

# KR6™ Series

LED Specification Downlight – Round 6" Aperture

## Product Description

The KR6™ LED specification downlight features Cree TrueWhite® Technology and delivers beautiful, high-quality light with efficacy up to 75 lumens per watt. Designed for new construction applications, the KR Series is available in variety of color temperatures, round and square trims with high-quality anodized aluminum reflector finishes, a sloped ceiling adapter and a variety of dimming options including Cree Sunset Dimming Technology providing rich, warm light that transitions from 2700K to 1800K as naturally as an incandescent source.

## Performance Summary

Utilizes Cree TrueWhite® Technology
Made in the U.S.A. of U.S. and imported parts
<b>Delivered Light Output:</b> 683-6691 lumens; Delivered lumen output is typical when using a SSGC type reflector
<b>Input Power:</b> 13-104 Watts
<b>Emergency Performance:</b> Up to 1210 Lumens; 10W; Minimum 90 Minutes
<b>CRI:</b> 90
<b>CCT:</b> 2700K, 3000K, 3500K, 4000K
<b>Dimming:</b> Triac, 0/1-10V, Cree SmartCast™ Technology, Lutron EcoSystem® Dimming, Lutron® Forward Phase Dimming; See control availability chart on page 3
<b>Limited Warranty*:</b> 10 years on KR6™ luminaire/5 years on KR6 luminaire with Cree SmartCast™ Technology/1 year on emergency battery pack

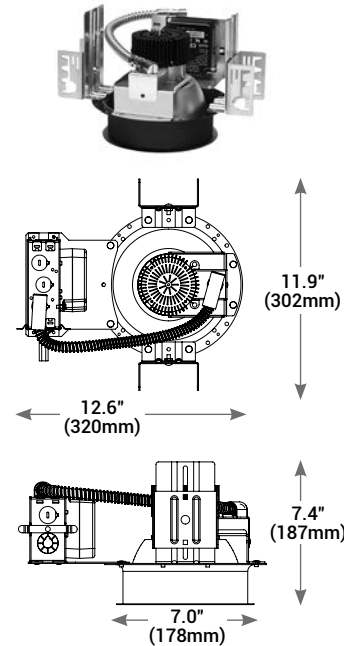
## Accessories

Field-Installed		
<b>Sloped Ceiling Adaptor</b> KRKS6+WW ** 0-35 (order in 5 degree increments)	<b>C-Channel Hanger Bars</b> RBH30C - Pair of 30" (762mm) rigid 3/4" x 1/2" (19mm x 13mm) C-Channel bars	<b>T-Bar Clips</b> RARC7 - Set of four
<b>Control Module</b> CIF-10VC1-CWC-SNSR - Cree SmartCast™ Technology with ambient light and motion sensors		<b>Trim Ring</b> KR6TA - White

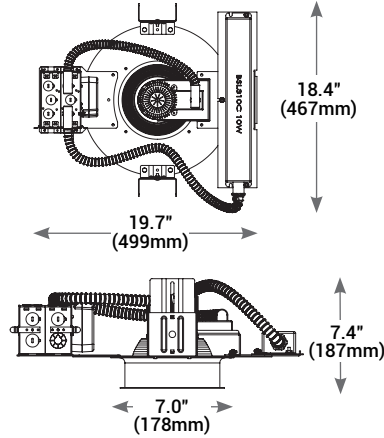
## Ordering Information

Fully assembled luminaire is composed of two components that must be ordered separately:  
Example: **Housing:** KR6 20L 35K 120V 10V + **Reflector:** KR6T SSGC FF

Reflector (Housing must be ordered separately)			
KR6T			
Series	Reflector Finish	Flange Finish	Options
KR6T	SSGC Soft Satin Glow, Clear SSGCG Soft Satin Glow, Champagne Gold	FF Matches Reflector WF White Paint	WW Wall Wash



## Emergency Backup



**QUICKSHIP™**

For full list of Cree Quick Ship products visit [www.cree.com/lighting/quickship](http://www.cree.com/lighting/quickship)

Housing (Reflector must be ordered separately)									
Series	Size	Reflector	Initial Delivered Lumens	Optic	CCT	Voltage	Controls	Options	
KR6									
KR	6 inch	Blank Round	9L 13W, 683 Lumens - 53 LPW 13L 18W, 1060 Lumens - 59 LPW 20L 30W, 1664 Lumens - 55 LPW 30L 39W, 2545 Lumens - 62 LPW 40L 44W, 3337 Lumens - 76 LPW 60L 87W, 5265 Lumens - 60 LPW	Blank 70° Beam Angle (Standard)	27K 2700K - 9L thru 40L Only 30K 3000K 35K 3500K 40K 4000K	120V 120 Volts 277V 277 Volts 347V 347 Volts	Blank - For standard control offering refer to control availability chart on page 3 LES Lutron EcoSystem® Dimming - Refer to control availability chart on page 3	10V 0/1-10V Dimming - Refer to control availability chart on page 3 LFP Lutron Forward Phase Dimming - Refer to control availability chart on page 3	WD Sunset Dim - 9L and 13L @ 27K with Triac Dimming only 10R Cree SmartCast™ Technology** EB7* Emergency Backup - Minimum 90 minutes - 120V, 277V only

\* See [www.cree.com/lighting/products/warranty](http://www.cree.com/lighting/products/warranty) for warranty terms  
\*\* Not available in 40L and 60L



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Canada: [www.cree.com/canada](http://www.cree.com/canada) T (800) 473-1234 F (800) 890-7507

**Product Specifications**

**CREE SMARTCAST™ TECHNOLOGY**

Cree SmartCast™ Technology changes the paradigm of lighting control. With the press of a single button, Cree SmartCast™ Technology enabled luminaires and controls create their own secure network and auto-associate to form logical groups throughout every space. Integrated sensors and robust wireless communication included in every luminaire combined with revolutionary OneButton™ Setup enables automated setup and configuration of luminaires and wall controls. With no extra wires or interfaces, Cree SmartCast™ Technology products reduce installation time and complexity.

**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 & MATERIAL**

- Initial color within a 3-step MacAdam Ellipse.
- Low brightness parabolic spun Alzak aluminum cone, 0.06" (2mm) thick with polished radius and continuous self-flange
- Soft Satin Glow Clear finish, standard
- 2" (51mm) aperture throat to accommodate all standard and up to 3" (76mm) thick ceilings and provide flexibility in mounting within grid
- Provided with quick mounting brackets for optional carrying channels
- Light engine, optics, and driver accessible from below ceiling

**ELECTRICAL SYSTEM**

- **Power Factor:** > 0.9 for 120V and 277V
- **Input Power:** 120, 277V, or 347V, 50/60Hz

**REGULATORY & VOLUNTARY QUALIFICATIONS**

- cULus Listed
- Suitable for thru-wiring 8#12AWG-90°C
- Suitable for damp locations
- Thermally protected Type NON-IC in accordance with Article 410 of the NEC and UL 1598
- Meets Buy American requirements within ARRA
- EnergyStar® Qualified. Please refer to <http://www.energystar.gov> for most current information

Recommended Cree® KR Series Lumen Maintenance Factors (LMF) <sup>1</sup>						
Ambient	Initial Delivered Lumens	Initial LMF	25K hr Projected <sup>2</sup> LMF	50K hr Projected <sup>2</sup> LMF	75K hr Calculated <sup>3</sup> LMF	100K hr Calculated <sup>3</sup> LMF
5°C (41°F)	9L and 13L	1.05	1.04	1.03	1.03	1.02
	20L and 30L	1.03	0.99	0.94	0.90	0.86
	40L and 60L	1.03	0.96	0.90	0.83	0.77
10°C (50°F)	9L and 13L	1.04	1.03	1.03	1.02	1.02
	20L and 30L	1.02	0.97	0.93	0.89	0.85
	40L and 60L	1.03	0.95	0.88	0.82	0.76
15°C (59°F)	9L and 13L	1.03	1.02	1.02	1.01	1.01
	20L and 30L	1.01	0.96	0.91	0.88	0.84
	40L and 60L	1.02	0.94	0.87	0.81	0.75
20°C (68°F)	9L and 13L	1.02	1.01	1.00	1.00	0.99
	20L and 30L	1.01	0.95	0.90	0.87	0.83
	40L and 60L	1.01	0.93	0.86	0.80	0.74
25°C (77°F)	9L and 13L	1.00	1.00	0.99	0.99	0.99
	20L and 30L	1.00	0.94	0.89	0.86	0.82
	40L and 60L	1.00	0.92	0.85	0.79	0.74
30°C (86°F)	9L and 13L	0.99	0.99	0.98	0.98	0.98
	20L and 30L	0.97	0.93	0.88	0.85	0.81
	40L and 60L	0.98	0.91	0.84	0.78	0.73
35°C (95°F)	9L and 13L	0.98	0.97	0.97	0.97	0.97
	20L and 30L	0.96	0.92	0.87	0.84	0.80
	40L and 60L	0.96	0.90	0.83	0.77	0.72

<sup>1</sup> Lumen maintenance values at 25°C (77°F) are calculated per TM-21 based on LM-80 data and in-situ luminaire testing  
<sup>2</sup> 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  
<sup>3</sup> 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

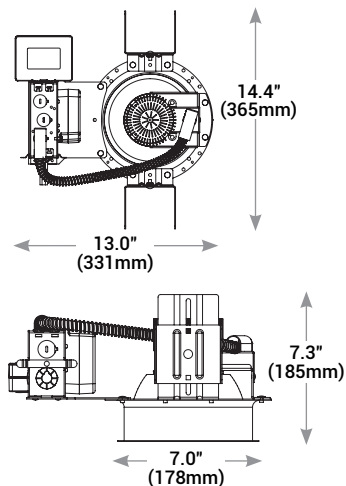
**Installation**

- Recommended ceiling cutout 6.5" (165mm)

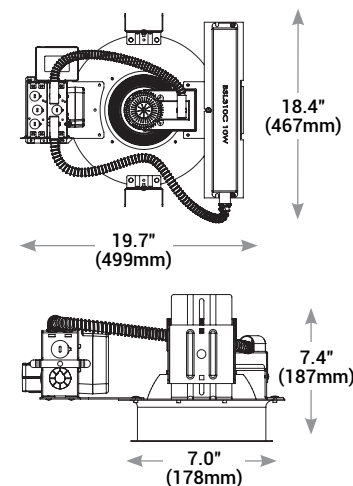


**Note:** 30L versions require marked spacing: 24" (600mm) X 12" (300mm) X ½" (12mm), 24" (600mm) luminaire to luminaire, 12" (300mm) luminaire to side wall, ½" (12mm) above luminaire  
 60L versions require marked spacing: 48" (1219mm) X 24" (600mm) X 1" (25mm), 48" (1219mm) luminaire to luminaire, 24" (600mm) luminaire to side wall, 1" (25mm) above luminaire

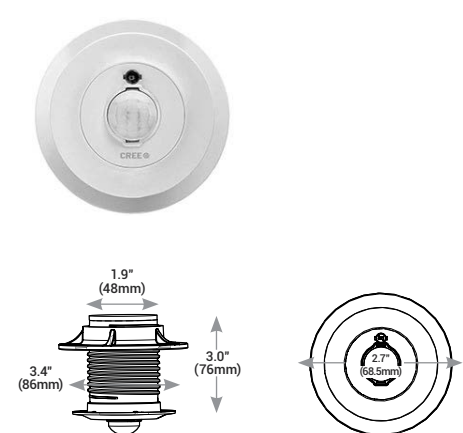
**Cree SmartCast™ Technology**



**Emergency Backup and Cree SmartCast™ Technology**



**Occupancy Sensor included with Cree SmartCast™ Technology**

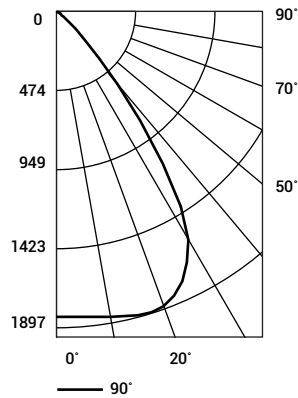


# KR6™ Series - Round 6" Aperture

## Photometry

### KR6 30L 27K 120V W/KR6T SSGC FF BASED ON UL REPORT TEST #: 157473

Fixture photometry has been conducted 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%.



UL Test Report #: 157473  
 KR6 30L 27K 120V SSGC FF  
 Initial Delivered Lumens: 2,479  
 Efficacy: 66 LPW  
 S/M: 1.2

Coefficients Of Utilization – Zonal Cavity Method				
RC %:	80			
RW %:	70	50	30	10
RCR: 0	119	119	119	119
1	113	110	108	105
2	107	102	97	94
3	101	94	89	84
4	95	87	81	77
5	90	81	75	70
6	85	75	69	64
7	80	70	64	59
8	76	66	59	55
9	72	61	55	51
10	68	58	51	47

Effective Floor Cavity Reflectance: 20%

Average Luminance Table (cd/m2)				
Horizontal Angle				
Vertical Angle	0°	45°	90°	
	45°	19,317	19,317	19,317
	55°	4,459	4,459	4,459
	65°	2,074	2,074	2,365
	75°	931	931	931
	85°	0	0	0

Zonal Lumen Summary			
Zone	Lumens	% Lamp	Luminaire
0-30	1,524	N/A	61.5%
0-40	2,206	N/A	88.8%
0-60	2,462	N/A	99.1%
0-90	2,483	N/A	100.0%
0-180	2,483	N/A	100.0%

Cone of Light		
Distance from Workplane	Footcandles	Beam Diameter
6' (1.8m)	51	7.3' (2.2m)
8' (2.4m)	29	9.7' (3.0m)
10' (3.0m)	18	12.3' (3.7m)
12' (3.7m)	13	14.5' (4.4m)
14' (4.3m)	9	17.4' (5.3m)

For exact photometric data, please reference our available IES and LM-79 test results at <http://www.cree.com/Lighting/Products/Indoor/Architectural-Downlights/KR-Series>

## Application Reference

Based on KR6 30L 27K 120V W/KR6T SSGC FF Luminaire

Open Space					
Spacing	Lumens	Wattage	LPW	w/ft²	Average FC
4 x 4	2483	39	64	2.34	152
6 x 6				1.09	73
8 x 8				0.59	41
10 x 10				0.39	29

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/ft²	Average FC
4' on Center	2483	39	64	1.63	84
6' on Center				1.11	57
8' on Center				0.78	41
10' on Center				0.65	34

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

## Control Availability Chart

Initial Delivered Lumens	Non Dimming			Triac Dimming to 5%			0/1-10V Dimming to 10%			LES Dimming to 1%			LFP Dimming to 1%		
	120V	277V	347V	120V	277V	347V	120V	277V	347V	120V	277V	347V	120V	277V	347V
9L	N/A	S	N/A	S	N/A	N/A	0	0	0	N/A	N/A	0	N/A	N/A	N/A
13L	N/A	S	N/A	S	N/A	N/A	0	0	0	0	0	0	0	N/A	N/A
20L	N/A	N/A	N/A	N/A	N/A	N/A	S	S	S	0	0	0	0	N/A	N/A
30L	N/A	N/A	N/A	N/A	N/A	N/A	S	S	S	0	0	0	0	N/A	N/A
40L	N/A	N/A	N/A	N/A	N/A	N/A	S	S	S	0	0	0	N/A	N/A	N/A
60L	N/A	N/A	N/A	N/A	N/A	N/A	S	S	S	0	0	0	N/A	N/A	N/A

S = Standard Offering  
 0 = Optional Offering

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