

## Specim FX50 FOV45 lens specifications

### 1. Technical specifications

#### 1.1. General information

Spectral camera	Specim FX50
Wavelength range (μm)	3.0 - 5.0
Product code	06FOB10060C

#### 1.2. Specifications with spectral camera

PARAMETER	VALUE	COMMENT
Nominal working distance (mm)	1000	Working distance used for all specifications
Field of view (deg)	44	Nominal value
Entrance pupil position (mm)	8.2	From the first lens surface
Working distance (mm)	300 - ∞	Distance from the object to the first lens surface
Minimum object length (mm)	244	Object length at minimum working distance
Adjustable focus	Yes	Focus can be adjusted and locked
Filter thread	-	
Lens mount	Custom	
Resolution (pix)	1.6	Average over all field points and wavelengths
MTF (%) at 30 lp/mm	59	
Maximum distortion (%)	-0.1	

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

PARAMETER	A	B	COMMENT
Image width (mm)	19.2	9.6	
Effective focal length (mm)	23.5	11.8	At infinite working distance; tolerance ± 1%
Working F-number	4.1	2.0	

All specification values given above are valid at the nominal working distance if not stated otherwise.

## 2. Figures

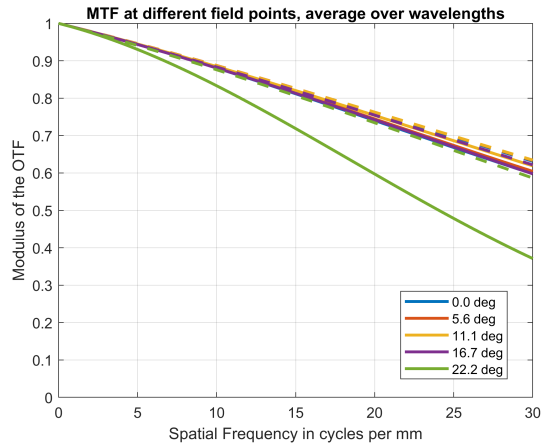


Figure 1. MTF averaged over wavelengths as a function of frequency.

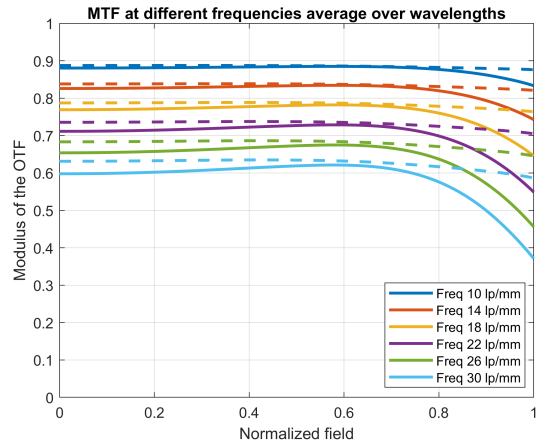


Figure 2. MTF averaged over wavelengths as a function of normalized field.

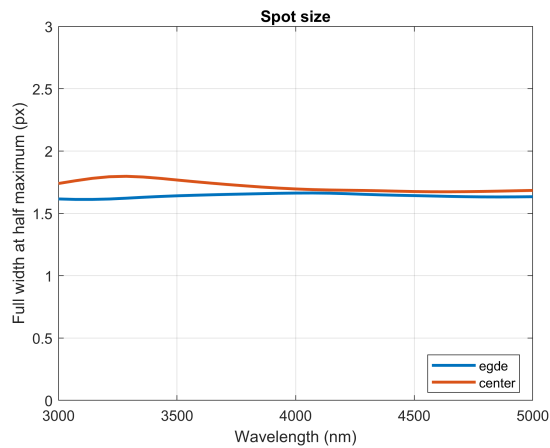


Figure 3. Full width at half maximum of the spatial spot as a function of wavelength.

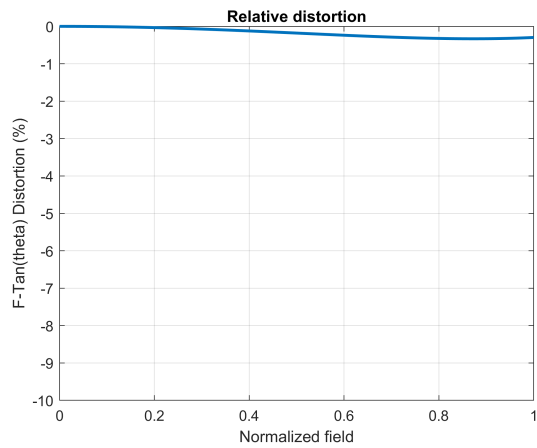


Figure 4. Relative distortion as a function of normalized field.

All specification values given above are valid at the nominal working distance if not stated otherwise.

### 3. Object dimensions and depth of field at different working distances

WORKING DISTANCE (CM)	NOMINAL OBJECT DIMENSIONS		DEPTH OF FIELD (MM)
	ACROSS TRACK / LENGTH (MM)	ALONG TRACK / WIDTH (MM)	
30	244	1.2	41
40	326	1.7	73
50	408	2.1	110
60	490	2.5	160
70	571	2.9	230
80	653	3.3	300
90	735	3.7	380
100	817	4.1	470
150	1230	6.1	1100
200	1630	8.1	2200
300	2450	12.2	7100
500	4090	20.2	∞