

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGx9LEDFX-40L35KDX-AR9223FX-MW-SO

Nom 9" diam recessed downlight

Test Number

SP-00747_M-40L

Test Date

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

Summary of Results

Power

Input Watts	34.6 W
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Lumen Output

Output Lumens	3400
Efficacy	98.27 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.18
Two luminaires, plane 90°	1.18
Four luminaires	1.19

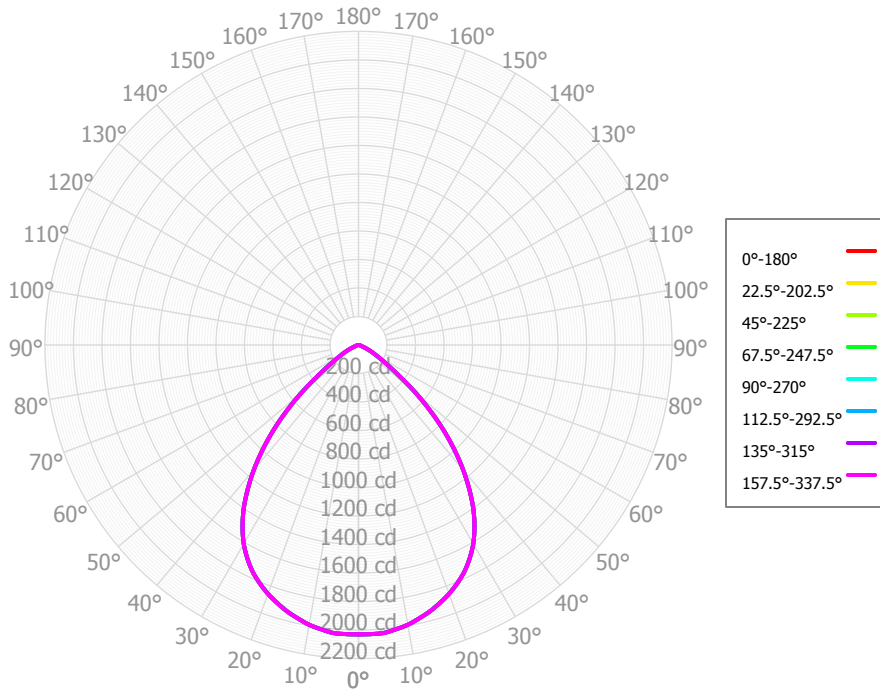
Full Beam Angle

0° - 180°	84°
90° - 270°	84°

IES File Header Contents

Keyword	Value
TEST	SP-00747_M-40L
TESTLAB	Spectrum Lighting Photometric Lab
MANUFAC	Spectrum Lighting
ISSUEDATE	1/10/2019
UPDATE	3/4/2019
LUMCAT	SGx9LEDFX-40L35KDX-AR9223FX-MW-SO
LUMINAIRE	Nom 9" diam recessed downlight
OTHER	Trim: AR9223FX, Matte White
OTHER	Regressed Integral Solite lens
OTHER	Data for New Construction: SGE9LEDFX-series w/AR9223FX-MW-SO
OTHER	Data for Retrofit: SGRTE9LEDFX-series w/AR9223FX-MW-SO
OTHER	Beam Angle: 84 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
_CRI	80+
_CCTMULT	27K x 0.95, 30K x 1.0, 40K x 1.08
_LAMPMULT	10L x 0.33, 15L x 0.51, 20L x 0.68, 30L x 1.0, 40L x 1.35

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	195.23	5.74%	90.00° - 100.00°	0.16	0.00%
10.00° - 20.00°	544.91	16.03%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	804.67	23.67%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	868.23	25.53%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	641.06	18.85%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	256.80	7.55%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	71.92	2.12%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	13.77	0.40%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	3.61	0.11%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	3,400.19	100.00%	0.00° - 180.00°	3,400.19	100.00%

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	4,048	4,048	4,048	4,048	3,954	3,954	3,954	3,954	3,778	3,778	3,778	3,617	3,617	3,617	3,470	3,470	3,400
	1	3,814	3,701	3,599	3,508	3,728	3,626	3,535	3,452	3,487	3,413	3,345	3,359	3,299	3,244	3,240	3,194	3,129
	2	3,569	3,366	3,198	3,057	3,489	3,305	3,152	3,022	3,192	3,064	2,954	3,087	2,982	2,890	2,990	2,904	2,828
	3	3,332	3,063	2,854	2,688	3,258	3,013	2,821	2,666	2,919	2,756	2,622	2,833	2,695	2,579	2,752	2,637	2,538
	4	3,110	2,793	2,562	2,385	3,042	2,752	2,536	2,369	2,674	2,487	2,340	2,601	2,441	2,311	2,534	2,396	2,283
	5	2,904	2,555	2,311	2,131	2,842	2,520	2,292	2,121	2,455	2,254	2,100	2,393	2,218	2,080	2,336	2,183	2,061
	6	2,715	2,345	2,096	1,918	2,658	2,315	2,081	1,910	2,260	2,051	1,896	2,207	2,023	1,882	2,159	1,995	1,868
	7	2,543	2,159	1,911	1,736	2,491	2,134	1,898	1,731	2,086	1,875	1,720	2,042	1,852	1,710	2,000	1,830	1,700
	8	2,386	1,995	1,749	1,581	2,338	1,974	1,740	1,577	1,933	1,720	1,569	1,894	1,702	1,561	1,858	1,684	1,553
	9	2,243	1,850	1,609	1,446	2,200	1,831	1,601	1,443	1,796	1,585	1,437	1,762	1,570	1,432	1,731	1,555	1,426
	10	2,113	1,721	1,486	1,330	2,074	1,705	1,479	1,327	1,674	1,466	1,323	1,645	1,453	1,318	1,617	1,441	1,314

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	67.1 fc	10.0 ft
6.5 ft	48.1 fc	11.8 ft
7.5 ft	36.1 fc	13.6 ft
8.0 ft	31.7 fc	14.5 ft
10.0 ft	20.3 fc	18.1 ft
12.0 ft	14.1 fc	21.7 ft
14.0 ft	10.4 fc	25.3 ft
16.0 ft	7.9 fc	29.0 ft
20.0 ft	5.1 fc	36.2 ft
24.0 ft	3.5 fc	43.5 ft
28.0 ft	2.6 fc	50.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	55,208	55,208	55,208
45.00°	32,367	32,367	32,367
55.00°	12,622	12,622	12,622
65.00°	4,476	4,476	4,476
75.00°	1,271	1,271	1,271
85.00°	990	990	990

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	15.8	17.1	16.2	17.4	17.7	15.8	17.1	16.2	17.4	17.7
	3H	15.9	17.0	16.3	17.3	17.7	15.9	17.0	16.3	17.3	17.7
	4H	15.8	16.9	16.2	17.2	17.6	15.8	16.9	16.2	17.2	17.6
	6H	15.8	16.7	16.2	17.1	17.5	15.8	16.7	16.2	17.1	17.5
	8H	15.7	16.6	16.2	17.0	17.4	15.7	16.6	16.2	17.0	17.4
	12H	15.7	16.6	16.1	16.9	17.4	15.7	16.6	16.1	16.9	17.4
4H	2H	15.8	16.9	16.2	17.2	17.6	15.8	16.9	16.2	17.2	17.6
	3H	15.9	16.8	16.3	17.2	17.6	15.9	16.8	16.3	17.2	17.6
	4H	15.9	16.6	16.3	17.0	17.5	15.9	16.6	16.3	17.0	17.5
	6H	15.8	16.5	16.3	16.9	17.4	15.8	16.5	16.3	16.9	17.4
	8H	15.8	16.4	16.3	16.8	17.3	15.8	16.4	16.3	16.8	17.3
	12H	15.8	16.3	16.2	16.8	17.2	15.8	16.3	16.2	16.8	17.2
8H	4H	15.8	16.4	16.2	16.8	17.3	15.8	16.4	16.2	16.8	17.3
	6H	15.7	16.2	16.2	16.7	17.2	15.7	16.2	16.2	16.7	17.2
	8H	15.7	16.1	16.2	16.6	17.1	15.7	16.1	16.2	16.6	17.1
	12H	15.6	16.0	16.2	16.5	17.1	15.6	16.0	16.2	16.5	17.1
12H	4H	15.7	16.2	16.2	16.7	17.2	15.7	16.2	16.2	16.7	17.2
	6H	15.7	16.1	16.2	16.6	17.1	15.7	16.1	16.2	16.6	17.1
	8H	15.6	16.0	16.1	16.5	17.1	15.6	16.0	16.1	16.5	17.1

Corrected UGR values based on total output lumens

SHR = 1.0