

CS Series

CS14™ 4' LED Suspended Ambient Luminaire

Product Description

The CS14™ LED linear luminaire delivers up to 4,000 lumens of exceptional 90 CRI light. This breakthrough performance is achieved by combining the high efficacy and high-quality light of Cree TrueWhite® Technology and Cree MicroMixing™ Optics with a unique thermal management approach. The CS14 is available in neutral or cool color temperatures and has 0-10V dimming as standard. Its compact, lightweight design makes it easy to install, making the CS14 perfect for use in grocery retail, showrooms and light industrial applications in new or upgrade construction.

Performance Summary

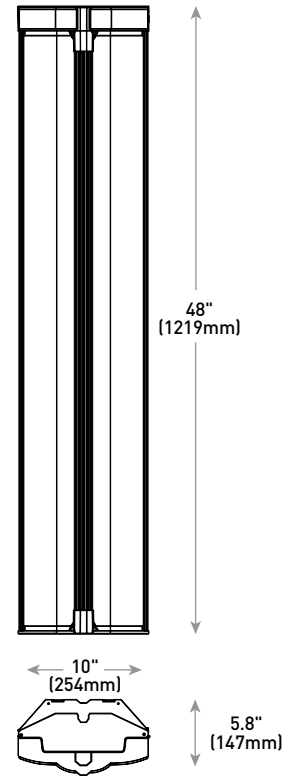
Utilizes Cree TrueWhite® Technology
Room-Side Heat Sink
Initial Delivered Lumens: 2,200-4,000 lumens
Input Power: 22-38 watts
CRI: 90
CCT: 3500K, 4000K
Input Voltage: 120-277 VAC
Limited Warranty*: 10 years
Controls: 0-10V Dimming to 5%
Mounting: Suspended or Surface with Tong Hangers
Dimensions: L 48" (1219mm) x W 10" (254mm) x H 5.8" (147mm)
Weight: Max. 8 lbs. (3.6kg)

* 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† AC5-18/5-48-Q14B-JB - For use in dimming applications AC5-12/3-48-Q14B-JB - For use in non-dimming applications	Wireless 0-10V Dimming/Switching Interface with Cree SmartCast® Technology CIF-10V - For use with luminaires with 10V controls when integral SmartCast isn't available Cree SmartCast® Technology Configuration Tool CCT-CWC-1 - One required per project when CIF-10V is selected

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



Ordering Information

Example: CS14-40LHE-35K-10V

Product	Initial Delivered Lumens	CCT	Voltage	Control
CS14	22L 22W, 2,200 lumens – 100 LPW 38L 38W, 3,800 lumens – 100 LPW 40LHE 36W, 4,000 lumens – 111 LPW	35K 3500K 40K 4000K	Blank 120-277 Volt	10V 0-10V Dimming to 5%



Rev. Date: V3 06/01/2016



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Product Specifications

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 and 2#18 AWG 0-10V) 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
- **10V Source Current:** 0.25mA

CONTROLS

- Dimmable to 5% with 0 to 10V DC control protocol. For use with Class 1 or Class 2 dimming systems. Use only lighting controls with relay or FET-based outputs, or lighting controls with neutral connection. Reference www.creelink.com/exLink.asp?70982140Z58R34I26620963 for recommended dimming controls and wiring diagrams

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

Electrical Data*					
Initial Delivered Lumens	System Watts 120-277V	Total Current			
		120V	208V	240V	277V
22L	22	0.18	0.11	0.09	0.08
38L	38	0.32	0.18	0.16	0.14
40LHE	36	0.30	0.17	0.15	0.13

* 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 (77°F) 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

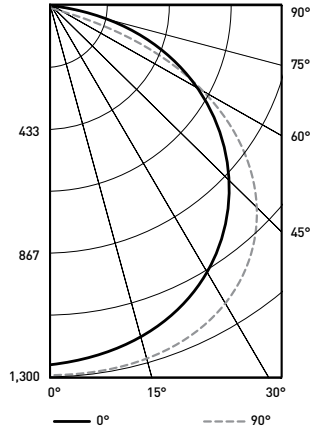
³ In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6x) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip



Photometry

CS14-40LHE-40K-10V BASED ON CESTL REPORT TEST #: 2015-0055

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	96
2	99	90	83	77
3	90	79	70	64
4	82	70	61	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	1,027	N/A	25.2%
0-40	1,722	N/A	42.3%
0-60	3,195	N/A	78.4%
0-90	4,075	N/A	100%
0-180	4,075	N/A	100%

Average Luminance Table (cd/m ²)				
Vertical Angle	Horizontal Angle			
		0°	45°	90°
	45°	4,409	4,992	5,117
55°	4,428	5,063	4,987	
65°	4,365	4,793	4,089	
75°	3,984	3,028	2,721	
85°	2,021	2,741	3,136	

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

