

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGE6SQLEDFX 50L 35K XX CA0366FX PT WF SO
Nom 6 inch square downlight with platinum silver finish and Solite lens

Test Number

SP-01219_1

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	3693
Efficacy	96.41 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.1
Two luminaires, plane 90°	1.09
Four luminaires	1.12

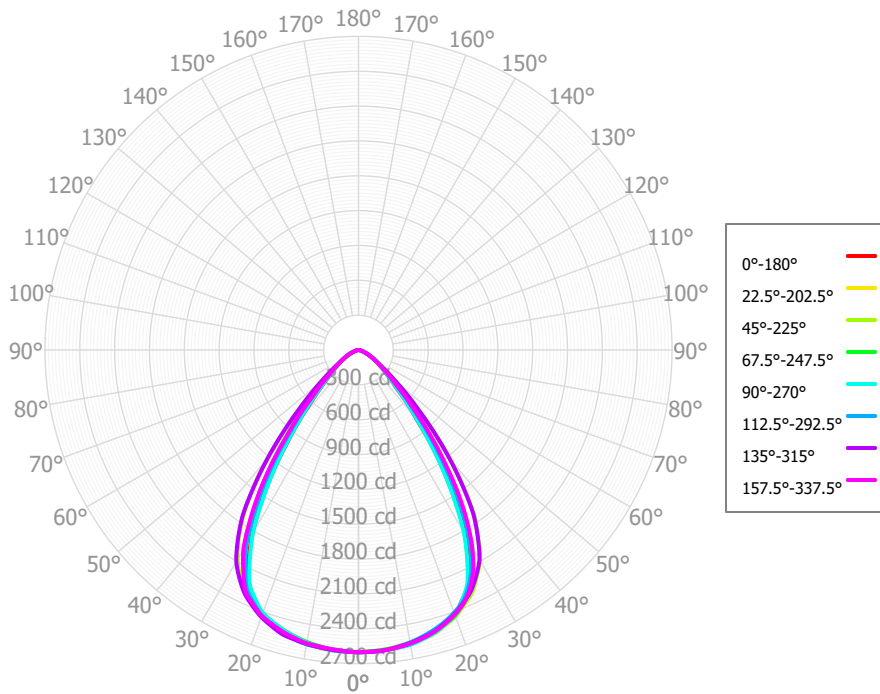
Full Beam Angle

0° - 180°	70°
90° - 270°	70°

IES File Header Contents

Keyword	Value
TEST	SP-01219_1
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 PT WF SO
LUMINAIRE	Nom 6 inch square downlight with platinum silver finish and Solite lens
OTHER	Beam Angle: 70 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°	250.29	6.78%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	707.67	19.16%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	1026.08	27.79%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	910.23	24.65%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	464.87	12.59%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	202.65	5.49%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	92.61	2.51%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	30.23	0.82%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	8.04	0.22%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	3692.68	100.00%	0.00° - 180.00°	3692.68	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°	2602.72	2602.72	2602.72	2602.72	2602.72	2602.72	2602.72	2602.72	2602.72	2602.72	2602.72	2602.72	2602.72	2602.72	2602.72	2602.72	2602.72
2.50°	2599.72	2597.34	2595.72	2597.72	2600.06	2597.26	2599.32	2596.79	2598.39	2600.81	2596.26	2596.03	2601.69	2600.51	2600.64	2601.44	2599.72
5.00°	2591.81	2588.18	2589.39	2591.75	2594.07	2591.01	2593.00	2586.35	2591.71	2594.70	2590.52	2588.23	2596.95	2593.86	2595.54	2595.88	2591.81
7.50°	2579.60	2575.36	2578.42	2584.01	2586.26	2582.91	2581.90	2575.73	2582.35	2584.67	2578.15	2572.69	2579.36	2577.88	2580.27	2583.92	2579.60
10.00°	2565.99	2556.96	2566.61	2575.85	2576.21	2573.93	2570.33	2565.04	2566.89	2570.42	2563.40	2553.73	2561.27	2557.04	2564.49	2567.27	2565.99
12.50°	2540.15	2535.19	2546.93	2550.48	2550.23	2551.01	2553.84	2541.28	2539.97	2546.99	2541.78	2526.51	2530.07	2529.61	2539.21	2544.25	2540.15
15.00°	2511.13	2504.61	2526.22	2522.07	2521.20	2522.44	2534.21	2512.38	2508.86	2515.06	2514.26	2495.59	2498.27	2496.52	2512.29	2513.20	2511.13
17.50°	2468.64	2469.50	2483.76	2478.74	2476.21	2480.83	2492.55	2475.30	2471.05	2475.48	2472.64	2457.16	2456.55	2456.83	2467.73	2472.80	2468.64
20.00°	2423.28	2420.07	2439.46	2433.38	2422.55	2434.85	2447.59	2435.47	2418.72	2429.59	2425.29	2410.25	2410.84	2406.79	2420.95	2423.12	2423.28
22.50°	2332.54	2364.23	2374.80	2358.19	2332.16	2359.59	2385.57	2370.10	2345.96	2361.44	2366.06	2348.24	2322.78	2346.34	2358.28	2363.99	2332.54
25.00°	2234.50	2258.38	2309.12	2280.31	2218.64	2276.33	2316.77	2297.74	2226.37	2277.58	2295.17	2256.45	2221.47	2245.12	2290.22	2268.24	2234.50
27.50°	2041.09	2133.86	2202.85	2121.00	2026.88	2113.21	2219.37	2148.71	2050.20	2131.70	2203.75	2119.42	2026.20	2108.07	2193.76	2139.94	2041.09
30.00°	1836.94	1934.79	2094.26	1957.82	1814.80	1932.05	2104.98	1983.13	1829.18	1948.37	2084.10	1942.01	1818.85	1915.95	2083.34	1957.28	1836.94
32.50°	1566.43	1712.90	1916.32	1711.26	1546.50	1684.41	1933.43	1739.65	1561.52	1711.96	1922.07	1712.02	1548.59	1681.59	1913.29	1733.05	1566.43
35.00°	1290.84	1452.46	1733.82	1463.18	1280.81	1425.33	1738.00	1482.70	1290.94	1447.88	1721.91	1466.33	1281.15	1428.57	1724.41	1482.90	1290.84
37.50°	1034.85	1182.12	1475.07	1204.42	1021.35	1166.85	1476.88	1215.23	1017.65	1186.83	1471.23	1202.54	1025.65	1163.29	1471.44	1215.75	1034.85
40.00°	779.88	942.71	1217.24	949.26	789.85	908.44	1217.49	946.46	790.12	927.12	1215.24	960.66	789.65	929.62	1218.85	973.87	779.88
42.50°	619.17	709.51	968.35	750.86	614.37	717.55	962.24	742.24	598.86	723.21	953.18	740.52	619.57	713.68	967.32	746.57	619.17
45.00°	461.12	555.87	730.09	560.77	470.32	532.47	733.08	543.08	463.85	540.11	731.16	567.79	470.75	555.01	737.98	577.35	461.12
47.50°	379.24	414.09	562.23	448.16	379.74	426.49	555.94	431.45	367.12	423.54	548.42	435.60	380.73	424.47	561.77	436.56	379.24
50.00°	300.01	332.10	406.48	341.85	306.10	323.97	407.87	323.71	298.50	327.34	408.00	337.01	302.61	335.64	411.22	343.57	300.01
52.50°	255.46	256.71	313.73	278.92	257.80	268.87	309.00	265.61	246.75	266.25	304.38	263.84	252.82	264.02	312.29	270.25	255.46
55.00°	212.25	213.63	229.73	220.39	216.15	214.52	229.59	208.50	207.99	214.18	229.18	209.93	208.45	215.50	230.99	220.42	212.25
57.50°	180.11	172.70	181.10	184.19	183.04	180.10	179.19	173.46	175.86	177.99	175.22	168.53	174.92	174.88	179.81	178.89	180.11
60.00°	148.77	143.11	137.86	149.84	153.14	146.31	138.37	139.02	147.51	144.98	135.86	135.98	143.97	141.64	137.65	146.37	148.77
62.50°	122.37	113.85	112.09	122.84	126.79	122.03	109.78	113.49	120.79	118.81	105.84	108.32	117.41	110.53	109.08	116.46	122.37
65.00°	96.83	90.75	88.14	97.24	102.49	98.11	85.37	88.64	97.36	93.65	82.96	86.01	93.03	87.13	84.08	92.90	96.83
67.50°	75.26	67.92	69.19	76.28	80.18	77.48	65.55	70.01	75.14	74.18	64.09	66.27	71.92	65.50	63.70	70.81	75.26
70.00°	54.92	51.29	52.09	57.09	60.44	57.51	49.30	51.90	56.83	55.34	47.96	48.88	53.01	49.44	46.81	53.42	54.92
72.50°	39.14	35.21	39.22	42.67	42.88	41.87	36.53	37.05	39.71	40.12	33.13	32.44	36.94	34.38	33.79	36.91	39.14
75.00°	25.64	25.57	27.63	29.97	29.78	27.67	26.54	23.63	28.46	25.15	23.38	23.85	24.84	25.22	23.89	27.32	25.64
77.50°	19.11	16.63	18.49	21.14	19.91	20.61	18.87	17.34	18.64	18.74	15.66	17.91	17.12	16.86	17.04	18.66	19.11
80.00°	13.48	13.42	11.92	14.27	13.26	14.27	13.70	11.82	13.34	12.56	11.83	13.91	11.50	12.90	12.31	13.61	13.48
82.50°	10.19	10.26	9.70	11.27	8.65	10.72	10.33	9.28	8.89	9.52	9.32	10.47	7.93	9.34	9.36	8.87	10.19
85.00°	7.19	7.44	7.51	8.39	6.41	7.53	7.45	6.75	6.37	6.53	6.86	7.49	5.53	7.17	6.70	6.67	7.19
87.50°	4.82	4.87	5.37	5.72	5.46	5.47	4.87	4.29	4.14	4.56	4.43	4.63	4.13	5.05	4.24	4.61	4.82
90.00°	3.02	3.41	3.84	3.88	4.02	3.70	3.06	2.34	2.97	2.71	2.86	3.13	3.01	3.37	3.03	3.23	3.02

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	4396	4396	4396	4396	4294	4294	4294	4294	4103	4103	4103	3928	3928	3928	3768	3768	3693
	1	4150	4030	3923	3826	4057	3950	3853	3765	3798	3720	3649	3659	3597	3539	3531	3482	3436
	2	3898	3685	3510	3362	3812	3620	3460	3324	3497	3364	3250	3384	3275	3179	3280	3191	3111
	3	3656	3376	3160	2987	3577	3323	3123	2962	3222	3053	2913	3129	2986	2866	3042	2923	2821
	4	3429	3102	2862	2678	3357	3057	2834	2662	2974	2781	2629	2896	2731	2597	2824	2683	2566
	5	3219	2859	2607	2420	3154	2822	2585	2409	2752	2545	2386	2686	2506	2364	2626	2468	2342
	6	3026	2643	2386	2202	2966	2612	2369	2193	2552	2337	2177	2497	2307	2161	2445	2277	2146
	7	2847	2451	2194	2014	2793	2424	2181	2008	2374	2155	1996	2327	2131	1985	2282	2107	1973
	8	2684	2280	2026	1851	2635	2257	2015	1847	2214	1995	1838	2173	1975	1829	2135	1955	1821
	9	2534	2127	1878	1709	2489	2108	1869	1706	2070	1852	1699	2035	1836	1693	2001	1820	1686
	10	2397	1990	1747	1584	2356	1973	1739	1582	1941	1725	1577	1910	1712	1572	1881	1698	1567

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	86.0 fc	7.7 ft
6.5 ft	61.6 fc	9.1 ft
7.5 ft	46.3 fc	10.4 ft
8.0 ft	40.7 fc	11.1 ft
10.0 ft	26.0 fc	13.9 ft
12.0 ft	18.1 fc	16.7 ft
14.0 ft	13.3 fc	19.5 ft
16.0 ft	10.2 fc	22.3 ft
20.0 ft	6.5 fc	27.9 ft
24.0 ft	4.5 fc	33.4 ft
28.0 ft	3.3 fc	39.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	175096	175096	175096
45.00°	43871	69461	44746
55.00°	24895	26945	25352
65.00°	15414	14031	16314
75.00°	6665	7181	7740
85.00°	5546	5797	4946

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	19.2	20.3	19.5	20.6	21.0	19.1	20.3	19.5	20.6	20.9
	3H	19.8	20.8	20.2	21.2	21.5	19.8	20.8	20.2	21.2	21.5
	4H	19.9	20.8	20.3	21.2	21.6	19.9	20.8	20.3	21.2	21.6
	6H	19.9	20.8	20.3	21.1	21.5	19.9	20.8	20.3	21.1	21.5
	8H	19.9	20.7	20.3	21.1	21.5	19.9	20.7	20.3	21.1	21.5
	12H	19.9	20.7	20.3	21.0	21.5	19.9	20.6	20.3	21.0	21.5
4H	2H	19.3	20.3	19.7	20.6	21.0	19.2	20.2	19.6	20.5	20.9
	3H	20.0	20.8	20.5	21.2	21.6	20.0	20.8	20.4	21.2	21.6
	4H	20.2	20.9	20.6	21.3	21.7	20.2	20.9	20.6	21.3	21.7
	6H	20.2	20.8	20.7	21.3	21.7	20.2	20.8	20.7	21.3	21.7
	8H	20.2	20.8	20.7	21.2	21.7	20.2	20.8	20.7	21.2	21.7
	12H	20.2	20.7	20.7	21.2	21.7	20.2	20.7	20.7	21.2	21.6
8H	4H	20.1	20.7	20.6	21.1	21.6	20.1	20.7	20.6	21.1	21.6
	6H	20.2	20.7	20.7	21.2	21.6	20.2	20.7	20.7	21.2	21.6
	8H	20.2	20.6	20.8	21.2	21.7	20.2	20.6	20.8	21.1	21.6
	12H	20.3	20.6	20.8	21.1	21.7	20.3	20.6	20.8	21.1	21.7
12H	4H	20.1	20.6	20.6	21.1	21.5	20.1	20.6	20.6	21.0	21.5
	6H	20.2	20.6	20.7	21.0	21.6	20.2	20.6	20.7	21.0	21.6
	8H	20.2	20.6	20.7	21.1	21.7	20.2	20.6	20.7	21.1	21.6

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0