

LS Series

LS4™ and LS8™ LED Surface Ambient Luminaire – 4' and 8'

Rev. Date: V4 06/07/2021

Product Description

The LS4™ and LS8™ surface ambient luminaire delivers up to 135 lumens per watt of 80+ or 90+ CRI illumination. The 4' luminaire is available with up to 6,000 lumens and the 8' is available with up to 12,000 lumens, both in 3000K, 3500K, 4000K and 5000K color temperatures. The LS Series features sleek and compact architectural design with flexible lumen packages, color temperatures and standard 0-10V dimming. Flexible mounting of the LS 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: 3,400 - 12,000

Input Power : 31 - 92 watts

Efficacy: Up to 135 LPW

CRI: 80+ or 90+

CCT : 3000K, 3500K, 4000K, 5000K

Input Voltage: 120-277, 347 VAC

L₇₀ Lifetime: > 100,000 hours at 40 °C

Limited Warranty*: Standard 5 years on luminaire; 10-year luminaire warranty option also available; 1 year on accessories

Limited Warranty Emergency Back Up (EB) Battery: 5 Year on Battery Back Up. Test regularly in accordance with local codes

Dimensions: 4', 8'

Weight: 4' - 6 lbs. (2.7kg); 8' - 11 lbs. (5.0kg)

Dimming: 0-10V dimming to 5%

* See <http://creelighting.com/warranty> for warranty terms

Reflectors & Accessories

| Field-Installed | | |
|--|--|---|
| Joint Aligner LS-RJ - Top housing aligner for continuous rows LS-RFLJ - Reflector aligner for continuous rows Solid LS4-SR LS8-SR - Pair of reflectors - < 0.5% Uplight Apertured LS4-AR LS8-SR - Pair of reflectors - ~ 6.5% Uplight Non-Power Feed Adjustable Cable Support for T-Bar Ceilings* 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 | Non-Power Feed Adjustable Loop Cable for Unfinished Ceilings* 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 Non-Power Feed Adjustable Cable Support for Hard Ceilings* AC5-48-Q14B-JB - Includes 5.0" (127mm) Canopy, 48.0" (1219mm) Adjustable Cable, Q14B Gripper and J-Box Strap Continuous Row Through Wiring Kit* LS4TWK 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; 8" wires are 102" (2591mm) - Optional accessory for use when luminaire is not ordered with factory installed TW option - Does not power luminaires w/EB1 option. Additional unswitched (i.e. continuous power) dedicated feeds (by others) must be supplied to EB1 | Power Feed Adjustable Cable Support for T-Bar & Hard Ceilings* 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 |

* Refer to the [CS & LS Accessory spec sheet](#) for more details

Ordering Information

Example: LS4-40L-835-R-UL-10V

Note: Ships in two boxes - Driver Housing + Light Engine.

| LS | | Lumen Package* | | CCT/CRI | Lens | Distribution | Voltage | 10V | Options |
|---------|----|----------------|-------|---------|--------|--------------|--------------------|---------------------|--|
| Product | LS | 4 | 40L | 830** | R | BLANK | UL | 10V | EB1 Emergency Backup -Available only with UL voltage -Minimum 90 minutes -10W emergency power -Minimum operating temperature: 0°C (32°F) TW Through Wire Option -Factory installed -Includes quick connects for use in continuous row applications W10 10-Year Limited Luminaire Warranty |
| | | | 60L | 835 | Round | Medium | Universal 120-277V | 0-10V dimming to 5% | |
| | 8 | 80L | 840 | 840 | Q | AS** | 34 | | |
| | | | 850 | 850 | Square | Asymmetric | 347V | | |
| | | 120L | 930** | AL** | | | | | |
| | | | 950 | | | | | | |
| | | | | | | | | | |

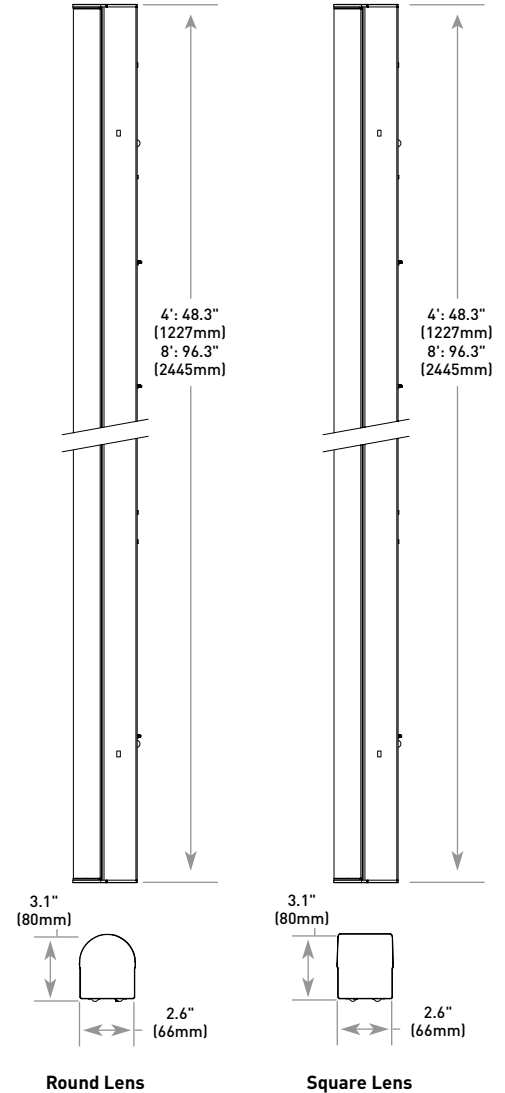
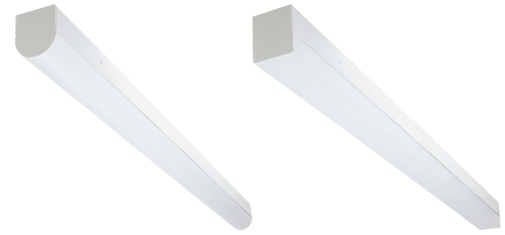
* Lumen Package codes identify approximate light output only. Actual lumen output levels vary depending on CRI. Refer to Delivered Lumens & Electrical Data for specific lumen values

** Made to order - consult factory for lead times.



US: creelighting.com (800) 236-6800

Canada: creelighting-canada.com (800) 473-1234



CREE LIGHTING®

Product Specifications

CONSTRUCTION & MATERIALS

- Constructed of durable 22 gauge steel
- Cosmetic polycarbonate end caps included
- Acrylic lens delivers a low-glare, diffused light distribution
- Post-painted white for enhanced smooth finish
- **Weight:** 4' - 6.0 lbs. (2.7kg); 8' - 11.0 lbs. (5.0kg); add 1.0 lb. (0.5kg) for EB

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
- Medium, asymmetric and aisle distributions with both round and square diffusers meet the needs of a variety of applications


ELECTRICAL SYSTEM

- **Power Factor:** > 0.9 at full load
- **Input Power:** Stays constant over life
- **Input Voltage:** 120-277 or 347 VAC, 50/60Hz
- **Operating Temperature Range:** -20°C - +40°C (-4°F - +104°F); minimum operating temperature with EB1 option is 0°C (32°F)
- **Total Harmonic Distortion:** < 20% at full load

CONTROLS

- Continuous dimming to 5% with 0-10V DC control protocol
- **10V Source Current:** 0.45mA maximum
- Use only lighting controls with neutral connection or controls intended for use with LED fixtures
- Reference www.creelink.com/exLink.asp?70982140Z58R34I26620963 for recommended dimming controls and wiring diagrams

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed (UL1598)
- Suitable for damp locations
- Suitable for continuous row mounting
- Designed for indoor use only
- Requires minimum 90°C supply conductors
- Not intended for use in environments containing airborne corrosive agents such as chemical solvents, cleaners, or cutting fluids
- UL924 (EB1 option). Maximum mounting height: 15.0' (4.6m)
- Ingress Protection: IP20
- RoHS compliant. Consult factory for additional details
- Meets FCC Part 15, Subpart B, Class A limits for conducted and radiated emissions
- DLC and DLC Premium qualified versions available. Please refer to <https://www.designlights.org/search/> for most current information
-  **CA RESIDENTS WARNING:** Cancer and Reproductive Harm – www.p65warnings.ca.gov

| Delivered Lumens & Electrical Data* | | | | | | | | | |
|-------------------------------------|--------------------------|--------|-----------------------|-------------------|-------------------|------|------|------|------|
| Lumen Package | Initial Delivered Lumens | | System Watts 120-277V | System Watts 347V | Total Current (A) | | | | |
| | 80 CRI | 90 CRI | | | 120V | 208V | 240V | 277V | 347V |
| 40L | 4,000 | 3,400 | 31 | 34 | 0.26 | 0.15 | 0.13 | 0.12 | 0.11 |
| 40L w/EB | | | 35 | N/A | 0.29 | 0.17 | 0.15 | 0.13 | N/A |
| 60L | 6,000 | 5,100 | 45 | 48 | 0.38 | 0.22 | 0.19 | 0.16 | 0.15 |
| 60L w/EB | | | 49 | N/A | 0.41 | 0.24 | 0.20 | 0.18 | N/A |
| 80L | 8,000 | 6,800 | 61 | 64 | 0.51 | 0.29 | 0.25 | 0.22 | 0.19 |
| 80L w/EB | | | 65 | N/A | 0.54 | 0.31 | 0.27 | 0.24 | N/A |
| 120L | 12,000 | 10,200 | 92 | 94 | 0.77 | 0.44 | 0.38 | 0.34 | 0.28 |
| 120L w/EB | | | 96 | N/A | 0.80 | 0.46 | 0.40 | 0.35 | N/A |

* Electrical data at 25°C (77°F). Actual wattage and lumens may differ by +/- 10% when operating between 120-277V or 347V +/- 10%.

| Uplight Table | | | |
|---------------|--------------|------------|-------|
| Lens | Distribution | | |
| | Medium | Asymmetric | Aisle |
| Round | 10% | 9% | 6% |
| Square | 13% | 12% | 9% |

| LS Series Ambient Adjusted Lumen Maintenance ¹ | | | | | |
|---|-------------|----------------------------------|----------------------------------|-----------------------------------|------------------------------------|
| Ambient | Initial LMF | 25K hr Reported ² LMF | 50K hr Reported ² LMF | 75K hr Estimated ³ LMF | 100K hr Estimated ³ LMF |
| 0°C (32°F) | 1.03 | 0.98 | 0.93 | 0.88 | 0.84 |
| 5°C (41°F) | 1.03 | 0.98 | 0.93 | 0.88 | 0.83 |
| 10°C (50°F) | 1.02 | 0.97 | 0.92 | 0.87 | 0.83 |
| 15°C (59°F) | 1.01 | 0.96 | 0.91 | 0.87 | 0.82 |
| 20°C (68°F) | 1.01 | 0.96 | 0.91 | 0.86 | 0.82 |
| 25°C (77°F) | 1.00 | 0.95 | 0.90 | 0.86 | 0.81 |
| 30°C (86°F) | 0.99 | 0.94 | 0.89 | 0.84 | 0.80 |
| 35°C (95°F) | 0.99 | 0.94 | 0.88 | 0.83 | 0.79 |
| 40°C (104°F) | 0.98 | 0.93 | 0.87 | 0.82 | 0.77 |

¹ Lumen maintenance values at 25°C (77°F) are calculated per IES TM-21 based on IES LM-80 report data for the LED package and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors.

² In accordance with IES TM-21, Reported values represent interpolated values based on time durations that are up to 6x the tested duration in the IES LM-80 report for the LED.

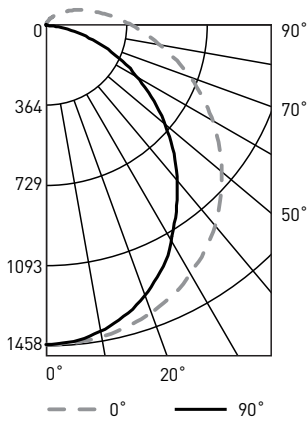
³ Estimated values are calculated and represent time durations that exceed the 6x test duration of the LED.

| Delivered Emergency Lumens | | |
|----------------------------|--------|--------|
| Lumen Package | 80 CRI | 90 CRI |
| 40L | 1,290 | 1,100 |
| 60L | 1,330 | 1,130 |
| 80L | 1,310 | 1,110 |
| 120L | 1,300 | 1,110 |

Photometry

LS4-60L-930-R-UL-10V BASED ON BEST TEST SERVICE SHENZHEN TEST REPORT #: BTR66.181.19.0032.47

Luminaire photometry has been conducted in accordance with IES LM-79-08. IES 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 | 117 | 117 | 117 | 117 |
| 1 | 104 | 99 | 94 | 89 |
| 2 | 94 | 85 | 78 | 71 |
| 3 | 86 | 74 | 65 | 58 |
| 4 | 78 | 65 | 56 | 49 |
| 5 | 72 | 58 | 49 | 42 |
| 6 | 66 | 52 | 43 | 37 |
| 7 | 61 | 47 | 38 | 32 |
| 8 | 57 | 43 | 34 | 29 |
| 9 | 53 | 40 | 31 | 26 |
| 10 | 50 | 36 | 28 | 23 |

Effective Floor Cavity Reflectance: 20%

| Average Luminance Table (cd/m²) | | | |
|---------------------------------|------------------|--------|--------|
| Vertical Angle | Horizontal Angle | | |
| | 0° | 45° | 90° |
| 45° | 20,071 | 13,087 | 10,069 |
| 55° | 21,016 | 11,784 | 7,916 |
| 65° | 22,995 | 10,538 | 5,692 |
| 75° | 28,204 | 9,497 | 3,278 |
| 85° | 52,651 | 9,079 | 779 |

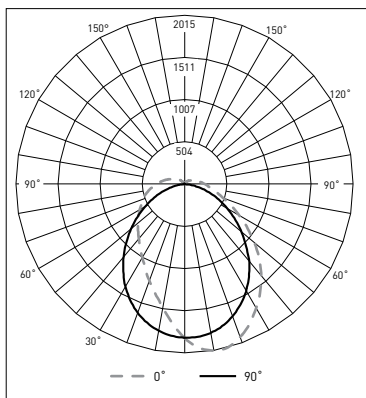
| Zonal Lumen Summary | | | |
|---------------------|--------|--------|-----------|
| Zone | Lumens | % Lamp | Luminaire |
| 0-30 | 1,129 | N/A | 21.8% |
| 0-40 | 1,848 | N/A | 35.7% |
| 0-60 | 3,304 | N/A | 63.8% |
| 0-90 | 4,658 | N/A | 89.9% |
| 0-180 | 5,183 | N/A | 100% |

Reference <http://creelighting.com/products/indoor/surface-ambient/ls-series> for detailed photometric data

Photometry

LS4-60L-930-R-AS-UL-10V BASED ON BEST TEST SERVICE SHENZHEN TEST REPORT #: BTR66.181.19.0032.49

Luminaire photometry has been conducted in accordance with IES LM-79-08. IES 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 | 117 | 117 | 117 | 117 |
| 1 | 106 | 100 | 96 | 92 |
| 2 | 96 | 87 | 80 | 74 |
| 3 | 88 | 77 | 69 | 62 |
| 4 | 80 | 68 | 59 | 53 |
| 5 | 74 | 61 | 52 | 45 |
| 6 | 68 | 55 | 46 | 40 |
| 7 | 63 | 50 | 41 | 35 |
| 8 | 59 | 46 | 37 | 32 |
| 9 | 55 | 42 | 34 | 28 |
| 10 | 52 | 39 | 31 | 26 |

Effective Floor Cavity Reflectance: 20%

| Average Luminance Table (cd/m²) | | | |
|---------------------------------|------------------|--------|--------|
| Vertical Angle | Horizontal Angle | | |
| | 0° | 45° | 90° |
| 45° | 22,525 | 16,656 | 12,700 |
| 55° | 20,075 | 13,401 | 9,832 |
| 65° | 18,124 | 10,279 | 7,035 |
| 75° | 18,776 | 7,748 | 4,262 |
| 85° | 33,153 | 6,581 | 1,394 |

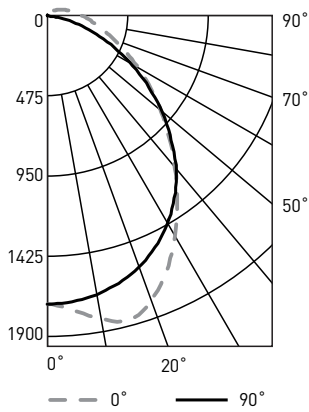
| Zonal Lumen Summary | | | |
|---------------------|--------|--------|-----------|
| Zone | Lumens | % Lamp | Luminaire |
| 0-30 | 1,337 | N/A | 25.9% |
| 0-40 | 2,125 | N/A | 41.1% |
| 0-60 | 3,568 | N/A | 69.1% |
| 0-90 | 4,715 | N/A | 91.3% |
| 0-180 | 5,165 | N/A | 100.0% |

Reference <http://creelighting.com/products/indoor/surface-ambient/ls-series> for detailed photometric data

Photometry

LS4-60L-930-R-AL-UL-10V BASED ON BEST TEST SERVICE SHENZHEN TEST REPORT #: BTR66.181.19.0032.48

Luminaire photometry has been conducted in accordance with IES LM-79-08. IES 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 | 118 | 118 | 118 | 118 |
| 1 | 107 | 102 | 97 | 93 |
| 2 | 97 | 89 | 82 | 76 |
| 3 | 89 | 78 | 70 | 64 |
| 4 | 81 | 70 | 61 | 54 |
| 5 | 75 | 62 | 53 | 47 |
| 6 | 69 | 56 | 47 | 41 |
| 7 | 64 | 51 | 42 | 36 |
| 8 | 60 | 47 | 38 | 33 |
| 9 | 56 | 43 | 35 | 29 |
| 10 | 53 | 40 | 32 | 27 |

Effective Floor Cavity Reflectance: 20%

| Average Luminance Table (cd/m²) | | | |
|---------------------------------|------------------|--------|--------|
| Vertical Angle | Horizontal Angle | | |
| | 0° | 45° | 90° |
| 45° | 18,347 | 13,915 | 12,694 |
| 55° | 16,332 | 10,700 | 9,718 |
| 65° | 15,160 | 8,110 | 6,516 |
| 75° | 16,364 | 6,375 | 3,398 |
| 85° | 28,875 | 5,523 | 660 |

Reference <http://creelighting.com/products/indoor/surface-ambient/lis-series> for detailed photometric data

| Zonal Lumen Summary | | | |
|---------------------|--------|--------|-----------|
| Zone | Lumens | % Lamp | Luminaire |
| 0-30 | 1,433 | N/A | 27.2% |
| 0-40 | 2,322 | N/A | 44.0% |
| 0-60 | 3,872 | N/A | 73.4% |
| 0-90 | 4,941 | N/A | 93.7% |
| 0-180 | 5,276 | N/A | 100% |