

CS Series with Cree SmartCast® Technology

CS18™ 8' LED Suspended Ambient Luminaire

Product Description

The CS18™ LED linear luminaire with Cree SmartCast® Technology, Cree's intelligent light solution, provides extreme energy productivity and code compliance – all with installation that's so intuitive and simple, it just works. Cree SmartCast® Technology products incorporate integrated ambient and occupancy sensing and wireless communication to achieve energy savings and extended product life resulting in lower electricity bills, reduced maintenance, and an improved total cost of ownership over traditional lighting control systems.

Performance Summary

| |
|--|
| Utilizes Cree TrueWhite® Technology |
| Room-Side Heat Sink |
| Initial Delivered Lumens: 7,500-8,000 lumens |
| Input Power: 70-75 watts |
| CRI: 90 |
| CCT: 3500K, 4000K |
| Input Voltage: 120-277 VAC |
| Limited Warranty*: 10 years |
| Controls: Cree SmartCast® Technology |
| Mounting: Suspended or Surface with Tong Hangers |
| Dimensions: L 96" [2438mm] x W 10" [254mm] x H 7.8" [198mm] |
| Weight: Max. 13 lbs. [5.9kg] |

* See <http://lighting.cree.com/warranty> for warranty terms

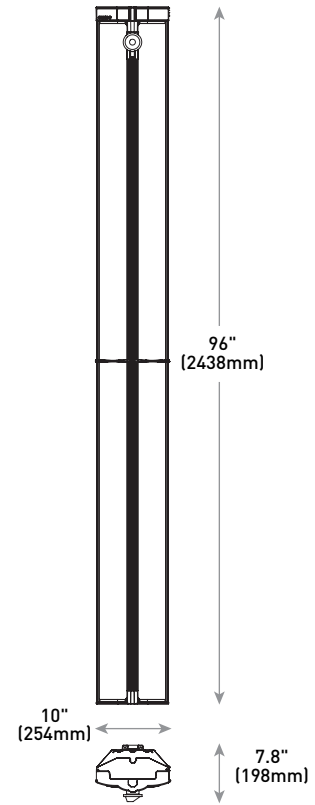
Accessories

| Field-Installed | |
|---|---|
| Metal Tong Hanger (Pair)† - Recommended for surface mount TMM Adjustable Cable Support Kits‡ AC5-48-Q14B-TB AC2-48-Q14B-TB Adjustable Loop Cable Support Kits‡ AC-144-Q14B-LP Adjustable Power Feeds with Cable Support Canopy Kits‡ AC5-12/3-48-Q14B-JB - For use in non-dimming applications AC5-18/5-48-Q14B-JB - For use in dimming applications Adjustable Power Feed Canopy Cable Kits‡ PC5-12/3-24-JB - For use in non-dimming applications PC5-18/5-24-JB - For use in dimming applications | Cree SmartCast® Technology Configuration Tool** CCT-CWC-1 - One required per project when CMA control is selected Cree SmartCast® Technology Face Plates*** CFP-1-WH - Matching Cree face plate, 1-gang, white CFP-2-WH - Matching Cree face plate, 2-gang, white CFP-3-WH - Matching Cree face plate, 3-gang, white Cree SmartCast® Technology Wireless Dimmer*** CWD-CWC-WH Cree SmartCast® Technology Wireless Switch*** CWS-CWC-WH |

† Refer to the [CS & LS Accessory spec sheet](#) for more details

** Refer to the [Configuration Tool spec sheet](#) for more details

*** Refer to the [Wireless Dimmer SmartCast Control spec sheet](#) for more details



Ordering Information

Example: CS18-80LHE-35K-CMA

| CS18 | | | | CMA |
|---------|--|--|------------------------------|---|
| Product | Initial Delivered Lumens | CCT | Voltage | Controls |
| CS18 | 75L 75W, 7,500 lumens – 100 LPW 80LHE 70W, 8,000 lumens – 114 LPW | 35K 3500K 40K 4000K | Blank 120-277 Volt | CMA Cree SmartCast® Technology - Integral motion and ambient sensors and wireless communication |



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Product Specifications

CREE SMARTCAST® TECHNOLOGY

Cree SmartCast® Technology is the most intuitive and easiest to install intelligent light solution on the market. SmartCast Technology delivers up to 70% energy savings at up to half the cost of other solutions. Luminaires combine best-in-class light with onboard sensors and intelligence to deliver a better light experience. Extreme energy productivity, code compliance and a better light experience without any extra design, installation or setup work.

CREE TRUEWHITE® TECHNOLOGY

A revolutionary way to generate high-quality white light, Cree TrueWhite® Technology is a patented approach that delivers an exclusive combination of 90+ CRI, beautiful light characteristics, and lifelong color consistency, all while maintaining high luminous efficacy – a true no compromise solution.

THERMAL MANAGEMENT

An innovative thermal management system designed to maximize cooling effectiveness by allowing free air movement around the heat sink and through the luminaire. This breakthrough design enables the LEDs to consistently run cooler, providing significant boosts to lifetime, efficacy, and color consistency.

CONSTRUCTION & MATERIALS

- High strength, lightweight polymer forms the reflector and driver housing
- Multi-functional heat sink and light bar doubles as the wireway for through wiring harness
- Two plastic tong hangers provided for suspended installations. TMM metal tong hanger accessory recommended for surface installations. One tong hanger per unit plus one per row is required for continuous row applications
- Hangers are adjustable along luminaire to accommodate existing mounting points for upgrade projects. Hanger support required within 18" (457mm) of end of luminaire
- Individual luminaires may be connected end to end for continuous row mounting. Easy removal of individual luminaires mounted in continuous row
- Not intended for use in environments containing airborne corrosive agents such as chemical solvents, cleaners, or cutting fluids

OPTICAL SYSTEM

- High-efficiency reflector with MicroMixing™ Optics which integrates the intense direct LED light and distributes optimally mixed indirect white light resulting in a comfortable appearance while maintaining high-efficiency optics
- Indirect LED strip eliminates direct view of highly efficient, lighting quality LEDs

ELECTRICAL SYSTEM

- Room-side wiring access chamber with hinged door for easy electrical access
- Integral through wiring harness (3#12 AWG power) with quick-connect plug connectors for easy and efficient continuous row installations while minimizing branch circuit wiring
- Integral, high-efficiency driver
- **Power Factor:** = 0.9 nominal
- **Input Power:** Stays constant over life
- **Input Voltage:** 120V-277V, 50/60Hz
- **Operating Temperature Range:** 0°C - + 35°C (32°F - + 95°F)
- **Total Harmonic Distortion:** < 20%
- **Operating Humidity:** < 80% non-condensing
- **Dimming:** 5% - 100%

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for damp locations
- Designed for indoor use
- DLC qualified. Please refer to www.designlights.org/QPL for most current information
- RoHS compliant. Consult factory for additional details
- Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions

Cree SmartCast® Technology

INTEGRAL MOTION SENSOR

- Passive infrared (PIR)
- **Coverage area:** 600 sq. ft. (182.9m²) at 12.5 ft. (3.8m) mounting height
- Not intended to be mounted higher than 21 ft. (6.4m)
- **Operation:**
 - Grouped with a wall control: Luminaire will operate in vacancy mode (manual-on/auto-off)
 - Not grouped with a wall control: Luminaire will operate in occupancy mode (auto-on/auto-off)
- Luminaires operate at full intensity until OneButton™ Setup is initiated by the Cree Configuration Tool

AMBIENT LIGHT SENSOR

- Sensor response matches response of human eye
- Not intended to be mounted higher than 21 ft. (6.4m)
- Luminaires operate at full intensity until OneButton™ Setup is initiated by the Cree Configuration Tool
- Daylight harvesting calibration performed automatically during OneButton™ Setup

INTEGRAL WIRELESS COMMUNICATION

- 2.4GHz wireless mesh technology with AES 128-bit encryption
- Self assigns to quietest channel during OneButton™ Setup
- **Range:**
 - 30 ft. (9.1m) in typical commercial applications
 - 300 ft. (91.4m) open air without obstructions
- **Network:** 250 devices max.
- **Space:** 100 devices max. per group
- FCC certified
- IC certified

LUMINAIRE

- Luminaires operate at full intensity until OneButton™ Setup is initiated by the Cree Configuration Tool
- 10 year power fail memory of settings

DEPLOYMENT

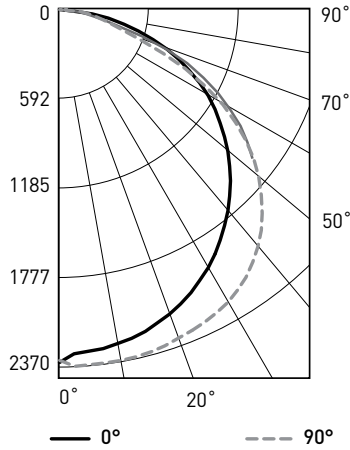
- Please refer to the SmartCast® Deployment Guide at www.creelink.com/exLink.asp?236135640H88E44139771048

CS18™ 8' LED Suspended Ambient Luminaire with Cree SmartCast® Technology

Photometry

CS18-75L-40K-10V BASED ON CESTL REPORT TEST#: 2012-0090

Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08. IESNA LM-79-08 specifies the entire luminaire as the source resulting in a luminaire efficiency of 100%.



| Coefficients Of Utilization – Zonal Cavity Method | | | | |
|---|-----|-----|-----|-----|
| RC %: | 80 | | | |
| RW %: | 70 | 50 | 30 | 10 |
| RCR: 0 | 119 | 119 | 119 | 119 |
| 1 | 109 | 104 | 99 | 95 |
| 2 | 98 | 90 | 83 | 77 |
| 3 | 89 | 79 | 70 | 64 |
| 4 | 82 | 69 | 60 | 54 |
| 5 | 75 | 62 | 53 | 46 |
| 6 | 69 | 55 | 46 | 40 |
| 7 | 64 | 50 | 41 | 35 |
| 8 | 59 | 46 | 37 | 31 |
| 9 | 55 | 42 | 33 | 28 |
| 10 | 52 | 38 | 30 | 25 |

Effective Floor Cavity Reflectance: 20%

| Zonal Lumen Summary | | | |
|---------------------|--------|--------|-----------|
| Zone | Lumens | % Lamp | Luminaire |
| 0-30 | 1,879 | N/A | 25.1% |
| 0-40 | 3,155 | N/A | 42.1% |
| 0-60 | 5,860 | N/A | 78.2% |
| 0-90 | 7,483 | N/A | 99.8% |
| 0-180 | 7,496 | N/A | 100% |

| Average Luminance Table (cd/m ²) | | | | |
|--|-----|------------------|-------|-------|
| | | Horizontal Angle | | |
| | | 0° | 45° | 90° |
| Vertical Angle | 45° | 3,745 | 4,339 | 4,474 |
| | 55° | 3,754 | 4,400 | 4,369 |
| | 65° | 3,727 | 4,145 | 3,629 |
| | 75° | 3,493 | 2,612 | 2,320 |
| | 85° | 1,883 | 2,284 | 2,622 |

Reference lighting.cree.com/products/indoor/suspended-ambient/cs-series for detailed photometric data

| Electrical Data* | | | | | |
|--------------------------|-----------------------|---------------|------|------|------|
| Initial Delivered Lumens | System Watts 120-277V | Total Current | | | |
| | | 120V | 208V | 240V | 277V |
| 75L | 75 | 0.63 | 0.36 | 0.31 | 0.27 |
| 80LHE | 70 | 0.58 | 0.34 | 0.29 | 0.25 |

* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V +/- 10%

| Recommended CS Series Lumen Maintenance Factors (LMF) ¹ | | | | | |
|--|-------------|-----------------------------------|-----------------------------------|------------------------------------|-------------------------------------|
| Ambient | Initial LMF | 25K hr Projected ² LMF | 50K hr Projected ² LMF | 75K hr Calculated ³ LMF | 100K hr Calculated ³ LMF |
| 0°C (32°F) | 1.05 | 1.05 | 1.03 | 1.01 | 0.99 |
| 5°C (41°F) | 1.04 | 1.04 | 1.02 | 1.00 | 0.98 |
| 10°C (50°F) | 1.03 | 1.03 | 1.01 | 0.99 | 0.97 |
| 15°C (59°F) | 1.02 | 1.02 | 1.00 | 0.98 | 0.96 |
| 20°C (68°F) | 1.01 | 1.01 | 0.99 | 0.97 | 0.95 |
| 25°C (77°F) | 1.00 | 1.00 | 0.98 | 0.96 | 0.94 |
| 30°C (86°F) | 0.99 | 0.99 | 0.97 | 0.95 | 0.93 |
| 35°C (95°F) | 0.98 | 0.98 | 0.96 | 0.94 | 0.92 |

¹ Lumen maintenance values at 25°C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing
² In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip
³ In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip