

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGE8LEDFX-10L35KDX-AR8223FX-MW-SO

Nom 8" diam recessed downlight

Test Number

SP-00746_M-10L

Test Date

The results contained in this report pertain only to this IES file.

Summary of Results

Power

Input Watts	9.2 W
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Lumen Output

Output Lumens	842
Efficacy	91.55 lm/W

Luminous Dimensions

0° - 180° Size	-0.63
90° - 270° Size	-0.63
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.2
Two luminaires, plane 90°	1.2
Four luminaires	1.19

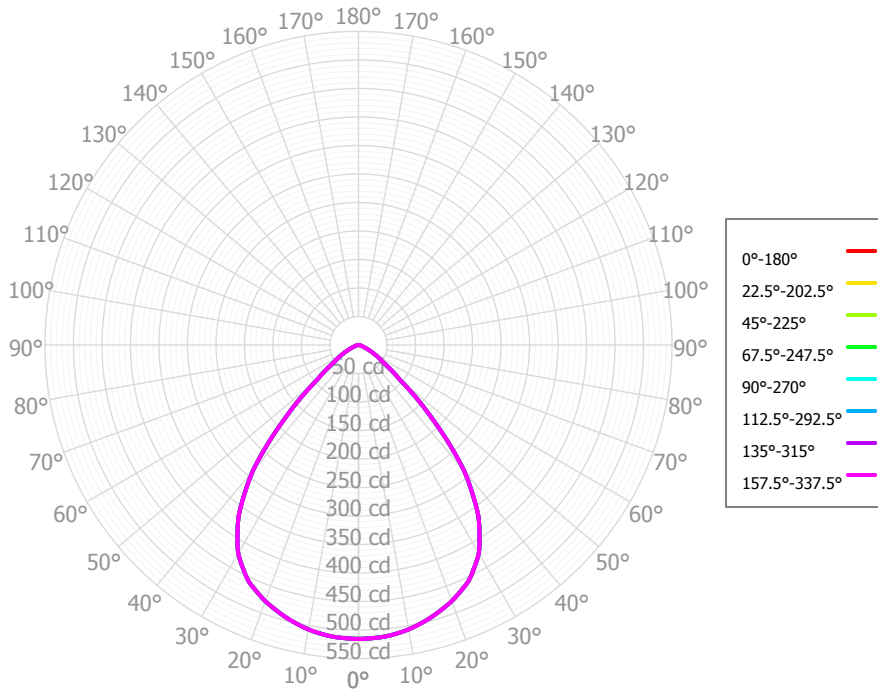
Full Beam Angle

0° - 180°	83°
90° - 270°	83°

IES File Header Contents

Keyword	Value
TEST	SP-00746_M-10L
TESTLAB	Spectrum Lighting Photometric Lab
MANUFAC	Spectrum Lighting
ISSUEDATE	12/28/2018
UPDATE	3/4/2019
LUMCAT	SGE8LEDFX-10L35KDX-AR8223FX-MW-SO
LUMINAIRE	Nom 8" diam recessed downlight
OTHER	Trim: AR8223FX, Matte White
OTHER	Regressed Integral Solite lens
OTHER	Data for New Construction: SGE8LEDFX-series w/AR8223FX-MW-SO
OTHER	Data for Retrofit: SGRTE8LEDFX-series w/AR8223FX-MW-SO
OTHER	Beam Angle: 83 deg
LAMPCAT	N/A
LAMP	N/A, Philips LED, Min CRI: 80+, Gen: 80G1
OTHER	CCT Tested: 3500K
OTHER	CCT Multipliers: 27K x 0.95, 30K x 1.0, 40K x 1.08
OTHER	This report prepared by Spectrum Lighting, scaled from 30L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	49.53	5.88%	90.00° - 100.00°	0.04	0.00%
10.00° - 20.00°	139.36	16.54%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	209.03	24.82%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	224.92	26.70%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	142.66	16.94%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	51.34	6.10%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	18.78	2.23%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	5.40	0.64%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.29	0.15%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	842.31	100.00%	0.00° - 180.00°	842.31	100.00%

Candela Distribution

	0.00°	22.50°	45.00°	67.50°	90.00°	112.50°	135.00°	157.50°	180.00°	202.50°	225.00°	247.50°	270.00°	292.50°	315.00°	337.50°	360.00°
0.00°	515.63	515.63	515.63	515.63	515.63	515.63	515.63	515.63	515.63	515.63	515.63	515.63	515.63	515.63	515.63	515.63	515.63
2.50°	514.94	514.94	514.94	514.94	514.94	514.94	514.94	514.94	514.94	514.94	514.94	514.94	514.94	514.94	514.94	514.94	514.94
5.00°	513.70	513.70	513.70	513.70	513.70	513.70	513.70	513.70	513.70	513.70	513.70	513.70	513.70	513.70	513.70	513.70	513.70
7.50°	510.72	510.72	510.72	510.72	510.72	510.72	510.72	510.72	510.72	510.72	510.72	510.72	510.72	510.72	510.72	510.72	510.72
10.00°	506.61	506.61	506.61	506.61	506.61	506.61	506.61	506.61	506.61	506.61	506.61	506.61	506.61	506.61	506.61	506.61	506.61
12.50°	500.86	500.86	500.86	500.86	500.86	500.86	500.86	500.86	500.86	500.86	500.86	500.86	500.86	500.86	500.86	500.86	500.86
15.00°	494.23	494.23	494.23	494.23	494.23	494.23	494.23	494.23	494.23	494.23	494.23	494.23	494.23	494.23	494.23	494.23	494.23
17.50°	486.44	486.44	486.44	486.44	486.44	486.44	486.44	486.44	486.44	486.44	486.44	486.44	486.44	486.44	486.44	486.44	486.44
20.00°	478.15	478.15	478.15	478.15	478.15	478.15	478.15	478.15	478.15	478.15	478.15	478.15	478.15	478.15	478.15	478.15	478.15
22.50°	467.79	467.79	467.79	467.79	467.79	467.79	467.79	467.79	467.79	467.79	467.79	467.79	467.79	467.79	467.79	467.79	467.79
25.00°	456.75	456.75	456.75	456.75	456.75	456.75	456.75	456.75	456.75	456.75	456.75	456.75	456.75	456.75	456.75	456.75	456.75
27.50°	440.05	440.05	440.05	440.05	440.05	440.05	440.05	440.05	440.05	440.05	440.05	440.05	440.05	440.05	440.05	440.05	440.05
30.00°	421.96	421.96	421.96	421.96	421.96	421.96	421.96	421.96	421.96	421.96	421.96	421.96	421.96	421.96	421.96	421.96	421.96
32.50°	395.05	395.05	395.05	395.05	395.05	395.05	395.05	395.05	395.05	395.05	395.05	395.05	395.05	395.05	395.05	395.05	395.05
35.00°	366.62	366.62	366.62	366.62	366.62	366.62	366.62	366.62	366.62	366.62	366.62	366.62	366.62	366.62	366.62	366.62	366.62
37.50°	328.08	328.08	328.08	328.08	328.08	328.08	328.08	328.08	328.08	328.08	328.08	328.08	328.08	328.08	328.08	328.08	328.08
40.00°	288.45	288.45	288.45	288.45	288.45	288.45	288.45	288.45	288.45	288.45	288.45	288.45	288.45	288.45	288.45	288.45	288.45
42.50°	236.29	236.29	236.29	236.29	236.29	236.29	236.29	236.29	236.29	236.29	236.29	236.29	236.29	236.29	236.29	236.29	236.29
45.00°	183.49	183.49	183.49	183.49	183.49	183.49	183.49	183.49	183.49	183.49	183.49	183.49	183.49	183.49	183.49	183.49	183.49
47.50°	138.46	138.46	138.46	138.46	138.46	138.46	138.46	138.46	138.46	138.46	138.46	138.46	138.46	138.46	138.46	138.46	138.46
50.00°	94.64	94.64	94.64	94.64	94.64	94.64	94.64	94.64	94.64	94.64	94.64	94.64	94.64	94.64	94.64	94.64	94.64
52.50°	72.94	72.94	72.94	72.94	72.94	72.94	72.94	72.94	72.94	72.94	72.94	72.94	72.94	72.94	72.94	72.94	72.94
55.00°	52.42	52.42	52.42	52.42	52.42	52.42	52.42	52.42	52.42	52.42	52.42	52.42	52.42	52.42	52.42	52.42	52.42
57.50°	42.59	42.59	42.59	42.59	42.59	42.59	42.59	42.59	42.59	42.59	42.59	42.59	42.59	42.59	42.59	42.59	42.59
60.00°	33.05	33.05	33.05	33.05	33.05	33.05	33.05	33.05	33.05	33.05	33.05	33.05	33.05	33.05	33.05	33.05	33.05
62.50°	25.22	25.22	25.22	25.22	25.22	25.22	25.22	25.22	25.22	25.22	25.22	25.22	25.22	25.22	25.22	25.22	25.22
65.00°	17.91	17.91	17.91	17.91	17.91	17.91	17.91	17.91	17.91	17.91	17.91	17.91	17.91	17.91	17.91	17.91	17.91
67.50°	12.60	12.60	12.60	12.60	12.60	12.60	12.60	12.60	12.60	12.60	12.60	12.60	12.60	12.60	12.60	12.60	12.60
70.00°	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44
72.50°	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44
75.00°	4.91	4.91	4.91	4.91	4.91	4.91	4.91	4.91	4.91	4.91	4.91	4.91	4.91	4.91	4.91	4.91	4.91
77.50°	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
80.00°	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58
82.50°	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69
85.00°	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
87.50°	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57
90.00°	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	pfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	1,003	1,003	1,003	1,003	979	979	979	979	936	936	936	896	896	896	859	859	842
	1	945	917	892	870	924	899	876	856	864	846	829	833	818	805	803	792	776
	2	885	836	795	760	866	821	783	751	793	761	734	767	741	718	743	722	707
	3	828	762	711	671	810	750	703	665	727	687	654	705	672	643	685	657	644
	4	774	697	640	597	757	686	634	593	667	622	586	649	610	578	633	599	587
	5	724	639	579	535	708	630	574	532	614	565	527	599	556	522	585	547	537
	6	678	587	527	483	664	580	523	481	566	515	477	553	508	474	541	502	492
	7	635	542	481	438	623	536	478	437	524	472	434	513	466	432	503	461	453
	8	597	501	441	400	585	496	439	399	486	434	397	477	430	395	468	425	418
	9	562	466	407	367	551	461	405	366	452	401	365	444	397	363	436	393	387
	10	530	434	376	338	520	430	374	337	422	371	336	415	368	335	408	365	359

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	17.0 fc	9.7 ft
6.5 ft	12.2 fc	11.5 ft
7.5 ft	9.2 fc	13.3 ft
8.0 ft	8.1 fc	14.1 ft
10.0 ft	5.2 fc	17.7 ft
12.0 ft	3.6 fc	21.2 ft
14.0 ft	2.6 fc	24.7 ft
16.0 ft	2.0 fc	28.3 ft
20.0 ft	1.3 fc	35.3 ft
24.0 ft	0.9 fc	42.4 ft
28.0 ft	0.7 fc	49.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	17,805	17,805	17,805
45.00°	8,960	8,960	8,960
55.00°	3,156	3,156	3,156
65.00°	1,463	1,463	1,463
75.00°	655	655	655
85.00°	415	415	415

UGR CIE 190:2010

Ceiling reflectance		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall reflectance		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Plane reflectance		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
2H	2H	11.2	12.4	11.5	12.7	13.0	11.2	12.4	11.5	12.7	13.0
	3H	11.4	12.5	11.8	12.8	13.2	11.4	12.5	11.8	12.8	13.2
	4H	11.4	12.5	11.9	12.8	13.2	11.4	12.5	11.9	12.8	13.2
	6H	11.4	12.4	11.9	12.7	13.1	11.4	12.4	11.9	12.7	13.1
	8H	11.4	12.3	11.8	12.7	13.1	11.4	12.3	11.8	12.7	13.1
	12H	11.4	12.2	11.8	12.6	13.0	11.4	12.2	11.8	12.6	13.0
4H	2H	11.2	12.2	11.6	12.6	13.0	11.2	12.2	11.6	12.6	13.0
	3H	11.6	12.4	12.0	12.8	13.2	11.6	12.4	12.0	12.8	13.2
	4H	11.6	12.3	12.1	12.8	13.2	11.6	12.3	12.1	12.8	13.2
	6H	11.6	12.3	12.1	12.7	13.2	11.6	12.3	12.1	12.7	13.2
	8H	11.6	12.2	12.1	12.7	13.1	11.6	12.2	12.1	12.7	13.1
	12H	11.6	12.1	12.1	12.6	13.1	11.6	12.1	12.1	12.6	13.1
8H	4H	11.6	12.1	12.0	12.6	13.1	11.6	12.1	12.0	12.6	13.1
	6H	11.6	12.1	12.1	12.6	13.0	11.6	12.1	12.1	12.6	13.0
	8H	11.6	12.0	12.1	12.5	13.0	11.6	12.0	12.1	12.5	13.0
	12H	11.6	12.0	12.1	12.5	13.0	11.6	12.0	12.1	12.5	13.0
12H	4H	11.5	12.0	12.0	12.5	13.0	11.5	12.0	12.0	12.5	13.0
	6H	11.6	12.0	12.1	12.4	13.0	11.6	12.0	12.1	12.4	13.0
	8H	11.6	11.9	12.1	12.4	13.0	11.6	11.9	12.1	12.4	13.0

Corrected UGR values based on total output lumens

SHR = 1.0