

LENS OB-SWIR25/1.4 – P/N C0808

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	25 mm
Image format (diagonal)	20.5 mm
F.O.V. (diagonal)	44.6 degrees
Max aperture	F/N = 1.4
Object format	N.A.
Min working distance	1000 mm
Zoom value	N.A.
Focus	Manual
Iris	Max F/N = 1.4 Min F/N = 22

N. of elements	10
Dimensions	Dia 80 x 95 mm
Weight	0.7 Kg
Options	
Motorized focus	Upon request
Motorized iris	Upon request
Motorized zoom	N.A.
Other mount type	Upon request
Customization	Upon request

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P/N	wavelength range	mount type	note
C0808.001	900-1700 nm	Canon FD	With iris diaphragm
C0808.002		Nikon	
C0808.003		M42 Screw	
C0808.005	1700-2300 nm	Canon FD	
C0808.006		Nikon	
C0808.007		M42 Screw	
C0808.010	900-2300 nm	Canon FD	
C0808.011		Nikon	
C0808.012		M42 Screw	

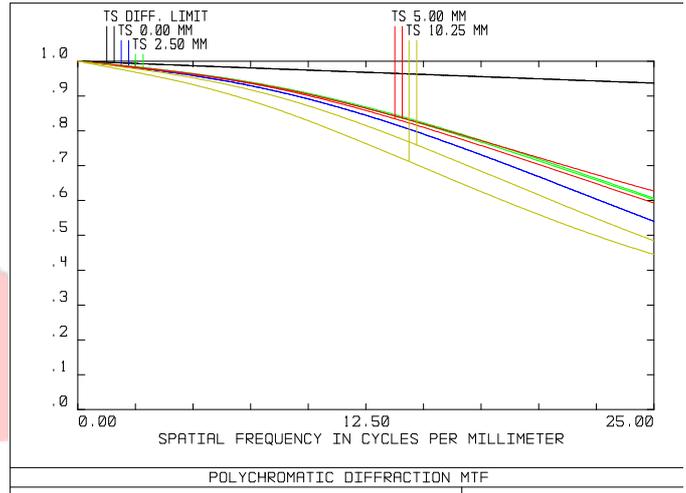
Specification are subject to change without notice

P/N	wavelength range	mount type	note	
C0808.071	900-1700 nm	Canon FD	With motorized iris	
C0808.072		Nikon		
C0808.073		M42 Screw		
C0808.081	1700-2300 nm	Canon FD		
C0808.082		Nikon		
C0808.083		M42 Screw		
C0808.091	900-2300 nm	Canon FD		With motorized focus
C0808.092		Nikon		
C0808.093		M42 Screw		
C0808.074	900-1700 nm	Canon FD	With motorized iris and focus	
C0808.075		Nikon		
C0808.076		M42 Screw		
C0808.084	1700-2300 nm	Canon FD		
C0808.085		Nikon		
C0808.086		M42 Screw		
C0808.094	900-2300 nm	Canon FD		
C0808.095		Nikon		
C0808.096		M42 Screw		
C0808.077	900-1700 nm	Canon FD	With motorized iris and focus	
C0808.078		Nikon		
C0808.079		M42 Screw		
C0808.087	1700-2300 nm	Canon FD		
C0808.088		Nikon		
C0808.089		M42 Screw		
C0808.097	900-2300 nm	Canon FD		
C0808.098		Nikon		
C0808.099		M42 Screw		

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

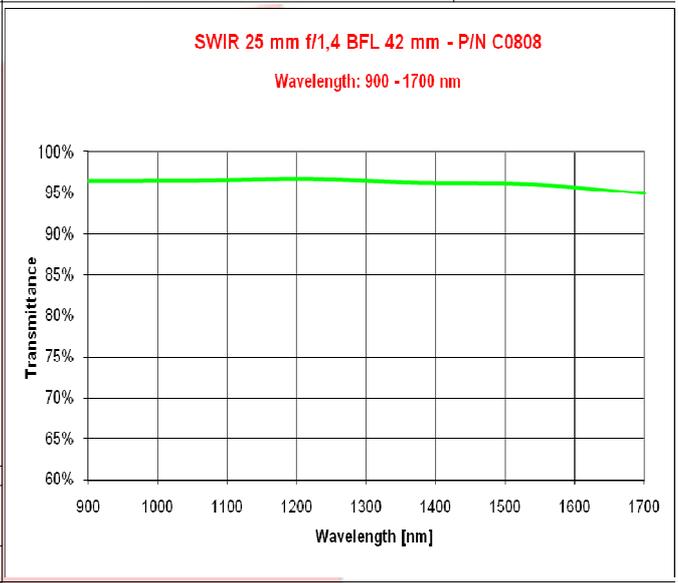
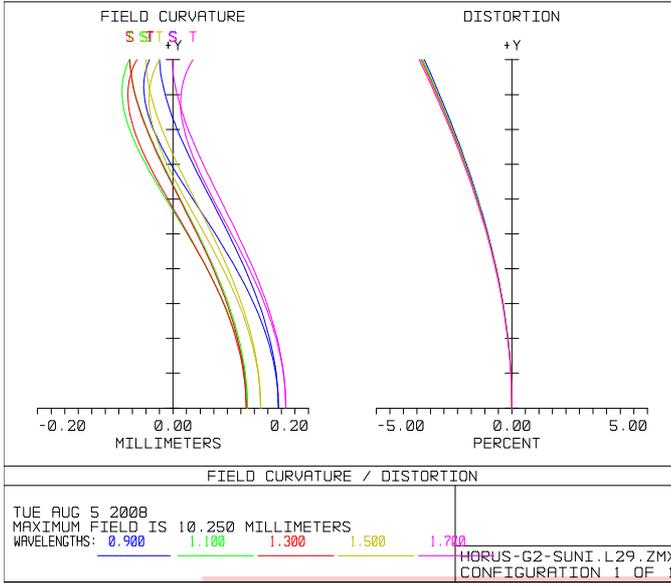
MTF, Field Curvature, Distortion and Transmission from 900 to 1700 nm

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%).



TUE AUG 5 2008
DATA FOR 0.9000 TO 1.7000 μ m.
SURFACE: IMAGE

HORUS-G2-SUNI.L29.ZMX
CONFIGURATION 1 OF 1



Optical parameters for wavelength range 0.9 – 1.7 μ m

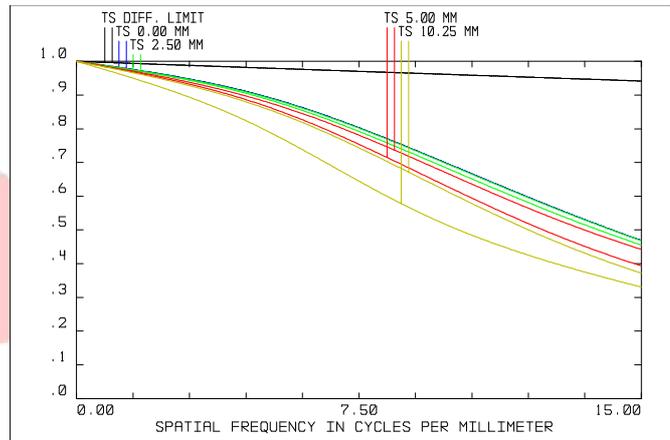
Resolution	MTF > 45%@25lp/mm
Distortion	< 3.5%
Average axial chromatic aberration	<0.0278 mm

Glass Transmission without coating	> 95%
Antireflection Coating	R \leq 1%
Vignetting	0%

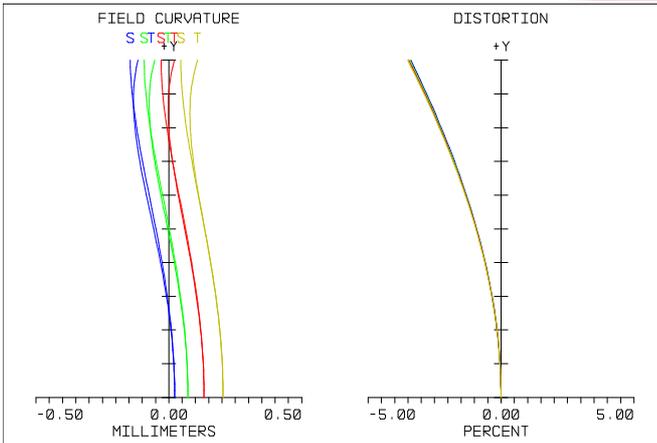
Specification are subject to change without notice

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

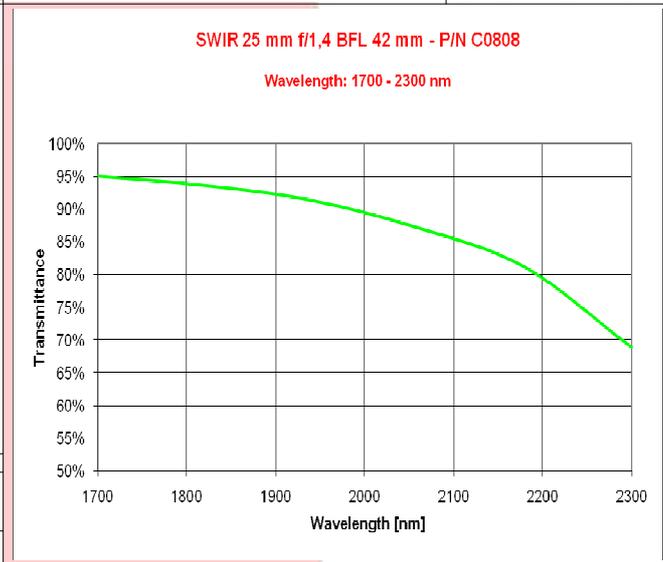
The calculated MTF values are displayed Below and are verified at the maximum F/N and the best focus plane. The colored lines represent the F.O.V. starting from the center (0%) to the corner (100%).



POLYCHROMATIC DIFFRACTION MTF
 TUE AUG 5 2008
 DATA FOR 1.7000 TO 2.3000 μm.
 SURFACE: IMAGE
 HORUS-G2-SUNI.L29.1700-2300.ZMX
 CONFIGURATION 1 OF 1



FIELD CURVATURE / DISTORTION
 TUE AUG 5 2008
 MAXIMUM FIELD IS 10.250 MILLIMETERS
 WAVELENGTHS: 1.700 1.900 2.100 2.300
 HORUS-G2-SUNI.L29.1700-2300.ZMX
 CONFIGURATION 1 OF 1



Optical parameters for wavelength range 1.7 – 2.3 μm

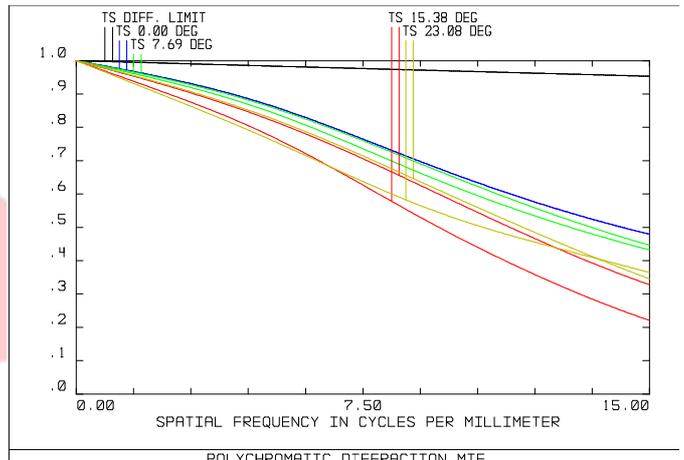
Resolution	MTF > 35%@15lp/mm
Distortion	< 3.5%

Glass Transmission without coating	> 68%
Antireflection Coating	R ≤ 1%

Specification are subject to change without notice

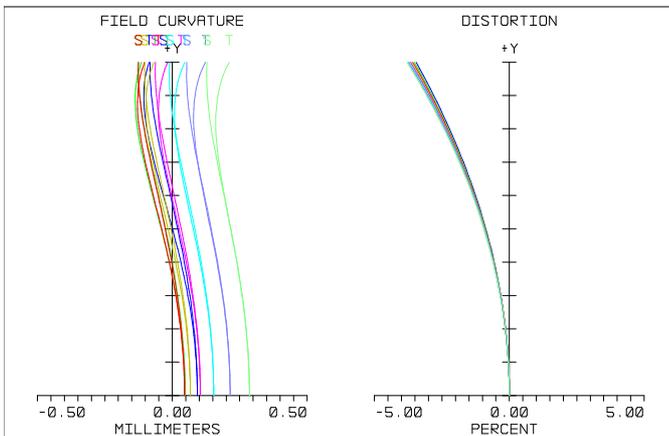
MTF, Field Curvature, Distortion and Transmission from 900 to 2300 nm

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%).



MON JUL 27 2009
DATA FOR 0.9000 TO 2.3000 μm.
SURFACE: IMAGE

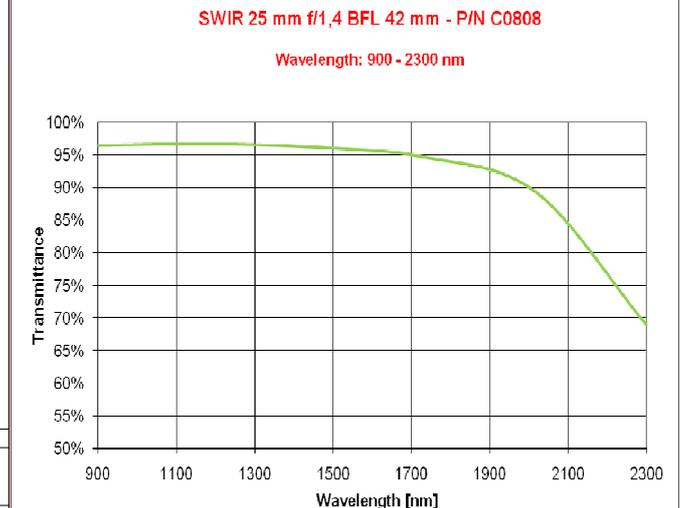
HORUS-G2-SUNI.L29 900-2300.ZMX
CONFIGURATION 1 OF 1



FIELD CURVATURE / DISTORTION

MON JUL 27 2009
MAXIMUM FIELD IS 23.076 DEGREES
WAVELENGTHS: 0.900 1.100 1.300 1.500 1.700 1.900 2.100 2.300

HORUS-G2-SUNI.L29 900-2300.ZMX
CONFIGURATION 1 OF 1



Optical parameters for wavelength range 0.9 – 2.3 μm

Resolution	MTF > 25% @ 15lp/mm
Distortion	< 3.5%

Glass Transmission without coating	> 68%
Antireflection Coating	R ≤ 1%

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Electrical data & Interfaces

IRIS FUNCTION	
Motor model	Faulhaber 1516T009SR
Motor nominal voltage	9 VDC
Motor maximum power	0.54 W
Current limit	0.19 A
Feedback	10 kOhm multi-turn potentiometer
Potentiometer model	Spectrol 533-10K ±5%
Gearhead reduction ratio	592:1

FOCUS FUNCTION	
Motor model	Faulhaber 1516T009SR
Motor nominal voltage	9 VDC
Motor maximum power	0.54 W
Current limit	0.19 A
Feedback	10 kOhm multi-turn potentiometer
Potentiometer model	Spectrol 533-10K ±5%
Gearhead reduction ratio	592:1

Hirose HR10A-10P-12P connector Pin list



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PIN	MOTORIZED IRIS	MOTORIZED FOCUS	MOTORIZED IRIS & FOCUS
1	Vcc	Vcc	Vcc
2	Gnd	Gnd	Gnd
3	NA	Analog Focus position	Analog Focus position
4	Analog Iris position	NA	Analog Iris position
5	Identification resistor #1	Identification resistor #1	Identification resistor #1
6	Identification resistor #2	Identification resistor #2	Identification resistor #2
7	NA	Focus Motor +	Focus Motor +
8	NA	Focus Motor –	Focus Motor –
9	Iris Motor +	NA	Iris Motor +
10	Iris Motor –	NA	Iris Motor –

Every shipped motorized lens will be provided with potentiometers values of end positions for both focus and iris motor

Specification are subject to change without notice

