

Astrophotography LPS Filter Comparison

- Lumicon Minus Violet
- Hoya Didymium Red Intensifier
- Hutech IDAS LPS-P2

Comparison of three filter types widely used for astrophotography. The samples were shot on 2012-03-21 with an EOS 350D mod and a Jupiter-9 85mm lens @f/4, riding on an Astrotrac TT320X-AG. Imaging was done under a light-polluted suburban sky near Vienna, Austria, with a limiting magnitude of 4.5, which corresponds to a sky brightness of 17 mag/arcsec². All three filters were 72mm front filters. The 100% crops displayed below are stacks, calibrated with darks/flats and mildly but identically enhanced. Previous experiments had shown that exposures can be extended 1.5x with the Hoya Red Intensifier and 2x with the LPS-P2.



**Lumicon
Minus Violet**
= unfiltered



**Hoya
Red Intensifier**



**Hutech
IDAS LPS-P2**

Lumicon Minus Violet

Stack of 16 x 40sec exposures. This filter is no light pollution filter but often used to reduce blue halos around bright stars. With the lens and DSLR used the filter had no effect whatsoever, so this sample may go for unfiltered. Due to the severe light pollution the California Nebula barely shows.

Hoya Red Intensifier ([see f=37mm image sample](#))

Stack of 16 x 60sec exposures. This filter is based on an inexpensive didymium substrate that nicely cancels out a good part of the light pollution while maintaining white balance. The California Nebula begins to show but is still somewhat grainy. Great improvement vs unfiltered.

Hutech IDAS LPS-P2 ([see f=50mm image sample](#))

Stack of 16 x 80sec exposures. This interference filter is the state of the art, but sells for about 10x the cost of the Hoya filter. The California Nebula shows clearly and with more detail. Tremendous improvement vs unfiltered and still some improvement vs the Hoya Red Intensifier.