

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGE6SQLEDFX 50L 35K XX CA0366FX MW WF SO
Nom 6 inch square downlight with matte white finish and Solite lens

Test Number

SP-01219

Test Date

5/6/2021

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	4255
Efficacy	111.09 lm/W

Luminous Dimensions

0° - 180° Size	0.5
90° - 270° Size	0.5
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.07
Two luminaires, plane 90°	1.07
Four luminaires	1.11

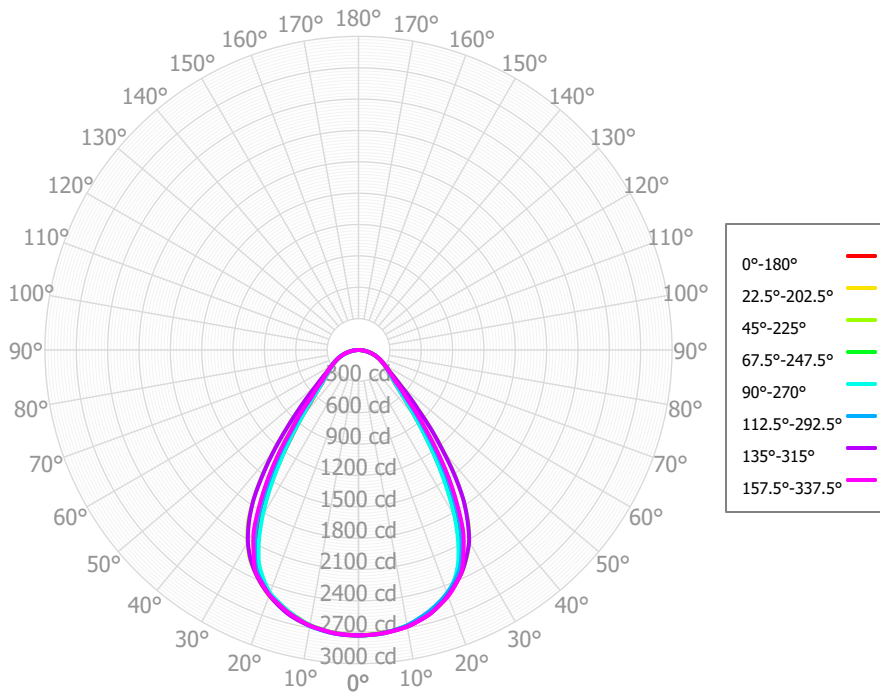
Full Beam Angle

0° - 180°	69°
90° - 270°	69°

IES File Header Contents

Keyword	Value
TEST	SP-01219
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	5/6/2021
ISSUEDATE	6/7/2021
LUMCAT	SGE6SQLEDFX 50L 35K XX CA0366FX MW WF SO
LUMINAIRE	Nom 6 inch square downlight with matte white finish and Solite lens
OTHER	Beam Angle: 69 degrees
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°	262.12	6.16%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	732.66	17.22%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	1046.96	24.61%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	933.74	21.95%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	532.98	12.53%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	324.73	7.63%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	234.43	5.51%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	141.94	3.34%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	45.29	1.06%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	4254.84	100.00%	0.00° - 180.00°	4254.84	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°	2731.20	2731.20	2731.20	2731.20	2731.20	2731.20	2731.20	2731.20	2731.20	2731.20	2731.20	2731.20	2731.20	2731.20	2731.20	2731.20	2731.20
2.50°	2727.54	2724.45	2726.33	2729.23	2729.59	2728.37	2730.33	2724.88	2729.46	2724.47	2727.53	2725.83	2727.14	2727.55	2727.98	2727.70	2727.54
5.00°	2717.63	2717.35	2716.27	2723.06	2721.22	2722.41	2721.60	2717.01	2718.01	2716.17	2716.11	2716.66	2719.23	2719.57	2718.21	2722.42	2717.63
7.50°	2704.34	2704.68	2701.00	2702.99	2703.72	2704.58	2701.70	2698.48	2700.93	2699.97	2698.71	2696.22	2701.14	2700.07	2703.99	2706.74	2704.34
10.00°	2685.25	2684.81	2678.11	2680.75	2678.71	2683.37	2678.89	2678.50	2674.17	2679.98	2676.38	2674.41	2676.16	2675.45	2687.74	2688.37	2685.25
12.50°	2654.27	2651.83	2650.73	2644.98	2643.90	2646.29	2650.54	2640.04	2642.47	2645.43	2651.08	2632.62	2637.50	2635.57	2657.31	2654.86	2654.27
15.00°	2603.96	2609.36	2616.93	2606.75	2600.11	2605.03	2612.90	2599.34	2598.19	2604.06	2609.70	2588.71	2589.79	2591.99	2620.77	2618.27	2603.96
17.50°	2548.32	2545.52	2568.67	2554.76	2545.16	2550.07	2558.48	2546.27	2547.63	2554.49	2559.13	2534.89	2533.76	2538.12	2564.61	2565.03	2548.32
20.00°	2484.46	2485.52	2500.78	2498.87	2475.67	2491.61	2497.67	2491.90	2481.68	2501.31	2496.48	2480.08	2472.52	2477.61	2500.23	2507.50	2484.46
22.50°	2394.65	2410.44	2426.23	2422.12	2389.02	2406.43	2425.59	2414.68	2408.48	2423.77	2427.31	2399.09	2373.85	2399.09	2423.85	2428.74	2394.65
25.00°	2265.74	2307.28	2343.08	2330.92	2254.87	2314.98	2343.10	2335.21	2267.75	2336.12	2343.19	2315.88	2252.95	2297.61	2342.74	2335.37	2265.74
27.50°	2091.91	2159.23	2240.95	2169.01	2065.84	2146.75	2243.18	2173.88	2097.01	2177.15	2251.17	2154.24	2064.62	2137.55	2234.92	2175.88	2091.91
30.00°	1853.83	1974.19	2114.88	1927.17	1840.37	1961.92	2117.54	2005.70	1860.61	1989.30	2119.27	1987.08	1837.13	1952.27	2117.18	2001.27	1853.83
32.50°	1601.18	1733.05	1952.60	1748.27	1574.88	1715.87	1951.14	1763.53	1595.76	1747.63	1967.45	1746.12	1582.28	1706.48	1944.00	1760.64	1601.18
35.00°	1328.76	1485.27	1746.92	1502.82	1315.88	1457.07	1752.78	1516.25	1329.52	1485.49	1754.39	1500.42	1312.37	1458.23	1750.81	1516.92	1328.76
37.50°	1079.62	1227.94	1518.11	1250.69	1063.68	1210.38	1504.89	1260.91	1062.71	1230.66	1512.44	1252.66	1072.44	1204.25	1509.94	1260.79	1079.62
40.00°	861.42	995.55	1262.95	1011.32	853.57	965.99	1259.91	1005.05	857.19	978.44	1265.08	1004.80	848.10	971.30	1252.95	1018.29	861.42
42.50°	686.89	798.28	1030.62	822.93	686.50	791.20	1019.20	820.12	675.19	792.57	1015.22	824.58	688.30	784.68	1026.87	826.54	686.89
45.00°	567.51	639.25	823.74	652.91	562.79	628.45	812.37	638.66	561.50	629.30	817.91	646.84	561.30	626.49	810.56	653.59	567.51
47.50°	477.12	531.35	657.17	550.86	481.25	532.86	652.83	541.96	473.33	526.82	643.42	546.51	478.45	527.42	657.30	548.53	477.12
50.00°	421.51	447.87	533.37	459.80	420.80	448.38	525.11	448.26	418.96	444.10	526.65	448.58	416.80	444.33	523.01	455.54	421.51
52.50°	376.70	395.44	439.87	407.31	379.86	398.84	440.87	399.80	376.43	393.50	433.45	398.66	374.00	393.68	439.60	403.13	376.70
55.00°	344.39	351.77	376.91	359.34	345.75	354.50	374.13	352.51	343.75	352.64	373.11	349.60	339.75	349.42	370.73	355.83	344.39
57.50°	313.99	319.00	327.76	326.45	317.84	325.06	330.09	320.45	314.30	321.23	325.85	318.20	310.30	317.42	325.67	324.52	313.99
60.00°	285.74	289.09	291.83	295.15	291.37	297.59	292.83	288.64	287.33	292.48	290.62	286.89	282.95	287.11	286.92	294.21	285.74
62.50°	258.45	262.57	261.05	268.82	266.15	270.86	263.92	261.52	261.14	266.05	259.90	259.79	257.25	259.88	258.61	266.94	258.45
65.00°	232.19	236.34	235.10	242.73	240.55	244.23	236.41	234.45	235.77	240.25	234.23	232.71	232.23	233.25	232.87	239.85	232.19
67.50°	206.56	210.46	209.61	217.32	214.65	218.93	210.56	209.67	210.65	214.62	210.35	207.73	206.23	207.65	208.42	213.29	206.56
70.00°	181.57	184.50	184.52	192.10	189.77	193.77	185.32	184.87	186.11	189.04	185.23	182.72	179.84	181.40	184.28	187.42	181.57
72.50°	156.24	158.45	159.67	167.42	165.70	167.96	160.78	159.17	161.72	163.51	159.70	156.77	152.79	154.06	158.59	163.37	156.24
75.00°	130.57	132.32	135.01	142.33	139.85	142.08	136.13	133.44	134.99	137.99	134.41	130.82	125.50	127.68	132.56	138.66	130.57
77.50°	105.37	106.09	110.12	116.16	112.66	115.26	111.34	106.95	107.63	112.14	109.19	105.17	100.08	102.83	107.96	112.20	105.37
80.00°	80.60	81.55	85.04	90.57	87.05	88.37	86.90	80.61	82.50	86.22	85.93	79.69	75.32	78.97	83.65	86.55	80.60
82.50°	57.29	58.69	61.96	66.44	62.58	65.12	62.82	57.83	57.93	63.57	63.25	58.22	54.02	56.59	61.83	62.88	57.29
85.00°	35.28	37.31	40.44	43.56	40.67	42.15	40.60	35.35	36.82	41.60	41.28	37.10	33.87	36.12	40.50	40.88	35.28
87.50°	19.16	17.36	23.23	23.73	20.53	24.52	20.28	19.08	16.50	24.26	19.52	21.61	19.82	18.50	24.34	22.75	19.16
90.00°	8.19	6.48	9.24	8.71	9.21	7.21	8.46	3.71	8.49	7.80	11.38	7.10	7.69	7.71	9.08	9.44	8.19

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	5065	5065	5065	5065	4947	4947	4947	4947	4728	4728	4728	4526	4526	4526	4342	4342	4255
	1	4729	4568	4425	4295	4619	4474	4344	4226	4297	4191	4094	4135	4050	3970	3986	3918	3854
	2	4401	4122	3892	3699	4298	4045	3835	3656	3901	3725	3573	3768	3622	3494	3645	3525	3419
	3	4099	3739	3460	3238	4004	3675	3418	3210	3556	3337	3156	3446	3260	3104	3343	3187	3054
	4	3825	3409	3105	2872	3738	3357	3073	2854	3257	3012	2817	3165	2953	2782	3079	2898	2748
	5	3577	3124	2808	2575	3497	3080	2784	2562	2997	2737	2537	2919	2691	2512	2847	2648	2488
	6	3352	2876	2558	2329	3279	2839	2538	2320	2769	2501	2302	2703	2465	2284	2641	2431	2267
	7	3147	2659	2343	2121	3081	2627	2327	2114	2567	2298	2101	2511	2269	2088	2458	2241	2076
	8	2961	2468	2157	1943	2902	2440	2145	1939	2389	2120	1929	2340	2097	1919	2295	2075	1910
	9	2793	2298	1995	1790	2739	2275	1985	1786	2230	1965	1779	2188	1946	1772	2149	1927	1764
	10	2639	2147	1853	1657	2590	2127	1844	1654	2088	1828	1648	2052	1812	1642	2017	1796	1637

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	90.3 fc	7.6 ft
6.5 ft	64.6 fc	9.0 ft
7.5 ft	48.6 fc	10.3 ft
8.0 ft	42.7 fc	11.0 ft
10.0 ft	27.3 fc	13.8 ft
12.0 ft	19.0 fc	16.6 ft
14.0 ft	13.9 fc	19.3 ft
16.0 ft	10.7 fc	22.1 ft
20.0 ft	6.8 fc	27.6 ft
24.0 ft	4.7 fc	33.1 ft
28.0 ft	3.5 fc	38.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	117593	117593	117593
45.00°	34556	50157	34268
55.00°	25851	28293	25954
65.00°	23655	23952	24507
75.00°	21722	22459	23265
85.00°	17429	19977	20092

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	21.1	22.4	21.5	22.8	23.1	21.1	22.4	21.5	22.8	23.1
	3H	22.9	24.1	23.3	24.4	24.8	22.9	24.1	23.3	24.4	24.8
	4H	23.6	24.7	24.0	25.0	25.4	23.7	24.7	24.1	25.1	25.5
	6H	24.1	25.1	24.5	25.5	25.9	24.2	25.2	24.6	25.6	25.9
	8H	24.3	25.2	24.7	25.6	26.0	24.3	25.3	24.8	25.7	26.1
	12H	24.4	25.3	24.8	25.7	26.1	24.5	25.4	24.9	25.8	26.2
4H	2H	21.7	22.8	22.1	23.1	23.5	21.7	22.8	22.1	23.1	23.5
	3H	23.7	24.6	24.1	25.0	25.4	23.7	24.7	24.2	25.1	25.5
	4H	24.5	25.4	25.0	25.8	26.2	24.6	25.4	25.0	25.8	26.3
	6H	25.2	25.9	25.7	26.3	26.8	25.3	26.0	25.7	26.4	26.9
	8H	25.4	26.1	25.9	26.5	27.0	25.5	26.1	25.9	26.6	27.0
	12H	25.6	26.2	26.1	26.6	27.1	25.6	26.2	26.1	26.7	27.2
8H	4H	24.8	25.5	25.3	25.9	26.4	24.9	25.6	25.4	26.0	26.5
	6H	25.6	26.2	26.1	26.7	27.2	25.7	26.2	26.2	26.7	27.2
	8H	25.9	26.4	26.5	26.9	27.4	26.0	26.5	26.5	27.0	27.5
	12H	26.2	26.6	26.7	27.1	27.7	26.3	26.7	26.8	27.2	27.7
12H	4H	24.9	25.5	25.4	25.9	26.4	24.9	25.5	25.4	26.0	26.5
	6H	25.7	26.2	26.2	26.7	27.2	25.8	26.2	26.3	26.7	27.3
	8H	26.1	26.5	26.6	27.0	27.6	26.1	26.6	26.6	27.0	27.6

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0