

# ZR-T TrueWhite® Series

ZR22™ 2' x 2' TrueWhite® Series LED Troffer with Gloss Finish

## Product Description

The ZR-T TrueWhite® LED troffer delivers 3200 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 efficacious 100 LPW along with 0-10V dimming to meet local energy codes. The ZR22™ LED troffer embodies a breakthrough in balancing energy savings, visual comfort and initial cost.

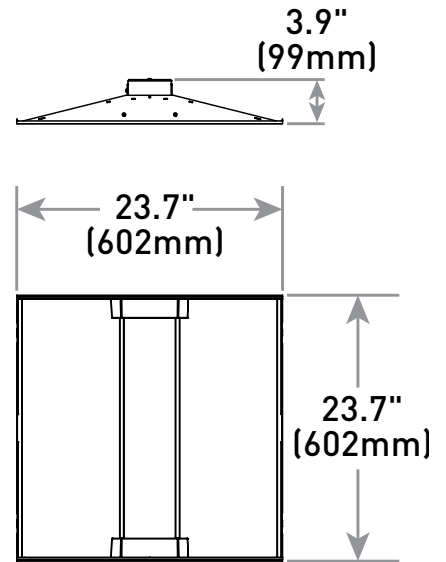
## Performance Summary

|  |
|--|
| Utilizes Cree TrueWhite® Technology  |
| <b>Efficacy:</b> 100 LPW   |
| <b>Initial Delivered Lumens:</b> 3,200 lumens  |
| <b>Input Power:</b> 32 watts   |
| <b>CRI:</b> 90+ CRI  |
| <b>CCT:</b> 3000K, 3500K, 4000K, 5000K   |
| <b>Input Voltage:</b> 120-277 VAC or 347 VAC   |
| <b>Limited Warranty*:</b> 10 years on luminaire  |
| <b>Limited Warranty Emergency Back Up (EB) Battery:</b> 1 Year on Battery Back Up. Test regularly in accordance with local codes |
| <b>Controls:</b> 0-10V dimming to 5%   |
| <b>Mounting:</b> 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   |   |
|---|---|
| <b>Drywall Grid Adapter</b><br><a href="#">DGA22-WHT</a>          | <b>Wireless 0-10V Dimming/Switching Interface with Cree SmartCast® Technology</b><br><a href="#">CIF-10V-CWC-SNSR</a> |
| <b>Surface Mount Kit</b><br><a href="#">SMK-ZR22</a>              | - For use with luminaires with 10V controls when integral SmartCast isn't available                                   |
| - Not for use with EB14 or SmartCast® Technology                  | <b>Cree SmartCast® Technology Configuration Tool</b><br><a href="#">CCT-CWC-1</a>                                     |
| <b>6' Flexible Power Whip</b><br><a href="#">PW-18/4-06-9T/SS</a> | - One required per project when CIF-10V is selected   |
| - For use in non-dimming applications only                        | <b>Chicago Plenum Field Kit</b><br>CPLZR  |
|   | - Fits all ZR types to be installed in the field  |



## Ordering Information

Example: ZR22T-32L-35K-10V

| ZR22T   | 32L                      |  |   | 10V                        |  |
|---------|--------------------------|--|---|----------------------------|--|
| Product | Initial Delivered Lumens | CCT  | Voltage                                 | Control                    | Options  |
| ZR22T   | 32L<br>32W, 3,200 Lumens | 30K<br>3000K<br>35K<br>3500K<br>40K<br>4000K<br>50K<br>5000K | Blank<br>120-277 Volt<br>34<br>347 Volt | 10V<br>0-10V dimming to 5% | EB14 Emergency Backup<br>- 1,400 lumens<br>- Not available with 347 Volt<br>- Provides 90 minutes of emergency operation |



Rev. Date: V2 05/04/2017



## 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 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 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

- Cree born components including highly efficacious Cree® LED chips along with an integral high-efficiency Cree® driver
- **Power Factor:** = 0.9 nominal for 120-277V
- **Input Power:** Stays constant over life
- **Input Voltage:** 120-277V or 347V, 60Hz
- **Operating Temperature Range:** 0°C - + 35°C (32°F - + 95°F)
- **Total Harmonic Distortion:** < 20% for standard fixtures; < 25% for EB option

### 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](http://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 qualified. Please refer to [www.designlights.org/QPL](http://www.designlights.org/QPL) for most current information

| Electrical Data*         |                       |                   |      |      |      |      |
|--------------------------|-----------------------|-------------------|------|------|------|------|
| Initial Delivered Lumens | System Watts 120-347V | Total Current (A) |      |      |      |      |
|                          |                       | 120V              | 208V | 240V | 277V | 347V |
| 32L                      | 32                    | 0.25              | 0.16 | 0.14 | 0.12 | 0.10 |
| 32L w/EB14 Option        | 36                    | 0.32              | 0.19 | 0.17 | 0.14 | 0.12 |

\* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-347V +/- 10%

| Recommended ZR-T Series Lumen Maintenance Factors (LMF) <sup>1</sup> |             |                                   |                                   |                                    |                                     |
|--|-------------|-----------------------------------|-----------------------------------|------------------------------------|-------------------------------------|
| Ambient  | Initial LMF | 25K hr Projected <sup>2</sup> LMF | 50K hr Projected <sup>2</sup> LMF | 75K hr Calculated <sup>3</sup> LMF | 100K hr Calculated <sup>3</sup> 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                                |

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

<sup>2</sup> 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

<sup>3</sup> 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

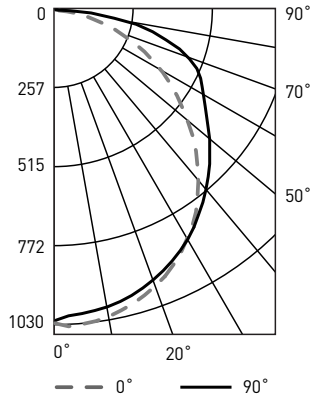
| Open Space |        |         |     |                   |            |
|------------|--------|---------|-----|-------------------|------------|
| Spacing    | Lumens | Wattage | LPW | w/ft <sup>2</sup> | Average fc |
| 8 x 8      | 3,200  | 32      | 100 | 0.48              | 45         |
| 8 x 10     |        |         |     | 0.40              | 38         |
| 10 x 10    |        |         |     | 0.32              | 30         |
| 10 x 12    |        |         |     | 0.26              | 24         |

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

**Photometry**

**ZR22T-32L-30K -10V BASED ON DTC REPORT TEST #: PL10546-001**

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   | 108 | 102 | 98  | 93  |
| 2   | 97  | 88  | 81  | 75  |
| 3   | 88  | 77  | 68  | 62  |
| 4   | 81  | 68  | 59  | 52  |
| 5   | 74  | 61  | 51  | 44  |
| 6   | 68  | 54  | 45  | 39  |
| 7   | 63  | 49  | 40  | 34  |
| 8   | 59  | 45  | 36  | 30  |
| 9   | 55  | 41  | 33  | 27  |
| 10  | 52  | 38  | 30  | 25  |

Effective Floor Cavity Reflectance: 20%

| Zonal Lumen Summary |        |        |           |
|---------------------|--------|--------|-----------|
| Zone                | Lumens | % Lamp | Luminaire |
| 0-30                | 791    | N/A    | 25.3%     |
| 0-40                | 1,294  | N/A    | 41.4%     |
| 0-60                | 2,308  | N/A    | 73.8%     |
| 0-90                | 3,127  | N/A    | 100%      |
| 0-180               | 3,127  | N/A    | 100%      |

| Average Luminance Table (cd/m <sup>2</sup> ) |                  |        |        |        |
|--|------------------|--------|--------|--------|
| Vertical Angle                               | Horizontal Angle |        |        |        |
|  |                  | 0°     | 45°    | 90°    |
|  | 45°              | 13,826 | 14,649 | 15,216 |
| 55°  | 12,758           | 14,590 | 15,944 |        |
| 65°  | 11,451           | 15,430 | 18,755 |        |
| 75°  | 9,523            | 17,908 | 21,834 |        |
| 85°  | 6,777            | 17,451 | 20,038 |        |

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

