

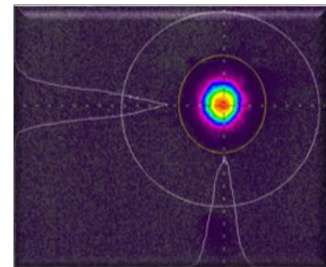


## Overview

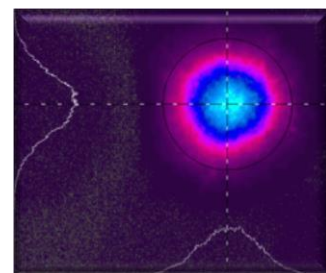
PowerPhotonic's Pseudo Random Intensity Mapping Element (PRIME) flat-top diffusers use a unique freeform direct-write process to fabricate a highly non-uniform surface in fused silica.

These quasi-random optics are designed to impart a well-defined and tightly controlled divergence angle which can range from fractions of a degree up to 10 degrees (FWHM) with potential transmission efficiencies in excess of 99%.

The Gaussian properties of the focused spot can be easily customized by supplying desired parameters to maximize system performance, creating both supra- and super-Gaussian distributions.



26.2 mrad Half Angle



61.1 mrad Half Angle

## Key Features

- ⦿ All fused silica optics
- ⦿ Customizable divergence (<math><1^\circ</math> to - ⦿ Customizable Gaussian parameters
- ⦿ Very low divergences achievable
- ⦿ Suitable for multi-mode lasers (

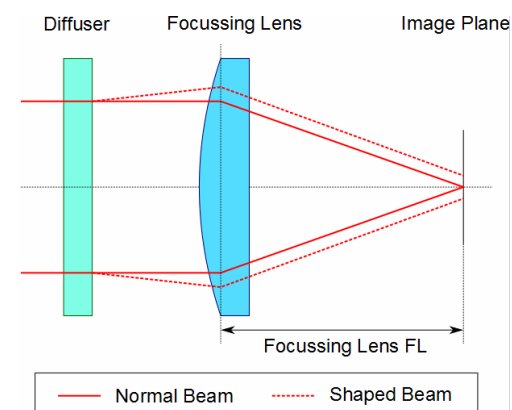
## Target Applications

- ⦿ Materials processing: high power
  - Laser cutting
  - Conduction welding, cladding, brazing, soldering
  - Laser peening and heat treatment
- ⦿ Diode array and pump beam homogenization
- ⦿ Laser Projectors

## Benefits

- ⦿ Highest system efficiency possible >98%
- ⦿ Dramatic increase in beam uniformity
- ⦿ High power handling, >20kW CW
- ⦿ High laser damage threshold, >100J/cm<sup>2</sup>
- ⦿ Good through-focus performance
- ⦿ Insensitive to input beam properties

## How they are Used

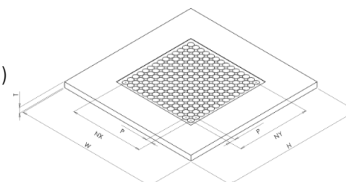


## Standard Product Selection – Gaussian Diffusers

Part Number	Divergence Angle (FWHM - Degrees)	Clear Aperture H (mm)	Clear Aperture W (mm)	Height H (mm)	Width H (mm)	Thickness T (mm)
PP-GD-D10-V1	1.00	15.0	15.0	25.40	25.40	1.00
PP-GD-D30-V1	3.00	15.0	15.0	25.40	25.40	1.00
PP-GD-D70-V1	7.00	15.0	15.0	25.40	25.40	1.00
PP-GD-Dxx-Vx-Arx	Custom	Custom	Custom	Custom	Custom	Custom

Optical coating on request at extra cost  
All custom parameters can be customer specified

W: Width (+/-0.10mm)  
H: Height (+/- 0.10mm)  
T: Thickness (+/- 0.02mm)



### Customization Program

Due to the unique nature of the PowerPhotonic manufacturing process, our standard products can be easily modified to meet specific requirements. Please contact PowerPhotonic for additional information.

### Options

- ① Clear Aperture Width and Height
- ② Substrate Width, Height and Thickness
- ③ Divergence Angle

### About Us

PowerPhotonic is a global leader in precision micro-optics products. Our business was founded with the objective of providing unsurpassed excellence in all aspects of design and manufacture of micro-optics for optical and laser applications. Our world-class design skills are supported by an innovative and flexible manufacturing process that allows the company to design both a broad range of state-of-the-art standard micro-optics products and uniquely, to offer a low cost and rapid fabrication service for creating completely freeform optical surfaces

## お問い合わせ先

株式会社プロリンクス 営業第2課

Tel: 03-5256-2053 / Fax: 03-5256-2272

Email: [contact@prolinx.co.jp](mailto:contact@prolinx.co.jp)

URL: <http://www.prolinx.co.jp/products/power-photonic-lens.php>

