

LENS OB-SWIR44/1.4 – P/N C0417

General Description

This family of high resolution SWIR lenses image from 0.9 – 2.3 μm making them especially well-suited for PCB inspection, special 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	44 mm	N. of elements	9
Image format (diagonal)	20.5 mm	Dimensions	Dia 78 x 100 mm
F.O.V. (diagonal)	26.2 degrees	Weight	0.75 Kg
Max aperture	F/N = 1.4	Options	
Object format	N.A.	Motorized focus	Upon request
Min working distance	4 m	Motorized iris	Upon request
Zoom value	N.A.	Motorized zoom	N.A.
Focus	Manual	Other mount type	Upon request
Iris	Max F/N = 1.4 Min F/N = 22	Customization	Upon request

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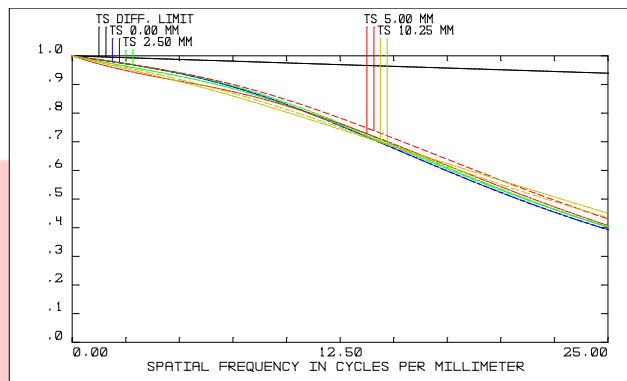
P/N	wavelength range	mount type	note	
C0417.001	900-1700 nm	Canon FD	Without iris diaphragm	
C0417.002		Nikon		
C0417.003		M42 Screw		
C0417.051		Canon FD	With iris diaphragm	
C0417.052		Nikon		
C0417.053		M42 Screw		
C0417.005	1700-2300 nm	Canon FD	Without iris diaphragm	
C0417.006		Nikon		
C0417.007		M42 Screw		

Specification are subject to change without notice

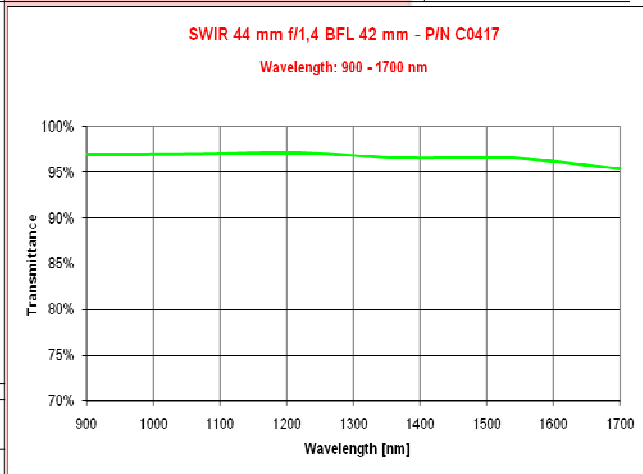
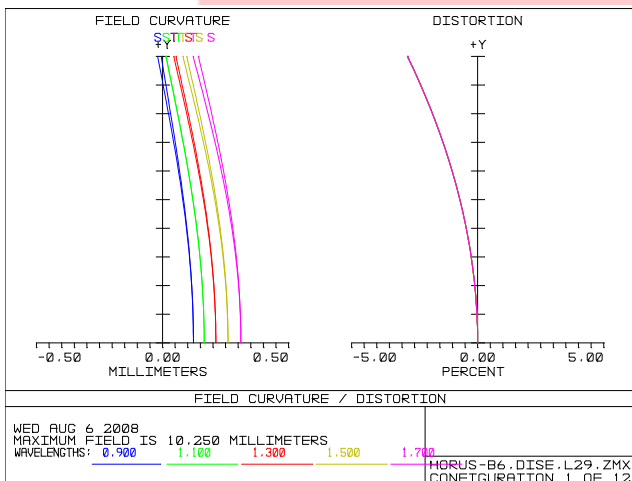
P/N	wavelength range	mount type	note
C0417.055	1700-2300 nm	Canon FD	With iris diaphragm
C0417.056		Nikon	
C0417.057		M42 Screw	
C0417.010	900-2300 nm	Canon FD	Without iris diaphragm
C0417.011		Nikon	
C0417.012		M42 Screw	
C0417.060	900-2300 nm	Canon FD	With iris diaphragm
C0417.061		Nikon	
C0417.062		M42 Screw	

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 the best focus plane. The colored lines represent the F.O.V. starting from the center (0%) to the corner (100%).



POLYCHROMATIC DIFFRACTION MTF
 WED AUG 6 2008
 DATA FOR 0.9000 TO 1.7000 μm.
 SURFACE: IMAGE
 HORUS-B6.DISE.L29.ZMX
 CONFIGURATION 1 OF 12



Optical parameters for wavelength range 0.9 – 1.7 μm

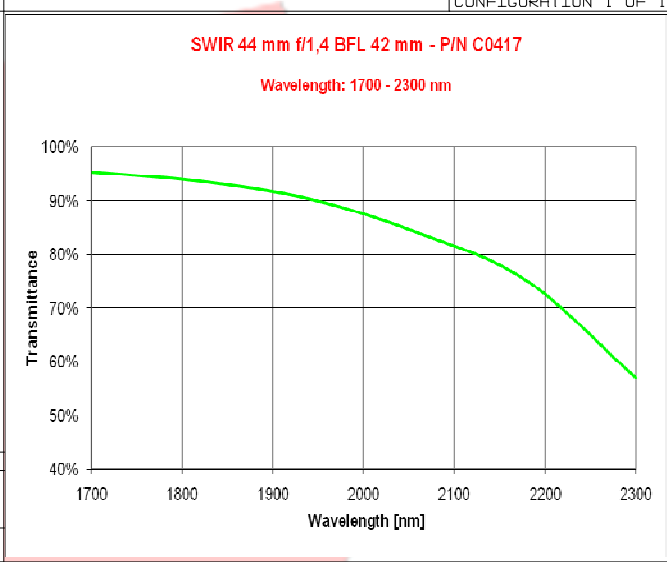
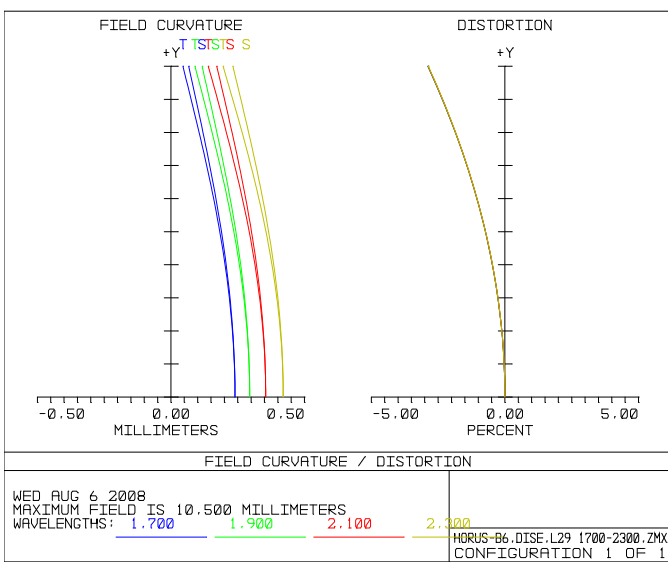
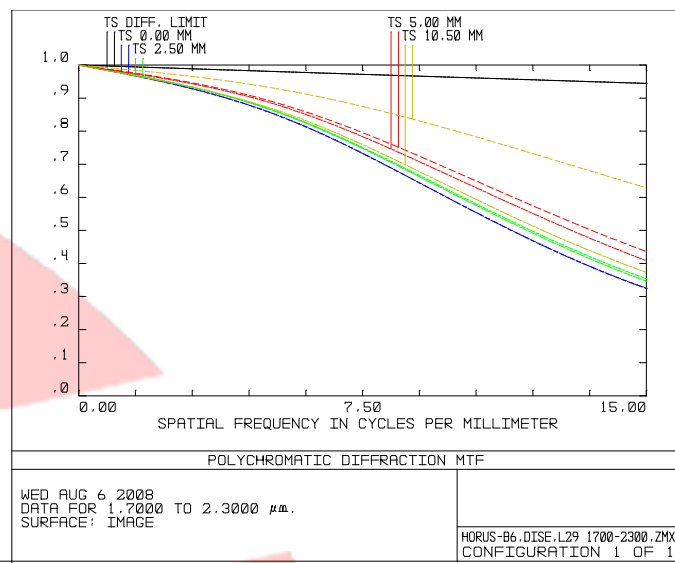
Resolution	MTF > 40% @ 25lp/mm
Distortion	< 3%
Average axial chromatic aberration	< 0.0144 mm

Glass Transmission without coating	> 95%
Antireflection Coating	R ≤ 1%
Vignetting	< 12%

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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 from the center (0%) to the corner (100%).



Optical parameters for wavelength range 1.7 – 2.3 μm

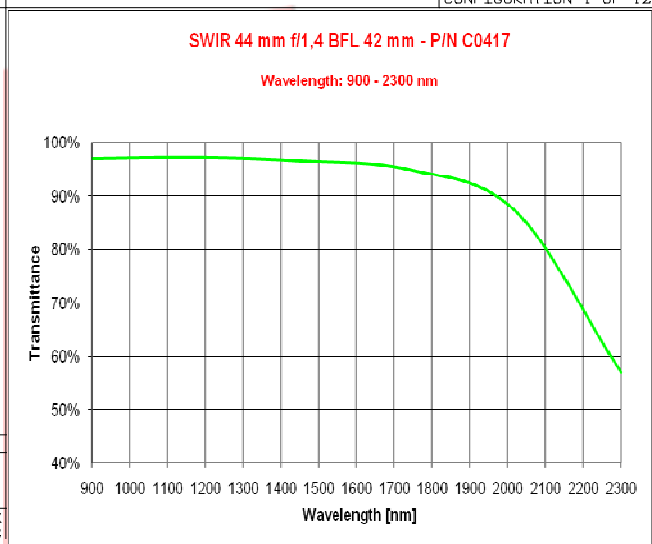
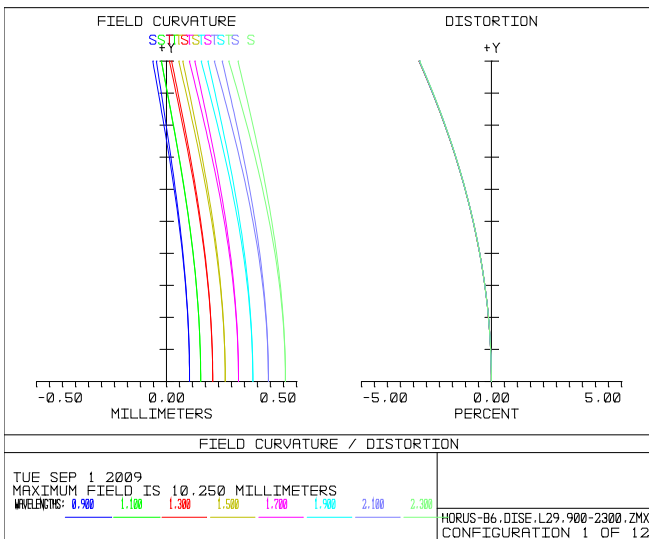
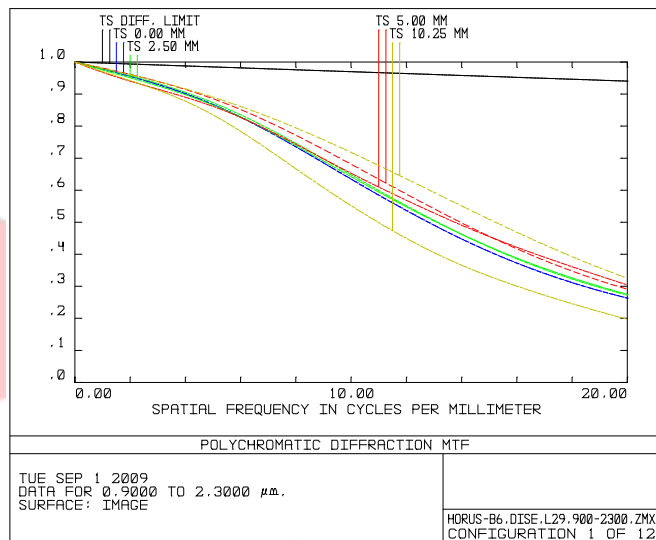
Resolution	MTF > 30% @ 15lp/mm
Distortion	< 3%

Glass Transmission without coating	> 56%
Antireflection Coating	R ≤ 1%

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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 from the center (0%) to the corner (100%).



Optical parameters for wavelength range 0.9 – 2.3 μm

Resolution	MTF > 20%@20lp/mm
Distortion	< 3%

Glass Transmission without coating	> 56%
Antireflection Coating	R ≤ 1%

More details are available upon request and technical drawings are open for the customers and their needs.

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