



LUMEX[®]
Creating LED and LCD Solutions Together™

SunBrite™
Lighting
Solutions



SunBrite™ Brand LED Lighting

Lumex has been making products for general lighting applications for over 30 years. Today, through our SunBrite brand, our lighting customers are the leaders in their respective markets. From appliance and automotive to medical devices and test and measurement equipment, SunBrite products have been the answer to some of the most demanding customer requirements. Lumex is focused on small space lighting with both standard products and custom solutions. From our LED clusters and MR16 lamp replacements to integrated lighting

solutions, Lumex works in collaboration with our customer's design engineers. We are always engaged to understand the application and the context for the lighting, and regularly offer a final design which exceeds our customer's expectations.

Optoelectronics are being rapidly adopted across every type of lighting application. Design engineers are increasingly looking for a single supplier partner with a broad line of standard products as well as integrated design capability to ease the burden of sourcing multiple vendors. Lumex recognizes that within small space lighting, there are many niches that have different requirements. Some of Lumex's small space lighting focus niches include:

- Accent Lighting
- Directional Lighting
- Ambient Lighting
- Backlighting
- Task Lighting



SUNBRITE™ BRAND PRODUCT FAMILIES

- High Bright/Power LEDs
- RGB LEDs
- SMT LEDs
- Through-Hole LEDs
- LED Light Panels
- LED Tube Lighting
- LED Clusters
- LED Arrays and Assemblies



The Challenge

A global appliance manufacturer was looking to transition away from incandescent bulbs to illuminate the cavity for their ice and water dispenser. The goal was to have higher intensity, enhanced light distribution and energy savings. They came to Lumex with the idea that they could use a 1 watt high power white LED in order to achieve this goal. They also needed a “cool white” color temperature with a very specific light distribution within the cavity. They needed the light to hit the activation paddles, the water dispenser and the ice dispenser, preferably all with the same light intensity and color. The illumination module also had to be easily field replaceable.





Case Study: Lumex Is Customer Driven

The Solution

Lumex reviewed the options and quickly concluded that using the high power LED would create additional challenges including heat management, shorter life hours and uneven light distribution. As an alternative, Lumex proposed using 3 white 5mm LEDs in a small molded module with an integrated PCB and quick disconnect 2-pin connector at the end of a wire assembly. The LEDs would all be color and intensity matched so that every LED within each module would have the same 2700° Kelvin cold color temperature. This solution would also allow light to be pointed from each of the three LEDs into the exact location in the cavity where light was needed, rather than relying on oversaturating the entire cavity.

The Value Proposition

The client was excited with the Lumex proposed modular solution, which exceeded their goals. Lumex reduced the customer's costs by replacing an incandescent bulb with an LED solution which would last more than 10 years without replacement. The module used less power by driving 3 LEDs at 18mA vs 1 high power at 1 watt which increased the energy rating of the refrigerator. Finally, the custom configuration achieved light

distribution exactly where the customer wanted it. In addition, Lumex was able to achieve 0 ppm failures over a five year period, further saving the customer time and cost on potential field failures and returns from the consumer.



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Why Lumex

Why choose Lumex? Lumex has been supporting our lighting customers with leading technology longer and more consistently than anyone else in the industry across the broadest range of products. Lumex can be the single supplier for both standard products as well as fully integrated engineered solutions.

Benefits of having Lumex as a supplier partner are:

- Breadth of product means reduced number of vendors
- Leveraging Lumex's design expertise reduces your engineering time
- Lumex testing multiple interacting systems means faster time to market
- The newest technology means the most feature enhanced, high performance lighting solutions on the market

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