

# Xenon-Topaz 2.4/6.5

The Xenon-Topaz 2.4/6.5 is part of the robust C-mount lens series for 1.1" sensor. Optimized for 0.3 m to infinity working distance and equipped with 400 - 1000 nm broadband AR-coating this lens is the ideal choice to be used in measurement systems in harsh environmental, as traffic surveillance or robot vision. Lenses with 25 mm, 30 mm, 38 mm and 50 mm focal length complete the Xenon-Topaz series.



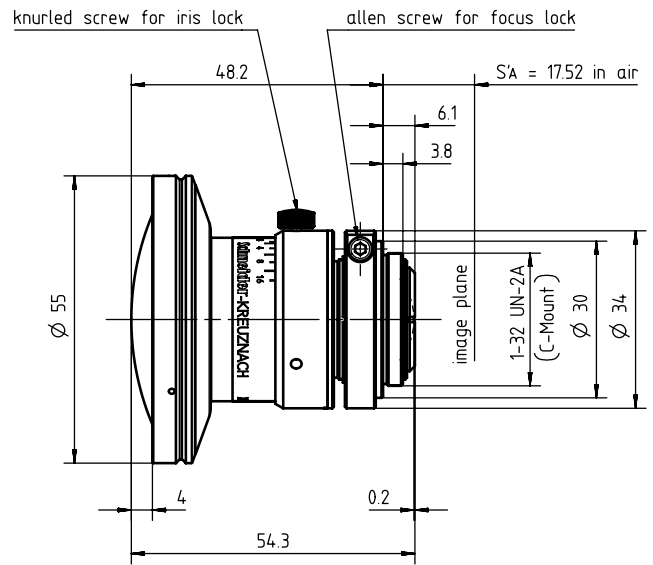
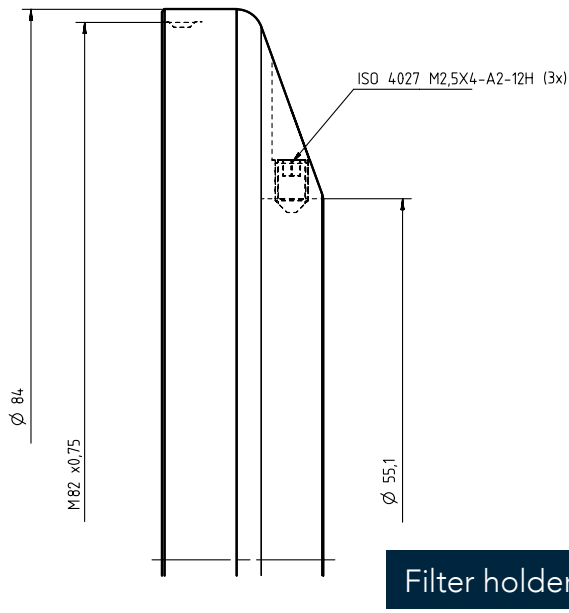
## Key features

- Wide angle C-mount lens for 1.1" sensors
- Optimized for 0.3 m to infinity working distance
- Broadband coating (400 - 1000 nm)
- Vibration insensitivity for stable imaging performance

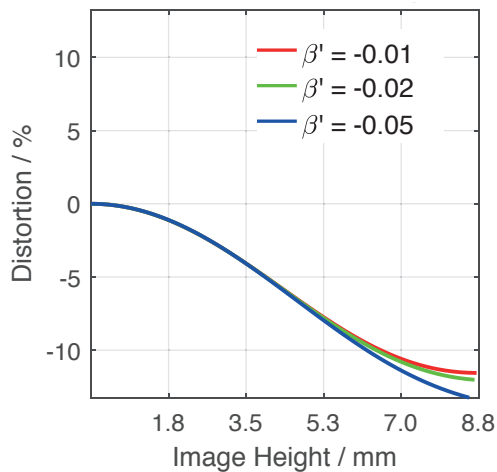
## Applications

- Traffic surveillance
- Railway inspection
- Robot vision
- Aviation and aerospace

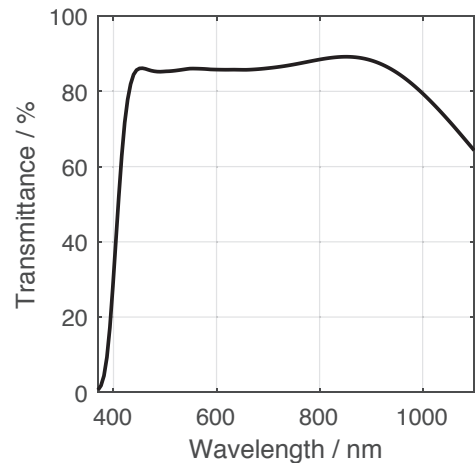
Name	Xenon-Topaz 2.4/6.5
Type	-0904
ID	1088899
Interface	C-mount
Net weight [g]	165
Focal length [mm]	6.5
F/# range	F/2.4 ... F/16
Numerical aperture	0.21
Max. sensor size [mm]	17.6
Max. angle of view $\infty$ [°]	114
Rec. magnification range	-0.02
Rec. working distance range [mm]	311
Max. mechanical focus travel [mm]	7
Filter thread [mm]	M82 x 0.75
Storage temperature [°C]	-25 ... +70
Pixel size	3.65
$f'_{\text{eff}}$ [mm]	6.49
SF [mm]	13.74
S'F' [mm]	11.22
HH' [mm]	38.62
$\beta'P$	4.193
SEP [mm]	15.28
S'AP [mm]	-15.95
$\Sigma d$ [mm]	54.11



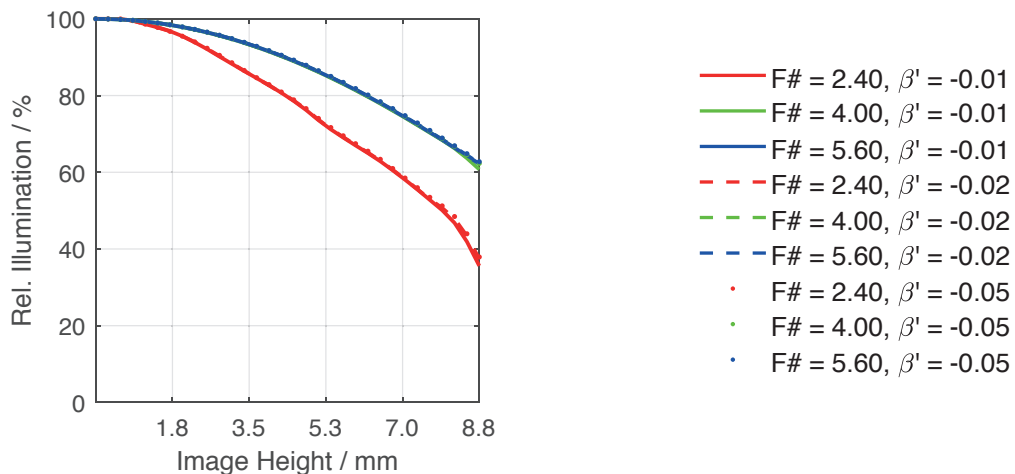
## Distortion vs. image height



## Transmittance vs. wavelength

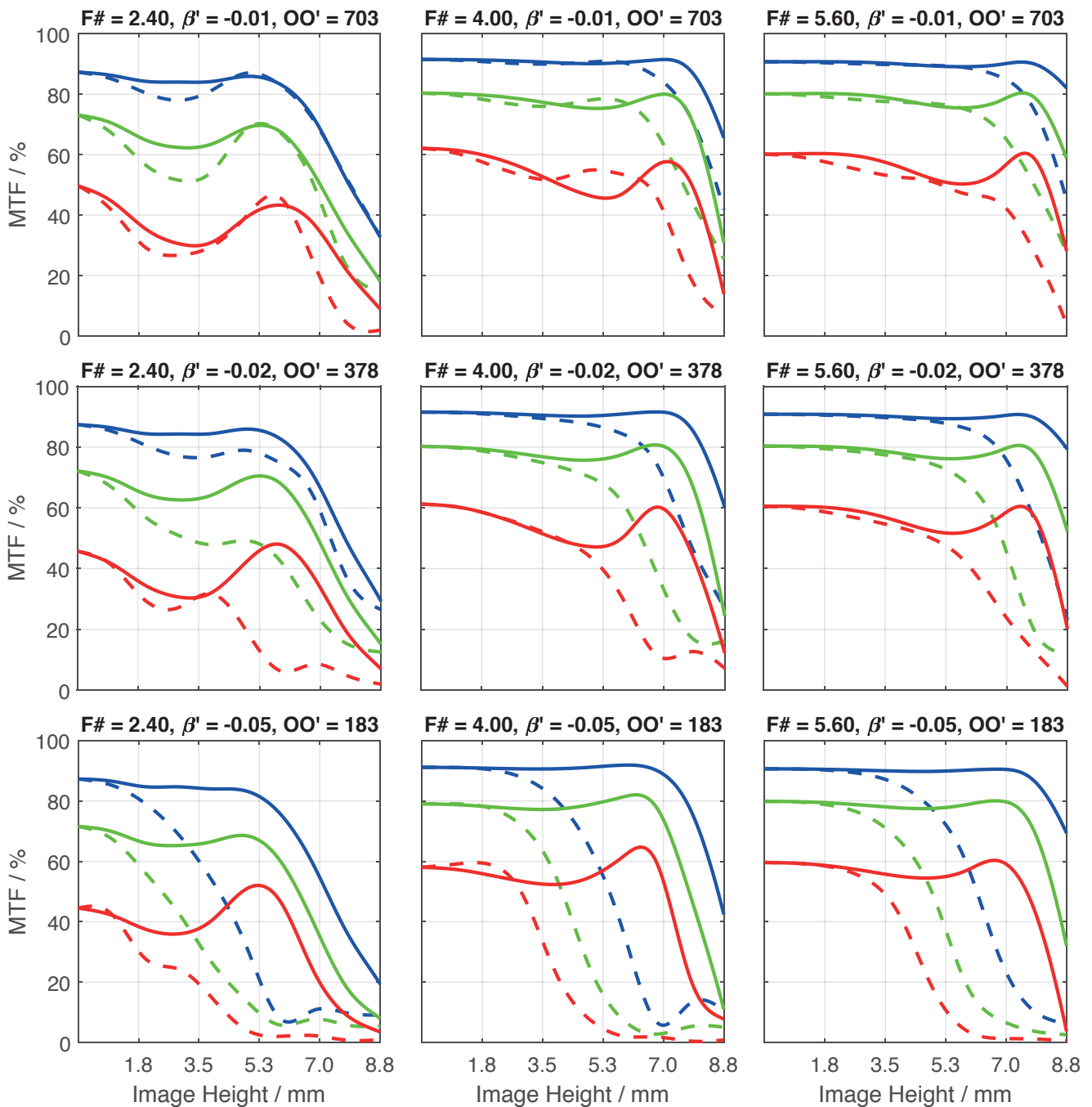


## Relative illumination vs. image height



Spectrum name	VIS					
Wavelengths [nm]	425	475	525	575	625	675
Rel. weights	8	16	23	22	19	13

- 20.0 lp/mm, tangential
- 40.0 lp/mm, tangential
- 80.0 lp/mm, tangential
- 20.0 lp/mm, radial
- 40.0 lp/mm, radial
- 80.0 lp/mm, radial



Accessories	Mount	Eff. Length	ID
Adapter	C-mount / CS-mount	5 mm	25081
	C-mount / M42 x 1	5.5 mm	1075817
Filter holder	M82 x 0.75	-	1078041
Ext. tube	C-mount	5 mm	39316
	C-mount	8 mm	39315
	C-mount	10 mm	39312

Annotation	
Focal length	Nominal focal length
F/# range	Image space F-number range for infinity
Numerical aperture	Maximum image space numerical aperture for infinity
Max. sensor size	Image circle diameter
Max. angle of view	Angle of view associated with max. sensor size (Depending on rec. magnification range either for 1) infinity or 2) respective fixed magnification)
Rec. magnification range	Magnification range as recommended by Schneider-Kreuznach
Rec. working distance range	Working distance, i.e. distance between object and first mechanical element, associated with recommended magnification range
$f'_{\text{eff}}$	Effective focal length
SF	Distance between vertex of first lens surface and object space focal point
S'F'	Distance between vertex of last lens surface and image space focal point (back focal distance at infinity)
HH'	Distance between principal planes
$\beta'P$	Pupil magnification (= exit pupil diameter / entrance pupil diameter)
SEP	Distance between vertex of first lens surface and entrance pupil
S'AP	Distance between vertex of last lens surface and exit pupil
$\sum d$	Distance between vertices of first and last lens surface
s'A	Flange focal distance (in air) for infinite object distance
$\beta'$	Magnification (= image height / object height)
OO'	Distance between object and image

Unless otherwise stated all dimensions in this data sheet are in mm.

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# Xenon-Topaz 2.0/25

The Xenon-Topaz 2.0/25 is part of the robust c-mount lens series for 1.1" sensor up to 12 megapixel resolution.

Optimized for 10 m to 30 m working distance and equipped with 400 nm -1000 nm broadband AR-coating this lens is the ideal choice to be used in measurement systems in harsh environmental, as traffic surveillance or robot vision.

Version with motorized p-iris is available on request. Lenses with 6.5 mm, 30 mm, 38 mm and 50 mm focal length complete the Xenon-Topaz series.



Xenon-Topaz 2.0/25

## Key features

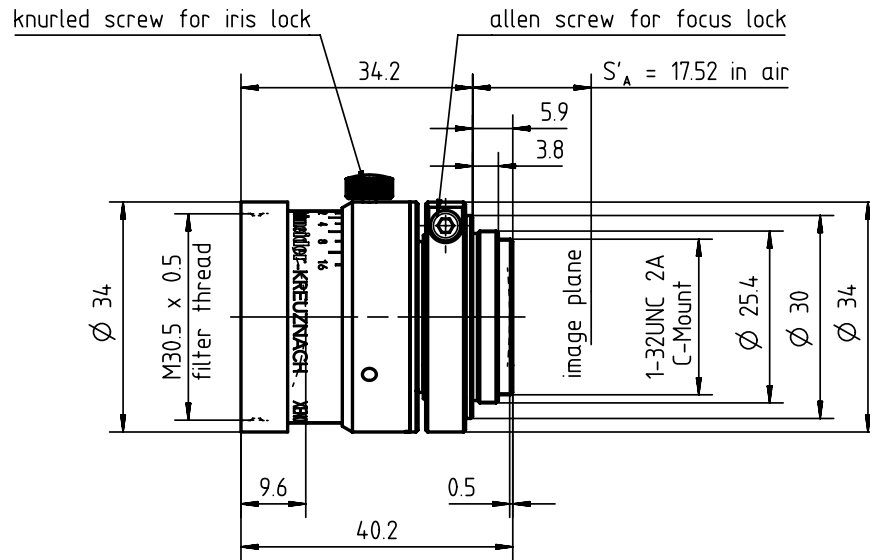
- High-resolution optics for up to 12 megapixel 1.1" sensors
- Optimized for 10 m to 30 m working distance
- Broadband coating (400 - 1000 nm)
- Vibration insensitivity for stable imaging performance
- Version with motorized p-iris available

## Applications

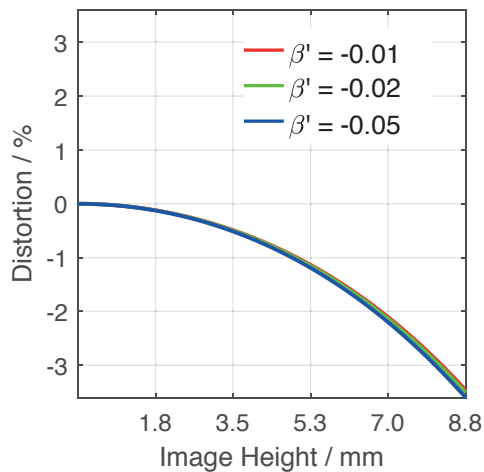
- Traffic
- High-end Surveillance
- Robot Vision
- 3D measurement

Name	Xenon-Topaz 2.0/25
Type	-0901
Focal Length [mm]	25
Magnification	-0.1
Image circle [mm]	17.6
Resolution [ $\mu\text{m}$ ]	3.65
F/# range	2 ... 16
NA	0.25
Interface	C-Mount
Working distance [mm]	242
AoV [ $^\circ$ ]	39
Focus control	manual
Transmission [nm]	400 - 1000
Filter thread [mm]	M30.5 x 0.5
Dimensions L x D [mm]	40.2 x 34.0

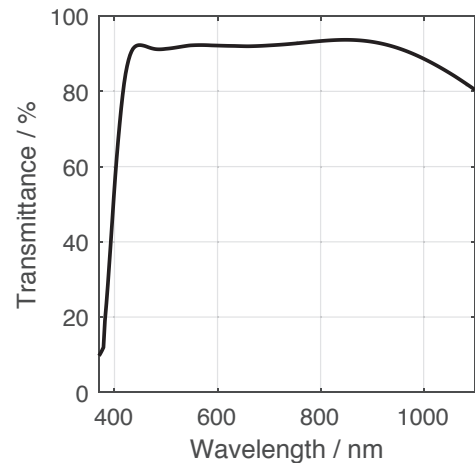
Name	Xenon-Topaz 2.0/25
Weight [g]	90
Storage temperature [ $^\circ\text{C}$ ]	-25 ... +70
$f'_{\text{eff}}$ [mm]	24.22
$S_F$ [mm]	-4.26
$S'_F$ [mm]	12.05
HH' [mm]	-1.99
$\beta'_P$	1.272
$S_{EP}$ [mm]	24.78
$S'_{AP}$ [mm]	-18.92
$\Sigma d$ [mm]	30.14
ID	1081347



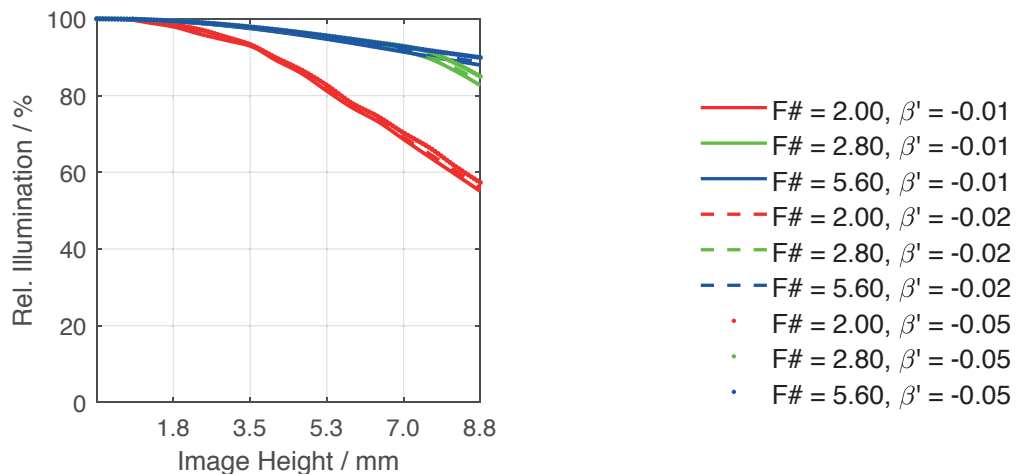
Distortion vs. Image Height



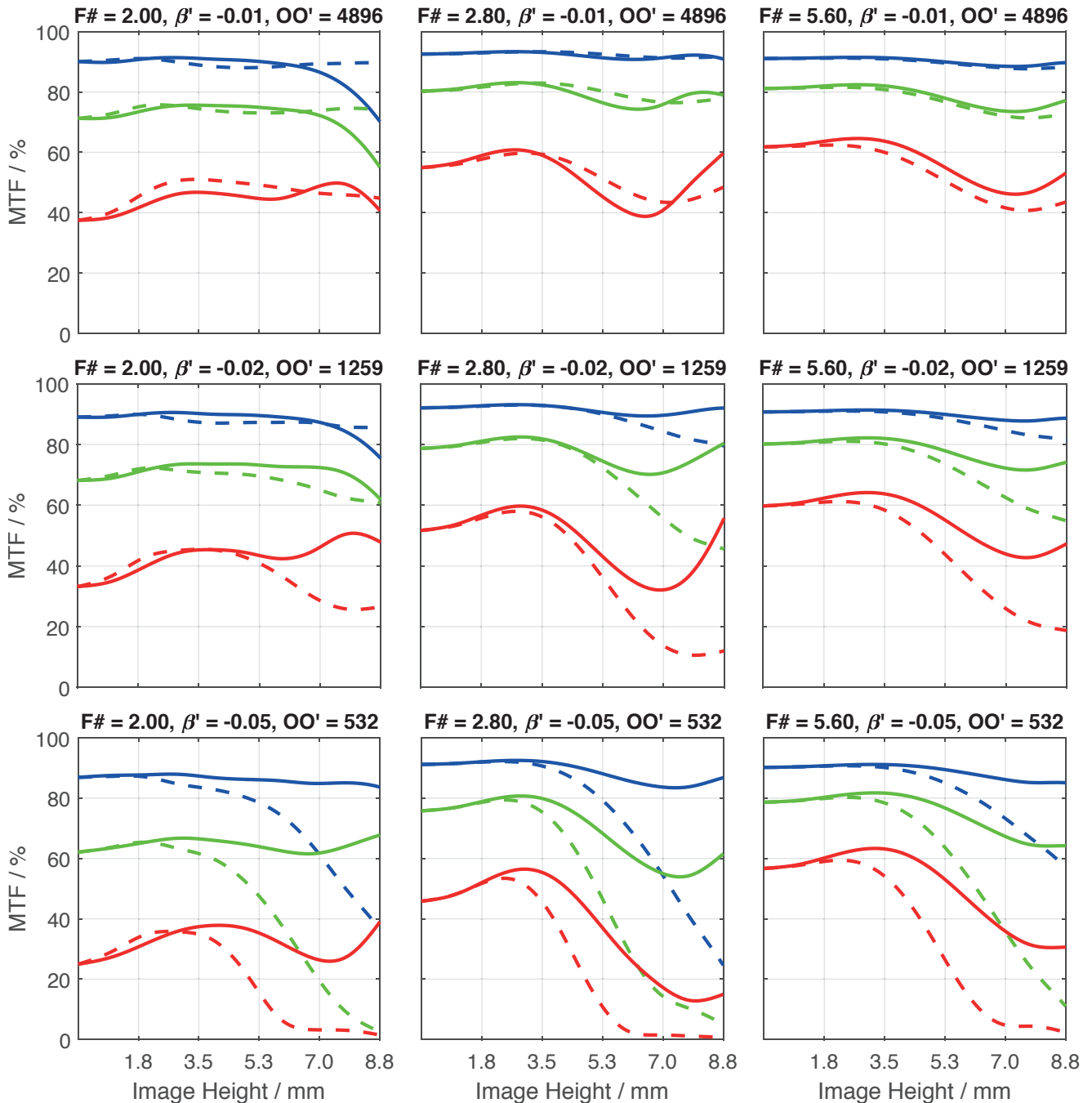
Transmittance vs. Wavelength



Relative Illumination vs. Image Height



Spectrum Name	VIS					
Wavelengths [nm]	425	475	525	575	625	675
Weights	8	16	23	22	19	13



- 20.0 lp/mm, tangential
- 40.0 lp/mm, tangential
- 80.0 lp/mm, tangential
- 20.0 lp/mm, radial
- 40.0 lp/mm, radial
- 80.0 lp/mm, radial



Accessories	Mount	Length	ID
Adapter	CS-Mount Adapter	5 mm	25081
	C-Mount / M42 x 1 Adapter	-	1075817
Ext. Tube	C-Mount	5 mm	39316
	C-Mount	8 mm	39315
	C-Mount	10 mm	39312

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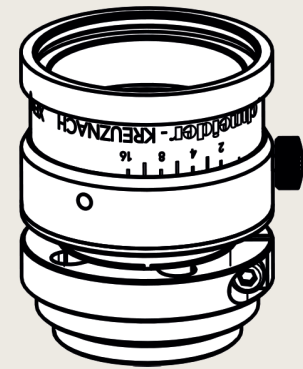
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# Xenon-Topaz 2.0/30

The Xenon-Topaz 2.0/30 is part of the robust C-Mount lens series for 1.1" sensor up to 12 megapixel resolution.

Optimized for 10 m to 30 m working distance and equipped with 400 nm - 1000 nm broadband AR- coating this lens is the ideal choice to be used in measurement systems in harsh environmental, as traffic surveillance or robot vision.

A version with motorized p-iris is also available. Lenses with 6.5 mm, 25 mm, 38 mm and 50 mm focal length complete the Xenon-Topaz series.



Xenon-Topaz 2.0/30

## Key features

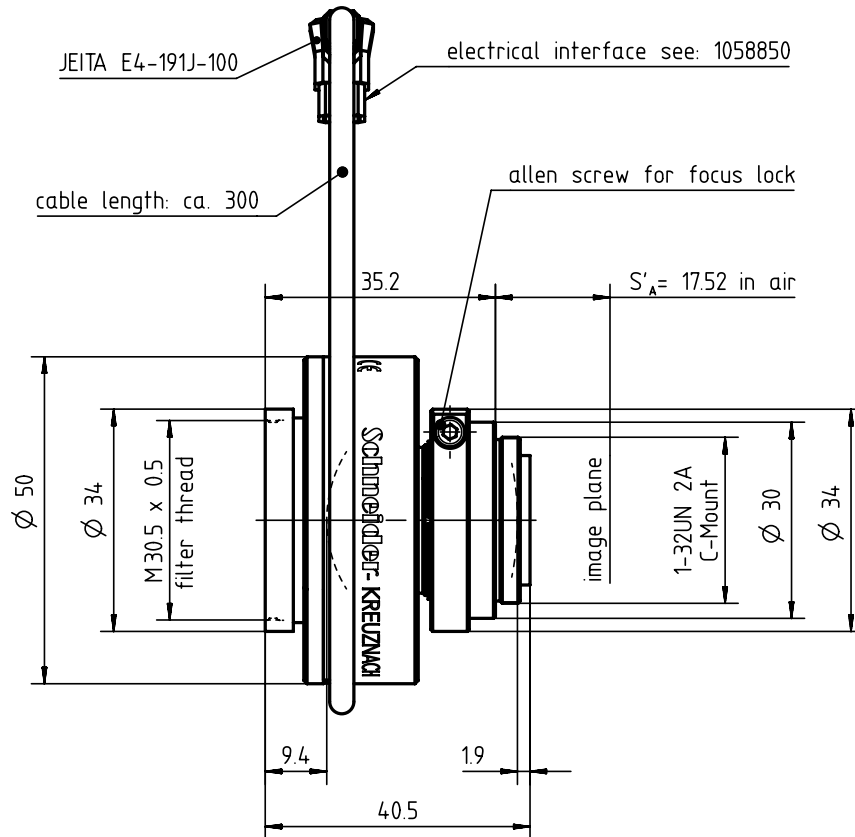
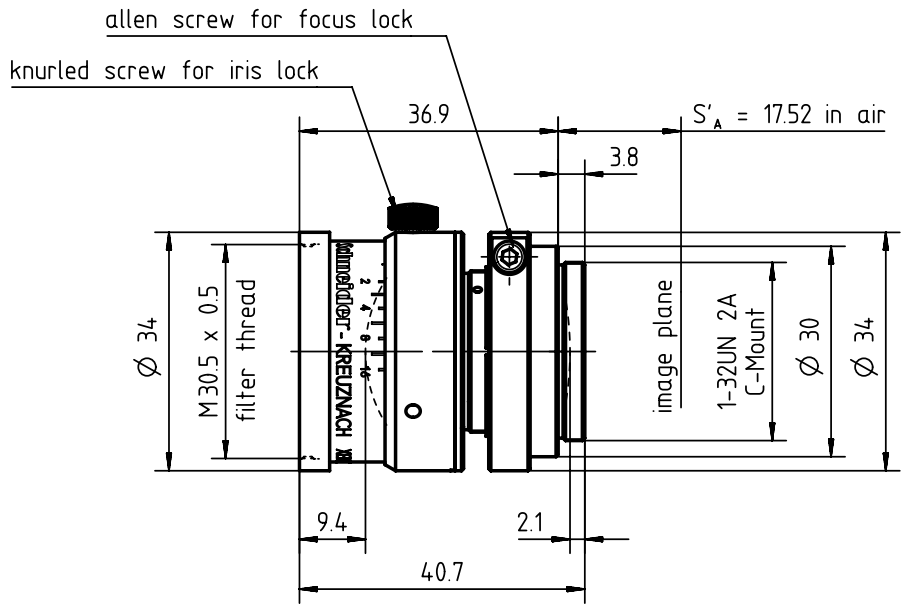
- High-resolution optics for up to 12 megapixel 1.1" sensors
- Optimized for 10 m to 30 m working distance
- Broadband coating (400 - 1000 nm)
- Vibration insensitivity for stable imaging performance
- Version with motorized p-iris available

## Applications

- Traffic
- High-end Surveillance
- Robot Vision
- 3D measurement

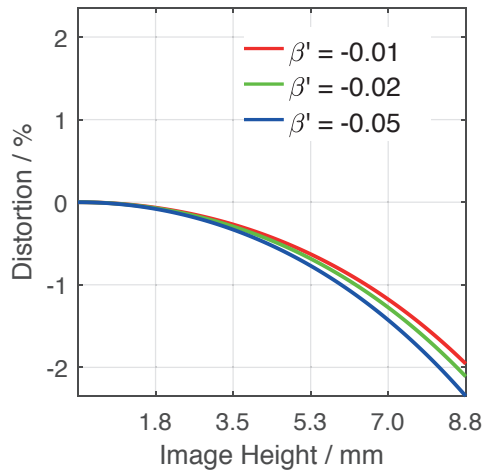
Name	Xenon-Topaz 2.0/30
Type	-0903   -1903
Focal Length [mm]	30
Magnification	-0.1
Image circle [mm]	17.6
Resolution $\mu\text{m}$	3.65
F/# range	2 ... 11
NA	0.25
Interface	C-Mount
Working distance [mm]	$\infty$ - 299
AoV [°]	32
Focus control	manual
Transmission [nm]	400 - 1000
Filter thread [mm]	M30.5 x 0,5
Dimensions L x D [mm]	40.5 x 50.0

Name	Xenon-Topaz 2.0/30
Weight [g]	204
Storage temperature [°C]	-25 ... +70
$f'_{\text{eff}}$ [mm]	29.99
$S_F$ [mm]	-4.91
$S'_F$ [mm]	14.15
HH' [mm]	-11.76
$\beta'_P$	1.366
$S_{EP}$ [mm]	27.05
$S'_{AP}$ [mm]	-27.00
$\Sigma d$ [mm]	29.16
ID	1078946
ID Motorized p-iris	1084646

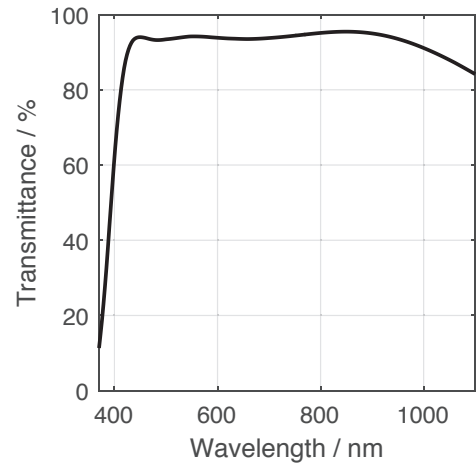


Motorized p-iris

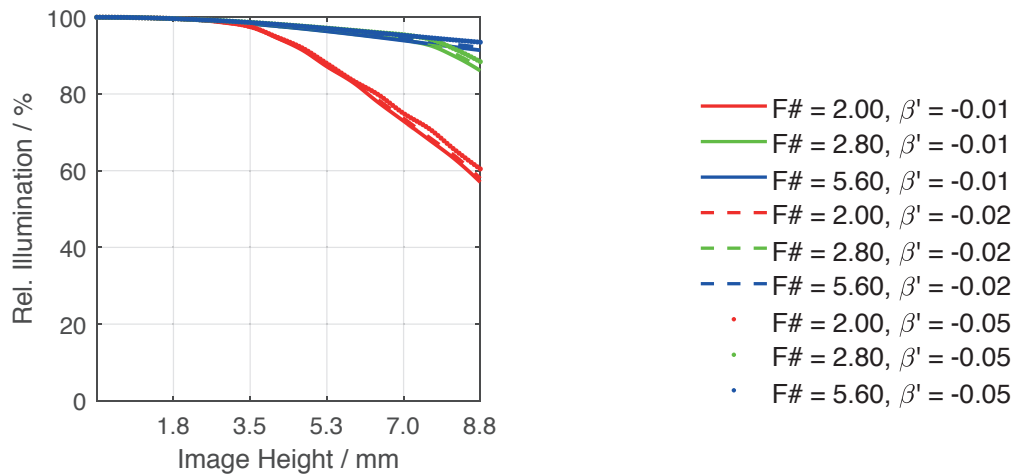
## Distortion vs. Image Height



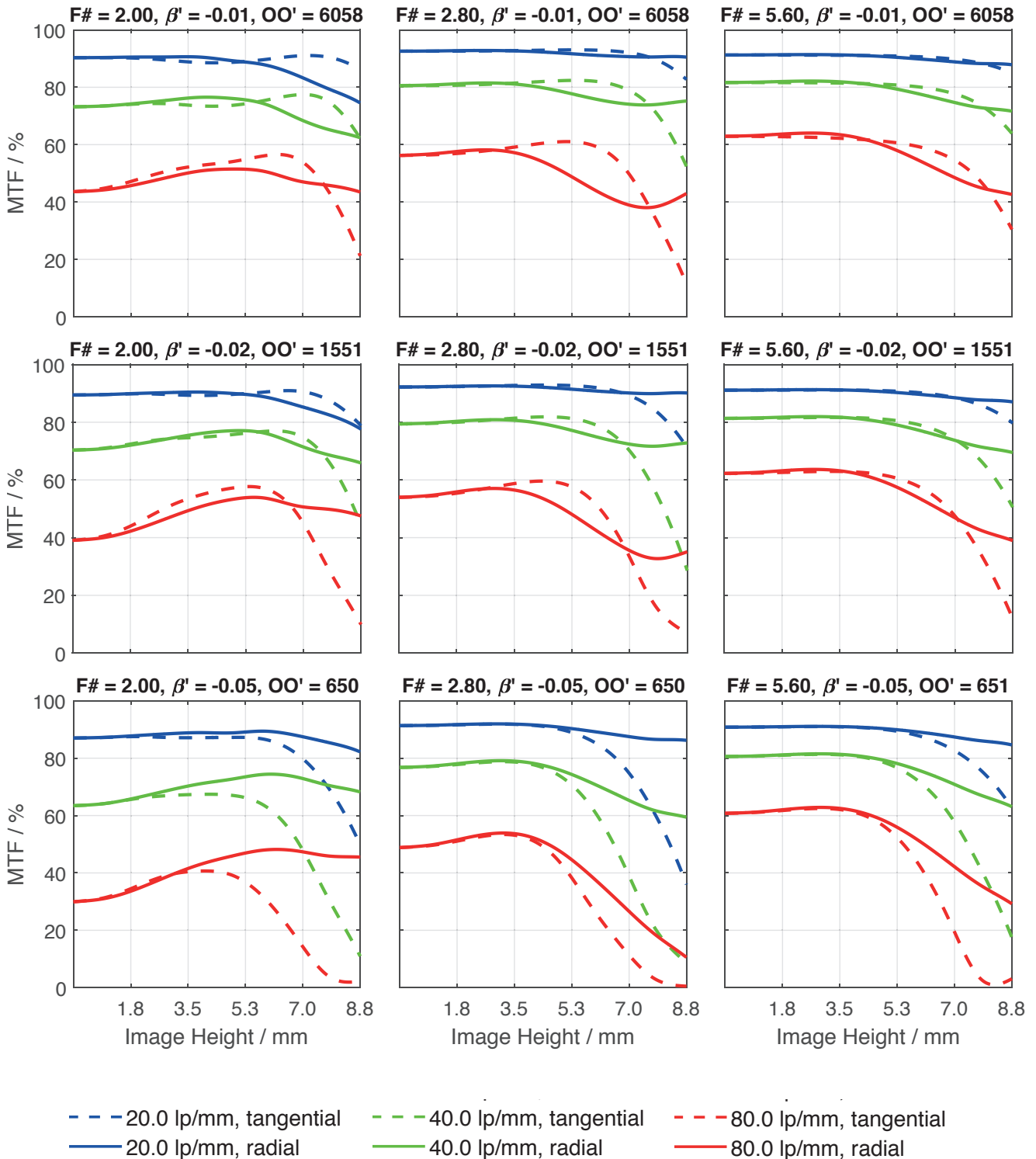
## Transmittance vs. Wavelength



## Relative Illumination vs. Image Height



Spectrum Name	VIS					
Wavelengths [nm]	425	475	525	575	625	675
Weights	8	16	23	22	19	13



Accessories	Mount	Length	ID
Adapter	CS-Mount Adapter	5 mm	25081
	C-Mount / M42 x 1 Adapter	-	1075817
Ext. Tube	C-Mount	5 mm	39316
	C-Mount	8 mm	39315
	C-Mount	10 mm	39312

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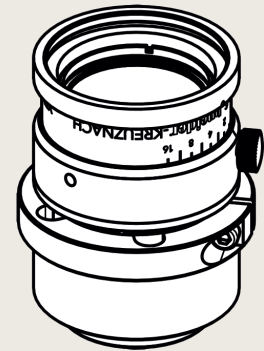


# Xenon-Topaz 2.0/38

The Xenon-Topaz 2.0/38 is part of the robust C-Mount lens series for 1.1" sensor up to 12 megapixel resolution.

Optimized for 10 m to 30 m working distance and equipped with 400 nm - 1000 nm broadband AR-coating this lens is the ideal choice to be used in measurement systems in harsh environmental, as traffic surveillance or robot vision.

A version with motorized p-iris is also available. Lenses with 6.5 mm, 25 mm, 30 mm and 50 mm focal length complete the Xenon-Topaz series.



Xenon-Topaz 2.0/38

## Key features

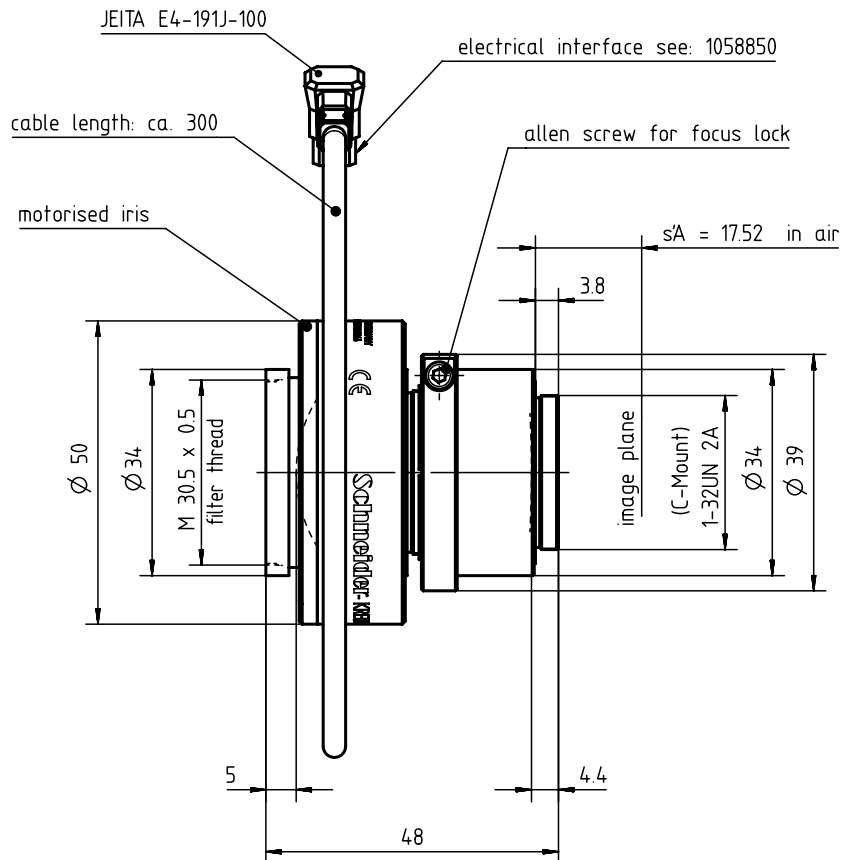
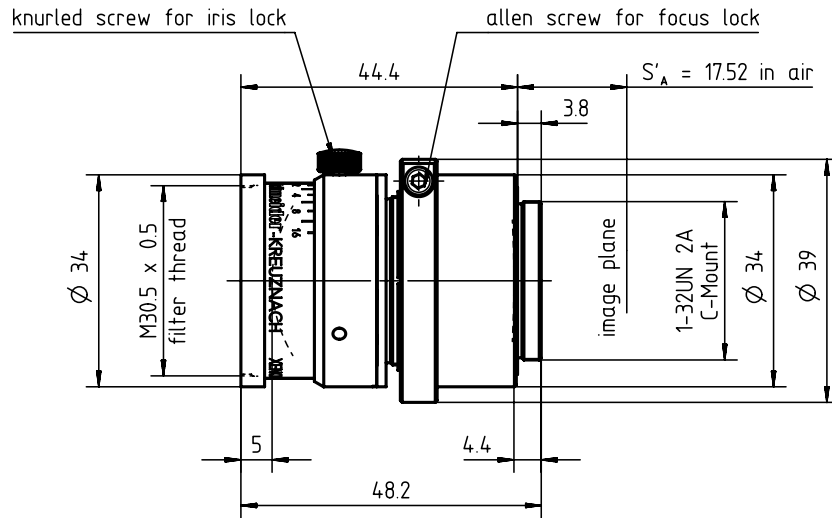
- High-resolution optics for up to 12 megapixel 1.1" sensors
- Optimized for 10 m to 30 m working distance
- Broadband coating (400 - 1000 nm)
- Vibration insensitivity for stable imaging performance
- Version with motorized p-iris available

## Applications

- Traffic
- High-end Surveillance
- Robot Vision
- 3D measurement

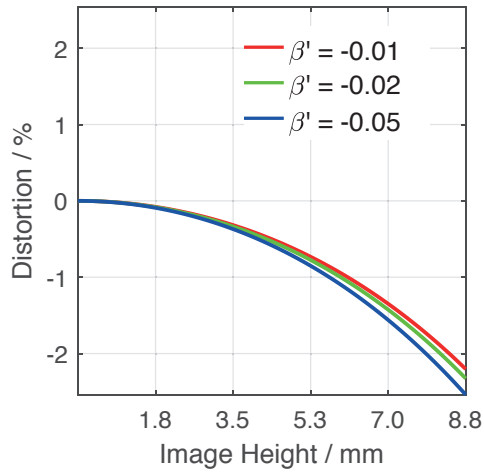
Name	Xenon-Topaz 2.0/38
Type	-0901   -1901
Focal Length [mm]	38
Magnification	-0.1
Image circle [mm]	17.6
Resolution [ $\mu\text{m}$ ]	3.65
F/# range	2 ... 11
NA	0.25
Interface	C-Mount
Working distance [mm]	$\infty$ - 378
AoV [°]	26
Focus control	manual
Transmission [nm]	400 - 1000
Filter thread [mm]	M37 x 0,75
Dimensions L x D [mm]	48.2 x 50.0

Name	Xenon-Topaz 2.0/38
Weight [g]	204
Storage temperature [°C]	-25 ... +70
$f'_{\text{eff}}$ [mm]	38.01
$S_F$ [mm]	0.67
$S'_F$ [mm]	18.16
HH' [mm]	-19.72
$\beta'_p$	1.572
$S_{EP}$ [mm]	34.85
$S'_{AP}$ [mm]	-41.82
$\Sigma d$ [mm]	38.80
ID	1076930
ID Motorized p-iris	1084666

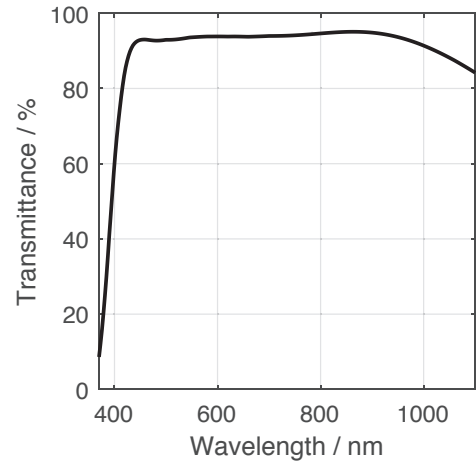


Motorized p-iris

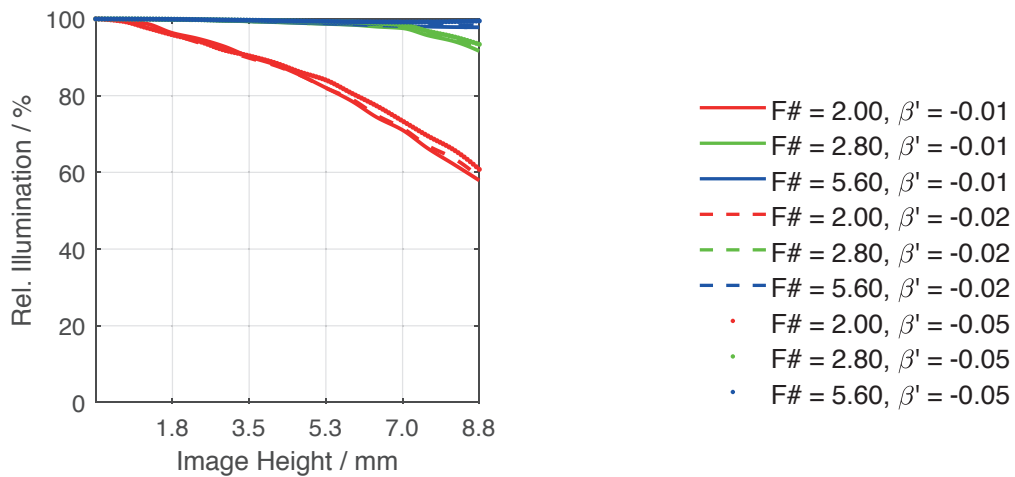
## Distortion vs. Image Height



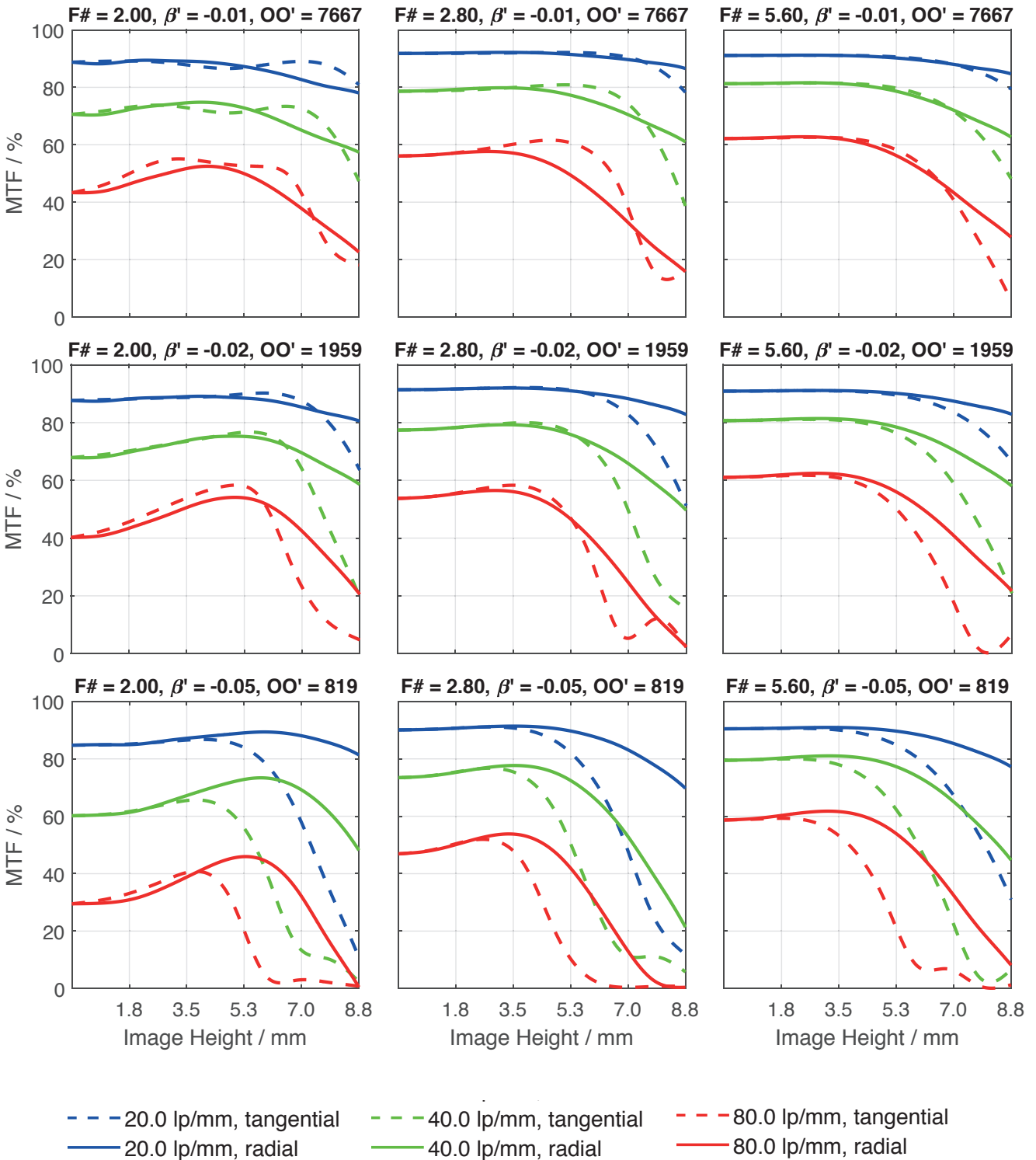
## Transmittance vs. Wavelength



## Relative Illumination vs. Image Height



Spectrum Name	VIS					
Wavelengths [nm]	425	475	525	575	625	675
Weights	8	16	23	22	19	13



Accessories	Mount	Length	ID
Adapter	CS-Mount Adapter	5 mm	25081
	C-Mount / M42 x 1 Adapter	-	1075817
Ext. Tube	C-Mount	5 mm	39316
	C-Mount	8 mm	39315
	C-Mount	10 mm	39312

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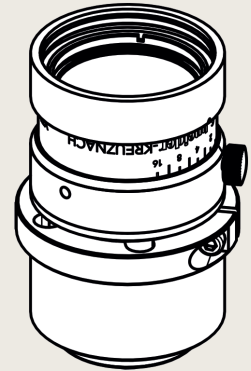
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# Xenon-Topaz 2.0/50

The Xenon-Topaz 2.0/50 is part of the robust C-Mount lens series for 1.1" sensor up to 12 megapixel resolution.

Optimized for 10 m to 30 m working distance and equipped with 400 nm - 1000 nm broadband AR-coating this lens is the ideal choice to be used in measurement systems in harsh environmental, as traffic surveillance or robot vision.

A version with motorized p-iris is also available. Lenses with 6.5 mm, 25 mm, 30 mm and 38 mm focal length complete the Xenon-Topaz series.



Xenon-Topaz 2.0/50

## Key features

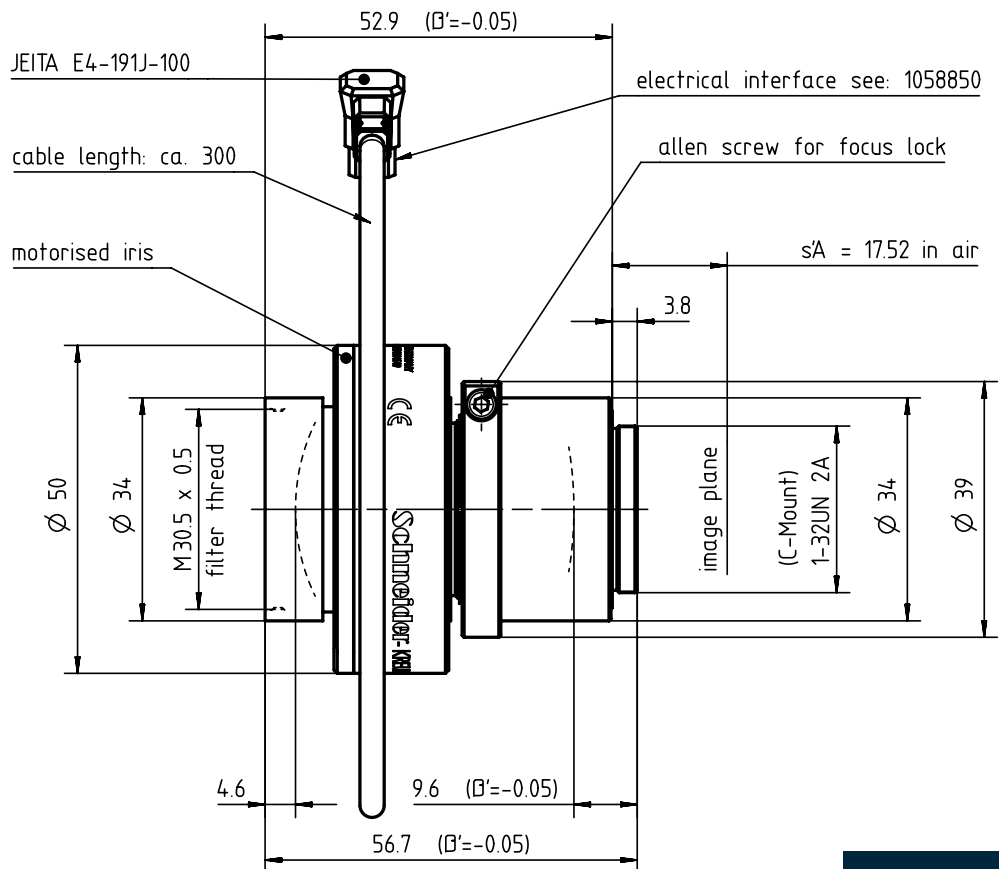
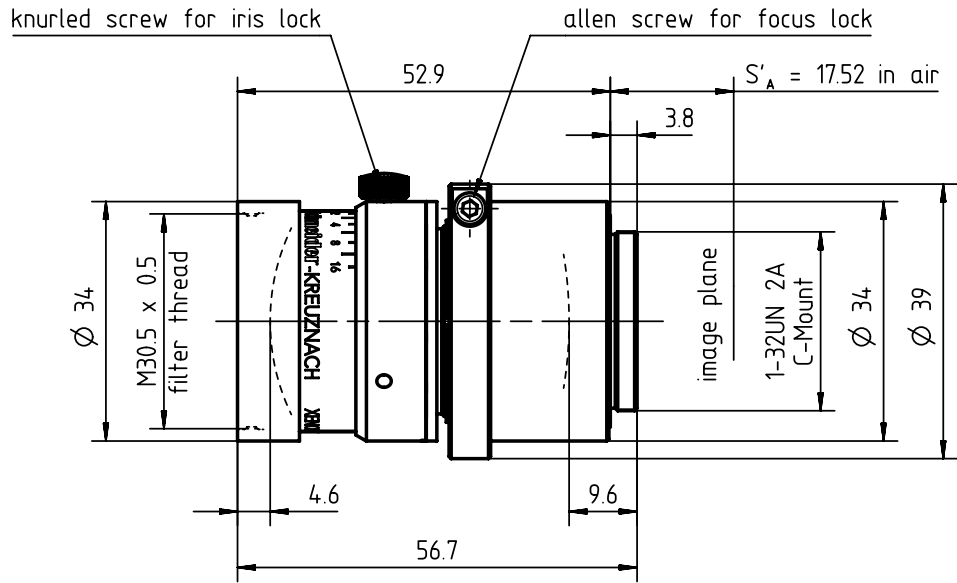
- High-resolution optics for up to 12 megapixel 1.1" sensors
- Optimized for 10 m to 30 m working distance
- Broadband coating (400 - 1000 nm)
- Vibration insensitivity for stable imaging performance
- Version with motorized p-iris available

## Applications

- Traffic
- High-End Surveillance
- Robot Vision
- 3D measurement

Name	Xenon-Topaz 2.0/50
Type	-0901   -1901
Focal Length [mm]	50
Magnification	-0.1
Image circle [mm]	17.6
Resolution [ $\mu\text{m}$ ]	3.65
F/# range	2 ... 11
NA	0.25
Interface	C-Mount
Working distance [mm]	$\infty$ - 511
AoV [°]	20
Focus control	manual
Transmission [nm]	400 - 1000
Filter thread [mm]	M30,5 x 0,5
Dimensions L x D [mm]	56.9 x 50.0

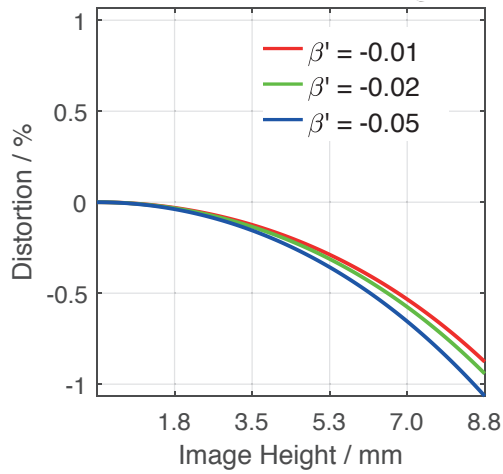
Name	Xenon-Topaz 2.0/50
Weight [g]	204
Storage temperature [°C]	-25 ... +70
$f'_{\text{eff}}$ [mm]	49.69
$S_F$ [mm]	-12.62
$S'_F$ [mm]	23.52
HH' [mm]	-20.79
$\beta'_P$	1.124
$S_{EP}$ [mm]	41.58
$S'_{AP}$ [mm]	-32.64
$\Sigma d$ [mm]	42.45
ID	1079220
ID Motorized p-iris	1084649



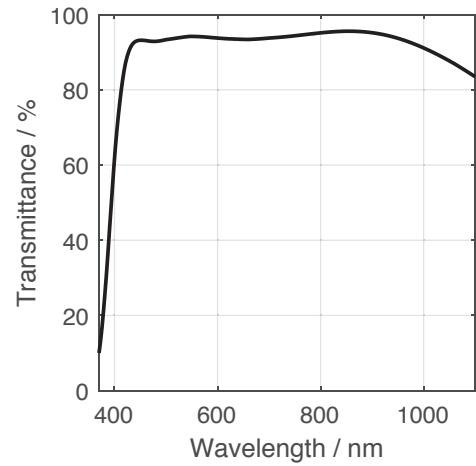
Motorized p-iris



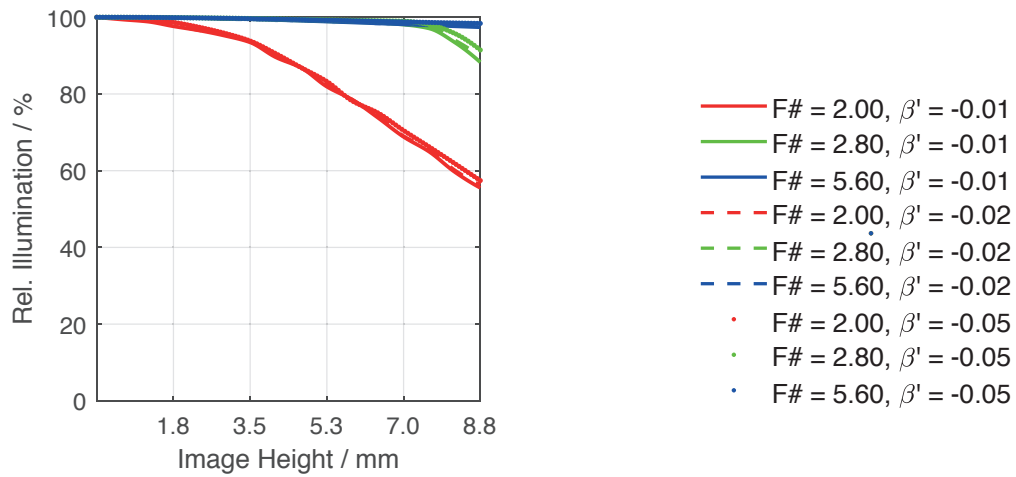
Distortion vs. Image Height



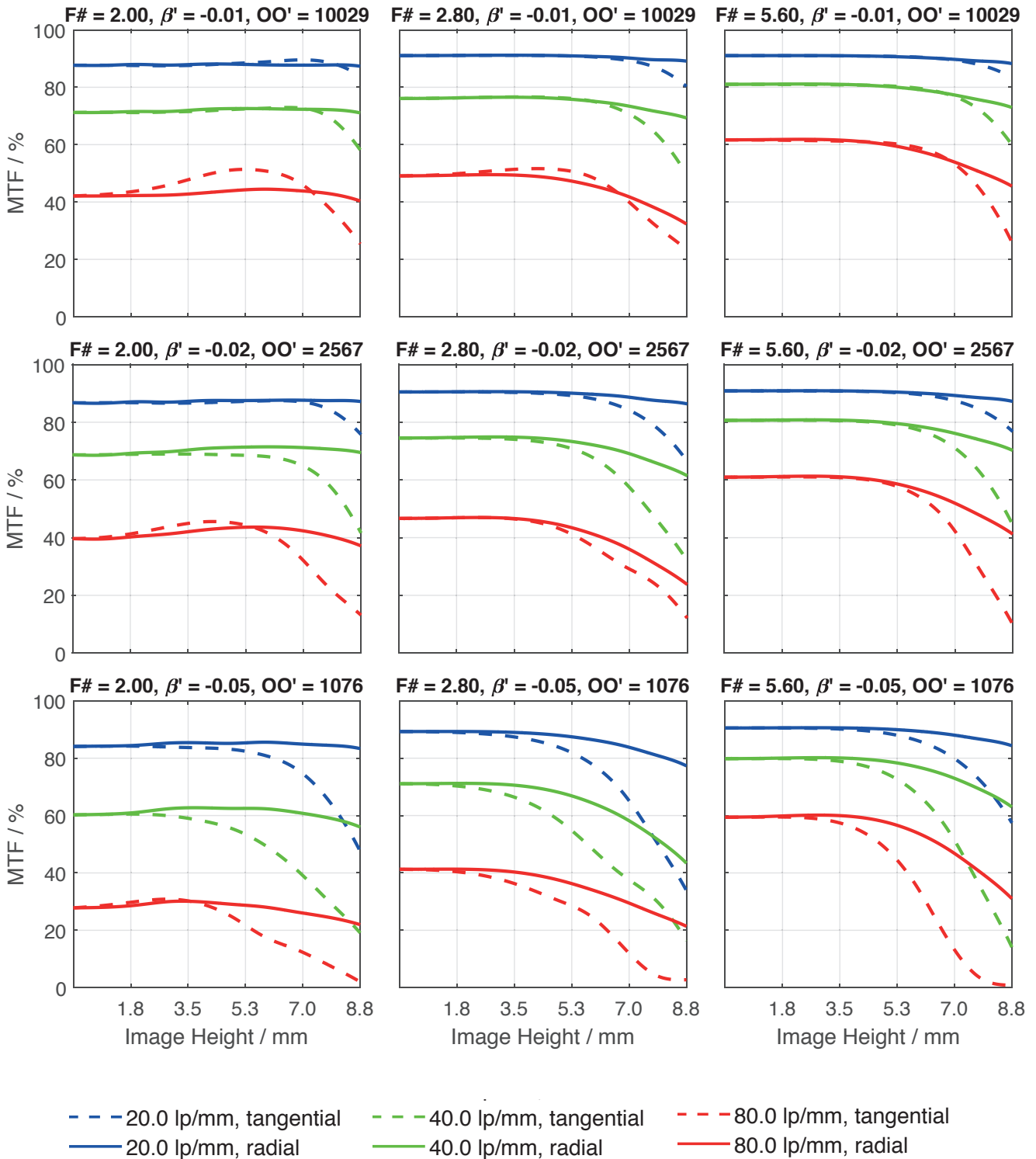
Transmittance vs. Wavelength



Relative Illumination vs. Image Height



Spectrum Name	VIS					
Wavelengths [nm]	425	475	525	575	625	675
Weights	8	16	23	22	19	13



Accessories	Mount	Length	ID
Adapter	CS-Mount Adapter	5 mm	25081
	C-Mount / M42 x 1 Adapter	-	1075817
Ext. Tube	C-Mount	5 mm	39316
	C-Mount	8 mm	39315
	C-Mount	10 mm	39312

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