PHLOX

A VISION
AHEAD

machine vision

L.E.D. backlights

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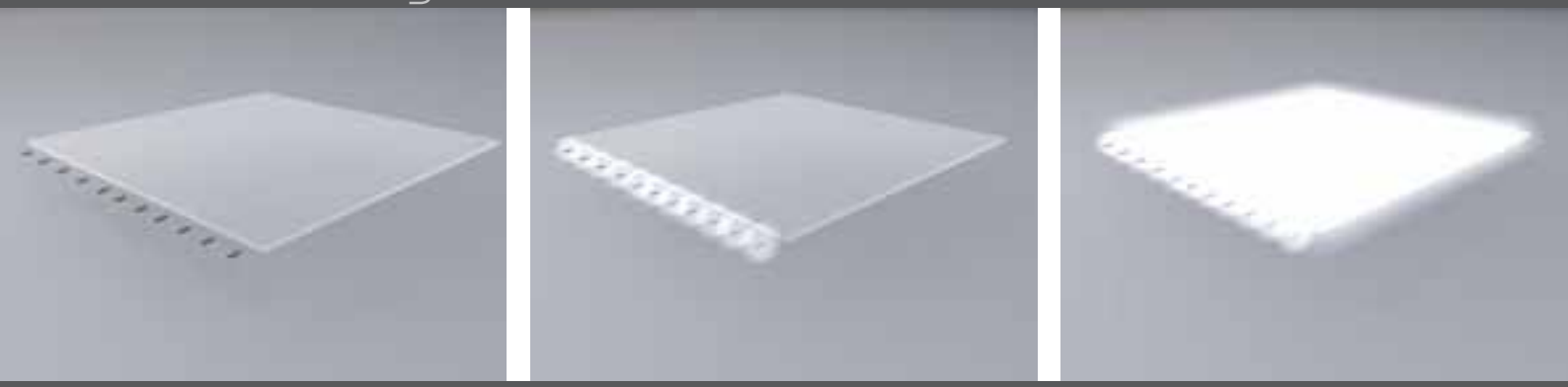

The principle

PHLOX® uses optical processes. It is composed of a polymethacrylate pipe lighted by a linear source made up of light emitting diodes (L.E.D.).
Our manufacturing process (CO2 laser) enables us to combine refraction and diffusion which improves backlight luminance. Up to **90%** of the light injected is reemitted on the surface. Thanks to the use of mathematical models, PHLOX® emits light in a determinist and **perfectly controlled** manner.

The groundbreaking PHLOX® technology sets apart from the others :

- UNIFORMITY : up to **±5%** on the panel
- LUMINANCE : up to **50000 cd/m2** (continuous mode)
- Heat free : a maximum of 20°C/68°F, above room temperature for all our standards ensuring a **longer lifetime**
- Ultra slim : **8 mm - 0,315"** thick
- High protection : **IP 65**
- **Large** sized and **custom** sized products also available at low cost and **fast** delivery
- Energy saving

Further benefits :

- 24 months warranty
- Certificate of uniformity and luminance provided with each product
- Seal of quality on the back of each product

PHLOX® Backlights excel at diverse applications :

- Bottle inspection (glass and plastic)
- Particle measurement
- Picture digitalization
- Dimensional control
- Shaping control
- Quality control with transparency

For a variety of different industries :

- Glassmaking
- Automotive
- Agribusiness
- Pharmaceutical /Cosmetics
- Electronics
- Aerospace

PHLOX® - Ultra flat edgelit L.E.D. Backlights and On-Axis Lights

A new generation of backlights and on-axis lights which enhances brightness and uniformity, superior to competitive systems

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Technology

PHLOX® technology is the result of several years of research in optics and electronics. This research has led to the filing of several international patents, proof of our technological advance. A standard PHLOX® light takes the form of a black anodized aluminium housing. This unit houses the PHLOX® light guide coupled to two (double light injection technique) or four (quadruple light injection technique) light sources, using the latest technology high power surface-mount light emitting diodes. The ultra-compact backlight (8.0 mm - 0.315") is designed for easy integration into all types of equipment. Mounting points are provided originally on all our lights. Our know-how is expressed in the manufacturing of the light guide according to the patented PHLOX® process and in the optimisation of its coupling with the light source, combined with high-grade optical components.

Standard lights

	Active area	White L.E.D. High-Bright Part Description	White L.E.D. Low Cost Part Description	Red L.E.D. Part Description
BACKLIGHT	**20 x 20 mm (0.79" x 0.79")** Minimum Luminance (continuous mode)* Minimum Uniformity	PHLOX-LEDW-BL-20X20-S-Q-1R-24V 32 000 cd/m² 95 % (+/- 10 %)		PHLOX-LEDR-BL-20X20-S-Q-1R-24V 3 000 cd/m² 95 % (+/- 10 %)
BACKLIGHT	**50 x 50 mm (1.97" x 1.97")** Minimum Luminance (continuous mode)* Minimum Uniformity	PHLOX-LEDW-BL-50X50-S-Q-1R-24V 20 000 cd/m² 95% (+/- 10%)	PHLOX-LEDW-BL-50X50-LC-Q-1R-24V 3 000 cd/m² 90% (+/- 10%)	PHLOX-LEDR-BL-50X50-S-Q-1R-24V 2 000 cd/m² 95% (+/- 10%)
BACKLIGHT	**100 x 100 mm (3.94" x 3.94")** Minimum Luminance (continuous mode)* Minimum Uniformity	PHLOX-LEDW-BL-100X100-S-Q-1R-24V 11 000 cd/m² 95% (+/- 10%)	PHLOX-LEDW-BL-100X100-LC-Q-1R-24V 1 500 cd/m² 90% (+/- 10%)	PHLOX- LEDR-BL-100X100-S-Q-1R-24V 1 000 cd/m² 95% (+/- 10%)
BACKLIGHT	**150 x 40 mm (5.91" x 1.57")** Minimum Luminance (continuous mode)* Minimum Uniformity	PHLOX-LEDW-BL-150X40-S-D-1R-24V 10 000 cd/m² 90 % (+/- 10 %)		
BACKLIGHT	**160 x 120 mm (6.30" x 4.72")** Minimum Luminance (continuous mode)* Minimum Uniformity	PHLOX-LEDW-BL-160X120-S-Q-1R-24V 7 000 cd/m² 95 % (+/- 10 %)		PHLOX- LEDR-BL-160X120-S-Q-1R-24V 800 cd/m² 95 % (+/- 10 %)
BACKLIGHT	**200 x 20 mm (7.87" x 0.79")** Minimum Luminance (continuous mode)* Minimum Uniformity	PHLOX-LEDW-BL-200X20-S-D-1R-24V 15 000 cd/m² 90 % (+/- 10 %)		PHLOX- LEDR-BL-200X20-S-D-1R-24V 1 100 cd/m² 90 % (+/- 10 %)
BACKLIGHT	**200 x 200 mm (7.87" x 7.87")** Minimum Luminance (continuous mode)* Minimum Uniformity	PHLOX-LEDW-BL-200X200-S-Q-1R-24V 5 000 cd/m² 95 % (+/- 10 %)	PHLOX-LEDW-BL-200X200-LC-Q-1R-24V 1 000 cd/m² 90 % (+/- 10 %)	PHLOX- LEDR-BL-200X200-S-Q-1R-24V 500 cd/m² 95 % (+/- 10 %)
BACKLIGHT	**300 x 220mm (11.81" x 8.66")** Minimum Luminance (continuous mode)* Minimum Uniformity	PHLOX-LEDW-BL-300X220-S-Q-1R-24V 4 000 cd/m² 95 % (+/- 10 %)	PHLOX-LEDW-BL-300X220-LC-Q-1R-24V 1 000 cd/m² 90 % (+/- 10 %)	PHLOX-LEDR-BL-300X220-S-Q-1R-24V 350 cd/m² 95 % (+/- 10 %)
BACKLIGHT	**400 x 200 mm (15.75" x 7.87")** Minimum Luminance (continuous mode)* Minimum Uniformity	PHLOX-LEDW-BL-400X200-S-Q-1R-24V 3 800 cd/m² 90 % (+/- 10 %)		PHLOX- LEDR-BL-400X200-S-Q-1R-24V 300 cd/m² 90 % (+/- 10 %)
ON-AXIS	**50 x 50 mm (1.97" x 1.97")** Minimum Luminance (continuous mode)* Minimum Uniformity	PHLOX-LEDW-OA-50X50-S-Q-1R-24V 1 000 cd/m² 80 % (+/- 10 %)		PHLOX-LEDR-OA-50X50-S-Q-1R-24V 120 cd/m² 90 % (+/- 10 %)
ON-AXIS	**100 x 75 mm (3.94" x 2.95")** Minimum Luminance (continuous mode)* Minimum Uniformity	PHLOX-LEDW-OA-100X75-S-Q-1R-24V 1 000 cd/m² 90 % (+/- 10 %)		PHLOX-LEDR-OA-100X75-S-Q-1R-24V 120 cd/m² 90 % (+/- 10 %)

* Strobe mode in option

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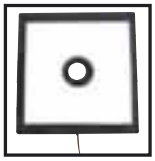
Custom lighting devices

Large White Led Backlights 505 x 470 mm

- Size up to 600 x 600 mm
- High uniformity and brightness
- Long lifecycle

Frontlight PHLOX® 200 x 200 mm (7.87 x 7.87")



- With an orifice for the camera lens
- Luminance minimum : 4 000 cd/m²
- Example of usual application : for smart cards control, in replacement of "ring lights" because PHLOX® displays a better uniformity and its diffuse light minimizes, indeed eliminates, the specular reflection of shiny materials

RGB PHLOX® Backlight 260 x 260 mm (10.24" x 10.24")

Example of usual applications :

- Recomposition of a high resolution color image working on 3 images - one red, one green, one blue - taken with a high resolution monochrome camera. Exemple : aerial picture digitalization
- Quality control with transparency of color stickers

PHLOX® Tunnel

- With an orifice for the camera lens
- Very uniform
- Example of usual application : inspection of cylindric object, stainless steel automotive parts, datas reading on shiny cylindric object

Distributor :

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