

**Part No. 414**  
**Short Range EN54-23 Ceiling Optic Clear**

Designed for short range coverage meeting EN54 Part 23 requirements for a ceiling mounted signal optic positioned at a height of 3m. This optic can be used to efficiently illuminate areas up to 9m in diameter. Larger areas can be illuminated with reduced efficiency.

This optic would usually be centrally mounted as shown below:

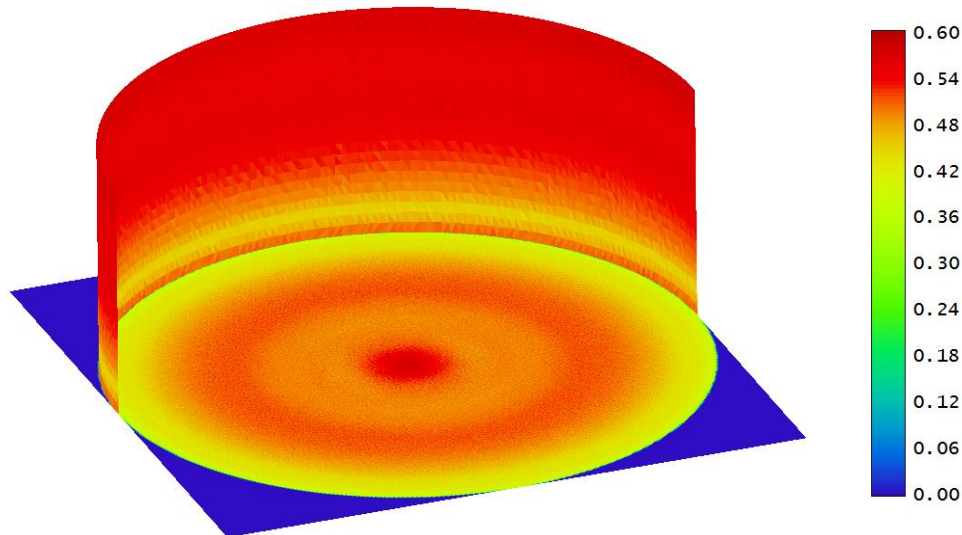


- Designed for Cree XP-E2, XP-G2, XM-L2, Luxeon Rebel and Luxeon TX LEDs. (Other LEDs may be used).
- Rating vs effective LED output required:
  - C-3-7 62 lumens
  - C-3-8 70 lumens
  - C-3-9 80 lumens
- Light transmission efficiency of 87%
- Precision moulded in optical grade Polycarbonate meeting the V-2 flammability requirement of EN54-23.

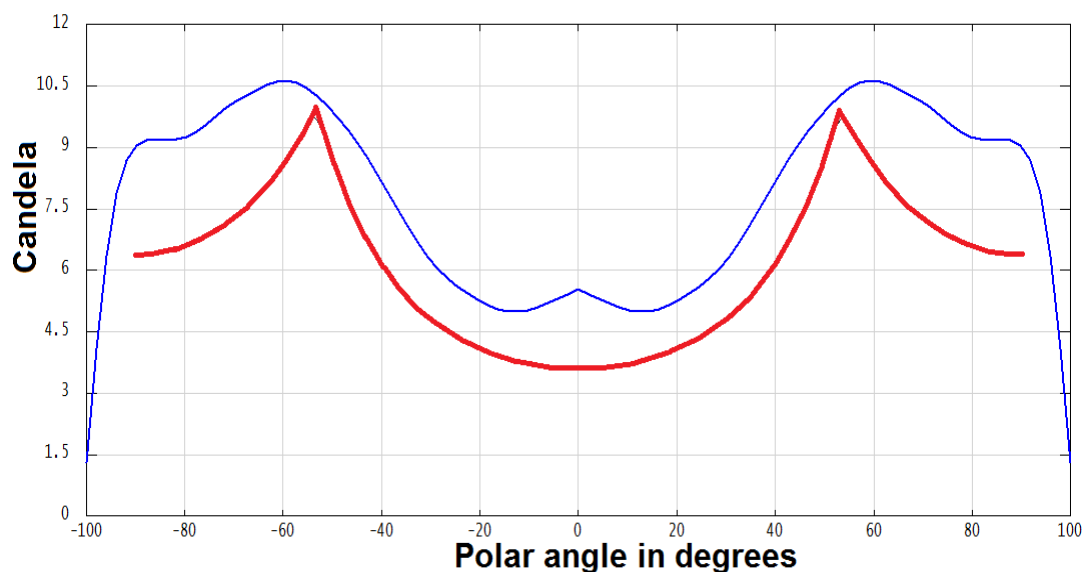
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The plot below shows the variation in flux level at the boundary of a 3m high, 8m diameter cylinder as specified by EN54-23 when illuminated using a Cree XP-E2 LED emitting 70 effective lumens. (Note: EN54-23 specifies that the flux values are to be measured on a surface facing the source at the boundary.)



The graph below shows the optic output, (shown in blue) compared with the minimum 0.4 Lux level for C-3-8 compliance converted to candela values, (shown in red) from a Cree XP-E2 LED with an effective output of 70 lumens. (Note: To determine the peak lumens required to generate 70 effective lumens refer to Appendix A of EN54-23.)

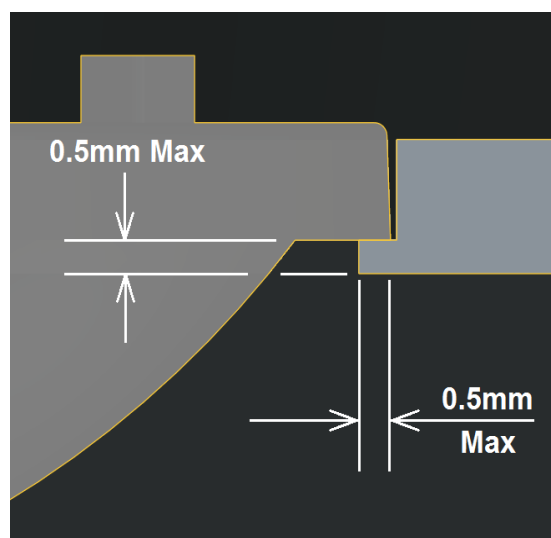


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The picture below is a 3D interactive model of the part. Click to activate.

The optic is located on the PCB using a diamond dowel inserted in to a 2.5mm diameter hole and a peg in to a 3mm diameter hole. The distance between the two hole centres required is 20mm. (See dimensional drawing overleaf).

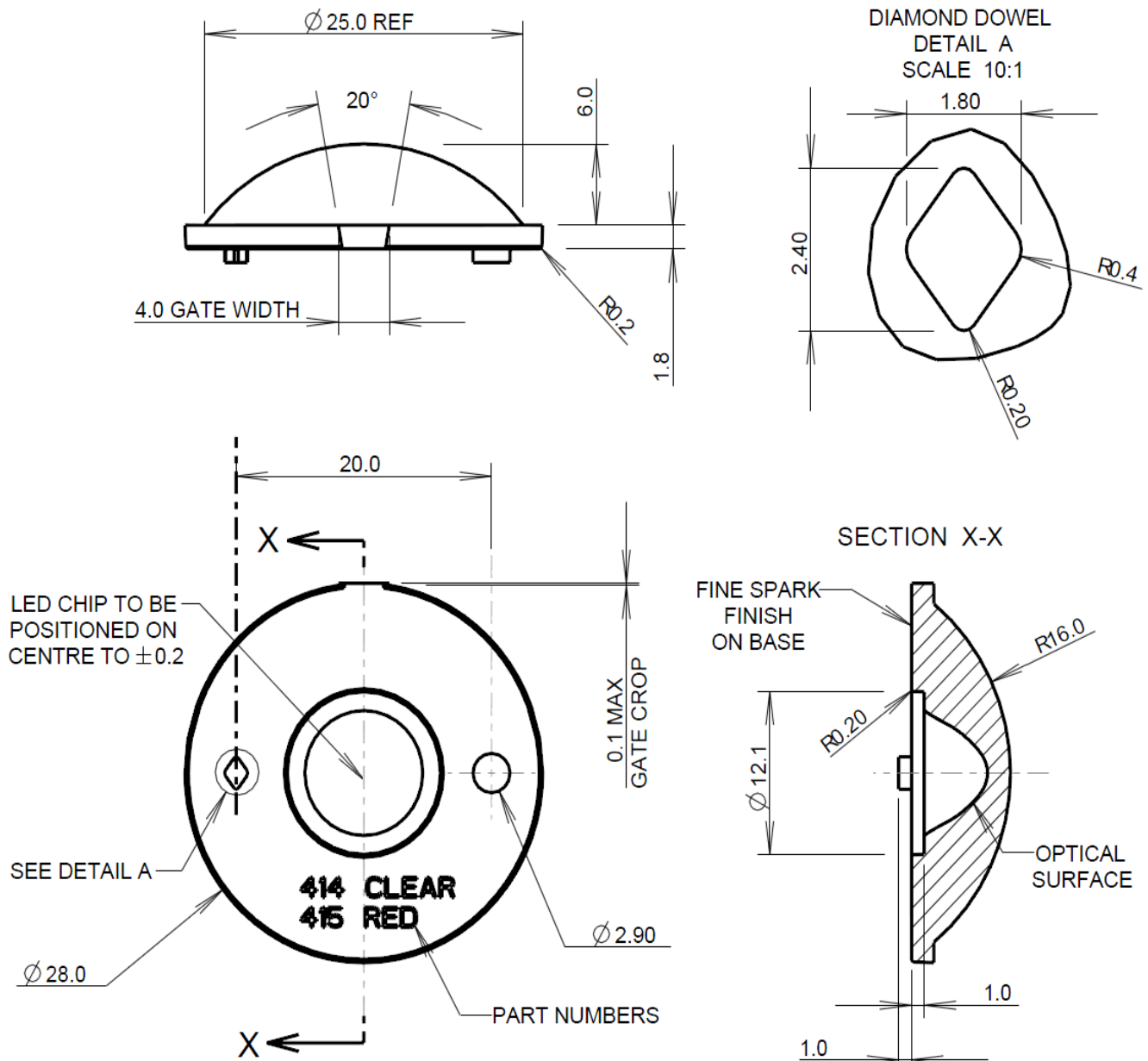
The maximum size of the lip of a retaining cover placed over the optic is shown below:



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Typical dimensional tolerances to  
+/-0.2mm



In order to determine if the particular beam properties and performance of this optic are suitable for your application POL suggests that you obtain samples from POL or their distributors for your own product testing.

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