



LENS OB-SWIR100/4 – P/N C0416

General Description

This family of high resolution SWIR lenses image from 0.9 - 3.0 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	100 mm	N. of elements	5
Image format (diagonal)	20.5 mm	Dimensions	Dia 80 x 100 mm
F.O.V. (diagonal)	11.7 degrees	Weight	0.9 Kg
Max aperture	F/N = 4 (fixed)	Options	
Object format	N.A.	Focus motorized	Upon request
Min working distance	1500 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)		

P/N	wavelength range	mount type	note
C0416.001	900-1700 nm	Canon	Without iris diaphragm
C0416.051	900-1700 nm	Canon	With iris diaphragm
C0416.002	900-1700 nm	Nikon	Without iris diaphragm
C0416.052	900-1700 nm	Nikon	With iris diaphragm
C0416.003	900-1700 nm	M42 Screw	Without iris diaphragm
C0416.053	900-1700 nm	M42 Screw	With iris diaphragm

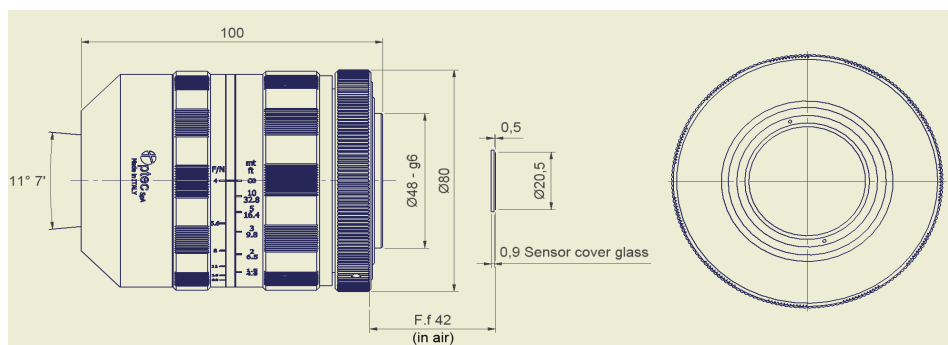
LENS OB-SWIR100/4 – P/N C0416

4 September 2009, Rev 3 Page 2 of 5

<i>P/N</i>	<i>wavelength range</i>	<i>mount type</i>	<i>note</i>
C0416.005	1700-2300 nm	Canon	Without iris diaphragm
C0416.055	1700-2300 nm	Canon	With iris diaphragm
C0416.006	1700-2300 nm	Nikon	Without iris diaphragm
C0416.056	1700-2300 nm	Nikon	With iris diaphragm
C0416.007	1700-2300 nm	M42 Screw	Without iris diaphragm
C0416.057	1700-2300 nm	M42 Screw	With iris diaphragm
C0416.010	900-2300 nm	Canon	Without iris diaphragm
C0416.060	900-2300 nm	Canon	With iris diaphragm
C0416.011	900-2300 nm	Nikon	Without iris diaphragm
C0416.061	900-2300 nm	Nikon	With iris diaphragm
C0416.012	900-2300 nm	M42 Screw	Without iris diaphragm
C0416.062	900-2300 nm	M42 Screw	With iris diaphragm

Outline Dimensions & Technical Notes

The lens outlines are shown here with further details available upon request.

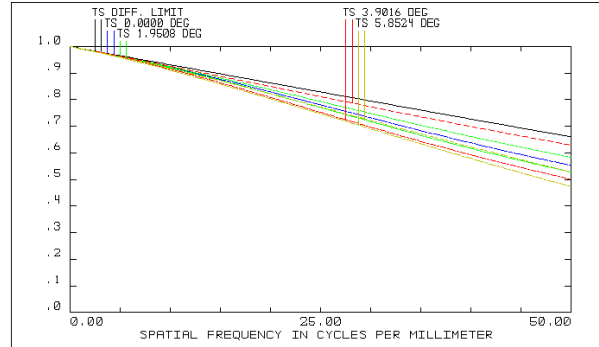


LENS OB-SWIR100/4 – P/N C0416

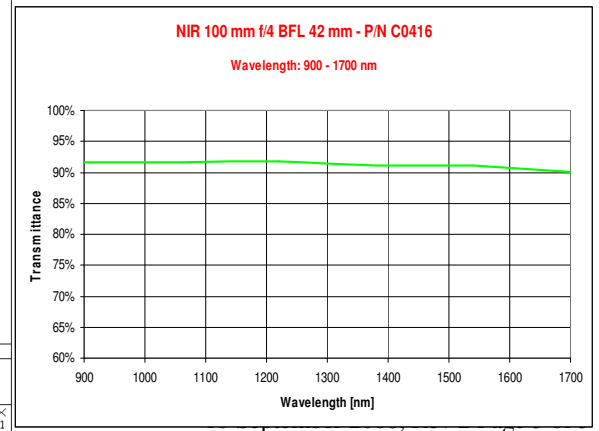
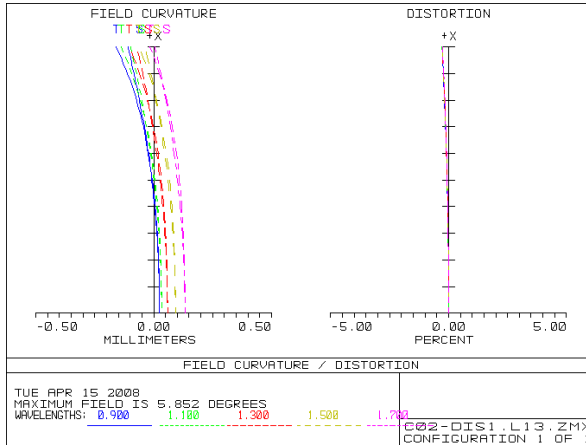
4 September 2009, Rev 3 Page 3 of 5

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%).



POLYCHROMATIC DIFFRACTION MTF
TUE APR 15 2008
DATA FOR 0.9000 TO 1.7000 μ m.
SURFACE: IMAGE
C02-DIS1.L13.ZMX
CONFIGURATION 1 OF 1



Optical parameters for wavelength range 0.9 – 1.7 μ m

Resolution	MTF > 50%@50lp/mm
Distortion	< 2%
Average axial chromatic aberration	< 0.0102 mm

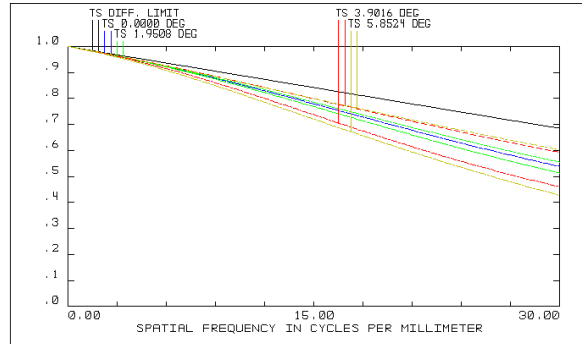
Transmission	> 90%
Antireflection Coating	$R \leq 1\%$
Vignetting	< 6%

LENS OB-SWIR100/4 – P/N C0416

4 September 2009, Rev 3 Page 4 of 5

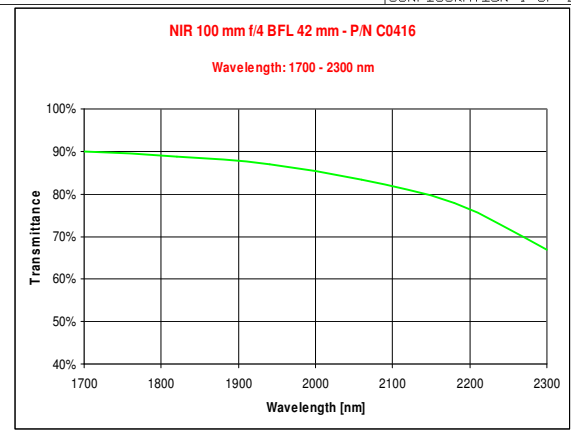
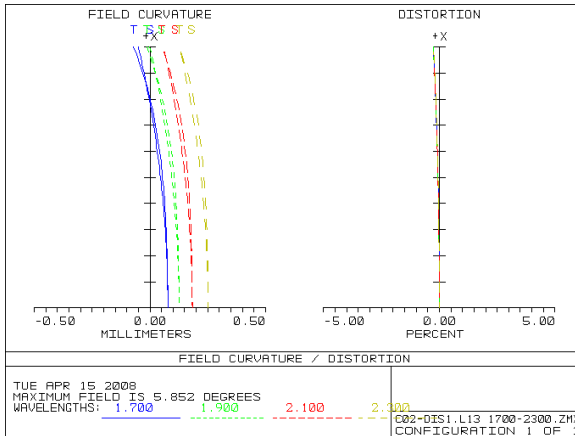
MTF, Field Curvature, Distortion and Transmission from 1700 to 2300 nm

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%)



TUE APR 15 2008
DATA FOR: 1.7000 TO 2.3000 μ m.
SURFACE: IMAGE

C02-DIS1.L13 1700-2300.ZMX
CONFIGURATION 1 OF 1



Optical parameters for wavelength range 1.7 – 2.3 μ m

Resolution	MTF > 45% @ 30lp/mm
Distortion	< 2%

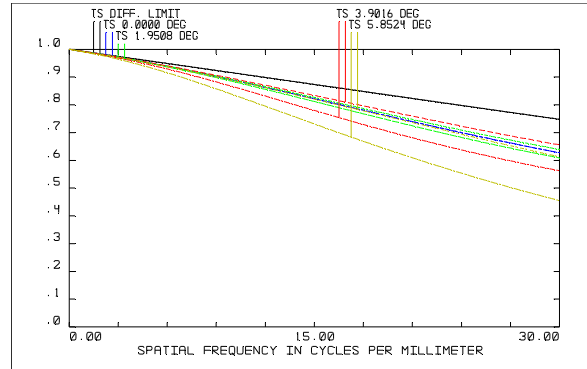
Transmission	> 65%
Antireflection Coating	$R < 1\%$

LENS OB-SWIR100/4 – P/N C0416

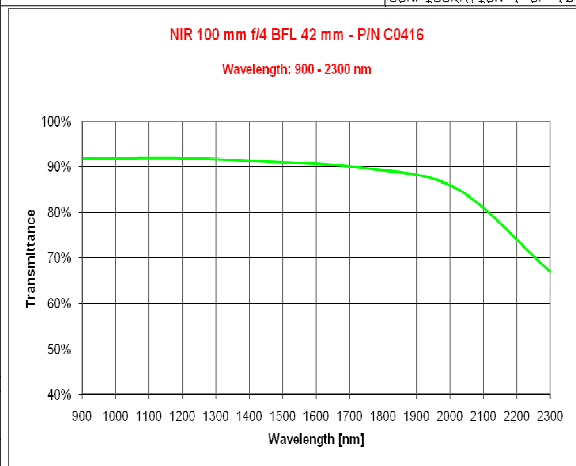
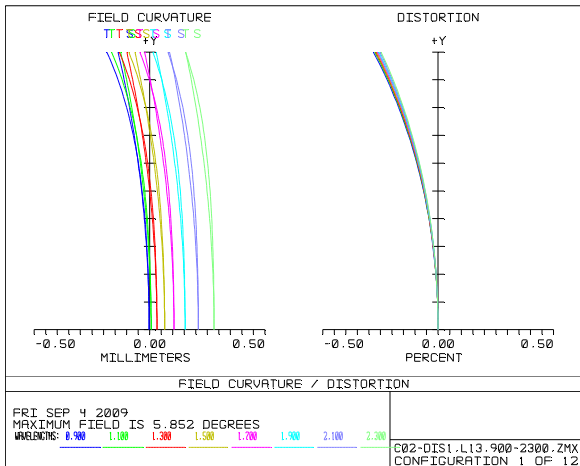
4 September 2009, Rev 3 Page 5 of 5

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
FRI SEP 4 2009
DATA FOR 0.9000 TO 2.3000 μm.
SURFACE: IMAGE
C02-DIS1.L13.900-2300.ZMX
CONFIGURATION 1 OF 12



Optical parameters for wavelength range 0.9 – 2.3 μm

Resolution	MTF > 45%@30lp/mm
Distortion	< 2%

Transmission	> 65%
Antireflection Coating	R ≤ 1%