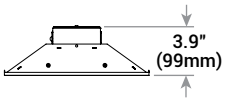
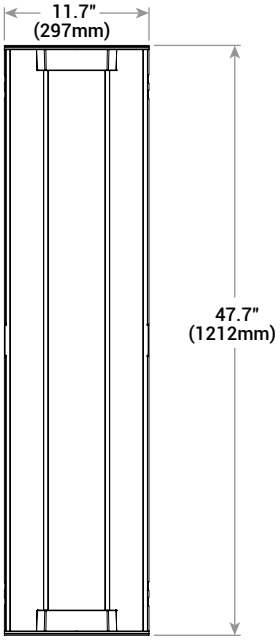
ZR Series

ZR14™ 1' x 4' LED Troffer

Product Description

The ZR14™ 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 ZR14™ LED troffer boasts an efficacious 90 LPW performance along with 0-10V dimming to meet local energy codes. The ZR14™ LED troffer embodies a breakthrough in balancing energy savings, visual comfort and initial cost.





Performance Summary

Utilizes Cree TrueWhite® Technology
Efficacy: 90 LPW
Initial Delivered Lumens: 4,000 lumens
Input Power: 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*

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

Accessories

Field-Installed	
Drywall Grid Adapter DGA-14WHT **Surface Mount Kit** SMK ZR14 - Not for use with EB14	**6' Flexible Power Whip** PW-18/4-06-9T-SS

Ordering Information

Example: ZR14-40L-35K-10V

ZR14	40L			10V	
Product	**Initial Delivered Lumens**	**CCT**	**Voltage**	**Control**	**Options**
ZR14	**40L** 44W, 4,000 Lumens - 90 LPW	**35K** 3500K **40K** 4000K	**Blank** 120-277 Volt **34** 347 Volt	**10V** 0-10V Dimming 5%	EB14 Emergency Backup - 1,400 lumens - Available on US versions only

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

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 4.9" (124mm) 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

OPTICAL SYSTEM

- Unique luminaire 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 or 347V, 50/60Hz
- **Operating Temperature Range:** 0˚C - + 35˚C (32˚F - + 95˚F)
- **Total Harmonic Distortion:** <20%

CONTROLS

- Continuous dimming to 5% with 0-10V DC control protocol
- For use with Class 2 dimming systems only. Reference www.creelink.com/exLink.asp?7098214OZ58R34I26620963 for recommended dimming controls and wiring diagrams

REGULATORY & VOLUNTARY QUALIFICATIONS

- UL924 (EB option)
- cULus listed
- Suitable for damp locations
- Designed for indoor use and covered outdoor applications
- DLC qualified. Please refer to www.designlights.org/QPL for most current information
- RoHS compliant. Consult factory for additional details
- Meets FCC Part 15 standards for conducted and radiated emissions

Application Reference

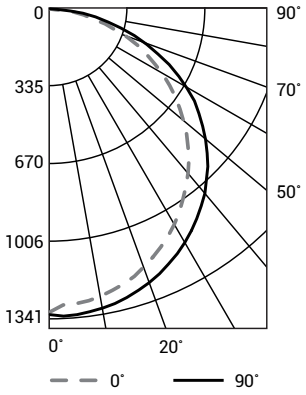
Open Space					
Spacing	Lumens	Wattage	LPW	w/ft²	Average fc
8 x 8	4000	44	90	0.66	56
8 x 10				0.55	46
10 x 10				0.44	37
10 x 12				0.35	30

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

Photometry

ZR14-40L-35K BASED ON CESTL REPORT TEST #: PL02842

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	103	99	95
2	98	90	83	77
3	89	78	70	63
4	82	69	60	53
5	75	62	52	46
6	69	55	46	40
7	64	50	41	35
8	60	46	37	31
9	56	42	34	28
10	52	39	31	25

Effective Floor Cavity Reflectance: 20%

Average Luminance Table (cd/m²)				
	Horizontal Angle			
Vertical Angle	0°	45°	90°	
45°	3,680	3,971	4,159	
55°	3,559	3,947	4,187	
65°	3,362	3,876	4,097	
75°	2,923	3,554	3,747	
85°	2,105	2,836	3,067	

Zonal Lumen Summary			
Zone	Lumens	% Lamp	Luminaire
0-30	1,034	N/A	25.9%
0-40	1,702	N/A	42.7%
0-60	3,068	N/A	76.9%
0-90	3,990	N/A	100%
0-180	3,990	N/A	100%

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

Recommended ZR Series Lumen Maintenance Factors (LMF)[1]					
Ambient	Initial LMF	25K hr Projected[2] LMF	50K hr Projected[2] LMF	75K hr Projected[2] LMF	100K hr Calculated[3] LMF
0˚C (32˚F)	1.05	0.99	0.95	0.91	0.87
5˚C (41˚F)	1.04	0.98	0.94	0.90	0.86
10˚C (50˚F)	1.03	0.97	0.93	0.89	0.85
15˚C (59˚F)	1.02	0.96	0.92	0.88	0.84
20˚C (68˚F)	1.01	0.95	0.91	0.87	0.83
25˚C (77˚F)	1.00	0.95	0.90	0.86	0.83
30˚C (86˚F)	0.99	0.94	0.89	0.86	0.82
35˚C (95˚F)	0.98	0.93	0.89	0.85	0.81

[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)

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