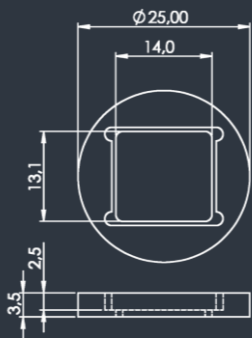


DE 754 Diffractive Optical Element

MOUNTED VERSION

For testing or setups under laboratory conditions, we offer a version mounted in a black anodized 25 mm aluminum frame for use with standard laboratory holders.

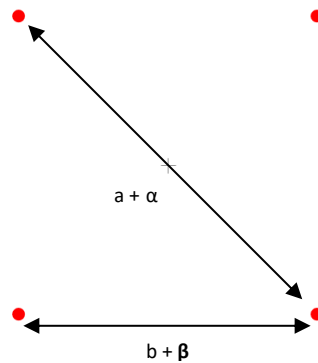


25 mm anodized aluminum mount with 14.0 x 13.1 mm clear aperture

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.



- **Element Number: DE 754**
- **Current Product Revision: A**
- Description: matrix 2x2 dots
- Substrate material: Fused Silica
- Surface level number: 8
- AR coating on both sides of the substrate: $R < 0.5\%$ at recommended wavelength range
- Substrate Size: 15.0 mm x 14.1 mm
- Thickness: 1.0 mm
- Design Wavelength: 1030 nm
- Recommended Wavelength Range: 980 nm – 1070 nm *
- Typ. Diffraction Efficiency: 86% at design wavelength

Within the recommended wavelength range, the zeroth order (Z0) has a significant lower power than the desired diffraction orders. Spot spacing and angular separation, and the ratio between zeroth order and desired orders will vary most with the wavelength. Diffraction efficiencies given on this datasheet have been measured using elements of product revision A.

The zeroth order spot is equivalent in size and shape to the original beam, but its power is attenuated.

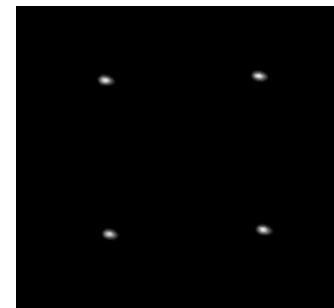
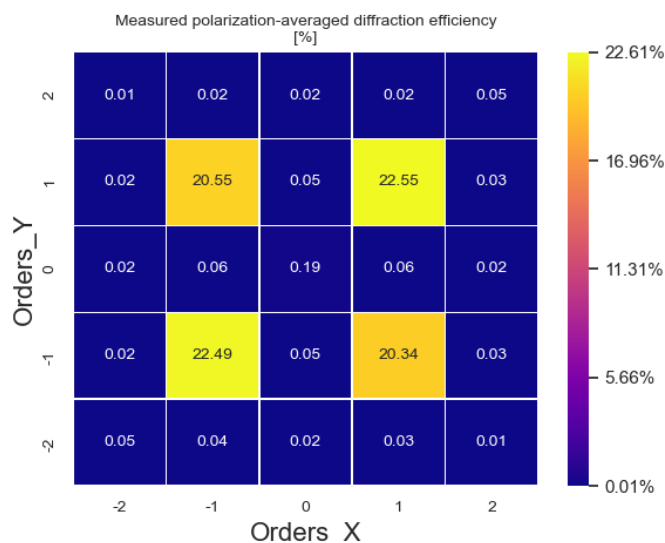
The DOEs are best used with collimated or convergent laser sources. The microstructure surface should be oriented towards the laser. The structured side has an L-shaped marker in the bottom left-hand corner for easy identification.

Diffraction angles & efficiencies

Wavelength	Pattern Size @ 100 mm Distance		Pattern Angles		
	λ [nm]	a [mm]	b [mm]	α [°]	β [°]
980		4.1	2.9	2.35	1.66
1030		4.3	3.0	2.47	1.74
1064		4.4	3.1	2.55	1.80

Table 1: Pattern size and pattern angle depending on the wavelength

Orders at 1070nm



Upper image: pattern recorded by camera

Left image: Efficiencies measured by sensor

*within the recommended wavelength range the zeroth order is $\leq 1\%$