

# Line Scan Lens

## XENON-ZIRCONIA 2.8/89, beta' = -1.0x

This lens is optimized for the use with 12k pixel line scan sensors and can also be used with 16k. It is broadband coated and can be used in the spectral range of 400 – 1000 nm. The V-mount makes it easy to install and rotate into the desired azimuth position for a wide range of line scan applications.

- F#4.8 shows optimum performance and a homogenous MTF @ 72 lp/mm as well. Performance is close to diffraction limited over the whole field. At F#4.8 the lens is free of artificial vignetting.
- A resolution of 100 lp/mm is achievable for magnification -1.0 at F#4.0, F#4.8 and F#5.6.
- F#2.8 allows maximum light throughput (about 3 times more than at F#4.8 on axis) and still shows good MTF over the field. The light fall-off at F#2.8 towards the edge still grants appr. 1.6 times more light compared to F#4.8.



XENON-Zirconia

### Key Features

- for line scan cameras 12k (62.5mm length / pixel sizes appr. 5µm) and 16k (82mm length / pixel size appr. 5µm)
- Very high optical image quality in the large sensor range
- Vibration-insensitive for stable optical performance
- Lockable distance and aperture settings
- Industry-compatible V-mount interface
- Reliability and constant quality due to 100% quality control

### Applications

- Web and surface inspections
- Quality control
- FPD inspection
- PCB inspection
- OLED inspection
- Line scan applications

### Technical Specifications

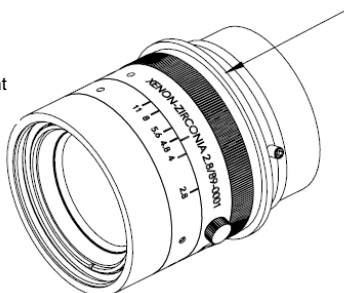
#### XENON-ZIRCONIA 2.8/89

F# range	optimum 4.8 (2.8 – 11)
Focal length	88.8 mm
Image circle	62.5 / 82 mm
Beta'	-1.0 (-1.10 ... -0.9)
Object to image distance	335 (335.7 ... 336)mm
Transmission	400 - 1000 nm
Interface	V48-Mount
Weight	250 gr.
Filter thread	M46 x 0.75
Code no.	1078948

### Accessories

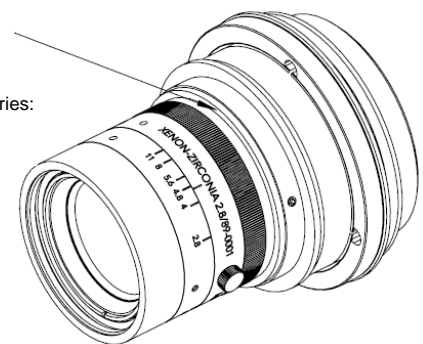
	Code no.
Adapter V48-Mount/V70-Mount incl. focusing ring	# 1075304
Extension tube V70 5 mm	# 1072420
Extension tube V70 10 mm	# 1072421
Extension tube V70 25 mm	# 26406
Extension tube V70 50 mm	# 1054733

standard equipment:  
Schneider V48-Mount



red dot marking for best azimuth  
90° to line direction

with additional accessories:  
Schneider V70-Mount  
with focusing



# Xenon-Zirconia 2.8/89

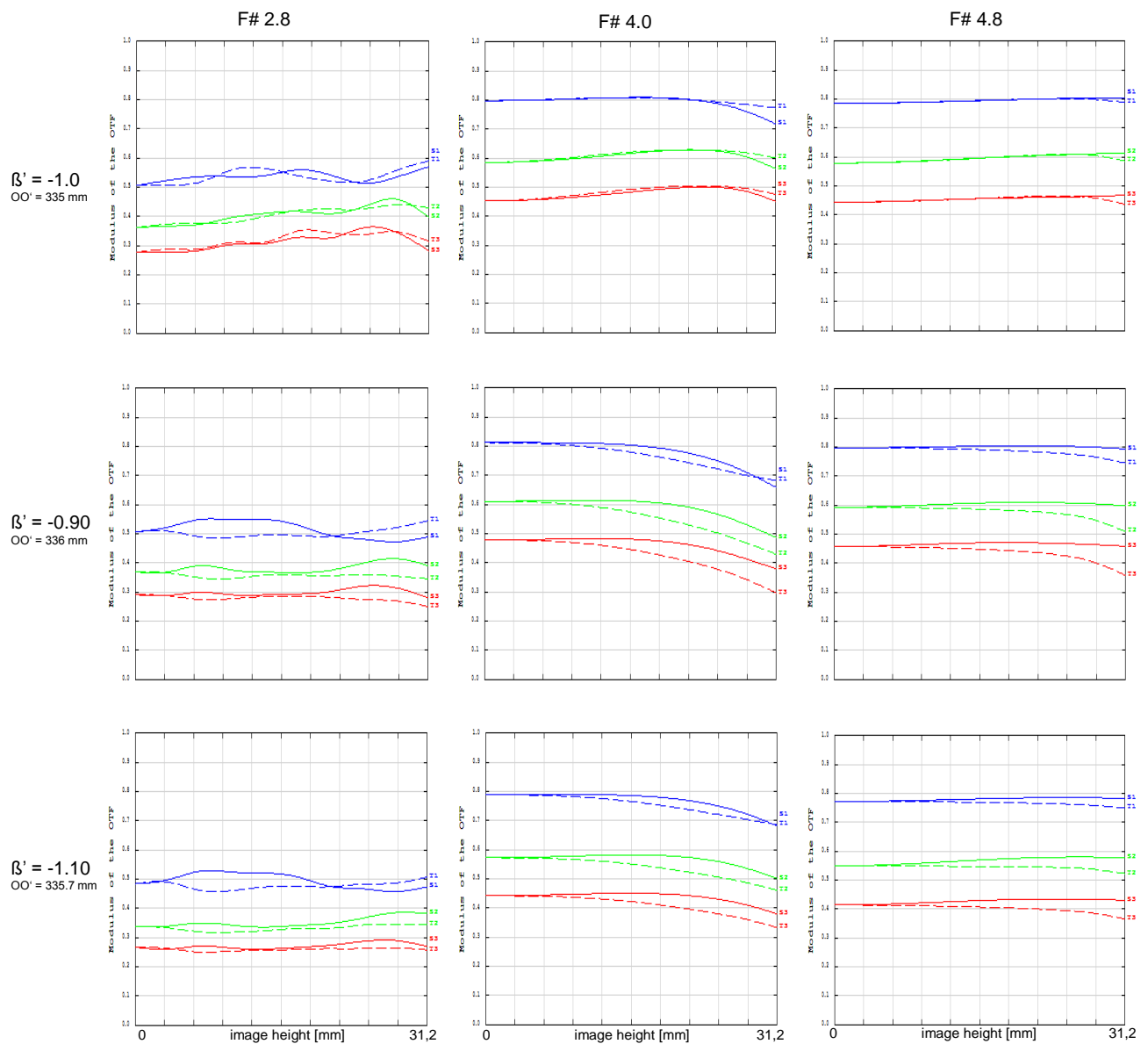
## XENON ZIRCONIA 2.8/89

$f' = 88,8 \text{ mm}$        $\beta'_P = 1,0$   
 $s_F = -51,9 \text{ mm}$        $s_{EP} = 36,9 \text{ mm}$   
 $s'_F = 52,0 \text{ mm}$        $s'_{AP} = -36,8 \text{ mm}$   
 $HH' = -20,1 \text{ mm}$        $\Sigma d = 53,62 \text{ mm}$

### XENON Zirconia 2.8/89 MTF with reference to image height

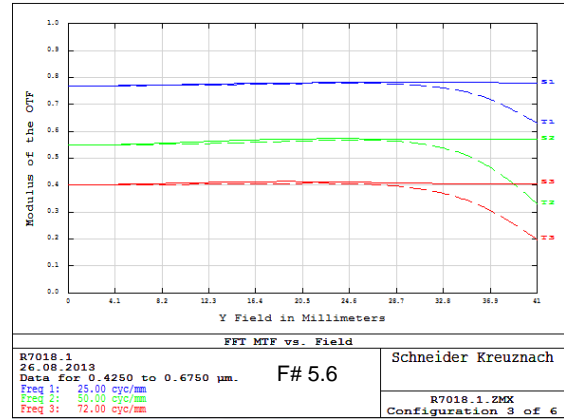
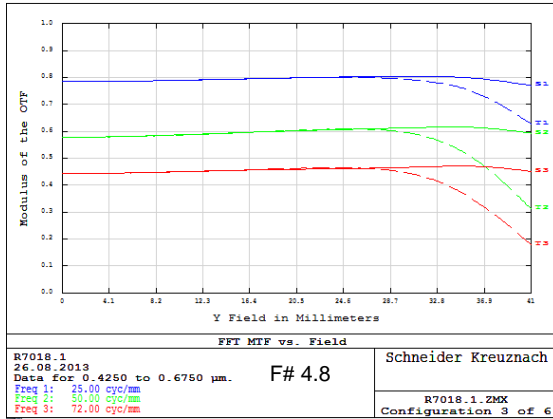
Wavelength $\lambda$	[nm]:	425	475	525	575	625	675
Spectral weighting	[%]:	1.5	13.6	26.5	27.8	24.2	6.4
Spatial frequency R	[1/mm]:	25	50	72 (= 12K sensor)			
Image- $\emptyset$	[mm]:	62.5					

radial ———  
 tangential - - - -

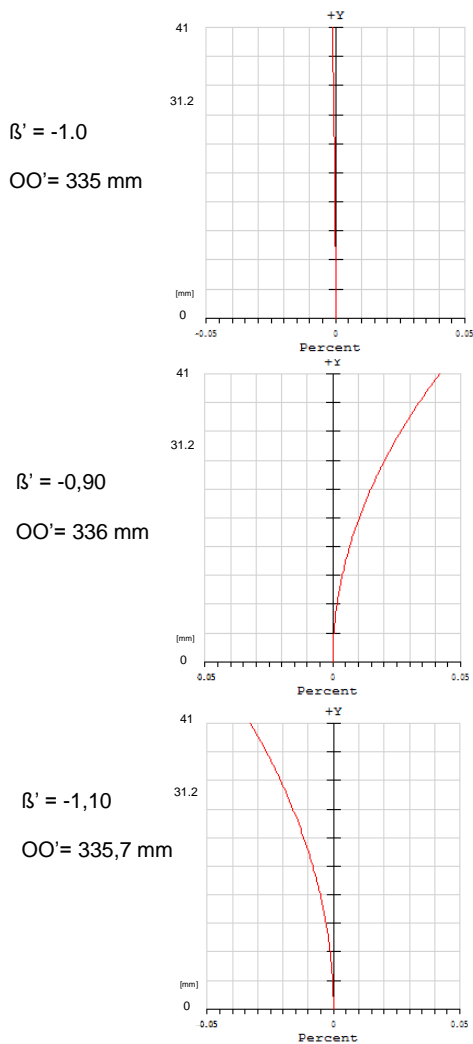


# Xenon-Zirconia 2.8/89

Optical quality for 16 K sensor  
with 82 mm length and 5  $\mu\text{m}$  pixel size

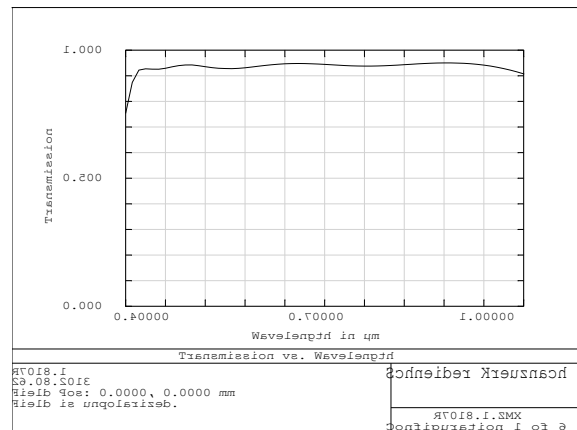


## Distortion



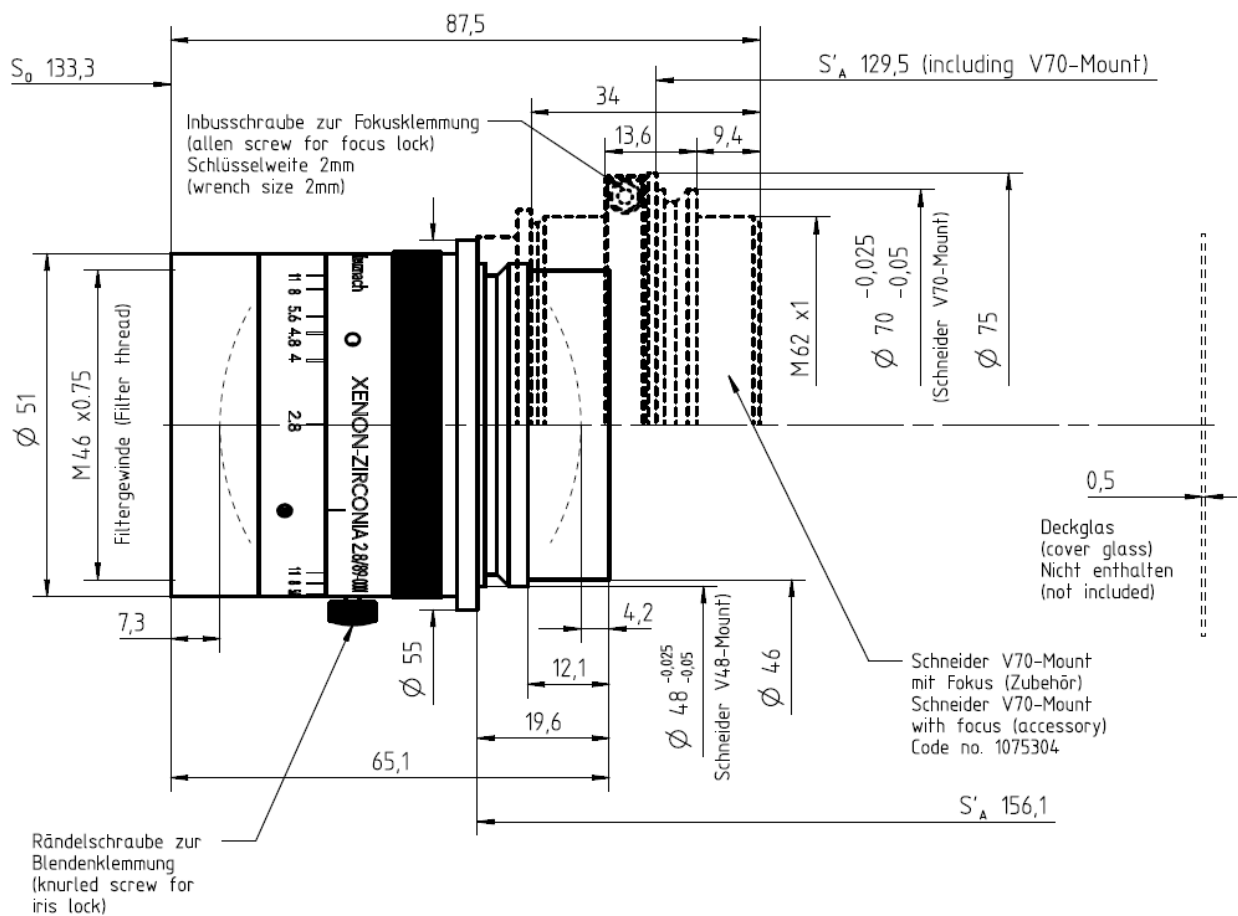
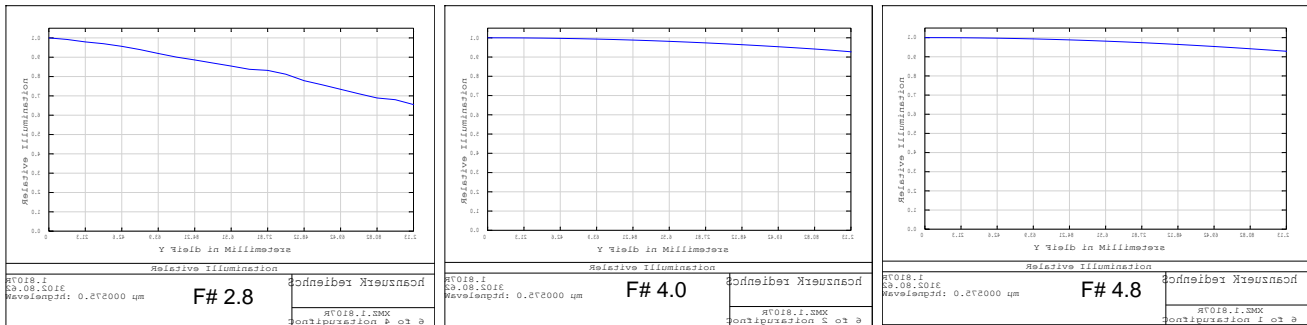
Distortion is shown for different magnifications. Positive values indicate pincushion distortion and negative values barrel distortion.

## Transmission



# Xenon-Zirconia 2.8/89

## Relative Illumination



## Contact

Jos. Schneider Optische Werke GmbH  
 Ringstraße 132  
 55543 Bad Kreuznach  
 Germany  
 Phone +49 671 601-205  
 Fax +49 671 601-286  
 www.schneiderkreuznach.com  
 industrie@schneiderkreuznach.com

Schneider Optical Technologies Co., Ltd.  
 Rm. A505 Yingdali Science Park, Hongmian Rd.,  
 Futian Free Trade Zone, Shenzhen 518038,  
 P.R. China  
 Phone: +86 755 88 32 11 70  
 Fax: +86 755 88 32 11 75  
 www.schneiderkreuznach.com  
 info@schneider-asiapacific.com

Schneider Optics Inc.  
 285 Oser Ave.  
 Hauppauge, NY 11788  
 USA  
 Phone +1 631 761-5000  
 Fax +1 631 761-5090  
 www.schneideroptics.com/industrial  
 industrial@schneideroptics.com