

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

SGW6SQLEDFX 50L 35K XX CA0396FX MW WF SK

Nom 6 inch square downlight with matte white finish and Skytex lens

Test Number

SP-01222

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	2694
Efficacy	70.35 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°	0.79
Four luminaires	0.88

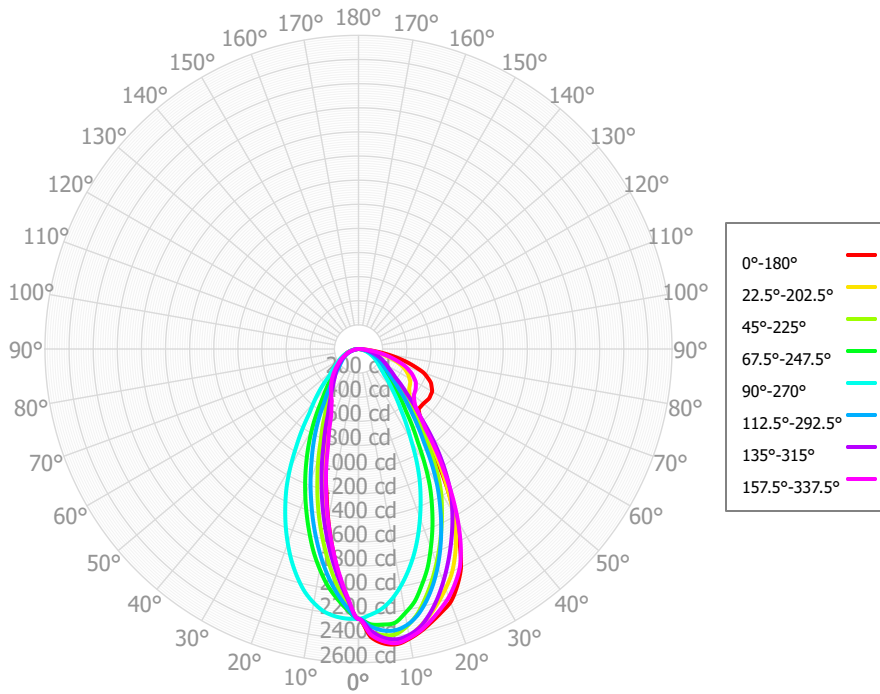
Full Beam Angle

0° - 180°	46°
90° - 270°	53°

IES File Header Contents

Keyword	Value
TEST	SP-01222
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 MW WF SK
LUMINAIRE	Nom 6 inch square downlight with matte white finish and Skytex lens
OTHER	Beam Angle: 46 deg x 53 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°	204.27	7.58%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	486.06	18.04%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	566.91	21.04%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	472.36	17.53%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	332.18	12.33%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	264.14	9.80%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	211.98	7.87%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	126.46	4.69%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	29.95	1.11%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	2694.31	100.00%	0.00° - 180.00°	2694.31	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°	2237.88	2237.88	2237.88	2237.88	2237.88	2237.88	2237.88	2237.88	2237.88	2237.88	2237.88	2237.88	2237.88	2237.88	2237.88	2237.88	2237.88
2.50°	2392.46	2361.15	2341.77	2284.94	2207.32	2146.36	2074.92	2059.89	2080.60	2074.70	2127.42	2162.84	2238.23	2303.14	2337.81	2372.50	2392.46
5.00°	2452.39	2431.45	2381.73	2294.20	2165.89	2033.99	1906.06	1862.82	1876.61	1877.99	1978.28	2074.66	2224.93	2343.16	2404.22	2434.60	2452.39
7.50°	2468.04	2442.22	2384.69	2291.54	2096.18	1908.29	1729.53	1656.42	1659.18	1677.64	1816.93	1976.20	2195.66	2351.96	2427.97	2459.70	2468.04
10.00°	2439.25	2416.84	2332.05	2224.82	2001.85	1765.18	1546.68	1447.62	1441.48	1475.19	1649.29	1852.96	2137.66	2323.56	2408.89	2432.41	2439.25
12.50°	2396.85	2356.83	2252.38	2146.98	1891.57	1614.18	1363.93	1237.95	1223.63	1270.01	1479.50	1721.67	2061.31	2262.04	2360.76	2389.47	2396.85
15.00°	2343.32	2284.55	2139.71	2027.69	1769.98	1461.11	1181.26	1037.44	1053.92	1063.57	1306.63	1574.99	1959.36	2167.40	2276.43	2328.49	2343.32
17.50°	2288.76	2202.69	2019.11	1903.94	1634.52	1307.32	1010.53	839.49	905.90	886.71	1132.98	1430.65	1843.86	2052.14	2172.32	2261.95	2288.76
20.00°	2233.53	2113.13	1890.39	1753.85	1491.12	1162.20	846.44	707.95	760.42	720.48	973.00	1290.03	1714.49	1920.06	2055.03	2190.03	2233.53
22.50°	2133.91	2018.54	1760.11	1602.26	1346.02	1019.40	715.36	590.46	659.73	623.34	815.63	1153.00	1579.31	1775.69	1932.03	2098.32	2133.91
25.00°	2009.77	1893.20	1628.54	1442.86	1200.12	892.32	598.85	531.75	559.04	545.77	701.86	1020.59	1436.46	1623.16	1807.66	1991.01	2009.77
27.50°	1817.41	1751.72	1498.24	1282.24	1039.43	768.38	523.38	481.34	489.38	503.10	593.45	894.17	1291.13	1465.89	1682.81	1835.83	1817.41
30.00°	1595.09	1570.89	1368.81	1097.82	873.28	649.89	461.98	452.59	462.96	467.58	530.25	774.04	1128.49	1305.99	1556.27	1649.98	1595.09
32.50°	1370.40	1373.70	1216.81	917.45	738.38	532.10	414.32	425.54	438.57	440.82	469.88	658.45	961.50	1130.90	1429.28	1449.11	1370.40
35.00°	1144.90	1180.86	1052.44	777.46	612.23	452.12	370.35	398.59	416.49	415.26	424.47	546.87	812.80	949.16	1269.10	1240.27	1144.90
37.50°	972.50	989.48	892.93	644.45	519.18	374.78	336.75	371.68	391.49	387.28	379.70	463.42	667.34	810.16	1102.71	1049.77	972.50
40.00°	814.30	841.80	735.61	553.65	433.17	329.48	305.13	346.48	363.70	359.09	346.36	400.11	576.05	685.69	929.84	866.98	814.30
42.50°	751.54	705.00	623.43	465.15	366.19	285.05	283.62	321.17	335.27	333.57	314.00	344.94	490.76	580.89	756.14	755.00	751.54
45.00°	707.00	633.31	527.09	386.29	301.92	250.00	263.36	294.55	306.34	308.07	292.10	294.48	409.30	481.32	644.64	666.07	707.00
47.50°	702.88	573.01	444.34	317.57	265.27	216.28	241.33	268.24	279.45	281.43	270.08	259.22	328.06	410.01	537.35	626.84	702.88
50.00°	703.74	550.07	365.18	281.60	230.83	197.89	219.17	244.31	253.85	255.12	247.22	231.21	292.60	344.06	460.32	600.18	703.74
52.50°	708.96	531.54	318.84	248.91	209.35	180.06	199.46	221.05	231.44	233.08	225.12	208.89	257.78	301.38	384.72	588.08	708.96
55.00°	714.49	519.97	279.01	224.38	188.32	165.94	179.94	201.11	210.66	211.28	206.44	188.69	231.24	261.54	341.75	578.57	714.49
57.50°	709.86	508.80	249.18	200.35	169.59	152.15	164.77	181.41	190.61	191.25	187.88	172.01	205.36	234.83	300.01	563.71	709.86
60.00°	704.50	487.62	220.64	177.30	150.90	139.94	149.48	162.56	170.87	171.46	169.75	156.33	185.60	209.03	272.10	548.26	704.50
62.50°	683.96	466.14	198.88	155.40	132.76	127.06	132.79	144.06	152.51	152.81	152.40	142.28	165.99	186.53	244.79	519.15	683.96
65.00°	661.68	438.04	177.57	135.35	114.88	111.88	116.50	126.54	135.08	134.91	137.13	128.58	147.35	164.15	221.48	489.27	661.68
67.50°	620.09	408.42	153.94	116.45	98.98	97.23	102.83	110.15	119.90	119.76	121.82	113.30	128.72	143.65	197.50	449.10	620.09
70.00°	573.42	363.56	130.32	99.07	83.32	83.98	88.67	96.27	107.05	104.55	106.42	97.78	110.18	123.39	170.39	407.92	573.42
72.50°	492.74	316.74	108.87	82.52	68.85	70.39	72.20	81.95	92.98	89.16	91.06	84.79	92.71	105.79	144.16	346.53	492.74
75.00°	409.95	257.99	87.36	66.86	54.62	56.10	56.39	66.88	73.89	73.69	75.74	72.00	78.65	88.61	120.97	285.19	409.95
77.50°	317.58	198.07	65.22	51.59	41.31	42.38	42.85	51.73	54.80	58.00	60.76	57.27	64.47	74.24	97.55	224.22	317.58
80.00°	224.96	132.92	43.68	36.65	28.36	29.66	29.68	36.47	39.17	42.71	46.26	42.55	50.00	59.59	73.57	163.49	224.96
82.50°	131.48	74.13	26.29	23.03	16.47	18.42	17.49	22.86	23.94	28.12	32.75	31.07	36.20	43.68	50.92	104.18	131.48
85.00°	55.06	35.98	11.09	10.38	7.23	9.21	7.99	11.24	13.62	15.96	20.34	19.79	23.75	28.52	31.11	51.14	55.06
87.50°	23.66	7.66	6.19	4.58	3.91	3.73	4.08	4.55	3.60	7.33	11.15	11.05	13.43	15.94	15.64	24.92	23.66
90.00°	2.34	3.85	2.38	2.84	1.75	2.55	1.69	2.65	2.46	2.40	4.92	3.27	6.51	6.31	7.51	4.65	2.34

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%	0%
	0	3208	3208	3208	3208	3133	3133	3133	3133	2994	2994	2994	2866	2866	2866	2749	2749	2694
	1	2981	2873	2777	2690	2910	2813	2726	2647	2701	2630	2564	2598	2540	2486	2502	2456	2405
	2	2761	2575	2422	2292	2695	2526	2385	2266	2434	2316	2214	2348	2251	2165	2270	2189	2143
	3	2564	2324	2139	1992	2502	2284	2113	1975	2207	2061	1941	2136	2013	1909	2071	1967	1926
	4	2388	2113	1913	1760	2331	2080	1893	1748	2016	1854	1725	1957	1817	1704	1902	1781	1745
	5	2231	1935	1728	1575	2179	1906	1712	1567	1853	1682	1551	1803	1653	1536	1756	1626	1594
	6	2090	1781	1574	1425	2044	1757	1562	1419	1712	1538	1408	1670	1515	1397	1630	1494	1465
	7	1964	1649	1444	1301	1922	1628	1434	1296	1590	1415	1288	1554	1397	1280	1520	1380	1354
	8	1851	1533	1333	1196	1813	1516	1325	1193	1483	1310	1186	1452	1295	1180	1423	1281	1258
	9	1749	1432	1237	1106	1714	1417	1231	1104	1388	1218	1099	1361	1206	1094	1336	1194	1174
	10	1656	1342	1154	1028	1625	1329	1148	1027	1304	1138	1023	1281	1128	1019	1259	1118	1100

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	74.0 fc	4.9 ft
6.5 ft	53.0 fc	5.8 ft
7.5 ft	39.8 fc	6.7 ft
8.0 ft	35.0 fc	7.2 ft
10.0 ft	22.4 fc	8.9 ft
12.0 ft	15.5 fc	10.7 ft
14.0 ft	11.4 fc	12.5 ft
16.0 ft	8.7 fc	14.3 ft
20.0 ft	5.6 fc	17.9 ft
24.0 ft	3.9 fc	21.5 ft
28.0 ft	2.9 fc	25.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	150552	150552	150552
45.00°	67264	50147	28725
55.00°	83803	32725	22087
65.00°	105330	28267	18287
75.00°	106558	22707	14198
85.00°	42499	8556	5584

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	28.2	29.6	28.5	29.9	30.2	19.6	21.0	20.0	21.3	21.7
	3H	31.2	32.5	31.6	32.8	33.2	21.4	22.7	21.8	23.0	23.4
	4H	32.3	33.5	32.7	33.9	34.3	22.1	23.2	22.5	23.6	24.0
	6H	33.1	34.1	33.5	34.5	34.9	22.5	23.6	23.0	24.0	24.4
	8H	33.2	34.3	33.7	34.7	35.1	22.7	23.7	23.1	24.1	24.5
	12H	33.3	34.3	33.7	34.7	35.1	22.8	23.8	23.2	24.2	24.6
4H	2H	28.1	29.3	28.5	29.7	30.0	20.3	21.4	20.7	21.8	22.2
	3H	31.4	32.4	31.9	32.8	33.2	22.2	23.2	22.6	23.6	24.0
	4H	32.7	33.6	33.2	34.0	34.5	23.0	23.9	23.4	24.3	24.7
	6H	33.6	34.4	34.1	34.8	35.3	23.6	24.3	24.0	24.8	25.2
	8H	33.8	34.5	34.3	35.0	35.5	23.7	24.5	24.2	24.9	25.4
	12H	33.9	34.6	34.4	35.0	35.5	23.9	24.5	24.4	25.0	25.5
8H	4H	32.7	33.4	33.2	33.9	34.3	23.3	24.0	23.7	24.4	24.9
	6H	33.7	34.2	34.2	34.7	35.2	24.0	24.5	24.5	25.0	25.5
	8H	33.9	34.5	34.4	35.0	35.5	24.2	24.7	24.7	25.2	25.7
	12H	34.1	34.5	34.6	35.0	35.6	24.4	24.9	24.9	25.4	25.9
12H	4H	32.7	33.3	33.1	33.8	34.3	23.3	23.9	23.8	24.4	24.9
	6H	33.6	34.2	34.2	34.6	35.2	24.0	24.5	24.5	25.0	25.5
	8H	33.9	34.4	34.4	34.9	35.4	24.3	24.7	24.8	25.2	25.8

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0