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, 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

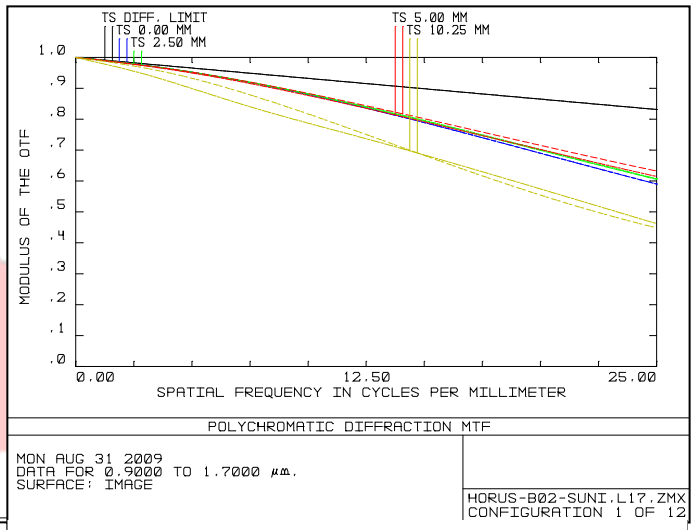
Focal length	35 mm
Image format (diagonal)	20.5 mm
F.O.V. (diagonal)	32.6 degrees
Max aperture	F/N = 4 (fixed)
Object format	N.A.
Min working distance	750 mm
Zoom value	N.A.
Focus	Manual
Iris	Optional / If iris Min F/N = 22

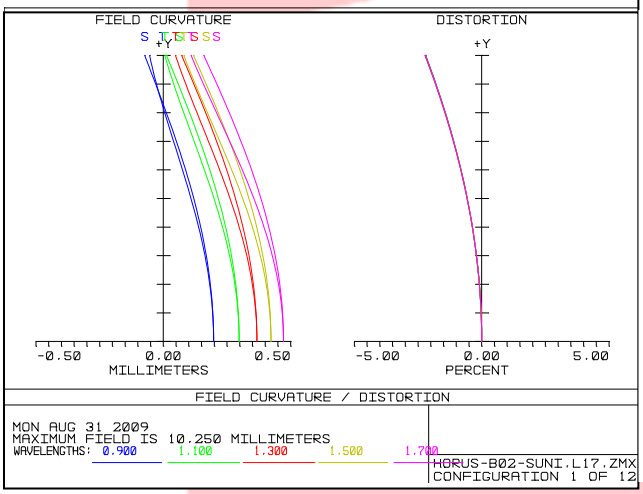
N. of elements	4
Dimensions	Dia 80 x 50 mm
Weight	0.5 Kg
Options	
Motorized focus	Upon request
Motorized iris	Upon request
Motorized zoom	N.A.
Other mount type	Upon request
Customization	Upon request

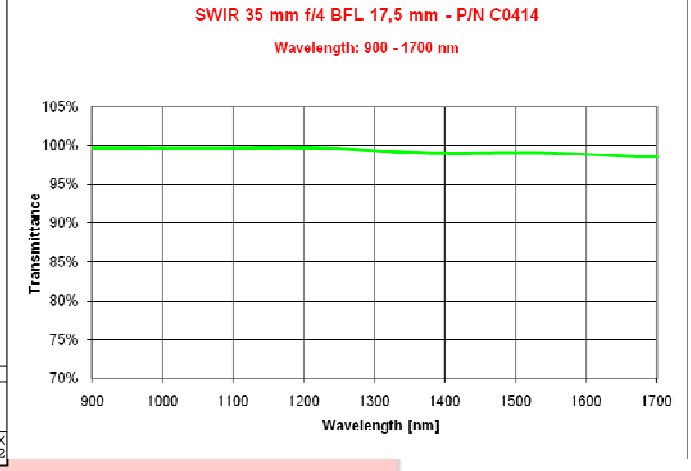
P/N	*wavelength range*	*mount type*	*note*
C0414.004	900-1700 nm	C-Mount	Without iris diaphragm
C0414.008	1700-2300 nm	C-Mount	Without iris diaphragm
C0414.013	900-2300 nm	C-Mount	Without iris diaphragm

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







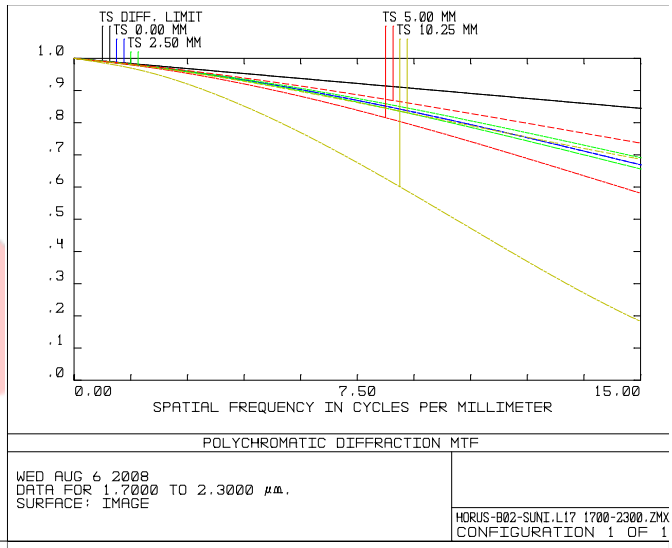
Optical parameters for wavelength range 0.9 – 1.7 µm

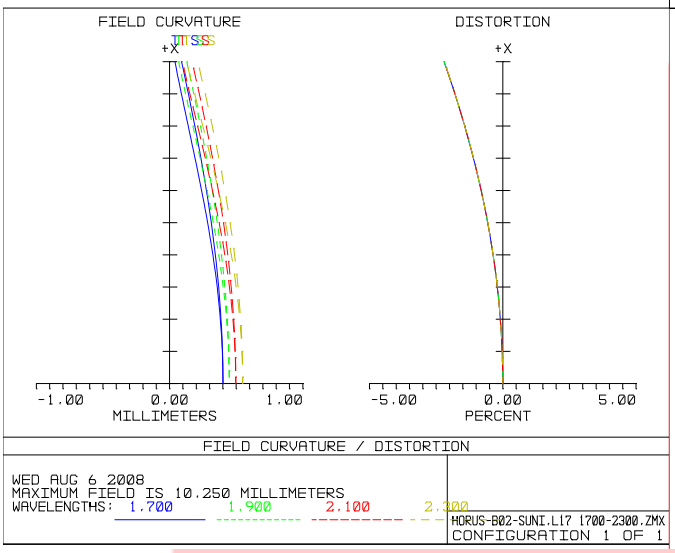
Resolution	MTF >45 %@25lp/mm
Distortion	< 3%
Average axial chromatic aberration	<0.0328 mm

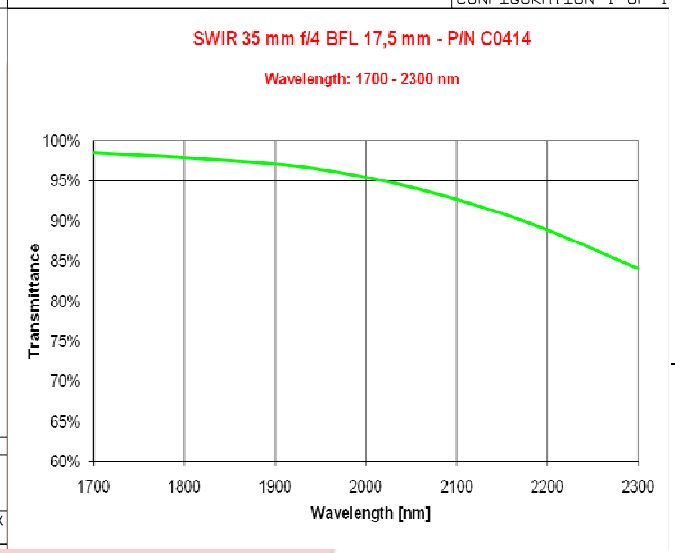
Glass Transmission without coating	> 98%
Antireflection Coating	R ≤ 1%
Vignetting	0%

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%).







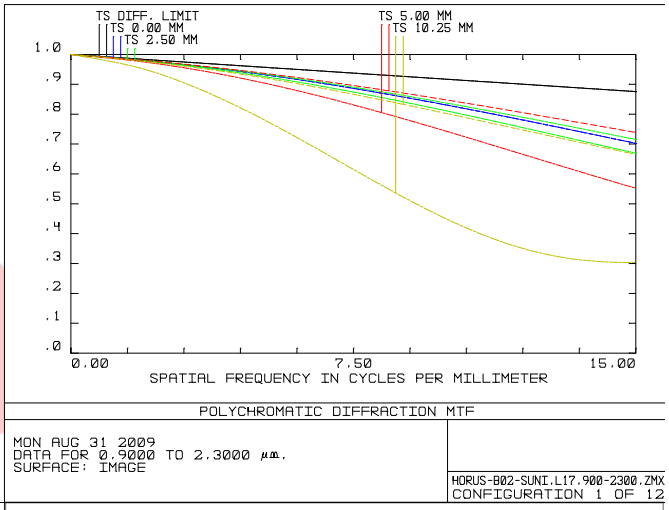
Optical parameters for wavelength range 1.7 – 2.3 µm	

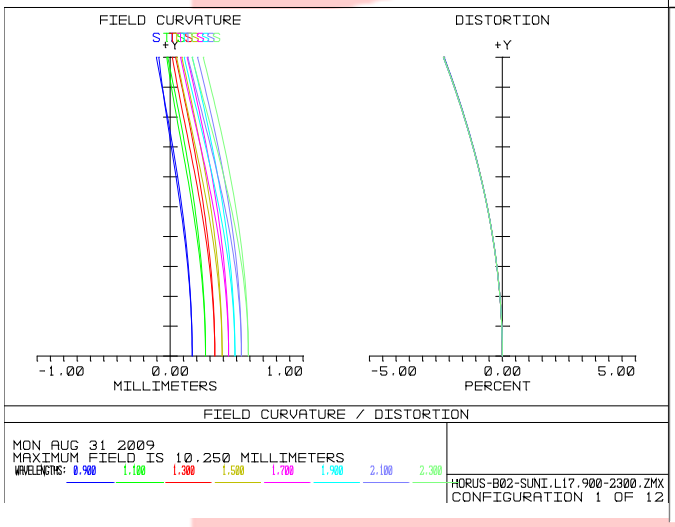
Resolution	MTF > 20%@15lp/mm
Distortion	< 3%

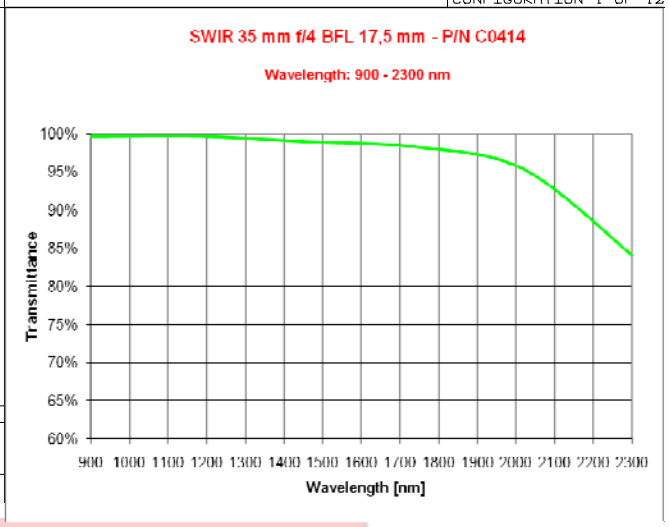
Glass Transmission without coating	> 84%
Antireflection Coating	R ≤ 1%

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







Optical parameters for wavelength range 0.9 – 2.3 μm

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

Glass Transmission without coating	> 84%
Antireflection Coating	R ≤ 1%

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