

# CR24™

2'x4' Architectural LED Troffer

## Product Description

The CR24 Architectural LED High Efficiency (HE) troffer delivers up to 130 lumens per watt of exceptional 90 CRI light at 4000 lumens. This breakthrough performance is achieved by combining the high efficacy and high-quality light of Cree TrueWhite® Technology with a unique thermal management design. The CR24 (HD) option delivers enhanced spectrum 80+ CRI color quality. The CR24 product family is available in warm, neutral, cool, or daylight color temperatures and has step, 0-10V, or Lutron EcoSystem® Enabled dimming options. Its compact, lightweight design makes the CR24 perfect for use in commercial new construction or renovated spaces.

## Performance Summary

Utilizes Cree TrueWhite® Technology (90 CRI) or available in 80+ CRI

Active Color Management

Room-Side Heat Sink

Assembled in the US & Mexico

**Efficacy:** 90-130 LPW

**Delivered Light Output:** 2200, 3100, 4000, 5000 lumens

**Input Power:** 22-50 watts

**CRI:** 90 CRI (Cree TrueWhite® Technology), 80+ CRI

**CCT:** 3000K, 3500K, 4000K, 5000K

**Input Voltage:** 120-277 VAC or 347 VAC\*

**Warranty†:** 10 years

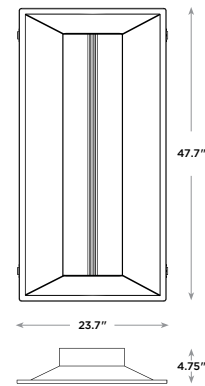
**Lifetime:** Designed to last from 50,000 hours (HD), 75,000 hours (Standard TW), and 100,000 hours (HE TW)

**Controls:** Step Level to 50%, 0-10V Dimming or Lutron EcoSystem Enabled to 5%<sup>1</sup>

**Mounting:** Recessed

\*40L 100 LPW 10V types only - other types require addition of a 347 accessory kit

CR24™



NOTE: Use of Expanded Junction Box will expand the depth to 6.67" and Emergency Backup will expand the depth to 6.30". Use of 347V will increase fixture height by 1.4".

## Housings & Accessories

### Accessories

**CPLCR**  
Chicago Plenum Field Kit

**CPLCR-EM**  
Chicago Plenum Field Kit-Emergency

**CR-347V**  
347 Volt

**CR-347V-SD**  
Step Dimming to 50%

**SMK-24**  
Surface Mount Kit

**PW-18/4-06-9T/SS-CR**  
Power Whip

**AC5-18/4-72-PD8-JB**  
Adjustable Cable

**AC5-72-PD8-JB**  
Adjustable Cable

**EJBCR-5PK**  
Expanded size junction box for through wiring (5 pack)

## Ordering Information

Example: CR24-40L-35K-S

**QUICKSHIP™**

For full list of Cree Quick Ship products visit [www.cree.com/lighting/quickship](http://www.cree.com/lighting/quickship)

CR24	Lumen Output		Color Temp	Voltage	Control	Options
<b>CR24</b>	<b>22L</b> 22W	2200 lumens - 100 LPW	<b>30K</b> 3000 Kelvin	<b>Blank</b> 120-277 Volt (Standard)	<b>S</b> Step Dimming to 50%	<b>HD</b> <sup>7</sup> CRI 80+ (44W 4000 lumens - 90 LPW)
	<b>31L</b> 34W	31L 3100 lumens - 90 LPW	<b>35K</b> 3500 Kelvin	<b>34</b> <sup>6</sup> 347 Volt (Optional)	<b>10V</b> 0-10V Dimming to 5%	<b>EB14</b> <sup>2,4</sup> Emergency Backup - 1400 lumens
	<b>40L</b> 40W	40L 4000 lumens - 100 LPW	<b>40K</b> 4000 Kelvin		<b>LES</b> Lutron EcoSystem® Enabled to 5%	<b>EB14 SMK</b> <sup>2,3,5</sup> Emergency Backup with surface mount kit - 1400 lumens
	<b>40L HE</b> 30.5W	40L HE 4000 lumens - 130 LPW (30K)	<b>50K</b> 5000 Kelvin			
	<b>32W</b>	4000 lumens - 125 LPW (35K)				
	<b>33W</b>	4000 lumens - 120 LPW (40K)				
	<b>34.5W</b>	4000 lumens - 115 LPW (50K)				
	<b>50L</b> 50W	50L 5000 lumens - 100 LPW				

1. Reference [www.cree.com/lighting](http://www.cree.com/lighting) for recommended dimming control options. 2. Not available in 50L. Not available in LES types except 40L LES type. 3. Not available with EB14 option. Use EB14 SMK. 4. EB14 not for use with SMK Kits 5. Includes surface mount kit accessory (SMK-CR24). 6. 347V integrated option only available on 40L 100 LPW 10V fixtures. Wattage increases to 42W and fixture height increases by 1.4" over standard 120-277V fixtures. 7. HD only available in 40L.

†See [www.cree.com/lighting/products/warranty](http://www.cree.com/lighting/products/warranty) for warranty terms.

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US: [www.cree.com/lighting](http://www.cree.com/lighting) T (800) 236-6800 F (262) 504-5415

Canada: [www.cree.com/canada](http://www.cree.com/canada) T (800) 473-1234 F (800) 890-7507



**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](http://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](http://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: 120-277V, 347V- 50/60Hz
- Battery Backup: Consult factory.
- Temperature Rating: Designed to operate in temperatures 0-35 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**

- UL924 (EB14 option).
- cULus Listed.
- DLC qualified.\*\*
- Suitable for damp locations.
- Designed for Indoor use.

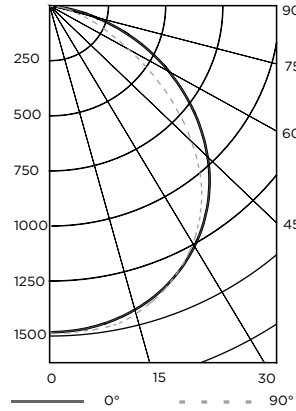
\*Reference [www.cree.com/lighting](http://www.cree.com/lighting) for recommended dimming controls and wiring diagrams.  
 \*\*Please refer to DLC QPL list for most current information.

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**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%.



Average Luminance Table (cd/m<sup>2</sup>)

		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

**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%

**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](http://www.cree.com/lighting) for detailed photometric data.

**Application Reference**

Open Space					
Spacing	Lumens	Wattage	LPW	w/ft <sup>2</sup>	Average fc
8 x 8	2200L	22W	100	0.35	30
	4000L	40W	100	0.69	54
	4000L	30.5W	130	0.56	54
	5000L	50W	100	0.78	68
8 x 10	2200L	22W	100	0.28	25
	4000L	40W	100	0.55	45
	4000L	30.5W	130	0.45	45
	5000L	50W	100	0.62	57
10 x 10	2200L	22W	100	0.22	21
	4000L	40W	100	0.44	38
	4000L	30.5W	130	0.36	38
	5000L	50W	100	0.50	48
10 x 12	2200L	22W	100	0.19	17
	4000L	40W	100	0.37	30
	4000L	30.5W	130	0.30	30
	5000L	50W	100	0.42	38

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

