EN8MPL3520 | DATASHEET

OPTO ENGINEERING

8 Megapixel high resolution fixed focal lens for 1” sensors, focal length 35 mm, *f*/N 2.0 - close, C-mount

KEY ADVANTAGES

Compact and Anti-Vibration design
Designed for factory automation, the EN8MP lenses are among the most compact fixed focal length lenses on the market for sensor format up 1".

High resolution
Suitable with cameras with sensors up to 1", e.g. the Sony 9mp and 20 mp, and the Sony Pregius IMX174 and IMX249 with 1/1.2" format.

High quality / price ratio
High performance with reasonable cost.

Low distortion
Even down to 0.01 %.

EN8MP series is a series of fixed focal length lenses that has a very compact design for a high resolution 1” lens.

SPECIFICATIONS

Optical specifications		
Focal length	(mm)	35
Magnification[1]	(x)	0.198
Image circle	(mm)	16.0
Max sensor size		1"
WD range[2]	(m)	0.2 - inf
f/N		2.0 - close
Back focal length	(mm)	12.96
Distortion on 1/2"[3]	(%)	0.08
Distortion on 2/3"[3]	(%)	0.16
Distortion on 1"[3]	(%)	0.33
Iris control		Manual
Focus Control		Manual

Mechanical specifications		
Mount		C
Filter thread		M30.5 x 0.5
Length[4]	(mm)	35.7
Outer Diameter	(mm)	35.7
Mass	(g)	74

Environment		
Operating temperature range	(°C)	-10-+50

[1] Calculated at minimum working distance
[2] Working distance: distance between the front end of the mechanics and the object
[3] Value calculated at the corner point of the sensor diagonal. For distortion graphs see below
[4] Measured from the front end of the machanics to the camera flange at infinite focusing

ANGLE OF VIEW

Sensors	Diagonal (°)
1/2” (6.4 x 4.8 mm x mm)	13.1
2/3” (8.5 x 7.1 mm x mm)	17.8
1” (12.44 x 9.83 mm x mm)	25.7

FIELD OF VIEW AT MINIMUM WORKING DISTANCE

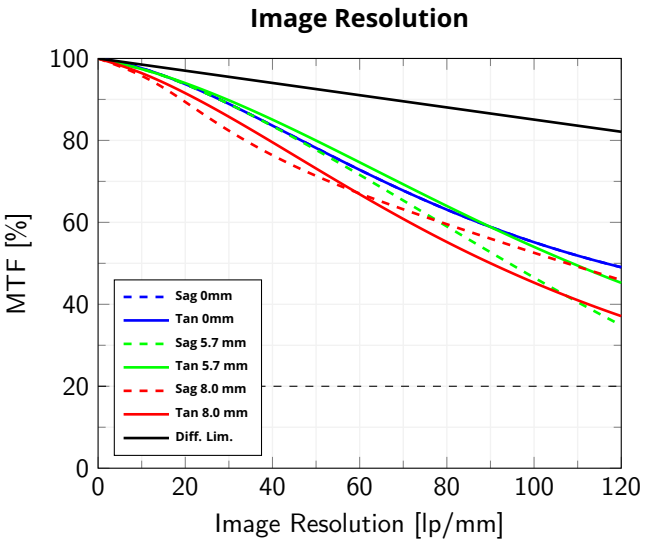
Sensors	(mm x mm)
1/2” (6.4 x 4.8 mm x mm)	32.29 x 24.22
2/3” (8.5 x 7.1 mm x mm)	42.89 x 35.77
1” (12.44 x 9.83 mm x mm)	62.76 x 49.60

COMPATIBLE PRODUCTS

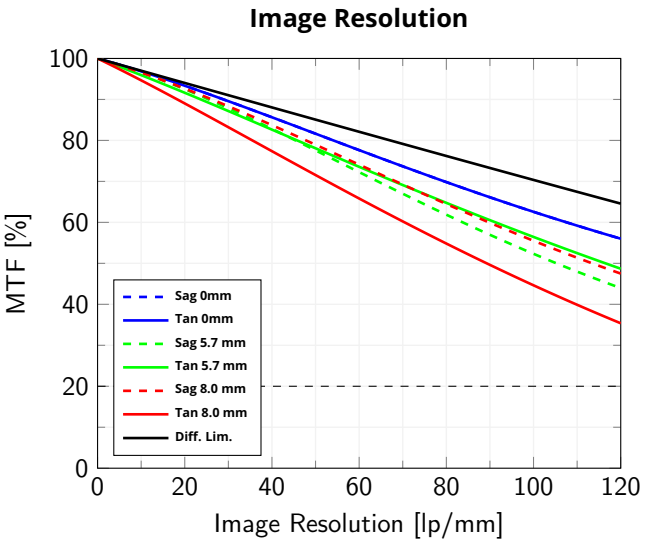
Full list of compatible products available *here*.

A wide selection of innovative machine vision components.

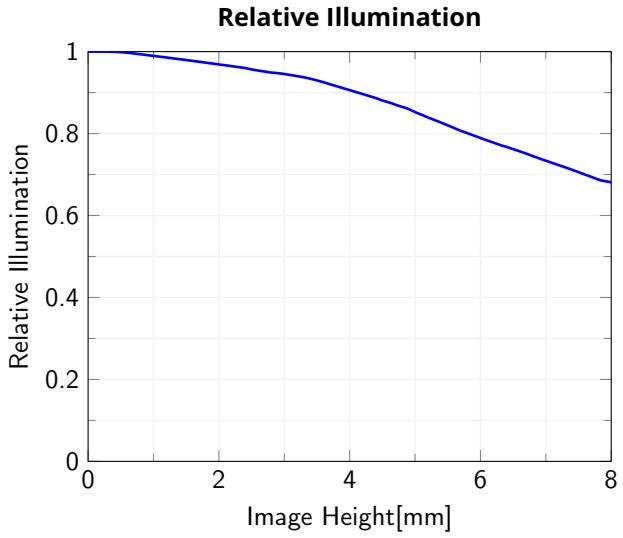
DATA AT INFINITE WORKING DISTANCE



Modulation Transfer Function (MTF) vs. Image Resolution, wavelength range 486 nm - 656 nm, at infinite working distance and maximum aperture



Modulation Transfer Function (MTF) vs. Image Resolution, wavelength range 486 nm - 656 nm, at infinite working distance at $f/4$



Relative illumination vs. Image Field Height, from the optical axis to the maximum image height at maximum aperture

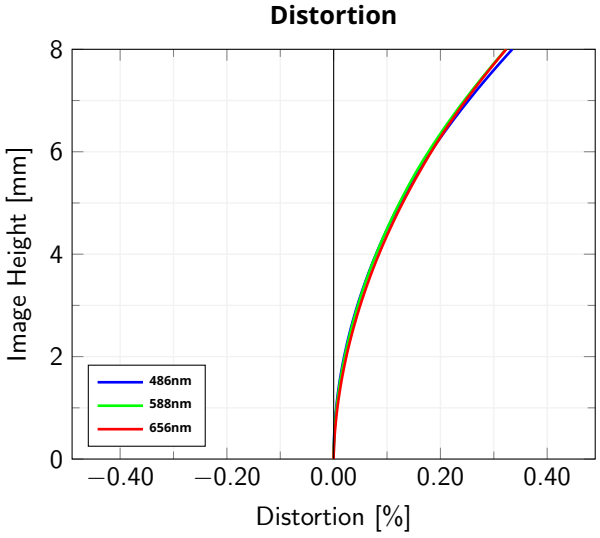
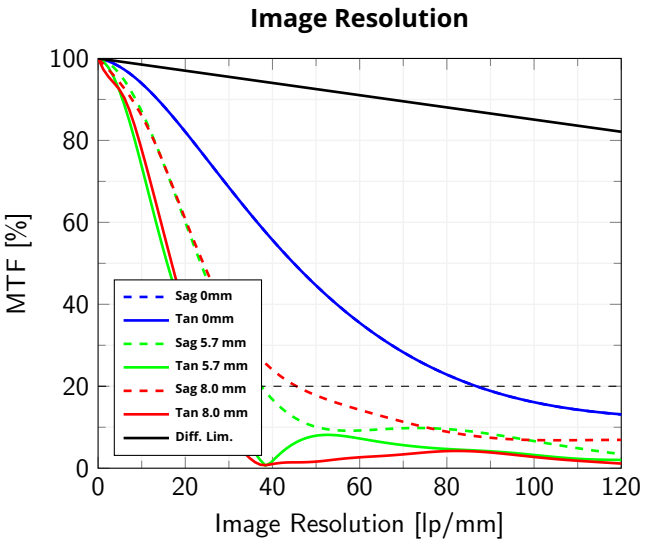
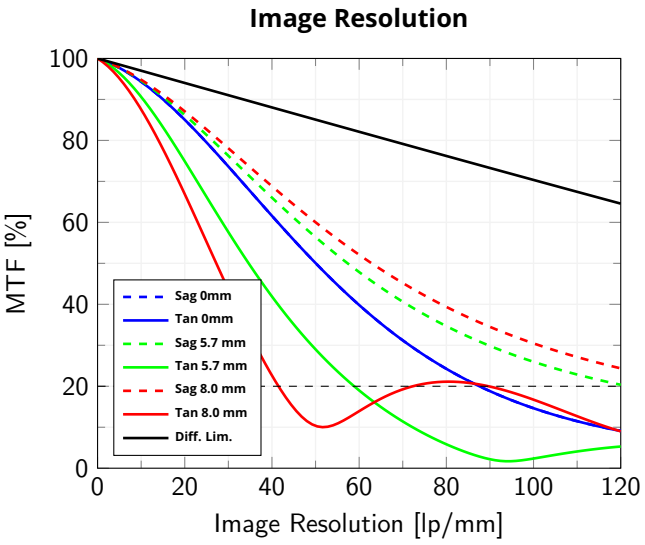


Image Field Height vs. Distortion, from the optical axis to the maximum image height

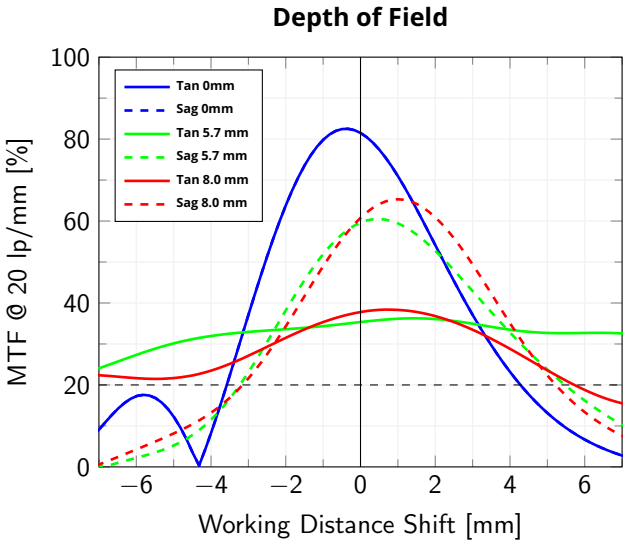
DATA AT MINIMUM WORKING DISTANCE



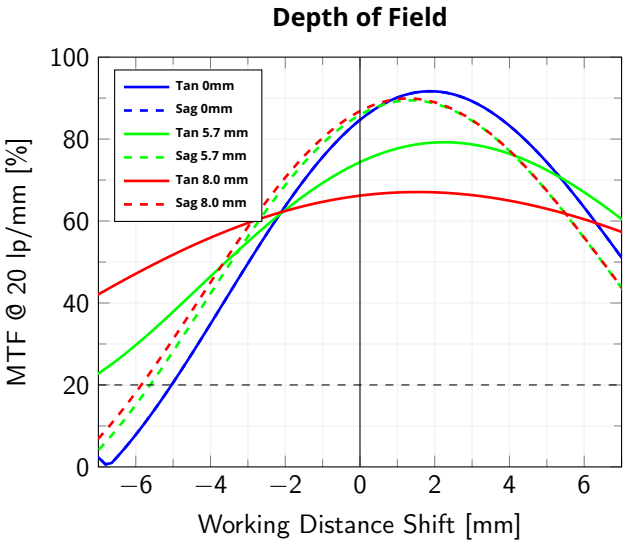
Modulation Transfer Function (MTF) vs. Image Resolution, wavelength range 486 nm - 656 nm, at minimum working distance and maximum aperture



Modulation Transfer Function (MTF) vs. Image Resolution, wavelength range 486 nm - 656 nm, at minimum working distance at $f/4$



Modulation Transfer Function (MTF) @ 20 lp/mm vs. Working Distance Shift from the best focus at minimum working distance, wavelength range 486 nm - 656 nm, maximum aperture



Modulation Transfer Function (MTF) @ 20 lp/mm vs. Working Distance Shift from the best focus at minimum working distance, wavelength range 486 nm - 656 nm, $f/4$