



Lightolier LED Surface-mount downlighting is a perfect problem solver fixture. When you are faced with a challenging ceiling, but want a nice LED downlight, this is the perfect product for you.

Project: _____
 Location: _____
 Cat.No: _____
 Type: _____
 Lamps: _____ Qty: _____
 Notes: _____

Fixture

example: SD5R079301W

Family	Size	Lumens	CRI	CCT	Voltage	Finish
SD			9	30	1	W
SD Surface-mount downlight	5R 5-inch Round	07 700 lm	9 90CRI	30 3000K	1 120V	W White (matte)
	7R 7-inch Round	09 1000 lm				

Features

- Flange:** One piece plastic flange. White painted.
- Lens:** Diffused lens for smooth, comfortable light pattern.
- Power supply:** Integral class 2 driver (see Electrical section for specifications).
- LED Strip:** Utilizes edge lit technology.
- Lifetime:** Expected lifetime 50,00 hours and backed by a 5-year warranty (see Philips.com/warranties for details).
- Compliance:** Non-conductive fixture for shower light application.
- Support Wire:** Support wire attached to the fixture to hook on the mounting bracket to hold the fixture.

Electrical

Electronic power supply: RoHS compliant. Class 2 power unit.

Dimming: Intended for ELV/TRIAC (120V) dimming. For more details, please see LED-DIM-DL spec sheet.

Labels

cULus listed.
 Ceiling-mounted: wet location.
 ENERGY STAR® certified.
 Title 24 listed.

Electrical specs	Dimming	Lumens	Input volts	Input freq.	Input current	Input Power	THD Factor	Power Factor	Minimum Operating Temp.	Maximum Operating Temp.
SD5R	ELV/Triac	700lm	120V	60Hz	90A	10.5W	—	>0.9	-20°C	45°C
SD7R	ELV/Triac	1000lm	120V	60Hz	135A	15.5W	—	>0.9	-20°C	45°C

SD Surface Mount Downlight

5" and 7" Round Aperture

Compatibility

Installs into standard J-box applications:



3 1/2" round (plastic)



4" octagonal (metal)

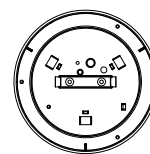
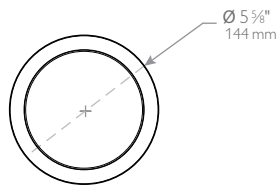
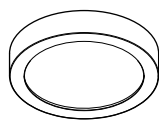
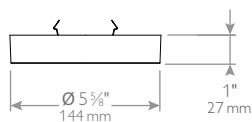


Fire rated J-box

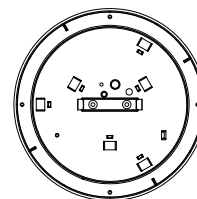
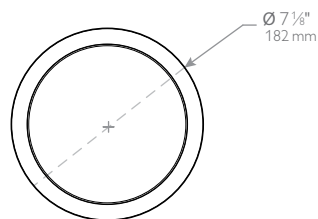
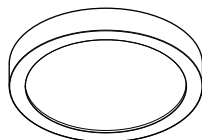
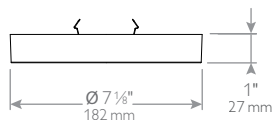
Fire rated classification is per the ceiling and junction box ratings.

Dimensions

Surface Downlight 5"



Surface Downlight 7"

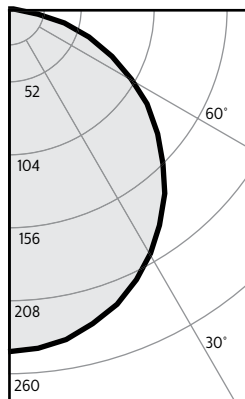


SD Surface Mount Downlight

5" and 7" Round Aperture

5-inch, 10W, 69.4lm/W

Candela Curves



Angle	Mean CP	Lumens
0	244	23
5	242	
10	238	
15	232	66
20	223	
25	213	99
30	201	
35	187	119
40	172	
45	155	122
50	138	
55	119	110
60	100	
65	80	83
70	60	
75	40	47
80	21	
85	3	11
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	10	6.0'
6'	7	7.2'
7'	5	8.4'
8'	4	9.6'
9'	3	10.8'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq.ft.
5'	27.3	0.43
6'	17.9	0.29
7'	12.8	0.20
8'	10.7	0.17
9'	8.5	0.14

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%	
Wall	70	50	30	10	50	10	50	10	50	10	0	
RCR	Zonal cavity method - Effective floor reflectance = 20%											
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
	1	109	104	100	96	102	94	98	91	94	89	84
	2	99	91	84	78	89	77	85	75	82	74	70
	3	90	80	71	65	78	64	75	63	72	62	59
	4	83	71	62	55	69	55	67	54	64	53	50
	5	76	63	54	47	62	47	60	47	58	46	43
	6	70	57	48	41	56	41	54	41	52	40	38
	7	65	51	43	37	51	36	49	36	48	36	34
	8	60	47	38	33	46	32	45	32	44	32	30
	9	57	43	35	29	42	29	41	29	40	29	27
10	53	40	32	27	39	27	38	26	37	26	24	

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	188	27.7%
0-40	307	45.2%
0-60	539	79.3%
0-90	680	100.0%

CRI and CCT adjustment factors

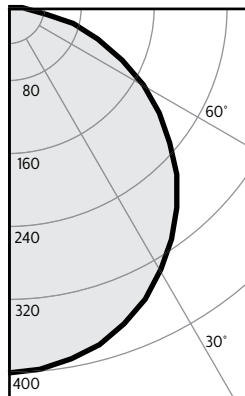
90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

Output lumens: 680 lms
Spacing Criterion: 1.2
Beam Angle: 110°
Input Watts²: 9.8W

Efficacy: 69.4lm/w
CCT³: 3000K
CRI: 90min

7-inch, 15W, 73.5lm/W

Candela Curves



Angle	Mean CP	Lumens
0	400	38
5	398	
10	391	
15	382	108
20	368	
25	352	163
30	332	
35	310	195
40	285	
45	259	200
50	230	
55	200	180
60	169	
65	137	136
70	104	
75	73	78
80	42	
85	14	21
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	16	6.0'
6'	11	7.2'
7'	8	8.4'
8'	6	9.6'
9'	5	10.8'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq.ft.
5'	44.8	0.67
6'	29.4	0.44
7'	21.0	0.32
8'	17.5	0.26
9'	14.0	0.21

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%	
Wall	70	50	30	10	50	10	50	10	50	10	0	
RCR	Zonal cavity method - Effective floor reflectance = 20%											
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
	1	109	104	100	96	102	94	97	91	93	88	84
	2	99	91	84	78	89	77	85	75	82	73	70
	3	90	79	71	65	78	64	75	63	72	62	59
	4	82	70	62	55	69	54	67	54	64	53	50
	5	76	63	54	47	62	47	60	46	58	46	43
	6	70	57	48	41	56	41	54	41	52	40	38
	7	65	51	43	36	51	36	49	36	48	36	33
	8	60	47	38	32	46	32	45	32	44	32	30
	9	56	43	35	29	42	29	41	29	40	29	27
10	53	40	32	26	39	26	38	26	37	26	24	

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	308	27.6%
0-40	503	45.0%
0-60	883	79.0%
0-90	1118	100.0%

CRI and CCT adjustment factors

90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

Report¹: SD7R099301W
Output lumens: 1118 lms
Spacing Criterion: 1.2
Beam Angle: 110°
Input Watts²: 15.2W

Efficacy: 73.5lm/w
CCT³: 3000K
CRI: 90min

1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
2. Wattage: controlled to within 5%
3. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSI C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

