

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

SR3Mx 25L 35K MD xx xx RD3F 25L 35K MD MW GL
Nom. 3" Round Downlight, Medium Beam

Test Number

SP-01415

Test Date

9/21/2022

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

Summary of Results

Power

Input Watts	26.3 W
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Lumen Output

Output Lumens	2346
Efficacy	89.19 lm/W

Luminous Dimensions

0° - 180° Size	-0.25
90° - 270° Size	-0.25
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.48
Two luminaires, plane 90°	0.48
Four luminaires	0.49

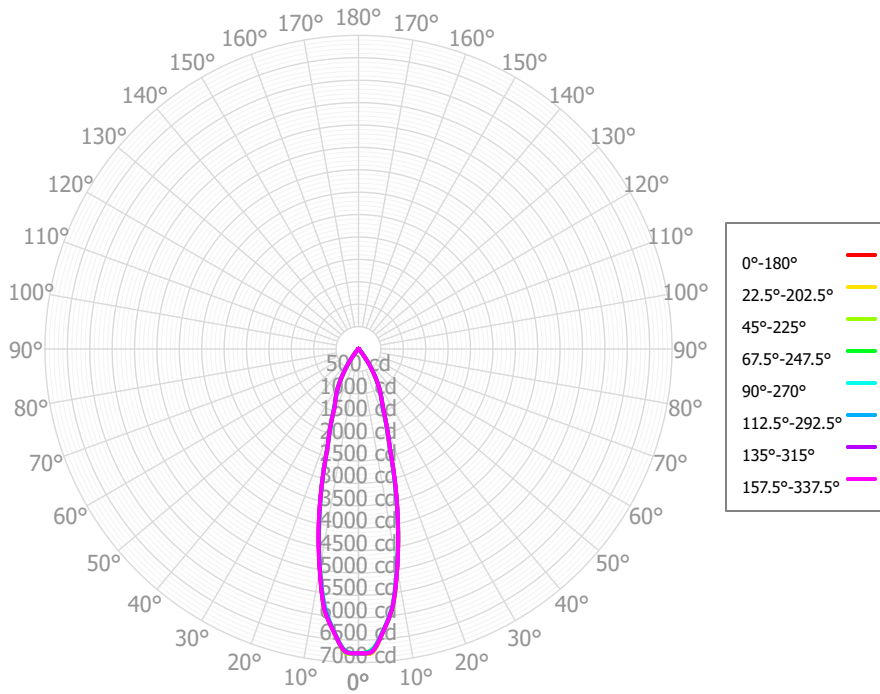
Full Beam Angle

0° - 180°	29°
90° - 270°	29°

IES File Header Contents

Keyword	Value
TEST	SP-01415
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/21/2022
ISSUDATE	10/24/2022
LUMCAT	SR3Mx 25L 35K MD xx xx RD3F 25L 35K MD MW GL
LUMINAIRE	Nom. 3" Round Downlight, Medium Beam
OTHER	Matte White Trim, Clear glass lens
OTHER	29 Degree Beam Angle
LAMP	N/A, 19mm LES
LAMPCAT	N/A, Min. 80 CRI
OTHER	Reference project SL167
OTHER	minus 2W, no thermal protection required for 7L, 10L, and 15L (non-IC)
OTHER	minus 2W, no thermal protection required for all (including 20L and 25L) IC luminaires
OTHER	Total Luminaire Watts is approximate
OTHER	For RD3F or RD3N Downlight Trim
OTHER	This report prepared by Spectrum Lighting

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	568.95	24.25%	90.00° - 100.00°	2.09	0.09%
10.00° - 20.00°	862.06	36.75%	100.00° - 110.00°	2.11	0.09%
20.00° - 30.00°	557.27	23.76%	100.00° - 120.00°	4.05	0.17%
30.00° - 40.00°	253.73	10.82%	120.00° - 130.00°	1.84	0.08%
40.00° - 50.00°	45.39	1.93%	130.00° - 140.00°	1.70	0.07%
50.00° - 60.00°	21.28	0.91%	140.00° - 150.00°	1.52	0.06%
60.00° - 70.00°	14.22	0.61%	150.00° - 160.00°	1.13	0.05%
70.00° - 80.00°	6.83	0.29%	160.00° - 170.00°	0.70	0.03%
80.00° - 90.00°	2.85	0.12%	170.00° - 180.00°	0.23	0.01%
0.00° - 90.00°	2332.57	99.44%	0.00° - 180.00°	2345.82	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°	6793.68	6793.68	6793.68	6793.68	6793.68	6793.68	6793.68	6793.68	6793.68	6793.68	6793.68	6793.68	6793.68	6793.68	6793.68	6793.68	6793.68
2.50°	6791.06	6792.22	6778.90	6722.74	6744.06	6743.69	6765.49	6762.25	6764.49	6766.60	6791.43	6744.93	6753.94	6744.99	6770.34	6766.30	6791.06
5.00°	6334.80	6330.18	6310.25	6311.77	6310.24	6325.19	6335.43	6347.20	6320.61	6314.89	6328.46	6330.07	6332.13	6331.81	6326.18	6331.49	6334.80
7.50°	5834.04	5838.05	5831.21	5800.44	5779.10	5791.13	5856.40	5862.36	5849.52	5849.74	5865.48	5791.83	5828.78	5821.24	5815.24	5809.18	5834.04
10.00°	4979.80	4970.56	4955.24	4947.35	4954.33	4977.38	4988.23	4994.47	4978.18	4968.80	4972.13	4971.18	4954.40	4955.25	4971.39	4979.68	4979.80
12.50°	4084.42	4073.99	4065.68	4079.60	4048.16	4067.55	4114.16	4117.39	4104.71	4087.36	4077.15	4049.31	4073.54	4080.49	4069.42	4075.92	4084.42
15.00°	3199.07	3185.88	3176.26	3157.42	3173.69	3179.33	3185.19	3185.26	3192.77	3181.49	3172.42	3175.80	3159.99	3171.50	3201.45	3201.41	3199.07
17.50°	2315.03	2298.53	2286.86	2320.70	2308.79	2298.96	2296.11	2312.71	2297.99	2279.87	2267.53	2320.63	2313.82	2342.62	2339.94	2334.49	2315.03
20.00°	1836.69	1832.18	1830.75	1831.29	1806.66	1784.41	1831.54	1832.03	1839.97	1837.74	1821.92	1806.79	1836.89	1848.83	1851.69	1832.21	1836.69
22.50°	1417.03	1411.43	1401.77	1399.47	1420.90	1413.17	1387.37	1386.16	1389.14	1395.60	1390.31	1432.17	1400.86	1407.92	1442.33	1433.09	1417.03
25.00°	1204.93	1211.64	1202.93	1219.03	1194.94	1183.96	1209.55	1202.45	1199.84	1205.54	1191.79	1191.48	1209.46	1210.96	1212.55	1201.17	1204.93
27.50°	1026.93	1038.83	1022.41	1032.46	1023.35	1013.48	1029.54	1015.52	1010.07	1016.89	1004.10	1008.40	1014.95	1011.11	1024.69	1019.64	1026.93
30.00°	819.00	829.45	813.51	817.11	818.68	814.06	815.22	800.36	790.99	795.06	790.44	802.72	799.38	796.45	810.63	812.31	819.00
32.50°	605.68	614.92	601.99	605.00	601.85	602.02	601.85	587.15	571.95	572.67	575.25	586.64	586.21	584.97	590.00	596.72	605.68
35.00°	413.34	418.62	412.11	409.78	412.52	413.32	406.94	393.34	384.19	384.46	389.74	396.11	391.80	391.20	396.73	403.87	413.34
37.50°	225.20	225.15	224.53	230.63	233.87	235.52	216.10	209.01	196.44	197.22	206.35	217.97	209.34	213.08	210.80	218.91	225.20
40.00°	138.12	138.43	140.60	142.88	139.31	140.05	140.27	133.11	128.97	128.16	131.47	124.59	131.39	130.13	123.66	128.16	138.12
42.50°	72.93	70.45	69.57	64.98	79.87	85.02	65.90	61.50	63.19	64.35	66.19	74.43	59.46	56.30	65.39	72.65	72.93
45.00°	50.23	48.80	50.05	50.29	53.97	57.06	52.92	51.04	50.75	50.15	49.19	49.51	47.24	45.45	45.56	50.65	50.23
47.50°	37.69	36.01	37.91	36.66	42.84	43.31	40.01	40.81	39.66	38.95	37.11	38.34	35.66	35.22	37.68	41.89	37.69
50.00°	30.50	31.17	31.09	30.53	34.27	34.31	34.32	34.38	35.28	32.37	31.61	31.61	31.79	29.73	32.22	34.06	30.50
52.50°	24.69	27.97	25.11	24.73	26.91	27.94	28.63	28.09	31.15	26.14	26.88	27.42	27.82	24.50	27.57	26.61	24.69
55.00°	21.43	24.05	22.67	21.56	22.44	23.76	24.87	25.13	26.36	22.81	25.23	23.91	22.42	21.54	22.91	21.47	21.43
57.50°	18.88	19.96	20.85	18.63	19.41	20.87	21.12	22.18	21.52	19.73	24.00	20.81	17.24	18.69	18.23	17.37	18.88
60.00°	16.00	17.40	17.87	17.79	17.90	19.70	19.15	19.93	19.55	18.73	21.84	18.38	16.21	17.00	16.37	16.48	16.00
62.50°	13.02	15.23	14.68	16.95	17.18	19.59	17.21	17.68	17.77	17.94	19.54	16.36	15.13	15.39	15.60	17.09	13.02
65.00°	11.05	13.82	13.01	15.93	15.55	16.52	14.41	14.74	15.67	15.49	15.97	14.01	13.08	14.70	13.92	15.69	11.05
67.50°	9.40	12.61	11.67	14.71	13.43	11.53	11.59	11.80	13.54	12.83	12.20	11.44	11.04	13.86	11.89	13.28	9.40
70.00°	8.28	10.48	10.08	10.90	10.97	8.39	8.94	9.73	11.11	9.97	10.23	9.32	9.12	10.88	9.62	11.11	8.28
72.50°	7.33	8.08	8.45	7.26	8.33	6.52	6.31	7.67	8.65	7.08	8.58	7.53	7.20	7.96	7.25	9.08	7.33
75.00°	6.29	7.04	6.38	6.30	6.73	5.04	5.75	6.75	6.54	5.99	7.00	6.02	5.48	6.21	5.74	7.10	6.29
77.50°	5.21	6.41	4.20	5.31	5.80	3.85	5.31	5.84	4.47	5.18	5.42	4.71	3.76	4.50	4.61	5.15	5.21
80.00°	4.43	5.31	3.54	3.90	4.91	3.16	4.57	4.29	3.41	4.18	4.02	3.63	3.39	3.65	3.88	3.75	4.43
82.50°	3.75	4.04	3.28	2.54	4.04	2.87	3.82	2.72	2.48	3.15	2.65	2.72	3.01	2.82	3.34	2.68	3.75
85.00°	3.12	2.96	2.68	2.54	3.28	2.38	2.87	2.23	2.20	2.55	2.05	2.09	2.32	2.26	2.52	1.97	3.12
87.50°	2.51	1.94	1.99	2.54	2.58	1.73	1.92	1.77	2.00	2.03	1.64	1.70	1.62	1.70	1.57	1.48	2.51
90.00°	2.17	1.60	2.05	2.46	1.91	1.55	1.89	1.70	2.06	1.91	1.85	1.72	2.12	1.46	1.23	1.41	2.17
92.50°	1.95	1.52	2.34	2.38	1.27	1.75	1.96	1.64	2.16	1.88	2.22	2.11	2.65	1.21	1.23	1.62	1.95
95.00°	2.02	1.66	2.49	2.13	1.23	1.90	1.68	1.94	1.99	1.85	2.19	2.20	2.12	1.56	1.68	1.85	2.02
97.50°	2.22	1.88	2.58	1.87	1.67	2.00	1.36	2.25	1.76	1.82	2.04	2.02	1.56	1.91	2.39	2.09	2.22
100.00°	2.24	1.93	2.35	2.05	1.99	2.17	1.69	2.31	1.66	2.04	1.87	1.85	1.67	1.89	2.39	2.10	2.24

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	2789	2789	2789	2789	2723	2723	2723	2723	2599	2599	2599	2486	2486	2486	2382	2382	2333
	1	2677	2619	2567	2521	2619	2568	2522	2480	2471	2435	2401	2382	2354	2328	2301	2279	2233
	2	2568	2469	2387	2318	2516	2428	2354	2291	2351	2291	2239	2281	2232	2190	2215	2177	2134
	3	2464	2336	2236	2157	2419	2303	2212	2139	2242	2166	2103	2185	2122	2069	2132	2081	2041
	4	2367	2217	2108	2024	2327	2191	2090	2011	2141	2055	1987	2095	2022	1963	2051	1990	1953
	5	2276	2111	1996	1912	2240	2090	1983	1903	2048	1956	1885	2010	1931	1868	1974	1906	1872
	6	2190	2015	1898	1814	2158	1997	1888	1808	1963	1867	1795	1931	1847	1783	1901	1828	1797
	7	2109	1928	1811	1729	2081	1913	1803	1724	1884	1786	1714	1857	1770	1705	1832	1755	1726
	8	2034	1849	1732	1652	2008	1836	1726	1649	1811	1712	1642	1789	1700	1634	1767	1687	1661
	9	1963	1776	1661	1584	1940	1765	1656	1581	1744	1645	1575	1724	1634	1570	1706	1624	1600
	10	1897	1709	1596	1521	1875	1699	1592	1519	1681	1583	1515	1664	1574	1510	1648	1566	1543

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	224.6 fc	2.8 ft
6.5 ft	160.8 fc	3.3 ft
7.5 ft	120.8 fc	3.9 ft
8.0 ft	106.2 fc	4.1 ft
10.0 ft	67.9 fc	5.2 ft
12.0 ft	47.2 fc	6.2 ft
14.0 ft	34.7 fc	7.2 ft
16.0 ft	26.5 fc	8.2 ft
20.0 ft	17.0 fc	10.3 ft
24.0 ft	11.8 fc	12.4 ft
28.0 ft	8.7 fc	14.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1489722	1489722	1489722
45.00°	15578	15521	16736
55.00°	8194	8667	8580
65.00°	5733	6752	8070
75.00°	5329	5405	5705
85.00°	7858	6754	8249

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	8.7	9.6	9.1	10.0	10.3	9.3	10.2	9.7	10.6	10.9
	3H	10.2	11.0	10.6	11.3	11.7	10.6	11.4	11.0	11.8	12.2
	4H	10.7	11.4	11.1	11.8	12.2	11.0	11.7	11.4	12.1	12.5
	6H	11.1	11.8	11.5	12.2	12.6	11.3	12.0	11.7	12.4	12.8
	8H	11.3	12.0	11.8	12.4	12.8	11.4	12.1	11.9	12.5	12.9
	12H	11.5	12.1	12.0	12.5	13.0	11.6	12.2	12.0	12.6	13.1
4H	2H	9.2	9.9	9.6	10.3	10.7	9.8	10.6	10.3	11.0	11.4
	3H	10.9	11.5	11.3	11.9	12.3	11.2	11.8	11.7	12.3	12.7
	4H	11.5	12.1	12.0	12.5	13.0	11.6	12.2	12.1	12.6	13.1
	6H	12.1	12.6	12.6	13.0	13.5	12.0	12.5	12.5	12.9	13.4
	8H	12.3	12.8	12.8	13.2	13.7	12.2	12.6	12.7	13.1	13.6
	12H	12.6	13.0	13.1	13.5	14.0	12.4	12.8	12.9	13.3	13.8
8H	4H	11.7	12.1	12.1	12.6	13.0	11.8	12.2	12.3	12.7	13.2
	6H	12.4	12.7	12.9	13.2	13.7	12.3	12.6	12.8	13.1	13.6
	8H	12.7	13.0	13.3	13.6	14.1	12.5	12.8	13.1	13.4	13.9
	12H	13.1	13.4	13.7	13.9	14.5	12.9	13.1	13.4	13.7	14.2
12H	4H	11.6	12.0	12.1	12.5	13.0	11.8	12.1	12.3	12.6	13.1
	6H	12.4	12.7	12.9	13.2	13.8	12.3	12.6	12.8	13.1	13.7
	8H	12.8	13.1	13.4	13.6	14.2	12.6	12.9	13.2	13.4	14.0

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0