**Planetary Nebula Observations**

**ABELL 4**  
Per  
Oct 07 2010 31"  
12mmT4 PF,PS,R,UB,2 PGC GAL CLOSE BY,OIII DOESNOT HELP MUCH,17MM - COMP GAL HARD TO DET,R=F  
Feb 05 2005 31"  
17mmT4 DIF,VF,MS,R,OIII,GREENISH,SOME PATCHY AREAS DET,PAIR=PGC10427,R=G

**ABELL 12**  
Ori  
Jan 24 2004 31"  
16mmT5 MF,PL,OVAl,UB,SHISB,WITH OIII,R=G  
Jan 24 2004 31"  
17mmT4 NEB NOT VISIBLE WITHOUT OIII,R=P  
Jan 24 2004 31"  
24mmTP MF,MS,OVAl,UB,MOD HISB,WITH OIII,* CLOSE BY ALMOST TOUCHING,R=G

**ABELL 20**  
CMi  
Apr 04 2005 31"  
17mmT4 DIF,EF,PL,R,W/OIII,NET DET,PATCHY AREAS,VF**S INSIDE NEB,R=F  
Apr 04 2005 31"  
17mmT4 VDIF,EF,PL,OVAl,3F**S IN CENTRAL PART OF NEB,R=P

**ABELL 21**  
Gem  
Dec 28 2008 31"  
17mmT4 VDIF,PF,VL,L DIF AREA OF NEB,PATCHY IN AREAS,OIII HELPS SOMewhat,NEB BRTER,R=F  
Jan 24 2004 31"  
24mmTP DIF,PF,VL,UB,WITH OIII,PATCHY AREAS IN 2 HALVES CENTERED AROUND *,R=G

**ABELL 35**  
Hya  
Mar 20 2009 31"  
17mmT4 C* APPRX 9TH MAG,W AND W/O OIII CANNOT DETECT ANY NEB,R=P  
Mar 17 2009 31"  
17mmT4 LOC GOOD,SCAN WITH AND WITHOUT OIII,ON MERIDIAN,GOOD SKIES,NO NEB DET,R=P

**ABELL 36**  
Vir  
Mar 20 2009 31"  
17mmT4 EF,PL,C* 10TH MAG,F NEB DET AROUND C *,NO NEB OUTER SHELL,OIII DOESNOT HELP,R=P  
Mar 17 2009 31"  
17mmT4 BRT BLUEISH FUZZY BALL,NO OUTER SHELL OF NEB DET,OIII DOESN'T HELP,R=F

**ABELL 70**  
Aql  
Jun 25 2003 12.5"  
9mmT6 VDIF,VF,MS,R,PATCH,F** ON ONE EDGE,AV,R=F

**ABELL 78**  
Cyg  
Sep 18 2004 31"  
17mmT4 VDIF,W/OIII,VF,ML,CENTRAL * APPROX 13TH MAG,R,AREA OF NEB DETECTED,R=F

**ABELL 79**  
Lac  
Sep 18 2004 31"  
17mmT4 W/OIII,VDIF,VF,MS,PATHC,F** IN PL,OBLONG-PATCHY,VF**S OUTER EDGE,R=F

**ABELL 82**  
Cas  
Sep 02 2008 31"  
17mmT4 DIF,EF,ML,OVAl,C* 15MAG,OTHER F**S IN NEB CLOSE TO CENTER,OIII HELPS DET NEB,R=P  
Sep 19 2004 31"  
17mmT4 VDIF,W/OIII,VF,ML,OVAl,PATCH,B* IN CTR,3F**S IN NEB ONE SIDE,LG BALL/PATCH,R=F

**HENIZ 2-438**  
Cyg  
Sep 02 2008 31"  
12mmT4 VB,VS,R,INNER CORE RING REDDISH,C* 12TH MAG,FT NEB AROUND C*,OIII NO HELP,R=F  
Sep 02 2008 31"  
17mmT4 VB,VS,R,INNER CORE RING REDDISH,C* 12TH MAG,FT NEB AROUND C*,OIII NO HELP,R=F

**HENIZ 2-450**  
Cyg  
Jun 19 2004 31"  
17mmT4 PF,ES,WITH OIII,VERY STELLAR LIKE,SOMewhat BLUE,R=F

**IC 289**  
Cas  
Oct 07 2010 31"  
12mmT4 MB,ML,C* JUST BARELY VISIBLE,APPROX 17 MAG,NEB PATCHY,R=G  
Oct 07 2010 31"  
17mmT4 MB,SM,R,UB,NO C*,OIII HELPS LITTLE,NEB PATCHY NOT ROUND,R=G  
Sep 18 2004 31"  
17mmT4 MF,ML,R,UB,W/OIII, GREENISH, DARK PATCH IN CENTER SUSP,NO CENTRAL *,R=E
Planetary Nebula Observations

IC 351 Per  Pl Neb 2a  PK 159-15.1  PNG 159.0-15.1  
Oct 07 2010  31"  12mmT4  MB,VS,R,BNUC,BRT BLUE,SUDDENLY MBM,BRT NUC,OIII BRIGHTENS NEB,HELP LS LITTLE,R=G  
Dec 20 2003  31"  17mmT4  PB,MS,R,VHISB,BRT BLUE,NO CENTRAL *,R=G  

IC 418 Lep  Pl Neb 4  PK 215-24.1  PNG 215.2-24.2  
Dec 28 2008  31"  17mmT4  VB,PS,R,BRT C*10M,GRANDULAR NEB,C* GETS LOST IN NEB WITH AV,OIII HELPS LITTLE,R=G  
Oct 31 1980  12.5"  9mm  BRT BLUE,NICE!!!  

IC 1295 Sct  Pl Neb 3b+2  PK 25-4.2  PNG 25.4-4.7  
Aug 23 2009  31"  12mmT4  MF,PL,OVNL,PATCHY,NO C*,SEVERAL F**S IN NEB,SOME CLOSE TO CENTER,OIII HELPS,DARK INNER HOLE,BREAK IN EDGES,PAIR=SAND2-374,R=F  
Sep 05 2007  31"  17mmT4  W/OIII,MB,ML,OVNL,PATC,HISB,SHISB,PARC HRY AREAS,F EW F**S IN NEB,R=E  

IC 1297 CrA  Pl Neb  ESO 337-20  Henize 2-431  Sanduleak 2-386  
Sep 02 2008  31"  17mmT4  MF,PS,OVNL,R,OIII HELPS LITTLE,GRNISH,NO C*,10 DEG ABOVE HORZ AT MERIDIAN,R=F  

IC 1454 Cep  Pl Neb 4  ABELL 81 PK 117+18.1 PNG 117.5+18.9  
Sep 12 2012  36"  17mmT4  MF,MS,R,PATCH,UB,2F**S ON EDG E,NO CENTRAL *,W/OIII,R NEB WITH DARK INNER CIRCLE,R=G  
Jun 20 2004  31"  17mmT4  W/OIII,JP,PL,UB,VERY ROUND,SHARP EDGES,DARK CENTER,2F**S ON OUTER EDGE,R=G  

IC 1747 Cas  Pl Neb 3b  PK 130+1.1  PNG 130.2+1.3  
Oct 07 2010  31"  12mmT4  PB,MS,R,DARK HOLE IN CENTER,SLIGHTLY BRTER ONE SIDE,OIII DOES NOT HELP MUCH,NO C*,R=G  
Oct 07 2010  31"  17mmT4  MB,VS,R,BRT BLUE,CENTRAL REGION DARK,HOLE,NO C*,OIII HELPS SOMewhat,ONE SIDE BRTER THAN OTHER,R=G  
Sep 18 2004  31"  17mmT4  PB,MS,W/OIII,R,DARK CENTER SUSP,BRT R BLUEISH BALL,R=E  

IC 2003 Per  Pl Neb 2  PK 161-14.1 PNG 161.2-14.8  
Oct 07 2010  31"  12mmT4  MB,VS,R,NO C*,ONE HALF NEB BRTER THAN OTHER,OIII HELPS LITTLE,R=G  
Feb 05 2005  31"  17mmT4  OIII,JP,VS,R,BRT AREA ON ONE SIDE,PAIR=MAC,R=E  

IC 2120 Aur  Pl Neb Planet5 18.2 +37 36  Minkowski 2-3 PK 169-0.1  
Dec 15 2004  12.5"  12mmT4  EDIF,EF,VS,DETECTED WITHOUT OIII,VF* WITH FAINT GLOW DET,R=P  
Dec 15 2004  12.5"  12mmT4  EDIF,EF,PS,W/OIII,LOC VERY GOOD,SUSP PATCH AT BEST,R=P  

IC 2149 Aur  Pl Neb 3b+2  PK 166+10.1 PNG 166.1+10.4  
Dec 28 2008  31"  17mmT4  PB,MS,OVNL,BRT C*,HISB,BRT BLUE,W/OIII,NO C*,NEB ELONG,R=G  
Feb 17 2004  31"  17mmT4  DIF,JP,MS,ELONG,OVNL,MHISB,OIII,NO CENTRAL *,UB CENTER,FAINT THIN HALO,R=E  

IC 2165 CMa  Pl Neb 3b  PK 221-12.1 PNG 221.3-12.3  
Dec 28 2008  31"  17mmT4  MB,PS,R,UB,BRT BLUEISH BALL,NO C*,OIII DOES NOT HELP MUCH,R=G  
Dec 19 2006  31"  17mmT4  VB,PS,R,BRT BLUE BALL,NO CENTRAL *,W/OIII NEB IS BRIGHTER,R=G  

IC 3568 Cam  Pl Neb 2+2a  PK 123+34.1 PNG 123.6+34.5  
Mar 17 2009  31"  17mmT4  VF,ML,R,F* OFF SIDE,BRT BLUEISH,GBM,BRT CENT REG,OUTER SHELL GRANDULAR,W/OIII,DOES NOT HELP MUCH,R=E  
Feb 04 2005  31"  17mmT4  PB,ML,R,BNUC,BRT BLUE,BM,HALO AROUND CENTRAL NUC,F* OFF ONE EDGE,R=E  

IC 4593 Her  Pl Neb 2+2  PK 25+40.1 PNG 25.3+40.8  
Apr 16 2009  31"  17mmT4  VB,MS,R,C* 10TH,BRT BLUEISH GREEN BALL,BRT CENT REGION,GRANDULAR NEB AROUND C*,OIII KNOCKS OUT C*,DOES NOT HELP MUCH,R=E
Planetary Nebula Observations

IC 4634 Oph  Pl Neb 2a+3  ESO 587-1 Henize 2-189 Sanduleak 2-164
May 17 2009 31*  17mmT4  PB,PS,BRT BLUEISH BALL,NO C*,MEB ELONG W/TAPPERED ENDS,OIII DOES NOT HELP,R=G
Jun 19 2004 31*  17mmT4  VF,PS,R,UB,WITH OIII,BRT BLUE,TAPPERED ENDS,NO CENTRAL *,R=E

IC 4677 Dra  Pl Neb Envel.  MCG 11-22-17 VV 121 PGC 61193
May 19 2009 31*  17mmT4  MB,ML,UB,IRR SHAPE,NO C*,OIII DOES NOT HELP,PAIR=6543,R=G
Mar 26 2006 31*  17mmT4  VDIF,VF,MS,OVAL,PATCH,NO CENTRAL *,W/OIII STANDS OUT BETTER,PATCHY,PAIR=6543,R=P

IC 4732 Sgr  Pl Neb 1  ESO 523-1 Henize 2-410 Sanduleak 2-345
May 19 2009 31*  12mmT4  MF,ES,R,HARD TO DET FROM FOV **S,NO C*,OIII DOES NOT HELP,BLUEISH BALL,R=P
Sep 12 2007 31*  17mmT4  PF,PS,R,VERY SM BRT CENTER WITH F NEB AROUND CENTRAL *,OIII DOES NOT HELP,R=F

IC 4776 Sgr  Pl Neb 2a  ESO 396-2 Henize 2-421 Sanduleak 2-363
Aug 15 2009 31*  17mmT4  MB,VS,R,UB,NO C*,BRT BLUEISH BALL,OIII,STANDS OUT OF FOV,BKGND **S FADE,R=F
Sep 12 2007 31*  12mmT4  W/OIII,EB,ML,VERY BRT BLUEISH BALL,SOME FAINT NEB AROUND NEC DET,R=G
Sep 12 2007 31*  17mmT4  W/OIII,VB,PS,UB,BRT BLUEISH BALL,R=G

IC 4846 Aql  Pl Neb 2  Sanduleak 2-385 PK 27-9.1 PNG 27.6-9.6
Sep 02 2008 31*  17mmT4  MF,VS,R,NO C*,OIII MAKES NEB STAND OUT,BRT BLUE,VERY SMALL,R=G
May 16 2004 31*  17mmT4  PB,VS,R,WITH OIII,BRT BLUE,ROUND DISK,HISB,R=G

IC 4997 Sge  Pl Neb 1  Henize 2-464 PK 58-10.1 PNG 58.3-10.9
Jul 05 2008 31*  12mmT4  PB,PS,R,CENTRAL REGION BRT,W/OIII,HELPS MUCH,BM,HALO DET AROUND MIDDLE,R=G
Sep 10 2004 31*  17mmT4  VB,MS,BNUC,HISB,W/OIII,BRIGHT BLUE,BRT CENTRAL DISC WITH FAINT HALO,ALMOST *,R=G

IC 5117 Cyg  Pl Neb 2  PK 89-5.1 PNG 89.8-5.1
Sep 02 2008 31*  17mmT4  MB,VS,R,UB,BLUEISH BALL,CLOSE TO *,OIII HELPS LTTL,F NEB DET ARND BALL,NO C*,R=F
Sep 18 2004 31*  17mmT4  MB,VS,R,HISB,W/OIII,CLOSE BY,BRT BLUE,VERY SMALL DISC,FNEB DET WITH AV,R=F

IC 5217 Lac  Pl Neb 2  PK 100-5.1 PNG 100.6-5.4
Sep 02 2008 31*  17mmT4  MB,VS,R,UB,BLUEISH BALL,NO C*,OIII HELPS LTL,FT HALO NEB DET ARND BALL,R=F
Sep 18 2004 31*  17mmT4  MB,VS,R,HISB,W/OIII,BRT BLUEISH BALL W/F HALO DET,CENTRAL *,SUSP,BM,R=G

J 320 Ori  Pl Neb 2+4  PK 190-17.1 Jonckheere 320
Dec 28 2008 31*  17mmT4  PF,VS,NO C*,VS UB BALL,BLUEISH,OIII DOESN'T HELP MUCH,R=G
Oct 04 2005 31*  17mmT4  VB,PS,R,W/OIII,BRT BLUE,FAINT NEB DET OUTSIDE R BALL,R=G

J 900 Gem  Pl Neb 3b+2  PK 194+2.1 Jonckheere 900
Dec 28 2008 31*  17mmT4  PB,VS,R,UB,NO C*,VS BRT BLUE BALL,* CLOSE,HOI MAKE NEB BERTER,R=G
Feb 17 2004 31*  17mmT4  DIF,PF,MS,BRT BLUE,* CLOSE BY,CENTRAL BRIGHTNESS DET,R=G
Feb 17 2004 31*  17mmT4  PB,MS,R,HISB,FAINT HALO AROUND OBJECT DET,OIII,R=E

JONES 1 Peg  Pl Neb 3b  Jones 1 PK 104-29.1 PNG 104.2-29.6
Sep 02 2008 31*  17mmT4  DIF,VF,VL,PATCH,OIII HELPS MUCH,2 CRESENT HALVES,SEVERAL VF'*S IN CENTRAL REG,C' 16TH MAG,BROKEN IN HALF,R=F

KOH 4-37 Cyg  Pl Neb  Kohoutek 4-37 PK66+2.1
Jun 19 2004 31*  17mmT4  VDIF,EF,PS,WITH OIII,EXTREMELY DIF,KOHOUTEK 4-34,R=P
Planetary Nebula Observations

KOH 4-41  Cyg  Pl Neb
Sep 11 2004 31"  17mmT4  EF,ES,PATCH,W/OIII,JUST OUTSIDE 3 F**S,R=P

MINK 1-1  And  Pl Neb
Oct 20 2006 31"  17mmT4  PB,PS,R,LARGE BNUC,W/OIII/NEB BRTER,NO CENTRAL *,BRT BLUE,F* CLOSE BY,R=G

MINK 1-2  Per  Pl Neb 1
Sep 02 2008 31"  17mmT4  PF,ES,R,STELLAR LIKE,BLUEISH,OIII DOESNOT HELP MUCH,R=P

MINK 1-7  Gem  Pl Neb 2
Dec 28 2008 31"  17mmT4  MB,VS,R,UB,BRT BLUEISH,NO C*,OIII DOESN'T HELP MUCH,R=G
Feb 17 2004 31"  17mmT4  DIF,VF,MS,R,BRT BLUE,R NUC,NO CENTRAL *,FT NEB AROUND CENTRAL REGION,OIII,R=G

MINK 2-9  Oph  Pl Neb ?+6
May 17 2009 31"  12mmT4  MB,PS,ELONG,VSML CENT REGION OR C* APPROX 12TH MAG,NEB ELONG (BAR) FROM C*, LOOKS LIKE EDGE ON GAL W/VERY SNUC,OIII DOES NOT HELP,R=F

MINK 3-6  Pyx  Pl Neb 2a
Dec 28 2008 31"  17mmT4  MB,PS,OVRL,R,UB,NO C*,BRT BLUEISH BALL,OIII HELPS LITTLE,MORE BLUE,R=G

MINK 1-70  Aql  Pl Neb 1
Sep 02 2008 31"  17mmT4  MF,ES,R,OIII HELPS LITTLE,BLUEISH SM BALL,NO C*,HARD TO DET FROM FOV **S,R=F

MINK 2-51  Cep  Pl Neb 2+3
Jun 20 2004 31"  17mmT4  PF,MS,R,WITH OIII,VERY F* IN CENTER,R=G

MINK 3-28  Sct  Pl Neb 2+3
Aug 13 2007 31"  17mmT4  VF,VS,PATCH,UB,W/OIII,CAN SEE LARGER AREA OF NEB,DOESN'T HELP MUCH,R=F

NGC 40  Cep  H58-4  Pl Neb 3b+3  F,VS,R,VSMBM,*12SP
Sept 02 2008 31"  17mmT4  PB,ML,OVRL,LAYERS OF RINGS DET,BRT C*,GREENISH,F* ON EDGE,OIII NO HELP,R=E
July 09 1983 12.5"  12mm  MB,VS,BNEC,BRT CENTRAL *,SHARP EDGES,R
Aug 13 1982 12.5"  16mm  BG COLOR,MB,PS,R,BRT CENTRAL *,(10TH MAG),SIM TO BLINKING PL,F*W SIDE
Aug 13 1982 12.5"  7mm  ELONGATION STARTING TO SHOW UP

NGC 246  Psc  H25-5  Pl Neb 3b  VF,L,4*IN DIF NEB
Sept 02 2008 31"  17mmT4  VF,ML,OVRL,OIII HELPS GRTLY,TRANSLUCENT BUBLE,C*13MAG,BRT RINGS IN EDGE,R=G
Sept 27 1981 12.5"  16mm  DIF,BLUE GREEN,MB,BL,SOURROUNDS 4 **S, 1 * S,PATCHY OVALNESS
Oct 31 1980 12.5"  24mm  
Oct 29 1980 8"  24mm  
Sep 18 1980 12.5"  24mm  3**S IN NEB,ONE MOST LIKELY CENTRAL *

NGC 650  Per  M76  H193-1  Pl Neb 3+6  VB,P OF DNEB
Sept 02 2008 31"  17mmT4  VB,VL,BRT HOUR GLASS CENTRAL REGION,FT WHISPS OF NEB SIDES,OIII NO HELP,F* EDGE OF HOUR GLASS,NO C* DET,R=E
Mar 19 2004 12.5"  12mmT4  W/OIII, VB,PL,HOUR GLASS SHAPE,BAR,TWO HALVES,MESSIER MARATHON 2004,R=E
Dec 06 2002 12.5"  9mmT6  PB,PL,2 LOBES EASILY DETECTED,MHISB,BRT REGION IN ONE LOBE. M76
Mar 02 1984 10"  20mm  SAME
Planetary Nebula Observations

NGC 650 Per M76 H193-1 PI Neb 3+6 VB,P OF DNEB M 76 Little Dumbbell PK 130-10.1 PNG 130.9-10.5  
Aug 25 1982 12.5" 16mm HOUR GLASS SHAPE,WHIPHS OF NEB AROUND TIPS,SAME AS BEFORE  
Oct 03 1981 12.5" 24mm BLUE GREEN,MB,PS,S PART BRTER,HISB,2 PARTS DET,DARK PATCH  
Mar 27 1981 12.5" 24mm MESSIER MARATHON 1981  
Aug 22 1980 12.5" 24mm  
Aug 19 1980 12.5" 24mm  
Jul 24 1980 12.5" 24mm  
Jul 17 1980 12.5" 24mm  
Jul 11 1980 12.5" 24mm

NGC 1360 For PI Neb 3 "8IN B,LNEB,E NS ESO 482-7 Minkowski 1-3 PK 220-53.1  
Dec 28 2008 31" 17mmT4 PF,PL,EL,C*11M,OIII HELPS A LOT,ONE HALF BRTER THAN OTHER,SOMETHAT HISB,R=G

NGC 1501 Cam H53-4 PI Neb 3 PLN,PB,PS,VLE,1'DIAM PK 144+6.1 PNG 144.5+6.5  
Oct 09 2010 31" 17mmT4 MB,ML,R,C* 13TH MAG,GREYISH GREEN COLOR,VERY R,SHARP EDGES,DARKER INNER RING,OIII HELPS LITTLE,C' GOES AWAY,R=E  
Oct 03 1981 12.5" 12mm VERY R,UB,F CENTRAL * 14TH MAG DET,GREEN,DIF,MF,MS

NGC 1514 Tau H69-4 PI Neb 3+2 "9IN NEB3'DIAM PK 165-15.1 PNG 165.5-15.2  
Oct 09 2010 31" 17mmT4 PB,PL,OVAL,OIII HELPS BRING OUT MORE DETAIL IN NEB,DARK PATCHES IN NEB,R=E  
Oct 09 2010 31" 17mmT4 PB,PL,OVAL,R,C* APPROX 9TH MAG,LARGE NEB,SPRIAL IN STR,DARK INNER RING BROKEN,R=E  
Dec 25 1984 12.5" 16mm PB,ML,BRT CENTRAL *,LOC BETWEEN 2B"S,LARGE BALL OF NEBULA,R,MOD HISB

NGC 1535 Eri H26-4 PI Neb 4+2c PLN,VB,S,R,PS,VSBM,R PK 206-40.1 PNG 206.4-40.5  
Dec 28 2008 31" 17mmT4 VB,ML,R,C*12M,OIII BRT INNER RING,R HALO,HISB MIDDLE,OIII HELPS SOMETIME,R=E  
Oct 30 1981 12.5" 12mm BLUE,MB,PL,BRT MIDDLE,12MAG CENTRAL *  
Oct 31 1980 12.5" 24mm SIM IN COLOR TO SATURN NEBULA,FIND 1537 FIRST,GREAT!!!

NGC 2022 Ori H34-4 PI Neb 4+2 PLN,PB,VS,VLE PK 196-10.1 PNG 196.6-10.9  
Dec 28 2008 31" 17mmT4 MB,ML,R,PATCH,VF C* WITH AV,EDGES FRAILED,OIII DOESN'T HELP MUCH,R=G  
Dec 30 1983 12.5" 12mm MF,PS,NO CENTRAL * DET,R,UB,LINE OF F"S OFF TO BOTH SIDES  
Oct 31 1980 12.5" 24mm LOOKS LIKE PALE GREY *  
Sep 10 1980 12.5" 24mm  
Sep 10 1980 12.5" 32mm EASILY DET,NICE

NGC 2242 Aur PI Neb EEF,VS,R,F*NF PNG 170.3+15.8  
Feb 17 2004 31" 17mmT4 DIF,MF,VS,OVAL,PATCH,ONE SIDE BRTER THAN OTHER,APPEARS ROUND AT TIMES,OIII,R=G

NGC 2346 Mon H65-4 PI Neb 3b+4 "10AFF W/S,VF,NEB Minkowski 1-10 Sanduleak 2-5 PK 215+3.1  
Dec 28 2008 31" 17mmT4 VB,PL,R,HISB,BRT C*11,BRT GREENISH,MORE NEB WITH AV,OIII DOESN'T HELP MUCH,R=E  
Oct 05 2002 12.5" 9mmT6 PB,PS,BNUC,BVM,CENTRAL * APPROX 8 MAG,R,HISB,BLUE GREEN CENTRAL REGION

NGC 2371 Gem H316-2 PI Neb 3a+2 B,S,R,BMN,P OF DNEB NGC 2372  
Dec 28 2008 31" 17mmT4 PB,PL,C*15.2 HALVES,LOBES BOTH SIDES,HISB,HOUR GLASS SH,OIII HELPS V LITTLE,R=E  
Feb 21 1984 12.5" 12mm SAME  
Feb 21 1984 12.5" 12mm SAME,SOUTH PART BRTER THAN N,CENTRAL * DET,VF,VS  
Oct 23 1982 12.5" 12mm SEE 2371  
Oct 23 1982 12.5" 12mm MF,MS,2 PARTS EASILY DET,W SIDE BRTER,BOTH MOD HISB,NSS  
Dec 03 1980 12.5" 24mm  
Dec 03 1980 12.5" 24mm
Planetary Nebula Observations

NGC 2371  Gem  H316-2  Pl Neb 3a+2  B,S,R,BMN,P OF DNEB  NGC 2372
Oct 31 1980  12.5"  16mm  DOUBLE NEBULA,2 NEB ON TOP OF EACH OTHER,NICE!!
Oct 31 1980  12.5"  16mm  DOUBLE NEBULA,2 NEB ON TOP OF EACH OTHER,NICE!!

NGC 2392  Gem  H45-4  Pl Neb 3b+3b  B,S,R,9M,*8NF100"  Eskimo Nebula  PGC 21128
Nov 22 2006 12.5"  12mmT4  EB,VL,BRT CENTRAL * GOES AWAY WITH AV,BRT BLUE BALL,PATCHY AREAS DET OUTER,R=E
Dec 04 2004 31"  17mmT4  VB,VL,WITH OIII,CENTRAL * EASY,RINGS AROUND CENTRAL *,DARK RINGS BETWEEN,OUTER
NEBULA LOOKS MATTED,BRIGHT BLUE,BEST EVER SEEN TO DATE,R=E
Feb 21 1984 12.5"  12mm  MB,PS,ESKIMO NUBULA,CENTRAL * EASILY DET,PATCHED IN NEB DET,FORMS TRI W2"S
Oct 23 1982 12.5"  12mm  CENTRAL * DET,SOME DARK AREAS IN GAS DET
Oct 16 1982 12.5"  12mm  BLUE,MF,VS,R,UB,NO CENTRAL *
Oct 31 1980 12.5"  24mm  ESKIMO NEBULA,NON STELL,GREAT!!

NGC 2438  Pup  H39-4  Pl Neb 4+2  PLN,PB,PS,VLE,R  Sanduleak 2-13  PK 231+4.2  PNG 231.8+4.1
Dec 28 2008 31"  17mmT4  VB,ML,NO C',IRR,2 HALVES/LOBES,HISB MIDDLE,F OUT SHELL, OIII HELP DETAIL,R=E
Mar 19 2004 12.5"  12mmT4  W/OIII. PLANETARY IN M46,RING SHAPE,CENTRAL DARKNESS,DONUT APPEARANCE,R=E
Mar 27 1982 12.5"  12mm  MF,PS,24MM-NO CENTRAL * DET,R,UB,12MM-CENTRAL * DET,UB,R,SOME DARK PATCHES SUSP
Dec 03 1980 12.5"  24mm  PLANETARY IN M46,GREAT!!

NGC 2440  Pup  H64-4  Pl Neb 5+3  PLN,CB,NOT VWELL DEF  ESO 560-9  Sanduleak 2-14  PK 234+2.1
Dec 28 2008 31"  17mmT4  VB,PL,EL,NO C',IRR,2 HALVES/LOBES,HISB MIDDLE,F OUT SHELL, OIII HELP DETAIL,R=E
Dec 03 1980 12.5"  24mm  SIM TO SATURN NEBULA,BRT BLUE,SLIGHT DIF NEB AROUND OBJECT

NGC 2452  Pup  H35-4  Pl Neb 4+3  PLN,F,S,LE,AM60*  ESO 493-11  RCW 17  Henize 2-4
Dec 28 2008 31"  17mmT4  MB,MS,OVL,DARK AREA IN NEB DET,NO C*,OIII DOESN'T HELP MUCH,GREENISH COLOR,R=G
Nov 22 2006 12.5"  12mmT4  MF,VS,R,PAIR=2453,S BLUEISH BALL,OIII HELPS SOMEWHAT,R=G
Dec 03 1980 12.5"  24mm  NOT MUCH SURFACE BRT,PAIL GREY,OVAL,PATCH,BESIDE CLUSTER - 2453

NGC 2610  Hya  H35-4  Pl Neb 4+2  F,S,ATTTO*13,*7NF  Sanduleak 2-27  PK 239+13.1  PNG 239.6+13.9
Dec 28 2008 31"  17mmT4  PB,ML,OVAL,UB,B* IN FOV,* IN EDGE,VF C'15,OIII DOESN'T HELP MUCH,GREENISH COLOR,R=G
Nov 22 2006 12.5"  12mmT4  MF,PS,R,F* ON EDGE OF NEB,OIII HELPS OUT SLIGHTLY,R=F
Mar 29 2006 31"  17mmT4  DIF,MB,ML,R,UB,* IN EDGE,W/OIII,PATCHY,DARK AREAS,OVAL WITH BRT EDGES,R=G

NGC 2818  Pyx  Pl Neb PN  PLN,PB,PL,R,VGLBM  ESO 372-13  Henize 2-23  Sanduleak 2-39
Dec 28 2008 31"  17mmT4  MB,MS,UB,NO C*,NEB INSIDE CLUSTER CR 206,W/OIII,NEB HAS PATCHY AREAS,R=G

NGC 3132  Vel  Pl Neb 4+2  PLN,VB,VL,LE*9M  Eight-burst Planetary
Dec 28 2008 31"  17mmT4  VB,PL,OVAL,BRT C*,DARK INNER RING,BRT BLUEISH GREEN,8 DEG ABOVE H,OIII HELPS,R=E

NGC 3242  Hya  H27-4  PL Neb 4+3b  PLN,VB,LE147,45*"D  Ghost of Jupiter  ESO 568-5
Dec 28 2008 31"  17mmT4  VB,PL,R,HISB,C'13,OUL SHELL,BRT INNER RING W/TAP SIDES,BRT BLUEISH,OIII HL,R=E
Feb 12 1983 12.5"  16mm  MB,PS,R,BLUE FUZZY EDGES,UB,NO CENTRAL *
Dec 03 1980 12.5"  24mm  GHOST OF JUPITER,PAIL GREENISH COLOR,GREAT!!

NGC 3587  UMa M97  Pl Neb 3a  PLN,VB,VL,R,VVG,VSBM  M 97 Owl Nebula  PK 148+57.1  PNG 148.4+57.0
Mar 08 2013 36"  17mmT4  MESSIER MARATHON 2013
Mar 16 2009 31"  17mmT4  EB,EL,W/OIII,LOOSE C*,DOESNOT HELP MUCH,LITTLE MORE DARK PATCHES DET,R=E
Mar 16 2009 31"  17mmT4  EB,EL,C* DET APPROX 15TH MAG,DARK PATCHES,BROKEN EDGES,GREYISH GREEN,R=E
Planetary Nebula Observations

NGC 3587 UMa M97  PI Neb 3a  PLN,VB,VL,R,VVG,VSBM  M 97 Owl Nebula  PK 148+57.1  PNG 148.4+57.0
Feb 04 2005 31" 17mmT4  OIII,VB,EL,OVAL,HISB,2 DARK PATCHES,CENTRAL *,BEST TO DATE,PATCHY AREAS,DET,R=E
Mar 19 2004 12.5" 12mmT4  MESSIER MARATHON 2004
Dec 26 2003 31" 17mmT4  PB,VL,MOD HISB,CENTRAL *,DARK PATCHES,EDGES FRAILED,ANOTHER F* OFF CENTER,R=E
Mar 15 1985 12.5" 12mm  VERY R,DARK PATCHES DET,BG COLOR,BEST VIEW EVER!!!
Mar 15 1985 12.5" 16mm  SAME,EB,VL
Mar 02 1984 10" 20mm  MB,ML,R,B* OFF ONE SIDE,UB WITH SOME DARK AREAS
Mar 27 1981 12.5" 24mm  MESSIER MARATHON 1981
Oct 31 1980 12.5" 24mm
Sep 18 1980 12.5" 24mm
Sep 10 1980 12.5" 24mm
May 07 1980 5" 9mm
Apr 18 1980 6" 24mm
Apr 16 1980 6" 24mm  IN SAME FOV WITH M108

NGC 4361 Crv H65-1 PI Neb 3a+2  VB,L,R,VSMBMN,R  ESO 573-19  PK 294+43.1  PNG 294.1+43.6
Mar 16 2009 31" 17mmT4  VB,EL,BRT C*,SQUARE SHAPE NEB,GREENISH,W/OIII,NEB MORE PRONOUNCED,HELPS A LITTLE,NEB MORE SQUARE LIKE,R=E
May 03 1981 12.5" 16mm  BLUE GREEN,PB,PL,CENTRAL * APPROX 11MAG DET

NGC 5873 Lup PI Neb 2  PLN,STELLAR=9.5MAG  ESO 328-34  Henize 2-121  Sanduleak 2-117
Mar 20 2009 31" 12mmT4  MB,VS,R,V SM BLUEISH BALL,NO C*,VF* OFF ONE SIDE,OIII HELP LITTLE,R=G

NGC 6026 Lup PI Neb 4  F,S,R,GPMBM,TRI* NP  ESO 389-7  Henize 2-144  Sanduleak 2-131
Mar 20 2009 31" 17mmT4  MF,MS,R,B CENT REGION,C* 13TH MAG,W/OIII,C* VERY DIM,MORE NEB DET,R BALL,R=F

NGC 6058 Her H637-3 PI Neb 3+2  PF,VS,R,STELLAR  PK 64+48.1  PNG 64.6+48.2
Mar 20 2009 31" 17mmT4  MF,MS,R,B C* 12TH MAG,GRANULAR NEB,OIII KNOCKS OUT C*,DOESNOT HELP MUCH,R=F
Sep 06 2002 12.5" 16mm  PB,ML,R,DIF HALO,BM
Sep 06 2002 12.5" 9mmT6  BM,MOD HISB,CENTRAL *

NGC 6072 Sco PI Neb 3a  PF,R,VGVLBM,R  ESO 389-15  Sanduleak 2-134  PK 342+10.1
May 17 2009 31" 17mmT4  PB,PL,NO C*,R,UB,FRAILED EDGES,OIII HELPS NEB A LITTLE,R=G

NGC 6153 Sco PI Neb 4  PLN,STELLAR  ESO 331-6  RCW 112  Henize 2-167
May 17 2009 31" 17mmT4  VB,ML,R,UB,HISB,NO C*,BRT BLUEISH GREEN,OIII HELPS,R=E

NGC 6210 Her PI Neb 2+3b  PLN,VB,VS,R,DISC  PK 43+37.1  PNG 43.1+37.7
May 17 2009 31" 17mmT4  VB,ML,C* APP 12TH MAG,INNER REGION GRANULAR,F WHISPS OF NEB BEYOND BALL,BRT B-G,BRT INNER REGION AROUND C*,OIII SHOWS MORE FAINT NEB AROUND BALL,R=E
Jul 14 1980 12.5" 24mm
Jul 12 1980 12.5" 24mm
Jul 11 1980 12.5" 24mm
Jul 05 1980 12.5" 24mm
Jun 17 1980 12.5" 9mm  FIRST SIGHTING,BRT BLUE WITH 9MM AND NEBULA FILTER

NGC 6302 Sco PI Neb 6  PB,E PF,(SWIFT,TRIP)  Bug Nebula  ESO 392-5  Gum 60  RCW 124  Henize 2-204  PK 349+1.1
Planetary Nebula Observations

NGC 6302  Sco  PI Neb 6  PB,E PF,(SWIFT,TRIP)  Bug Nebula  ESO 392-5  Gum 60  RCW 124  Henize 2-204  PK 349+1.1

May 18 2009 31" 17mmT4  VB,VL,ELONG,BRT BLUE-GREEN,IRR IN SHAPE,HISB,BRT CENTRAL REGION AROUND C*,BM,NO C*
JUST BRT REGION, TAPPERED ENDS, ONE SIDE THINNER AND THICKER THAN OTHER, OIII HELPS, NEB GRANULAR BROKEN IN PARTS, NEB S-SHAPE, R=E

May 28 2008 31" 17mmT4  VB,VL,ELONG, HISB,B CENTRAL * REGION, PATCHY AREAS OF NEB DET, BRT AREAS, W/OIII, MORE DETAIL IN NEB, BRT GREEN, EXCELLENT, R=E

NGC 6309  Oph  PI Neb 3b+6  B,S,BET2*VNR  Box Nebula  Henize 2-206  PK 9+14.1  Sanduleak 2-281

May 18 2009 31" 17mmT4  VB,ML,BRT BLUEISH,HISB,F* ON END, VF* OFF SIDE TOUCHING, NO C*, BOX LIKE NUC REGION, FAINT NEB EXTENDED OFF SIDES, RECTANGLE SHAPE, OIII DOES NOT HELP MUCH, R=E

Jul 21 1984 12.5" 12mm  VF,ES,DITTLE * TO W,F* JUST N SIDE, BRT BAR N-S DET, NSS, MHSB

Jun 04 1981 12.5" 16mm  WITH 2X BARLOW, BLUE, BESIDE F*, NO CENTRAL * DET

NGC 6337  Sco  PI Neb 4  RINGNEB,EF,S,AM ST  ESO 333-5  Henize 2-215  Sanduleak 2-191

May 18 2009 31" 17mmT4  MB,ML,TRANSLUCENT BALL WITH C* OFF CENTERED, APPROX 14TH MAG, PATCHES OF NEB IN BALL DET, OUTER RING BRTER, OIII HELPS, LIKE M57, KNOCKS OUT C*, R=G

NGC 6369  Oph  H11-4  PI Neb 4+2  RINGNEB, PB,S,R  ESO 520-3  Henize 2-232  Sanduleak 2-207

May 18 2009 31" 17mmT4  MB,ML,R,RESEMBLES M57,C* APPROX 15TH MAG, RING WITH FT NEB INSIDE, SOMewhat BRIGHTER AROUND C*, OIII DOES NOT HELP MUCH, NEB SLIGHTLY BRIGHTER, R=E

Jun 04 1981 12.5" 24mm  GREEN, MF, MS, NO CENTRAL * DET

Jun 18 1980 12.5" 9mm  GOOD, LOC BESIDE F*, DISK DET

NGC 6445  Sgr  H586-2  PI Neb 3b+3  PB,PS,R,GBM,R,*15NP  Little Gem  ESO 589-9  Henize 2-290

May 18 2009 31" 17mmT4  VB,PL,HISB,LOOKS LIKE A BIG MAC SANDWITCH, 2 HAMBURGER BUNS, NO C*, SEPERATED IN 2 HALVES, BOX-SQUARE SHAPE, OIII, OUTER SIDES OF NEB BRTER, R=E

Sep 20 1984 12.5" 12mm  DIF, MF, PS, F* NW EDGE, B* TO W, PATCHY

Aug 13 1982 12.5" 16mm  PF, VS, BLUE GREEN, F* ON NW EDGE, OVAL-PATCHY, SBM, PAIR/6440

NGC 6537  Sgr  PI Neb 2a+6  PLN,B,S,*STEYLLAR  ESO 590-1  Henize 2-340  Sanduleak 2-294

May 19 2009 31" 12mmT4  PB,PS,UB, NO C*, BLUEISH GREEN, SMALL BALL, OIII DOES NOT HELP, R=G

NGC 6543  Dra  H37-4  PI Neb 3a+2  PLN,VB,PS,SBMVSN  the Cat's Eye Nebula

May 19 2009 31" 17mmT4  VB,VL,BRT GREENISH,C* 10TH MAG, BRT INNRE CORE, GRANULAR BALL, VF WHISPS OF NEB AROUND BALL, OIII BINGS OUT OUTER CORE ONLY, PAIR=IC4677, R=E

Mar 26 2006 31" 17mmT4  VF,PL,BRT BLUE, CENTRAL *, DETAIL IN NEB, DARK INNER RING, PAIR=IC4677, R=E

Jun 23 2003 12.5" 9mmT6  VB,ML,ELONG, OVAL, VERY HIHB, BRT NUC, SLIGHTLY ELONG, FAINT HALO AROUND GAL, R=E

Jul 22 1981 12.5" 16mm  BLUEISH IN COLOR, PB, MS, NO CENTRAL * DET

Jul 14 1980 12.5" 24mm

Jul 11 1980 12.5" 24mm

Jun 20 1980 12.5" 24mm

NGC 6563  Sgr  PI Neb 3a  PLN,F,L,CE,HAZY EDGE  ESO 394-33  Henize 2-361  Sanduleak 2-308

May 19 2009 31" 17mmT4  PB,PL,UB, NO C*, GREENISH, PARTS AROUND EDGE NOT WELL DEFINED, OIII MORE NEB, R=E

Sep 21 1984 12.5" 12mm  VDIF, VF, VS, VF* OFF TO W, PATCHY-R, UB

NGC 6565  Sgr  PI Neb 4  PLN, STELLAR  ESO 456-70  Henize 2-362  Sanduleak 2-307

May 19 2009 31" 12mmT4  PB, VS, UB, NO C*, GREENISH-BLUE BALL, OIII DOES NOT HELP MUCH, R=G
Planetary Nebula Observations

**NGC 6565**  Sgr  Pl Neb 4  PLN, STELLAR  ESO 456-70  Henize 2-362  Sanduleak 2-307
Sep 21 1984 12.5" 12mm  VF, VS, 3F**S TO N IN A LINE, BLUEISH COLOR, R, UB

**NGC 6567**  Sgr  Pl Neb 2a+3  PLN, STELL, 11M, IN ACL  ESO 590-8  Henize 2-369  Sanduleak 2-314
May 19 2009 31" 12mmT4  MB, VS, UB, VF* OFF TO SIDE, RICH * FOV, VF C* SUSP, OIII DN NOT HELP, BLUEISH SBALL, R=F
Sep 21 1984 12.5" 12mm  DIF, MF, MS, R, BRT BLUE, ALMOST STELL

**NGC 6572**  Oph  Pl Neb 2a  PLN, VB, VS, R, LHAZY  PK 34+11.1  PNG 34.6+11.8
May 19 2009 31" 17mmT4  VB, ML, BRT BG (TORQUOISE), UNIQUE COLOR, BM, OIII LG HALO AROUND BALL, R=E
Jun 27 2003 12.5" 9mmT6  EB, PL, BRT BLUE, FAINT HALO AROUND CENTRAL REG, OUTER SHELL DET OIII FILTER, R=E
Sep 21 1984 12.5" 12mm  PB, PS, BRT R BALL, CENTRAL * NOT DET, UB, HISB
Jun 04 1981 12.5" 24mm  BLUE, MB, PS
Jun 18 1980 12.5" 24mm  LOOKS LIKE BRT * AT TIP OF TRI
Jun 18 1980 12.5" 9mm  WITH BARLOW, LOOKS LIKE B* AT TIP OF TRI
Jun 18 1980 12.5" 9mm  VERY BRT BLUE WITH BARLOW AND 9MM, SHAPE EASILY DET

**NGC 6578**  Sgr  Pl Neb 2a  PLN, STELLAR=13MAG  ESO 590-12  Henize 2-381  Sanduleak 2-322
May 19 2009 31" 12mmT4  PB, MS, VF* OR PIECE OF NEB OFF ONE SIDE, VF C* APP 15TH SUSP, GBM, OIII DNH, R=G
Sep 12 2007 31" 17mmT4  W/OIII, PB, MS, R, BRT MIDDLE, BLUEISH BALL, HISB MIDDLE, * OFF SIDE, FT HALO AROUND, R=G

**NGC 6620**  Sgr  Pl Neb 2b  PLN, STELLAR  ESO 522-22  Henize 2-394  Sanduleak 2-332
May 19 2009 31" 12mmT4  MB, VS, SOME BRTING MIDDLE DET, NO C*, GREENISH, OIII HELPS BRTEN NEB, R=F
Sep 05 2007 31" 17mmT4  MB, VS, GREENISH BALL, SMBM, OIII DOESN'T HELP MUCH, R=F

**NGC 6629**  Sgr  H204-2  Pl Neb 2a  PLNORGCL, PB, EES, R  ESO 522-26  Henize 2-399  Sanduleak 2-335
May 19 2009 31" 12mmT4  MB, PS, R, C* APPROX 13TH MAG, BLUEISH-GREEN, BRT TOWARDS MIDDLE, OIII DNH, R=G
Aug 13 1982 12.5" 7mm  MF, VS, BETWEEN 2" S IN FIELD OF VIEW, HARD TO LOC, R, BLUE GREEN COLOR

**NGC 6644**  Sgr  Pl Neb 2  PLN, STELLAR  ESO 522-23  Henize 2-408  Sanduleak 2-343
May 19 2009 31" 12mmT4  MB, VS, R, UB, BLUEISH, NO C*, OIII BRIGHTENS NEB, R=G
Sep 05 2007 31" 17mmT4  W/OIII, PB, MS, R, BRT BLUE BALL, STANDS OUT WELL, W/O III, SOME FNEB AROUND CREG, R=G

**NGC 6720**  Lyr  M57  Pl Neb 4+3  RINGNEB, B, PL, CE, LYRA  M 57 Ring Nebula  PK 63+13.1  PNG 63.1+13.9
Aug 23 2009 31" 12mmT4  VB, VL, OVAL, HISB, BRT THICK SIDES, FT NEB INSIDE, C*15TH MAG, EXT NEB ONE SIDE, OIII HELPS LITTLE, KNOCKS OUT C*, R=E
Mar 22 2004 12.5" 12mmT4  MESSIER MARATHON 2004
Sep 23 2003 31" 17mmT4  EB, EL, FIRST LIGHT WITH 17MM, CENTRAL * DET, BEST OBSERVATION TODATE, OBLONG RING
Sep 01 2002 31" 9mmT6  CENTRAL * SEEN. FAINT DETAIL IN NEB, BEST VIEW TO DATE
Sep 20 1981 12.5" 24mm
Jun 04 1981 12.5" 9mm  WITH BARROW, CENTRAL * COMES AND GOES WITH Averted VISION, 2B" S INSIDE RING
Mar 27 1981 12.5" 24mm  MESSIER MARATHON 1981
Sep 10 1980 12.5" 24mm
Sep 07 1980 12.5" 24mm
Sep 03 1980 12.5" 24mm
# Planetary Nebula Observations

<table>
<thead>
<tr>
<th>NGC</th>
<th>Lyr</th>
<th>M57</th>
<th>PI Neb 4+3</th>
<th>RINGNEB,B,PL,CE,LYRA</th>
<th>M 57 Ring Nebula PK 63+13.1 PNG 63.1+13.9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aug 19 1980</td>
<td>12.5&quot; 24mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jul 15 1980</td>
<td>12.5&quot; 24mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jul 12 1980</td>
<td>12.5&quot; 24mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jul 11 1980</td>
<td>12.5&quot; 24mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jul 05 1980</td>
<td>12.5&quot; 24mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jun 20 1980</td>
<td>12.5&quot; 24mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jun 18 1980</td>
<td>12.5&quot; 24mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jun 17 1980</td>
<td>12.5&quot; 24mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jun 10 1980</td>
<td>6&quot; 24mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>May 07 1980</td>
<td>5&quot; 9mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Apr 18 1980</td>
<td>6&quot; 24mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Apr 16 1980</td>
<td>6&quot; 24mm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NGC</th>
<th>Aql</th>
<th>H742-3</th>
<th>PI Neb 2c</th>
<th>VF, STELLAR</th>
<th>ABELL 50 PK 78+18.1 PNG 78.5+18.7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aug 23 2009</td>
<td>12mmT4</td>
<td>VF, PS, R, OIII HELPS, NEB BRTER, BETTER, BRT BLUE, SLIGHT HINT OF ELONG, RINGS, R=G</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mar 26 2006</td>
<td>17mmT4</td>
<td>MB, ML, OVAL, MHISB, 2F* S IN NEB, PALE GREENISH, DARK AREA SUSP/W0III, NEB BRTER, R=E</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NGC</th>
<th>Aql</th>
<th>PI Neb 3</th>
<th>PB,S</th>
<th>Sanduleak 2-382 PK 29-5.1 PNG 29.2-5.9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sep 02 2008 31&quot; 17mmT4 MB, PL, R, BRT GR, C* 15TH MAG, OIII DOES NOT HELP MUCH, PATCHY AREAS IN NEB, R=E</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Jul 10 1981 12.5&quot; 12mm R, BLUE GREEN, MF, VS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NGC</th>
<th>Lyr</th>
<th>PI Neb 5</th>
<th>F,S,E</th>
<th>Minkowski 1-68 PK 62+9.1 PNG 62.4+9.5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sep 02 2008 31&quot; 17mmT4 MB, MS, ELONG, OIII HELPS, HISB IN CENT REG, BROKEN HALVES 1 SM &amp; FAINTER, C* BM, R=G</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sep 19 2004 31&quot; 17mmT4 PB, ML, ELONG, HSIB, W/OIII, COMET LIKE, PATCHY, 2 HALVES ONE BRT THAN OTHER, R=E</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NGC</th>
<th>Aql</th>
<th>H14-4</th>
<th>PI Neb 3b+2</th>
<th>VF,L,R,VVLBM,R</th>
<th>Sanduleak 2-384 PK 33-6.1 PNG 33.1-6.3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jul 10 1981</td>
<td>12.5&quot; 12mm</td>
<td>VDIF, R, LOCATED IN BARREN * FIELD, EF</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NGC</th>
<th>Aql</th>
<th>PI Neb 3+3</th>
<th>S,E, ILL-DEFINED DISC</th>
<th>Sanduleak 2-388 PK 34-6.1 PNG 34.5-6.7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sep 02 2008 31&quot; 17mmT4 PB, MS, OVAL, R, GREENISH, OIII HELPS LITTLE, NO C*, BRTER AREAS DET, MORE OVAL, R=G</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>May 16 2004 31&quot; 17mmT4 MB, MS, R, WITH OIII, PATCHY AREA DET, MOD HISB, SOFT BLUE, R=E</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jul 10 1981 12.5&quot; 12mm BLUE, MF, MS</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NGC</th>
<th>Aql</th>
<th>H743-3</th>
<th>PI Neb 3+3</th>
<th>PLN,F,L,R,VSBM DISC</th>
<th>PK 41-2.1 PNG 41.8-2.9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sep 02 2008 31&quot; 17mmT4 MB, VL, OVAL, NO C*, ONE SIDE BROKEN, OIII HELPS SOMEWHAT, LG CENT DK AREA BK SIDE, R=E</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aug 31 1984 12.5&quot; 12mm MF, PL, R, PATCHY, RESEMBLES HELIX NEB</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jul 10 1981 12.5&quot; 12mm VL, DIF, R, DARK PATCHES SEEN IN CENTRAL AREA, GRAYISH COLOR DIF NEB</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NGC</th>
<th>Aql</th>
<th>PI Neb 2</th>
<th>PLN,B, ES, STELL=9.5M</th>
<th>PK 37-6.1 PNG 37.8-6.3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sep 02 2008 31&quot; 17mmT4 PB, VS, R, GREENISH BRT BALL, OIII HELPS, NO C*, BRT BLUEISH, VF HALO AROUND BALL, R=G</td>
<td></td>
</tr>
</tbody>
</table>
**Planetary Nebula Observations**

**NGC 6790** Aql  Pl Neb 2  PLN,B,ES,STELL=9.5M  PK 37-6.1  PNG 37.8-6.3

<table>
<thead>
<tr>
<th>Date</th>
<th>Magn.</th>
<th>Filter</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul 10 1981</td>
<td>12.5&quot;</td>
<td>12mm</td>
<td>ES, JUST E OF 12MAG*, DIF OUTER HALO JUST VISIBLE</td>
</tr>
</tbody>
</table>

**NGC 6803** Aql  Pl Neb 2a  PLN,STELLAR  PK 46-4.1  PNG 46.4-4.1

<table>
<thead>
<tr>
<th>Date</th>
<th>Magn.</th>
<th>Filter</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 02 2008</td>
<td>17mmT4</td>
<td></td>
<td>MB, ES, R, GREENISH SM BALL, OIII HELPS LITTLE, BLUEISH, VERY SMALL BRT BALL, R=F</td>
</tr>
<tr>
<td>Jul 10 1981</td>
<td>12.5&quot;</td>
<td>12mm</td>
<td>GREENISH, CENTRAL * DET. F*, ON W EDGE OF NEB</td>
</tr>
</tbody>
</table>

**NGC 6804** Aql  H38-6  Pl Neb 4+2  CB, S, IR, RRR  PK 45-4.1  PNG 45.7-4.5

<table>
<thead>
<tr>
<th>Date</th>
<th>Magn.</th>
<th>Filter</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 02 2008</td>
<td>17mmT4</td>
<td></td>
<td>MB, BL, OVAL, GREENISH, SEVERAL F**S IN NEB, C', 15TH MAG, OIII DOES NOT HELP MUCH, R=G</td>
</tr>
<tr>
<td>Aug 31 1984</td>
<td>12.5&quot;</td>
<td>12mm</td>
<td>PF, MS, BNUC, R-OVAL, SBM, F* TOWARDS OUTER EDGE, PATCHY</td>
</tr>
<tr>
<td>Jul 10 1981</td>
<td>12.5&quot;</td>
<td>12mm</td>
<td>GREEN, DIF, PF, MS, CENTRAL * APPROX 14MAG</td>
</tr>
</tbody>
</table>

**NGC 6807** Aql  Pl Neb 2  PLN,STELLAR  PK 42-6.1  PNG 42.9-6.9

<table>
<thead>
<tr>
<th>Date</th>
<th>Magn.</th>
<th>Filter</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 02 2008</td>
<td>17mmT4</td>
<td></td>
<td>MB, ES, R, OIII HELPS DET FROM FOV <em>, S, BLUEISH, NO C</em>, VERY SMALL AND ROUND, R=F</td>
</tr>
<tr>
<td>Jun 25 2003</td>
<td>12.5&quot;</td>
<td>5mmT6</td>
<td>BLUEISH, VERY FAINT HALO AROUND *, STELLAR</td>
</tr>
<tr>
<td>Jun 25 2003</td>
<td>12.5&quot;</td>
<td>9mmT6</td>
<td>MB, ES, R=F</td>
</tr>
</tbody>
</table>

**NGC 6818** Sgr  H51-4  Pl Neb 4  PLN,B,VS,R  Sanduleak 2-392 PK 25-17.1 PNG 25.8-17.9

<table>
<thead>
<tr>
<th>Date</th>
<th>Magn.</th>
<th>Filter</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 02 2008</td>
<td>17mmT4</td>
<td></td>
<td>VB, ML, R, OIII HELPS MUCH, BRT BLUEISH GREEN, CENTRAL REGION DARK, NO C* DET, R=E</td>
</tr>
<tr>
<td>Jul 30 2002</td>
<td>12.5&quot;</td>
<td>16mm</td>
<td>MB, ML, BRT BLUE GREEN, VERY ROUND</td>
</tr>
<tr>
<td>Sep 20 1984</td>
<td>12.5&quot;</td>
<td>12mm</td>
<td>PB, PS, F* JUST TO W, UB, R</td>
</tr>
<tr>
<td>Sep 20 1981</td>
<td>12.5&quot;</td>
<td>24mm</td>
<td>PB, PS, F*</td>
</tr>
<tr>
<td>Jul 15 1980</td>
<td>12.5&quot;</td>
<td>24mm</td>
<td></td>
</tr>
<tr>
<td>Jun 18 1980</td>
<td>12.5&quot;</td>
<td>24mm</td>
<td></td>
</tr>
<tr>
<td>Jun 17 1980</td>
<td>12.5&quot;</td>
<td>9mm</td>
<td>GREAT, LOOKS LIKE 6210</td>
</tr>
</tbody>
</table>

**NGC 6826** Cyg  H73-4  Pl Neb 3a+2  PLN,B,PL,R,*11M  Blinking Planetary PK 83+12.1 PNG 83.5+12.7

<table>
<thead>
<tr>
<th>Date</th>
<th>Magn.</th>
<th>Filter</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 02 2008</td>
<td>17mmT4</td>
<td></td>
<td>VB, VL, R, GREENISH TECTURE BRT BALL, C* VERY BRT 10TH MAG, OIII NOT MUCH HELP, R=E</td>
</tr>
<tr>
<td>Jul 24 1981</td>
<td>12.5&quot;</td>
<td>16mm</td>
<td>GREENISH, BLINKING PLANARY, CENT * EASILY BLINKS WHEN LOOKING AT CENTER</td>
</tr>
<tr>
<td>Jul 24 1981</td>
<td>12.5&quot;</td>
<td>7mm</td>
<td>CENTRAL * NO LONGER BLINKS</td>
</tr>
<tr>
<td>Jun 20 1980</td>
<td>12.5&quot;</td>
<td>9mm</td>
<td>BRT CENTRAL * EASILY SEEN</td>
</tr>
<tr>
<td>Jun 17 1980</td>
<td>12.5&quot;</td>
<td>16mm</td>
<td>GREAT, GREENISH BLUE COLOR, USE BARLOW AND 16MM</td>
</tr>
</tbody>
</table>

**NGC 6833** Cyg  Pl Neb 2  PLN,STELLAR  PK 82+11.1 PNG 82.5+11.3

<table>
<thead>
<tr>
<th>Date</th>
<th>Magn.</th>
<th>Filter</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 02 2008</td>
<td>17mmT4</td>
<td></td>
<td>MB, ES, R, GREENISH-BLUEISH, OIII NOT MUCH HELP, NO C*, BM, BARELY DET IN FOV, R=P</td>
</tr>
<tr>
<td>Sep 11 2004</td>
<td>17mmT4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NGC 6842** Vul  Pl Neb 3b  F, PL, VLE  SH2-95 LBN 19 Henize 2-451

<table>
<thead>
<tr>
<th>Date</th>
<th>Magn.</th>
<th>Filter</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jun 27 2003</td>
<td>12.5&quot;</td>
<td>9mmT6</td>
<td>MB, ML, PATCHY AREAS DET, R, SHISB WITH OIII FILTER, R=E</td>
</tr>
<tr>
<td>Jul 30 1981</td>
<td>12.5&quot;</td>
<td>12mm</td>
<td>VDIF, LOC IN SOMEWHAT BARREN * FIELD, VF, MS, F**S INSIDE OF GLOW, NOT SURE OF DET</td>
</tr>
</tbody>
</table>

**NGC 6852** Aql  Pl Neb 4  F NEB, AM ST  Kohoutek 1-18 PK 42-14.1 PNG 42.5-14.5

<table>
<thead>
<tr>
<th>Date</th>
<th>Magn.</th>
<th>Filter</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jun 25 2003</td>
<td>12.5&quot;</td>
<td>5mmT6</td>
<td>KEEP B* OUT OF FOV, NEBULOSITY ELONGATED IN SHAPE, R=G</td>
</tr>
<tr>
<td>Jun 25 2003</td>
<td>12.5&quot;</td>
<td>9mmT6</td>
<td>PF, MS, UB, NEBULA, F* ON EDGE OF NEBULA, R=G</td>
</tr>
</tbody>
</table>

**NGC 6853** Vul M27  Pl Neb 3+2  VB, VL, BIN, IE, DUMBBEL  M 27 Dumbbell Nebula Henize 2-452

<table>
<thead>
<tr>
<th>Date</th>
<th>Magn.</th>
<th>Filter</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul 05 2008</td>
<td>31&quot;</td>
<td>17mmT4</td>
<td>VB, EL, W/OIII, MORE DETAIL, ONE SIDE MORE NEB THAN OTHER, BULGE, FINE DETAILS, C*, R=E</td>
</tr>
</tbody>
</table>
Planetary Nebula Observations

NGC 6853 Vul M27 Pl Neb 3+2 VB,VL,BIN,E,DUMBABEL M 27 Dumbbell Nebula Henize 2-452 PK 60-3.1 PNG 60.8-3.6
Mar 22 2004 12.5" 12mmT4 MESSIER MARATHON 2004
Aug 20 2003 31" 25mm EB,EL,EXTREMELY HISB,ABOUT DOZEN *S INSIDE NEB,DETAILED AND PATCHY,R=E
Jun 27 2003 12.5" 9mmT6 EB,EL,OIII FILTER ABSOLUTELY UNBELIEVABLE,DETAIL IN NEBULOSITY,BEST TO DATE,R=E
Sep 19 1984 12.5" 12mm VB,VL,HOUR GLASS SHAPE VERY EASILY DET,FAINT OUTER LOB DET BOTH SIDES
Sep 20 1981 12.5" 24mm
Jul 30 1981 12.5" 12mm BLUE GREEN,*S SEEN IN NEB,VB,EL,CENTRAL * DET
Mar 27 1981 12.5" 24mm MESSIER MARATHON 1981
Sep 10 1980 12.5" 24mm
Jun 27 1980 12.5" 24mm
Sep 19 1980 12.5" 24mm
Jul 30 1980 12.5" 24mm
Sep 07 1980 12.5" 24mm
Jul 15 1980 12.5" 24mm
Jul 11 1980 12.5" 24mm
Jul 05 1980 12.5" 24mm
Jun 20 1980 12.5" 24mm
Jul 17 1980 12.5" 24mm
Jun 10 1980 6" 24mm

NGC 6879 Sge Pl Neb 2a PLN,STELLAR=10M Henize 2-455 PK 74+2.1 PNG 74.5+2.1
Aug 15 2009 31" 17mmT4 MB,VS,R,UB,NO C*,BRT BLUEISH,RICH FOV,OIII,DOESNOT HELP MUCH,VF NEB AR NUC,R=F
Aug 20 2003 31" 25mm EF,VS,R,UB,AV,SUSP,LOC GOOD,R=P
Aug 20 2003 31" 9mmT6 VDIF,VF,MS,PATCH,UB,ABLE TO DETECT WITH 9MM,R=F

NGC 6881 Cyg Pl Neb 2a+3 PLN,STELLAR Henize 2-456 PK 82+7.1 PNG 82.1+7.0
Aug 15 2009 31" 17mmT4 MF,VS,R,GREENISH,SMALL NUC WITH THIN FAINT OUTER NEB,OIII,DOESNOT HELP MUCH,R=F
Sep 18 2004 31" 17mmT4 W/OIII,VF,VS,R,FIND FIRST WITH 25MM & * HOPPING,BLUEISH,VF HALO DET,R=F

NGC 6884 Cyg Pl Neb 2b PLN,STELLAR PK 82+7.1 PNG 82.1+7.0
Sep 02 2008 31" 17mmT4 MB,PS,R,UB,OIII HELPS,BLUEISH BALL,NO C*,EASILY DET IN FOV,R=F
Jul 24 1981 12.5" 12mm NOT SURE OF FIND,IN VOID BARREN * FIELD,DIF NEB SUSP

NGC 6886 Sge Pl Neb 2+3 PLN,STELLAR=10M Henize 2-458 PK 74-2.1 PNG 74.1-2.1
Aug 15 2009 31" 17mmT4 PB,PS,R,UB,BRT BLUEISH,RICH FOV,OIII DOESNOT HELP MUCH,R=G
Aug 20 2003 31" 25mm MB,PS,R,BRT BLUE ROUND BALL,R=E
Aug 20 2003 31" 9mmT6 VP,PL,BRT BLUE,RING OF NEB,BOTH SIDES TAPPERED,SLIGHTLY BM,CENTRAL * SUSP,R=E

NGC 6891 Del Pl Neb 2a+2b PLN,STELLAR=9.5M Henize 2-460 PK 69-2.1 PNG 69.4-2.6
Aug 15 2009 31" 17mmT4 VB,ML,R,BNUC,C* 13TH,GMBM,BLUEISH,NEB AR C*,OIII,NEB BRTER,NO C*,BLUEISH,R=E
Jul 08 1983 12.5" 12mm MB,VS,R,BNUC,BLUEISH,VERY R,BM,APPEARS AS A *,NEB COMES OUT WITH AVERTED VISION
Jul 30 1981 12.5" 12mm R,GMBM,SMALL,GREENISH BLUE

NGC 6984 Cyg H13-4 Pl Neb 4+2 RINGNEB,F,S,VVLE Henize 2-460 PK 69-2.1 PNG 69.4-2.6
Aug 15 2009 31" 17mmT4 MB,ML,OVAL,NO C*,VF IN EDGE OF RING,MINI M57,OIII,MORE NEB,EDGES FRAILED,R=E
Sep 04 2002 12.5" 9mmT6 MF,PS,UB,OVAL,CENTRAL REGION DARK PATCH,ONE SIDE SLIGHTLY BRIGHTER

NGC 6905 Del H16-4 Pl Neb 3+3 PLN,B,PS,R,4S*NR Henize 2-466 PK 61-9.1 PNG 61.4-9.5
Aug 15 2009 31" 17mmT4 PB,ML,OVAL,C* 14TH,PATCHY AREAS,GREENISH,ONE SIDE BRTER THAN OTHER,OIII,HELPS,
MORE PATCHY AREAS,ENDS BROKEN,R=E
Jul 08 1983 12.5" 12mm MF,PS,R,TRI OF *S AROUND OBJECT,OUTER EDGES FAINTER THAN MIDDLE
Jul 30 1981 12.5" 12mm BLUEISH GREEN COLOR,R,EDGES WELL DEF,CENTRAL * VERY FAINT,UB
PK 93+5.2 PNG 93.4+5.4
Planetary Nebula Observations

NGC 7008 Cyg H192-1 Pl Neb 3 CB,L,E45,R,**ATT PK 93+5.2 PNG 93.4+5.4
Aug 15 2009 31" 17mmT4 MB,PL,ATCH,C*,13TH,2 HALVES,BROKEN,ANOTHER 13TH * IN NEB,BLOBS BOTH ENDS,OIII,HELPS,MORE NEB,BRT BLOBS BOTH ENDS,C* STILL VISIBILE,R=E
Aug 11 1982 12.5" 16mm MF,PL,BG COLOR,NW PART BRT,PATCHY-R,CENTRAL 14* DET,LOC E OF A FEW **S

NGC 7009 Aqr H1-4 Pl Neb 4+6 PLN,V,B,S,EILLIPTIC Saturn Nebula PK 37.7-34.5
Aug 15 2009 31" 17mmT4 VB,VL,HISB,BRT BLUEISH,RING DET,FT NEB AR CENTRALBALL,NO C*,OIII,DEOSNOT HELP THAT MUCH BUT RING IS EASIER TO DETECT,R=E
Sep 27 2005 31" 17mmT4 WITH O/III, EB,VL,ELONG,R,MORE NEB DET BOTH SIDES OF RING,BETTER W/O,R=E
Sep 27 2005 31" 17mmT4 VF,VL,ELONG,R,HISB,THICK INNER RING,BRT BLUE,CENTRAL *,RINGS DET,R=E
Sep 01 2002 31" 9mmT6 BRT BLUE,RING SEEN,DETAIL IN NEB DETECTED,BEST VIEW TO DATE
Aug 31 1984 12.5" 12mm VB,MS,R BRT BLUEISH NEB,SLIGHTLY ELONG,UB
Jul 10 1981 12.5" 16mm SATURN NEB,RING EASILY SEEN,BRT BLUE,MB,MS
Oct 31 1980 12.5" 24mm
Sep 10 1980 12.5" 24mm
Jul 17 1980 12.5" 24mm
Jun 18 1980 12.5" 9mm DISK SHOWN WELL

NGC 7026 Cyg Pl Neb 3a PB,BIN,PLN PK 89+0.1 PNG 89.0+0.3
Aug 23 2009 31" 12mmT4 MF,MS,HISB,SQ SHAPE,2 BARS BOTH SIDES OF CENT REG,NO C *,NEB EXTENDS BEYOND BARS BOTH SIDES,F* OFF ONE SIDE,OIII HELPS LITTLE,R=E
Jul 24 1981 12.5" 12mm DIF THROUGHOUT,9-10* W APPROX 20 SEC,UB,ELONG IN SHAPE

NGC 7027 Cyg Pl Neb 3a PLN,STELLAR=8.5M PK 84-3.1 PNG 84.9-3.4
Aug 23 2009 31" 12mmT4 VB,ML,HISB,BRT GREENISH BLUE,13TH MAG * IN NEB OFF CENTER,BRT NEB AROUND *,NO C*,IRR IN SHAPE,BROKEN PARTS,F NEB DET AROUND BROKEN PARTS,OIII,HELP LITTLE,BLENDS BROKEN PARTS INTO ONE,R=E
Jun 06 1981 12.5" 16mm BLUE GREENISH,MB,PL

NGC 7048 Cyg Pl Neb 3b PF,PL,DIF,IR,VLBM Hubble 9 PK 88-1.1 PNG 88.7-1.6
Aug 23 2009 31" 12mmT4 MF,ML,TVLBM,3F* S IN NEB ONE SIDE,NO C*,OIII,NOT UB,PATCHY,DARK AREAS,R=G
Jun 06 1981 12.5" 16mm GREENISH,DIF,MB,PL

NGC 7076 Cep H936-3 Pl Neb 3b VF,ER ABELL 75 PK 101+8.1 PNG 101.8+8.7
Jun 20 2004 31" 17mmT4 W/OIII,PF,ML,R,ONE SIDE BRIGHTER THAN OTHER,R=F

NGC 7094 Peg Pl Neb 4 *IN EEF NEBY,VDIFFIC Kohoutek 1-19 PK 66-28.1 PNG 66.7-28.2
Sep 02 2008 31" 17mmT4 VF,ML,R,NEB BARELY DET,C* 12MAG,OIII HELPS MUCH,C* W/RND NEB,DK CENT AREA,R=F
Sep 20 2003 31" 25mm PF,VL,R,BRT CENTRAL *,AREAS OF PATCHES IN NEB,R=G

NGC 7139 Cep H696-3 Pl Neb 3b VF,CS,R,R PK 104+7.1 PNG 104.1+7.9
Sep 12 2012 36" 17mmT4 MB,ML,R,UB,W/OIII,SOME PATCHY DARK AREAS,OIII HELPS BRING OUT MORE DETAIL,R=G
Aug 25 1982 12.5" 24mm VDIF,VF,ML,R,BARELY VISIBLE IN 24MM,F* IN S PART OF NEBULA,UB

NGC 7293 Aqr Pl Neb 4+3 PF,VL,E OR BIN Helix Nebula PK 36-57.1 PNG 36.1-57.1
Sep 02 2008 31" 31mmT5 DIF,PF,EE,EE,17MM,OIII HELPS GREATLY,SEVERAL F**S CENT REGION,C* 13MAG,LARGE DARK AREA AROUND CENTER,FINE DETAIL OUTER EDGES,BEST TODATE,R=E
Jul 10 1981 12.5" 24mm EL,MF,DIF GAS CLOUD WITH **S WITHIN ITS BOUNDARIES,HILIX NEB
Oct 31 1980 12.5" 24mm
Sep 18 1980 12.5" 24mm
Sep 10 1980 12.5" 24mm HELIX NEB,WITH NEBULA FILTER EXCELLENT!!!

NGC 7354 Cep H705-2 Pl Neb 4+3b PLN,B,S,R,PGVLBM PK 107+2.1 PNG 107.8+2.3

Planetary Nebula Observations

NGC 7354 Cep H705-2 PI Neb 4+3b PLN,B,S,R,PGVLBM PK 107+2.1 PNG 107.8+2.3
Sep 12 2012 36" 17mmT4 PB,ML,R,UB,MHISB,BLUEISH GREEN,NO C*,OIII DARKENS NEB AND BRINGS OUT MORE DET,PATCHY,DARK AREAS,R=E
Sep 02 2008 31" 17mmT4 PB,ML,R,UB,GREENISH,NO C*,SOFT,OIII DOES NOT HELP MUCH,R=E
Jul 09 1983 12.5" 12mm VF,PS,2F"S ON EDGE,VERY R,SOFT UB GLOW

NGC 7662 And H18-4 PI Neb 4+3 PLN ORRING,VB,PS,R Blue Snowball PK 106-17.1
Sep 02 2008 31" 17mmT4 VB,ML,OV,AL,R,BRT GREENISH,BRT INNER RING NOT SYM,BRT GREENISH EDGES IN SPOTS,C* 14TH MAG,R=E
Aug 31 1984 12.5" 12mm MB,VS,VERY R,UNIFORM BLUEISH COLOR,*,CLOSE BY
Sep 23 1981 12.5" 16mm BRT BLUEISH GREEN,UB,R WITH FUZZY EDGES,NO CENTRAL *,MB,PS,15* SW
Jul 15 1980 12.5" 24mm

PEASE 1 Peg PI Neb 1 CENTRAL STAR 14.9 MAG
Jul 05 2008 31" 17mmT4 MF,ES,R,W/OIII,HELPS NEB LITTLE BY KNOCKING OUT *S,ALMOST DEAD CENTER,NO C*,R=P
Sep 23 2003 31" 9mmT6 VF,ES,NEBULA FILTER,R,STANDS OUT,VERY CLOSE TO CENTER OF CLUSTER,R=F
Sep 20 2003 31" 25mm EDIF,EF,VS,PLANTARY IN M15,BLUISH GREY BALL OFF CENTER OF CLUSTER,R=G

PK 357+1.3 FIX PI Neb PNG 357.6+1.0
Jun 28 2019 36" 17mmT4 VF,VS,OV,AL,PATCH,UB,NO CENTRAL *,V SMALL BLUEISH BALL,R=P

SAND 2-21 Pup PI Neb Sanduleak 2-21 PK 238+7.2 PNG 238.9+7.3 ESO 561-16
Nov 22 2006 12.5" 12mmT4 DIF,VS,MS,PATCH,UB,VF,OV,PATCH,NO CENTRAL *,OIII MAKE NEB STAND OUT BETTER,R=F

SAND 2-348 Sgr PI Neb Sanduleak 2-348 PK 10-6.2 PNG 10.7-6.7 Perek 1-13 ESO 523-3
Sep 12 2007 31" 17mmT4 W/OIII,PF,PS,UB,GREYISH GREEN BALL,R=F

SAND 2-374 Sct PI Neb Sanduleak 2-374 PK 25-4.1 PNG 25.3-4.6 Kohoutek 4-8
Aug 23 2009 31" 12mmT4 VF,VS,R,UB,VERY SM BLUEISH-GREY BALL,NEED TO STAR HOP FROM IC1295,USE OIII TO MAKE IT STAND OUT,F"S,CLOSE BY,R=P
Sep 05 2007 31" 17mmT4 W/OIII,VF,ES,STANDS OUT AS VERY SM BLUE BALL,LOC IN CLOSE ARC OF **S,R=F

SH2 71 Aql PI Neb 3b+3 PK 36-1.1 PNG 35.9-1.1 SH2-71
Sep 02 2008 31" 17mmT4 MF,ML,FLD * CLOSE TO C* 13TH MAG,WHISPS OF NEB,IRR,OIII HELPS LITTLE,C* DET,R=F