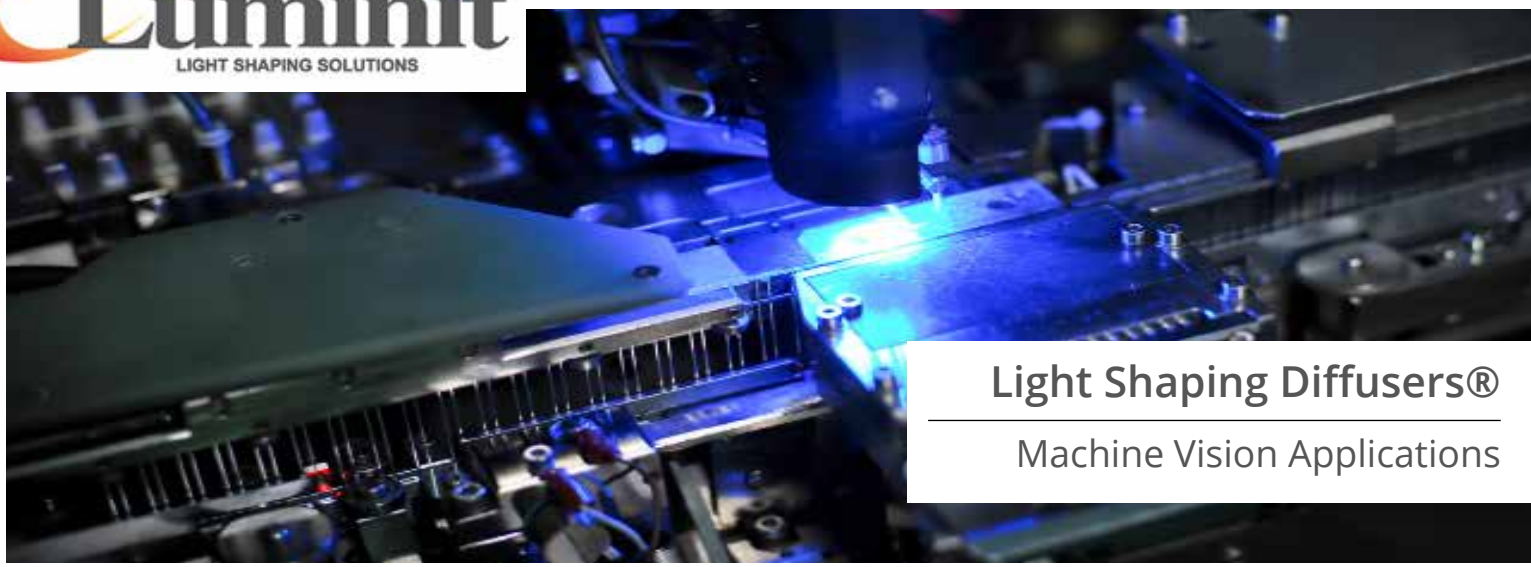


Light Shaping Diffusers®

Machine Vision Applications

Advanced Automatic Optical Inspection (AOI) platforms incorporate the latest high-resolution cameras to detect and measure defects on surfaces ranging from silicon wafers to champagne bottles. Integral to this process are illumination systems that provide highly homogenized and precisely controlled illumination angles. Luminit diffusers enable both of these attributes with minimal transmission loss for both line scan and backlight applications.

Machine Vision Applications

- Lightline
- Backlighting
- Co-axial Lighting
- Ring Lighting

LED lightline with 40° x 0.2° Diffuser on the left

Line scan applications typically require LED or fiber optic lightlines with a high level of uniformity across the long axis. The use of Luminit's asymmetrical diffusers (e.g. 30°x5°) in this application improves uniformity beyond 95% when-the long axis is oriented in parallel with the wider-angle axis of the diffuser. These diffusers are available in custom shapes with any lengths up to 1,500 feet.

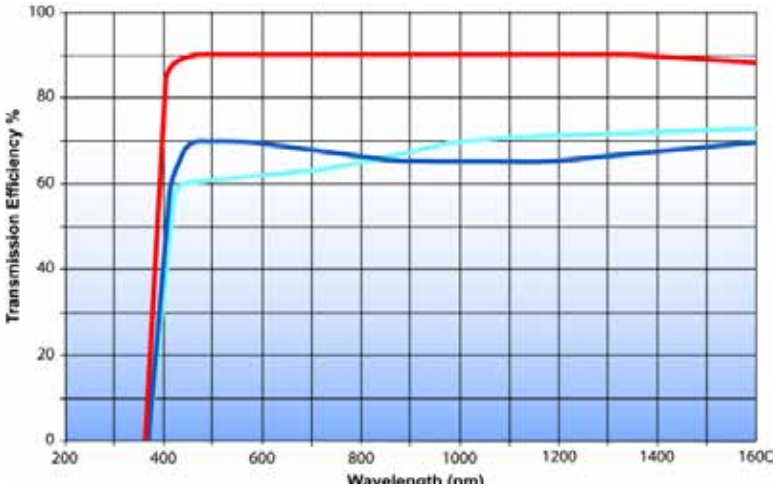
HB White LED lightline from Advanced Illumination

Highly uniform backlights are required for inspection of transparent objects
(e.g. bottles, LCD glass, etc) to detect imperfections or cracks. Luminit's symmetrical diffusers homogenize the backlight (either edge-lit or direct back-lit), resulting in more repeatable and accurate dimensional measurement of the part under inspection. Circular diffusers are available in any size up to 60" diagonal.

HB Red LED backlight from Advanced Illumination

For more Information, contact sales@luminitco.com
1850 W. 205th St. Torrance, CA 90501 | 310 320-1066

Luminit Light Shaping Diffusers® (LSD®) shape, control and distribute light. The patented holographic master recording process allows a wide variety of circular or elliptical light patterns. Standard circular angles range from 0.5º to 80º FWHM. A wide variety of standard elliptical angles are available from 0.2º x 10º to 95º x 35º. Custom angles may also be available on request.



SPECIFICATIONS

LSD Angle Range (FWHM):	Circular: 0.5° to 80° Elliptical: minor: 0.2° to 60° Elliptical major: 10° to 95°
Transmission Efficiency:	Circular: 0.2° to 20° ≥ 90% / 20° to 80° ≥ 85% Elliptical: ≥ 85%
Angle Tolerance: (Based on a 10”x10” area)	≤ 1° ± 0.5° 1° < Angle ≤ 10°) ± 1° >10° ± 10%
Transmission Spectral Range:	400nm to 1500nm
Temperature Range:	-30°C to 80°C @ 240 hours
Humidity:	> 95% ± 5% RH @ 24 hours
Refractive Index:	PC=1.586; PE=1.51 / AC=1.494; Epoxy=1.50
Pencil Hardness:	> 2H
Yellow Index:	0.3% glass exposure (600 hrs.) 2.6% direct exposure (600 hrs.)
Adhesion:	ASTM D3359

Note: All specifications contained herein are subject to change without notice.