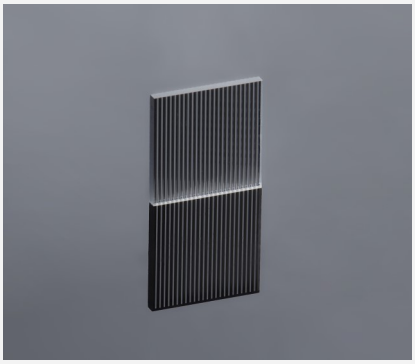
# Wide Angle Diffusers

## 60° Glass Diffuser



### Features and Advantages

High quality homogenizers for spanning a defined angle from collimated light. A top hat or $cos^{-2}$ profile with steep slopes and high homogeneity can be created along one dimension in angular space. Combining two diffusers creates a homogeneous rectangular distribution. Especially designed for high laser input powers, using low absorption glass or fused silica for optimized LIDT.

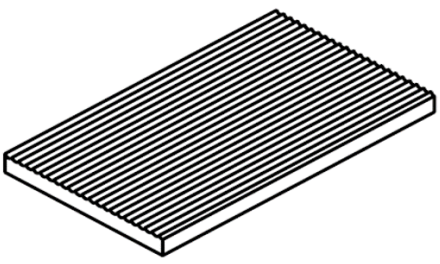
The new diffusers provide line or rectangular shape, steep slopes, high optical efficiency, wide angles, repeatability, no zero order, no hot spots, no degradation under UV.

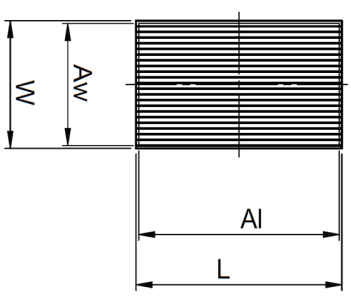
## Product Specifications

| **Product Code** | | **ZLA004382**(1)(3) |
|---|---|---|
| **Specification Data** | **Unit** | |
| Design Angle (FWHM) | ° | 60 |
| Design Angle (FW/e²) | ° | 60 |
| Angular Output Profile(2) | | $Cos^{-2}$ |
| Spatial Output Profile(2) | | Top Hat |
| Material | | S-TIH 53 |
| Length (L) | mm | 10.9 ± 0.1 |
| Width (W) | mm | 10.9 ± 0.1 |
| Thickness (T) | mm | 2 ± 0.5 |
| Clear Aperture (Al x Aw) | mm² | 9 x 9 |
| Refractive Index | | 1.822 |
| Design Wavelength | nm | 808 |
| AR Coating(4) | nm | 770 - 1070 |
| Transmission(5) | % | 98 |

(1) Example for customization — design, dimensions and coating on request
(2) $M^2$ > 10 and minimum beam size >2.5mm FW/e² advised to ensure steep slopes and high homogeneity
(3) Optimization design based on multiple sources from Focuslight: NV02, FCMSE58
(4) Customization for coating design is available
(5) Transmission at design wavelength±10nm and angle of incident 0-30°

## Product Drawing (mm)







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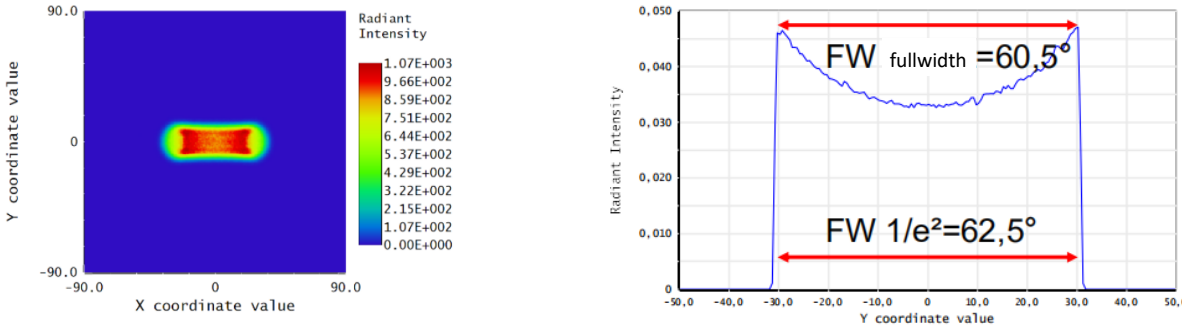
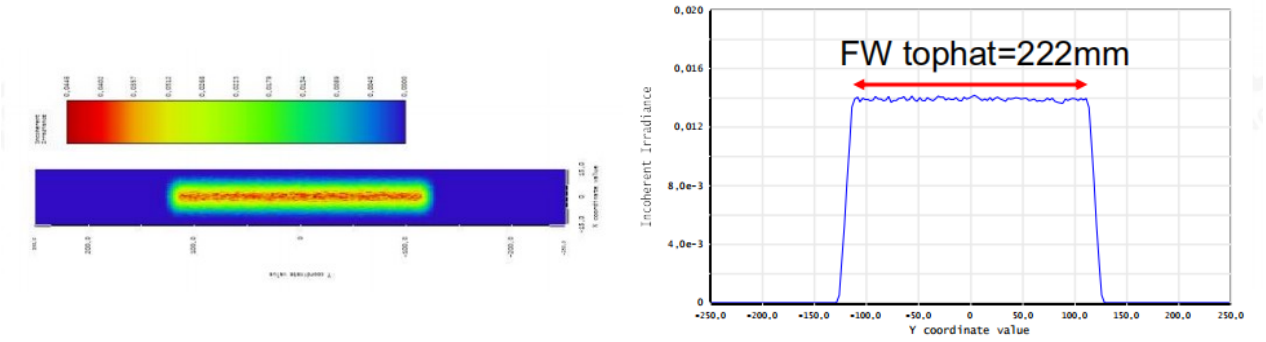
## Optical Simulation Results[6]

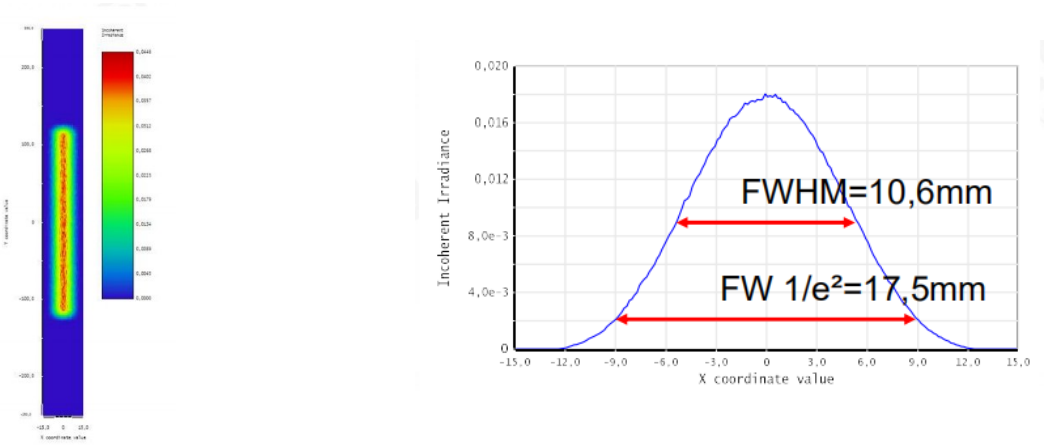
Cos$^{-2}$ Distribution




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




Spatial Distribution Pattern (Left) and Long Axis Spatial Output Profile (Right), 0.2 meter away from Diffuser




Spatial Distribution Pattern (Left) and Short Axis Spatial Output Profile (Right), 0.2 meters away from Diffuser

[6] Simulation based on multiple sources of Focuslight: NV02, FCMSE58





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