

ZR-C Commercial Series

ZR14™ 1' x 4' Commercial Series LED Troffer with Matte Finish

Product Description

The ZR-C Commercial Series is a commercial spec-grade LED troffer delivering superior energy efficiency of up to 125 lumens per watt for maximum energy savings. The ZR-C delivers a visually comforting aesthetic with better light distribution enhanced with a soft matte finish housing. The ZR-C Commercial Series comes standard with 80+ CRI color quality, 0-10V dimming down to 5% standard, and a new unique snap and lock room-side removable lens, making it the perfect combination of affordability and performance.

Performance Summary

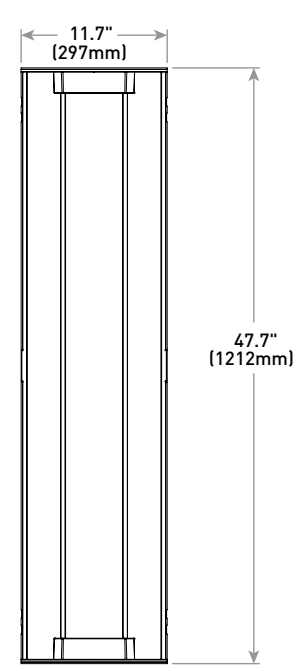
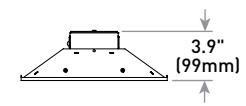
| |
|----------------------------------------------------------------------------------------------------------------------------------|
| Efficacy: Up to 125 LPW |
| Initial Delivered Lumens: 4,000 lumens |
| Input Power: 32 watts |
| CRI: 80+ CRI |
| CCT: 3000K, 3500K, 4000K, 5000K |
| Input Voltage: 120-277 VAC |
| Limited Warranty*: 5 years on luminaire |
| Limited Warranty Emergency Back Up (EB) Battery: 1 Year on Battery Back Up. Test regularly in accordance with local codes |
| Controls: 0-10V dimming to 5% |
| Mounting: Recessed* |
| Room-side accessible snap and lock removable lens |

* 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 DGA14-WHT | Wireless 0-10V Dimming/Switching Interface with Cree Smartcast® Technology CIF-10V-CWC-SNSR |
| Surface Mount Kit SMK-ZR14 | - For use with luminaires with 10V controls when integral SmartCast isn't available |
| - Not for use with EB14 or SmartCast® Technology | Cree SmartCast® Technology Configuration Tool CCT-CWC-1 |
| 6' Flexible Power Whip PW-18/4-06-9T-SS | - One required per project when CIF-10V is selected |
| - For use in non-dimming applications only | Chicago Plenum Field Kit CPLZR |
| | - Fits all ZR types to be installed in the field |



Ordering Information

Example: ZR14C-40L-35K-10V-FD

| ZR14C | 40L | | | 10V | FD | |
|---------|--------------------------|--------------------------------------------------------------|-----------------------|----------------------------|---------------|------------------------------------------------------------------------------------------------|
| Product | Initial Delivered Lumens | CCT | Voltage | Control | CRI | Options |
| ZR14C | 40L 32W, 4,000 lumens | 30K 3000K 35K 3500K 40K 4000K 50K 5000K | Blank 120-277 Volt | 10V 0-10V dimming to 5% | FD 80+ CRI | EB14 Emergency Backup - 1,400 lumens - Provides 90 minutes of emergency operation |



Rev. Date: V3 12/20/2017



Product Specifications

CONSTRUCTION & MATERIALS

- Durable 22 ga. cold rolled steel housing provides strength and uniformity
- Ultra-thin 3.9" (99mm) luminaire height and lightweight design effectively target a broad range of plenum spaces and allow for easy installations
- Luminaire is pre-painted for enhanced smooth matte 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
- Removable lens for easy maintenance and cleaning
- Magnetic lens to prevent dust and bug intrusion

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

- **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%; < 22% (EB14)

CONTROLS

- Continuous dimming to 5% with 0-10V DC control protocol
- **10V Source Current:** 0.25mA
- For use with Class 2 dimming systems only
- Use only lighting controls with neutral connection or controls intended for use with LED fixtures
- Reference www.creelink.com/exLink.asp?70982140Z58R34126620963 for recommended dimming controls and wiring diagrams

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 Premium qualified. Please refer to www.designlights.org/QPL for most current information

| Electrical Data* | | | | | |
|--------------------------|-----------------------|-------------------|------|------|------|
| Initial Delivered Lumens | System Watts 120-277V | Total Current (A) | | | |
| | | 120V | 208V | 240V | 277V |
| 40L | 32 | 0.25 | 0.15 | 0.13 | 0.12 |
| 40L w/EB14 Option | 34 | 0.30 | 0.18 | 0.16 | 0.14 |

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

| ZR-C Series Ambient Adjusted Lumen Maintenance 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 | 0.98 | 0.90 | 0.83 | 0.77 |
| 5°C (41°F) | 1.03 | 0.97 | 0.89 | 0.82 | 0.76 |
| 10°C (50°F) | 1.02 | 0.96 | 0.89 | 0.82 | 0.75 |
| 15°C (59°F) | 1.01 | 0.95 | 0.88 | 0.81 | 0.74 |
| 20°C (68°F) | 1.01 | 0.95 | 0.88 | 0.81 | 0.74 |
| 25°C (77°F) | 1.00 | 0.94 | 0.87 | 0.80 | 0.74 |
| 30°C (86°F) | 0.99 | 0.93 | 0.86 | 0.79 | 0.73 |
| 35°C (95°F) | 0.99 | 0.93 | 0.86 | 0.79 | 0.73 |

¹ Lumen maintenance values at 25°C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing.

Luminaire ambient temperature factors [LATF] have been applied to all lumen maintenance factors

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

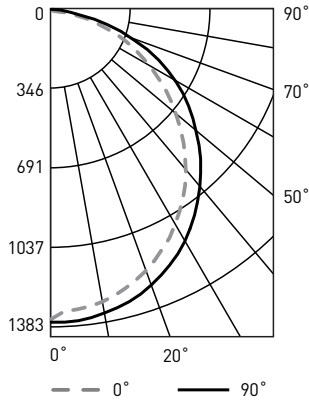
| Open Space | | | | | |
|------------|--------|---------|-----|-------------------|------------|
| Spacing | Lumens | Wattage | LPW | w/ft ² | Average fc |
| 8 x 8 | 4,000 | 32 | 125 | 0.48 | 58 |
| 8 x 10 | | | | 0.41 | 48 |
| 10 x 10 | | | | 0.32 | 38 |
| 10 x 12 | | | | 0.26 | 30 |

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

Photometry

ZR14C-40L-30K-10V-FD BASED ON CESTL REPORT TEST #: PL10453-001A

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 | 109 | 104 | 100 | 96 |
| 2 | 99 | 91 | 84 | 78 |
| 3 | 90 | 80 | 71 | 65 |
| 4 | 83 | 70 | 62 | 55 |
| 5 | 76 | 63 | 54 | 47 |
| 6 | 70 | 57 | 48 | 41 |
| 7 | 65 | 51 | 43 | 36 |
| 8 | 60 | 47 | 38 | 33 |
| 9 | 57 | 43 | 35 | 29 |
| 10 | 53 | 40 | 32 | 27 |

Effective Floor Cavity Reflectance: 20%

| Zonal Lumen Summary | | | |
|---------------------|--------|--------|-----------|
| Zone | Lumens | % Lamp | Luminaire |
| 0-30 | 1,058 | N/A | 27.7% |
| 0-40 | 1,725 | N/A | 45.2% |
| 0-60 | 3,016 | N/A | 79.0% |
| 0-90 | 3,818 | N/A | 100% |
| 0-180 | 3,818 | N/A | 100% |

| Average Luminance Table (cd/m²) | | | |
|---------------------------------|------------------|-------|-------|
| Vertical Angle | Horizontal Angle | | |
| | 0° | 45° | 90° |
| | 45° | 7,927 | 8,446 |
| 55° | 7,336 | 8,018 | 8,618 |
| 65° | 6,617 | 7,661 | 8,329 |
| 75° | 5,457 | 7,020 | 6,627 |
| 85° | 3,535 | 4,433 | 3,365 |

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