

# SD Series

Round & Square Slim LED Downlights - 4", 6", 8"

Rev. Date: V7 12/12/2024

## Product Description

The SD Series slim LED downlights offer high-quality customizable light with a CCT selectable switch. The slim downlights are available in 4" and 8" square and 6" round housings to meet the requirements of all can-less applications.

**Applications:** New construction or retrofit

## Performance Summary

**Initial Delivered Lumens:** 830 to 2,280

**Input Power:** 12W to 22W

**CRI:** 90+

**CCT:** 2700K/3000K/3500K/4000K/5000K Selectable Switch

**Limited Warranty\*:** 5 years for luminaire; up to 5 years for SmartCast® accessories; 1 year for accessories

**Lifetime:** Designed to last 50,000 hours

**Dimming:** Triac/0-10V Dimming to 5%; Compatible with SmartCast® Technology, and Lutron Vive through 0-10V interface

Ceiling mount for easy installation into new construction or retrofit applications

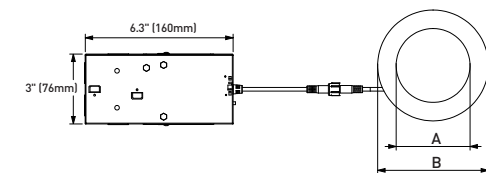
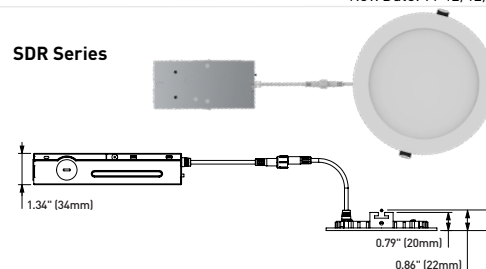
**Operating Temperature Range:** -25°C to +40°C [-13° F - +104° F]

\* See <https://www.creelighting.com/resources/warranties/> for warranty terms. For SmartCast accessories, consult SmartCast spec sheets for details on warranty terms.

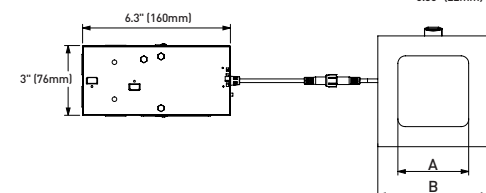
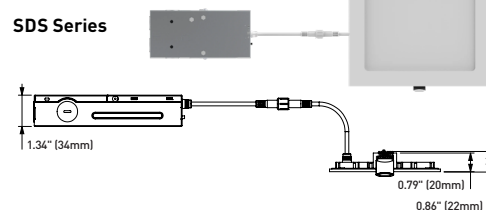
## Accessories

Field-Installed	
<b>SmartCast® 10V Zone Controller</b> <a href="#">CSC-ZC-10V-CWC</a> - Intelligent sensing and control of 0-10V luminaires	<b>SDS Accessories</b> <b>Square Trim Kits (Iron w/White, Black &amp; Silver Finishes)</b> SDS4-WHBSLV (4") SDS6-WHBSLV (6")
<b>Extension Cables</b> SD-RCE12 (12') SD-RCE20 (20')	<b>SDR Accessories</b> <b>Round Trim Kits (Iron w/White, Black &amp; Silver Finishes)</b> SDR4-WHBSLV (4") SDR6-WHBSLV (6") SDR8-WHBSLV (8")
	<b>Plate for T-Grid Ceiling</b> CDR-SDR-TGRID - 23.7" (602mm) x 11.9" (303mm) plate for use with 6 and 8" SDR downlights - Optional accessory that provides more substantial structural integrity to ceiling for mounting downlights

## SDR Series



## SDS Series



Dimensions			
Downlight	"A" Dimension	"B" Dimension	Weight
6" Round	5.1" (129mm)	6.7" (170mm)	1.1 lbs. (520g)
4" Square	3.0" (77mm) Sq.	4.7" (120mm) Sq.	0.9 lbs. (430g)
8" Square	6.9" (176mm) Sq.	8.9" (225mm) Sq.	1.6 lbs. (723g)

Note: Refer to page 2 for recommended ceiling cutout dimensions.

## Ordering Information

Example: SDS4-7L-9ACK-TRI10V-WH-UNV

		9ACK		TRI10V		WH	UNV
Family	Size	Lumen Package*	CRI/CCT	Optic	Control	Finish	Voltage
SDR Round	6"	11L 16W, 1,350 Lumens	9ACK 90 CRI, 2700K/3000K/3500K/4000K/5000K - Ships from factory set at 3000K	Blank 113° Beam Angle	TRI10V Triac/0-10V Dimming to 5%	WH White	UNV Universal 120-277V"
SDS Square	4"	7L 12W, 830 Lumens	9ACK 90 CRI, 2700K/3000K/3500K/4000K/5000K - Ships from factory set at 3000K	Blank 113° Beam Angle	TRI10V Triac/0-10V Dimming to 5%	WH White	UNV Universal 120-277V"
SDS Square	8"	18L 22W, 2,070 Lumens	9ACK 90 CRI, 2700K/3000K/3500K/4000K/5000K - Ships from factory set at 3000K	Blank 113° Beam Angle	TRI10V Triac/0-10V Dimming to 5%	WH White	UNV Universal 120-277V"

\* Lumen values at 27K and 30K. Actual lumen output varies depending on CCT. Refer to Initial Delivered Lumens table for specific lumen values.



SMARTCAST®  
TECHNOLOGY



CREE ⇄ LIGHTING®

Website: [creelighting.com](https://www.creelighting.com)

US: (800) 236-6800 Canada: (800) 473-1234

## SD Series Round & Square Slim LED Downlights - 4", 6", 8"

### Product Specifications

#### CONSTRUCTION & MATERIALS

- Aluminum and iron downlight housing
- Remote mounted iron J-Box connects to downlight with a low voltage cable
- Includes housing clips for easy installation
- Suitable for ceilings 0.59" (15mm) to 0.79" (20mm) thick
- Includes 16" (mm) of cable between downlight and j-box. Extension accessories available


#### OPTICAL SYSTEM

- Unique combination of optical components achieves a uniform, comfortable appearance while eliminating pixelation and color fringing. This ensures smooth light patterns are projected with no hot spots and minimal striations
- 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.
- Edge-lit LEDs, plastic light guide plate and diffuser lens shields direct view of LEDs
- CCT is adjustable via a switch on the j-box in the field to meet the requirements of numerous applications
- Beam Angle: 113° (included angle between points of 50% of maximum intensity)

#### ELECTRICAL SYSTEM

- Power Factor:** > 0.9 at full load and 120V
- Total Harmonic Distortion:** < 30% at full load
- Input Voltage:** 120-277V, 50/60hz
- Dimming:** Triac/0-10V Dimming to 5% compatible with SmartCast® Technology, and Lutron Vive through 0-10V interface
- Compatible Triac Dimmers:** Lutron TGCL-153P, CTCL-153P, DVCL-153P, MACL-153M; Leviton 6674-P0, 6672-1L, IPL06-10
- Use only lighting controls with neutral connection or controls intended for use with LED fixtures
- Operating Temperature Range:** -25°C to +40°C (-13° F - +104° F)

#### REGULATORY & VOLUNTARY QUALIFICATIONS

- cETLus Listed
- 4" and 8" luminaires are suitable for damp locations for covered ceilings only
- 6" luminaires are suitable for wet locations for covered ceilings only
- Meets NEMA C82.77 standards
- Suitable for insulated (IC) and non-insulated (non-IC) ceilings
- Non-plenum rated
- Requires minimum 90°C supply conductors
- Meets FCC Part 15, Subpart B, Class A and Class B limits for conducted and radiated emissions
- Meets CA Title 24 JA8 Requirements
- RoHS Compliant. Consult factory for additional details
-  **CA RESIDENTS WARNING:** Cancer and Reproductive Harm – [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)

Electrical Data*					
Lumen Package	System Watts 120-277V	Total Current (A)			
		120V	208V	240V	277V
7L	12	0.10	0.08	0.07	0.06
11L	16	0.13	0.09	0.08	0.07
18L	22	0.18	0.12	0.10	0.09

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

Initial Delivered Lumens*				
Lumen Package	2700K/3000K		3500K/4000K/5000K	
	Initial Delivered Lumens*	Efficacy (LPW)	Initial Delivered Lumens*	Efficacy (LPW)
7L	830	69	920	77
11L	1,350	84	1,490	93
18L	2,070	94	2,280	104

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens.

SD Series Ambient Adjusted Lumen Maintenance¹					
Ambient	Initial LMF	25K hr Reported² LMF	50K hr Reported² LMF	75K hr Estimated³ LMF	100K hr Estimated³ LMF
0°C (32°F)	1.05	0.98	0.91	0.84	0.78
5°C (41°F)	1.04	0.97	0.90	0.84	0.78
10°C (50°F)	1.03	0.96	0.89	0.83	0.77
15°C (59°F)	1.02	0.95	0.88	0.82	0.76
20°C (68°F)	1.01	0.94	0.87	0.81	0.75
25°C (77°F)	1.00	0.93	0.87	0.80	0.75
30°C (86°F)	0.99	0.92	0.85	0.78	0.72
35°C (95°F)	0.98	0.91	0.83	0.77	0.70
40°C (104°F)	0.97	0.89	0.82	0.75	0.68

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

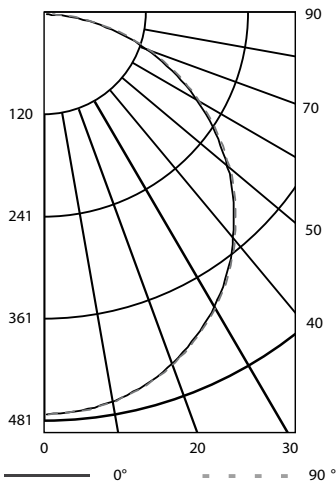
- Quick install system using the housing clip system for easy install into ceiling
- Refer to [www.creelighting.com](http://www.creelighting.com) for complete install instructions

Cutout Dimensions		
Size	SDR Round Cutout Dimensions	SDS Square Cutout Dimensions
4"	N/A	4-11/32" [110mm] x 4-11/32" [110mm]
6"	6-1/4" [158mm]	N/A
8"	N/A	8-5/16" [211mm] x 8-5/16" [211mm]

Photometry

SDR6-11L-9ACK-TRI10V-WH-UNV (3000K) BASED ON TEST #: PL16908-002A

Luminaire photometry has been conducted in accordance with IES LM-79. IES LM-79 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	119	119	119	119
1	109	104	99	95
2	98	90	83	77
3	90	79	71	64
4	82	70	61	54
5	75	62	53	47
6	70	56	47	41
7	65	51	42	36
8	60	46	38	32
9	56	43	34	29
10	53	39	31	26

Effective Floor Cavity Reflectance: 20%

Average Luminance Table (cd/m2)			
Vertical Angle	Horizontal Angle		
	0°	45°	90°
45°	27,850	27,915	27,887
55°	26,791	26,805	26,774
65°	25,417	25,382	25,361
75°	23,153	23,131	22,988
85°	19,266	18,940	16,694

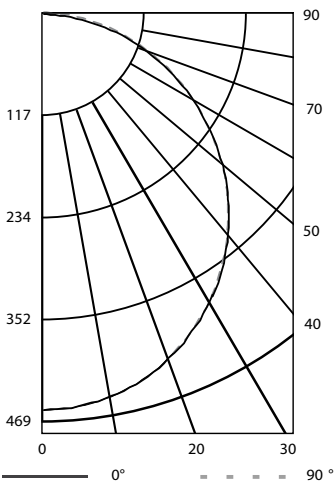
Reference [creelighting.com/products/indoor/downlights/sd-series](http://creelighting.com/products/indoor/downlights/sd-series) for detailed photometric data

Zonal Lumen Summary			
Zone	Lumens	% Lamp	Luminaire
0-30	372.53	N/A	27%
0-40	609.77	N/A	44.2%
0-60	1,078.10	N/A	78.1%
0-90	1,381.11	N/A	100%
0-180	1,381.11	N/A	100%

Photometry

SDS6-11L-9ACK-TRI10V-WH-UNV (3000K) BASED ON TEST #: PL16907-001A

Luminaire photometry has been conducted in accordance with IES LM-79. IES LM-79 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	119	119	119	119
1	108	104	99	95
2	98	90	83	77
3	90	79	71	64
4	82	70	61	54
5	75	62	53	47
6	70	56	47	41
7	65	51	42	36
8	60	46	38	32
9	56	43	34	29
10	53	39	31	26

Effective Floor Cavity Reflectance: 20%

Average Luminance Table (cd/m2)			
Vertical Angle	Horizontal Angle		
	0°	45°	90°
45°	26,825	26,851	26,975
55°	25,747	25,801	25,962
65°	24,483	24,529	24,741
75°	22,611	22,675	22,865
85°	19,344	18,378	18,166

Reference [creelighting.com/products/indoor/downlights/sd-series](http://creelighting.com/products/indoor/downlights/sd-series) for detailed photometric data

Zonal Lumen Summary			
Zone	Lumens	% Lamp	Luminaire
0-30	361.91	N/A	27%
0-40	591.25	N/A	44.2%
0-60	1,042.72	N/A	77.9%
0-90	1,338.54	N/A	100%
0-180	1,338.54	N/A	100%

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Application Reference

SDR

Open Space						
Spacing	Lumen Package	Lumens	Wattage	LPW	w/ft2	Average fc
4 x 4	11L	1,350	16	84	0.96	76
6 x 6	11L	1,350	16	84	0.45	35
8 x 8	11L	1,350	16	84	0.24	19
10 x 10	11L	1,350	16	84	0.16	13

10' ceiling: 80/50/20 reflectances; 2.5' workplane, open room. LLF: 1.0 Initial  
Open Space: 50' x 40' x 10'

Corridor Space						
Spacing	Lumen Package	Lumens	Wattage	LPW	w/ft2	Average fc
4' OC	11L	1,350	16	84	0.67	29
6' OC	11L	1,350	16	84	0.45	20
8' OC	11L	1,350	16	84	0.32	14
10' OC	11L	1,350	16	84	0.27	12

10' ceiling: 80/50/20 reflectances; 2.5' workplane, open room. LLF: 1.0 Initial  
Corridor Space: 6' x 100' x 10'

SDS

Open Space						
Spacing	Lumen Package	Lumens	Wattage	LPW	w/ft2	Average fc
4 x 4	7L	830	12	69	0.72	47
6 x 6	7L	830	12	69	0.34	22
8 x 8	7L	830	12	69	0.18	12
10 x 10	7L	830	12	69	0.12	8
4 x 4	18L	2,070	22	94	1.32	117
6 x 6	18L	2,070	22	94	0.62	54
8 x 8	18L	2,070	22	94	0.33	29
10 x 10	18L	2,070	22	94	0.22	20

10' ceiling: 80/50/20 reflectances; 2.5' workplane, open room. LLF: 1.0 Initial  
Open Space: 50' x 40' x 10'

Corridor Space						
Spacing	Lumen Package	Lumens	Wattage	LPW	w/ft2	Average fc
4' OC	7L	830	12	69	0.50	18
6' OC	7L	830	12	69	0.34	12
8' OC	7L	830	12	69	0.24	9
10' OC	7L	830	12	69	0.20	7
4' OC	18L	2,070	22	94	0.92	45
6' OC	18L	2,070	22	94	0.62	31
8' OC	18L	2,070	22	94	0.44	22
10' OC	18L	2,070	22	94	0.37	18

10' ceiling: 80/50/20 reflectances; 2.5' workplane, open room. LLF: 1.0 Initial  
Corridor Space: 6' x 100' x 10'

