TITANITE 5.0x / NA0.27

This high magnification lens is a specialist for light sheet microscopy with a very large field of view. With its magnification of 5x and its image circle of 82mm it permits the analysis of larger samples in a single image, obviating the necessity for additional segmentation. Interchangeable dipping caps allow adaptation to a variety of different immersion media. The lens works perfectly well with large high resolution sensors such as SONY IMX461, IMX661, IMX811 and others.

Key features

- Very high resolution down to 2.8 µm pixel size
- Extremely large image cirle of 82 mm
- Optimized for 5x magnification
- Suitable for line and area sensors

Applications

- Light sheet microscopy
- ExA-SPIM
- Large field microscopy

Technical specifications

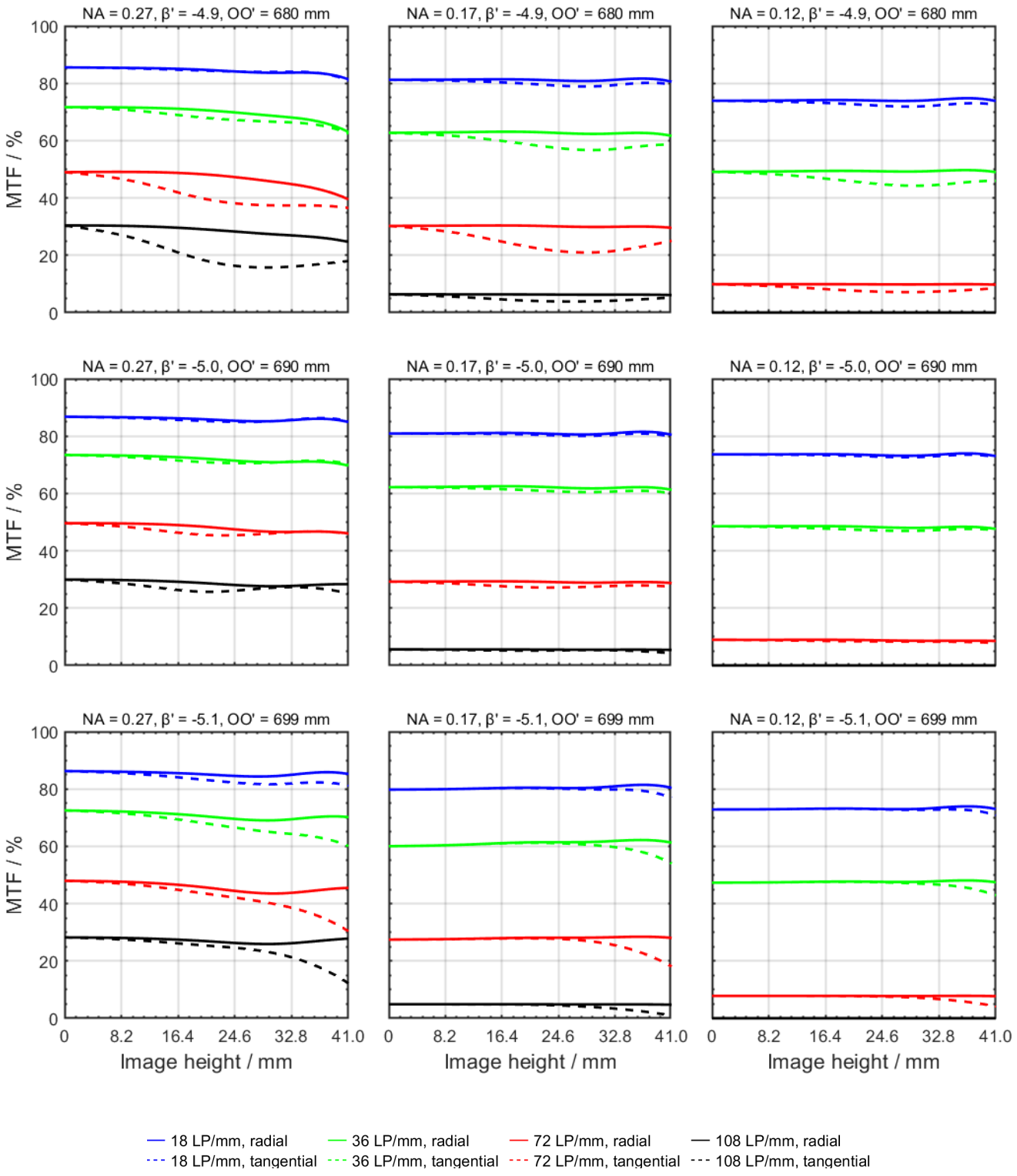
Type [standard]	V110
ID [standard]	1110218
Interface	V110-Mount
Focal length [mm]	100
Object space numerical aperture	0.27 ... 0.12
Numerical aperture [object | image]	0.27 | 0.05
Max. sensor size [mm]	82
Max. angle of view [°]	5
Rec. magnification range	-5 (-4.9 ... -5.1)
Rec. working distance range [mm]	21.8 (21.28 ... 22.35)
Max. mechanical focus travel [mm]	38.4
Filter thread [mm]	
Storage temperature [°C]	0 … +50
Net. weight [g]	3460
Additional info	-
f'eff [mm]	99.78
SF [mm]	-1.85
S'F' [mm]	-62.27
HH' [mm]	-28.55
ß'P	0.79
SEP [mm]	172.93
S'AP [mm]	-141.31
Σd [mm]	253.24

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TITANITE 5.0x / NA0.27

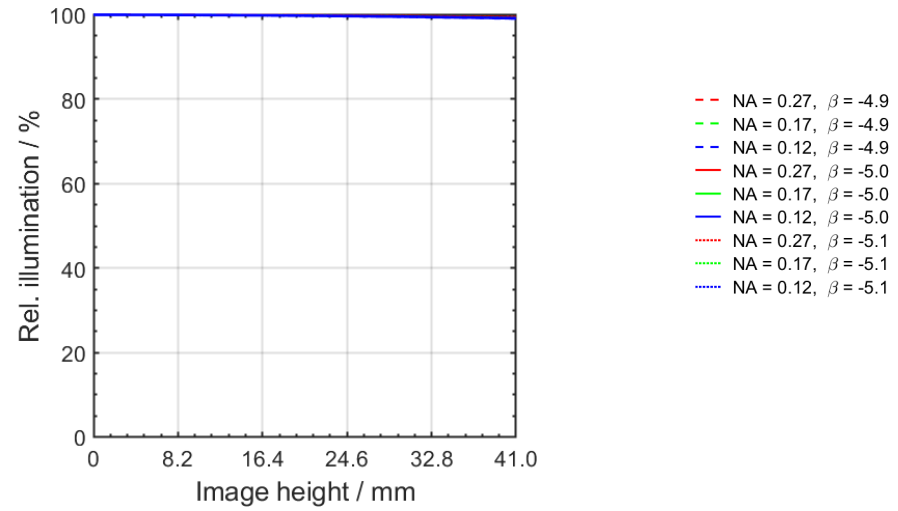
MTF charts

Spectrum name	VIS LED					
Wavelengths [nm]	425	475	525	575	625	675
Rel. weights [%]	1.5	13.6	26.5	27.8	24.2	6.4

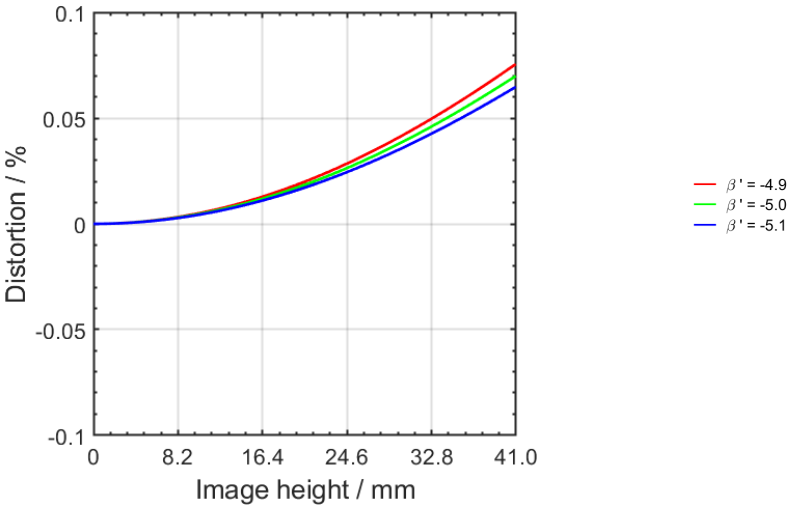


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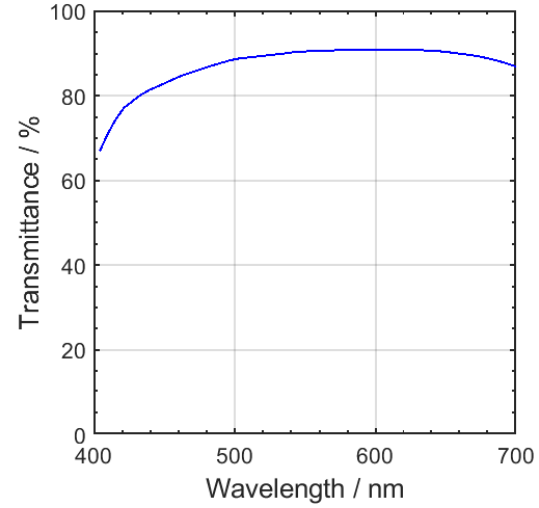
Rel. illumination vs. image height



Distortion vs. image height



Transmittance vs. wavelength



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Technical drawings

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Annotation	
Focal length	Nominal focal length
F/# range	Image space F-number range for infinity focus position
Numerical aperture	Maximum real numerical aperture (depending on recommended magnification range either for infinity or respective fixed magnification)
Max. sensor size	Image circle diameter
Max. angle of view	Angle of view associated with maximum sensor size (depending on recommended magnification range either for infinity or 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
Max. mechanical focus travel	Maximum possible movement of the lens from infinity position (depending on recommended magnification range either for infinity or respective fixed magnification)
Net weight	weight of unpacked lens without lens cap
f'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
ß'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
Σ d	Distance between vertices of first and last lens surface
s'A	Flange focal distance (in air) for infinite object distance (depending on recommended magnification range either for infinity or respective fixed magnification)
ß'	Magnification (= image size / object size), negative value because image is inverted
OO'	Distance between object and image

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

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