

## Concentric Circles Pattern for Lasers

A laser concentric circles pattern transforms a laser beam into multiple circles.

A light pattern of concentric circles has recently been proven to be most appropriate for certain 3D mapping applications, especially for spaces with cylindrical geometry. Some examples of these applications include illumination and imaging inside of gas pipes, mapping of traffic tunnels, and for endoscopy and colonoscopy diagnostics.

A concentric circles pattern is defined by its full angle and the number of rings.

In addition to its standard products HOLO/OR offers the possibility to custom design and manufacture the number of circles, separation angle between neighboring circles, and the energy distribution per circle.

HOLO/OR also designs and manufactures a diffractive axicon which is a DOE that shapes an input beam to a single ring.

PN	Number of Rings	$\lambda$ [nm]	$\theta_f$ [deg]	Element Size [mm]
MC-005-I-Y-A	2	1064	3.66	11
MC-006-I-Y-A	2	1064	1.83	11
MC-017-I-Y-A	12	1064	7.79	11
MC-018-I-Y-A	5	1064	5	15
MC-019-I-Y-A	20	1064	37.81	25.4
MC-020-I-Y-A	50	1064	37.81	25.4
MC-021-I-Y-A	100	1064	37.81	25.4
MC-022-I-Y-A	75	1064	37.81	25.4