

>> DE-R 242 - Standard Diffractive Optical Element

Element Number: DE-R 242

Description: Matrix 16 x 16 Dots

Number of Dots: 256 + 1 Dots

Material: Polycarbonate (PC)

Size (Ø x Thickness): 8 x 1.2 mm

Optimum Wavelength: **635 nm**

(The element is usable with a range of wavelengths, but the following parameters will vary most with the wavelength: pattern size (see table 1) and intensity in the undiffracted central spot ('zero order', see table 2). At the optimum wavelength given on this datasheet, the element shows the lowest intensity in the central spot.)

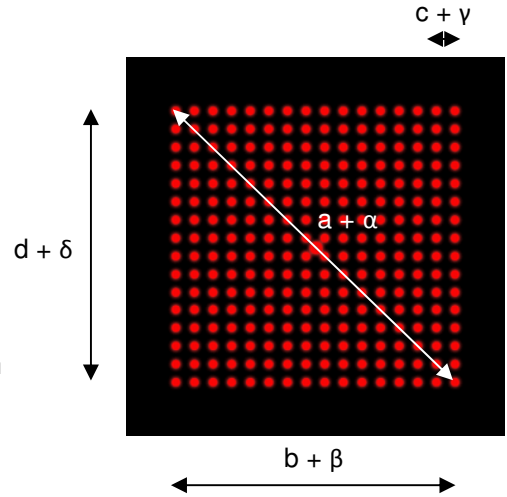
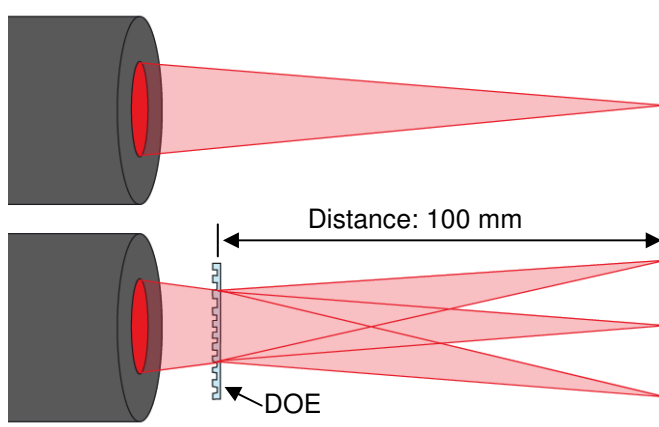


Table 1

Wavelength	Pattern Size @ 100 mm Distance				Pattern Angles			
	a	b	c	d	α	β	γ	δ
488 nm	9.5 mm	6.7 mm	0.45 mm	6.7 mm	5.5°	3.9°	0.26°	3.9°
543 nm	10.6 mm	7.5 mm	0.50 mm	7.5 mm	6.1°	4.3°	0.29°	4.3°
594 nm	11.6 mm	8.2 mm	0.55 mm	8.2 mm	6.7°	4.7°	0.31°	4.7°
635 nm	12.4 mm	8.8 mm	0.59 mm	8.8 mm	7.1°	5.0°	0.34°	5.0°
650 nm	12.7 mm	9.0 mm	0.60 mm	9.0 mm	7.3°	5.1°	0.34°	5.1°
730 nm	14.3 mm	10.1 mm	0.67 mm	10.1 mm	8.2°	5.8°	0.39°	5.8°
780 nm	15.3 mm	10.8 mm	0.72 mm	10.8 mm	8.7°	6.2°	0.41°	6.2°
808 nm	15.8 mm	11.2 mm	0.75 mm	11.2 mm	9.1°	6.4°	0.43°	6.4°

Setup:



Diffraction Zero Order Intensity:

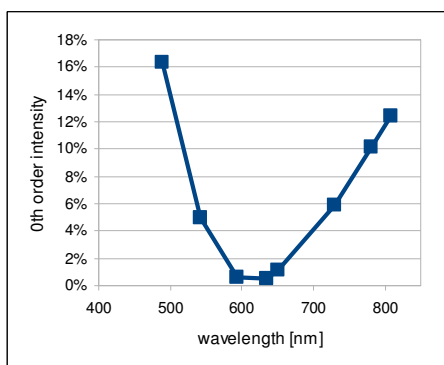


Table 2

Wavelength	0th Order Intensity
488	17%
543	5%
594	0.7%
635	0.6%
650	1.1%
730	6%
780	11%
808	13%