Specim SWIR3 OLESMacro lens specifications

1. Technical specifications

1.1. General information

Spectral camera	Specim SWIR3
Wavelength range (µm)	1.0 - 2.5
Product code	06FOB00210

1.2. Specifications with spectral camera

PARAMETER	VALUE	COMMENT
Magnification	1 : 1	
Working distance (mm)	100	Distance from the object to the first lens optical surface
Clearance (mm)	94	Distance from the object to the first lens mechanical surface
Nominal object length (mm)	9.2	
Entrance pupil position (mm)	46.4	From the first lens optical surface
Adjustable focus	Yes	Focus can be adjusted and locked
Filter thread	M40.5 x 0.5	
Lens mount	C-mount	
Resolution (pix)	1.6	Average over all field points and wavelengths
MTF (%) at 21 lp/mm	40	
Maximum distortion (%)	-0.1	
Minimum relative illumination (%)	99	

1.3. Specifications for lens only (A) and lens with spectral camera (B)

PARAMETER	A	B	COMMENT
Image size (mm)	9.2	9.2	
Working F-number	4.0	4.0	
Average transmission (%)	90	-	
Dimensions (mm)	50 x 176	-	Diameter x Length

2. Figures

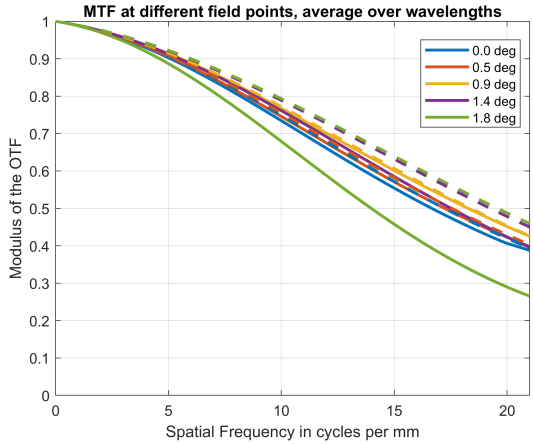

Figure 1. MTF averaged over wavelengths as a function of frequency.

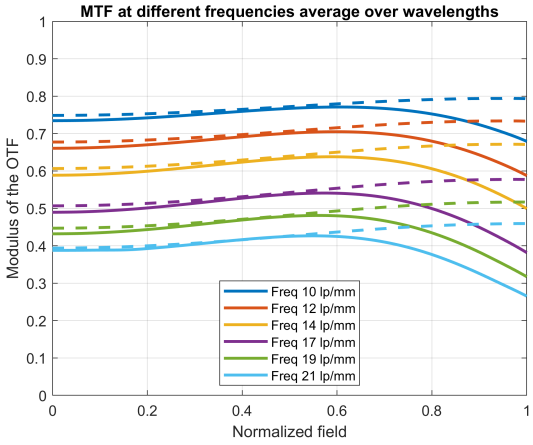

Figure 2. MTF averaged over wavelengths as a function of normalized field.

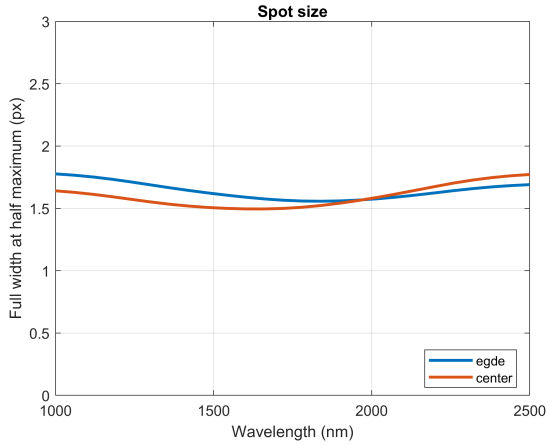

Figure 3. Full width at half maximum of the spatial spot as a function of wavelength.

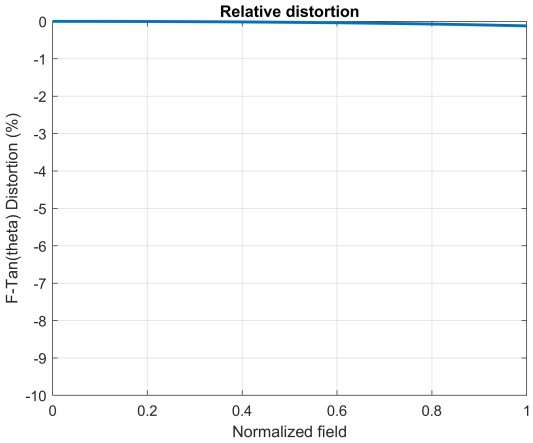

Figure 4. Relative distortion as a function of normalized field.

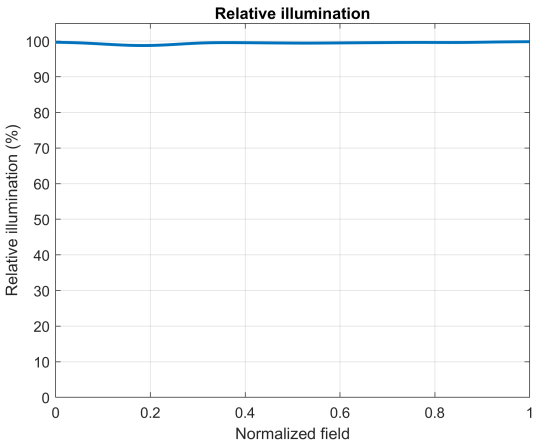

Figure 5. Relative illumination as a function of normalized field.

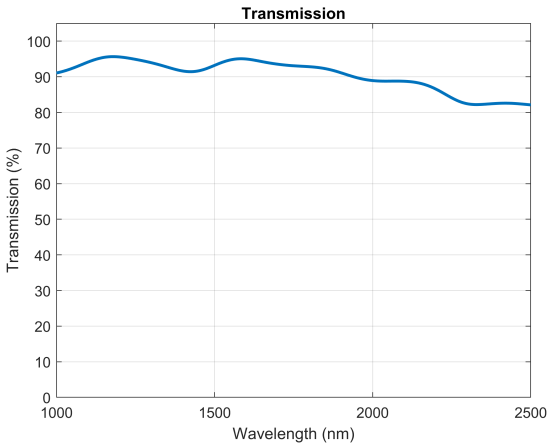

Figure 6. Transmission as a function of wavelength (lens only). Measured data is scaled with respect to the F-numbers ratio.

3. Object dimensions and depth of field

	NOMINAL OBJECT DIMENSIONS		
WORKING DISTANCE (MM)	ACROSS TRACK / LENGTH (MM)	ALONG TRACK / WIDTH (MM)	DEPTH OF FIELD (MM)
100	9	0.03	0.30