

# LR Series

LR6™ LED Downlight - 6"

## Product Description

The LR6™ downlight is an unparalleled combination of light quality and efficacy – bringing outstanding performance and value to the retrofit downlight space. Delivering up to 1800 lumens of exceptional 90+ CRI light while achieving up to 100 lumens per watt, this breakthrough performance is achieved by combining the high efficacy and high-quality light of Cree TrueWhite® Technology, with an integrated driver and thermal management design. The LR6™ 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
<b>Initial Delivered Lumens:</b> 650-1,800 lumens
<b>Input Power:</b> 7.5-22 watts
<b>CRI:</b> 90
<b>CCT:</b> 2700K, 3500K, 4000K
<b>Limited Warranty<sup>1</sup>:</b> 10 years
<b>Lifetime:</b> Designed to last 50,000 hours
<b>Dimming:</b> Dimmable to 5%
Must order in multiples of master carton (MC) quantities of 5

<sup>1</sup>See <http://lighting.cree.com/warranty> for warranty terms

## Housings & Trims

Reference Housing & Accessory documents for more details.

Housings		
<b>120V GU24 Base Recessed Housings</b> H6-GU24 - Architectural new construction RC6-GU24 - New construction RR6-GU24 - Retrofit <b>120V GU24 Base Surface Mount Housings</b> SC6-GU24 - Textured white finish SC6-BL-GU24 - Textured black finish	<b>120V GU24 Base Cord Mount Housings</b> SC6-CM-GU24 - Textured white finish SC6-CM-BL-GU24 - Textured black finish <b>120V GU24 Base Wall Mount Housings</b> SC6-WM-GU24 - Textured white finish <b>277V Recessed Housings</b> H6-277V - Architectural new construction RC6-277V - New construction RR6-277V - Retrofit	<b>277V Surface Mount Housings</b> SC6-277V - Textured white finish SC6-BL-277V - Textured black finish <b>277V Cord Mount Housings</b> SC6-CM-277V - Textured white finish SC6-CM-BL-277V - Textured black finish <b>277V Wall Mount Housings</b> SC6-WM-277V - Textured white finish

Trims		
<b>LT6A-DR</b> Diffuse anodized reflector w/white flange <b>LT6AW-DR</b> Wheat diffuse anodized reflector w/white flange	<b>LT6AP-DR</b> Pewter diffuse anodized reflector w/white flange <b>LT6AB-DR</b> Black anodized reflector w/white flange	<b>LT6WH-DR</b> Smooth white painted reflector/flange <b>LT6BB-DR</b> Flat black reflector/flange

## Ordering Information

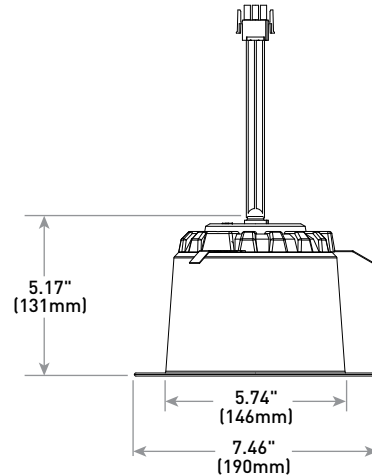
Example: LR6-7L-27K-GU24-E26

LR6	Series	Initial Delivered Lumens*	CCT	Voltage	Base Type
LR6**	7L 7.5W, 650 lumens – 87 LPW 10L 10.5W, 1,050 lumens – 100 LPW 18L 22W, 1,800 lumens – 82 LPW	27K 2700K 35K 3500K 40K 4000K	Blank 120 Volts 277V 277 Volts	Blank 277V Connector - Must be used with Cree six-inch 277V housings [see Housings table above] GU24 - GU24 base - Available only with LR6-10L and LR6-18L GU24-E26 - GU24 base w/Edison adaptor - Available only with the LR6-7L	

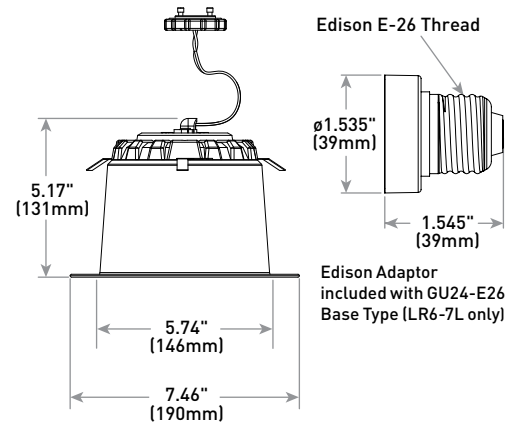
\* Actual lumens vary based on color temperature  
 \*\* LR6 must be ordered in Master Carton quantities of 5



277V Connector



120V GU24



Rev. Date: V3 10/05/2016



**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 LT6 snap-in trims 5.5" (140mm) pigtail

**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

**ELECTRICAL SYSTEM**

- Integral, high-efficiency power supply
- **Power Factor:** minimum 0.9
- **Total Harmonic Distortion:** < 20%
- **Input Voltage:** 120V, 50/60Hz or 277V, 50/60Hz
- **Dimming:** 120V dimmable to 5% with most incandescent dimmer. 277V dimmable to 5% with trailing edge dimmers. Reference <http://lighting.cree.com/products/indoor/retrofit-downlights/lr6-series> for recommended dimmers
- **Operating Temperature Range:** -20°C - +35°C (-4°F - +95°F)

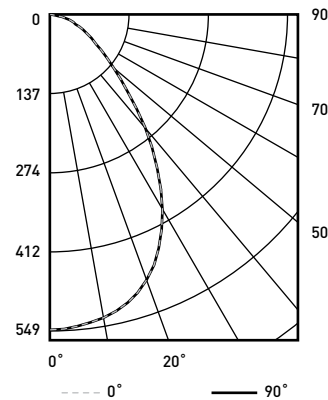
**REGULATORY & VOLUNTARY QUALIFICATIONS**

- cULus Classified
- Suitable for wet locations for covered ceilings only
- ENERGY STAR® qualified. Please refer to [www.energystar.gov/certified-products/certified-products?c=products.pr\\_find\\_es\\_products&s=mega](http://www.energystar.gov/certified-products/certified-products?c=products.pr_find_es_products&s=mega) for most current information
- Exceeds California Title-24 high efficacy luminaire requirements when ordered with GU24 base or 277V. Please refer to <https://cacertappliances.energy.ca.gov/Pages/ApplianceSearch.aspx> for most current information
- Meets FCC Part 15 standards for conducted and radiated emissions
- RoHS Compliant. Consult factory for additional details

**Photometry**

**LR6-10L-35K-GU24 BASED ON CESTL REPORT TEST #: PL06010-001**

Fixture 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 fixture efficiency of 100%.



Average Luminance Table (cd/m <sup>2</sup> )				
		Horizontal Angle		
		0°	45°	90°
Vertical Angle	45°	13,215	13,215	13,215
	55°	8,204	8,204	8,204
	65°	5,541	5,541	5,541
	75°	3,834	3,834	3,834
	85°	1,165	1,165	1,165

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	103	96	90	85
3	95	86	79	74
4	88	78	70	65
5	82	71	63	57
6	77	65	57	51
7	72	60	52	46
8	67	55	47	42
9	63	51	44	39
10	60	48	40	36

Effective Floor Cavity Reflectance: 20%

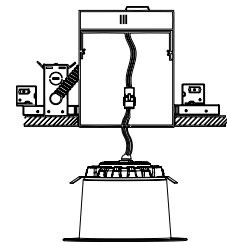
Zonal Lumen Summary			
Zone	Lumens	% Lamp	Luminaire
0-30	403	N/A	41.9%
0-40	605	N/A	62.9%
0-60	854	N/A	88.7%
0-90	962	N/A	100%
0-180	962	N/A	100%

Reference <http://lighting.cree.com/products/indoor/retrofit-downlights/lr6-series> for detailed photometric data

**Installation**

- Designed to easily install in standard 6" (152mm) downlight housings with minimum depth 6.5" (165mm) and diameter of 5.75" - 6.25" (146mm - 159mm)
- Quick install system utilizes a unique retention feature. Simply attach socket to LR6 downlight. Move light to ready position and slide into housing

**NOTE:** Reference <http://lighting.cree.com/products/indoor/retrofit-downlights/lr6-series> for detailed installation instructions



**Application Reference**

Open Space					
Spacing	Lumens	Wattage	LPW	w/ft <sup>2</sup>	Average FC
4 x 4	1,050	10.5	100	0.63	62
6 x 6				0.29	29
8 x 8				0.16	16
10 x 10				0.11	11

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

Corridor					
Spacing	Lumens	Wattage	LPW	w/ft <sup>2</sup>	Average FC
4' on Center	1,050	10.5	100	0.44	27
6' on Center				0.28	17
8' on Center				0.21	13
10' on Center				0.18	11

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