

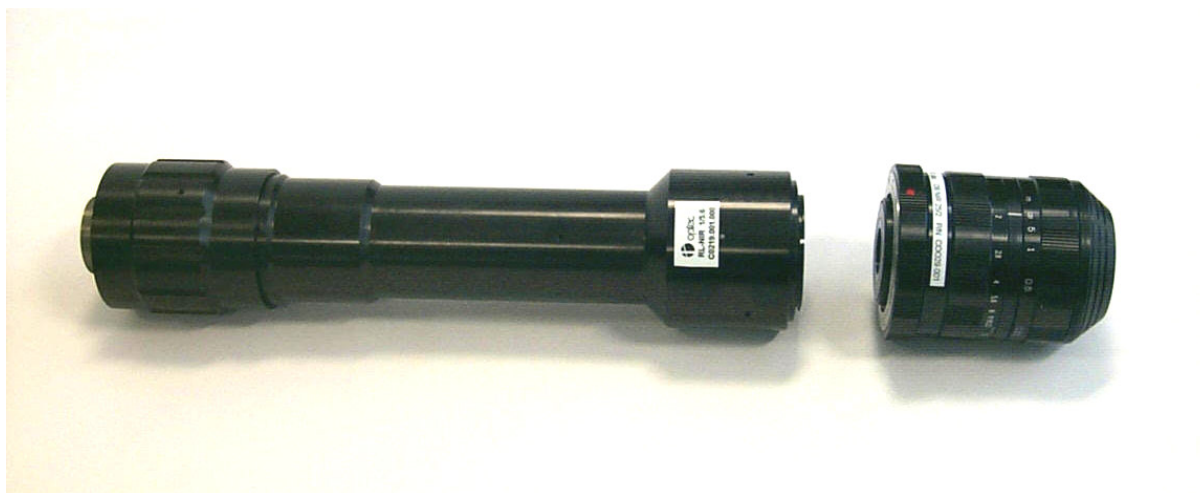
LENS RL-SWIR 1X/5.6 – P/N C0219

General Description

This 1X relay lens is designed for inspection imaging in the Near Infrared (0,9-1.7 μ m or 1.7 – 3 μ m) and sized to accommodate 320 x 240 pixels in GaAs sensors.

Its long back focal length (154 mm) makes it well-suited to microscope applications.

In this particular design, the 1X magnification value serves to increase the back focal length of the standard Optec NIR lenses (F Bayonet or C-Mount interface) to image through a Liquid Crystal Tunable Filter (LCTF) device.



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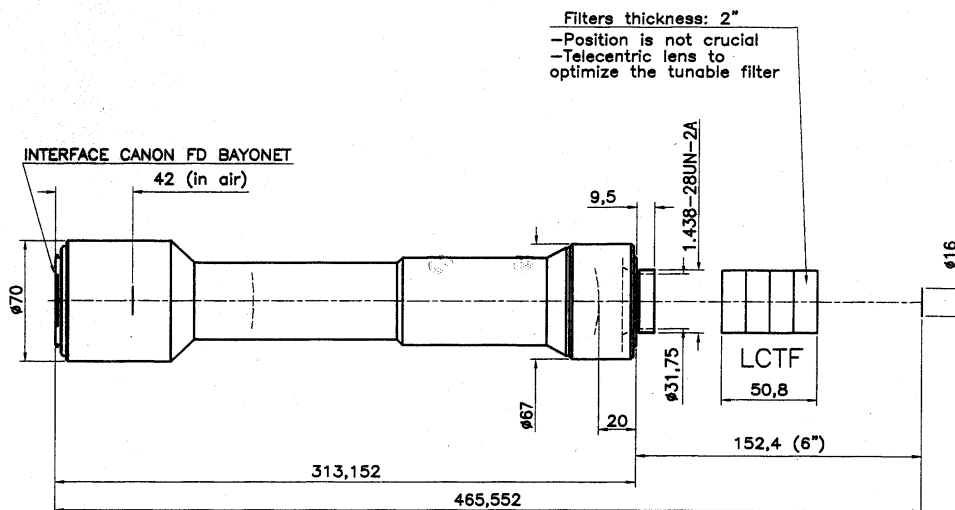
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Optical and mechanical parameters

Magnification	1x	Mount type	Canon and Nikon front interface customized rear interface
Image format (diagonal)	16 mm		
F.O.V. (diagonal)	N.A	Dimensions	Dia 70 x 323 mm
Max aperture	F/N = 5.6		
Object format (diagonal)	16 mm	Weight	1 Kg
Min working distance	N.A		
Zoom value	N.A	Options	
Focus	Manual	Focus motorized	Upon request
Back focal length	> 150 mm	Iris motorized	Upon request
Iris (none, simply removable discs)	Max F/N = 5.6 Min F/N upon request	Zoom motorized	N.A.
N. of elements	6	Other mount type	Upon request
		Customization	Upon request

Outline Dimensions

..... & Technical Notes

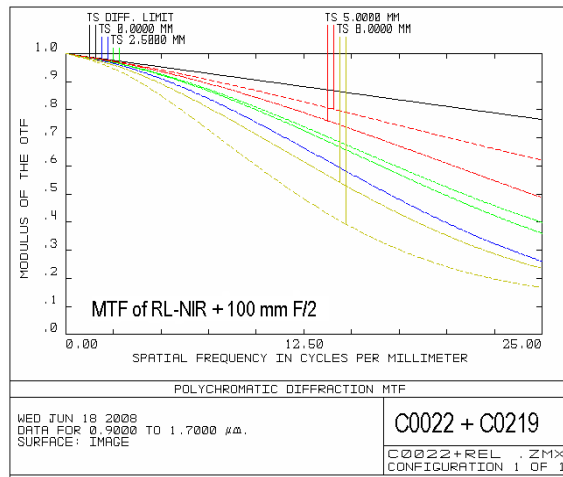
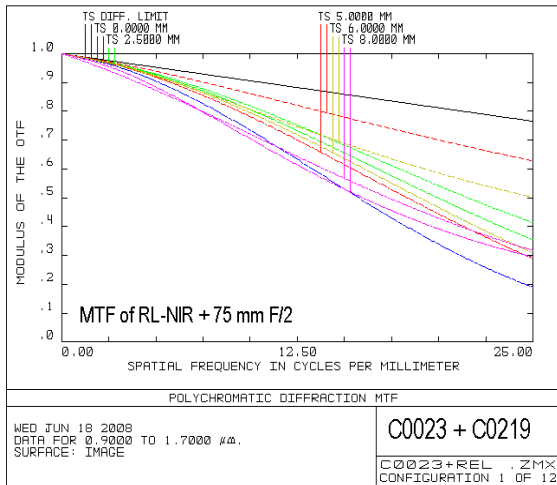
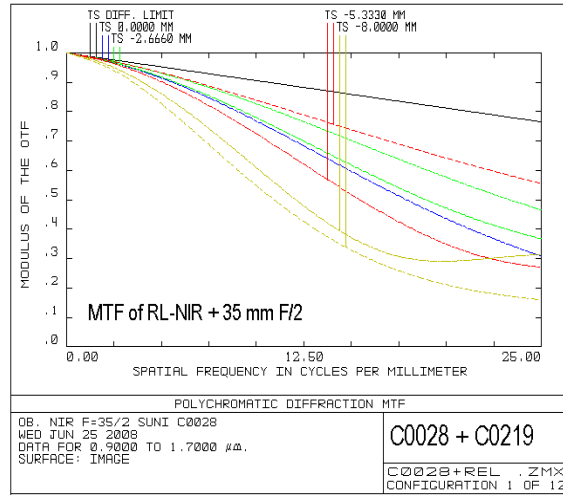
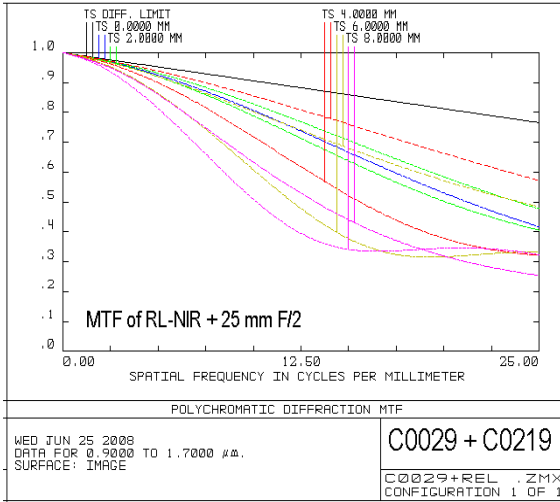


Dimensions shown demonstrate lens-to-camera or other equipment interfaces More details are available upon request.

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MTF from 900 to 1700 nm



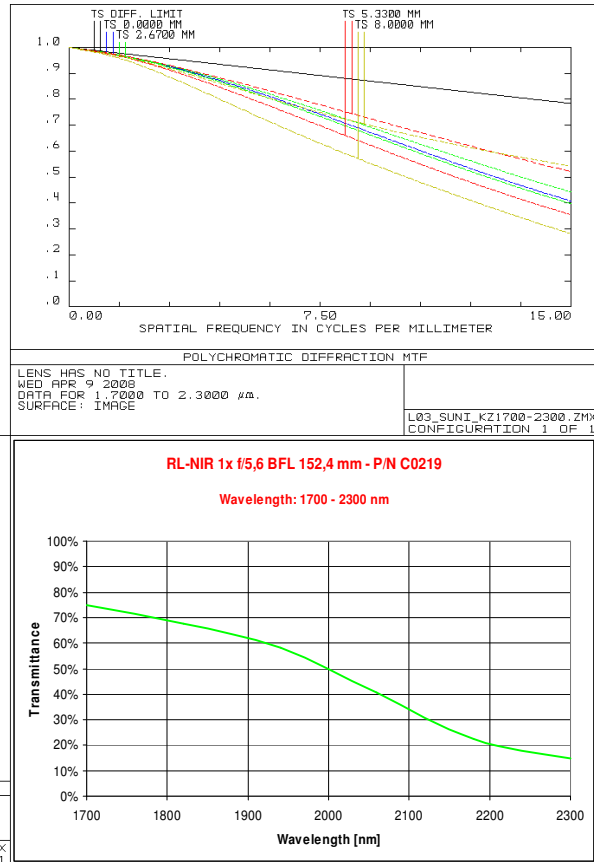
The optimum F/N (vis-à-vis the aperture of the LCTF device) and excellent transmission are obtained using special optical glasses. The added bonus of superior transmission in the visible range (0.4 – 0.7 μm) suits alignment and tracking applications.

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MTF, Field Curvature, Distortion and Transmission from 1700 to 2300 nm of RL-SWIR only

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%).



Optical parameters for wavelength range 1.7 – 2.3 μm

Resolution	MTF > 30% @ 15lp/mm
Distortion	< 2%

Transmission	> 20%
Antireflection Coating	$R \leq 1\%$