

ZR24™

2'x4' LED Troffer

Product Description

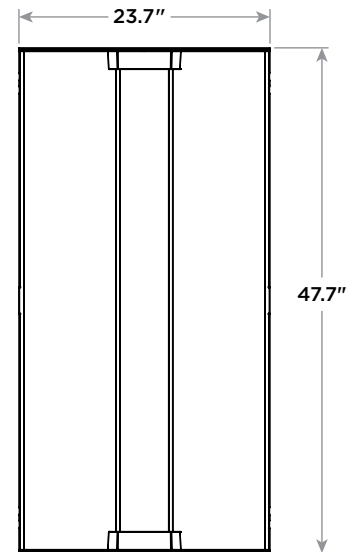
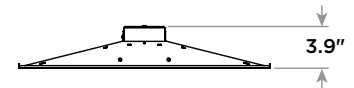
The ZR24™ LED troffer delivers 4000 lumens of superior 90 CRI light quality and is perfect for both new construction and renovation. Powered by Cree TrueWhite® Technology, the slim and lightweight ZR24™ LED troffer boasts an efficacious 90 LPW performance along with 0-10V dimming to meet local energy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

Performance Summary

| |
|--|
| Utilizes Cree TrueWhite® Technology |
| Assembled in the US & Mexico |
| Efficacy: 90 LPW |
| Delivered Light Output: 4000 lumens |
| Input Power: 44 watts |
| CRI: 90 CRI |
| CCT: 3500K, 4000K |
| Input Voltage: 120-277 VAC |
| Limited Warranty†: 10 years |
| Controls: 0-10V Dimming to 5%* |
| Mounting: Recessed** |

Accessories

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



Ordering Information

Example: ZR24-40L-35K-10V

| ZR24 | 40L | | | 10V | |
|---------|--|--|------------------------------|---------------------------------|---|
| Product | Lumen Output | Color Temp | Voltage | Control | Options |
| ZR24 | 40L 44W, 4000 Lumens, 90 LPW | 35K 3500 Kelvin 40K 4000 Kelvin | Blank 120-277 Volt | 10V 0-10V Dimming 5%* | EB14 *** Emergency Backup - 1400 lumens |

† See www.cree.com/lighting/products/warranty for warranty terms
 * 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: 05/30/2014



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2'x4' LED Troffer

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" 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
- **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

- Continuous dimming to 5% with 0-10V DC control protocol*

REGULATORY & VOLUNTARY QUALIFICATIONS

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

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

ZR24™ Lumen Maintenance¹

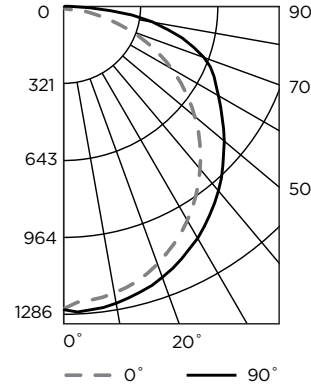
| Ambient | Initial LMF | 25K hr Projected ² LMF | 50K hr Calculated ³ LMF | 75K hr Calculated ³ LMF | 100K hr Calculated ³ LMF |
|---------------|-------------|-----------------------------------|------------------------------------|------------------------------------|-------------------------------------|
| 0° C (32° F) | 1.05 | 0.99 | 0.94 | 0.90 | 0.85 |
| 5° C (41° F) | 1.04 | 0.98 | 0.93 | 0.89 | 0.85 |
| 10° C (50° F) | 1.03 | 0.97 | 0.93 | 0.88 | 0.84 |
| 15° C (59° F) | 1.02 | 0.96 | 0.92 | 0.87 | 0.83 |
| 20° C (68° F) | 1.01 | 0.95 | 0.91 | 0.86 | 0.82 |
| 25° C (77° F) | 1.00 | 0.94 | 0.90 | 0.86 | 0.81 |
| 30° C (86° F) | 0.99 | 0.93 | 0.89 | 0.85 | 0.81 |
| 35° C (95° F) | 0.98 | 0.92 | 0.88 | 0.84 | 0.80 |

¹Lumen maintenance values at 25° C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing
²In 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. packaged LEDchip)
³In 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. packaged LED chip)

Photometry

ZR24-40L-40K BASED ON CESTL REPORT TEST #: PLO2844-001

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)

| Horizontal Angle | | 0° | 45° | 90° |
|------------------|-----|------|------|------|
| Vertical Angle | 45° | 1642 | 1772 | 1899 |
| | 55° | 1580 | 1788 | 2014 |
| | 65° | 1480 | 1885 | 2341 |
| | 75° | 1276 | 2240 | 2819 |
| | 85° | 952 | 2498 | 3203 |

Zonal Lumen Summary

| Zone | Lumens | % Lamp | Luminaire |
|-------|--------|--------|-----------|
| 0-30 | 990 | N/A | 24.4% |
| 0-40 | 1628 | N/A | 40.1% |
| 0-60 | 2949 | N/A | 72.6% |
| 0-90 | 4064 | N/A | 100% |
| 0-180 | 4064 | N/A | 100% |

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

Application Reference

| Open Space | | | | | |
|------------|--------|---------|-----|-------------------|------------|
| Spacing | Lumens | Wattage | LPW | w/ft ² | Average fc |
| 8 x 8 | 3200 | 35 | 91 | 0.53 | 45 |
| | 4000 | 44 | 91 | 0.66 | 56 |
| 8 x 10 | 3200 | 35 | 91 | 0.44 | 37 |
| | 4000 | 44 | 91 | 0.55 | 46 |
| 10 x 10 | 3200 | 35 | 91 | 0.35 | 30 |
| | 4000 | 44 | 91 | 0.44 | 37 |
| 10 x 12 | 3200 | 35 | 91 | 0.28 | 24 |
| | 4000 | 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'

