

# 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 in a 5" 650 lm and 7" 1000 lm fixture.

### Ordering information

example: S5R830K7AL

Series	Size	Shape	CRI	CCT	Lumens	Finish	UL listing
<b>S</b>		<b>R</b>					
S SlimSurface	5 5"	R Round	8 80 9 90 <sup>1</sup>	27K 2700K 30K 3000K 35K 3500K 40K 4000K	7 650lm	blank White AL Aluminum BK Black	blank Wet location
	5 5"	R Round	8 80	30K 3000K	7 650lm	blank White	-D Damp location
	7 7"	R Round	8 80 9 90 <sup>1</sup>	27K 2700K 30K 3000K 35K 3500K 40K 4000K	10 1000lm	blank White AL Aluminum BK Black	blank Wet location
	7 7"	R Round	8 80	30K 3000K	10 1000lm	blank White	-D Damp location



1. 90 CRI is only available with 2700K

Note: Lumen output is calculated based on 80 CRI and 3000K CCT. Please consult adjustment factors table on page 3 for other lumen outputs.

### 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. This 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:** All luminaires are intended for use with incandescent standard type dimmers (TRIAC). 10%-100% dimming range.

Lumen Output	Max. Input Current	Max. Input Power
630lm	0.08A	9.5W
980lm	0.13A	14.2W


Input Voltage 120V  
 Input Frequency 50/60Hz  
 Power Factor > 0.9  
 Max. THD < 15%  
 Minimum Operating Temperature -20°C

### Labels

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

### 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

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

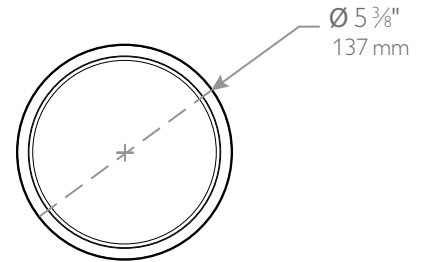
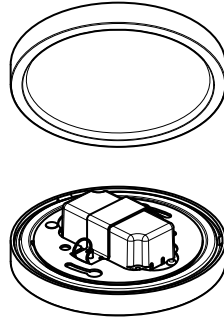
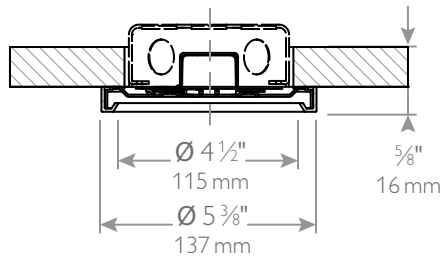


# S5R & S7R SlimSurface LED

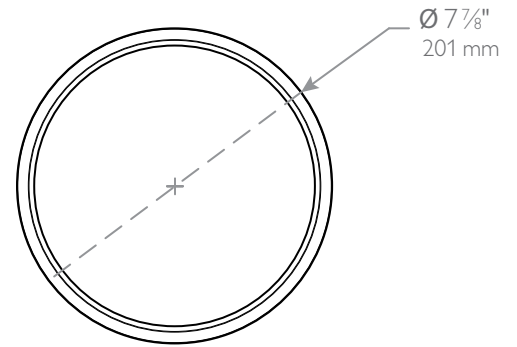
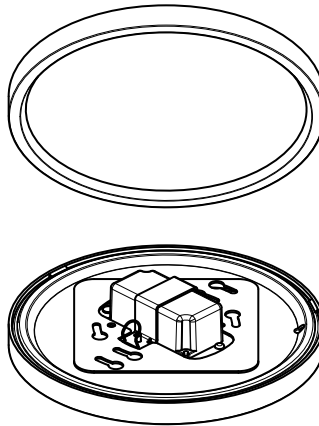
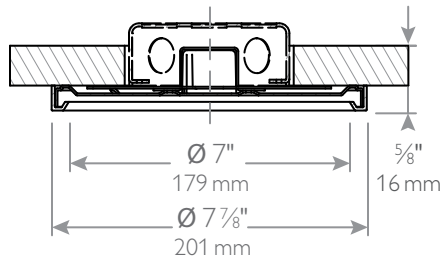
5" and 7" round aperture surface mount downlight

## Dimensions

SlimSurface LED 5" downlight



SlimSurface LED 7" downlight

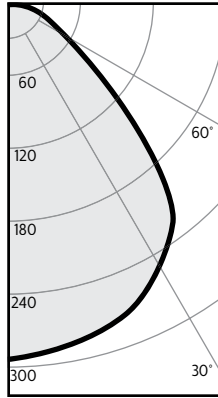


# S5R & S7R SlimSurface LED

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

Ceiling	80%				70%		50%		30%		0%	
	70	50	30	10	50	10	50	10	50	10	0	
Wall	Zonal cavity method - Effective floor reflectance = 20%											
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	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

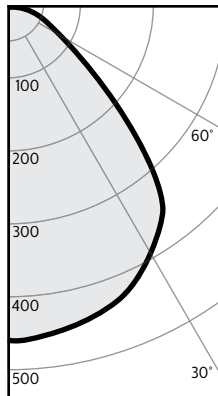
90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

Report: 438GFR

Output lumens:	625lms	Input Watts <sup>2</sup> :	9.8W
Spacing Criterion:	1.3	Efficacy:	64.8lm/w
Field Angle:	141°	CCT <sup>3</sup> :	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

Ceiling	80%				70%		50%		30%		0%	
	70	50	30	10	50	10	50	10	50	10	0	
Wall	Zonal cavity method - Effective floor reflectance = 20%											
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	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 <sup>2</sup> :	13.8W
Spacing Criterion:	1.3	Efficacy:	70.8lm/w
Field Angle:	140°	CCT <sup>3</sup> :	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:	395 lms	Input Watts <sup>2</sup> :	9.7W
Spacing Criterion:	1.1	Efficacy:	40.7lm/w
Field Angle:	130°	CCT <sup>3</sup> :	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:	779 lms	Input Watts <sup>2</sup> :	14.2W
Spacing Criterion:	1.1	Efficacy:	54.8lm/w
Field Angle:	132°	CCT <sup>3</sup> :	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\_ANSI C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

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