MUNICIPAL LIGHTING
Application Guide

Safer Streets with Dramatically Better Visibility and a Maximized Bottom Line
Staying within your city’s budget can be challenging. Cree Lighting solutions can help maximize your bottom line by reducing the amount of energy and money you spend on maintaining your street lighting system. By delivering a low total cost of ownership with a typical energy savings of 30-70 percent over traditional lighting sources, near zero maintenance costs, and fast payback, upgrading to LED lighting just makes sense.

Upgrade municipal lighting in streets, public buildings, walkways, parking structures, and common areas. Not only will this help keep your operating and maintenance budget in check, it will provide dramatically better visibility — making public areas safe and secure.

- Proven quality & performance
- Ultra-efficient lighting
- Lifetime energy savings
- Reduced maintenance costs
- Easy installation & retrofitting
- Long-term financial benefits
The need to lower operating expenses is ever increasing and especially challenging with the unpredictable maintenance costs of HPS technology. Long-lasting Cree Lighting LED street lights — backed by an industry-leading 10-year limited warranty — eliminate the routine expense of a crew and bucket truck, adding savings back to your bottom line.

Our LED street lights not only last longer, they also use less energy, making the upgrade to Cree Lighting an ideal opportunity for cities to meet their sustainability goals, all while transforming neighborhoods with uniform white light.
ILLUMINATE WALKWAYS WHILE IMPROVING SAFETY

Lighting can play a critical element in shaping visitors’ perceptions of safety — especially when it is a public venue. That’s why the lights defining the walkways, parking lot and surrounding areas of the site are so important.

Cree Lighting exterior LED lights provide exceptional color rendering and crisp white light with superior color accuracy and consistency. So, create the right first impression of your facility with the Cree Lighting difference and see your venue shine in a brand new light. Your facility will stand out — while enhancing public safety and security.
### Cree Edge™ Pathway
- Minimum 70 CRI
- CCT: 4000K (+/-300K), 5700K (+/-500K)
- Colorfast DeltaGuard® finish
- UL wet listed
- Multiple height options

### OSQ Series Area
- Minimum 70 CRI
- CCT: 3000K (+/-300K); 4000K (+/-300K), 5700K (+/-500K)
- NanoOptic® Precision Delivery Grid™ Optic
- Up to 70% energy savings over HID
- Replaces up to 1000W HID

### XSP Series Wall Mount
- Minimum 70 CRI
- Wall mounted area lighting solution
- Slim, low-profile design
- Simple installation hardware
- Industry-leading optical control
SAVE ENERGY: ALL DAY, ALL NIGHT

With parking structures that run 24/7, it is extremely important to balance the need for vehicle and pedestrian safety with minimizing lighting costs. Cree Lighting LED luminaires with multi-level control options can maximize your energy savings in real time by dimming during the day or long periods of low occupancy, and going back to full output instantly with motion detection.

Not only that — our LED luminaires help you create an inviting appearance that will provide a sense of safety and security through properly directed light. Whether it is a pathway, parking structure or the sides of a building, Cree Lighting will focus light exactly where it is needed and avoid areas where it is not needed.

**IG Series Parking Structure**
- Minimum 80 CRI
- Programmable Multi-level options
- Precise low-glare optics
- Designed with 0-10V dimming capabilities standard. (Non-PML versions only)
- Encelium® Enabled

**CPY Series Canopy**
- Minimum 70 CRI
- CCT: 3000K (+/- 300K); 4000K (+/- 300K), 5700K (+/- 500K)
- Direct mount or hook and cord / pendant mount
- Flat or drop lenses available
- Slim, low-profile design

**RUL Series Rural**
- Minimum 70 CRI
- CCT: 3000K (+/- 300K); 4000K (+/- 300K)
- Improved illumination performance
- Significant energy and maintenance savings
- Replaces up to 100W HPS
CRISP, WHITE LIGHTING ENABLES MORE PRODUCTIVE WORK SPACES

An office with a professional and comfortable setting provides the right environment to motivate and uplift employees.

Interior luminaires powered by Cree TrueWhite® Technology, deliver a powerful combination of uniform light distribution with low glare and high color rendering. With the Cree TrueWhite Technology difference, you can show employees that you care about every aspect of their office experience. Cree Lighting LED downlights and troffers provide higher efficacy and longer life, with better light quality than you can expect from traditional fluorescent and incandescent lighting.
LS Series Surface Ambient
- 4' and 8' surface ambient
- Exceptional light quality & color rendering (90+ CRI)
- FD option
- Reflector options deliver up to 6.5% up-light
- 0 to 10V dimming to 5%

ZR Series Troffers
- Cree TrueWhite® Technology
- Delivers up to 5,000 lumens
- Efficacy up to 90 lumens per watt
- Supports 0-10V dimming
- FD option provides leading 130 LPW efficacy at 80 CRI where energy efficiency is paramount

Essentia® Series LED Downlights
- 4", 6" and 8" round apertures, along with wall wash and adjustable accent configurations
- 90 CRI
- CCT: 2700K, 3000K, 3500K or 4000K
- Controls/Dimming: 0-10V continuous dimming to 1%, TRIAC dimming to 10%
EVEN GREATER BENEFITS WITH ONEBUTTON™ SETUP LIGHTING CONTROLS

Simple to design, install, and setup. SmartCast® Technology cuts through the complexity of lighting controls, allowing you to integrate them into your system with a single push of a button.

Through OneButton™ Setup, expect smart lighting that meets or exceeds existing and emerging building codes without adding additional equipment, design effort or installation labor compared to basic legacy control methods. LED luminaires, enabled with SmartCast® Technology, and switches save you money by dimming in response to daylight and vacancy or working in groups to maximize energy savings.

CR Series Troffers
- SmartCast® Technology enabled
- Cree TrueWhite® Technology
- Upgrades most fluorescent troffers
- Delivers up to 5,000 lumens
- Efficacy up to 130 lumens per watt

KR Series Downlights
- SmartCast® Technology enabled
- Cree TrueWhite® Technology and WaveMax® Technology
- Available with 4”, 6” and 8” apertures
- Delivers up to 8,000 lumens
- Efficacy up to 77 lumens per watt

LN Suspended Ambient
- SmartCast® Technology enabled
- Cree TrueWhite® Technology and WaveMax® Technology
- Delivers up to 3,700 lumens
- High efficacy up to 115 lumens per watt
The Cree Lighting Advantage

SMARTCAST® TECHNOLOGY

What if you could easily transform your existing facilities into energy-efficient spaces with automated intelligence to optimize light levels. With SmartCast® Technology, we’ve totally redefined intelligent lighting by making it so intuitive and simple, it just works — for you and for everyone who experiences it.

Within each SmartCast® enabled luminaire, integrated sensors, cutting-edge electronics and software all work together using the language of light and intelligent algorithms to automatically learn and interact with each other and with your space. The result is a seamless application of scalable intelligent light strategies that can save you up to 70% in energy costs while delivering more comfortable, personalized lighting experiences.

And if you’re ready to connect to the Internet of Things (IoT), SmartCast® Technology offers an open, scalable platform that works seamlessly with smart building applications to amplify savings and further optimize environments, delivering even more value. The best part: All of this is employed with OneButton™ Setup, enabling an entire building to be commissioned and connected at one time.

A Platform for Intelligent Lighting

SmartCast® Technology orchestrates the optimal environment for energy efficiency and productivity by setting parameters for brightness and color, adjusting color temperatures to tasks and personal preferences, and tracking improvements.

Innovative Connectivity

SmartCast® Technology with PoE creates secure building-wide networks that connect seamlessly with other building management systems and with the cloud, for even more value.

So Easy, the Building of the Future Can Be the One You’re Already In.

Environmental Awareness and Control

Embedded sensors continually detect and share data on room occupancy and ambient light to fine-tune your environment and energy-saving strategies in real time.

Simple Set-Up and Commissioning

OneButton™ Setup commissions up to 1,000 luminaires in a single step, providing smart lighting that meets existing and emerging buildings codes, wirelessly and over Power over Ethernet (PoE) — live in minutes, not weeks.

Internet of Things
The Cree Lighting Advantage

Cree TrueWhite® Technology
Your interior spaces need to be properly illuminated to provide better, more productive environments. Don’t let insufficient color rendering from poor lighting get in the way of seeing the fine print, reviewing building plans or calculating budgets. A well-lit, aesthetically pleasing environment enhances our ability to inspire, inform and interact with others. Powered by Cree TrueWhite® Technology, only Cree Lighting indoor LED luminaires can deliver our exclusive combination of industry-leading efficacy, 90+ CRI, high R9 values with consistent warm or cool color temperatures. This means our luminaires can provide lifelong color consistency with maximum luminaire efficacy – a true no-compromise solution for applications where energy savings and light quality are equally important. With Cree TrueWhite® Technology, municipalities and citizens alike can enjoy the benefits of highly-efficient, visually appealing lighting.

Comparison: Fluorescent Lighting vs. Cree TrueWhite® Technology LED Lighting

NanoOptic® Technology
With patented NanoOptic® Technology available in more than 20 distributions, Cree Lighting outdoor LED fixtures provide precise optical control for exceptional application performance and energy savings. The NanoOptic® refractor system offers superior light control with more lumens delivered in the target area, improved uniformity ratios and controlled high-angle brightness.

Comparison: High Pressure Sodium Lighting vs. LED Lighting with NanoOptic® Technology

DeltaGuard® Finish
Cree Lighting’s exclusive Colorfast DeltaGuard® Finish protects our LED outdoor fixtures without compromise. Immersive conditioning across 18 stages delivers an e-coat epoxy primer with an ultra-durable powder topcoat, providing unmatched protection against corrosion, UV light, fading and weathering complete with a 10-year limited warranty.
PROVEN PERFORMANCE AND SUPERIOR VALUE.

The innovative technologies that make up Cree Lighting products have revolutionized the lighting industry by making high-quality, sustainable LED lighting affordable and available to all. With this advantage, we remain at the forefront today, dedicated to developing new LED lighting solutions that improve both our customers' spaces and their bottom lines, and all backed by an incredible warranty.

WaveMax® Technology

WaveMax® Technology is a breakthrough in the execution of waveguide technology that challenges industry-standard assumptions of how light is delivered. Featuring up to 90% optical efficiency and precise optical control, WaveMax® Technology enables customers to obtain unmatched visual comfort and improved color quality without sacrificing performance. This transformative technology redefines the limits of fixture design to optimize performance and provides more aesthetic options at an unmatched customer value. Visit creelighting.com/wavemax for more information.

Traditional Metal Halide solution versus Cree Lighting IG Series Parking Structure LED lighting solution: Reston Hospital Center - Reston, VA

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<tr>
<th>Traditional Metal Halide solution</th>
<th>Cree Lighting IG Series Parking Structure LED lighting solution</th>
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<tr>
<td>Typical metal halide color quality</td>
<td>Enhanced, low-glare illumination with 6% uplight and high efficacy</td>
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Cree Lighting 10-Year Limited Warranty

Light your healthcare facility with confidence. Cree Lighting offers a 10-year limited warranty that covers the broadest product range in the industry. To learn more, please visit creelighting.com/warranty.
COMPLETING YOUR INSTALLATION IS AS EASY AS 1...2...3

1 Choose the right outdoor luminaire for your application to significantly reduce energy and maintenance costs while improving your illumination performance.

2 Determine which mount your application requires and choose the appropriate tenon that works with the mount.

3 Contact your local Cree Lighting representative and start enjoying the many benefits of LED lighting.

Available Mounts and Tenons for Cree Lighting Street and Area Luminaires

- **Cree Edge™ Series**
  - Horizontal/Vertical (HV)
  - Direct Mount
  - Steel Round or Square Tenons
  - Internal Mount — Vertical
  - Direct Mount Bracket — **EH0-UNV** Required

- **OSQ Series**
  - Adjustable Arm (AA)
  - Direct Mount (DM)
  - For 2” IP or 2.375 O.D.
  - Vertical or Horizontal Tenon
  - For Square or Round Pole 3-6”
  - (No Tenon or Bracket Needed)

- **LEDway® Series**
  - XSP Series Street
  - Horizontal Tenon (HT)
  - Square Tenons, Internal Mount — Horizontal
  - Round Tenons, External Mount — Horizontal

- **RSW Series Street**

**NOTE:** Some product configurations are not available. Please consult spec sheet for specific availability and for further details.
FREE UP FUNDS TO FINANCE OTHER PROJECTS

MUNICIPAL CAMPUS QUICK FACTS

76% LIFETIME ENERGY SAVINGS

$260K LIFETIME SAVINGS

1.8 Yr. PAYBACK

LED Lighting Products

1. OSQ Series Area
2. Cree Edge™ Series Area
3. IG Series Parking
4. OSQ Series Flood
5. Cree Edge™ Series Pathway
6. XSP Series Wall Pack
7. CPY Series Canopy

* Payback and energy savings are based on the national average electricity rate, recommended maintenance schedule, and typical maintenance costs over common assessment periods (application life).
OVERALL ROADWAY QUICK FACTS

- **42% Lifetime Energy Savings**
- **$50K Lifetime Savings**
- **2.2 Yr. Payback**

**COMMERCIAL ROADWAY FACTS**
- 42% Lifetime Energy Savings
- $19K Lifetime Savings
- 2.1 Year Payback

**MAJOR ROADWAY FACTS**
- 40% Lifetime Energy Savings
- $24K Lifetime Savings
- 2.7 Year Payback

**RESIDENTIAL ROADWAY FACTS**
- 67% Lifetime Energy Savings
- $6K Lifetime Savings
- 1 Year Payback

*Payback and energy savings are based on the national average electricity rate, recommended maintenance schedule, and typical maintenance costs over common assessment periods [application life].
FACILITIES FEATURED IN THIS BROCHURE INCLUDE:

ASU - Boone, CA
Avid Solutions - Winston Salem, NC
Bowsher High School - Toledo, OH
City of Los Angeles - Los Angeles, CA
City of Racine - Racine, WI
City of Santa Maria - Santa Maria, CA
Kenosha Courthouse - Kenosha, WI
Marine Corps Base - Camp Pendleton, CA
NASA - Washington, D.C.
North Carolina State University - Raleigh, NC
Reston Hospital - Reston, VA
Start High School - Toledo, OH
Town of Hempstead - Hempstead, NY
University of Colorado - Boulder, CO

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