

VEO_HJ Apo 4.0 / 60

For V38 Mounts

Key Features

VEO_HJ Apo 4.0 / 60 is a high-performance industrial lens optimized for large format area scan and line scan cameras with image circle diameters of 60 mm.

- V38 Mount
- 60 mm image circle
- Apo chromatic correction
- Optimized for short working distance
- 400 – 1000 nm broadband AR-coating

Applications

- FPD inspection
- PCB inspection
- Web inspection
- Package sorting / logistic

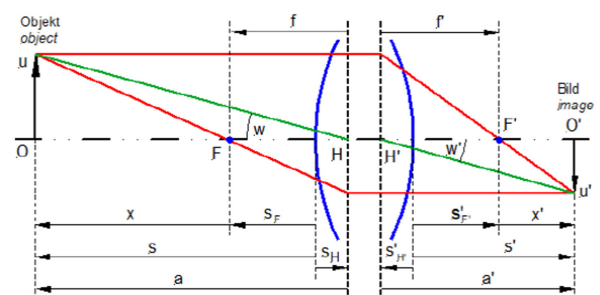


Performance

Parameter	Specification	Remarks
Magnification range	$\times 0 - \times 0.5$	-
F/# range	F/4.0 ... F/32	-
Numerical aperture	0.12	Image plane
Max. sensor size [mm]	60	-
Focal length [mm]	60	-
Wavelength [nm]	400 – 1000	Visible – IR
Depth of field [μm]	57.8	@ P. CoC 10 μm
Distortion [%]	< 0.5	-
Working distance [mm]	156 ... ∞	-
Total length [mm]	1624	0.04 \times
	726	0.1 \times
	320	0.33 \times
Interface	V38 mount	-
Iris	Changeable	-
Weight [g]	114	-
Storage temperature [°C]	-25 ~ 70	-
Filter thread [mm]	M37 * 0.75 pitch	-

Optical Parameters

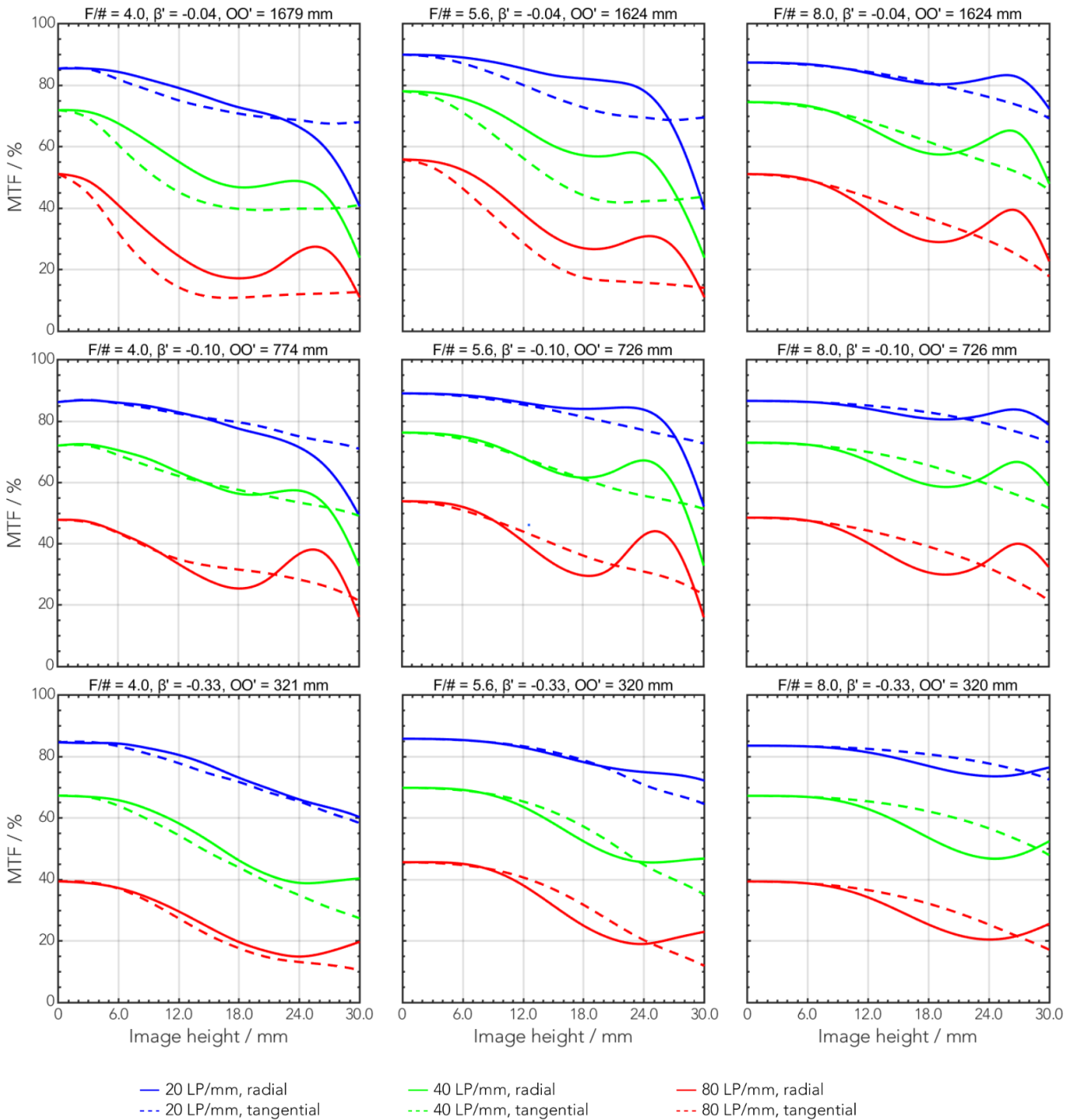
Contents	Parameter	Value
Chief Ray Angle (Max.) in object plane	CRA[°]	53°
Effective focal length	f'eff [mm]	60.07
Front focal length	SF [mm]	-47.23
Back focal length	S'F' [mm]	40.93
Principal plane distance	HH' [mm]	-1.89
Pupil magnification	$\beta'P$	0.97
Entrance pupil position	SEP [mm]	14.64
Exit pupil position	S'AP [mm]	-17.39
Vertex width	Σd [mm]	30.09



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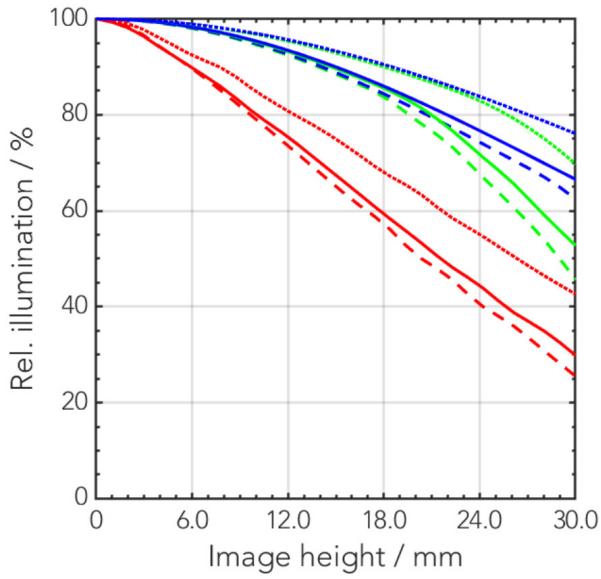
MTF



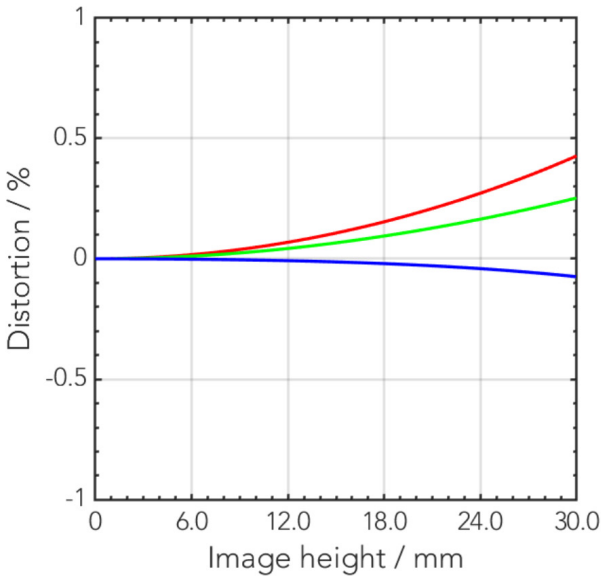
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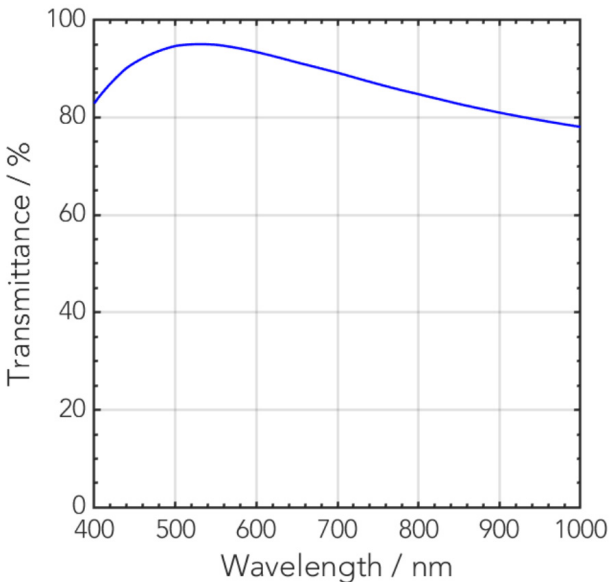
Relative Illumination



Distortion



Transmittance vs. Wavelength



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Dimensions

Unit: mm

