

# >> DE-R 249 - Standard Diffractive Optical Element

Element Number: DE-R 249

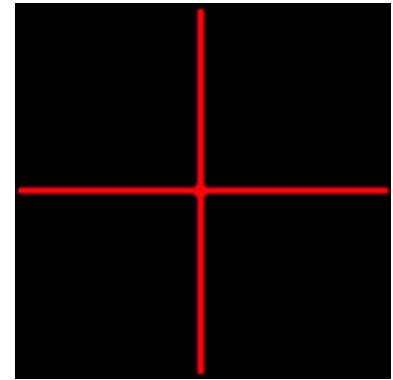
Description: Cross - 45

Material: Polycarbonate (PC)

Size (Ø x Thickness): 8 x 1.2 mm

Optimum Wavelength: 594 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.)



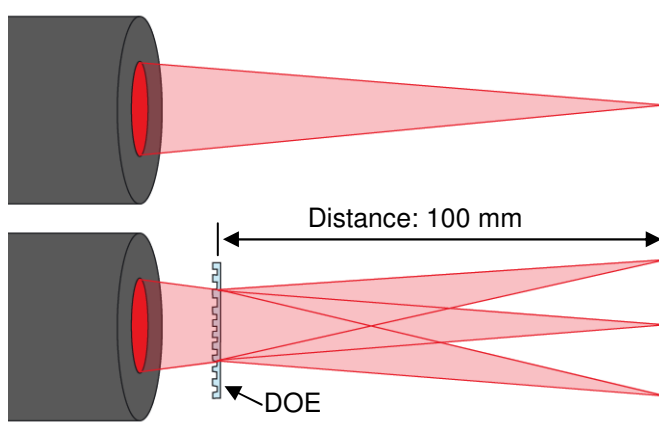
$a + \alpha$



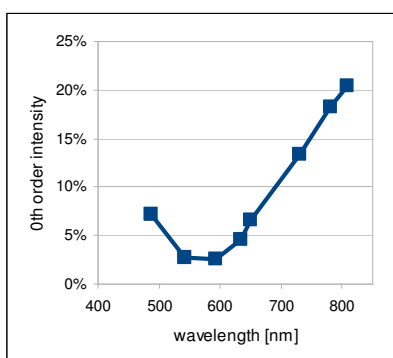
**Table 1**

Wavelength	Pattern Size @ 100 mm Distance	Pattern Angles
	<b>a</b>	<b><math>\alpha</math></b>
488 nm	62 mm	34°
543 nm	70 mm	38°
594 nm	77 mm	42°
635 nm	83 mm	45°
650 nm	86 mm	46°
730 nm	99 mm	53°
780 nm	107 mm	56°
808 nm	112 mm	59°

## Setup:



## Diffraction Zero Order Intensity:



**Table 2**

Wavelength	0th Order Intensity
488	8%
543	2.7%
594	2.7%
635	4.7%
650	7%
730	14%
780	19%
808	21%