

Xenon-TOPAZ

XN 2,0/38-0901

Xenon-TOPAZ 2,0/38-0901

In accordance with the sensitivity of modern 1.1" CCD and CMOS sensors, the Xenon-TOPAZ lenses are designed for sensors up to 12 megapixel and broadband-coated for the spectral range of 400 – 1000 nm (VIS + NIR).

Even under production and / or extreme environmental conditions, the robust mechanical design with lockable focus and iris setting mechanism guarantees reliable continuous use in which the set optical parameters remain in place.

The lens is optimized for infinity making it perfectly suited for applications with long working distance like traffic or surveillance.

The lens is also available in a version with motorized iris (P-iris).



Xenon-TOPAZ 2,0/38-0901

Key Features

- High-resolution optics for up to 12 megapixel sensors
- Highest optical imaging performance even with smallest pixel sizes
- Broadband coating (400 - 1000 nm)
- Compact and low weight
- Vibration insensitivity for stable imaging performance
- Focus and iris setting lockable

Applications

- Traffic
- High-End Surveillance
- Robot Vision
- 3D measurement
- Machine Vision and other imaging applications
- Food processing

Technical Specifications	Xenon-TOPAZ 2,0/38-0901
F# range	2.0 – 16
Focal length	38.0 mm
Image circle	17.6 mm / 1.1"
Transmission	400 - 1000 nm
Interface	C-Mount
Weight	140 g
Filter thread	M30.5 x 0.5
Code no.	1076930
Code no. motorized	1084666

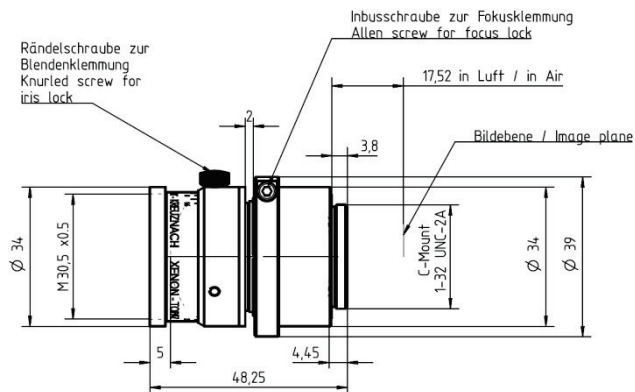
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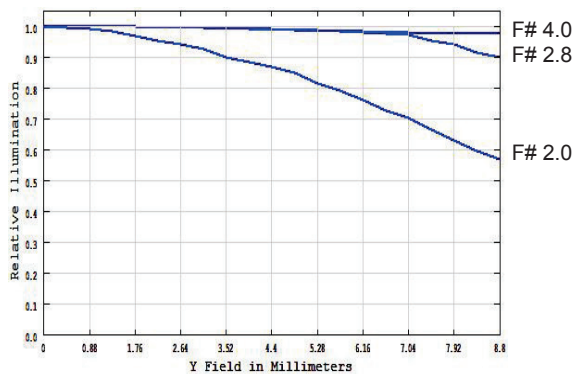
Xenon-TOPAZ 2,0/38 ($\lambda = 555 \text{ nm}$)

$f' = 38.0 \text{ mm}$ $\beta'_P = 1.56$

$\varnothing_{EP} = 19.0 \text{ mm}$ $s_{EP} = 24.82 \text{ mm}$

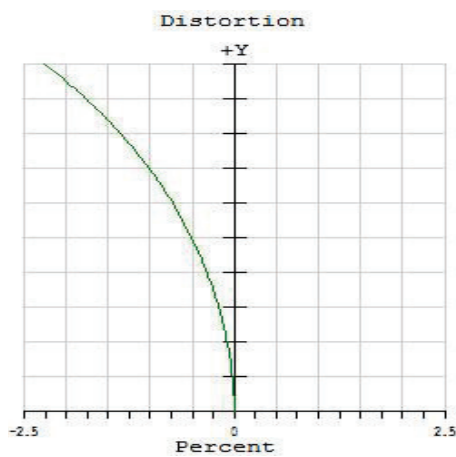
$s'_{F'} = 18.1 \text{ mm}$ $s'_{AP} = -41.52 \text{ mm}$

$HH' = -19.7 \text{ mm}$ $\square d = 38.80 \text{ mm}$



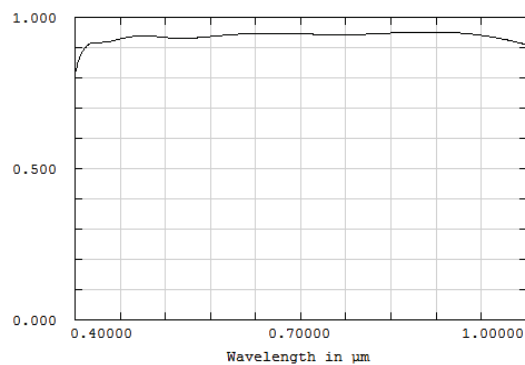
Relative Illumination

The relative illumination is shown for the given F-Numbers over the field of the sensor and referenced to the center of the sensor.



Distortion

Distortion is shown for the given magnification of $\beta' = 0$. Positive values indicate pincushion distortion and negative values barrel distortion.



Transmittance

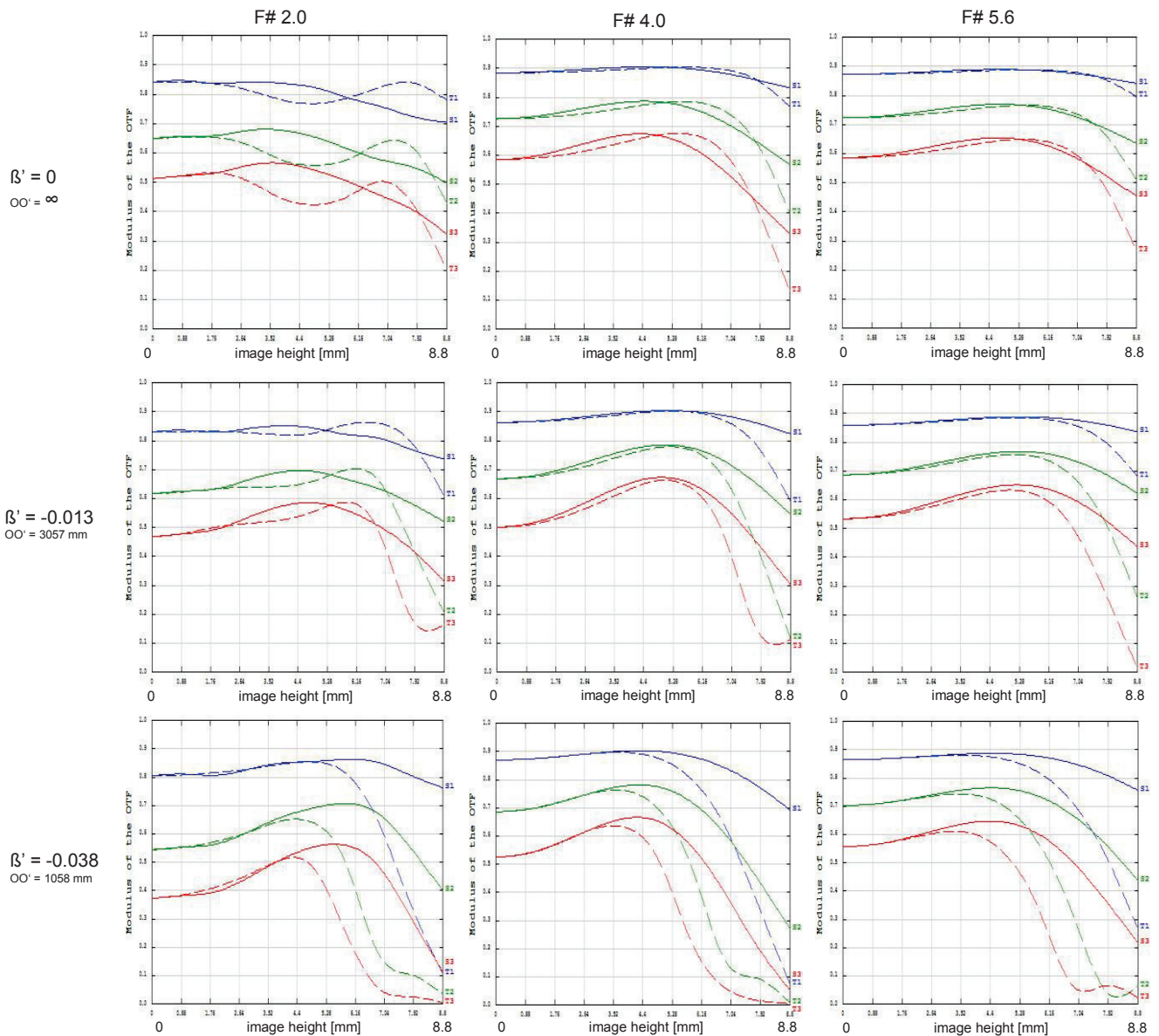
Relative spectral transmittance is shown with reference to wavelength.

Xenon-TOPAZ 2,0/38-0901

MTF with reference to image height for visible spectrum

Wavelength λ	[nm]:	425	475	525	575	625	675
Spectral weighting	[%]:	7.3	17.3	21.7	23.2	18.9	11.6
Spatial frequency R	[1/mm]:	25	50	75			
Image circle	[mm]:	17.6					

radial —
tangential - - -

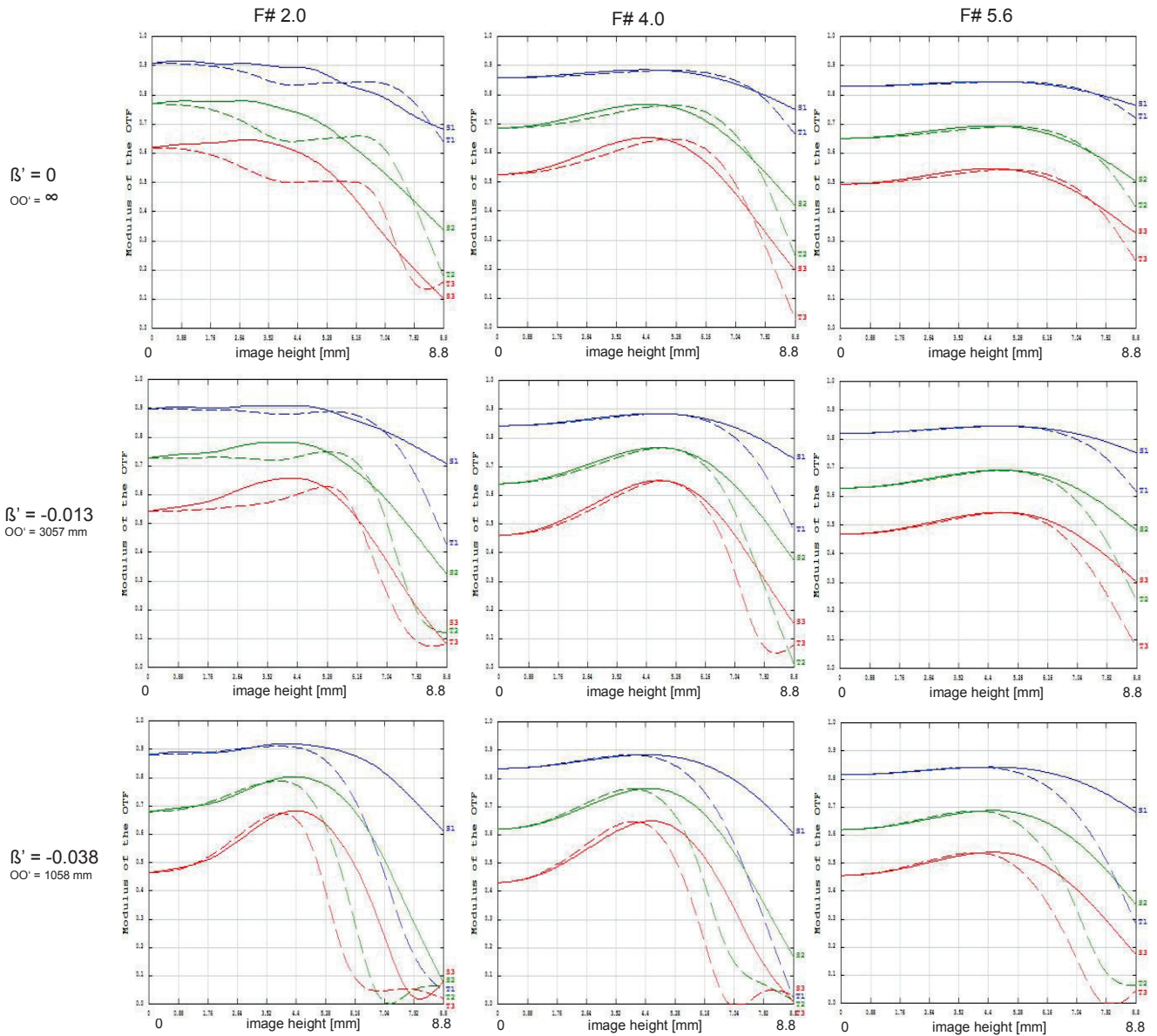


Xenon-TOPAZ 2,0/38-0901

MTF with reference to image height for NIR spectrum

Wavelength λ	[nm]:	810	830	850	870	890
Spectral weighting	[%]:	0.5	0.9	1.0	0.9	0.5
Spatial frequency R	[1/mm]:	25	50	75		
Image circle	[mm]:	17.6				

radial ———
tangential - - - -



Motorized Compact Lenses

Motorized Compact lenses

As further option for our successful compact lens series Cinegon, Xenoplan and Tele-Xenar Schneider Kreuznach attached a motorized iris to the optics without changing the benefits of the superior and well-known lenses.

The stepper motor with the industrial P-Iris connector enables the use of the existing well-proven optical designs and the lockable focus mechanism with a variable iris control for perfect use of light even under rough conditions. High guaranteed reliability with over 100,000 cycles fulfils the demand of industrial applications.



Key Features

- “Plug and Play” Industrial P-Iris connector
- Stepper motor for digital control
- Reliable mechanics for more than 100,000 cycles

Applications

- Traffic
- Machine Vision and other imaging applications
- 3D measurement
- Medical
- Robot vision
- Food processing

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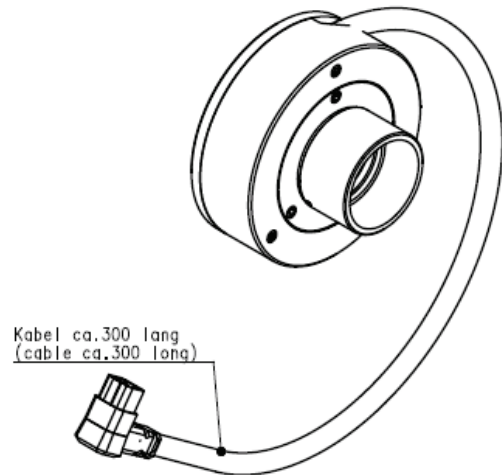
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Motorized Compact Lenses

Technical Specification

Motor type	2 phase, bipolar stepper motor
Coil resistance	21 Ohm
Current	≤ 143 mA / Phase
Max. apply voltage	5V
Coil inductivity	1.8 mH / Phase at 1 kHz
Max. Step frequency	400 Hz
Cable type	Lemo Santoprene 2x2x0.14mm ²
Connector	P-Iris / JEITA E4-191J-100
Operating temperature	0°C to +50°C
Storage temperature range	-20°C to +75°C
Mtbf	> 100,000 cycles
Order no.	1076107



Ansteuerungsablauf (sequence of excitation)	1	2	3	4
connector pin				
3	H	H	L	L
2	L	L	H	H
1	L	H	H	L
4	H	L	L	H

