



Optimized for *nLIGHT* Pearl Diode Lasers and Pearl Turn Key Systems, the Zoom Lens Process Optic provides high performance beam delivery over a wide range of spot sizes.

The module is designed to support industrial applications requiring a high degree of spatial uniformity. For multi-unit industrial installations, Zoom Lens Process Optic can be tailored to maximize your operating process window.

Features

- Variable focus design providing broad range of spot sizes
- Robust mechanical design for demanding industrial use
- Field replaceable output window for maximizing process uptime
- Compatible with standard SMA905 or industrial D80 fiber assemblies
- Available with multiple spot geometries – square, hexagonal, round
- Flat-top intensity uniformities exceeding 90%

Applications

- FPD Bonding
- Li-Ion Battery Welding
- Plastic Welding
- Soldering
- Thin Metal Welding
- Marking / Engraving
- Annealing / Material Heating

Proven Performance

Typical Device Performance

Optical		
Optical transmission	%	> 90 (790 – 990 nm)
Spot size, min/max	mm	0.4 – 32 (See table)
Working distance, min/max	mm	45 – 225
Output aperture	mm	30.5
Fiber		
Connector type		SMA905 or D80
Input Fiber diameter	µm	400, 600
Maximum input NA		0.2
General Information		
Maximum power handling	W	80
Ambient temperature	°C	0 to +40
Storage temperature	°C	-20 to +60
Relative humidity ¹	%	10 to 95
Barrel diameter, max	mm	40
Overall length ²	mm	125 - 225 (See Outline Drawing)

¹ A non-condensing environment is required for storage and operation.

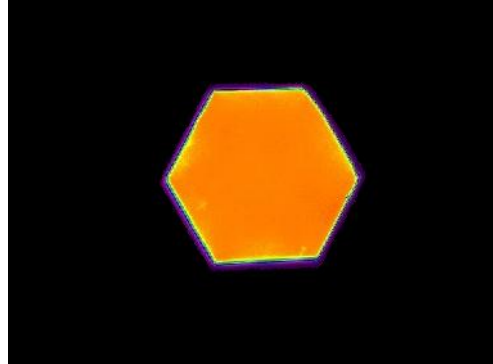
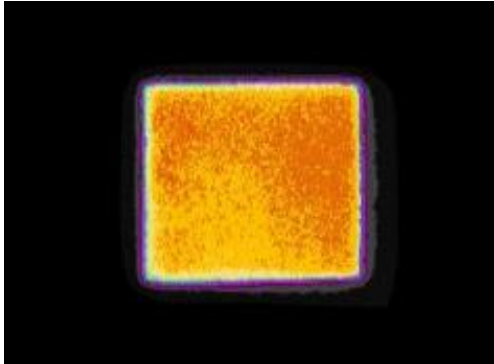
² Depends on desired spot size configuration, zoom adjustment does not change module length

Spot Size Table		
Nominal spot size defined at center of zoom adjustment, minimum / maximum spot size occurs at minimum (45 mm) / maximum (225 mm) working distance		
Smallest Hexagonal³ Spot Size Configuration		
Nominal Spot Size	mm	1.3
Minimum Spot Size	mm	0.5
Maximum Spot Size	mm	2.0
Largest Hexagonal³ Spot Size Configuration		
Nominal Spot Size	mm	21
Minimum Spot Size	mm	8.0
Maximum Spot Size	mm	32
Smallest Square Spot Size Configuration		
Nominal Spot Size	mm	1.1
Minimum Spot Size	mm	0.4
Maximum Spot Size	mm	1.6
Largest Square Spot Size Configuration		
Nominal Spot Size	mm	17
Minimum Spot Size	mm	6.5
Maximum Spot Size	mm	26

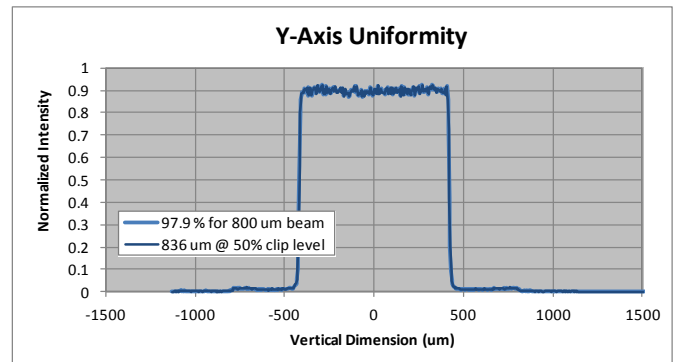
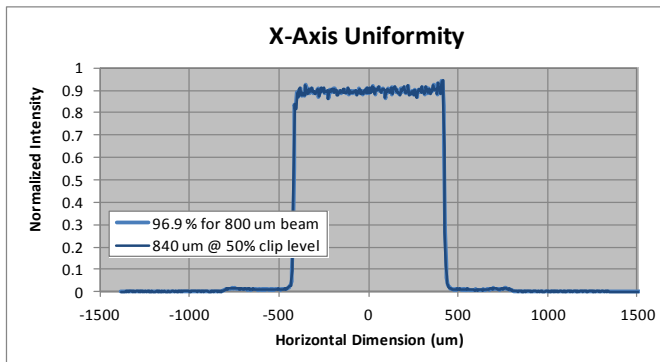
³ Circular spot size configurations are similar hexagonal configuration presented

Beam Performance

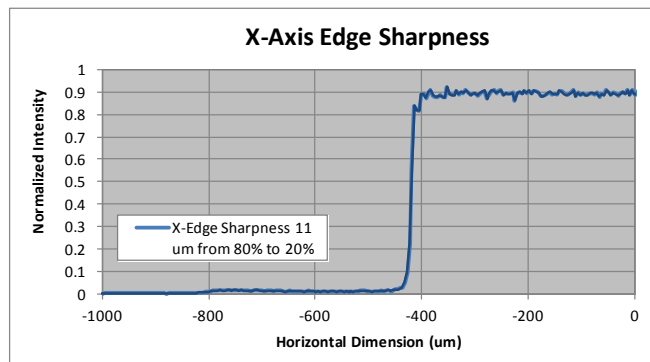
Various Beam Shapes Available



High Degree of Uniformity



Excellent Edge Sharpness



Outline Drawing

