Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGRTW6FX 50L 35K XX AR6923FX SG WF SK

Nom 6 inch dia downlight wall wash with semi-diffuse finish and Skytex lens

Test Number

SP-01235_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

Lumen Output

Output Lumens	3678
Efficacy	96.03 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1
Two luminaires, plane 90°	0.75
Four luminaires	0.82

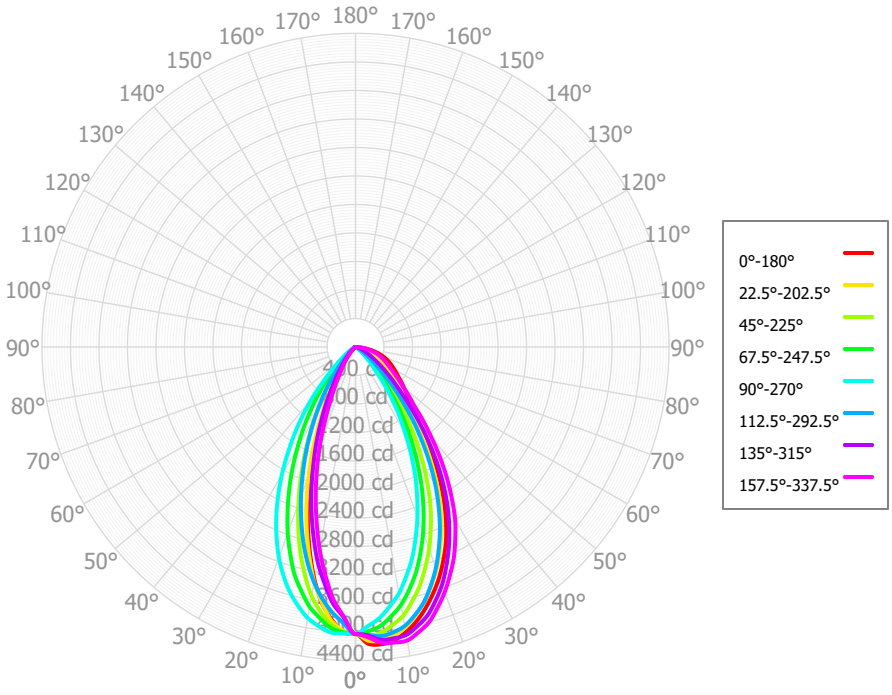
Full Beam Angle

0° - 180°	52°
90° - 270°	54°

IES File Header Contents

Keyword	Value
TEST	SP-01235_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	5/24/2021
ISSUEDATE	6/10/2021
LUMCAT	SGRTW6FX 50L 35K XX AR6923FX SG WF SK
LUMINAIRE	Nom 6 inch dia downlight wall wash with semi-diffuse finish and Skytex lens
OTHER	Beam Angle: 52 deg x 54 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°	371.00	10.09%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	888.34	24.15%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	973.43	26.47%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	710.33	19.31%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	371.08	10.09%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	185.20	5.04%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	105.39	2.87%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	58.95	1.60%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	14.31	0.39%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	3678.04	100.00%	0.00° - 180.00°	3678.04	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°	4028.40	4028.40	4028.40	4028.40	4028.40	4028.40	4028.40	4028.40	4028.40	4028.40	4028.40	4028.40	4028.40	4028.40	4028.40	4028.40	4028.40
2.50°	4169.43	4125.60	4056.80	3994.59	3922.33	3878.77	3797.28	3786.19	4007.18	3985.16	4001.27	4006.30	4024.28	4045.82	4053.64	4079.36	4169.43
5.00°	4187.54	4136.16	4028.07	3934.61	3821.74	3740.82	3616.00	3558.81	3839.55	3858.52	3910.44	3959.38	4020.61	4073.56	4125.34	4165.57	4187.54
7.50°	4151.53	4080.92	3938.03	3814.87	3671.83	3563.71	3341.96	3233.03	3621.64	3614.42	3748.69	3837.82	3952.48	4040.21	4123.84	4183.86	4151.53
10.00°	4066.60	4000.18	3833.40	3675.48	3511.98	3352.43	3060.70	2890.81	3315.96	3346.06	3550.64	3704.18	3862.04	3976.27	4103.37	4182.14	4066.60
12.50°	3945.30	3862.91	3660.15	3485.38	3294.77	3103.12	2723.48	2520.28	2955.24	3001.46	3279.61	3508.90	3721.36	3854.16	4012.42	4098.24	3945.30
15.00°	3796.51	3708.30	3475.31	3277.08	3069.74	2829.24	2384.71	2154.67	2581.01	2646.13	2988.86	3307.39	3560.70	3708.37	3901.72	3996.32	3796.51
17.50°	3624.55	3522.20	3249.92	3031.33	2806.66	2532.78	2049.02	1796.08	2199.89	2283.23	2665.43	3045.66	3363.17	3512.35	3734.77	3833.39	3624.55
20.00°	3438.24	3319.65	3020.18	2773.60	2540.46	2234.88	1716.00	1448.36	1831.74	1919.67	2340.96	2780.92	3144.35	3300.33	3551.37	3660.89	3438.24
22.50°	3227.76	3092.73	2758.03	2495.54	2258.28	1935.90	1420.07	1113.45	1468.98	1575.63	2015.07	2489.89	2893.52	3056.07	3330.97	3464.06	3227.76
25.00°	3005.10	2851.26	2494.07	2209.70	1975.44	1652.34	1130.23	836.42	1141.55	1233.01	1701.36	2198.97	2629.98	2804.05	3100.09	3264.87	3005.10
27.50°	2750.31	2592.07	2199.99	1913.06	1682.85	1378.52	888.87	615.64	825.64	952.02	1401.46	1910.42	2350.53	2527.46	2849.92	3031.75	2750.31
30.00°	2482.36	2317.00	1905.92	1625.44	1392.93	1129.12	660.94	454.27	623.32	678.89	1129.51	1624.51	2064.37	2246.55	2585.41	2796.88	2482.36
32.50°	2199.26	2025.72	1615.53	1348.13	1141.96	892.26	503.86	341.24	449.65	527.80	883.79	1364.47	1771.29	1948.32	2299.38	2513.38	2199.26
35.00°	1911.29	1746.78	1330.18	1081.69	893.07	697.31	361.24	256.11	340.70	383.67	678.86	1111.06	1492.59	1648.12	2005.68	2229.70	1911.29
37.50°	1649.56	1478.23	1097.68	825.66	660.69	519.89	273.95	189.63	243.49	296.72	505.94	899.57	1226.17	1369.14	1702.35	1942.78	1649.56
40.00°	1394.18	1250.67	873.30	612.03	446.65	381.70	196.98	136.09	181.13	214.88	378.62	694.96	967.25	1091.45	1413.37	1659.10	1394.18
42.50°	1229.09	1051.53	700.99	431.91	329.27	256.38	150.76	89.72	122.90	161.42	280.67	520.89	713.66	853.69	1139.22	1405.96	1229.09
45.00°	1080.07	906.93	541.17	307.21	223.77	183.38	108.04	59.48	85.94	111.44	211.18	364.77	520.99	619.12	915.68	1167.09	1080.07
47.50°	980.56	793.73	438.65	219.03	164.69	123.69	73.49	36.45	50.37	75.34	156.63	268.04	363.90	463.44	735.98	1013.17	980.56
50.00°	886.74	706.72	343.02	154.53	110.69	87.23	44.75	24.22	37.53	44.83	114.16	185.00	263.55	314.28	592.32	870.31	886.74
52.50°	811.60	631.91	270.89	102.74	71.82	55.05	27.11	15.88	25.21	31.24	76.87	137.82	190.03	237.93	474.36	774.17	811.60
55.00°	737.63	567.39	205.79	64.89	39.43	35.27	14.54	10.72	18.67	20.08	50.33	95.62	134.41	165.07	379.54	683.45	737.63
57.50°	681.71	506.74	159.54	33.17	22.49	16.98	9.88	6.44	12.31	14.82	27.41	63.81	85.66	115.58	298.23	610.35	681.71
60.00°	626.28	460.86	120.63	20.24	10.17	11.56	6.57	4.78	8.06	10.31	17.48	37.85	53.90	70.65	235.45	543.77	626.28
62.50°	579.18	419.28	97.38	13.84	6.69	7.01	5.04	3.66	4.27	7.25	10.88	21.80	27.19	47.42	181.58	493.70	579.18
65.00°	531.96	375.71	76.28	9.96	4.09	5.00	3.92	3.15	3.71	4.82	7.64	11.18	16.95	27.81	147.32	446.03	531.96
67.50°	483.28	331.70	58.88	6.76	2.87	3.07	3.24	2.72	3.16	3.40	5.05	8.19	10.35	20.95	120.56	403.21	483.28
70.00°	433.58	289.35	44.07	5.29	2.14	2.57	3.02	2.27	2.65	2.41	4.04	5.73	7.42	14.75	97.40	358.94	433.58
72.50°	377.01	247.24	32.99	4.17	2.02	2.12	3.20	1.81	2.17	1.98	3.23	3.90	5.08	10.37	75.30	312.22	377.01
75.00°	319.22	200.00	22.70	3.34	1.82	2.22	2.90	1.95	1.83	1.95	2.95	2.80	3.67	6.65	58.30	264.10	319.22
77.50°	255.59	152.27	13.37	2.55	1.53	2.31	2.25	2.11	1.62	2.34	2.71	2.41	2.36	4.41	42.45	214.06	255.59
80.00°	187.34	100.00	7.42	2.32	1.53	2.38	1.95	2.38	1.75	2.30	2.61	2.24	2.04	2.91	29.45	165.94	187.34
82.50°	102.69	47.72	4.79	2.14	1.80	2.42	1.85	2.60	1.83	1.88	2.50	2.23	1.76	2.75	16.90	119.98	102.69
85.00°	35.35	24.51	3.40	2.00	1.92	2.30	2.07	2.10	1.76	1.75	2.38	2.10	1.60	2.58	10.47	75.16	35.35
87.50°	15.24	2.55	3.04	1.87	1.92	2.19	2.44	1.69	1.67	1.85	2.24	1.90	1.45	2.41	4.64	31.42	15.24
90.00°	1.43	2.27	2.55	1.68	1.77	2.15	2.40	2.03	1.53	1.78	1.95	1.63	1.42	2.13	3.43	9.19	1.43

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	ρfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	ρcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
RCR	0	4379	4379	4379	4379	4277	4277	4277	4277	4087	4087	4087	3913	3913	3913	3753	3753	3753	3678
	1	4137	4019	3913	3818	4044	3938	3843	3757	3788	3711	3641	3650	3588	3531	3522	3474	3429	3404
	2	3895	3689	3518	3375	3810	3624	3468	3336	3502	3373	3262	3390	3284	3191	3287	3200	3124	3136
	3	3668	3398	3190	3023	3591	3346	3153	2998	3246	3083	2949	3154	3017	2902	3069	2954	2856	2896
	4	3457	3143	2914	2738	3387	3100	2886	2721	3018	2834	2688	2941	2784	2656	2870	2736	2624	2683
	5	3263	2919	2679	2501	3199	2883	2658	2490	2814	2617	2466	2750	2579	2444	2691	2541	2422	2494
	6	3084	2720	2476	2301	3026	2690	2460	2293	2632	2428	2276	2578	2398	2260	2528	2368	2244	2326
	7	2919	2543	2300	2129	2866	2518	2287	2123	2469	2262	2111	2423	2237	2099	2379	2214	2088	2176
	8	2768	2385	2145	1980	2720	2363	2135	1975	2321	2114	1966	2282	2095	1958	2245	2076	1949	2041
	9	2629	2244	2008	1849	2585	2225	2000	1846	2189	1983	1839	2155	1967	1832	2123	1951	1826	1920
	10	2501	2117	1887	1734	2462	2100	1880	1731	2069	1866	1726	2039	1852	1721	2011	1839	1715	1811

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	133.2 fc	6.1 ft
6.5 ft	95.3 fc	7.2 ft
7.5 ft	71.6 fc	8.3 ft
8.0 ft	62.9 fc	8.8 ft
10.0 ft	40.3 fc	11.0 ft
12.0 ft	28.0 fc	13.2 ft
14.0 ft	20.6 fc	15.5 ft
16.0 ft	15.7 fc	17.7 ft
20.0 ft	10.1 fc	22.1 ft
24.0 ft	7.0 fc	26.5 ft
28.0 ft	5.1 fc	30.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	220838	220838	220838
45.00°	83735	41955	17348
55.00°	70500	19668	3769
65.00°	69004	9894	530
75.00°	67613	4808	386
85.00°	22233	2140	1205

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	26.0	27.1	26.3	27.4	27.8	8.7	9.9	9.1	10.2	10.5
	3H	28.1	29.1	28.5	29.5	29.8	8.6	9.6	9.0	10.0	10.3
	4H	29.0	29.9	29.4	30.3	30.7	8.6	9.5	9.0	9.9	10.3
	6H	29.6	30.5	30.0	30.9	31.3	8.5	9.4	8.9	9.7	10.1
	8H	29.8	30.6	30.2	31.0	31.4	8.5	9.3	8.9	9.7	10.1
	12H	29.8	30.6	30.2	31.0	31.4	8.4	9.2	8.9	9.6	10.0
4H	2H	25.8	26.7	26.2	27.1	27.5	8.4	9.4	8.9	9.8	10.1
	3H	28.1	28.9	28.6	29.3	29.7	8.4	9.2	8.8	9.6	10.0
	4H	29.2	29.9	29.7	30.4	30.8	8.3	9.0	8.8	9.5	9.9
	6H	30.1	30.7	30.5	31.1	31.6	8.3	8.9	8.8	9.3	9.8
	8H	30.3	30.8	30.7	31.3	31.7	8.3	8.8	8.7	9.3	9.7
	12H	30.3	30.8	30.8	31.3	31.8	8.3	8.8	8.8	9.3	9.7
8H	4H	29.1	29.7	29.6	30.1	30.6	8.2	8.8	8.7	9.2	9.7
	6H	30.0	30.5	30.5	31.0	31.5	8.2	8.6	8.7	9.1	9.6
	8H	30.3	30.7	30.8	31.2	31.7	8.2	8.6	8.7	9.1	9.6
	12H	30.4	30.8	31.0	31.3	31.9	8.2	8.6	8.8	9.1	9.7
12H	4H	29.1	29.6	29.6	30.0	30.5	8.1	8.6	8.6	9.1	9.6
	6H	30.0	30.4	30.5	30.9	31.4	8.1	8.5	8.7	9.0	9.5
	8H	30.3	30.6	30.8	31.1	31.7	8.2	8.5	8.7	9.0	9.6

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0