

Xenon-RUBY Lens

Xenon-RUBY 2.3/16

The Xenon-Ruby lens is optimized in accordance with the sensitivity of modern image sensors up to 1 / 1.8" (9mm). This lens is the perfect trade-off between price and performance: By having a practice-oriented speed of 2.3, a very high optical performance is achieved.

Even under production and / or extreme 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.



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Key Features

- Robust mechanics for rough industrial environment
- Compact design and low weight
- Focus and iris setting lockable
- High resolution optics
- Transmission 400 - 1000 nm (VIS - NIR)
- Designed for Sensors up to 1 / 1.8" (9mm)

Applications

- Traffic
- Security/Surveillance
- Machine vision and other imaging applications
- Quality control
- Surface inspection
- 2D / 3D Measurement

Technical Specifications

F-stop range	2.3 - 16
Focal length	15.9 mm
Image circle	9 mm
Transmission	400 - 1000 nm
Interface	C-Mount
Filter Thread	M25.5 x 0.5
Weight	60 gr.

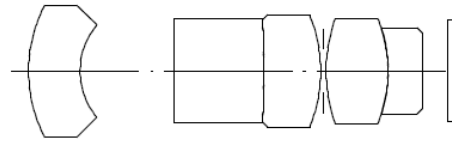
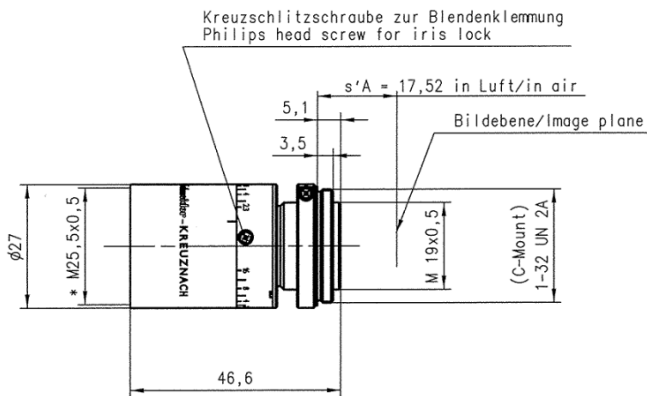
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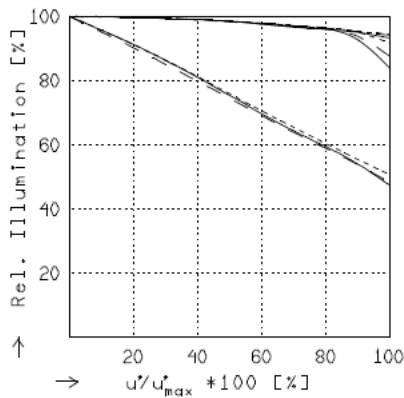
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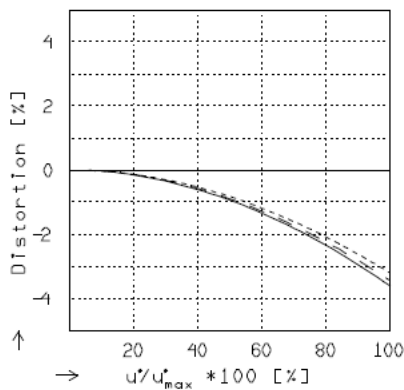
$f' = 15.9$ mm	$\beta_p = 1.446$
$s_F = 9.2$ mm	$s_{EP} = 20.2$ mm
$s_{F'} = 14.1$ mm	$s_{AP} = -8.9$ mm
$HH' = 16.1$ mm	$\Sigma d = 42.9$ mm



RELATIVE ILLUMINATION

The relative illumination is shown for the given focal distances or magnifications.

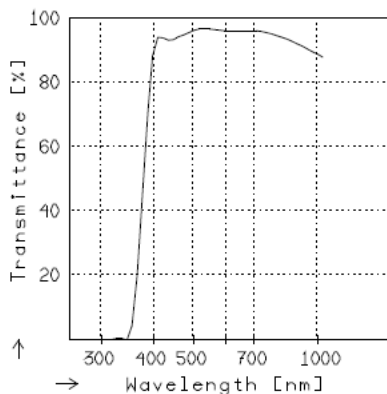
$f / 2.3$	$f / 4.0$	$f / 5.6$
— $\beta' = -0.0200$	$u_{max}' = 4.4$	$00' = 843.$
- - $\beta' = -0.0500$	$u_{max}' = 4.4$	$00' = 367.$
- - - $\beta' = -0.1000$	$u_{max}' = 4.5$	$00' = 208.$



DISTORTION

Distortion is shown for the given focal distances or magnifications. Positive values indicate pincushion distortion and negative values barrel distortion.

— $\beta' = -0.0200$	$u_{max}' = 4.5$	$00' = 843.$
- - $\beta' = -0.0500$	$u_{max}' = 4.5$	$00' = 367.$
- - - $\beta' = -0.1000$	$u_{max}' = 4.5$	$00' = 208.$



TRANSMITTANCE

Relative spectral transmittance is shown with reference to wavelength.

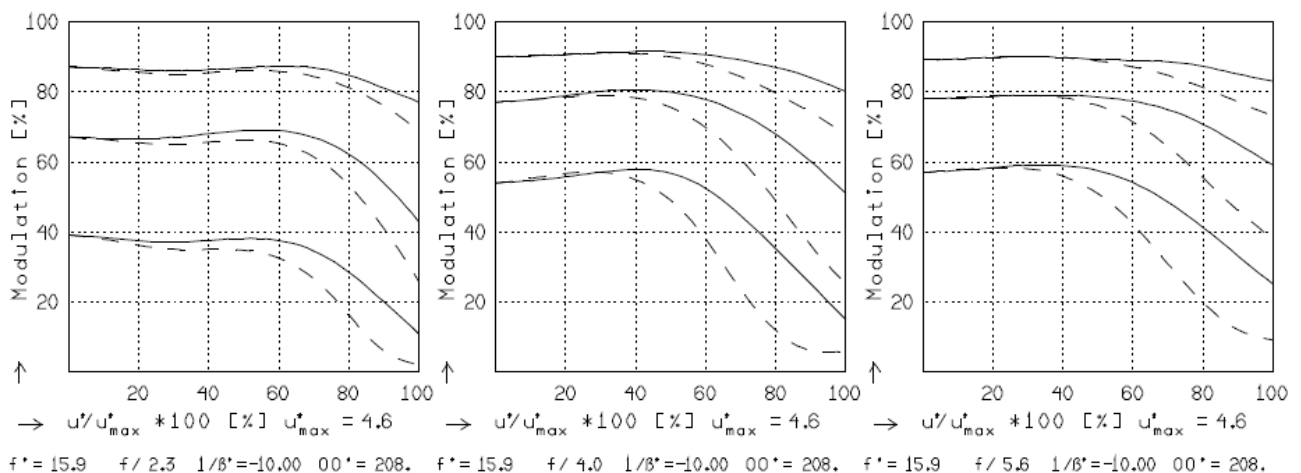
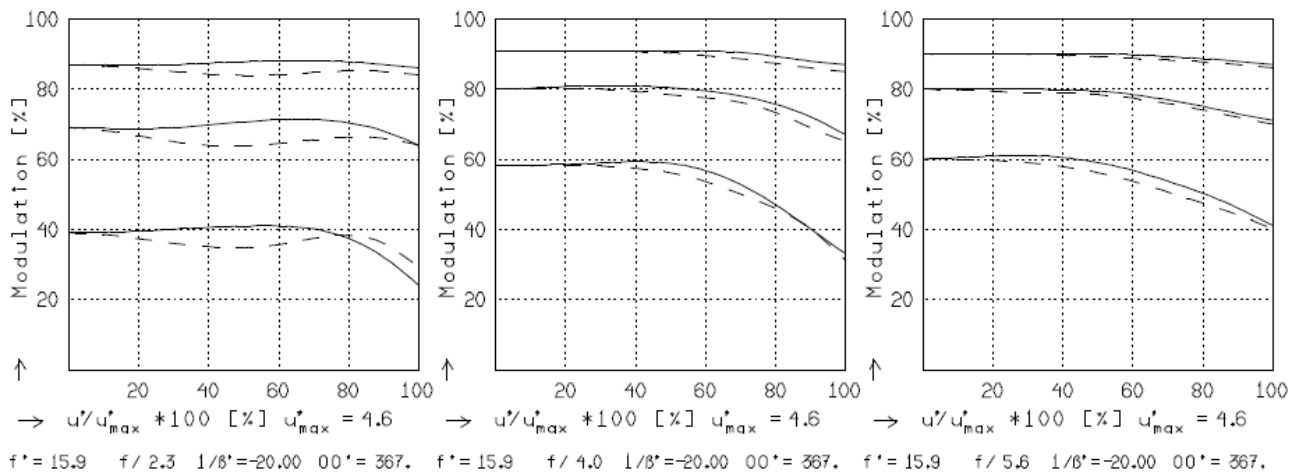
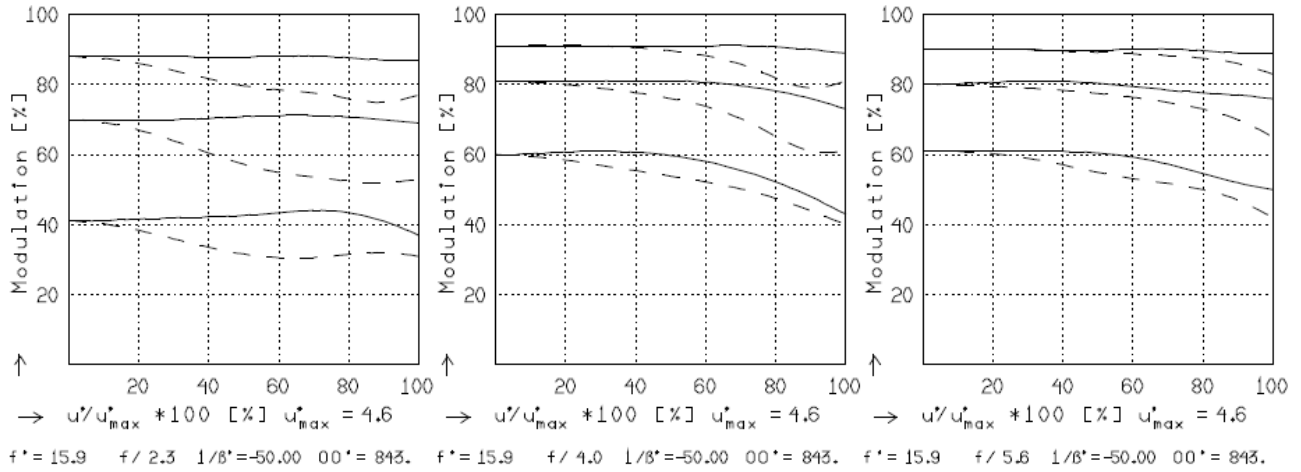
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MODULATION with reference to the relative image height

Wavelength λ	[nm]	555	655	605	505	455	405
Spectral weighting	[%]	19.8	23.7	22.2	15.7	12.1	6.7
Spatial frequency R	[1/mm]	20	40	80			
Format	[mm X mm]	0.0	9.0				
Diagonal $2u^*$	[mm]	9.0					

radial —
tangential - -



Focusing : MTF_{max} at $f / 2.3$, $R = 80$ 1/mm , $u'/u'_{max} = 0$