

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

SGx9LEDFX-30L35KDX-AR9223FX-MW-SO

Nom 9" diam recessed downlight

### **Test Number**

SP-00747

### **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	2519
Efficacy	100.75 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

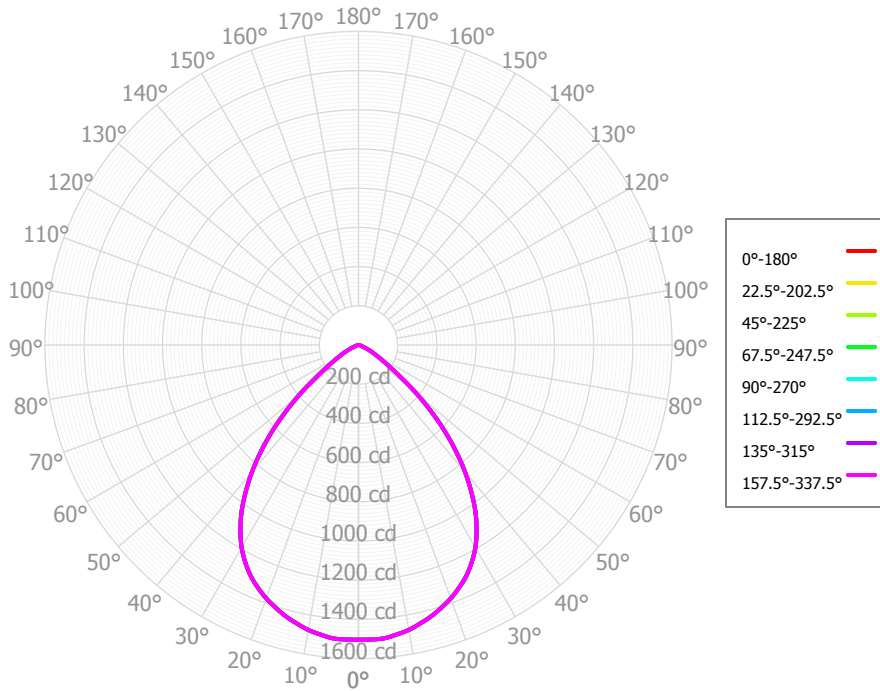
#### Full Beam Angle

0° - 180°	84°
90° - 270°	84°

### IES File Header Contents

Keyword	Value
TEST	SP-00747
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	1/10/2019
UPDATE	3/4/2019
LUMCAT	SGx9LEDFX-30L35KDX-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 80 CRI, 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°	144.61	5.74%	90.00° - 100.00°	0.12	0.00%
10.00° - 20.00°	403.63	16.03%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	596.06	23.67%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	643.13	25.53%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	474.86	18.85%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	190.22	7.55%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	53.27	2.12%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	10.20	0.40%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	2.67	0.11%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	2,518.66	100.00%	0.00° - 180.00°	2,518.66	100.00%



### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

<b>RCR</b>	<b>pfc</b>	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	<b>0</b>	2,999	2,999	2,999	2,999	2,929	2,929	2,929	2,929	2,799	2,799	2,799	2,679	2,679	2,679	2,570	2,570	2,519
	<b>1</b>	2,825	2,742	2,666	2,599	2,762	2,686	2,618	2,557	2,583	2,528	2,478	2,488	2,444	2,403	2,400	2,366	2,318
	<b>2</b>	2,644	2,493	2,369	2,264	2,584	2,448	2,335	2,238	2,364	2,270	2,188	2,287	2,209	2,140	2,215	2,151	2,095
	<b>3</b>	2,468	2,269	2,114	1,991	2,413	2,232	2,089	1,975	2,162	2,041	1,942	2,098	1,996	1,910	2,039	1,953	1,880
	<b>4</b>	2,304	2,069	1,897	1,766	2,253	2,038	1,879	1,755	1,981	1,842	1,733	1,927	1,808	1,712	1,877	1,775	1,691
	<b>5</b>	2,151	1,893	1,712	1,579	2,105	1,867	1,698	1,571	1,818	1,670	1,556	1,773	1,643	1,541	1,730	1,617	1,526
	<b>6</b>	2,011	1,737	1,553	1,421	1,969	1,715	1,541	1,415	1,674	1,519	1,404	1,635	1,498	1,394	1,599	1,478	1,383
	<b>7</b>	1,883	1,599	1,415	1,286	1,845	1,581	1,406	1,282	1,546	1,389	1,274	1,512	1,372	1,267	1,481	1,355	1,259
	<b>8</b>	1,767	1,478	1,296	1,171	1,732	1,462	1,289	1,168	1,432	1,274	1,162	1,403	1,261	1,156	1,376	1,247	1,151
	<b>9</b>	1,661	1,370	1,192	1,071	1,630	1,357	1,186	1,069	1,330	1,174	1,065	1,305	1,163	1,060	1,282	1,152	1,056
	<b>10</b>	1,565	1,275	1,101	985	1,536	1,263	1,096	983	1,240	1,086	980	1,218	1,077	977	1,198	1,067	973

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	49.7 fc	10.0 ft
6.5 ft	35.6 fc	11.8 ft
7.5 ft	26.7 fc	13.6 ft
8.0 ft	23.5 fc	14.5 ft
10.0 ft	15.0 fc	18.1 ft
12.0 ft	10.4 fc	21.7 ft
14.0 ft	7.7 fc	25.3 ft
16.0 ft	5.9 fc	29.0 ft
20.0 ft	3.8 fc	36.2 ft
24.0 ft	2.6 fc	43.5 ft
28.0 ft	1.9 fc	50.7 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	40,895	40,895	40,895
<b>45.00°</b>	23,976	23,976	23,976
<b>55.00°</b>	9,350	9,350	9,350
<b>65.00°</b>	3,316	3,316	3,316
<b>75.00°</b>	942	942	942
<b>85.00°</b>	733	733	733

### UGR CIE 190:2010

<b>Ceiling reflectance</b>		<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>
<b>Wall reflectance</b>		<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>
<b>Plane reflectance</b>		<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Room dimensions</b>		<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>2H</b>	<b>2H</b>	14.8	16.1	15.1	16.4	16.7	14.8	16.1	15.1	16.4	16.7
	<b>3H</b>	14.8	16.0	15.2	16.3	16.7	14.8	16.0	15.2	16.3	16.7
	<b>4H</b>	14.8	15.8	15.2	16.2	16.6	14.8	15.8	15.2	16.2	16.6
	<b>6H</b>	14.7	15.7	15.2	16.1	16.5	14.7	15.7	15.2	16.1	16.5
	<b>8H</b>	14.7	15.6	15.1	16.0	16.4	14.7	15.6	15.1	16.0	16.4
	<b>12H</b>	14.7	15.5	15.1	15.9	16.3	14.7	15.5	15.1	15.9	16.3
<b>4H</b>	<b>2H</b>	14.8	15.8	15.2	16.2	16.6	14.8	15.8	15.2	16.2	16.6
	<b>3H</b>	14.9	15.7	15.3	16.1	16.5	14.9	15.7	15.3	16.1	16.5
	<b>4H</b>	14.8	15.6	15.3	16.0	16.4	14.8	15.6	15.3	16.0	16.4
	<b>6H</b>	14.8	15.4	15.3	15.9	16.3	14.8	15.4	15.3	15.9	16.3
	<b>8H</b>	14.8	15.3	15.2	15.8	16.3	14.8	15.3	15.2	15.8	16.3
	<b>12H</b>	14.7	15.2	15.2	15.7	16.2	14.7	15.2	15.2	15.7	16.2
<b>8H</b>	<b>4H</b>	14.7	15.3	15.2	15.8	16.2	14.7	15.3	15.2	15.8	16.2
	<b>6H</b>	14.7	15.2	15.2	15.7	16.1	14.7	15.2	15.2	15.7	16.1
	<b>8H</b>	14.6	15.1	15.1	15.6	16.1	14.6	15.1	15.1	15.6	16.1
	<b>12H</b>	14.6	15.0	15.1	15.5	16.1	14.6	15.0	15.1	15.5	16.1
<b>12H</b>	<b>4H</b>	14.7	15.2	15.2	15.7	16.2	14.7	15.2	15.2	15.7	16.2
	<b>6H</b>	14.6	15.1	15.1	15.5	16.1	14.6	15.1	15.1	15.5	16.1
	<b>8H</b>	14.6	15.0	15.1	15.5	16.0	14.6	15.0	15.1	15.5	16.0

Corrected UGR values based on total output lumens

SHR = 1.0