

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGE8LEDFX-10L35KDX-AR8223FX-SG-SO

Nom 8" diam recessed downlight

Test Number

SP-00746_1_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	798
Efficacy	86.74 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

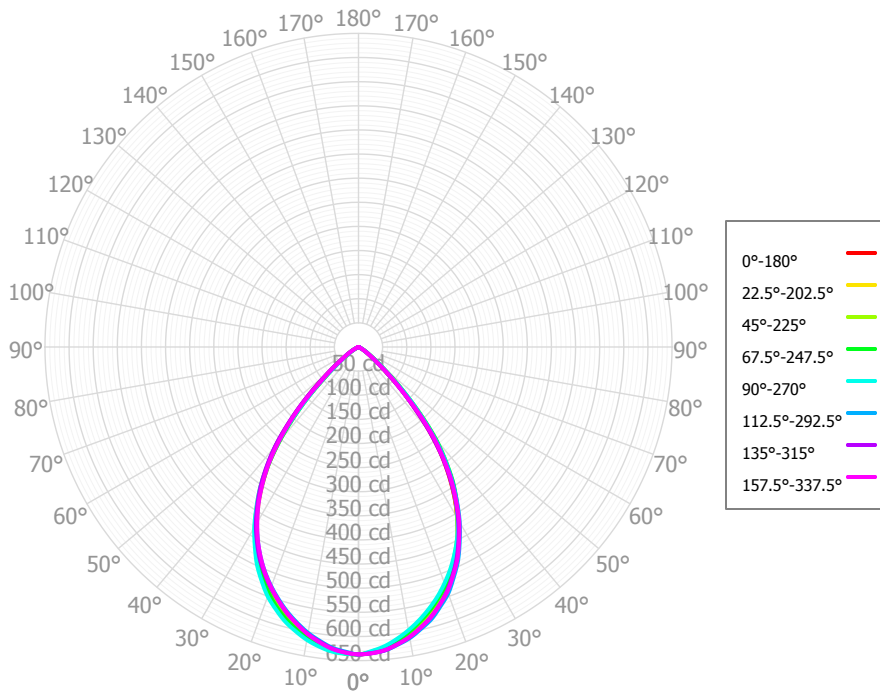
Full Beam Angle

0° - 180°	73°
90° - 270°	73°

IES File Header Contents

Keyword	Value
TEST	SP-00746_1_M-10L
TESTLAB	Spectrum Lighting Photometric Lab
MANUFAC	Spectrum Lighting
ISSUEDATE	12/28/2018
UPDATE	3/4/2019
LUMCAT	SGE8LEDFX-10L35KDX-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°	60.17	7.54%	90.00° - 100.00°	0.03	0.00%
10.00° - 20.00°	161.33	20.22%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	220.62	27.65%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	210.88	26.43%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	112.42	14.09%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	28.08	3.52%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	3.80	0.48%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	0.37	0.05%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.34	0.04%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	798.01	100.00%	0.00° - 180.00°	798.01	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°	637.30	637.30	637.30	637.30	637.30	637.30	637.30	637.30	637.30	637.30	637.30	637.30	637.30	637.30	637.30	637.30	637.30
2.50°	634.58	633.78	632.91	633.02	630.93	632.17	633.57	634.21	635.41	634.94	635.75	636.11	636.51	634.90	635.36	635.54	634.58
5.00°	629.14	628.72	625.79	625.58	622.63	625.89	627.68	628.05	630.87	630.62	631.32	631.85	633.83	631.41	631.21	630.71	629.14
7.50°	618.74	617.75	615.22	613.74	610.43	614.56	616.16	617.71	620.41	620.81	622.82	622.91	626.44	622.57	621.42	621.58	618.74
10.00°	606.82	605.63	601.74	600.23	596.34	601.85	604.33	604.75	608.76	609.05	611.63	612.20	616.60	612.76	610.58	610.52	606.82
12.50°	591.63	590.52	585.87	584.06	580.29	585.95	588.21	588.70	592.90	593.00	597.79	599.07	603.43	598.74	595.70	596.02	591.63
15.00°	575.01	575.03	567.84	567.15	562.49	568.76	571.90	570.79	576.47	575.63	582.52	583.39	588.89	584.24	579.53	580.30	575.01
17.50°	555.95	554.70	548.36	547.27	543.21	549.20	551.75	551.11	556.27	555.96	563.26	564.83	570.23	564.24	559.65	560.40	555.95
20.00°	533.93	534.05	525.62	526.80	521.40	528.36	531.32	529.53	535.78	534.75	542.31	543.33	550.28	543.93	537.70	539.39	533.93
22.50°	507.90	507.29	501.13	502.07	497.85	505.63	508.40	506.44	511.72	511.40	517.96	519.16	524.80	516.33	510.99	512.87	507.90
25.00°	478.64	480.23	472.97	476.74	471.55	480.38	484.59	480.19	487.40	484.79	492.48	491.02	498.02	488.39	482.09	485.31	478.64
27.50°	445.71	447.52	443.23	446.41	443.69	452.10	455.74	451.91	456.64	454.37	461.88	459.92	465.52	454.35	449.23	451.75	445.71
30.00°	409.58	414.22	408.62	415.69	410.83	421.19	425.69	419.83	425.44	421.40	430.02	425.56	432.09	419.75	413.36	417.46	409.58
32.50°	370.51	374.90	372.39	378.75	375.75	387.69	390.71	385.83	389.28	386.02	392.80	389.22	393.69	379.80	373.15	376.15	370.51
35.00°	327.84	334.71	331.48	341.47	335.90	350.00	354.24	347.15	352.31	347.12	354.65	348.27	354.80	338.67	329.89	334.40	327.84
37.50°	282.46	289.06	289.42	296.25	294.43	308.94	313.25	306.57	310.11	305.54	310.84	305.09	309.24	290.85	282.98	286.62	282.46
40.00°	230.12	241.22	236.34	250.12	242.82	261.62	268.91	259.39	266.11	257.77	266.40	253.96	263.29	240.96	230.42	238.42	230.12
42.50°	173.51	183.86	181.29	193.49	188.55	210.23	216.68	210.14	213.88	206.11	210.47	199.80	205.44	182.89	172.36	180.58	173.51
45.00°	124.99	130.54	131.62	138.84	138.32	158.91	165.52	158.91	162.88	155.29	154.02	147.77	148.45	128.97	122.86	124.55	124.99
47.50°	80.39	90.08	82.53	97.08	88.85	107.63	116.40	107.22	115.92	104.91	110.29	96.35	104.47	87.74	80.18	86.76	80.39
50.00°	53.70	56.21	58.04	59.61	62.22	73.80	77.10	75.57	75.55	72.16	67.77	66.36	63.25	53.79	52.24	52.19	53.70
52.50°	33.87	38.85	34.74	41.90	38.22	47.28	52.61	47.14	52.01	46.31	48.10	40.88	44.17	36.87	33.92	36.94	33.87
55.00°	23.15	24.73	25.43	26.60	27.75	32.86	34.64	34.20	33.20	32.15	29.63	28.98	27.00	23.40	22.74	23.22	23.15
57.50°	15.12	16.92	16.29	19.25	18.11	22.32	24.72	22.72	23.94	21.59	21.56	19.02	19.82	16.27	15.27	16.13	15.12
60.00°	8.92	10.15	9.96	12.23	11.51	14.59	16.18	15.46	15.70	14.03	13.80	12.30	12.90	9.85	9.04	9.54	8.92
62.50°	3.11	4.98	4.08	6.02	5.12	7.55	9.05	8.38	9.09	7.15	7.79	5.85	6.95	4.51	3.31	4.57	3.11
65.00°	1.46	1.70	2.01	1.64	2.59	3.82	4.31	4.18	4.16	3.55	2.75	2.97	2.29	1.31	1.27	0.98	1.46
67.50°	0.41	0.78	0.36	0.82	0.43	0.64	1.47	0.48	1.38	0.42	1.24	0.40	1.10	0.63	0.42	0.57	0.41
70.00°	0.37	0.39	0.34	0.39	0.40	0.43	0.48	0.41	0.26	0.38	0.30	0.38	0.40	0.37	0.35	0.34	0.37
72.50°	0.34	0.36	0.30	0.36	0.35	0.32	0.32	0.37	0.34	0.39	0.30	0.36	0.35	0.38	0.39	0.32	0.34
75.00°	0.28	0.34	0.23	0.36	0.29	0.28	0.30	0.36	0.38	0.38	0.36	0.38	0.27	0.39	0.40	0.32	0.28
77.50°	0.28	0.33	0.38	0.35	0.28	0.30	0.29	0.42	0.39	0.44	0.38	0.37	0.23	0.43	0.40	0.33	0.28
80.00°	0.31	0.32	0.41	0.33	0.28	0.34	0.29	0.44	0.37	0.44	0.26	0.34	0.28	0.50	0.35	0.34	0.31
82.50°	0.29	0.19	0.30	0.35	0.30	0.34	0.36	0.37	0.37	0.30	0.35	0.30	0.24	0.34	0.21	0.20	0.29
85.00°	0.24	0.29	0.26	0.39	0.33	0.32	0.41	0.31	0.32	0.28	0.42	0.28	0.32	0.31	0.36	0.37	0.24
87.50°	0.25	0.28	0.41	0.38	0.33	0.35	0.37	0.40	0.32	0.36	0.28	0.38	0.28	0.40	0.36	0.27	0.25
90.00°	0.21	0.10	0.16	0.18	0.20	0.36	0.15	0.23	0.18	0.41	0.14	0.40	0.34	0.14	0.23	0.15	0.21

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	950	950	950	950	928	928	928	928	887	887	887	849	849	849	814	814	798
	1	901	877	855	835	881	859	840	822	827	811	797	797	784	773	769	760	744
	2	850	807	771	741	831	793	760	733	766	739	716	742	720	701	720	702	688
	3	800	743	698	663	783	731	690	658	710	675	647	690	661	637	671	647	635
	4	752	685	636	598	737	676	630	594	658	618	587	641	607	580	626	597	585
	5	708	633	581	542	694	625	576	540	610	568	535	596	559	530	584	551	541
	6	666	587	533	495	654	580	530	493	567	523	489	556	516	486	545	510	501
	7	628	545	491	454	616	539	488	452	529	483	450	519	478	447	509	473	464
	8	592	508	454	418	582	503	452	417	493	448	415	485	443	413	477	439	432
	9	560	474	422	386	550	470	420	385	462	416	384	454	413	382	447	409	403
	10	530	444	392	358	521	440	391	358	433	388	357	427	385	355	420	382	376

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	21.1 fc	7.9 ft
6.5 ft	15.1 fc	9.4 ft
7.5 ft	11.3 fc	10.8 ft
8.0 ft	10.0 fc	11.5 ft
10.0 ft	6.4 fc	14.4 ft
12.0 ft	4.4 fc	17.3 ft
14.0 ft	3.3 fc	20.2 ft
16.0 ft	2.5 fc	23.1 ft
20.0 ft	1.6 fc	28.8 ft
24.0 ft	1.1 fc	34.6 ft
28.0 ft	0.8 fc	40.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	22,006	22,006	22,006
45.00°	6,104	6,427	6,755
55.00°	1,394	1,531	1,671
65.00°	119	164	211
75.00°	37	31	39
85.00°	95	101	129

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	4.7	5.8	5.1	6.1	6.4	6.3	7.4	6.7	7.7	8.0
	3H	4.5	5.5	4.9	5.9	6.2	6.1	7.1	6.5	7.4	7.8
	4H	4.4	5.4	4.9	5.7	6.1	6.0	7.0	6.5	7.3	7.7
	6H	4.4	5.2	4.8	5.6	6.0	6.0	6.8	6.4	7.2	7.6
	8H	4.3	5.1	4.7	5.5	5.9	5.9	6.7	6.3	7.1	7.5
	12H	4.3	5.0	4.7	5.4	5.8	5.9	6.6	6.3	7.0	7.4
4H	2H	4.5	5.4	4.9	5.7	6.1	6.1	7.0	6.5	7.4	7.8
	3H	4.3	5.0	4.7	5.4	5.8	5.9	6.7	6.3	7.1	7.5
	4H	4.2	4.8	4.6	5.3	5.7	5.8	6.5	6.3	6.9	7.3
	6H	4.1	4.7	4.6	5.1	5.6	5.7	6.3	6.2	6.7	7.2
	8H	4.0	4.6	4.5	5.0	5.5	5.7	6.2	6.1	6.6	7.1
	12H	4.0	4.4	4.5	4.9	5.4	5.6	6.1	6.1	6.6	7.0
8H	4H	4.0	4.5	4.5	5.0	5.5	5.7	6.2	6.1	6.6	7.1
	6H	3.9	4.3	4.4	4.8	5.3	5.6	6.0	6.1	6.5	7.0
	8H	3.9	4.2	4.4	4.8	5.2	5.5	5.9	6.0	6.4	6.9
	12H	3.8	4.2	4.3	4.7	5.2	5.4	5.8	6.0	6.3	6.9
12H	4H	4.0	4.4	4.5	4.9	5.4	5.6	6.1	6.1	6.5	7.0
	6H	3.9	4.2	4.4	4.7	5.2	5.5	5.9	6.0	6.3	6.9
	8H	3.8	4.1	4.3	4.6	5.2	5.4	5.8	6.0	6.3	6.8

Corrected UGR values based on total output lumens

SHR = 1.0