



LENS OB-SWIR200/2.4 – P/N 9930

General Description

The new range for imaging inspection is the Short Wave Infrared Region, starting from 0.9 μ m to 3 μ m. This lens wants to cover the first range from 0.9 μ m to 2.3 μ m with a very high quality image.

The high F/N and a very good transmission obtained using special optical glasses, are the main characteristics of this lens. The good transmission in the visible range is also helpful for alignment and tracking application.



Optical and mechanical parameters

Focal length	200 mm
Image format (diagonal)	18 mm
F.O.V. (diagonal)	5 degrees
Max aperture	F/N = 2.4
Object format	N.A.
Min working distance	4500 mm
Zoom value	N.A.
Focus	Manual
Iris	Max F/N = 2.4 Min F/N = 32

N. of elements	6
Dimensions	Dia 124 x 184 mm
Weight	3 Kg
Options	
Focus motorized	Upon request
Iris motorized	Upon request
Zoom motorized	N.A.
Other mount type	Upon request
Customization	Upon request

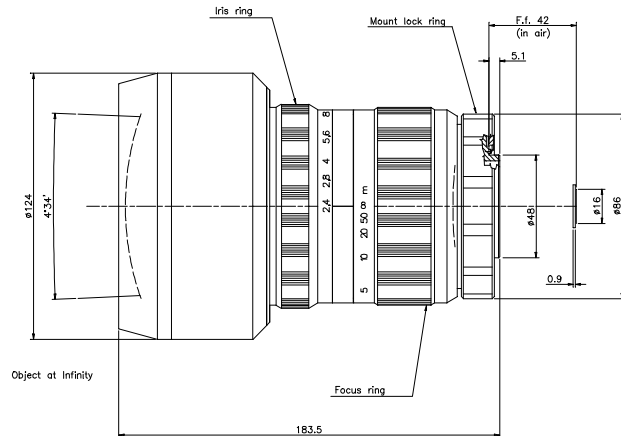
P/N	wavelength range	mount type	note
B9930.002	900-1700 nm	Canon	With manual iris diaphragm
B9930.012	1700-2300 nm	Canon	With manual iris diaphragm
B9930.022	900-2300 nm	Canon	With manual iris diaphragm

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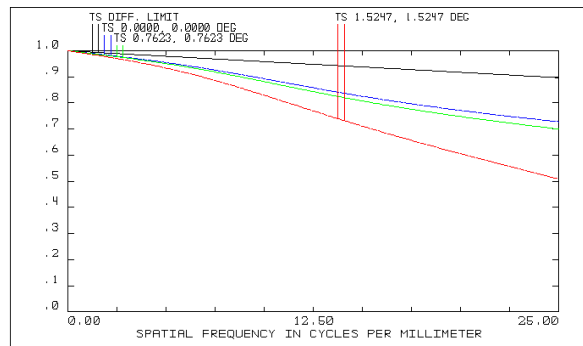
Outline Dimensions & Technical Notes

All the dimensions are reported to help the customer, mainly to define the interface with the cameras. More details are available upon request and technical drawings are open for the customers and their needs. The main parameters are reported in the front table and, here below.

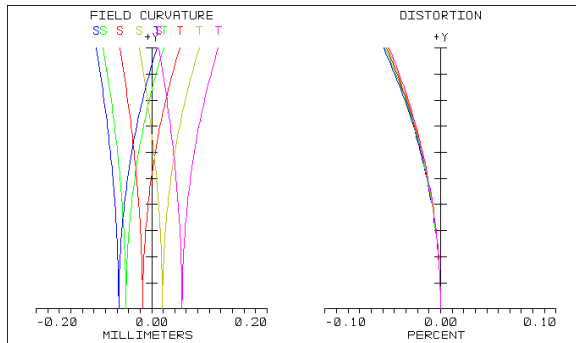


MTF, Field Curvature, Distorsion and Transmission from 900 to 1700 nm

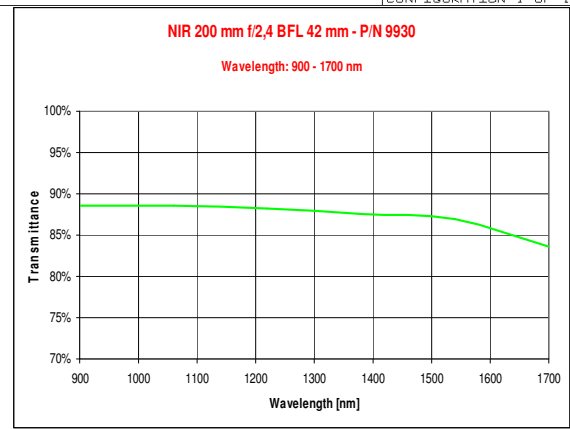
The MTF curves in terms of contrast and spatial resolution are shown. These curves are verified at the max F/N, best focus plane and in the infrared region controlling the chromatic aberrations. The different line colour seems different part of the field of view, starting from the center (0%) to the corner (100%).



WED APR 9 2008
DATA FOR 0.9000 TO 1.7000 μ m.
SURFACE: IMAGE
HORUS-F-04-DIS.L10.ZMX
CONFIGURATION 1 OF 1



FIELD CURVATURE / DISTORSION
WED APR 9 2008
MAXIMUM FIELD IS 2.156 DEGREES
WAVELENGTHS: 0.900 1.100 1.300 1.500 1.700
HORUS-F-04-DIS.L10.ZMX
CONFIGURATION 1 OF 1



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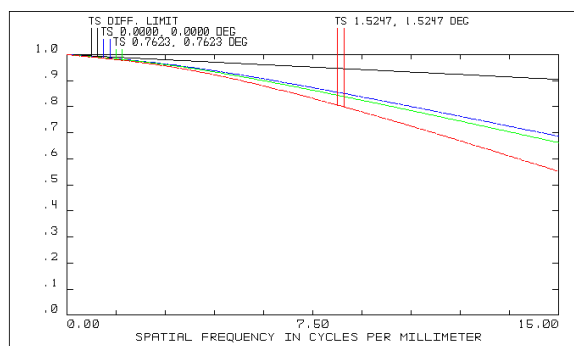
Optical parameters for wavelength range 0.9 – 1.7 μm

Resolution	MTF > 50%@25lp/mm
Distortion	< 0.1%
Average axial chromatic aberration	< 0.0512 mm

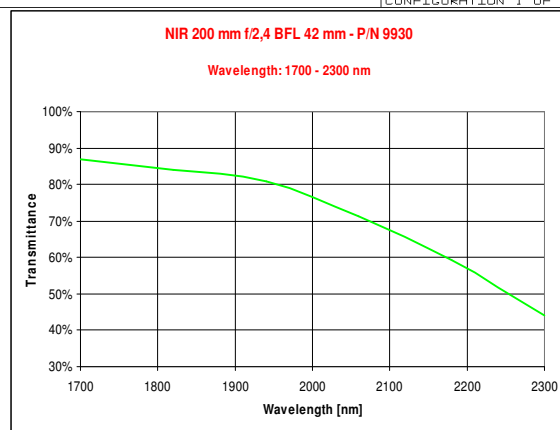
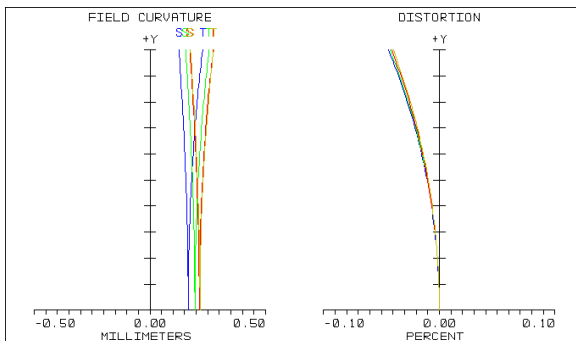
Transmission	> 82%
Antireflection Coating	$R \leq 0.6\%$
Vignetting	< 9%

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%)



POLYCHROMATIC DIFFRACTION MTF
WED APR 9 2008
DATA FOR: 1.7000 TO 2.3000 μm .
SURFACE: IMAGE
HORUS-F-04-01S.L10 1700-2300.ZMX
CONFIGURATION 1 OF 1



Optical parameters for wavelength range 1.7 – 2.3 μm

Resolution	MTF > 55%@15lp/mm
Distortion	< 0.1%

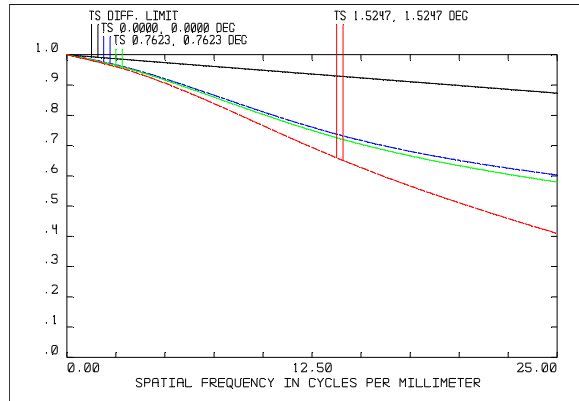
Transmission	> 45%
Antireflection Coating	$R \leq 0.6\%$

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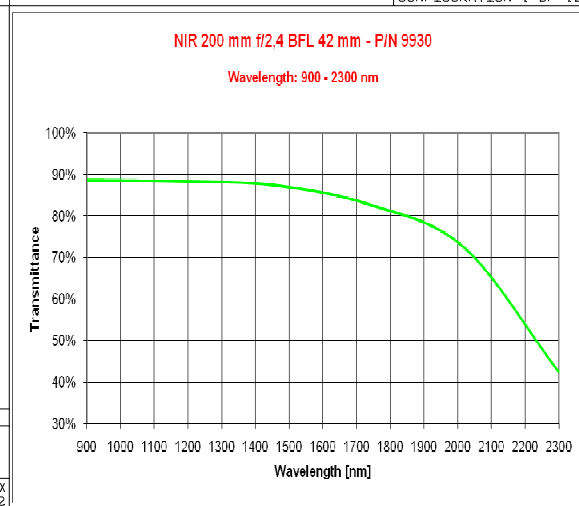
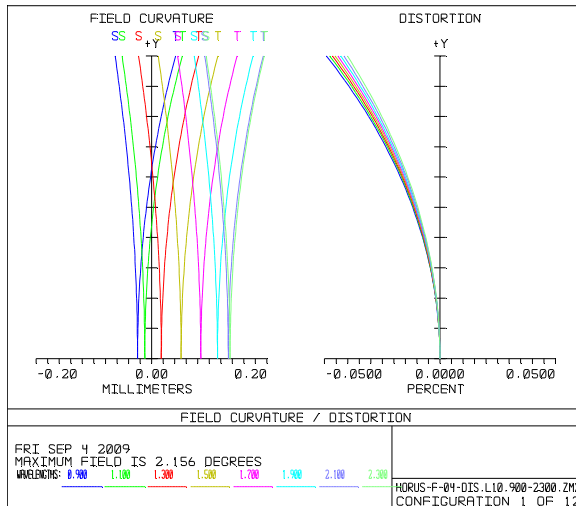
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MTF, Field Curvature, Distortion and Transmission from 900 to 2300 nm

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 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
HORUS-F-04-DIS.L10.900-2300.ZMX
CONFIGURATION 1 OF 12



Optical parameters for wavelength range 0.9 – 2.3 μm

Resolution	MTF > 40% @ 25lp/mm
Distortion	< 0.1%

Transmission	> 45%
Antireflection Coating	$R \leq 0.6\%$