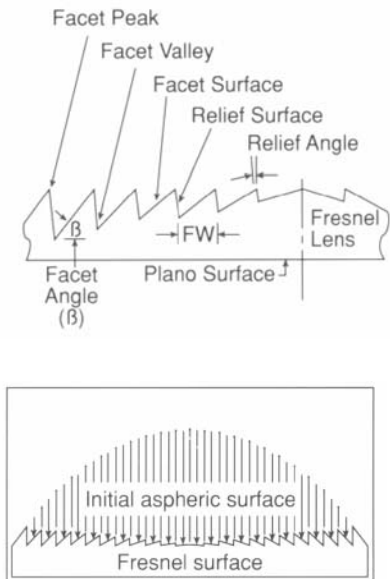


Optical Microstructured Surfaces

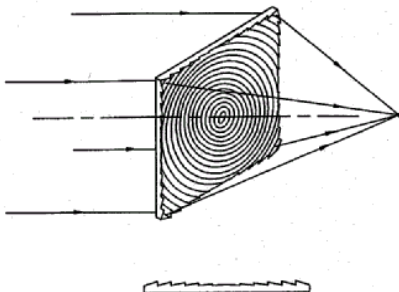
Optical microstructured products are composed of a series of structured surfaces. These surfaces may have straight or curved profiles with constant or random spacing and may even vary from submicrons to millimeters in dimension. Patterns may be circular, linear or have no uniform pattern.

A Fresnel lens has a microstructured surface, which consists of a series of grooves with changing slope angles as the distance from the optical axis increases. The relief or draft facets located between the slop facets usually do not affect the optical performance of the Fresnel lens.



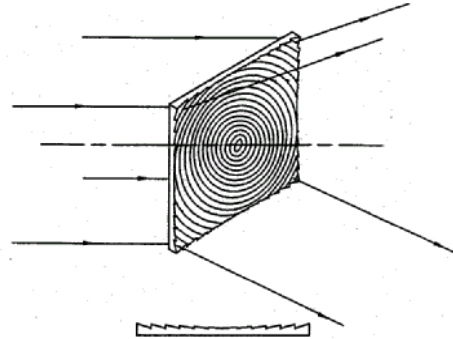
Positive Fresnel Lens

A positive Fresnel lens can be designed as a collimator, collector or with finite conjugates. Fresnel lenses are usually corrected for spherical aberration. They can also be metalized for use as a second surface reflector.



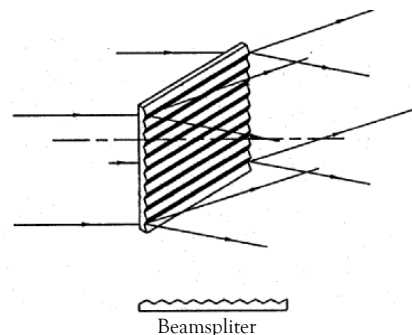
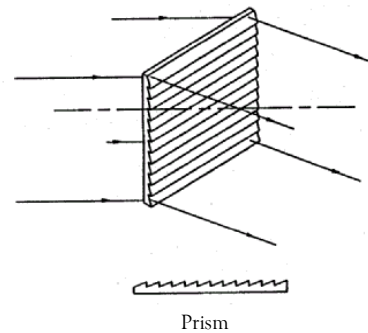
Negative Fresnel Lens

A negative Fresnel lens is the opposite of a positive Fresnel lens with diverging light rays. They can be coated for use as a first surface reflector.



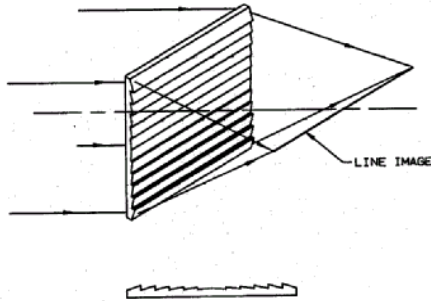
Fresnel Prisms & Beamsplitters

A Fresnel prism has a linear structure with constant prism and draft angles. It deflects collimated light with a constant deflection angle. A Fresnel beamsplitter also has a linear structure with constant prism and draft angles; however, the two facets of each prism are equal. The light is split into two beams and the included angle between the two beams is referred to as the separation angle.



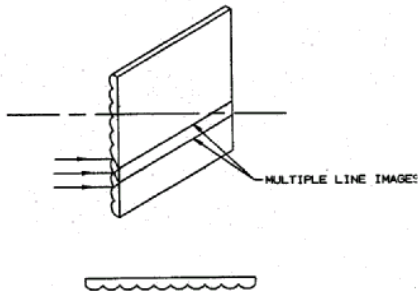
Fresnel Cylindrical Lens

A Fresnel cylindrical lens, also referred to as a linear Fresnel lens, has a linear structure, which can be used to collimate a row of light sources or to focus light in one direction only resulting in a line image.



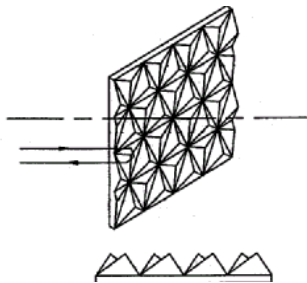
Lenticulars

Lenticulars, also known as linear lens arrays or cylindrical lens arrays, have linear structures where every groove is the same and has a small radius of curvature, thus creating multiple line images.



Corner Cube Retroreflectors

Corner cube retroreflectors are very small, efficient prism reflectors that return light rays toward their source parallel to the incident rays.

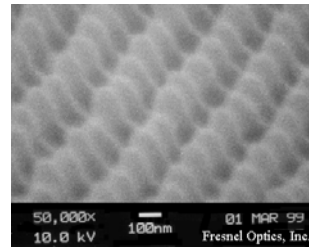


Reflexite Display Optics
 500 Lee Road - Bldg. 500
 Rochester, NY 14606 USA
 585-647-1140, fax 585-254-4940
 www.display-optics.com

Reflexite® is a registered trademark of Reflexite Corporation, Avon, CT, USA.
 Technical Publication FOI-100, Pub. 1998, Rev. 4
 © 2004, Reflexite Display Optics

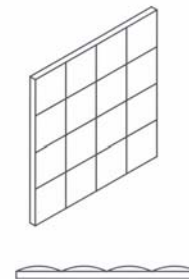
Moth-eye Antireflective Microstructure

A Moth-eye Antireflective Microstructure is a sub micron (less than 300 nm) surface relief profile that provides a low reflectance interface for light. From a theoretical standpoint, performance can be modeled as a modulated graded-index, which reflects very little light, as there are no abrupt index changes from air into the material.



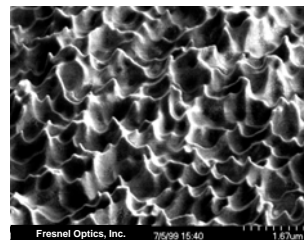
Lens Arrays and Microlens Arrays

Lens arrays are comprised of rows and columns of small lenslets. These small lenslets can be either spherical, aspherical or Fresnel.

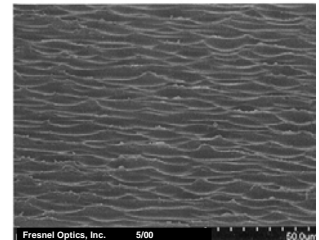


Surface Relief Diffusers

Surface relief diffusers are engineered microstructures designed to spread light into a predetermined gain distribution. They are highly efficient and their properties are tailorable. Both symmetric and asymmetric surface relief diffuser are available.



SEM Symmetric Surface Relief Diffuser



SEM Asymmetric Surface Relief Diffuse

