

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

SGW6SQLEDFX 50L 35K XX CA0396FX PT WF SK

Nom 6 inch square downlight with platinum silver finish and Skytex lens

### **Test Number**

SP-01222\_1

### **Test Date**

5/25/2021

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

### Summary of Results

#### Power

Input Watts	38.3 W
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#### Lumen Output

Output Lumens	2406
Efficacy	62.81 lm/W

#### Luminous Dimensions

0° - 180° Size	0.4
90° - 270° Size	0.4
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	1.11
Two luminaires, plane 90°	0.82
Four luminaires	0.86

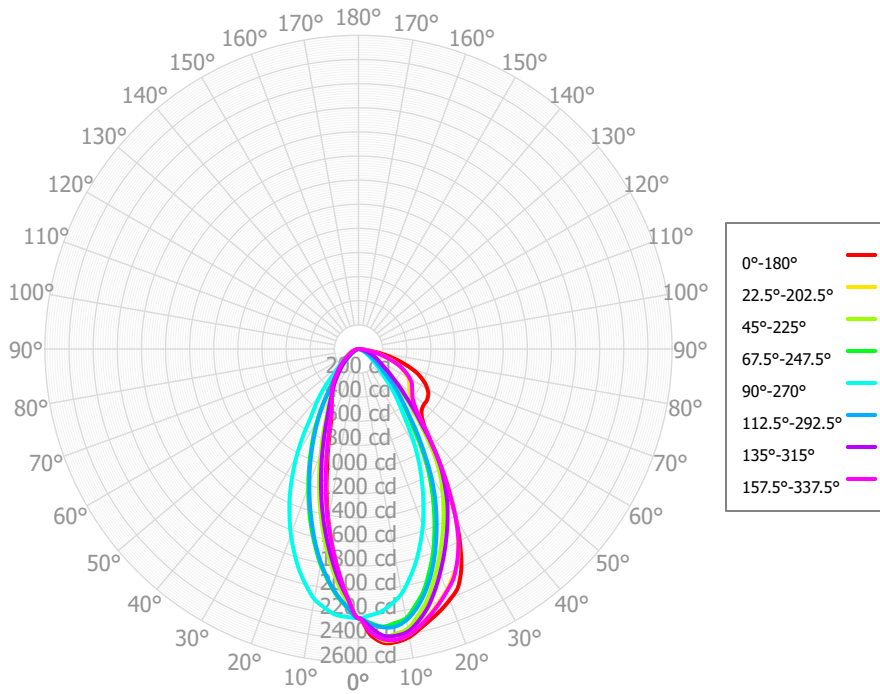
#### Full Beam Angle

0° - 180°	47°
90° - 270°	52°

### IES File Header Contents

Keyword	Value
TEST	SP-01222_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	5/25/2021
ISSUEDATE	6/7/2021
LUMCAT	SGW6SQLEDFX 50L 35K XX CA0396FX PT WF SK
LUMINAIRE	Nom 6 inch square downlight with platinum silver finish and Skytex lens
OTHER	Beam Angle: 47 deg x 52 deg
LAMPCAT	N/A
LAMP	FX Gen2
OTHER	CCT Output Multipliers: 27HK x 0.764, 30K x 0.96, 40K x 1.03, 50K x 1.04
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	80+
_CCTMULT	27HK x 0.77, 30K x 0.96, 40K x 1.03, 50K x 1.04
_LAMPMULT	10L x 0.18, 15L x 0.29, 20L x 0.39, 30L x 0.58, 40L x 0.78

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	203.50	8.46%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	481.87	20.03%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	557.52	23.18%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	451.85	18.78%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	289.04	12.02%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	199.68	8.30%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	139.43	5.80%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	69.05	2.87%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	13.56	0.56%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	2405.51	100.00%	0.00° - 180.00°	2405.51	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°	2232.46	2232.46	2232.46	2232.46	2232.46	2232.46	2232.46	2232.46	2232.46	2232.46	2232.46	2232.46	2232.46	2232.46	2232.46	2232.46	2232.46
2.50°	2377.72	2350.69	2327.17	2274.41	2211.22	2143.49	2069.91	2062.71	2078.60	2058.06	2105.21	2145.74	2224.04	2283.81	2312.35	2354.85	2377.72
5.00°	2447.59	2427.68	2392.66	2310.70	2183.89	2046.16	1914.29	1862.15	1864.82	1867.44	1956.03	2055.01	2211.34	2316.32	2387.25	2418.08	2447.59
7.50°	2449.20	2432.42	2382.14	2293.74	2129.42	1930.45	1738.37	1659.44	1651.73	1660.36	1786.56	1937.17	2163.66	2322.24	2397.26	2431.62	2449.20
10.00°	2425.69	2406.63	2354.72	2267.71	2060.22	1798.43	1560.49	1454.32	1439.09	1454.15	1613.23	1813.50	2107.06	2284.31	2377.93	2405.50	2425.69
12.50°	2372.79	2348.49	2268.23	2178.47	1950.34	1652.29	1379.33	1249.07	1222.50	1249.51	1433.84	1667.65	2007.71	2208.49	2308.81	2351.88	2372.79
15.00°	2321.15	2278.15	2171.55	2080.41	1833.54	1494.42	1200.03	1043.67	1003.55	1050.73	1253.49	1520.26	1898.98	2105.76	2218.81	2287.80	2321.15
17.50°	2270.92	2205.25	2043.59	1944.84	1699.12	1341.47	1023.58	863.33	827.76	861.42	1080.61	1367.59	1771.13	1981.55	2102.64	2217.13	2270.92
20.00°	2213.22	2131.50	1914.96	1805.15	1559.17	1192.24	861.67	706.92	675.36	707.13	908.68	1216.98	1639.73	1840.31	1976.69	2140.11	2213.22
22.50°	2148.06	2042.27	1784.45	1644.70	1406.63	1049.88	719.81	597.02	582.87	605.59	767.91	1072.66	1495.44	1686.71	1850.37	2059.47	2148.06
25.00°	2016.82	1948.31	1654.80	1482.37	1253.79	912.24	602.61	527.60	519.64	526.89	630.51	933.37	1349.03	1529.18	1723.93	1938.44	2016.82
27.50°	1825.36	1788.36	1527.31	1317.93	1100.30	785.06	517.24	477.05	478.90	479.47	544.40	807.66	1188.68	1369.06	1597.93	1795.97	1825.36
30.00°	1612.41	1610.73	1399.09	1153.36	941.68	664.60	447.22	441.67	448.38	439.14	462.41	682.44	1026.49	1193.24	1472.07	1609.36	1612.41
32.50°	1381.10	1412.14	1269.20	969.44	773.29	548.03	395.20	407.68	417.63	407.64	407.81	558.45	856.60	1007.75	1331.09	1401.63	1381.10
35.00°	1172.38	1208.69	1122.43	784.80	629.56	433.71	344.60	374.72	386.78	372.81	354.68	446.76	685.92	841.00	1186.10	1203.68	1172.38
37.50°	981.24	1023.34	940.52	661.49	528.22	350.56	295.54	337.58	353.73	334.11	308.12	362.42	583.22	684.71	1005.84	1009.93	981.24
40.00°	857.23	841.73	774.65	539.53	429.04	283.82	253.37	297.62	319.89	297.30	261.80	288.47	486.27	569.84	817.50	859.39	857.23
42.50°	780.70	732.80	638.88	440.51	333.23	229.67	218.11	262.86	283.40	262.51	228.46	235.28	383.59	475.82	678.75	726.02	780.70
45.00°	738.58	636.56	520.60	342.65	259.06	181.70	188.36	231.29	246.03	228.97	195.37	187.69	280.57	384.24	550.17	656.34	738.58
47.50°	719.23	589.73	431.96	287.76	216.41	147.62	163.62	199.56	212.56	196.63	169.90	150.18	237.16	293.80	458.69	609.17	719.23
50.00°	711.32	549.99	352.04	233.42	176.60	119.65	137.26	167.74	180.22	167.54	144.42	118.55	195.69	238.63	373.61	582.01	711.32
52.50°	710.29	530.84	285.93	191.79	140.54	97.59	109.56	142.17	156.40	141.39	118.82	96.80	159.44	198.27	311.46	561.10	710.29
55.00°	700.83	514.22	234.46	151.59	112.03	77.86	88.74	119.84	134.76	119.71	93.72	78.55	123.37	166.41	252.56	542.17	700.83
57.50°	686.81	494.57	204.03	131.81	92.61	63.71	73.21	101.79	116.76	101.74	77.85	65.62	102.78	137.74	219.64	523.81	686.81
60.00°	659.23	474.63	176.93	112.00	75.55	51.59	60.41	85.73	99.59	85.74	62.31	53.55	82.35	113.09	189.85	491.81	659.23
62.50°	624.82	440.51	154.20	91.88	61.17	42.05	49.54	71.94	86.69	71.23	50.84	42.67	66.82	89.83	165.01	456.44	624.82
65.00°	579.40	405.46	132.18	72.20	47.62	33.33	40.10	59.12	74.63	59.63	39.74	32.78	51.48	70.97	140.63	414.21	579.40
67.50°	529.00	362.90	111.06	56.24	34.93	25.66	31.56	48.60	65.72	50.09	32.19	24.17	39.27	53.44	118.18	370.53	529.00
70.00°	460.46	319.99	90.52	41.22	24.80	18.30	24.55	38.95	57.33	41.26	25.01	17.63	27.38	41.36	95.85	315.06	460.46
72.50°	384.54	262.51	70.65	32.63	17.05	13.77	18.42	30.99	47.13	32.88	20.64	13.53	19.54	30.73	77.28	257.35	384.54
75.00°	306.15	204.68	52.62	24.35	11.93	9.96	14.12	23.60	36.68	25.54	16.40	10.53	12.21	23.10	58.90	201.61	306.15
77.50°	226.83	151.15	36.44	17.78	9.10	8.40	10.81	17.93	25.80	18.80	13.04	8.73	9.82	16.20	44.16	146.18	226.83
80.00°	150.31	97.81	23.17	11.73	7.11	7.33	8.06	12.81	14.86	13.96	9.94	7.49	7.53	12.19	29.51	97.23	150.31
82.50°	74.72	56.18	12.65	8.27	5.78	5.93	5.58	9.28	10.43	10.14	8.32	6.82	6.01	8.77	18.94	49.09	74.72
85.00°	36.30	15.91	6.52	5.18	4.38	4.46	4.04	6.18	6.55	7.04	6.57	5.59	4.51	6.08	8.52	26.00	36.30
87.50°	8.76	9.02	4.18	3.66	2.93	3.05	2.92	4.09	4.25	4.29	4.19	3.84	3.18	3.53	5.25	5.59	8.76
90.00°	2.64	2.53	2.84	2.45	2.20	1.64	2.27	2.25	2.06	2.83	2.29	3.25	2.05	2.60	2.10	3.26	2.64

### 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%	20%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	<b>0</b>	2864	2864	2864	2864	2797	2797	2797	2797	2673	2673	2673	2559	2559	2559	2455	2455	2455	2406
	<b>1</b>	2683	2596	2519	2449	2621	2543	2473	2409	2444	2387	2334	2353	2307	2264	2268	2232	2198	2186
	<b>2</b>	2503	2351	2226	2120	2445	2308	2193	2096	2227	2131	2049	2152	2073	2004	2083	2018	1960	1977
	<b>3</b>	2337	2140	1987	1865	2284	2104	1963	1850	2037	1917	1819	1975	1874	1789	1918	1833	1760	1796
	<b>4</b>	2186	1958	1791	1664	2138	1929	1773	1653	1873	1739	1632	1822	1706	1612	1774	1674	1592	1641
	<b>5</b>	2050	1802	1629	1501	2006	1777	1615	1493	1731	1588	1479	1687	1563	1465	1647	1538	1451	1508
	<b>6</b>	1927	1666	1491	1366	1886	1645	1480	1360	1606	1459	1350	1569	1439	1340	1535	1420	1330	1393
	<b>7</b>	1815	1547	1374	1252	1779	1530	1365	1248	1496	1349	1241	1465	1332	1234	1436	1317	1226	1293
	<b>8</b>	1714	1443	1273	1156	1681	1428	1266	1153	1399	1252	1147	1372	1239	1142	1347	1226	1136	1205
	<b>9</b>	1622	1350	1184	1072	1592	1338	1179	1070	1313	1168	1066	1290	1157	1062	1268	1146	1057	1128
	<b>10</b>	1538	1268	1107	1000	1511	1257	1102	998	1236	1093	995	1215	1084	991	1196	1075	988	1059

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	73.8 fc	5.0 ft
6.5 ft	52.8 fc	5.9 ft
7.5 ft	39.7 fc	6.8 ft
8.0 ft	34.9 fc	7.2 ft
10.0 ft	22.3 fc	9.1 ft
12.0 ft	15.5 fc	10.9 ft
14.0 ft	11.4 fc	12.7 ft
16.0 ft	8.7 fc	14.5 ft
20.0 ft	5.6 fc	18.1 ft
24.0 ft	3.9 fc	21.7 ft
28.0 ft	2.8 fc	25.3 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	150188	150188	150188
<b>45.00°</b>	70269	49530	24647
<b>55.00°</b>	82200	27500	13139
<b>65.00°</b>	92232	21042	7580
<b>75.00°</b>	79577	13677	3100
<b>85.00°</b>	28020	5030	3381

### 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	28.3	29.6	28.7	30.0	30.3	14.1	15.4	14.5	15.7	16.0
	3H	30.9	32.0	31.3	32.4	32.7	14.8	16.0	15.2	16.3	16.7
	4H	31.7	32.8	32.1	33.2	33.5	15.0	16.1	15.4	16.4	16.8
	6H	32.2	33.2	32.6	33.6	34.0	15.0	16.0	15.5	16.4	16.8
	8H	32.3	33.2	32.7	33.6	34.0	15.1	16.0	15.5	16.4	16.8
	12H	32.3	33.2	32.7	33.6	34.0	15.1	16.0	15.5	16.4	16.8
4H	2H	28.2	29.3	28.6	29.6	30.0	14.4	15.5	14.8	15.8	16.2
	3H	31.0	31.9	31.4	32.3	32.7	15.2	16.1	15.6	16.5	16.9
	4H	32.0	32.8	32.4	33.2	33.6	15.4	16.2	15.8	16.6	17.0
	6H	32.6	33.3	33.0	33.7	34.2	15.5	16.2	16.0	16.6	17.1
	8H	32.7	33.3	33.1	33.8	34.2	15.6	16.2	16.0	16.7	17.1
	12H	32.7	33.3	33.2	33.7	34.2	15.7	16.2	16.1	16.7	17.2
8H	4H	31.9	32.5	32.3	32.9	33.4	15.5	16.2	16.0	16.6	17.1
	6H	32.5	33.0	33.0	33.5	34.0	15.7	16.3	16.2	16.7	17.2
	8H	32.6	33.1	33.2	33.6	34.1	15.9	16.3	16.4	16.8	17.3
	12H	32.7	33.1	33.2	33.6	34.2	16.0	16.4	16.5	16.9	17.5
12H	4H	31.8	32.4	32.3	32.9	33.3	15.5	16.1	16.0	16.6	17.0
	6H	32.5	32.9	33.0	33.4	33.9	15.8	16.2	16.3	16.7	17.2
	8H	32.6	33.0	33.1	33.5	34.1	15.9	16.3	16.5	16.8	17.4

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0