

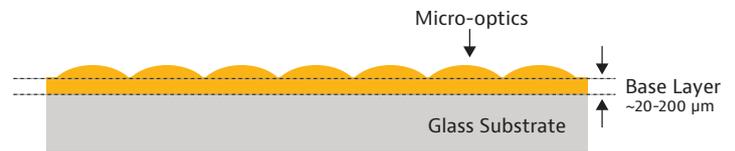
VIAVI

EDS-20

Polymer-On-Glass Micro-replicated Engineered Diffuser

Engineered Diffusers® are refractive beam shapers capable of homogenizing an input beam by increasing the field of illumination and shaping the output intensity profile.

Scatter Properties	
Diffuser Model	EDS-20-05584-A
Pattern Shape	Square
Divergence Angle	21.4° ±5%
Intensity Profile	Flat-top
Physical Properties	
Substrate Material	Schott Borofloat 33
Total Thickness	2.1 mm ±0.1 mm
Substrate Thickness	2 mm ±0.05 mm
Polymer Material	Standard Polymer on glass (A)
Index of Refraction	1.5466 @ 940 nm
Clear Aperture	95% Centered
Transmission Range	400–2000 nm



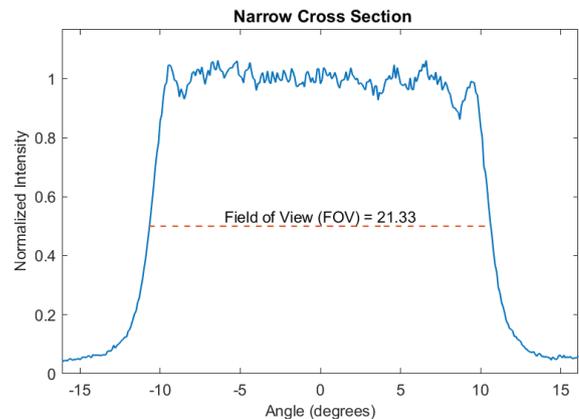
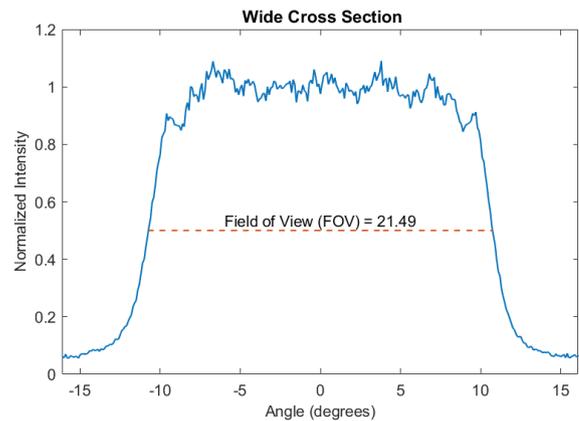
Polymer-on-glass Diffuser

1062.900.0122

Technical Notes:

1. Divergence angle measured with collimated laser, 633 nm. Exact angles may vary slightly depending on operating wavelength or source collimation.
2. Diffuser surface typically faces the source.
3. Larger input beam size typically improves flat-top uniformity of intensity profile.
4. When used with coherent sources the diffuser produces speckle.
5. Handling and cleaning: always use gloves when handling diffuser; avoid touching diffuser surface; blow dry compressed air, or nitrogen, to remove particles. Do not use tweezers.

Measured Intensity



Full width at 21.4° ±5%

Diffuser angles calculated from far-field intensity profile measured with 633 nm collimated beam, 4mm diameter, detector subtends 0.25°.

Additional Product Formats

VIAMI provides innovative micro-optics solutions that maximize system level performance while delivering the highest standards of quality, reliability and value. Our light shaping optics, including Engineered Diffusers, set the standard in diverse applications such as 3D depth sensing, robotics, industrial, medical, automotive, and high-power laser applications.

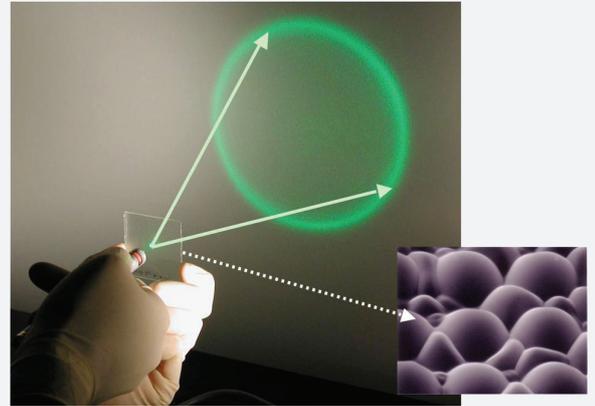
- Popular custom micro-optics products include diffusers, micro-lens-arrays, gratings, beam-splitters/dot projection arrays, phase correctors, etc.
- Our product technology based on materials includes polymer-on-glass and reactive-ion etched hard material products.
- Reactive-ion etched products utilize fused silica or silicon, and are suitable for high-power applications as well as providing most environmentally robust solutions. Etched products also enable applications utilizing deep ultraviolet or infrared wavelengths.

Polymer-on-glass Products

- Extensive library of standard catalog products available
- Engineered Diffusers available with rectangular, circular, square and line field of view pattern shapes
- Diffusers with narrow or wide divergence angles (up to 137°) in combination with batwing, flat-top or gaussian intensity profiles ensure light goes where it is needed
- Custom designed products illuminating arbitrary shaped field of view
- Custom AR-coated glass substrate enabling >90% transmission at target wavelengths
- Polymer options available with reflow compatibility ensuring seamless packaging in electronics module
- Custom glass thickness options optimized for design needs and integration
- Replicated polymer on a glass substrate with consistent performance in prototype and high-volume production

Applications of Engineered Diffusers

- 3D depth sensing
- Industrial robotics and automation
- Automotive sensing
- Laser homogenizing and shaping
- Laser material processing
- Medical/aesthetic laser treatments
- Hot spot reducer



Engineered Diffusers unique structures project general light patterns