

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGE8LEDFX-15L35KDX-AR8223FX-SG-SO

Nom 8" diam recessed downlight

Test Number

SP-00746_1_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	1233
Efficacy	94.14 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.02
Two luminaires, plane 90°	1.01
Four luminaires	1.06

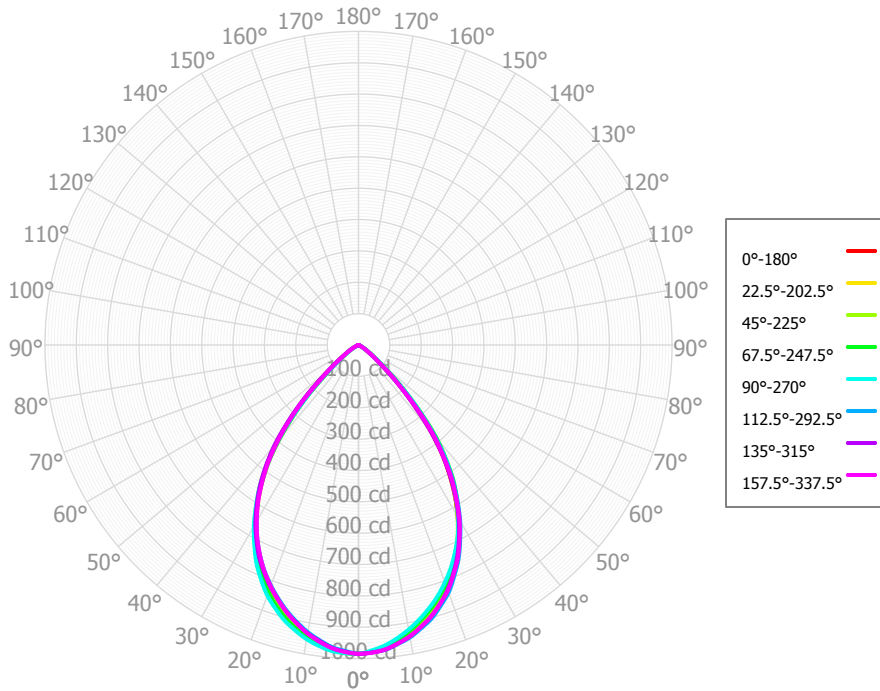
Full Beam Angle

0° - 180°	73°
90° - 270°	73°

IES File Header Contents

Keyword	Value
TEST	SP-00746_1_M-15L
TESTLAB	Spectrum Lighting Photometric Lab
MANUFAC	Spectrum Lighting
ISSUEDATE	12/28/2018
UPDATE	3/4/2019
LUMCAT	SGE8LEDFX-15L35KDX-AR8223FX-SG-SO
LUMINAIRE	Nom 8" diam recessed downlight
OTHER	Trim: AR8223FX, Soft glow
OTHER	Regressed Integral Solite lens
OTHER	Data for New Construction: SGE8LEDFX-series w/AR8223FX-SG-SO
OTHER	Data for Retrofit: SGRTE8LEDFX-series w/AR8223FX-SG-SO
OTHER	Beam Angle: 72 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°	92.98	7.54%	90.00° - 100.00°	0.05	0.00%
10.00° - 20.00°	249.32	20.22%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	340.96	27.65%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	325.90	26.43%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	173.74	14.09%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	43.40	3.52%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	5.88	0.48%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	0.57	0.05%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.53	0.04%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1,233.28	100.00%	0.00° - 180.00°	1,233.28	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°	984.92	984.92	984.92	984.92	984.92	984.92	984.92	984.92	984.92	984.92	984.92	984.92	984.92	984.92	984.92	984.92	984.92
2.50°	980.71	979.48	978.13	978.30	975.07	976.99	979.15	980.15	982.01	981.27	982.53	983.08	983.69	981.22	981.92	982.20	980.71
5.00°	972.30	971.66	967.13	966.81	962.25	967.28	970.05	970.63	974.99	974.60	975.68	976.49	979.55	975.81	975.51	974.73	972.30
7.50°	956.24	954.71	950.80	948.50	943.39	949.78	952.26	954.65	958.82	959.43	962.55	962.68	968.13	962.15	960.37	960.62	956.24
10.00°	937.81	935.97	929.97	927.62	921.62	930.12	933.96	934.61	940.81	941.26	945.25	946.12	952.92	946.98	943.62	943.53	937.81
12.50°	914.34	912.63	905.44	902.64	896.82	905.57	909.05	909.81	916.31	916.46	923.86	925.84	932.57	925.32	920.63	921.11	914.34
15.00°	888.65	888.68	877.57	876.50	869.31	879.00	883.85	882.13	890.90	889.62	900.26	901.60	910.10	902.92	895.65	896.82	888.65
17.50°	859.19	857.26	847.46	845.79	839.51	848.76	852.70	851.72	859.68	859.21	870.50	872.92	881.27	872.00	864.92	866.08	859.19
20.00°	825.17	825.35	812.31	814.14	805.79	816.55	821.14	818.36	828.03	826.44	838.12	839.70	850.44	840.61	830.99	833.60	825.17
22.50°	784.94	783.99	774.48	775.93	769.41	781.43	785.71	782.69	790.84	790.35	800.48	802.34	811.06	797.96	789.71	792.62	784.94
25.00°	739.71	742.18	730.95	736.79	728.76	742.40	748.91	742.11	753.25	749.22	761.11	758.85	769.66	754.78	745.05	750.02	739.71
27.50°	688.83	691.62	684.99	689.90	685.71	698.71	704.32	698.41	705.71	702.21	713.82	710.78	719.44	702.18	694.26	698.16	688.83
30.00°	632.98	640.16	631.50	642.42	634.92	650.93	657.89	648.83	657.49	651.26	664.58	657.68	667.77	648.71	638.83	645.16	632.98
32.50°	572.61	579.39	575.51	585.34	580.70	599.15	603.83	596.28	601.61	596.58	607.05	601.52	608.42	586.96	576.68	581.33	572.61
35.00°	506.66	517.27	512.28	527.73	519.12	540.90	547.46	536.51	544.48	536.46	548.10	538.23	548.33	523.40	509.84	516.79	506.66
37.50°	436.54	446.73	447.28	457.84	455.03	477.45	484.11	473.79	479.26	472.20	480.40	471.50	477.92	449.49	437.34	442.96	436.54
40.00°	355.64	372.80	365.25	386.54	375.27	404.32	415.59	400.87	411.26	398.38	411.71	392.49	406.90	372.40	356.10	368.46	355.64
42.50°	268.15	284.14	280.17	299.03	291.39	324.90	334.86	324.77	330.54	318.53	325.26	308.79	317.49	282.65	266.38	279.08	268.15
45.00°	193.17	201.75	203.41	214.58	213.77	245.59	255.80	245.59	251.72	240.00	238.03	228.37	229.42	199.32	189.87	192.49	193.17
47.50°	124.24	139.22	127.55	150.03	137.32	166.34	179.89	165.71	179.14	162.14	170.45	148.91	161.45	135.60	123.91	134.08	124.24
50.00°	82.99	86.87	89.69	92.12	96.16	114.05	119.16	116.78	116.76	111.53	104.74	102.55	97.76	83.12	80.74	80.66	82.99
52.50°	52.35	60.05	53.69	64.76	59.07	73.06	81.31	72.85	80.38	71.56	74.34	63.17	68.27	56.98	52.42	57.09	52.35
55.00°	35.78	38.21	39.30	41.10	42.89	50.79	53.54	52.86	51.30	49.68	45.79	44.78	41.72	36.17	35.14	35.89	35.78
57.50°	23.36	26.15	25.17	29.75	27.98	34.50	38.20	35.11	37.00	33.36	33.31	29.40	30.62	25.14	23.61	24.92	23.36
60.00°	13.78	15.69	15.39	18.89	17.78	22.55	25.01	23.89	24.26	21.69	21.33	19.01	19.93	15.23	13.97	14.74	13.78
62.50°	4.81	7.70	6.31	9.30	7.91	11.67	13.99	12.95	14.05	11.05	12.05	9.04	10.74	6.98	5.11	7.06	4.81
65.00°	2.26	2.63	3.11	2.54	4.00	5.90	6.66	6.45	6.43	5.48	4.25	4.59	3.54	2.02	1.97	1.52	2.26
67.50°	0.63	1.21	0.55	1.27	0.66	0.98	2.27	0.74	2.13	0.65	1.92	0.62	1.70	0.97	0.64	0.89	0.63
70.00°	0.58	0.60	0.53	0.61	0.61	0.66	0.74	0.63	0.40	0.59	0.47	0.58	0.62	0.56	0.55	0.53	0.58
72.50°	0.53	0.56	0.47	0.56	0.55	0.49	0.49	0.57	0.53	0.60	0.47	0.56	0.54	0.58	0.60	0.49	0.53
75.00°	0.42	0.52	0.36	0.55	0.46	0.44	0.47	0.56	0.59	0.59	0.55	0.58	0.42	0.60	0.62	0.49	0.42
77.50°	0.44	0.51	0.58	0.54	0.44	0.47	0.45	0.65	0.61	0.68	0.59	0.57	0.35	0.66	0.62	0.51	0.44
80.00°	0.48	0.50	0.63	0.51	0.43	0.52	0.45	0.67	0.57	0.68	0.40	0.53	0.44	0.77	0.54	0.53	0.48
82.50°	0.45	0.29	0.47	0.55	0.46	0.53	0.55	0.57	0.57	0.46	0.55	0.47	0.37	0.52	0.33	0.30	0.45
85.00°	0.37	0.44	0.39	0.60	0.50	0.50	0.64	0.49	0.49	0.44	0.65	0.44	0.49	0.47	0.55	0.58	0.37
87.50°	0.38	0.44	0.63	0.59	0.51	0.53	0.57	0.61	0.49	0.56	0.43	0.59	0.42	0.61	0.56	0.42	0.38
90.00°	0.32	0.15	0.25	0.28	0.31	0.56	0.23	0.36	0.27	0.63	0.21	0.62	0.52	0.21	0.36	0.23	0.32

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%	30%
	0	1,468	1,468	1,468	1,468	1,434	1,434	1,434	1,434	1,370	1,370	1,370	1,312	1,312	1,312	1,258	1,258	1,258
	1	1,392	1,355	1,321	1,291	1,361	1,328	1,298	1,270	1,278	1,253	1,231	1,232	1,212	1,194	1,189	1,174	1,160
	2	1,313	1,246	1,191	1,145	1,285	1,225	1,175	1,132	1,184	1,143	1,107	1,147	1,113	1,083	1,112	1,085	1,060
	3	1,236	1,148	1,079	1,025	1,210	1,130	1,067	1,016	1,097	1,044	1,000	1,066	1,021	984	1,038	1,000	968
	4	1,163	1,059	982	924	1,139	1,044	973	918	1,016	955	907	991	939	896	967	923	886
	5	1,094	978	898	838	1,072	966	891	834	943	877	827	922	864	819	902	852	812
	6	1,030	907	824	765	1,010	896	819	762	877	808	756	859	798	751	842	788	746
	7	970	842	759	701	952	833	755	699	817	746	695	801	738	691	787	730	687
	8	915	784	702	645	899	777	699	644	763	692	641	749	685	638	737	679	635
	9	865	733	651	597	850	726	649	596	714	643	593	702	638	591	691	632	589
	10	818	686	607	554	805	680	604	553	670	599	551	659	595	549	650	591	548

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	32.6 fc	7.9 ft
6.5 ft	23.3 fc	9.4 ft
7.5 ft	17.5 fc	10.8 ft
8.0 ft	15.4 fc	11.5 ft
10.0 ft	9.8 fc	14.4 ft
12.0 ft	6.8 fc	17.3 ft
14.0 ft	5.0 fc	20.2 ft
16.0 ft	3.8 fc	23.1 ft
20.0 ft	2.5 fc	28.8 ft
24.0 ft	1.7 fc	34.6 ft
28.0 ft	1.3 fc	40.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	34,009	34,009	34,009
45.00°	9,433	9,933	10,439
55.00°	2,154	2,366	2,582
65.00°	184	254	326
75.00°	57	48	61
85.00°	147	156	199

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	6.2	7.3	6.6	7.6	8.0	7.8	8.9	8.2	9.2	9.6
	3H	6.0	7.0	6.4	7.4	7.7	7.6	8.6	8.0	9.0	9.3
	4H	6.0	6.9	6.4	7.2	7.6	7.6	8.5	8.0	8.8	9.2
	6H	5.9	6.7	6.3	7.1	7.5	7.5	8.3	7.9	8.7	9.1
	8H	5.8	6.6	6.3	7.0	7.4	7.4	8.2	7.8	8.6	9.0
	12H	5.8	6.5	6.2	6.9	7.3	7.4	8.1	7.8	8.5	8.9
4H	2H	6.0	6.9	6.4	7.2	7.6	7.6	8.5	8.0	8.9	9.3
	3H	5.8	6.5	6.2	6.9	7.3	7.4	8.2	7.9	8.6	9.0
	4H	5.7	6.3	6.1	6.8	7.2	7.3	8.0	7.8	8.4	8.9
	6H	5.6	6.2	6.1	6.6	7.1	7.2	7.8	7.7	8.3	8.7
	8H	5.5	6.1	6.0	6.5	7.0	7.2	7.7	7.7	8.2	8.6
	12H	5.5	6.0	6.0	6.4	6.9	7.1	7.6	7.6	8.1	8.5
8H	4H	5.5	6.1	6.0	6.5	7.0	7.2	7.7	7.6	8.1	8.6
	6H	5.4	5.8	5.9	6.4	6.8	7.1	7.5	7.6	8.0	8.5
	8H	5.4	5.7	5.9	6.3	6.8	7.0	7.4	7.5	7.9	8.4
	12H	5.3	5.7	5.9	6.2	6.7	7.0	7.3	7.5	7.8	8.4
12H	4H	5.5	5.9	6.0	6.4	6.9	7.1	7.6	7.6	8.1	8.5
	6H	5.4	5.7	5.9	6.2	6.8	7.0	7.4	7.5	7.8	8.4
	8H	5.3	5.7	5.8	6.1	6.7	6.9	7.3	7.5	7.8	8.4

Corrected UGR values based on total output lumens

SHR = 1.0