



279 LPI Lenticular Diffuser

LF279/250PC

Technical Specification

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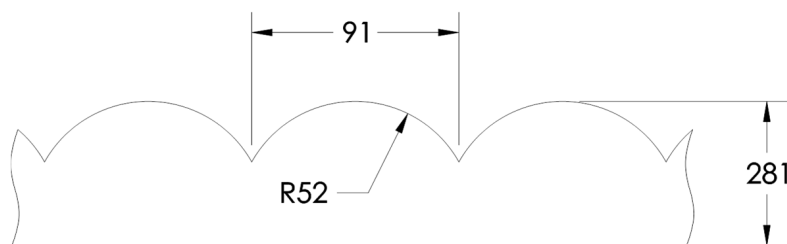
Description

An ultra-fine lenticular structure with 279 lenses per inch produced on the surface of a 254 micron thick polycarbonate (PC) base film by U.V. casting with acrylic based lacquer.

Applications

Used as a diffuser to homogenise LED strip arrays. Typically used with the lens surface facing away from the LEDs and offset from the sources by a distance approximately equivalent to the LED pitch.

Structure



Parameter	Value	Tolerance	Remarks
Structure Height	27 microns	+/- 2 microns	
Pitch	91 microns	<1 micron	279 lpi
Lenticular Radius	52 microns	+/- 3 microns	
Transmittance	94%		Light incident on prism side
Haze	86%	+/- 2%	Light incident on prism side
Base film material	254 microns		Polycarbonate
Total thickness	281 microns	+/- 5 microns	
Product format	On reel		Produce on reels (structure perpendicular to long edge)
Film width	150mm max		Can be slit to widths from 10 to 150mm

Optical Properties

This film uses the principle of ‘lenticular diffusion’ to homogenise LED strip arrays. Individual LED’s are obscured and a uniform light output is achieved. As long as the critical angle is not exceeded, transmission efficiency of up to 94% can be achieved.

Typical luminance vs. viewing angle

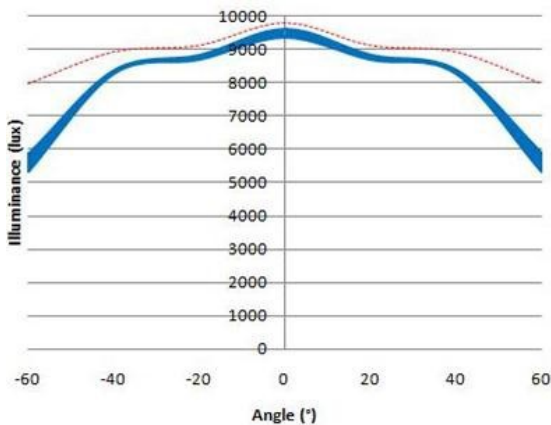


Naked LED



LED plus one lenticular film

Naked LEDs parquet With Lenticular Diffuser



Viewing angle (°)	Transmission (%)	Haze (%)
40	96 - 98	98% - 99%
80	95 - 96	98% - 99%
120	87 - 90	98% - 99%
160	76 - 80	98% - 99%

Handling

As with all precision optical films care should be taken when handling. Surgical gloves should be worn to avoid fingerprinting. Care should be taken to avoid scratching the film surface. Films should be handled in a clean, dust free environment with a liner used on surfaces to protect the structure. The film can be easily cut using a guillotine, sharp bladed knife or scissors.

Storage

To maintain the quality of this product, store in a cool dry place (0-50°C) away from direct sunlight or heat, and do not store with strong oxidizing agents or amines.

Transportation

Not regulated

Disposal

This product is not considered as hazardous under current EPA hazardous waste regulations, and maybe disposed of by recycling (Main component polycarbonate), incineration or landfill. All disposal should be done in accordance with state and local regulations

Sales contact details

E-mail: info@film-optics.co.uk

Tel: +44 (0) 1793 847593 or 847594

Web: www.film-optics.co.uk