

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 both 0-10V and step 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

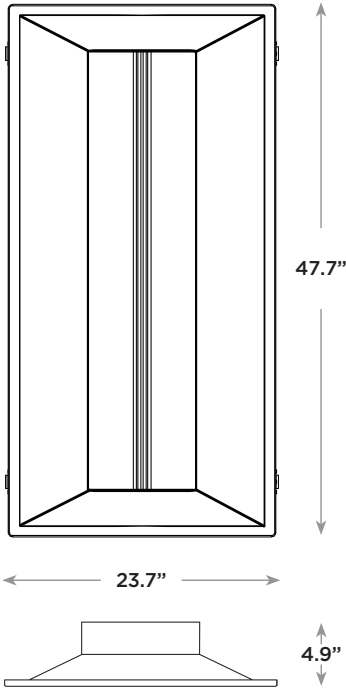
Utilizes Cree TrueWhite® Technology
Active Color Management
Room-Side Heat Sink
Made in America
Efficacy: 90-110 LPW
Delivered Light Output: 2200, 4000, 5000 lumens
Input Power: 22-50 watts
CRI: 90
CCT: 3500K, 4000K
Input Voltage: 120-277 VAC
Warranty: 5 years standard or 7 years with High Efficacy (HE) option
Lifetime: Designed to last 50,000 hours standard or 75,000 hours with HE option
Dimming: Step Level to 50%, 0-10V Dimming to 5%†
Mounting: Recessed
Dimensions: L 47.7" x W 23.7" x H 4.9"
Weight: max 20lbs.

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)	

CR24



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

Ordering Information

Example: CR24-40L-35K-S

CR24					
Product	Lumen Output	Color Temperature	Voltage	Control	Options
CR24	22L 22W 2200 lumens - 100 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	35K 3500 Kelvin 40K 4000 Kelvin	Blank 120-277 Volt (Standard)	S Step Dimming to 50% 10V 0-10V Dimming to 5%	EB14** Emergency Backup-1400 lumens

* Target Availability Early 2012. **Target Availability Mid 2012. ***3500K HE model is 36W (110 LPW), 4000K HE model is 38W (105 LPW).

† Reference CreeLEDLighting.com for recommended dimming control options.



Product Specifications

CREE TRUEWHITE® TECHNOLOGY

Cree TrueWhite® Technology begins with the highest performing commercially available LEDs. Cree TrueWhite® Technology mixes the light from red and unsaturated yellow LEDs to create beautiful, warm, white light. This patented approach enables color management to preserve high color consistency over the life of the product. Cree TrueWhite® Technology also enables a CRI of at least 90 while maintaining high luminous efficacy—a 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 CreeLEDLighting.com 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 CreeLEDLighting.com 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
- Dimming:** Dimmable to 50% with step or to 5% with 0 to 10V DC control protocol. Reference CreeLEDLighting.com for recommended dimming controls.
- Battery Backup:** Consult factory.
- Temperature Rating:** Designed to operate in temperatures 35 C and below room side and plenum side.
- Total Harmonic Distortion:** < 20%

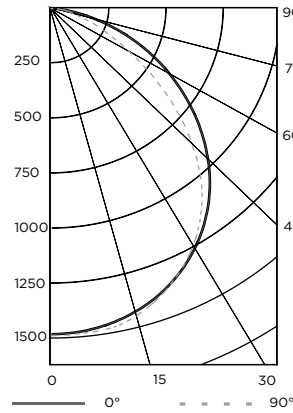
REGULATORY & VOLUNTARY QUALIFICATIONS

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

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	1.19	1.19	1.19	1.19
1	1.09	1.05	1.01	0.97
2	1	0.92	0.85	0.79
3	0.91	0.8	0.72	0.66
4	0.83	0.71	0.63	0.56
5	0.76	0.64	0.55	0.48
6	0.71	0.57	0.48	0.42
7	0.65	0.52	0.43	0.37
8	0.61	0.47	0.39	0.33
9	0.57	0.43	0.35	0.3
10	0.53	0.4	0.32	0.27

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 CreeLEDLighting.com 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
	4000L	36W	110	0.45	46
	5000L	50W	100	0.62	58
10 x 10	2200L	22W	100	0.22	21
	4000L	44W	90	0.44	39
	4000L	36W	110	0.36	39
	5000L	50W	100	0.50	49
10 x 12	2200L	22W	100	0.19	17
	4000L	44W	90	0.37	31
	4000L	36W	110	0.30	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'

