

ZR-T TrueWhite® Series with Cree SmartCast® Technology

ZR24™ 2' x 4' TrueWhite® Series LED Troffer with Gloss Finish

Product Description

The ZR-T TrueWhite® Series LED troffer delivers up to 5000 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 ZR-T LED troffer boasts an efficacy of up to 114 LPW performance along with SmartCast Technology. 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. The ZR24 LED troffer embodies a breakthrough in balancing energy savings, visual comfort and initial cost.

Performance Summary

Utilizes Cree TrueWhite® Technology
Efficacy: 100-114 LPW
Initial Delivered Lumens: 4,000 or 5,000 lumens
Input Power: 40-44 watts
CRI: 90+ CRI
CCT: 3000K, 3500K, 4000K, 5000K
Input Voltage: 120-277 VAC
Limited Warranty*: 10 years on luminaire
Limited Warranty Emergency Back Up (EB) Battery: 1 Year on Battery Back Up. Test regularly in accordance with local codes
Controls: Cree SmartCast® Technology
Mounting: Recessed*

* See <http://lighting.cree.com/warranty> for warranty terms

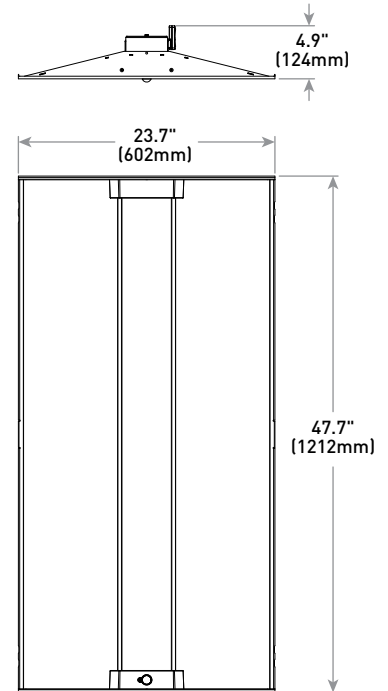
* Not intended for use with 9/16" T-Bar grids unless used with a 9/16" accessory clip like "Armstrong® LFC- Fixture Clip" which can be purchased through distribution. Consult factory for non-standard grid applications.

Accessories

Field-Installed	
Drywall Grid Adapter DGA24-WHT	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
6' Flexible Power Whip PW-18/4-06-9T/SS	Cree SmartCast® Technology Wireless Dimmer† CWD-CWC-WH
Cree SmartCast® Technology Configuration Tool CCT-CWC-1 - One required per project when CMA control is selected	Cree SmartCast® Technology Wireless Switch† CWS-CWC-WH

* Refer to the [Wireless Dimmer Smartcast Control spec sheet](#) for more details

NOTE: Not compatible with SMK surface mount kits



Ordering Information

Example: ZR24T-40L-35K-CMA-FL

ZR24T				CMA			FL
Product	Initial Delivered Lumens	CCT	Voltage	Control	Options	Lens	
ZR24T	40L 40W, 4,000 lumens 50L 44W, 5,000 lumens	30K 3000K 35K 3500K 40K 4000K 50K 5000K	Blank 120-277 Volt	CMA Cree SmartCast® Technology - Integral motion and ambient sensors and wireless communication	EB14 Emergency Backup - 1,400 lumens - Provides 90 minutes of emergency operation	FL Fixed Lens	



Rev. Date: V1 R2 07/24/2017



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Product Specifications

CREE SMARTCAST® TECHNOLOGY

Cree SmartCast® Technology is the most intuitive and easiest to install intelligent light solution on the market. SmartCast Technology delivers up to 70% energy savings at up to half the cost of other solutions. Luminaires combine best-in-class light with onboard sensors and intelligence to deliver a better light experience. Extreme energy productivity, code compliance and a better light experience without any extra design, installation or setup work.

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 22 ga. cold rolled steel housing provides strength and uniformity
- Ultra-thin 4.9" (125mm) luminaire height and lightweight design effectively target a broad range of plenum spaces and allow for easy installations
- Luminaire is pre-painted for enhanced gloss finish
- Includes t-bar clips and holes for mounting support wires (by others)
- Luminaire sides and ends are hemmed in for safe, easy handling
- Includes lens gasket to prevent ingress of insects
- Not for installation within 3" (76mm) of insulation

OPTICAL SYSTEM

- Unique luminaire design creates perfect balance of both horizontal and vertical illumination
- Optimized smooth acrylic 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, 60Hz
- **Operating Temperature Range:** 0°C - + 35°C (32°F - + 95°F)
- **Total Harmonic Distortion:** < 20% for standard fixtures; < 25% for EB option
- **Dimming:** 5%-100%

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for damp locations
- Designed for indoor use
- UL924 (EB option). Maximum mounting height: 15.0' (4.6m)
- RoHS compliant. Consult factory for additional details
- Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions
- DLC qualified. Please refer to <https://www.designlights.org/search/> for most current information

Cree SmartCast® Technology

INTEGRAL MOTION SENSOR

- Passive infrared (PIR)
- **Coverage area:** 100 sq. ft. (30.5m²) at 10 ft. (3.0m) mounting height
- Not intended to be mounted higher than 12 ft. (3.7m)
- **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

AMBIENT LIGHT SENSOR

- Sensor response matches response of human eye
- Not intended to be mounted higher than 12 ft. (3.7m)
- 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. (9.1m) in typical commercial applications
 - 300 ft. (91.4m) 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

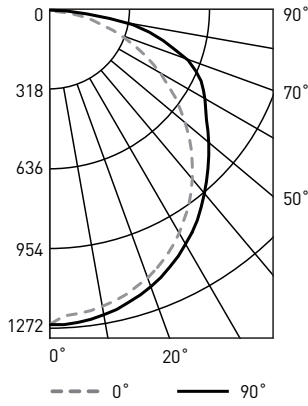
DEPLOYMENT

- Please refer to the SmartCast® Deployment Guide at <https://www.creelink.com/exLink.asp?236135640H88E44139771048>

Photometry

ZR24T-40L-30K-10V BASED ON CREE REPORT TEST #: PL10459-001A

Luminaire 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 luminaire 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	81	74
3	88	77	68	61
4	80	68	58	51
5	74	60	51	44
6	68	54	45	38
7	63	49	40	33
8	59	45	36	30
9	55	41	32	27
10	51	38	30	24

Average Luminance Table (cd/m²)				
Vertical Angle	Horizontal Angle			
	0°	45°	90°	
45°	7,611	8,140	8,535	
55°	7,198	8,166	8,990	
65°	6,614	8,787	10,676	
75°	5,606	10,589	12,209	
85°	4,023	11,023	11,402	

Zonal Lumen Summary			
Zone	Lumens	% Lamp	Luminaire
0-30	977	N/A	24.8%
0-40	1,602	N/A	40.7%
0-60	2,875	N/A	73.0%
0-90	3,940	N/A	100%
0-180	3,940	N/A	100%

Reference <http://lighting.cree.com/products/indoor/troffers/zr-series> for detailed photometric data

Effective Floor Cavity Reflectance: 20%

Electrical Data*					
Initial Delivered Lumens	System Watts 120-277V	Total Current (A)			
		120V	208V	240V	277V
40L	40	0.32	0.19	0.17	0.15
40L w/EB14 Option	44	0.36	0.21	0.18	0.14
50L	44	0.36	0.21	0.18	0.16
50L w/EB14 Option	48	0.39	0.23	0.20	0.18

* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V +/- 10%

Recommended ZR-T Series Lumen Maintenance Factors (LMF) ¹					
Ambient	Initial LMF	25K hr Projected ² LMF	50K hr Projected ² LMF	75K hr Calculated ³ LMF	100K hr Calculated ³ LMF
0°C (32°F)	1.04	1.04	1.04	1.04	1.04
5°C (41°F)	1.03	1.03	1.03	1.03	1.03
10°C (50°F)	1.02	1.02	1.02	1.02	1.02
15°C (59°F)	1.02	1.02	1.02	1.02	1.02
20°C (68°F)	1.01	1.01	1.01	1.01	1.01
25°C (77°F)	1.00	1.00	1.00	1.00	1.00
30°C (86°F)	0.99	0.99	0.99	0.99	0.99
35°C (95°F)	0.98	0.98	0.98	0.98	0.98

¹ Lumen maintenance values at 25°C are calculated per TM-21 based on LM-90 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

Application Reference

Open Space						
Spacing	Initial Delivered Lumens	Lumens	Wattage	LPW	w/ft²	Average fc
8 x 8	40L	4,000	40	100	0.60	56
	50L	5,000	44	114	0.66	70
8 x 10	40L	4,000	40	100	0.50	47
	50L	5,000	44	114	0.55	59
10 x 10	40L	4,000	40	100	0.40	38
	50L	5,000	44	114	0.44	47
10 x 12	40L	4,000	40	100	0.32	30
	50L	5,000	44	114	0.35	38

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

