

Re: 2" 90° Apparent Field Eyepieces Announced

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From: brian (*brianc1959_at_aol.com*)

Date: 07/02/04

Date: 2 Jul 2004 07:07:46 -0700

shneor@my-deja.com (Shneor Sherman) wrote in message
news:<9dedb1fb.0406300643.2e10efd6@posting.google.com>...
> *jonisaacs@aol.com (Jon Isaacs) wrote in message*
news:<20040629175818.11708.00000633@mb-m11.aol.com>...
> > *My experience with Burgess has been excellent value for the money. But*
> > *I do wonder about the optical characteristics of this eyepiece.*
> > >
> > > *Clear skies,*
> > > *Shneor Sherman*
> >
> > *Probably best to take the wait and see attitude if something isn't currently*
> > *yet available. Burgess Optical has been somewhat optimistic in the past about*
> > *delivery dates...*
> >
> > *Jon*
>
> *Here's some more info from Bill Burgess: It's a 7-element design, all*
> *ED glass, "broadband multicoatings on all air-to-glass surfaces", and*
> *pinpoint stars to the edge down to f/3.5. Availability is at least 60*
> *days out.*
>
> *The part about pinpoint stars to the edge of a 90° apparent field 29mm*
> *eyepiece sounds very attractive. Maybe some of our eyepiece design*
> *mavens can tell us why this is either impossible or comes at the price*
> *of field curvature, loss of contrast or some other desirable optical*
> *characteristic. Or not.*
>
> *Clear skies,*
> *Shneor Sherman*

Don Dilworth demonstrated that its possible to build a 90deg. eyepiece with extraordinary performance. See U.S. Patent 4,720,183. The designs published in this patent are among the highest performance eyepieces I've ever seen. Much better than even the published Nagler designs. No ED or high-index lanthanum type glasses are needed. The only drawback is size. A 29mm focal length would have some elements as large as 4" in diameter. Below is the patent prescription for a 15.9mm Dilworth:

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	Surf	Radius	Thickness	Glass	Diameter
OBJ	Infinity	Infinity	0		
STO	Infinity	16.367	3.984463		
2	-46.13459	1.294	1.805180,25.430	34	
3	59.64817	12.152	1.638540,55.420	39	
4	-25.6419	0.4099999	39		
5	104.509	14.0534	1.620410,60.320	60	
6	-57.40218	24.826	60		
7	50.58608	12.4375	1.620410,60.320	62	
8	4353.534	0.4099999	62		
9	23.4904	10.75047	1.620410,60.320	45.2	
10	26.7368	11.6589	40		
11	-83.8454	3.57986	1.620040,36.370	40	
12	23.38768	14.06033	32		
13	33.9786	5.868849	1.846660,23.830	33	
14	221.1201	4.122499	33		
15	-46.2614	3.39373	1.539960,59.710	33	
16	56.31179	-27.43597	33		
IMA	Infinity	28.58338			

Brian

www.caldwellphotographic.com