

ZR Series

ZR24™ - 2'x4' LED Troffer

Product Description

The ZR24™ LED troffer delivers 4000 lumens of superior 90 CRI light quality and is perfect for both new construction and renovation. Powered by Cree TrueWhite® Technology, the slim and lightweight ZR24™ LED troffer boasts an efficacious 90 LPW performance along with 0-10V dimming to meet local energy codes. The ZR24™ LED troffer embodies a breakthrough in balancing energy savings, visual comfort and initial cost.

Performance Summary

Utilizes Cree TrueWhite® Technology

Efficacy: 90-150 LPW

Delivered Light Output: 4,000 lumens

Input Power: 26-44 watts

CRI: 90 CRI

CCT: 3500K, 4000K

Input Voltage: 120-277 VAC or 347 VAC*

Limited Warranty†: 10 years

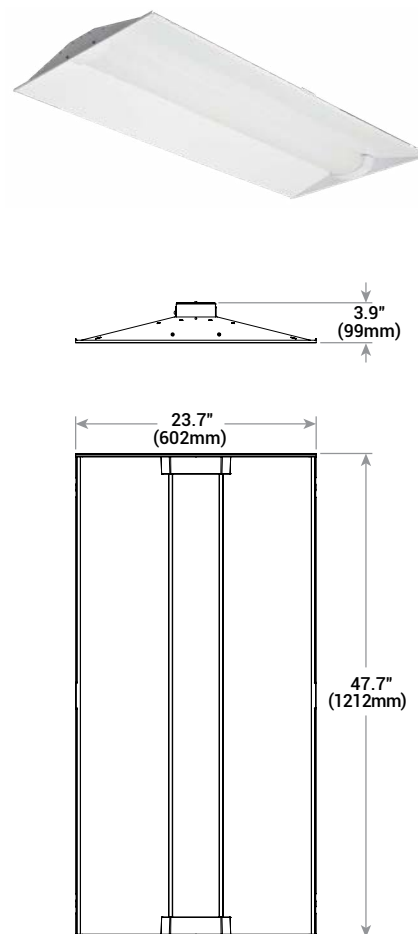
Controls: 0-10V dimming to 5%**

Mounting: Recessed***

Lifetime: Designed to last from 75,000 hours L70 (standard), 100,000 hours L70 (HE)

Accessories

Accessories	
Drywall Grid Adapter DGA-24WHT	Wireless 0-10V Dimming/Switching Interface with Cree Smartcast™ Technology CIF-10V



Ordering Information

Example: ZR24 40L 35K 10V

Product	Lumen Output	Color Temp	Voltage	Control	Options
ZR24	40L 44W, 4000 Lumens - 90 LPW 40L HE 26W, 4000 Lumens - 150 LPW	35K 3500 Kelvin 40K 4000 Kelvin	Blank 120-277 Volt (Standard) 34+ 347 Volt (Optional)	10V** 0-10V Dimming 5%	EB14**** Emergency Backup - 1400 lumens

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

* 347V not available in EB or SmartCast options

** Reference www.cree.com/lighting for recommended dimming controls and wiring diagrams

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

**** EB option available in US only



Rev. Date: V1 11/11/2014

US: www.cree.com/lighting

T (800) 236-6800 F (262) 504-5415

Canada: www.cree.com/canada



T (800) 473-1234 F (800) 890-7507

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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.

CONSTRUCTION & MATERIALS

- Durable cold rolled steel housing provides strength and uniformity
- Ultra-thin 3.9" (99mm) fixture height and lightweight design effectively target a broad range of plenum spaces and allow for easy installations
- Fixture is pre-painted for enhanced smooth finish
- Provided t-bar clips and holes for mounting support wires enable recessed or suspended installation
- Fixture sides and ends are hemmed in for safe, easy handling

OPTICAL SYSTEM

- Unique fixture design creates perfect balance of both horizontal and vertical illumination
- Optimized smooth lens eliminates pixelation and delivers a low-glare, diffused light distribution

ELECTRICAL SYSTEM

- Cree born components including highly efficacious Cree® LED chips along with an integral high-efficiency Cree® driver
- **Power Factor:** = 0.9 nominal
- **Input Power:** Stays constant over life
- **Input Voltage:** 120-277V, 50/60Hz; 347V*
- **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%

* 347V not available in EB or SmartCast options

CONTROLS

- Continuous dimming to 5% with 0-10V DC control protocol*
- For use with Class 2 dimming systems only. Reference www.cree.com/Lighting/Products/Indoor/Troffers/ZR-Series for recommended dimming controls and wiring diagrams

REGULATORY & VOLUNTARY QUALIFICATIONS

- UL924 (EB option)
- cULus listed
- Suitable for damp locations
- Designed for indoor use
- DLC qualified when ordered with 40L Initial Delivered Lumens. Please refer to <http://www.designlights.org/QPL> for most current information

Application Reference

Open Space						
Spacing	Initial Delivered Lumens	Lumens	Wattage	LPW	w/ft²	Average fc
8 x 8	40L HE	4,000	26	154	0.39	56
	40L		44	91	0.66	56
8 x 10	40L HE	4,000	26	154	0.33	46
	40L		44	91	0.55	46
10 x 10	40L HE	4,000	26	154	0.26	37
	40L		44	91	0.44	37
10 x 12	40L HE	4,000	26	154	0.21	30
	40L		44	91	0.35	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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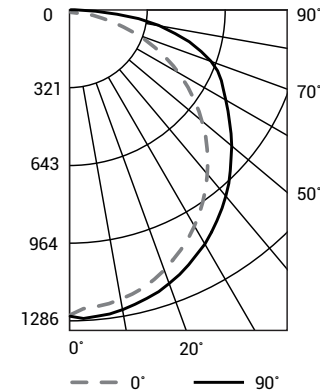
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Photometry

ZR24-40L-35K BASED ON CESTL REPORT TEST #: PL02014-0005

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	107	102	97	93
2	97	88	80	74
3	88	76	68	61
4	80	67	58	51
5	73	60	50	43
6	68	54	44	38
7	63	49	40	33
8	58	44	36	29
9	55	41	32	26
10	51	37	29	24

Effective Floor Cavity Reflectance: 20%

Average Luminance Table (cd/m²)				
Vertical Angle	Horizontal Angle			
	0°	45°	90°	
	45°	1,642	1,772	1,899
	55°	1,580	1,788	2,014
	65°	1,480	1,885	2,341
	75°	1,276	2,240	2,819
	85°	952	2,498	3,203

Zonal Lumen Summary			
Zone	Lumens	% Lamp	Luminaire
0-30	990	N/A	24.4%
0-40	1,628	N/A	40.1%
0-60	2,949	N/A	72.6%
0-90	4,064	N/A	100%
0-180	4,064	N/A	100%

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

ZR24™ Lumen Maintenance¹						
Ambient	Initial Delivered Lumens	Initial LMF	25K hr Projected² LMF	50K hr Calculated²,³ LMF	75K hr Calculated³ LMF	100K hr Calculated³ LMF
0°C (32°F)	40L HE	1.05	0.99	0.94	0.90	0.87
	40L	1.05	0.99	0.93	0.89	0.84
5°C (41°F)	40L HE	1.04	0.98	0.94	0.90	0.86
	40L	1.04	0.98	0.93	0.88	0.83
10°C (50°F)	40L HE	1.03	0.97	0.93	0.89	0.85
	40L	1.03	0.97	0.92	0.88	0.82
15°C (59°F)	40L HE	1.02	0.96	0.92	0.88	0.84
	40L	1.02	0.96	0.91	0.87	0.82
20°C (68°F)	40L HE	1.01	0.95	0.91	0.87	0.83
	40L	1.01	0.95	0.90	0.86	0.81
25°C (77°F)	40L HE	1.00	0.94	0.90	0.86	0.82
	40L	1.00	0.94	0.89	0.85	0.80
30°C (86°F)	40L HE	0.99	0.93	0.89	0.85	0.82
	40L	0.99	0.93	0.88	0.84	0.79
35°C (95°F)	40L HE	0.98	0.92	0.88	0.84	0.81
	40L	0.98	0.92	0.87	0.83	0.78

¹ Lumen maintenance values at 25°C 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)

