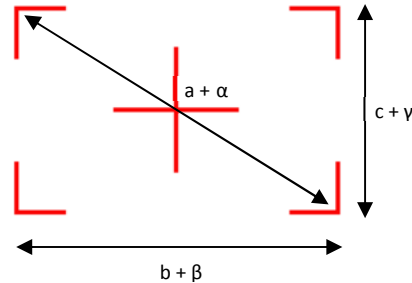


DE-R 215 Diffractive Optical Element



- **Element Number:** DE-R 215
- **Current Product Revision:** A
- **Description:** Viewfinder
- **Substrate material:** Polycarbonate (PC)
- **Size (\varnothing x Thickness):** 8 x 1.2 mm
- **Design wavelengths:** 645 nm
- **Recommended wavelength range:** 570-750 nm
- **Minimum recommended beam diameter:** 2-3 mm

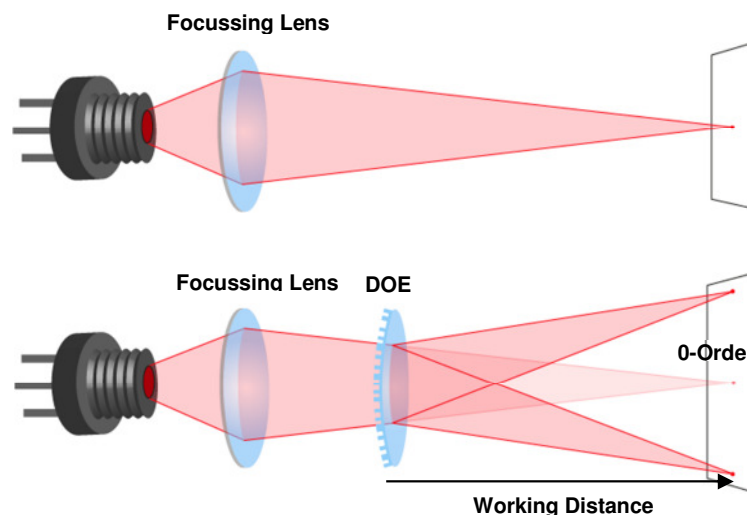
Within the recommended wavelength range, the zeroth order central spot is not visible on the line. Size and pattern angles and the intensity in the undiffracted central spot ('zero order intensity', see reverse page) will vary most with the wavelength.

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	23 mm	18.7 mm	12.5 mm	12.9°	10.7°	7.2°
515 nm	26 mm	21 mm	14.3 mm	14.7°	12.2°	8.2°
532 nm	27 mm	22 mm	14.8 mm	15.2°	12.6°	8.5°
635 nm	32 mm	27 mm	17.7 mm	18.2°	15.1°	10.1°
650 nm	33 mm	27 mm	18.1 mm	18.6°	15.5°	10.3°
730 nm	37 mm	31 mm	20 mm	21°	17.4°	11.6°
780 nm	40 mm	33 mm	22 mm	22°	18.6°	12.4°
808 nm	41 mm	34 mm	23 mm	23°	19.3°	12.9°

Setup



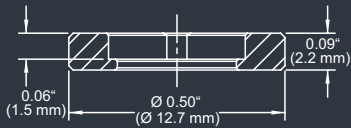
Laser diodes are the most common light source to be used with diffractive optical elements, but other laser light sources may also be used.

The DOEs are best 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.

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.



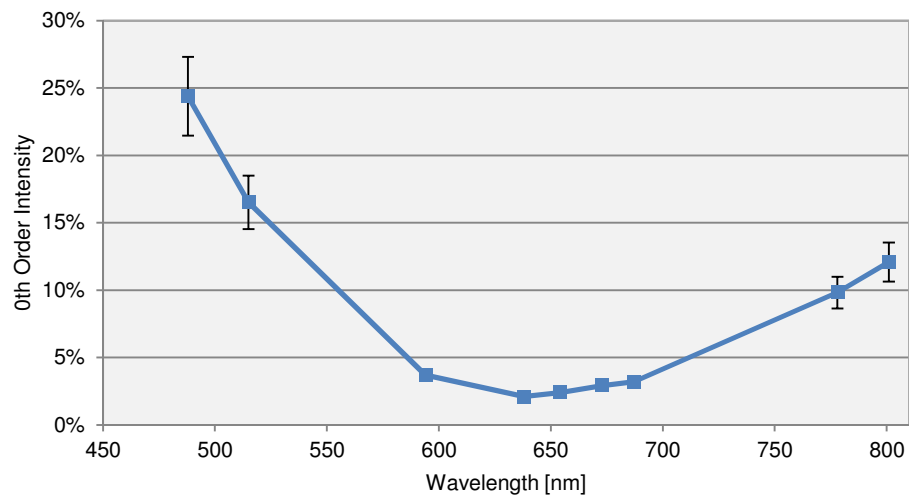
COLLIMATED / CONVERGING LASER

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.

Diffraction Zero Order Intensity:

Wavelength	0-Order Intensity
488	24%
515	16.5%
594	3.7%
638	2.1%
654	2.4%
673	2.9%
687	3.2%
778	9.8%
801	12.1%



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