

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGW4SQLEDFX 50L 35K XX CA0294FX PT WF SK
Nom 4 inch square downlight with platinum silver finish and Skytex lens

Test Number

SP-01221_1

Test Date

5/24/2021

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	2863
Efficacy	74.74 lm/W

Luminous Dimensions

0° - 180° Size	0.2
90° - 270° Size	0.2
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.03
Two luminaires, plane 90°	0.81
Four luminaires	0.86

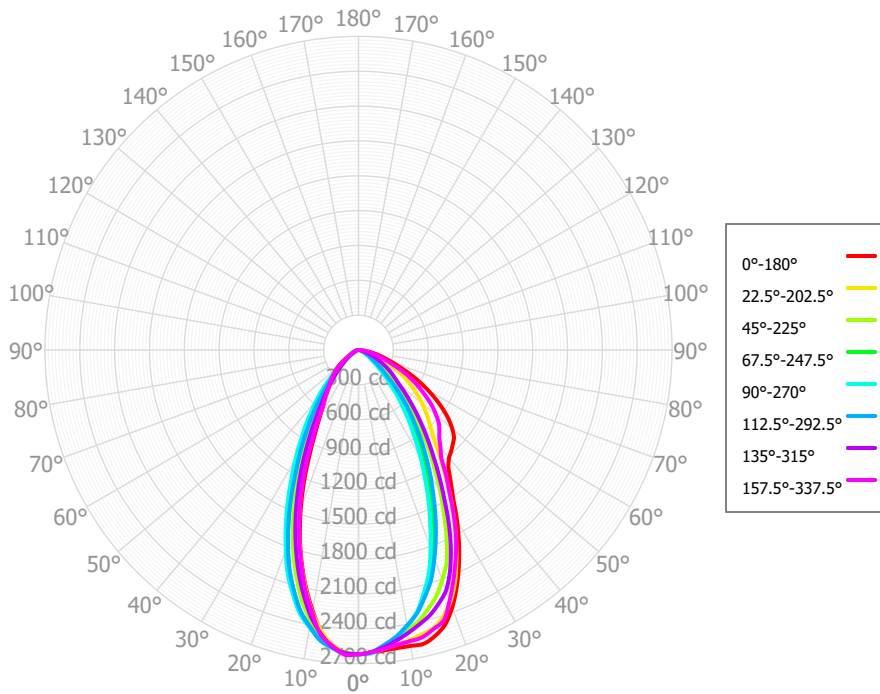
Full Beam Angle

0° - 180°	58°
90° - 270°	53°

IES File Header Contents

Keyword	Value
TEST	SP-01221_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	5/24/2021
ISSUEDATE	6/7/2021
LUMCAT	SGW4SQLEDFX 50L 35K XX CA0294FX PT WF SK
LUMINAIRE	Nom 4 inch square downlight with platinum silver finish and Skytex lens
OTHER	Beam Angle: 58 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°	243.76	8.52%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	606.36	21.18%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	681.30	23.80%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	535.30	18.70%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	374.18	13.07%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	235.59	8.23%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	124.66	4.36%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	48.74	1.70%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	12.61	0.44%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	2862.50	100.00%	0.00° - 180.00°	2862.50	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°	2619.93	2619.93	2619.93	2619.93	2619.93	2619.93	2619.93	2619.93	2619.93	2619.93	2619.93	2619.93	2619.93	2619.93	2619.93	2619.93	2619.93
2.50°	2605.96	2607.40	2602.51	2610.61	2614.35	2621.20	2613.16	2627.32	2608.97	2608.64	2618.23	2610.75	2621.54	2602.90	2603.60	2604.93	2605.96
5.00°	2595.53	2582.34	2561.07	2562.34	2564.36	2577.36	2566.80	2559.49	2554.06	2551.61	2570.19	2568.69	2570.57	2549.24	2567.32	2582.90	2595.53
7.50°	2588.39	2558.39	2512.69	2500.02	2508.59	2523.95	2467.45	2476.81	2450.77	2442.01	2502.73	2506.55	2514.49	2489.01	2522.88	2560.11	2588.39
10.00°	2587.89	2535.39	2454.07	2418.09	2415.14	2418.68	2339.06	2298.39	2277.88	2293.58	2369.77	2415.86	2425.55	2408.05	2473.12	2546.79	2587.89
12.50°	2591.53	2509.74	2392.86	2318.82	2317.14	2304.53	2170.63	2115.69	2092.95	2105.21	2225.75	2306.83	2328.08	2324.01	2420.83	2534.63	2591.53
15.00°	2549.54	2481.88	2311.59	2196.44	2168.81	2146.16	1989.12	1907.83	1891.50	1906.57	2045.24	2155.05	2180.59	2203.07	2366.92	2489.77	2549.54
17.50°	2480.46	2412.86	2225.58	2053.85	2015.09	1979.51	1790.40	1698.95	1679.25	1697.54	1858.66	1977.10	2025.91	2076.83	2292.38	2441.43	2480.46
20.00°	2359.95	2310.96	2108.18	1884.76	1816.74	1774.75	1588.69	1484.30	1452.41	1487.77	1653.28	1778.92	1830.36	1911.04	2205.26	2294.95	2359.95
22.50°	2210.34	2168.55	1983.89	1706.47	1613.84	1568.93	1383.23	1268.77	1224.79	1277.29	1448.61	1568.56	1635.03	1740.14	2060.35	2138.89	2210.34
25.00°	2046.23	1994.30	1797.09	1516.65	1424.39	1358.36	1183.14	1048.62	996.18	1071.85	1246.01	1368.68	1440.90	1565.76	1881.86	1979.05	2046.23
27.50°	1874.06	1815.91	1596.96	1339.30	1236.13	1156.81	989.70	842.10	807.54	871.10	1053.29	1174.82	1251.72	1390.98	1684.26	1818.86	1874.06
30.00°	1697.23	1634.42	1409.58	1176.90	1070.21	992.80	816.70	701.22	668.19	708.92	888.83	1006.65	1086.39	1232.75	1475.74	1639.19	1697.23
32.50°	1517.93	1459.92	1224.72	1024.40	905.99	835.51	667.90	572.24	560.41	581.87	734.47	852.50	926.93	1076.34	1295.02	1458.04	1517.93
35.00°	1383.48	1290.43	1066.28	883.59	772.65	704.30	544.24	499.04	490.94	486.35	607.35	719.68	794.96	933.59	1129.42	1313.37	1383.48
37.50°	1271.60	1146.11	912.62	752.93	641.51	578.33	449.01	431.73	437.21	418.30	491.19	598.13	667.56	792.16	986.30	1170.98	1271.60
40.00°	1213.26	1019.53	782.43	633.71	530.35	472.27	369.53	389.98	401.74	364.74	403.03	490.37	560.01	673.24	854.81	1098.53	1213.26
42.50°	1181.39	925.95	656.37	520.61	420.35	372.31	307.33	348.33	363.98	323.26	321.72	389.66	453.69	556.18	738.58	1030.14	1181.39
45.00°	1148.57	854.60	545.34	414.09	334.27	293.96	251.28	307.05	323.69	280.40	257.61	303.49	352.30	444.50	630.11	984.42	1148.57
47.50°	1115.30	784.16	436.71	323.24	249.28	222.09	201.77	264.68	282.21	236.45	201.47	224.37	260.90	333.25	537.58	939.74	1115.30
50.00°	1053.30	714.31	365.61	248.99	198.05	171.70	162.24	218.05	239.42	193.68	164.26	172.44	207.13	269.03	452.75	872.71	1053.30
52.50°	978.49	644.15	299.96	192.87	148.23	126.88	132.85	173.38	197.13	151.82	130.50	133.04	159.36	207.90	393.50	804.93	978.49
55.00°	887.88	573.80	248.53	155.15	123.81	99.76	107.28	135.94	155.36	118.91	104.48	105.37	133.65	167.20	346.00	721.61	887.88
57.50°	790.35	504.61	199.10	125.16	100.14	75.35	85.42	102.30	121.48	92.67	81.05	83.02	109.48	127.58	297.39	637.84	790.35
60.00°	689.64	436.10	164.39	102.68	80.96	59.22	66.44	81.77	95.49	72.11	63.29	64.74	90.57	106.10	248.29	558.70	689.64
62.50°	587.62	369.66	131.54	81.28	61.85	44.55	50.21	63.64	76.22	55.60	47.53	48.23	71.54	85.49	205.75	479.64	587.62
65.00°	486.24	304.42	107.09	60.92	45.69	34.11	37.61	53.58	63.54	43.64	35.99	36.48	52.08	67.11	166.03	393.43	486.24
67.50°	385.10	244.69	83.58	44.84	29.56	25.19	28.32	43.69	52.73	34.88	26.35	26.68	35.24	48.80	131.15	307.19	385.10
70.00°	309.24	188.08	65.31	32.69	23.46	20.43	21.45	34.37	43.66	27.29	20.53	20.63	26.67	37.68	98.23	246.09	309.24
72.50°	243.10	144.01	47.57	24.01	17.40	16.18	16.70	26.03	34.57	20.48	15.57	16.07	19.03	26.75	73.86	185.23	243.10
75.00°	191.15	106.69	36.23	18.38	13.44	13.29	13.32	20.59	25.45	15.53	12.26	12.84	14.15	20.83	52.87	144.51	191.15
77.50°	144.36	77.61	25.49	13.94	9.52	10.78	11.12	15.61	18.40	11.76	9.44	10.10	10.07	14.99	38.34	104.03	144.36
80.00°	106.15	52.73	17.93	10.54	7.89	9.24	9.45	11.98	13.19	9.11	7.54	8.47	8.23	11.39	26.24	75.23	106.15
82.50°	70.88	33.32	10.63	7.67	6.27	7.82	8.21	8.66	9.06	7.15	6.11	7.23	6.42	7.83	17.79	46.66	70.88
85.00°	41.52	16.55	8.18	5.22	4.98	6.69	6.54	6.20	5.85	5.52	5.49	6.18	4.70	6.09	10.63	27.38	41.52
87.50°	14.15	8.10	6.05	3.62	3.74	5.61	4.54	4.08	3.78	4.09	4.72	5.20	3.24	4.35	6.66	8.66	14.15
90.00°	5.15	3.62	4.30	2.69	3.50	4.66	3.45	2.84	2.63	3.14	3.68	4.63	2.47	2.98	3.81	5.26	5.15

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	3408	3408	3408	3408	3328	3328	3328	3328	3181	3181	3181	3045	3045	3045	2921	2921	2863
	1	3205	3107	3019	2939	3132	3044	2964	2892	2926	2861	2802	2818	2766	2718	2718	2677	2623
	2	2999	2826	2684	2564	2932	2775	2645	2534	2680	2571	2477	2591	2502	2423	2510	2437	2387
	3	2807	2581	2406	2267	2745	2539	2378	2248	2460	2323	2210	2387	2272	2174	2320	2223	2140
	4	2630	2367	2175	2028	2573	2333	2154	2015	2267	2113	1990	2206	2073	1966	2150	2036	1942
	5	2469	2181	1981	1833	2417	2152	1964	1824	2098	1933	1806	2047	1902	1789	1999	1873	1773
	6	2322	2019	1816	1670	2275	1995	1803	1664	1948	1778	1651	1905	1754	1639	1865	1731	1627
	7	2188	1876	1674	1532	2145	1856	1664	1528	1816	1644	1519	1779	1625	1510	1745	1607	1501
	8	2067	1750	1552	1415	2028	1733	1543	1411	1699	1527	1405	1667	1512	1398	1637	1497	1391
	9	1956	1639	1444	1313	1921	1624	1438	1311	1594	1424	1305	1567	1412	1300	1541	1399	1295
	10	1855	1539	1350	1224	1824	1526	1345	1222	1501	1334	1218	1477	1323	1214	1454	1313	1211

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	86.6 fc	6.8 ft
6.5 ft	62.0 fc	8.1 ft
7.5 ft	46.6 fc	9.3 ft
8.0 ft	40.9 fc	9.9 ft
10.0 ft	26.2 fc	12.4 ft
12.0 ft	18.2 fc	14.9 ft
14.0 ft	13.4 fc	17.4 ft
16.0 ft	10.2 fc	19.8 ft
20.0 ft	6.5 fc	24.8 ft
24.0 ft	4.5 fc	29.7 ft
28.0 ft	3.3 fc	34.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	705017	705017	705017
45.00°	437101	207534	127210
55.00°	416555	116600	58086
65.00°	309607	68190	29091
75.00°	198737	37669	13977
85.00°	128201	25250	15388

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	33.4	34.7	33.8	35.0	35.3	19.5	20.8	19.9	21.1	21.5
	3H	34.6	35.7	35.0	36.1	36.4	20.0	21.1	20.4	21.5	21.8
	4H	35.0	36.0	35.4	36.4	36.8	20.1	21.2	20.5	21.5	21.9
	6H	35.2	36.2	35.6	36.5	36.9	20.2	21.2	20.6	21.5	21.9
	8H	35.3	36.2	35.7	36.6	37.0	20.2	21.1	20.7	21.5	21.9
	12H	35.3	36.2	35.7	36.6	37.0	20.3	21.1	20.7	21.5	21.9
4H	2H	33.3	34.3	33.7	34.7	35.0	19.6	20.7	20.0	21.0	21.4
	3H	34.6	35.4	35.0	35.8	36.3	20.2	21.1	20.6	21.5	21.9
	4H	35.0	35.8	35.5	36.2	36.7	20.4	21.2	20.8	21.6	22.0
	6H	35.4	36.0	35.8	36.5	37.0	20.5	21.2	21.0	21.6	22.1
	8H	35.5	36.1	35.9	36.5	37.0	20.6	21.2	21.1	21.7	22.1
	12H	35.5	36.1	36.0	36.6	37.0	20.7	21.2	21.2	21.7	22.2
8H	4H	34.9	35.5	35.4	36.0	36.5	20.4	21.0	20.9	21.5	21.9
	6H	35.3	35.8	35.8	36.3	36.8	20.6	21.1	21.1	21.6	22.1
	8H	35.4	35.9	35.9	36.4	36.9	20.8	21.2	21.3	21.7	22.2
	12H	35.5	35.9	36.0	36.4	37.0	20.9	21.3	21.5	21.8	22.4
12H	4H	34.9	35.4	35.4	35.9	36.4	20.4	20.9	20.9	21.4	21.9
	6H	35.2	35.7	35.8	36.2	36.7	20.6	21.1	21.2	21.6	22.1
	8H	35.4	35.8	35.9	36.3	36.8	20.8	21.2	21.3	21.7	22.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0