3
Uniform Lighting Panel
ULP 4X6 V

Technical Specification

Draft Date: May 9, 2003

Description

When used correctly in a hollow light guide, two 3M Uniform Lighting Panels (ULP) transport light from two opposite edges and distribute the light uniformly over the surface of the ULP's. In the construction of a hollow light guide, care must be taken in the placement of the lamps and spacing of the ULP's to ensure proper operation. This guide details the correct construction.

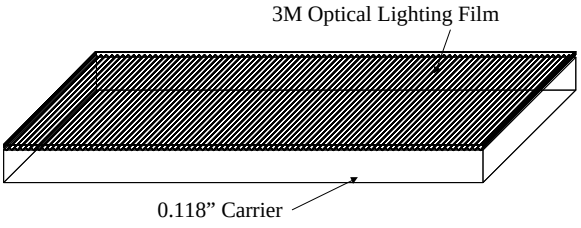
Applications

ULP's when used in pairs, are used to transport and distribute light uniformly with extremely high efficiency. They can be used as the light source for backlit displays or as light panels.

- Reduced power consumption by minimizing lamps
- Light guide technology allows thin profile.

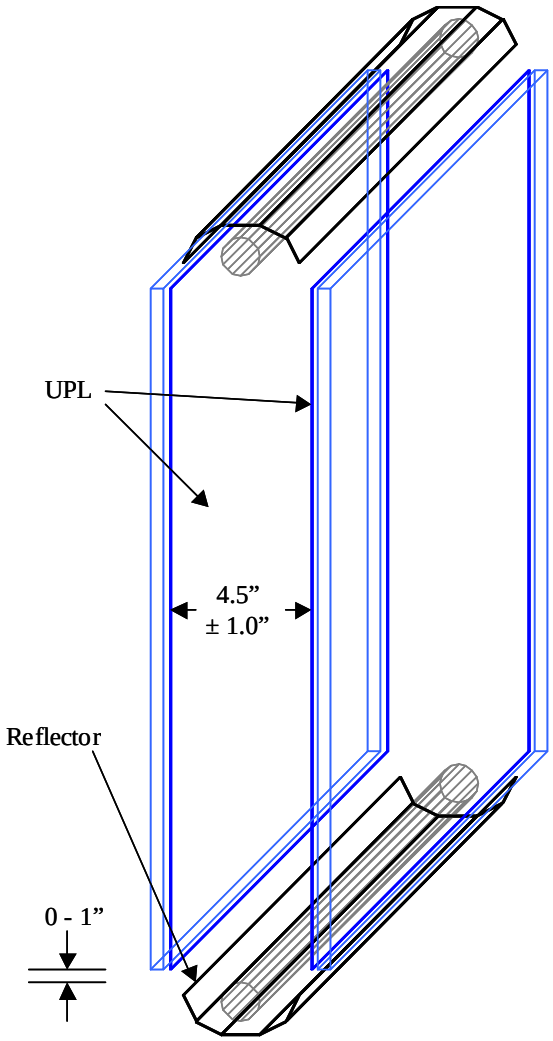
Construction

The ULP is a multi-layered panel consisting of a micro-structured film attached to a rigid clear plastic carrier layer. The micro-structured film is 3M Optical Lighting Film (OLF) which is ultrasonically welded to the carrier.



Application Instructions

For proper operation of ULP's, the lamp placement and spacing between the panels and lamps are critical. Lamp selection should be based on the application, and the reflector should be designed around the selected lamp.



Generally, smaller diameter lamps (T-5) allow the space between the ULP's to be minimized while larger lamps (T-12) require a greater spacing for good uniformity.

Cleaning

When required, clean the ULP's by dusting with a soft dry cloth. If necessary, a cloth dampened with water may be used. **Do not use harsh cleaning products or solvents.**

Physical Properties

ULP 4X6V

Material	Optical Grade Polycarbonate, Acrylic
Thickness **	0.118" (3.00 mm)
Height **	70" ± 0.12" (1.78m ± 3mm)
Width **	47.5" ± 0.12" (1.21m ± 3mm)
Weight	18 lbs (8 kg)
Operating Temperature Range	-30°F to 170°F (-35°C to 80°C)
Coefficient of Thermal Expansion	3.80 in/in/°F x 10^{-5} (6.8 cm/cm/°C x 10^{-5})

**** Physical dimensions are at room temperature of 77°F (25°C)**. Dimensions will vary greatly with temperature changes.

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