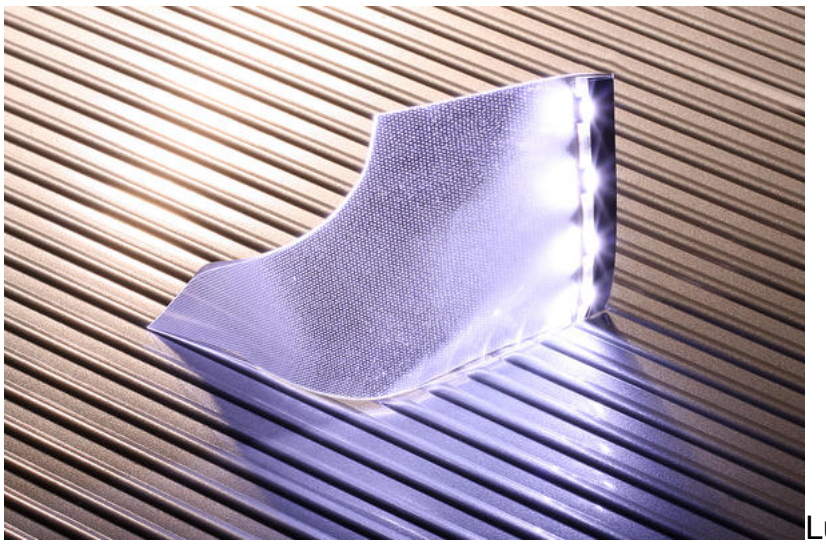
Shapeable LED backlight designed for enhanced light distribution



Lumex announces the global launch of its first-in-the-industry QuantumBrite Shapeable LED Backlight. With the new shapeable LED backlight, holes can be cut into the backlight in virtually any shape (for example, to allow space for a switch or other component on the circuit board). This combination of flexible and shapeable LED backlight technology is unique in the industry and opens the door to a broad new range of LED backlight applications completely customizable in any shape, size or color on both flat and curved surfaces. The new backlight technology provides a brightness of up to 20 cd/m2, making the technology ideal for applications where non-jarring, natural, soothing lighting is required.

The ultra-thin QuantumBrite LED backlight viewing area has a profile height of just 0.125mm, up to 97% thinner than traditional LED backlight technology and up to 79% thinner than alternative flexible LED backlight options. The profile is only marginally thicker than a standard piece of writing paper. The ultra-thin surface is textured with patterns specially designed for enhanced light distribution, resulting in up to 30% more uniform light distribution compared to alternative flexible backlights.

The new shapeable LED backlight also generates cost savings at prices up to 30% less expensive than electroluminescent (EL) and 50% less expensive than fiber optic backlights.

The new QuantumBrite Shapeable LED Backlights are ideal for applications where soothing, natural light is required. The light provided is bright enough for visually challenging situations (such as around a cup holder in a darkened movie theater, or on in-cabin signage in an aircraft cabin) but soft enough to not be jarring (such as in automotive and roadside applications where it is important that bright lights not impair the vision of drivers or in spas where soothing, non-jarring lighting is required).

The new, first-in-industry technology opens the door to a wide number of creative applications including logo enhancement and indirect lighting. The ultra-thin profile makes the technology particularly well-suited for compact portable-device applications and the material flexibility makes it possible to use the new technology on both flat and curved surfaces. Applications include:

- Apparel (can be incorporated into clothing and fashion accessories such as watches, hats or t-shirts);
- Appliances (including logo illumination, refrigeration display backlighting and non-traditional applications such as lighting the handles of refrigerators);
- Automotive/Aviation (including logo, switch and dashboard illumination, in-cabin lighting, van wraps/vehicle decoration);
- Medical Device technology (including panel indication, and logo/display backlighting on medical radiology equipment, monitors, defibrillators, infusion pumps, blood/gas analyzers and ventilators);
- Industrial Control technology (including climate control, AMR metering and drive control displays);
- Retail and Entertainment (including in-store accent lighting, movie theater and spa applications, shelf displays);

QuantumBrite Shapeable LED Backlight technology comes with complimentary integration support. Lumex Technical Design Specialists can integrate the backlights with LEDs, LCDs, light pipes, switches, connectors and other key components to create solutions that maximize performance and efficiency in each individual application.

The RoHS compliant QuantumBrite Shapeable Backlight technology is available in custom sizes. Pricing is dependent on size and quantity ordered and is approximately $1.50 to $5.00 from 1.0”2 to 5.0”2 in size. Production lead times range from six to eight weeks.

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