

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGE8LEDFX-30L35KDX-AR8223FX-SG-SO

Nom 8" diam recessed downlight

Test Number

SP-00746_1

Test Date

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

Summary of Results

Power

Input Watts	25 W
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Lumen Output

Output Lumens	2418
Efficacy	96.73 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

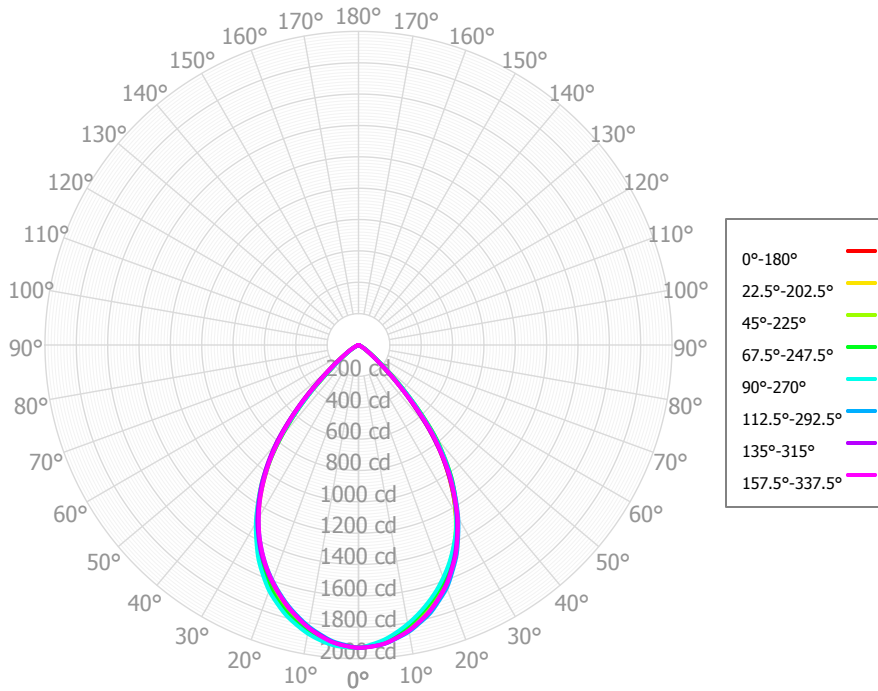
Full Beam Angle

0° - 180°	73°
90° - 270°	73°

IES File Header Contents

Keyword	Value
TEST	SP-00746_1
TESTLAB	Spectrum Lighting Photometric Lab
MANUFAC	Spectrum Lighting
ISSUEDATE	12/28/2018
UPDATE	3/4/2019
LUMCAT	SGE8LEDFX-30L35KDX-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

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	182.32	7.54%	90.00° - 100.00°	0.09	0.00%
10.00° - 20.00°	488.87	20.22%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	668.54	27.65%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	639.02	26.43%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	340.67	14.09%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	85.10	3.52%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	11.53	0.48%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	1.11	0.05%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.03	0.04%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	2,418.20	100.00%	0.00° - 180.00°	2,418.20	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°	1,931.21	1,931.21	1,931.21	1,931.21	1,931.21	1,931.21	1,931.21	1,931.21	1,931.21	1,931.21	1,931.21	1,931.21	1,931.21	1,931.21	1,931.21	1,931.21	1,931.21
2.50°	1,922.97	1,920.54	1,917.90	1,918.23	1,911.91	1,915.67	1,919.90	1,921.85	1,925.50	1,924.06	1,926.53	1,927.60	1,928.81	1,923.95	1,925.32	1,925.88	1,922.97
5.00°	1,906.47	1,905.21	1,896.34	1,895.70	1,886.76	1,896.62	1,902.06	1,903.19	1,911.74	1,910.98	1,913.09	1,914.68	1,920.69	1,913.36	1,912.76	1,911.24	1,906.47
7.50°	1,874.97	1,871.98	1,864.32	1,859.81	1,849.78	1,862.30	1,867.17	1,871.86	1,880.04	1,881.23	1,887.34	1,887.62	1,898.29	1,886.56	1,883.08	1,883.57	1,874.97
10.00°	1,838.85	1,835.23	1,823.46	1,818.87	1,807.10	1,823.77	1,831.30	1,832.56	1,844.72	1,845.60	1,853.44	1,855.15	1,868.47	1,856.83	1,850.24	1,850.06	1,838.85
12.50°	1,792.83	1,789.46	1,775.37	1,769.89	1,758.47	1,775.62	1,782.45	1,783.95	1,796.68	1,796.97	1,811.49	1,815.37	1,828.58	1,814.35	1,805.16	1,806.11	1,792.83
15.00°	1,742.45	1,742.52	1,720.72	1,718.63	1,704.53	1,723.53	1,733.04	1,729.67	1,746.86	1,744.34	1,765.22	1,767.84	1,784.51	1,770.43	1,756.17	1,758.47	1,742.45
17.50°	1,684.70	1,680.91	1,661.69	1,658.40	1,646.10	1,664.24	1,671.96	1,670.03	1,685.65	1,684.73	1,706.85	1,711.61	1,727.98	1,709.80	1,695.92	1,698.19	1,684.70
20.00°	1,617.98	1,618.33	1,592.77	1,596.36	1,579.99	1,601.09	1,610.07	1,604.63	1,623.59	1,620.47	1,643.38	1,646.47	1,667.52	1,648.26	1,629.39	1,634.52	1,617.98
22.50°	1,539.10	1,537.23	1,518.58	1,521.42	1,508.65	1,532.21	1,540.60	1,534.68	1,550.66	1,549.71	1,569.57	1,573.21	1,590.31	1,564.63	1,548.46	1,554.15	1,539.10
25.00°	1,450.41	1,455.25	1,433.23	1,444.68	1,428.94	1,455.69	1,468.45	1,455.11	1,476.97	1,469.05	1,492.36	1,487.93	1,509.14	1,479.96	1,460.88	1,470.62	1,450.41
27.50°	1,350.64	1,356.12	1,343.12	1,352.74	1,344.53	1,370.01	1,381.03	1,369.44	1,383.75	1,376.89	1,399.65	1,393.69	1,410.68	1,376.83	1,361.29	1,368.94	1,350.64
30.00°	1,241.14	1,255.21	1,238.24	1,259.66	1,244.94	1,276.33	1,289.98	1,272.22	1,289.20	1,276.97	1,303.09	1,289.57	1,309.35	1,271.98	1,252.60	1,265.02	1,241.14
32.50°	1,122.76	1,136.06	1,128.44	1,147.72	1,138.63	1,174.80	1,183.97	1,169.18	1,179.63	1,169.76	1,190.29	1,179.45	1,192.99	1,150.90	1,130.75	1,139.86	1,122.76
35.00°	993.45	1,014.26	1,004.47	1,034.76	1,017.88	1,060.60	1,073.45	1,051.98	1,067.61	1,051.88	1,074.71	1,055.35	1,075.16	1,026.28	999.68	1,013.32	993.45
37.50°	855.96	875.94	877.02	897.73	892.21	936.18	949.23	929.01	939.73	925.89	941.95	924.50	937.09	881.36	857.53	868.54	855.96
40.00°	697.33	730.98	716.18	757.93	735.83	792.78	814.89	786.01	806.40	781.14	807.28	769.58	797.84	730.19	698.24	722.48	697.33
42.50°	525.79	557.14	549.36	586.34	571.35	637.07	656.59	636.80	648.13	624.57	637.78	605.46	622.54	554.21	522.31	547.21	525.79
45.00°	378.76	395.58	398.83	420.74	419.16	481.56	501.57	481.54	493.57	470.59	466.73	447.78	449.84	390.82	372.30	377.42	378.76
47.50°	243.62	272.98	250.10	294.17	269.25	326.15	352.73	324.91	351.26	317.92	334.21	291.98	316.57	265.87	242.97	262.91	243.62
50.00°	162.72	170.34	175.87	180.63	188.56	223.64	233.65	228.99	228.94	218.68	205.38	201.08	191.68	162.99	158.31	158.16	162.72
52.50°	102.64	117.74	105.27	126.98	115.83	143.26	159.42	142.85	157.61	140.32	145.76	123.87	133.85	111.73	102.78	111.94	102.64
55.00°	70.15	74.92	77.06	80.59	84.09	99.58	104.98	103.64	100.60	97.41	89.79	87.81	81.81	70.91	68.91	70.37	70.15
57.50°	45.81	51.28	49.35	58.33	54.86	67.64	74.89	68.85	72.55	65.42	65.32	57.64	60.04	49.30	46.28	48.87	45.81
60.00°	27.03	30.76	30.19	37.04	34.86	44.22	49.03	46.85	47.57	42.53	41.83	37.28	39.08	29.85	27.39	28.91	27.03
62.50°	9.43	15.10	12.37	18.24	15.50	22.89	27.43	25.40	27.55	21.67	23.62	17.72	21.06	13.68	10.03	13.84	9.43
65.00°	4.43	5.16	6.09	4.98	7.83	11.57	13.05	12.65	12.61	10.74	8.33	9.00	6.93	3.96	3.86	2.98	4.43
67.50°	1.23	2.38	1.08	2.50	1.30	1.93	4.45	1.45	4.17	1.28	3.76	1.22	3.33	1.90	1.26	1.74	1.23
70.00°	1.13	1.18	1.03	1.19	1.20	1.30	1.45	1.24	0.79	1.16	0.92	1.14	1.21	1.11	1.07	1.03	1.13
72.50°	1.03	1.09	0.91	1.10	1.07	0.96	0.96	1.11	1.03	1.18	0.92	1.10	1.06	1.14	1.19	0.96	1.03
75.00°	0.83	1.02	0.71	1.08	0.89	0.86	0.91	1.10	1.16	1.15	1.08	1.15	0.83	1.17	1.21	0.97	0.83
77.50°	0.86	0.99	1.15	1.06	0.86	0.92	0.87	1.27	1.19	1.34	1.16	1.12	0.69	1.30	1.22	0.99	0.86
80.00°	0.94	0.98	1.23	1.00	0.85	1.01	0.88	1.32	1.11	1.33	0.79	1.04	0.86	1.50	1.07	1.03	0.94
82.50°	0.89	0.57	0.92	1.07	0.91	1.03	1.09	1.12	1.12	0.91	1.07	0.92	0.73	1.02	0.64	0.60	0.89
85.00°	0.73	0.87	0.77	1.18	0.99	0.98	1.25	0.95	0.97	0.86	1.28	0.85	0.97	0.92	1.09	1.13	0.73
87.50°	0.75	0.86	1.23	1.16	1.00	1.04	1.13	1.20	0.96	1.10	0.84	1.15	0.83	1.20	1.10	0.81	0.75
90.00°	0.63	0.29	0.50	0.55	0.61	1.10	0.46	0.70	0.53	1.24	0.42	1.21	1.02	0.41	0.70	0.46	0.63

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	2,879	2,879	2,879	2,879	2,812	2,812	2,812	2,812	2,687	2,687	2,687	2,573	2,573	2,573	2,468	2,468	2,418
	1	2,730	2,656	2,591	2,532	2,669	2,604	2,545	2,491	2,505	2,458	2,414	2,415	2,377	2,342	2,331	2,302	2,255
	2	2,575	2,444	2,336	2,245	2,520	2,402	2,303	2,220	2,322	2,241	2,171	2,249	2,182	2,124	2,181	2,127	2,079
	3	2,424	2,250	2,116	2,009	2,373	2,216	2,092	1,993	2,151	2,046	1,960	2,091	2,003	1,929	2,035	1,962	1,899
	4	2,280	2,076	1,926	1,812	2,234	2,047	1,908	1,800	1,993	1,873	1,779	1,943	1,840	1,757	1,897	1,809	1,736
	5	2,145	1,918	1,760	1,644	2,103	1,895	1,747	1,636	1,849	1,720	1,621	1,807	1,695	1,606	1,768	1,670	1,591
	6	2,019	1,778	1,616	1,500	1,980	1,757	1,605	1,494	1,719	1,584	1,483	1,684	1,564	1,473	1,650	1,545	1,462
	7	1,902	1,651	1,489	1,375	1,867	1,634	1,480	1,371	1,602	1,463	1,363	1,571	1,447	1,355	1,543	1,432	1,347
	8	1,795	1,538	1,377	1,266	1,763	1,523	1,370	1,263	1,495	1,356	1,257	1,469	1,343	1,251	1,445	1,331	1,245
	9	1,696	1,436	1,277	1,170	1,667	1,424	1,272	1,168	1,400	1,261	1,163	1,377	1,250	1,159	1,355	1,240	1,155
	10	1,605	1,345	1,189	1,086	1,579	1,334	1,185	1,084	1,313	1,175	1,081	1,293	1,167	1,077	1,274	1,158	1,074

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	63.8 fc	7.9 ft
6.5 ft	45.7 fc	9.4 ft
7.5 ft	34.3 fc	10.8 ft
8.0 ft	30.2 fc	11.5 ft
10.0 ft	19.3 fc	14.4 ft
12.0 ft	13.4 fc	17.3 ft
14.0 ft	9.9 fc	20.2 ft
16.0 ft	7.5 fc	23.1 ft
20.0 ft	4.8 fc	28.8 ft
24.0 ft	3.4 fc	34.6 ft
28.0 ft	2.5 fc	40.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	66,685	66,685	66,685
45.00°	18,496	19,476	20,469
55.00°	4,223	4,639	5,063
65.00°	362	498	640
75.00°	111	95	119
85.00°	288	306	391

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	8.6	9.7	8.9	10.0	10.3	10.2	11.3	10.5	11.6	11.9
	3H	8.4	9.4	8.8	9.7	10.1	10.0	11.0	10.4	11.3	11.7
	4H	8.3	9.2	8.7	9.6	9.9	9.9	10.8	10.3	11.2	11.5
	6H	8.2	9.0	8.6	9.4	9.8	9.8	10.6	10.2	11.0	11.4
	8H	8.2	8.9	8.6	9.3	9.7	9.8	10.5	10.2	10.9	11.3
	12H	8.1	8.9	8.5	9.2	9.7	9.7	10.5	10.1	10.8	11.3
4H	2H	8.3	9.2	8.7	9.6	10.0	10.0	10.9	10.4	11.2	11.6
	3H	8.1	8.9	8.6	9.3	9.7	9.8	10.5	10.2	10.9	11.3
	4H	8.0	8.7	8.5	9.1	9.6	9.7	10.3	10.1	10.8	11.2
	6H	7.9	8.5	8.4	9.0	9.4	9.6	10.1	10.1	10.6	11.1
	8H	7.9	8.4	8.4	8.9	9.3	9.5	10.0	10.0	10.5	11.0
	12H	7.8	8.3	8.3	8.8	9.3	9.5	9.9	10.0	10.4	10.9
8H	4H	7.9	8.4	8.3	8.8	9.3	9.5	10.0	10.0	10.5	11.0
	6H	7.8	8.2	8.3	8.7	9.2	9.4	9.8	9.9	10.3	10.8
	8H	7.7	8.1	8.2	8.6	9.1	9.3	9.7	9.9	10.2	10.7
	12H	7.7	8.0	8.2	8.5	9.1	9.3	9.6	9.8	10.1	10.7
12H	4H	7.8	8.3	8.3	8.8	9.2	9.5	9.9	9.9	10.4	10.9
	6H	7.7	8.1	8.2	8.6	9.1	9.3	9.7	9.9	10.2	10.7
	8H	7.7	8.0	8.2	8.5	9.1	9.3	9.6	9.8	10.1	10.7

Corrected UGR values based on total output lumens

SHR = 1.0