ 700	0.00148
		142.5	+18.4	12×8	7.7 (3)	0.0	0.3	23	Plei. a	135°	0.3 (140°)	- 945	+ 133	+ 315	2210
117	2286	6 42.6	- 3 4	15×15	8.0 (2)	0.15	0.05	58	Præs.	—	0.42 (5°)	- 4870	- 3160	- 90	0.00057
		183.0	- 0.9	13×13	8.6 (2)	-0.1	-0.4	50	Plei. --	—	—	- 839	- 545	- 16	5800
118	2287	6 42.7	-20 38	38×38	5.0 (5)	0.1	0.3	155	Præs. +	135°	0.45 (110°)	- 940	- 1090	- 230	0.00224
		198.7	- 9.0	37×32	5.0 (3)	0.2	0.4	160	Præs.	140°	0.3 (150°)	- 647	- 745	- 156	1460
119	2301	6 46.6	+ 0 35	20×20	6.2 (3)	0.15	0.08	80	Abs. cl.	—	0.4 (120°)	- 1630	- 940	+ 60	0.00174
		180.3	+ 1.7	20×11	6.4 (3)	0.3	0.1	60	Plei.	10°	0.4 (190°)	- 866	- 500	+ 30	1880
120	2304	6 49.2	+18 8	5.5×5.5	10.8 (2)	0.1	0.0	30	Præs.	—	0.3 (300°)	-18160	- 4540	+ 3420	0.00019
		164.9	+10.4	3×3	11.5 (4)	0.3	—	30±	Præs.	—	—	- 956	- 239	+ 180	19000
121		6 50.0	-24 30	60×40	5.6 (3)	0.04	-0.08	18	Plei.	130°	0.3 (320°)	- 1150	- 1490	- 320	0.00207
		202.5	- 9.6	50×35	6.1 (4)	-0.1	0.0	20	Plei. --	135°	0.4 (320°)	- 600	- 782	- 167	1910
122	2309	6 51.2	- 7 4	3×3	10.5 (4)	0.1	0.15	15	Plei. --	—	0.3 (270°)	-15340	-11560	- 310	0.00017
		187.6	- 0.9	3×3	10.8 (3)	0.2	0.1	14±	Plei.	—	—	- 799	- 602	- 16	19200
123	2311	6 52.8	- 4 27	10×4	9.6 (2)	0.1	0.05	26	Plei.	150°	0.3 (330°)	- 8150	- 5790	+ 120	0.00036
		185.4	+ 0.7	6×3	9.8 (2)	0.2	0.3	20	Plei.	140°	0.3 (330°)	- 815	- 579	+ 12	10000
124	2323	6 58.2	- 8 12	18×15	7.5 (3)	0.15	0.05	50	Plei. ++	140°	0.28 (5°)	- 1720	- 1390	0	0.00148
		189.4	+ 0.1	15×10	6.9 (6)	0.1	0.1	45	Plei. ++	170°	0.3 (0°)	- 777	- 629	+ 2	2210
125	2324	6 59.0	+ 1 12	10×6	8.8 (4)	0.32	0.0	63	Præs. ++	30°	0.4 (20°)	- 6750	- 4060	+ 660	0.00042
		181.2	+ 4.8	8×6	9.2 (2)	0.2	0.0	50	Præs. --	40°	—	- 855	- 514	+ 83	7900

Catalogue of Open Clusters.

Nr.	NGC	α l	δ b	Dim.	m_t	C_N	C_M	N	Class	E	I_A	X x	Y y	Z z	π Distance
126	2331	7 ^h 1 ^m 0	+27°30'	20'×16'	8 ^m 6 (2)	0.08	-0.05	25	Plei.	135°	0.38(165°)	- 4910	- 670	+ 1480	0.00075
		157°8	+16°6	20×13	8.4 (2)	0.1	-0.1	20	Plei.	135°	—	- 947	- 130	+ 286	5180
127	2335	7 1.8	- 9 56	12×12	9.1 (3)	0.05	0.2	35	Plei.+	—	0.42 (40°)	- 6120	- 5310	0	0.00045
		191.0	0.0	10×10	9.5 (3)	0.1	0.2	40	Plei.	—	0.4 (160°)	- 755	- 656	0	8100
128	2343	7 3.5	-10 30	7×7	8.0 (3)	0.05	-0.05	18	Plei.-	150°	0.35 (40°)	- 4900	- 4420	+ 20	0.00047
		192.0	+ 0.2	7×5	7.7 (3)	0.1	0.1	12	Plei.-	10°	—	- 743	- 669	+ 3	6600
129	2345	7 3.7	-13 1	14×10	8.3 (4)	0.18	0.0	60	Præs.-	15°	0.27 (45°)	- 3670	- 3540	- 90	0.00066
		194.2	- 1.0	15×10	7.9 (2)	0.1	0.0	45	Præs.—	50°	0.3 (50°)	- 719	- 695	- 18	5100
130	2353	7 9.8	-10 8	20×20	5.3 (3)	0.2	0.2	78	μ Norm.	—	0.08(205°)	- 1930	- 1740	+ 80	0.00126
		192.4	+ 1.7	22×17	5.2 (3)	—	—	60	μ Norm.	30°	0.1 (200°)	- 743	- 669	+ 30	2600
131	2354	7 10.1	-25 34	20×20	8.9 (3)	0.2	0.2	25	Præs.+ a	—	0.38(150°)	- 3520	- 5220	- 620	0.00065
		206.0	- 5.6	15×15	8.9 (3)	-0.1	-0.2	30	Præs.- a	—	—	- 559	- 829	- 98	6300
132		7 10.5	-31 0	120×70	3.9 (4)	0.03	-0.25	18	Plei.	80°	0.25 (30°)	- 370	- 660	- 110	0.00371
		210.9	- 8.6	105×50	3.8 (2)	-0.1	0.1	18	Plei.-	90°	—	- 481	- 864	- 150	760
133	2355	7 11.3	+13 57	10×8	9.7 (4)	0.22	0.15	74	Præs.+	30°	0.41(100°)	- 8940	- 3260	+ 2230	0.00036
		171.1	+13.3	7×7	9.6 (3)	0.2	0.1	30	Præs.+	—	—	- 917	- 334	+ 229	9750
134	2360	7 13.2	-15 27	14×12	9.1 (5)	0.2	0.1	45	Plei.-	80°	0.32(310°)	- 4040	- 4330	- 10	0.00055
		197.5	- 0.1	15×12	9.1 (3)	0.3	0.2	50	Præs.	90°	—	- 682	- 731	- 2	5920
135		7 13.4	-36 40	60×40	3.1 (2)	0.0	-0.4	10	Neb.cl.?	130°	0.3 (80°)	- 600	- 1330	- 270	0.00209
		215.6	-10.5	75×40	3.6 (2)	0.0	+0.2	16	Neb.cl.?	140°	0.25(100°)	- 406	- 896	- 182	1490
136	2362	7 14.6	-24 46	20×20	3.7 (1)	0.2	1.0	25	μ Norm.	—	0.04(190°)	- 1140	- 1630	- 150	0.00163
		205.8	- 4.4	17×15	3.9 (2)	0.1	0.8	20	μ Norm.	—	0.05(185°)	- 572	- 816	- 76	2000
137	2367	7 15.9	-21 45	5×2	8.0 (3)	0.05	0.2	10	Plei.	10°	0.28(250°)	- 5230	- 7010	- 400	0.00042
		203.3	- 2.6	4×3	7.8 (2)	0.3	0.6	—	Plei.++	0°	0.4 (250°)	- 588	- 788	- 45	8900
138	2368	7 16.2	-10 12	5×5	11.8 (2)	0.05	0.0	15	Præs.—	—	—	- 15970	- 14980	+ 1180	0.00020
		193.2	+ 3.1	—	—	—	—	—	—	—	—	- 729	- 684	+ 54	21900
139	2374	7 19.4	-13 4	21×18	7.1 (2)	0.18	0.0	100±	Plei.-	60°±	0.35(260°)	- 3080	- 3210	+ 180	0.00081
		196.1	+ 2.3	13×7	7.4 (3)	0.1	-0.1	40	Plei.	50°	—	- 693	- 721	+ 40	4450
140		7 20	-32 0	65×20	4.4 (4)	0.03	-0.3	14	Plei.	50°	0.15(220°)	- 520	- 1010	- 130	0.00284
		212.7	- 6.8	60×20	4.1 (3)	0.2	-0.2	15	Plei.	60°	0.2 (240°)	- 455	- 882	- 118	1140
141	2383	7 20.4	-20 44	6×6	8.6 (3)	0.35	0.15	32	Præs.++	—	0.37(315°)	- 5340	- 7050	- 190	0.00037
		202.9	- 1.2	6×4.5	8.8 (3)	—	0.3	25±	Præs.	85°	—	- 603	- 797	- 21	8850
142	2384a	7 20.7	-20 50	2.8×2.8	8.1 (2)	0.25	0.5	10	Plei.-?	—	0.18(270°)	- 9040	- 11700	- 340	0.00022
		202.3	- 1.3	3×2	8.3 (1)	—	0.7	—	μ Norm.	90°	0.25(270°)	- 611	- 791	- 23	14800
143	2384b	7 20.8	-20 50	4×3	8.2 (2)	0.1	0.2	15	Plei.-	70°	0.16(245°)	- 9400	- 12300	- 360	0.00021
		202.3	- 1.3	3×2	8.4 (1)	—	0.6	—	μ Norm.	75°	0.15(250°)	- 610	- 792	- 23	15500
144	2395	7 21.5	+13 47	15×10	9.4 (3)	0.02	-0.1	31	Plei.-	135°	0.2 (345°)	- 6970	- 2870	+ 2010	0.00058
		172.4	+15.4	17×13	9.3 (3)	0.1	-0.1	22	Plei.	140°	—	- 924	- 381	+ 266	7540
145	Tr. 6	7 21.9	-24 6	7.5×5	10.0 (3)	0.05	0.1	22	Plei.	10°	0.4 (10°)	- 6040	- 8950	- 490	0.00032
		206.0	- 2.6	6×4	10.0 (2)	0.1	0.1	20	Plei.	0°	0.4 (180°)	- 559	- 829	- 45	10800
146	Tr. 7	7 23.1	-23 50	7×4	8.0 (4)	0.07	0.3	20	Plei.+	155°	0.15(350°)	- 4080	- 6030	- 280	0.00047
		205.9	- 2.2	6×4	7.8 (4)	0.1	0.2	12±	Plei.+	170°	0.2 (350°)	- 561	- 828	- 38	7280
147	Mel.66	7 23.4	-47 32	14×12	10.7 (3)	0.2	0.0	85	Præs.+	15°	0.47(270°)	- 2940	- 12710	- 3120	0.00033
		227.0	-13.5	—	—	—	—	—	—	—	—	- 219	- 948	- 233	13410
148	2396	7 24.4	-11 32	20×17	7.3 (3)	0.02	0.05	40	Plei.—	80°±	0.3 (50°)	- 2710	- 2650	+ 210	0.00090
		194.4	+ 3.2	20×12	7.6 (3)	0.1	0.0	40	Plei.	50°	0.4 (50°)	- 713	- 698	+ 56	3800
149	2401	7 24.8	-13 46	2×2	12.7 (3)	0.1±	0.2	10	Præs.+	—	0.3 (80°)	- 25730	- 27970	+ 2050	0.00009
		197.4	+ 3.1	1.5×1	12.5 (2)	—	—	—	—	85°	0.3 (80°)	- 677	- 736	+ 54	38000
150	2414	7 28.7	-15 14	5×3	8.5 (4)	0.5	0.7	20±	Plei.++	135°	0.28(130°)	- 5980	- 6900	+ 510	0.00040
		199.1	+ 3.2	4×2	7.8 (4)	0.6	0.8	—	Plei.++	135°	—	- 655	- 756	+ 56	9130

Catalogue of Open Clusters.

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Nr.	NGC	α l	δ b	Dim.	m_t	C_N	C_M	N	Class	E	I_A	X x	Y y	Z z	π Distance
51	2421	7 ^h 31 ^m 9 204.0	-20°23' + 1.3	10'×10' 8×8	9.4 (5) 8.6 (4)	0.1 0.1	0.05 0.1	32 28	Præs.- Præs.-	— —	0.25 (0°) 0.3 (0°)	- 4700 - 588	- 6470 - 809	+ 180 + 22	0.00042 8000
152	2422	7 32.0 198.7	-14 16 + 4.4	30×24 30×18	4.5 (5) 4.1 (3)	0.15 0.2	0.2 0.2	50 50	Plei. Plei.	65° 48°	0.25 (20°) —	- 1260 - 654	- 1450 - 753	+ 150 + 76	0.00170 1920
153	2423	7 32.5 198.2	-13 38 + 4.8	22×22 21×17	6.9 (4) 7.2 (2)	0.06 0.1	0.25 0.2	48 40	Præs. Præs.	— 70°	0.4 (270°) 0.3 (250°)	- 1700 - 653	- 1960 - 752	+ 220 + 83	0.00126 2600
154	2420	7 32.5 165.8	+21 48 +21.1	6×5 5×3	10.2 (2) 9.8 (3)	0.05 —	0.1 —	18 —	Præs.+ Plei.?	10° 170°	0.3 (175°) —	-10520 - 907	- 2820 - 243	+ 4160 + 359	0.00029 11600
155	Mel.71	7 32.9 196.7	-11 50 + 5.8	11×8 7×7	9.0 (4) 9.0 (2)	0.32 0.2	0.05 0.3	70 60	Præs.+ Præs.	35° —	0.43 (20°) —	- 5420 - 678	- 5820 - 727	+ 800 + 100	0.00042 8000
156	Mel.72	7 33.7 195.6	-10 27 + 6.7	10×8 4×4	9.4 (3) 10.9 (4)	0.15 -0.1	-0.05 -0.1	25 24	Præs.- Plei.?	30° —	0.28(205°) 0.4 (220°)	- 8300 - 695	- 8480 - 710	+ 1380 + 116	0.00030 11940
157	2432	7 36.5 203.2	-18 51 + 3.0	8×8	10.2 (3)	0.11	0.1	20	Præs.	—	0.45 (0°)	- 7150 - 598	- 9570 - 800	+ 620 + 52	0.00032 11960
158	2439	7 37.0 214.0	-31 25 - 3.4	10×10 8×8	7.1 (3) 7.1 (3)	0.2 0.2	0.4 0.5	40 26	Plei.- Plei.-	— —	0.13 (70°) 0.1 (90°)	- 2350 - 437	- 4830 - 897	- 320 - 59	0.00064 5380
159	2437	7 37.2 199.6	-14 35 + 5.3	28×20 28×20	6.7 (4) 6.6 (4)	0.27 0.1	0.0 0.0	175 125	Præs. Præs.	130° 135°	0.47(275°) —	- 2100 - 645	- 2470 - 758	+ 300 + 92	0.00100 3260
160	2447	7 40.4 207.8	-23 38 + 1.3	25×20 17×15	6.7 (3) 6.3 (3)	0.55 0.4	0.3 0.5	95 80	Præs.+ Præs.-	80° 90°	0.17(290°) 0.15(270°)	- 1470 - 533	- 2330 - 846	+ 60 + 22	0.00118 2760
161	2451	7 41.8 220.0	-37 44 - 5.8	45×45 45×45	3.6 (3) 3.8 (1)	0.1 0.0	0.35 0.1	50 35	Plei. Plei.+	— —	0.32(165°) 0.3 (180°)	- 310 - 340	- 860 - 934	- 90 - 100	0.00355 920
162	2453	7 43.6 211.0	-27 0 + 0.1	5×5 4×2	9.4 (4) 8.6 (2)	0.1 0.0	0.2 -0.2	22 10	Plei.+ Plei.-	— 135°	0.3 (170°) —	- 5190 - 485	- 9360 - 875	+ 20 + 2	0.00031 10700
163	2455	7 44.6 206.1	-21 3 + 3.5	8×8 7×5	10.3 (3) 10.1 (3)	0.12 0.1	0.15 -0.1	25 20	Præs. Plei.-	— 135°	0.33(230°) 0.4 (225°)	- 6700 - 558	- 9920 - 827	+ 730 + 61	0.00031 12000
164	2467	7 48.3 210.8	-26 8 + 1.4	16×16 13×11	7.0 (3) 7.2 (2)	0.05 0.1	0.1 -0.3	30 20	Neb. cl. Neb. cl.	10° 0°	0.17(350°) —	- 4430 - 487	- 7930 - 872	+ 220 + 24	0.00036 9100
165	2477	7 48.7 221.2	-38 17 - 4.9	27×27 27×27	5.7 (5) 5.7 (3)	0.8 0.6	0.2 0.1	245 300	Glob.- Glob.-	— —	0.42 (10°) —	- 720 - 324	- 2120 - 942	- 190 - 85	0.00145 2250
166	2482	7 50.7 209.4	-24 2 + 3.1	15×10 13×9	8.7 (5) 8.8 (3)	0.08 0.1	0.5 0.1	25 28	Plei. Plei.	80° 110°	0.3 (185°) 0.3 (130°)	- 3760 - 508	- 6370 - 860	+ 400 + 54	0.00044 7410
167	Tr. 8	7 50.8 203.9	-17 33 + 6.6	10×5 9×9	9.5 (3) 9.8 (3)	0.05 0.1	0.02 0.1	42 30	Plei.+ Præs.-	45° —	0.35(310°) —	- 5490 - 585	- 7530 - 802	+ 1080 + 115	0.00039 9390
168	Tr. 9	7 51.1 210.8	-25 40 + 2.3	6×6 6×6	9.1 (4) 9.0 (3)	0.05 0.1	0.0 0.1	25 14	Plei. Plei.	— 80°±	0.37 (80°) 0.4 (90°)	- 4610 - 487	- 8260 - 872	+ 380 + 40	0.00034 9470
169	2489	7 52.2 214.4	-29 48 + 0.2	9×8 9×8	9.4 (7) 9.2 (2)	0.3 0.3	0.05 0.2	50 60	Præs.+ Præs.+	160° 130°	0.45(225°) —	- 3780 - 432	- 7870 - 901	+ 30 + 3	0.00039 8740
170	2506	7 55.2 198.4	-10 31 +11.2	8×6 10×10	8.5 (3) 8.3 (3)	0.28 0.4	-0.1 -0.2	75 80	Præs.++ Præs.++	125° —	0.3 (260°) 0.4 (260°)	- 4490 - 651	- 5060 - 734	+ 1340 + 194	0.00048 6890
171	2509	7 56.3 205.7	-18 48 + 7.0	10×7 6×4	9.3 (2) 9.3 (4)	0.3 0.3	-0.1 0.0	45 30	Plei. Plei.	177° 45°	0.42(225°) —	- 4640 - 559	- 6810 - 820	+ 1010 + 122	0.00037 8300
172	2516	7 56.7 241.2	-60 36 -15.5	60×60 35×30	3.0 (4) 3.6 (3)	0.2 0.2	0.6 0.4	200 70	Præs.++ Præs.	— 140°	0.18(140°) 0.2 (140°)	+ 20 + 20	- 1170 - 963	- 330 - 267	0.00267 1220
173		8 0 228.8	-46 0 - 7.4	420×320 420×300	0.2 (1) 0.9 (1)	0.1 0.1	-0.1 0.0	50± 70	Plei.+ Plei.	175° 175°	0.3 (160°) 0.3 (150°)	- 30 - 192	- 180 - 973	- 20 - 129	0.01900 180
174	2527	8 1.1 213.9	-27 53 + 2.9	25×20 25×20	8.0 (4) 8.5 (3)	0.1 0.0	0.2 -0.1	50 40	Plei.++ Plei.	70° 40°	0.43 (50°) —	- 2000 - 439	- 4090 - 897	+ 230 + 51	0.00090 4560
175	2533	8 3.0 215.6	-29 37 + 2.3	4×3 3×2	9.8 (5) 10.1 (3)	0.4 —	0.5 0.3	20 30±	Præs. Præs.	60° 45°	0.3 (225°) —	- 6110 - 413	-13470 - 910	+ 590 + 40	0.00022 14800

Catalogue of Open Clusters.

Nr.	NGC	α l	δ b	Dim.	m_t	C_M	C_N	N	Class	E	I_A	X x	Y y	Z z	π Distance
176	2539	8 ^h 6 ^m 0 201.6	-12° 32' +12.4	22' × 22' 25 × 16	8 ^m 2 (4) 7.9 (4)	0.18 0.1	0.1 0.0	78 65	Præs. Præs.+	80° 80°	0.3 (195°) 0.4 (260°)	- 2070 - 607	- 2610 - 765	+ 730 + 214	0.00096 3410
177	2547	8 7.7 232.1	+48 58 - 7.9	25 × 17 22 × 18	5.1 (3) 4.8 (2)	0.0	0.15	42 40	Plei. Plei.	16° 5°	0.4 (170°) 0.3 (185°)	- 240 - 136	- 1760 - 981	- 250 - 137	0.00182 1790
178	2546	8 8.7 222.6	-37 20 - 1.1	45 × 37 45 × 37	4.6 (4) 5.9 (2)	0.08 0.1	-0.03 0.0	50 40	Plei.- Plei.	150° 160°	0.44(190°) —	- 650 - 299	- 2070 - 954	- 40 - 19	0.00151 2170
179	2548	8 8.8 195.8	- 5 30 +16.7	65 × 43 50 × 35	5.2 (3) 5.9 (2)	0.2 0.2	-0.1 0.2	130 90	Præs.+ Præs.	130° 140°	0.42(320°) 0.45(320°)	- 1260 - 668	- 1290 - 688	+ 540 + 287	0.00174 1880
180	2567	8 14.6 217.6	-30 20 + 3.9	10 × 10 10 × 9	8.3 (6) 8.6 (2)	0.15 0.2	0.15 0.1	42 40	Præs.+ Plei.	— 45°	0.3 (225°) 0.4 (225°)	- 2470 - 380	- 5990 - 922	+ 440 + 67	0.00050 6500
181	2571	8 14.9 216.5	-29 26 + 4.0	15 × 12 12 × 10	7.5 (3) 7.4 (2)	0.05 0.0	0.25 0.8	22 20	Plei.- Plei.	130° 130°	0.15(350°) —	- 1810 - 398	- 4150 - 914	+ 320 + 70	0.00072 4540
182	2579	8 17.3 221.7	-35 52 + 0.2	10 × 10 9 × 9	9.3 (3) 9.0 (3)	0.04 0.1	0.25 0.0	35 14	Plei.+ Plei.	— —	0.46(170°) —	- 2540 - 314	- 7690 - 949	+ 20 + 3	0.00042 8100
183	2580	8 17.6 218.0	-30 0 + 4.5	8 × 8 6 × 6	9.6 (5) 9.8 (2)	0.15 0.2	0.2 0.1	35 25	Præs.- Præs.-	— —	0.3 (15°) 0.4 (0°)	- 3880 - 373	- 9610 - 924	+ 810 + 78	0.00033 10400
184	2587	8 19.3 217.1	-29 10 + 4.8	9 × 9 8 × 7	9.1 (3) 9.2 (2)	0.08 0.1	0.2 0.0	25 18	Plei.+ Plei.+	— 0°	0.2 (190°) 0.2 (180°)	- 3270 - 388	- 7730 - 917	+ 710 + 84	0.00040 8430
185		8 18.6 221.9	-35 50 + 1.0	10 × 8 9 × 6	9.9 (3) 10.1 (3)	0.08 0.1	-0.05 0.2	20 15	Plei. Plei.	10° 0°	0.3 (190°) 0.4 (180°)	- 2860 - 311	- 8730 - 950	+ 160 + 17	0.00040 9190
186	2588	8 19.2 220.0	-32 39 + 3.3	2 × 2 2 × 1.5	11.4 (2) 12.2 (2)	0.1 0.1	0.0 ± —	8 —	Præs. —	— 170°	0.3 (0°) 0.3 (350°)	- 10570 - 342	- 28980 - 938	+ 1790 + 58	0.00011 30900
187		8 20.0 216.4	-28 48 + 5.8	9 × 6	9.6 (3)	0.0	0.2	15	Plei.+	150°	0.22(175°)	- 3740 - 398	- 8550 - 911	+ 950 + 101	0.00038 9390
188	2627	8 33.1 219.4	-29 36 + 7.6	12 × 10 12 × 7	8.3 (5) 8.5 (2)	0.4 0.2	0.0 0.0	28 30	Præs.- Præs.-	90° 90°	0.47 (85°) —	- 2100 - 349	- 5590 - 928	+ 800 + 133	0.00056 6020
189	2632	8 34.3 173.3	+20 20 +34.0	95 × 95 80 × 80	3.9 (2)	0.2	0.25 0.3	77 60	Præs. Præs.	— —	0.4 (100°) —	- 390 - 761	- 170 - 328	+ 290 + 559	0.00631 519
190	2635	8 34.5 223.4	-34 25 + 4.8	3 × 3	10.2 (4)	0.15	0.0	12	Præs.	—	0.4 (10°)	- 4900 - 285	- 16430 - 955	+ 1440 + 84	0.00019 17200
191	IC2391	8 37.4 237.8	-52 42 - 6.4	45 × 40 40 × 25	2.6 (3) 2.6 (3)	0.0 -0.2	-0.2 -0.3	10 15	Plei. Plei.-	20° 45°	0.17 (20°) 0.25 (45°)	- 30 - 38	- 860 - 994	- 100 - 111	0.00380 861
192	IC2395	8 38.0 236.0	-47 50 - 5.0	20 × 10 17 × 15	4.6 (6) 4.7 (4)	0.1 0.1	0.1 0.2	23 19	Plei. Plei.-	60° 40°	0.3 (80°) 0.25(300°)	- 120 - 70	- 1700 - 992	- 150 - 87	0.00191 1710
193	2660	8 39.0 232.9	-46 48 - 2.8	4 × 4	10.8 (3)	0.7	0.3	75	Glob.-	—	0.25(170°)	- 2110 - 124	- 16860 - 992	- 830 - 49	0.00020 17000
194	2659	8 39.2 231.8	-44 36 - 1.0	15 × 8 15 × 12	9.7 (4) 9.8 (3)	0.15 0.0	0.02 0.0	40 35	Præs.+ Præs.	45° 45°	0.4 (225°) 0.4 (220°)	- 1210 - 142	- 8430 - 990	- 150 - 18	0.00053 8520
195	2658	8 39.4 222.4	-32 18 + 6.9	15 × 10 12 × 9	9.2 (3) 9.2 (2)	0.09 0.4	0.06 0.1	32 40	Præs.+ Præs.+	35° 40°	0.3 (40°) 0.25 (30°)	- 2080 - 300	- 6550 - 946	+ 830 + 120	0.00052 6920
196		8 41 221.6	-31 16 + 7.0	5 × 5	10.5 (3)	0.08	0.0	12	Præs.	—	—	- 4520 - 314	- 13560 - 942	+ 1760 + 122	0.00024 14400
197		8 41.0 229.3	-41 0 + 1.4	20 × 15 18 × 14	7.6 (2) 7.7 (4)	0.0 0.0	0.05 -0.15	15 14	Plei. Plei.	90° 80°	0.3 (160°) —	- 720 - 186	- 3790 - 982	+ 90 + 24	0.00092 3860
198		8 41.2 221.6	-31 24 + 7.6	6 × 6	11.2 (3)	0.03	-0.08	16	Præs.	—	—	- 5380 - 313	- 16190 - 941	+ 2270 + 132	0.00024 17200
199	2669	8 42.0 238.3	-52 36 - 5.8	15 × 15 12 × 12	5.8 (4) 6.2 (2)	0.1 0.1	-0.2 -0.2	40 25	Præs.- Præs.-	— —	0.25(170°) —	- 90 - 29	- 3230 - 995	- 330 - 101	0.00091 3250
200	2670	8 42.3 235.1	-48 25 - 3.0	11 × 9 8 × 7	9.3 (1) 9.2 (1)	0.07 0.1	0.0 -0.1	30 25	Plei. Plei.	30° 25°	0.38 (20°) —	- 700 - 85	- 8250 - 995	- 430 - 52	0.00042 8290

Nr.	NGC	α l	δ b	Dim.	m_t	C_N	C_M	N	Class	E	l_A	X x	Y y	Z z	π Distance
101	2671	8 ^h 42 ^m 6 229.9	-41°31' + 1°5	4'×4' 3×2	11 ^m 2 (3) 11.9 (3)	0.1 0.1	0.15 —	22 —	Præs. —	— 90°	0.42 (90°) —	- 4200 - 175	-23620 - 984	+ 620 + 26	0.00015 24000
202	Harv.3	8 43.3 237.9	-52 25 - 5.9	10×10 10×10	6.2 (3) 6.1 (3)	0.05 0.1	-0.45 -0.7	30 22	Plei. Plei.	— —	0.33(300°) —	- 560 - 36	-15410 - 994	- 1600 - 103	0.00034 15500
203	Tr. 10	8 44.2 230.5	-42 7 + 1.3	30×25 25×17	5.0 (3) 5.0 (2)	0.05 0.1	-0.05 —	25 18	Plei.- Plei.-	45° 45°	0.35 (50°) 0.4 (35°)	- 330 - 165	- 1990 - 986	+ 50 + 23	0.00165 2020
204	2682	8 45.0 183.6	+12 11 +33.3	20×12 15×14	7.4 (5) 7.5 (2)	0.18 0.2	-0.03 0.1	58 90	Præs.- Præs.	50° 40°	0.42(225°) 0.4 (225°)	- 1540 - 696	- 1020 - 463	+ 1210 + 548	0.00148 2210
205		8 57.3 235.4	-48 20 - 1.3	4×2 2×1.5	8.3 (3) 8.4 (3)	0.8 1.0	0.7 1.0	10 8	μ Norm. μ Norm.	50° 130°	0.3 (350°) —	- 930 - 63	-14760 - 997	- 340 - 23	0.00022 14800
206	2818	9 12.0 229.9	-36 12 + 9.3	10×8 8×6	9.8 (3) 10.0 (1)	0.25 0.1	0.0 0.0	45 25	Præs.+ Præs.+	11° 140±	0.43 (0°) 0.45 (5°)	- 1750 - 173	- 9820 - 972	+ 1640 + 162	0.00036 10100
207	2849	9 15.4 223.0	-40 7 + 6.5	2.3×2.3 2×1.5	12.2 (3) 12.8 (2)	0.2± —	0.2± —	9± —	Præs.++ —	— 170°	0.4 (160°) 0.4 (170°)	- 4210 - 121	-34350 - 987	+ 3930 + 113	0.00010 34800
208	IC2488	9 24.6 245.4	-56 32 - 4.1	20×16 16×12	7.2 (2) 7.5 (3)	0.13 —	0.1 —	105 70	Plei.++ Plei.++	— 130°	0.3 (160°) 0.3 (130°)	+ 130 + 94	- 1410 - 994	- 100 - 71	0.00229 1420
209	2910	9 27.0 243.0	-52 28 - 0.8	6×6 6×6	8.2 (3) 8.4 (2)	0.0 -0.1	0.2 -0.1	30 15	Plei.-- Plei.	— —	0.2 (60°) 0.2 (45°)	+ 420 + 52	- 8040 - 998	- 110 - 14	0.00042 8060
210	2925	0 30.3 243.7	-53 0 - 0.9	16×16 14×12	8.1 (2) 8.4 (3)	0.05 0.1	-0.05 -0.2	40 30	Plei. Plei.	— 140°	0.4 (160°) 0.4 (140°)	+ 400 + 64	- 6220 - 998	- 100 - 16	0.00052 6230
211	2972	9 36.7 242.4	-49 52 + 2.2	7×6 4×3	10.2 (4) 10.2 (3)	0.2 0.2	0.05 0.1	25 —	Præs.- Præs.-	175° 130°	0.37(330°) 0.3 (310°)	+ 560 + 42	-13220 - 998	+ 500 + 38	0.00026 13250
212	3033	9 45.4 247.2	-55 57 - 1.8	7×5	8.4 (2)	0.0	0.3	20	Plei.	160°	0.3 (120°)	+ 960 + 125	- 7600 - 992	- 240 - 31	0.00043 7660
213		9 51.0 244.4	-50 15 + 3.4	17×17 15×12	8.9 (4) 9.4 (4)	0.2 0.0	0.1 -0.2	80 21	Plei.- Plei.	— 0°	0.44 (90°) —	+ 530 + 77	- 6830 - 996	+ 400 + 59	0.00060 6860
214	3105	9 57.2 247.6	-54 18 + 0.5	2.5×2.5	11.1 (2)	0.1	0.2	10±	Præs.	—	—	+ 3090 + 132	-23190 - 991	+ 210 + 9	0.00014 23400
215	3114	9 59.5 250.9	-59 38 - 3.6	45×40 40×35	4.4 (3) 4.6 (2)	0.05 0.2	0.05 -0.3	125 100	Plei.± Plei.	30° 30°	0.38 (60°) 0.35 (30°)	+ 360 + 189	- 1880 - 980	- 120 - 63	0.00170 1920
216	Tr. 11	10 1.9 252.0	-61 7 - 4.7	5×3 3.5×3	10.8 (3) 10.9 (3)	0.05 -0.1	0.0 -0.3	15 15	Plei. Plei.	10° 10°	0.18 (5°) —	+ 3270 + 207	-15400 - 975	- 1300 - 82	0.00021 15800
217	Tr. 12	10 3.2 251.4	-59 49 - 3.5	5×5 4.5×4	10.4 (2) 10.6 (3)	0.2 0.1	0.1 -0.2	25 12	Plei.+ Plei.++	— 110°	0.15(180°) 0.15(130°)	+ 2920 + 197	-14470 - 978	- 900 - 61	0.00023 14800
218	3228	10 17.8 248.6	-51 13 + 4.8	30×22 30×22	6.5 (3) 6.4 (3)	0.03 0.2	-0.15 0.1	20 22	Plei.+ Plei.+	0° 0°	0.2 (20°) 0.2 (0°)	+ 280 + 148	- 1850 - 985	+ 160 + 84	0.00174 1880
219	Tr. 13	10 20.3 253.1	-59 35 - 2.2	5×3	11.3 (3)	0.07	-0.15	15	Plei.++	0°	0.45(350°)	+ 4280 + 226	-18460 - 974	- 720 - 38	0.00021 18950
220	3247	10 22.3 252.1	-57 26 + 0.1	9×6 10×6	10.2 (3) 10.4 (2)	0.07 0.2	1.2 0.3	24 18	Plei.++ Plei.++	70° 40°	0.17(220°) 0.1 (220°)	+ 2350 + 209	-11000 - 978	+ 20 + 2	0.00036 11250
221	3255	10 22.9 253.7	-60 10 - 2.5	1.5×1.5 3×2	13.4 (3) 11.7 (3)	0.4 0.9	0.2 —	15± —	Glob.— Glob.—	— 0°	0.45(280°?) —	+ 7790 + 236	-32010 - 970	- 1450 - 44	0.00010 33000
222	IC2581	10 23.7 252.3	-57 8 + 0.1	5×5 4.5×4.5	5.2 (1) 5.4 (1)	0.1 0.1	100± 0.9	20 14	μ Norm. μ Norm.	— 70°	0.07 (10°) —	+ 3830 + 213	-17590 - 977	+ 40 + 2	0.00018 18000
223		10 26.8 253.6	-59 19 - 1.7	8×8 9×9	9.6 (2) 9.2 (2)	0.05 0.1	0.03 0.0	38 30	Plei.-- Plei.--	— —	0.35(150°) —	+ 2100 + 235	- 8700 - 972	- 270 - 30	0.00038 8950
224	3293	10 32.0 253.6	-57 43 + 0.2	8×8	7.5 (4)	0.32	0.25	55	Præs. +++	— —	0.45(155°) —	+ 2130 + 235	- 8830 - 972	+ 30 + 3	0.00036 9080
225	3324	10 33.5 253.9	-58 6 - 0.2	5×5 5×5	— —	— —	— —	— —	— —	— —	0.45(190°) —	+ 2590 + 240	-10490 - 971	- 30 - 3	0.00030 10800

Catalogue of Open Clusters.

Nr.	NGC	α l	δ b	Dim.	m_t	C_N	C_M	N	Class	E	I_A	X x	Y y	Z z	π Distance
251	4052	11 ^h 56 ^m 8 265.1	-62°38' - 1°0	13'×9' 15×9	9 ^m 0 (3) 8.5 (3)	0.1 0.2	-0.05 -0.1	48 60	Plei.+ Plei.+	25° 20°	0.2 (120°) 0.3 (120°)	+ 2810 + 424	- 6000 - 906	- 120 - 18	0.00052 6620
252	4103	12 1.5 265.3	-60 41 + 1.0	10×8 9×7	7.8 (5) 6.9 (3)	0.22 0.2	-0.22 -0.1	35 20±	Plei++ Plei.±	100° 90°	0.4 (95°) 0.4 (90°)	+ 2370 + 427	- 5020 - 905	+ 100 + 18	0.00060 5550
253	4230	12 11.8 265.9	-54 45 + 7.0	6×3	9.4 (3)	0.0	-0.15	15	Plei.--	10°	0.48 (10°)	+ 4560 + 434	- 9390 - 894	+ 1280 + 122	0.00031 10500
254	4337	12 18.5 267.1	-57 34 + 4.2	6×6 7×6	10.0 (3) 9.6 (4)	0.1 0.0	0.15 0.1	22 20	Præs.- Plei.	165° 165°	0.4 (165°) —	+ 4950 + 454	- 9670 - 887	+ 800 + 73	0.00031 10900
255	4349	12 19.0 267.5	-61 20 + 0.6	15×13 15×12	8.1 (5) 7.8 (2)	0.16 0.3	0.04 0.1	78 70	Præs.+ Præs.+	58° 135°	0.35(135°) 0.3 (135°)	+ 1090 + 462	- 2090 - 887	+ 20 + 10	0.00138 2360
256	C.Ber.	12 20 195.6	+26 40 +85.2	300×250 320×200	2.7 (3) 3.1 (4)	0.0 0.0±	0.06 0.1	30 30	Plei. Plei.	150° 145°	0.3 (125°) 0.3 (145°)	- 20 - 59	- 20 - 60	+ 270 + 996	0.01200 271
257		12 20.5 267.6	-60 12 + 1.7	6×3.5 6×5	9.1 (3) 9.0 (2)	0.15 0.1	0.35 0.3	14 12	Plei. Plei.	140° 125°	0.45(300°) —	+ 4470 + 446	- 8490 - 884	+ 320 + 33	0.00034 9600
258	Harv.5	12 22.4 267.8	-60 2 + 1.9	7.5×6.2 7×5	8.5 (3) 8.4 (3)	0.0 0.1	— —	25 —	Plei. Plei.±	120° 110°	0.35(115°) 0.3 (110°)	+ 3470 + 463	- 6640 - 886	+ 220 + 30	0.00043 7500
259	4439	12 22.9 267.8	-59 32 + 2.4	5.5×5.5 4×3	9.2 (4) 8.2 (2)	0.05 —	-0.25 —	15 —	Plei.- Plei.-	— 155°	0.25(100°) —	+ 4750 + 466	- 9020 - 884	+ 430 + 42	0.00032 10200
260	4463	12 24.3 268.3	-64 14 - 2.3	7×7 7×4	8.5 (3) 8.0 (3)	0.11 0.3	0.08 —	20 18±	Plei.++ Plei.++	— 90°	0.42(270°) —	+ 3530 + 474	- 6550 - 879	- 300 - 40	0.00045 7450
261	(Harv.6)	12 32.0 269.2	-67 55 - 5.9	8×6 6×5	10.6 (8) 10.8 (3)	0.1 0.1	0.0 —	30 —	Præs. Præs.	20°± 60°	0.38(200°) —	+ 7310 + 486	- 13080 - 869	- 1550 - 103	0.00027 15050
262	(Tr.20)	12 33.9 269.2	-60 3 + 1.9	11.3×9.5 10×10	9.9 (6) 10.3 (6)	0.12 0.1	0.0 —	35 —	Præs. Præs.	5° —	0.43 (5°) —	+ 5120 + 488	- 9160 - 872	+ 350 + 33	0.00040 10500
263	4609	12 36.5 269.6	-62 25 - 0.4	5×5 5×3	8.9 (3) 8.8 (2)	0.05 0.0	0.0 0.0	19 12	Plei. Plei.-	170° 170°	0.25 (80°) —	+ 1110 + 494	- 1960 - 870	- 20 - 7	0.00145 2250
264	4755	12 47.7 270.9	-59 48 + 2.2	10×10	5.2 (4)	0.05	0.2	18±	Plei.-	—	0.45 (10°)	+ 1080 + 513	- 1810 - 857	+ 80 + 38	0.00155 2110
265	4815	12 51.8 271.3	-64 25 - 2.4	6×6 4×4	10.6 (3) 10.2 (2)	0.15 —	0.1 —	38 —	Præs.+ Præs.	— —	0.35(140°) —	+ 7010 + 519	- 11530 - 854	- 570 - 42	0.00025 13500
266	4852	12 54.1 271.8	-59 4 + 2.9	12×12 14×11	8.8 (4) 9.0 (3)	0.06 0.2	-0.12 -0.1	24 20	Plei. Plei.	— 135°	0.44(135°) 0.4 (135°)	+ 3630 + 526	- 5860 - 849	+ 340 + 50	0.00052 6900
267	5053	13 11.0 307.3	+18 13 +78.3	6×5	11.4 (4)	0.14	-0.05	26	Præs.+	65°	0.46 (60°)	+ 3520 + 187	- 1470 - 78	+18410 + 979	0.00023 18800
268		13 12.0 273.2	-66 40 - 4.9	8×8	10.1 (3)	0.1	0.1	35	Plei.-	—	0.42(350°)	+ 6060 + 546	- 9250 - 833	- 940 - 85	0.00033 11100
269		13 16.0 273.8	-65 35 - 3.8	15×15	9.2 (i)	0.09	-0.05	28	Plei.-	—	0.25(200°)	+ 3940 + 555	- 5890 - 829	- 470 - 66	0.00056 7100
270	5138	13 20.9 275.3	-58 29 + 3.1	10×6 9×9	9.8 (3) 9.8 (3)	0.02 0.1	0.0 0.0	19 15	Plei.+ Plei.	0° —	0.4 (70°) —	+ 5710 + 577	- 8070 - 815	+ 530 + 54	0.00038 9900
271		13 23.0 274.9	-63 40 - 2.0	9×5 8×5	10.4 (2) 9.8 (2)	0.07 0.2	-0.05 0.0	20 16	Plei. Plei.	132° 130°	0.35(160°) —	+ 6410 + 572	- 9170 - 819	- 390 - 35	0.00034 11200
272		13 24.0 275.5	-60 45 + 1.0	13×10 13×10	8.9 (3) 9.6 (3)	0.0 0.0	-0.1 -0.1	25 15	Plei. Plei.	0° 170°	0.38(350°) —	+ 4500 + 581	- 6310 - 814	+ 140 + 18	0.00050 7750
273	5168	13 24.6 275.5	-60 25 + 1.1	3.0×3.0	11.5 (2)	0.1	0.0±	18	Præs.	—	0.4 (50°)	+14820 + 581	-20760 - 814	+ 480 + 19	0.00014 25500
274	Tr.21	13 25.5 275.3	-62 17 - 0.7	7.5×7.5	9.6 (4)	0.05	0.2	20	Præs.++	—	0.4 (200°)	+ 5870 + 578	- 8280 - 816	- 120 - 12	0.00034 10150
275		13 28.0 276.0	-59 37 - 2.0	8×6	10.2 (3)	0.02	-0.08	20	Plei.a	150°	0.3 (330°)	+ 6720 + 587	- 9260 - 809	- 400 - 35	0.00033 11450

Catalogue of Open Clusters.

Nr.	NGC	α l	δ b	Dim.	m_t	C_N	C_M	N	Class	E	I_A	X x	Y y	Z z	π Distance
276	5281	13 ^h 39 ^m 7 276.8	-62°24' - 1.2	5'×3'.5 5×3	8 ^m 0 (3) 8.4 (2)	0.2 —	0.3 —	16 —	Plei. ++ —	60° 50°	0.18 (90°) —	+ 5180 + 599	- 6930 - 801	- 170 - 20	0.00040 8650
277		13 41.5 276.4	-65 35 - 4.3	18×14	9.2 (3)	0.08	-0.05	40	Præs.	100°	0.48 (80°)	+ 3970 + 592	- 5370 - 802	- 500 - 75	0.00065 6700
278	5288	13 41.6 276.7	-64 11 - 3.0	3×3	11.8 (3)	0.08	0.1	11	Plei. +	—	0.47 (70°)	+14590 + 598	-19540 - 801	- 1270 - 52	0.00014 24400
279	5316	13 46.9 277.9	-61 22 - 0.4	16×12 10×8	8.4 (2) 9.1 (2)	0.11 -0.1	0.15 0.0	50 22	Præs. - Plei. ++	132° 60°	0.42 (0°) —	+ 1260 + 612	- 1630 - 791	- 10 - 7	0.00158 2060
280	5460	14 1.2 283.8	-47 50 +12.0	35×35 40×35	6.3 (3) 5.9 (4)	0.07 0.1	0.0 0.2	45 50	Plei. + Præs. -	— 140°	0.3 (330°) 0.4 (150°)	+ 1330 + 677	- 1410 - 718	+ 410 + 208	0.00166 1970
281	5606	14 20.5 282.5	-59 11 + 0.4	3.0×3.0	10.0 (2)	0.2±	0.4±	15±	Plei. ++	—	—	+11090 + 676	-12090 - 737	+ 110 + 7	0.00020 16400
282	5617	14 22.3 282.4	-60 16 - 0.7	15×12 12×10	8.5 (3) 8.5 (3)	0.32 0.6	0.12 —	50 60	Præs. ++ Præs. +	8° 0°	0.47 (5°) —	+ 1860 + 674	- 2040 - 738	- 30 - 12	0.00118 2760
283	Tr. 22	14 23.7 282.3	-60 43 - 1.2	10×9 10×10	10.0 (2) 9.8 (2)	0.0 0.0	0.0 0.0	20 15	Præs. - Plei.	0°	0.47 (0°)	+ 6530 + 673	- 7180 - 740	- 200 - 21	0.00040 9700
284	5662	14 28.0 284.7	-56 7 + 2.8	25×18	8.2 (3) 7.2 (3)	0.05 0.1	-0.1 0.1	30 35	Plei. Plei.	— 40°	0.48 (0°) —	+ 1550 + 703	- 1570 - 711	+ 110 + 49	0.00148 2210
285	U.maj.	14 36.0 76.5	+70 0 +44.8									- 20 - 202	+ 50 + 680	+ 50 + 704	0.04370 75
286	5715	14 36.1 285.3	-57 7 + 1.4	10×6.5 6×6	9.8 (1) 9.8 (2)	0.2 0.1	-0.15 0.0	35 20	Præs. - Præs. -	12° —	0.45 (10°) —	+ 7470 + 711	- 7380 - 703	+ 250 + 24	0.00034 10500
287	5749	14 41.8 287.4	-54 6 + 3.8	7×7 6×6	9.0 (4) 8.7 (3)	0.03 -0.1	-0.03 -0.3	22 16	Plei. Plei.	— —	0.3 (90°) —	+ 6470 + 735	- 5950 - 676	+ 580 + 66	0.00037 8800
288	5764	14 46.5 288.8	-52 16 + 5.1	1.4×1.2 1.5×1.5	12.4 (4) 12.8 (3)	— —	— —	— —	— —	110° —	— —	+30750 + 750	-26940 - 657	+ 3650 + 89	0.00008 41000
289	5822	14 57.9 289.5	-53 57 + 2.8	40×32 30×30	6.4 (4) 6.4 (3)	0.1 0.0	0.03 0.0	110 100	Plei. + Plei. +	98° —	0.33 (70°) —	+ 1640 + 759	- 1400 - 642	+ 110 + 49	0.00151 2160
290	5823	14 58.3 288.9	-55 2 + 1.7	12.5×7.5 12×8	8.5 (3) 8.7 (3)	0.05 -0.1	-0.02 -0.1	37 30	Plei. - Plei.	0° 0°	0.44(190°) 0.4 (180°)	+ 4670 + 753	- 4070 - 656	+ 190 + 30	0.00055 6200
291	5925	15 20.2 292.1	-54 10 + 0.8	25×25 25×25	8.3 (4) 8.5 (3)	0.11 0.0	0.03 0.0	65 45	Præs. Plei. +	— —	0.4 (100°) —	+ 2680 + 788	- 2090 - 614	+ 50 + 14	0.00103 3400
292		15 42.7 286.6	-57 21 + 1.8	16×16	7.9 (2)	0.1	-0.05	40	Plei. +	—	0.4 (20°)	+ 3410 + 726	- 3230 - 687	+ 150 + 31	0.00072 4700
293	5999	15 44.3 293.7	-56 10 - 2.8	10×6 8×6	9.2 (3) 8.8 (2)	0.18 0.3	0.2 0.1	50 40	Præs. + Præs. +	10° 175°	0.4 (160°) 0.4 (190°)	+ 6360 + 805	- 4670 - 591	- 380 - 48	0.00042 7900
294	6005	15 47.8 293.4	-57 8 - 3.8	3.5×3.5 4×3	11.8 (3) 11.1 (2)	0.15 0.3	-0.1 —	20 14	— Præs.	— 0°	0.4 (250°) 0.4 (270°)	+17780 + 801	-13210 - 595	- 1470 - 66	0.00016 22200
295	(Tr.23)	15 52.8 296.5	-53 14 - 1.4	6.5×5.5 7×4	11.9 (3) 10.6 (2)	0.03 -0.1	-0.1 -0.05	20 25	— Plei.	120° 135°	0.3 (135°) 0.3 (135°)	+14830 + 833	- 9830 - 552	- 430 - 24	0.00025 17800
296	6025	15 55.2 292.1	-60 13 - 6.8	12×7 15×10	5.8 (2) 6.1 (2)	0.0 0.1	-0.15 -0.1	24 25	Plei. Plei.	170° 160°	0.25(160°) 0.2 (170°)	+ 1850 + 784	- 1440 - 610	- 280 - 118	0.00138 2360
297	6031	15 59.8 296.9	-53 47 - 2.5	3×1	12.2 (4)	0.1	-0.9	10	Plei. ±	68±	0.25 (70°)	+24690 + 837	-16110 - 546	- 1300 - 44	0.00013 29500
298	6067	16 5.4 297.4	-53 57 - 3.2	18×16 20×13	6.7 (3) 6.2 (2)	0.38 0.4	-0.02 0.0	140 115	Præs. ++ Præs. ++	10° 15°	0.27(110°) —	+ 2610 + 841	- 1670 - 538	- 170 - 56	0.00105 3100
299	(Harv. 10)	16 10.5 298.6	-54 52 - 3.4	24×17 25×17	6.8 (6) 6.9 (6)	0.06 0.1	0.07 0.1	22 24	Plei. Plei.	97° 92°	0.45(110°) 0.4 (90°)	+ 2700 + 852	- 1650 - 521	- 190 - 59	0.00109 3170
300	6087	16 10.6 295.8	-57 39 - 6.0	20×15 15×11	6.0 (4) 5.9 (3)	0.0 0.0	0.05 0.1	32 30	Plei. Plei. -	15° 125°	0.25(350°) 0.3 (0°)	+ 2190 + 823	- 1490 - 559	- 280 - 105	0.00123 2660

Catalogue of Open Clusters.

Nr.	NGC	α l	δ b	Dim.	m_t	C_N	C_M	N	Class	E	I_A	X x	Y y	Z z	π Distance
326	6322	17 ^h 11 ^m 3 312 ^s .9	-42°50' - 4°3	10'×10' 12×10	7 ^m 0 (4) 6.0 (2)	0.03 0.0	-0.48 -0.1	20 12±	Plei. -- Plei. --	— 150°	0.32(330°) 0.4 (320°)	+ 3110 + 953	- 960 - 293	- 240 - 75	0.00100 3260
327	IC4651	17 16.9 307.6	-49 50 - 9.0	20×17 15×12	7.8 (3) 8.2 (2)	0.28 0.1	0.05 0.2	95 65	Præs.+ Præs.+	112° 135°	0.25(120°) 0.3 (135°)	+ 4290 + 913	- 1760 - 375	- 730 - 156	0.00074 4700
328	6352	17 17.8 309.1	-48 22 - 8.1	3.5×25 3×2	10.8 (3) 10.6 (2)	0.9 —	0.1± —	100± —	Glob.? —	12° —	0.3 (20°) —	+16740 + 925	- 6390 - 353	- 2550 - 141	0.00018 18100
329	Tr. 25	17 17.8 316.9	-38 54 - 3.1	5×5 4×3.5	11.8 (3) 11.6 (2)	0.1 -0.4	0.1 -0.3	11 18±	Præs. Plei.	— 0°	0.4 (5°) —	+22230 + 973	- 5160 - 226	- 1230 - 54	0.00018 22850
330	6355	17 17.8 327.2	-26 15 + 3.9	1.4×1.1 1.0×1.0	11.9 (5) 12.3 (4)	— —	— —	— —	Glob. -- Glob. --	— —	— —	+42320 + 997	- 2080 - 49	+ 2890 + 68	0.00008 42450
331	Tr. 26	17 22.1 325.3	-29 24 + 1.5	8×6 8×5	9.2 (5) 9.8 (5)	0.08 0.1	0.12 0.1	23 20	Plei. Plei.	140° 140°	0.4 (145°) 0.4 (140°)	+ 9480 + 996	- 730 - 77	+ 310 + 33	0.00036 9520
332		17 24.0 319.1	-37 0 - 3.0	15×6 15×7	8.6 (2) 9.2 (2)	0.0 0.0	-0.05 -0.1	30 25	Plei. Plei.	70° 65°	0.37 (60°) 0.4 (65°)	+ 6440 + 981	- 1240 - 189	- 340 - 52	0.00058 6560
333		17 24.7 321.7	-34 0 - 1.4	5×5 5×5	9.6 (5) 9.9 (2)	0.06 0.1	-0.03 -0.1	20 8	Plei.+ Plei.	— —	0.4 (20°) —	+11770 + 989	- 1710 - 144	- 290 - 24	0.00027 11900
334	6374	17 25.7 323.5	-32 31 - 0.6	3×2	10.0 (3)	0.2	0.5	10	Plei.	110°	0.2 (110°)	+ 993	- 113	- 10	0.00020 16450
335	6383	17 28.2 323.4	-32 30 - 1.3	4×4 4×4	5.5 (2) 5.4 (3)	0.1± 0.0	100± 0.9	10 10	μ Norm. μ Norm.	— —	0.13(100°) —	+ 4870 + 993	- 560 - 115	- 110 - 23	0.00066 4900
336	Tr. 27	17 29.6 322.7	-33 25 - 2.0	8×6 7×5	9.1 (3) 9.1 (2)	0.1 -0.1	-0.2 -0.2	25 15	Plei. -- Plei. --	0° 100°	0.34(290°) 0.3 (280°)	+ 8820 + 991	- 1130 - 127	- 310 - 35	0.00037 8900
337	(Tr.28)	17 30.2 323.7	-32 25 - 1.6	11×5 8×6	9.3 (3) 9.5 (3)	0.03 0.1	-0.2 0.2	25 22	Plei. -- Præs.	175° 135°	0.35(330°) 0.3 (330°)	+ 8490 + 993	- 940 - 110	- 240 - 28	0.00041 8550
338		17 31.5 320.0	-37 30 - 4.0	25×25 25×25	8.0 (3) 8.0 (2)	0.0 0.1	-0.15 -0.1	26 20	Plei. Plei.	— 80°	0.43(180°) —	+ 4110 + 983	- 720 - 173	- 290 - 70	0.00094 4180
339	6393	17 31.5 321.7	-34 56 - 3.2	3×3 3×2	10.8 (4) 11.1 (2)	0.03 0.4	-0.1 0.4	15 8	Plei. -- Plei. --	— 155°	0.32(325°) —	+19730 + 989	- 2870 - 144	- 1120 - 56	0.00016 19950
340	6404	17 33.0 323.3	-33 11 - 2.5	5×5 5×5	10.6 (3) 10.5 (3)	-0.1 -0.1	-0.1 -0.2	15 12	Plei. -- Plei.	— —	0.4 (10°) —	+14880 + 992	- 1760 - 117	- 660 - 44	0.00023 15000
341	6405	17 33.5 324.3	-32 9 - 2.0	25×20 25×20	4.6 (4) 4.6 (4)	0.1 0.1	-0.2 -0.2	68 55	Plei.+ Plei.	70° 50°	0.3 (315°) 0.3 (315°)	+ 1870 + 994	- 190 - 99	- 70 - 35	0.00174 1880
342	6400	17 34.0 321.0	-36 53 - 4.3	10×6 7×5	8.9 (4) 8.8 (2)	0.2 0.1	0.2 0.1	30 25	Plei. ++ Plei.	10° 15°	0.35 (95°) 0.3 (100°)	+ 7910 + 985	- 1250 - 156	- 600 - 75	0.00041 8030
343	(Tr.29)	17 34.7 317.7	-40 3 - 6.5	10×8 10×10	7.5 (3) 7.6 (3)	0.05 0.1	-0.3 -0.2	18 22	Plei. Plei.	0° —	0.3 (0°) —	+ 5150 + 971	- 1120 - 212	- 600 - 113	0.00062 5300
344	6416	17 37.8 324.6	-32 18 - 2.9	18×18 15×15	8.5 (4) 8.9 (2)	0.0 -0.1	-0.05 0.0	36 35	Plei. Plei.	— —	0.4 (90°) —	+ 2160 + 995	- 200 - 94	- 110 - 51	0.00151 2170
345		17 38.0 324.0	-33 42 - 3.3	7×5 5×4	10.9 (2) —	0.0 0.1	-0.2 -0.1	15 15	Neb. cl.? Plei.	0° 0°	0.3 (130°) 0.4 (170°)	+15590 + 993	- 1630 - 104	- 910 - 58	0.00025 15700
346	6426	17 39.9 355.5	+3 13 +15.6	2.0×1.8 2.0×1.5	12.6 (3) 12.9 (3)	0.25 0.2	0.25 0.2	25 —	Præs. ++ Præs.	85° 90°	0.38(100°) 0.3 (100°)	+32020 + 870	+15270 + 415	+ 9900 + 269	0.00010 36800
347		17 40.0 327.8	-29 15 - 2.0	5×3 5×3	10.5 (3) 10.5 (2)	0.09 0.1	0.11 0.1	20 14	Plei.+ Plei.+	85° 85°	0.44 (85°) —	+13940 + 999	- 530 - 38	- 490 - 35	0.00025 13950
348	6425	17 40.5 325.6	-31 29 - 3.0	8×8 12×10	9.2 (3) 9.2 (2)	0.05 0.0	-0.05 0.0	22 25	Plei. Plei.+	— 135°	0.4 (135°) 0.4 (140°)	+ 7930 + 997	- 610 - 77	- 410 - 52	0.00044 7950
349	IC4665	17 41.4 358.2	+5 45 +15.6	45×37 45×30	5.4 (3) 5.3 (1)	0.03 0.1	0.0 0.0	28 28	Præs. -- Plei.+	135° 140°	0.4 (230°) —	+ 880 + 849	+ 470 + 455	+ 280 + 269	0.00316 1040
350		17 43.0 354.2	+1 20 +13.8	50×40 50×40	5.9 (3) 6.4 (3)	0.05 0.1	0.08 0.0	25 25	Plei. Plei.	90° 70°	0.35(310°) 0.4 (250°)	+ 1860 + 886	+ 840 + 398	+ 500 + 239	0.00180 2100

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NGC	α l	δ b	Dim.	m_t	C_N	C_M	N	Class	E	I_A	X x	Y y	Z z	π Distance	
1951	17 ^h 43 ^m 0	-28°42'	9'×9'	9 ^m 3 (3)	0.04	0.08	28	Plei.	—	0.35(160°)	+ 8590	- 160	- 210	0.00040	
	328°9	- 1°4	8.5×7.5	9.3 (4)	0.1	0.1	22	Plei.	135°	0.4 (135°)	+ 999	- 19	- 24	8600	
352	6451	17 44.3	-30 11	10×6	8.3 (3)	0.0±	-0.1	55	Præs.	20°	0.33(260°)	+ 7160	- 350	- 370	0.00046
		327.2	- 3.0	5×5	8.4 (2)	0.1	-0.1	40	Præs.-	—	0.4 (230°)	+ 998	- 49	- 52	7170
353	6469	17 46.9	-22 19	20×15	8.0 (5)	0.18	0.08	60	Præs.-	35°	0.36(200°)	+ 5030	+ 370	+ 50	0.00069
		334.2	+ 0.5	12×12	8.4 (3)	0.0	-0.1	35	Plei.	—	0.4 (240°)	+ 997	+ 73	+ 9	5050
354	6475	17 47.3	-34 47	85×75	3.2 (5)	0.15	-0.05	50	Præs.	35°	0.42(160°)	+ 830	- 90	- 90	0.00389
		323.5	- 5.9	45×45	3.4 (3)	—	—	60	Plei.	—	0.4 (140°)	+ 988	- 113	- 103	840
355	Tr. 30	17 49.7	-35 18	12×8	8.8 (2)	0.07	0.05	55	Plei.	55°	0.32 (55°)	+ 6730	- 790	- 780	0.00054
		323.3	- 6.6	15×12	8.9 (2)	0.1	0.0	50	Plei.+	45°	0.3 (40°)	+ 987	- 116	- 115	6820
356	6494	17 51.0	-19 0	35×22	5.8 (2)	0.15	0.02	115	Præs.	45°	0.38(240°)	+ 3090	+ 410	+ 70	0.00105
		337.6	+ 1.4	25×22	6.0 (3)	0.15	—	85	Præs.	45°	0.4 (230°)	+ 991	+ 132	+ 24	3120
357	Tr. 31	17 53.6	-28 10	5×4	10.1 (2)	0.05	-0.2	14	Plei.-	110°±	0.3 (140°)	+11600	- 10	- 740	0.00028
		329.9	- 3.7	6×4	9.5 (2)	0.2	-0.2	42	Plei.	95°	0.3 (160°)	+ 998	- 1	- 64	11620
358	6507	17 53.8	-17 23	9×5	9.6 (3)	0.02	0.0	20	Plei.	10°	0.35(190°)	+ 9160	+ 1540	+ 330	0.00038
		339.6	+ 2.0	9×6	9.5 (2)	-0.1	-0.3	16	Plei.-	0°	—	+ 985	+ 166	+ 35	9300
359		17 56.0	+ 2 55	300×180	3.2 (2)	0.0	0.0	10	Plei.-	45°	0.3 (250°)	+ 890	+ 450	+ 200	0.00320
		356.6	+11.1	320×180	2.7 (2)	0.1	-0.1	15	Plei.-	40°	0.3 (220°)	+ 877	+ 439	+ 193	1020
360	6514	17 56.3	-23 2	30×25	5.5 (4)	0.1	0.0	30	Neb.cl.	30°	0.3 (25°)	+ 1890	+ 150	- 50	0.00180
		334.6	- 1.6	25×20	4.8 (3)	-0.2	-0.2	40	Neb. cl.	45°	0.3 (45°)	+ 996	+ 80	- 28	1900
361	6520	17 57.1	-27 54	6×6	8.1 (2)	0.25	0.02	30	Præs.++	—	0.38(110°)	+ 6900	+ 60	- 520	0.00051
		330.5	- 4.3	7×5	7.2 (2)	0.3	0.4	20	Plei.	110°	—	+ 997	+ 9	- 75	6900
362	6530	17 58.6	-24 20	15×15	7.8 (2)	0.15	0.15	40	Præs.+	—	0.35(130°)	+ 5170	+ 340	- 250	0.00063
		333.8	- 2.8	12×12	7.6 (1)	0.1	-0.2	20	Neb. cl.	—	—	+ 997	+ 66	- 49	5190
363	6531	17 58.6	-22 30	15×15	7.4 (4)	0.15	0.1	40	Plei.++	40°	0.18 (70°)	+ 5160	+ 490	- 170	0.00063
		335.4	- 1.9	10×9	7.0 (2)	0.2	—	25±	Plei.++	70°	0.15 (75°)	+ 995	+ 94	- 33	5190
364	6540	18 0.0	-27 49	0.8×0.5	14.5 (3)	0.2	0.8	20	Præs.	95°	—	+104600	+ 2830	- 8820	0.000032
		331.6	- 4.8	0.6×0.4	14.6 (4)	—	—	—	Præs.±	90°	—	+ 996	+ 27	- 84	105000
365	6546	18 1.2	-23 19	15×8	8.6 (2)	0.08	0.1	20	Præs.-	100°	0.42(300°)	+ 6170	+ 540	- 300	0.00058
		335.0	- 2.8	13×11	8.5 (2)	0.2	0.1	20	Præs.-	100°	—	+ 995	+ 87	- 49	6200
366	6544	18 1.3	-25 0	3×3	10.3 (3)	1.7	0.25	100±	Glob.-	125°	0.4 (310°)	+18690	+ 1140	- 1110	0.00017
		333.5	- 3.4	2.5×1.5	10.3 (3)	—	—	—	Glob.-	125°	—	+ 996	+ 61	- 59	18770
367		18 3.5	-24 0	50×25	6.8 (3)	-0.1	-0.2	10	Neb. cl.	170°	0.42 (0°)	+ 6530	+ 520	- 330	0.00060
		334.6	- 2.9	45×20	6.0 (4)	0.0	-0.2	10	Neb. cl.	170°	—	+ 996	+ 80	- 51	6560
368	6558	18 3.8	-31 47	1.7×1.2	11.3 (3)	0.7	—	?	Præs.+?	45°	0.45(225°)	+32080	+ 1400	- 4210	0.00010
		327.5	- 7.4	1.4×0.9	11.6 (3)	0.6	—	?	—	45°	—	+ 982	+ 43	- 129	32570
369	6568	18 6.8	-21 37	15×11	8.4 (4)	0.03	0.05	45	Plei.	25°	0.4 (5°)	+ 5770	+ 720	- 310	0.00060
		337.1	- 3.1	13×10	8.8 (4)	0.0	0.1	29	Plei.	5°	0.4 (5°)	+ 992	+ 124	- 54	5820
370	6583	18 9.8	-22 10	2.8×2.8	12.4 (4)	0.15	0.05	13	Præs.	—	0.45 (45°)	+28840	+ 3550	- 2040	0.00013
		337.0	- 4.0	3×2	11.9 (5)	0.2	—	30±	Præs.	45°	—	+ 991	+ 122	- 70	29100
371	6595	18 11.0	-19 55	15×7	7.0 (3)	-0.2	-0.2	10	Neb. cl.	65°	0.2 (60°)	+ 3990	+ 700	- 180	0.00081
		339.9	- 2.6	16×9	7.4 (4)	-0.1	-0.2	12	Neb. cl.	65°	0.3 (65°)	+ 984	+ 172	- 45	4050
372	Tr. 32	18 11.9	-13 23	4.0×4.0	12.2 (2)	0.1	0.0	20	Præs.	—	0.3 (320°)	+24250	+ 6450	- 80	0.00016
		344.9	- 0.2	4×3	12.1 (2)	0.2	0.1	20	Præs.	140°	0.3 (325°)	+ 966	+ 257	- 3	25100
373	6604	18 12.5	-12 16	3.0×3.0	8.6 (3)	0.1	10±	10	μ Norm.	—	0.4 (100°)	+13650	+ 3920	+ 40	0.00023
		346.0	+ 0.2	3×2.5	7.8 (2)	—	1.0	10±	—	120°	—	+ 961	+ 276	+ 3	14200
374	6603	18 12.6	-18 27	5.5×4	11.8 (4)	0.2	0.1	45	Præs.-	120°	0.45 (40°)	+16550	+ 3100	- 830	0.00022
		340.6	- 2.8	5×4	11.1 (2)	—	—	—	Præs.	135°	—	+ 982	+ 184	- 49	16850
375	6611	18 13.2	-13 49	17×17	6.6 (4)	0.0	-0.35	40	Neb. cl.	0°±	0.4 (330°)	+14300	+ 3760	- 180	0.00022
		344.7	- 0.7	20×17	6.6 (3)	0.0	-0.2	30	Neb. cl.	145°	0.3 (320°)	+ 966	+ 254	- 12	14800

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Nr.	NGC	α l	δ b	Dim.	m_t	C_N	C_M	N	Class	E	I_A	X x	Y y	Z z	π Distance
376	6613	18 ^h 14 ^m 1	-17°10'	7'×7'	8 ^m 5 (3)	0.05	0.2	20	Plei.	—	0.3 (45°)	+ 7620	+ 1590	- 340	0.00042
		341°8	- 2°5	8×7	7.4 (3)	0.1	0.2	14	Plei.	40°	0.25 (45°)	+ 979	+ 204	- 44	7780
377		18 15.0	-16 13	25×20	6.5 (3)	0.0	0.2	30	Neb. cl.	15°	0.35(300°)	+ 3180	+ 730	- 90	0.00100
		343.0	- 1.6	15×8	7.3 (3)	0.0	0.0	27	Neb. cl.	70°	0.3 (330°)	+ 974	+ 225	- 28	3260
378	Tr. 33	18 18.8	-19 44	5×5	9.0 (2)	0.05	0.08	15	Plei.+	—	0.3 (300°)	+ 9500	+ 1690	- 790	0.00034
		340.1	- 4.7	6×4	8.7 (2)	0.3	0.3	10	Plei.	35°	—	+ 982	+ 175	- 82	9670
379	6631	18 21.6	-12 6	5×5	11.9 (2)	0.03	0.0	22	Plei.	—	0.4 (100°)	+20720	+ 6420	- 650	0.00020
		347.2	- 1.7	5×3	11.5 (3)	—	—	20±	Præs.±	140°	0.4 (140°)	+ 955	+ 296	- 30	21700
380	6633	18 22.7	+ 6 30	35×20	5.3 (3)	0.02	0.06	30	Plei.	58°	0.4 (530°)	+ 1480	+ 990	+ 210	0.00182
		3.8	+ 6.8	30×20	6.0 (3)	0.1	-0.3	30	Plei.	70°	0.4 (250°)	+ 825	+ 552	+ 118	1790
381	6642	18 25.0	-23 32	0.8×0.8	10.5 (3)	1.2	—	—	Glob.-	—	0.4 (260°)	+41400	+ 5740	- 5490	0.00011
		337.9	- 7.5	0.8×0.8	10.1 (3)	0.6	—	—	Glob.	—	—	+ 981	+ 136	- 130	42200
382	IC4725	18 25.8	-19 19	35×30	6.5 (3)	0.12	0.05	55	Præs.	0°	0.35(270°)	+ 2890	+ 580	- 310	0.00110
		341.3	- 6.0	30×25	6.0 (3)	0.1	0.2	60	Præs.-	175°	0.25(225°)	+ 975	+ 195	- 104	2960
383	6645	18 26.8	-16 58	12×10	8.5 (4)	0.1	-0.2	50	Plei.-	40°	0.3 (170°)	+ 7540	+ 1800	- 700	0.00042
		343.5	- 5.1	12×10	8.3 (3)	+0.3	0.0	100	Præs.	65°	0.4 (225°)	+ 969	+ 232	- 90	7780
384	6649	18 27.9	-10 28	6×6	10.1 (5)	0.1	0.03	25	Præs.	—	0.4 (220°)	+12620	+ 4450	- 540	0.00026
		349.4	- 2.3	6×5	10.6 (4)	—	—	15	Præs.	55°	—	+ 942	+ 332	- 40	13400
385	6664	18 31.3	- 8 18	18×15	8.8 (3)	0.08	0.15	40	Præs.-	175°	0.36(170°)	+ 6410	+ 2550	- 240	0.00062
		351.7	- 2.0	15×12	9.0 (5)	0.1	0.2	28	Præs.	155°	0.4 (180°)	+ 929	+ 370	- 35	6900
386	IC4756	18 34.0	+ 5 22	52×52	5.1 (2)	0.12	0.08	150	Præs.	—	0.37 (70°)	+ 1420	+ 960	+ 110	0.00190
		4.0	+ 3.8	60×45	5.6 (5)	0.1	-0.1	120	Præs.-	45°	0.4 (45°)	+ 827	+ 559	+ 66	1720
387	Tr. 34	18 34.4	- 8 34	8×8	11.6 (3)	0.07	0.12	15	Præs.-	—	0.4 (270°)	+18540	+ 7420	- 980	0.00024
		351.8	- 2.8	8×5	11.5 (3)	0.3	0.1	20	Plei.	130°	—	+ 927	+ 371	- 49	20000
388	Tr. 35	18 37.7	- 4 14	5×5	9.8 (4)	0.03	-0.1	24	Præs.-	—	0.18(235°)	+10970	+ 5340	- 290	0.00022
		356.0	- 1.4	6×5	10.3 (3)	0.1	-0.1	25	Plei.	70°	0.15(250°)	+ 899	+ 438	- 24	12200
389	6694	18 39.8	- 9 30	6×6	10.1 (3)	0.1	0.0	18	Præs.-	—	0.27(255°)	+ 1040	+ 410	- 90	0.00029
		351.6	- 4.4	4×4	9.2 (3)	-0.1	-0.2	18	Præs.+	—	0.2 (250°)	+ 927	+ 367	- 76	1120
390	6704	18 45.5	- 5 19	6×4	9.1 (3)	0.02	0.04	19	Plei.-	10°	0.3 (180°)	+ 9540	+ 4630	- 680	0.00031
		355.9	- 3.7	6×4	9.8 (2)	0.1	0.1	20	Plei.	15°	0.2 (190°)	+ 898	+ 436	- 64	10620
391	6705	18 45.7	- 6 23	14×14	6.9 (3)	0.42	0.3	70	Glob.-	—	0.43(220°)	+ 5890	+ 2740	- 490	0.00050
		355.0	- 4.3	12×10	6.6 (2)	0.4	—	100±	Glob.-	30°	—	+ 904	+ 421	- 75	6520
392	6709	18 46.7	+10 14	16×11	7.3 (4)	0.08	-0.12	50	Præs.	125°	0.4 (130°)	+ 2900	+ 2420	+ 220	0.00087
		9.8	+ 3.3	15×11	7.6 (3)	0.1	-0.1	40	Præs.—	135°	—	+ 766	+ 639	+ 58	3780
393	6716	18 48.6	-20 1	8×6	6.9 (3)	-0.3	-0.45	20	Plei.—	45°	0.3 (225°)	+ 2970	+ 690	- 600	0.00105
		343.1	-11.1	8×6	6.7 (3)	-0.3	-0.4	15	Plei.—	40°	—	+ 955	+ 222	- 193	3110
394		18 47.5	-20 30	25×20	6.3 (3)	0.08	0.0	32	Præs.-	170°	0.25 (25°)	+ 2780	+ 610	- 550	0.00116
		342.5	-11.0	25×20	6.8 (3)	0.1	0.05	22	Præs.-	170°	0.4 (170°)	+ 958	+ 212	- 191	2900
395	6717	18 49.1	-22 50	1.5×1.5	12.1 (2)	2.1	—	50±	Glob.	—	—	+35040	+ 6500	- 7850	0.00009
		340.5	-12.4									+ 960	+ 178	- 215	36500
396	6738	18 56.7	+11 28	18×13	8.0 (4)	0.08	0.2	24	Plei.	160°	0.38(170°)	+ 2920	+ 2610	+ 130	0.00084
		11.7	+ 1.9	15×10	8.5 (3)	0.1	0.1	20	Plei.	110°	—	+ 746	+ 665	+ 33	3920
397	6755	19 2.8	+ 4 4	12×10	8.3 (3)	0.1	-0.0	38	Præs.—	60°	0.3 (255°)	+ 6040	+ 4430	- 400	0.00049
		6.3	- 3.1	11×9	9.5 (3)	-0.2	-0.3	25	Plei.	70°	—	+ 805	+ 591	- 54	7500
398	6756	19 3.7	+ 4 31	3.5×3.5	10.6 (2)	0.1	0.03	15	Præs.—	—	0.4 (80°)?	+13900	+10390	- 940	0.00019
		6.8	- 3.1									+ 800	+ 598	- 54	17370
399	4-5 Vulp.	19 21.0	+20 0	90×30	5.1 (2)	0.0	0.1	11	Plei.	85°	0.3 (250°)	+ 5000	+ 6470	+ 120	0.00398
		22.3	+ 0.9	80×40	4.6 (2)	0.0	0.0	15	Plei.-	80°	—	+ 616	+ 791	+ 15	8200
400	6802	10 26.2	+20 4	5×1.5	11.0 (2)	0.0	0.3	10±	Plei.	10°	0.25 (10°)	+ 1360	+17340	- 130	0.00020
		23.0	- 0.3	5×2	12.5 (2)	—	0.4	—	—	0°	—	+ 602	+ 799	- 6	21700

Catalogue of Open Clusters.

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Nr.	NGC	α l	δ b	Dim.	m_t	C_N	C_M	N	Class	E	I_A	X x	Y y	Z z	π Distance
401		19 ^h 33 ^m 2 6 ^s 3	+ 0° 7' - 11° 4'	1'×1' 1.5×1.5	7 ^m 0 (1) 6.9 (1)	0.2 —	100± 1.0	12 8±	μ Norm. μ Norm.	— —	— —	+ 6790 + 790	+ 4990 + 580	- 1700 - 198	0.00038 8600
402	6811	19 35.2 46.9	+46 20 +11.2	16×16 13×10	8.5 (3) 9.9 (4)	0.12 -0.1	0.0 -0.1	40 40	Præs.— Præs.—	— 60°	0.43(240°) —	+ 660 + 221	+ 2840 + 956	+ 580 + 194	0.00110 2970
403	6819	19 37.9 41.5	+39 57 + 7.6	5.2×5.2	9.9 (3)	0.15	0.15	32	Plei.+	—	0.4(225°)?	+ 3890 + 315	+11620 + 941	+ 1630 + 132	0.00027 12350
404	6820	19 38.4 26.2	+22 51 - 0.9	0.8×0.6	14.9 (3)	0.0	—	7±	Neb. cl.	120°	—	+106080 + 556	+158550 + 831	- 3050 - 16	0.000032 190800
405	6823	19 38.9 27.1	+23 4 - 1.3	7.5×5 6×5	9.8 (2) 9.8 (2)	0.08 0.1	0.3 0.2	17 13	Plei. Plei.	110° 155°	0.28 (70°) 0.25(170°)	+ 5860 + 543	+ 9060 + 839	- 240 - 22	0.00031 10800
406	6830	19 46.8 27.9	+22 50 - 3.0	10×7 7×5	9.0 (3) 8.7 (2)	0.08 0.2	0.35 0.3	13 15	Plei.+ Plei.	110° 120°	0.2 (120°) 0.3 (110°)	+ 4250 + 530	+ 6780 + 846	- 420 - 52	0.00041 8020
407	6834	19 48.2 33.4	+29 9 + 0.2	6×4 6×5	10.3 (3) 9.7 (3)	0.14 0.3	0.25 0.2	26 40	Plei.+ + Præs.	85° 80°	0.37(260°) —	+ 8510 + 448	+16990 + 894	+ 60 + 3	0.00028 19000
408	Harv.20	19 48.7 24.0	+18 5 - 5.7	7.5×6 8×6	9.6 (4) 9.5 (3)	0.06 0.1	-0.1 0.0	20 20	Plei. Plei.	105° 100°	0.4 (280°) —	+ 5620 + 585	+ 7730 + 805	- 960 - 100	0.00035 9600
409	6838	19 49.3 24.1	+18 31 - 5.5	6×6 4×4	8.4 (4) 8.2 (5)	0.55 0.7	0.3 —	100 150±	Præs.+ + Glob.+	80° —	0.3 (240°) —	+ 4430 + 584	+ 6120 + 806	- 730 - 96	0.00052 7590
410	6846	19 52.5 35.1	+30 5 - 0.1	0.5×0.5	14.2 (1)	—	—	—	Plei.+ +	—	—	+42440 + 421	+91430 + 907	- 200 - 2	0.00003 100800
411	Mel. 227	19 59 281.4	-79 36 -31.0	75×60 80×60	5.0 (2) 5.7 (1)	0.0 0.0	0.08 0.1	15 20	Plei. Plei.	100° 120°	0.35(105°) 0.3 (120°)	+ 590 + 567	- 670 - 644	- 540 - 515	0.00316 1040
412	6866	20 05 47.0	+43 43 + 6.0	8×6 8×6	8.8 (3) 9.0 (2)	0.09 0.2	-0.07 0.05	38 20	Plei.+ + Plei.	90° 80°	0.17(260°) 0.2 (260°)	+ 880 + 225	+ 3810 + 969	+ 410 + 104	0.00083 3930
413	6871	20 2.1 40.3	+35 30 + 1.2	40×35 30×30	5.6 (3) 6.0 (3)	0.05 -0.1	0.2 -0.4	60 45	Plei. Plei.	75°± —	0.32(280°) 0.4 (275°)	+ 2290 + 337	+ 6410 + 941	+ 140 + 21	0.00048 6810
414	IC 1311?	20 7.0 45.3	+40 55 + 3.5	10×8 6×6	13.1 ± —	0.1± —	0.0 —	11 —	Præs. Glob.?	80° —	0.45(270°) —	+ 1870 + 253	+ 7150 + 966	+ 450 + 61	(0.00044) 7400
415	6883	20 7.5 41.0	+35 33 + 0.3	15×8 13×10	7.8 (3) 8.3 (2)	-0.15 -0.1	-0.3 -0.4	20 18	Plei.— Plei.—	110° 125°	0.45(120°) —	+ 1680 + 326	+ 4870 + 946	+ 30 + 5	0.00065 5150
416	6882	20 7.5 33.3	+26 15 - 5.0	20×16 20×15	5.6 (2) 5.8 (2)	0.08 0.1	0.9 0.8	40 20	Plei.+ Plei.	70° 85°	0.3 (60°) —	+ 3170 + 447	+ 6320 + 890	- 620 - 87	0.00046 7100
417	6885	20 7.8 33.3	+26 11 - 5.1	9×6 8×6	9.1 (4) 9.1 (3)	0.08 0.1	0.25 0.4	35 40	Plei. Plei.	70° 60°	0.45(220°) 0.4 (215°)	+ 1010 + 448	+ 2000 + 891	- 200 - 88	0.00145 2250
418	IC4996	20 12.8 43.0	+37 20 + 0.5	8×5 7×4	7.2 (3) 6.9 (2)	0.08 0.0	-0.3 -0.4	40 12	Plei.— Plei.—	70° 70°	0.4 (250°) —	+ 1590 + 292	+ 5210 + 956	+ 50 + 9	0.00061 5450
419		20 14.5 45.4	+40 25 + 2.4	4.5×4.5 5×3	5.4 (3) 5.4 (2)	0.1 0.1	50 0.9	10 16	μ Norm. μ Norm.	— 45°	— —	+ 1210 + 252	+ 4640 + 967	+ 200 + 42	0.00068 4800
420	6910	20 19.5 46.3	+40 27 + 1.3	12×12 12×10	7.7 (4) 7.7 (3)	0.12 0.15	-0.15 -0.2	25 16	Plei.+ + Plei.	— 0°	0.3 (170°) 0.3 (180°)	+ 1210 + 237	+ 4960 + 972	+ 120 + 23	0.00064 5100
421		20 19.7 46.8	+41 22 + 2.4	6×6 6×5	9.9 (3) 10.2 (2)	0.0 0.0	-0.05 0.0	20 20	Plei. Præs.—	— 70°	0.4 (70°) —	+ 2750 + 228	+11740 + 974	+ 510 + 42	0.00028 12050
422	6913	20 20.3 44.6	+38 12 - 0.2	6×6 6×4	9.1 (3) 8.8 (3)	0.0 -0.1	-0.2 -0.2	18 15	Plei. Plei.	— 70°	0.4 (230°) —	+ 2470 + 266	+ 8970 + 964	- 30 - 3	0.00035 9300
423	6939	20 29.4 63.3	+60 18 +11.9	8×7 8×6	10.0 (2) 10.2 (2)	0.2 0.2	0.0 0.1	42 40	Præs. Præs.	30° 45°	0.15(225°) 0.15(225°)	- 640 + 56	+11210 + 977	+ 2360 + 206	0.00032 11470
424	6940	20 30.4 37.8	+27 58 - 8.1	33×30 35×30	6.4 (4) 7.1 (2)	0.19 0.2	0.0 0.0	112 90	Præs. Præs.	30°± 10°	0.35(210°) 0.3 (190°)	+ 970 + 374	+ 2380 + 917	- 370 - 141	0.00135 2590
425	6996	20 52.9 53.0	+44 15 - 1.0	7×7 10×8	9.9 (4) 10.1 (4)	0.11 0.1	0.07 -0.2	22 20	Neb. cl. Neb. cl.	— 120°	0.45(195°)? —	+ 1290 + 122	+10490 + 992	- 180 - 17	0.00035 10570

Catalogue of Open Clusters.

Nr.	NGC	α l	δ b	Dim.	m_t	C_N	C_M	N	Class	E	I_A	X x	Y y	Z z	π Distance
426	6994	20 ^h 53 ^m 5 4 ^o	-13° 1' -35°6'	3'.2×2'.4 2.4×1.6	8 ^m 8 (2) 9.1 (1)	1.3 1.3	—	200?	Glob.? Glob.?	90° 70°	0.48(270°) 0.35 (45°)	+ 9620 + 674	+ 6490 + 455	- 8310 - 582	0.00026 14270
427		20 58.3 70.7	+67 46 +14.4	5×3	13.8 (3)	0.06	0.0	30	Plei.	100°	—	- 5830 - 180	+30810 + 951	+ 8070 + 249	0.00018 32400
428		20 59.6 53.8	+44 11 - 1.5	18×10 15×12	8.5 (3) 8.9 (5)	0.14 0.1	0.07 0.1	25 40	Neb. cl. Neb. cl.	87° 120°	0.3 (35°) 0.3 (80°)	+ 540 + 108	+ 4970 + 994	- 130 - 26	0.00065 5000
429	7023	20 59.3 70.7	+67 46 +14.4	5×4.5	7.1 (3)	0.04	100±	15	Neb. cl.	170°	—	+16380 - 180	+86540 + 951	+22660 + 249	0.00036 91000
430	7031	21 4.1 59.0	+50 26 + 1.8	5×5 4×4	10.7 (2) 11.4 (2)	0.0 0.1	0.1 -0.3	12 15	Plei. — Plei.	— —	0.20 (90°) 0.15 (40°)	+ 300 + 17	+17880 + 999	+ 550 + 31	0.00020 17900
431	7039	21 8.6 55.7	+45 15 - 2.4	25×25 25×20	6.6 (2) 7.1 (4)	0.0 0.0	-0.15 -0.2	80 35	Plei.a Plei.	— 20°	0.4(270°)? —	+ 210 + 75	+ 2790 + 996	- 120 - 42	0.00111 2800
432	IC1369	21 8.7 57.3	+47 20 - 0.9	2.8×2.8 3×3	12.3 (2) 11.9 (3)	0.0 0.0	0.0 0.1	11 10	Plei. Præs.	— —	— —	+ 1390 + 47	+29570 + 999	- 470 - 16	0.00013 29600
433	7044	21 9.2 53.7	+42 5 - 4.7	4×3 5×4	11.3 (3) 12.0 (2)	0.25 0.2	0.08 0.0	40 40	Præs. — Præs. —	90° 90°	0.3 (270°) —	+ 2440 + 109	+22150 + 991	- 1830 - 82	0.00018 22350
434	7062	21 19.6 57.6	+45 57 - 3.2	5×4 5×4	11.6 (2) 11.7 (5)	0.1 0.0	0.0 -0.1	20 10	Præs. Præs.	120° 100°	0.42(150°) —	+ 910 + 42	+21630 + 997	- 1220 - 56	0.00020 21700
435	7063	21 20.4 51.0	+36 4 -10.6	7×5 8×5	9.0 (2) 8.8 (5)	0.0 0.1	0.0 0.2	12 10	Plei. Plei. —	120° 135°	— 0.4 (325°)	+ 1290 + 153	+ 8200 + 971	- 1550 - 184	0.00039 8450
436	7067	21 20.6 58.8	+47 35 - 2.3	1.0×1.0	13.0 (2)	0.2±	—	—	Præs.	—	—	+ 1140 + 21	+54450 + 999	- 2180 - 40	0.00006 54500
437	7086	21 27.1 62.1	+51 9 - 0.2	5.8×5.8 6×6	11.7 (2) 11.6 (6)	0.1 0.2	-0.1 —	20 20	Præs. — Præs. —	— —	0.3 (230°) 0.4 (170°)	- 780 - 37	+21060 + 999	- 60 - 3	0.00022 21080
438	7092	21 28.6 60.2	+48 0 - 2.7	35×20 30×25	5.1 (3) 5.5 (3)	0.0 0.1	0.3 0.2	18 22	Plei. Plei.	45° 155°	0.3 (70°) 0.3 (50°)	- 0 - 3	+ 1060 + 999	- 50 - 47	0.00307 1060
439	IC1396	21 35.9 66.9	+57 2 + 3.5	60×40 60×40	5.1 (2) 5.0 (1)	0.02 0.1	0.5 0.4	30 35	Plei. Plei.	10° 10°	0.4 (240°) —	- 160 - 120	+ 1350 + 991	+ 80 + 61	0.00250 1360
440	7128	21 40.6 65.0	+53 15 + 0.1	3×3 2.5×2.2	11.2 (2) 11.4 (5)	-0.2 -0.2	-0.3 -0.3	11 10	Plei. — Plei. —	— 140°	0.4 (320°) —	- 1920 - 87	+22010 + 996	+ 40 + 2	0.00015 22100
441	7129	21 39.0 72.3	+65 38 +10.0	3.5×2.0 1.5×1.0	11.5 (5) 11.3 (3)	— —	— —	6 7	Neb. cl. Plei.	40° 140°	0.4 (320°) 0.4 (320°)	- 5410 - 210	+24760 + 961	+ 4480 + 174	0.00013 25770
442	7142	21 43.5 72.9	+65 20 + 9.3	15×8 9×6	10.4 (2) 9.6	0.1 -0.1	0.03 -0.2	35 12	Præs. Plei.	130° 130°	0.3 (120°) 0.3 (130°)	- 1900 - 220	+ 8320 + 962	+ 1390 + 161	0.00043 8650
443	7160	21 50.9 71.5	+62 8 + 6.3	10×5 7×3	6.6 (1) 6.3 (2)	0.0 -0.1	0.4 0.3	25 16	Plei. ++ Plei. ++	110° 85°	0.23 (70°) 0.25 (75°)	- 1010 - 197	+ 5000 + 974	+ 560 + 110	0.00073 5130
444	7209	22 1.2 63.4	+46 0 - 7.7	25×20 18×15	7.6 (4) 8.4 (2)	0.05 0.1	0.0 -0.1	40 30	Præs. — Præs. —	90° 40°	0.35 (65°) 0.3 (40°)	- 150 - 59	+ 2570 + 989	- 350 - 134	0.00126 2600
445	IC1434	22 6.7 67.7	+52 20 - 3.0	10×6 7×5	10.0 (3) 9.6 (2)	0.1 0.2	0.0 -0.1	40 30	Præs. Præs. —	80° 80°	0.3 (240°) 0.2 (240°)	- 1340 - 134	+ 9870 + 990	- 520 - 52	0.00036 9970
446	7226	22 6.9 69.1	+54 55 - 0.8	1.8×1.8	13.3 (3)	0.2±	—	—	Præs.±	80°	—	- 7510 - 158	+46900 + 987	- 670 - 14	0.00008 47520
447	7235	22 9.0 70.4	+56 47 + 0.6	5×3 5×2.5	9.1 (2) 9.4 (2)	0.1 0.1	-0.3 -0.2	12 12	Plei. — Plei.	90° 95°	0.16 (95°) 0.2 (90°)	- 1850 - 181	+10070 + 984	+ 100 + 10	0.00031 10230
448	7243	22 11.3 66.7	+49 23 - 5.8	35×25 40×20	6.6 (3) 6.8 (3)	0.04 0.1	-0.1 0.1	50 40	Plei. Plei.	11° 75°	0.35(240°) 0.3 (255°)	- 300 - 116	+ 2570 + 988	- 260 - 100	0.00126 2600
449	7245	22 11.5 69.1	+53 50 - 2.1	6×4	11.5 (3)	0.1	0.0	20	Plei. +	135°	0.4 (220°)	- 3440 - 158	+21540 + 988	- 780 - 36	0.00022 21800
450	7261	22 16.8 71.7	+57 35 + 0.7	7×5 7×5	9.8 (2) 9.8 (2)	0.03 0.0	0.15 0.1	18 18	Plei. Plei.	5° 0°	0.25 (90°) —	- 2150 - 203	+10350 + 979	+ 130 + 12	0.00032 10570

Catalogue of Open Clusters.

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Nr.	NGC	α l	δ b	Dim.	m_t	C_N	C_M	N	Class	E	I_A	X x	Y y	Z z	π Distance
451	7296	22 ^h 24 ^m 2 69.7	+51°47' - 4°8	4'×4' 5×4	9 ^m .4 (4) 10.0 (3)	0.1 0.1	0.02 0.05	15 10	Plei.- Plei.	- 45°	0.47(170°) -	- 2090 - 167	+12290 + 982	- 1050 - 84	0.00026 12520
452	7380	22 43.0 74.8	+57 34 - 0.9	12×9 8×8	8.8 (2) 8.8 (3)	0.1 -0.1	0.15 -0.1	30 20	Plei.+ Plei.	115° -	0.35 (15°) 0.4 (0°)	- 1880 - 255	+ 7120 + 966	- 110 - 15	0.00046 7370
453	7419	22 50.3 76.8	+60 18 + 1.1	2.0×2.0 2.5×2	13.0 (2) 13.1 (2)	0.1 -	0.18 -	8 -	Præs.± -	- 135°	- -	-11400 - 289	+37750 + 957	+ 750 + 19	0.00009 39450
454	7510	23 7.3 78.7	+60 2 + 0.1	8×3 3×1.5	9.1 (3) 9.6 (2)	0.15 0.1	0.2 0.2	19 10±	Plei. Plei.	80° 85°	0.37 (70°) -	- 3280 - 321	+ 9680 + 947	+ 20 + 2	0.00032 10220
455	7654	23 19.8 80.4	+61 3 + 0.5	12×10 8×8	7.6 (3) 8.9 (2)	0.1 0.2	0.05 -	75 35	Præs.- Præs.	80° -	0.3 (330°) -	- 250 - 348	+ 670 + 937	+ 10 + 9	0.00456 715
456	7686	23 25.4 77.5	+48 34 -11.6	15×15 10×10	8.0 (3) 8.4 (2)	0.16 0.1	0.05 -0.2	37 20	Plei.- Plei.-	- -	0.33(170°) 0.3 (180°)	- 1680 - 295	+ 5310 + 934	- 1140 - 201	0.00059 5680
457	7762	23 45.0 84.7	+67 28 + 6.0	15×8	10.0 (2)	0.07	0.0	30	Præs.	112°	0.4 (15°)	- 4080 - 416	+ 8860 + 904	+ 1020 + 104	0.00050 9800
458	Harv. 21	23 49.2 84.0	+61 12 - 0.6	5×3 3×2	9.0 (3) 9.6 (2)	0.12 0.1	-0.1 0.4	15 10±	Plei.+ Plei.	80° 75°	0.22(170°) 0.2 (180°)	- 4960 - 406	+11180 + 915	- 120 - 10	0.00027 12220
459	7788	23 51.7 84.1	+60 50 - 0.6	11×8 8×6	9.4 (3) 9.5 (2)	0.1 0.1	0.2 0.2	12 15	Plei.++ Plei.+	100° -	0.47 (95°) -	- 3500 - 408	+ 7820 + 913	- 90 - 10	0.00041 8570
460	7789	23 52.0 83.3	+56 10 - 5.2	16×16 13.5×13.5	9.2 (3) 9.3 (6)	0.16 0.1	0.0 0.0	120 100	Præs. Præs.	- -	0.4 (185°) -	- 2730 - 394	+ 6330 + 915	- 630 - 91	0.00058 6920
461	7790	23 52.0 84.1	+60 40 - 0.8	20×15 18×15	7.1 (3) 7.2 (3)	0.1 0.0	0.1 -0.2	20 18	Plei. Plei.	180° -	0.4 (180°) -	- 1470 - 408	+ 3290 + 913	- 50 - 14	0.00091 3600
462 (5a)	189	0 33.1 89.2	+60 30 - 1.8	4×4	11.1 (2)	0.04	-0.08	22	Plei.+	-	0.43(230°)	- 8270 - 488	+14780 + 872	- 530 - 31	0.00020 16950
463 (20a)		1 40.4 95.0	+71 26 +10.5	45×28	5.8 (2)	0.12	0.08	35	Plei.++	95°	0.42(275°)	- 1070 + 564	+ 1520 - 805	+ 340 + 182	0.00182 1890
464 (60a)		5 10.0 107.0	+73 10 +20.5	180×60	4.2 (2)	0.00	-0.15	12	Plei.-	80°	0.3 (260°)	- 490 - 685	+ 450 + 639	+ 250 + 350	0.00470 710
465 (127a)		7 2.4 192.0	-10 28 + 0.2	10×8	10.1 (2)	0.04	0.12	30	Præs.-	10°	0.35 (15°)	- 7650 - 743	- 6890 - 669	+ 30 + 3	0.00038 10300
466 (127b)		7 2.5 192.0	-10 40 + 0.2	5×3	11.1 (2)	0.06	0.16	18	Præs.	25°	0.44(190°)	-12630 - 743	-11370 - 669	+ 50 + 3	0.00022 17000
467 (156a)		7 34.6 195.3	-10 19 + 6.6	2×2 3×3	11.8 (1)	0.5?	?	?	Præs.++	-	-	-12000 - 706	-11880 - 699	+ 1950 + 115	0.00018 17000
468 (364a)		18 0.4 331.5	-27 28 - 4.0	2×1	13.4 (3)	0.03	0.15	12	Plei.	50°	0.3 (55°)	+34200 + 997	+ 890 + 26	- 2400 - 70	0.00008 34300
469 (370a)		18 10.6 340.4	-18 15 - 2.2	3.5×1.8	10.9 (2)	0.03	-0.05	25	Plei.	180°	0.35 (10°)	+29360 + 983	+ 5380 + 180	- 1140 - 38	0.00011 29870
470 (442a)	IC 5146	21 49.6 62.8	+46 48 - 6.3	12×7	8.3 (2)	0.00	0.06	12	Neb. cl.	60°	0.39(265°)	- 670 - 49	+13500 + 993	- 1480 - 109	0.00024 13600
471 (444a)		22 5 78.2	+71 30 +13.4	180×80	3.3 (2)	0.00	-0.05	18	Plei.	65°	0.4 (55°)	- 170 - 303	+ 520 + 924	+ 130 + 232	0.00580 560

Notes to the preceeding Catalogue.

Abbreviations.

Many of the abbreviations used in the following notes are self-explanatory and generally in accordance with the ones used in NGC and its sequels. The following abbreviations may be explained:

Observers.

B = Bailey
Bar. = Barnard
Cr = Collinder
Cs = Curtis
Hol. = Holetschek
Lk = Lundmark
Mel. = Melotte
Nab. = Nabokov
Rb = Raab
Rh = Reinmuth
Sh. = Shapley
Tr. = Trümpler
Wz = Wirtz

Charts and Catalogues.

Cel. Ph. = Roberts Celestial Photographs
FAC = Franklin-Adams Charts
FAP = Franklin-Adams Plates
HDC = Henry Draper Catalogue
UOC = Union Observatory Charts
WPC = Wolf-Palisa Charts

1. *NGC 103*. — *D*: h 3'; Lk 4; Tr. 4. — *m_t*: Lk 10.8 ph. — *N*: Lk 20. — *Class*: Lk babba, Tr. I 2p. — *e*: Lk 0.60. — *π*: Tr. 0°00039. — Lk: Somewhat dubious object. — Not on FAC.
2. *NGC 129*. — *D*: Tr. 13'. — *Class*: Lk babba; Tr. IV 2pU. — *e*: 0.00; 0.71. — *π*: Tr. 0°00048. — Lk: Chains going outwards from centre.
3. *NGC 133*. — *D*: Lk 8'.0. — *N*: Lk 18; 30. — *Class*: Lk babba; — *m_t*: Lk 9.6 ph. — *e*: 0.74; 0.79 — About 15 stars brighter and outstanding from the rest.
4. *NGC 136*. — *D*: Rh 1'3×1'3; Tr. 2.2. — *Class*: Lk babba; Tr. II 1r. — *e*: 0.00. — *π*: Tr. 0°00019; Lk, Cr prel. 0.00006. — Found only on FAP and on Crossley pl. by Lk as sparse cl. of small stars 13^m–17^m, number of stars perhaps 100, in rich region. Rh: Cl, vS, pR, mCM, st 14... — Not on FAC.
5. *NGC 146*. — *D*: h 10'; Lk 8; Rh 8×8. — *m_t*: Lk 9.8 ph. *N*: Lk 30. — *Class*: Lk babba. — *e*: 0.66; 0.00. — Lk: Forms a double cl. with *NGC 133*. — Coordinates of cl. seem to be erroneous in *NGC* and Rh. Rh gives same coordinates as *NGC*, but his description makes it probable that he has observed another object following *NGC 146* and which may be taken as a cl. To judge from d'Arrest's description, adopted in *NGC*, the present object should be *NGC 146*.
6. *NGC 188*. — *D*: Mel. 15'; Lk 16; Tr. 14. — *m_t*: Lk 10.5 ph. — *N*: Lk 0.00. — *Class*: Lk bbbbb; Tr. II 1r. — *e*: Lk 0.00. — *π*: Tr. 0°00085; Lk, Cr prel. 0.00070. — Not on FAC; Cl. has a north stratum of brighter stars and a south stratum of fainter. Both are included.
7. *NGC 225*. — *D*: Rh 12'×12'; Lk 12; Cr 12; [Lee 44×36]; Tr. 14. C: Cr 15. — *m_t*: Nab. 7.1. — *Class*: Cr bbbba; Tr. III 1p. — *e*: 0.85; 0.74. — *π*: Tr. 0.00091; Lk, Cr prel. and final 0.0019. — From 43 proper motions measured by Lee (270) Lk has found $\pi = 0''0019$. — Bright stars not incl. in *m_t*.
8. *NGC 281*. — *Class*: Lk, Cr bbbba; — *e*: Lk 0.89. — Hubble, MW Contr. 291, finds 4 components of BD+55°191 to exhibit 0e5 spectra (8^m6–10^m2) and 3 stars B0 (10^m3–11^m6). These data give $\pi = 0''00095$. — In DC the star BD+55°191 was given as 7^m2 B2p, with note: H β is suspected to be bright. — Found on M.W. 60" photo. G 68, exp. 3^h30^m. Not visible as a cl. on FAC.
9. *NGC 366*. — *D*: h 2'; Rh 4. — *m_t*: Lk 12.5 ph. — *Class*: Lk aabba. — *e*: Lk 0.00. — Three bright stars not included.
10. *NGC 381*. — *D*: Lk 8'; Rh 7; Tr. 7. — *m_t*: Lk 9.2 ph. — *N*: Lk 20; Rh 30. — *e*: 0.00; 0.00. — *Class*: Lk babba; Tr. III 2p. — *π*: Tr. 0°00045.
11. *NGC 436*. — *D*: Mel. 4'; Rb 7×7; Lk 4; Cr 6; Tr. 6. — *N*: Lk 10; Cr 8. — *m_t*: Lk 9.7 ph.; 10.0. — *Class*: Lk, Cr bbbba; Tr. I 3m. — Rh: st. 9.5... — *e*: 0.38; 0.00. — *π*: Tr. 0.00051 (2); Lk, Cr prel. 0°00043.
12. *NGC 457*. — *D*: Mel. 10'; Lk 11; Rb 17–20; Rh 15×15; Cr 15; Tr. 12. — *m_t*: Lk 7.4 ph; Lk 8.0; (Rb) 7.58. — *N*: B. 15; Lk 28; Cr 30. — *Class*: Lk, Cr baaaa; Tr. I 3r. — *e*: 0.00; 0.71. — *π*: Rb 0°00097; Tr. 0.00068; Lk, Cr 0.00085.
13. *NGC 559*. — *D*: h 5'; Rh 7; Lk 6. — *m_t*: Lk 9.9 ph. — *N*: Lk 15. — *Class*: Tr. I 2m. Lk baaba. — *e*: 0.00; 0.66. — Spiral arm to bright star. — Bright star not included.
14. *NGC 581*. — *D*: Mel. 5'; Rh 6.5×5; Lk 7. Cr 6; Tr. 6.5. — *m_t*: Hol. 7.5; Nab. 5.6; Lk 7.0; (Rb) 7.18; Lk 6.7 ph; Nab. final value 6.57±0.09; Bernheimer 6.97. — *N*: Lk 10; Cr 15. — *Class*: Lk, Cr babaa; Tr. II 3m. — *e*: 0.00; 0.56. — *E*: Rh 165°. — *π*: Tr. 0°00051 (2); Lk, Cr prel. stand. 0.00126, final 0.00050. — Fagerholm (120) has measured accurate positions for 283 stars in this cl. — The brightest star in cl. is BD+59°271 7.09 B3. The proper motions of this star suggest a parallax 0.0000 > π > 0.0013.
15. *Tr. 1*. — *D*: Tr. 4'.5. — *Class*: Lk baaba; Tr. I 3p. — *e*: Lk 0.00. — *π*: Tr. 0°00044. — Very faint on FAC.
16. *NGC 609*. — *D*: d'Arr. 4'; Rh 3; Lk 2±; Tr. 3. — *m_t*: Lk 13.5 ph. — *Class*: Lk aabba; Tr. I 2p. — *e*: Lk 0.00. — *π*: Tr. 0°00029. — Very faint on FAC, rather faint on FAP.
17. *NGC 637*. — *D*: Rh 5'; Lk 5.5; Tr. 3.5. — *m_t*: Lk 7.3 ph. — *Class*: Lk baaaa; Tr. II 3p. — *e*: 0.74; 0.74. — *π*: Tr. 0°00030. — Faint on FAC.
18. *NGC 654*. — *D*: Mel. 5'; B. 4; Rb 6; Rh 5×5; Lk 5 Cr 5; Tr. 5.5. — *m_t*: Hol. 9.0; (Rb) 9.42; Lk 8.5 ph; Bernh. 9.16. — *N*: B. 10; Lk 15; Cr 16. — *Class*: Lk, Cr babaa; Tr. I 2p. — *e*: 0.00; 0.00. — *π*: Tr. 0°00053; Lk, Cr prel. 0.00048. — Bright star not incl. — Picture in Roberts Cel. Ph. 5.
19. *NGC 659*. — *D*: B. 4'; Mel. 5; Rb 6; Rh 4×4; Lk 4; Cr 4; Tr. 5. — *m_t*: Rb 9.58; Lk 8.0 ph; Lk 9.2; Nab. 7.2. — *N*: B. 10; Lk 9; Cr 8. — *Class*: Lk, Cr bbbba; Tr. II 2p. — *e*: 0.00; 0.74. — *π*: Tr. 0°00043; Lk, Cr prel. 0.00040.

20. *NGC 663*. — *D*: B. 15'; Mel. 11; Rb 20; Rh 16×16; Lk 14; Cr 15; Wall. 23; Tr. 14. — *m_f*: Hol. 7.5; Nab. 6.5. Kr. 8.0; (Rb) 7.33; Lk 7.2; Nab. final value 6.78±0.08. — *N*: B. 25; Lk 40; Cr 50; (Wall. 170). — *Class*: Lk, Cr babba; Tr. IV 2m. — *e*: 0.89; 0.74. — *π*: Rb 0⁰.0010; Tr. 0.00046; Lk, Cr prel. stand. 0.00100, final 0.00070. — Probably absorption lanes in cl. Star chains. — Wallenquist (523) has given a photometric catalogue of 634 in and near the cl.

21. 1^h44^m5+26°45'. — *Class*: Lk abaab. — *e*: 0.77; 0.71. — A small cl. of bright stars, irregular. Cluster probability calculated according to Michell's (225) method = 27:1. This expresses the probability that the grouping is not accidental.

22. *NGC 744*. — *D*: h 8'; Lk 8; Tr. 14. — *m_f*: Lk 9.0 ph. *N*: Lk 10. — *Class*: Lk bbbba; Tr. I 2p. — *e*: 0.00; 0.66. — *π*: Tr. 0⁰.00135. — Not very good object, though better than *NGC 743* which has been excluded.

23. *NGC 752*. — *D*: B 30'; Mel. 45; Rb 58; Rh 50×50; Lk 60; Cr 45; Jungkv. 45. — *m_f*: V-V 6.7; (Rb) 5.17; Lk 6.1; 6.4 ph; Nab. 6.6. — *N*: B 40; Lk 80; Cr 50; Jungkv. 74. — *Class*: Lk, Cr babbb; Tr. III 1m. — *e*: 0.00; 0.57. — *π*: Rb 0⁰.0018; Tr. 0.00256; Jungkv. 0.00229; Lk, Cr prel. stand. 0.00219, final 0.00228. — H. Vogt (513) has determined vis. magnitudes for 111 stars. K. Heinemann (165) has determined coordinates and photogr. and photogr. magn. for 75 stars (*m* > 15). Malmquist (315) and others have computed the distance of the cl. See discussion by Jungkvist (243). — Absorption in cl. Star chains in surroundings.

24. *NGC 869*. — *D*: B. 30'; Rb 46; Rh 30×30; Mel. 36; Lk 30; Cr 30; Tr. 30. — *m_f*: Hol. 4.6; (Rb) 4.47; Lk 4.6; 4.5 ph. — *N*: B. 400; Lk 120; Cr 150; Balan. 77 (*m* < 11). — *Class*: Lk, Cr baaba; Tr. IV 3r. — *e*: 0.00; 0.00. — *π*: Rb 0⁰.0021; Tr. 0.00075; Lk, Cr prel. stand. 0.00092, final 0.00051. — Parvulesco (353) has made an extensive study of this cl. Balanowsky (11) has studied photometrically 42 stars in h and χ Persei. These are numerous determinations of coordinates of stars in and near h and χ Persei. Pihl (368, 369). Bronsky and Stebnitzky (45), Ball and Rambaut (509), Messow (322), Helfrich (166), Stein (467a) and others have derived accurate positions. Von Zeipel has made extensive work in order to establish a sequence of stars in these clusters, through measuring the photovisual and photographic magnitudes of stars brighter than 17.0. For this purposes numerous photographs have been secured with the double refractor of the Upsala Observatory. Part of the material has also been measured. (509). — *m_f*: Nab. 5.34±0.10. — *π*: Doig 0⁰.0020.

25. *NGC 884*. — *D*: B. 30'; Mel. 36; Rb 50; Rh 30×30; Lk 30; Cr 25; Tr. 30. — *m_f*: Hol. 4.8; (Rb) 4.16; Lk 4.8; 4.8 ph; Nab. final v. 5.71±0.07. — *N*: B 300; Lk 200; Cr 150; Balan. 58 (*m* > 11). — *Class*: Lk, Cr baaba; Tr. IV 3r. — *e*: 0.00; 0.00. — *π*: Kapteyn 0⁰.0007; Rb 0.0021; Tr. 0.00044; Lk, Cr prel. stand. 0.00092, final 0.00051. — There is a dark lane in cl. — Macklin (312, 313) has investigated proper motions in h and χ Persei, Adams and v. Maanen (1) radial velocities. Van Maanen (308, 309, 310) has derived the proper motions of 1418 stars in and near the cluster h and χ Persei and discussed

the general properties of the motions in the cluster. Trumpler has determined the distance from the Russell diagram (494, 495). Direct measures of the trigonometric parallax of stars in and near this cluster have been made by Kapteyn, de Sitter and Donner (244). — *π*: Pannekoek 0.002; Doig 0.0020.

26. *IC 1805*. — *D*: Tr. 20'; Lk 16; Cr 20; Rb 25. — *m_f*: (Rb) 6.03; Lk 6.8 ph. *N*: Lk 25; Cr 20. — *Class*: Lk, Cr bbbba; Tr. IV 3mN. — *e*: 0.66; 0.41. — *π*: Rb 0⁰.0015; Tr. 0.00055; Lk, Cr prel. stand. 0.00091, final 0.00032. — Double cl. with *NGC 1027*.

27. *NGC 956*. — *D*: Rh 5'×'3; Lk 6. — *m_f*: Lk 8.0 ph. *N*: Lk, 25. — *Class*: Lk bbaba. — *e*: 0.80; 0.74. — Rather coarse cl. with absorption, or star chains. Absorption preced. and foll.

28. *NGC 957*. — *D*: Rh 12'; Tr. 9; Lk 12. — *m_f*: Lk 8.8 ph. (bright stars excl.). — *N*: Lk 30, — *Class*: Lk baaaa; Tr. II 3mU. — *e*: 0.88; 0.87. — *π*: Tr. 0⁰.00060. — The brightest star is B3 (included), the next F5 (excl.).

29. *Tr. 2*. — *D*: Tr. 18'. — *Class*: Lk babaa; Tr. II 3p. — *e*: 0.00; 0.88. — *π*: Tr. 0⁰.00147.

30. *NGC 1027*. — *D*: Mel. 18'; Rb 20; Rh 20×20; Lk 20; Cr 20; Tr. 21. — *m_f*: Lk 7.0 ph — *N*: Lk 20; Cr 20, — *Class*: Lk, Cr babba. — *e*: 0.74; 0.57. — *π*: Rb 0⁰.0013; Tr. 0.00063 (2); Lk, Cr prel. 0.0011. — Forms double cl. with *IC 1805*. h and χ Persei are 5° to SW and two other coarse clusters form a couple 2° to the SE (025160) (025360). These are very conspicuous on BAP2. — Barnard calls *NGC 1027* nebulous.

31. *NGC 1039*. — *D*: B 30'; Mel. 30; Rb 43; Rh 26×26; Lk 40; Cr 40; Tr. 30. — *m_f*: Hol. 5.7; V-V 6.1; Harv. 5.5; Lk 5.8; 5.9 ph; Nab. final v. 6.02±0.07. — *N*: Lk 60; Cr 60. — *Class*: Lk, Cr baaaa; Tr. I 3m. — *e*: 0.66; 0.58. — *π*: Rb 0⁰.0022; Cr 0.0022; Cherubim 0.0028; Tr. 0.00222 (2). — Graff (139) has given visual magnitudes and colours for 120 stars. Collinder (69) has measured effective wave-lengths for 400 stars in cl. and surroundings. Cherubim (61) has investigated effective wave-lengths and other colour-equivalents for this cl. — The Harvard *m_f* is published in H. A. 14. — As pointed out by Raab, Melotte evidently has confused the diameters and descriptions of *NGC 1039* and 1245. — *π*: Doig 0.003.

32. *IC 1848*. — *D*: Tr. 22'. — *Class*: Lk babba. Tr. IV 3mN. — *e*: 0.66; 0.92. — *π*: Tr. 0⁰.00062. — Not very well defined, but density in cl. 2.1 times larger than in vicinity. Bright stars prec. (BD+59°552 6.87 B0, and +59°553 8.5 B) incl.; bright star foll. (7.44 A3) excl.

33. 2^h51^m5+60°2'. — *e*: 0.80; 0.80. — *Class*: Lk bbbab. — A double cl. with (025360). First stage of transition from star-cloud to h and χ Persei. — Two bright stars, BD+59°533 8^m5 B and +59°552 6^m87 B0 incl.; two others, being 7^m58 F5 and 8^m2 A0, excl.

34. 2^h53^m2+60°0'. — *e*: 0.00; 0.66. — *Class*: Lk bbaab. — On the limit to appear as a star-cloud. Principal nucleus at end farthest from companion. Lk has estimated the cl.

smaller than Cr, which will explain his fainter m_f . Double cl. with (025160).

35. *NGC 1193*. — *D*: Rh $2' \times 2'$; Tr. 3.2. — *Class*: Lk aabba; Tr. I 2r. — π : Tr. $0''.00021$; Lk, Cr prel. 0.00020 . — Rh: faint stars. — Lk has from Lick plates given the description: A faint, rather sparse cl., not of glob. type. $100 \pm$ stars. Spiral arrangement.

36. *Tr. 3 = Harv. 1*. — *D*: Tr. $17'$. — *Class*: Lk baaaa; Tr. II 3p. — e : 0.78; 0.76. — π : Tr. $0''.00145$. — Irregular form, crescent, or triangle with offshoots.

37. *NGC 1220*. — *D*: h $0'5$; Rh 1.8×1.0 ; Tr. 2.0. — e : Lk 0.92 . — *Class*: Lk abbaa; Tr. 12p. — π : Tr. $0''.00019$. — Not visible on FAC in Lund.

38. *NGC 1245*. — *D*: Mel. $7'$; Rb 7; Lk 8.7 ; Cr 10; Rh 11×11 ; Tr. 7. — m_f : (V-V 6.7); Lk 9.2 ph; Nab. 6.5. — *N*: Lk 20; Cr 40. — *Class*: Lk, Cr bbbba; Tr. III 2r. — e : 0.80; 0.51. — π : Tr. $0''.00031$. — V-V:s magn. improbable; he must have estimated also the bright star s. f. — Diam. and descr. confused by Mel., see note to *NGC 1029*.

39. *Perseus cluster*. — *D*: Tr. $240'$. — *Class*: Lk babaa; Tr. IV 3m. — e : 0.65; 0.57. — π : Tr. $0''.00588$ (2); Doig 0.0096 ; Lk 0.0100 . — Discovered as moving cluster by Eddington (108) and as open cluster by Backhouse (8).

40. *NGC 1342*. — *D*: Mel. $15'$; Rb 23; Rh 30×30 ; Tr. 15; Lk 16; Cr 20. — m_f : Lk 6.8 ph. — *N*: Lk 30; Cr 30. — *Class*: Lk, Cr bbbbb; Tr. II 2m. — e : 2.71; $0.71 = 0.71$. — π : Rb $0''.00140$; Tr. 0.00099 . — 2 bright stars n not incl.

41. *IC 348*. — e : 0.00; 0.79. — Brightest star 8.4 B6 acc. to Hubble (230); 9 stars $9^m_{8-11} B8-A2$. Total proper motion $0''.029$. $H = 5.6$. — Curtis: Plei. type sev. stars involved. — It might be possible that α Persei, 3^m_{72} B1 belongs to cl. This star and cl. involved in br. neb. In such case we would have the beginning of nebulous cl. of μ Normæ type. Seen on FAC and BAP3. — *Class*: Lk bbaab.

42. *Pleiades*. — *D*: Tr. $120'$; Cr 100; Lk 100. — m_f : Hol. 1—2; Lk 1.6 from numerous observations. — *N*: Lk 100; Cr 80. — *Class*: Lk, Cr bbaab; Tr. II 3rN. — e : 0.56; 0.56. — π : Kapteyn $0''.018$; Plummer 0.024 , 0.033 ; Hertzsprung 0.014 ; final v. 0.036 ; W. H. Pickering 0.005 ; Russell 0.006 ; Doig 0.006 ; Trümpler 0.008 ; final v. 0.0067 ; Lundmark 0.010 , 0.007 , final v. 0.0071 (288). — To give a synopsis of the various observations and investigations of this cluster would mean to write an extensive monography. The group is mentioned in the Bible as well as in Homeros. Numerous photometric methods have been applied using the Pleiades stars as test objects. Among these may be mentioned the measures by Charlier (56a) Wessel (527a), Müller and Kempff (328), Hertzsprung (191, 193) etc. It certainly would be a valuable piece of work if the different measures of magnitudes were reduced to the international scale. I learn that dr. Trümpler has started such an undertaking.

Dr. Trümpler (489) has also made extensive investigations as to the p. m. of the stars in this cluster and the possibi-

lity to separate the physical members from size and direction of the p. m. Hertzsprung (207) has established the colour-luminosity diagram in this cluster on basis of his extensive determinations of colour-equivalents.

He has also written a brief history as to the development of our knowledge concerning this cluster and mentioned a number of problems to be solved through future investigation. Lundmark (288) has discussed the different distance determinations and adopted a final parallax value of $0''.0071$. This value is corroborated from other determinations and from measures of the trigonometric parallax of the group performed by Smith, Pitman and Alden, inasmuch as the weighted mean of these determinations is 0.0100 (288). Öhman (551) has shown in his thesis that the Pleiades stars has not the same physical properties as the ordinary stars.

Nathanson (339) has shown with aid of the theory of probability that the Pleiades must be physically and not only optically agglomerated. This was, in fact, proved in 1767 by Michell (325).

Star chains in cl. and surroundings. The Pleiades cluster seems to be connected with extensive dark nebulae. From the distribution of the stars in front of these nebulae Pannekoek (349a) has derived a parallax of 0.0072 and Lundmark (288) values ranging between 0.0080 and 0.0180 . These results make a physical connection probable between the dark nebulosities in question and the Pleiades cluster.

43. *NGC 1444*. — *D*: Rh $2'.7 \times 2'.7$; Lk 3×3 ; Tr. 3.5. — m_f : Lk 6.5 ph. — *N*: Lk 20. — *Class*: Lk babaa; Tr. II 3p. — e : 0.80; 0.56. — π : Tr. $0''.00030$. — Dominating star BD+52°714 B0 6^m_{76} . This star might be an O star. Next star 9^m_{5} . — A dark nebula is following.

44. *NGC 1496*. — *D*: Rh $7' \times 6'$; Lk 6×5 . — m_f : Lk 9.0 ph. — *Class*: Lk bbbba. — e : 0.79; 0.56.

45. *NGC 1502*. — *D*: Rh $10' \times 7'$; Lk 8×7 ; Tr. 8. — m_f : Hol. 5.2; Lk 5.5 ph; Nab. 6.1. — *N*: Lk 25. — *Class*: Lk baaaa; Tr. II 3p. — e : 0.71; 0.48. — π : Tr. $0''.00069$. — BD+61°676 $6.80+6.83$ B0 central star, BD+61°673 8.4 A0 not incl. — *N*. f. possibly an extension of cl.

46. *NGC 1513*. — *D*: Rh $12' \times 10'$; Lk 10×8 ; Tr. 9. — m_f : Lk 8.8 ph. — *N*: Lk 25. — *Class*: Lk bbbba; Tr. II 2mU. — e : 0.66; 0.60. — π : Tr. $0''.00060$. — Crescent or sausage form. Absorption in centre. Bright stars on n. end excl.

47. *NGC 1528*. — *D*: B. $20'$; Mel. 25; Rb 36; Rh 22×22 ; Lk 28; Cr 25; Tr. 22. — m_f : Hol. 6.5; V-V 6.5; Lk 6.7 ph; Nab. final v. 6.48 ± 0.01 ; Bernh. 6.34; Kozl. 6.8. — *N*: Lk 70; 80; Cr 100. — *Class*: Lk, Cr babba; Tr. II 2m. — e : 0.00; 0.66; — π Rb $0''.0014$; Tr. 0.00111 . — Star chains.

48. *IC 361*. — *D*: Mel. $6'$; Lk 6; Tr. 6. — m_f : Lk 10.0 ph. — *N*: Lk 100. — *Class*: Lk abbaa; Tr. III 2m. — e : 0.00. — π : Tr. $0''.00029$; Lk, Cr prel. 0.00040 . — Shapley (439) has given a description of this cluster, based on large scale photographs.

49. *NGC 1545*. — *D*: Rh $18'$; Lk 16. — m_f : Lk 8.1 ph. — *N*: Lk 30. — *Class*: Lk baaba; Tr. 12p. — e : 0.60; 0.51. — π : Tr. $0''.00145$. — BD+49°1162 8.41 K2 included in cl.

50. *Taurus* cl. — *D*: Lk 600'; Tr. 400. — *N*: Lk 25; Cr 40. — *Class*: Lk baabb; Cr bbabb; Tr. II 3m. — *e*: 0.56; 0.62. — π : Numerous determinations of which that of Hertzsprung (198) $0^{\circ}0275$ seems to be the most accurate one; Tr. 0.0270 .
51. *NGC 1582*. — *e*: 0.48; 0.00. — Not a very fine specimen, but as the star density was found in cl. to be about double that in the surroundings, it was included. — Cometic and excentric.
52. *NGC 1605*. — *D*: Tr. 4'.5. — *Class*: Lk aabba; Tr. III 2m. — *e*: Lk 0.00. — π : Tr. $0^{\circ}00022$. — Not an unmistakable object on Lund FAC.
53. *NGC 1624*. — *D*: Curtis $3' \times 3'$. — *e*: Lk 0.44. — Evaluated from MW 100" plate taken by Hubble, who has found (230) in this cl. three $0e5$ stars 13^m0-14^m0 ; magnitudes estimated photographically. The diameter of Curtis, as evaluated on Crossley plate, limit. magn. 19^m , should be diminished by $\frac{2}{5}$ to be comparable with the FA data, limit. magn. about 15^m . This correction is inferred from the curve given by Trümpler (498) connecting diameter and limiting magn. of plate.
54. *NGC 1647*. — *D*: B 30'; Mel. 40; Rb 53; Rh 35×35 ; Lk 40; Cr 40; Tr. 35. — *m_f*: V-V 7.2; Lk 6.8 ph; Nab. 7.0. — *N*: B 50; Lk 50; Cr 60. — *Class*: Lk, Cr baabb. — *e*: 0.60; 0.66. — π : Lk, Cr prel. and stand. $0^{\circ}0013$; Tr. 0.0013 . — Vacant area south of cl. The total rad. vel. of the cluster is +66 km/sec. acc. to Sanford. The p. m. is taken equal to that of the Boss 1120.
55. *NGC 1662*. — *D*: Tr. 14'. — *Class*: Lk abaab; Tr. II 2p, 2a. — *e*: 0.00; 0.56. — π : Tr. $0^{\circ}00119$.
56. *NGC 1664*. — *D*: Mel. 15'; Rb 28; Rh 15×15 ; Tr. 13; Lk 13; Cr 15. — *m_f*: Lk 6.6 ph; Nab. about 8.7. — *N*: Lk 20; Cr 20. — *Class*: bbbba; Tr. II 2m. — *e*: 0.00; 0.00. — π : Rb $0^{\circ}0013$ (uncertain as based on 1 Draper star); Tr. 0.00086 ; Lk, Cr stand. 0.0013 . — A concentration in the star field. Traces of absorption in vicinity.
57. *NGC 1746*. — *D*: Mel. 45'; Rb 54; Rh 45×45 ; Lk 50; Cr 45; Tr. 40. — *m_f*: V-V 8.2; Lk 6.2 ph; Nab. 8.4. — *N*: Lk 80; Cr 50. — *Class*: Lk babaa; Cr bbbba; Tr. IV 2m, 2b—a. — *e*: 0.00; 0.46. — π : Rb $0^{\circ}0016$; Tr. 0.00115 ; Lk, Cr prel. stand. 0.0014 , final 0.0011 . — The total magn. of Vorontsov-Veliaminov disagrees from our three determinations which lie within 6^m0-6^m2 . — Raab's parallax based on only one Draper star.
58. *NGC 1778*. — *D*: Tr. 10'. — *Class*: Lk, Tr. II 2p. — *e*: 0.66; 0.87. — π : Tr. $0^{\circ}00085$. — Cluster somewhat crescent-formed. Lk has determined lower part only, and thus his values differ slightly from Tr. and Cr.
59. *NGC 1807*. — *D*: Mel. 15'; Rb 20; Rh 14×14 ; Tr. 14; Lk 15; Cr 15. — *m_f*: Lk 8.0 ph. — *N*: Lk 30; Cr 20. — *Class*: Lk, Cr bbbba; Tr. 12p, 2a. — *e*: 0.00; 0.00. — π : Rb $0^{\circ}00078$; Tr. 0.0015 ; Lk, Cr prel. 0.0009 .
60. *NGC 1817*. — *D*: Rb 33'; Rh 20×20 ; Tr. 16; Lk 20; Cr 20. — *N*: Lk 80; Cr 70. — *Class*: Lk aabba; Cr bbbba. — *e*: 0.39; 0.66. — π : Rb $0^{\circ}00075$; Tr. 0.00071 ; Lk, Cr prel. 0.0009 .
61. *NGC 1857*. — *D*: Mel. 9'; Rb 8; Rh 10×10 ; Tr. 9; Lk 8; Cr 8. — *m_f*: Lk 7.6 ph. — *N*: Lk 15; Cr 12. — *Class*: Lk bbbba; Cr bbbba; Tr. II 2m. — *e*: 0.66; 0.66. — π : Tr. $0^{\circ}00060$; Lk, Cr prel. 0.00075 . — Stars arranged in rows.
62. $5^h15^m+40^{\circ}33'$. *Class*: Lk bbaaa — *e*: 0.77; 0.74. — A loose cl. of bright B and A stars. The following are identified within the cl.; $40^{\circ}1255$ 7.8 B9; $39^{\circ}1262$ 8.0 A0; $39^{\circ}1267$ 8.7 A0; $41^{\circ}1162$ 5.12 B3; $39^{\circ}1272$ 7.38 A3; $39^{\circ}1274$ 8.8 B5; $39^{\circ}1248$ 4.85 G0; $40^{\circ}1247$ 8.6 A0; $41^{\circ}1152$ 8.2 A2; $40^{\circ}1268$ 5.65 A3.
63. *NGC 1893*. — *D*: Mel. 12'; Rb 24; Rh 20×20 ; Lk 16; Cr 20; Tr. 15. — *m_f*: Lk 8.0 ph. — *N*: Lk 40; Cr 50. — *Class*: Lk, Cr baaaa; Tr. 13m. — *e*: 0.64; 0.71. — π : Rb $0^{\circ}00078$; Tr. 0.00109 ; Lk, Cr prel. 0.0009 . — The NGC position must be erroneous in α ; 5^h19^m2 must be 5^h16^m1 . Dark and bright neb. involved.
64. *NGC 1883*. — *D*: Tr. 3'. — *e*: 0.00; 0.74. — *Class*: Lk, Cr aabba; Tr. 12m. — π : Tr. $0^{\circ}00022$. — Very faint on FAC.
65. $5^h20^m+16^{\circ}0'$. — *Class*: Lk babaa. *e*: 0.56; 0.00. — An extended cl. of bright stars. The following Draper stars are included: $16^{\circ}775$ 6.01 B3; $17^{\circ}928$ 5.14 B3; $14^{\circ}947$ 5.41 B3. The following p. m. and rad. velocities have been found:
- | | | | |
|-----------|--------|--------|--------------|
| Boss 1313 | +0°011 | -0°114 | +20 km./sec. |
| 15°822 | +0.03 | -0.02 | |
| 114 Tauri | +0.013 | -0.013 | +17 |
| 117 Tauri | +0.011 | -0.030 | +13 |
| 13°903 | -0.01 | -0.04 | |
| 118 Tauri | 0.0 | -0.05 | |
| Mean | +0°012 | -0°024 | +17 km./sec. |
66. *NGC 1907*. — *D*: Tr. 5'. — *m_f*: Nab. (9.7). *e*: 0.46; 0.00. — *Class*: Lk aaabb; Tr. 12m. — π : Tr. $0^{\circ}00036$; Lk, Cr prel. 0.00037 .
67. *NGC 1912*. — *D*: Mel. 20'; B 15; Hol. 14; Rb 44; Rh 30×30 ; Lk 18; Cr 25; Tr. 18. — *m_f*: Hol. 7.5; Nab. 5.8; Lk 6.5, 7.1; Lk 7.5 ph; Nab. $(6.66) \pm 0.12$ ph. — *N*: Lk 80; Cr 100. — *Class*: Lk, Cr baaba; Tr. II 2r. — *e*: 0.00; 0.00. — π : Rb $0^{\circ}0013$ (from 2 Draper stars); Tr. 0.00115 . — Proper motions of the stars $+35^{\circ}1133$ and $+35^{\circ}1139$ give in the mean: $+0^{\circ}0015$ $-0^{\circ}010$. Lk, Cr prel. stand. 0.0013 , final 0.00079 .
68. $5^h24^m+24^{\circ}10'$. — *Class*: Lk babbb. — *e*: Lk 0.78. — On MW plate by Pease.
69. λ Orionis cl. — *m_f*: Lk 2.9 from numerous observations; Cr 3.5 vis. — *Class*: Lk bbaaa. — *e*: 0.81; 0.97. — The Boss catalogue contains foll. stars:
- | | | | |
|-------------------------|-----------|---------|--------|
| 37 Orionis (ϕ^1) | Boss 1353 | -0°0001 | -0°008 |
| λ' Orionis | > 1357 | +0.0001 | -0.011 |
| ϕ^2 Orionis | > 1373 | +0.0062 | -0.307 |
| | > 1383 | +0.0009 | -0.023 |
- ϕ^2 Orionis, on account of its spectrum (Ko) and proper motion, is excluded. This cluster is included in the Almagest catalogue as nr. 734 and noted by Ptolemy as a nebula.
70. Cl. around Belt of Orion. $5^h30^m - 1^{\circ}10'$. — *Class*: Lk baaaa. — *e*: 0.81; 0.88. — This is a very fine cl. The foll. stars from H. D. C. are in the belt.

5 ^h 26 ^m 9	-0°22'	2 ^m 48	} B0
		6.87	
31.1	-1 16	1.75	B0
35.7	-2 0	2.05	} B0
		4.21	

71. *NGC* 1960. — *D*: B 15'; Mel. 12; Hol. 8; Rb 24; Rh 15×15; Tr. 16; Lk 15; Cr 18; Wallenquist 24. — *m_f*: Hol. 6.6; Nab. 5.6; Lk 6.7; Lk 6.8 ph. Nab. (6.47)±0.05 ph. — *N*: Lk 50; Cr 50; Wallenquist 180 (*m* < 16.5). — *Class*: Lk, Cr aaaba; Tr. I 3m, 1b. — *e*: 0.44; 0.00. — *π*: Rb 0^o.0013 (no Draper star!); Tr. 0.00102; Wallenquist 0.0009; Lk, Cr prel. and final stand. v. 0.00069.

72. *NGC* 1980. — *D*: B15'; Lk 40. — *Class*: Lk bbbaa. *m_f*: Lk 3.0 ph. — *e*: 0.00; 0.60. — *π*: Lk, Cr stand. 0^o.00231. *NGC*: vF, vvL, ι 44 Orion. inv. — Harv. 60: Cluster, coarse. ι Orion. = Boss 1366 5^h30^m5-5°58'. $\mu_{\alpha} = +0^{\circ}002$. $\mu_{\delta} = -0.00231$ ι Orion. 2^m.87 0e5. Draper cat.:

5 ^h 30 ^m 3	-6°0'	8.4	B5
30.2	-5 56	9.1	B9
30.1	-6 5	5.6	B1
30.1	-6 5	4.7	B1
30.4	-6 6	8.2	B5

Two bright and several faint stars inv. in neb. Possibly two pairs of double stars with satellites.

73. *NGC* 1981. — *D*: B 25'; Rh 25; Lk 20; Tr. 25. *m_f*: Lk 5.0 ph. — *Class*: Lk bbbaa; Tr. II 3p, 1b. — *e*: 0.74; 0.74. — *π*: Tr. 0^o.00204.

5 ^h 30 ^m 5	-4°26'	6 ^m 3	B5
30.4	29	6.3	B0
30.4	34	6.54	B0
30.1	26	9.1	A0
30.0	25	8.6	B8
29.7	28	8.0	B8
29.6	33	8.0	B9
26.4	26	9.1	B9
5 ^h 31 ^m 1	-4°29'	6 ^m 98	B5

h: a very splendid cl.

74. 5^h43^m1+7°22'. — *e*: 0.00; 0.00. — Very faint on BAP6. Not on FAC or WPC. — Announced by F. Schüller in Prague (Bur. Centr. Astr. Circ. No. 309) as cl. with stars 16^m-18^m; 6' diam., connected probably with an interesting star chain elliptically curved.

75. *NGC* 2099. — *D*: B 25'; Mel. 20; Rb 38; Rh 25×25; Tr. 24; Lk 23; Cr 20. — *m_f*: Hol. 6.8; Lk 6.5; Nab. 6.2; (Rb) 5.7; Lk 6.4 ph; Nab. (6.37)±0.04 ph; Kozl. 6.7. — *N*: Lk 100; Cr 120. — *Class*: Lk, Cr aabba; Tr. I 1r, 2a. — *e*: 0.00; 0.00. — *π*: Lk 0^o.00052; von Zeipel and Lindgren 0.00069; Lk, Cr prel. and final stand. value 0.00060. See also disk. by Lk (297).

76. *NGC* 2112. — *D*: h 12'; Rh 22; Tr. 9; Lk 17. — *m_f*: Hol. 9.0; Lk 8.6 ph. — *Class*: Lk babab; Tr. 12m. — *e*: 0.85; 0.00. — *π*: Tr. 0^o.00065. — Uncertain whether some bright stars should be incl.

77. *NGC* 2129. — *D*: Rh 7'; Lk 5; Tr. 7. — *m_f*: Lk 7.0 ph. — *N*: h 45; Lk 20. — *Class*: Lk bbaaa; Tr. II 3p. — *e*: 0.00; 0.00. — *π*: Tr. 0^o.00056. — Three dominating stars. BD+23°1145 9^m5; +23°1148 8^m5; and +23°1149 7^m8. Binuclear cl.

78. *NGC* 2126. — *D*: Mel. 5'; Rb 6; Rh 7×7; Tr. 5.5; Lk 4; Cr 4. — *m_f*: (Rb) 9.8; Lk 8.5 ph. — *N*: Lk 5; Cr 10. — *Class*: Lk, Cr bbbba; Tr. III 2p. — *e*: 0.79; 0.72. — *π*: Tr. 0^o.00036; Lk, Cr prel. 0.00041.

79. *NGC* 2141. — *D*: Tr. 8'. — *e*: Lk 0.74. — *Class*: Lk aabba; Tr. IV 2r. — *π*: Tr. 0^o.00021. — Not identifiable on Lund FAC.

80. *Tr.* 4. — *D*: Tr. 5'.5. — *Class*: Lk bbaaa; Tr. II 2p. — *e*: 0.00; 0.60. — *π*: Tr. 0^o.00047. — On FAP, FAC 146; WPC 45.

81. *NGC* 2158. — *D*: Mel. 4'; Sh. 5; Lk 3.5; Rh 6.5×6.5; Tr. 4.5. — *m_f*: Hol. 11.8; Lk 11.5; 11.2 ph; Nab. 11.8. — *N*: Sh. 200; Lk 10±. — *Class*: Lk abbaa; Tr. I 2r. — *e*: 0.00; 0.74. — *π*: Tr. 0^o.00030; Lk, Cr prel. 0.00023. — Described by Hol. as "nebel", by Sh. as open cl. Faint on FAC, on WPC 45 it is seen dissolved. Sh.: magnitudes 16^m-17^m.

82. *NGC* 2168. — *D*: Hol. 15'; B 30; Mel. 40; Rb 50; Rh 40×40; Lk 40; Cr 25. — *m_f*: Hol. 5.6; Nab. 5.8; (Rb) 4.6; Lk 5.7 ph; Nab. 6.03±0.04. — *N*: B 200; Lk 150; Cr 120. — *Class*: Lk babba; Cr baaba; Tr. III 3r. — *e*: 0.00; 0.35. — *π*: Rb 0^o.0019; Tr. 0.00119; Doig 0.0020; Lk, Cr prel. stand. 0.00160, final 0.00100. — Quaint structure, star-chains. Dark streaks and flocculi in field.

83. *NGC* 2169. — *D*: Harv. 5'; Rh 5; Tr. 6. — *m_f*: Lk 8.0 ph; Nab. (6.14)±0.05; Kozl. 5.8. — *Class*: Tr. II 3p. — *e*: 0.00; 0.60. — *π*: Tr. 0^o.00051. — Possibly a larger cl. 3°×3° surrounds this.

84. *NGC* 2175. — *Class*: Lk bbbaa. — *e*: 0.00; 0.00. — On FAC and WPC 45. BD+20°1284 given erroneously as +20°1288 by H. D. Curtis (79). The star 5^h37^m7+20°30' 11^m3 B1 of Hubble (230) probably a member. — This object may be described as a Wolf-Rayet star, +20°1284, with nebulous cluster.

85. *NGC* 2186. — *D*: Tr. 4'.5. — *m_f*: Kozl. about 11. — *Class*: Lk aabba. — *e*: 0.80; 0.66. — *π*: Tr. 0^o.00044.

86. *NGC* 2192. — *D*: Lk 8'. — *m_f*: Lk 11.7 ph. — *N*: Lk 8; — *Class*: Lk bbbba; Tr. III 2m. — *e*: Lk 0.72. — *π*: Tr. 0^o.00025; Lk, Cr prel. 0.00028. — Not on Upsala or Lund FAC. Cl. of dwarf stars or very sparse cl., as *m_f* abnormally small in relation to *D*.

87. *NGC* 2194. — *D*: Hol. 4'; Mel. 5; Rb 6; Rh 12×12; Tr. 6; Lk 6; 4; Cr 4. — *m_f*: Hol. 9.0; Kr. 11.0; (Rb) 9.4; Lk 10.2. — *N*: Lk 12; Cr 15. — *Class*: Lk, Cr bbbba; Tr. I 2r. — *e*: 0.57; 0.00. — *π*: Tr. 0^o.00040; Lk, Cr prel. 0.00035. — On FAC 122; Crossley pl. by Lk; C. du C. 14^o.48; Cel. Ph. II: 2.

88. *NGC* 2204. — *D*: Mel. 9'; Rb 21; Rh 14×14; Lk 8; Cr 12. — *N*: Lk 15; Cr 20. — *e*: 0.00; 0.00. — *Class*: Lk babba; Tr. I 2m. — *π*: Tr. 0^o.00065; Lk, Cr prel. 0.00090.

89. 9—12 Gemin. — *D*: Lk 60'; Cr 40. — *m_f*: Lk 6.0 ph — *N*: Lk, Cr 15. — *Class*: Lk, Cr bbbba. — π : Doig 0^o.0020; Lk, Cr prel. and final stand. v. 0.0020. — A moving cluster. The following Boss stars are included:

9	Gem. Boss 1578	$\mu_{\alpha}+0^{\circ}.0009$	$\mu_{\delta}-0^{\circ}.004$
10	»	1584	-0.0001
11	»	1590	+0.0004
12	»	1612	+0.0006
	Mean	+0 ^o .0005	-0 ^o .011

This gives π : 0^o.0020.

90. NGC 2215. — *D*: Mel. 8'; Rb 9; Rh 12×12; Tr. 8.5; Lk 8; Cr 9. — *m_f*: Kr. 9.2; Lk 8.6; 8.4 ph; Kozl. 9.0. — *N*: Lk 25; Cr 25. — *Class*: Lk, Cr bbbba; Tr. II 2p. — *e*: 0.56; 0.57. — π : Tr. 0^o.00072; Lk, Cr prel. 0.00050.

91. 6 16.3+2^o24'. — *Class*: Lk bbaaa. — *e*: 0.90; 0.90. — On FAC 98 and WPC 105.

92. 6^h17^m5+5^o11'. — *Class*: Lk bbaaa. — *e*: 0.55; 0.55. — On WPC 105 only. Resembles a ring with some stones on it.

93. NGC 2232. — *D*: Rh 26'×7'. — *Class*: Lk bbaaa. *m_f*: Lk 5.0 ph. — *e*: 0.94; 0.94. — π : Lk, Cr stand. 0^o.00277. — The following HDC stars:

10 Mon.	6 ^h 23 ^m 0	-4 ^o 42'	4.98B3
	22.8	52	7.65A0
	23.1	45	8.5 B9
	23.2	41	9.7 A0
	23.4	50	8.4 B8
	22.2	43	9.1 A0
	22.2	29	9.3 A0
	22.1	17	6.88B5
	22.0	24	6.82K0
	6 ^h 22 ^m 0	-4 ^o 34'	8.7 A0

Mean p. m. $\mu_{\alpha}=-0^{\circ}.0002$; $\mu_{\delta}=-0^{\circ}.021$.

Observed as cl. by W. Herschel (180).

94. NGC 2236. — *D*: Rh 13'×9'; Lk 3. — *m_f*: Lk 11.0; 10.5 ph. — *N*: Lk 10±. — *Class*: Lk bbaaa. — *e*: 0.00; 0.66. π : Lk, Cr prel. 0.00025. — On FAC 98 and WPC 105. Lk and Cr have drawn the cl. exactly similar, but although diameters differ. Very irregular structure. Curved star-chains; absorption.

95. 6^h25^m0+10^o0'. — *Class*: Lk bbaaa. — *e*: 0.83; 0.84. — Dubious on FAC 122; very evident cl. on WPC 30; 7—12 bright stars with nebulosity and absorption around. Star-chains. 6^h26^m0+9^o35' is peculiar object looking like distant glob. cl. involved in nebulosity.

96. 6^h25^m1+2^o56'. — *Class*: Lk bbaaa. — *e*: 0.94; 0.95. — Why should not clusters be very oblate spheroids, and why should we not, sometimes, see them from their equatorial plane. An Ursa Major-disc?

97. 6^h25^m9+5^o59'. — *Class*: Lk bbbba. — *e*: 0.69; 0.60. — On WPC 105. — This cl. is somewhat dubious. The foll. HDC stars:

+5 ^o 1264	8.85 A0	+5 ^o 1291	7.72 B0
1243	6.68 F0	1280	6.83 A0
1267	6.53 B3	1278	6.67 B9

98. NGC 2243. — *D*: Mel. 4'; Tr. 4; Lk 4. — *N*: Lk > 10. — *e*: 0.00; 0.66. — *Class*: Lk baaba; Tr. I 2m. — π : Tr. 0^o.00029; Lk, Cr prel. 0.00040. — Very similar to a glob. cl., but the position makes this unlikely. Two bright stars preceding excl. by Cr.

99. NGC 2244. — *D*: B 15'; Mel. 40; Rh 16×16; Tr. 27; Lk 25; Cr 20. — *m_f*: U. A. 5.3; Nab. 5.7; V-V 6.3; Lk 5.3; Lk 5.8 ph; Nab. (5.78)±0.08; Kozl. 5.3. — *N*: B 15'; Lk 25; Cr 16. — *Class*: Lk bbbba; Cr bbaba; Tr. IV 3mN, 1—20. — *e*: 0.00; 0.00. — π : Tr. 0^o.00075; Lk, Cr prel. stand. v. 0.00180; final 0.00115. — This cl. is situated within NGC 2239 and contains 12 Monoc. with nebulosity. Lk *m_f* of nebulosity: 6^o0.

100. NGC 2250. — *D*: Rh 8'×5'; Lk 6. — *m_f*: Lk 9.5 ph. — *N*: Lk 20. — *e*: Lk 0.80. — *Class*: Lk bbaaa. — Not seen on FAC.

101. NGC 2251. — *D*: Lk 13'×5'; Tr. 7. — *m_f*: Lk 8.5 ph; Kozl. 9.0. — *Class*: Lk bbaaa; Tr. II 2p. — *e*: 0.92; 0.91. — π : Tr. 0^o.00056. — Lk: Cl. is trinuclear. — h: a large tract full of stars.

102. NGC 2252. — *D*: Rh 16'; Lk 15. — *m_f*: Lk 7± ph. — *Class*: Lk bbaaa. — *e*: 0.00; 0.00. — Irregular object. Lk: Clear cut absorption on prec. side.

103. NGC 2254. — *D*: Tr. 3's; Lk 5×4; Rh 4×3. — *m_f*: Lk 10.0 ph. — *Class*: Tr. I 2p; Lk bbaaa. — *e*: Lk 0.00. — π : Tr. 0^o.00037. — On border of dark marking. Not on FAC or WPC.

104. 6^h31^m1+4^o54'. — *Class*: Lk bbbbbb — *e*: 1.00; 1.00. — On FAC 99 and WPC 105. This object has a very irregular form as compared with ordinary clusters, but the reality of this type impresses itself on the observer. Whether the structure is discoidal or a real chain, the may also from a mechanical point of view be regarded as possible.

105. Tr. 5. — *D*: Tr. 9'. — *Class*: Lk bbba; Tr. III 1r. — *e*: 0.00; 0.66. — π : Tr. 0^o.00040. — Very faint on FAC; better on WPC 30. Triangular shape.

106. 6^h31^m9+6^o2'. — *Class*: Lk bbaaa. — *e*: 0.75; 0.72. — Includes BD+6^o1309 B0p 5.82; +6^o1303 B2 7.1. The former, which is the principal member, is identical with the exceedingly massive star investigated by Plaskett (372). and the mass of which is 160 times the Sun's mass. Comp. Lund Circ. No. 1. (293).

107. 6^h32^m3+4^o49'. — *Class*: Lk bbaaa. — *e*: 0.66; 0.66.

108. NGC 2259. — *D*: Mel. 3'; Rh 6×6; Lk 2; Tr. 3.5. — *m_f*: Lk 11.7 ph. — *N*: Lk 5±. — *Class*: Lk bbaaa; Tr. I 3m. — *e*: 0.60; 0.74. — π : Tr. 0^o.00026; Lk, Cr prel. 0.00019. — Faint on FAC 122; v. good on WPC 30. Lk: a good specimen; in, or at border of, dark nebula.

109. *NGC*: 2262. *D*: Rh 3'×3'; Lk 3. — *m_f*: Lk 10.7 ph. — *Class*: Lk aabba. — *e*: Lk 0.92. — Not on FAC. h has seen many stars in this object and suspects a more compressed part — slight haze.

110. 6^h33^m2+2°6'. — *Class*: Lk babba. — *e*: 0.00; 0.80. — Not on FAC; on FAP 99 a v. good cl. Good on WPC 105. Large difference e Lk-Crl

111. 6^h33^m3+6°59'. — *Class*: Lk aaaaa. — *e*: 0.00; 0.51.

112. *NGC* 2264. *D*: B 20'. Mel. 30; Rh 30×20; Tr. 30; Lk 25; Cr 25. — *m_f*: V-V 4.4; Nab. 4.7. — *N*: B 20; Lk 25; Cr 20. — *Class*: Lk, Cr bbaaa. — *e*: 0.90; 0.72. — *π*: Tr. 0'.00222; Doig 0.0030; Lk, Cr stand. 0.00150. — Contains BD+10°1220 4.3 0e5; 9°1344 6.85 B3. Triangular, leading star at base of triangle.

113. *NGC* 2266. — *D*: Mel. 5'; Rb 7; Rh 5×5; Lk 5; Cr 4; Tr. 6. — *m_f*: Kr. 9.0; (Rb) 7.9; Kozl. about 10. — *N*: Lk 25; Cr 30. — *Class*: Lk, Cr baaaa. — *e*: 0.00; 0.60. — *π*: Tr. 0'.00040; Lk, Cr prel. 0.00050. — A bright star 10^m2 s. prec. (excl.) makes cl. look cometic.

114. *NGC* 2269. — *D*: Rh 5'×3'; Lk 4×3; Tr. 3. — *m_f*: Lk 9.8 ph. — *N*: Lk 20. — *Class*: Lk bbaba; Tr. II 2p. — *e*: 0.00; 0.79. — *π*: Tr. 0'.00026. — A chain of stars.

115. 6^h41^m3+1°52'. — *Class*: Lk bbbba. — *e*: 0.87; 0.74. — Dark flocculi in and around cl.

116. *NGC* 2281. — *D*: B 15'; Mel. 15; Hol. 20; Rb 22; Rh 16×16; Lk 18; Cr 18; Tr. 15. — *m_f*: Hol. 6.3; Nab. 5.7; V-V 7.2; Lk 7.0; (Rb) 6.6; Nab. (6.47)±0.06; Kozl. 6.1. — *N*: B 20; Lk 35; Cr 25. — *Class*: Lk, Cr baaab; Tr. I 3p, 1a. — *e*: 0.68; 0.74. — *π*: Tr. 0'.00139; Lk, Cr prel. and final stand v. 0.00140. — Very curious object, dark flocculi.

117. *NGC* 2286. — *D*: Rh 12'×12'; Lk 10. — *m_f*: Lk 8.6, 8.8 vis. 8.0 ph; Kozl. about 10. — *N*: Lk 25. — *Class*: Lk bbbba; Tr. III 2p. — *e*: 0.00; 0.00. — *π*: Tr. 0'.00058. — Dubious object. Dark areas on all sides. Density 30:26 comp. with surroundings.

118. *NGC* 2287. — *D*: B 25'; Mel. 30; Rb 44; Tr. 32; Lk 28; Cr 30. — *m_f*: Hol. 5; Houz. 5; U. A. 5.5; Nab. 5.9; Lk 4.8, 5.6 ph; Nab. 5.74±0.09. — *N*: B 25; Lk 80; Cr 100. — *Class*: Lk, Cr babba; Tr. I 3r, 2a. — *e*: 0.00; 0.51. — *π*: Rb 0'.0028; Tr. 0.00244; Doig 0.0023; Lk, Cr prel. and final stand. v. 0'.00200. — Binuclear.

119. *NGC* 2301. — *D*: B 15'; Mel. 15; Rb 19; Rh 17×11; Lk 14; Cr 15; Tr. 15. — *m_f*: U. A. 6.8; Nab. 6.1; V-V 6.1; (Rb) 6.1; Lk 5.9; Lk 6.3 ph. — *N*: B 25; Lk 35; Cr 30. — *Class*: Lk, Cr baaaa; Tr. I 3m. — *e*: 0.00; 0.84. — *π*: Rb 0'.0016; Doig 0.0020; Tr. 0.00109; Lk, Cr prel. and final stand. v. 0.00170. — Curious, absorption? A n-s streak of bright, an e-w of faint stars.

120. *NGC* 2304. — *D*: Mel. 4'; Hol. 6; Rb 4; Rh 5×5; Tr. 4; Lk 4; Cr 4. — *m_f*: Hol. 9.5; (Rb) 11.0; Lk 10.5; Lk 10.6 ph; Nab. (7.7); Kozl. about 11. — *N*: Lk 10±; Cr few. — *Class*: Lk babba; Tr. I 1m. — *e*: 0.00; 0.00. — *π*: Tr. 0'.00029; Lk, Cr

prel. 0.00030. — Faint but good on FAC 123. V-V has *m_f*: 7.4. This cannot very well be valid for this cl. Acc. to Rb all stars *m* > 13.5.

121. 6^h50^m0-24°30'. *e*: 0.74; 0.71. — Stars in HDC.

6 ^h 50 ^m 7	-23°29'	9 ^m 2 B9	6 ^h 50.5	-24°8	8 ^m 7 B8
50.8	-24 36	7.9 B8	51.2	14	9.0 B8
50.6	49	8.7 B5	51.6	34	8.1 B3
50.6	12	8.4 B5	51.6	4	9.6 B9

122. *NGC* 2309. *D*: Mel. 3'; Rb 3; Rh 4; Lk 3; Cr 3; Tr. 3. — *m_f*: Hol. 11.0; Lk 10.0 ph; Kozl. 9.4. — *N*: Lk 10; Cr 10. — *Class*: Lk, Cr babba; Tr. II 2p. — *e*: 0.00; 0.00. — *π*: Tr. 0'.00026; Lk, Cr prel. 0.00025. — N. foll. streaks, neb. or faint stars.

123. *NGC* 2311. *D*: Lk 6'5×3'; Tr. 4.5. — *m_f*: Lk 9.2 ph. Kozl. 9.2. — *N*: Lk 20. — *Class*: Lk babba; Tr. II 2p. — *e*: 0.92; 0.87. — *π*: Tr. 0'.00038. — Somewhat dubious. Crescent shape. Dark areas foll. and prec.

124. *NGC* 2323. — *D*: B 15'; Mel. 16; Hol. 25; 10-12; Rb 21; Rh 28×15; Tr. 16; Lk 16; Cr 12. — *m_f*: Hol. 6.6 U. A. 7.0; Kozl. 5.8; Nab. final v. 6.37±0.05. — *N*: B 40; Lk 50; Cr 50. — *Class*: Lk, Cr babba; Tr. I 2m, 1b-a. — *e*: 0.56; 0.74. — *π*: Tr. 0'.00120; Doig 0.0021; Lk, Cr prel. and final stand. 0.00140. — Dark areas in and around cl. Kritzinger has *m_f*: 9.6 which must be too faint.

125. *NGC* 2324. — *D*: Mel. 9'; Rb 14; Rh 11×9; Lk 8; Cr 8; Tr. 8. — *m_f*: (Rb) 9.1; Lk 8.3 ph; Kozl. 6.5. — *N*: Lk 20; Cr 30. — *Class*: Lk, Cr babba. — *e*: 0.80; 0.66. — *π*: Tr. 0'.00068; Lk, Cr prel. 0.00060. — This cl. appears to be partly obscured. Dark lane foll. star chains.

126. *NGC* 2331. — *D*: Lk 16'×12'. — *m_f*: Lk 8.7 ph. — *N*: Lk 20. — *Class*: Lk bbbbb. — *e*: 0.60; 0.76. — Not very prominent object, but mentioned as cl. by Flamsteed (97) and by the Herschels (H VIII 40; h 432).

127. *NGC* 2335. — *D*: Mel. 10'; Rb 21; Rh 10; Lk 11; Cr 10; Tr. 10. — *m_f*: Lk 8.6 ph; Kozl. 8.2. — *N*: Lk 25; Cr 15. — *Class*: Lk, Cr babba; Tr. II 2p. — *e*: 0.00; 0.00. — *π*: Tr. 0'.00085; Lk, Cr prel. 0.00075. — Irregular form; dark areas in cl.

128. *NGC* 2343. — *D*: Lk 6'5; Tr. 6. — *m_f*: Lk 7.9 ph; Kozl. 7.5. — *N*: Lk 10. — *Class*: Lk bbaba; Tr. II 3p. — *e*: 0.00; 0.71. — *π*: Tr. 0'.00051. — On border of dark marking. HDC stars in cl. : -10°1885 9.3 G5; -10°1884 9.5 A0; -10°1882 10.2 A.

129. *NGC* 2345. — *D*: Mel. 10'; Rb 12; Rh 12×9; Lk 10; Cr 6; Tr. 11. — *m_f*: Lk 8.3 ph. — *N*: Lk 30; Cr 40. — *Class*: Lk, Cr bbbba; Tr. II 2pU. — *e*: 0.71; 0.74. — *π*: Tr. 0'.00094; Lk, Cr 0.00065. — Cometic appearance.

130. *NGC* 2353. — *D*: Mel. 20'; Rb 28; Rh 20; Lk 17; Cr 15; Tr. 20. — *m_f*: Lk 6.4 ph. — *N*: Lk 50; Cr 40. — *Class*: Lk, Cr bbbba; Tr. I 3mU, 1b. — *e*: 0.00; 0.64. — *π*: Rb 0'.0030; Tr. 0.00132; Doig 0.0017; Lk, Cr prel. and final stand. v. 0.00120. — Rb gives a list of spectral classes and magnitudes. Brightest star 5^m77 B1; others 8^m-9^m5 B-A. Brightest star nebulous? Concentration around principal star.

131. *NGC 2354*. — *D*: Lk 19'; *Tr.* 20. — *m_f*: Lk 8.9 ph. — *N*: Lk 30. — *Class*: Lk bbbba, *Tr.* III 1m. — *e*: 0.00; 0.00. — *π*: *Tr.* 0^o.00098. — Lk: a pretty good object. May be faint because of dark area in center.

132. 7^h10^m5 — 31°0'. — *e*: 0.81; 0.88. — In HDC are the foll. stars:

7 ^h 11 ^m 5	−30°30'	5 ^m 31	B5
11.6	−30 20	9.9	A0
12.1	−29 19	8.8	B9
12.3	−30 16	7.5	B5
10.3	−29 41	8.3	A0
10.0	−30 54	6.8	B3

133. *NGC 2355*. — *D*: Mel. 6'; Rb 10; Rh 9; Lk 6; Cr 6; *Tr.* 7. — *m_f*: Hol. 11.5; Rb 9.0 Lk 10.4 ph. — *N*: Lk 18; Cr 20. — *Class*: Lk, Cr babba; *Tr.* I 2m. — *e*: 0.60; 0.00. — *π*: *Tr.* 0^o.00051; Lk, Cr prel. 0.00050. — Lk: Some spiral arrangement. Cr: Small dark areas.

134. *NGC 2360*. — *D*: B 10'; Mel. 12; Rb 18; Lk 14; Cr 10; *Tr.* 11. — *m_f*: Hol. 9.2; Lk 7.7 ph; Nab. 9.3. — *N*: B 40; Lk 45; Cr 50. — *Class*: Lk, Cr babba; *Tr.* I 2r. — *e*: 0.51; 0.60. — *π*: Rb 0^o.0015 (1 Draper star); *Tr.* 0.00073; Lk, Cr prel. and stand. v. 0.00060. Lk: stars arranged in lines.

135. 7^h13^m4 — 36°40'. — *Class*: Lk bbaaa. — *e*: 0.84; 0.75. — In HDC are following cluster stars:

<i>π</i> Pupp.	7 ^h 13 ^m 4	−36°55'	6°0	K5 (Boss 1895)
	11.6	2	7.5	B9
	13.3	25	5.01	B3 (Boss 1891)
	14.8	36	4.51	B3

Boss gives following proper motions:

Boss 1891	−0 ^o .0004	−0 ^o .014
1895	−0.0021	+0.024
1896	−0.0007	−0.002
1890	−0.0023	−0.003

Boss 1895 (K5) should be excluded.

136. *NGC 2362*. — *D*: B 7'; Mel. 6; Hol. 4; Rb 7; Lk 6; Cr 6. — *m_f*: Hol. 9.7. — *N*: B 30; Lk 25; Cr 10. — *Class*: Lk, Cr bbaaa; *Tr.* I 3p, 1o. — *e*: 0.00; 0.43. — *π*: *Tr.* 0^o.00080; Lk, Cr stand. v. 0.00050. — Contains 30 Can. Maj. BD−24°5176 4.40 0e5; −24°5188 6.5 B3; −24°5165 8.6 B8, from which *Tr.* has deduced his parallax. Boss 1901 $\mu_{\alpha} = -0^{\circ}.0006$; $\mu_{\delta} = +0^{\circ}.006$ gives $\pi: -0.006$; $+0.001$. — The older estimates have only included the core, but the cl. may be given a wider limit. τ Canis maj. is probably a member.

137. *NGC 2367*. — *D*: Lk 5'; — *m_f*: Lk 7.4 ph. — *N*: Lk 10; — *Class*: Lk bbaaa; *Tr.* II 3p E. — *e*: 0.92; 0.66. — *π*: *Tr.* 0^o.00038. — Draper star BD−21°1880 8.2 B3 incl. Cr classifies it Plei.+++ or μ Norma.

138. *NGC 2368*. — *D*: *Tr.* 4'. — *Class*: Lk abba; *Tr.* II 2p. — *e*: Lk 0.00. — *π*: *Tr.* 0^o.00034. — Not on Lund FAC. Identification difficult on FAP 75. Cl. stars fainter than surroundings.

139. *NGC 2374*. — *D*: Lk 10'; *Tr.* 4.5. — *m_f*: Lk 8.4 ph. — *N*: Lk 25. — *Class*: Lk babba; *Tr.* II 2p. — *e*: 0.51; 0.84. — *π*:

Tr. 0^o.00038. — Lk: Seems to be rather large on FAP 75. A general background of faint stars. Should be taken with a large instrument.

140. 7^h20^m — 32°0'. — *D*: *Tr.* 6'. — *Class*: Lk bbaaa; *Tr.* I 2p — *e*: 0.90; 0.94. — *π*: *Tr.* 0^o.00058; Lk, Cr 0.0042 from the HDC stars

7 ^h 19 ^m 8	−32°2'	5 ^m 5	B3
19.2	−31.44	5.7	B5
18.8	−31.51	6.8	B5

141. *NGC 2383*. — *D*: Lk 5'; *Tr.* 6. — *m_f*: Lk 9.1 ph. — *Class*: Lk baaba; *Tr.* 12p. — *e*: 0.00; 0.66. — *π*: *Tr.* 0^o.00058. — Draper star 20°1914 9.1 A3 incl. From this star π would be 0^o.0038 which is probably too large.

142. *NGC 2384 a*. — *D*: *Tr.* 4'.5. — *Class*: Lk aabba; *Tr.* II 3p. — *e*: 0.00; 0.74. — *π*: *Tr.* 0^o.00038. — Draper star BD−20°1915 8.5 incl.; would make $\pi: 0^{\circ}.0014$. This cl. forms, together with Nr. 143a small replica of the double cl. in Perseus. *Tr.* seems to have taken both together.

143. *NGC 2384 b*. — Lk *e*: 0.66; 0.74. — See note on Nr. 142. Draper star BD−20°1920 8.6 B5 incl., would make $\pi: 0.0014$. This agrees completely with that obtained in like manner for Nr. 142; and thus possibly the two clusters are abnormally small and faint.

144. *NGC 2395*. — *D*: *Tr.* 14'. — *Class*: Lk bbbbbb; *Tr.* III 2p. *e*: 0.74; 0.65. — *π*: *Tr.* 0^o.00091.

145. *Tr.* 6. — *D*: *Tr.* 5'.5. — *Class*: Lk babba; *Tr.* I 2p. — *e*: 0.74; 0.74. — *π*: *Tr.* 0^o.00053.

146. *Tr.* 7. — *D*: *Tr.* 5'.5. — *Class*: Lk baaaa; *Tr.* II 3p. — *e*: 0.82; 0.74. — *π*: *Tr.* 0^o.00047. — Cl. character less pronounced than for Nr. 145.

147. *Mel.* 66. — *D*: Mel. 10'; Rb 36; Lk 14; *Tr.* 11. — *N*: Lk 35. — *Class*: Lk babba; *Tr.* II 2m. — *e*: Lk 0.37. — *π*: *Tr.* 0^o.00073; Lk, Cr prel. 0.00130. — Cannot be identified on Lund FAC 31 or 32. Mel. finds it a distinct cl. on FAP.

148. *NGC 2396*. — *N*: Lk 18'. — *m_f*: Lk 7.6 ph. — *Class*: Lk bbaaa. — *e*: 0.53; 0.80. — Observed by W. and J. Herschel. Lk: Pretty good specimen.

149. *NGC 2401*. — *D*: *Tr.* 2'. — *Class*: Lk aabba; *Tr.* I 2p. — *e*: 0.00; 0.74; — *π*: *Tr.* 0^o.00019. — On FAC 75 faint; identity uncertain, wedge-shaped.

150. *NGC 2414*. — *D*: Lk 4'; *Tr.* 8. — *m_f*: Lk 7.3 ph. — *Class*: Lk baaaa. — *e*: 0.80; 0.87. — *π*: *Tr.* 0^o.00083. — Draper star BD−15°1892 8^m06 B lies in cl. According to note in HDC. The spectrum appears to belong to 0e5 or B0. This would make $\pi: 0.00038$ or 0.00058 which agrees completely with that found from D and *m_f*.

151. *NGC 2421*. — *D*: Mel. 8'; Rb 10; Lk 10; Cr 8; *Tr.* 9. — *m_f*: Lk 9.5; Lk 8.0 ph. — *N*: Lk 15; Cr 20. — *Class*: Lk, Cr bbbba; *Tr.* II 2p. — *e*: 0.00; 0.00. — *π*: *Tr.* 0^o.00077; Lk, Cr prel. 0.00055.

152. *NGC 2422*. — *D*: B 40'; Mel. 25; Rb 37; Lk 20; Cr 20; *Tr.* 30. — *m_f*: Hol. 4.8; UA 4.8; Lk 4.4 ph; Nab. 5.22. — *N*: B 50;

Lk 44; Cr 40. — *Class*: Lk, Cr bbaaa; Tr. II 3m, 1—2b. — *e*: 0.60; 0.80. — π : Rb 0^o.0033; Tr. 0.00208. — Lk, Cr prel. and final stand. 0.00158; Doig 0.0025.

153. *NGC* 2423. — *D*: Mel. 20'; Rh 30; Lk 25; Cr 25; Tr. 19. — *m_f*: Lk 7.8 ph. — *N*: Lk 70; Cr 50. — *Class*: Lk, Cr babba; Tr. I 2m. — π : Tr. 0^o.00139; Lk, Cr prel. and final stand. 0.00130.

154. *NGC* 2420. — *D*: Hol. 12'; B 3; Mel. 7; Rb 6; Rh 9×7; Lk 5; Cr 5; Tr. 6. — *m_f*: Kr. 8.7. — *N*: B 10; Lk 10; Cr 15. — *Class*: Lk aaabb; Cr babb; Tr. II 2m. — *e*: 0.30; 0.56. — π : Tr. 0^o.00040; Lk, Cr prel. 0.00048. — On WPC 108; C. du C. +22°57'—58. Faint but well perceptible on FAC. Irregularly rhombic outline.

155. *Mel.* 71. — *D*: Mel. 8'; Rb 14; Lk 8; Cr 6; Tr. 8. — *m_f*: Lk 8.4 ph. — *N*: Lk 25; Cr 30. — *Class*: Lk, Cr babba. — *e*: 0.69; 0.00. — π : Tr. 0^o.00053; Lk, Cr prel. 0.00065.

156. *Mel.* 72. — *D*: Mel. 5'; Rb 5; Lk 5; Cr 4; Tr. 5. — *m_f*: Lk 10.5 ph. — *N*: Lk 12; Cr 15. — *Class*: Lk, Cr bbbba; Tr. II 1p. — *e*: 0.60; 0.00. — π : Tr. 0^o.00043; Lk, Cr prel. 0.00030. — Triangular shape.

157. *NGC* 2432. — *D*: Mel. 4'; Lk 4; Tr. 4.5. — *m_f*: Lk 10.0 ph. — *N*: Lk 10. — *Class*: Lk babaa; Tr. II 2p. — *e*: Lk 0.00. π : Tr. 0^o.00038; Lk, Cr prel. 0.00030. — Not on Lund FAC 76. On FAP core forms an irregular star.

158. *NGC* 2439. — *D*: Mel. 9'; Rb 9; Lk 9; Cr 10; Tr. 9. — *m_f*: UA 7.0; Harv. 6.6; Lk 7.0; Lk 7.1 ph. — *N*: Lk 25; Cr 40; — *Class*: Lk, Cr bbaba; Tr. II 3mU. — *e*: 0.00; 0.00. — π : Tr. 0^o.00060; Lk, Cr prel. 0.00090. — Includes BD—31°49'10 8.5 G0p (R Puppis). Excentric rings, shell-like. Fine cluster.

159. *NGC* 2437. — *D*: B 40'; Mel. 24; Rb 33; Lk 28; Cr 30; Tr. 27. — *m_f*: Lk 7.0; Lk 6.5; ph; Nab. 9. — *N*: Lk 125; Cr 30. — *Class*: Lk, Cr aabba; Tr. II 2r, 1a. — *e*: 0.71; 0.71. — π : Tr. 0^o.00152; Lk, Cr prel. stand. 0.00140, final 0.00100; Doig 0.002. — Curious cluster. Includes planetary nebula.

160. *NGC* 2447. — *D*: B 10'; Mel. 25; Rb 31; Lk 16; Cr 15; Tr. 18. — *m_f*: UA 7.0; Hol. 6.8; Lk 6.7 ph; Nab. 6.5. — *N*: B 25; Gould 150; Lk 60; Cr 50. — *Class*: Lk baaba; Cr bbbba; Tr. I 3p, 2a. — *e*: 0.60; 0.48. — π : Tr. 0^o.00118; Lk, Cr prel. stand. and final 0.00100; Doig 0.001. — Præs. cl. conc., asymmetrical.

161. *NGC* 2451. c Puppis cluster. — *D*: Lk 40'; Cr 30; Tr. 37. — *m_f*: UA 3.5. — *N*: Lk 25; Cr 20. — *Class*: Lk, Cr bbaaa; Tr. I 3p, 1—2b. — *e*: 0.00; 0.00. — π : Tr. 0^o.00351; Lk, Cr prel. and final stand. 0.00398. — Draper stars: —37°39'06 7.8 K0; —37°38'95 7.5 K0; —37°38'90 7.5 B9; —37°38'87 8.1 A0; —37°38'86 6.0 B8; —37°38'75 9.0 A0; —37°38'68 7.0 A0; 37°38'63 6.5 K5; —37°38'60 7.5 A0; —37°38'61 6.8 B3; —37°38'55 7.9 A0; —37°38'47 7.4 A0; — 37°38'41 6.0 B8; —37°38'38 8.5 A0; —37°38'37 8.1 B8; from these the later parallax was obtained. — Boss stars:

Boss 2048	$\mu_{\alpha} = -0^{\circ}0022$	$\mu_{\delta} = 0^{\circ}000$
Boss 2038	-0.0023	-0.007
Boss 2052	-0.0021	-0.008
Mean	$-0^{\circ}0022$	$-0^{\circ}005$

These values give the parallax 0^o.008; not used as probably too large (stars projected against cl.).

162. *NGC* 2453. — *D*: Lk 5'; Tr. 4. — *m_f*: Lk 9.6 ph. — *N*: Lk 12. — *Class*: Lk bbaba; Tr. I 3p. — *e*: 0.00; 0.87. — π : Tr. 0^o.00039; Lk, Cr prel. 0.00040. — Identity somewhat uncertain on FAC 52.

163. *NGC* 2455. — *D*: Mel. 5'; Lk 7; Cr 5; Tr. 5.2. — *m_f*: Lk 8.7 ph. — *N*: Lk, 10; Cr 15. — *Class*: Lk, Cr bbbba; Tr. III 2p. *e*: 0.00; 0.71. — π : Tr. 0^o.00036; Lk, Cr prel. 0.00052. — Doubtful on FAC 76.

164. *NGC* 2467. — *Class*: Lk bbbba. *e*: 0.00; 0.53. — Includes BD—26°51'37 7.7 B8.

165. *NGC* 2477. — *D*: B 25'; Mel. 25. Rb 31; Lk 20; Cr 18; Tr. 25. — *m_f*: Lk 6.6 ph. — *N*: B 300; Lk 100; Cr 150. — *Class*: Lk baaba; Cr aabba; Tr. I 2r. *e*: 0.00; 0.00. — π : Tr. 0^o.00167; Lk, Cr prel. 0.00130.

166. *NGC* 2482. — *D*: Lk 12'; Tr. 11. — *m_f*: Lk 7.7 ph. *Class*: Lk bbbba; Tr. II 2p. — *e*: 0.74; 0.72. — π : Tr. 0^o.00094.

167. *Tr.* 8. — *D*: Tr. 9'. *Class*: Tr. II 1p. — *e*: 0.87; 0.00. — π : Tr. 0^o.00077.

168. *Tr.* 9 = Harv. 2. — *D*: Tr. 5'. — *Class*: Tr. II 3p. — *e*: 0.00; 0.00. — π : Tr. 0^o.00043. — Curious zig-zag arrangement. Some bright and a small clustering of faint stars.

169. *NGC* 2489. — *D*: Mel. 7'; Rb 7; Lk 6; Cr 6; Tr. 7. — *m_f*: Lk 8.6 ph. *D*: Lk 10; Cr 20. — *Class*: Lk aaaba; Cr aabba; Tr. I 2m. — *e*: 0.46; 0.46. — π : Tr. 0^o.00051; Lk, Cr prel. 0.00052. — Situated within dark area.

170. *NGC* 2506. — *D*: Mel. 10'; Rb 16; Lk 7.5; Cr 10; Tr. 11. — *m_f*: Hol. 10.8; Lk 9.3 ph. — *N*: Lk 15; Cr 30. — *Class*: Lk aabba; Cr babaa; Tr. I 2r. — *e*: 0.66; 0.00. — π : Tr. 0^o.00073; Lk, Cr prel. 0.00050. — Binuclear; two brighter stars superposed.

171. *NGC* 2509. — *D*: Mel. 4'; Rb 5; Lk 5.5; Cr 5; Tr. 4.5. — *m_f*: Lk 9.8 ph. — *N*: Lk 15; Cr 15. — *Class*: Lk babba; Cr bbbba; Tr. I 2m. — *e*: 0.71; 0.74. — π : Tr. 0^o.00033; Lk, Cr prel. 0.00035. — Bright star s. foll. excl.

172. *NGC* 2516. — *D*: B 40'; Mel. 60; Rb 102; Lk 60; Cr 40; Tr. 50. — *m_f*: Lk 4.4 ph. — *N*: B 50; G 158; Lk 60; Cr 100. — *Class*: Lk, Cr baaaa; Tr. I 3r, 1—2b. — *e*: 0.00; 0.51. — π : Rb 0^o.0035; Tr. 0.00328; Doig 0.0030. — Lk, Cr prel. and final stand. 0.00229. — BD—60°10'06 5.71 B3 incl. Very irregular; dark areas in cl.

173. λ Velor. cl. — *Class*: Lk baaaa. — *e*: 0.65; 0.71. — 10 Boss stars give mean values: $\mu_{\alpha} = -0^{\circ}008$; $\mu_{\delta} = -0^{\circ}014$; rad. vel. +24 km/sec.

174. *NGC* 2527. — *D*: Tr. 15'. — *Class*: Lk bbbba; Tr. II 2p. — *e*: 0.60; 0.60. — π : Tr. 0^o.00128. — Lk: Not well defined. Transition Plei.—Præs.

175. *NGC* 2533. — *D*: Lk 4'; Tr. 4. — *m_f*: Lk 8.6 ph. — *N*: Lk 20. — *Class*: Lk babba; Tr. I 2p. — *e*: 0.66; 0.74. — π :

- Tr. 0^m.00039. — Two bright stars incl. in later estimates; not in Lk:s m_t above. Good specimen.
176. *NGC 2539*. — *D*: B 25'; Mel. 21; Hol. 15; Rb 30; Lk 20; Cr 25; Tr. 22. — m_t : Lk 8.0; Lk 6.8 ph. — *N*: B 50; Lk 80; Cr 100. — *Class*: Lk babb; Cr bbbba; Tr. II 1m, 1—2a. — e : 0.28; 0.77. — π : Tr. 0^m.00135; Lk, Cr prel. 0.00110. — On FAP good cl. but irr. in structure and outline.
177. *NGC 2547*. — *D*: B 20'; Mel. 15; Rb 24; Lk 24; Cr 20; Tr. 17. — m_t : UA 6.2; Houz. 5.7; Lk 5.8 ph. — *N*: B 25; G 62; Lk 50; Cr 60. — *Class*: Lk, Cr bbbba; Tr. II 3p, 1b. — e : 0.73; 0.57. — π : Rb 0^m.0029; Tr. 0.00145; Lk, Cr prel. and final stand. 0.0018; Doig 0.002.
178. *NGC 2546*. — *D*: Lk 40'; Tr. 45. — m_t : Lk 6.5 ph. — *N*: Lk 40. — *Class*: Lk bbbba; Tr. III 2p, 1 b. — e : 0.57; 0.57. — π : Tr. 0^m.00238; Lk, Cr prel. and final stand. 0.00138. — BD—36°4309 8.9 B9; —37°4359 8.6 B8; —37°4361 9.2 A0; 37°4362 8.6 A0; 37°4365 9.0 B8; —37°4370 8.9 B9; —37°4393 8.9 B9; —37°4400 9.0 B9; are used for Lk, Cr π .
179. *NGC 2548*. — *D*: B 25'; Mel. 30; Rb 54; Rh 50×35; Lk 40; Cr 35; Tr. 30. — m_t : Hol. 5.5; Nab. 5.2; Lk 5.3 ph. — *N*: B 40; Lk 80; Cr 70. — *Class*: Lk, Cr babba; Tr. I 2r, 1—2a. — e : 0.75; 0.71. — π : Rb 0^m.0015; Tr. 0.00213; Lk, Cr 0.00016; Doig 0.0019.
180. *NGC 2567*. — *D*: Mel. 10'; Rb 12; Lk 8; Cr 8; Tr. 11. — m_t : Lk 7.8 ph. — *N*: Lk 25; Cr 15. — *Class*: Lk, Cr baaba; Tr. II 2m. — e : 0.00; 0.44. — π : Tr. 0^m.00073; Lk, Cr prel. 0.00075.
181. *NGC 2571*. — *D*: Tr. 10'. — *Class*: Lk babaa; Tr. I 3p. — e : 0.60; 0.56. — π : Tr. 0^m.00097; Cr 0.00183. — Bright pair nr center BD—29°5928 8.6 B8; —29°5933 8.4 B8; give π : Cr.
182. *NGC 2579*. — *Class*: Lk bbbba. — e : 0.00; 0.00. — Irregular, stars in lines.
183. *NGC 2580*. — *Class*: Lk bbbab. — e : 0.00; 0.00. — A good object. Slightly asymmetrical.
184. *NGC 2587*. — *Class*: Lk bbaaa. e : 0.00; 0.48.
185. Following *NGC 2579*. — *Class*: Lk bbaab. — e : 0.60; 0.74. — Irregular structure.
186. *NGC 2627*. — *D*: Tr. 2'. — *Class*: Lk babaa; Tr. II 2p. — e : 0.00; 0.66. — π : Tr. 0^m.00021. — Dark marking s. foll.
187. 8^h20^m0—28°48'. — *Class*: Lk bbaaa. — e : Lk 0.74. — Not on FAC. Not very good, but should be included.
188. *NGC 2627*. — *D*: Mel. 8'; Rb 12; Lk 8; Cr 5; Tr. 8. — m_t : Lk 8.0 ph. — *N*: Lk 20; Cr 15. — *Class*: Lk babba; Cr bbbba; Tr. II 2m. — e : 0.68; 0.81. — π : Tr. 0^m.00053; Lk, Cr prel. 0.00065.
189. *NGC 2632*. Præs. — *D*: B 60'; Mel. 120; Rb 160; Lk 100; Cr 80; Tr. 90. — m_t : Hol. 40; Nab. 4.2; Lk 3.9; (Rb) 3.7; Nab. final 4.71±0.12. — *N*: Galilei > 40; Lk 75; Cr 40; Gould 150. — *Class*: Lk, Cr babb; Tr. I 2r, 2a. — e : 0.00; 0.00. — π : Tr. 0^m.00667; Lk, Cr prel. and final stand. 0.0046 see discussion by Lundmark concerning the parallax of this cluster (70). — 12 dark markings in vicinity, dark streak in prec. side of cl.
190. *NGC 2635*. — *D*: Mel. 3'; Lk 3; Cr 3; Tr. 3. — m_t : Lk 11.2 ph. — *N*: Lk 5; Cr 8. — *Class*: Lk aabb; Tr. II 2m. — e : Lk 0.00. — π : Tr. 0^m.00020; Lk, Cr prel. 0.00022. — Not on Lund FAC. Difficult on Upsala copy of FAC.
191. *IC 2391*. o Velorum cl. — *D*: Lk 30'; Cr 25. — *N*: G 20; Lk 10; Cr 12. — *Class*: Lk, Cr bbaaa; Tr. II 3p, 1b. — e : 0.46; 0.79. — π : Tr. 0^m.00476; Lk, Cr prel. and final stand. 0.00250. — This is a moving cl. Draper stars: BD—52°1565 6.46 B9; —52°1574 9.2 A2; —52°1578 9.2 F2; —52°1581 7.2 A0; —52°1583 3.51 B3; —52°1584 5.9 B5; —52°1587 7.3 A0; —52°1734 7.8 A0. — Dark lane s. prec. Nebulosity in cl.
192. *IC 2395*. Raab 79. — *D*: Rb 28'; Lk 18; Cr 12. — m_t : Lk 6.8 ph. — *N*: Lk 20; Cr 15. — *Class*: Lk, Cr bbaaa; Tr. II 3p, 1b. — e : 0.86; 0.78. — π : Tr. 0^m.00200; Lk, Cr 0.0018. — Includes BD—47°4263 7.8 B8; —47°4261 7.2 B9; —47°4268 9.0 B8; —47°4271 8.1 B8; —47°4269 7.5 B9. BD—47°4251 5.4 B3 precedes cl. included. This would give π : 0^m.00522; Lk, Cr prel. and final 0.0018. A fine chain prec.
193. *NGC 2660*. — *Class*: Lk babba — e : Lk 0.00. — Lk: a very fine specimen. Should be taken with a powerful instrument — Not on FAC.
194. *NGC 2659*. — *D*: Mel. 10'; Rb 12; Lk 10; Cr 12; Tr. 11. — m_t : Lk 8.3 ph. — *N*: Lk 25; Cr 20. — *Class*: Lk, Cr bbbba. — e : 0.85; 0.60. — π : Tr. 0^m.00073. Lk, Cr prel. 0.00070.
195. *NGC 2658*. — *D*: Mel. 9'; Rb 9; Lk 7; Cr; Tr. — m_t : Lk 10.0 ph. — *N*: Lk 10; Cr 15. — *Class*: Lk, Cr babaa; Tr. I 2m. e : 0.74; 0.66. — π : Tr. 0^m.00065. Lk, Cr prel. 0.00040.
196. 8^h41^m0—31°16'. — *Class*: Lk e : Lk 0.00. — Not on FAC 53.
197. 8^h41^m0—41°0'. — *Class*: Lk bbbba — e : 0.66; 0.74. — Nebulous cl., not very distinct. m_t of nebulosity Lk: 9.8. Leading star 8 magn.
198. 8^h41^m2—31°24'. — *Class*: Lk. — e : Lk 0.00. — Not visible on FAC 53. Somewhat dubious, defect in plate disturbs.
199. *NGC 2669*. — *D*: Tr. 14'. — *Class*: Lk baaaa, Tr. I 3p. — e : 0.00; 0.00. — π : Tr. 0^m.00135. — This cluster is mentioned by Al Súfi.
200. *NGC 2670*. — *D*: Mel. 15'; Rb 12; Lk 11; Cr 10. — m_t : Lk 8.2 ph. — *N*: Lk 25; Cr 12. — *Class*: Lk babb; Cr bbaab; Tr. I 2p. — e : 0.57; 0.48. π : Lk, Cr prel. 0.00070. — Cr: Two rows of stars of almost equal brightness. Curious aspect.
201. *NGC 2671*. — *D*: Tr. 4'. — m_t : Lk 6.0 ph. — *N*: B 50. — *Class*: Lk babba; Tr. II 2p. — e : 0.00; 0.74. — π : Tr. 0^m.00034. — Not distinct on FAC 33. — A small cl. prec.
202. *Harv. 3*. — *D*: Sh. 7'. — *N*: Sh. 35. *Class*: Lk bbaba; — e : 0.00; 0.00. — Includes BD: —50°1640 7.7 B9; —50°1652 7.5 A3; —50°1657 9.0 K0. Sh. has m_t :10.4; thus he has probably not included these bright stars.
203. *Tr. 10*. *D*: Tr. 30'. — *Class*: Lk bbaba; Tr. II 3p. — e : 0.56; 0.73. — π : Tr. 0^m.00286. — Dark marking foll.

204. NGC 2682. Moving cl. — *D*: B 15'; Mel. 15; Rb 28; Rh 45; Lk 16; Cr 12; Tr. 18. — *m_t*: Hol. 6.4; Nab. 6.8; (Rb) 6.5; Lk 6.7; Lk 6.8 ph. — Nab. final v. 6.83 ± 0.05 . — *N*: B 50; Lk 80; Cr 50. — *Class*: Lk, Cr baabb; Tr. II 2r, 2—3a. — *e*: 0.80; 0.37. — π : Hertzspr. $0''.0013$; Rb $0''.0012$; Tr. $0''.00135$; Lk, Cr prel. and final stand. $0''.0015$. — Hertzsprung's & van Rhijn's (391) π is obtained assuming motion par. with Præsepe. The give mean $\mu_{\alpha} = -0''.0070$; $\mu_{\delta} = +0''.0022$. Total $\mu = 0''.0073$; $p = 287^{\circ}$. Radial vel. $+13$ km/sec according to Sanford (399a).

205. $8^{\text{h}}57^{\text{m}}3 - 48^{\circ}20'$. — *Class*: Lk aaabb. — *e*: 0.87; 0.66. — Cr: An extremely concentrated cluster.

206. NGC 2818. — *D*: Mel. 9'; Lk 8; Cr 8; Tr. 9. — *m_t*: Lk 10.6 ph. — *N*: Lk 20; Cr 20. — *Class*: Lk, Cr babba; Tr. II 2m. — *e*: 0.60; 0.66. — π : Tr. $0''.00069$; Lk, Cr $0''.00050$. — Lk: Traces of spiral arr.

207. NGC 2849. — *D*: h 2'.5. — *m_t*: Lk 10.8 ph. — *Class*: Lk abba. — *e*: 0.00; 0.66. — Helw. 22 (168): Loose cl. of a few stars and something at the centre that is not resolved and might be nebulous.

208. IC 2488. Mel. 97; Rb 83. — *D*: Rb 43'; Lk 25; Cr 25; Tr. 18. — *m_t*: Lk 6.2 ph. — *N*: Lk 100; Cr 60. — *Class*: Lk, Cr babba; Tr. IV 2mU. — *e*: 0.60; 0.66. — π : Tr. $0''.00051$ (from D); Lk, Cr prel. and final stand. $0''.0023$ (from 3 Dr. stars). — Might possibly be identical with NGC 2899 if this cl. is 1° wrong in Decl.

209. NGC 2910. — *D*: Lk 10'; Tr. 6. — *m_t*: Lk 8.7 ph. — *N*: Lk 30. — *Class*: Lk baaaa; Tr. II 2p. — *e*: 0.28; 0.00. — π : Tr. $0''.00051$. — h: Vacancy in middle. Lk: sensibly round, absorption around centre.

210. NGC 2925. — *D*: Lk 15'; Tr. 16. — *m_t*: Lk 8.0 ph. — *Class*: Lk bbbaa; Tr. II 2p. — *e*: 0.00; 0.51. — π : Tr. $0''.00137$.

211. NGC 2972. — *D*: Tr. 4'.5. — *Class*: Lk baaba; Tr. I 2m. — *e*: 0.33; 0.66. — π : Tr. $0''.00033$. — Dark marking No. 14 (Lk) follows.

212. NGC 3033. — *D*: Tr. 5'. — *Class*: Lk babaa; Tr. II 2p. — *e*: Lk 0.71. — π : Tr. $0''.00043$. — Identification uncertain on FAP 17; not seen on FAC.

213. $9^{\text{h}}51^{\text{m}}0 - 50^{\circ}15'$. — *Class*: Lk bbbba. *e*: 0.00; 0.60. — Not very good object. Star density in center to that in surr. 86:71.

214. NGC 3105. — *D*: Tr. 2'.5. — *Class*: babba; Tr. II 2p. — *e*: Lk 0.00. — π : Tr. $0''.00021$. — Not on FAC in Lund.

215. NGC 3114. — *D*: B 50'; Mel. 30; Dunl. 40; Rb 50; Lk 40; Cr 40; Tr. 37. — *m_t*: Lk 5.2 ph. — *N*: B 200; G. 376; 401; Lk 175; Cr 100. — *Class*: Lk bbaba; Tr. bbbaa; Tr. II 3r, 2a. — *e*: 0.46; 0.48. — π : Rb $0''.0018$; Tr. $0''.00227$; Lk, Cr prel. and final $0''.0015$; Doig $0''.0021$. — Lk: Some spiral arrangement.

216. Tr. 11. — *D*: Tr. 4'. — *Class*: Lk bbbba; Tr. II 2p. — *e*: 0.51; 0.80. — π : Tr. $0''.00034$. — Very irregular.

217. Tr. 12. — *D*: Tr. 4'. *Class*: Lk bbbaa; Tr. I 2m. — *e*: 0.00; 0.46. — π : Tr. $0''.00029$. — Binuclear.

218. NGC 3228. — *D*: Lk 18'; Tr. 20. — *m_t*: Lk 5.0 ph. — *Class*: Lk baaaa; Tr. I 2p, 1—2b—a. — *e*: 0.69; 0.69. — π : Tr. $0''.00200$; Cr stand. $0''.00210$. — Nebulous?

219. Tr. 13. — *D*: Tr. 4'; — *Class*: Lk bbbba; Tr. II 2m. — *e*: Lk 0.80. — π : Tr. $0''.00027$. — Not seen on FAC 17.

220. NGC 3247. — *D*: Tr. 10'. — *Class*: Lk aabba; Tr. II 3p. — *e*: 0.72; 0.80. — π : Tr. $0''.00085$. — NGC 3247 appears to be the cl. called IC 2581 by Tr. Well visible on UOC.

221. NGC 3255. — *D*: Tr. 3'. — *Class*: Lk aabba; Tr. I 2p. — *e*: 0.00; 0.74. — π : Tr. $0''.00029$. — Lk: Dark neb. s. precc. and foll. — Cr: Very difficult object. Not star. Border granulated. Præs.+++ or Glob.--.

222. IC 2581. — *Class*: Lk aaaaa. — *e*: 0.00; 0.00. — BD $-57^{\circ}3256$ 6.1 F5p; $56^{\circ}3343$ 7.9 B0; $-57^{\circ}3237$ 8.8 B; $-56^{\circ}3368$ 10.0 G5. The first star may be a supergiant, according to HDC note. Acc. to Lk, the sharpness of the lines makes it probable that this star has c characteristics. If so, the stars above would give $\pi: 0''.0013$ approximately.

223. $10^{\text{h}}26^{\text{m}}3 - 59^{\circ}19'$. — *Class*: Lk bbbba. — *e*: 0.00; 0.00. — Straight star-chains.

224. NGC 3293. — *D*: B 8'; Mel. 8; 4; Rb 10; Lk 8; Tr. 8. — *m_t*: UA 5.7; Lk 5.6 ph. *N*: Lk 100. — *Class*: Lk aaba; Tr. II 3r, 1b. — *e*: Lk 0.00. — π : Lk, Cr prel. $0''.00110$; Tr. $0''.00050$. — Not on FAC. Probably nebulous on FAP.

225. NGC 3324. — *Class*: Lk bbbbb(?). — *e*: 0.00; 0.00. — On UOC 44. Faint. Not on FAC. Seen by J. Herschel.

226. NGC 3330 = Harv. 4. — *D*: Lk 6'; Tr. 8. — *m_t*: Lk 8.0 ph. *N*: Lk 12. — *Class*: Tr. II 3m. — *e*: 0.87; 0.87. — π : Tr. $0''.00053$. — On FAC and UOC $-52^{\circ}44'$. Lk: Crescent shape. Seems to be absorption s. of cl. Cr: Binuclear. Seems to be identical with Harv. 4.

227. Mel. 101. — *D*: Mel. 15'; Rb 33; Lk 16; Cr 15; Tr. 15. — *m_t*: Lk 6.6 ph. — *N*: Lk 50; Cr 70. — *Class*: Lk, Cr bbbbb. — *e*: 0.37; 0.66. — π : Tr. $0''.00099$; Lk, Cr prel. $0''.00120$. — Irreg. outline. Tail on n side. Dark area near centre.

228. $10^{\text{h}}39^{\text{m}}2 - 59^{\circ}29'$. — *D*: Lk $20' \times 20'$. — *m_t*: Lk 6.4 ph. — *Class*: Lk bbaaa. — *e*: 0.60; 0.57. — The cl. is U-shaped. Very extended, bright. Is well seen on UOC (special) Cord. Ph. XX. Good pictures of η Carinae clusters also in Harv. Ann. 26, Pl. V and VIII.

229. IC 2602 = Mel. 102 (Rb 87). — *D*: Mel. 70'; Rb 77; Lk 70; Cr 70; Tr. 65. — *m_t*: Lk 2.3. — *N*: Lk 40; Cr 25. — *Class*: Lk, Cr ababa; Tr. II 3m. 1—2b. — *e*: 0.79; 0.56. — π : Lk, Cr prel. and final stand. $0''.00047$. — Proper motions of Boss 2959, 2862, 2867, 2876 and 2880 suggest that this object is a moving cl.: The mean motion is: $-0''.0025 + 0''.002$, from which a parallax of 0.005 follows.

230. $10^{\text{h}}40^{\text{m}}1 - 59^{\circ}2'$. — *D*: Lk 5'.5; Cr 5; Tr. 4. — *m_t*: Lk 7.2; 7.4 ph. *N*: Lk 20; Cr 20. — *Class*: Lk, Cr baaba. — *e*: 0.00; 0.00. — π : Tr. $0''.00029$; Lk, Cr prel. $0''.00070$. — On UOC (Special) and Cord Ph. XX. In η Argus nebula.

231. *Tr.* 15. — *D:* *Tr.* 3'.5. — *Class:* *Tr.* I 3p. — *e:* 0.00; 0.66. — π : *Tr.* 0°00034. — On UOC (Special), Cord. Ph. XX. BD —58°2659 8.2 B incl.
232. 10^h40^m9–59°2'. Foll. Nr. 230. — *Class:* Lk bbaaa. — *e:* 0.82; 0.74. — BD—58°2661 7.5 B incl. Seen on UOC (Special) and Cord. Ph. XX.
233. η Carinae cl. = *Tr.* 16. — *D:* Lk 30'; Cr 30; *Tr.* 10. — *m_f:* Lk 6.2 ph. — *N:* Lk 30; Cr 30. — *Class:* Lk, Cr baaba; *Tr.* IV 3mNU. — *e:* 0.74; 0.62. — π : *Tr.* 0°00028. — Neb. cl. incl. η Car. On UOC (Special) and Cord. Ph. XX. Cr: Vacant streak n.-s. in middle of cl.
234. 10^h41^m4–59°13'. — *N:* Lk 35. — *Class:* Lk, Cr bbaaa. — *e:* Lk 0.87. — Is probably part of NGC 3372 if with that object is meant the clustering of stars in the great nebula η Argus. The structure of the complicated clustering is difficult to make out. This interesting region can not be studied on FAP or FAC on account of the nebulosity. The UOC —58° Special shows the stars in this region fairly.
235. *Tr.* 17. — *D:* *Tr.* 5'.5. — *Class:* Lk abbab; *Tr.* I 3p. — *e:* 0.80; 0.74. — π : *Tr.* 0°00053.
236. 10^h53^m0–60°30'. — *Class:* Lk aabba. — *e:* 0.00; 0.00. — Cr: A fine little cl. Includes BD—62°2408 9.1 A0. This should give π : 0°00231. Not used as stand.
237. NGC 3496. — *D:* h 9'; Lk 8; *Tr.* 7. — *m_f:* Lk 8.6 ph. — *N:* Lk 30. — *Class:* Lk babba; *Tr.* III 2m. — *e:* 0.00; 0.62. — π : *Tr.* 0°00034. — h: a fine obj.; v. much condensed Milky Way group. Lk agrees with Sir John. Fairly reg. but some abs.
238. NGC 3532. — *D:* B 60'; Mel. 60; Rb 66; Lk 50; Cr 50; *Tr.* 55. — *m_f:* UA 6.5; Lk 3.9 ph. — *N:* Lk 200; Cr 150. — *Class:* Lk, Cr bbaba; *Tr.* II 2r, 2b—a. — *e:* 0.83; 0.60. — π : Rb 0°0021; *Tr.* 0.00286; Lk, Cr prel. and final stand. 0.00225. — The last π is derived from Draper stars, of which 113 are of class B8—A5, and 7 of class K.
239. NGC 3572 b. — *D:* *Tr.* 5'. — *Class:* Lk bbaba; *Tr.* H 3p. — *e:* Lk 0.00. — π : *Tr.* 0°00043. — Triangular shape. Is prec. part of NGC 3572.
240. NGC 3572 a. — *e:* Lk 0.72; Cr 0.74. — BD—59°3088 9.1 B8; —59°3094 9.1 A0; —59°3100 7.5 B2; —59°3102 7.9 B2; —59°3116 7.3 B8; —59°3129 8.6 A0; —59°3157 9.0 A0; —59°3156 8.6 B2; —59°3165 7.0 B9; give π : 0°00195.
241. *Tr.* 18. — *D:* *Tr.* 12'. — *Class:* Lk bbaaa; *Tr.* IV 3m. — *e:* 0.00; 0.66. — π : *Tr.* 0°00034. — Lk: Doubtful obj. on FAP; Cr: Uncertain ident. on FAC.
242. NGC 3590. — *e:* Lk 0.66. — Found on FAC 18; also on UOC 58°46 and Cord. Ph.
243. *Tr.* 19. — *D:* *Tr.* 13'. — *Class:* *Tr.* IV 2m. — *e:* Lk 0.00. — π : *Tr.* 0°00037. — Not on FAC. Lk: Dubious object.
244. NGC 3603. — *D:* Lk 3'; Cr 3; *Tr.* 2. — *m_f:* Lk 9.3 ph. — *Class:* *Tr.* I 3m. — *e:* Lk 0.00. — π : *Tr.* 0°00015; Lk, Cr prel. 0.00030. — Not seen on FAC. Difficult to identify on FAP. h: a red star 10^m the centre of an excess. cond. gr. of stars 15^m—18^m.
245. IC 2714. — *D:* Mel. 12'; Rb 16; Lk 13; Cr 12; *Tr.* 11. — *m_f:* Lk 6.4 ph. — *N:* Lk 40; Cr 40. — *Class:* Lk, Cr aabbb; *Tr.* II 2r. — *e:* 0.26; 0.00. — π : *Tr.* 0°00067; Lk, Cr 0.00111. — Lk: Fairly regular but with dark lanes. Cr: Projected on dark nebula.
246. Mel. 105. — *D:* Mel. 4'; Rb 4; Lk 4; Cr 3; *Tr.* 4. — *m_f:* Lk 8.6 ph. — *N:* Lk > 20; Cr 15. — *Class:* Lk, Cr baabb; *Tr.* I 3m. — *e:* 0.00; 0.66. — π : *Tr.* 0°00029; Lk, Cr prel. 0.000110. — Lk: projected on dark nebula.
247. NGC 3680. — *D:* Mel. 12'; Rb 12; Lk 10; Cr 12; *Tr.* 12. — *N:* Lk 20; Cr 15. — *Class:* Lk, Cr babba; *Tr.* I 2p. — *e:* 0.56; 0.69. — π : *Tr.* 0°00116; Lk, Cr prel. 0.00090.
248. NGC 3766. — *D:* B 15'; Mel. 10; Δ 10; Rb 12; Lk 14; Cr 15; *Tr.* 12. — *m_f:* Lk 5.5 ph. — *Class:* Lk aaaaa. — *N:* G 479; Lk 100; Cr 150. — *e:* 0.30; 0.60. — π : *Tr.* 0°00082; Lk, Cr 0.00082; Lk, Cr prel. and final stand. 0.00098; Doig 0.0015. — 5 Draper stars used for the latter π .
249. IC 2944. λ Centauri cl. — *Class:* bbaaa. — *e:* 0.79; 0.93. — Lk: A replica in Southern Sky of Pleiades. Cr: This is a chain of bright stars with nebulosity. Areal density of fainter stars the same as in surroundings (from star-counts).
250. NGC 3960. — *D:* Lk 5'; *Tr.* 7; Mel. 6; Rb 8; Cr 6. — *m_f:* Lk 8.5 ph. — *N:* Lk 20; Cr 25. — *Class:* Lk, Cr babba; *Tr.* I 2m. — *e:* 0.66; 0.00. — π : *Tr.* 0°00051; Lk, Cr prel. 0.00066. — Innes (232): Cl. of 100 stars 12—14 mag. within radius of 5'.
251. NGC 4052. — *D:* *Tr.* 10'. — *Class:* Lk babba; *Tr.* II 2mE. — *e:* 0.72; 0.80. — π : *Tr.* 0°00066.
252. NGC 4103. — *D:* B 8'; Δ 9; G 9; Mel. 9; Rb 9; Lk 7; Cr 8; *Tr.* 9. — *m_f:* Lk 6.5 ph. — *N:* G 232; B 50; Lk 50; Cr 40. — *Class:* Lk babba; Cr bbaaa; *Tr.* I 3m. — *e:* 0.60; 0.62. — π : *Tr.* 0°00065; Lk, Cr prel. 0.00100.
253. NGC 4230. — *D:* *Tr.* 4'.5. — *Class:* Lk bbbbbb(?); *Tr.* II 2p. — *e:* Lk 0.87. — π : *Tr.* 0°00038. — Lk: Doubtful object. Not seen by Cr on FAC.
254. NGC 4337. — *D:* Innes 3'; *Tr.* 4. — *m_f:* Lk 10.1 ph. — *Class:* Lk babba. — *e:* 0.00; 0.51. — π : *Tr.* 0°00039. — Cr: A star-chain curved around a brighter star.
255. NGC 4349. — *D:* B 20'; Mel. 15; Rb 28; Lk 15; Cr 18; *Tr.* 17. — *m_f:* Lk 6.5 ph. — *N:* B 100; Lk 55; Cr 50. — *Class:* Lk, Cr babba; *Tr.* II 2r. — *e:* 0.49; 0.60. — π : *Tr.* 0°00103; Lk, Cr prel. and final stand. 0.00140. — At the end of dark lane and in same direction angle as lane. The Lk, Cr π is derived from five HDC stars.
256. Coma Berenices cl. — *D:* Lk 600'; Cr 600×300; *Tr.* 300. — *N:* Lk 20; Cr 20; Öl. 60. — *Class:* Lk, Cr bbabb; *Tr.* II 3p, 2a. — *e:* 0.56; 0.79. — π : Lk 0°0120; *Tr.* 0.01235. — Ölander (552), from proper motions, concludes that only 60

stars are members, and others belonging to the Kapteyn streams. Lundmark (300) has discussed available parallaxes of this cl. and derived a few new values. Heckmann (162) has measured accurate positions in the cl. for 212 stars. Fagerholm (118) has also measured positions and determined proper motions. His results are criticised by Ölander (552).

257. $12^{\text{h}}20^{\text{m}}_5-60^{\circ}12'$. — *Class*: Lk bbaba. — e : 0.32; 0.71. — Difficult on FAC. Binuclear.

258. *Harv.* 5. — *D*: Sh. 7'. — *N*: Sh. 30. — *Class*: Lk bbbba. — On FAC 19 and UOC 50.

259. *NGC* 4439. — *D*: Tr. 3'.5. — *Class*: Lk abbbba; Tr. II 2p. — e : 0.00; 0.66. — π : Tr. $0^{\circ}00030$. — Lk: Dubious object. Degenerate spiral arrangement.

260. *NGC* 4463. — *D*: Tr. 5'. — *Class*: Lk babba; Tr. I 3p. — e : 0.00; 0.82. — π : Tr. $0^{\circ}00049$. — Lk: irregular.

261. Identical with *Harv.* 6. — *Class*: bbbab. — e : 0.66; 0.56. — Lk: A good cl. within dark lane No. 25. Cr: Triangular cloud not quite resolved.

262. Identical with Tr. 20 and *Harv.* 7. — *D*: Lk 12'; Cr 12; Tr. 10. — m_f : Lk 9.0 ph. — *N*: Lk 30; Cr 30. — *Class*: Lk, Cr babba; Tr. III 2r. — e : 0.34; 0.00. — π : Tr. $0^{\circ}00045$; Lk, Cr prel. 0.00070 . — Lk: Condensation in star-cloud. Cr: Seen on FAC 19 as through semi-transparent glass.

263. *NGC* 4609. Coal-sack cl. — *D*: Lk 5'; Cr 4; Tr. 4.5. — m_f : Lk 7.8 ph. — *N*: Lk 12; Cr 12. — *Class*: Lk, Cr baabb; Tr. II 2p. — e : 0.30; 0.80. — π : Tr. $0^{\circ}00038$; Lk, Cr prel. and final stand. 0.00145 . — The star $12^{\text{h}}36^{\text{m}}_5-62^{\circ}25' 9^{\text{s}}_0$ B8 seems to belong to the cl. This gives the parallax of Lk, Cr above. The star $12^{\text{h}}36^{\text{m}}_9-62^{\circ}30' 6^{\text{s}}_0$ B 1p is close to the cl. H β and H γ are bright, perhaps variable. This cluster lies within the area of the coal-sack, at a distance of 2000—9000 light years, acc. to diff. determinations. Unsöld (501) and von der Pahlen (349) have determined the distance of the dark nebula as 300—500 light years. Thus the cl. is seen through a veil which is obscuring the stars by about 1 $^{\text{m}}$, and accordingly the distance of the cl. should be augmented by about 50%.

264. *NGC* 4755. κ Crucis cl. — *D*: B 12'; Mel. 10; Rb 12; Lk 10; Cr 9; Tr. 12. — m_f : Behrm. 5.0; UA 5.6; Houz. 6.1; *Harv.* 5.2; Lk 4.5 ph. — *N*: B 75; G 129; Lk 100. — *Class*: Lk baaaa; Tr. I 3r, 1—2b. — e : Lk 0.00. — π : Tr. $0^{\circ}00092$; Lk, Cr prel. stand. 0.00144 , final 0.00155 . — Nangle (336, 337) has studied this cl. in two papers. Earlier also W. C. Russell (398). Some bright stars may be projected on cl.

265. *NGC* 4815. — *D*: Tr. 4'. — *Class*: Lk aabba; Tr. I 3m. — e : 0.00; 0.00. — π : Tr. $0^{\circ}00029$.

266. *NGC* 4852. — *D*: Mel. 10'; Rb 12; Lk 10; Cr 8; Tr. 11. — m_f : Lk 7.7 ph. — *N*: Lk 30; Cr 20. — *Class*: Lk, Cr babba; Tr. II 2m. — e : 0.00; 0.62. — π : Tr. $0^{\circ}00073$; Lk, Cr prel. 0.00080 . — Lk: At one end of long dark lane. Cr: Same type as *NGC* 4609, 6520, also in bright nebula, irr. type. Innes (232, 233): fine open cl. of 50 stars 11—15 mag.

267. *NGC* 5053. — *D*: Rh 9'; Sh. 8; Lk 6; Cr 6. — m_f : Lk 12.2 ph. — *N*: Lk 10_{\pm} ; Cr 12_{\pm} . — *Class*: Lk aabbb; Cr bbbbbb. — e : Lk 0.56. — π : Baade $0^{\circ}00052$; Lk, Cr prel. 0.00020 (unc.). — Very faint on Lund FAC. Baade (6) does not consider this as an open cl. Shapley (451) does not regard it as globular and has not included it in his list of glob. cl. — Baade's π is obtained from cl. variables.

268. Identical with *Harv.* 8? — *Class*: Lk babba. — e : 0.00. — Not on FAC. Lk: Dark marking prec., E 130° , starts 15' from cl. Good cl., somewhat irregular. At centre a bright pair inside of vacant area.

269. $13^{\text{h}}16^{\text{m}}_0-65^{\circ}35'$. — *Class*: Lk bbbba. — e : Lk 0.00. — Not on FAC. Lk: Some spiral arrangement; outwards a wreath of brighter stars.

270. *NGC* 5138. — *D*: Tr. 8'. — *Class*: Lk baaba; Tr. II 2p. — e : 0.80; 0.00. — π : Tr. $0^{\circ}00068$.

271. $13^{\text{h}}23^{\text{m}}-63^{\circ}40'$. — *Class*: Lk babba. — e : 0.83; 0.79. — Cr: Small dark marking s. prec., dark rifts n. foll.

272. $13^{\text{h}}24^{\text{m}}_0-60^{\circ}45'$. — *Class*: Lk bbbba. — e : 0.64; 0.64. — Somewhat doubtful on FAC.

273. *NGC* 5168. — *D*: Tr. 3'.2. — *Class*: Lk aabba; Tr. I 3m. — e : Lk 0.00. — π : Tr. $0^{\circ}00023$. — No estimates possible on Lund FAC.

274. Tr. 21. — *D*: Tr. 5'. — *Class*: Lk babba; Tr. I 3p. — e : Lk 0.00. — π : Tr. $0^{\circ}00049$. — Not seen on Lund FAC. On FAP not very good.

275. $13^{\text{h}}28^{\text{m}}_0-59^{\circ}37'$. — *D*: Lk 9' \times 5'. — m_f : Lk 9.6 ph. — *Class*: Lk bbaba. — e : Lk 0.75. — Interesting absorption streak $8' \times 0'.7$, E 130° , running across cl.

276. *NGC* 5281. — *D*: B 5'; Mel. 3; Lk 4.5; Cr 5; Tr. 4. — *N*: B 15; Lk 15. — *Class*: Lk baaaa; Tr. I 3m. — e : 0.71; 0.80. — π : Tr. $0^{\circ}00029$; Lk, Cr prel. 0.00090 . — Lk: Probably consisting of stars of high luminosity. Cr: A difficult object.

277. $13^{\text{h}}41^{\text{m}}_5-65^{\circ}35'$. — *Class*: Lk bbbba. — e : Lk 0.82. — Cr: On FAC this object appears spurious and produced by dark markings around.

278. *NGC* 5288. — *D*: Tr. 3'. — *Class*: Lk aabba; Tr. II 2p. — e : Lk 0.00. — π : Tr. $0^{\circ}00026$. — Not seen on FAC. Not much on FAP.

279. *NGC* 5316. — *D*: B 10; Mel. 12'; Rb 31; Lk 10; Cr 10; Tr. 11. — m_f : Lk 7.5 ph. — *N*: B 25; Lk 35; Cr 20. — *Class*: Lk, Cr bbbba; Tr. II 2p, 1—2b—a. — e : 0.71; 0.60. — π : Tr. $0^{\circ}00105$; Lk, Cr prel. and final stand. 0.0014 ; Doig 0.002 . — The later π from Raab's 5 Draper stars. Small vacant area prec. Star-chains. Not well defined object.

280. *NGC* 5460. — *D*: B 40'; Mel. $>$ 30; Rb 48; Lk 36; Cr 40; Tr. 35. — m_f : Lk 7.0 ph. — *N*: B 25; G 79; Lk 50; Cr 40. — *Class*: Lk bbaaa; Cr baaaa; Tr. II 3m, 1—2b—a. — e : 0.00; 0.48. — π : Tr. $0^{\circ}00213$; Lk, Cr prel. and final stand. 0.0017 ; Doig 0.0016 . — The latter π from Raab's 9 Draper stars. The foll. stars: BD-47°8870 9.6 A0; -47°8883 9.3 B9; -47°8886

- 9.1 B9; $-47^{\circ}8893$ 9.6 A0; $-47^{\circ}8895$ 9.6 A0; $-47^{\circ}8894$ 9.4 A0; $-47^{\circ}8889$ 8.8 A0; $-47^{\circ}8900$ 9.0 B8; $-47^{\circ}8904$ 7.7 B9; $-47^{\circ}8901$ 8.8 B9; $-47^{\circ}8902$ 9.1 B9; $-47^{\circ}8907$ 9.4 B9; $-48^{\circ}8776$ 9.4 A2 give π 0^o.00192. Cr: Includes at least six very close pair of stars.
281. NGC 5606. — *D*: Tr. 2'. — *Class*: Lk babba; Tr. II 2p. — *e*: Lk 0.00. — π : Tr. 0^o.00019. — Not on FAC.
282. NGC 5617. — *D*: B 15'; Mel. 15; Rb 25; Lk 16; Cr 15; Tr. 14. — *m_t*: Lk 6.8 ph. — *N*: B 40; Lk 40; Cr 20. — *Class*: Lk, Cr babaa; Tr. I 2r, 2a. — *e*: 0.60; 0.56. — π : Rb 0^o.0016; Tr. 0.00099; Lk, Cr prel. and final stand. 0.00100; Doig 0.0017. — The last π is from Draper stars. Lk: Irregular shape. Cr: Condensation in cloud.
283. Tr. 22. — *D*: Tr. 7'. — *Class*: Lk baaba; Tr. III 2p. — *e*: 0.44; 0.00. — π : Tr. 0^o.00045. — Lk: Pretty good specimen.
284. NGC 5662. — *D*: B 20'; Mel. 8; Rb 31; Lk 16; Cr 25; Tr. 15. — *m_t*: Lk 5.6 ph. — *N*: B 15; Lk 40; Cr 25. — *Class*: Lk bbbba; Cr bbaab; Tr. II 3pE 1–2b. — *e*: Cr 0.69. — π : Tr. 0^o.00149; Lk, Cr prel. and final stand. 0.0015; Doig 0.0017. — Loose and not well defined. On ridge between two dark nebulae. Similar type with NGC 6520 and other cl. near dark nebulae. Second π from Raab's Draper stars.
285. *Ursa major* cl. — *Class*: Lk, Cr bbaab. — π : 0^o.0430. — This moving cl. has discoid form, as shown by Turner (499) in 1911. Courvoisier (77), in 1915, found that the stars are arranged in space in two parallel strings ("Schnüre"). Luyten (307) gives a short description of this moving cluster and states that it has the form of a flat disc 150 light-years in diameter, moving towards the star α Indi with a velocity of 18 km/sec. According to L., the cl. has 150 members. Compare also investigation by Ledersteger (269) and Haas (154). However, Gyllenberg (146) has found several new stars with same proper motion in the narrow zone of the Lund A. G. Catalogue only. — The coordinates used are the coordinates of the centre in space, according to Rasmuson (384).
286. NGC 5715. — *D*: Mel. 6'; Rb 12; Lk 7; Cr 8; Tr. 9. — *m_t*: Lk 8.5 ph. — *N*: Lk 20; Cr 20. — *Class*: Lk, Cr babba; Tr. II 2m. — *e*: 0.76; 0.00. — π : Tr. 0^o.00060; Lk, Cr prel. 0.00060.
287. NGC 5749. — *D*: Lk 8'; Tr. 8. — *m_t*: Lk 8.1 ph. — *Class*: Lk bbaba; Tr. II 2p. — *e*: 0.00; 0.00. — π : Tr. 0^o.00068; Lk, Cr prel. 0.00062. — Reverted y-shape.
288. NGC 5764. — *D*: h 3'×1.5'; Lk 3×1.0; Tr. 2.2. — *m_t*: Lk 12.0 ph. — *Class*: Lk bbbba?; Tr. I 2p. — *e*: 0.51; 0.00. — π : Tr. 0^o.00021; Lk, Cr prel. 0.00012. — Faint and dubious object. Also Tr. seems to have found it so. Lk: Might possibly be a nebula.
289. NG 5822. — *D*: Mel. 40; Rb 40; Lk 38; Cr 30; Tr. 40. — *m_t*: Lk 7.0 ph. — *N*: 200±; Cr 150±. — *Class*: Lk, Cr bbbba; Tr. III 1m, 1–2, b–a. — *e*: 0.60; 0.00. — π : Tr. 0^o.00179; Lk, Cr prel. and final stand. 0.0017; Doig 0.0015. — Lk, Cr π from 4 B8–A3 Draper stars. Cr: Very loose but fairly well defined.
290. NGC 5823. — *D*: Lk 35'; Cr 40; Tr. 10. — *m_t*: Lk 7.8. — *N*: Lk 35; Cr 40. — *Class*: Lk baaba; Cr babba; Tr. III 2m. — *e*: 0.80; 0.74. — π : Tr. 0^o.00049; Lk, Cr prel. 0.00080. — Lk: Within extended vacant area. Rather-irregular. Cr; Many star-chains in this region. Granulated star-field.
291. NGC 5925. — *D*: Lk 60; Cr 60'; Tr. 20. — *m_t*: Lk 7.6 ph. — *N*: Lk 60; Cr 60. — *Class*: Lk bbbbb; Cr bbbbb; Tr. III 2m. — *e*: 0.00; 0.00. — π : Tr. 0^o.00098; Lk, Cr prel. 0.00110. — Lk: Stars form many pairs. Extended dark nebula at s. border. Cr: Traces of parallel arrangement in daily motions direction. Very like NGC 6823. Tr:s D is 1/3 of ours, but the π :s are identical. Our parallaxes from D and *m_t* agree very well.
292. 15^h42^m7^s–57°21'. — *D*: Innes 10'. — *Class*: Lk babba. *e*: Lk 0.00. — Innes: Loose cl. radius 10'. Lk: Condensation partly due to dark nebulae. Cr: Reality of object very doubtful on FAC.
293. NGC 5999. — *D*: Mel. 4; Rb 10; Lk 5; Cr 6; Tr. 6. — *m_t*: Lk 7.8 ph. — *Class*: Lk bbbba; Cr babba; Tr. I 2r. — *e*: 0.80; 0.66. — π : Tr. 0^o.00040; Lk, Cr prel. 0.00060. — Cr: Cf NGC 5925 and some ones prec. in this rich area. Rich region and poor region type.
294. NGC 6005. — *D*: Mel. 3'; Rb 4; Lk 3; Cr 3; Tr. 3.5. — *m_t*: Lk 9.0 ph. — *N*: Lk 10; Cr 10. — *Class*: Lk, Cr bbbbb; Tr. I 2m. — *e*: 0.00; 0.66. — π : Tr. 0^o.00026; Lk, Cr prel. 0.00040. Falls at one side of dark lane.
295. Identical with Tr. 23. — *D*: Lk 8'×3'; Tr. 5. — *m_t*: Lk 12.0 ph. — *N*: Lk 30. — *Class*: Lk aabbb; Tr. III 2p. — *e*: 0.36; 0.82. — π : Tr. 0^o.00032; Lk, Cr prel. 0.00025. — FAC 21 and UOC $-52^{\circ}64$. Lk: Good object. Cr: Possibly absorption-effect. Dark lanes n. f. and s. p.
296. NGC 6025. — *D*: B 12'; Mel. 10; Rb 19; Lk 15; Cr 15; Tr. 11. — *m_t*: Lk 5.5 ph. — *N*: B 25; G 130; Lk 30; Cr 25±. — *Class*: Lk, Cr bbaaa; Tr. II 3p, 1b. — *e*: 0.81; 0.74. — π : Rb 0^o.0025; Tr. 0.00098; Lk, Cr prel. and final stand. 0.00160; Doig 0.0022. — Rb has 6 and Tr. 5 Draper stars.
297. NGC 6031. — *D*: Lk 3.2; Tr. 2. — *m_t*: Lk 10.0 ph. — *N*: Lk 20. — *Class*: Lk babba; Tr. II 2p. — *e*: Lk 0.94. — π : Tr. 0^o.00017; Lk, Cr prel. 0.00023. — Not seen on Lund FAC. Lk: Good cl. of the very concentrated type, as, e. g., NGC 6620 and 4609, etc. Near dark lane.
298. NGC 6067. — *D*: h 20'; B 20; Mel. 15; Δ 12; Rb 15; Lk 16; Cr 15; Tr. 16. — *m_t*: U. A. 6.0; Lk 6.3 ph. — *N*: B 400; G 256; Lk 200; Cr 175. — *Class*: Lk baaba; Cr babba. — *e*: 0.46; 0.76. — π : Tr. 0^o.00106; Lk, Cr prel. 0.00125. — Lk: possibly a much smaller cl. following by about 1°.
299. Identical with Harv. 10. — *Class*: Lk bbaba? — *e*: 0.69; 0.74. — Includes foll. Draper stars:

Notes to the preceding Catalogue.

B37

16 ^h 9 ^m 9	-53°54'	10 ^m 9 A0
10 0	53 18	7 6 B3
10 0	52 50	8 7 A0
10 1	52 45	8 7 B5
10 1	53 55	10 9 K2
10 1	54 0	10 2 A2
10 3	54 24	8 8 A0
10 7	53 43	10 5 A2
10 9	53 45	10 6 A0
11 0	54 3	10 6 F0
11 3	54 3	9 4 K5

Cr: A fine Pleiades cl. The B-F stars give π : 0^m.00192. This should be a good value.

300. *NGC 6087*. — *D*: B 15'; Mel. 20; Rb 16; Lk 18; Cr 15; Tr. 18. — *m_f*: Stone 6.1; U. A. 5.8; Lk 6.4 ph. — *N*: B 15; Lk 33; Cr 15. — *Class*: Lk bbaab; bbaaa; Tr. II 3m, 1-2b. — *e*: 0.66; 0.69. — π : Rb 0^m.0014; Tr. 0.00115; Lk, Cr prel. and final stand. 0.00125; Doig 0.0016. — Contains Algol variable S Normæ (A. J. 491). Lk, Cr π from 12 HDC stars.

301. *NGC 6124*. — *D*: B 25'; Mel. 25; Rb 36; Lk 25; Cr 30; Tr. 25. — *m_f*: Lk 7.0 ph. — *N*: B 100; G 78; Lk 80; Cr 75. — *Class*: Lk, Cr aaabb; Tr. I 3r, 2b-a. — *e*: 0.54; 0.60. — π : Tr. 0^m.00161; Lk, Cr prel. and final stand. 0.00110; Doig 0.0015. — Cr: Within dark nebula. Lk: On the ridge between two or three dark markings. Very nice specimen. Lk, Cr π from 10 Draper stars given by Raab.

302. *Antares cl.* — *Class*: Lk bbabb. *e*: 0.74; 0.91. — Moving cl. Found independently on Bailey's small-scale photographs of the Milky Way, also on FAC 60. Antares as suggested by H. N. Russell (Publ. A. S. P. Vol. 33:206, 1921) may be a member of the cluster.

303. *NGC 6134*. — *D*: B 10'; Mel. 9; Rb 10; Lk 9.5; Cr 10; Tr. 8. — *m_f*: Lk 7.6 ph. — *N*: B 50; Lk 30; Cr 30. — *Class*: Lk, Cr babba; Tr. II 2r. — *e*: 0.00; 0.00. — π : Tr. 0^m.00049; Lk, Cr prel. 0.00080.

304. *NGC 6152*. — *D*: Lk 15'; Cr. 20. — *m_f*: Lk 7.0 ph. — *N*: Lk 60. — *Class*: Lk baaba; Tr. I 2m. — *e*: 0.00; 0.00. — π : Tr. 0^m.00145; Lk, Cr prel. 0.00166. — In dense star cloud. Contains HDC stars:

16 ^h 24 ^m 8	-52°36'	8.7 A0
23.6	19	9.1 B8
24.9	19	7.7 B5

This would give π : 0^m.00200 (not used).

305. *NGC 6167*. — *D*: Lk 18'; Tr. 14. — *m_f*: Lk 6.7; — *N*: Lk 100. — *Class*: Lk baaaa; Tr. I 3m. — *e*: 0.60; 0.60. — π : Tr. 0^m.00102; Lk, Cr prel. 0.00098. — A very large cl. or part of Milky Way cloud. Harv. 11, estimated by Cr 8'×5'; 9^m4; must be part of NGC 6167. Bright star s. not incl.

306. *NGC 6169*. — *D*: Lk 7'. — *m_f*: Lk 5.3 ph. — *Class*: Lk aaaaa. — *e*: 0.00. — π : Lk, Cr prel. 0.00115. — This cluster is difficult on FAP because it is partly hidden by the leading star μ -Normæ but it was recognized as a cluster by

John Herschel. The leading star, Boss 4208, is classified as B0p but may be O-star. The proper motion $\mu_{\alpha} = +0^m.0011$ $\mu_{\delta} = -0^m.009$ suggest a very small π and hence a high luminosity. This cluster should be photographed with a large scale instrument.

307. 16^h27^m6-50°45'. — *D*: Lk 9'×3'. — *m_f*: Lk 10.0 ph. — *N*: Lk 30. — *Class*: Lk bbabb. — *e*: 0.80; 0.87. — π : Lk, Cr prel. 0^m.00023. — Lk: Isolated cl. in dark nebula. Cr: Doubtful if not a contrast phenomenon.

308. *NGC 6178*. — *Class*: Lk baaaa. — *e*: 0.92; 0.92. — Draper stars in cl.: -45°10768 8.5 B5; -45°10769 8.5 B5; -45°10771 10.0 A0; -45°10775 10.2 A0 give π :0.00142 which should be a good value. Not on FAC, but on UOC 84.

309. *NGC 6192*. — *D*: B 10'; Mel. 7; Rb 18; Lk 8; Cr 10; Tr. 7. — *m_f*: Lk 7.8 ph. — *N*: B 50; Lk 35; Cr 40. — *Class*: Lk, Cr babba; Tr. I 3m. — *e*: 0.00; 0.00. — π : Tr. 0^m.00051; Lk, Cr prel. 0.00072.

310. *NGC 6193*. — *D*: Lk 16'. — *Class*: Lk baaaa. — *m_f*: Lk 5.0 ph. — Contains Draper stars:

16 ^h 33 ^m 8	-48°51'	10.3 A3
33 9		7.12
34		0e5
33 9		5.59
33 3	33	7.28 B3
32 1	39	9.2 B8

which gives π :0^m.00175. A good value. Nebulosity noted by h; possibly also on FAC. Density of stars in cl. as compared with surroundings = 100:71.

311. *NGC 6200*. *D*: Harv. 10'. *Class*: Lk baaba. — *e*: 0.91; 0.80. — π : Lk, Cr prel. 0^m.00055. — Harv. 72: Milky Way, coCl. of few B st d 10'. Lk: May be nucleus in Milky Way cloud.

312. *NGC 6204*. *D*: Lk 8'; Tr. 6. — *m_f*: Lk 7.6 ph. — *N*: Lk 20. — *Class*: Lk bbbba; Tr. II 2m. — *e*: 0.00; 0.00. — π : Tr. 0^m.00040; Lk, Cr prel. 0^m.00067. — NGC: Cl., p Ri, eiCM at 11.. 12. In G. C. pl. 6 fig. 6.

313. *NGC 6208*. — *D*: Lk 12'; Cr 15. — *m_f*: Lk 7.5 ph. — *N*: Lk 35; Cr 40. — *Class*: Lk, Cr bbbba; Tr. IV 2mU. — *e*: 0.74; 0.74. — π : Tr. 0^m.00056; Lk, Cr prel. 0.00085. — Cr: A pretty fine cl. of irregular shape.

314. *NGC 6222 (6216)*. Mel. 152. — *D*: Mel. 3'; Lk 3.5; Cr 3.5; Tr. 3.8. — *m_f*: Lk 9.8 ph. — *N*: Lk 12; Cr 10. — *Class*: Lk, Cr bbbba; Tr. II 2m. — *e*: 0.00; 0.51. — π : Tr. 0^m.00025; Lk, Cr prel. 0.00037. — NGC 6216: 16^h39^m20^s -44°28'3 (1850) Cl, pS, pRi, pC, st 12... 15. NGC 6222: 16^h40^m41^s -44°28.6 (1850) Cl., vL, vRi lbM, st 12... 13. The cl. observed on FAC is about midway between these two positions. No other observer than h has noted both clusters. Thus it probably is one and the same.

315. *NGC 6231*. — *D*: B 15'(!); Mel. 120; Lk 120; Cr 100; Tr. 16. — *m_f*: UA 5.5 Behrmann 6.0; Houz. 4.4; Gore 4.5. — *N*: B 150; G 95; — *Class*: Lk baaab; Cr bbaba; I 3r, 1o. — *e*: 0.58; 0.58. — π : Tr. 0^m.00102; Lk, Cr prel. 0.00180 (uncertain); Doig 0.0017. — Dark and bright nebulae in cl. Probably NGC 6227 is part of the larger cl. Behrmann (24a); Gore (133).

316. $16^{\text{h}}48^{\text{m}}-40^{\circ}40'$. — *Class*: Lk bbaba. — e : 0.92; 0.87. — Lk: Cl. of bright star superposed on cl. of moderately bright stars and neb. cl.
317. NGC 6242. — *D*: B 10'; Mel. 10; Lk 12; Cr 15; Tr. 11. — m_f : UA 7.0; Lk 6.8 ph. — *N*: B 50; G 73; Lk 50; Cr 60. — *Class*: Lk, Cr baaba; Tr. I 3m, 1–2b. — e : 0.77; 0.60. — π : Tr. $0^{\circ}00078$. Lk, Cr prel. 0.00110. —
318. Tr. 24. Harv. 12. — *D*: Tr. 60'; Sh. 40. — *N*: Sh. 200. — *Class*: Lk bbabb; Tr. IV 3m, N, 10. — e : 0.87; 0.56. π : Tr. $0^{\circ}00172$. — Nebulous cl. Contains Draper stars: $-40^{\circ}10964$ 8.0 B5; $-40^{\circ}10961$ 7.3 B3; $-40^{\circ}10975$ 6.9 B0; $-40^{\circ}10986$ 6.7 B3; $-40^{\circ}10990$ 8.0 B5; $-40^{\circ}11009$ 10.7 G5; $-40^{\circ}11011$ 10.1 B8. — This cl. lies within s. part of Nr. 314.
319. NGC 6249. — *D*: B 10'; Lk 8; Cr 8; Tr. 7. — m_f : Lk 7.8 ph. — *N*: Lk 30; Cr 15. — *Class*: Lk, Cr baaaa; Tr. II 2p. — e : 0.74; 0.51. — π : Tr. $0^{\circ}00056$; Lk, Cr prel. 0.00075 . — Bailey: Coarse cl. of a dozen pB st and many F.
320. NGC 6250. — B 15'; Lk 16; Cr 15. — m_f : Lk 6.9 ph. — *N*: Lk 20; Cr 50. — *Class*: Lk babab; Cr babb. — e : 0.75; 0.85. — π : Lk, Cr prel. $0^{\circ}00110$. — Incl. Draper stars: $-45^{\circ}11099$ 9.5 K0; $-45^{\circ}11082$ 9.1 B8; $-45^{\circ}11081$ 9.7 A0. The two later would give π : $0^{\circ}00138$. Described by h: Cl., L, IRI, IC, st 8...12. — Doubtful as a cl.
321. NGC 6253. — *D*: Rb 6'; Mel. 6; Lk 5; Cr 6; Tr. 5. — m_f : Lk 8.0 ph. — *N*: Lk 20; Cr 20. — *Class*: Lk bbbba; Cr babba; Tr. I 2m. — e : 0.00; 0.56. — π : Tr. $0^{\circ}00036$; Lk, Cr prel. 0.00055.
322. NGC 6259. — *D*: B 15'; Mel. 15; Rb 26; Lk 13; Cr 15; Tr. 16. — m_f : Lk 7.1 ph. — *N*: B 100; Lk 80; Cr 100. — *Class*: Lk, Cr babba; Tr. IV 2r. — e : 0.71; 0.62. — π : Tr. $0^{\circ}00041$; Lk, Cr prel. 0.00055. — Lk: Very irregular in structure.
323. NGC 6268. — *D*: Lk 6'; Cr 8; Tr. 7. — m_f : Lk 7.5 ph. — *N*: Lk 20; Cr 40. — *Class*: Lk, Cr baaba; Tr. II 2p. — e : 0.73; 0.51. — π : Tr. $0^{\circ}00056$; Lk, Cr prel. 0.00055. — Irregular form.
324. NGC 6281. — *D*: B 10'; Mel. 9; Rb 23; Lk 10; Cr 10; Tr. 9. — m_f : Lk 7.2 ph. — *N*: Lk 30; Cr 30. — *Class*: Lk bbaba; Cr bbabb; Tr. II 2p. — e : 0.71; 0.66. — π : Tr. $0^{\circ}00077$; Lk, Cr prel. 0.00095. — Lk: Irregular, rhombic.
325. NGC 6318. — *D*: Mel. 5'; Lk 4; Cr 5; Tr. 5. — m_f : Lk 9.8 ph. — *N*: Lk 10; Cr 15. — *Class*: Lk, Cr bbbba; Tr. II 2m. — e : 0.74; 0.80. — π : Tr. $0^{\circ}00033$; Lk, Cr prel. 0.00040.
326. NGC 6322. — *D*: Lk 8'; Tr. 9. — m_f : Lk 5.0 ph. — *N*: Lk 10. — *Class*: Lk bbaaa; Tr. II 3p, 1b. — e : 0.00; 0.56. — π : Tr. $0^{\circ}00081$; Lk, Cr stand. 0.00091. — Draper stars: $-42^{\circ}12006$ 7.3 A2; $-42^{\circ}12011$ 9.0 B0; $-42^{\circ}12012$ 7.6 B3; $-42^{\circ}12015$ 9.0 B5; $-42^{\circ}12018$ 7.4 B5. If these 5 stars, which cannot very well be at the same distance, are rejected, there will not be much left of the cl., only 5–7 faint stars on FAC. It has however been retained on the authority of Sir John Herschel (NGC: Cl., vL, pRi, IC) and Lk, who has seen it well on FAP.
327. IC 4651. — *D*: Mel. 14'; Rb 24; Lk 13; Cr 15; Tr. 14; — m_f : Lk 6.8 ph. — *N*: Lk 90; Cr 80. — *Class*: Lk, Cr babba; Tr. II 2r. — e : 0.53; 0.60. — π : Tr. $0^{\circ}00085$; Lk, Cr prel. $0^{\circ}00110$. — On FAP a small dense group of faint stars in centre. If there were not so many channels, the class should be Præs.+++.
328. NGC 6352. — m_f : Nab. [8.6]. — *Class*: Lk aabba. — Lk: Shoulder effect or condensation in star field. Cr: On FAC only a bright star with some nebulosity around it. FAP seems to favour its cluster character.
329. Tr. 25. — *D*: Tr. 5'. — *Class*: Lk bbbba. Tr. I 2p. — e : 0.00; 0.48. — π : Tr. $0^{\circ}00050$. — Not a very good object on FAP; may be a cl., but not well defined.
330. NGC 6355. — *Class*: Lk aabbb. — e : 0.64; 0.00. — π : Lk, Cr prel. $0^{\circ}00020$. — Triangular or crescent-shaped core, elong. 15° , surrounded by a blur, elong. 120° . On FAC and M. W. pl $10''$, exp. 4^{h} by Lk.
331. Tr. 26. — *D*: Lk 10'; Cr 6; Tr. 7.5. — *N*: Lk 20; Cr 15. — *Class*: Lk, Cr bbbba; Tr. II 2p. — e : 0.79; 0.79. — π : Tr. $0^{\circ}00064$; Lk, Cr prel. 0.00068. — On FAC 61; BAP 18 and Lick XI, 45. Cr: Concentration in cloud.
332. $17^{\text{h}}24^{\text{m}}-37^{\circ}0'$. — *Class*: Lk bbbbb. — e : 0.92; 0.88.
333. $17^{\text{h}}24^{\text{m}}-34^{\circ}0'$. — *Class*: Lk bbbab. — e : 0.00; 0.00. — Rather poor object on FAC, but good on Johannesburg chart.
334. NGC 6374. — *D*: Lk 3'. — *Class*: Lk ?. — π : Lk, Cr $0^{\circ}00018$. — Lk: A bright star involved. Doubtful object.
335. NGC 6383. — *D*: Lk 16'; Cr 18; Tr. 5.5. — m_f : Lk 5.6 ph. — *N*: Lk 25; Cr 40. — *Class*: Lk, Cr bbaaa; Tr. II 3p. — e : 0.00; 0.00. — π : Tr. $0^{\circ}00047$; Lk, Cr prel. 0.00160 (uncertain). — Includes bright star $5^{\text{m}}71$ Oe5. Preceding is a star chain with 3 bright stars near cl.
336. Tr. 27. — *D*: Tr. 8'. — *Class*: Lk babaa; Tr. I 2p. — e : 0.66; 0.71. — π : Tr. $0^{\circ}00078$. — Bright star preceding incl.
337. Identical with Tr. 28. — *D*: Lk 5'; Cr 8. — m_f : Lk 7.2 ph. — *N*: Lk 20; Cr 20. — *Class*: Lk, Cr babba. — e : 0.89; 0.66. — π : Tr. $0^{\circ}00064$; Lk, Cr prel. 0.00080. — Lk: Small, rather distinct cl.
338. $17^{\text{h}}31^{\text{m}}-37^{\circ}30'$. — *Class*: Lk baaab. — e : 0.00; 0.00.
339. NGC 6396. — *D*: h 5'; Lk 3; Tr. 4. — *N*: Lk 10. — *Class*: Lk bbabb; Tr. I 2p. — e : 0.00; 0.74. — π : Tr. $0^{\circ}00039$; Lk, Cr prel. 0.00034. — Somewhat indefinite object.
340. NGC 6404. — *D*: Tr. 5'. — *Class*: Lk bbbbb; Tr. II 3m. — e : 0.00; 0.00. — π : Tr. $0^{\circ}00033$.
341. NGC 6405. — *D*: B 30'; Mel. 25; Messier 15; Hol. > 10 ; Rb 44; Lk 23; Cr 30; Tr. 26. — m_f : Nab. 5.8; UA 5.5; Hol. 5.5; Houz. 5.3; Nab. 5.1; Lk 5.0; Lk 4.9 ph. — *N*: B 50; G 160; Lk 50; Cr 70. — *Class*: Lk, Cr bbabb. — e : 0.60; 0.60. — π : Rb $0^{\circ}0037$; Tr. 0.00192; Lk, Cr prel. and final stand.

0.00170; Doig 0.002. — Millosevich (326) has given positions for 18 stars in the cl. There are positions also in Yarnall and Gould, Argentine catalogues.

342. *NGC 6400*. — *D*: Mel. 6'; Rb 7; Lk 8.5; Cr 8; Tr. 7.5. — *m_f*: Lk 7.2 ph. — *N*: Lk 36; Cr 25. — *Class*: Lk bbaba; Cr babba; Tr. I 2p. — *e*: 0.80; 0.71. — *π*: Tr. 0°00073; Lk, Cr prel. 0.00080. — Cr: Scattered and irregular.

343. Identical with Tr. 29. — *D*: Lk 14'; Cr 12; Tr. 14. — *m_f*: Lk 6.6 ph. — *N*: Lk 25; Cr 20. — *Class*: Lk, Cr bbbba; Tr. II 2p. — *e*: 0.60; 0.00. — *π*: Tr. 0°00120; Lk, Cr prel. 0.00110. — A rather distinct cl. Some bright stars incl.

344. *NGC 6416*. — *D*: Lk 20'; Tr. 22. — *m_f*: Lk 6.8 ph. — *Class*: Lk baaab; Tr. III 2p, 2a. — *e*: 0.00; 0.00. — *π*: Tr. 0°00137; Lk, Cr prel. 0.00090. — Somewhat doubtful object.

345. $17^{\text{h}}38^{\text{m}}0 - 33^{\circ}42'$. — *Class*: Lk bbbba. — *e*: 0.71; 0.60. — Not on FAC 62, but on BAP 24.

346. *NGC 6426*. — *D*: Lk 30'; Cr 25. — *m_f*: Nab. 8.9; Lk 8.2 ph; Nab. [12.9]? — *N*: Lk 30; Cr 25. — *Class*: Lk, Cr bbbbb. — *e*: 0.44; 0.66. — A very good specimen not previously recorded. Pretty good on WPC 132.

347. $17^{\text{h}}40^{\text{m}} - 29^{\circ}15'$. — *Class*: Lk aaaba. — *e*: 0.80; 0.80. — Pretty good. Lk and Cr values agree very well throughout.

348. *NGC 6425*. — *D*: Lk 12'; Cr 10; Tr. 10. — *m_f*: Nab. 8.9; Lk 8.2 ph; Nab. 9.2. — *N*: Lk 30; Cr 25. — *Class*: Lk, Cr bbbbb; Tr. II 1p. — *e*: 0.00; 0.56. — *π*: Tr. 0°00085; Lk, Cr 0.00065. — Lies within dark marking Lk 33.

349. *IC 4665*. — *D*: Lk 42'; Cr 40; Tr. 50. — *m_f*: Lk 5.0 ph. — *N*: Lk 30; Cr 25. — *Class*: Lk, Cr bbaaa; Tr. II 2p, 1—2b. — *e*: 0.57; 0.74. — *π*: Tr. 0°00357; Lk, Cr prel. and final stand. 0.00360; Doig 0.0022. — The Lk, Cr *π* is obtained from 17 Draper stars. Vogt (513) has measured accurate magnitudes of 60 stars in this cl. A very good object.

350. $17^{\text{h}}43^{\text{m}} + 1^{\circ}20'$. — *Class*: Lk baabb. — *e*: 0.80; 0.80. — Dark nebulae n of cl.

351. $17^{\text{h}}43^{\text{m}} + 28^{\circ}42'$. — *Class*: Lk bbaaa. — *e*: 0.00; 0.82. — Concentration in star-cloud.

352. *NGC 6451*. — *D*: Mel. 6'; Rb 5; Lk 7; Cr 6; Tr. 6. — *m_f*: Nab. 7.7; Lk 7.4 ph; Nab. 7.8. — *N*: Lk 25; Cr 30. — *Class*: Lk babba; Cr bbbba; Tr. II 2m. — *e*: 0.80; 0.00. — *π*: Tr. 0°00040; Lk, Cr prel. 0.00070. — Lk: Irregular. — In Sagittarius star cloud.

353. *NGC 6469*. — *D*: Mel. 12'; Rb 24; Lk 11; Cr 10; Tr. 15. — *m_f*: Lk 7.7 ph. — *N*: Lk 35; Cr 20. — *Class*: Lk, Cr babbb; Tr. IV 2m. — *e*: 0.66; 0.00. — *π*: Tr. 0°00042; Lk, Cr prel. 0.00090. — Lk: A Præs. cl. superposed on a Plei. cl. Dark nebulae around.

354. *NGC 6475*. — *D*: B 50'; Mel. 60; Hol. > 30; Lk 70; Cr 50; Tr. 50. — *m_f*: Hol. 5.0; UA 4.0; Houz. 5.0; Harv. 4.3; Lk 4.7; Lk 3.8 ph; Nab. 5.4. — *N*: B 25; G 130; Lk 50; Cr 50. — *Class*: Lk bbaaa; Cr bbaaa; Tr. I 3m, 1b. — *e*: 0.00; 0.00. — *π*: Tr. 0°00392; Lk, Cr prel. and final stand. 0.0039; Rb 0.0044; Doig 0.0024.

355. Identical with Tr. 30. — *D*: Lk 8'; Cr 10; Tr. 15. — *m_f*: Lk 8.2 ph. — *N*: Lk 30; Cr 30. — *Class*: Lk, Cr bbbba; Tr. IV 3m. — *e*: 0.74; 0.60. — *π*: Tr. 0°00042; Lk, Cr prel. 0.00066.

356. *NGC 6494*. — *D*: B 30'; Mel. 25; Rb 47; Rh 33×20; Lk 29; Cr 25; Tr. 27. — *m_f*: Hol. 7±; Nab. 7.0; Lk 7.2; Lk 5.7 ph; Nab. 6.69±0.03. — *N*: B 100; Lk 100; Cr 70. — *Class*: Lk, Cr baabb; Tr. I 2r, 2a. — *e*: 0.77; 0.48. — *π*: Rb 0°0025; Tr. 0.00132; Lk, Cr prel. and final stand. 0.00150; Doig 0.0016. — Seems to be projected on dark lane.

357. *Tr. 31*. — *D*: Tr. 4'; — *Class*: Lk babaa; Tr. II 2m. — *e*: 0.60; 0.74. — *π*: Tr. 0°00030.

358. *NGC 6507*. — *D*: Rh 10'×5'; Lk 10×5. — *m_f*: Lk 9.6 ph. — *Class*: Lk bbbba. — *e*: 0.83; 0.74. — On FAC two n-s parallel chains of relatively bright stars.

359. $17^{\text{h}}56^{\text{m}} + 2^{\circ}55'$. — *D*: Lk 240'. — *Class*: Lk bbaba. — *e*: 0.80; 0.83. — Contains the following stars:

BD+1°3560 18^h4^m6 +3°58' 6.01 F2; $\mu_{\alpha} + 0^{\circ}0025$; $\mu_{\delta} - 0^{\circ}012$; BD-5°3704 18^h16^m5 +5°24' 6.04 B5; BD+2°3458 17^h55.6 +2°56' 3.80 B5p +0°0001 -0°014; BD+3°3557 17^h55^m6 +3°12' 9.1 B8; BD+4°3570 17^h55^m3 +4°23' 4.64 B3 -0°0005 -0°017; BD+5°3568 17^h55^m3 +5°33' 8.9 A0; BD+2°3448 17^h54^m5 +2°32' 9.1 A2; BD+2°3447 17^h54^m5 +2°21' 8.9 A0; BD+6°3597 17^h56^m0 +6°16' 6.01 B3; BD+1°3560 17^h56^m7 +1°19' 4.44 A2 +0°0005 -0°025; BD+1°3778 17^h59^m6 +1°55' 6.09 B3; BD+2°3427 17^h50^m6 +2°6' 7.73 A3; BD+2°3403 17^h42^m9 +2°45' 3.74 A0 -0°0018 -0°079.

— The early B-stars would give $\pi:0^{\circ}00480$ and the fainter B8—A2 stars $\pi:0.00220$; which gives the mean $\pi:0.00350$. — Probably a moving cluster. Seen on FAP and FAC 110 and Lick XIII:53.

360. *NGC 6514*. — In Trifid nebula. — *Class*: Lk bbaab. — *e*: 0.56; 0.60. — There may be a third cl. connecting the Trifid neb. and NGC 6531.

361. *NGC 6520*. — *D*: Mel. 5'; Rb 6; Lk 6; Cr 6; Tr. 4.5. — *m_f*: Lk 7.8 ph. — *N*: Lk 60; Cr 40. — *Class*: Lk, Cr bbaba; Tr. II 3m. — *e*: 0.00; 0.71. — *π*: Tr. 0°00030; Lk, Cr prel. 0.00028. — Lies in the brilliant upper part of the Scutum cloud and near (or in) Barnard's very sharp dark marking Nr. 86, for which Lk (292) has obtained $\pi:0^{\circ}0008$. Star counts by Cr on Duncan's plate (70) gave the following relative stardensities:

	In cl.	In dark neb.	In surr. cloud.
Brighter stars	7.2	3.8	4.2
Fainter stars	6.8	5.6	16

As there are thus twice as many brighter stars in cl. than in surroundings, and thrice as many fainter stars in cloud than in dark area and cluster, the probable explanation might be that the cluster lies projected against the dark nebula, which partially extinguishes the faint stars in the cloud.

362. *NGC 6530*. — *D*: Tr. 14'. — *m_f*: Nab. 6.5. — *Class*: Lk bbbbb; Tr. II 2mN, 1o. — *e*: 0.00; 0.00. — *π*: Tr. 0°00092. — On FAP 62 and MW 10^o pl. by Lk. Not identified on

FAC. Is a good example how the FAC copy may deteriorate a good cluster of the denser type.

363. *NGC 6531*. — *D*: B 15'; Mel. 10; Rb 20; Lk 12; Cr 10; Tr. 12. — *m_t*: Nab. 6.49±0.05; Hol. 6.7; Nab. 6.7; V-V 6.5; Lk 7.1; Lk 6.8 ph. — *N*: B 25; Lk 30; Cr 40. — *Class*: Lk, Cr baaaa; Tr. 13p, 1b. — *e*: 0.00; 0.44. — *π*: Rb 0^o.0014; Tr. 0^o.00102; Lk, Cr prel. and final stand. 0.00070; Doig 0.001.

364. *NGC 6540*. — *D*: Lk 0^o.45. — *m_t*: Lk 16.5 ph. — *N*: Lk 25. — *Class*: Lk, Cr babba. — *e*: 0.00; 0.00. — *π*: Lk, Cr 0^o.00006 (preliminary). — *NGC*: pF, S, iE. er, or Cl. — *W. Herschel*: F. cL, iF, 6 or 7 st+neb. — On Lk, MW 100" pl. exp. 1^h. Cr finds centre undissolved, elliptical. Cf. the description "nebulous" given by Sir W. Herschel. — Lies very near in the same direction as the centre of the globular cluster system. It is remarkable that even this object, which lies at the limit of our present instrumental resources, was observed visually by Sir William Herschel and others.

365. *NGC 6546*. — *D*: Lk 12'; Cr 10. — *m_t*: Nab. 7.8; Lk 7.3 ph. *Class*: Lk, Cr bbbba; Tr. IV 3r. — *e*: 0.85; 0.53. — *π*: Tr. 0^o.00033; Lk, Cr prel. 0.00085.

366. *NGC 6544*. — *D*: Helw. 5'; Lk 3. — *m_t*: Lk 9.0 ph. — *Class*: Lk aabba. — *e*: 0.00; 0.80; — *π*: Lk, Cr prel. 0^o.00035. — Seems to be a glob. cl. or anagalactic nebula. Mentioned as cl. by Barnard (BAP 30). Included in Shapley's list of open clusters.

367. 18^h3^m5 — 24°0'. Neb. group foll. Messier 8. — *D*: Lk 25'. — *m_t*: Lk 6.8 ph. — *Class*: Lk bbaba. — *e*: 0.87; 0.90. — A cluster of B and a few A stars. The B-stars, with foll. spectra and magnitudes: B3 9.55; B1 7.20; B5 9.64; B5 9.64 B3 8.56; B5 7.36; B5 8.46; B3 10.10; give *π*: 0^o.00105. — Barnard finds a diffuse nebulous band connecting this cl. and Messier 8. This is seen on BAP 29 and, faintly, on FAC 62. Photo., Lick XIII:52.

368. *NGC 6558*. — A very difficult object seen on Lundmarks plates of the Sagittarius region secured with the 10" MW instrument. Is rather concentrated but is probably an open cluster. Observations in second line in Cat. by Bernheimer.

369. *NGC 6568*. — *D*: Tr. 15'. — *Class*: Lk bbaaa. Tr. III 1m. — *e*: 0.69; 0.64. — *π*: Tr. 0^o.00074.

370. *NGC: 6583*. — *D*: Tr. 3'.8. — *m_t*: Nab. 8.5. — *Class*: Lk aabbb; Tr. I 2m. — *e*: 0.00; 0.67. — *π*: Tr. 0^o.00028. — On FAP 62, FAC 62, BAP 29, and MW 10" pl. by Lk.

371. *NGC 6595 = NGC 6590* (according to handwritten note by Dreyer in his copy of *NGC*, now in the library of Lk). — *Class*: Lk bbaab. — *e*: 0.88; 0.83.

372. *Tr. 32*. — *D*: Tr. 5'.5. — *Class*: Lk bbbbb; Tr. I 2p. — *e*: 0.00; 0.66. — *π*: Tr. 0^o.00053. — Very doubtful on FAC 62; good on BAP 34.

373. *NGC 6604*. — *D*: Rh 20'; Lk 40. — *m_t*: Nab. 6.8; UA 6.5; Houz. 6.1; Hol. 6.7; Lk 6.2 ph; V-V 8.5(?). — *N*: Lk 60.

Class: Lk bbbba. — *e*: 0.00; 0.56. — *π*: Tr. 0^o.00027; Lk, Cr prel. 0.00150. Uncertain. There is a big discrepancy in the *π*:s. Our final one agrees with Tr. — On FAP 86, BAP 34.

374. *NGC 6603*. — *D*: B 5'; Mel. 4; Rb 5; Rh 5; Lk 4.5; Cr 4; Tr. 4.5. — *m_t*: Nab. 5.8; Hol. 4.7; BD 5.3; UA 5.6; Lk 8.8 ph; Nab. 5.8. — *N*: B 25. — *Class*: Lk aabba; Cr bbbba; Tr. I 2r. — *e*: 0.69; 0.60. — *π*: Tr. 0^o.00030; Lk, Cr prel. 0.00040. — The older *m_t* values must include also parts of the Milky Way cloud. Dark nebula close south of cl. Not quite dissolved on FAC 86; BAP 32, or MW 10" pl. by Lk. Almost nebulous.

375. *NGC 6611*. — *D*: B 15'; Mel. 25; Rh 20; Lk 20; Cr 18; Tr. 8. — *m_t*: Hol. 6.7; UA 6.7; Nab. 5.9; Lk 7.0; Rh 6.0; Nab. (6.66)±0.23; Lk 5.8 ph. — *N*: G 128; Lk 30; Cr 25. — *Class*: Lk bbaab; Tr. II 3mN, 1o. — *e*: 0.00; 0.53. — *π*: Tr. 0^o.00049; Lk, Cr prel. stand. 0.00040, final 0.00028. — Possibly two clusters (n. and s.) with nebosity between. The following HDC stars:

18 ^h 13 ^m 2	-13°51'	9.4 B
13.4	-14 2	8.3 B0
13.5	-14 12	10.1 B0
12.9	-13 50	8.5 } B0
		8.5 }

have been used for Lk, Cr stand. *π*.

376. *NGC 6613*. — *D*: Tr. 7. — *m_t*: Nab. 7.1. — *Class*: Lk bbaab; Tr. II 3p, 1b. — *e*: 0.00; 0.48. — *π*: Tr. 0^o.00056. — A few stars foll. may possibly belong to cl.

377. 18^h15^m0 - 16°13'. — *Class*: Lk bbaaa. — *e*: 0.60; 0.85.

378. *Tr. 33*. 18^h18^m8 - 19°44'. — *D*: Tr. 5'.5. — *Class*: Lk baaab; Tr. I 3p. — *e*: 0.00; 0.74. — *π*: Tr. 0^o.00053.

379. *NGC 6631*. — *D*: Tr. 4.5. — *Class*: Lk babbb; Tr. I 2p. — *e*: 0.00; 0.80. — *π*: Tr. 0^o.00044.

380. *NGC 6633*. — *D*: B 30'; Mel. 20; Rb 34; Rh 30×16; Lk 20; Cr 25; Tr. 25. — *m_t*: Nab. 5.7; UA 6.5; Hol. 5.0; Nab. 5.8; (Rb) 5.5; Lk 6.2 ph. — *N*: B 25; Cr 30. — *Class*: Lk, Cr bbaba; Tr. I 2pE, 1-2b-a. — *e*: 0.82; 0.74. — *π*: Lk, Cr 0^o.0014 (from long per. var.); 0.0013 (spectra); 0.0016 (spectral-proper-motion method); final stand. 0.0014; Doig 0.0020. — This cl. includes long-period variable T Serpentarii, *m_{max}*=9.4; *m_{min}*=14.0. Graff and Kruse (141) and Vogt have det. magnitudes of stars in this cl. Brown (46) has measured accurate pos. Luyten (304) has determined proper motions of stars in and near the cluster. The bright members give an average motion of +0^o.00019 - 0^o.0012, or a total *μ* of 0^o.0031.

381. *NGC 6642*. — *D*: Lk 0'.8×0'.8; Cr 0.8×0.8. *m_t*: Lk 10.5 (3); Cr 10.1 (3). — *N*: ? undissolved. — *Class*: Lk Glob. ? — *e*: 0.00; 0.00. — *π*: Lk, Cr prel. 0^o.00005. — Observed by W. and J. Herschel: glob. cl., pB, pL, iR, gpmbM, rrr, st 16. — To judge from Lk:s and Cr:s observations this should be a globular cl., as also the Herschels have classed it. Should be taken with a large instrument.

382. *IC 4725*. — *D*: Mel. 40'; Rb 62; Lk 36; Cr 30; Tr. 35. — *m_r*: Lk 5.3; Lk 5.2 ph. — *N*: Lk 60; Cr 70. — *Class*: Lk bbaba; Tr. IV 3p, 2b. — *e*: 0.51; 0.56. — *π*: Sh. 0°0013; Tr. 0.00102; Lk, Cr prel. and final stand. 0.0018. — This cl. includes a Cepheid, U Sagittarii the parallax of which from the period-luminosity law is 0.0013. The Lk, Cr *π* above is derived from Draper stars in the cl. Two bands of pr. br. stars with a dark channel between in centre.

383. *NGC 6645*. — *D*: B 15'; Mel. 10; Rb 18; Rh 14; Lk 12; Cr 12; Tr. 13. — *m_r*: Nab. < 8.7; Lk 7.2 ph. — *N*: Lk 60; Cr 70. — *Class*: Lk, Cr babba; Tr. I 2r, 2a. — *e*: 0.56; 0.56. — *π*: Tr. 0°00081; Lk, Cr prel. 0.00095. — Lies on or at end of dark rift.

384. *NGC 6649*. — *D*: Mel. 8'–15'; Rb 8; Rh 9; Lk 7; Cr 6; Tr. 7.5. — *m_r*: Nab. 8.4; V-V 8.8; Lk 9.6 ph. — *N*: Lk 20; Cr 30. — *Class*: Lk, Cr baabb; Tr. I 2m. — *e*: 0.00; 0.56. — *π*: Tr. 0°00055; Lk, Cr prel. 0.00045. — In vacant area.

385. *NGC 6664*. — *D*: Hol. 10'; Mel. 18; Rb 22; Rh 20×18; Lk 15; Cr 18; Tr. 20. — *m_r*: Nab. 7.6; Hol. 8.8; Nab. 7.3; V-V 8.3; Lk 8.8 ph. — *N*: Lk 32; Cr 25. — *Class*: — Lk, Cr bbabb; Tr. IV 2m. — *e*: 0.56; 0.60. — *π*: Tr. 0°00056; Lk, Cr prel. 0.00062. — Situated in comparatively poor region. Dark lane s of cl.

386. *IC 4756*. — *D*: Mel. 45'; Rb 77; Lk 40; Cr 50; Tr. 50. *m_r*: (Rb) 4.1; Lk 4.7 ph. — *N*: Lk 80; Cr 65. — *Class*: Lk, Cr bbbba; Tr. III 1m, 2a. — *e*: 0.00; 0.66. — *π*: Tr. 0°00247; Lk, Cr prel. 0.0016; Doig 0.0025. — Bannister (14), has determined accurate positions and Graff and Kruse (141) magnitudes and colours in this cl. The Lk, Cr *π* above was derived from Draper stars and Graff's magn. and col.

387. *Tr. 34*. *D*: Tr. 10'; — *Class*: Lk babbb; Tr. II 2p. — *e*: 0.00; 0.79. — *π*: Tr. 0°00085. — Somewhat dubious object. On BAP 35, WPC 135.

388. *Tr. 35*. — *D*: Tr. 5'. — *Class*: Lk babab; Tr. II 2m. — *e*: 0.00; 0.56. — *π*: Tr. 0°00033. — Not seen on FAC 111, but good on BAP 36 And WPC 135.

389. *NGC 6694*. — *D*: B 6'; Mel. 9; Rb 15; Rh 7; Hol. 2 (?); Lk 5; Cr 5; Tr. 9. — *m_r*: Nab. (7.70)±0.19; Hol. 9.0; Nab. 8.6; V-V 7.6; Lk 8.4 ph. *N*: B 25; Lk 15; Cr 20. — *Class*: Lk, Cr baaba; Tr. II 2m, 1–2b–a. — *e*: 0.00; 0.00. — *π*: Tr. 0°00062; Lk, Cr prel. 0.00060. — Arrowhead-formed vacant area in n. side of cl. On FAC 87, WPC 135.

390. *NGC 6704*. — *D*: Tr. 5'; Bernh. 9.32. — *m_r*: Nab. 9.3. — *Class*: Lk baaab; Tr. I 2p. — *e*: 0.74; 0.74. — *π*: Tr. 0°00049. — In dark neb. Fine spiral arm.

391. *NGC 6705*. — *D*: Mel. 10'; Curtis 6; Rh 11; Lk 10; Cr 10; Tr. 12.5. *m_r*: Nab. 6.26±0.07; UA 7.0; Hol. 6.8; Nab. 6; Kr 7; V-V 6.1; Lk 5.6 ph; Bernh. 6.82. — *N*: Tr. 480 (*m* < 15.5); Lk 200; Cr 150. — *Class*: Lk, Cr aaaba; Tr. II 2r, 2b–a. — *e*: 0.00; 0.56. — *π*: Doig 0°0001 to 0.0004; Lindblad 0.00040 (271); Lk, Cr prel. 0.0006; Sh. 0.00017; Tr. 0.00075. — Barnard (20) has observed two long period variables, in this cl.:

$$18^{\text{h}}45^{\text{m}}47^{\text{s}}.58 - 6^{\circ}15'22''.2 \text{ m}_{\text{max}} = 14.$$

$$18 \ 45 \ 38.27 - 6 \ 19 \ 47.7 \text{ m}_{\text{max}} = 13.5$$

According to Lk, Adams has observed the brightest star (8^m) for radial velocity. Value unpublished. Lindblad regards the cl. as related to Scutum cloud. Lk: Possibly projected against dark nebula. Spiral arrangement.

392. *NGC 6709*. — *D*: Mel. 12'; Rb 22; Rh 15; Lk 12; Cr 12; Tr. 12. — *m_r*: Nab. 7.2; Hol. 8.2; (Rb) 7.1; Lk 7.8 ph. — *N*: Lk 35; Cr 30. — *Class*: Lk, Cr babba; Tr. II 2p, 1–2b–a. — *e*: 0.68; 0.69. — *π*: Rb 0°0012; Lk, Cr prel. and final stand. 0.0010; Tr. 0.00106. — A very good object.

393. *NGC 6716*. — *D*: Lk 7'; Tr. 8. — *m_r*: Lk 8.5; Nab. 7.2. — *N*: h 40; Lk 20. — *Class*: Lk bbbba; Tr. II 3p, 1b. — *e*: 0.60; 0.66. — *π*: Tr. 0°00076; Lk, Cr prel. 0.00069. — h: a p rich cluster, figure like letter S, stars 9–13^m.

394. $18^{\text{h}}47^{\text{m}}5 - 20^{\circ}30'$. — *Class*: Lk bbaaa. — *e*: 0.60; 0.60.

395. *NGC 6717*. — *D*: Tr. 3'. *Class*: Lk aabba; Tr. II 3p. — *e*: Lk 0.00. — *π*: Tr. 0°00026. — Lk: Difficult to separate the stars on FAP. Not on FAC 63.

396. *NGC 6738*. — *D*: Rh 20'×11'; Lk 14; Cr 16. — *m_r*: Lk 8.3 ph. — *N*: Lk 35; Cr 30. — *Class*: — Lk, Cr babab. — *e*: 0.69; 0.74. — *π*: Lk; Cr prel. 0°00080. — h: Cl, P, IC. — Peter (363) has measured accurate positions in this cl. and in NGC 2264.

397. *NGC 6755*. — *D*: Rh 14'; Lk 12; Tr. 15. — *m_r*: Lk 8.5 ph; Bernh. 9.44; Kr. 10.3; Nab. about 8.6. — *Class*: Lk bbbab; Tr. IV 2m. — *e*: 0.56; 0.57. — *π*: Tr. 0°00042; Lk, Cr prel. 0.00060. — In dark lane, or at end of Milky Way cloud. Very irregular.

398. *NGC 6756*. — *D*: Rh 4'; Tr. 4. — *m_r*: Str. 10.7; Hol. 10.6; Lk 10.3 ph; Kr. 11.5. — *N*: Lk 10. — *Class*: Lk babbb; Tr. I 2p. — *e*: Lk 0.00. — *π*: Tr. 0°00039; Lk, Cr prel. 0.00024. — Not seen on FAC 111. Bright star excluded.

399. $19^{\text{h}}21^{\text{m}}+20^{\circ}$. 4–5 Vulpec. — *D*: Lk 60'; Cr. 50. — *m_r*: Lk 4.0? — *Class*: Lk bbaba. — *e*: 0.94; 0.87. — *π*: Doig 0°00040; Lk, Cr prel. stand. 0.0040.

400. *NGC 6802*. — *D*: Rh 7'×4'; Lk 3.8×2.0; Cr 3.5×1.7; Tr. 5. — *m_r*: Lk 11.8 ph. — *N*: Lk 25; Cr 20. — *Class*: Lk, Cr bbbba; Tr. III 1mE. — *e*: 0.96; 0.92. — *π*: Tr. 0°00025; Lk, Cr prel. 0.00020. — On FAC 135, WPC 152.

401. $19^{\text{h}}33^{\text{m}}2+0^{\circ}7'$. — *Class*: Lk aaaab. — *e*: 0.00; 0.00. — Observed on Sel. Areas Nr. 111. Central star 6^m97 A2.

402. *NGC 6811*. — *D*: B 10'; Hol. 8; Mel. 15; Rb 21; Rh 15; Lk 12; Cr 12; Tr. 13. — *m_r*: Hol. 9.0 (Rb) 8.1; Lk 8.7 ph; Bernh. 8.74. — *N*: B 20; Lk 30; Cr 25. — *Class*: Lk, Cr bbbba; Tr. III 1p, 2a–f. — *e*: 0.00; 0.64. — *π*: Tr. 0°00105; Lk, Cr prel. 0.00080. — Dark nebula preceding.

403. *NGC 6819*. — *D*: Mel. 6'; Hol. 2; Rb 6; Rh 10; Lk 4; Cr 3; Tr. 6. — *m_r*: Nab. 10.2; Hol. 9.5; (Rb) 9.8; Lk 9.2 ph; Bernh. 9.21. — *N*: Lk 10; Cr 10. — *Class*: Lk, Cr babba; Tr. I 2r. — *e*: Lk 0.00. — *π*: Tr. 0°00040; Lk, Cr prel. 0.00040. — Destroyed by pencil-marks on Lund copy of FAC. Not visible on WPC 150.

404. *NGC 6820*. — *Class*: Lk bbbba; *e*: Lk 0.87. — On M. W. 60" pl. by Pease. — Lk supposes this to be the beginning of a galactic cluster, as the 6 stars seem to be connected with the nebulosity. Dark nebula surrounds the bright nebula and the cluster.

405. *NGC 6823*. — *D*: Rb 6; Rh 6; Lk 3.2; Cr 4; Tr. 7. — *m_f*: (Rb) 9.3; Lk 9.0. — *N*: Lk 10; Cr 10. — *Class*: Lk, Cr bbbbb; Tr. IV 3p. — *e*: 0.74; 0.56. — π : Tr. 0°0026; Lk, Cr prel. 0.0035.

406. *NGC 6830*. — *D*: Mel. 8'; Hol. 3.5; Rb 16; Rh 8; Lk 5; Cr 8. — *m_f*: Hol. 9.0; (Rb) 9.4. — *N*: Lk 20; Cr 15. — *Class*: Lk, Cr babba; Tr. IV 2m. — *e*: 0.71; 0.71. — π : Tr. 0°0028; Lk, Cr prel. 0.0006. — Dark neb. n. of cl.

407. *NGC 6834*. — *D*: Mel. 4'; Rb 10; Rh 7; Lk 5; Cr 6; Tr. 7. — *m_f*: (Rb) 10.3; Lk 8.5. — *N*: Lk 20; Cr 20. — *Class*: Lk, Cr babbb; Tr. I 2m. — *e*: 0.74; 0.56. — π : Tr. 0°0051; Lk, Cr prel. 0.00045. — At s. foll. end of dark lane or projected against it.

408. *Harv. 20*. — *Class*: bbbba. — *e*: 0.60; 0.66.

409. *NGC 6838*. — *D*: Mel. 4'; Hol. 3; Sh. 10; Rh 5; Curtis 5; Lk 5; Cr 4. — *m_f*: Hol. 9.0; Lk 8.8; Lk 9.6 ph; Nab. 9.0; Bernh. 8.88. — *N*: Lk > 20; Cr 50. — *Class*: Lk, Cr aabba. — *e*: 0.00; 0.00. — π : Lk, Cr prel. 0°0045. — On FAC 136; WPC 96; Cel. Ph. II:6. — Some what triangular in outline. Nearly globular appearance but seems to be an open cluster.

410. *NGC 6846*. *m_f*: Lk 14± ph. — *Class*: Lk babaa. — Not on FAC. Described by Pease (359): 12 stars of 17^m clustered about three stars of 15^m.

411. *Mel. 227*. — *D*: Tr. 60'. — *Class*: Lk bbabb; Tr. II 2p, 2a. — *e*: 0.60; 0.66. — π : Tr. 0°0047. — Dark nebula precedes.

412. *NGC 6866*. — *D*: B 5'; Mel. 6; Rb 24; Rh 8; Lk 9; Cr 10; Tr. 10. — *m_f*: (Rb) 7.6; Lk 8.2 ph. — *N*: B 10; Lk 20; Cr 25. — *Class*: Lk, Cr bbbba; Tr. I 2p, 2a. — *e*: 0.66; 0°66. — π : Rb 0°0081; Tr. 0.00104; Lk, Cr prel. 0.00075.

413. *NGC 6871*. — *D*: Tr. 25. — *Class*: Lk bbaaa; Tr. IV 3p, 1o. — *e*: 0.48; 0.00. — π : Tr. 0°0075; Lk, Cr prel. 0.0012.

414. *IC 1311?* Tr. 36. — *D*: Tr. 6'. — *Class*: Lk aabba; Tr. III 1r. — *e*: 0.60; 0.00. — π : Tr. 0°0027. — Very faint on FAC; good on BAP 44. According to Shapley, this cl. is IC 1311.

415. *NGC 6883*. — *D*: Tr. 15'. — *Class*: Lk bbaaa; Tr. IV 3p. — *e*: 0.85; 0.64. — π : 0°0055. — Not a very good object.

416. *NGC 6882*. — *D*: Tr. 8'. — *Class*: Lk bbaaa; Tr. I 2p, 1—2b—a. — *e*: 0.60; 0.66. — π : Tr. 0°0074. — The brightest star is 20 Vulpec. Boss 5178 $\mu_{\alpha} = -0^{\circ}003$; $\mu_{\delta} = -0^{\circ}016$. It seems to be a supergiant and probably belongs to cl.

417. *NGC 6885*. — *D*: Rh 18'; Lk 15; Cr 17; Tr. 22. — *N*: Lk 30; Cr 30. — *Class*: Lk, Cr bbaaa; Tr. III 2p, 2—3a. — *e*: 0.74; 0.66. — π : Tr. 0°00159; Lk, Cr prel. 0.0012. — Curious

region, invaded by star-chains. Cl. has very remarkable structure: chains curved between bright stars. One bright star on n. side forming with 5 fainter stars a Christmas-star cl. of μ Normæ type.

As Trümpler has shown (492) by means of spectra, NGC 6882 and 6885 are separate physical clusters. NGC 6885 includes the foll. stars:

20 Vulpec. Boss 5177 $\mu_{\alpha} = -0^{\circ}0005$; $\mu_{\delta} = -0^{\circ}019$.

21 Vulpec. Boss 5178 $\mu_{\alpha} = -0^{\circ}0003$; $\mu_{\delta} = -0.016$.

418. *IC 4996*. — *D*: Lk 15'; Tr. 6'. — *m_f*: Lk 6.9 ph. — *N*: Lk 25. — *Class*: Lk babaa; Tr. I 3p. 1b. — *e*: 0.78; 0.82. — π : Tr. 0°0054; Lk, Cr prel. 0.0011. — On FAU 160 and BAP 44. — Bellamy (26) has determined accurate positions in this cl. in 1904, and Gyllenberg (145) in 1925. Burnham (52) has given measures eleven stars situated within the cluster which he considers as a multiple star.

419. 20^h14^m5+40°25'. Barnard Nr. 794. — *Class*: Lk aaaab. — *e*: 0.00; 0.80. — The central star is 5^m63 B2p acc. to HDC, and thus probably an early B or O star. A μ Normæ cl. in nebula.

420. *NGC 6910*. — *D*: Tr. 13'. — *m_f*: Nab. 6.3. — *Class*: Lk baaaa; Tr. IV 3p. — *e*: 0.00; 0.56. — π : Tr. 0°0048; Lk, Cr prel. 0.0003.

421. 20^h19^m7—41°22'. — *Class*: Lk babbb. — *e*: 0.00; 0.56. — Lies n. of Nr. 420.

422. *NGC 6913*. — *D*: Tr. 7'. *m_f*: 6.77±0.08. — *Class*: Lk bbabb; Tr. III 3p, 1b. — *e*: 0.00; 0.74. — π : Tr. 0°0048. — Irregular. A prec. and a foll. part.

423. *NGC 6939*. — *D*: Mel. 5'; Curtis 8×6; Rh 10; Lk 4; Cr 6; Tr. 8. — *m_f*: Kr. 9.5; Lk 11.5 ph. *N*: Lk 5; Cr 10±. — *Class*: Lk babba; Cr babaa; Tr. II 1r, 3a. — *e*: 0.70; 0.66. — π : Tr. 0°0056; Lk, Cr prel. 0.00030. — Unsymmetrical, quasi-cometic. On FAP 195, WPC 156.

424. *NGC 6940*. — *D*: Mel. 20'; Rb 30; Rh 25; Lk 24; Cr 30; Tr. 26. — *m_f*: Nab. 8.4; V-V 7.9; (Rb) 8.1. — *N*: Lk 45; Cr 45. — *Class*: Lk, Cr babba; Tr. III 1m, 2a. — *e*: 0.41; 0.51. — π : Tr. 0°00125; Lk, Cr prel. 0.0010. — Fine object. Larger oval cl. with smaller condensation in s. part.

425. *NGC 6996*. In North America nebula. — *Class*: Lk bbbba. — *e*: 0.00; 0.60. — Star-chains and dark areas in vicinity.

426. *NGC 6994*. — Included at the suggestion by Bernheimer. His observations on Lk:s MW plates are given in the second line in the cat. *m_f*: Bernh. 9.22 vis. — *Class*: Lk aabbb.

427. 20^h58^m3+67°46'. — *Class*: Lk bbbbb. — *e*: Lk 0.80. — On MW 60" pl. by Pease. Observed by Lk; cluster appearance might possibly be due to dark areas around.

428. 20^h59^m6+44°11'. In North America neb. — *Class*: Lk bbaba. — *e*: 0.83; 0.60. — On WPC 198. Star chains and absorption in vicinity.

429. NGC 7023. — *Class*: Lk baaab. — *e*: Lk 0.44. — Sir William Herschel describes: st 7 in eF, eL and neby. Very faint on FAC, observed by Lk, on MW 60" by Pease. There may be some doubt as to its cl. character, but probably it should be included.

430. NGC 7031. — *D*: Tr. 7'. — *Class*: Lk bbaab; Tr. II 3pU. — *e*: 0.00; 0.00. — π : Tr. 0^o.00056. — Not good on FAP 180; better on BAP 48. Observed on the former by Lk, on the latter by Cr. Dark marking n. prec.

431. NGC 7039. — *Class*: Lk bbbba. — *e*: 0.00; 0.60. — Condensation in star cloud. In two parts, curved against each other as a bowl and lid.

432. IC 1369. — *D*: Tr. 3'. — *Class*: Lk abbbb; Tr. II 2p. — *e*: 0.00; 0.00. π : Tr. 0^o.00026. — Not seen on FAC 180, but on BAP 48.

433. NGC 7044. — *D*: Rh 5'; Curtis 4.0; Lk 3.8; Cr 7; Tr. 5. — *m_f*: Lk 12.2 ph. — *Class*: Lk babba; Tr. I 2r. — *e*: 0.66; 0.60. — π : Tr. 0^o.00033; Lk, Cr prel. 0.00020. — No separate stars on FAC 180; very difficult on FAP. Well shown on WPC 198 and on Roberts plate in Cel. Ph. II:7.

434. NGC 7062. — *D*: Tr. 6'. — *Class*: Lk aabbb; Tr. II 2p. — *e*: 0.60; 0.60. — π : Tr. 0^o.00051. — Brighter stars not incl.

435. NGC 7063. — *D*: Tr. 8'. — *Class*: Lk bbaba. — Tr. II 2p. — *e*: 0.71; 0.79. — π : 0^o.00068.

436. NGC 7067. — *D*: Tr. 2'.5. — *Class*: Lk aabbb; Tr. II 2p. — *e*: Lk 0.00. — π : Tr. 0^o.00021. — Not seen on FAC, only on FAP 180.

437. NGC 7086. — *D*: Rh'; Lk 8.5; Cr 7.5; Tr. 7.5. — *m_f*: Hol. 9.0; Lk 9.2 ph; Bernh. 8.62. — *N*: Lk 20; Cr 30. — *Class*: Lk, Cr babbb; Tr. I 2m. — *e*: 0.00; 0.00. — π : 0^o.00054; Lk, Cr prel. 0.00050.

438. NGC 7092. — *D*: B 30'; Hol. 60; Mel. 30; Rh 30; Lk 32; Cr 30; Tr. 32. — *m_f*: Nab. 6.10±0.14; Hol. 5.0; Lk 5.1; V-V 5.8; BD 4.3; Houz. 5.7; Lk 5.3 ph. — *N*: B 20; Lk 20; Cr 24. — *Class*: Lk bbaba; Cr bbaaa; Tr. II 2p, 1a. — *e*: 0.82; 0.56. — π : Tr. 0^o.00303; Doig 0.0032; Lk, Cr prel. and final stand. 0.0030; — This cl. has been specially investigated by Trümpler (497) as regards spectral data. Among 19 stars for which spectra were obtained, 14 show the same rad. vel., mean -14 km/sec. These are A0—G dwarfs. Only 35 stars are brighter than the Sun. The Lk, Cr π above was derived from the following A-stars in the HDC: BD+47°3432 7.36 A0; BD+47°3448 7.84 A0; BD+47°3449 6.73 A0; BD+47°3451 8.0 A0; BD+47°3455 8.1 A0; BD+47°3457 6.58 A0; BD+47°3468 6.92 A0; BD+47°3446 7.62 A0.

439. IC 1396. — *D*: Lk 40'; Tr. 60. — *m_f*: Lk 5.2 ph. — *Class*: Lk baaaa; Tr. IV 3rN, 1—2o. — *e*: 0.74; 0.74. — π : Tr. 0^o.00137; Lk, Cr stand. 0.00090. — Around BD+56°2617 vis. magn. 5.64 Oe5. Limits of cl. uncertain. Barnard: neb. part of Milky Way. Lk (292) has derived spectral parallax from proper motion 0^o.00100, 0.00080. Mean: 0.00090.

440. NGC 7128. — *D*: Tr. 3'.2. — *Class*: Lk bbaab?; Tr. II 2p. — *e*: 0.00; 0.48. — π : Tr. 0^o.00027. — On FAC 196, BAP 48. Large difference in *m_f* from FAC 10.4; from BAP 13.0. Cl. not good on BAP and estimates very uncertain.

441. NGC 7129. — *Class*: bbaab. — *e*: 0.41; 0.74. — NGC lcF, pL, gbM, triangle of st. — On FAC 196 and MW 60" pl. by Pease.

442. NGC 7142. — *D*: Curtis 10'; Rh 10; Lk 7; Tr. 11. — *m_f*: Lk 10.7. — *Class*: Lk babba; Tr. II 1m. — *e*: 0.85; 0.74. — π : Tr. 0^o.00073; Lk, Cr prel. 0.0004. — A good specimen. On Cel. Ph. II:9 star number about 50 (Lk).

443. NGC 7160. — *D*: Tr. 10'. — *Class*: Lk baaaa. — *e*: 0.87; 0.91. — π : Tr. 0^o.00097. — The brightest cluster star seems to be +61°2216, 6^m93, B3, and the next one +61°2217, 8^m8, B8.

444. NGC 7209. — *D*: Tr. 20'; Mel. 20; Rb 39; Lk 16, Rh 30. — *m_f*: V-V 7.7; Lk 8.2, 8.5 ph; (Rb) 6.8; Nab. 7.5. — *N*: Lk 35; Cr 40. — *Class*: Lk, Cr bbbba; Tr. II 2p. — *e*: 0.60; 0.56. — π : Rb 0^o.0018; Graff 0.0013; Tr. 0.00179; Lk, Cr prel. stand. 0.0011. — This cluster is situated in a very dense region of the Milky Way. Graff (140) has determined the magnitudes and estimated the colours of 39 stars in this object. Graff derives the parallax value of 0^o.0013 for this cluster on basis of his photometric data. He also points out that the Algol-variable SS Lacertæ might be a member of this cluster. No orbit has so far been derived for this system. There is an absorption region S. of the cl. The Lk, Cr π is derived from 36 A-stars in Graff's catalogue.

445. IC 1434 = Mel. 239 = Rb 147. — *D*: Mel. 6'; Rb 6; Lk 6; Cs 8; Tr. 7. — *m_f*: Lk 8.8 ph; (Rb) 10.2. — *N*: Cr 30; Lk 20. — *Class*: Lk, Cr bbaaa; Tr. III 2m. — *e*: 0.80; 0.71. — π : Tr. 0^o.00034; Lk, Cr prel. 0.0004. — Some bright star on s. border not incl. Bad on FAC 196, good on BAP 50.

446. NGC 7226. — *D*: Tr. 2'.5; Curtis 2. — *Class*: Lk babba; Tr. II 2p. — *e*: Lk 0.00. — π : Tr. 0^o.00021. — Not found on FAC or BAP 40. Lk: No doubt as to the cluster character of this object. Curtis: A small coarse cluster.

447. NGC 7235. — *D*: Tr. 4'.5. — *Class*: Lk bbaaa; Tr. II 3p. — *e*: 0.80; 0.87. — π : Tr. 0^o.00038.

448. NGC 7243. — *D*: Mel. 20; Lk 21; Rb 24; Rh 20; Tr. 21; Hrabák 23. — *m_f*: Nab. 6.9; Hol. 8; V-V 7.1; Lk 7.8, 7.2 ph; Nab. 6.9. — *N*: Hol. > 60; Cr 30; Lk 40; Hrabák 70—80. — *Class*: Lk, Cr bbbba; Tr. III 2p, 1b. — *e*: 0.71; 0.87. — π : Tr. 0^o.00133; Lk, Cr prel. and final stand. 0.0012. — Lk has also suggested to divide this object into two separate clusters but did not feel positive about the reality of the two components. The stars +49°3782, 8^m6, A0; +49°3784, 8^m8, A0; +49°3790, 8^m6, A0 seem to be the three brightest stars.

449. NGC 7245. — *D*: Mel. 3'; Cr 4; Tr. 7. — *m_f*: Lk 10.2 ph. — *N*: Cr 20±. — *Class*: Lk babba; Cr babba; Tr. II 2p. — *e*: Lk 0.74. — π : Tr. 0^o.00034; Lk, Cr prel. 0.00030. — Not seen on FAC 196 or BAP 50.

450. *NGC 7261*. — *D*: Tr. 7'. — *Class*: Lk bbabb; Tr. II 2p. — *N*: 18. — *e*: 0.71; 0.71 = 0.71. — π : Tr. 0^o.00056.
451. *NGC 7296*. — *D*: Lk bbbba; Tr. II p. — *e*: 0.00; 0.60. — π : Tr. 0^o.00034.
452. *NGC 7380*. — *D*: Tr. 9'; Cr 8; Lk 8; Rh 9. — *m_f*: Lk 8.3 ph. — *Class*: Lk, Cr bbbba; Tr. III 2p. — *N*: Lk 20; Cr 25. — *e*: 0.66; 0.00. — π : Tr. 0^o.00054; Lk, Cr prel. 0.0006. — Rh: Diffuse nebulosity involved. For picture of object see Lick XI:84. Cr: Neb. cluster. Rh: Diffuse nebulosity involved.
453. *NGC 7419*. — *D*: Tr. 2'.2. — *Class*: Lk aabbb; Tr. II 2p. — *e*: 0.00; 0.60. — π : Tr. 0^o.00019. — Very faint, hardly perceptible on FAC 196.
454. *NGC 7510*. — *D*: Tr. 3'. — *m_f*: Bernh. 8.94. — *Class*: Lk abaaa; Tr. II 2mU. — *e*: 0.93; 0.66. — π : Tr. 0^o.00020. — Fan-shaped.
455. *NGC 7654*. — *D*: B 12'; Hol. 5; Mel. 12; Rb 19; Rh 14; Lk 10; Cr 12; Tr. 13. — *m_f*: Hol. 7.5; V-V 6.9; Kr. 8.7; (Rb) 8.1; Lk 7.2, 7.5 ph. — *N*: B 50; Lk 40; Cr 100. — *Class*: Lk, Cr babba; Tr. II 2r, 1b—a. — *e*: 0.56; 0.00 (assuming ten br. stars to be of class B—A). — π : Luyten 0^o.00055; Wallenquist 0.00038—0.0011; Tr. 0.00074; Lk, Cr prel. stand. 0.0006. — Lord Rosse (396): About 200 in number. Wallenquist (523) has investigated colours and magnitude without finding a perceptible colour-magnitude relation. His parallaxes above are derived under different suppositons. Pingsdorf (370) has determined accurate positions of 132 stars in the cl. See also Lais (266). The parallax of Luyten (305) is derived from p. m. assuming the brightest stars to be of class B—A.
456. *NGC 7886*. — *D*: Rh 8'; Lk 12; Cr 10; Tr. 13. — *m_f*: Lk 7.4 ph. — *N*: Lk 30; Cr 20. — *Class*: Lk, Cr babaa; Tr. I 3p. — *e*: 0.00; 0.00. — π : Tr. 0^o.00127; Lk, Cr prel. 0^o.0009. — Rh: A very loose clustering of 2 st 7 and st 9... Lk: The two bright stars form a kind of nucleus. Schultz (413) has determined accurate positions of stars in this cl.
457. *NGC 7762*. — *D*: Mel. 10'; Curtis 16; Rh 16×8; Lk 8; Cr 12; Tr. 11. — *m_f*: Lk 9.9 ph. — *N*: Lk 10; Cr 20. — *Class*: Lk, Cr bbbba; Tr. II 1mU. — *e*: Lk 0.85. — π : Tr. 0^o.00080; Lk, Cr prel. 0.00055. — Not seen on FAC.
458. *Harv. 21*. — *Class*: Lk babba. — *e*: 0.80; 0.74. — Lk: At end of dark lane. Bona fide cl. Cr: Doubtful object. Cr has evaluated the nucleus, Lk also the supposed outer parts.
459. *NGC 7788*. — *D*: Tr. 11'. — *Class*: Lk bbaab; Tr. IV 3p. — *e*: 0.00; 0.66. — π : Tr. 0^o.00040. — Has a core acc. to Lk D: 3'.5×3'.5; *m_f*: 9.4 (3).
460. *NGC 7789*. — *D*: B 10'; Hol. 15; Mel. 30; Rb 50; Rh 16×16; Lk 25; Cr 18; Tr. 19. — *m_f*: Nab. 9.1; Hol. 9.1; V-V 8.1; Lk 7.6; (Rb) 7.1; Lk 8.2 p1; Bernh. 9.20. — *N*: B 40; Lk 50; Cr 60. — *Class*: Lk, Cr aabba; Tr. III 1r, 2—3a. — *e*: 0.00; 0.00. — π : Tr. 0^o.00088; Lk, Cr prel. 0.00105. — Cr: Very curious cluster, large and faint, analogous to Scorpius cloud. Lk: The majority of the stars 14^m. Küstner (264) has determined accurate positions and magnitudes for 1362 stars in and near this cl.
461. *NGC 7790*. — *D*: Tr. 4'.5. — *m_f*: Kr. 9.4. — *Class*: Lk bbaba; Tr. II 2p. — *e*: 0.82; 0.87. — π : Tr. 0^o.00038. — Near in space to NGC 7788.
- 462 (5a). *NGC 189*. *Class*: Lk bbaaa. — *e*: 0.00. — A good cluster. Not well shown on FAC but found on Lk: MW plates.
- 463 (20a). 1^h40^m4+71°26'. — *Class*: Lk baabb. — *e*: 0.78. — Looks as a very good specimen but the cluster character may be emphasized on account of absorption around the cluster. Still it should be included.
- 464 (60a). 5^h10^m0+73°10'. — *Class*: Lk bbaba. — *e*: 0.94. — Cluster of bright stars. Not very pronounced but ought to be included.
- 465 (127a). 7^h2^m4—10°28'. — *Class*: — Lk baabb. — *e*: 0.60. — This and the following cl. were found on a 100 inch plate by Lk. The cluster character seems pretty good although an uncertainty is involved on account of the absorption in the vicinity of the clusters.
- 466 (127b). 7^h2^m2—10°40'. — *Class*: Lk baabb. — *e*: 0.80. — Forms a double cluster with Nr. 465. A good specimen.
- 467 (156a). 7^h34^m6—10°19'. — *Class*: Lk aabba. — *e*: 0.00. — This cluster was discovered by Dr Fr. Schüller in Prag and announced in Circ of the Bureau Centr. Astr. Nr. 316. The object can not with absolute certainty be identified on the FAC copy in Lund.
468. (364a). 18^h0^m4—27°28'. — *Class*: Lk bbaaa. — *e*: 0.87. — The object is situated in the dense star cloud in Sagittarius. It is not a very good specimen but has been included on account of its appearance as forming a beginning of a condensation in the star cloud.
- 469 (370a). 18^h10^m6—18°15'. — *Class*: Lk aabba. — *e*: 0.86. — This object is near Barnards dark markings No 92 and 93. The cl. is not a very prominent object and its cluster appearance might be partly an effect of absorption.
- 470 (442a). 21^h49^m6+46°48'. — *Class*: Lk bbaab. — *e*: 0.81. — A nebulous cluster. Not a good object but there seems to be something of a crowding of stars in and near the nebula.
- 471 (444a). *Class*: Lk bbaba. — *e*: 0.90. — Extended cluster of bright stars. Not a good object but may be included.

OBJECTS EXAMINED BUT REJECTED

- a. *NGC* 305. — h: a small cl. — Lk gives $D:4' \times 4'$. — $m_t: 10.0$. — $N: 10$. — A doubtful object. Excluded.
- b. *NGC* 1379. — $D: B 0's$. — A globular cluster seen by J. Herschel on two different nights. Not on FAC. Excluded.
- c. *NGC* 2237. — Drawing by Barnard AN 2918; Roberts photo of 15 Monoc. Knowledge, Nov. 1899. This object is an extended nebula around the large cluster *NGC* 2244. Hubble (230) has brightest stars in this cl. $7^m_4-8^m_2$, Oe5.
- d. *NGC* 2314. Stated as open by Melotte; a loose cl. in a dense region. Not very well defined. Raab: Not well shown on chart. Excluded.
- e. $7^h42^m_5-23^\circ40'$. — A cl. of B3—A2 stars around 27 *Can. maj.*, acc. to HDC. If this is a cl., it would be very interesting, as 27 *Can. maj.* seems to be one of the most massive stars according to Otto Struve's investigation (479). — Cf the cl. around Plaskett's star ($6^h31^m_9+6^\circ2'$).
- f. *NGC* 2579. — Very dubious object, excluded. Near this position was found a cl., $8^h18^m_6-35^\circ50'$, which was included;
- g. $8^h42^m_6-41^\circ31'$. — N. prec. *NGC* 2671 is a small cluster to which the description in *NGC* 2671 must refer. Lk: $D=4'$; $m_t=9.8$; $N=10$. Excluded.
- h. *NGC* 3503. — 3 S st 10 m in cF neb. Excluded.
- i. *NGC* 3519. — Cl, pRi, pC. Examined on FAC, UOC and Cord. Phot. Excluded.
- j. *NGC* 3960. — Δ 349. Very dubious on FAP. Excluded.
- k. $15^h8^m_8-58^\circ44'$. — Innes finds a little group of 16 stars. Lk gives $D=3'$; $m_t=8.8$; baaab, finds later this must be nucleus in cloud or bright star following. Excluded.
- l. *Harv.* 9. $15^h26^m_3-53^\circ15'$. — Could not be identified with certainty on FAC 21. In position given by Sh., Lk saw 6—7 stars of 13^m-14^m ; approx. $m_t=11.7$. Stars fill a space of $3' \times 3'$.
- m. *Harv.* 13. $16^h57^m_9-48^\circ2'$. — $D: Sh. 15'$. — $m_t: Sh. 13$. — $N: Sh. 70$. — On FAC 39 and UOC 86 a slight appearance of a condensation, probably caused by dark areas around. Star-density exactly the same as in surroundings. Has there been an error in the coordinates, so that the position should be $17^h56^m_1-47^\circ58'$? Cf h 3702.
- n. *NGC* 6355. $17^h17^m_8-26^\circ15'$. — *NGC: cF, L, gbM, rrr*. — Included by Sh. among open cl., but without further data. Has a nebular appearance on FAC 61. Not resolved on BAP 18, nebular. Dark areas around. Might also be a glob. cl.
- o. *NGC* 6374. — Cl, S, P, B inv. FAC and BAP 22. — Projected.
- p. *NGC* 6421. — $D: Lk 6' \times 4'$. — $m_t: Lk 9.9$ (2) ph. — $C_N: Lk -0.2$. — $C_M: Lk -0.1$. — $N: Lk 12$. — *Class: Lk Plei.* — — — — $E: Lk 0^\circ$. — Not good on FAC. In (173) h gives a drawing identified on FAC on a $10''$ MW. refr. pl. by Lk. Only a Milky Way patch, as already Sir John Herschel termed it. Not on BAP 24.
- q. $17^h44^m_5-35^\circ20'$. — Possibly an open cl. Long exposure may decide.
- r. $17^h44^m_6-29^\circ30'$. — Doubtful on FAP, not seen on FAC or BAP 26. Excluded.
- s. *NGC* 6496. (Δ 460?). $17^h51^m_8-44^\circ14'$. — *Harv. 72: Co*, cl., of half doz. pB st, on background of F st, or neb. — Not included.
- t. $17^h53^m_5-24^\circ50'$. — Suspected cl. on FAP, not on FAC or BAP 26. Excluded.
- u. *NGC* 7243, a and b. — Possibly two cl., a foll r b prec. with following characteristics. Cr: $D=7' \times 6'$ (a); 13×7 (b); $m_t=9.0, 7.0$; $C_N=0.1, 0.1$; $C_M=0.1, 0.1$; $N=10, 22$; *Class* = Plei., Plei.; $E=70^\circ, 135^\circ$; $I_A=-; 0.3$ (330°). — Only the total agglomeration included in Catalogue.

There are still a number of objects which, from various reasons, have not been included in the present survey but which, finally, may be considered as bona fide clusters. The present writer estimates the number of such objects to some fifty. Even if some objects in the preceding catalogue at a coming revision will prove to have no real cluster character it seems that a final catalogue of open galactic clusters will include at least 500 numbers.

There is still a class of cluster objects which might have been included in the present survey, *i. e.* cluster formations revealed from inspection of the distribution of special classes of spectra. From the useful charts of Dr Otto Seydl (Prag 1929) showing the spectral distribution of the brighter stars in the HDC, it seems that a number of A-star clusters could have been established. The same applies to Shapleys and Miss Cannons investigations in the *Harv. Circulars* 229, 239 and 245. The peculiar cluster of Md stars having galactic coordinates: $346^\circ, -17^\circ$, to mention only one case, seems worth a detailed investigation.

From the point of view of homogeneity I have refrained from an inclusion of "spectral-clusters" in the present survey.

ADDITIONAL NOTES

24. 25. *NGC* 869, 884. — Of the parallaxes derived for these clusters may be mentioned that of Doig: $0''.0020$. Mrs Hannah Steele Pettit has measured 359 trigonometric parallaxes in the cluster η Persei. From her table a mean parallax of $0''.004$ results. (364)

26. *IC* 1805. — π : Doig $0''.0015$.

42. *Plei.* — m_T : Nab. 1.49 ± 0.02 .

54. *NGC* 1647. — π : Doig $0''.0025$.

57. *NGC* 1746. — π : Doig 0.002 .

67. *NGC* 1912. — π : Doig $0''.002$. — m_T : Kozl. about 7.

69. *Orion* cluster. — Most astronomers dealing with the Orion region have from the common p. m. of the bright helium stars concluded that these form an extended cluster. It seems that we have in the Orion region an agglomeration of several clusters of which the nearest are more or less at the same distance from us. The cluster around the Belt is the most pronounced of the individual Orion clusters and next comes the cluster around the Great Nebula and around λ Orionis. Dr S. Asklöf has concluded from star counts that the distance of the dark nebula accompanying the bright one is of the same order of magnitude as the distance of the luminous nebula, which is another proof of the intimate relationship between these classes of celestial objects.

71. *NGC* 1960. — From four Cambridge plates taken between 1903—23 Dr. Cecilia Payne has derived p. m. of stars in and near the cl. The cluster members measured are 47. These give as mean p. m. of the cluster:

$$\mu_\alpha = +0''.005 \quad \mu_\delta = -0''.009$$

Prof. Hopmann has measured 463 stars for position and magnitudes in and near this cl. and compared his results as to p. m. with Miss Payne's. Hopmann doubts that the p. m. are real. He derives a parallax of $0''.00134$ for the cl.

75. *NGC* 2099. — Accurate positions of 854 stars in and near this cl. were derived by Dr J. O. Nordlund in his dissertation (344). An investigation at Bonn by Dr H. Giebeler embracing 1231 stars proved the existence of a systematic error in Nordlund's δ .

82. *NGC* 2168. — Küstner has derived accurate positions and magnitudes of 717 stars in and near this cluster. Dr V. M. Smart (461) has from Cambridge plates taken in 1903 and 1921—24 derived p. m. The total motion of the 100 cl. stars is found to be: $\mu_\alpha = +0''.002$; $\mu_\delta = -0''.010$.

99. *NGC* 2244. — π : Doig $0''.0023$.

112. *NGC* 2264. — In Contr. from the Mount Wilson Observatory (No 405, 1930). Van Maanen has measured 133 stars in and near this cluster for p. m. Two pairs of plates were used, taken at the 80-foot focus of the 60-inch reflector with an interval of about eleven years. The mean absolute motion derived for the 33 stars, presumably cluster members, is:

$$\mu_\alpha = -0''.0033 \pm 0''.0007 \quad \mu_\delta = +0''.0019 \pm 0''.0006$$

159. *NGC* 2437. — Dr. W. Zurhellen has derived accurate positions of 527 stars in and near this cl. As the epoch of the measures is 1902—03 the time might be ripe for deriving p. m. from a remeasurement.

189. *NGC* 2632. — In Groningen Publ. No 41, 1927. Klein-Wassink has derived p. m. of stars in and near this cluster from photographs and measures at ten observatories. The determinations embrace 600 stars, of which 200 are members of the cluster. The total p. m. is $0''.037$ in direction 249° and the parallax $0''.0073$. The motion in space is nearly parallel to the motion of the Hyades cluster.

204. *NGC* 2682. — In his dissertation prof. E. Fagerholm (119) measured accurate positions of 295 stars in and near this cluster. Later on, Chevalier has determined positions of stars in the same cl. (62).

232. 248. *NGC* 3532 and 3766. — When classifying spectra at the La Paz-station Dr Becker (A. N. 236, 327, 1929) has found the following frequencies of spectral classes in the two clusters:

	B0—B7	B8—A4	A5—A8	K0	K4
<i>NGC</i> 3532	3.8	86.3	1.5	8.4	0 %
<i>NGC</i> 3766	44.2	39.5	4.7	0	11.6 %

245. *IC* 2714. — H. E. Woods has pointed out (UOC 75, 444) that this object very likely consists of two clusters, the 1900 positions of which are:

$$11^h 13^m 53 - 62^\circ 7'.3 \quad 11^h 15^m 47 - 57^\circ 57'.6$$

The n. p. is an open large cluster (D: $12'$) and the s. f. a compact irr. cl. (D: $2'$) of the κ Crucis type.

315. *NGC* 6231. — In Harv. Bull. No 843 Dr. Priscilla Fairfield communicates results as to the p. m. of this cl. Five pairs of Harv. B plates with an average interval of 22.22 years were used. The motion of the cl. as a whole was found to be: $\mu_\alpha = +0''.020 \pm 0''.004$; $\mu_\delta = +0''.012 \pm 0''.004$.

In Harv. Bull. No 846 Shapley and Miss Sawyer give magnitudes and positions of 190 stars in and near this cl. Using the Russell-diagram of the cl. the $\pi = 0''.0016$ is derived. The authors point out that the cl. will be specially favourable for the critical study of the colour indices of B and O stars, as it appears to be free of disturbing neby and is suff. rich in these classes of stars.

349. *IC* 4665. — m_T : Nab. 6.1.

391. *NGC* 6705. — The late Dr. Küstner (264) has derived accurate positions and magnitudes of 686 stars in and near this cluster. A comp. with Stratonoff could not give any contribution to the derivation of p. m.

417. *NGC* 6885. — Prof. J. Hopmann (224) has derived accurate positions and magn. of 361 stars in and near this cl.

423. *NGC* 6939. — Küstner has derived accurate positions and magnitudes of 370 stars in and near this cl.