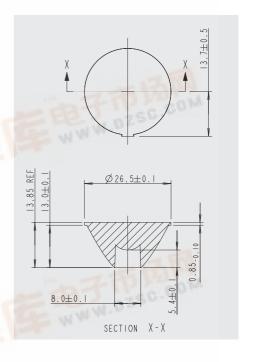
4º LED Optic



If your application requires a narrower beam angle than usual but you still require a compact, inexpensive solution then choose the 4^o Optic from Carclo. This optic has been optimised to give a bright, sharply defined spot of light. The optics can be used with all Luxeon colour, wattage and package types.

Two versions are currently available, one that produces a circular 40 beam and the other that gives a 40 x 250 ellipsoidal beam. The optics are made from Lens Quality Polycarbonate; they exhibit high thermal stability and long term durability.

Lenses can be supplied seperately or with holders. For the full range of holders refer to table below.



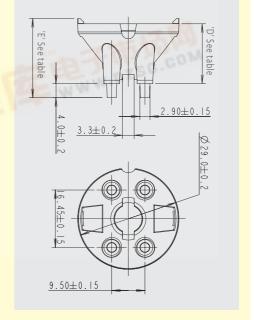
- Optimised for Luxeon LED's
- 4⁰ Beam angle (HWHP)
- Available with holder
- Lens Quality Polycarbonate
- Thermally stable

4º Optic Holder

Designed for the 4⁰ optic, the Holder fits neatly onto a Luxeon Star Board ensuring that the lens is centred and held at the optimum focal distance. Available in Black or White colours for 1, 3 or 5 Watt Luxeons.



Part No.	Description	Colour	Dim'n 'D'	Dim'n 'E'
10064.	For 1 Watt Luxeon	Black	17.15mm	22.7mm
10065	For 1 Watt Luxeon	White	17.15mm	22.7mm
10076	For 3 and 5 Watt Luxeon	Black	16.15mm	21.7mm
10077	For 3 and 5 Watt Luxeon	White	16.15mm	21.7mm



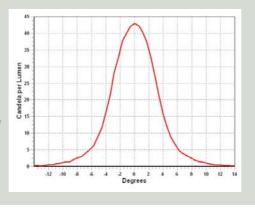


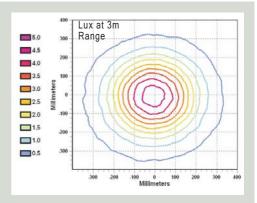
Optical Performance Tables

4º Circular Optic

Part No. 10048

Typical half angle divergence $4^{0+}/_{-}1^{0}$ when used with 1W White Luxeon LED

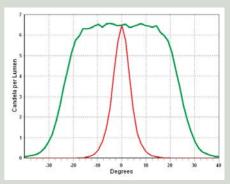


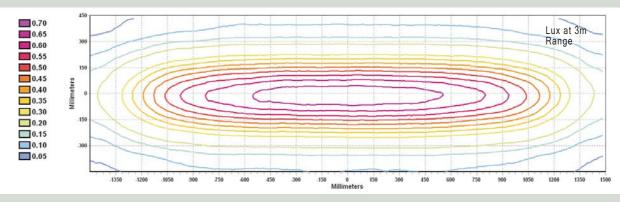


4° x 25° Elliptical (Line) Beam Optic

Part No. 10049

Typical half angle divergence 25° +/_ 3° and 4° +/_ 1° when used with 1W White



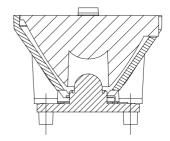


Notes: Measurements have been made with a 1W Luxeon Lambertian LED. The measured efficiency for all optics is approx 85%.

4° Assembly

4⁰ LED Optic mounted in standard holder onto Luxeon 1W star board





Section through 4⁰ LED Optic, Optic Holder and Luxeon 1W star board