

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SDFO4PC10L35KMDE1-SD4FPCSGMF
4" Square aperture recessed LED downlight.

Test Number

SP-R1166

Test Date

8/21/2025

The results contained in this report pertain only to this IES file.

Summary of Results

Power

Input Watts	6.81 W
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Lumen Output

Output Lumens	747
Efficacy	109.69 lm/W

Luminous Dimensions

0° - 180° Size	0.31
90° - 270° Size	0.31
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.38
Two luminaires, plane 90°	0.43
Four luminaires	0.48

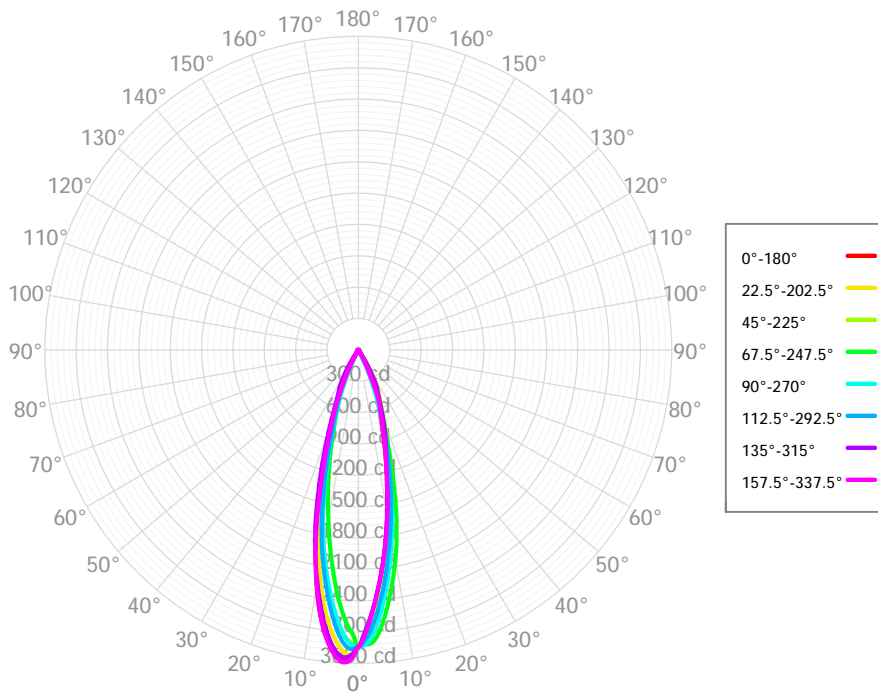
Full Beam Angle

0° - 180°	25°
90° - 270°	25°

IES File Header Contents

Keyword	Value
TEST	SP-R1166
TESTLAB	Spectrum Lighting Photometric Lab. VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	8/21/2025
ISSUEDATE	8/21/2025
LUMCAT	SDFO4PC10L35KMDE1-SD4FPCSGMF
LUMINAIRE	4" Square aperture recessed LED downlight.
DISTRIBUTION	Beam Angle 26
OTHER	CCT 3497 CRI 84.2 R9 10.9
OTHER	Total Luminaire wattage is approximate
OTHER	This report is prepared by Spectrum Lighting
_CRI	80+
_LAMPMULT	15L x 1.451, 20L x 1.91, 30L x 2.81, 40L x 3.652, 50L x 4.594

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	221.30	29.62%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	326.12	43.66%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	145.90	19.53%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	17.59	2.35%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	8.27	1.11%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	7.50	1.00%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	7.19	0.96%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	6.83	0.91%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	6.30	0.84%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	747.00	100.00%	0.00° - 180.00°	747.00	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°	2840.03	2840.03	2840.03	2840.03	2840.03	2840.03	2840.03	2840.03	2840.03	2840.03	2840.03	2840.03	2840.03	2840.03	2840.03	2840.03	2840.03
1.00°	2760.22	2801.50	2790.05	2815.57	2830.39	2865.47	2906.73	2940.10	2933.40	2909.17	2812.98	2732.90	2829.77	2799.44	2740.06	2766.24	2760.22
2.00°	2645.92	2711.41	2738.10	2819.29	2791.27	2851.56	2940.61	2986.91	2975.04	2916.53	2781.56	2658.63	2791.59	2728.98	2630.04	2647.74	2645.92
3.00°	2525.04	2610.16	2663.23	2793.01	2720.12	2803.64	2944.36	2990.91	2976.03	2885.61	2726.80	2565.68	2721.29	2637.97	2508.92	2523.20	2525.04
4.00°	2394.63	2492.76	2568.61	2726.62	2625.30	2722.92	2906.19	2955.96	2946.00	2823.17	2642.32	2456.18	2632.25	2532.32	2387.48	2388.60	2394.63
5.00°	2260.72	2365.22	2455.83	2634.35	2511.04	2621.82	2842.03	2891.62	2883.43	2743.58	2543.62	2333.53	2525.38	2413.51	2259.68	2255.02	2260.72
6.00°	2128.62	2236.40	2330.92	2525.28	2380.46	2501.46	2752.54	2807.96	2802.40	2650.48	2431.16	2200.39	2411.56	2290.57	2129.42	2126.24	2128.62
7.00°	1998.93	2102.20	2201.63	2408.22	2250.92	2378.52	2644.34	2707.49	2699.20	2543.65	2308.69	2061.40	2289.45	2157.99	1994.79	1999.22	1998.93
8.00°	1867.48	1970.54	2069.70	2288.65	2117.26	2251.25	2523.25	2583.02	2583.53	2421.89	2180.89	1924.19	2164.60	2024.15	1855.33	1864.48	1867.48
9.00°	1737.38	1832.69	1939.48	2166.05	1978.86	2115.73	2393.98	2443.58	2448.51	2290.09	2049.78	1786.54	2039.75	1893.37	1718.22	1731.11	1737.38
10.00°	1604.45	1696.37	1807.17	2042.43	1835.08	1981.31	2260.31	2293.17	2294.40	2141.57	1915.65	1651.34	1908.78	1764.61	1579.93	1596.56	1604.45
11.00°	1469.02	1558.13	1679.03	1910.18	1695.34	1839.98	2124.31	2132.88	2125.22	1979.32	1776.79	1521.44	1769.44	1637.34	1444.56	1461.72	1469.02
12.00°	1333.93	1427.22	1550.74	1764.41	1541.15	1688.27	1982.90	1962.47	1947.93	1810.68	1641.93	1395.47	1624.81	1507.91	1321.01	1328.67	1333.93
13.00°	1207.57	1303.66	1422.91	1612.28	1386.31	1528.51	1840.15	1792.30	1762.46	1640.74	1505.78	1270.90	1473.70	1378.47	1208.79	1200.06	1207.57
14.00°	1092.87	1188.72	1299.46	1457.13	1225.85	1367.22	1689.17	1612.02	1567.97	1466.62	1371.60	1152.10	1315.67	1247.19	1109.85	1093.53	1092.87
15.00°	981.09	1086.03	1186.95	1297.86	1077.32	1211.08	1523.35	1429.33	1377.75	1296.54	1248.83	1036.34	1157.16	1123.75	1024.05	992.59	981.09
16.00°	877.04	989.38	1079.79	1146.03	932.93	1060.08	1371.34	1255.78	1189.59	1134.38	1135.24	920.00	1009.90	1007.81	949.29	895.31	877.04
17.00°	782.00	898.58	976.92	1004.56	810.55	924.14	1221.67	1093.46	1022.77	990.32	1024.17	814.27	876.15	901.81	881.94	805.35	782.00
18.00°	703.26	813.81	883.11	868.63	708.22	808.61	1081.68	950.75	882.98	863.89	920.38	722.95	761.35	801.55	817.31	724.97	703.26
19.00°	641.77	730.79	798.93	763.06	620.34	712.44	948.52	833.18	763.14	760.94	825.52	648.89	666.70	714.67	751.95	660.55	641.77
20.00°	587.85	665.43	721.50	671.35	548.24	629.75	828.03	733.43	659.11	677.80	734.64	586.26	588.05	636.66	682.66	607.83	587.85
21.00°	524.20	613.74	651.07	594.82	474.39	562.46	720.36	646.80	557.46	603.57	650.99	525.23	512.29	576.95	615.02	561.45	524.20
22.00°	444.05	570.37	587.72	530.02	393.89	499.40	624.03	558.52	453.20	537.15	573.75	459.23	434.68	528.42	555.45	512.03	444.05
23.00°	359.82	514.90	536.63	463.78	316.24	429.56	545.18	466.22	370.22	464.29	511.80	386.94	353.04	480.43	507.22	437.89	359.82
24.00°	277.71	444.58	494.99	393.42	238.73	357.99	486.05	386.91	299.77	389.34	464.98	313.65	271.78	424.39	465.74	359.66	277.71
25.00°	214.88	364.56	460.29	321.23	166.19	286.56	448.13	317.64	218.54	328.39	433.00	239.95	200.02	357.84	431.72	280.36	214.88
26.00°	163.62	283.20	431.81	247.30	104.25	214.32	413.53	239.72	142.87	267.85	403.86	167.05	133.76	289.40	402.01	216.05	163.62
27.00°	105.32	214.77	397.91	175.77	61.21	147.24	379.60	159.62	81.02	196.60	368.49	107.46	79.60	219.53	363.21	167.52	105.32
28.00°	65.59	167.61	349.72	113.40	41.92	92.10	334.34	91.97	44.69	126.33	325.21	62.40	46.17	154.57	309.64	114.09	65.59
29.00°	49.73	115.91	293.21	65.22	33.64	52.58	283.22	50.40	34.78	70.79	269.11	37.01	33.00	96.03	252.24	64.77	49.73
30.00°	40.40	66.72	234.06	37.28	27.74	34.28	235.37	31.72	24.90	38.27	203.32	27.67	25.24	54.30	194.44	42.20	40.40
31.00°	35.56	40.33	176.94	28.62	24.40	27.31	190.34	23.91	23.52	26.60	145.25	23.14	21.30	29.86	144.54	32.93	35.56
32.00°	32.68	31.20	123.51	20.79	22.58	22.50	135.54	20.26	20.32	21.16	98.37	20.46	21.55	23.37	107.67	26.98	32.68
33.00°	28.83	26.16	75.42	17.85	21.22	19.85	83.74	17.48	19.12	17.25	61.51	19.15	19.40	18.87	73.17	25.48	28.83
34.00°	27.04	23.23	41.08	16.94	20.60	18.86	45.22	16.45	17.33	14.55	34.96	18.63	17.56	16.90	41.56	22.82	27.04
35.00°	24.94	19.37	21.98	15.76	18.87	17.57	23.29	16.35	16.61	13.67	19.34	17.42	16.48	13.27	23.89	20.93	24.94
36.00°	22.77	18.49	15.42	15.61	18.33	15.32	14.67	14.89	16.59	14.35	14.48	16.05	16.45	13.96	17.17	18.67	22.77
37.00°	21.33	17.55	13.39	13.62	16.98	14.16	12.55	13.45	15.87	13.46	13.15	14.97	15.71	12.64	14.37	16.89	21.33
38.00°	20.48	15.49	10.95	13.12	16.43	14.34	11.19	12.67	15.60	11.85	12.22	14.44	14.84	12.71	13.86	15.84	20.48
39.00°	19.18	13.96	10.29	12.59	15.53	13.54	10.17	12.56	14.98	11.19	11.40	13.64	14.45	12.99	12.61	15.07	19.18
40.00°	17.66	13.40	10.01	11.80	14.29	12.67	10.01	12.64	13.87	10.91	10.85	12.78	14.42	12.83	11.24	14.92	17.66
41.00°	16.40	12.99	9.50	11.10	13.52	12.03	9.85	12.51	12.92	10.79	10.28	12.65	14.12	12.67	10.19	14.72	16.40
42.00°	15.28	13.00	8.95	10.78	13.36	11.38	9.67	12.32	12.32	10.72	9.53	12.71	13.57	12.16	9.20	14.33	15.28
43.00°	14.17	13.00	8.69	10.47	13.18	10.78	9.49	11.95	11.73	10.73	8.78	12.44	13.08	11.65	8.89	13.93	14.17

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%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	889	889	889	889	869	869	869	869	830	830	830	795	795	795	762	762	762	747
	1	853	835	818	803	835	819	804	791	789	777	766	761	752	744	736	729	722	714
	2	821	790	765	744	805	778	755	736	754	736	720	732	717	704	712	700	690	687
	3	792	753	722	698	778	743	715	693	724	701	682	706	687	672	690	675	661	662
	4	764	720	687	662	752	712	681	658	697	671	651	682	661	643	669	651	636	639
	5	739	691	657	631	728	684	652	629	672	644	623	660	637	618	649	629	613	618
	6	716	664	630	605	706	659	627	603	649	621	600	639	615	596	630	609	592	599
	7	693	641	606	582	685	636	604	581	628	599	578	620	594	575	612	590	573	580
	8	673	619	585	562	665	615	583	561	608	579	559	601	575	557	595	572	554	563
	9	653	599	566	543	646	596	564	542	590	561	541	584	558	539	578	555	538	547
	10	635	580	548	526	628	577	546	525	572	544	524	567	541	523	563	539	522	531

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	93.9 fc	2.5 ft
6.5 ft	67.2 fc	2.9 ft
7.5 ft	50.5 fc	3.4 ft
8.0 ft	44.4 fc	3.6 ft
10.0 ft	28.4 fc	4.5 ft
12.0 ft	19.7 fc	5.4 ft
14.0 ft	14.5 fc	6.3 ft
16.0 ft	11.1 fc	7.2 ft
20.0 ft	7.1 fc	8.9 ft
24.0 ft	4.9 fc	10.7 ft
28.0 ft	3.6 fc	12.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	313035	313035	313035
45.00°	1879	1376	1864
55.00°	1894	1383	1614
65.00°	2025	1613	2070
75.00°	2750	2396	2745
85.00°	7284	6594	8689

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		Viewing C0-180					Viewing C90-270				
2H	2H	5.7	6.7	6.1	7.0	7.3	5.6	6.5	5.9	6.8	7.1
	3H	8.6	9.4	9.0	9.8	10.1	8.5	9.3	8.9	9.7	10.0
	4H	10.0	10.8	10.4	11.1	11.5	9.7	10.5	10.1	10.9	11.3
	6H	12.0	12.7	12.4	13.1	13.5	11.8	12.5	12.2	12.9	13.3
	8H	12.8	13.5	13.3	13.9	14.3	12.8	13.5	13.2	13.9	14.3
	12H	13.8	14.4	14.2	14.8	15.2	13.9	14.5	14.3	14.9	15.4
4H	2H	6.4	7.1	6.8	7.5	7.9	6.2	7.0	6.6	7.3	7.7
	3H	9.4	10.1	9.9	10.5	10.9	9.3	10.0	9.7	10.4	10.8
	4H	11.0	11.6	11.5	12.0	12.5	10.8	11.3	11.2	11.8	12.2
	6H	13.2	13.7	13.7	14.1	14.6	13.1	13.6	13.6	14.0	14.5
	8H	14.2	14.6	14.6	15.1	15.5	14.2	14.7	14.7	15.1	15.6
	12H	15.3	15.7	15.8	16.2	16.6	15.4	15.8	15.9	16.3	16.8
8H	4H	11.7	12.1	12.1	12.6	13.1	11.4	11.9	11.9	12.3	12.8
	6H	14.0	14.4	14.5	14.9	15.4	13.9	14.3	14.5	14.8	15.3
	8H	15.1	15.5	15.7	16.0	16.5	15.2	15.5	15.7	16.1	16.6
	12H	16.6	16.8	17.1	17.3	17.9	16.7	17.0	17.2	17.5	18.0
12H	4H	11.8	12.2	12.3	12.7	13.2	11.6	12.0	12.1	12.5	13.0
	6H	14.3	14.6	14.8	15.1	15.6	14.2	14.5	14.7	15.0	15.6
	8H	15.5	15.8	16.1	16.3	16.9	15.6	15.9	16.1	16.4	17.0

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0