

# >> DE-R 258 - Standard Diffractive Optical Element

**Element Number: DE-R 258**

Description: Matrix 11 x 11 Dots

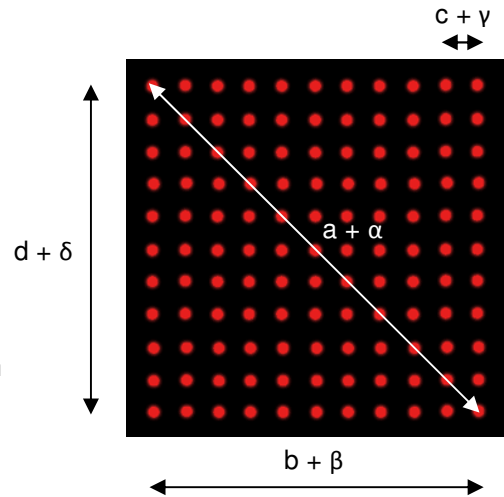
Number of Dots: 121 Dots

Material: Polycarbonate (PC)

Size (Ø x Thickness): 8 x 1.2 mm

Optimum Wavelength: **635 nm**

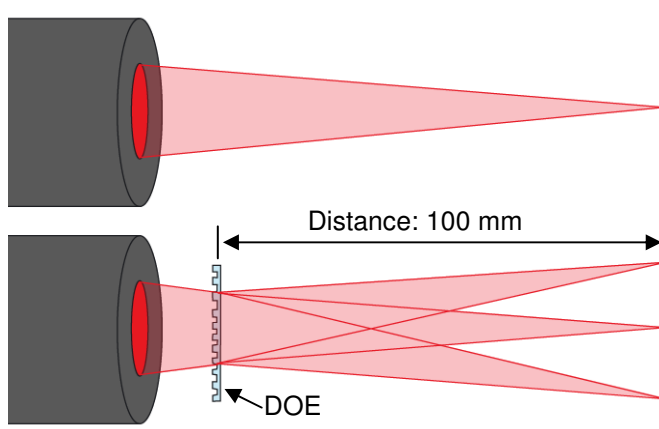
(The element is usable with a range of wavelengths, but the following parameters will vary most with the wavelength: pattern size (see table 1) and intensity in the undiffracted central spot ('zero order', see table 2). At the optimum wavelength given on this datasheet, the element shows the same intensity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



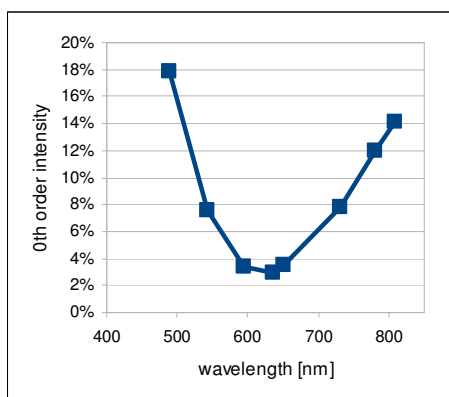
**Table 1**

Wavelength	Pattern Size @ 100 mm Distance				Pattern Angles			
	a	b	c	d	$\alpha$	$\beta$	$\gamma$	$\delta$
488 nm	53 mm	38 mm	3.8 mm	38 mm	30°	22°	2.2°	22°
543 nm	60 mm	43 mm	4.3 mm	43 mm	33°	24°	2.4°	24°
594 nm	66 mm	47 mm	4.7 mm	47 mm	37°	26°	2.6°	26°
<b>635 nm</b>	<b>71 mm</b>	<b>50 mm</b>	<b>5.0 mm</b>	<b>50 mm</b>	<b>39°</b>	<b>28°</b>	<b>2.8°</b>	<b>28°</b>
650 nm	73 mm	52 mm	5.2 mm	52 mm	40°	29°	2.9°	29°
730 nm	84 mm	58 mm	5.8 mm	58 mm	45°	33°	3.3°	33°
780 nm	90 mm	63 mm	6.3 mm	63 mm	49°	35°	3.5°	35°
808 nm	94 mm	65 mm	6.5 mm	65 mm	51°	36°	3.6°	36°

## Setup:



## Diffraction Zero Order Intensity:



**Table 2**

Wavelength	0th Order Intensity
488	18%
543	8%
594	3.4%
<b>635</b>	<b>2.9%</b>
650	3.5%
730	8%
780	12%
808	15%