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**Polymer Optics Ltd.**

6 Kiln Ride, Wokingham,  
Berks., RG40 3JL, England  
Tel/Fax: +44 (0) 1189 893341  
www.polymer-optics.co.uk

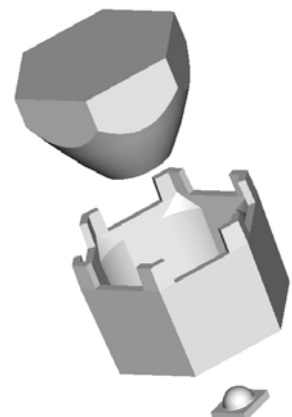
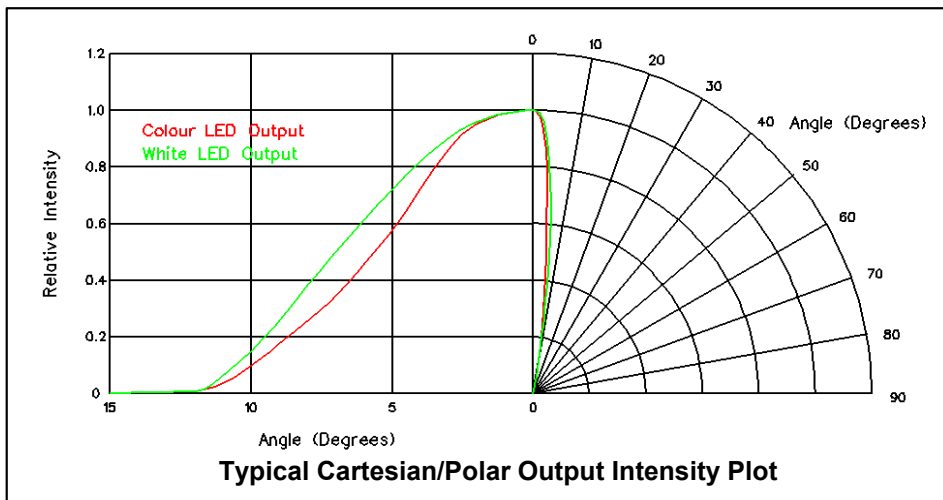
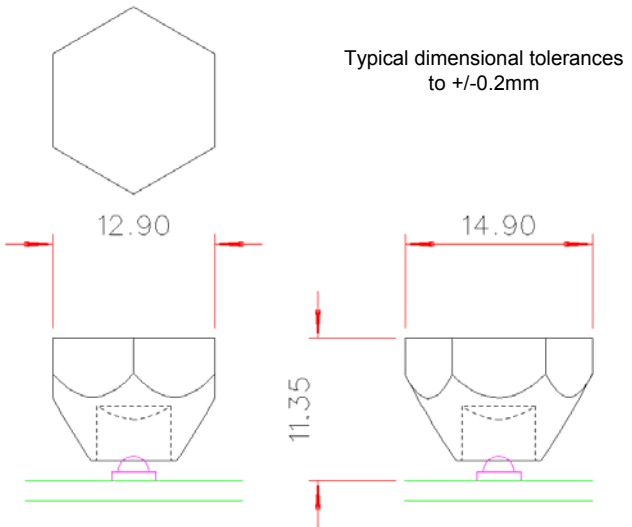
**6 Degree LED Collimator Lens - Part No. 120**



- Designed to operate with Cree XP-E High Power LED's
- High light collection efficiency of >85%
- Precision moulded in optical grade Polycarbonate for thermal stability and system durability
- Part of the Polymer Optics "Modular LED Optics"<sup>®</sup> range

Polymer Optics "Modular LED Optics"<sup>®</sup> design, based on a hexagonal format, allows maximum packing density and assembly flexibility

Supplied with Holder (Part No. 223) to mount optics directly on to PCB's. Holder locates on LED package to ensure correct alignment



Due to continuous product improvement, POL reserve the right to change specifications without notice.



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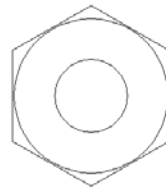
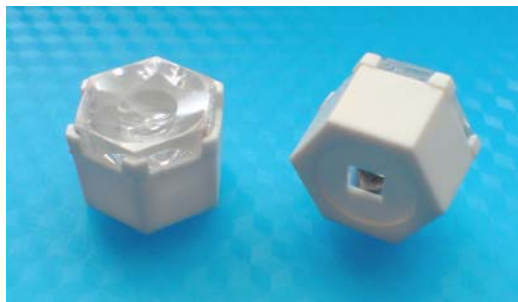
**25 Degree LED Collimator Lens - Part No. 124**



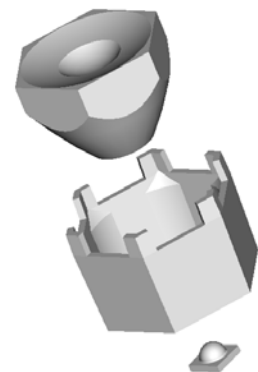
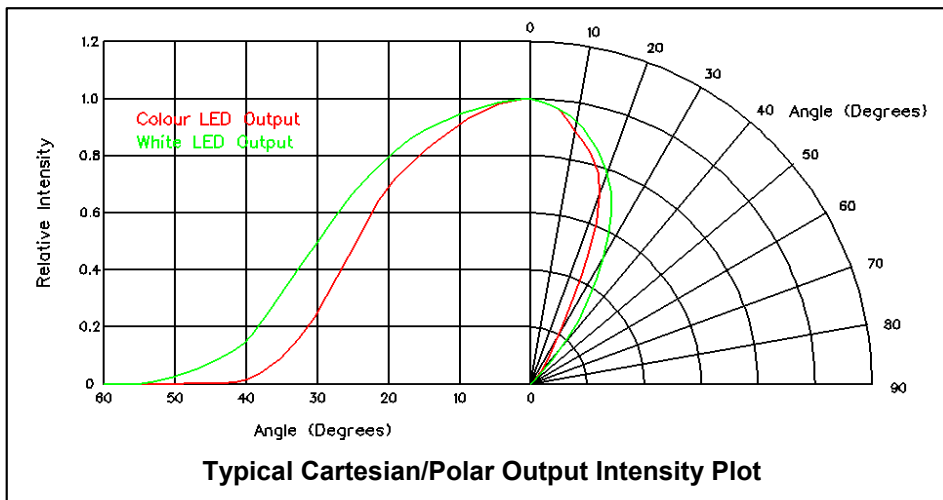
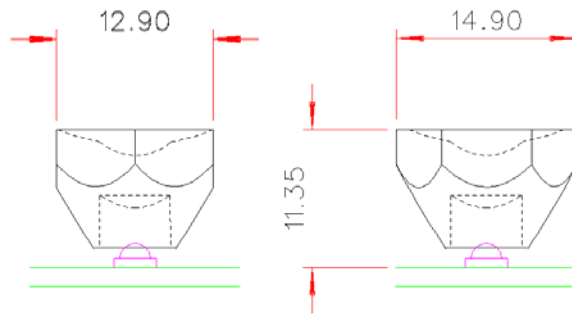
- Designed to operate with Cree XP-E High Power LED's
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Supplied with Holder (Part No. 223) to mount optics directly on to PCB's. Holder locates on LED package to ensure correct alignment



Typical dimensional tolerances to +/-0.2mm



Due to continuous product improvement, POL reserve the right to change specifications without notice.

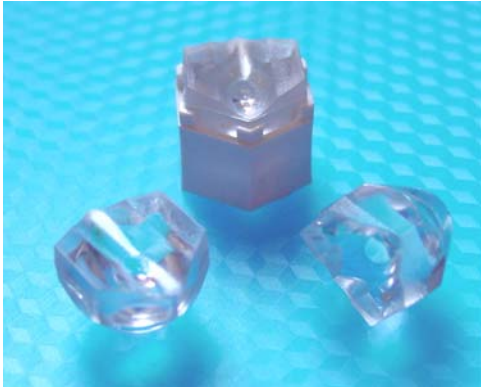


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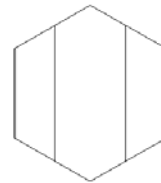
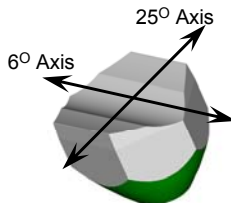
**6x25 Degree LED Line Lens - Part No. 126**



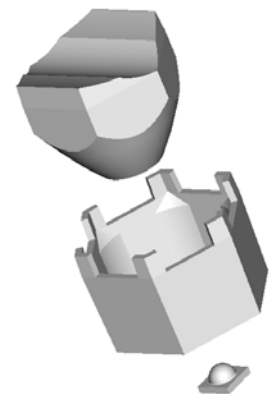
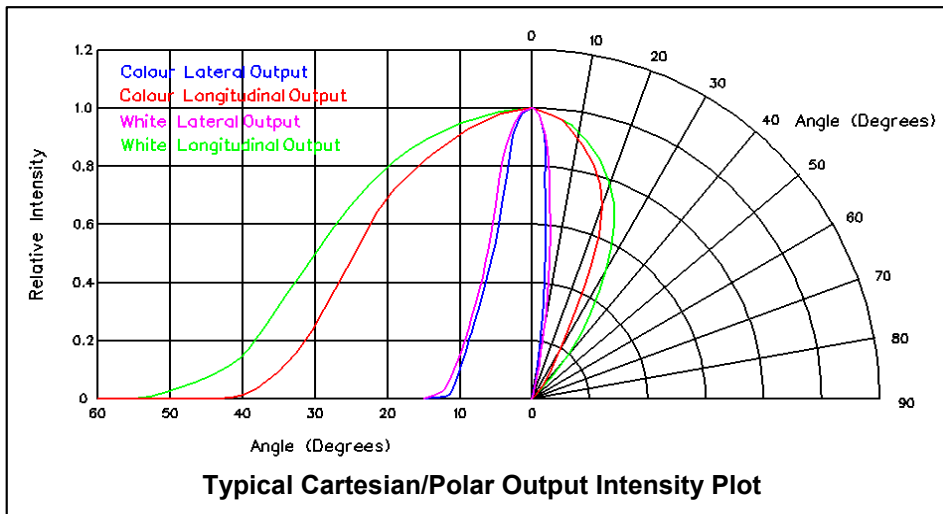
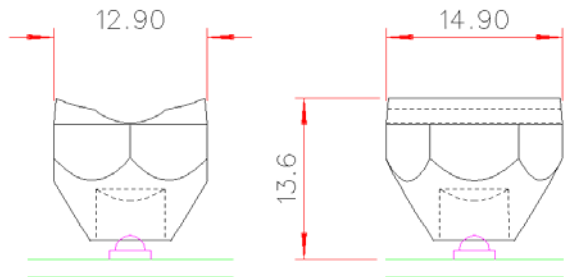
- Designed to operate with Cree XP-E High Power LED's
- High light collection efficiency of >85%
- Precision moulded in optical grade Polycarbonate for thermal stability and system durability
- Part of the Polymer Optics "Modular LED Optics"<sup>®</sup> range

Polymer Optics "Modular LED Optics"<sup>®</sup> design, based on a hexagonal format, allows maximum packing density and assembly flexibility

Supplied with Holder (Part No. 223) to mount optics directly on to PCB's. Holder locates on LED package to ensure correct alignment



Typical dimensional tolerances to +/-0.2mm



Due to continuous product improvement, POL reserve the right to change specifications without notice.

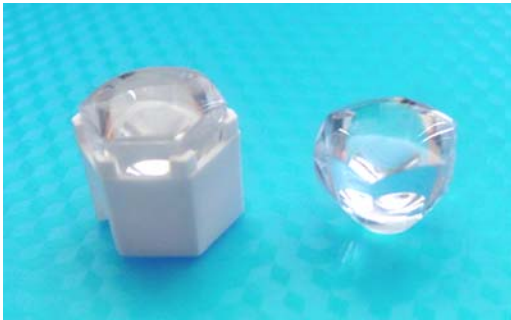


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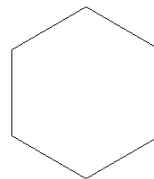
## Single Cell LED Concentrator Lens - Part No. 141



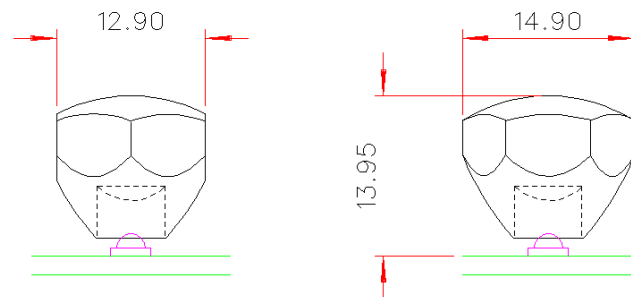
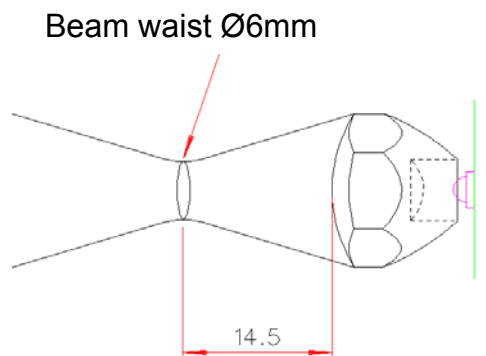
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- High light collection efficiency of >85%
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- Part of the Polymer Optics "Modular LED Optics"<sup>®</sup> range

Polymer Optics "Modular LED Optics"<sup>®</sup> design, based on a hexagonal format, allows maximum packing density and assembly flexibility

Supplied with Holder (Part No. 223) to mount optics directly on to PCB's. Holder locates on LED package to ensure correct alignment



Typical dimensional tolerances to +/-0.2mm



### Typical Applications:

- Beam insertion into optical fibre bundles
- Beam insertion into edge of lightguides
- High intensity illumination of small objects for inspection and microscopy





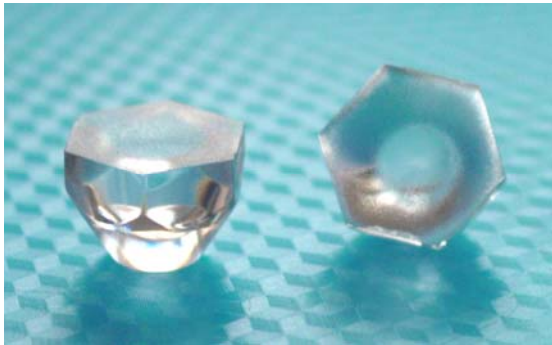
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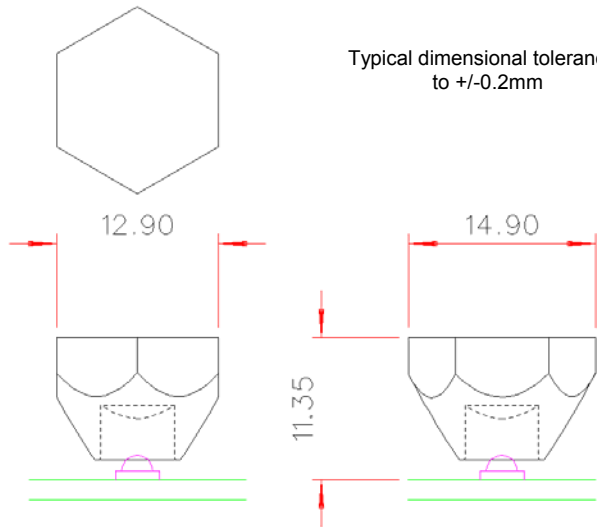
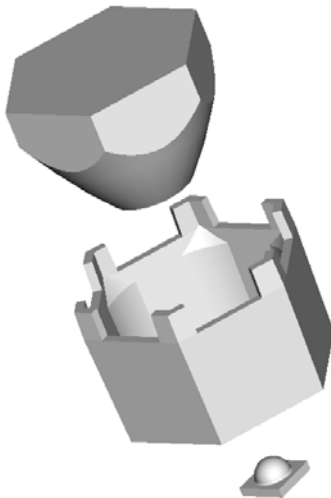
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**6 Degree Diffuse LED Collimator Lens - Part No. 185**

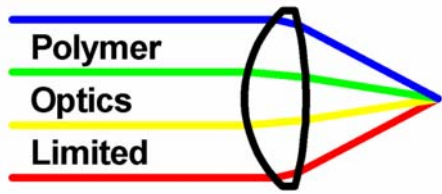


- Designed to operate with Cree XP-E High Power LED's
- High light collection efficiency of >85%
- Diffuse output surface for improved beam uniformity
- Precision moulded in optical grade Polycarbonate for thermal stability and system durability
- Part of the Polymer Optics "Modular LED Optics"<sup>®</sup> range



**Polymer Optics "Modular LED Optics"<sup>®</sup> design, based on a hexagonal format, allows maximum packing density and assembly flexibility**

**Supplied with Holder (Part No. 223) to mount optics directly on to PCB's. Holder locates on LED package to ensure correct alignment**



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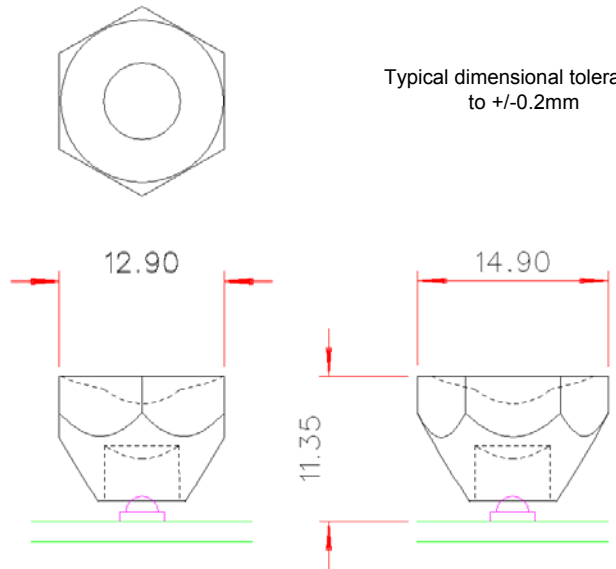
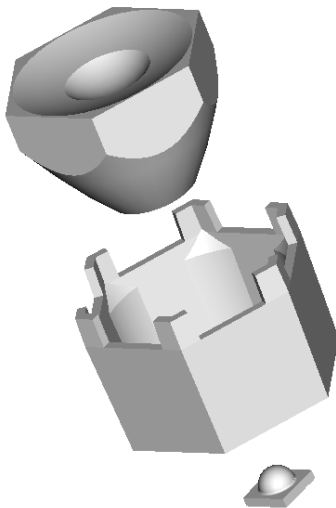
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[www.polymer-optics.co.uk](http://www.polymer-optics.co.uk)

### 15 Degree LED Collimator Lens - Part No. 201



- Designed to operate with Cree XP-E High Power LED's
- High light collection efficiency of >85%
- Precision moulded in optical grade Polycarbonate for thermal stability and system durability
- Part of the Polymer Optics "Modular LED Optics"<sup>®</sup> range



Polymer Optics "Modular LED Optics"<sup>®</sup> design, based on a hexagonal format, allows maximum packing density and assembly flexibility

Supplied with Holder (Part No. 223) to mount optics directly on to PCB's. Holder locates on LED package to ensure correct alignment

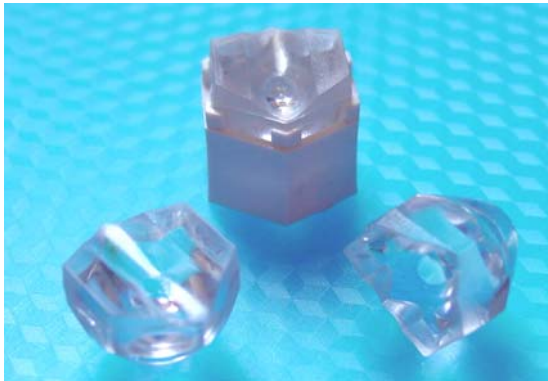


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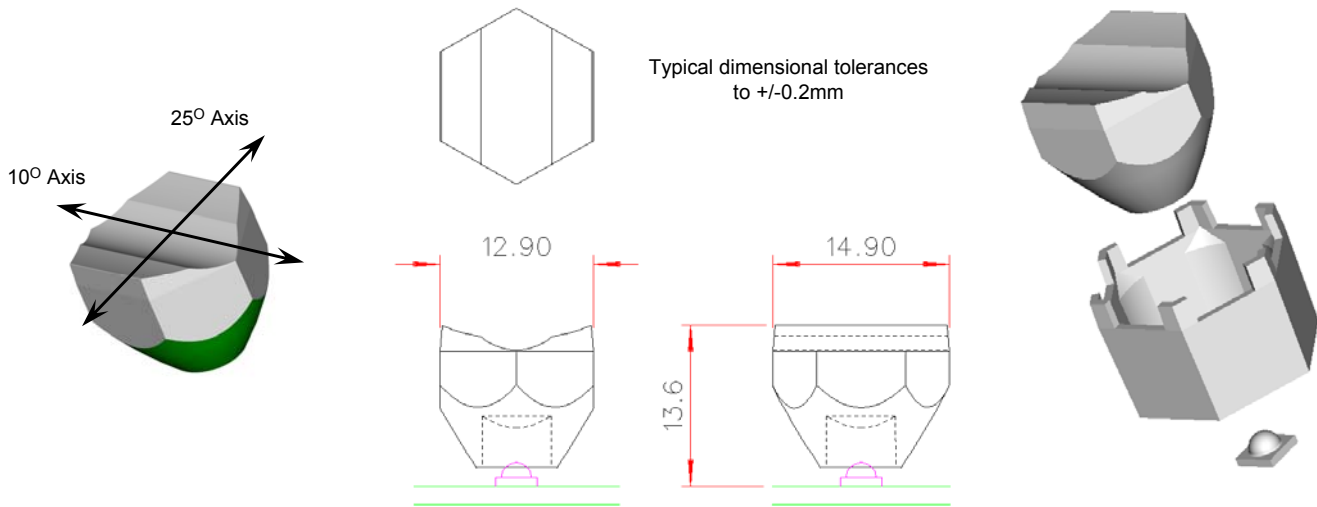
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[www.polymer-optics.co.uk](http://www.polymer-optics.co.uk)

**Diffuse 6x25 Degree LED Collimator Lens - Part No. 216**



- Designed to operate with Cree XP-E High Power LED's
- High light collection efficiency of >85%
- Diffuse output surface for improved beam uniformity
- Precision moulded in optical grade Polycarbonate for thermal stability and system durability
- Part of the Polymer Optics "Modular LED Optics"<sup>®</sup> range



**Polymer Optics "Modular LED Optics"<sup>®</sup> design, based on a hexagonal format, allows maximum packing density and assembly flexibility**

**Supplied with Holder (Part No. 223) to mount optics directly on to PCB's. Holder locates on LED package to ensure correct alignment**



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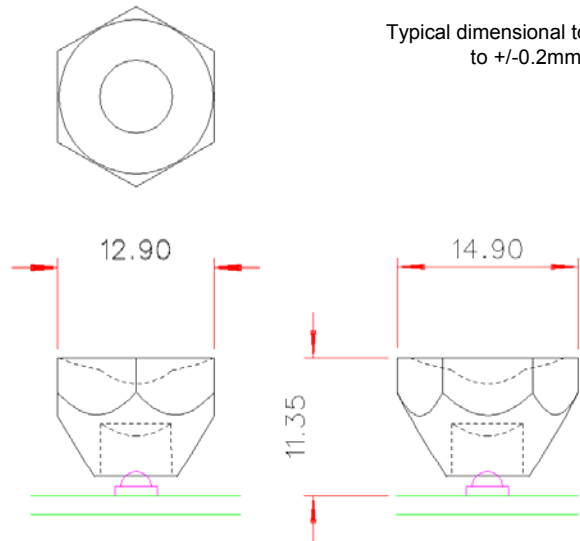
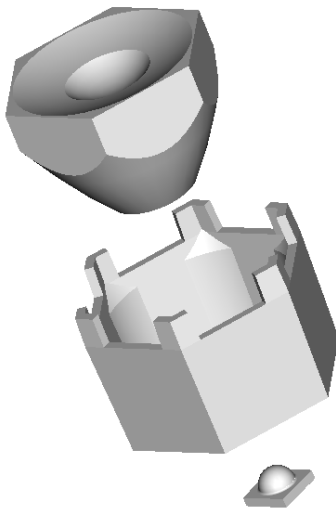
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Berks., RG40 3JL, England  
Tel/Fax: +44 (0) 1189 893341  
www.polymer-optics.co.uk

**Diffuse 25 Degree LED Collimator Lens - Part No. 217**



- Designed to operate with Cree XP-E High Power LED's
- High light collection efficiency of >85%
- Diffuse output surface for improved beam uniformity
- Precision moulded in optical grade Polycarbonate for thermal stability and system durability
- Part of the Polymer Optics "Modular LED Optics"<sup>®</sup> range



**Polymer Optics "Modular LED Optics"<sup>®</sup> design, based on a hexagonal format, allows maximum packing density and assembly flexibility**

**Supplied with Holder (Part No. 223) to mount optics directly on to PCB's. Holder locates on LED package to ensure correct alignment**

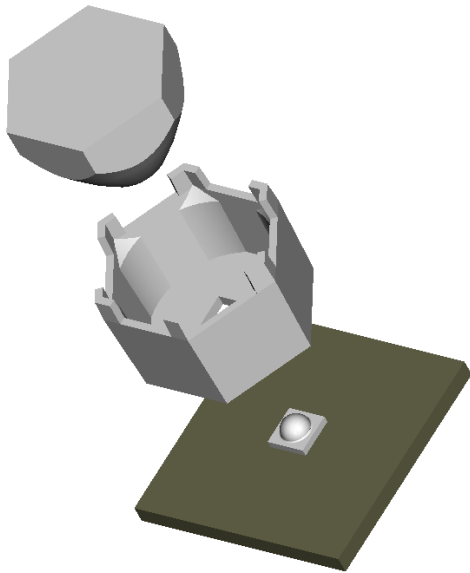


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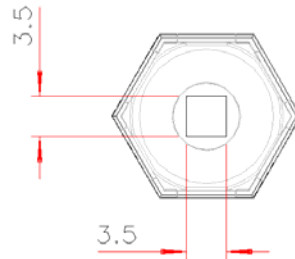
6 Kiln Ride, Wokingham,  
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Tel/Fax: +44 (0) 1189 893341  
[www.polymer-optics.co.uk](http://www.polymer-optics.co.uk)

**Cree LED Lens Holder - Part No. 223**

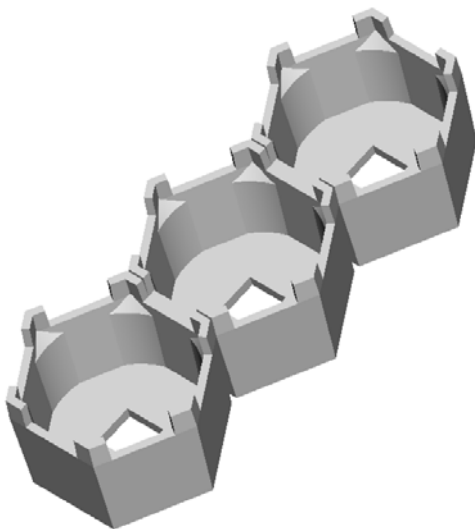
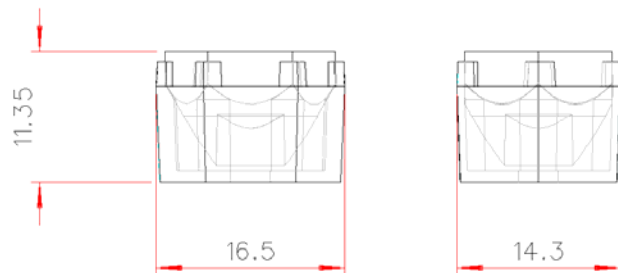


- Designed for use with Polymer Optics “Modular LED Optics”<sup>®</sup> and custom Polymer Optics designs
- Designed to operate with Cree XP-E High Power LEDs
- Simply mounts onto PCB and self-aligns to LED
- Precision moulded in optical grade Polycarbonate for thermal stability and system durability
- Part of the Polymer Optics “Modular LED Optics”<sup>®</sup> range

**Polymer Optics “Modular LED Optics”<sup>®</sup> design, based on a hexagonal format, allows maximum packing density and assembly flexibility**



Typical dimensional tolerances to +/-0.2mm



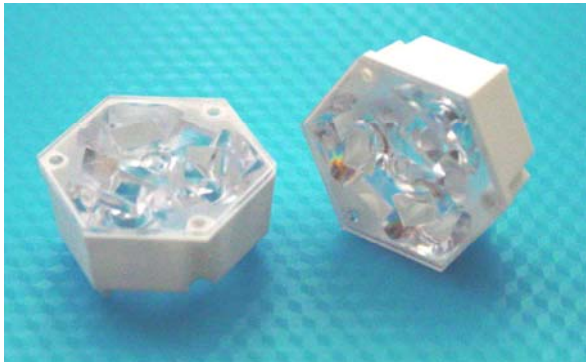


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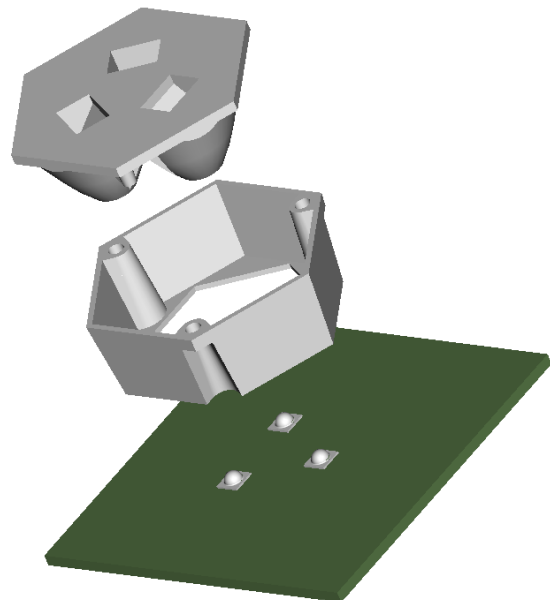
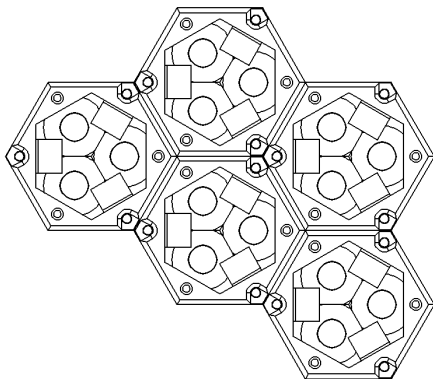
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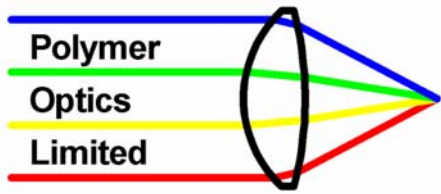
### **Narrow Angle Colour Mixer Assembly for Cree XP-E LED - Part No. 181**



- Designed to operate with Cree XP-E High Power LEDs
- High collection efficiency and narrow angle beam output
- Precision moulded in optical grade Polycarbonate for thermal stability and system durability
- Part of the Polymer Optics “Modular LED Optics”<sup>®</sup> range

- Excellent colour mixing performance with single colour LED’s even over short distances
- Narrow angle basic beam angle which can be converted to wider beam angles or elliptical profiles with POL converter optics and filters
- Can also be used with White LED’s to improve bin mixing and reduce colour temperature variations
- POL’s novel hexagonal design allows the optics to be clustered together to make larger narrow angle colour mixing arrays





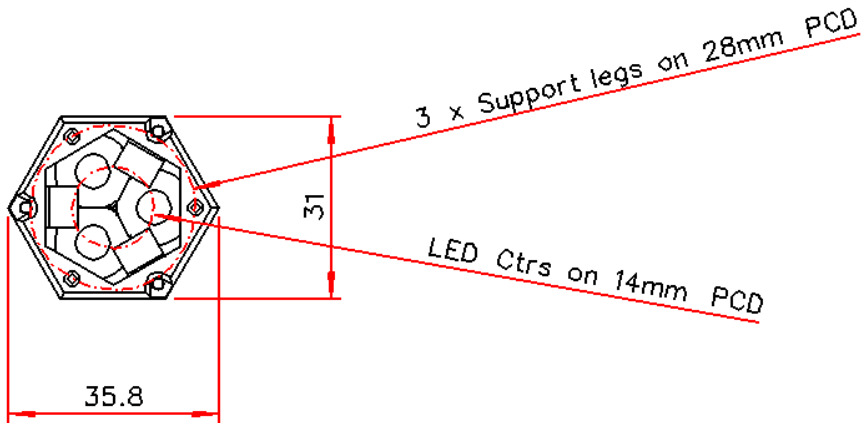
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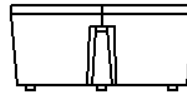
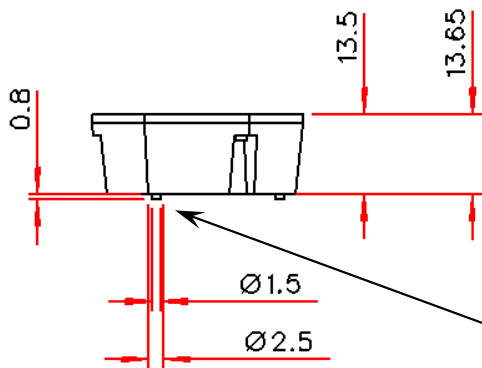
**Polymer Optics Ltd.**

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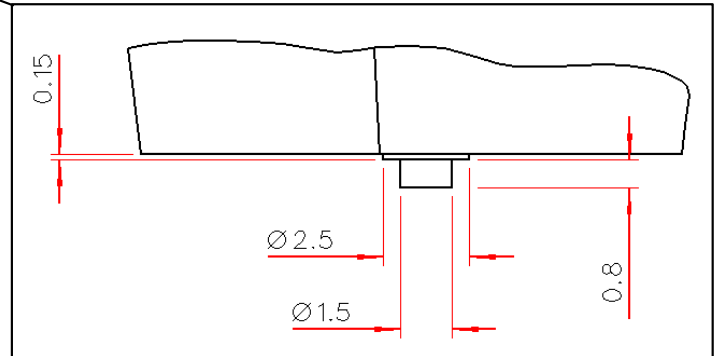
**Narrow Angle Colour Mixer Assembly for Cree XP-E LED - Part No. 181**



Typical dimensional tolerances  
to +/-0.2mm



Part view of leg detail





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**Narrow Angle Colour Mixer Assembly for Cree XP-E LED - Part No. 181**



Red



Green



Blue



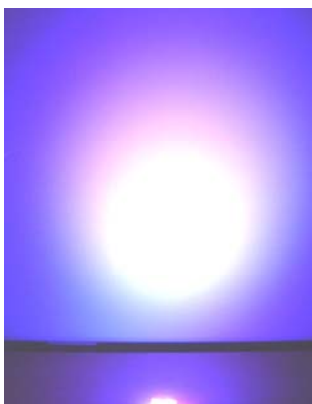
Red/Blue



Green/Blue



Red/Green



Red/Green/Blue

- Excellent colour mixing performance with single colour LED's even over short distances
- Narrow angle basic beam angle which can be converted to wider beam angles or elliptical profiles with POL converter optics and filters
- Can also be used with White LED's to improve bin mixing and reduce colour temperature variations

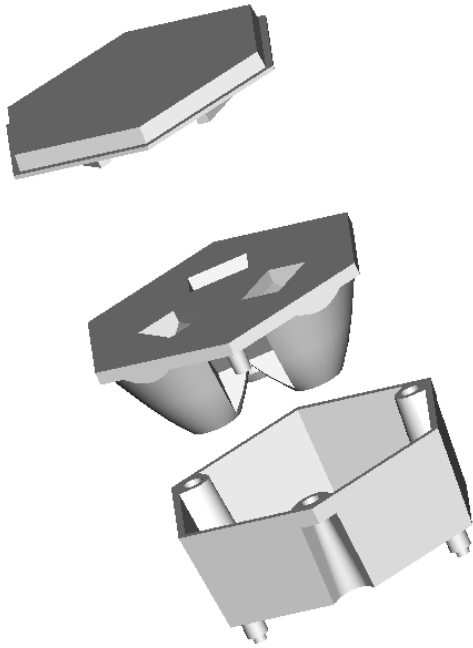


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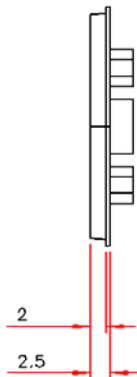
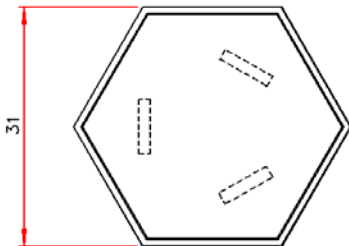
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## Converter Optics for Narrow Angle LED Colour Mixer Assembly



- Beam Converter Optics simply interference push fit onto the front of the 181 - Colour Mixer Optic.
- Precision moulded in optical grade PMMA acrylic for improved scratch resistance on the outside of the assembly.
- The Beam Converter Optics fit within the area of the 181- Colour Mixer Optic so the assemblies can still be arranged in close packed arrays.
- Flanged edge of the Beam Converter Optics allows bezels and cover plates to be located to the optical assembly for aesthetic product finishing.
- Part of the Polymer Optics “Modular LED Optics”® range



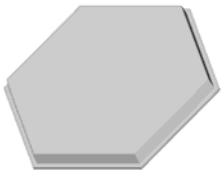


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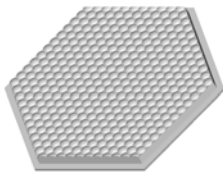
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**Converter Optics for Narrow Angle LED Colour Mixer Assembly**

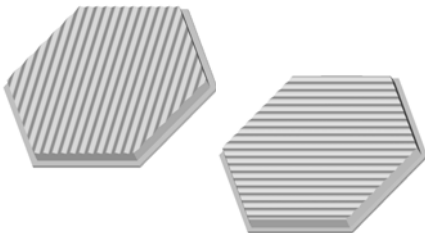


Plain Filter Holder - 160

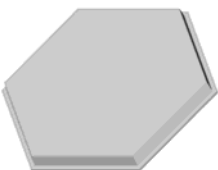
- 160 - Plain Filter Holder can be used with Luminet Light Shaping Diffuser films to produce a wide range of beam profiles, available from POL or direct from [www.luminetco.com](http://www.luminetco.com).
- Other custom beam angles can be produced cost effectively from POL's modular production tooling. Please enquire for details



25 Deg Diffuser - 161



6 x 25 Deg Line Diffusers – 162 & 162B



Soft Beam Diffuser - 163



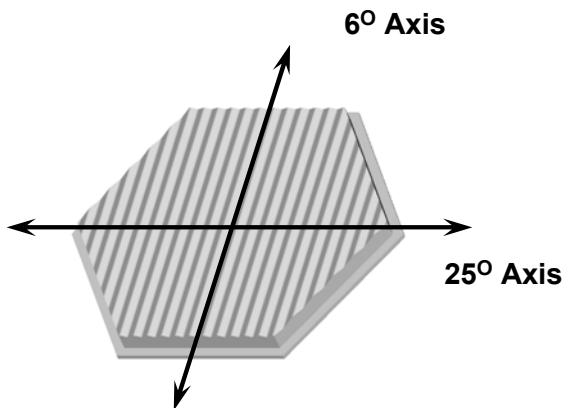


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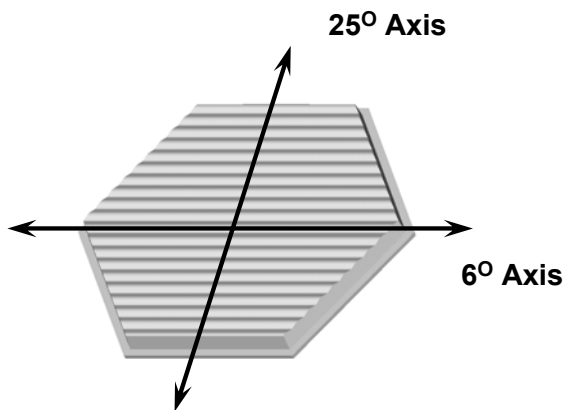
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### Converter Optics for Narrow Angle LED Colour Mixer Assembly



**6 x 25 Deg Line Diffusers – 162**



**6 x 25 Deg Line Diffusers – 162B**

6 x 25 Deg Line Diffusers is available in two versions, the 162 and the 162B

These diffusers have the same optical function, but allow the beam to be spread in either orthogonal direction.

The 162 version can be used where multiple rows of optics are used and a close packed narrow array is required, along the axis of the linear beam output.

The 162B version can be used where single row linear fittings are required with the optics close packed together with the hexagonal flats placed side by side.

These 6 x 25 Deg Line Diffusers can also be mixed in optical arrays to produce other overall beam effects.





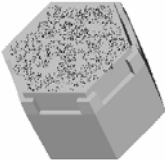


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**Cree XP-E Optics Product Summary and Price List**

Product Image	Description	Usage	100-1K Batches	1K-5K Batches	5K-10K Batches	10K+ Batches
 120/223	6° Collimator + XP-E Holder	Cree XP-E High Power LED	£1.25	£0.98	£0.77	£0.72
 124/223	25° Collimator + XP-E Holder	Cree XP-E High Power LED	£1.25	£0.98	£0.77	£0.72
 126/223	6°x25° Line + XP-E Holder	Cree XP-E High Power LED	£1.25	£0.98	£0.77	£0.72
 141/223	Single Cell Concentrator + XP-E Holder	Cree XP-E High Power LED	£1.25	£0.98	£0.77	£0.72
 185/223	Diffuse 6° Collimator + XP-E Holder	Cree XP-E High Power LED	£1.25	£0.98	£0.77	£0.72

\* A minimum order value applies of £50+shipping - All prices “ex-works”

Please contact POL for quotations on higher volumes and custom variants

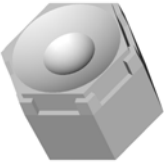




*Our Focus is in Plastics*

**Polymer Optics Ltd.**

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**Cree XP-E Optics Product Summary and Price List**

Product Image	Description	Usage	100-1K Batches	1K-5K Batches	5K-10K Batches	10K+ Batches
 201/223	15° Collimator + XP-E Holder	Cree XP-E High Power LED	£1.25	£0.98	£0.77	£0.72
 216/223	Diffuse 6°x25° Line + XP-E Holder	Cree XP-E High Power LED	£1.25	£0.98	£0.77	£0.72
 217/223	Diffuse 25° Collimator + XP-E Holder	Cree XP-E High Power LED	£1.25	£0.98	£0.77	£0.72

**\* A minimum order value applies of £50+shipping - All prices “ex-works”**

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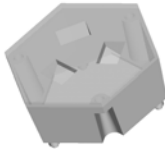
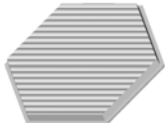
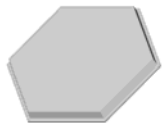


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**Cree XP-E Optics Product Summary and Price List**

Product Image	Description	Usage	100-1K Batches	1K-5K Batches	5K-10K Batches	10K+ Batches
 181	6° Colour Mixer Collimator Assembly	Cree XP-E LEDs	£3.80	£3.60	£3.20	£3.00
 160	Filter Holder	Fits to 181 Optic	£0.32	£0.30	£0.27	£0.25
 161	25° Beam Converter Optic	Fits to 181 Optic	£0.32	£0.30	£0.27	£0.25
 162	6°x25° Beam Converter Optic	Fits to 181 Optic	£0.32	£0.30	£0.27	£0.25
 162B	6°x25° Beam Converter Optic	Fits to 181 Optic	£0.32	£0.30	£0.27	£0.25
 163	Beam Diffuser Filter	Fits to 181 Optic	£0.32	£0.30	£0.27	£0.25

\* A minimum order value applies of £50+shipping - All prices "ex-works"

Please contact POL for quotations on higher volumes and custom variants