

VEO_YK Emerald 2.2 / 50

For V48 Mounts

Key Features

VEO_YK Emerald 2.2 / 50 is a high-performance industrial lens optimized for area scan and line scan cameras with image circle diameters of up to 43.2 mm.

- V48 Mount
- 43.2 mm image circle
- Optimized for short working distance
- 400 – 1000 nm broadband AR-coating

Applications

- FPD inspection
- PCB inspection
- Web inspection
- Factory automation

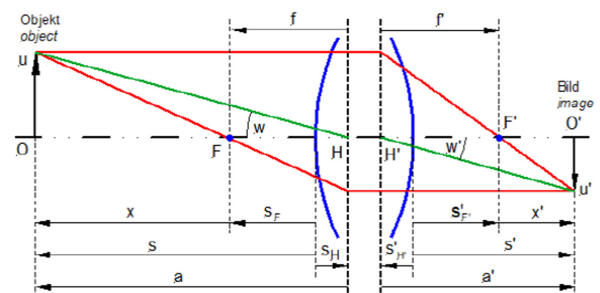


Performance

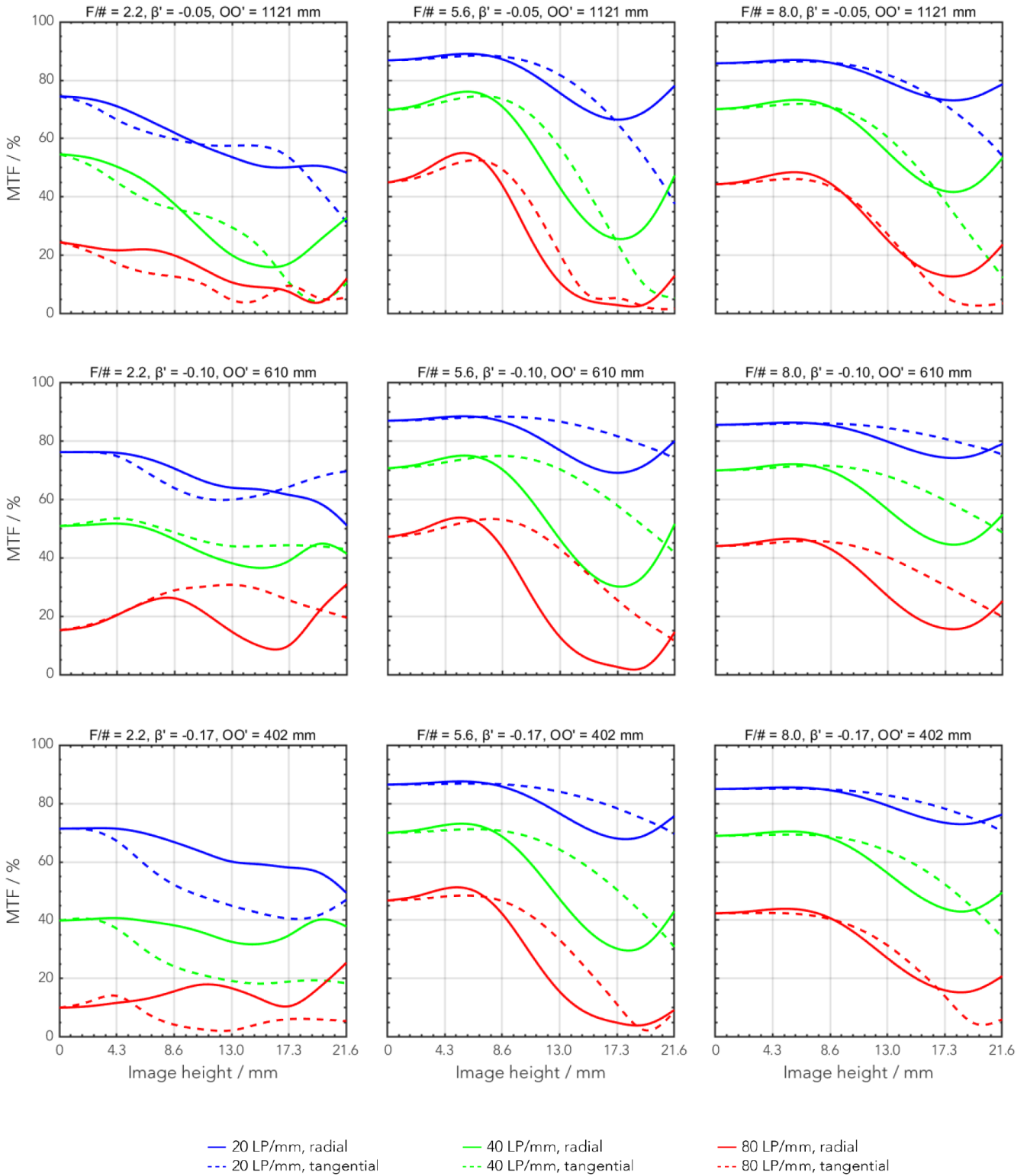
Parameter	Specification	Remarks
Magnification range	$\times 0 - \times 0.167$	-
F/# range	F/2.2 ... F/16	-
Numerical aperture	0.22	Image plane
Max. sensor size [mm]	43.2	-
Focal length [mm]	50	-
Wavelength [nm]	400 – 1000	Visible – IR
Distortion [%]	< 0.2	-
Working distance [mm]	327 ... ∞	-
Total length [mm]	1121	0.05 \times
	610	0.1 \times
	402	0.17 \times
Interface	V48 mount	-
Iris	Changeable	-
Weight [g]	202	-
Storage temperature [°C]	-25 ~ 70	-
Filter thread [mm]	M43 * 0.75 pitch	-

Optical Parameters

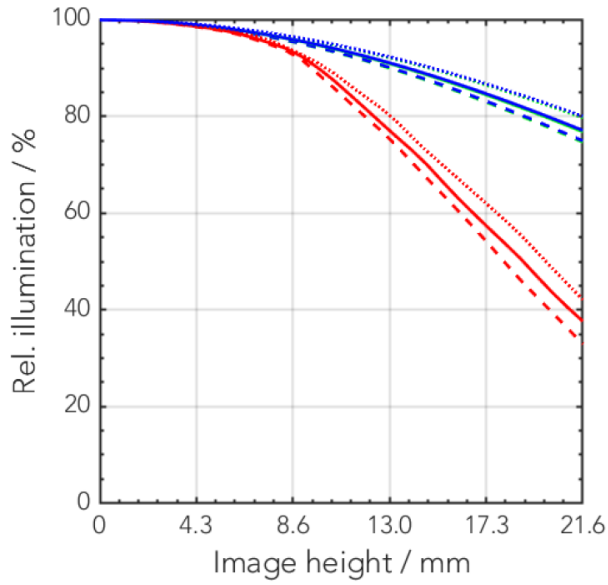
Contents	Parameter	Value
Chief Ray Angle (Max.) in object plane	CRA[°]	45°
Effective focal length	f'eff [mm]	51.21
Front focal length	SF [mm]	-23.75
Back focal length	S'F' [mm]	32.17
Principal plane distance	HH' [mm]	-10.90
Pupil magnification	β^*P	1.07
Entrance pupil position	SEP [mm]	23.94
Exit pupil position	S'AP [mm]	-22.81
Vertex width	Σd [mm]	35.59



MTF

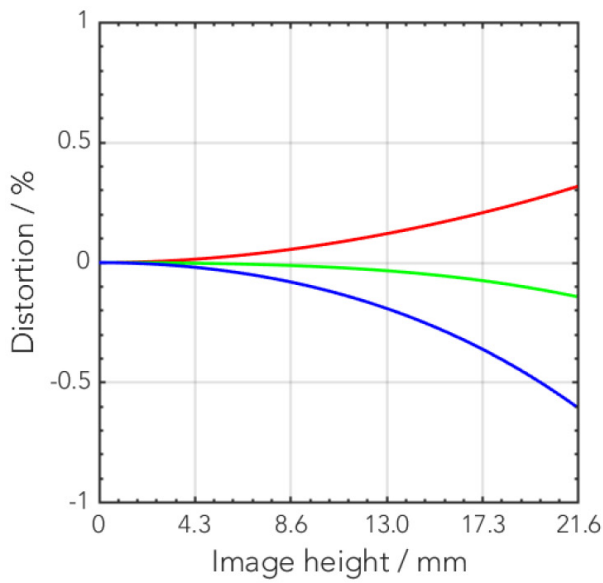


Relative Illumination



- - F/# = 2.2, $\beta = -0.05$
- - F/# = 5.6, $\beta = -0.05$
- - F/# = 8.0, $\beta = -0.05$
- F/# = 2.2, $\beta = -0.10$
- F/# = 5.6, $\beta = -0.10$
- F/# = 8.0, $\beta = -0.10$
- ... F/# = 2.2, $\beta = -0.17$
- ... F/# = 5.6, $\beta = -0.17$
- ... F/# = 8.0, $\beta = -0.17$

Distortion



- $\beta' = -0.05$
- $\beta' = -0.10$
- $\beta' = -0.17$

Transmittance vs. Wavelength

