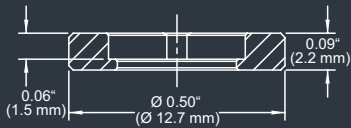


# DE-R 288 Diffractive Optical Element

## MOUNTED VERSION

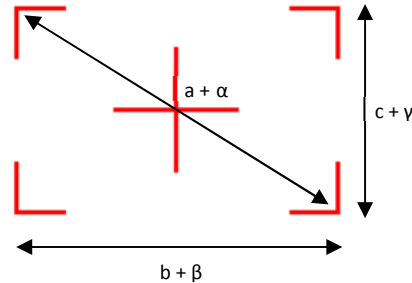
For testing or setups under laboratory conditions we offer a version mounted in 12.7 mm stainless steel frame for use with standard laboratory holders.



## COLLIMATED / CONVERGING LASER

The laser can be collimated for long range use or converging for a fixed working distance.

Please note that the size/thickness of each spot or line depends on the focusing of the laser.



- **Element Number:** DE-R 288
- **Current Product Revision:** A
- Description: Viewfinder
- Substrate material: Polycarbonate (PC)
- Size (Ø x Thickness): 8 x 1.2 mm
- Design wavelengths: 650 nm
- Recommended wavelength range: 590-730 nm
- Minimum recommended beam diameter: 2-3 mm

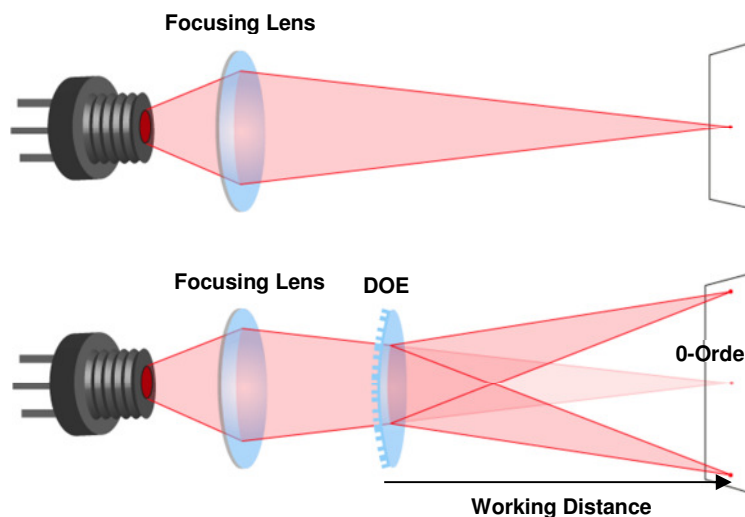
Within the recommended wavelength range, the zeroth order central spot is not visible on the line. Pattern size and pattern angles and the intensity in the undiffracted central spot ('zero order intensity', see reverse page) will vary most with the wavelength.

Diffraction efficiencies given on this datasheet have been measured using elements of product revision A.

## Geometry and Diffraction Angles

Wavelength	Pattern Size @ 100 mm Distance			Pattern Angles		
	a	b	c	α	β	γ
450 nm	64 mm	54 mm	35 mm	36°	30°	19°
515 nm	75 mm	63 mm	41 mm	41°	34°	22°
532 nm	78 mm	65 mm	42 mm	43°	35°	23°
635 nm	96 mm	81 mm	52 mm	51°	43°	27°
650 nm	99 mm	83 mm	54 mm	53°	44°	28°
730 nm	115 mm	96 mm	62 mm	60°	49°	31°
780 nm	126 mm	105 mm	68 mm	64°	53°	34°

## Setup



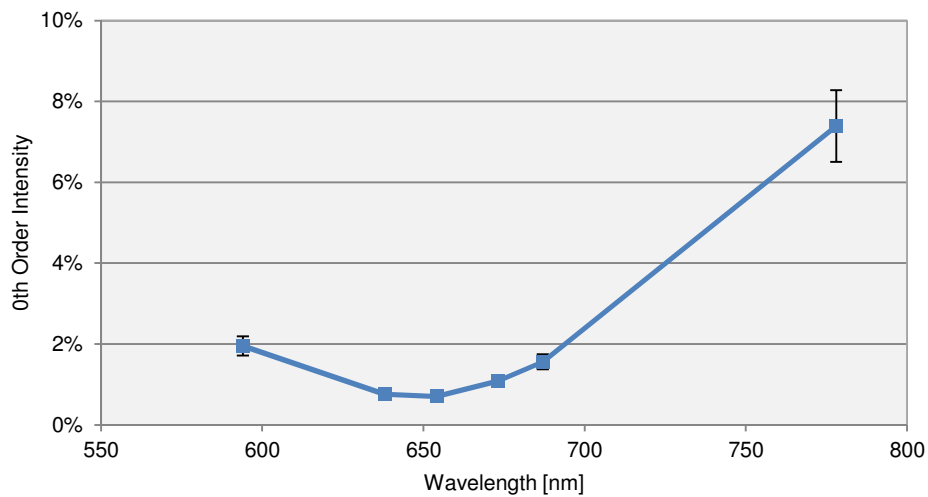
Laser diodes are the most common light source to be used with diffractive optical elements, but other laser light sources may also be used.

The DOEs are best used with collimated or convergent laser sources. The microstructure surface should be oriented towards the laser.

The 0-order spot is equivalent in size and shape to the original beam, but its power is attenuated.

## Diffraction Zero Order Intensity:

Wavelength	0-Order Intensity
594	2.0%
638	0.8%
654	0.7%
673	1.1%
687	1.6%
778	7.4%



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