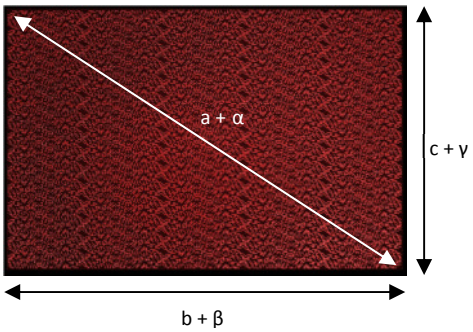
DE-R 335 Diffractive Optical Element



- **Element Number: DE-R 335**
- **Current Product Revision: A**
- Description: Pseudo-Random Pattern
- Number of Dots: 33000 Dots
- Substrate material: Polycarbonate (PC)
- Size (Ø x Thickness): 8 x 1.2 mm
- Design wavelengths: 645 nm
- Recommended wavelength range: 630-660 nm
- Minimum recommended beam diameter: 3-4 mm

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. Within the recommended wavelength range, the element shows the lowest intensity in the central spot.

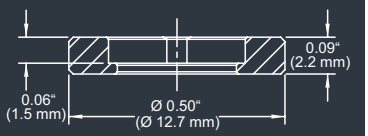
Diffraction efficiencies given on this datasheet have been measured using elements of product revision A.

Pattern licensed from ixellence GmbH, Author: Ralf Vandenhouten (www.ixellence.com).

For further details about the pattern please contact doe@holoeye.com.

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.



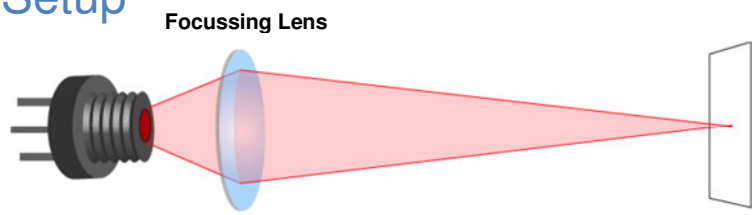
COLLIMATED / CONVERGING LASER

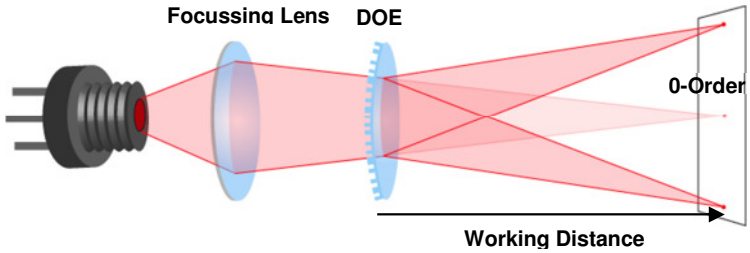
The laser can be collimated for long range use or converging for a fixed working distance. Please note that the size/thickness of each spot or line depends on the focusing of the laser.

Geometry and Diffraction Angles

Wavelength	Pattern Size @ 100 mm Distance			Pattern Angles		
	a	b	c	α	β	γ
450 nm	66 mm	57 mm	39 mm	37°	32°	22°
515 nm	77 mm	66 mm	44 mm	42°	36°	25°
532 nm	80 mm	68 mm	46 mm	44°	38°	26°
635 nm	99 mm	83 mm	55 mm	53°	45°	31°
650 nm	102 mm	86 mm	57 mm	54°	46°	32°
730 nm	119 mm	98 mm	65 mm	61°	52°	36°
780 nm	130 mm	107 mm	70 mm	66°	56°	38°
808 nm	137 mm	112 mm	72 mm	69°	59°	40°

Setup





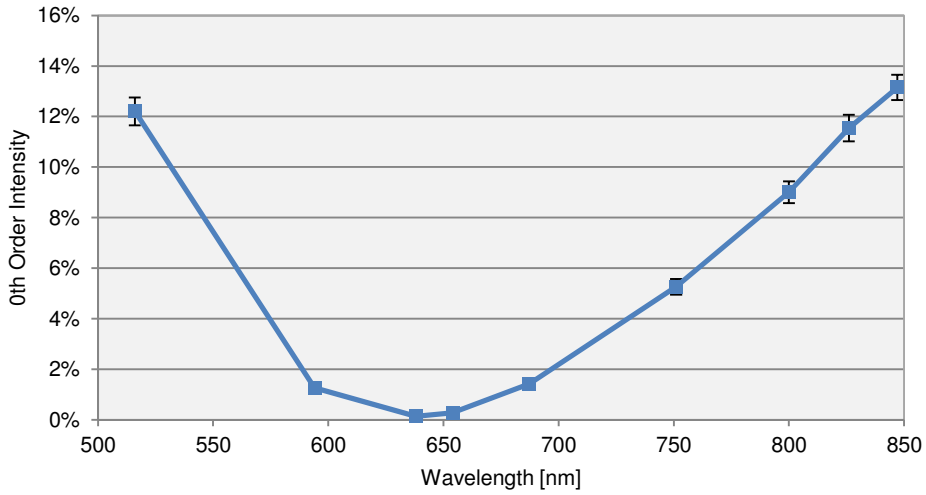
Laser diodes are the most common light source to be used with diffractive optical elements, but other laser light sources may also be used.

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.

Diffraction Zero Order Intensity:

Wavelength	0-Order Intensity
516	12%
594	1.3%
638	0.1%
654	0.3%
687	1.4%
751	5.3%
800	9.0%
826	12%
847	13%



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