



**Polymer
Optics
Limited**

Our Focus is in Plastics

Polymer Optics Ltd.

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

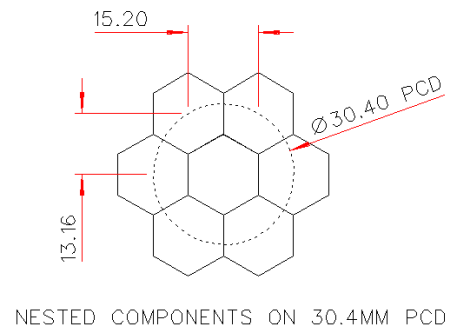
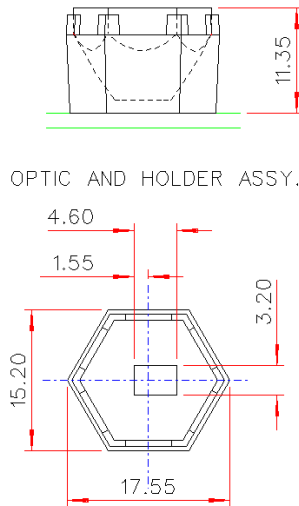
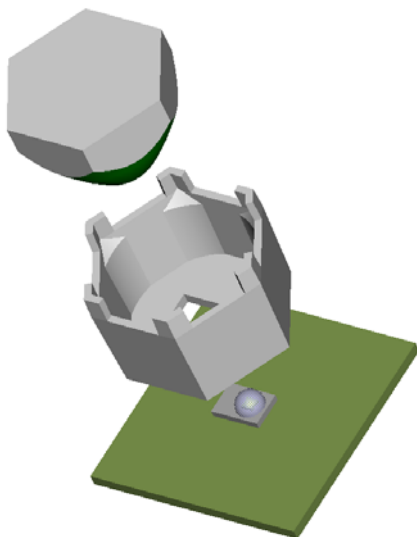
Holder for LUXEON® Rebel – Part No. 180



- Designed for use with Polymer Optics “Modular LED Optics”® and other custom Polymer Optics designs
- Designed for the LUXEON® Rebel LED
- Simply mounts onto PCB and self-aligns to LUXEON® Rebel
- Precision moulded in optical grade Polycarbonate for thermal stability and system durability
- Part of the Polymer Optics “Modular LED Optics”® range

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

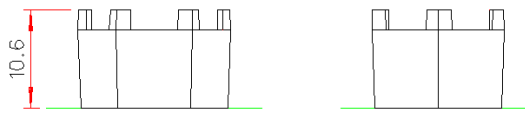
Other Holders are available for the POL Optics range to suit the LUXEON® I, III, V and K2 LEDs in Emitter and Star formats (part numbers 121, 128 and 151)



Typical dimensional tolerances to +/-0.2mm



Polymer Optics Limited is a Certified Future Electronics LUXEON® Solution Partner



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



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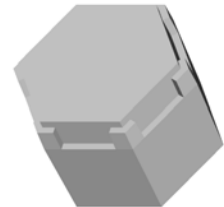
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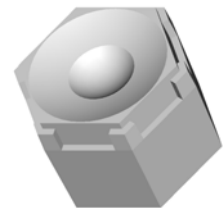
LED Optics Range for LUXEON® Rebel

- Designed for use with the LUXEON® Rebel LED
- 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”® range

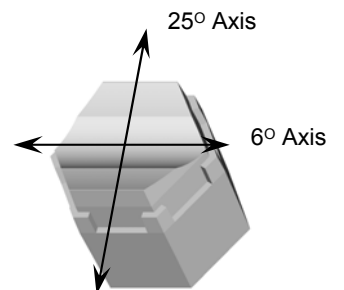
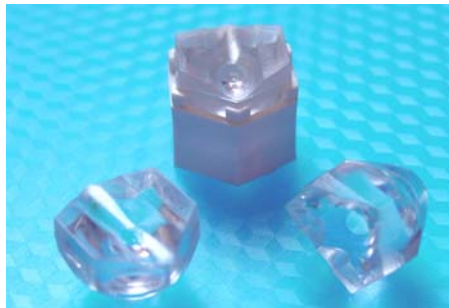
**6 Degree LED Collimator Lens
Part No. 120**



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



**6x25 Degree LED Collimator Lens
Part No. 126**





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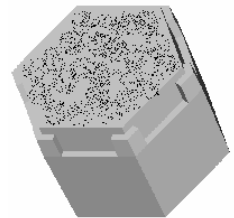
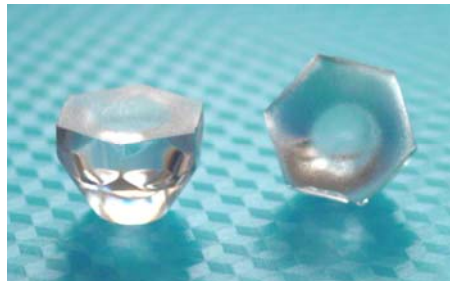
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LED Optics Range for LUXEON® Rebel

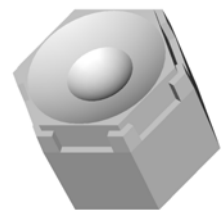
**Single Cell LED Concentrator Lens
Part No. 141**



**6 Deg Diffuse LED Collimator Lens
Part No. 185**



**15 Degree LED Collimator Lens
Part No. 201**



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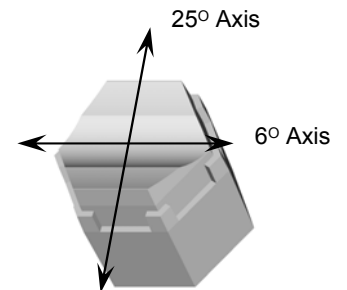
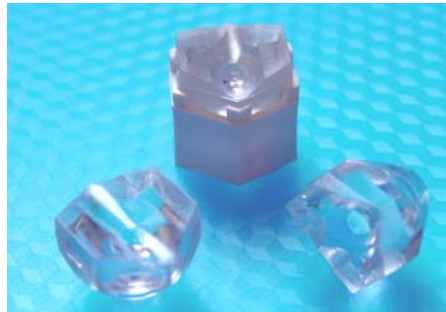
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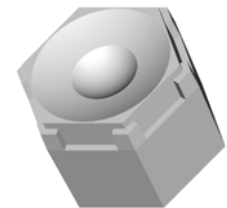
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LED Optics Range for LUXEON® Rebel

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



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



Polymer Optics “Modular LED Optics”® design, based on a hexagonal format, allows maximum packing density and assembly flexibility.

Also, available in the Polymer Optics “Modular LED Optics”® range for other Luxeon LEDs are:-

Holder (Part No. 121) available for mounting optics onto LUXEON® I Star or LUXEON® Emitter PCB's

Star Holder (Part No. 128) available for LUXEON® III Star formats only.

K2 Holder (Part No. 151) available for LUXEON® K2 LED range.



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6 Degree Diffuse LED Collimator Lens - Part No. 185



The latest LUXEON® Rebel and K2 LED die technologies, in some applications, produce a slightly square beam profile. This is due to the precise optical handling characteristics of the POL LED optics range.



To remove this potential issue, POL have introduced the new 185 optic which diffuses the square die form of the LED into a more uniform round beam with minimal increase in the collimation divergence angle

This optical phenomenon created by the LED die only affects narrow angle collimation optics.

The rest of the POL range of LED optics which provide wider angles, beam concentration or other beam profile functions all provide similar beam averaging within the optic itself.



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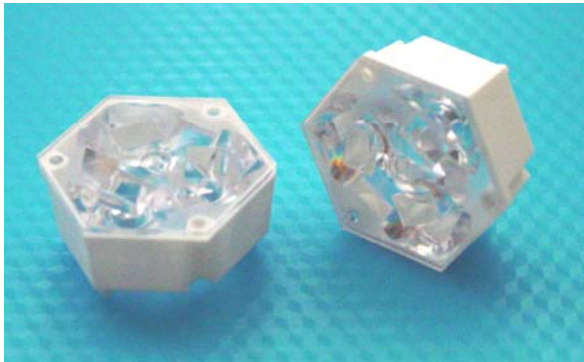


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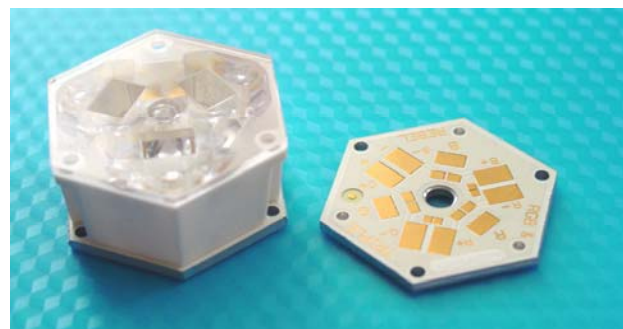
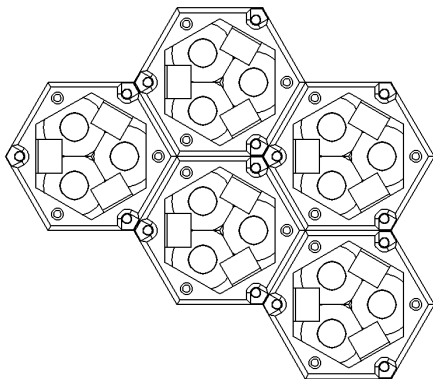
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Narrow Angle Colour Mixer Assembly for LUXEON® Rebel LED - Part No. 181



- Designed for LUXEON® Rebel LED devices
- 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”® 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



- MCPCBs can be provided by POL to support customer prototyping and luminaire production using LUXEON® Rebel Emitter LED devices



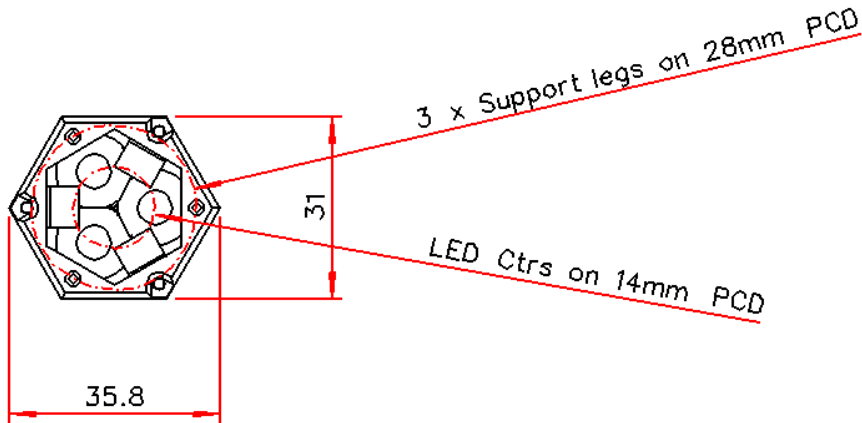
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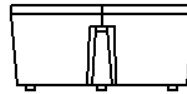
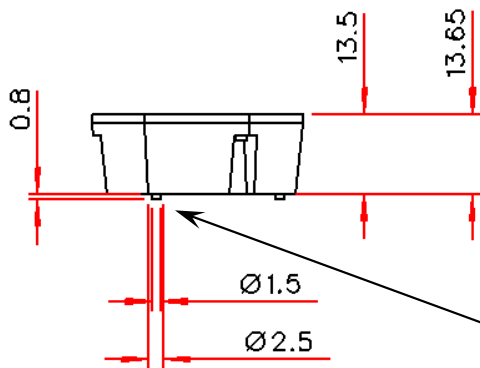
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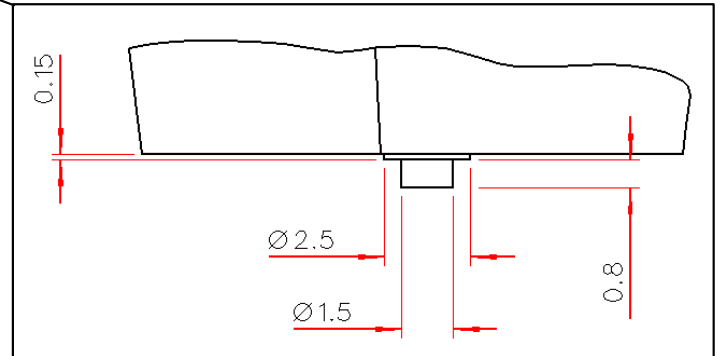
Narrow Angle Colour Mixer Assembly for LUXEON® Rebel LED - Part No. 181



Typical dimensional tolerances
to +/-0.2mm



Part view of leg detail



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Narrow Angle Colour Mixer Assembly for LUXEON® Rebel 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

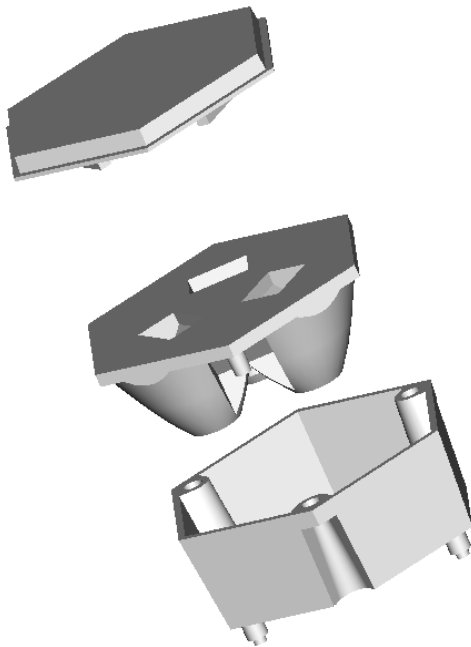


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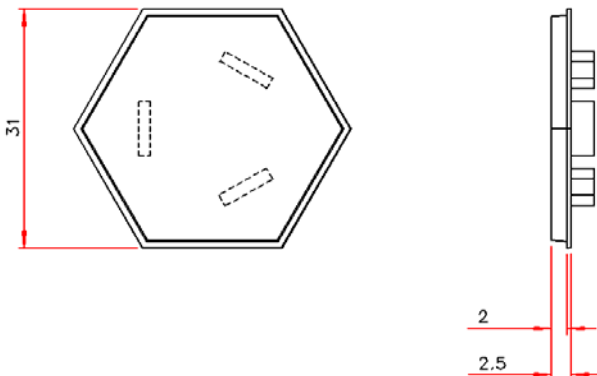
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Converter Optics for Narrow Angle LED Colour Mixer Assembly



- 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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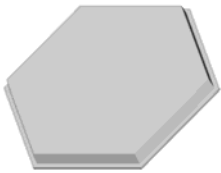


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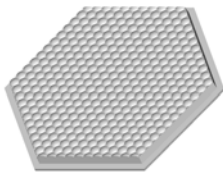
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Converter Optics for Narrow Angle LED Colour Mixer Assembly

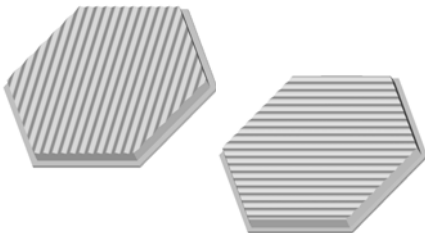


Plain Filter Holder - 160

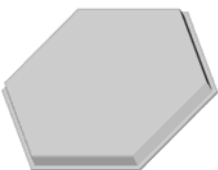
- 160 - Plain Filter Holder can be used with Luminet Light Shaping Diffuser films to produce a wide range of beam profiles, available from POL or direct from www.luminetco.com.
- Other custom beam angles can be produced cost effectively from POL's modular production tooling. Please enquire for details



25 Deg Diffuser - 161



6 x 25 Deg Line Diffusers – 162 & 162B



Soft Beam Diffuser - 163



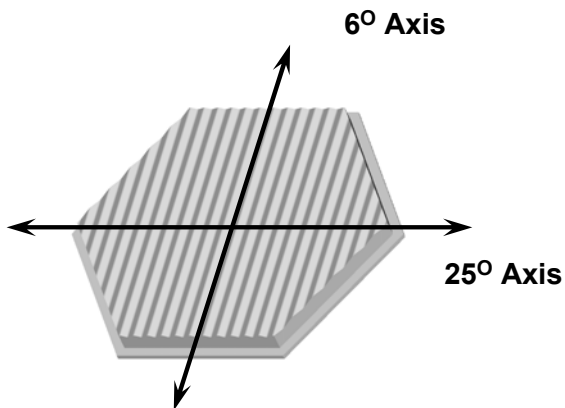


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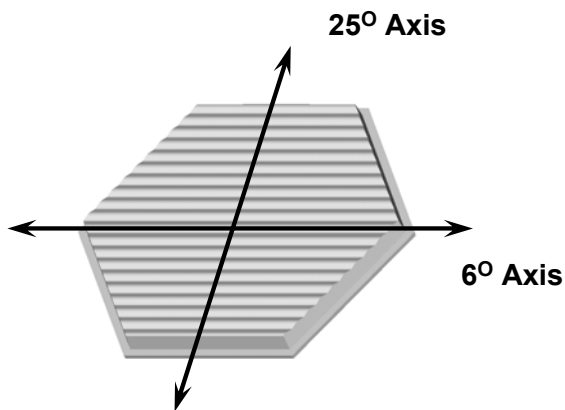
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Converter Optics for Narrow Angle LED Colour Mixer Assembly



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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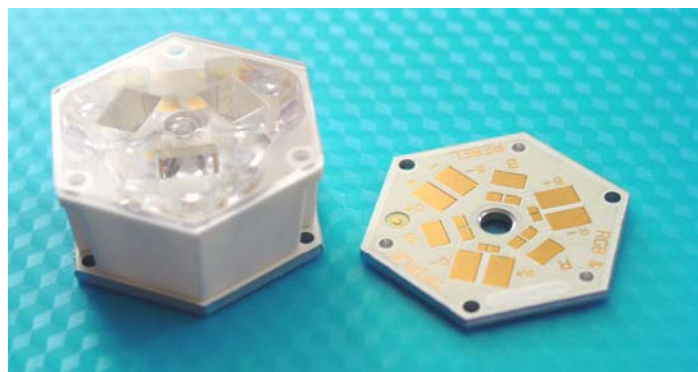
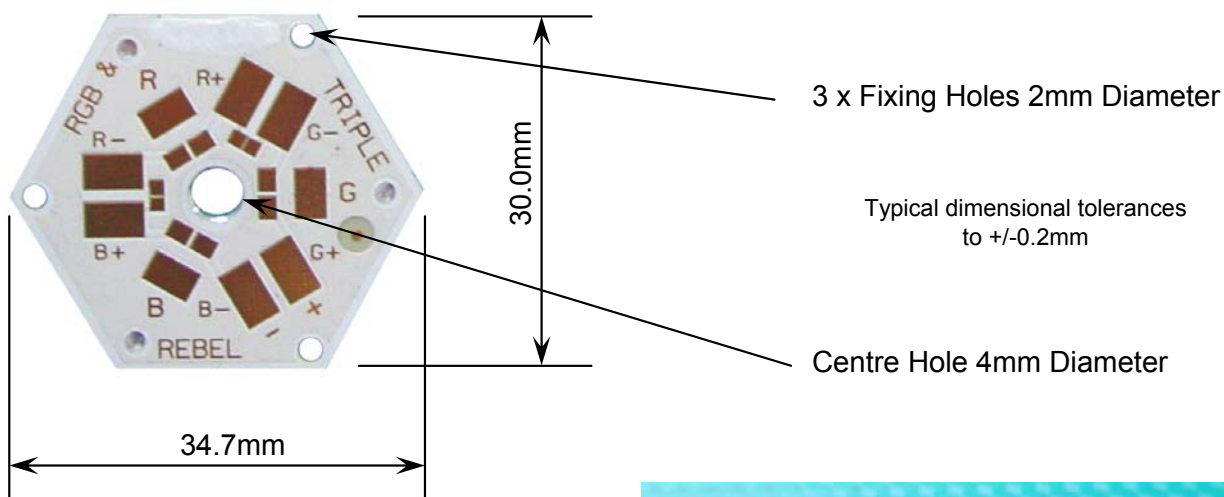
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Colour Mixer MCPCB for LUXEON® Rebel LEDs - Part No. 213



- MCPCB can be provided by POL to support customer prototyping and luminaire production using LUXEON® Rebel Emitter LED devices
- Manufactured by DSEM using metal core PCB substrates.
- 213 - MCPCB's can be supplied with Universal Science Bondline200 self-adhesive thermal gasket tape, die cut to the dimensions of the 213 - MCPCB.
- 181 - Colour Mixer Optics assembled onto the 213 - MCPCB's can be clustered into large arrays and linear formats.
- Part of the Polymer Optics "Modular LED Optics"® range



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