



RSW SERIES

LED STREET LUMINAIRE

Redefining Familiar Light:
The Next Chapter in LED Street Lights.

CREE 





RSW Series Street Luminaire

NOT ALL STREET LIGHTS ARE CREATED EQUAL: DEMAND BETTER

With so much discussion on LED street lighting, selecting the right solution can be challenging. At Cree, we believe choosing better light should be easy, so we've designed the RSW Series to meet the needs of everyone involved in the process: the owner, the installer, as well as the people who live under them.

UNRIVALED VISUAL COMFORT

Forget just illuminating your streets. We want to enhance the experience of those who live under your lights. The RSW Series, with WaveMax® Technology, reduces glare while delivering optimized target illumination and industry-leading efficacy — up to 128 Lumens Per Watt — to improve overall energy efficiency. Finally, a high efficacy LED Street light offered in both warmer (2700K or 3000K) or cooler color temperatures (4000K or 5000K) with excellent color rendering (CRI up to 80).

RELIABLE SAVINGS

Street lighting is a significant investment and it's critical to select the right partner. Cree is the industry leader that designed and manufactured the first LED street light. With unmatched experience and a culture built around innovation, we continue to create products that reliably provide significant energy savings (up to 70% compare to traditional technology) and maintenance savings that shortens pay-backs to put more money back into your budget sooner.

EASY ADVANTAGE

Keeping the installer in mind, we've designed the RSW Series to be easy to install with features like tool-less entry, straight in wiring, bubble level, and adjustable mounting. This lightweight luminaire is constructed of non-conductive, high strength bulk molding compound for durability and installer safety. Plus, it's backed by our industry-leading 10-year limited warranty.



*Small
70-100W HPS Replacement*



*Medium
150W HPS Replacement*



*Large
250W HPS Replacement*



*Extra-Large
400W HPS Replacement*



WITH WAVEMAX[®] TECHNOLOGY,
CREE HAS ONCE AGAIN
REDEFINED BETTER LIGHT.

SHEDDING LIGHT ON THE LENS.

Finding balance between comfort and function has presented challenges in LED street lighting. Municipalities and utilities are tasked with matching the right amount of illumination needed for residents' safety and the solutions that avoid residents' complaints of harsh lighting and perceived glare — through windows in residential areas or impairing a driver's vision on highways.

The RSW™ street light featuring WaveMax® Technology provides decreased LED source luminance by smoothly spreading brightness over a broader area — creating more visually comfortable and appealing environments while exceeding illumination performance, reducing glare and improving visibility. Cree wrote the first chapter in LED street lighting with our first generation of street lights, forever changing how the world thinks about lighting. Now, with the RSW Series, Cree has once again redefined better light.

WAVEMAX® TECHNOLOGY. HIGH TECH WITHOUT LIMITS.

Now comes the latest game-changer from the deep thinkers at Cree: **WaveMax® Technology** – redefining the limits of optical control with unmatched customer value.

Optical Efficiency & Precise Optical Control

WaveMax® Technology represents a breakthrough in the execution of waveguide technology that challenges industry-standard assumptions of how light is delivered. Delivering up to 90% optical efficiency and precise optical control, WaveMax® Technology ensures that light appears just how you want it and exactly where it's needed. All this is achieved while eliminating multiple layers and materials that add complexity and cost. The result? A sensational one-of-a-kind lighting experience that meets the IES recommended practices (RP-8) for street lighting.

90%

DiamondFacet™ Optical Elements

Cree engineers leveraged a property known as Total Internal Reflection, which captures light within the internal geometry of the optical waveguide platform. To release and control the light, Cree engineers devised yet another innovation: DiamondFacet™ optical elements — unique microscopic features located within the optical waveguide platform that extract and deliver light with exceptional control, uniformity and efficiency.



Industry-Leading LED Performance & Functionality

The advances in precise optical control creates low levels of glare that, in parallel with ideal levels of brightness and superior color quality, offer brilliant illumination that creates a more visually comfortable environment without sacrificing efficacy. In both performance and appearance, the The RSW™ LED Luminaire featuring WaveMax® Technology is in a class by itself.



RSW Series Street Luminaire

ENGINEERED FOR A LASTING IMPRESSION.

What is Bulk Molding Compound (BMC)?

Bulk Molding Compound (BMC) is an Engineered Composite. Specifically, a glass-filled thermoset polyester composite. The BMC (raw material) is manufactured (compounded) by mixing strands of chopped glass fibers in a mixer with polyester resin. The glass fibers in BMC result in better strength properties than standard thermoplastic products.

Thermoset vs. Thermoplastic

A thermosetting polymer is a prepolymer in a soft solid or viscous state that changes irreversibly into an infusible, insoluble polymer network by curing.

A thermoplastic polymer is a polymer that becomes pliable or moldable above a specific temperature, and returns to a solid state upon cooling. Most thermoplastics have a high molecular weight that allows thermoplastics to be remolded. In this way, thermoplastics differ from thermosetting polymers, which form irreversible chemical bonds during the curing process.

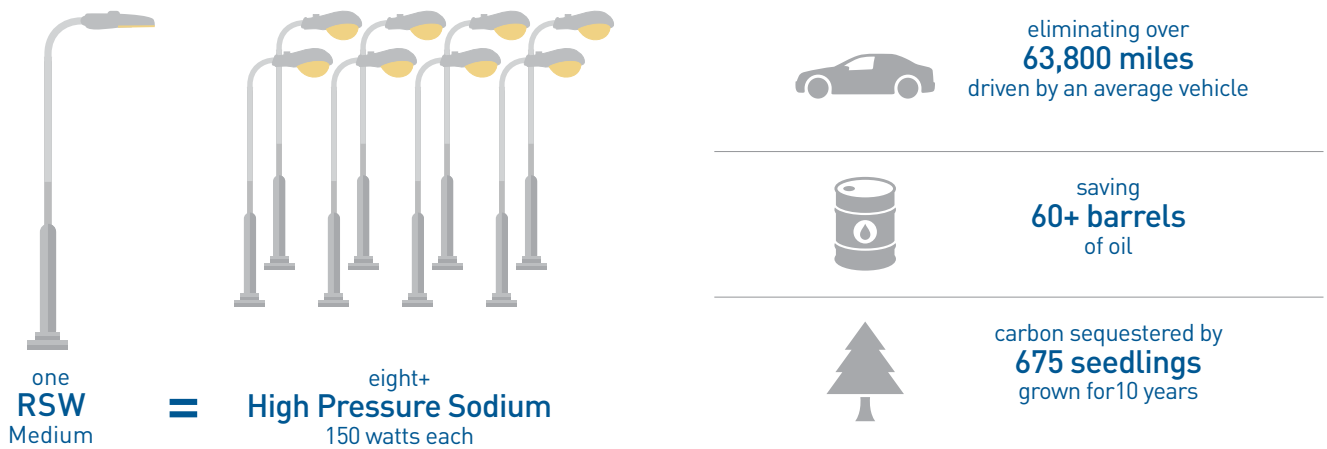
The RSW Series has been tested to the following standards:

- Certified to ANSI C136.31-2001, 3G bridge and overpass vibration standards
- Meets CALTrans 611 Vibration testing
- QUV exposure to ASTM D4329-05 Cycle A: Currently at 1000 hours
- Certified to UL1598 enclosure impact
- IK07 Rated

SAVE ENERGY BEFORE YOU EVEN TURN IT ON.

SUSTAINABILITY MEETS PRACTICALITY.

While Cree is committed to providing innovative and energy efficient products to our customers, we also strive to responsibly manage our products from cradle to grave. With sustainability top of mind, RSW™ LED luminaires were developed to make a lasting impression with minimal environmental impact.

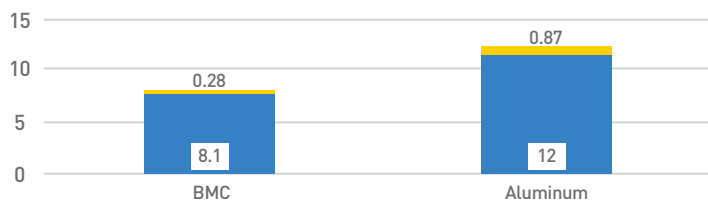


ENVIRONMENTAL IMPACTS OF PRODUCT LIFE CYCLE STAGES

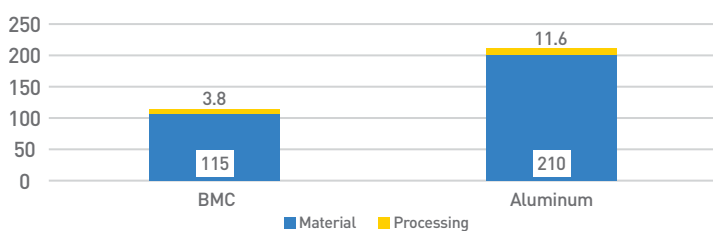
From raw material extraction through manufacturing, transportation, to product use and disposal, the RSW Series using BMC offers significant advantages over alternate materials and processes.

RAW MATERIAL PRODUCTION

Carbon Footprint (kg/kg)



Embodied Energy (MJ/kg)



RSW LUMINAIRE LIFECYCLE

CARBON FOOTPRINT

Total Impacts* **8.14 metric tons CO2e**

Carbon Footprint refers to carbon dioxide (CO2) and other gases that contribute to global warming. Carbon Footprint impacts are measured in CO2 equivalents (CO2e).

TOTAL ENERGY CONSUMED

Total Impacts* **32,504 kWh**

Total Energy Consumed refers to the total non-renewable energy sources required for each of the product's life cycle phases and the upstream energy required to obtain and process this energy.

*Total Impact includes: material, manufacturing, use, transportation and end of life.

For more information on Product Life Cycle, visit: <https://www.cree.com/about/sustainability/environment/product-sustainability/product-life-cycle>

Sources: Materials and the Environment, 2nd Ed., M.F. Ashby (2013); EPA Greenhouse Gas Equivalencies Calculator

LED STREET LIGHTS JUST GOT A WHOLE LOT BETTER.

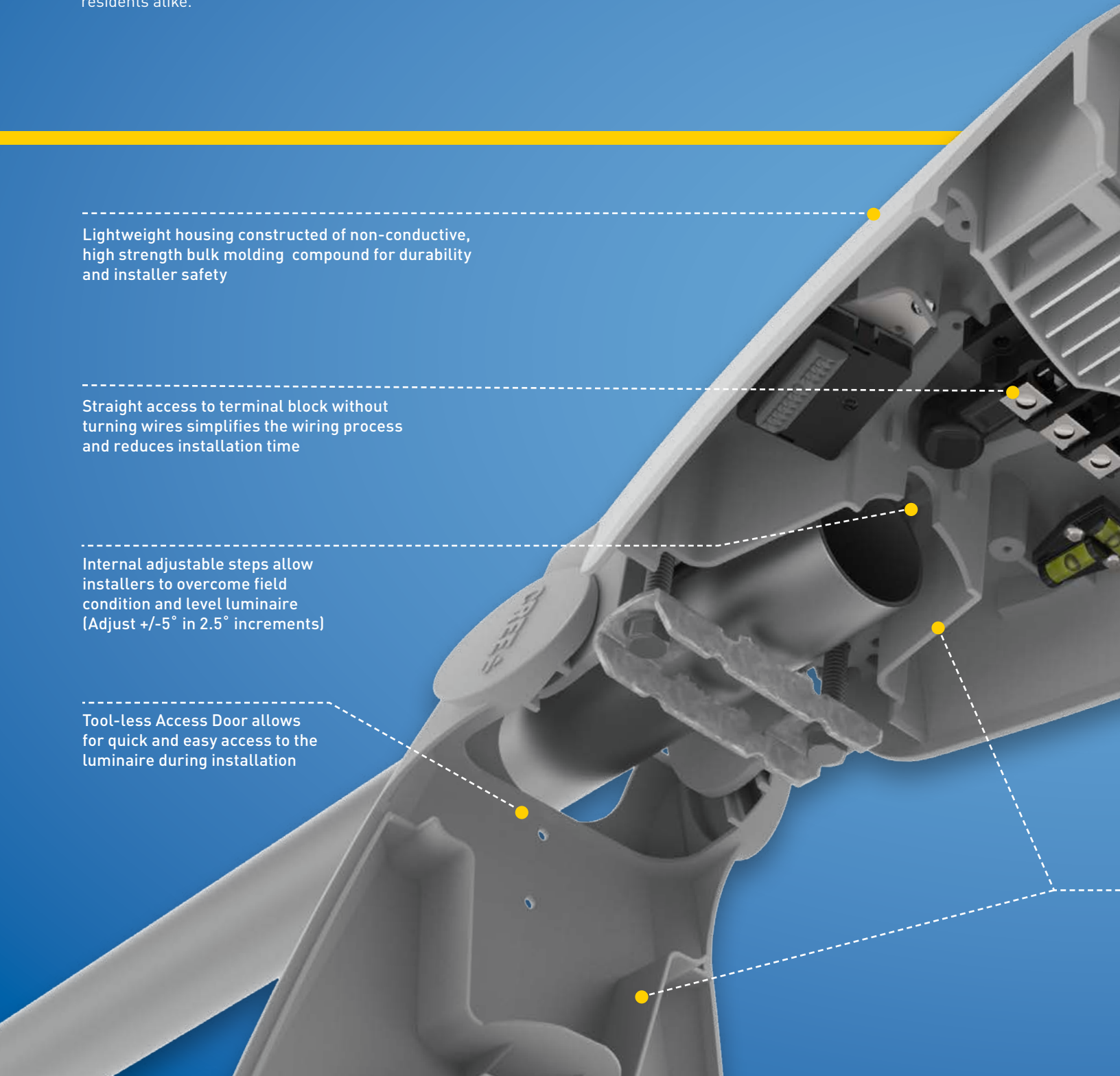
The RSW™ LED Luminaire is a game-changing product that's different than any other LED street light you've seen before. Delivering better light and better value, there is no wonder why the RSW Series is already drawing critical acclaim from public works, municipalities and their residents alike.

Lightweight housing constructed of non-conductive, high strength bulk molding compound for durability and installer safety

Straight access to terminal block without turning wires simplifies the wiring process and reduces installation time

Internal adjustable steps allow installers to overcome field condition and level luminaire (Adjust +/-5° in 2.5° increments)

Tool-less Access Door allows for quick and easy access to the luminaire during installation



Standard 7-pin NEMA® Photocell Receptacle, factory pre-wired for dimming controls



Indirect LED Source helps create a smooth distribution of light and reduces perceived glare

IP66 rated Light Engine Box

WaveMax® Technology: Innovative optical elements capture and distribute light precisely where it's needed while dramatically reducing glare

High-grade aluminum heat sink combines with a flow-thru design for exceptional thermal management and performance

Integrated bubble level located inside the electrical compartment for easy leveling during installation









Integrated bird/critter guard designed to prevent birds and other pesky critters from making their home within the housing

PERFORMANCE THAT EXCEEDS EXPECTATIONS.

Innovation can be defined simply as a “*new idea, device or method.*” However, innovation is also viewed as the application of better solutions that meet new requirements or existing market needs. At Cree, we get it — because we are obsessed with driving change. As LED technology continues to advance, Cree is constantly researching and implementing ways to increase overall performance and viability for the solutions we provide.

PRODUCT SUMMARY	
Utilizes Cree WaveMax® Technology	
Efficacy: Up to 128 LPW	
CCT: 2700K, 3000K, 4000K or 5000K	
Color Rendering Index (CRI): Minimum 70 CRI (3000K, 4000K & 5000K); 80 CRI (2700K, 3000K, 4000K & 5000K)	
Input Voltage: 120-277V or 347-480V, 50/60Hz, Class 1 drivers	
DLC qualified, premium classification (select models)*	
Limited Warranty: 10 years†	
Utility Label and 7-pin NEMA® Photocell Receptacle come standard	

CONSTRUCTION & MATERIALS	
<ul style="list-style-type: none"> • Housing constructed of high strength, lightweight bulk molding compound for durability • UV stabilized polymeric door with handle pocket for tool-less entry • Straight-in wiring to terminal block for power input (#6-#14 AWG) • IP66 rated optic box and driver enclosure inside optic box • Comes standard with Utility Label per ANSI C136.15 and 7-pin NEMA® Photocell Receptacle per ANSI C136.41 • Mounts on 1.25" [32mm] IP, 1.66" [42mm] O.D. or 2" [51mm] IP, 2.375" [60mm] O.D. horizontal tenon (minimum 8" [203mm] in length and is adjustable +/- 5° in 2.5° increments to allow for fixture leveling (two axis T-level included) 	

AWARDS, RECOGNITIONS & CERTIFICATIONS	
       	

ELECTRICAL SYSTEM	
<ul style="list-style-type: none"> • Power Factor: > 0.9 at full load • Total Harmonic Distortion: < 20% at full load • Integral 10kV surge suppression protection standard • 10V Source Current: 0.15mA • Operating Temperature Range: Small & Medium: -40°C - +50°C (-40°F - + 122°F) Large & Extra Large: -40°C - +40°C (-40°F - + 104°F) 	

ACCESSORIES	
Backlight Control Shield RSW-BLSS (Small), RSW-BLSM (Medium) or RSW-BLSL (Large) Designed to control backlight - put the light where you want it and not where you don't. Provides one mounting height cutoff.	Cut-De-Sac Shield RSW-CLSS (Small) or RSW-CLSM (Medium) Designed to provide backlight and sidelight control.
Bird Guard RSW-BRDGRDS (Small) or RSW-BRDGRDM (Medium) Designed to prevent birds from landing or setting up a nest on the luminaire.	Front Light Shield RSW-FLSS (Small) or RSW-FLSM (Medium) Designed to provide front light control.

*Please refer to www.designlights.org/QPL for most current information.

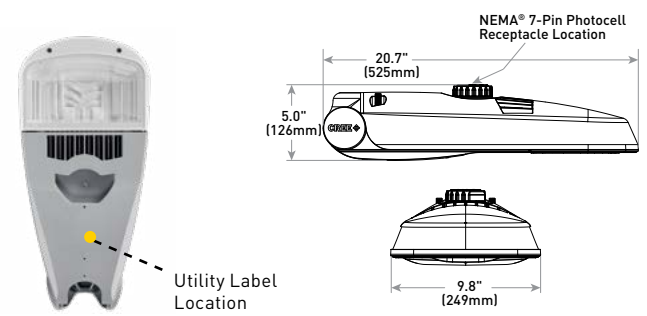
†For complete details on Cree 10-year limited warranty go to lighting.cree.com/warranty

Product specifications subject to change at any time. Visit lighting.cree.com/RSW-Series to find the most up-to-date information.




RSW SMALL

70-100W HPS REPLACEMENT



PERFORMANCE SUMMARY
Initial Delivered Lumens: Up to 5,000 lumens
Input Power: Up to 53 watts
Color Rendering Index (CRI): 70 or 80
CCT: 2700K, 3000K, 4000K, 5000K
Dimensions: L: 20.7" (525mm) / W: 9.8" (249mm) / H: 5.0" (126mm)
Weight: 9.5 lbs. (4.3kg)

APPLICATIONS

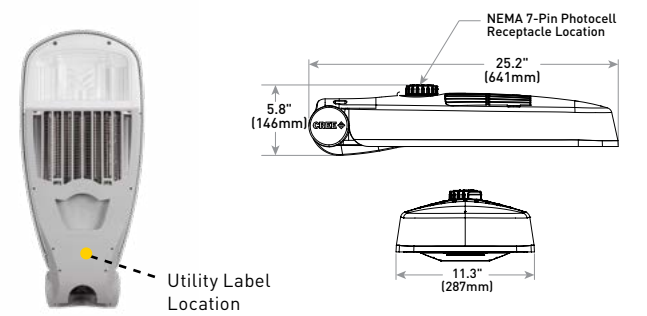


Residential Street Lighting

As you leave or approach your driveway, the RSW Series, with WaveMax® Technology, reduces glare while delivering optimized target illumination. Residents no longer have to live with street lights shining into their living rooms and bedrooms at night.


RSW MEDIUM

150W HPS REPLACEMENT



PERFORMANCE SUMMARY
Initial Delivered Lumens: Up to 9,325 lumens
Input Power: Up to 93 watts
Color Rendering Index (CRI): 70 or 80
CCT: 2700K, 3000K, 4000K, 5000K
Dimensions: L: 25.2" (641mm) / W: 11.3" (287mm) / H: 5.8" (146mm)
Weight: 15.6 lbs. (7.1kg)

APPLICATIONS



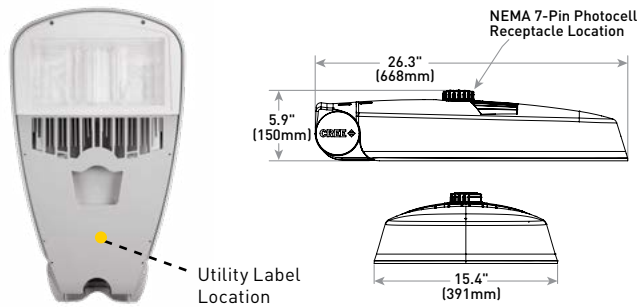
Collector Roads

When leaving the subdivision, let the RSW™ LED luminaire guide you to your next destination. With improved visibility at 80 CRI, you can see nearby vehicles and surrounding areas better to avoid unsafe situations.

ORDERING INFORMATION										
Example: RSWS-A-HT-2ME-3L-30K7-UL-GY-N										
Product	Version	Mounting	Optic	Lumen Package	CCT/CRI	Voltage	Color	Utility Label/Receptacle		Options
RSWS Small	A	HT Horizontal Tenon	2LG Type II Long	3L 3,000 Lumens	27K8 2700K, 80 CRI	UL Universal 120-277V	GY Grey	N Utility Label and NEMA® 7 Pin Photocell Receptacle - External wattage label per ANSI C136.15 - 7-pin receptacle per ANSI C136.41 - Factory connected 0-10V dim leads - Photocell and shorting cap by others		Q4/Q3/Q2/Q1 Field Adjustable Output
RSWM Medium			2ME Type II Medium	5L 5,000 Lumens	30K7 3000K, 70 CRI					SS Stainless Steel Bolts
			3ME Type III Medium	9L 9,000 Lumens	40K7 4000K, 70CRI					X3/X2/X1 Locked Lumen Output
					50K8 5000K, 80 CRI					Q8/Q7/Q6/Q5/Q4/Q3/Q2/Q1 Field Adjustable Output
										SS Stainless Steel Bolts
										X7/X6/X5/X4/X3/X2/X1 Locked Lumen Output

RSW LARGE

250W HPS REPLACEMENT



PERFORMANCE SUMMARY

Initial Delivered Lumens: Up to 14,575 lumens
Input Power: Up to 136 watts
Color Rendering Index (CRI): 70
CCT: 3000K, 4000K, 5000K
Dimensions: L: 26.3" [668mm] / W: 15.4" [391mm] / H: 5.9" [150mm]
Weight: 20.2 lbs. [9.2kg]

APPLICATIONS

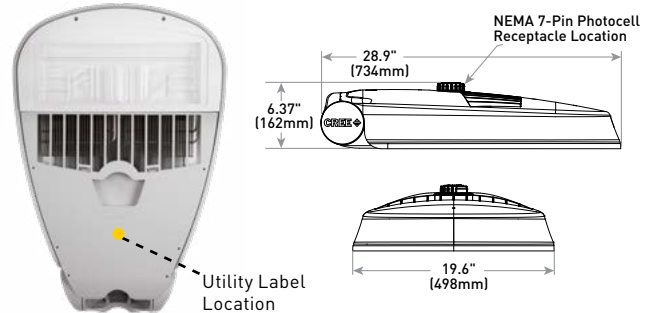


Collector Roads

The RSW Series will make the transition onto the highway an inviting one by using familiar color temperatures while delivering impressive lumens per watt to the streets. Meet your sustainability goals with the transition to LED by utilizing the highly-efficient RSW Series.

RSW EXTRA LARGE

400W HPS REPLACEMENT



PERFORMANCE SUMMARY

Initial Delivered Lumens: Up to 31,300 lumens
Input Power: Up to 244 watts
Color Rendering Index (CRI): 70
CCT: 3000K, 4000K, 5000K
Dimensions: L: 28.9" [734mm] / W: 19.6" [498mm] / H: 6.37" [162mm]
Weight: 28.8 lbs. [13.1kg]

APPLICATIONS



Major Roads & Highways

Imagine cruising down a long stretch of uninterrupted driving. Wait: Lane closure ahead! Virtually maintenance-free, the RSW™ LED Street Luminaire is designed to last 100,000 hours. Now, maintenance crews can focus on more important projects than replacing lamps, and you can get back on your way.

ORDERING INFORMATION

Example: RSWL-A-HT-2ME-14L-40K7-UL-GY-N

Product	Version	Mounting	Optic	Lumen Package	CCT/CRI	Voltage	Color	Utility Label/Receptacle	Options
RSWL Large	A	HT Horizontal Tenon	2LG Type II Long 2ME Type II Medium 3ME Type III Medium	14L 14,000 Lumens 24L 24,000 Lumens 32L 32,000 Lumens	30K7 3000K, 70 CRI 40K7 4000K, 70 CRI 50K7 5000K, 70 CRI	UL Universal 120-277V UH Universal 347-480V	GY Grey	N Utility Label and NEMA® 7 Pin Photocell Receptacle - External wattage label per ANSI C136.15 - 7-pin receptacle per ANSI C136.41 - Factory connected 0-10V dim leads - Photocell and shorting cap by others	4BLT Four Bolt Mounting Q9/Q8/Q7/Q6/Q5/Q4/Q3/Q2/Q1 Field Adjustable Output SS Stainless Steel Bolts X8/X7/X6/X5/X4/X3/X2/X1 Locked Lumen Output
RSWX Extra Large									

LET US ENLIGHTEN YOU.

With so much discussion around LED street lighting, selecting the right solution can be challenging. At Cree, we believe choosing better light should be easy. And that's why we want to connect you with valuable organizations, terminology overviews and tools that assists you through the product selection process and discover better light.

Restriction of Hazardous Substances

Restriction of Hazardous Substances (RoHS) restricts the use of materials that are hazardous to the environment — polluting landfills and are dangerous in terms of occupational exposure during manufacturing and recycling. For more information, go to: rohsguide.com



DesignLights Consortium

The DesignLights Consortium® (DLC) establishes specifications to identify and verify the highest-performing products and systems for energy-efficiency and quality. They provide tools like the largest verified list of high performing LED lighting products: the DLC Solid-State Lighting [QPL](http://www.designlights.org). For additional information, go to: www.designlights.org



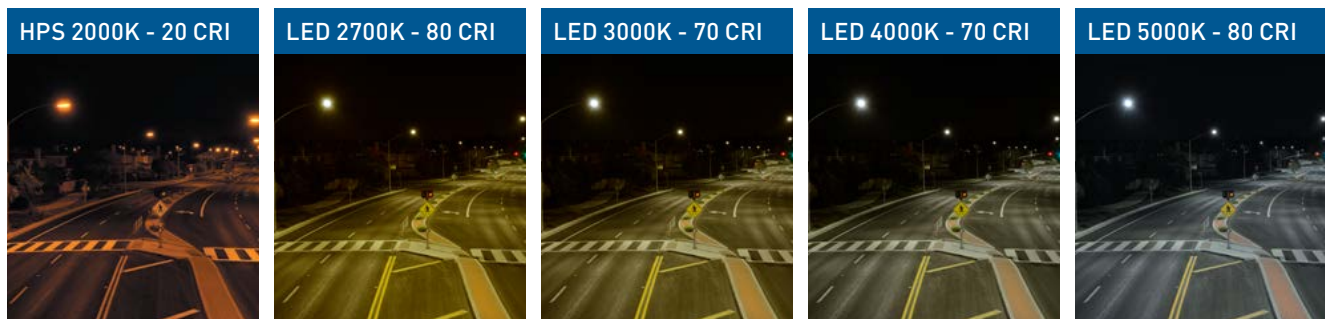
UL

UL fosters safe living and working conditions through the application of science to solve safety, security and sustainability challenges. The UL Mark engenders trust enabling the safe adoption of innovative new products and technologies. UL tests, inspects, audits, certifies, validates, advises and trains and supports those efforts with software solutions for safety and sustainability. To learn more, visit www.UL.com



International Dark Sky Association

The International Dark-Sky Association (IDA) is a nonprofit organization, working to build awareness about the negative impacts of light pollution and preserve the nighttime environment through public education, conservation, and the certification of environmentally responsible outdoor lighting, including the RSW Series. To learn more, go to: www.darksky.org.



Representation of CCT Range and CRI differences

WHAT A DIFFERENCE, WHEN YOU SEE STREETS CLEARLY — IN COLOR.

CCT

Correlated Color Temperature (CCT) is the color appearance of a light source, relating the color to a reference source heated to a particular temperature. Measured in Kelvins (K). Selecting the right CCT should depend on the application and driving speed of the roadway. There are also studies that indicate that warmer CCT light sources deliver less perceived glare — from a visual comfort/discomfort perspective.

CRI

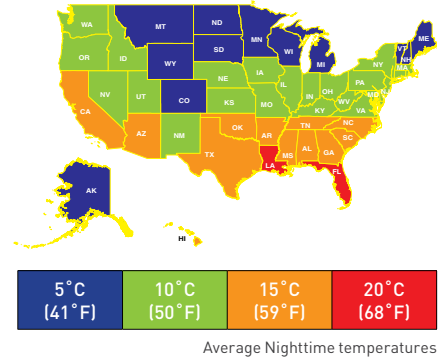
CRI is the industry's most widely accepted method of predicting the ability of a light source to render colors accurately. When it comes to driver safety and resident security, it only makes sense to have the ability to see street signs, crosswalks and potential criminals more clearly.

What is Lifetime, really?

Lumen Maintenance Factors (LMF) are critical for lighting design and accurately predicting the amount of lumen depreciation (light loss) over time.

During evaluation, consider the determining factors that affect lumen depreciation:

- Product
- Ambient nighttime temperatures
- Desired application life (duration)



Targeting Visual Comfort

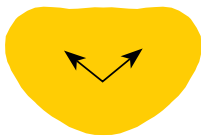
At Cree, we want to enhance the experience of those who live under our lights. The RSW Series greatly reduces glare and improves visibility with exceptional light quality and distribution. RSW™ LED street lights have improved ratings for backlight, up-light and glare (BUG ratings) to direct more light on the road and away from neighboring properties — making it more comfortable lighting experience while meeting tight local ordinances and International Dark-Sky (IDA) requirements.

Cree's WaveMax® Technology uses an indirect LED source to eliminate a direct view of the light source. This minimizes glare, reduces light trespass, and creates a non-pixelated appearance that limits visibility of the LED "spots and dots" from residents or drivers passing by.



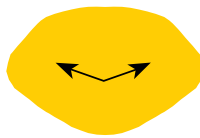
Light Distributions

Luminaire distributions are defined by IESNA based on classifications that portray the transverse distribution pattern of the luminaire. These classifications can be used as a guide but generally are not used to define project parameters or comparisons.



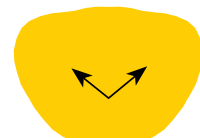
Type II Medium

Type II distribution is generally used in applications that require good side-to-side throw but need more forward light for wider coverage areas. Type II distributions are often used for 2-lane roadways including bike lanes and the sidewalk across the pole.



Type II Long

The Type II Long distribution is generally used in applications that require good side-to-side throw but need less forward light for narrow coverage areas. Type II distributions are often used for 2-lane residential streets, alleyways and discontinuous neighborhood lighting.



Type III Medium

The Type III distribution fits applications that require wide cover areas to the front and side. These are often used in wider local roads with parking, intersections, cul-de-sacs.



For RSW performance data and BUG ratings, go to lighting.cree.com/RSW-Series.

Visit **lighting.cree.com/RSW-Series** or contact a Cree lighting representative to learn more.

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