

CR24™

2'x4' Architectural LED Troffer

Product Description

The CR24™ architectural LED troffer delivers up to 5000 lumens of exceptional 90+ CRI light while achieving 90-110 lumens per watt. This breakthrough performance is achieved by combining the high efficacy and high-quality light of Cree TrueWhite® Technology with a unique thermal management approach. The CR24 is available in neutral or cool color temperatures and has step, 0-10V, or Lutron EcoSystem® Enabled dimming options. Its compact, lightweight design easily accommodates recessed, surface mount, or suspended installations, making the CR24 perfect for use in commercial new construction or retrofit applications.

Performance Summary

Utilizes Cree TrueWhite® Technology
Active Color Management
Room-Side Heat Sink
Made in America
Efficacy: 90-110 LPW
Delivered Light Output: 2200, 3100, 4000, 5000 lumens
Input Power: 22-50 watts
CRI: 90
CCT: 3000K, 3500K, 4000K
Input Voltage: 120-277 VAC
Warranty: 10 years†
Lifetime: Designed to last 50,000 hours standard or 75,000 hours with HE option
Controls: Step Level to 50%, 0-10V Dimming or Lutron EcoSystem® Enabled to 5%*
Mounting: Recessed
Dimensions: L 47.7" x W 23.7" x H 4.75"
Weight: max 25lbs.

Housings & Accessories

Reference Housing & Accessory documents for more details.

Accessories	
SMK-CR24 Surface Mount Kit	CPLCR Chicago Plenum Field Kit
DGA24-WHT Drywall Grid Adaptor-White	CPLCR-EM Chicago Plenum Field Kit-Emergency
EJBCR-5PK Expanded size junction box for through wiring (5 pack)	

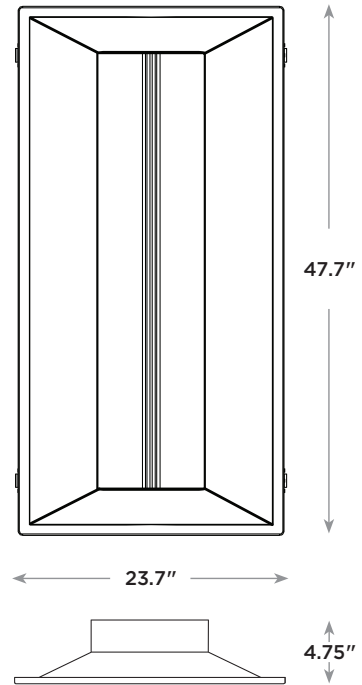
Ordering Information

Example: CR24-40L-35K-S

CR24					
Product	Lumen Output	Color Temperature	Voltage	Control	Options
CR24	22L 22W 2200 lumens - 100 LPW 31L 34W 3100 lumens - 90 LPW 40L 44W 4000 lumens - 90 LPW 40L HE** 36W 4000 lumens - 110 LPW (35K) 38W 4000 lumens - 105 LPW (40K) 50L 50W 5000 lumens - 100 LPW	30K 3000 Kelvin 35K 3500 Kelvin 40K 4000 Kelvin	Blank 120-277 Volt (Standard)	S Step Dimming to 50% 10V 0-10V Dimming to 5% LES**** Lutron EcoSystem® Enabled to 5%	EB14*** Emergency Backup - 1400 lumens

*Reference www.cree.com/lighting for recommended dimming control options. **3500K HE model is 36W (110 LPW), 4000K HE model is 38W (105 LPW). ***Not available with 50L or LES option. ****Target availability November 2012. Suggested MSRP for the adder over the standard CR Series fixture for the Lutron EcoSystem® Enabled feature is \$49. †See www.cree.com/lighting for warranty terms.

CR24



NOTE: Use of Expanded Junction Box will expand the depth to 6.67" and Emergency Backup will expand the depth to 6.30".



Rev. Date 10/30/2012



Product Specifications

CREE TRUEWHITE™ TECHNOLOGY

A revolutionary way to generate high-quality white light, Cree TrueWhite® Technology mixes the light from the highest performing red and unsaturated yellow LEDs. This patented approach 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.

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.

LUMEN MAINTENANCE FACTORS

- Reference www.cree.com/lighting for detailed lumen maintenance factors.

CONSTRUCTION & MATERIALS

- Durable 20-gauge steel housing with standard troffer access plate for electrical installation.
- Field replaceable light engine integrates LEDs, driver, power supply, 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.
- Individual fixtures may be mounted end to end for a continuous row of illumination.

NOTE: Reference www.cree.com/lighting for detailed instructions on field replacement of the light engine.

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 and power supply.
- **Power Factor** = 0.9 nominal
- **Input Power:** Stays constant over life.
- **Input Voltage:** 120V-277V, 50/60Hz
- **Battery Backup:** Consult factory.
- **Temperature Rating:** Designed to operate in temperatures 35 C and below room side and plenum side.
- **Total Harmonic Distortion:** < 20%

CONTROLS

- Step dimming to 50% comes standard.*
- Optional continuous dimming to 5% with 0-10V DC control protocol.*
- Optional Lutron EcoSystem® Enabled option allows seamless integration with Lutron EcoSystem controls.*

REGULATORY & VOLUNTARY QUALIFICATIONS

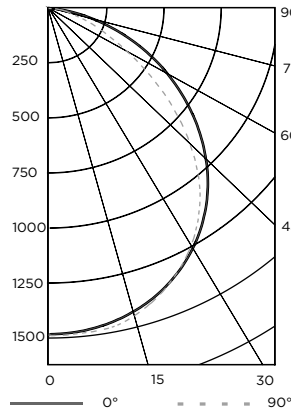
- cULus Listed
- DLC qualified.
- Suitable for damp locations.

See www.cree.com/patents for patents that cover these products.
*Reference www.cree.com/lighting for recommended dimming controls and wiring diagrams.

Photometry

CR24-4000L BASED ON LTL REPORT TEST #: 22421

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

RCC %:	80			
RW %:	70	50	30	0
RCR: 0	119	119	119	119
1	109	105	101	97
2	100	92	85	79
3	91	80	72	66
4	83	71	63	56
5	76	64	55	48
6	71	57	48	42
7	65	52	43	37
8	61	47	39	33
9	57	43	35	30
10	53	40	32	27

Effective Floor Cavity Reflectance: 20%

Average Luminance Table (cd/m2)

Horizontal Angle		0°	45°	90°
Vertical Angle	0°	2174	2174	2174
	45°	1976	2116	2152
	55°	1807	2018	2074
	65°	1553	1889	1879
	75°	1149	1501	1119
	85°	424	62	62

Zonal Lumen Summary

Zone	Lumens	% Lamp	Luminaire
0-30	1,115	27.9%	27.9%
0-40	1,835	45.9%	45.9%
0-60	3,245	81.1%	81.1%
0-90	4,000	100%	100%

Reference www.cree.com/lighting for detailed photometric data.

Application Reference

Open Space					
Spacing	Lumens	Wattage	LPW	w/ft²	Average fc
8 x 8	2200L	22W	100	0.35	30
	4000L	44W	90	0.69	55
	4000L	36W	110	0.56	55
	5000L	50W	100	0.78	69
8 x 10	2200L	22W	100	0.28	25
	4000L	44W	90	0.55	46
	5000L	50W	100	0.62	58
10 x 10	2200L	22W	100	0.22	21
	4000L	44W	90	0.44	39
	5000L	50W	100	0.50	49
10 x 12	2200L	22W	100	0.19	17
	4000L	44W	90	0.37	31
	5000L	50W	100	0.42	39

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

