

PHILIPS LIGHTOLIER

Downlighting

SlimSurface LED

5" and 7" round aperture
surface mount downlight



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

SlimSurface LED is a 5/8" thick surface mounted luminaire with the appearance of a recessed downlight. Easy to install into most standard j-boxes, the SlimSurface LED round apertures are available as a 5" 650 lm & 7" 1000 lm fixture.

Ordering guide

example: S5R830K7AL

Family	CRI	CCT	Lumens	Finish	Dimming	UL listing
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
S5R SlimSurface 5" Round	8 80 9 90 ¹	27K 2700K	7 650lm	blank White	blank Triac (120V)	blank Wet location
		30K 3000K		AL Aluminum		
		35K 3500K 40K 4000K		BK Black		
	8 80	30K 3000K	7 650lm	W White	Z10U 0-10V (120V-277V)	-D Damp location
		30K 3000K	AL Aluminum	blank White	blank Triac (120V)	
		35K 3500K 40K 4000K	BK Black	blank White	blank Triac (120V)	
S7R SlimSurface 7" Round	8 80 9 90 ¹	27K 2700K	10 1000lm	blank White	blank Triac (120V)	blank Wet location
		30K 3000K		AL Aluminum		
		35K 3500K 40K 4000K		BK Black		
	8 80	30K 3000K	10 1000lm	W White	Z10U 0-10V (120V-277V)	-D Damp location
		30K 3000K	AL Aluminum	blank White	blank Triac (120V)	
		35K 3500K 40K 4000K	BK Black	blank White	blank Triac (120V)	



White



Black



Aluminum

1. Configurations using 90 CRI are only available with 2700K CCT.

Features

- Flange:** One piece plastic flange. Injection molded white, applied aluminum or black.
- Lens:** High transmittance lens allowing for smooth, comfortable light pattern.
- Power supply:** Integral class 2 driver. Factory wired electronic LED driver (see Electrical section for specifications)
- LED Strip:** Utilizes Philips LEDs.
- Lifetime:** Expected lifetime 50,000 hours and backed by a 5-year warranty (see Philips.com/warranties for details).
- Compliance:** Non-conductive fixture for shower light application. The 7" round product complies with the requirements of the California Energy Commission regulated under Title 24, and has been listed in the Title 20 database.

Electrical

Electronic power supply: RoHS compliant. Class 2 power unit. Unit tolerates sustained open circuit and short circuit output conditions without damage.

Dimming: Intended for Triac (120V) or 0-10V dimming (120V-277V) based on the configuration. Min 90°C supply conductors.

Electrical specifications	Dimming	Input volts	Input frequency	Input current	Input Power	THD Factor	Power Factor	Minimum Operating Temp.
Slim 5" 630lm	Triac	120V	50/60Hz	0.08A	9.5W	<15%	>0.9	-20°C
	0-10V	120V	50/60Hz	0.09A	10.1W	<20%	>0.9	-20°C
		277V	50/60Hz	0.04A	10.2W	<20%	>0.9	-20°C
Slim 7" 980lm	Triac	120V	50/60Hz	0.13A	14.2W	<15%	>0.9	-20°C
	0-10V	120V	50/60Hz	0.12A	14.4W	<20%	>0.9	-20°C
		277V	50/60Hz	0.06A	14.7W	<20%	>0.9	-20°C

Labels

cULus listed for damp locations (wall mount applications and wet location - covered ceilings). ENERGY STAR® certified.



S5R & S7R SlimSurface LED

5" and 7" round aperture surface mount downlight

Compatibility

Installs into standard J-box applications:



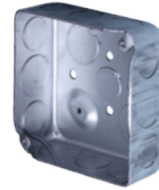
3 1/2" round (plastic)



4" square (plastic)
Not compatible with S5R



4" octagonal (metal)



4" square (metal)
Not compatible with S5R

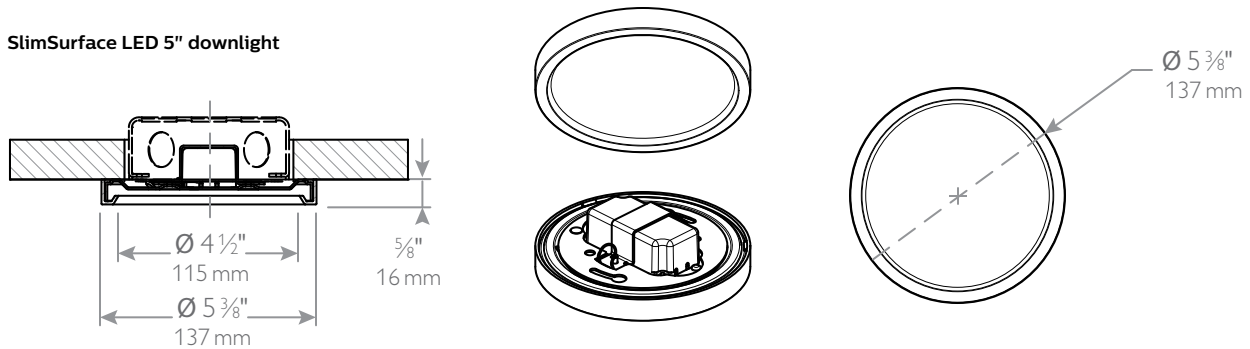


Fire rated J-box
Fire rated classification is per the ceiling and junction box ratings.

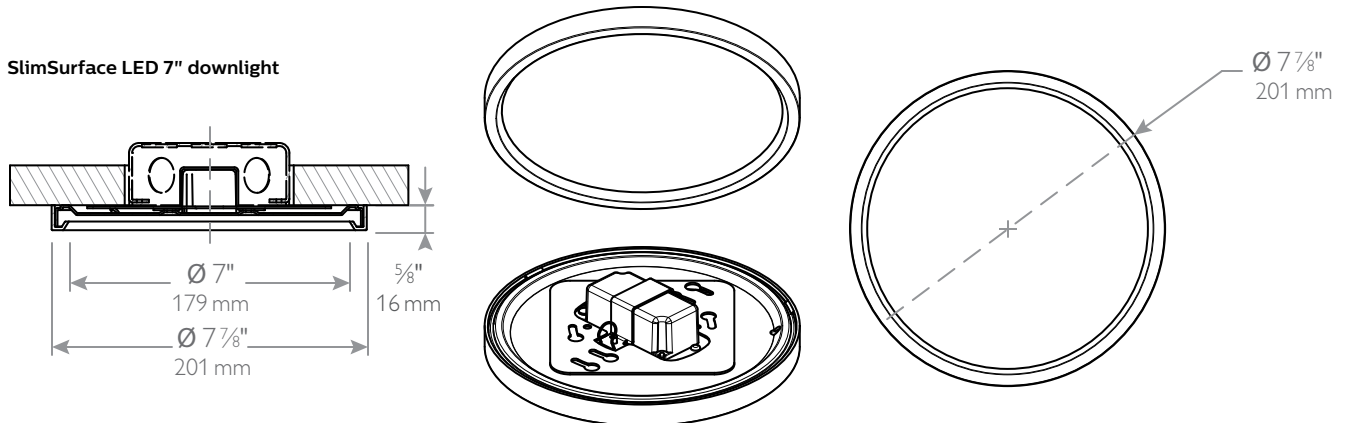
Note: A 2 1/8" deep octagon junction box is recommended for through circuit wiring applications.

Dimensions

SlimSurface LED 5" downlight



SlimSurface LED 7" downlight

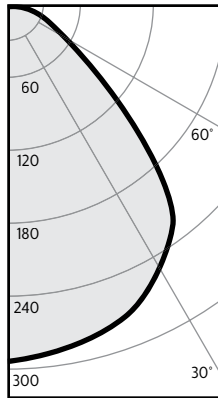


S5R & S7R SlimSurface LED

5" and 7" round aperture surface mount downlight

S5R830K7 • 10 W LED, 3000 K, 80 CRI

Candela Curves



Angle	Mean CP	Lumens
0	294	
5	291	28
10	286	
15	282	80
20	276	
25	265	122
30	253	
35	236	147
40	211	
45	157	121
50	108	
55	74	68
60	53	
65	39	40
70	30	
75	22	23
80	14	
85	5	6
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	12	6.5'
6'	8	7.8'
7'	6	9.1'
8'	5	10.4'
9'	4	11.7'

* 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'	26.7	0.43
6'	17.5	0.29
7'	12.5	0.20
8'	10.4	0.17
9'	8.4	0.14

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

Coefficients of utilization

	80%					70%		50%		30%		0%
	70	50	30	10	50	10	50	10	50	10	0	
Room Cavity Ratio	Zonal cavity method - Effective floor reflectance = 20%											
0	119	119	119	119	116	116	111	111	106	106	100	
1	111	107	103	100	104	98	100	95	96	92	87	
2	102	95	89	84	93	83	90	81	87	80	76	
3	94	85	78	72	84	72	81	71	78	69	66	
4	87	77	69	63	75	63	73	62	71	61	58	
5	81	69	61	55	68	55	66	55	64	54	52	
6	75	63	55	49	62	49	61	49	59	48	46	
7	70	58	50	44	57	44	55	44	54	43	41	
8	65	53	45	40	52	40	51	39	50	39	37	
9	61	49	41	36	48	36	47	36	46	36	34	
10	58	45	38	33	45	33	44	33	43	33	31	

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	230	36.2%
0-40	377	59.3%
0-60	566	89.2%
0-90	635	100.0%

CRI and CCT adjustment factors

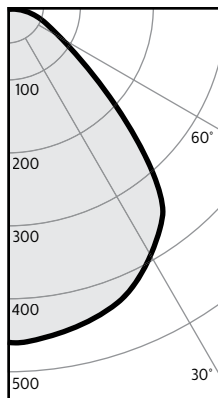
90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

Report: 438GFR

Output lumens:	625lms	Input Watts ² :	9.8W
Spacing Criterion:	1.3	Efficacy:	64.8lm/w
Field Angle:	141°	CCT ³ :	3000K
Beam Angle:	92°	CRI:	>80

S7R830K10 • 14 W LED, 3000 K, 80 CRI

Candela Curves



Angle	Mean CP	Lumens
0	461	
5	457	43
10	450	
15	444	125
20	433	
25	415	192
30	395	
35	365	227
40	322	
45	235	182
50	161	
55	111	102
60	80	
65	59	60
70	45	
75	34	36
80	22	
85	10	11
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	18	6.5'
6'	13	7.8'
7'	9	9.1'
8'	7	10.4'
9'	6	11.7'

* 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'	41.2	0.61
6'	27.0	0.40
7'	19.3	0.29
8'	16.1	0.24
9'	12.9	0.19

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

Coefficients of utilization

	80%					70%		50%		30%		0%
	70	50	30	10	50	10	50	10	50	10	0	
Room Cavity Ratio	Zonal cavity method - Effective floor reflectance = 20%											
0	119	119	119	119	116	116	111	111	106	106	100	
1	111	107	103	100	104	98	100	95	96	92	87	
2	102	95	89	84	93	83	90	82	87	80	76	
3	94	85	78	73	84	72	81	71	78	70	66	
4	87	77	69	63	76	63	73	62	71	61	59	
5	81	70	62	56	69	56	67	55	65	54	52	
6	75	63	55	50	63	49	61	49	59	49	46	
7	70	58	50	44	57	44	56	44	54	44	42	
8	66	53	46	40	53	40	51	40	50	40	38	
9	62	49	42	36	49	36	48	36	47	36	34	
10	58	46	38	33	45	33	44	33	43	33	31	

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	360	36.9%
0-40	587	60.1%
0-60	871	89.2%
0-90	977	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%

Report: 441GFR

Output lumens:	977lms	Input Watts ² :	13.8W
Spacing Criterion:	1.3	Efficacy:	70.8lm/w
Field Angle:	140°	CCT ³ :	3000K
Beam Angle:	91°	CRI:	>80

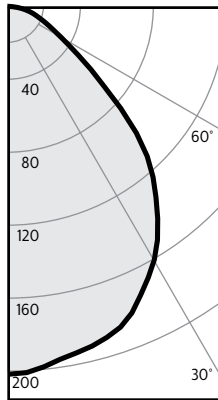
1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
 2. Wattage: controlled to within 5%
 3. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSI C78.377-2008: Specifications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

S5R & S7R SlimSurface LED

5" and 7" round aperture surface mount downlight

S5R927K7 • 10 W LED, 2700 K, 90 CRI

Candela Curves



Angle	Mean CP	Lumens
0	222	
5	219	21
10	213	
15	207	58
20	197	
25	181	83
30	163	
35	141	88
40	119	
45	88	68
50	60	
55	41	38
60	30	
65	22	22
70	17	
75	13	13
80	8	
85	3	4
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	9	5.5'
6'	6	6.6'
7'	5	7.7'
8'	3	8.8'
9'	3	9.9'

* 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'	16.8	0.43
6'	11.0	0.28
7'	7.9	0.20
8'	6.6	0.17
9'	5.2	0.13

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

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%	
	70	50	30	10	50	10	50	10	50	10	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	111	107	104	100	105	99	101	96	97	93	88
	2	103	96	90	86	94	85	91	83	88	81	77
	3	95	86	80	74	85	74	82	72	80	71	68
	4	89	78	71	65	77	65	75	64	72	63	60
	5	82	71	63	58	70	57	68	57	66	56	54
	6	77	65	57	52	64	52	63	51	61	51	48
	7	72	60	52	47	59	47	58	46	56	46	44
	8	67	55	48	42	55	42	53	42	52	42	40
	9	63	51	44	39	51	39	50	38	48	38	36
	10	60	48	40	36	47	36	46	35	45	35	34

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	162	41.1%
0-40	250	63.4%
0-60	356	90.0%
0-90	395	100.0%

CRI and CCT adjustment factors

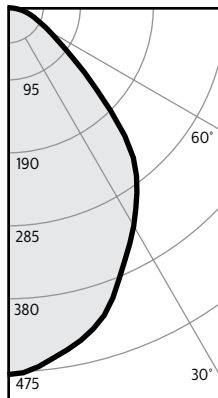
90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

Report: 683GFR

Output lumens:	395lms	Input Watts ² :	9.7W
Spacing Criterion:	1.1	Efficacy:	40.7lm/w
Field Angle:	130°	CCT ³ :	2700K
Beam Angle:	82°	CRI:	>90

S7R927K10 • 14 W LED, 2700 K, 90 CRI

Candela Curves



Angle	Mean CP	Lumens
0	443	
5	435	41
10	419	
15	401	113
20	374	
25	338	156
30	308	
35	276	172
40	241	
45	178	137
50	120	
55	83	76
60	60	
65	46	46
70	35	
75	27	28
80	18	
85	8	9
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	18	5.5'
6'	12	6.6'
7'	9	7.7'
8'	7	8.8'
9'	5	9.9'

* 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'	32.9	0.63
6'	21.6	0.41
7'	15.4	0.30
8'	12.9	0.25
9'	10.3	0.20

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

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%	
	70	50	30	10	50	10	50	10	50	10	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	111	107	103	100	104	98	100	95	96	92	88
	2	102	96	90	85	94	84	90	82	87	80	77
	3	95	86	79	73	84	73	82	72	79	70	67
	4	88	78	70	64	76	64	74	63	72	62	60
	5	82	71	63	57	70	57	68	56	66	56	53
	6	76	65	57	51	64	51	62	50	60	50	48
	7	71	59	51	46	58	46	57	46	56	45	43
	8	67	55	47	42	54	42	53	41	52	41	39
	9	63	51	43	38	50	38	49	38	48	38	36
	10	59	47	40	35	47	35	46	35	45	35	33

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	310	39.8%
0-40	482	61.9%
0-60	696	89.3%
0-90	779	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%

Report: 681GFR

Output lumens:	779lms	Input Watts ² :	14.2W
Spacing Criterion:	1.1	Efficacy:	54.8lm/w
Field Angle:	132°	CCT ³ :	2700K
Beam Angle:	83°	CRI:	>90

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_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

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