

Outdoor Lighting

Street & Parking Area



Advantages of LED Light

The future of outdoor lighting is in LEDs. The many benefits of LED light in applications from outdoor architectural lighting to flashlights to emergency vehicle lighting are well established. The benefits of LED light in those applications apply to outdoor lighting as well:

LONG LIFETIME & LUMEN MAINTENANCE

XLamp® LEDs maintain over 70% of their original luminous flux at 50,000 hours — long after conventional outdoor light sources have burned out.

LED LIGHT IS DIRECTIONAL

HID-based light fixtures waste approximately 20 to 50 percent of the light generated due to the lack of directionality of the light source. LED-based fixtures overcome this handicap by making use of a directional point light source.

GREAT PERFORMANCE IN COLD ENVIRONMENTS

Unlike fluorescent lights, LEDs become more efficient as the ambient temperature decreases. LEDs have no problems turning on in cold weather and are one

of the most reliable lighting sources in any outdoor condition.

BETTER FOR THE ENVIRONMENT

Unlike many conventional lighting technologies, LEDs contain no mercury or heavy metals. Not only are LEDs better for the environment during their operational life, the disposal of LEDs will not further pollute our world's landfills with hazardous waste.

XLamp XR-E LEDs in Parking Area Lighting

XLamp XR-E LEDs can reduce total cost of ownership for parking area lighting. Parking lot lights can be built to serve any application by using multiple XR-E LEDs in a single fixture. One added benefit of XR-E LED light for this application is that the white LED light scores 80 on the color-rendering index (CRI),



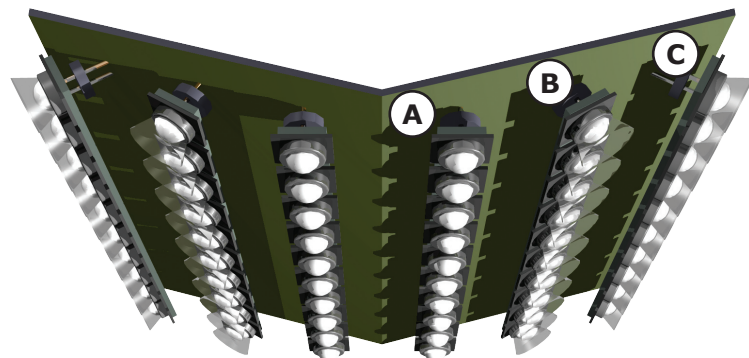


compared to a score of 20 or lower for sodium lighting. Not only is the pure white LED light more pleasing to the human eye, it also increases the amount of image information captured on security cameras. Therefore, XLamp LED-based parking garage lights can both decrease the total costs of lighting a parking area and potentially increase safety levels for everyone who uses it.

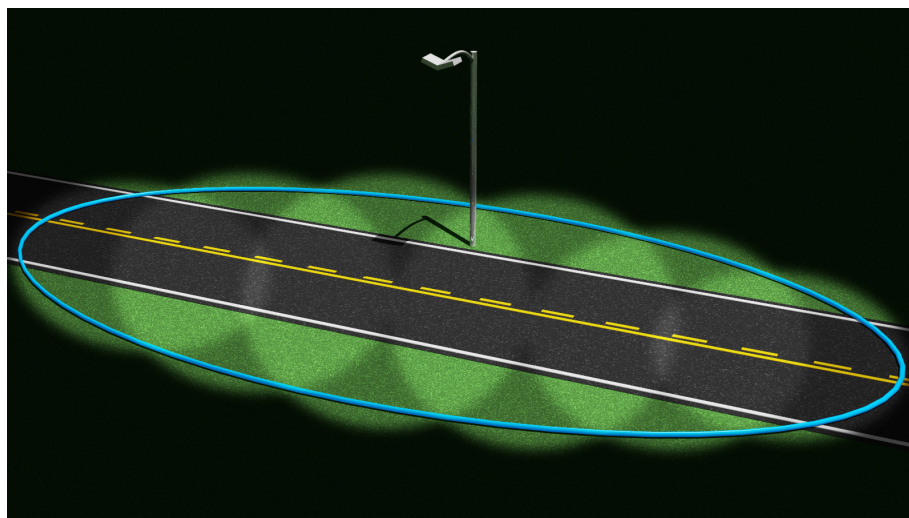
XLamp XR-E LEDs in Street Lighting

The new XLamp XR-E LEDs have a typical light output of 80 lumens per LED @ 350 mA. At these high light output levels, it takes fewer than 100 XR-E Series LEDs to equal the useful light output of a typical streetlight. With the much longer lifetime of XLamp 7090 LEDs, the total cost of ownership of a streetlight is reduced because the LED streetlight does not require costly bulb replacement events every few years.

Cree is taking an active role in fostering the adoption of XLamp LEDs into the street lighting market. We have proven that XLamp LEDs can achieve an IES Type II Medium pattern and are now working on ways to optimize LED light for outdoor lighting applications.



A: "Bare" LED hits near field, **B:** Oval optic hits mid-range, **C:** Collimating optic hits far-end



Cree's prototype works by intentionally directing LED light to all portions of the IESNA Type II specification.