

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGx9LEDFX-30L35KDX-AR9223FX-SG-SO

Nom 9" diam recessed downlight

Test Number

SP-00747_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	2539
Efficacy	101.57 lm/W

Luminous Dimensions

0° - 180° Size	-0.71
90° - 270° Size	-0.71
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.19
Two luminaires, plane 90°	1.19
Four luminaires	1.17

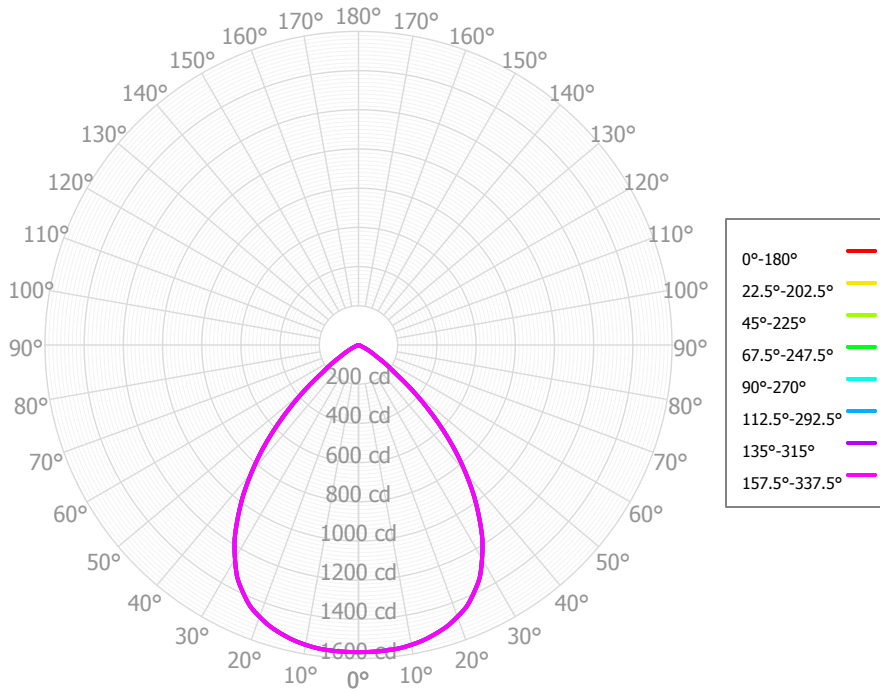
Full Beam Angle

0° - 180°	83°
90° - 270°	83°

IES File Header Contents

Keyword	Value
TEST	SP-00747_1
TESTLAB	Spectrum Lighting Photometric Lab
MANUFAC	Spectrum Lighting
ISSUEDATE	1/10/2019
UPDATE	3/5/2019
LUMCAT	SGx9LEDFX-30L35KDX-AR9223FX-SG-SO
LUMINAIRE	Nom 9" diam recessed downlight
OTHER	Trim: AR9223FX, Soft Glow
OTHER	Regressed Integral Solite lens
OTHER	Data for New Construction: SGE9LEDFX-series w/AR9223FX-SG-SO
OTHER	Data for Retrofit: SGRTE9LEDFX-series w/AR9223FX-SG-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

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	151.37	5.96%	90.00° - 100.00°	0.11	0.00%
10.00° - 20.00°	429.91	16.93%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	638.06	25.13%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	664.45	26.17%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	460.39	18.13%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	161.22	6.35%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	31.00	1.22%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	1.62	0.06%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.21	0.05%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	2,539.24	100.00%	0.00° - 180.00°	2,539.24	100.00%

Candela Distribution

[illegible]

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	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%
RCR	0	3,023	3,023	3,023	3,023	2,953	2,953	2,953	2,953	2,821	2,821	2,821	2,701	2,701	2,701	2,591	2,591	2,539
	1	2,855	2,774	2,701	2,635	2,791	2,718	2,652	2,592	2,614	2,561	2,512	2,519	2,476	2,437	2,431	2,397	2,349
	2	2,679	2,532	2,411	2,310	2,620	2,487	2,377	2,283	2,403	2,311	2,232	2,325	2,250	2,184	2,253	2,192	2,137
	3	2,507	2,313	2,162	2,042	2,453	2,276	2,137	2,025	2,206	2,089	1,992	2,142	2,043	1,959	2,083	2,000	1,928
	4	2,345	2,116	1,948	1,820	2,295	2,085	1,929	1,808	2,027	1,893	1,786	1,974	1,858	1,764	1,924	1,825	1,743
	5	2,194	1,941	1,763	1,633	2,148	1,915	1,749	1,625	1,866	1,721	1,609	1,821	1,694	1,594	1,779	1,668	1,579
	6	2,055	1,785	1,604	1,474	2,013	1,763	1,593	1,468	1,722	1,570	1,457	1,684	1,549	1,447	1,648	1,529	1,436
	7	1,927	1,647	1,465	1,338	1,889	1,628	1,456	1,334	1,593	1,439	1,326	1,560	1,422	1,318	1,529	1,405	1,311
	8	1,810	1,524	1,345	1,221	1,775	1,508	1,337	1,218	1,478	1,323	1,212	1,450	1,309	1,206	1,423	1,296	1,201
	9	1,703	1,415	1,239	1,120	1,672	1,402	1,233	1,117	1,375	1,221	1,113	1,351	1,210	1,108	1,327	1,199	1,104
	10	1,606	1,318	1,146	1,031	1,577	1,306	1,141	1,029	1,283	1,131	1,026	1,262	1,122	1,023	1,241	1,112	1,019

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	51.8 fc	9.7 ft
6.5 ft	37.1 fc	11.4 ft
7.5 ft	27.9 fc	13.2 ft
8.0 ft	24.5 fc	14.1 ft
10.0 ft	15.7 fc	17.6 ft
12.0 ft	10.9 fc	21.1 ft
14.0 ft	8.0 fc	24.7 ft
16.0 ft	6.1 fc	28.2 ft
20.0 ft	3.9 fc	35.2 ft
24.0 ft	2.7 fc	42.3 ft
28.0 ft	2.0 fc	49.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	42,614	42,614	42,614
45.00°	23,191	23,191	23,191
55.00°	8,086	8,086	8,086
65.00°	1,768	1,768	1,768
75.00°	111	111	111
85.00°	376	376	376

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	12.9	14.2	13.3	14.5	14.8	12.9	14.2	13.3	14.5	14.8
	3H	12.8	13.9	13.2	14.2	14.6	12.8	13.9	13.2	14.2	14.6
	4H	12.7	13.7	13.1	14.1	14.5	12.7	13.7	13.1	14.1	14.5
	6H	12.6	13.6	13.1	13.9	14.3	12.6	13.6	13.1	13.9	14.3
	8H	12.6	13.5	13.0	13.8	14.3	12.6	13.5	13.0	13.8	14.3
	12H	12.6	13.4	13.0	13.8	14.2	12.6	13.4	13.0	13.8	14.2
4H	2H	12.8	13.8	13.2	14.2	14.5	12.8	13.8	13.2	14.2	14.5
	3H	12.7	13.5	13.1	13.9	14.3	12.7	13.5	13.1	13.9	14.3
	4H	12.6	13.3	13.0	13.7	14.2	12.6	13.3	13.0	13.7	14.2
	6H	12.5	13.1	13.0	13.6	14.0	12.5	13.1	13.0	13.6	14.0
	8H	12.5	13.0	12.9	13.5	13.9	12.5	13.0	12.9	13.5	13.9
	12H	12.4	12.9	12.9	13.4	13.9	12.4	12.9	12.9	13.4	13.9
8H	4H	12.4	13.0	12.9	13.5	13.9	12.4	13.0	12.9	13.5	13.9
	6H	12.3	12.8	12.8	13.3	13.8	12.3	12.8	12.8	13.3	13.8
	8H	12.3	12.7	12.8	13.2	13.7	12.3	12.7	12.8	13.2	13.7
	12H	12.2	12.6	12.7	13.1	13.7	12.2	12.6	12.7	13.1	13.7
12H	4H	12.4	12.9	12.9	13.4	13.9	12.4	12.9	12.9	13.4	13.9
	6H	12.3	12.7	12.8	13.2	13.7	12.3	12.7	12.8	13.2	13.7
	8H	12.2	12.6	12.7	13.1	13.7	12.2	12.6	12.7	13.1	13.7

Corrected UGR values based on total output lumens

SHR = 1.0