

XSP SERIES

LED Street Light. Extended Range.



CREE  TM



OUR SUCCESSFUL FAMILY KEEPS GROWING.

OUTSTANDING PERFORMANCE - Capable of reducing energy usage by 50% compared to traditional light source technologies, the XSP Series couples high efficiency with improved light quality to help make streets safer without wasting resources.

UNBEATABLE VALUE - Engineered to optimise both illumination and economic performance in roadway lighting, the XSP Series is an affordable LED solution that delivers unbeatable value to the street light market.

EXCEPTIONAL RELIABILITY - Built in our state-of-the-art ISO9001 facility, the XSP Series is designed to provide more than a decade of near-maintenance-free service. And it's backed by our industry-leading 10-year limited warranty.

EASY INSTALLATION - With a lightweight body, tool-less entry and quick connection features, the XSP Series can be reliably installed in a few short minutes. This means less disruption to drivers and residents as well as reduced safety risks for installers.

XSP2
Double Module



XSP1
Single Module



XSPM



XSPR



XSP Series - The complete range

XSPM – THE LATEST



EXTENDED Solution

With a range of products available in the XSP product family, this offering covers lighting solutions for all areas and environments. For customers looking to keep to one product specification and aesthetic throughout an area, each luminaire in the extended XSP Series can be installed in a range of environments and adjusted to suit specific project requirements.

QUALITATIVE Reliability

High quality, durable materials guarantee high performance, resistance to corrosion and reliability over time. XSPM couples high efficiency with colour consistency to improve quality of light without wasting resources.

This results in lower operating costs, better performance and unbeatable value, allowing local authorities to focus resources where they matter most.

FOCUSED Design

Style or safety: you don't have to choose. From the city centre to the suburbs, the XSPM has been designed with a focus on the requirements of the EMEA market. The range confirms our commitment to improve and expand our offering to meet a variety of customer needs and market specifications.

CONCRETE Innovation

As LED technology advances, Cree continues to invest in research to stay at the forefront of lighting innovation, increasing the value and performance of our solutions. The wide variety of control options and different variants available create a complete package of adjustable features. For example the Field Adjustable Output option allows the XSPM streetlight to be tuned to the exact needs of its environment.

XSPM - THE BENEFITS OF A BRAND NEW SOLUTION

- A dedicated dissipation system for specific thermal management
- Increased efficacy
- Increased lumen output
- New control options available
- Easier supply chain and customised programming



XSPM - RELIABLE AND EFFICIENT, VERSATILE AND COMPACT

Building upon the innovation of the Cree XSP Series Street Light, the new XSPM luminaire increases lumen output and efficacy compared to its predecessors.

Cree XSPM brings together the latest advancements in LED technology, combining extreme optical control, advanced thermal management and brilliant quality of light.

And it doesn't stop there — we added clean, modern housing (the same cobra-head style as the XSP series) and versatile mounting options, all with an attractive price point.

Whether for new construction or upgrade applications, XSPM is perfect for urban streets, parking lots, internal roadways and general site lighting.

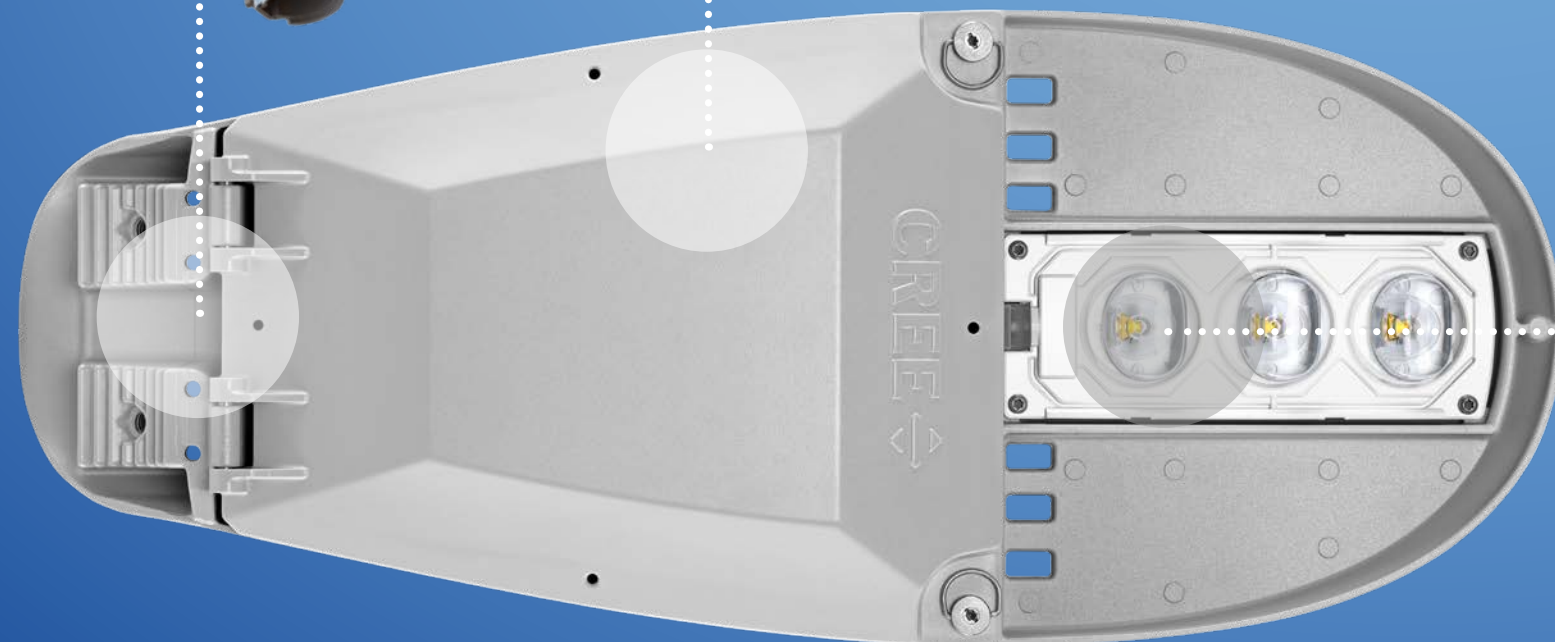
MOUNTING SYSTEM

Mounts on Ø60mm and Ø76mm arms or poles



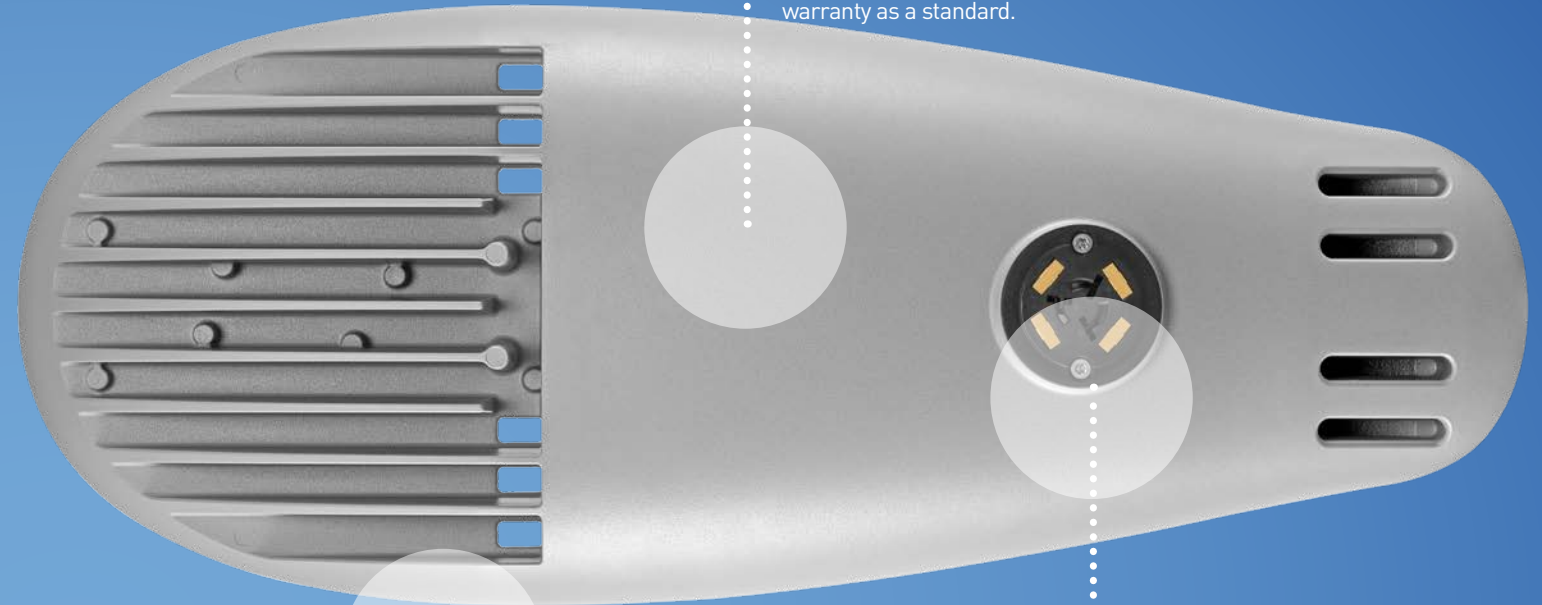
MATERIALS AND CONSTRUCTION

The front door is made of Makrolon®, a Bulk molding compound that is lighter and easier to manage during the installation phase. This also makes it possible to install internal nodes within the fixture, as the wires transmission will not be stopped by the material characteristics.



DELTAGUARD FINISH

Thanks to the new diecast body, diodes can be powered at 1,5A instead of 1,05A without compromising the lifetime of the product. A special alloy with reduced copper content <0,01% has been selected to guarantee the utmost quality in terms of resistance to corrosion and reliability through time. XSPM features our best in class Deltaguard treatment that leads to an exceptional protection of all metal components reaching 10 yrs warranty as a standard.



NEMA SOCKET OPTION

The housing is designed to accommodate a photocell at the top.

A standard Nema® Socket option makes the fixture compatible with additional external sensors to be used within the Smart City scenario.

THERMAL CONTROL

The thermal management in the fixture allows it to work with perfect efficiency, safe from the damaging effects that excessive heat can have on LEDs. XSPM guarantees a lifetime of over 100.000hrs.

NANOOPTIC PRECISION DELIVERY GRID OPTIC

Thanks to the new optical system, it is now possible to control more accurately the LED source light emission, directing the light where it's required.

Cree's Optical Engineers conceived it specifically for the lighting requirements of the European market, with the aim of improving performance in the most widely used configurations.

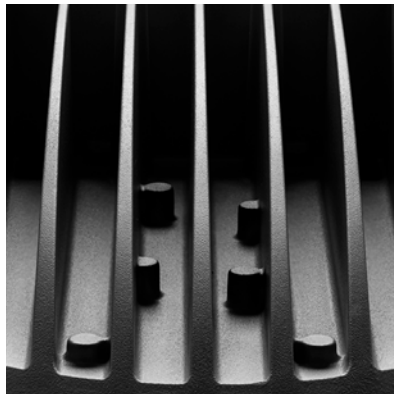
XSP SERIES



Optical Control

A highly refined refractor system offers multiple configuration options to enable site-specific customisation of light quality, improving illumination. The system delivers more lumens in the target area, improves uniformity ratios, and controls high-angle brightness.

The NanoOptics® Precision Delivery Grid™ optic efficiently delivers light where it is needed. Our innovations in LED and optic technologies improve efficiency compared to previous generations of our LED streetlights, and allow luminaires to deliver unmatched efficacy. In addition, the uniform white light makes communities appear cleaner and safer.



Durability

A passive thermal management approach utilises a flow-through heat sink to efficiently draw heat away from the LED chip package, maximising performance and reliability.

Colorfast DeltaGuard® Finish by Cree protects outdoor LED 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.



Smart City ready

A NEMA® receptacle can be mounted on XSP Series streetlights to allow for the installation of photocell controls. The Cree® NEMA 7-pin receptacle is a two-piece rotational receptacle with seven conductors. It can be used with an ANSI C136.10 compliant photocell or shorting cap, or an ANSI C136.41 compatible control system module (both available by other providers).

The receptacle is constructed of durable polycarbonate, and features gaskets on the base of the component to prevent water entering the housing of the luminaire.



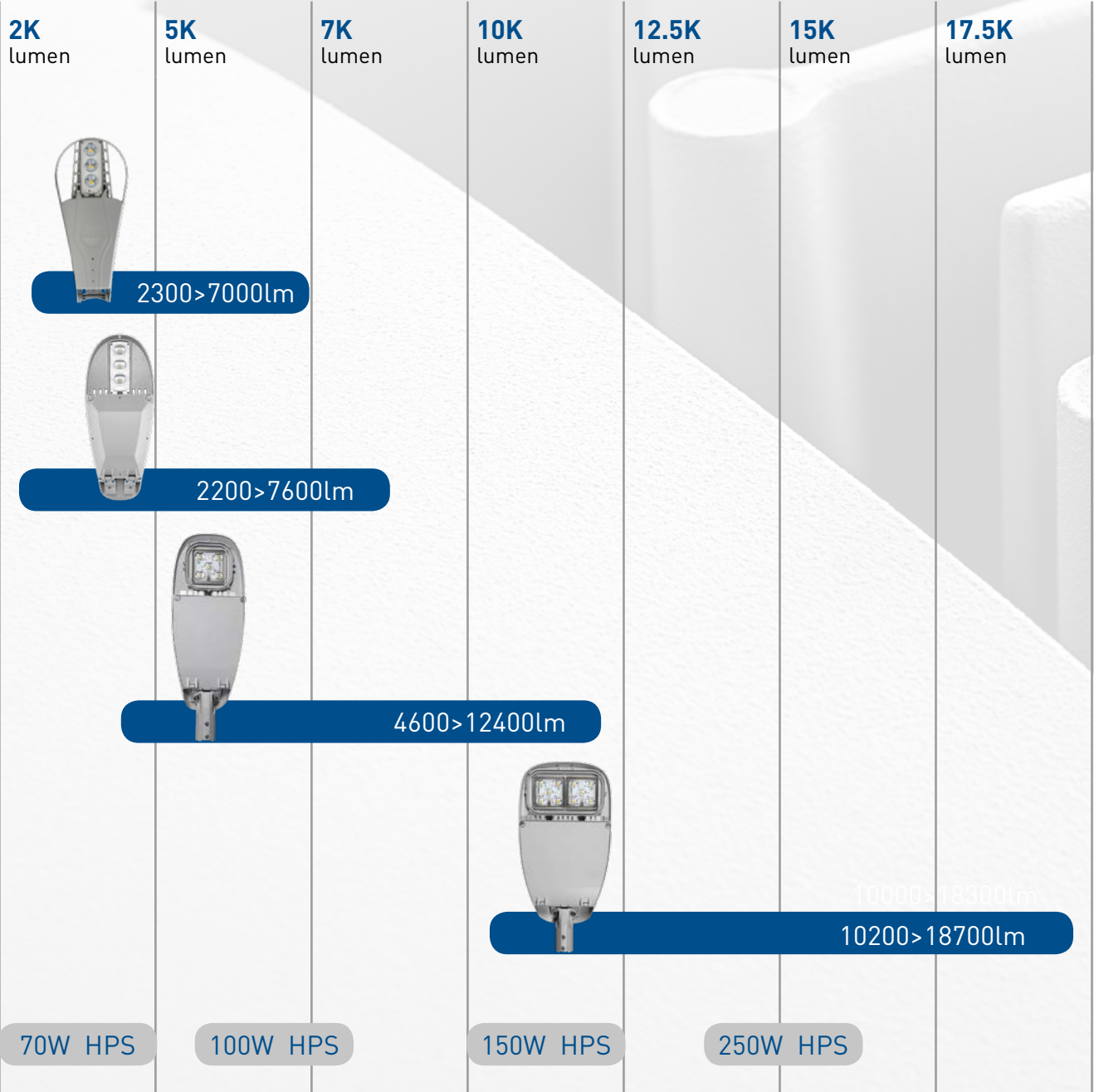
Versatility

The XSP Series offers a range of input powers to suit different markets and applications. With multiple control options and mounting options for two different tenon sizes (60mm or 76mm OD), the versatility of the product range is unmatched in the industry.



XSP RANGE - PERFORMANCE

Every aspect of the XSP Series has been innovated to deliver outstanding illumination, lasting performance and optimum energy efficiency.



Lumen Output @40K

Series Performance at a Glance

Wattage range: 38 - 128W ●

Initial delivered lumens: 2000 - 19000lm ●

Up to 155lm/W ●

10kV surge suppression ●

Improving lighting for residents

The XSP Street Light is capable of providing more than 15 years of near maintenance-free service, meaning extended periods of uninterrupted service for local residents. Improved reliability and fewer service interruptions also lead to fewer outages and a safer outdoor environment.

When selecting roadway lighting, ensuring safety is a top priority. The XSP Series luminaires provide ample lighting for both high traffic areas and in locations where pedestrian security is a concern.

Retrofit to a New Look

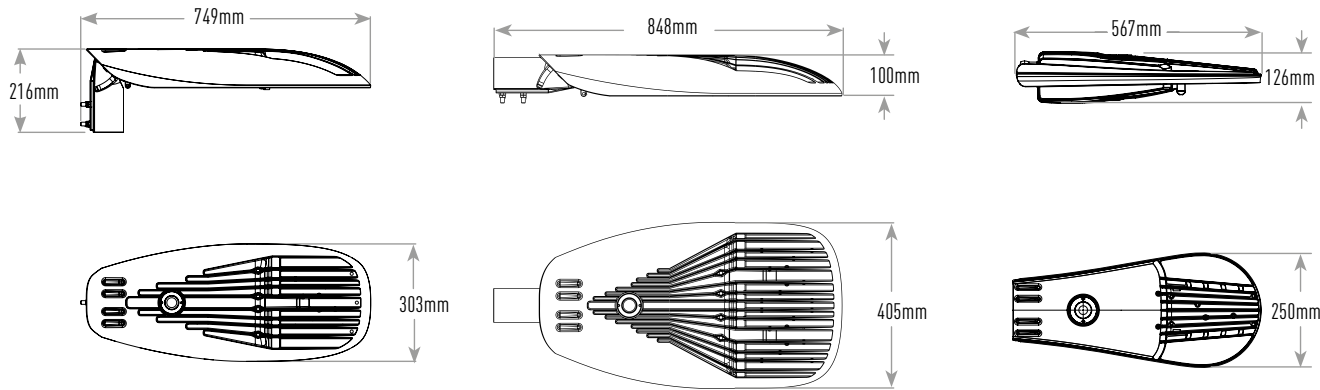
If retrofitting makes financial sense, luminaires from the XSP Series can be installed onto existing systems to replace existing lights. These fixtures can be installed in a matter of minutes, saving communities disruption, time and money.

XSP Street Lights offer a low total cost of ownership through a combination of low installation costs, annual energy savings, targeted illumination and minimal maintenance needs, along with a 10-year limited warranty.



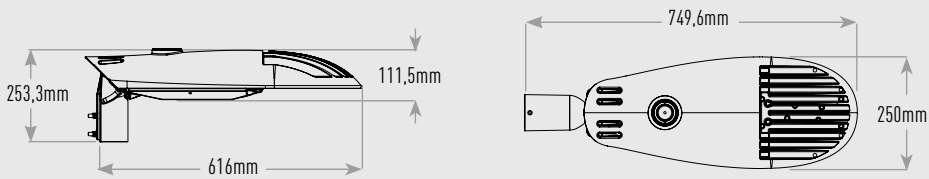
XSP SERIES - KEY FEATURES

XSP streetlights are built to meet the exact standards required by each application. With multiple control options, input power options and a system efficacy reaching 155lm/W, no other streetlight on the market is more versatile.



XSPM - the ultimate design

The concept was to develop a product unparalleled in performance and design: the result is a high-performing LED luminaire with graceful, well-proportioned features. The integrated LED design melds driver, housing and mount seamlessly together to create an extremely long-lasting product.



- Drive current input power flexibility
- ±20° vertical adjustment with 5° incremental positions
- IP66 ingress protection rating
- 10kV surge suppression
- Tool-less entry and quick disconnect harness
- Compatible with networked and non-networked lighting control systems

ILLUMINATION PERFORMANCE

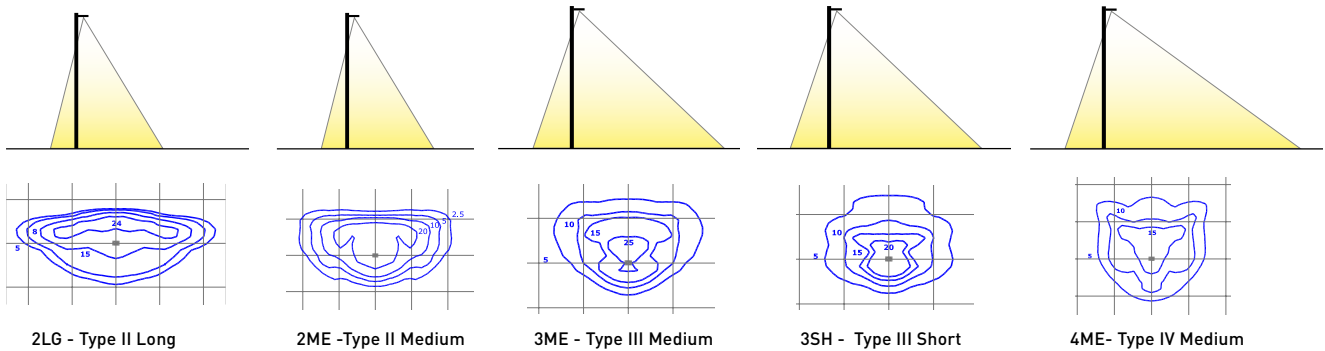
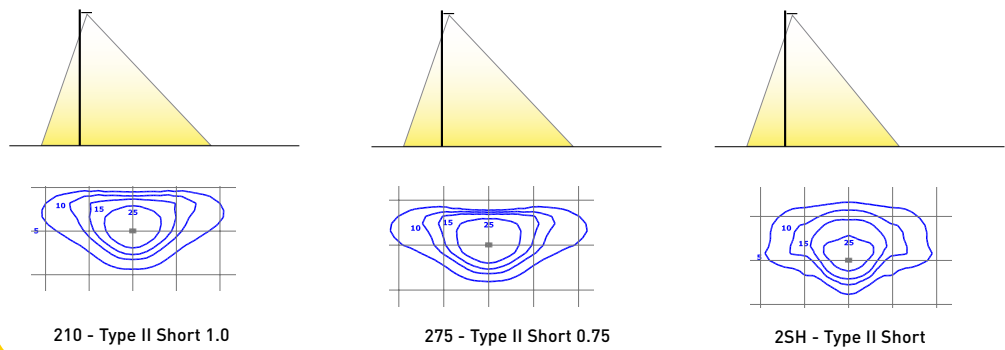
With patented NanoOptic® Precision Delivery Grid™ available in multiple distributions, Cree XSP Series provide precise optical control for exceptional application performance and energy savings. The refractor system offers superior light control with more lumens delivered in the target area, improved uniformity ratios, and controlled high-angle brightness.

Optical system

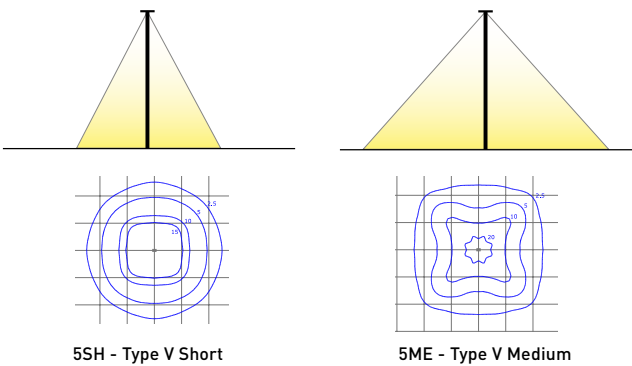
- Utilising highly-diffused performance optics for soft, glare-free light
- Better optical control with our NanoOptic® Precision Delivery Grid™ optic

Through the new optical system, it is now possible to control more accurately the LED source light emission, directing the light where it's required. The intensity distribution of the new optics has been designed by Cree's Optical Engineers specifically for the lighting requirements of the European market, with the aim of improving performance in the most widely used configurations, in both linear or staggered pole positioning situations.

ASYMMETRIC OPTICS FOR STREET LIGHTING



SYMMETRIC OPTICS FOR STREET LIGHTING



SOLUTIONS FOR EVERY APPLICATION

Upgrade municipal lighting in streets, public buildings, walkways, parking structures, and common areas with the Cree XSP Series. 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.



CONTROL OPTIONS

Fixed Output (FX)

We can offer our fixtures pre-set with a fixed power to meet customer needs according to different applications.

Field Adjustable Output (Q)

The Field Adjustable Output option enables the street luminaire to be tuned to the exact light emission needs of a particular application through multiple levels of adjustment, directly on field. Through the selection of a rotary switch, the Field Adjustable Output option offers maximum flexibility to best meet a variety of applications using a single luminaire.

Field Adjustable Output + 1-10V interface (DQ)

Cree offers a simple system for controlling the light emitted by LEDs via a 1-10 V interface added to the Field Adjustable.

It is possible to set the fixture to a determined maximum power output through a rotary switch integrated and manage Dimming by using an external control (not provided).

The different operating conditions available can then be regulated to achieve the best balance between LED expected lifetime, light emission and energy savings, based on the requirements of the application.

DALI Protocol (DL)

Enabled by the DALI Standard, dimmable ballasts, transformers, relay modules, emergency fittings and controllers from different manufacturers can be mixed and matched into a single control system, permitting technicians and end-users to take advantage of a flexible digital lighting system with security of supply from many sources. DALI provides almost unlimited scalability of lighting control systems, is cost-effective through energy-savings and is easy to manage.

DALI lighting systems are easy to operate and provide a high degree of convenience. On a basic function, all connected devices can be controlled simultaneously by broadcast commands, or on a more sophisticated level they can be configured flexibly for task-related lighting scenes, using daylight or occupancy sensors or time controls.

Flux Regulator (RF)

Historically, mains voltage dimming was used on magnetic ballasts to dim conventional (HPS) lamps. By lowering the amplitude of mains voltage, a proportionate reduction in light output was achieved.

Flux Regulator enables cabinet-based dimming without the need for additional control wires or infrastructure changes. A cabinet controller signals to the driver to lower the light output via a reduction in the amplitude of the mains voltage. The intelligence embedded in the LED driver allows for a configuration of multiple dimming levels based on the amplitude of the mains voltage.

The total range of Flux Regulator is 150 V – 240 VAC. The range can be customized via the programming interface. It is possible to set the Start Voltage, Start Percent, Stop Voltage, and Stop Percent.

LineSwitch (G)

The LineSwitch feature requires the use of an extra mains pilot line. This offers a single-step dim solution which enables dimming of groups of luminaires, with only one push of a button, to a predefined level with only a simple switch controlled by a timer, presence detector etc.

This option allows the fixture to operate at two distinct power levels (Low/High mode) via the use of an additional power cable.

The benefit provided by this option is the flexibility to dim up and down at any point – with no timing constraint.

Constant Lumen Output (CL)

The CLO is not a true control system, but a self-regulating system. The CLO fights the natural decay of the LEDs' light output allowing for Energy savings and installation maintenance. Through a gradual rise in current, previously scheduled, it works to maintain the luminous flux constant and over a certain threshold level. The precise programming of the CLO may be influenced by details of the lighting system in question, such as operating conditions, and creating the minimum luminous flux possible.

Virtual Midnight

This stand-alone time-based system has the advantage of not requiring additional wiring. It is very easy to install and highly reliable: the regulation follows preset steps and the results in terms of energy savings are optimum because the device updates itself automatically based on the system's switching on and switching off times.

The reduction in luminous flux is achieved via a self-learning process performed by the fixture. Based on the previous switching on and switching off times, the device determines a hypothetical "virtual midnight" value. The "virtual midnight" value is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The virtual midnight then becomes the point of reference for light emission reduction according to the specified profile.

In detail every lighting fixture can be equipped with a device that regulates the fixture between preset power levels based on the "virtual midnight" calculation.

Within our offer, we propose three different kinds of Virtual Midnights controls:

Virtual Midnight Reprogrammable (Y-Z)

The virtual midnight field programmable option is a proprietary CREE electronic circuit board.

Its added value is that based on a field sequence of switch on/off in the cabinet, the customer can decide during which hours a lower driving current is desired for all the luminaires connected.

This device is built into the fixture and does not require any control cable or any extra operation on the system by the installation technician. The circuit board enables the reduction of the LED driving current which improves energy savings during the middle hours of the night.

The virtual midnight field programmable option is based on the "virtual midnight" mechanism. The factory settings are 3 hours before and 4 hours after the virtual midnight, but the settings can be modified to suit the client's particular needs.

DynaDimmer (DY)

Dynadimmer is an autonomous dimming control that enables simple, pre-programmed customized multistep dimming. Its main function is energy reduction by reducing light levels during the night when it is not required to have full light output.

We can set up a regulation profile with up to 5 different levels, based on the "virtual midnight" mechanism, calculated automatically by the device in the first 3 days of operation.

Chronostep (CR)

The chronoSTEP function takes into account reduced traffic on roads at certain times during the night and enables the lighting to be programmed in 8 individual dimming levels and times.

Individual LED street lights can therefore be programmed with a high degree of flexibility, or entire street runs from a switching cabinet.

Visit **www.cree-europe.com** or contact a Cree lighting representative to learn more.

© 2018 Cree, Inc. All rights reserved. For informational purposes only. Not a warranty or specification. See www.cree.com/lighting for warranty and specifications. Cree®, NanoOptic® and DeltaGuard® are registered trademarks and the Cree logo and XSP™ are trademarks of Cree, Inc. Rev. Date June 2018

