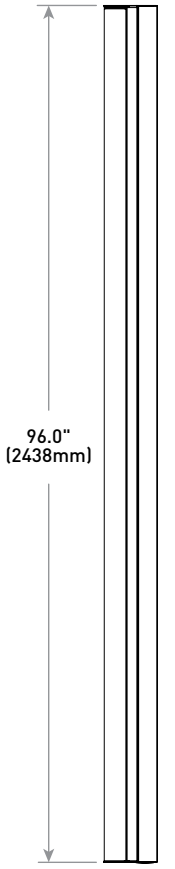
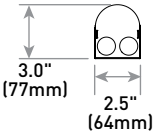
LS-FD High Efficiency Series

LS8™ High Efficiency Series LED Surface Ambient Luminaire – 8'

Product Description

The LS-FD HIgh Efficiency Series surface ambient luminaire delivers up to 130 lumens per watt with 80+ CRI illumination. The 8' (2438mm) luminaire is available with up to 10,000 lumens in 3500K, 4000K and 5000K color temperatures. The LS-FD HIgh Efficiency Series features sleek and compact architectural design with flexible lumen packages, color temperatures and standard 0-10V dimming. Flexible mounting of the LS-FD HIgh Efficiency Series allows for individual mount or continuous row applications for surface mount, suspended mount, pendant mount and cove installations.
Applications: Surface and suspended ambient applications for new construction and upgrade





Performance Summary

Initial Delivered Lumens: 8,000-10,000 lumens

Input Power: 61 or 77 watts

Efficacy: 130 LPW

CRI: 80+ CRI

CCT: 3500K, 4000K, 5000K

Input Voltage: 120-277 VAC

L_{70} Lifetime: > 100,000 hours at 35˚C

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

Dimensions: L 96.0" (2438mm) x W 2.5" (64mm) x H 3.0" (77mm)

Weight: 10 lbs. (4.5kg)

Dimming: 0-10V dimming to 5%

† See http://lighting.cree.com/warranty for warranty terms

Reflectors & Accessories

Field-Installed

Reflectors
- Refer to reflector spec sheet

Solid
LS8-SR
- Pair of reflectors

Apertured
LS8-AR
- Pair of reflectors

Joint Aligner
LS-RJ
- Top housing aligner for continuous rows

LS-RFLJ
- Reflector aligner for continuous row

Adjustable Cable Support Kits for T-Bar Applications‡
AC5-48-Q14B-TB
AC5-48-Q14B-TB-50BULK (Pack of 50)
- Includes 5.0" (127mm) Canopy, 48.0" (1219mm) Adjustable Cable, Q14B Gripper and T-Bar Clip

AC2-48-Q14B-TB
AC2-48-Q14B-TB-50BULK (Pack of 50)
- Same as above except with 2" (51mm) Canopy

Adjustable Loop Cable Kit for Unfinished Ceiling Applications‡
AC-144-Q14B-LP
AC-144-Q14B-LP-50BULK (Pack of 50)
- Includes 144.0" (366cm) L x 1/16" (2mm) Diameter Adjustable Galvanized Loop Cable w/ Q14B Gripper

Continuous Row Through Wiring Kit‡
LS8TWK
- Includes (3) #12AWG 54.0" (1372mm) Wires for Line (black), Neutral (white), Ground (green), (2) #18AWG 54.0" (1372mm) Wires for 0-10V dimming (purple, gray) and (10) Wire Nuts
- Optional accessory for use when luminaire is not ordered with factory installed TW option
- Not for use with EB14 option

Adjustable Cable Support Kits w/ Power Feeds‡
AC5-12/3-48-Q14B-JB
- Non-dimming applications
- Includes 5.0" (127mm) Cable Canopy, 48" (1219mm) #12/3 SJT Cord, Q14B Gripper and J-Box Strap

AC5-18/5-48-Q14B-JB
- Dimming applications
- Includes 5.0" (127mm) Cable Canopy, 48.0" (1219mm) #18/5 SJT Cord, Q14B Gripper and J-Box Strap

AC5-18/2-48-Q14B-JB
- For use with AC5-12/3-48-Q14B-JB for selective luminaire dimming control in row mounted luminaires
- Includes 5.0" (127mm) Cable Canopy, 48.0" (1219mm) #18/2 SVT Cord, Q14B Gripper and J-Box Strap

Dimming Occupancy Sensor w/Photocell
S-WRAC-OC-1
- Enables daylight harvesting
- Not for use with EB14 option
- Not for continuous row applications
- Refer to installation instructions for details

‡ Refer to the CS & LS Accessory spec sheet for more details

Ordering Information

Example: LS8-80L-35K-10V-FD

LS8			10V		FD	
Product	**Initial Delivered Lumens**	**CCT**	**Control**	**Voltage**	**CRI**	**Options**
LS8	**80L** 61W, 8,000 lumens **100L** 77W, 10,000 lumens	**35K** 3500K **40K** 4000K **50K** 5000K	10V 0-10V dimming to 5%	**Blank** 120-277 Volt	**FD** 80+ CRI	**EB14 Emergency Backup** - Minimum 90 minutes - 1,400 lumens - Minimum operating temperature: 0˚C (32˚F) **TW Through Wire Option** - Factory installed - Includes quick connects for use in continuous row applications - Not for use with 50K or EB14 option

US: lighting.cree.com T (800) 236-6800 F (262) 504-5415
Canada: www.cree.com/canada T (800) 473-1234 F (800) 890-7507

Product Specifications

CONSTRUCTION & MATERIALS

- Constructed of durable 22 gauge steel
- Acrylic lens delivers a low-glare, diffused light distribution
- Prepainted white for enhanced smooth finish

OPTICAL SYSTEM

- Unique combination of reflective and refractive optical components achieves a uniform, comfortable appearance while eliminating pixelation and color fringing
- Components work together to optimize distribution, balancing the delivery of high illuminance levels on horizontal surfaces with an ideal amount of light on walls and vertical surfaces. This increases the perception of spaciousness

ELECTRICAL SYSTEM

- **Power Factor:** > 0.9
- **Input Power:** Stays constant over life
- **Input Voltage:** 120-277V, 60Hz
- **Operating Temperature Range:** -28˚C - +35˚C (-18.4˚F - +95˚F); minimum operating temperature with EB14 option is 0˚C (32˚F)
- **Total Harmonic Distortion:** < 25%

CONTROLS

- Continuous dimming to 5% with 0-10V DC control protocol
- **10V Source Current:** 0.25mA
- Use only lighting controls with neutral connection or controls intended for use with LED fixtures
- Reference www.creelink.com/exLink.asp?7098214OZ58R34I26620963 for recommended dimming controls and wiring diagrams

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for damp locations
- Suitable for continuous row mounting
- Designed for indoor use
- Not intended for use in environments containing airborne corrosive agents such as chemical solvents, cleaners, or cutting fluids
- **Ingress Protection:** IP20
- UL924 (EB option). Maximum mounting height: 10.0' (3.0m)
- 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 https://www.designlights.org/search/ for most current information

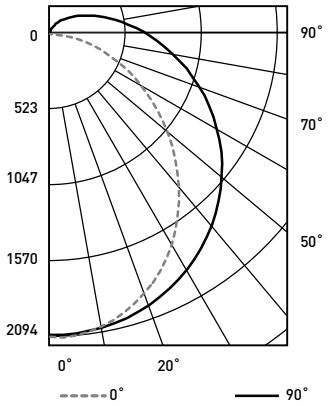
Electrical Data*

Initial Delivered Lumens	System Watts 120-277V	Total Current (A)			
		120V	208V	240V	277V
80L	61	0.54	0.33	0.29	0.25
80L w/EB14	69	0.59	0.37	0.32	0.28
100L	77	0.67	0.42	0.36	0.31
100L w/EB14	85	0.72	0.46	0.40	0.34

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

Photometry

LS8-80L-40K BASED ON CESTL REPORT TEST #: PL03354-001
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	116	116	116	116
1	104	98	93	88
2	93	84	76	70
3	85	73	64	57
4	77	64	55	48
5	71	57	48	41
6	65	51	42	36
7	60	47	37	31
8	56	42	34	28
9	52	39	30	25
10	49	36	28	22

Effective Floor Cavity Reflectance: 20%

Average Luminance Table (cd/m²)

Vertical Angle	Horizontal Angle		
	0˚	45˚	90˚
45˚	3,078	3,623	4,133
55˚	2,643	3,507	4,213
65˚	2,153	3,467	4,399
75˚	1,562	3,612	4,847
85˚	733	4,385	6,232

Zonal Lumen Summary

Zone	Lumens	% Lamp	Luminaire
0-30	1,627	N/A	20.6%
0-40	2,677	N/A	33.8%
0-60	4,855	N/A	61.3%
0-90	7,026	N/A	88.8%
0-180	7,915	N/A	100%

Reference http://lighting.cree.com/products/indoor/surface-ambient/ls-series for detailed photometric data

LS-FD Series Ambient Adjusted Lumen Maintenance[1]

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)	1.04	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-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)

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