

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

SGE8LEDFX-15L35KDX-AR8223FX-MW-SO

Nom 8" diam recessed downlight

### **Test Number**

SP-00746\_M-15L

### **Test Date**

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

### Summary of Results

#### Power

Input Watts	13.1 W
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#### Lumen Output

Output Lumens	1302
Efficacy	99.37 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

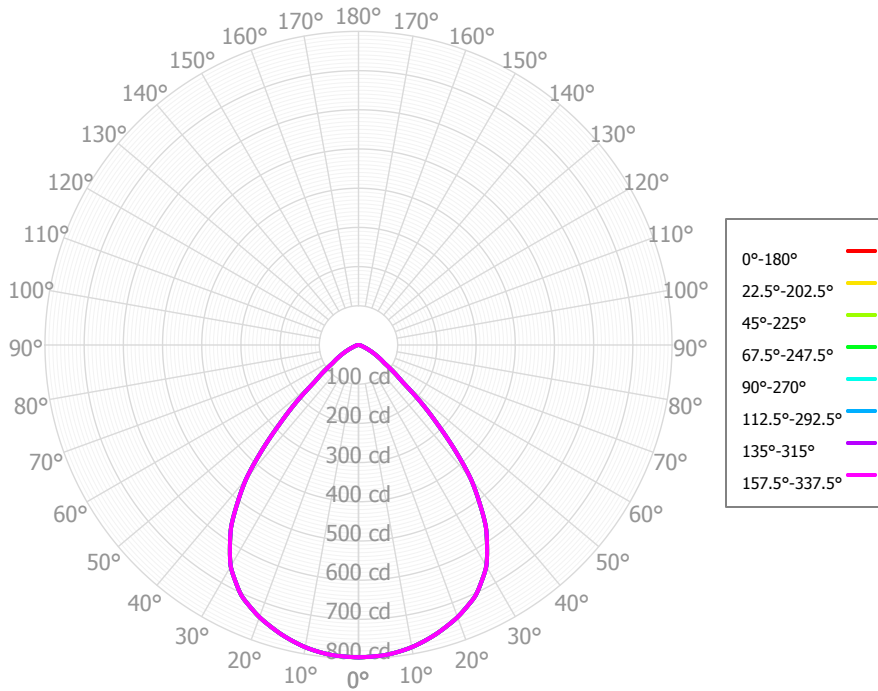
#### Full Beam Angle

0° - 180°	83°
90° - 270°	83°

### IES File Header Contents

Keyword	Value
TEST	SP-00746_M-15L
TESTLAB	Spectrum Lighting Photometric Lab
MANUFAC	Spectrum Lighting
ISSUEDATE	12/28/2018
UPDATE	3/4/2019
LUMCAT	SGE8LEDFX-15L35KDX-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°	76.55	5.88%	90.00° - 100.00°	0.06	0.00%
10.00° - 20.00°	215.37	16.54%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	323.04	24.82%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	347.60	26.70%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	220.48	16.94%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	79.34	6.10%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	29.03	2.23%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	8.34	0.64%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.99	0.15%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1,301.74	100.00%	0.00° - 180.00°	1,301.74	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°	796.89	796.89	796.89	796.89	796.89	796.89	796.89	796.89	796.89	796.89	796.89	796.89	796.89	796.89	796.89	796.89	796.89
2.50°	795.82	795.82	795.82	795.82	795.82	795.82	795.82	795.82	795.82	795.82	795.82	795.82	795.82	795.82	795.82	795.82	795.82
5.00°	793.90	793.90	793.90	793.90	793.90	793.90	793.90	793.90	793.90	793.90	793.90	793.90	793.90	793.90	793.90	793.90	793.90
7.50°	789.30	789.30	789.30	789.30	789.30	789.30	789.30	789.30	789.30	789.30	789.30	789.30	789.30	789.30	789.30	789.30	789.30
10.00°	782.95	782.95	782.95	782.95	782.95	782.95	782.95	782.95	782.95	782.95	782.95	782.95	782.95	782.95	782.95	782.95	782.95
12.50°	774.05	774.05	774.05	774.05	774.05	774.05	774.05	774.05	774.05	774.05	774.05	774.05	774.05	774.05	774.05	774.05	774.05
15.00°	763.82	763.82	763.82	763.82	763.82	763.82	763.82	763.82	763.82	763.82	763.82	763.82	763.82	763.82	763.82	763.82	763.82
17.50°	751.77	751.77	751.77	751.77	751.77	751.77	751.77	751.77	751.77	751.77	751.77	751.77	751.77	751.77	751.77	751.77	751.77
20.00°	738.95	738.95	738.95	738.95	738.95	738.95	738.95	738.95	738.95	738.95	738.95	738.95	738.95	738.95	738.95	738.95	738.95
22.50°	722.94	722.94	722.94	722.94	722.94	722.94	722.94	722.94	722.94	722.94	722.94	722.94	722.94	722.94	722.94	722.94	722.94
25.00°	705.89	705.89	705.89	705.89	705.89	705.89	705.89	705.89	705.89	705.89	705.89	705.89	705.89	705.89	705.89	705.89	705.89
27.50°	680.08	680.08	680.08	680.08	680.08	680.08	680.08	680.08	680.08	680.08	680.08	680.08	680.08	680.08	680.08	680.08	680.08
30.00°	652.12	652.12	652.12	652.12	652.12	652.12	652.12	652.12	652.12	652.12	652.12	652.12	652.12	652.12	652.12	652.12	652.12
32.50°	610.53	610.53	610.53	610.53	610.53	610.53	610.53	610.53	610.53	610.53	610.53	610.53	610.53	610.53	610.53	610.53	610.53
35.00°	566.59	566.59	566.59	566.59	566.59	566.59	566.59	566.59	566.59	566.59	566.59	566.59	566.59	566.59	566.59	566.59	566.59
37.50°	507.03	507.03	507.03	507.03	507.03	507.03	507.03	507.03	507.03	507.03	507.03	507.03	507.03	507.03	507.03	507.03	507.03
40.00°	445.78	445.78	445.78	445.78	445.78	445.78	445.78	445.78	445.78	445.78	445.78	445.78	445.78	445.78	445.78	445.78	445.78
42.50°	365.17	365.17	365.17	365.17	365.17	365.17	365.17	365.17	365.17	365.17	365.17	365.17	365.17	365.17	365.17	365.17	365.17
45.00°	283.57	283.57	283.57	283.57	283.57	283.57	283.57	283.57	283.57	283.57	283.57	283.57	283.57	283.57	283.57	283.57	283.57
47.50°	213.99	213.99	213.99	213.99	213.99	213.99	213.99	213.99	213.99	213.99	213.99	213.99	213.99	213.99	213.99	213.99	213.99
50.00°	146.27	146.27	146.27	146.27	146.27	146.27	146.27	146.27	146.27	146.27	146.27	146.27	146.27	146.27	146.27	146.27	146.27
52.50°	112.72	112.72	112.72	112.72	112.72	112.72	112.72	112.72	112.72	112.72	112.72	112.72	112.72	112.72	112.72	112.72	112.72
55.00°	81.01	81.01	81.01	81.01	81.01	81.01	81.01	81.01	81.01	81.01	81.01	81.01	81.01	81.01	81.01	81.01	81.01
57.50°	65.81	65.81	65.81	65.81	65.81	65.81	65.81	65.81	65.81	65.81	65.81	65.81	65.81	65.81	65.81	65.81	65.81
60.00°	51.08	51.08	51.08	51.08	51.08	51.08	51.08	51.08	51.08	51.08	51.08	51.08	51.08	51.08	51.08	51.08	51.08
62.50°	38.97	38.97	38.97	38.97	38.97	38.97	38.97	38.97	38.97	38.97	38.97	38.97	38.97	38.97	38.97	38.97	38.97
65.00°	27.67	27.67	27.67	27.67	27.67	27.67	27.67	27.67	27.67	27.67	27.67	27.67	27.67	27.67	27.67	27.67	27.67
67.50°	19.47	19.47	19.47	19.47	19.47	19.47	19.47	19.47	19.47	19.47	19.47	19.47	19.47	19.47	19.47	19.47	19.47
70.00°	13.05	13.05	13.05	13.05	13.05	13.05	13.05	13.05	13.05	13.05	13.05	13.05	13.05	13.05	13.05	13.05	13.05
72.50°	9.95	9.95	9.95	9.95	9.95	9.95	9.95	9.95	9.95	9.95	9.95	9.95	9.95	9.95	9.95	9.95	9.95
75.00°	7.59	7.59	7.59	7.59	7.59	7.59	7.59	7.59	7.59	7.59	7.59	7.59	7.59	7.59	7.59	7.59	7.59
77.50°	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65
80.00°	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99
82.50°	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61
85.00°	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62
87.50°	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
90.00°	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43

### 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%	10%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%
	0	1,550	1,550	1,550	1,550	1,514	1,514	1,514	1,514	1,446	1,446	1,446	1,385	1,385	1,385	1,328	1,328	1,328
	1	1,461	1,418	1,379	1,344	1,428	1,389	1,354	1,323	1,336	1,308	1,282	1,287	1,264	1,243	1,242	1,224	1,207
	2	1,368	1,292	1,228	1,175	1,338	1,268	1,210	1,161	1,225	1,177	1,135	1,185	1,145	1,110	1,148	1,116	1,087
	3	1,280	1,178	1,099	1,036	1,251	1,159	1,086	1,028	1,123	1,061	1,011	1,090	1,038	994	1,059	1,016	978
	4	1,196	1,077	989	922	1,170	1,061	979	916	1,031	961	905	1,003	943	894	978	926	883
	5	1,119	987	895	827	1,095	974	887	823	949	873	815	925	859	807	904	846	800
	6	1,047	908	814	746	1,026	896	808	744	875	797	738	855	786	732	837	775	727
	7	982	837	743	678	962	828	739	675	810	730	671	793	721	667	777	712	663
	8	922	775	682	618	905	767	678	617	751	671	614	736	664	611	723	657	608
	9	868	719	628	567	852	712	625	566	699	619	563	686	613	561	674	608	559
	10	818	670	581	522	804	664	579	521	652	574	519	641	569	518	631	564	516

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	26.3 fc	9.7 ft
6.5 ft	18.9 fc	11.5 ft
7.5 ft	14.2 fc	13.3 ft
8.0 ft	12.5 fc	14.1 ft
10.0 ft	8.0 fc	17.7 ft
12.0 ft	5.5 fc	21.2 ft
14.0 ft	4.1 fc	24.7 ft
16.0 ft	3.1 fc	28.3 ft
20.0 ft	2.0 fc	35.3 ft
24.0 ft	1.4 fc	42.4 ft
28.0 ft	1.0 fc	49.5 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	27,517	27,517	27,517
<b>45.00°</b>	13,848	13,848	13,848
<b>55.00°</b>	4,877	4,877	4,877
<b>65.00°</b>	2,261	2,261	2,261
<b>75.00°</b>	1,013	1,013	1,013
<b>85.00°</b>	641	641	641

### UGR CIE 190:2010

<b>Ceiling reflectance</b>		<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>
<b>Wall reflectance</b>		<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>
<b>Plane reflectance</b>		<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Room dimensions</b>		<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>2H</b>	<b>2H</b>	12.7	13.9	13.0	14.2	14.5	12.7	13.9	13.0	14.2	14.5
	<b>3H</b>	12.9	14.0	13.3	14.3	14.7	12.9	14.0	13.3	14.3	14.7
	<b>4H</b>	13.0	14.0	13.4	14.3	14.7	13.0	14.0	13.4	14.3	14.7
	<b>6H</b>	13.0	13.9	13.4	14.2	14.6	13.0	13.9	13.4	14.2	14.6
	<b>8H</b>	12.9	13.8	13.4	14.2	14.6	12.9	13.8	13.4	14.2	14.6
	<b>12H</b>	12.9	13.7	13.3	14.1	14.5	12.9	13.7	13.3	14.1	14.5
<b>4H</b>	<b>2H</b>	12.7	13.7	13.1	14.1	14.5	12.7	13.7	13.1	14.1	14.5
	<b>3H</b>	13.1	13.9	13.5	14.3	14.7	13.1	13.9	13.5	14.3	14.7
	<b>4H</b>	13.1	13.9	13.6	14.3	14.7	13.1	13.9	13.6	14.3	14.7
	<b>6H</b>	13.2	13.8	13.6	14.2	14.7	13.2	13.8	13.6	14.2	14.7
	<b>8H</b>	13.1	13.7	13.6	14.2	14.6	13.1	13.7	13.6	14.2	14.6
	<b>12H</b>	13.1	13.6	13.6	14.1	14.6	13.1	13.6	13.6	14.1	14.6
<b>8H</b>	<b>4H</b>	13.1	13.6	13.5	14.1	14.6	13.1	13.6	13.5	14.1	14.6
	<b>6H</b>	13.1	13.6	13.6	14.1	14.6	13.1	13.6	13.6	14.1	14.6
	<b>8H</b>	13.1	13.5	13.6	14.0	14.5	13.1	13.5	13.6	14.0	14.5
	<b>12H</b>	13.1	13.5	13.6	14.0	14.5	13.1	13.5	13.6	14.0	14.5
<b>12H</b>	<b>4H</b>	13.0	13.5	13.5	14.0	14.5	13.0	13.5	13.5	14.0	14.5
	<b>6H</b>	13.1	13.5	13.6	14.0	14.5	13.1	13.5	13.6	14.0	14.5
	<b>8H</b>	13.1	13.5	13.6	13.9	14.5	13.1	13.5	13.6	13.9	14.5

Corrected UGR values based on total output lumens

SHR = 1.0