# Wide Angle Diffusers

## PoG Diffuser 125x110

### Features and Advantages

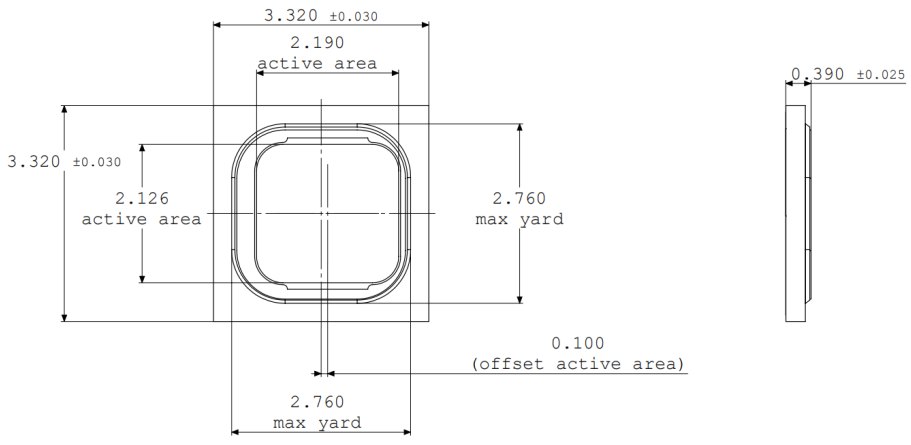
The PoG (Polymer on Glass) diffuser combines a micro-structured polymer layer on a glass substrate, offering wide wavelength coverage (450–2000 nm), high transmission (>90%), customizable divergence angles (10°–130°) with various beam shapes, and excellent thermal stability (–40 °C to 125 °C, reflow soldering up to 260 °C), making it a cost-effective, reliable, and scalable solution for VCSEL-based applications such as 3D sensing, LiDAR, in-cabin monitoring, robotics, and machine vision.

## Product Specifications

| **Product Code** | | 120206000557 [1] |
|---|---|---|
| **Specification Data** | **Unit** | |
| Typical FOI Angle (FWHM) Horizontal [2][3] | ° | 128 |
| Typical FOI Angle (FWHM) Vertical [2][3] | ° | 112 |
| Material | | Epoxy on glass |
| Length (L) | mm | 3.32 ± 0.03 |
| Width (W) | mm | 3.32 ± 0.03 |
| Thickness (T) | mm | 0.39 ± 0.025 |
| Clear Aperture (Al x Aw) | $mm^2$ | 2.190 x 2.126 |
| Design Wavelength [4] | nm | 940nm / 850nm |
| AR Coating [5] | nm | uncoated |
| Transmission [6] | % | 90 |

[1] Example for customization — design, dimensions and coating on request.
[2] Angle at 50% level normalized to the centroid. Based on radiant intensity.
[3] Typical VCSEL under typical driving conditions. Different VCSEL sources or different driving conditions could lead into different FOI values.
[4] Optimization design based on VCSEL@940nm, can also be used for 850nm.
[5] Optional for customized AR coating on glass surface.
[6] Transmission is 90% for uncoated, and will be 94% with AR coating on glass surface.

## Product Drawing (mm)





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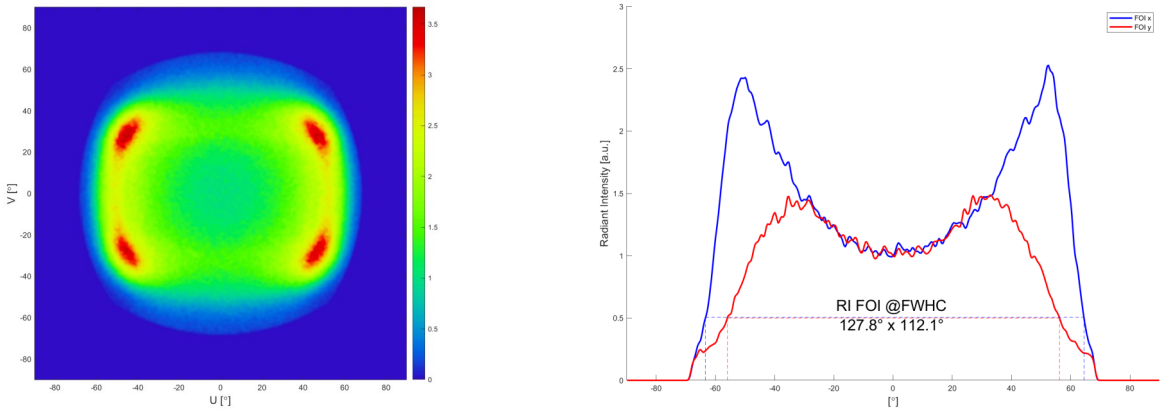
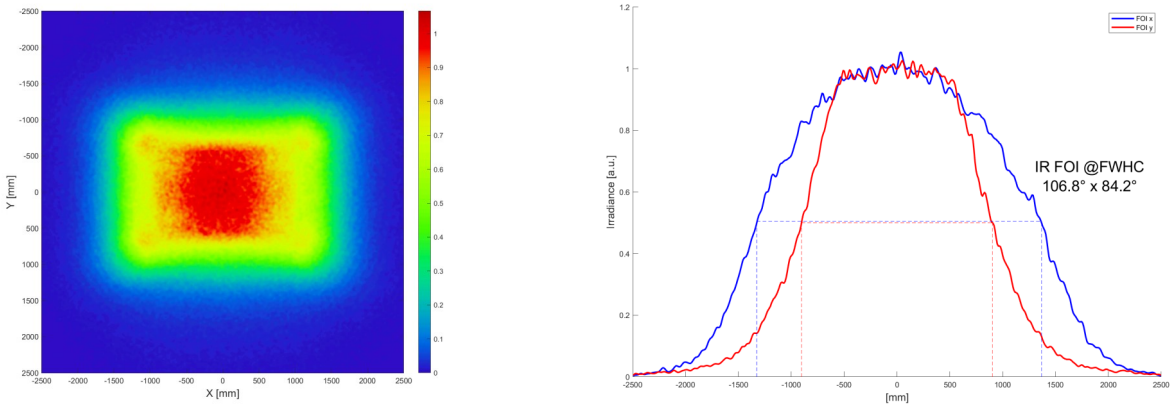
## Optical Simulation Results [7]




Radiant Intensity Distribution Pattern (Left) and Radiant Intensity Output Profile (Right)




Irradiance Distribution Pattern (Left) and Irradiance Output Profile (Right)

[7] Simulation based on measurements of a typical module product.





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