

LRX Series

LR6X™ LED Downlight – 6"

Rev. Date: V3 10/11/2022

Product Description

The LR6X™ downlight is an unparalleled combination of light quality and efficacy – bringing outstanding performance and value to the retrofit downlight space. Delivering up to 3000 lumens of exceptional 90+ CRI light while achieving up to 92 lumens per watt, this breakthrough performance is achieved by combining the high efficacy with an integrated driver and thermal management design. The LR6X™ downlight is available in warm or neutral color temperatures, three lumen packages, and offers a variety of trim options.

Applications: Commercial new construction and retrofit

Performance Summary

Utilizes Cree TrueWhite® Technology

Initial Delivered Lumens: 650 – 3,000

Input Power: 8 – 32.5 watts

CRI: 90+

R9: >54

CCT: 2700K, 3000K, 3500K, 4000K

Limited Warranty¹: 10 years

L₇₀ Lifetime: > 100,000 hours at 35°C

Dimming: Dimmable to 5%

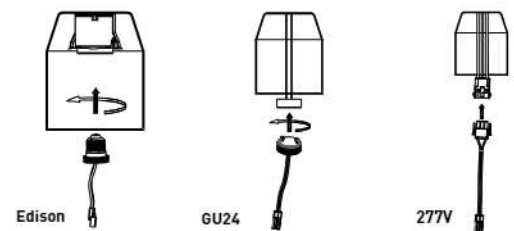
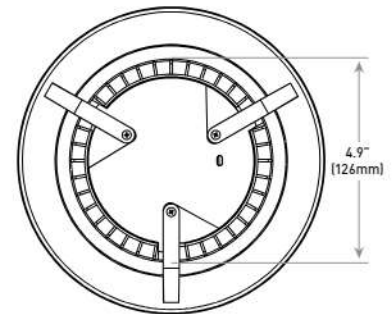
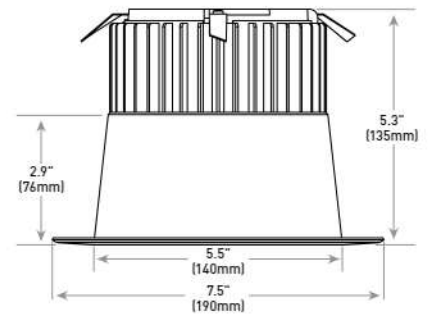
¹ See <http://creelighting.com/warranty> for warranty terms

Accessories

Trims	
LXT6AB Diffuse Anodized Reflector w/White Flange	8" Adapter GR8 - Optional goof ring accommodates existing housings with apertures from 6.25" (159mm) to 8.5" (216mm) in diameter
LXT6BB Flat Black Reflector w/Black Flange	

Housings

Refer to page four for details.



Ordering Information

Example: LR6X-7L-27K

LR6X				
Series	Initial Delivered Lumens	CCT	Voltage	Base Type
LR6X	7L 8W, 650 lumens – 81 LPW 10L 12.5W, 1,050 lumens – 84 LPW 18L 20.5W, 1,800 lumens – 88 LPW 24L 26W, 2,400 lumens – 92 LPW 30L 32.5W, 3,000 lumens – 92 LPW	27K 2700K 30K 3000K 35K 3500K 40K 4000K	Blank 120-277 Volts	Blank Includes provisions for mounting to E26 and GU24 sockets (120V), 120-277V rated LED orange connectors (120-277V), and traditional Cree Lighting 277V connectors (277V)



CREE LIGHTING

US: creelighting.com (800) 236-6800

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

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 aluminum housing protects the light source. Adjustable flip clips provide robust retention for flush ceiling fit
- Thermal management system uses integral heat sink to conduct heat away from LEDs for optimal performance. LED junction temperatures stay below specified maximum even when installed in with worst case installations
- Suitable for insulated and non-insulated ceilings
- One-piece aluminum lower reflector redirects light while also conducting heat away from LEDs. It creates a comfortable visual transition from the lens to the ceiling plane and easily accommodates LXT6 snap-in trims

OPTICAL SYSTEM

- Unique combination of reflective and refractive optical components achieves a uniform, comfortable appearance while eliminating pixelation, hot spots and minimizing glare
- 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
- Deep set polycarbonate diffusing lens shields direct view of LEDs and provides greater visual cut-off
- Beam Angle (included angle between points of 50% of max. intensity): ~ 90°
- Field Angle (included angle between points of 10% of max. intensity): ~ 140°

ELECTRICAL SYSTEM

- Integral, high-efficiency driver and power supply
- **Power Factor:** > 0.9 (120V)
- **Total Harmonic Distortion:** < 20% (120V)
- **Input Voltage:** 120V - 277V Universal, 50/60Hz
- 120V is dimmable to 5% with most incandescent dimmers
- 277V is dimmable to 5% with most trailing edge dimmers
- Reference <https://www.creelighting.com/products/indoor/retrofit-down-lights/lrx-series> for recommended dimmers
- **Operating Temperature Range:** -25°C - +35°C (-13°F - +95°F); For 24L and 30L: -25°C - +30°C (-13°F - +86°F)

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Classified
- Suitable for wet locations for covered ceilings only
- ENERGY STAR® certified. Please refer to <https://www.energystar.gov/productfinder/product/certified-light-fixtures/> results
- Meets CA Title 24 JA8 Requirements
- Meets CA Title 20 Appliance Regulations with the exception of 30L lumen package
- Meets FCC Part 15, Subpart B, Class B limits for conducted and radiated emissions
- RoHS Compliant. Consult factory for additional details
- **CA RESIDENTS WARNING:** Cancer and Reproductive Harm – www.p65warnings.ca.gov

Electrical Data*

Lumen Package	System Watts 120-277V	Total Current (A)			
		120V	208V	240V	277V
7L	8	0.08	0.05	0.04	0.04
10L	12.5	0.12	0.07	0.06	0.05
18L	20.5	0.19	0.11	0.09	0.08
24L	26	0.23	0.13	0.11	0.10
30L	32.5	0.26	0.16	0.14	0.12

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

LRX (LR6X) Series Ambient Adjusted Lumen Maintenance¹

Ambient	Lumen Package	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)	All	1.03	1.00	0.97	0.95	0.93
5°C (41°F)	All	1.03	1.00	0.97	0.95	0.93
10°C (50°F)	All	1.02	0.99	0.96	0.94	0.92
15°C (59°F)	All	1.01	0.98	0.95	0.93	0.91
20°C (68°F)	7L-24L	1.01	0.98	0.95	0.93	0.91
	30L	1.01	0.96	0.92	0.89	0.85
25°C (77°F)	7L-24L	1.00	0.97	0.95	0.92	0.90
	30L	1.00	0.95	0.91	0.88	0.84
30°C (86°F)	7L-18L	0.99	0.96	0.94	0.91	0.89
	24L-30L	0.99	0.93	0.88	0.83	0.79
35°C (95°F)	7L-18L	0.99	0.96	0.94	0.91	0.89

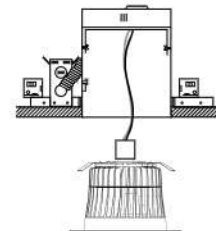
¹ Lumen maintenance values at 25°C (77°F) are calculated per IES TM-21 based on IES LM-80 report data for the LED package and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors.

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.

INSTALLATION

- Designed to easily install in standard 6" (152mm) downlight housings with minimum housing height of 6.5" (165mm) and diameter of 5.75" - 6.25" (146mm - 159mm)
- Quick install system utilizes a unique retention feature. Simply attach socket to LR6X. Move light to ready position and slide into housing



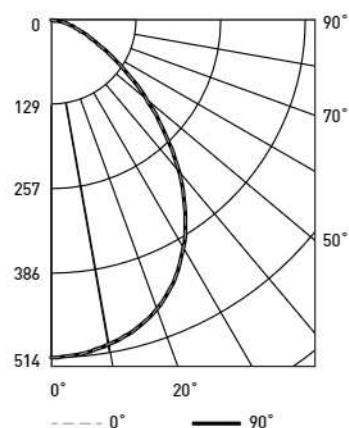
NOTE: Reference <https://www.creelighting.com/products/indoor/retrofit-downlights/lrx-series> for detailed installation instructions

LR6X™ LED Downlight – 6"

Photometry

LR6X-10L-27K BASED ON CESTL REPORT TEST #: PL14936-001A

Fixture photometry has been conducted in accordance with IES LM-79. IES LM-79 specifies the entire luminaire as the source resulting in a fixture efficiency of 100%.



Coefficients of Utilization- Zonal Cavity Method					
RC %:	80				
RW %:	70	50	30	10	
RCR: 0	119	119	119	119	
1	111	107	103	100	
2	102	95	89	84	
3	94	85	78	72	
4	87	77	69	63	
5	81	69	61	55	
6	75	63	55	49	
7	70	58	50	44	
8	65	53	45	40	
9	61	49	41	36	
10	58	45	38	33	

Effective Floor Cavity Reflectance: 20%

Average Luminance Table (cd/m²)				
Vertical Angle	Horizontal Angle			
	0°	45°	90°	
45°	22,978	22,978	22,978	
55°	16,483	16,483	16,483	
65°	10,881	10,881	10,881	
75°	8,574	8,574	8,574	
85°	6,866	6,866	6,866	

Zonal Lumen Summary			
Zone	Lumens	% Lamp	Luminaire
0-30	389	N/A	37%
0-40	612	N/A	58.2%
0-60	935	N/A	88.8%
0-90	1052	N/A	100%
0-180	1052	N/A	100%

Reference <https://www.creelighting.com/products/indoor/retrofit-downlights/lr-series> for detailed photometric data

Application Reference

Open Space						
Spacing	Lumen Package	Initial Delivered Lumens	Wattage	LPW	w/ft²	Average fc
4x4	7L	650	8	81	0.48	38
	10L	1,050	12.5	84	0.75	62
	18L	1,800	20.5	88	1.23	106
	24L	2,400	26	92	1.56	142
	30L	3,000	32.5	92	1.95	177
6x6	7L	650	8	81	0.22	18
	10L	1,050	12.5	84	0.35	29
	18L	1,800	20.5	88	0.57	50
	24L	2,400	26	92	0.73	66
	30L	3,000	32.5	92	0.91	83
8x8	7L	650	8	81	0.12	10
	10L	1,050	12.5	84	0.19	16
	18L	1,800	20.5	88	0.31	26
	24L	2,400	26	92	0.39	33
	30L	3,000	32.5	92	0.49	42
10x10	7L	650	8	81	0.08	6
	10L	1,050	12.5	84	0.13	10
	18L	1,800	20.5	88	0.21	17
	24L	2,400	26	92	0.26	23
	30L	3,000	32.5	92	0.33	29

Open Space: 50' Wide x 40' Long x 10' Ceiling, 80/50/20 Reflectances, 2.5 workplane. LLF: 1.0 Initial.

Corridor Space						
Spacing	Lumen Package	Initial Delivered Lumens	Wattage	LPW	w/ft²	Average fc
4' OC	7L	650	8	81	0.33	14
	10L	1,050	12.5	84	0.52	22
	18L	1,800	20.5	88	0.85	38
	24L	2,400	26	92	1.08	50
	30L	3,000	32.5	92	1.35	63
6' OC	7L	650	8	81	0.23	9
	10L	1,050	12.5	84	0.35	15
	18L	1,800	20.5	88	0.58	26
	24L	2,400	26	92	0.74	34
	30L	3,000	32.5	92	0.92	43
8' OC	7L	650	8	81	0.16	6
	10L	1,050	12.5	84	0.25	10
	18L	1,800	20.5	88	0.41	17
	24L	2,400	26	92	0.52	23
	30L	3,000	32.5	92	0.65	29
10' OC	7L	650	8	81	0.13	6
	10L	1,050	12.5	84	0.21	9
	18L	1,800	20.5	88	0.34	15
	24L	2,400	26	92	0.43	21
	30L	3,000	32.5	92	0.54	26

Corridor: 6' Wide x 100' Long x 10' Ceiling, 80/50/20 Reflectances, Light levels on the ground. LLF: 1.0 Initial.

Housing & Trims

Reference Housing & Trim documents for more details

Housings - Reference Housing spec sheets for additional details			
<u>Edison (E26) Base Housings</u> Recessed Housings, 120V RR6 - Retrofit RR6-12W - Retrofit with maximum 12W label - For use only with 825L lumen package Surface Mount Housings, 120V SC6 - Textured white finish SC6-BL - Textured black finish Cord Mount Housings, 120V SC6-CM - Textured white finish - Includes 5" (127mm) canopy and 7' (2.1m) white cord	<u>GU24 Base Housings</u> Recessed Housings, 120V H6-GU24 - Architectural new construction RR6-GU24 - Retrofit Recessed "Pan" Conversion Kit, 120V C6-120V-LSA - Less socket adapter Surface Mount Housings, 120V SC6-GU24 - Textured white finish SC6-BL-GU24 - Textured black finish Cord Mount Housings, 120V SC6-CM-GU24 - Textured white finish - Includes 5" (127mm) canopy and 7' (2.1m) white cord SC6-CM-BL-GU24 - Textured black finish - Includes 5" (127mm) canopy and 7' (2.1m) black cord Wall Mount Housings, 120V SC6-WM-GU24 - Textured white finish SC6-WM-BL-GU24 - Textured black finish	<u>277V Housings</u> Recessed Housings, 277V H6-277V - Architectural new construction RR6-277V - Retrofit Recessed "Pan" Conversion Kit, 277V C6-277V-LSA - Less socket adapter Cord Mount Housings, 277V SC6-CM-277V - Textured white finish - Includes 5" (127mm) canopy and 7' (2.1m) white cord SC6-CM-BL-277V - Textured black finish - Includes 5" (127mm) canopy and 7' (2.1m) black cord	<u>Universal 120-277V Housings</u> Recessed Housings, 120-277V RC6-UNI - New Construction RR6-UNI - Retrofit