

# ON-BOARD OPTICS – LED BEAM SHAPING

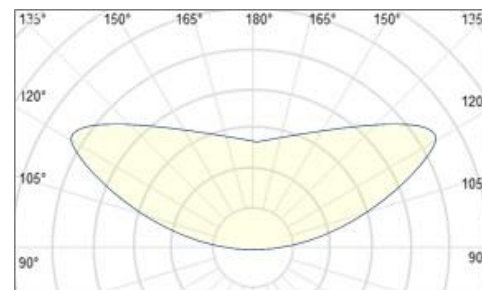
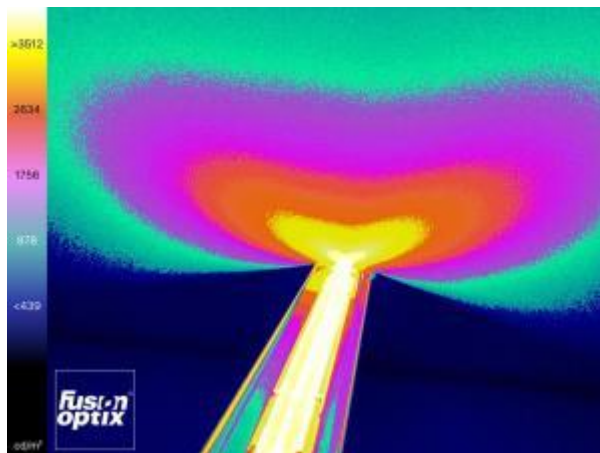
## CUSTOMIZABLE BEAM CONTROL FOR LED MODULES

### BENEFITS

- Wide angle “batwing”
- Asymmetric
- Glare Control
- High-Efficiency
- Uniformity Improvements
- Beam Collimation
- Virtually unlimited choice of beam profiles when combined with other Fusion Optix optical components

### FEATURES

- Precise Beam Control
- Emitting surface modification
- High anti-glare reduction
- Range of beam shaping effects
- Low-cost conversion options



**Cosine™ – Batwing Optic**

The Fusion Optix On-Board Optics range is designed to spread or focus or otherwise modify light outputs from our SpekLED® LED modules. On-Board Optics are placed on or in very close proximity to LED packages. Various beam shaping functions are possible using these simple and inter-changeable optics solution.

All products are designed for low-profile and small cross-sectional size and support a variety of LED package designs ranging from low to medium to high power.

## PRODUCT CHOICES

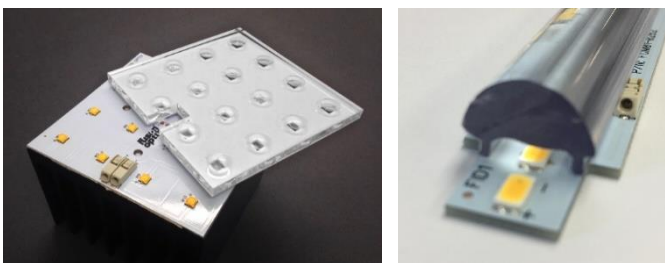


Standard beam options are available that either spread or focus the light from the LED packages:

**Beam Spreaders:** wide spread “batwing” or double asymmetric distributions at 40, 60, 90, 120 and 150 degrees.

**Collimators:** focused narrow symmetric or asymmetric beams down to a 10degree (FWHM) beam.

**Boosters:** reflectors that improve efficiency by recycling unused light



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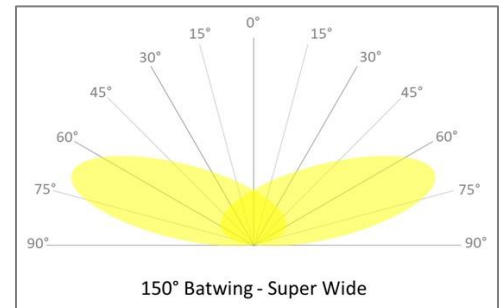
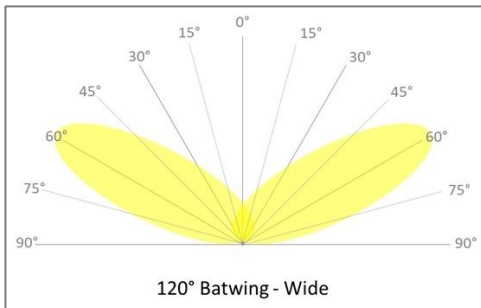
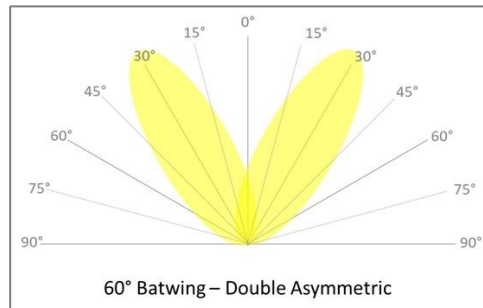
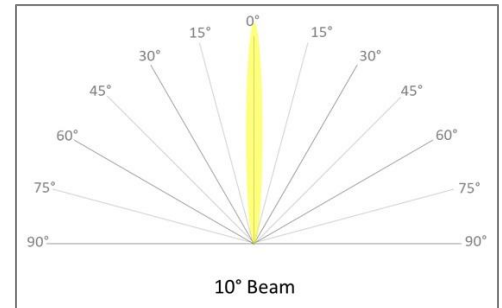
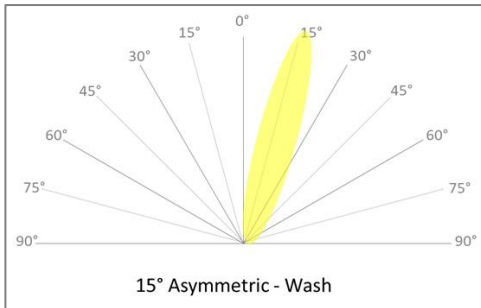
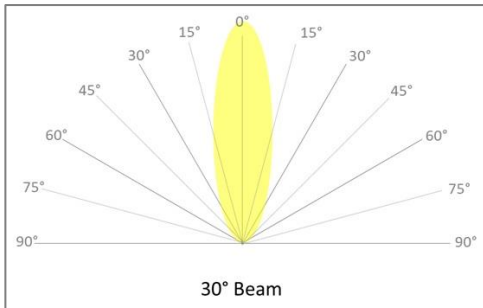
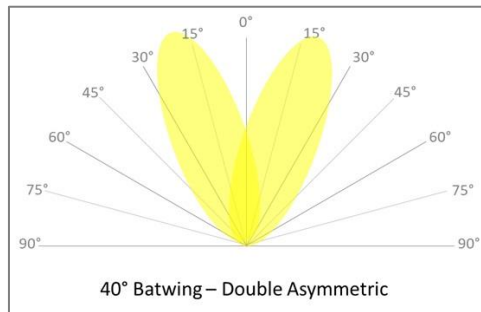
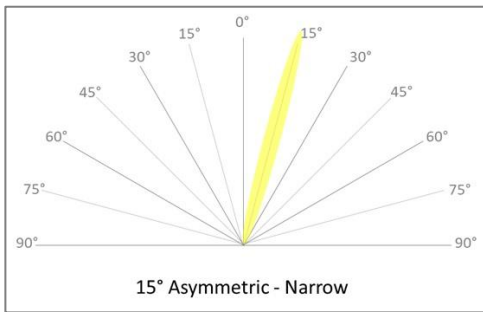
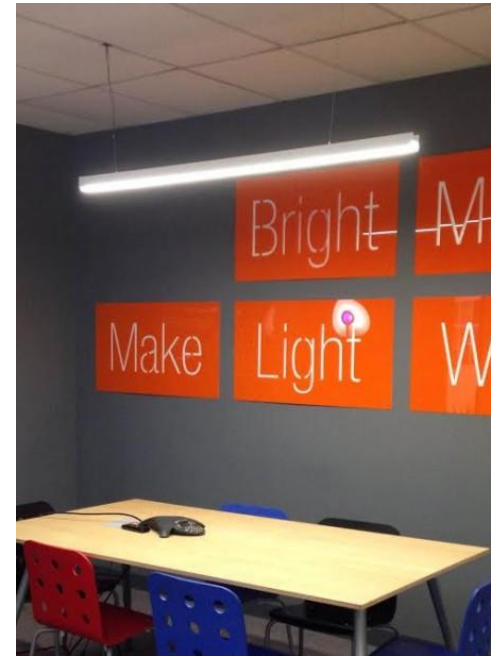
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CUSTOMIZABLE BEAM CONTROL FOR LED MODULES

## Typical Application

### Direct/In-Direct Linear LED Fixture



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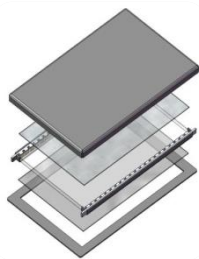
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## CUSTOMIZABLE BEAM CONTROL FOR LED MODULES

### OEM SUPPORT



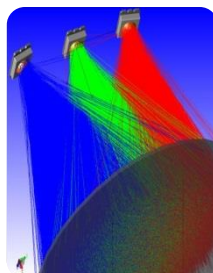
Product Design



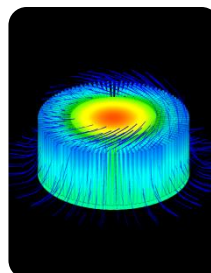
BOM Development



Product Testing



Optical Modeling



Thermal Modeling



Quality Control

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- 1) For information regarding product pricing, availability, and Additional Options such as custom form factors, sizes, diffusion angles and materials please contact a Fusion Optix Sales representative at the address and phone number below.
- 2) Custom product samples are available for a nominal set-up/development fee. Please contact a Fusion Optix Sales representative for more information.
- 3) Buyer is responsible for all shipping charges.
- 4) Standard sample orders usually ship within 1 week. Custom orders may take longer.

### WARRANTY

Fusion Optix warrants all of its goods to be free from defects in products and workmanship and in accordance with agreed specifications herein for a period of thirty (30) days from the date of invoice. Customer has 30 days to call attention to Fusion Optix of any products that are defective or not in accordance with agreed specifications. If authorization is given for return, shipment will be made within 30 days of receipt of products. Fusion Optix's only obligation shall be to replace such quantity of the product proved to be defective. Fusion Optix does not provide any warranty or indemnification connected to how product is used. Fusion Optix shall not be liable for any injury, loss or damage, direct or consequential, arising out of the use of, or the inability to use, the Product. Fusion Optix recommends that Customer conducts all appropriate and necessary testing before using. Customer assumes responsibility for determining the suitability of the product for its intended use; and customer assumes all risk and liability whatsoever in connection therewith. The foregoing may not be changed except by an agreement signed by an officer of Fusion Optix, and is offered in lieu of all other warranties expressed or implied connected with product. Visit [www.fusionoptix.com/warranty](http://www.fusionoptix.com/warranty) for full warranty language.



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