

CR Series

CR14™ 1' x 4' Architectural LED Troffer with Cree SmartCast™ Technology

Product Description

The CR14™ architectural LED troffer with Cree SmartCast™ Technology delivers exceptional lighting performance combined with simple lighting controls that are easy to use and install. 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. And now, CR Series troffers with Cree SmartCast™ Technology offer field adjustable color temperatures, simplifying project specification, ordering and installation by allowing one troffer to be used in any space regardless of color temperature preference.

Performance Summary

Utilizes Cree TrueWhite® Technology
Active Color Management
Room-Side Heat Sink
Efficacy: 100-131 LPW
Initial Delivered Lumens: 4000 lumens
Input Power: 30-40 watts
CRI: 90 CRI
CCT: 3000K, 3500K, 4000K, 5000K, adjustable CCT
Input Voltage: 120-277 VAC
Limited Warranty*: 5 years
Controls: Cree SmartCast™ Technology
Mounting: Recessed*

Accessories

Field-Installed	
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

Ordering Information

Fully assembled luminaire is composed of two components that must be ordered separately:

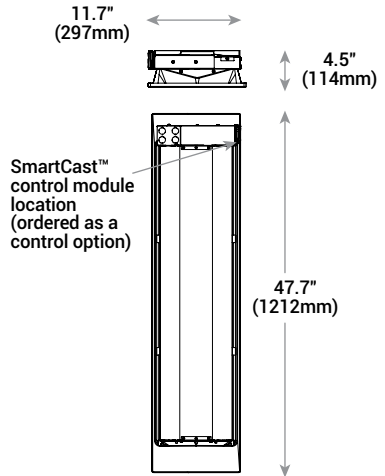
Example: Luminaire: CR14 40L 35K CMA + Control Module: CM CWC 1

CR14	Initial Delivered Lumens	CCT	Voltage	CMA
CR14	40L 40W, 4000 lumens – 100 LPW 40L HE 30.5W, 4000 lumens – 131 LPW (30K) 32W, 4000 lumens – 125 LPW (35K) 33W, 4000 lumens – 121 LPW (40K) 34.5W, 4000 lumens – 116 LPW (50K)	30K 3000K 35K 3500K 40K 4000K 50K 5000K ACK Adjustable CCT: 3000K-5000K - Available only with 40L - Factory set at 4000K	Blank 120-277 Volt	CMA Cree SmartCast™ Technology - Controls ready with integral motion and ambient sensors - Requires control module: CM CWC 1 (see table below)

Control Modules
Cree SmartCast™ Technology wireless control module (factory installed) CM CWC 1

* See www.cree.com/lighting/products/warranty for warranty terms

* Acceptable for use with standard 9/16 T-Bar or larger when installed per installation instructions. Consult factory for non-standard grid applications



Rev. Date: V2 02/11/2015



Product Specifications

CREE SMARTCAST™ TECHNOLOGY

Cree SmartCast™ Technology changes the paradigm of lighting control. With the press of a single button, Cree SmartCast™ Technology enabled luminaires and controls create their own secure network and auto-associate to form logical groups throughout every space. Integrated sensors and robust wireless communication included in every luminaire combined with revolutionary OneButton™ Setup enables automated setup and configuration of luminaires and wall controls. With no extra wires or interfaces, Cree SmartCast™ Technology products reduce installation time and complexity.

CREE TRUEWHITE® TECHNOLOGY

Cree TrueWhite® Technology delivers an exclusive combination of industry-leading efficacy (up to 150 lumens per watt) and 90+ CRI to lighting applications. Featuring high R9 values, spaces are brighter and colors are more vivid under beautiful white light - all while offering significant energy savings compared to traditional technologies. Field-adjustment color temperature allows for adjustment from 3000K to 5000K in 500K increments.

ROOM-SIDE HEAT SINK

An innovative thermal management system designed to maximize cooling effectiveness by integrating a unique room-side heat sink into the diffusing lens. This breakthrough design creates a pleasing architectural aesthetic while conducting heat away from LEDs in a temperature-controlled environment. This enables the LEDs to consistently run cooler, providing significant boosts to lifetime, efficacy, and color consistency.

CONSTRUCTION & MATERIALS

- Durable 20-gauge steel housing with standard troffer access plate for electrical installation
- Field replaceable light engine integrates LEDs, driver, thermal management, and optical mixing components
- One-piece lower reflector finished with a textured high reflectance white polyester powder coating creates a comfortable visual transition from the lens to the ceiling plane
- Provided t-bar clips and holes for mounting support wires enable recessed or suspended installation

OPTICAL SYSTEM

- Unique combination of reflective and refractive optical components achieves a uniform, comfortable appearance while eliminating pixelation and color fringing
- Components work together to optimize distribution, balancing the delivery of high illuminance levels on horizontal surfaces with an ideal amount of light on walls and vertical surfaces. This increases the perception of spaciousness
- Diffusing lens integrated with upward-facing LED strip eliminates direct view of LEDs while lower reflector balances brightness of lens with the ceiling to create a low-glare high angle appearance

ELECTRICAL SYSTEM

- Integral, high-efficiency driver
- **Power Factor:** = 0.9 nominal
- **Input Voltage:** 120-277V, 50/60Hz
- **Operating Temperature Range:** 0°C - + 35°C (32°F - + 95°F)
- **Total Harmonic Distortion:** < 20%
- **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
- Meets FCC Part 15 standards for conducted and radiated emissions

Cree SmartCast™ Technology

INTEGRAL MOTION SENSOR

- Passive infrared (PIR)
- Coverage area: 100 sq. ft. at 10 ft. mounting height
- Not intended to be mounted higher than 12 ft.
- 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

INTEGRAL AMBIENT LIGHT SENSOR

- Sensor response matches response of human eye
- Not intended to be mounted higher than 12 ft.
- 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. in typical commercial applications
 - 300 ft. open air without obstructions
- **Network:** 250 devices max.
- **Space:** 100 devices max. per group
- FCC certified
- IC certified

LUMINAIRE

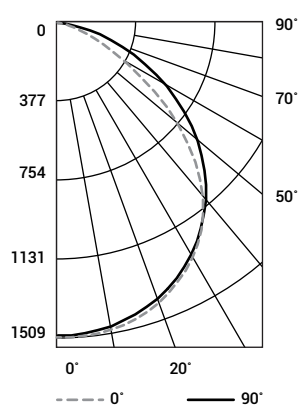
- Luminaires operate at full intensity until OneButton™ Setup is initiated by the Cree Configuration Tool
- 10 year power fail memory of settings

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Photometry

CR14 40L 30K BASED ON CSA REPORT TEST #: 2362893-02

Fixture 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 fixture efficiency of 100%.



Coefficients Of Utilization - Zonal Cavity Method				
RC %:	80			
RW %:	70	50	30	10
RCR: 0	119	119	119	119
1	110	106	102	98
2	101	93	87	81
3	92	82	75	68
4	85	73	65	58
5	78	66	57	51
6	72	59	51	44
7	67	54	45	39
8	62	49	41	35
9	58	45	37	32
10	55	42	34	29

Effective Floor Cavity Reflectance: 20%

Average Luminance Table (cd/m ²)			
Vertical Angle	Horizontal Angle		
	0°	45°	90°
45°	4,965	5,002	4,657
55°	4,552	4,351	3,482
65°	3,861	3,047	2,058
75°	2,869	1,618	1,114
85°	1,486	820	884

Zonal Lumen Summary			
Zone	Lumens	% Lamp	Luminaire
0-30	1,187	N/A	30.1%
0-40	1,952	N/A	49.5%
0-60	3,360	N/A	85.2%
0-90	3,945	N/A	100%
0-180	3,945	N/A	100%

Reference www.cree.com/Lighting/Products/Indoor/Troffers/CR-Series for detailed photometric data

Application Reference

Based on CR14 40L 30K Luminaire

Open Space					
Spacing	Lumens	Wattage	LPW	w/ft ²	Average fc
8 x 8	4000L	40W	100	0.69	54
	4000L	30.5W	125	0.56	54
8 x 10	4000L	40W	100	0.55	45
	4000L	30.5W	125	0.45	45
10 x 10	4000L	40W	100	0.44	38
	4000L	30.5W	125	0.36	38
10 x 12	4000L	40W	100	0.37	30
	4000L	30.5W	125	0.30	30

9' ceiling: 80/50/20 reflectances; 2.5' workplane, open room. LLF: 1.0 Initial Open Space: 50' x 40' x 10'

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