

VEO_JM DIAMOND 5.0 × / F1.3

For TDI Line Scan

Key Features

- Optimized for 82 mm line scan sensors
- High resolution over the entire field
- Resolves 1.1 μm in object space
- With beam splitter for axial in-line illumination
- Low chromatic focal shift
- No relative illumination loss at the edge
- Best azimuth marking

Applications

- FPD (OLED / LCD) inspection
- PCB inspection
- Wafer inspection
- High resolution defect detection
- Quality assurance systems

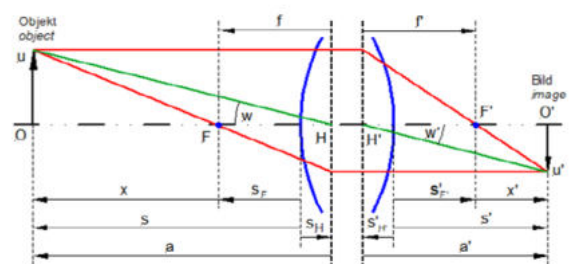


Performance

Parameter	Specification	Remarks
Magnification range	5.0 (4.9 ... 5.1)	
F/# range	F/1.3 ... F/2.8	Optimum F/1.3
Numerical aperture	0.305	Object Plane
Max. sensor size [mm]	82	
Infinite F/#	F/1.3	
Focal length [mm]	100	
Depth of field [μm]	6.2	@ P. CoC 10 μm
Distortion	< 0.1%	
Wavelength [nm]	400 ... 700	Visible
Working distance [mm]	31 (32 ... 30)	B/S ... Object
Beam splitter size	35 × 35 × 80	
Total length [mm]	691 ± 2	from Object to Sensor
Interface	V110 mount	0.75 pitch
Iris	Changeable	
Relative illumination	Less than 5%	
Weight [g]	3547	

Optical Parameters

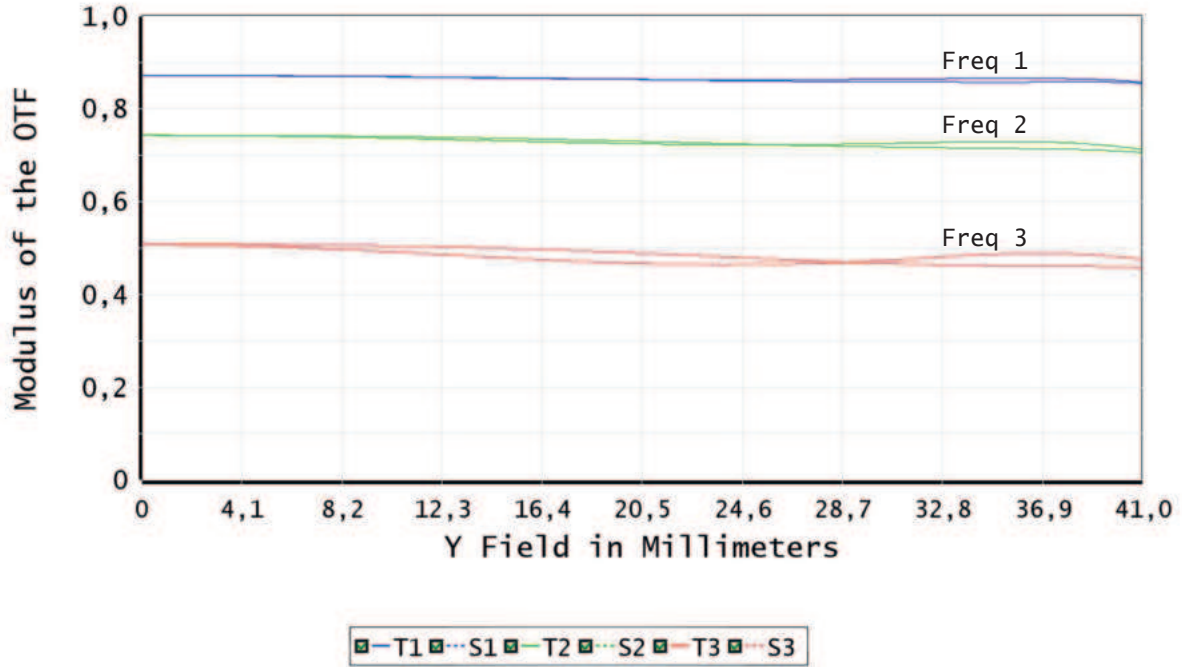
Contents	Parameter	Value
Chief Ray Angle (Max.) in object plane	CRA	3.2
Effective focal length	f'eff [mm]	100.18
Front focal length	SF [mm]	-12.46
Back focal length	S'F' [mm]	-62.55
Principal plane distance	HH' [mm]	-28.32
Pupil magnification	$\beta'P$	0.790
Entrance pupil position	SEP [mm]	114.28
Exit pupil position	S'AP [mm]	-141.73
Vertex width	Σd [mm]	222.12



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MTF

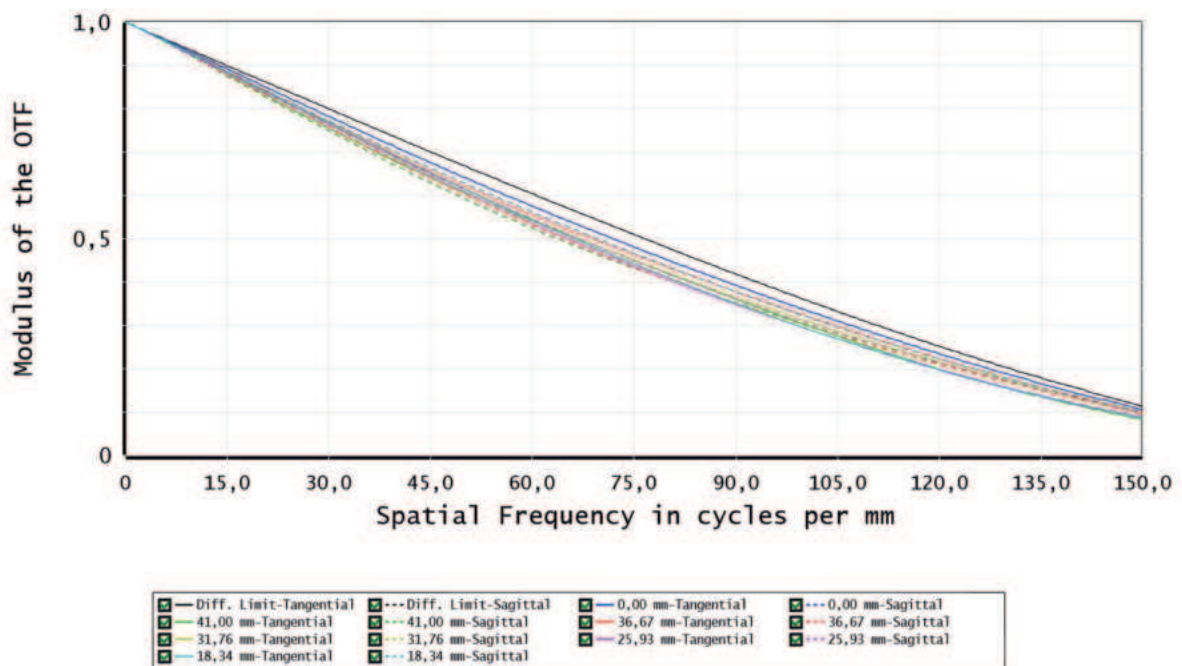


FFT MTF vs. Field

Data for 436 to 645 nm

Freq 1: 18.00 cyc/mm Freq 2: 36.00 cyc/mm Freq 3: 72.00 cyc/mm

Legend items refer to Tangential (T) / Sagittal (S) frequency



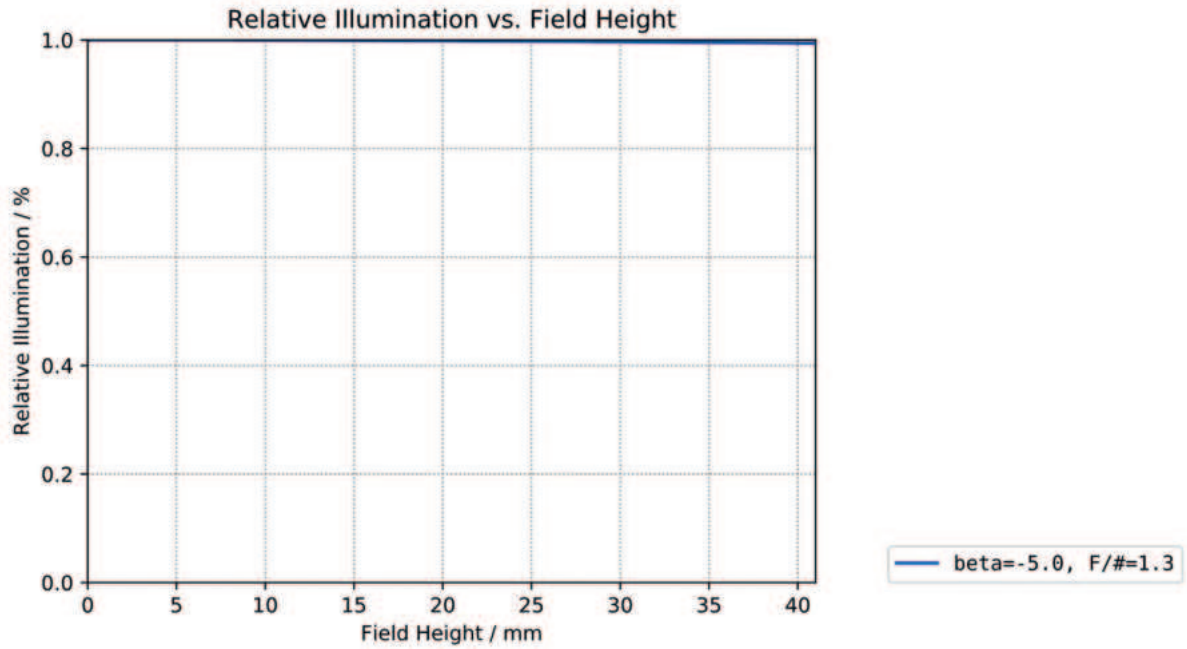
Polychromatic Diffraction MTF

Data for 436 to 645 nm

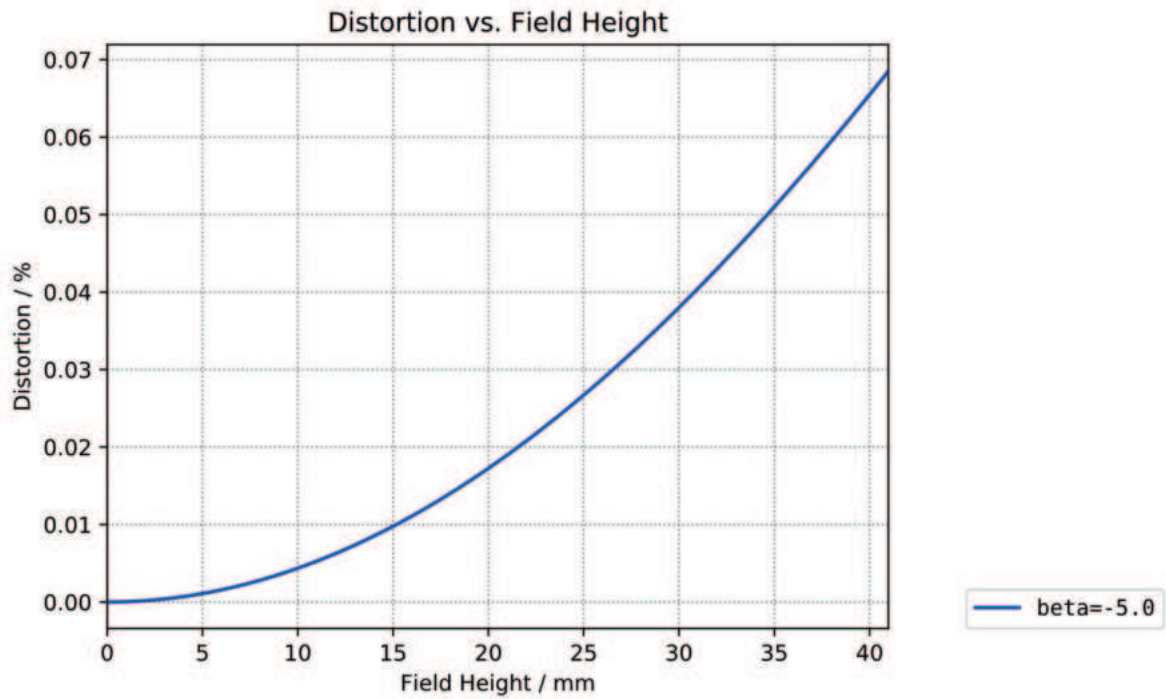
Surface: Image

Legend items refer to Field positions

Relative Illumination



Distortion



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Dimensions

Unit: mm

* WD and s'A
in air at
bcta' -5.0

view without
transport protection

