

PHILIPS LIGHTOLIER

Downlighting

SlimSurface LED

4" and 6" square 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 square apertures are available as a 4" 650lm & 6" 1000lm fixture.

Ordering guide

example: S4S830K7AL

Family	CRI	CCT	Lumens	Finish	Dimming
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
S4S SlimSurface 4" Square	8 80 9 90 ¹	27K 2700K 30K 3000K 35K 3500K 40K 4000K	7 650lm	blank White AL Aluminum BK Black W White AL Aluminum BK Black	blank ELV / Triac (120V) Z10U 0-10V (120V-277V)
S6S SlimSurface 6" Square	8 80 9 90 ¹	27K 2700K 30K 3000K 35K 3500K 40K 4000K	10 1000lm	blank White AL Aluminum BK Black W White AL Aluminum BK Black	blank ELV / Triac (120V) Z10U 0-10V (120V-277V)

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



White



Black



Aluminum

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.

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 ELV/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 4" 650lm	Triac	120V	50/60Hz	0.08A	9.5W	<15%	>0.9	-20°C
	0-10V	120V	50/60Hz	0.08A	10.0W	<20%	>0.9	-20°C
		277V	50/60Hz	0.04A	10.2W	<20%	>0.9	-20°C
Slim 6" 1000lm	Triac	120V	50/60Hz	0.13A	14.2W	<15%	>0.9	-20°C
	0-10V	120V	50/60Hz	0.12A	14.5W	<20%	>0.9	-20°C
		277V	50/60Hz	0.06A	14.7W	<20%	>0.9	-20°C

For more details, please see LED-DIM spec sheet.

Labels

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



S4S & S6S SlimSurface LED

4" and 6" square 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

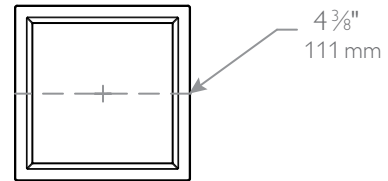
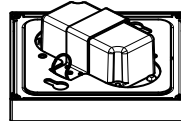
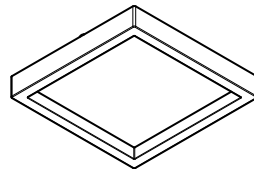
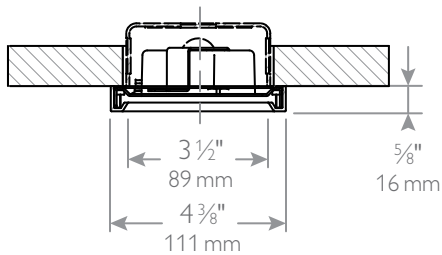


Fire rated J-box
Fire rated classification is per the ceiling and junction box ratings.

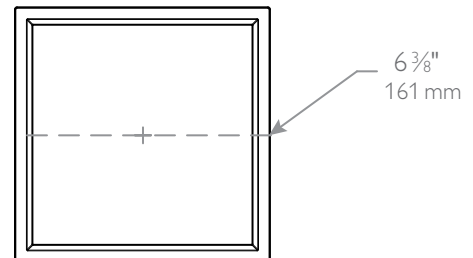
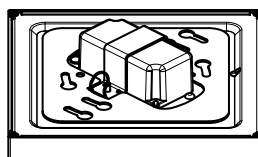
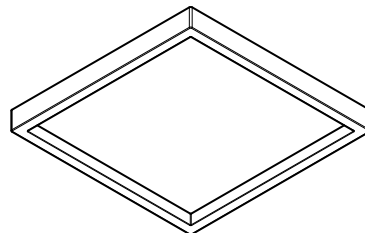
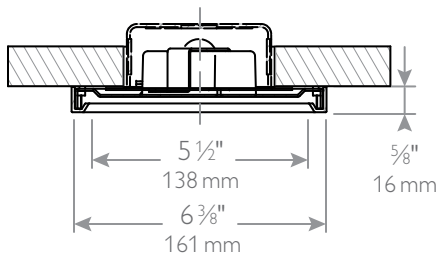
Note: A 2 1/8" deep octagon junction box is recommended for through circuit wiring applications.

Dimensions

SlimSurface LED 4" downlight



SlimSurface LED 6" downlight

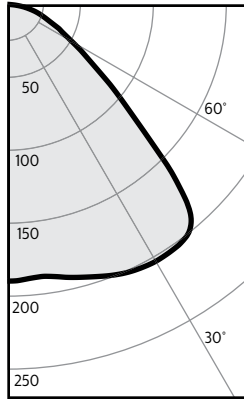


S4S & S6S SlimSurface LED

4" and 6" square aperture surface mount downlight

S4S927K7 • 10 W LED, 90CRI, 2700 K

Candela Curves



Angle	Mean CP	Lumens
0	189	
5	188	18
10	189	
15	193	55
20	198	
25	201	93
30	203	
35	202	126
40	196	
45	153	116
50	103	
55	71	66
60	51	
65	39	38
70	28	
75	21	21
80	13	
85	4	5
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	8	7.5'
6'	5	9.0'
7'	4	10.5'
8'	3	12.0'
9'	2	13.5'

* 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'	22.5	0.40
6'	14.7	0.26
7'	10.5	0.19
8'	8.8	0.16
9'	7.0	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

RCR Zonal cavity method - Effective floor reflectance = 20%

Room Cavity Ratio	80%				70%		50%		30%		0%
	70	50	30	10	50	10	50	10	50	10	0
0	119	119	119	119	116	116	111	111	106	106	100
1	110	106	102	99	104	97	100	94	96	91	87
2	101	94	88	83	92	82	89	80	85	78	74
3	93	84	76	70	82	70	79	68	76	67	64
4	86	75	67	61	73	60	71	59	69	59	56
5	79	67	59	53	66	52	64	52	62	51	49
6	73	61	52	46	60	46	58	46	56	45	43
7	68	55	47	41	54	41	53	41	52	40	38
8	63	50	42	37	50	37	48	36	47	36	34
9	59	46	38	33	46	33	45	33	44	33	31
10	55	43	35	30	42	30	41	30	40	30	28

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	166	30.7%
0-40	292	54.2%
0-60	474	88.0%
0-90	539	100.0%

CRI and CCT adjustment factors

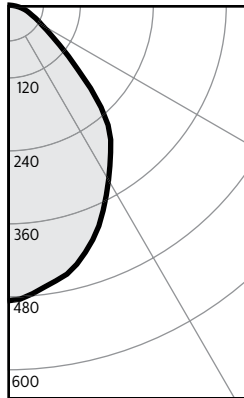
90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

Report: 943GFR

Output lumens:	539 lms	Efficacy:	59.3 lm/w
Spacing Criterion:	1.5	CCT ³ :	2700K
Beam Angle:	86°	CRI:	90 min
Input Watts ² :	9.1W		

S6S927K7 • 14 W LED, 90CRI, 2700 K

Candela Curves



Angle	Mean CP	Lumens
0	486	
5	476	45
10	460	
15	441	123
20	410	
25	373	170
30	333	
35	296	184
40	258	
45	193	147
50	131	
55	90	83
60	65	
65	51	50
70	39	
75	30	30
80	20	
85	9	9
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	19	5.5'
6'	14	6.6'
7'	10	7.7'
8'	8	8.8'
9'	6	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'	21.8	2.80
6'	14.2	1.84
7'	10.2	1.31
8'	8.5	1.09
9'	6.8	0.88

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

RCR Zonal cavity method - Effective floor reflectance = 20%

Room Cavity Ratio	80%				70%		50%		30%		0%
	70	50	30	10	50	10	50	10	50	10	0
0	119	119	119	119	116	116	111	111	106	106	100
1	111	107	103	100	105	98	100	95	97	93	88
2	103	96	90	85	94	84	90	82	87	80	77
3	95	86	79	74	85	73	82	72	79	71	68
4	88	78	70	65	77	64	74	63	72	63	60
5	82	71	63	57	70	57	68	56	66	56	53
6	76	65	57	51	64	51	62	51	61	50	48
7	71	59	52	46	59	46	57	46	56	45	43
8	67	55	47	42	54	42	53	42	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	338	40.2%
0-40	522	62.1%
0-60	753	89.5%
0-90	841	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: 957GFR

Output lumens:	841 lms	Efficacy:	63.2 lm/w
Spacing Criterion:	1.1	CCT ³ :	2700K
Beam Angle:	82°	CRI:	90 min
Input Watts ² :	13.3W		

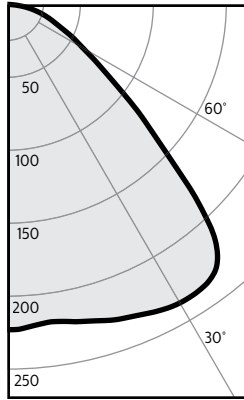
1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
 2. Wattage: controlled to within 5%
 3. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications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

S4S & S6S SlimSurface LED

4" and 6" square aperture surface mount downlight

S4S827K7 • 10 W LED, 80CRI, 2700K

Candela Curves



Angle	Mean CP	Lumens
0	223	
5	221	21
10	221	
15	225	64
20	229	
25	233	108
30	237	
35	236	146
40	224	
45	175	133
50	121	
55	83	76
60	60	
65	44	44
70	33	
75	24	25
80	15	
85	5	6
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	9	7.5'
6'	6	9.0'
7'	5	10.5'
8'	3	12.0'
9'	3	13.5'

* 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'	25.9	0.41
6'	17.0	0.27
7'	12.1	0.19
8'	10.1	0.16
9'	8.1	0.13

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	110	106	102	99	104	97	100	94	96	91	87
	2	101	94	88	83	92	82	89	80	85	78	74
	3	93	84	76	70	82	70	79	69	77	67	64
	4	86	75	67	61	74	60	71	59	69	59	56
	5	79	67	59	53	66	53	64	52	62	51	49
	6	73	61	52	46	60	46	58	46	57	45	43
	7	68	55	47	41	55	41	53	41	52	41	38
	8	63	51	42	37	50	37	49	37	47	36	34
	9	59	46	38	33	46	33	45	33	44	33	31
	10	55	43	35	30	42	30	41	30	40	30	28

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	192	30.9%
0-40	338	54.4%
0-60	547	88.0%
0-90	622	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%

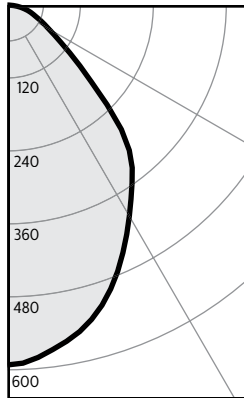
Report: 944GFR

Output lumens:	622lms	Efficacy:	67.6lm/w
Spacing Criterion:	1.5	CCT ³ :	2700K
Beam Angle:	101°	CRI:	80min
Input Watts ² :	9.2W		

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

S6S827K7 • 14 W LED, 80CRI, 2700K

Candela Curves



Angle	Mean CP	Lumens
0	625	
5	618	59
10	604	
15	584	164
20	546	
25	494	227
30	440	
35	390	244
40	337	
45	250	193
50	170	
55	117	108
60	85	
65	65	65
70	51	
75	39	41
80	27	
85	12	13
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	25	5.5'
6'	17	6.6'
7'	13	7.7'
8'	10	8.8'
9'	8	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'	24.2	3.68
6'	15.8	2.42
7'	11.3	1.73
8'	9.5	1.44
9'	7.5	1.15

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	105	98	100	95	97	93	88
	2	103	96	90	85	94	84	90	82	87	80	77
	3	95	86	79	74	85	73	82	72	79	71	68
	4	88	78	70	65	77	64	74	63	72	63	60
	5	82	71	63	57	70	57	68	56	66	56	53
	6	76	65	57	51	64	51	62	51	61	50	48
	7	71	59	52	46	59	46	57	46	56	45	43
	8	67	55	47	42	54	42	53	42	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	449	40.4%
0-40	693	62.3%
0-60	994	89.3%
0-90	1113	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: 964GFR

Output lumens:	1113lms	Efficacy:	83.1lm/w
Spacing Criterion:	1.1	CCT ³ :	2700K
Beam Angle:	83°	CRI:	80min
Input Watts ² :	13.4W		

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

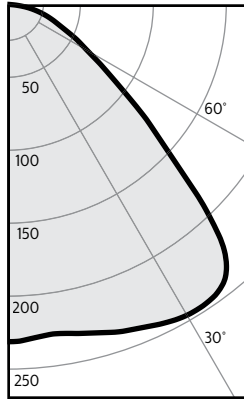
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2. Wattage: controlled to within 5%
3. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSI C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

S4S & S6S SlimSurface LED

4" and 6" square aperture surface mount downlight

S4S830K7 • 10W LED, 80CRI, 3000K

Candela Curves



Angle	Mean CP	Lumens
0	231	
5	229	22
10	230	
15	236	67
20	241	
25	246	113
30	248	
35	247	153
40	237	
45	185	139
50	125	
55	87	80
60	63	
65	47	47
70	34	
75	25	26
80	15	
85	5	6
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	9	7.5'
6'	6	9.0'
7'	5	10.5'
8'	4	12.0'
9'	3	13.5'

* 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'	27.2	0.40
6'	17.9	0.26
7'	12.8	0.19
8'	10.6	0.16
9'	8.5	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	110	106	102	99	104	97	100	94	96	91	87
	2	101	94	88	83	92	82	89	80	85	78	74
	3	93	84	76	70	82	70	79	69	77	67	64
	4	86	75	67	61	74	60	71	59	69	59	56
	5	79	67	59	53	66	52	64	52	62	51	49
	6	73	61	52	46	60	46	58	46	57	45	43
	7	68	55	47	41	55	41	53	41	52	40	38
	8	63	51	42	37	50	37	49	36	47	36	34
	9	59	46	38	33	46	33	45	33	44	33	31
	10	55	43	35	30	42	30	41	30	40	30	28

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	202	30.9%
0-40	355	54.3%
0-60	574	87.9%
0-90	653	100.0%

CRI and CCT adjustment factors

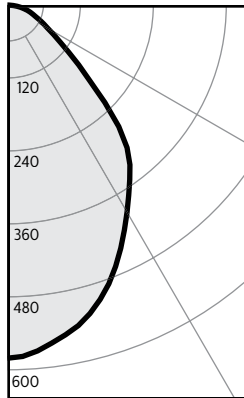
90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

Report: 945GFR

Output lumens:	653lms	Efficacy:	71.8lm/w
Spacing Criterion:	1.5	CCT ³ :	3000K
Beam Angle:	86°	CRI:	80min
Input Watts ² :	9.1W		

S6S830K7 • 14W LED, 80CRI, 3000K

Candela Curves



Angle	Mean CP	Lumens
0	582	
5	572	54
10	551	
15	526	148
20	489	
25	442	203
30	394	
35	351	220
40	307	
45	227	176
50	153	
55	106	99
60	77	
65	59	60
70	45	
75	34	36
80	22	
85	10	10
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	23	5.5'
6'	16	6.6'
7'	12	7.7'
8'	9	8.8'
9'	7	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'	26.2	3.33
6'	17.1	2.18
7'	12.2	1.56
8'	10.2	1.30
9'	8.1	1.04

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	105	98	100	95	97	93	88
	2	103	96	90	85	94	84	90	82	87	80	77
	3	95	86	79	74	85	73	82	72	79	71	68
	4	88	78	70	65	77	64	74	63	72	63	60
	5	82	71	63	57	70	57	68	56	66	56	53
	6	76	65	57	51	64	51	62	51	61	50	48
	7	71	59	52	46	59	46	57	46	56	45	43
	8	67	55	47	42	54	42	53	42	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	405	40.2%
0-40	625	62.1%
0-60	900	89.5%
0-90	1006	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: 958GFR

Output lumens:	1006lms	Efficacy:	75.1lm/w
Spacing Criterion:	1.1	CCT ³ :	3000K
Beam Angle:	82°	CRI:	80min
Input Watts ² :	13.4W		

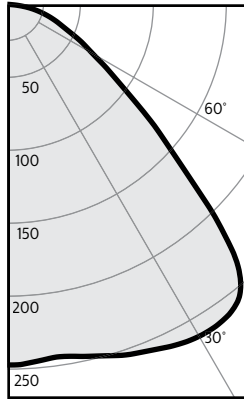
1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
2. Wattage: controlled to within 5%
3. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSI C78.377-2008: Specifications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

S4S & S6S SlimSurface LED

4" and 6" square aperture surface mount downlight

S4S835K7 • 10W LED, 80CRI, 3500K

Candela Curves



Angle	Mean CP	Lumens
0	247	
5	245	23
10	245	
15	249	71
20	255	
25	259	121
30	263	
35	262	163
40	249	
45	194	149
50	135	
55	93	86
60	67	
65	50	50
70	37	
75	27	28
80	17	
85	6	7
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	10	7.5'
6'	7	9.0'
7'	5	10.5'
8'	4	12.0'
9'	3	13.5'

* 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'	29.1	0.40
6'	19.1	0.26
7'	13.6	0.19
8'	11.4	0.16
9'	9.1	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	80%				70%		50%		30%		0%
	70	50	30	10	50	10	50	10	50	10	0
0	119	119	119	119	116	116	111	111	106	106	100
1	110	106	102	99	104	97	100	94	96	91	87
2	101	94	88	83	92	82	89	80	85	78	74
3	93	84	76	70	82	70	79	69	77	67	64
4	86	75	67	61	74	60	71	59	69	59	56
5	79	67	59	53	66	53	64	52	62	51	49
6	73	61	52	46	60	46	58	46	57	45	43
7	68	55	47	41	55	41	53	41	52	40	38
8	63	51	42	37	50	37	49	36	47	36	34
9	59	46	38	33	46	33	45	33	44	33	31
10	56	43	35	30	42	30	41	30	40	30	28

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	216	30.9%
0-40	379	54.3%
0-60	614	87.9%
0-90	698	100.0%

CRI and CCT adjustment factors

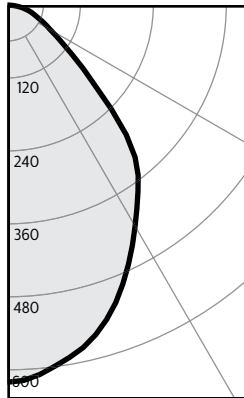
90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

Report: 946GFR

Output lumens:	698lms	Efficacy:	76.7lm/w
Spacing Criterion:	1.5	CCT ³ :	3500K
Beam Angle:	99°	CRI:	80min
Input Watts ² :	9.1W		

S6S835K7 • 14W LED, 80CRI, 3500K

Candela Curves



Angle	Mean CP	Lumens
0	620	
5	610	58
10	589	
15	561	157
20	521	
25	471	217
30	420	
35	375	235
40	327	
45	242	188
50	163	
55	113	106
60	82	
65	63	64
70	48	
75	37	38
80	24	
85	11	11
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	25	5.5'
6'	17	6.6'
7'	13	7.7'
8'	10	8.8'
9'	8	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'	28.6	3.58
6'	18.7	2.35
7'	13.3	1.68
8'	11.2	1.40
9'	8.9	1.12

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	80%				70%		50%		30%		0%
	70	50	30	10	50	10	50	10	50	10	0
0	119	119	119	119	116	116	111	111	106	106	100
1	111	107	103	100	105	98	100	95	97	93	88
2	103	96	90	85	94	84	90	82	87	80	77
3	95	86	79	74	85	73	82	72	79	71	68
4	88	78	70	65	77	64	74	63	72	63	60
5	82	71	63	57	70	57	68	56	66	56	53
6	76	65	57	51	64	51	62	51	61	50	48
7	71	59	52	46	59	46	57	46	56	45	43
8	67	55	47	42	54	42	53	42	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	432	40.2%
0-40	667	62.1%
0-60	961	89.5%
0-90	1074	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: 959GFR

Output lumens:	1074lms	Efficacy:	80.8lm/w
Spacing Criterion:	1.1	CCT ³ :	3500K
Beam Angle:	82°	CRI:	80min
Input Watts ² :	13.3W		

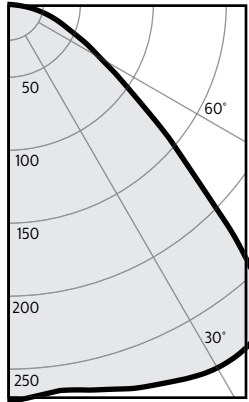
1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
2. Wattage: controlled to within 5%
3. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSI C78.377-2008: Specifications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

S4S & S6S SlimSurface LED

4" and 6" square aperture surface mount downlight

S4S840K7 • 10W LED, 80CRI, 4000K

Candela Curves



Angle	Mean CP	Lumens
0	271	
5	269	26
10	269	
15	273	78
20	279	
25	284	133
30	288	
35	287	179
40	272	
45	212	163
50	148	
55	103	94
60	74	
65	55	55
70	41	
75	30	30
80	19	
85	6	8
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	11	7.5'
6'	8	9.0'
7'	6	10.5'
8'	4	12.0'
9'	3	13.5'

* 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'	31.9	0.40
6'	20.9	0.26
7'	15.0	0.19
8'	12.5	0.16
9'	10.0	0.13

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

Room Cavity Ratio	Zonal cavity method - Effective floor reflectance = 20%																					
	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
0	119	119	119	119	116	116	111	111	106	106	100	100	106	106	100	100	106	106	100	100	106	106
1	110	106	102	99	104	97	100	94	96	91	87	87	96	91	87	87	96	91	87	87	96	91
2	101	94	88	83	92	82	89	80	85	78	74	74	85	78	74	74	85	78	74	74	85	78
3	93	84	76	70	82	70	79	68	76	67	64	64	76	67	64	64	76	67	64	64	76	67
4	86	75	67	60	73	60	71	59	69	58	56	56	69	58	56	56	69	58	56	56	69	58
5	79	67	59	53	66	52	64	52	62	51	49	49	62	51	49	49	62	51	49	49	62	51
6	73	61	52	46	60	46	58	46	56	45	43	43	56	45	43	43	56	45	43	43	56	45
7	68	55	47	41	54	41	53	41	51	40	38	38	51	40	38	38	51	40	38	38	51	40
8	63	50	42	37	50	37	48	36	47	36	34	34	47	36	34	34	47	36	34	34	47	36
9	59	46	38	33	46	33	45	33	43	33	31	31	43	33	31	31	43	33	31	31	43	33
10	55	43	35	30	42	30	41	30	40	30	28	28	40	30	28	28	40	30	28	28	40	30

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	237	30.9%
0-40	416	54.3%
0-60	674	87.9%
0-90	766	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%

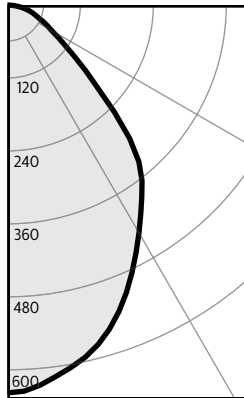
Report#: 947GFR

Output lumens:	766lms	Efficacy:	84.2lm/w
Spacing Criterion:	1.5	CCT ³ :	4000K
Beam Angle:	99°	CRI:	80min
Input Watts ² :	9.1W		

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

S6S840K7 • 14W LED, 80CRI, 4000K

Candela Curves



Angle	Mean CP	Lumens
0	637	
5	626	59
10	604	
15	577	162
20	535	
25	484	223
30	432	
35	385	241
40	336	
45	249	193
50	168	
55	116	109
60	84	
65	65	66
70	49	
75	38	39
80	25	
85	11	12
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	25	5.5'
6'	18	6.6'
7'	13	7.7'
8'	10	8.8'
9'	8	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'	30.3	3.68
6'	19.8	2.41
7'	14.1	1.72
8'	11.8	1.44
9'	9.4	1.15

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

Room Cavity Ratio	Zonal cavity method - Effective floor reflectance = 20%																					
	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
0	119	119	119	119	116	116	111	111	106	106	100	100	106	106	100	100	106	106	100	100	106	106
1	111	107	103	100	105	98	100	95	97	93	88	88	97	93	88	88	97	93	88	88	97	93
2	103	96	90	85	94	84	90	82	87	80	77	77	87	80	77	77	87	80	77	77	87	80
3	95	86	79	74	85	73	82	72	79	71	68	68	79	71	68	68	79	71	68	68	79	71
4	88	78	70	65	77	64	74	63	72	63	60	60	72	63	60	60	72	63	60	60	72	63
5	82	71	63	57	70	57	68	56	66	56	53	53	66	56	53	53	66	56	53	53	66	56
6	76	65	57	51	64	51	62	51	61	50	48	48	61	50	48	48	61	50	48	48	61	50
7	71	59	52	46	59	46	57	46	56	45	43	43	56	45	43	43	56	45	43	43	56	45
8	67	55	47	42	54	42	53	42	52	41	39	39	52	41	39	39	52	41	39	39	52	41
9	63	51	43	38	50	38	49	38	48	38	36	36	48	38	36	36	48	38	36	36	48	38
10	59	47	40	35	47	35	46	35	45	35	33	33	45	35	33	33	45	35	33	33	45	35

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	443	40.2%
0-40	685	62.1%
0-60	987	89.5%
0-90	1103	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#: 960GFR

Output lumens:	1103lms	Efficacy:	82.9lm/w
Spacing Criterion:	1.1	CCT ³ :	4000K
Beam Angle:	82°	CRI:	80min
Input Watts ² :	13.3W		

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

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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