

## Planetary Nebula by RA

Observed: No

Object	Con	Type	Mag	Alias/Notes
ABELL 86	Cep	PI Neb 2c	16.7	PK 118+8.2 PNG 118.7+8.2
PK 118+2.1	FIX	PI Neb Planet		
VYSS 1-1	FIX	PI Neb	12.6	PK 118-8.1 PNG 118.0-8.6 Vyssotsky 1-1
PK 119+0.1	FIX	PI Neb	15.6	PNG 119.3+0.3
PK 119-6.1	FIX	PI Neb 2	13.3	PNG 119.6-6.7
SH2 176	FIX	PI Neb		LBN 597 PK 120-5.1 PNG 120.2-5.3 SH2-176
PK 108-76.1	FIX	PI Neb	16.3	PNG 108.4-76.1
PK 121+0.1	FIX	PI Neb	15.4	PNG 121.6-0.0
ABELL 2	Cas	PI Neb 2c	16.3	PK 122-4.1 PNG 122.1-4.9
PK 125-47.1	FIX	PI Neb		PNG 125.9-47.0
PK 124-7.1	FIX	PI Neb		PNG 124.3-7.7
KOH 3-90	FIX	PI Neb	16	PK 126+3.1 PNG 126.3+2.9
SH2 188	FIX	PI Neb		LBN 633 PK 128-4.1 PNG 128.0-4.1 SH2-188
WEIN 2-5	FIX	PI Neb		PK 129-2.1 PNG 129.2-2.0 Wein 2-5
PK 131-5.1	FIX	PI Neb	14.9	PNG 131.4-5.4
KOH 3-92	FIX	PI Neb	16.7	PK 130+3.1 PNG 130.4+3.1
ABELL 5	Per	PI Neb 4	16	PK 141-7.1 PNG 141.7-7.8
KOH 1-26	FIX	PI Neb		ESO 247-13 Longmore 1 PK 255-59.1
ABELL 6	Cas	PI Neb 2b	15.5	PK 136+4.1 PNG 136.1+4.9
PK 136+5.1	FIX	PI Neb SNR?		PNG 136.3+5.5
PK 138+4.1	FIX	PI Neb		PNG 138.1+4.1
PK 149-9.1	FIX	PI Neb		PNG 149.4-9.2
KOH 3-94	FIX	PI Neb	16.1	PK 142+3.1 PNG 142.1+3.4
MINK 1-4	FIX	PI Neb	13.6	Minkowski 1-4 PK 147-2.1 PNG 147.4-2.3
PK 156-13.1	FIX	PI Neb		PNG 156.9-13.3
PK 149-3.1	FIX	PI Neb SNR?		PNG 149.7-3.3
PK 171-25.1	FIX	PI Neb 4	13.9	PNG 171.3-25.8
MINK 2-2	FIX	PI Neb 3	14	Minkowski 2-2 PK 147+4.1 PNG 147.8+4.1
KOH 3-64	FIX	PI Neb	16.9	PK 151+0.1 PNG 151.4+0.5
KOH 4-47	FIX	PI Neb	7.9	PK 149+4.1 PNG 149.0+4.4
MINK 4-18	FIX	PI Neb	15.8	Minkowski 4-18 PK 146+7.1 PNG 146.7+7.6
KOH 3-66	FIX	PI Neb	15.4	PK 167-9.1 PNG 167.4-9.1
HARO 3-29	FIX	PI Neb	15.3	PK 174-14.1 PNG 174.2-14.6 Haro 3-29
KOH 3-67	FIX	PI Neb	13.7	PK 165-6.1 PNG 165.5-6.5
WEIN 1-2	FIX	PI Neb		PK 160-0.1 PNG 160.5-0.5 Wein 1-2
WEIN 1-3	FIX	PI Neb		PK 163-0.1 PNG 163.1-0.8 Wein 1-3
PK 242-37.1	FIX	PI Neb		PNG 243.8-37.1
ABELL 7	Lep	PI Neb 3a	13.2	PK 215-30.1 PNG 215.5-30.8
PK 205-26.1	FIX	PI Neb	14.8	PNG 205.8-26.7
ABELL 8	Aur	PI Neb 2b	16.6	PK 167-0.1 PNG 167.0-0.9
KOH 2-1	FIX	PI Neb 3	13.7	PK 173-5.1 PNG 173.7-5.8
KOH 3-68	FIX	PI Neb	16.1	Wein 2-21 PK 178-2.1 PNG 178.3-2.5
ABELL 10	Ori	PI Neb 3	15.2	Kohoutek 1-7 PK 197-14.1 PNG 197.2-14.2
HARO 3-75	FIX	PI Neb	13.9	PK 193-9.1 PNG 193.6-9.5 Haro 3-75
PK 173+2.1	FIX	PI Neb		PNG 173.7+2.7

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Object	Con	Type	Mag	Alias/Notes
KOH 3-69	FIX	PI Neb	16.5	PK 170+4.1 PNG 170.7+4.6
MINK 1-5	FIX	PI Neb 1	14.6	Minkowski 1-5 PK 184-2.1 PNG 184.0-2.1
PK 181+0.1	FIX	PI Neb	15.8	PNG 181.5+0.9
PK 11+17.1	FIX	PI Neb		PNG 228.2-22.1
PK 197-6.1	FIX	PI Neb SNR?		PNG 197.4-6.4
ABELL 13	Ori	PI Neb 4	16	PK 204-8.1 PNG 204.0-8.5
WEIN 1-4	FIX	PI Neb		PK 201-4.1 PNG 201.9-4.6 Wein 1-4
PK 183+5.1	FIX	PI Neb		PNG 183.8+5.5
PK 158+17.1	FIX	PI Neb 3	11.2	PNG 158.9+17.8
PK 218-10.1	FIX	PI Neb	15.4	PNG 218.9-10.7
KOH 3-72	FIX	PI Neb		PK 204-3.1 PNG 204.8-3.5
ABELL 15	CMa	PI Neb 4	16.3	ESO 490-1 PK 233-16.1 PNG 233.5-16.3
PNG 143.6+23.8	FIX	PI Neb		
MINK 1-6	FIX	PI Neb	16.1	Minkowski 1-6 Sanduleak 3-1 PK 211-3.1 PNG 211.2-3.5
KOH 4-48	FIX	PI Neb	15.4	PK 201+2.1 PNG 201.7+2.5
PK 192+7.1	FIX	PI Neb		PNG 192.5+7.2
ABELL 16	Lyn	PI Neb 2b	15.9	PK 153+22.1 PNG 153.7+22.8
PK 233-10.1	FIX	PI Neb 4	16.3	PNG 233.0-10.1
KOH 2-2	FIX	PI Neb 3	12.5	PK 204+4.1 PNG 204.1+4.7
MINK 1-8	FIX	PI Neb	14.2	Minkowski 1-8 PK 210+1.1 PNG 210.3+1.9
PK 236-10.1	FIX	PI Neb 5		PNG 236.0-10.6
PK 239-12.1	FIX	PI Neb	15.1	ESO 427-19 PNG 239.6-12.0
ABELL 19	Gem	PI Neb 2b	17	PK 200+8.1 PNG 200.7+8.4
SAND 2-4	FIX	PI Neb		Wein 2-34 PK 225-2.1 PNG 210.0+3.9
SAND 2-2	FIX	PI Neb	13.3	PB 1 PK 226-3.1 PNG 226.4-3.7
MINK 3-1	FIX	PI Neb ?+6	11.9	Minkowski 3-1 ESO 427-30 Henize 2-1 Sanduleak 2-3
MINK 1-9	FIX	PI Neb 1	13.3	Minkowski 1-9 PK 212+4.1 PNG 212.0+4.3
PK 217+2.1	FIX	PI Neb	14.1	STEPH 3-1 PNG 217.4+2.0
KOH 2-3	FIX	PI Neb 3	14.5	ESO 558-11 PK 234-6.1 PNG 234.3-6.6
MINK 1-11	FIX	PI Neb 1	15.9	Minkowski 1-11 ESO 558-14 PK 232-4.1 PNG 232.8-4.7
KOH 1-10	FIX	PI Neb 3b		PK 229-2.1 PNG 229.6-2.7
MINK 3-2	FIX	PI Neb 3b	15.7	Minkowski 3-2 ESO 428-5 Henize 2-2 Sanduleak 3-2
WEIN 1-6	FIX	PI Neb		PK 224+1.1 PNG 224.9+1.0 Wein 1-6
MINK 1-12	FIX	PI Neb	15.2	Minkowski 1-12 ESO 559-3 PK 235-3.1 PNG 235.3-3.9
MINK 1-13	FIX	PI Neb	12.9	Minkowski 1-13 ESO 559-6 Sanduleak 2-7 PK 232-1.1
MINK 3-3	FIX	PI Neb 4	14.2	Minkowski 3-3 Sanduleak 2-8 PK 221+5.1 PNG 221.7+5.3
MINK 1-14	FIX	PI Neb	13.4	Minkowski 1-14 ESO 559-11 Sanduleak 2-9 PK 235-1.1
MINK 4-2	FIX	PI Neb 2	12.9	Minkowski 4-2 ESO 368-3 Henize 2-3 Sanduleak 2-1
ABELL 22	CMi	PI Neb 3	15.4	Kohoutek 1-11 PK 215+11.1 PNG 215.6+11.1
MINK 1-16	FIX	PI Neb ?+4	13.2	Minkowski 1-16 Sanduleak 2-11 PK 226+5.1 PNG 226.7+5.6
MINK 1-17	FIX	PI Neb	13.4	Minkowski 1-17 Sanduleak 2-12 PK 228+5.1 PNG 228.8+5.3
MINK 1-18	FIX	PI Neb 2b	14	Minkowski 1-18 Sanduleak 2-15 PK 231+4.1 PNG 231.4+4.3
ABELL 23	Pup	PI Neb	13.1	ESO 368-10 PK 249-5.1 PNG 249.3-5.4
PK 232+5.1	FIX	PI Neb		PNG 232.0+5.7
KOH 1-12	FIX	PI Neb 2	15.9	ESO 560-16 PK 236+3.1 PNG 236.7+3.5

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Object	Con	Type	Mag	Alias/Notes
ABELL 24	CMi	PI Neb 4+3	13.6	PK 217+14.1 PNG 217.1+14.7
PK 211+18.1	FIX	PI Neb 5		PNG 211.4+18.4
MINK 3-4	FIX	PI Neb 4	11.8	Minkowski 3-4 ESO 494-2 Sanduleak 2-19 Wray 19-3
PK 164+31.1	FIX	PI Neb 4	14	PNG 164.8+31.1
MINK 3-5	FIX	PI Neb 4	13.8	Minkowski 3-5 ESO 430-10 Henize 2-6 Sanduleak 2-20
KOH 1-21	FIX	PI Neb	16	ESO 369-4 PK 251-1.1 PNG 251.1-1.5
ABELL 25	Mon	PI Neb 3b	15.4	Kohoutek 1-13 PK 224+15.1 PNG 224.3+15.3
SAND 2-22	FIX	PI Neb	14.4	PK 240+7.1 PNG 240.3+7.0
PK 211+22.1	FIX	PI Neb SNR?		PNG 211.9+22.6
PNG 254.6+0.2	FIX	PI Neb	11.5	ESO 370-9
WRAY 16-20	FIX	PI Neb	16.9	PK 260-3.1 PNG 260.7-3.3
HENIZ 2-9	FIX	PI Neb	14.4	ESO 312-5 Sanduleak 2-26 Wray 16-21
RCW 21	FIX	PI Neb	14	ESO 313-1 Wray 19-11 PK 257+0.1
PK 249+6.1	FIX	PI Neb		PNG 249.0+6.9
SAND 2-28	FIX	PI Neb		ESO 370-18 Wray 16-22 PK 255+3.
HENIZ 2-11	FIX	PI Neb	13.8	ESO 313-5 Wray 16-23 PK 259+0.1
ABELL 29	Pyx	PI Neb 4	14.3	ESO 563-9 PK 244+12.1 PNG 244.5+12.5
ABELL 28	UMa	PI Neb 2b	14.6	PK 158+37.1 PNG 158.8+37.1
PNG 260.7+0.9	FIX	PI Neb		
ABELL 30	Cnc	PI Neb 2c	15.6	PK 208+33.1 PNG 208.5+33.2
KOH 2-15	FIX	PI Neb	13.4	ESO 260-8 PK 263+0.1 PNG 263.2+0.4
HENIZ 2-15	FIX	PI Neb	14.1	ESO 313-17 Sanduleak 2-32 Wray 16-32
ABELL 31	Cnc	PI Neb 3a	12.2	PK 219+31.1
KOH 1-2	FIX	PI Neb 2	15.3	ESO 432-14 PK 253+10.1 PNG 253.5+10.7
NGC 2792	Vel	PI Neb 4	13.5	ESO 314-6 Henize 2-20 Sanduleak 2-36
ABELL 33	Hya	PI Neb	12.6	PK 238+34.1
ABELL 34	Hya	PI Neb 2b	14.5	PK 248+29.1
PK 221+46.1	FIX	PI Neb SNR?	10.4	PNG 221.5+46.3
LONG 4	FIX	PI Neb	16	ESO 263-2 PK 274+9.1 PNG 274.3+9.1 Longmore 4
KOH 1-28	FIX	PI Neb		ESO 436-41 PK 270+24.1 PNG 270.1+24.8
KOH 1-22	FIX	PI Neb	12.6	ESO 378-1 PK 283+25.1 PNG 283.6+25.3
PK 291+19.1	FIX	PI Neb	16.2	ESO 320-28 PNG 291.4+19.2
KOH 1-23	FIX	PI Neb	12.6	ESO 268-12 PK 299+18.1 PNG 299.0+18.4
PK 339+88.1	FIX	PI Neb		PNG 339.9+88.4
HARO 4-1	FIX	PI Neb	16	PK 49+88.1 PNG 49.3+88.1 Haro 4-1
KOH 1-29	FIX	PI Neb		ESO 382-63 Longmore 8 PK 310+24.1
IC 972	Vir	PI Neb 2c	14.9	ABELL 37 PK 326+42.1 PNG 326.7+42.2
IC 4406	Lup	PI Neb 4+3	10.6	ESO 272-6 Henize 2-110 Sanduleak 2-105
HENIZ 2-118	FIX	PI Neb	12.7	ESO 273-16 Sanduleak 2-114 Wray 16-165
HENIZ 2-126	FIX	PI Neb 2	11.5	ESO 514-12 Sanduleak 2-120 Wray 16-176
PK 335+12.1	FIX	PI Neb 4 SNR		PNG 335.5+12.4
SAND 1-3	FIX	PI Neb	15.2	ESO 330-8 Sanduleak 2-132 Wray 15-1407
KOH 1-32	FIX	PI Neb		ESO 389-9 Longmore 11 PK 340+12.1
KOH 1-33	FIX	PI Neb		ESO 389-14 Longmore 12 PK 340+10.1
LONG 13	FIX	PI Neb		PK 345+15.1 PNG 345.5+15.1 Longmore 13

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Object	Con	Type	Mag	Alias/Notes
SAND 2-135	FIX	PI Neb 2	14	ESO 389-16 Wray 16-209 Haro 1-1
HENIZ 2-155	FIX	PI Neb	12.4	ESO 331-1 Sanduleak 2-141 Wray 16-215
SHANE 1	FIX	PI Neb	12.8	PK 13+32.1 PNG 13.3+32.7
ABELL 38	Sco	PI Neb 4+2	15.7	ESO 452-1 Wray 19-45 Kohoutek 1-3
ABELL 39	Her	PI Neb	12.9	PK 47+42.1
HENIZ 2-171	FIX	PI Neb	15	ESO 390-7 Wray 16-226 PK 346+8.1
HENIZ 2-175	FIX	PI Neb	14.9	ESO 391-1 Sanduleak 2-150 Wray 16-229
PK 61+41.1	FIX	PI Neb	13.3	PNG 61.9+41.3
HENIZ 2-178	FIX	PI Neb	14.9	ESO 331-8 Sanduleak 2-151 Wray 16-231
HENIZ 2-180	FIX	PI Neb 1	14.4	ESO 586-1 Sanduleak 2-152 PC 12
KOH 2-16	FIX	PI Neb	11	Wray 17-76 ESO 453-2 PK 352+11.2
VAND 1-2	FIX	PI Neb		ESO 332-1 PK 345+4.1 PNG 345.0+4.3 Vandervort 1-2
ABELL 40	Oph	PI Neb 2b	16.8	ESO 586-3 PK 359+15.1 PNG 359.1+15.1
WRAY 15-1537	FIX	PI Neb	12.7	PK 348+6.1 PNG 348.0+6.3
HENIZ 2-181	FIX	PI Neb	13	ESO 391-3 Sanduleak 2-153 Wray 16-234
SAND 2-155	FIX	PI Neb	14.1	ESO 453-6 Wray 16-236 PC 13
HENIZ 3-1261	FIX	PI Neb	15.6	ESO 332-3 Sanduleak 2-154 Wray 16-235
SAND 2-156	FIX	PI Neb	16.8	ESO 332-4 Vandervort 1-5 PK 344+2.1
SAND 3-38	FIX	PI Neb	16.2	ESO 277-17 Wray 16-239 Haro 1-3
SAND 2-158	FIX	PI Neb 1	14.6	ESO 453-9 Wray 16-240 Haro 1-4
SAND 2-159	FIX	PI Neb	15.3	ESO 332-7 Wray 16-241 Vandervort 1-6
MINK 2-4	FIX	PI Neb 1	13.4	Minkowski 2-4 ESO 391-7 Henize 2-188 Sanduleak 2-163
PK 343-0.1	FIX	PI Neb		PNG 343.3-0.6
MINK 2-5	FIX	PI Neb 2	16.4	Minkowski 2-5 ESO 391-8 Henize 2-190 Wray 16-246
MINK 1-19	FIX	PI Neb 1	14.2	Minkowski 1-19 ESO 392-1 Henize 2-191 Sanduleak 2-165
MINK 2-6	FIX	PI Neb 1	13.7	Minkowski 2-6 ESO 453-16 Henize 2-192 Sanduleak 2-166
HENIZ 2-194	FIX	PI Neb 2	14.4	ESO 392-2 Wray 16-247 Haro 2-1
IC 4637	Sco	PI Neb 3	13.6	ESO 332-21 Henize 2-193 Sanduleak 2-168
MINK 2-7	FIX	PI Neb 2	16.5	Minkowski 2-7 ESO 453-17 Henize 2-196 Sanduleak 2-169
MINK 2-8	FIX	PI Neb 2	14.9	Minkowski 2-8 ESO 453-18 Henize 2-197 Sanduleak 2-170
SAND 2-172	FIX	PI Neb	14.9	ESO 518-11 THE 3-1 PK 358+9.1
HENIZ 2-198	FIX	PI Neb 4	15	ESO 278-3 Sanduleak 2-173 Wray 16-249
HENIZ 2-199	FIX	PI Neb 4	16.7	ESO 278-4 Sanduleak 3-40 Wray 16-250
HENIZ 2-200	FIX	PI Neb 2	13.4	ESO 332-24 Sanduleak 2-174 Wray 16-254
MINK 4-3	FIX	PI Neb	14.1	Minkowski 4-3 ESO 519-7 Henize 2-202 Sanduleak 2-175
PNG 358.0+7.5	FIX	PI Neb		
MINK 3-36	FIX	PI Neb 2	14.8	Minkowski 3-36 ESO 519-10 Henize 2-203 Sanduleak 2-178
SAND 2-179	FIX	PI Neb	13.4	Nassau 1 PK 18+20.1 PNG 18.0+20.1
SAND 4-1	FIX	PI Neb	15.1	PK 75+35.1 PNG 75.7+35.8
MINK 2-10	FIX	PI Neb 2	16.8	Minkowski 2-10 ESO 454-1 Henize 2-205 Wray 15-1647
SAND 2-182	FIX	PI Neb 2	16.9	ESO 392-6 Haro 1-8 PK 352+3.2
SAND 3-42	FIX	PI Neb	16.4	ESO 454-5 THE 3-3 PK 356+5.1
SAND 3-44	FIX	PI Neb	16.4	ESO 454-7 THE 3-4 PK 354+3.1
MINK 3-37	FIX	PI Neb 2a	16.4	Minkowski 3-37 ESO 519-12 Henize 2-209 Sanduleak 2-184
PNG 0.3+6.9	FIX	PI Neb		

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Object	Con	Type	Mag	Alias/Notes
MINK 2-11	FIX	PI Neb 1	14.4	Minkowski 2-11 ESO 454-11 Henize 2-210 Sanduleak 2-186
MINK 3-38	FIX	PI Neb	16.5	Minkowski 3-38 ESO 454-13 Henize 2-211 Sanduleak 2-187
MINK 3-39	FIX	PI Neb 3+2	15.2	Minkowski 3-39 ESO 519-13 Henize 2-212 Sanduleak 2-188
HENIZ 2-214	FIX	PI Neb 2	14.4	ESO 587-7 Sanduleak 2-189 Haro 1-11
HENIZ 2-213	FIX	PI Neb	15.6	ESO 454-14 Sanduleak 2-190 Wray 15-1689
MINK 3-40	FIX	PI Neb	13.1	Minkowski 3-40 ESO 519-14 Henize 2-216 Sanduleak 3-46
SAND 2-192	FIX	PI Neb 2	16.9	ESO 454-16 Haro 2-7 PK 357+4.1
MINK 2-12	FIX	PI Neb 1		Minkowski 2-12 ESO 519-16 Henize 2-217 Wray 17-77
SAND 3-47	FIX	PI Neb		ESO 454-18 THE 3-11 PK 355+2.3
MINK 3-7	FIX	PI Neb 2	14.9	Minkowski 3-7 ESO 454-19 Henize 2-218 Sanduleak 2-194
HARO 2-8	FIX	PI Neb 2		ESO 588-2 PK 3+7.1 PNG 3.7+7.9 Haro 2-8
MINK 3-8	FIX	PI Neb 2	16.7	Minkowski 3-8 ESO 454-22 Henize 2-219 Wray 16-271
PNG 359.8+5.2	FIX	PI Neb		
MINK 3-9	FIX	PI Neb 3	15	Minkowski 3-9 ESO 519-17 Henize 2-221 Sanduleak 2-196
SAND 3-50	FIX	PI Neb		ESO 519-18 THE 3-14 PK 359+4.1
MINK 3-41	FIX	PI Neb 2		Minkowski 3-41 ESO 454-25 Henize 2-223 Wray 17-79
HENIZ 2-220	FIX	PI Neb 1	11.9	CAN 1-3 ESO 278-9 Sanduleak 2-195
MINK 3-42	FIX	PI Neb 2	16.9	Minkowski 3-42 Sanduleak 3-52 Wray 17-80 PK 357+3.4
PK 358+4.3	FIX	PI Neb 4		PNG 358.8+4.1
THE 3-15	FIX	PI Neb		ESO 454-26 PK 358+4.2 PNG 358.8+4.0
MINK 3-10	FIX	PI Neb	14.2	Minkowski 3-10 ESO 454-27 Henize 2-225 Sanduleak 2-198
SAND 3-53	FIX	PI Neb		ESO 454-28 THE 3-16 PK 357+3.5
HENIZ 2-226	FIX	PI Neb	16	ESO 454-31 Sanduleak 2-199 Wray 17-82
PK 358+3.9	FIX	PI Neb		PNG 358.5+3.7
PNG 2.9+6.5	FIX	PI Neb		
SAND 2-200	FIX	PI Neb 2	16.2	ESO 519-19 Haro 1-14 PK 1+5.1
HENIZ 2-227	FIX	PI Neb 4	16.1	ESO 393-1 Sanduleak 3-55 Wray 15-1712
MINK 2-13	FIX	PI Neb 1	14.4	Minkowski 2-13 Henize 2-230 Sanduleak 2-203 PK 11+11.1
HENIZ 2-229	FIX	PI Neb 2	16.3	ESO 520-1 Sanduleak 2-201 Wray 17-84
THE 3-19	FIX	PI Neb		ESO 454-34 PK 358+3.3 PNG 358.4+3.3
MINK 1-20	FIX	PI Neb 1	13.4	Minkowski 1-20 ESO 588-3 Henize 2-235 Sanduleak 2-204
HENIZ 2-231	FIX	PI Neb 1	15.5	ESO 520-2 Sanduleak 2-206 Wray 16-276
HENIZ 2-233	FIX	PI Neb 1	15.3	ESO 455-2 Sanduleak 2-209 Wray 17-85
HENIZ 2-234	FIX	PI Neb 1	16.4	ESO 455-3 Sanduleak 2-210 Haro 1-18
THE 3-23	FIX	PI Neb		ESO 455-6 PK 358+2.2 PNG 358.0+2.6
HARO 2-12	FIX	PI Neb 3		ESO 588-4 PK 4+6.1 PNG 4.5+6.8 Haro 2-12
HENIZ 2-238	FIX	PI Neb 2	15.9	ESO 456-8 Sanduleak 2-211 Wray 16-280
SAND 3-59	FIX	PI Neb 1	16.6	ESO 455-12 Wray 17-86 Haro 2-13
HENIZ 2-240	FIX	PI Neb	16.9	ESO 455-13 Sanduleak 3-60 Wray 17-87
WRAY 16-282	FIX	PI Neb 3	14.9	PK 358+2.5 PNG 358.5+2.6
SAND 3-62	FIX	PI Neb	15.8	ESO 333-11 Haro 2-14 PK 349-3.1
HENIZ 2-241	FIX	PI Neb	16.7	ESO 333-12 Sanduleak 2-212 Wray 16-283
PK 359+2.5	FIX	PI Neb 1		PNG 359.0+2.8
HENIZ 2-242	FIX	PI Neb 2	15.6	ESO 455-16 Sanduleak 2-214 Wray 16-285
SAND 2-213	FIX	PI Neb	15.1	ESO 333-13 Wray 16-284 Haro 1-21

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Object	Con	Type	Mag	Alias/Notes
SAND 2-215	FIX	PI Neb	16	ESO 393-6 Wray 16-286 PK 351-1.1
PK 357+1.2	FIX	PI Neb		PNG 357.2+1.4
HENIZ 2-244	FIX	PI Neb 2	16.2	ESO 588-5 Haro 1-24 PK 4+6.2
PK 359+2.7	FIX	PI Neb		PNG 359.5+2.6
MINK 1-22	FIX	PI Neb 4	13.3	Minkowski 1-22 ESO 588-8 Henize 2-252 Sanduleak 2-217
THE 3-32	FIX	PI Neb		ESO 455-21 PK 359+2.4 PNG 359.4+2.3
PK 0+2.1	FIX	PI Neb		PNG 0.1+2.6
LONG 16	FIX	PI Neb	13.3	PK 349-4.1 PNG 349.3-4.2 Longmore 16
PK 357+1.3	FIX	PI Neb		PNG 357.6+1.0
SAND 3-67	FIX	PI Neb		ESO 455-24 THE 3-33 PK 359+2.3
SAND 2-219	FIX	PI Neb	15.8	ESO 520-10 THE 3-27 PK 2+4.1
PK 359+2.6	FIX	PI Neb		PNG 359.6+2.2
MINK 3-12	FIX	PI Neb 2	14.8	Minkowski 3-12 ESO 588-10 Henize 2-255 Sanduleak 2-221
HENIZ 2-253	FIX	PI Neb 4	14.4	ESO 334-1 Sanduleak 2-220 Wray 16-291
MINK 1-23	FIX	PI Neb 2	14.2	Minkowski 1-23 ESO 588-11 Henize 2-256 Sanduleak 2-222
PNG 2.1+3.3	FIX	PI Neb		
MINK 1-24	FIX	PI Neb 2	14.2	Minkowski 1-24 ESO 588-12 Henize 2-258 Sanduleak 2-223
MINK 1-25	FIX	PI Neb 2	14	Minkowski 1-25 ESO 588-13 Henize 2-259 Sanduleak 2-224
THE 3-35	FIX	PI Neb		ESO 455-28 PK 359+1.1 PNG 359.3+1.4
HENIZ 2-260	FIX	PI Neb	11	ESO 588-14 PK 8+6.1 PNG 8.2+6.8
PNG 359.2+1.2	FIX	PI Neb		
HENIZ 2-257	FIX	PI Neb	12.6	ESO 279-4 Sanduleak 2-225 Wray 16-293
HENIZ 2-261	FIX	PI Neb 3	15.3	ESO 588-15 Sanduleak 2-226 Haro 2-16
HENIZ 2-263	FIX	PI Neb 2		ESO 520-14 Wray 17-93 Haro 2-17
HENIZ 2-262	FIX	PI Neb		ESO 520-15 Sanduleak 3-68 Wray 17-94
HENIZ 2-265	FIX	PI Neb 2	15.6	ESO 588-16 Sanduleak 2-227 Haro 1-27
HENIZ 2-264	FIX	PI Neb 3		ESO 520-16 Sanduleak 3-69 Wray 17-95
PK 27+16.1	FIX	PI Neb	16.3	PNG 27.6+16.9
HENIZ 2-266	FIX	PI Neb 3b	13.1	ESO 520-17 Sanduleak 2-228 Wray 16-296
SAND 2-230	FIX	PI Neb	16.2	PK 10+7.1 PNG 10.7+7.4
KOH 1-14	FIX	PI Neb 4	15.5	PK 45+24.1 PNG 45.6+24.3
PNG 358.8-0.0	FIX	PI Neb		
SAND 2-232	FIX	PI Neb 2	16.1	ESO 589-1 Haro 2-18 PK 6+4.1
HENIZ 2-270	FIX	PI Neb 1	15	ESO 193-16 Sanduleak 2-233 Wray 16-299
MINK 3-14	FIX	PI Neb 2a	14.5	Minkowski 3-14 ESO 393-19 Henize 2-271 Sanduleak 2-234
SAND 2-237	FIX	PI Neb		PK 11+7.1 PNG 11.1+7.0
KOH 1-15	FIX	PI Neb 3b		PK 51+25.1 PNG 51.9+25.8
HENIZ 2-272	FIX	PI Neb 2	16.1	ESO 334-6 Sanduleak 2-23 Wray 16-301
IC 4663	Sco	PI Neb 4	13.1	ESO 279-6 279-6 Henize 2-273 Sanduleak 2-236
MINK 3-15	FIX	PI Neb 2	14.6	Minkowski 3-15 ESO 589-2 Henize 2-279 Sanduleak 2-240
HENIZ 2-276	FIX	PI Neb	14.5	ESO 393-21 Sanduleak 2-238 Wray 16-305
MINK 1-26	FIX	PI Neb 2	13.7	Minkowski 1-26 ESO 455-33 RCW 135 Henize 2-277
WRAY 17-98	FIX	PI Neb 3+2		ESO 455-34 PK 358-1.1 PNG 358.2-1.1
HENIZ 2-278	FIX	PI Neb 1	16.9	ESO 393-23 Sanduleak 2-241 Wray 16-307
HENIZ 2-281	FIX	PI Neb	16.5	ESO 589-3 Sanduleak 3-72 THE 4-2

## Planetary Nebula by RA

Observed: No

Object	Con	Type	Mag	Alias/Notes
MINK 1-27	FIX	PI Neb 2a		Minkowski 1-27 ESO 393-24 Henize 2-280 Wray 16-308
MINK 2-15	FIX	PI Neb 2	14.2	Minkowski 2-15 Henize 2-284 Sanduleak 2-242 PK 11+6.1
SAND 3-75	FIX	PI Neb 2		ESO 589-5 Haro 2-22 PK 6+3.1
MINK 1-28	FIX	PI Neb 3+6	16.8	Minkowski 1-28 ESO 589-6 Henize 2-285 Sanduleak 3-76
HENIZ 2-283	FIX	PI Neb	15.4	ESO 393-26 Haro 1-33 PK 355-3.1
HENIZ 2-286	FIX	PI Neb 2+6	13.6	ESO 455-42 Wray 16-310 Hubble 5
NGC 6439	Sgr	PI Neb 2a	13.8	Henize Sanduleak PK
PNG 3.9+1.6	FIX	PI Neb		
SAND 3-78	FIX	PI Neb		ESO 589-7 THE 4-3 PK 6+2.1
PNG 2.2+0.5	FIX	PI Neb		
HENIZ 3-1489	FIX	PI Neb	15.2	ESO 393-27 Sanduleak 2-246 Haro 2-23
HENIZ 2-288	FIX	PI Neb	12.7	ESO 393-29 Sanduleak 2-247 Wray 16-311
HENIZ 2-289	FIX	PI Neb	12	ESO 393-31 Sanduleak 2-249 Haro 1-36
MINK 1-29	FIX	PI Neb 4+2	13.6	Minkowski 1-29 ESO 455-47 Henize 2-292 Sanduleak 2-250
MINK 3-43	FIX	PI Neb 2		Minkowski 3-43 ESO 455-48 PK 0-1.1 PNG 0.1-1.1
HENIZ 2-293	FIX	PI Neb	16.2	ESO 589-11 Sanduleak 2-252 THE 4-5
HENIZ 2-291	FIX	PI Neb 2	13.8	ESO 334-9 Sanduleak 2-251 Wray 16-314
SAND 2-254	FIX	PI Neb	15.6	ESO 589-12 THE 4-6 PK 9+4.2
SAND 2-253	FIX	PI Neb 3	13.7	ESO 393-37 Wray 16-316 PEREK 1-10
MINK 3-44	FIX	PI Neb 2	16	Minkowski 3-44 ESO 455-51 Sanduleak 3-82 Wray 16-317
MINK 4-7	FIX	PI Neb 2		Minkowski 4-7 ESO 455-54 PK 358-2.1 PNG 358.5-2.5
PK 358-2.4	FIX	PI Neb		PNG 358.3-2.5
MINK 2-17	FIX	PI Neb 2	14.8	Minkowski 2-17 ESO 589-14 Henize 2-298 Sanduleak 2-255
MINK 3-45	FIX	PI Neb 2	16.5	Minkowski 3-45 ESO 455-53 Sanduleak 3-84 Wray 17-100
SAND 2-257	FIX	PI Neb 1		ESO 589-15 THE 4-7 PK 6+2.3
MINK 2-16	FIX	PI Neb 2	14.8	Minkowski 2-16 ESO 394-4 Henize 2-297 Sanduleak 2-256
PK 0-1.2	FIX	PI Neb		ESO 455-58 PNG 0.6-1.3
MINK 1-31	FIX	PI Neb 1	13.6	Minkowski 1-31 ESO 589-16 Henize 2-299 Sanduleak 2-260
MINK 3-16	FIX	PI Neb 2	15	Minkowski 3-16 ESO 456-2 Henize 2-296 Sanduleak 2-258
MINK 1-30	FIX	PI Neb	14.7	Minkowski 1-30 ESO 394-5 Henize 2-295 Sanduleak 2-259
PK 0-1.7	FIX	PI Neb		PNG 0.5-1.6
ABELL 43	Oph	PI Neb 2c	14.7	PK 36+17.1 PNG 36.0+17.6
MINK 2-18	FIX	PI Neb 1	15.5	Minkowski 2-18 ESO 394-8 Henize 2-301 Sanduleak 2-261
MINK 2-19	FIX	PI Neb 2	16.2	Minkowski 2-19 ESO 456-7 Henize 2-302 Sanduleak 3-88
SAND 3-90	FIX	PI Neb		ESO 456-11 PK 0-1.3 PNG 0.8-1.5
PNG 12.2+4.9	FIX	PI Neb		
VYSS 1-2	FIX	PI Neb 2	12.2	PK 53+24.1 PNG 53.3+24.0 Vyssotsky 1-2
MINK 2-20	FIX	PI Neb 1	14.8	Minkowski 2-20 ESO 456-12 Henize 2-304 Sanduleak 2-262
HENIZ 2-303	FIX	PI Neb	13.9	CAN 2-1 ESO 394-10 Sanduleak 2-263
HENIZ 2-305	FIX	PI Neb 2	13.1	ESO 589-20 Sanduleak 2-264 Hubble 6
SAND 2-265	FIX	PI Neb	14.9	ESO 456-16 PK 0-2.2 PNG 0.1-2.3
SAND 2-266	FIX	PI Neb	14.9	ESO 456-17 Wray 16-328 Haro 1-40
PK 6+1.1	FIX	PI Neb		PNG 6.2+1.0
THE 4-9	FIX	PI Neb		ESO 589-21 PK 9+2.1 PNG 9.3+2.8
SAND 3-95	FIX	PI Neb 1		ESO 456-19 Haro 2-31 PK 1-1.3

## Planetary Nebula by RA

Observed: No

Object	Con	Type	Mag	Alias/Notes
MINK 1-32	FIX	PI Neb 2	15	Minkowski 1-32 Henize 2-309 Sanduleak 2-268 PK 11+4.1
HENIZ 2-306	FIX	PI Neb	14	ESO 279-12 Sanduleak 2-267 Wray 16-330
SAND 3-98	FIX	PI Neb		ESO 456-20 Wray 16-232 Haro 2-32
HENIZ 2-311	FIX	PI Neb	16.8	ESO 589-23 Sanduleak 3-99 THE 4-10
HENIZ 2-308	FIX	PI Neb 2	13	ESO 394-13 Sanduleak 2-269 Wray 16-333
HENIZ 2-310	FIX	PI Neb	14.3	ESO 394-14 Sanduleak 2-270 Wray 16-334
MINK 2-21	FIX	PI Neb 1	13.5	Minkowski 2-21 ESO 456-24 Henize 2-315 Sanduleak 2-271
HENIZ 2-313	FIX	PI Neb 1	8.5	ESO 394-15 Wray 16-335 Haro 1-43
MINK 3-19	FIX	PI Neb 2	16.4	Minkowski 3-19 ESO 456-26 Sanduleak 3-103 Wray 16-339
HENIZ 2-317	FIX	PI Neb 1	15.5	ESO 456-27 Sanduleak 2-272 Wray 16-340
MINK 2-22	FIX	PI Neb 2	15.2	Minkowski 2-22 ESO 394-16 Henize 2-316 Sanduleak 2-273
MINK 1-33	FIX	PI Neb 2	13.7	Minkowski 1-33 Henize 2-321 Sanduleak 2-275 PK 13+4.1
HENIZ 2-318	FIX	PI Neb 1	14.2	ESO 456-31 Sanduleak 2-274 Wray 16-342
MINK 3-20	FIX	PI Neb 1	14.3	Minkowski 3-20 ESO 456-32 Henize 2-319 Sanduleak 2-276
HENIZ 2-320	FIX	PI Neb 1	11.4	ESO 334-10 Sanduleak 2-277 Wray 16-346
SAND 3-109	FIX	PI Neb	16	ESO 394-17 Haro 2-35 PK 356-5.1
HENIZ 2-323	FIX	PI Neb 1		ESO 456-35 Wray 16-347 Haro 1-47
SAND 3-110	FIX	PI Neb 3		ESO 456-36 Wray 17-105 PEREK 2-12
MINK 1-34	FIX	PI Neb 2	14.9	Minkowski 1-34 ESO 394-18 Henize 2-324 Sanduleak 2-279
MINK 2-23	FIX	PI Neb 1	12.4	Minkowski 2-23 ESO 456-33 Henize 2-326 Sanduleak 2-281
SAND 2-280	FIX	PI Neb 2	16.5	ESO 394-19 Wray 16-349 PEREK 1-11
MINK 2-24	FIX	PI Neb 2	14.6	Minkowski 2-24 ESO 394-20 Henize 2-327 Sanduleak 2-282
MINK 3-22	FIX	PI Neb 2c	15.1	Minkowski 3-22 ESO 456-39 Sanduleak 2-283 Haro 1-48
MINK 3-49	FIX	PI Neb 4	16.5	Minkowski 3-49 ESO 394-22 Henize 2-329 Sanduleak 3-112
MINK 3-21	FIX	PI Neb	11.7	Minkowski 3-21 ESO 394-21 Henize 2-328 Sanduleak 2-284
MINK 2-25	FIX	PI Neb 3	15	Minkowski 2-25 ESO 456-40 Henize 2-330 Sanduleak 2-285
PK 359-4.5	FIX	PI Neb 2	16.6	PNG 359.7-4.4
MINK 2-26	FIX	PI Neb 2a	16.3	Minkowski 2-26 ESO 521-14 Henize 2-332 Sanduleak 3-113
IC 4673	Sgr	PI Neb 4	12.9	ESO 521-15 Minkowski 1-36 Henize 2-333
MINK 1-35	FIX	PI Neb 2	14.6	Minkowski 1-35 ESO 521-17 Henize 2-336 Sanduleak 2-287
MINK 2-27	FIX	PI Neb 1	14	Minkowski 2-27 ESO 456-44 Henize 2-335 Sanduleak 2-289
HENIZ 2-334	FIX	PI Neb	14.5	ESO 394-24 Sanduleak 2-288 Wray 16-359
PK 1-3.7	FIX	PI Neb 1	15.8	PNG 1.2-3.9
MINK 3-50	FIX	PI Neb 2	15.9	Minkowski 3-50 ESO 394-25 Sanduleak 2-290 PK 357-6.1
SAND 3-114	FIX	PI Neb	16.7	ESO 456-45 Wray 16-361 Haro 2-36
SAND 2-291	FIX	PI Neb 2	15.8	ESO 456-46 Haro 2-37 PK 2-3.2
SAND 3-116	FIX	PI Neb 4	16.7	ESO 394-26 Wray 16-362 Haro 1-51
SAND 3-117	FIX	PI Neb		Wray 16-363 PK 0-4.3 PNG 0.2-4.6
SAND 2-292	FIX	PI Neb 2	14.7	ESO 335-1 Wray 16-364 Haro 1-52
MINK 2-28	FIX	PI Neb 2	15.4	Minkowski 2-28 ESO 456-49 Henize 2-338 Sanduleak 2-293
PK 1-3.9	FIX	PI Neb	16.2	PNG 1.8-3.8
PNG 5.4-1.9	FIX	PI Neb		
MINK 1-37	FIX	PI Neb 1		Minkowski 1-37 ESO 456-50 Henize 2-339 Wray 16-367
HENIZ 2-342	FIX	PI Neb 1	15.7	ESO 521-24 Haro 1-53 PK 4-2.1
PK 28+10.1	FIX	PI Neb	16.8	PNG 28.0+10.2



## Planetary Nebula by RA

Observed: No

Object	Con	Type	Mag	Alias/Notes
MINK 1-38	FIX	PI Neb	9.3	Minkowski 1-38 ESO 456-52 Henize 2-344 Wray 16-368
MINK 2-29	FIX	PI Neb 2	14.7	Minkowski 2-29 ESO 521-27 Henize 2-345 Sanduleak 2-296
PK 19+5.1	FIX	PI Neb 2	16.3	PNG 19.8+5.6
MINK 3-23	FIX	PI Neb 2	13.8	Minkowski 3-23 ESO 456-54 Henize 2-348 Sanduleak 2-297
HENIZ 2-346	FIX	PI Neb 1	14.1	ESO 456-55 Sanduleak 2-298 Wray 16-372
PK 359-5.1	FIX	PI Neb 2	16.4	PNG 359.9-5.4
HENIZ 3-1592	FIX	PI Neb 2	14.4	ESO 456-57 Sanduleak 2-299 Haro 1-56
MINK 3-24	FIX	PI Neb 2	14.2	Minkowski 3-24 ESO 521-30 Henize 2-350 Sanduleak 2-300
PK 4-3.2	FIX	PI Neb 2	16.6	PNG 4.2-3.2
SAND 2-301	FIX	PI Neb	15.4	ESO 456-58 Haro 2-39 PK 2-3.6
MINK 1-40	FIX	PI Neb 2	14.7	Minkowski 1-40 ESO 590-2 Henize 2-352 Sanduleak 2-302
PK 351-10.2	FIX	PI Neb SNR?		PNG 351.0-10.4
PK 5-2.2	FIX	PI Neb		PNG 5.9-2.6
IRAS 18059-3211	FIX	PI Neb Planet	14.4	
SAND 2-303	FIX	PI Neb 1	16.4	ESO 521-34 Wray 17-111 Haro 1-58
MINK 1-41	FIX	PI Neb	17	Minkowski 1-41 Henize 2-355 Wray 17-112 PK 6-2.1
HENIZ 2-353	FIX	PI Neb 2	15.9	ESO 394-31 Sanduleak 3-121 Wray 17-113
MINK 3-52	FIX	PI Neb		Minkowski 3-52 PK 18+4.1 PNG 18.9+4.1
MINK 1-42	FIX	PI Neb 4	13.1	Minkowski 1-42 ESO 456-67 Henize 2-359 Sanduleak 2-305
SAND 2-306	FIX	PI Neb 2	14.8	ESO 456-68 Haro 1-59 PK 3-4.3
HENIZ 2-360	FIX	PI Neb		ESO 456-69 Wray 16-381 PK 3-4.7
MINK 4-8	FIX	PI Neb		Minkowski 4-8 Sanduleak 3-123 PK 18+3.1 PNG 18.9+3.6
SAND 2-309	FIX	PI Neb 4	16	ESO 456-71 Haro 2-41 PK 3-4.4
SAND 2-310	FIX	PI Neb 2	14.7	ESO 522-3 Haro 1-60 PK 4-4.1
MINK 2-30	FIX	PI Neb 1	13.1	Minkowski 2-30 ESO 456-74 Henize 2-365 Sanduleak 2-312
PK 5-3.3	FIX	PI Neb 4	16.1	PNG 5.7-3.6
HENIZ 2-366	FIX	PI Neb 1	15.5	ESO 456-75 Wray 16-388 Haro 2-43
SAND 2-311	FIX	PI Neb	14.8	Wray 16-385 PK 351-10.1 PNG 351.7-10.9
PK 2-5.2	FIX	PI Neb 4	14.6	PNG 2.5-5.4
MINK 2-31	FIX	PI Neb	13.6	Minkowski 2-31 ESO 522-6 Henize 2-368 Sanduleak 2-313
HENIZ 2-367	FIX	PI Neb 1		ESO 456-76 Wray 16-389 Haro 1-62
SAND 3-124	FIX	PI Neb 2	16.5	ESO 522-7 Haro 2-44 PK 5-4.1
MINK 4-9	FIX	PI Neb 4	16	Minkowski 4-9 Sanduleak 3-125 PK 24+5.1 PNG 24.2+5.9
SAND 2-315	FIX	PI Neb 2	15.7	ESO 522-8 Haro 2-45 PK 6-3.2
MINK 2-32	FIX	PI Neb 1	12.4	Minkowski 2-32 ESO 394-35 Henize 2-371 Sanduleak 2-316
MINK 2-33	FIX	PI Neb 2	13.1	Minkowski 2-33 ESO 456-80 Henize 2-372 Sanduleak 2-317
PK 22+4.1	FIX	PI Neb		PNG 22.5+4.8
MINK 3-25	FIX	PI Neb	15.1	Minkowski 3-25 Sanduleak 2-318 PK 19+3.1 PNG 19.7+3.2
MINK 3-26	FIX	PI Neb 4	13.8	Minkowski 3-26 ESO 522-10 Henize 2-378 Sanduleak 2-320
HENIZ 2-377	FIX	PI Neb 1	12	ESO 457-2 Sanduleak 2-319 Wray 16-397
MINK 1-44	FIX	PI Neb 2	16.1	Minkowski 1-44 ESO 522-11 Henize 2-379 Wray 16-399
HENIZ 2-380	FIX	PI Neb 1	12.8	ESO 457-3 Sanduleak 2-321 Wray 15-1853
PK 5-4.2	FIX	PI Neb	16.7	PNG 5.6-4.7
MINK 2-34	FIX	PI Neb 2	16.2	Minkowski 2-34 ESO 522-12 Henize 2-382 Sanduleak 3-127
CAN 3-1	FIX	PI Neb 2	12.4	PK 38+12.1 PNG 38.2+12.0 Cannon 3-1

## Planetary Nebula by RA

Observed: No

Object	Con	Type	Mag	Alias/Notes
MINK 2-35	FIX	PI Neb 1	15.3	Minkowski 2-35 ESO 457-4 Henize 2-384 Sanduleak 2-324
MINK 2-36	FIX	PI Neb 2	13	Minkowski 2-36 ESO 457-5 Henize 2-385 Sanduleak 2-325
PEREK 1-12	FIX	PI Neb 2	16	ESO 457-6 PK 4-5.3 PNG 4.0-5.8
SAND 3-129	FIX	PI Neb	13.4	ESO 522-14 PEREK 2-13 PK 6-4.1
SAND 2-327	FIX	PI Neb 1	15.7	ESO 457-7 Haro 2-46 PK 0-7.2
MINK 2-38	FIX	PI Neb 4	15.1	Minkowski 2-38 ESO 522-17 Henize 2-388 Sanduleak 2-328
HENIZ 2-389	FIX	PI Neb 1		ESO 522-18 Wray 16-407 Haro 1-65
MINK 2-40	FIX	PI Neb 2	16.1	Minkowski 2-40 PK 24+3.1 PNG 24.1+3.8
KOH 1-16	FIX	PI Neb 3	14.5	PK 94+27.1 PNG 94.0+27.4
MINK 2-39	FIX	PI Neb 2	14.5	Minkowski 2-39 ESO 522-20 Henize 2-391 Sanduleak 2-329
MINK 2-42	FIX	PI Neb 2	14	Minkowski 2-42 ESO 522-21 Henize 2-393 Sanduleak 2-331
MINK 2-41	FIX	PI Neb 4	14.7	Minkowski 2-41 ESO 457-10 Henize 2-392 Sanduleak 2-330
MINK 1-45	FIX	PI Neb 1		Minkowski 1-45 ESO 590-18 Henize 2-395 PK 12-2.1
PK 3-7.1	FIX	PI Neb 2	16.7	PNG 3.3-7.5
KOH 3-1	FIX	PI Neb	15.9	PK 32+7.1 PNG 32.9+7.8
PC 19	FIX	PI Neb	12.1	PK 32+7.2 PNG 32.1+7.0
HENIZ 2-397	FIX	PI Neb 4	14.4	ESO 522-24 Sanduleak 2-333 Haro 1-66
SH2 68	FIX	PI Neb	10	LBN 93 PK 30+6.1 PNG 30.6+6.2 SH2-68
HENIZ 2-398	FIX	PI Neb 2	14	ESO 522-25 Sanduleak 2-334 Haro 1-67
PK 13-2.1	FIX	PI Neb	15.2	PNG 13.8-2.8
MINK 2-43	FIX	PI Neb 1	16.8	Minkowski 2-43 Sanduleak 3-133 PK 27+4.1 PNG 27.6+4.2
WRAY 16-411	FIX	PI Neb	15.5	PK 353-12.1 PNG 353.7-12.8
KOH 3-3	FIX	PI Neb 3		PK 31+5.1 PNG 31.2+5.9
MINK 3-27	FIX	PI Neb 1	14	Minkowski 3-27 PK 43+11.1 PNG 43.3+11.6
LONG 17	FIX	PI Neb		ESO 395-7 PK 356-11.1 PNG 356.8-11.7 Longmore 17
MINK 1-46	FIX	PI Neb 4+2	14.6	Minkowski 1-46 Henize 2-401 PK 16-1.1 PNG 16.4-1.9
HENIZ 2-400	FIX	PI Neb 1	13.3	ESO 522-27 Sanduleak 2-336 Wray 15-1872
MINK 1-47	FIX	PI Neb 2	13.1	Minkowski 1-47 ESO 591-2 Henize 2-403 Sanduleak 2-338
PNG 14.9-3.1	FIX	PI Neb		
HENIZ 2-402	FIX	PI Neb	12.6	CAN 1-5 ESO 457-12 Sanduleak 2-337
SAND 3-134	FIX	PI Neb	16.4	PK 16-2.1 PNG 16.9-2.0
MINK 1-48	FIX	PI Neb 2	15.7	Minkowski 1-48 ESO 591-3 Henize 2-404 Sanduleak 2-339
SAND 2-340	FIX	PI Neb 2	16	ESO 591-4 PEREK 2-14 PK 13-4.1
ABELL 45	Sct	PI Neb 3b		PK 20-0.1 PNG 20.2-0.6
PK 23+1.1	FIX	PI Neb		PNG 23.9+1.2
KOH 3-4	FIX	PI Neb 3b+2	15.7	PK 32+5.1 PNG 32.7+5.6
ABELL 46	Lyr	PI Neb 3b+2	15.6	PK 55+16.1 PNG 55.4+16.0
HENIZ 2-406	FIX	PI Neb	16.8	ESO 522-31 Sanduleak 2-342 Wray 16-413
HENIZ 2-407	FIX	PI Neb 2	15.7	ESO 457-16 Sanduleak 3-135 Wray 16-414
MINK 3-54	FIX	PI Neb	16.6	Minkowski 3-54 Sanduleak 3-137 PK 18-2.1 PNG 18.6-2.2
MINK 1-50	FIX	PI Neb 2	13	Minkowski 1-50 ESO 591-7 Henize 2-409 Sanduleak 2-344
MINK 1-51	FIX	PI Neb 3	16.7	Minkowski 1-51 Henize 2-411 PK 21-1.1 PNG 20.9-1.1
MINK 1-52	FIX	PI Neb 2	15.5	Minkowski 1-52 Sanduleak 2-346 PK 17-2.1 PNG 17.7-2.9
WEIN 3-1	FIX	PI Neb		PK 44+10.1 PNG 44.3+10.4 Wein 3-1
MINK 4-10	FIX	PI Neb	15	Minkowski 4-10 Sanduleak 2-347 PK 19-2.1 PNG 19.2-2.2

## Planetary Nebula by RA

Observed: No

Object	Con	Type	Mag	Alias/Notes
WRAY 15-1876	FIX	PI Neb	15.2	ESO 523-2 PK 6-8.1 PNG 6.8-8.6
MINK 1-53	FIX	PI Neb 2	13.9	Minkowski 1-53 ESO 591-8 Henize 2-412 Sanduleak 2-349
MINK 1-54	FIX	PI Neb 3	12.5	Minkowski 1-54 Henize 2-413 Sanduleak 2-350 PK 16-4.1
PK 9-7.1	FIX	PI Neb	15	PNG 9.8-7.5
HENIZ 3-1716	FIX	PI Neb	15.1	ESO 591-9 Sanduleak 1-7 Sanduleak 2-351
MINK 1-55	FIX	PI Neb		Minkowski 1-55 ESO 591-10 Henize 2-414 PK 11-6.1
SAND 2-352	FIX	PI Neb	14.4	ESO 591-11 PK 14-5.2 PNG 14.3-5.5
MINK 2-44	FIX	PI Neb 4	15	Minkowski 2-44 Sanduleak 2-354 PK 28+1.1 PNG 28.5+1.6
MINK 1-56	FIX	PI Neb 1	13.3	Minkowski 1-56 Henize 2-415 Sanduleak 2-353 PK 16-4.2
MINK 3-29	FIX	PI Neb 2	13.1	Minkowski 3-29 ESO 458-1 Henize 2-416 Sanduleak 2-355
MINK 1-57	FIX	PI Neb 2	13.5	Minkowski 1-57 Sanduleak 2-356 PK 22-2.1 PNG 22.1-2.4
SAND 3-144	FIX	PI Neb		Kohoutek 3-11 PK 23-1.2 PNG 23.8-1.7
MINK 3-30	FIX	PI Neb 4	14.6	Minkowski 3-30 Sanduleak 3-143 PK 17-4.1 PNG 17.9-4.8
MINK 1-58	FIX	PI Neb 2	13.9	Minkowski 1-58 Sanduleak 2-357 PK 22-3.1 PNG 22.0-3.1
PC 20	FIX	PI Neb 1		PK 31+1.1 PNG 31.7+1.7
MINK 1-59	FIX	PI Neb 2	13.3	Minkowski 1-59 Sanduleak 2-358 PK 23-2.1 PNG 23.9-2.3
MINK 1-60	FIX	PI Neb 1	14.1	Minkowski 1-60 Sanduleak 2-359 PK 19-4.1 PNG 19.7-4.5
MINK 3-31	FIX	PI Neb 1	14.3	Minkowski 3-31 ESO 591-15 Henize 2-419 Sanduleak 2-361
WEIN 1-7	FIX	PI Neb		PK 21-3.1 PNG 21.2-3.9 Wein 1-7
HENIZ 2-418	FIX	PI Neb	15.1	ESO 458-4 Sanduleak 2-360 Wray 16-417
MINK 3-32	FIX	PI Neb 2	13.6	Minkowski 3-32 ESO 523-6 Henize 2-420 Sanduleak 2-362
PNG 29.2-0.0	FIX	PI Neb		
SAND 2-364	FIX	PI Neb ?+3	13.9	ESO 591-16 PC 21 PK 13-7.1
KOH 4-5	FIX	PI Neb	15.7	PK 26-1.1 PNG 26.6-1.5
MINK 1-61	Sct	PI Neb 1	12.2	PK 19-5.1 Minkowski 1-61
SAND 3-145	FIX	PI Neb 2+3b	16.1	PEREK 1-15 PK 25-2.1 PNG 25.9-2.1
HENIZ 2-422	FIX	PI Neb 1	14.1	ESO 523-7 Wray 16-419 Haro 2-48
SAND 2-366	FIX	PI Neb 2b	14.1	PEREK 1-16 PK 26-2.1 PNG 26.3-2.2
SAND 3-147	FIX	PI Neb 3+2	16.7	PEREK 1-17 PK 24-3.1 PNG 24.3-3.3
MINK 3-33	FIX	PI Neb 2	13.5	Minkowski 3-33 ESO 523-9 Henize 2-423 Sanduleak 2-367
KOH 3-14	FIX	PI Neb		PK 42+5.1 PNG 42.0+5.4
SAND 3-148	FIX	PI Neb 2a	15.9	PEREK 1-18 PK 27-2.1 PNG 27.3-2.1
SAND 2-368	FIX	PI Neb 2	15.2	PEREK 1-19 PK 26-2.3 PNG 26.5-3.0
PK 51+9.1	FIX	PI Neb	12.2	PNG 51.4+9.6
MINK 1-64	FIX	PI Neb 4	12.8	Minkowski 1-64 PK 64+15.1 PNG 64.9+15.5
PK 31-0.2	FIX	PI Neb		PNG 31.3-0.5
MINK 1-62	FIX	PI Neb 2	13.2	Minkowski 1-62 ESO 523-10 Henize 2-424 Sanduleak 2-369
PK 31-0.1	FIX	PI Neb		PNG 31.9-0.3
SAND 1-8	FIX	PI Neb	14.5	Sanduleak 2-370 PK 20-5.1 PNG 20.7-5.9
MINK 1-63	FIX	PI Neb 2	14.3	Minkowski 1-63 Sanduleak 2-371 PK 21-5.1 PNG 21.1-5.9
ABELL 49	Sct	PI Neb 2c	16.7	PK 27-3.1 PNG 27.3-3.4
SAND 2-372	FIX	PI Neb 1	13.5	Vysotsky 1-4 PK 27-3.2 PNG 27.4-3.5
MINK 4-11	FIX	PI Neb 2	14.9	Minkowski 4-11 Sanduleak 2-373 PK 24-5.1 PNG 24.2-5.2
RCW 181	FIX	PI Neb 3b		PK 38+2.1 PNG 38.7+1.9
SAND 2-376	FIX	PI Neb	13.2	ESO 592-6 PK 13-10.1 PNG 13.7-10.6

## Planetary Nebula by RA

Observed: No

Object	Con	Type	Mag	Alias/Notes
HENIZ 2-425	FIX	PI Neb 2	10.9	CAN 1-6 ESO 458-9 Sanduleak 2-375
KOH 3-17	FIX	PI Neb 2		PK 39+2.1 PNG 39.8+2.1
MINK 1-65	FIX	PI Neb 2	16.6	Minkowski 1-65 PK 43+3.1 PNG 43.1+3.8
SAND 2-377	FIX	PI Neb 4	16.3	PEREK 1-20 PK 28-4.1 PNG 28.2-4.0
SAND 3-150	FIX	PI Neb 4	16.9	PEREK 1-21 PK 28-3.1 PNG 28.7-3.9
PK 35-0.1	FIX	PI Neb	12.8	PNG 35.1-0.7
MINK 1-66	FIX	PI Neb 1	13.2	Minkowski 1-66 Sanduleak 2-378 PK 32-2.1 PNG 32.7-2.0
SAND 3-151	FIX	PI Neb		PK 33-1.1 PNG 33.2-1.9
KOH 4-10	FIX	PI Neb	13.6	PK 52+7.1 PNG 52.2+7.6
SHAP 4-1	FIX	PI Neb 1 SNR	13.7	PK 68+14.1 PNG 68.7+14.8 Shapley 4-1
ABELL 51	Sgr	PI Neb 4	15.4	PK 17-10.1 PNG 17.6-10.2
PK 23-7.1	FIX	PI Neb	15.3	PNG 23.3-7.6
SAND 2-379	FIX	PI Neb	15.9	Kohoutek 3-19 PK 32-2.2 PNG 32.9-2.8
PK 14-11.1	FIX	PI Neb		PNG 14.7-11.8
PK 43+2.1	FIX	PI Neb		PNG 43.3+2.2
PK 36-1.2	FIX	PI Neb		PNG 36.9-1.1
SH2 78	FIX	PI Neb		PK 46+3.1 PNG 46.8+3.8 SH2-78
KOH 1-17	FIX	PI Neb 4	16.6	PK 51+6.1 PNG 51.5+6.1
ABELL 52	Aql	PI Neb 3b	16.5	PK 50+5.1 PNG 50.4+5.2
KOH 4-16	FIX	PI Neb	16.5	PK 48+4.2 PNG 48.5+4.2
HENIZ 2-426	FIX	PI Neb 2	13.4	ESO 397-2 Sanduleak 2-381 Hubble 8
PK 46+2.1	FIX	PI Neb		PNG 46.8+2.9
ABELL 53	Aql	PI Neb 4	16.9	PK 40-0.1 PNG 40.3-0.4
PK 36-2.1	FIX	PI Neb		PNG 36.9-2.6
KOH 3-22	FIX	PI Neb		PK 45+1.1 PNG 45.6+1.5
ABELL 55	Aql	PI Neb 3	15.4	PK 33-5.1 PNG 33.0-5.3
MINK 167	FIX	PI Neb	8.2	Minkowski 167 SH2 -80 Henize 2-427 PK 50+3.1
ABELL 56	Aql	PI Neb 4	15.5	PK 37-3.2 PNG 37.9-3.4
KOH 4-19	FIX	PI Neb		PK 38-3.1 PNG 38.4-3.3
MINK 2-47	FIX	PI Neb 2	14.9	Minkowski 2-47 PK 39-2.1 PNG 39.5-2.7
MINK 4-13	FIX	PI Neb 4	16.3	Minkowski 4-13 Henize 2-429 PK 48+1.1 PNG 48.7+1.9
MINK 1-69	FIX	PI Neb 1	13.9	Minkowski 1-69 PK 38-3.2 PNG 38.7-3.3
PK 29-7.1	FIX	PI Neb	15.6	PNG 29.8-7.8
HENIZ 2-430	FIX	PI Neb	15.9	PK 51+3.1 PNG 51.0+3.0
SAND 2-383	FIX	PI Neb	16.1	ESO 397-7 PK 5-18.1 PNG 5.2-18.6
KOH 3-27	FIX	PI Neb	14.9	PK 61+8.1 PNG 61.0+8.0
KOH 3-26	FIX	PI Neb	16	PK 35-5.1 PNG 35.7-5.0
PK 51+2.1	FIX	PI Neb	17	PNG 51.0+2.8
KOH 3-30	FIX	PI Neb	15.7	PK 40-3.1 PNG 40.4-3.1
PK 19-13.1	FIX	PI Neb	14	ESO 593-9 PNG 19.4-13.6
SAND 2-387	FIX	PI Neb	13.3	Nassau 2 PK 26-11.1 PNG 25.9-10.9
ABELL 61	Cyg	PI Neb 2b	14.4	PK 77+14.1 PNG 77.6+14.7
ABELL 60	Sgr	PI Neb 2b	15.7	PK 25-11.1 PNG 25.0-11.6
PK 51+1.1	FIX	PI Neb 4		PNG 51.3+1.8
MINK 4-14	FIX	PI Neb 4+3	14.8	Minkowski 4-14 PK 43-3.1 PNG 43.0-3.0

## Planetary Nebula by RA

Observed: No

Object	Con	Type	Mag	Alias/Notes
SAND 2-389	FIX	PI Neb	13.4	ESO 459-17 Wray 16-423 PK 6-19.1
HENIZ 2-432	FIX	PI Neb	16.9	PK 55+2.1 PNG 55.2+2.8
HENIZ 1-1	FIX	PI Neb 2+3	16.3	Henize 2-433 PK 55+2.2 PNG 55.3+2.7
KOH 3-34	FIX	PI Neb	15.8	PK 59+4.1 PNG 59.0+4.6
HENIZ 1-2	FIX	PI Neb		Henize 2-435 PK 55+2.3 PNG 55.6+2.1
MINK 3-34	FIX	PI Neb 2	12.6	Minkowski 3-34 Sanduleak 2-390 PK 31-10.1 PNG 31.0-10.8
PB 9	FIX	PI Neb 1	14.7	PK 46-3.1 PNG 46.3-3.1
PB 10	FIX	PI Neb	14.8	PK 48-2.1 PNG 48.0-2.3
KOH 4-28	FIX	PI Neb		PK 50-1.1 PNG 50.4-1.6
PK 34-10.1	FIX	PI Neb 3		PNG 34.1-10.5
HENIZ 2-436	FIX	PI Neb	14.1	ESO 398-7 Sanduleak 2-391 PK 4-22.1
KOH 3-36	FIX	PI Neb	15.9	PK 44-5.1 PNG 44.3-5.6
MINK 4-15	FIX	PI Neb 6	16.9	Minkowski 4-15 Henize 2-437 PK 61+3.1 PNG 61.3+3.6
ABELL 62	Aql	PI Neb 2c	14.8	PK 47-4.1 PNG 47.1-4.2
KOH 3-37	FIX	PI Neb	16	PK 59+2.1 PNG 59.4+2.3
KOH 3-38	FIX	PI Neb 2		PK 53-1.1 PNG 53.2-1.5
KOH 3-39	FIX	PI Neb		PK 59+2.2 PNG 59.9+2.0
KOH 3-40	FIX	PI Neb	16.4	PK 58+1.1 PNG 58.9+1.3
MINK 1-71	FIX	PI Neb	14	Minkowski 1-71 Henize 2-439 PK 55-0.1 PNG 55.5-0.5
HENIZ 2-440	FIX	PI Neb	16.5	PK 60+1.1 PNG 60.5+1.8
PNG 60.4+1.5	FIX	PI Neb		
HENIZ 2-441	FIX	PI Neb 4	12.6	Merrill 1-1 PK 52-2.2 PNG 52.5-2.9
KOH 3-42	FIX	PI Neb 2		PK 56-0.1 PNG 56.4-0.9
MINK 4-16	FIX	PI Neb	16.2	Minkowski 4-16 Henize 2-442 PK 61+2.1 PNG 61.8+2.1
KOH 2-7	FIX	PI Neb 3b		ESO 594-10 PK 19-19.1 PNG 19.4-19.6
MINK 1-73	FIX	PI Neb 2	13.9	Minkowski 1-73 Henize 2-443 PK 51-3.1 PNG 51.9-3.8
MINK 1-72	FIX	PI Neb 1	16.5	Minkowski 1-72 Henize 2-444 PK 54-2.1 PNG 54.4-2.5
PC 22	FIX	PI Neb	14.4	PK 51-4.1 PNG 51.0-4.5
MINK 1-74	FIX	PI Neb 1	12.8	Minkowski 1-74 Henize 2-445 PK 52-4.1 PNG 52.2-4.0
ABELL 64	Aql	PI Neb 3	15.3	PK 44-9.1
ABELL 65	Sgr	PI Neb 2a	15.2	SH2 -52 ESO 526-3 PK 17-21.1
HENIZ 1-3	FIX	PI Neb 2	16	Henize 2-448 PK 59-1.1 PNG 59.0-1.7
KOH 3-46	FIX	PI Neb 3b+6	16.4	PK 69+3.1 PNG 69.2+3.8
MINK 2-48	FIX	PI Neb 3	16.5	Minkowski 2-48 Henize 2-449 PK 62-0.1 PNG 62.4-0.2
ABELL 66	Sgr	PI Neb 3b	14.9	ESO 595-4 PK 19-23.1 PNG 19.8-23.7
PK 14-25.1	FIX	PI Neb		PNG 14.8-25.6
ABELL 67	Aql	PI Neb 2b	16	PK 43-13.1 PNG 43.5-13.4
HENIZ 1-4	FIX	PI Neb 3b	14.1	Henize 2-453 PK 68+1.2 PNG 68.6+1.1
ABELL 68	Vul	PI Neb 3	16.6	PK 60-4.1 PNG 60.0-4.3
PK 58-5.1	FIX	PI Neb		PNG 58.6-5.5
KOH 3-51	FIX	PI Neb	14.7	PK 56-6.1 PNG 56.8-6.9
KOH 3-53	FIX	PI Neb	16.8	PK 64-2.1 PNG 64.9-2.1
KOH 3-73	FIX	PI Neb	15.2	PNG 84.0+9.5
PK 75+4.1	FIX	PI Neb 3b	16	PNG 75.6+4.3
KOH 1-6	FIX	PI Neb 2		PK 107+21.1

## Planetary Nebula by RA

Observed: No

Object	Con	Type	Mag	Alias/Notes
MINK 1-75	FIX	PI Neb 3b+6	16	Minkowski 1-75 Henize 2-454 PK 68-0.1 PNG 68.8-0.0
KOH 3-54	FIX	PI Neb		PK 63-3.1 PNG 63.8-3.3
KOH 3-56	FIX	PI Neb 2	16.3	PK 79+6.1 PNG 79.9+6.4
KOH 3-55	FIX	PI Neb		PK 69+0.1 PNG 69.7-0.0
KOH 3-74	FIX	PI Neb	16.1	PK 84+9.1 PNG 78.6+5.2
MINK 4-17	FIX	PI Neb 4+2	14.5	Minkowski 4-17 PK 79+5.1 PNG 79.6+5.8
WEIN 1-9	FIX	PI Neb		PK 65-3.1 PNG 65.1-3.5 Wein 1-9
HENIZ 1-5	FIX	PI Neb 3+2	16.2	Henize 2-457 Henize 3-1844 PK 60-7.1
KOH 4-51	FIX	PI Neb	15.5	PK 77+3.1 PNG 77.5+3.7
KOH 3-57	FIX	PI Neb	15.8	PK 72+0.1 PNG 72.1+0.1
HENIZ 2-459	FIX	PI Neb		PK 68-2.1 PNG 68.3-2.7
KOH 3-75	FIX	PI Neb	17	PK 77+3.2 PNG 77.7+3.1
HENIZ 1-6	FIX	PI Neb 3+2	14.9	Henize 2-462 PK 65-5.1 PNG 65.2-5.6
HENIZ 3-1863	FIX	PI Neb		PNG 359.2-33.5
HENIZ 1-7	FIX	PI Neb	13.5	Henize 2-463 PC 24 PK 66-5.1
MINK 3-35	FIX	PI Neb 1	14.6	Minkowski 3-35 Henize 2-465 PK 71-2.1 PNG 71.6-2.3
WEIN 1-10	FIX	PI Neb	15.1	PK 86+5.1 PNG 86.1+5.4 Wein 1-10
ABELL 71	Cyg	PI Neb 3b	15.2	SH2 -116 PK 85+4.1 PNG 84.9+4.4
KOH 4-53	FIX	PI Neb	16	PK 78-2.1 PNG 78.3-2.7
KOH 4-55	FIX	PI Neb		PK 84+1.1 PNG 84.2+1.0
ABELL 72	Del	PI Neb 3b	14.6	PK 59-18.1 PNG 59.7-18.7
PK 80-6.1	FIX	PI Neb Planet	13.5	
PK 6-41.1	FIX	PI Neb	16.7	PNG 6.0-41.9
WEIN 1-11	FIX	PI Neb		PK 91+1.1 PNG 91.6+1.8 Wein 1-11
PK 89-0.1	FIX	PI Neb 3a	14.5	PNG 89.8-0.6
ABELL 74	Vul	PI Neb 2	12.2	PK 72-17.1 PNG 72.7-17.1
WEIN 2-245	FIX	PI Neb		PK 87-3.1 PNG 87.4-3.8 Wein 2-245
MINK 1-77	FIX	PI Neb 2a	10.6	Minkowski 1-77 PK 89-2.1 PNG 89.3-2.2
MINK 1-78	FIX	PI Neb	16.9	Minkowski 1-78 PK 93+1.1 PNG 93.5+1.4
KOH 3-81	FIX	PI Neb	15.4	PK 83-8.1 PNG 83.9-8.4
KOH 3-60	FIX	PI Neb	16	PK 98+4.1 PNG 98.2+4.9
KOH 3-61	FIX	PI Neb 2	16.8	PK 96+2.1 PNG 96.3+2.3
KOH 3-82	FIX	PI Neb	16	PK 93-0.1 PNG 93.3-0.9
KOH 3-62	FIX	PI Neb	16	PK 95+0.1 PNG 95.2+0.7
ABELL 77	Cep	PI Neb 3a+3	16.4	SH2 -128 PK 97+3.1 PNG 97.5+3.1
PK 86-8.1	FIX	PI Neb 2	12.7	PNG 86.5-8.8
MINK 1-79	FIX	PI Neb 4	13.2	Minkowski 1-79 PK 93-2.1 PNG 93.3-2.4
KOH 3-84	FIX	PI Neb	14.6	PK 91-4.1 PNG 91.6-4.8
KOH 3-63	FIX	PI Neb 2	16	PK 98+2.1 PNG 98.1+2.4
MINK 2-49	FIX	PI Neb 1	15.8	Minkowski 2-49 PK 95-2.1 PNG 95.1-2.0
MINK 2-50	FIX	PI Neb 2	14.5	Minkowski 2-50 PK 97-2.1 PNG 97.6-2.4
IC 5148	Gru	PI Neb 4	12.9	IC 5150 ESO 344-5 PK 2-52.1
PK 107+7.1	FIX	PI Neb		PNG 107.7+7.8
PK 111+11.1	FIX	PI Neb		PNG 111.0+11.6
MINK 2-52	FIX	PI Neb 3	14	Minkowski 2-52 PK 103+0.2 PNG 103.7+0.4

## Planetary Nebula by RA

**Observed: No**

Object	Con	Type	Mag	Alias/Notes
MERR 2-2	FIX	PI Neb 1	11.5	PK 100-8.1 PNG 100.0-8.7 Merrill 2-2
MINK 2-53	FIX	PI Neb 3b	15.1	Minkowski 2-53 PK 104-1.1 PNG 104.4-1.6
ABELL 80	Lac	PI Neb 4	15.2	PK 102-5.1 PNG 102.8-5.0
MINK 2-54	FIX	PI Neb		Minkowski 2-54 PK 104-6.1 PNG 104.8-6.7
MINK 1-80	FIX	PI Neb 2	14	Minkowski 1-80 PK 107-2.1 PNG 107.7-2.2
PNG 110.1+1.9	FIX	PI Neb		
VYSS 2-3	FIX	PI Neb 2	13.9	PK 107-13.1 PNG 107.6-13.3 Vyssotsky 2-3
HUB 12	FIX	PI Neb	14	PK 111-2.1 PNG 111.8-2.8 Hubble 12
MINK 2-55	FIX	PI Neb 3	14.3	Minkowski 2-55 PK 116+8.1 PNG 116.2+8.5
KOH 1-20	FIX	PI Neb 4	16.5	PK 110-12.1 PNG 110.6-12.9
ABELL 84	Cas	PI Neb 3b	14.4	PK 112-10.1 PNG 112.9-10.2

Sub Total 641

**Observed: Yes**

NGC 40	Cep	PI Neb 3b+3	10.7	PK 120+9.1 PNG 120.0+9.8
NGC 246	Psc	PI Neb 3b	8	PK 118-74.1 PNG 118.8-74.7
MINK 1-1	And	PI Neb	14.1	PK 130-11.1 Minkowski 1-1
NGC 650	Per	PI Neb 3+6	12.2	M 76 Little Dumbbell PK 130-10.1 PNG 130.9-10.5
IC 1747	Cas	PI Neb 3b	13.6	PK 130+1.1 PNG 130.2+1.3
MINK 1-2	Per	PI Neb 1	14.9	Minkowski 1-2 PK 133-8.1 PNG 133.1-8.6
ABELL 4	Per	PI Neb	14.8	PK 144-15.1
IC 289	Cas	PI Neb 4+2	12.3	Hubble 1 PK 138+2.1 PNG 138.8+2.8
NGC 1360	For	PI Neb 3	9.6	ESO 482-7 Minkowski 1-3 PK 220-53.1
IC 351	Per	PI Neb 2a	12.4	PK 159-15.1 PNG 159.0-15.1
IC 2003	Per	PI Neb 2	12.6	PK 161-14.1 PNG 161.2-14.8
NGC 1501	Cam	PI Neb 3	13.3	PK 144+6.1 PNG 144.5+6.5
NGC 1514	Tau	PI Neb 3+2	10	PK 165-15.1 PNG 165.5-15.2
NGC 1535	Eri	PI Neb 4+2c	9.6	PK 206-40.1 PNG 206.4-40.5
J 320	Ori	PI Neb 2+4	12.9	PK 190-17.1 Jonckheere 320
IC 2120	Aur	PI Neb		Minkowski 2-3 PK 169-0.1
		Planetary?		
IC 418	Lep	PI Neb 4	10.7	PK 215-24.1 PNG 215.2-24.2
NGC 2022	Ori	PI Neb 4+2	12.4	PK 196-10.1 PNG 196.6-10.9
IC 2149	Aur	PI Neb 3b+2	11.2	PK 166+10.1 PNG 166.1+10.4
ABELL 12	Ori	PI Neb	12.4	PK 198-6.1
IC 2165	CMa	PI Neb 3b	12.9	PK 221-12.1 PNG 221.3-12.3
J 900	Gem	PI Neb 3b+2	12.4	PK 194+2.1 Jonckheere 900
NGC 2242	Aur	PI Neb	15.1	PNG 170.3+15.8
MINK 1-7	Gem	PI Neb 2	13.4	PK 189+7.1 Minkowski 1-7
NGC 2346	Mon	PI Neb 3b+4	11.8	Minkowski 1-10 Sanduleak 2-5 PK 215+3.1
ABELL 20	CMi	PI Neb	13.7	PK 214+7.1
NGC 2371	Gem	PI Neb 3a+2	13	NGC 2372
ABELL 21	Gem	PI Neb	10.7	PK 205+14.1
NGC 2392	Gem	PI Neb 3b+3b	9.9	Eskimo Nebula PGC 21128

## Planetary Nebula by RA

Observed: Yes

Object	Con	Type	Mag	Alias/Notes
NGC 2438	Pup	PI Neb 4+2	10.1	Sanduleak 2-13 PK 231+4.2 PNG 231.8+4.1
NGC 2440	Pup	PI Neb 5+3	10.8	ESO 560-9 Sanduleak 2-14 PK 234+2.1
NGC 2452	Pup	PI Neb 4+3	12.6	ESO 493-11 RCW 17 Henize 2-4
SAND 2-21	Pup	PI Neb	13.6	Sanduleak 2-21 PK 238+7.2 PNG 238.9+7.3 ESO 561-16
NGC 2610	Hya	PI Neb 4+2	13.6	Sanduleak 2-27 PK 239+13.1 PNG 239.6+13.9
MINK 3-6	Pyx	PI Neb 2a	10.7	PK 254+5.1 Minkowski 3-6 Henize 2-12 Sanduleak 2-29 Wray 16-25
NGC 2818	Pyx	PI Neb PN	11.6	ESO 372-13 Henize 2-23 Sanduleak 2-39
NGC 3132	Vel	PI Neb 4+2	8.2	Eight-burst Planetary
NGC 3242	Hya	PI Neb 4+3b	8.6	Ghost of Jupiter ESO 568-5
NGC 3587	UMa	PI Neb 3a	12	M 97 Owl Nebula PK 148+57.1 PNG 148.4+57.0
NGC 4361	Crv	PI Neb 3a+2	10.3	ESO 573-19 PK 294+43.1 PNG 294.1+43.6
IC 3568	Cam	PI Neb 2+2a	11.6	PK 123+34.1 PNG 123.6+34.5
ABELL 35	Hya	PI Neb 3a	12	PK 303+40.1
ABELL 36	Vir	PI Neb	11.8	PK 318+41.1
NGC 5873	Lup	PI Neb 2	13.3	ESO 328-34 Henize 2-121 Sanduleak 2-117
NGC 6026	Lup	PI Neb 4	13.2	ESO 389-7 Henize 2-144 Sanduleak 2-131
NGC 6058	Her	PI Neb 3+2	13.3	PK 64+48.1 PNG 64.6+48.2
IC 4593	Her	PI Neb 2+2	10.9	PK 25+40.1 PNG 25.3+40.8
NGC 6072	Sco	PI Neb 3a	14.1	ESO 389-15 Sanduleak 2-134 PK 342+10.1
NGC 6153	Sco	PI Neb 4	11.5	ESO 331-6 RCW 112 Henize 2-167
NGC 6210	Her	PI Neb 2+3b	9.3	PK 43+37.1 PNG 43.1+37.7
IC 4634	Oph	PI Neb 2a+3	10.7	ESO 587-1 Henize 2-189 Sanduleak 2-164
MINK 2-9	Oph	PI Neb ?+6	14.6	PK 10+18.2 PNG 10.8+18.0 Minkowski 2-9
NGC 6302	Sco	PI Neb 6	12.8	Bug Nebula ESO 392-5 Gum 60 RCW 124 Henize 2-204 PK 349+1.1
NGC 6309	Oph	PI Neb 3b+6	10.8	Box Nebula Henize 2-206 PK 9+14.1 Sanduleak 2-281
NGC 6337	Sco	PI Neb 4	11.9	ESO 333-5 Henize 2-215 Sanduleak 2-191
NGC 6369	Oph	PI Neb 4+2	12.9	ESO 520-3 Henize 2-232 Sanduleak 2-207
NGC 6445	Sgr	PI Neb 3b+3	13.2	Little Gem ESO 589-9 Henize 2-290
IC 4677	Dra	PI Neb Envel. of N6543	15.7	MCG 11-22-17 VV 121 PGC 61193
NGC 6543	Dra	PI Neb 3a+2	8.8	the Cat's Eye Nebula
NGC 6537	Sgr	PI Neb 2a+6	12.5	ESO 590-1 Henize 2-340 Sanduleak 2-294
NGC 6565	Sgr	PI Neb 4	13.2	ESO 456-70 Henize 2-362 Sanduleak 2-307
NGC 6563	Sgr	PI Neb 3a	13.8	ESO 394-33 Henize 2-361 Sanduleak 2-308
NGC 6572	Oph	PI Neb 2a	9	PK 34+11.1 PNG 34.6+11.8
NGC 6567	Sgr	PI Neb 2a+3	11.7	ESO 590-8 Henize 2-369 Sanduleak 2-314
NGC 6578	Sgr	PI Neb 2a	13.1	ESO 590-12 Henize 2-381 Sanduleak 2-322
NGC 6620	Sgr	PI Neb 2b	15	ESO 522-22 Henize 2-394 Sanduleak 2-332
NGC 6629	Sgr	PI Neb 2a	11.6	ESO 522-26 Henize 2-399 Sanduleak 2-335
NGC 6644	Sgr	PI Neb 2	12.2	ESO 522-23 Henize 2-408 Sanduleak 2-343
MINK 3-28	Sct	PI Neb 2+3	14.3	PK 21-0.1 Minkowski 3-28
IC 4732	Sgr	PI Neb 1	13.3	ESO 523-1 Henize 2-410 Sanduleak 2-345
SAND 2-348	Sgr	PI Neb 2	15.1	Sanduleak 2-348 PK 10-6.2 PNG 10.7-6.7 Perek 1-13 ESO 523-3
IC 4776	Sgr	PI Neb 2a	11.7	ESO 396-2 Henize 2-421 Sanduleak 2-363
NGC 6720	Lyr	PI Neb 4+3	9.7	M 57 Ring Nebula PK 63+13.1 PNG 63.1+13.9
SAND 2-374	Sct	PI Neb	14.2	Sanduleak 2-374 PK 25-4.1 PNG 25.3-4.6 Kohoutek 4-8



## Planetary Nebula by RA

Observed: Yes

Object	Con	Type	Mag	Alias/Notes
IC 1295	Sct	PI Neb 3b+2	15	PK 25-4.2 PNG 25.4-4.7
NGC 6742	Dra	PI Neb 2c	15	ABELL 50 PK 78+18.1 PNG 78.5+18.7
SH2 71	Aql	PI Neb 3b+3	13.2	PK 36-1.1 PNG 35.9-1.1 SH2-71
NGC 6741	Aql	PI Neb 4	10.8	Sanduleak 2-380 Jonckheere 475 PK 33-2.1
NGC 6751	Aql	PI Neb 3	12.5	Sanduleak 2-382 PK 29-5.1 PNG 29.2-5.9
NGC 6765	Lyr	PI Neb 5	13.1	Minkowski 1-68 PK 62+9.1 PNG 62.4+9.5
NGC 6772	Aql	PI Neb 3b+2	14.2	Sanduleak 2-384 PK 33-6.1 PNG 33.1-6.3
IC 4846	Aql	PI Neb 2	12.7	Sanduleak 2-385 PK 27-9.1 PNG 27.6-9.6
IC 1297	CrA	PI Neb	10.6	ESO 337-20 Henize 2-431 Sanduleak 2-386
NGC 6778	Aql	PI Neb 3+3	13.3	Sanduleak 2-388 PK 34-6.1 PNG 34.5-6.7
NGC 6781	Aql	PI Neb 3+3	11.8	PK 41-2.1 PNG 41.8-2.9
NGC 6790	Aql	PI Neb 2	10.2	PK 37-6.1 PNG 37.8-6.3
MINK 1-70	Aql	PI Neb 1	12.7	PK 45-2.1 PNG 45.4-2.7 Minkowski 1-70 Vyssotsky 2-2
NGC 6803	Aql	PI Neb 2a	11.3	PK 46-4.1 PNG 46.4-4.1
NGC 6804	Aql	PI Neb 4+2	12.2	PK 45-4.1 PNG 45.7-4.5
NGC 6807	Aql	PI Neb 2	13.8	PK 42-6.1 PNG 42.9-6.9
HENIZ 2-438	Cyg	PI Neb 4	9.6	Henize 2-438 PK 64.7+5.0 PNG 64.7+5.0 Campbell's Hydrogen Star
NGC 6818	Sgr	PI Neb 4	9.9	Sanduleak 2-392 PK 25-17.1 PNG 25.8-17.9
NGC 6826	Cyg	PI Neb 3a+2	9.8	Blinking Planetary PK 83+12.1 PNG 83.5+12.7
NGC 6833	Cyg	PI Neb 2	13.8	PK 82+11.1 PNG 82.5+11.3
KOH 4-37	Cyg	PI Neb		Kohoutek 4-37 PK66+2.1
HENIZ 2-450	Cyg	PI Neb 1	14.7	PK 68+3.1 Henize 2-450
NGC 6842	Vul	PI Neb 3b	13.6	SH2 -95 LBN 19 Henize 2-451
KOH 4-41	Cyg	PI Neb	15.9	Kohoutek 4-41 PK68+1.1
NGC 6853	Vul	PI Neb 3+2	7.6	M 27 Dumbbell Nebula Henize 2-452 PK 60-3.1 PNG 60.8-3.6
NGC 6852	Aql	PI Neb 4	12.8	Kohoutek 1-18 PK 42-14.1 PNG 42.5-14.5
NGC 6884	Cyg	PI Neb 2b	12.6	PK 82+7.1 PNG 82.1+7.0
NGC 6879	Sge	PI Neb 2a	13	Henize 2-455 PK 57-8.1 PNG 57.2-8.9
NGC 6881	Cyg	PI Neb 2a+3	14.3	Henize 2-456 PK 74+2.1 PNG 74.5+2.1
NGC 6886	Sge	PI Neb 2+3	12.2	Henize 2-458 PK 60-7.2 PNG 60.1-7.7
NGC 6891	Del	PI Neb 2a+2b	11.7	PK 54-12.1 PNG 54.1-12.1
NGC 6894	Cyg	PI Neb 4+2	14.4	Henize 2-460 PK 69-2.1 PNG 69.4-2.6
IC 4997	Sge	PI Neb 1	11.6	Henize 2-464 PK 58-10.1 PNG 58.3-10.9
NGC 6905	Del	PI Neb 3+3	11.9	Henize 2-466 PK 61-9.1 PNG 61.4-9.5
ABELL 70	Aql	PI Neb	14.5	PK 38-25.1
NGC 7008	Cyg	PI Neb 3	13.3	PK 93+5.2 PNG 93.4+5.4
NGC 7009	Aqr	PI Neb 4+6	8.3	Saturn Nebula PK 37.7-34.5
NGC 7026	Cyg	PI Neb 3a	12.7	PK 89+0.1 PNG 89.0+0.3
NGC 7027	Cyg	PI Neb 3a	10.4	PK 84-3.1 PNG 84.9-3.4
NGC 7048	Cyg	PI Neb 3b	11.3	Hubble 9 PK 88-1.1 PNG 88.7-1.6
NGC 7076	Cep	PI Neb 3b	17	ABELL 75 PK 101+8.1 PNG 101.8+8.7
PEASE 1	Peg	PI Neb 1	14.9	CENTRAL STAR 14.9 MAG
IC 5117	Cyg	PI Neb 2	13.3	PK 89-5.1 PNG 89.8-5.1
ABELL 78	Cyg	PI Neb	13.4	PK 81-14.1
NGC 7094	Peg	PI Neb 4	13.6	Kohoutek 1-19 PK 66-28.1 PNG 66.7-28.2

## Planetary Nebula by RA

**Observed: Yes**

<b>Object</b>	<b>Con</b>	<b>Type</b>	<b>Mag</b>	<b>Alias/Notes</b>
NGC 7139	Cep	PI Neb 3b	13.3	PK 104+7.1 PNG 104.1+7.9
MINK 2-51	Cep	PI Neb 2+3	13.5	PK 103+0.1 Minkowski 2-51
IC 5217	Lac	PI Neb 2	12.6	PK 100-5.1 PNG 100.6-5.4
ABELL 79	Lac	PI Neb	14.9	PK 102-2.1
NGC 7293	Aqr	PI Neb 4+3	7.5	Helix Nebula PK 36-57.1 PNG 36.1-57.1
NGC 7354	Cep	PI Neb 4+3b	12.9	PK 107+2.1 PNG 107.8+2.3
IC 1454	Cep	PI Neb 4	14.8	ABELL 81 PK 117+18.1 PNG 117.5+18.9
NGC 7662	And	PI Neb 4+3	9.2	Blue Snowball PK 106-17.1
JONES 1	Peg	PI Neb 3b	12.1	Jones 1 PK 104-29.1 PNG 104.2-29.6
ABELL 82	Cas	PI Neb	12.7	IC 1454

*Sub Total 129*

*Total: 770*