

POL Part No.543 Office

Drawing Number: A3-10543 rev2

The Office lens is designed for passive infra-red (PIR) detection in applications where the detector is usually mounted on low ceilings, where minor-motion detection is important: typically offices, washrooms, corridors, cloakrooms and entrance halls. The lens uses POL's patented free-form technology to ensure the zones are sharply focused and distortion free.

The lens has a 1.3:1 aspect ratio, therefore when mounted at 2.4m height, the lens projects 67 zones into a 6.2m diameter floorspace. The standard lens is moulded with a rectangular flange but we can crop the flange to your desired shape.



Applications

- PIR detection for offices, shops, washrooms.
- Corridors, and most domestic applications
- Lighting control
- Alarm and security presence detection
- Fan control

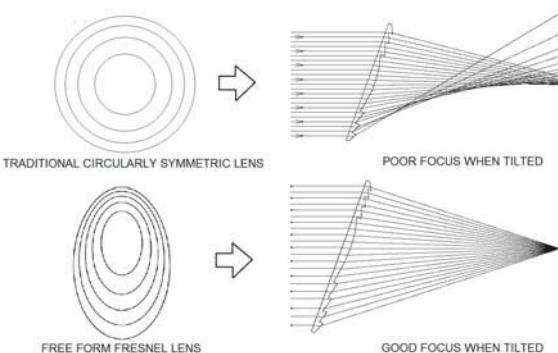


Diagram shows theory behind free-form lens design

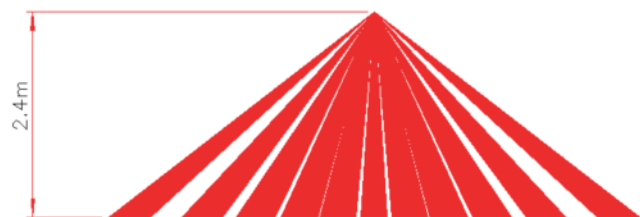
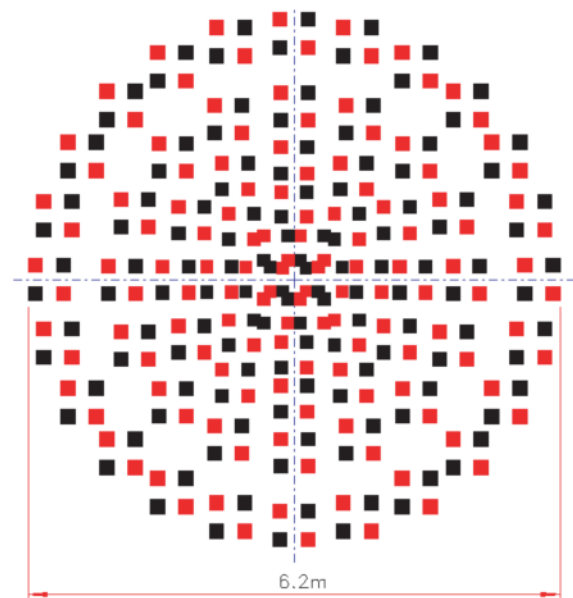


Diagram shows theoretical zone plot for detector mounted 2.4m above floor*. Mounting height can be adjusted as required

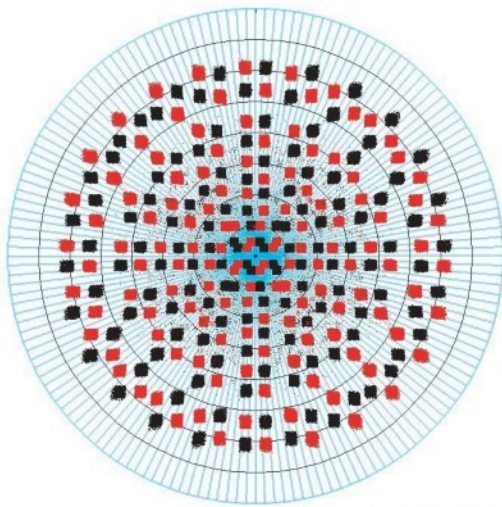
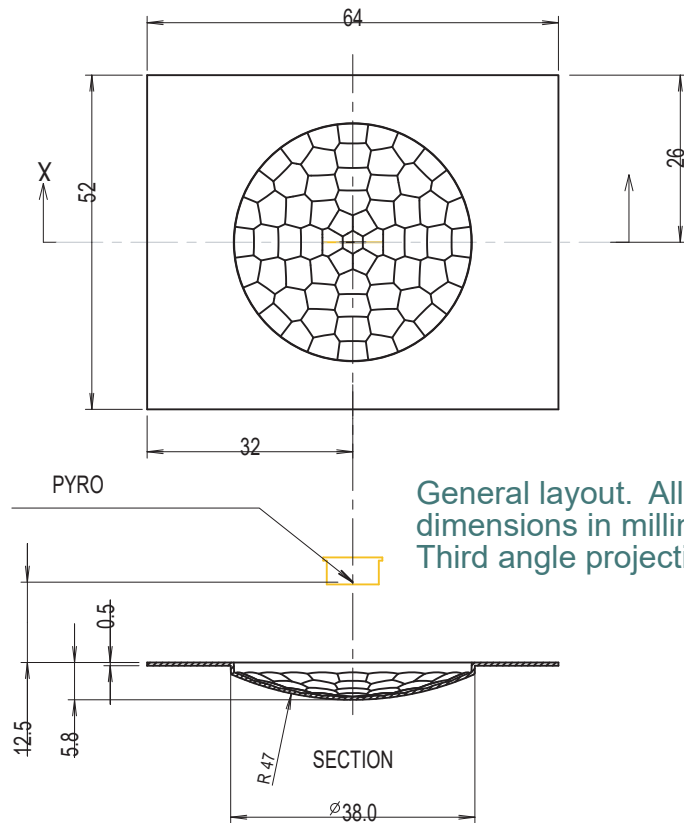
General layout. All dimensions in millimetres. Third angle projection

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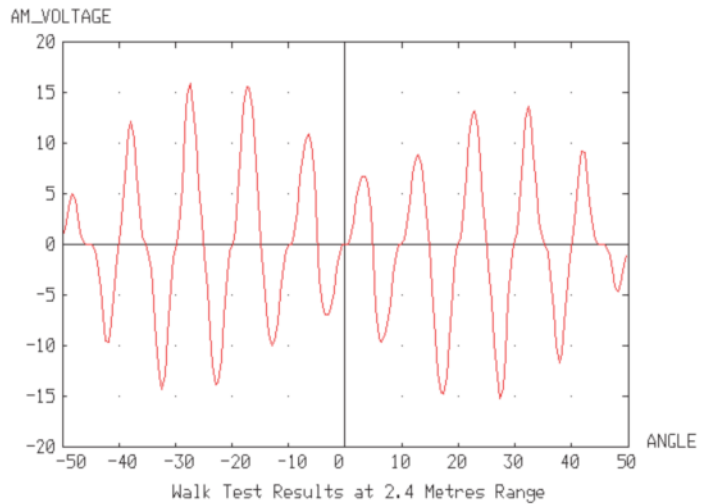
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All of our lenses are designed using 3D ray-tracing software where we can optimise the performance and minimise optical distortion. For the simulation on the left we have traced rays from the detector to the room and this allows us to analyse the zone shape. It is important to ensure there is minimal zone distortion and zero zone overlap.

For the simulation on the right we have traced rays from the room to the detector so that we can analyse the signal response. Here it is important to ensure that the signal is reasonably uniform across all the zones.



Office Lens - Walk test simulation for Facet Row 1 (501x501 rays)



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Note: Field of view (FOV) diagrams are idealised. Exact zones may depend on mounting conditions, detector type etc. FOV diagrams have been raytraced in reverse, i.e. from detector to the floor.



Making PIR Work

Leading design and manufacture of PIR Lenses