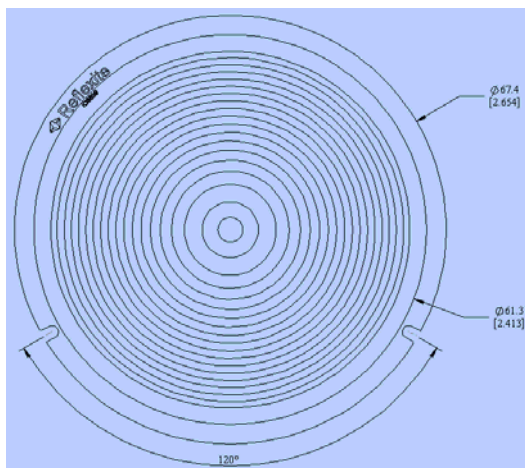


Reflexite PIR Fresnel Lenses

In a Fresnel lens, the outer refracting surface is compressed to a flat plane. The Fresnel lens is composed of a number of concentric grooves that refract light. A Fresnel lens can be designed to perform a number of functions, including focusing, energy collection, collimation and diffusion. These types of Fresnel lenses can be used in applications such as imaging, lighting, and passive infrared sensors.

Features:

- Designed for wavelengths between 5 and 20 microns.
- Peak transmission between 9 to 12 microns.
- Short focal lengths for low profile sensors
- Optical surfaces are designed using Reflexite's proprietary design software.



Typical Lens Schematic

Applications

One of the primary uses for passive infrared (PIR) Fresnel lenses is in the security arena. In this application, a Fresnel lens array is used in conjunction with a pyroelectric detector to create a useful detection pattern. While the primary application for PIR lenses and lens arrays is the security industry, there are many other uses:

- Passive Infrared Sensors
 - Burglar alarm / Security
 - Motions activated lighting
 - Lighting control systems
 - Environmental control systems
- Non Passive Infrared Applications
 - Non contact thermometers
 - Low resolution thermal imaging
 - Protective windows for hi-res IR systems

About Reflexite Corporation

Reflexite Corporation is a world leader in the manufacture of polymer microstructured optics and films. We combine our expertise in optical engineering, microreplication and polymer processing for a wide variety of products, including retroreflective films for Transportation and Safety markets, polymer optics and films for Display Systems, Lighting Systems and, of course, Passive Infrared Sensors. We maintain manufacturing facilities and sales offices around the world and we are headquartered in Avon, Connecticut.



Fresnel Lens

Product List

Part Number	Focal Length	Lens Aperture	Part Diameter	Facet Spacing	Part Thickness	Material
IO8809	23 mm	45 mm	67.4 mm	Variable	0.45 mm	HDPE - Natural
IO8810	24 mm	47 mm	67.4 mm	Variable	0.45 mm	HDPE - Natural
IO8831	25.4 mm	48 mm	67.4 mm	0.4 mm	0.45 mm	HDPE - Natural
IO8818	27 mm	48 mm	67.4 mm	0.4 mm	0.45 mm	HDPE - Natural
IO8811	30.5 mm	56 mm	67.4 mm	Variable	0.45 mm	HDPE - Natural
IO8832	32.5 mm	58 mm	67.4 mm	Variable	0.45 mm	HDPE - Natural
IO8813	33 mm	58 mm	67.4 mm	Variable	0.45 mm	HDPE - Natural
IO8834	40 mm	58 mm	67.4 mm	Variable	0.45 mm	HDPE - Natural
IO8800	Plano	58 mm	67.4 mm	N.A.	0.45 mm	HDPE - Natural