



## LED Engin

LZP - series LED emitter and TIR lens

**AWARD: PLATINUM**

**CATEGORY: ARRAYS/SOURCES**

### Key data points:

- ▶ Color rendering index (CRI): 80%
- ▶ Correlated color temperature (CCT): 2812°K
- ▶ Luminous efficacy: 33lm/W
- ▶ Power factor: 0.70
- ▶ Drive current of LEDs in the lab: 1000mA

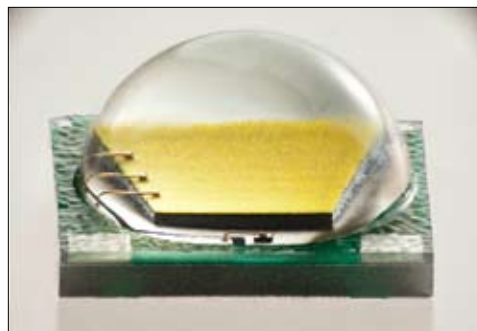
The multi-chip emitter in the LZP series generates up to 5500 lm (CCT of 5500K) and 3800 lm (CCT of 3100K) in a compact 12mm x 12mm package. These high lumen density LEDs, when complemented with the proprietary TIR high-efficiency optics, produce maximum lumens in the beam for superior performance, exceeding the luminance of competing LED solutions by a factor of 6-10. The compact optical system overcomes a major challenge in flood and spot lighting applications that cannot be achieved with larger LED sources. With brightness performance equivalent to metal halide (MH) and high pressure sodium (HID) levels, customers can take advantage of the robust packaging and long lifetimes to improve the overall cost of ownership for a new class of lighting applications.

### Judges' comments:

"Impressive light output in a relatively small package... "Three ranges of products and good light output. Efficacy is 100lpw in the cool white—very good for the amount of light... "For sheer light output and—more importantly—in a small area. this engine can enable spots and projectors at the lumen outputs."

### HONORABLE MENTIONS:

**Intemax** Chromalit  
**Osram Opto** Prevalit  
**Lumileds** Rebel ES  
**Toyota Tsusho** Panelux



## Cree

XLamp XM-L LED

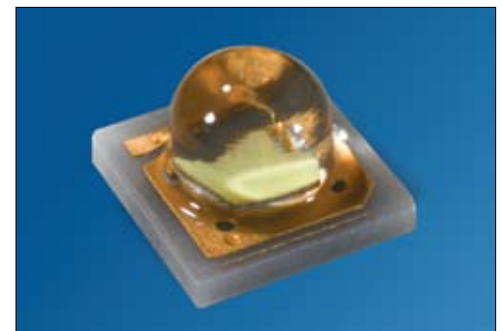
**AWARD: GOLD**

**CATEGORY: ARRAYS/SOURCES**

The Cree XLamp XM-L LED is the industry's highest performing, white lighting-class LED. Capable of 1000 lumens at 100 lumens-per-watt efficacy at 3A, the XM-L LED shatters current industry standards. In a compact 5-mm by 5-mm footprint, XM-L LEDs offer a combination of high efficacy at very high drive currents, delivering light output and efficacy of 160 lumens per watt at 350 mA and up to 315 lumens and 150 lumens per watt at 700 mA. With its high efficacy and high level of light output, the XM-L LED enables lower total system cost by reducing the number of LEDs necessary.

### Judges' comments:

"Nice trade-off on efficacy and light."



## OSRAM Opto

Oslon SSL LEDs

**AWARD: SILVER**

**CATEGORY: ARRAYS/SOURCES**

By providing a wide selection of colors, efficiencies, CRI, and viewing angles, the 1W OSLOM SSL is capable of exceeding the demands of almost any solid state lighting application. OSLOM SSL LEDs are contained within small ceramic 3mm x 3mm packages, making them ideal for use in arrays and clusters for solid state lighting assemblies. These LEDs boast a low thermal resistance of 7 C/W, and are designed for long life and undergo LM80 testing.

### Judges' comments:

"This is an intriguing LED for developing new generations of luminaires that can shape their light source to suit novel forms."