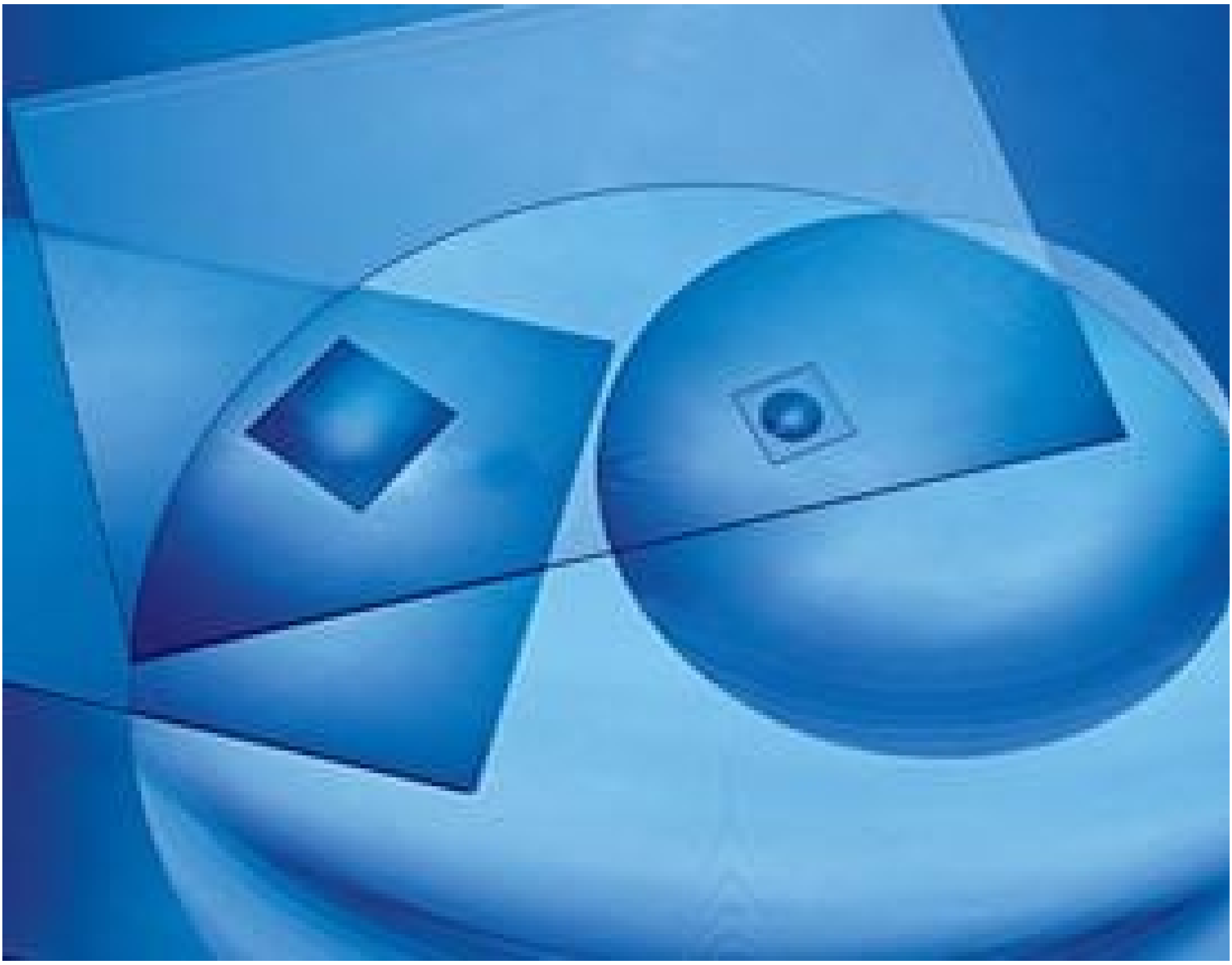
See all 37 Products in Family

3.93" x 3.93", 0.79" Focal Length, Fresnel Lens



Aspherically Contoured Fresnel Lenses

Stock **#13-458** **4 In Stock**

- 1 + **₹7,007**

ADD TO CART

Volume Pricing	
Qty 1-10	**₹7,007** each
Qty 11-49	**₹6,306** each
Need More?	Request Quote

Product Downloads

General

Type:
Fresnel Lens

Physical & Mechanical Properties

Center Thickness CT (inches):
0.08

Dimensional Tolerance (inches):
±0.05

Dimensions (inches):

3.93 x 3.93	
Dimensions (mm): 100.0 x 100.0	
Thickness Tolerance (%): ±40	

Optical Properties

Effective Focal Length EFL (mm): 20.00	
Substrate: Acrylic	
Coating: Uncoated	
Wavelength Range (nm): 400 - 1100	
Effective Focal Length EFL (inches): 0.79	
Groove Density (grooves/inch): 250.00	
Index of Refraction (n_d): 1.49	
Transmission (%): 85 (Typical)	

Environmental & Durability Factors

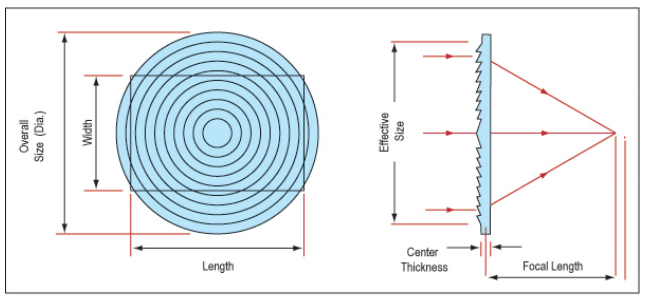
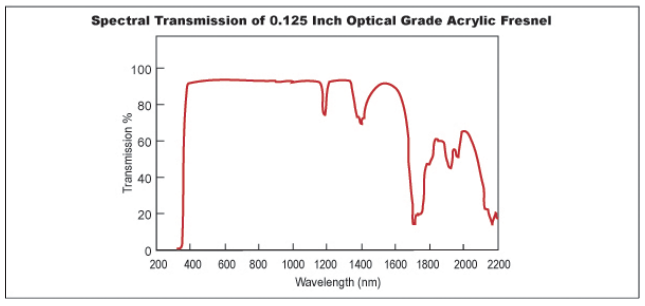
Operating Temperature (°C): 80 (Maximum)	

Regulatory Compliance

RoHS 2015: Compliant	
Reach 219: Compliant	
Certificate of Conformance: View	

Product Details

- Positive Focal Length
- Square and Rectangular Options
- Ideal for Light Gathering Applications

Fresnel Lenses replace the curved surface of a conventional lens with a series of concentric grooves, molded into the surface of a thin, lightweight plastic sheet. The grooves act as individual refracting surfaces, like tiny prisms when viewed in cross section, bending parallel rays in a very close approximation to a common focal length. Because the lens is thin, very little light is lost by absorption. Fresnel Lenses are a compromise between efficiency and image quality. High groove density allows higher quality images, while low groove density yields better efficiency (as needed in light gathering applications). In infinite conjugate systems, the grooved side of the lens should face the longer conjugate.
Fresnel lenses are most often used in light gathering applications, such as condenser systems or emitter/detector setups. Fresnel lenses can also be used as magnifiers or projection lenses; however, due to the high level of distortion, this is not recommended.

Technical Information