

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

994 Jefferson Street  
Fall River, MA 02721  
+1.508.678.2303

### Spectrum Lighting Photometric Lab

Luminaire

SDFO4PC15L35KMDE1-SD4FPCSGMF  
4" Square aperture recessed LED downlight.

Test Number

SP-R1165

Test Date

8/21/2025

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

## Summary of Results

### Power

Input Watts	9.94 W
-------------	--------

### Lumen Output

Output Lumens	1084
Efficacy	109.05 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

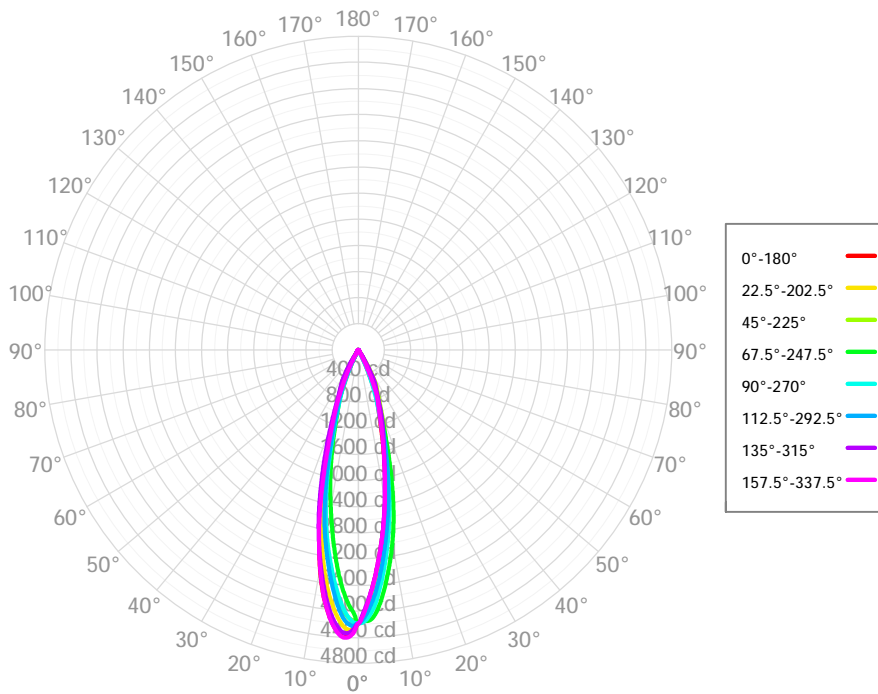
### Full Beam Angle

0° - 180°	25°
90° - 270°	25°

## IES File Header Contents

Keyword	Value
TEST	SP-R1165
TESTLAB	Spectrum Lighting Photometric Lab. VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	8/21/2025
ISSUEDATE	8/21/2025
LUMCAT	SDFO4PC15L35KMDE1-SD4FPCSGMF
LUMINAIRE	4" Square aperture recessed LED downlight.
DISTRIBUTION	Beam Angle 25.9
OTHER	CCT 3492 CRI 83.8 R9 9.1
OTHER	Total Luminaire wattage is approximate
OTHER	This report is prepared by Spectrum Lighting
_CRI	80+
_LAMPMULT	10L x 0.689, 20L x 1.316, 30L x 1.936, 40L x 2.517, 50L x 3.166

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	325.94	30.07%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	479.47	44.23%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	212.81	19.63%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	24.51	2.26%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	10.22	0.94%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	8.76	0.81%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	8.15	0.75%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	7.44	0.69%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	6.70	0.62%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1084.00	100.00%	0.00° - 180.00°	1084.00	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°	4185.92	4185.92	4185.92	4185.92	4185.92	4185.92	4185.92	4185.92	4185.92	4185.92	4185.92	4185.92	4185.92	4185.92	4185.92	4185.92	4185.92
1.00°	4068.20	4116.50	4115.91	4151.79	4172.91	4227.76	4281.00	4337.91	4322.28	4276.54	4147.96	4030.62	4173.68	4125.20	4039.98	4069.47	4068.20
2.00°	3903.25	3990.70	4036.58	4153.30	4108.90	4204.85	4336.37	4401.10	4386.13	4289.02	4111.10	3922.58	4106.19	4016.76	3878.31	3900.19	3903.25
3.00°	3716.25	3839.70	3928.43	4113.96	4006.85	4134.88	4336.07	4408.59	4389.26	4247.37	4027.79	3787.40	4008.72	3880.77	3707.38	3713.48	3716.25
4.00°	3521.40	3666.08	3787.61	4017.61	3872.52	4016.80	4280.35	4358.43	4342.54	4155.25	3905.53	3624.00	3873.22	3731.75	3520.13	3523.38	3521.40
5.00°	3326.84	3483.10	3617.07	3878.82	3698.99	3862.39	4182.04	4264.31	4254.09	4038.73	3759.27	3443.64	3715.18	3554.44	3332.18	3323.48	3326.84
6.00°	3133.49	3288.61	3431.14	3718.42	3510.47	3684.86	4051.94	4138.86	4132.25	3895.20	3592.16	3244.38	3547.00	3368.34	3135.97	3130.42	3133.49
7.00°	2941.59	3094.12	3241.10	3545.87	3316.42	3501.99	3894.23	3986.17	3985.12	3742.15	3411.52	3041.75	3364.60	3172.27	2938.38	2940.21	2941.59
8.00°	2748.98	2891.92	3045.19	3367.61	3114.89	3306.54	3713.38	3809.07	3811.66	3566.24	3225.89	2837.22	3187.15	2978.99	2732.40	2745.56	2748.98
9.00°	2552.04	2691.93	2848.63	3188.47	2914.19	3113.35	3524.59	3603.04	3614.60	3369.97	3031.33	2631.99	3002.85	2785.74	2531.93	2543.92	2552.04
10.00°	2355.89	2488.18	2652.03	3000.61	2706.79	2916.35	3323.83	3379.85	3384.72	3151.39	2827.49	2433.82	2810.32	2594.69	2324.51	2344.38	2355.89
11.00°	2157.92	2286.91	2462.58	2806.40	2492.39	2709.80	3121.75	3144.22	3134.55	2911.58	2627.78	2243.46	2603.38	2404.46	2124.33	2148.83	2157.92
12.00°	1957.59	2095.01	2273.64	2591.89	2270.56	2480.66	2916.50	2895.92	2875.81	2661.77	2430.45	2057.73	2389.09	2216.07	1945.07	1950.17	1957.59
13.00°	1772.40	1914.93	2090.55	2369.48	2040.21	2245.68	2703.67	2642.51	2600.02	2410.99	2226.10	1878.16	2163.72	2022.78	1781.52	1767.68	1772.40
14.00°	1601.21	1743.40	1911.27	2138.86	1808.44	2009.54	2475.58	2377.12	2314.83	2154.56	2028.66	1699.34	1932.17	1831.84	1634.17	1605.20	1601.21
15.00°	1438.73	1592.14	1744.87	1909.67	1584.63	1776.75	2239.58	2109.23	2032.21	1902.52	1844.39	1527.66	1701.07	1647.76	1504.84	1457.12	1438.73
16.00°	1282.79	1449.32	1585.97	1685.29	1377.24	1553.22	2014.56	1849.65	1755.36	1665.94	1673.75	1357.91	1483.43	1478.32	1393.14	1317.32	1282.79
17.00°	1140.48	1315.72	1434.63	1474.32	1190.89	1352.65	1798.00	1610.07	1509.04	1449.81	1511.71	1200.14	1286.17	1322.77	1295.33	1186.20	1140.48
18.00°	1029.10	1188.48	1295.39	1283.62	1038.76	1177.90	1588.16	1401.94	1301.67	1264.79	1357.17	1064.52	1115.56	1177.85	1201.30	1065.02	1029.10
19.00°	940.20	1070.62	1174.59	1121.49	909.66	1039.79	1393.82	1227.59	1122.90	1115.97	1217.70	955.45	975.67	1046.03	1102.75	967.26	940.20
20.00°	860.44	975.39	1059.58	987.21	803.66	918.93	1213.20	1079.29	970.24	991.38	1084.10	861.16	860.61	932.93	1000.27	889.39	860.44
21.00°	766.92	899.82	955.54	874.96	691.50	822.08	1055.00	950.97	818.84	883.32	960.85	771.58	748.45	842.61	899.10	822.29	766.92
22.00°	648.11	832.60	862.40	779.52	576.70	726.32	915.59	821.37	667.06	784.17	847.45	674.95	630.79	765.86	809.87	745.75	648.11
23.00°	522.13	751.03	785.39	679.28	460.52	623.63	798.54	684.28	543.66	672.86	752.56	571.25	511.49	697.08	737.78	644.32	522.13
24.00°	400.93	645.00	723.89	575.47	347.11	517.86	715.68	566.82	439.28	564.77	681.15	461.56	395.89	613.37	680.80	527.33	400.93
25.00°	308.80	525.35	672.86	471.51	239.43	410.20	655.08	465.77	320.88	479.36	633.56	349.10	287.17	516.46	630.21	411.40	308.80
26.00°	232.87	406.77	629.02	362.97	149.67	306.13	604.47	353.30	207.09	388.67	591.88	245.63	189.78	415.89	586.70	316.73	232.87
27.00°	149.93	308.83	581.82	258.30	88.56	206.61	553.67	233.48	119.20	282.34	542.51	158.24	111.91	312.23	533.46	243.34	149.93
28.00°	91.30	236.54	514.29	167.46	57.63	125.48	489.92	133.95	67.63	181.28	478.54	90.84	64.25	216.37	454.25	163.30	91.30
29.00°	68.09	161.18	430.54	97.13	46.67	72.03	412.74	71.86	48.41	100.13	394.20	52.73	43.48	135.35	368.21	93.60	68.09
30.00°	57.66	92.35	341.75	56.35	37.13	46.01	341.46	46.23	37.73	52.71	298.77	40.33	33.88	74.21	282.36	58.50	57.66
31.00°	50.15	58.15	254.60	39.10	32.20	37.30	274.25	34.89	31.30	35.33	212.56	33.89	29.73	42.75	207.08	45.30	50.15
32.00°	43.37	45.65	175.42	29.71	29.29	29.05	195.35	27.64	28.34	26.83	145.94	30.62	26.24	31.80	151.79	38.81	43.37
33.00°	39.11	36.28	108.21	25.18	27.68	26.23	121.75	24.96	26.42	23.23	94.32	28.75	24.45	25.40	106.85	34.64	39.11
34.00°	36.89	32.26	57.09	23.16	25.52	24.62	65.96	22.76	23.77	21.46	54.85	24.37	23.95	20.95	59.37	30.87	36.89
35.00°	34.17	28.40	30.89	20.57	23.85	22.30	34.20	19.65	20.83	19.96	32.64	22.00	22.03	19.61	31.76	28.12	34.17
36.00°	31.82	26.69	21.95	19.57	23.45	20.75	22.65	18.17	19.21	18.43	23.61	22.63	19.97	19.10	21.54	25.34	31.82
37.00°	28.57	25.53	18.15	18.66	22.51	18.95	18.82	18.93	19.28	16.83	18.05	22.46	17.79	18.16	18.10	24.01	28.57
38.00°	26.49	23.52	16.22	17.17	20.68	18.06	16.80	17.54	18.18	16.19	17.03	20.47	16.76	16.90	15.86	22.54	26.49
39.00°	24.44	21.38	14.50	15.73	18.80	17.26	14.86	16.32	17.08	15.56	16.01	18.26	15.72	15.65	13.81	21.05	24.44
40.00°	22.53	19.93	13.68	15.37	18.48	16.06	14.39	16.20	16.69	14.87	15.31	17.38	15.57	14.49	13.17	19.87	22.53
41.00°	20.64	18.70	13.11	15.01	18.44	14.76	13.91	16.09	16.34	14.17	14.62	16.89	15.46	13.33	13.01	18.85	20.64
42.00°	19.60	17.71	12.66	14.28	18.20	13.49	13.28	15.38	15.89	13.64	13.11	16.27	15.30	12.95	12.49	17.74	19.60
43.00°	19.65	17.28	12.47	13.30	17.64	12.29	12.56	14.40	15.31	13.20	11.05	15.38	15.10	13.13	11.10	16.34	19.65

### 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	1290	1290	1290	1290	1260	1260	1260	1260	1204	1204	1204	1153	1153	1153	1106	1106	1084
	1	1240	1214	1191	1170	1214	1191	1171	1152	1148	1131	1116	1108	1095	1083	1071	1061	1040
	2	1195	1152	1116	1086	1172	1133	1101	1074	1099	1073	1050	1068	1047	1028	1039	1022	1002
	3	1153	1098	1055	1021	1133	1083	1044	1013	1056	1024	997	1031	1004	982	1008	986	968
	4	1114	1051	1004	969	1097	1039	996	963	1017	981	952	997	966	941	978	952	935
	5	1078	1009	961	925	1063	999	955	921	982	943	913	965	932	906	950	921	905
	6	1044	971	922	887	1030	963	918	884	949	909	879	935	900	873	922	892	877
	7	1012	937	888	854	1000	930	884	852	918	877	848	907	871	844	896	864	850
	8	982	905	857	824	971	900	854	823	890	849	819	880	843	816	871	838	825
	9	954	876	829	797	944	872	827	796	863	822	793	855	818	791	847	814	802
	10	927	850	803	772	918	846	801	771	838	797	769	831	794	768	824	790	779

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	138.4 fc	2.5 ft
6.5 ft	99.1 fc	2.9 ft
7.5 ft	74.4 fc	3.4 ft
8.0 ft	65.4 fc	3.6 ft
10.0 ft	41.9 fc	4.5 ft
12.0 ft	29.1 fc	5.4 ft
14.0 ft	21.4 fc	6.3 ft
16.0 ft	16.4 fc	7.1 ft
20.0 ft	10.5 fc	8.9 ft
24.0 ft	7.3 fc	10.7 ft
28.0 ft	5.3 fc	12.5 ft

### Average Luminaire Luminance [cd/m<sup>2</sup>]

	0.00°	45.00°	90.00°
0.00°	461383	461383	461383
45.00°	2728	1813	2426
55.00°	2242	1867	2234
65.00°	2515	2067	2710
75.00°	3239	3164	3112
85.00°	8210	8302	7780

### 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	5.8	6.7	6.1	7.0	7.3	5.5	6.4	5.8	6.7	7.0
	3H	8.3	9.1	8.7	9.4	9.8	8.2	9.0	8.6	9.4	9.7
	4H	9.6	10.4	10.0	10.7	11.1	9.5	10.3	9.9	10.7	11.0
	6H	11.5	12.2	11.9	12.6	13.0	11.2	11.9	11.6	12.3	12.7
	8H	12.5	13.1	12.9	13.5	13.9	12.2	12.8	12.6	13.2	13.6
	12H	13.5	14.1	13.9	14.5	14.9	13.1	13.7	13.6	14.1	14.6
4H	2H	6.2	7.0	6.6	7.3	7.7	5.8	6.6	6.2	7.0	7.3
	3H	8.9	9.6	9.3	10.0	10.4	8.9	9.6	9.4	10.0	10.4
	4H	10.5	11.1	11.0	11.5	12.0	10.5	11.1	10.9	11.5	11.9
	6H	12.8	13.2	13.2	13.7	14.2	12.4	12.9	12.9	13.4	13.9
	8H	13.8	14.3	14.3	14.7	15.2	13.6	14.0	14.0	14.5	14.9
	12H	14.9	15.3	15.4	15.8	16.3	14.7	15.1	15.2	15.6	16.0
8H	4H	11.1	11.5	11.6	12.0	12.5	11.1	11.5	11.5	12.0	12.4
	6H	13.5	13.9	14.1	14.4	14.9	13.3	13.7	13.8	14.2	14.6
	8H	14.7	15.0	15.2	15.5	16.0	14.6	14.9	15.2	15.5	16.0
	12H	16.0	16.3	16.6	16.8	17.4	16.0	16.3	16.6	16.8	17.4
12H	4H	11.2	11.6	11.7	12.1	12.6	11.2	11.6	11.7	12.1	12.6
	6H	13.8	14.1	14.3	14.5	15.1	13.5	13.8	14.1	14.3	14.9
	8H	15.0	15.3	15.5	15.8	16.4	15.0	15.3	15.5	15.8	16.3

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0