

**BRIGHTVIEW**  
TECHNOLOGIES

DESIGN BRILLIANCE MEETS  
VISUAL INTELLIGENCE™

## NEW TOP HAT BEAM PROFILES

### UNMATCHED BEAM SHAPING OPTICS FOR 3D SENSING

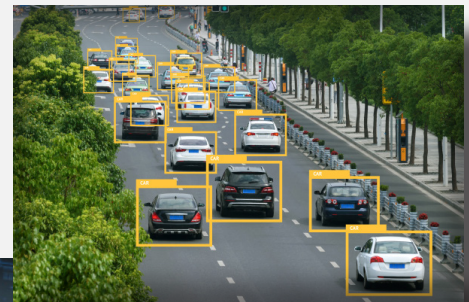
Today's 3D Sensing systems, including Object Recognition, LiDAR, Augmented and Virtual Reality, and Motion and Gesture Tracking, rely on a strong light source such as a vertical cavity surface emitting laser (VCSEL), edge emitting laser (EEL) or LED. These sources are often coupled with a time of flight (ToF) camera to reproduce a 3D map of the surrounding environment. In order to make these sources and displays work effectively and efficiently, the emitted beam must be steered and shaped in a highly controlled way to illuminate a specific field of view.

BrightView's Micro Lens Array (MLA) optics unlock new levels of performance in ToF-based devices to efficiently shape and steer light. Benefits include:

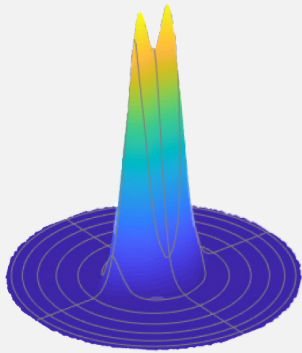
- Efficient, to fully utilize your light source
- Cost effective due to multiple functions in a single film
- Custom beam shapes - Square, Rectangular and Circular Top Hats
- Optimal MLAs for AR/VR applications

#### BEAM SHAPING MLA APPLICATIONS:

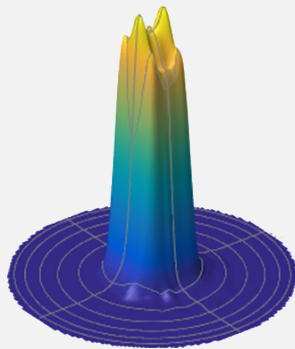
- Gesture & Object Recognition
- Augmented & Virtual Reality
- In Cabin Sensing
- LiDAR



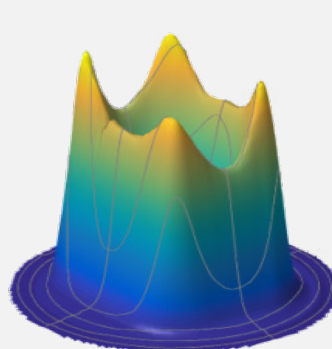
## UNLOCK THE POTENTIAL OF OPTICS DESIGNS



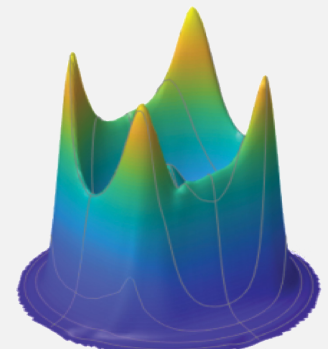
12° x 29°



24° x 20°



72° x 55°



90° x 65°

BrightView's top hat MLAs range from small to large angles with rectangular and circular profiles, with various cosine profiles or a flat top. They are specifically designed to meet the requirements of VCSEL, EEL and LED applications, including excellent efficiency, compatibility with high peak laser power and uniformity. PET, polycarbonate, acrylic and glass substrates are available in a variety of thicknesses.

## ENVIRONMENTAL TESTING

BrightView MLAs are thoroughly tested to ensure high efficiency and reliable operation under a variety of relevant conditions.

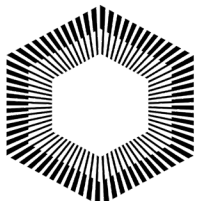
Test	Condition	Duration	$\Delta$ Transmission	$\Delta E^*$
Heat Resistance	105 °C	1000 Hrs	< 0.25%	< 1.5
Cold Resistance	-40 °C	1000 Hrs	< 0.25%	< 1
Temperature Cycling	-40 °C to 115 °C	100 Cycles	< 1%	< 1
Heat and Humidity	65 °C / 95% RH	1000 Hrs	< 0.25%	< 0.5

$$\Delta E^* = \sqrt{(\Delta L^{*2} + \Delta a^{*2} + \Delta b^{*2})}$$

## ABOUT BRIGHTVIEW

BrightView specializes in the highest-performing visual and optical solutions for advanced technology applications. We rapidly create, collaborate, and construct the world's most intelligent visual solutions, unlocking an unmatched level of performance across a range of emerging technologies.

BrightView is an ISO 9001:2015 certified organization by Advantage International Registrar, Inc.



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