



LENS OB-SWIR35/4 – P/N C0414

General Description

This family of high resolution SWIR lenses image from 0.9 – 2.3 μm making them especially well-suited for PCB inspection, specialty laser applications, surveillance and alignment and tracking.

A high F/N and excellent transmission characteristics allow superior imaging in these wavelengths of interest.



Optical and mechanical parameters

Focal length	35 mm	N. of elements	4
Image format (diagonal)	20.5 mm	Dimensions	Dia 80 x 50 mm
F.O.V. (diagonal)	44.6 degrees	Weight	0.5 Kg
Max aperture	F/N = 4 (fixed)	Options	
Object format	N.A.	Focus motorized	Upon request
Min working distance	750 mm	Iris motorized	Upon request
Zoom value	N.A.	Zoom motorized	N.A.
Focus	Manual	Other mount type	Upon request
Iris	Optional Min F/N=22(if iris)	Customization	Upon request

<i>P/N</i>	<i>wavelength range</i>	<i>mount type</i>	<i>note</i>
C0414.001	900-1700 nm	Canon	Without iris diaphragm
C0414.051	900-1700 nm	Canon	With iris diaphragm
C0414.002	900-1700 nm	Nikon	Without iris diaphragm
C0414.052	900-1700 nm	Nikon	With iris diaphragm
C0414.003	900-1700 nm	M42 Screw	Without iris diaphragm
C0414.053	900-1700 nm	M42 Screw	With iris diaphragm

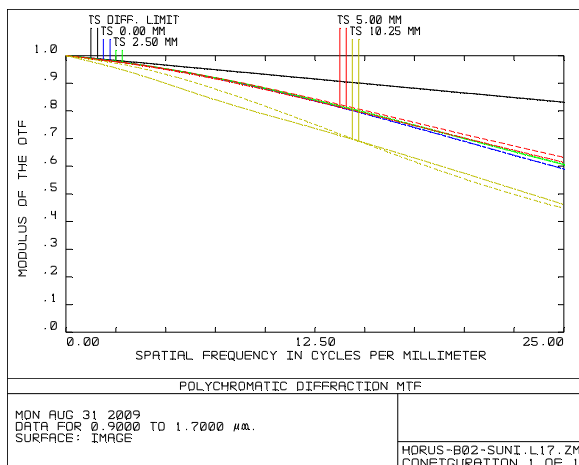
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P/N	wavelength range	mount type	note
C0414.005	1700-2300 nm	Canon	Without iris diaphragm
C0414.055	1700-2300 nm	Canon	With iris diaphragm
C0414.006	1700-2300 nm	Nikon	Without iris diaphragm
C0414.056	1700-2300 nm	Nikon	With iris diaphragm
C0414.007	1700-2300 nm	M42 Screw	Without iris diaphragm
C0414.057	1700-2300 nm	M42 Screw	With iris diaphragm
C0414.010	900-2300 nm	Canon	Without iris diaphragm
C0414.060	900-2300 nm	Canon	With iris diaphragm
C0414.011	900-2300 nm	Nikon	Without iris diaphragm
C0414.061	900-2300 nm	Nikon	With iris diaphragm
C0414.012	900-2300 nm	M42 Screw	Without iris diaphragm
C0414.062	900-2300 nm	M42 Screw	With iris diaphragm

MTF, Field Curvature, Distortion and Transmission from 900 to 1700 nm

The calculated MTF values are displayed below and are verified at the maximum F/N and best focus plane. The colored lines represent the F.O.V, starting in the center (0%) to the corner (100%).



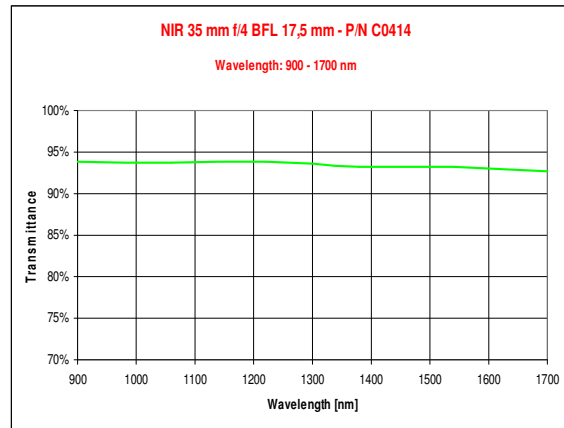
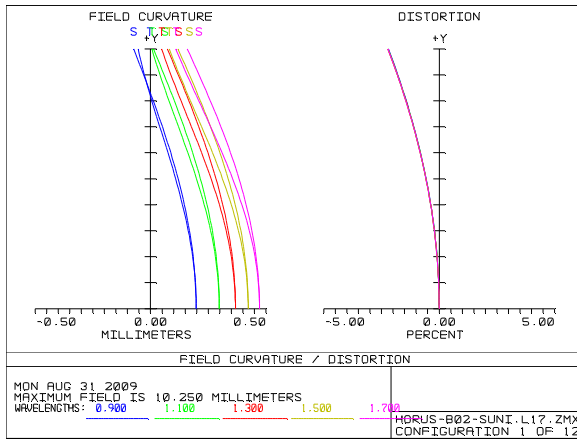
Optical parameters for wavelength range 0.9 – 1.7 μ m

Resolution	MTF > 45% @ 25lp/mm
Distortion	< 3%
Average axial chromatic aberration	< 0.0328 mm

Transmission	> 93%
Antireflection Coating	$R \leq 1\%$
Vignetting	< 0%

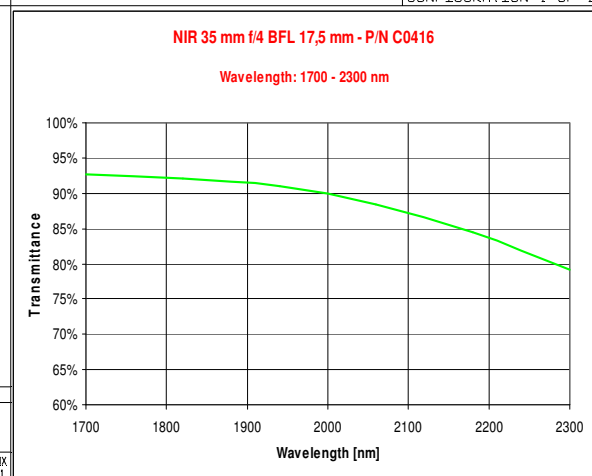
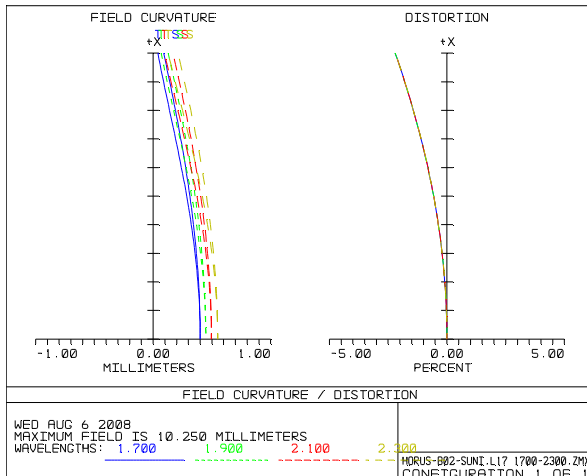
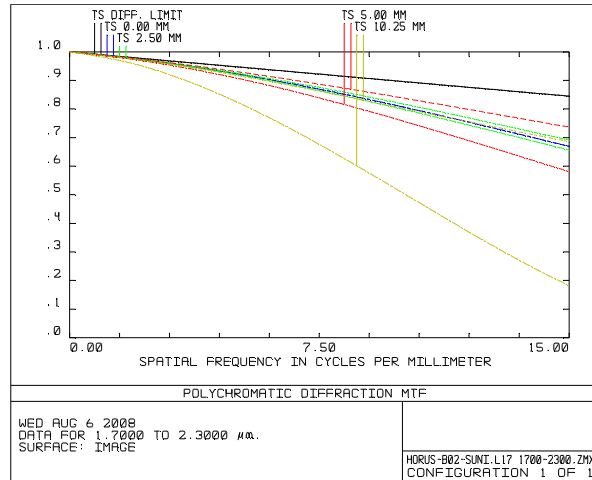
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MTF, Field Curvature, Distortion and Transmission from 1700 to 2300 nm

The calculated MTF values are displayed below and are verified at the maximum F/N and the best focus plane. The colored lines represent the F.O.V. starting in the center (0%) to the corner (100%)



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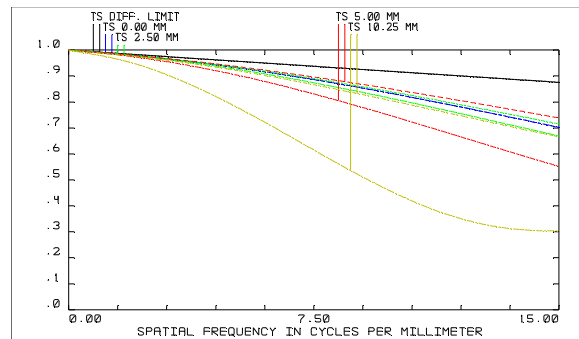
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Optical parameters for wavelength range 1.7 – 2.3 μm

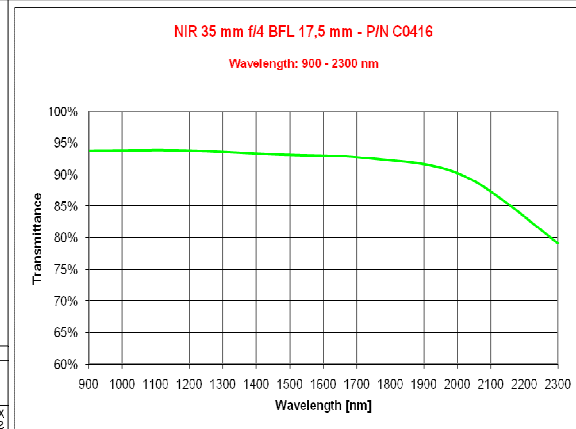
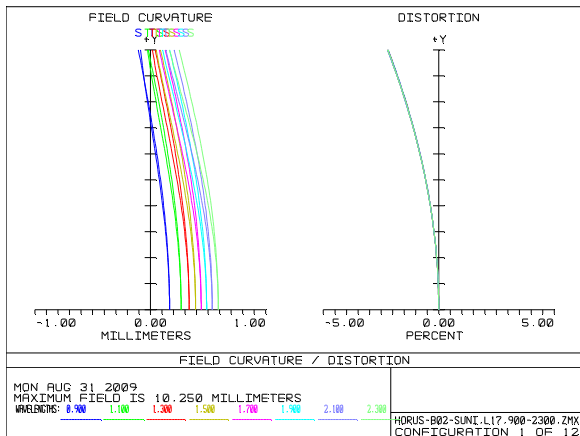
Resolution	MTF > 20%@15lp/mm	Transmission	> 80%
Distortion	< 3%	Antireflection Coating	$R \leq 1\%$

MTF, Field Curvature, Distortion and Transmission from 900 to 2300 nm

The calculated MTF values are displayed below and are verified at the maximum F/N and the best focus plane. The colored lines represent the F.O.V. starting in the center (0%) to the corner (100%)



POLYCHROMATIC DIFFRACTION MTF
MON AUG 31 2009
DATA FOR 0.9000 TO 2.3000 μm .
SURFACE: IMAGE
HORUS-002-SUNT.L17-900-2300.ZMX
CONFIGURATION 1 OF 12



Optical parameters for wavelength range 0.9 – 2.3 μm

Resolution	MTF > 30%@15lp/mm	Transmission	> 80%
Distortion	< 3%	Antireflection Coating	$R \leq 1\%$