

Compact Beam Shaper for a TopHat of 2x2 to 110x110 mm²



General Description:

| Advanced Optical Solutions |

This compact beam shaper is designed for a fiber coupled diode laser to generate a homogeneous field. Different versions are available for field sizes of 2x2 to 110x110 mm² in a working distance of approximately 100 to 500 mm.

Specification data of the laser source

	Unit	Value
Wavelength	nm	790 - 990
Power	W	≤ 120
Fiber core	mm	0.1 - 1.0
NA		0.12 or 0.22
Fiber connector		SMA905

Specification data of the beam shaper module

	Unit	Value
Wavelength	nm	790 - 990
Generated field size ¹	mm ²	2x2 to 110x110 top hat region
Inhomogeneity ² (I _{max} -I _{min})/(I _{max} +I _{min})	%	< 7.5
Working distance WD	mm	100 to 500
Transmission	%	> 95
Length of the housing	mm	135 (NA 0.12) / 85 (NA 0.22)
Diameter of the housing	mm	30.5 ± 0.2

¹ The generated field size depends on the working distance. Not all combinations of field size and working distance are available.

² I_{max} and I_{min} denote the maximum and minimum intensity in the uniform field, respectively.

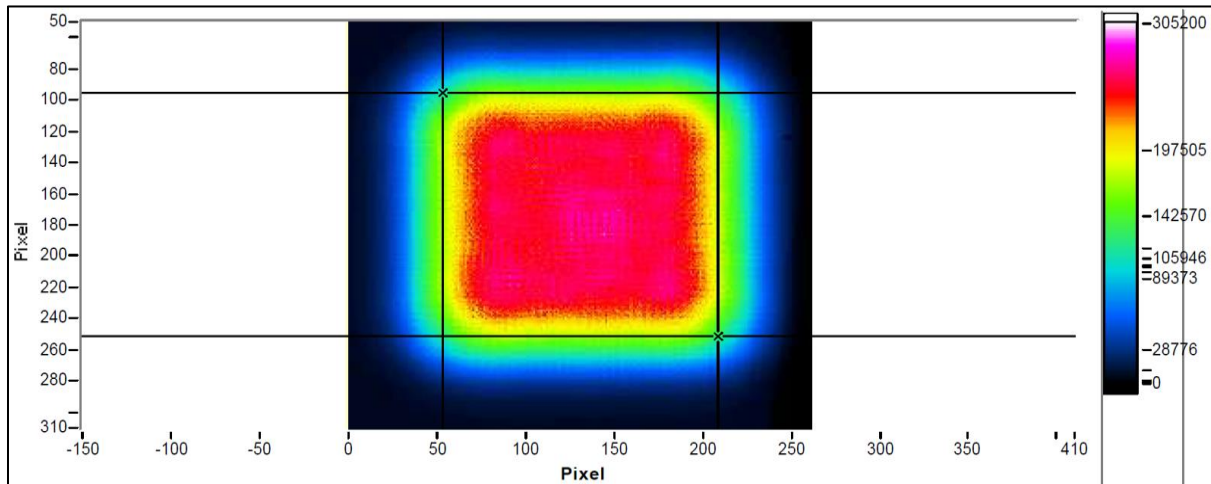
Options

Higher power

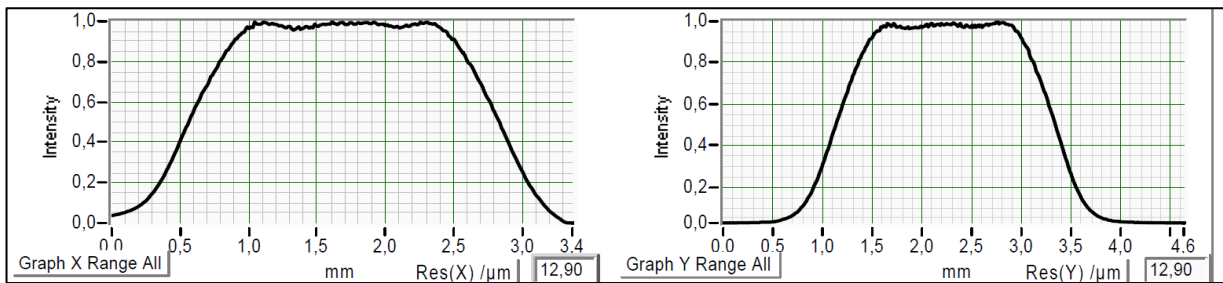
Different wavelength

High-spec version with reduced non-uniformity and steeper edges of the homogeneous field

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False color diagram of a measured 2x2 mm² field (WD=100mm).



Cross-sections of the measured profile in the x- and y-direction.
About 60% of the power is in the top hat region.

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