

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

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

Test Number

SP-01416

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	2600
Efficacy	98.87 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.47
Two luminaires, plane 90°	0.47
Four luminaires	0.48

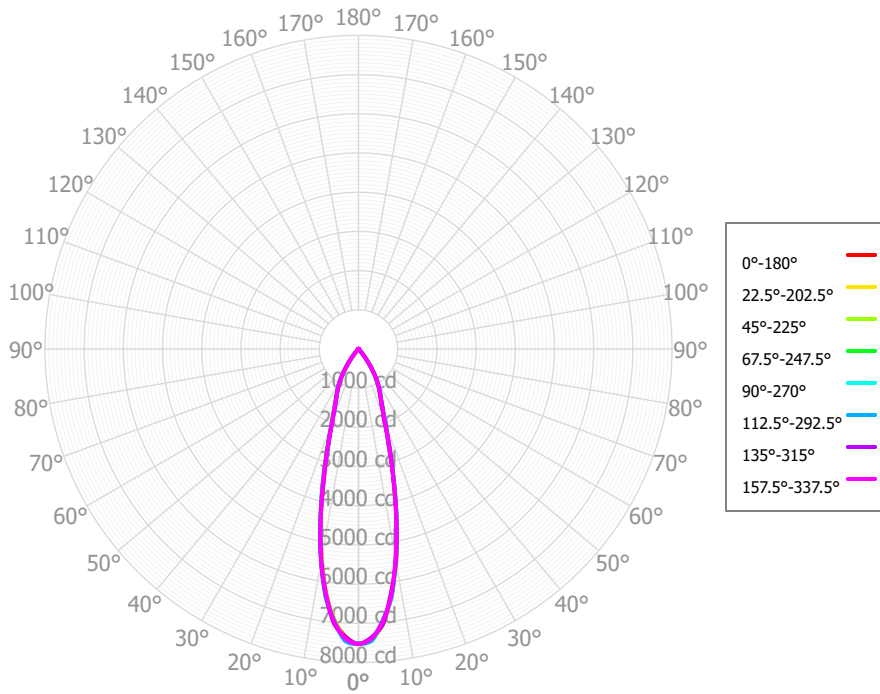
Full Beam Angle

0° - 180°	28°
90° - 270°	29°

IES File Header Contents

Keyword	Value
TEST	SP-01416
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 NL
LUMINAIRE	Nom. 3" Round Downlight, Medium Beam
OTHER	Matte White Trim, No lens
OTHER	28 Degree Beam Angle
LAMP	N/A, 19mm LES
LAMPCAT	N/A, Min. 80 CRI
OTHER	Reference project SL167
OTHER	Total Luminaire Watts is approximate
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	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°	625.39	24.05%	90.00° - 100.00°	1.85	0.07%
10.00° - 20.00°	945.95	36.38%	100.00° - 110.00°	1.68	0.06%
20.00° - 30.00°	618.43	23.78%	100.00° - 120.00°	3.50	0.13%
30.00° - 40.00°	315.46	12.13%	120.00° - 130.00°	1.51	0.06%
40.00° - 50.00°	40.86	1.57%	130.00° - 140.00°	1.52	0.06%
50.00° - 60.00°	16.25	0.62%	140.00° - 150.00°	1.35	0.05%
60.00° - 70.00°	17.01	0.65%	150.00° - 160.00°	1.05	0.04%
70.00° - 80.00°	6.79	0.26%	160.00° - 170.00°	0.63	0.02%
80.00° - 90.00°	2.54	0.10%	170.00° - 180.00°	0.21	0.01%
0.00° - 90.00°	2588.67	99.55%	0.00° - 180.00°	2600.28	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°	7523.73	7523.73	7523.73	7523.73	7523.73	7523.73	7523.73	7523.73	7523.73	7523.73	7523.73	7523.73	7523.73	7523.73	7523.73	7523.73	7523.73
2.50°	7406.26	7443.17	7463.38	7399.14	7433.43	7468.14	7376.34	7412.22	7356.22	7408.33	7426.42	7402.40	7446.10	7458.04	7373.24	7406.71	7406.26
5.00°	7065.70	6998.92	7000.52	7022.29	6991.66	6989.68	7053.14	7002.88	6979.45	6948.59	6958.66	7027.41	7004.31	6967.68	7054.59	6993.73	7065.70
7.50°	6347.11	6425.22	6396.05	6380.80	6405.86	6398.57	6349.79	6343.72	6307.06	6322.12	6401.75	6343.61	6362.23	6408.01	6306.28	6374.34	6347.11
10.00°	5516.23	5462.87	5492.57	5474.79	5465.09	5486.00	5488.56	5489.13	5419.14	5446.60	5456.85	5517.69	5486.34	5444.06	5499.90	5437.57	5516.23
12.50°	4457.37	4485.86	4473.72	4503.02	4500.96	4473.05	4481.08	4449.96	4447.00	4441.93	4500.76	4485.78	4464.78	4477.01	4458.63	4465.65	4457.37
15.00°	3460.08	3455.91	3503.29	3456.27	3470.09	3492.14	3403.90	3479.04	3404.66	3491.58	3484.76	3512.05	3505.85	3485.70	3455.55	3431.55	3460.08
17.50°	2606.01	2520.00	2554.76	2599.83	2549.41	2523.14	2596.13	2581.65	2584.70	2573.76	2530.17	2635.15	2591.02	2532.98	2640.41	2550.93	2606.01
20.00°	1896.71	1991.36	1968.52	1987.76	1997.70	1947.17	1934.80	1932.59	1973.28	1974.91	2007.23	1943.45	1973.81	2021.17	1895.70	1979.40	1896.71
22.50°	1583.39	1517.07	1569.52	1542.29	1517.57	1539.84	1549.20	1584.61	1554.91	1592.10	1515.27	1607.41	1596.34	1526.02	1598.69	1520.61	1583.39
25.00°	1304.33	1331.93	1309.99	1338.10	1329.21	1297.39	1336.26	1313.63	1343.07	1331.06	1330.38	1324.31	1327.72	1340.00	1314.49	1326.30	1304.33
27.50°	1136.95	1143.43	1133.67	1131.64	1137.01	1136.01	1138.24	1147.84	1136.75	1164.43	1144.61	1157.39	1157.80	1153.38	1141.79	1130.38	1136.95
30.00°	956.58	931.53	928.12	921.40	925.26	937.29	950.80	957.51	937.08	965.84	945.61	974.01	961.28	939.86	964.43	930.11	956.58
32.50°	726.02	718.83	702.84	706.65	712.51	717.33	738.44	728.75	724.76	739.36	745.93	749.08	737.25	726.33	728.47	724.27	726.02
35.00°	501.85	498.40	490.06	483.39	493.26	506.74	505.91	509.12	495.30	519.63	526.27	529.62	520.34	508.01	494.71	500.44	501.85
37.50°	307.53	284.41	286.94	289.48	285.16	302.18	314.71	305.92	299.14	306.64	306.61	326.45	311.71	289.62	308.69	296.17	307.53
40.00°	133.71	166.32	151.54	159.92	171.72	167.28	161.15	147.70	154.72	157.56	182.24	153.89	158.86	168.67	124.22	166.70	133.71
42.50°	82.58	51.73	75.07	61.17	64.89	83.82	70.01	81.84	55.27	80.05	57.87	88.97	80.18	51.84	75.69	56.64	82.58
45.00°	36.11	37.51	33.46	40.15	42.70	39.28	43.73	33.34	36.27	33.22	37.81	34.59	30.15	33.23	27.16	38.53	36.11
47.50°	27.32	23.30	26.46	24.33	21.41	27.13	27.61	25.71	22.40	25.08	20.90	25.59	23.10	22.42	23.54	22.53	27.32
50.00°	19.14	20.17	21.63	24.03	20.32	20.44	23.39	19.76	18.97	19.28	19.40	17.65	17.63	19.65	20.73	18.97	19.14
52.50°	17.93	17.05	19.22	23.34	19.24	18.94	20.99	18.44	16.96	16.84	18.93	15.35	14.82	17.81	18.67	15.79	17.93
55.00°	16.76	18.41	17.98	21.27	19.02	18.56	21.05	17.64	18.28	16.05	18.83	13.44	13.55	16.11	16.64	15.50	16.76
57.50°	16.42	19.90	18.21	19.82	18.81	19.38	21.24	18.49	19.49	17.97	18.76	14.26	15.30	14.44	15.93	15.31	16.42
60.00°	16.12	19.86	18.49	20.93	20.44	20.55	21.66	19.04	20.40	18.76	17.74	15.12	16.73	16.15	15.34	16.15	16.12
62.50°	18.28	19.72	18.84	21.48	22.12	22.13	21.34	18.42	21.06	17.42	16.59	16.26	17.41	18.51	14.91	16.95	18.28
65.00°	20.44	17.74	18.51	19.00	20.63	21.13	19.73	17.77	20.91	16.06	15.08	17.20	17.45	16.52	14.50	16.91	20.44
67.50°	16.55	15.58	17.06	16.30	18.97	16.62	17.24	16.99	19.57	14.66	13.49	15.36	15.85	13.47	14.34	16.77	16.55
70.00°	12.59	11.90	14.69	12.10	13.29	12.26	12.98	15.58	13.65	12.42	10.29	13.43	13.76	10.27	14.22	12.35	12.59
72.50°	8.68	8.00	10.58	8.05	7.25	8.14	9.13	10.21	8.36	8.07	6.72	8.77	10.18	7.02	10.19	7.93	8.68
75.00°	4.77	5.47	7.03	5.49	4.99	5.06	6.18	5.33	6.04	4.59	4.81	4.12	6.97	4.99	5.36	5.61	4.77
77.50°	4.34	3.20	4.67	3.08	3.19	3.83	3.88	4.29	4.02	3.69	3.36	3.76	5.11	3.39	3.90	3.31	4.34
80.00°	4.19	2.53	2.89	2.86	3.14	2.82	3.29	3.29	3.80	2.89	3.05	3.40	3.52	2.53	3.30	3.31	4.19
82.50°	3.39	2.22	2.56	2.63	3.38	2.28	2.66	2.78	3.50	2.47	3.11	2.85	3.13	1.97	2.75	3.41	3.39
85.00°	2.52	2.09	2.26	2.17	2.69	1.82	1.88	2.28	2.57	2.09	2.68	2.30	2.72	1.56	2.20	2.57	2.52
87.50°	1.99	2.01	1.98	1.71	1.80	1.57	1.34	2.02	1.69	1.83	2.06	1.92	2.12	1.21	1.95	1.67	1.99
90.00°	1.51	1.97	1.77	1.66	1.56	1.42	1.69	1.76	1.56	1.58	1.98	1.56	1.60	1.45	1.81	1.84	1.51
92.50°	1.59	1.95	1.80	1.62	1.48	1.54	1.94	2.00	1.43	1.41	2.14	1.50	1.57	2.01	1.82	2.14	1.59
95.00°	1.78	1.72	1.85	1.99	1.46	1.64	1.79	2.23	1.33	1.28	2.00	1.47	1.54	1.98	1.91	1.68	1.78
97.50°	1.86	1.42	2.03	2.38	1.46	1.65	1.66	1.78	1.25	1.53	1.71	1.58	1.48	1.58	1.94	1.09	1.86
100.00°	1.90	1.23	2.11	2.15	1.50	1.65	1.66	1.32	1.52	1.75	1.48	1.71	1.42	1.60	1.93	1.10	1.90

SR3Mx 25L 35K MD xx xx RD3F 25L 35K MD
 MW NL

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%	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	3093	3093	3093	3093	3020	3020	3020	3020	2883	2883	2883	2758	2758	2758	2643	2643	2643	2589
	1	2968	2904	2847	2796	2904	2847	2797	2750	2741	2701	2664	2643	2612	2583	2553	2529	2507	2478
	2	2847	2737	2647	2570	2791	2692	2610	2541	2608	2541	2484	2530	2477	2429	2458	2416	2378	2368
	3	2733	2590	2479	2391	2683	2554	2453	2371	2486	2402	2333	2423	2354	2295	2365	2308	2259	2264
	4	2624	2458	2337	2244	2580	2429	2317	2230	2374	2279	2203	2323	2242	2177	2275	2208	2151	2167
	5	2523	2340	2213	2118	2483	2316	2197	2109	2271	2168	2089	2229	2140	2071	2189	2113	2052	2076
	6	2427	2233	2103	2010	2392	2213	2091	2003	2176	2069	1989	2141	2047	1975	2108	2026	1962	1991
	7	2337	2136	2006	1914	2305	2119	1996	1909	2088	1978	1899	2058	1961	1888	2030	1944	1878	1912
	8	2253	2047	1918	1829	2224	2033	1910	1825	2006	1896	1817	1981	1882	1809	1957	1868	1802	1839
	9	2173	1965	1838	1752	2148	1953	1832	1749	1930	1820	1743	1909	1809	1737	1888	1798	1731	1771
	10	2099	1890	1765	1682	2076	1880	1760	1680	1860	1751	1675	1841	1741	1670	1823	1732	1666	1707

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	248.7 fc	2.8 ft
6.5 ft	178.1 fc	3.3 ft
7.5 ft	133.8 fc	3.8 ft
8.0 ft	117.6 fc	4.0 ft
10.0 ft	75.2 fc	5.1 ft
12.0 ft	52.2 fc	6.1 ft
14.0 ft	38.4 fc	7.1 ft
16.0 ft	29.4 fc	8.1 ft
20.0 ft	18.8 fc	10.1 ft
24.0 ft	13.1 fc	12.1 ft
28.0 ft	9.6 fc	14.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1649808	1649808	1649808
45.00°	11199	10375	13241
55.00°	6408	6874	7273
65.00°	10608	9606	10705
75.00°	4038	5959	4224
85.00°	6345	5674	6769

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	8.0	8.9	8.3	9.2	9.5	7.8	8.7	8.2	9.1	9.4
	3H	10.7	11.5	11.1	11.9	12.2	10.8	11.6	11.2	12.0	12.3
	4H	11.0	11.7	11.4	12.1	12.5	11.1	11.9	11.5	12.2	12.6
	6H	11.2	11.9	11.6	12.2	12.6	11.3	11.9	11.7	12.3	12.7
	8H	11.3	11.9	11.7	12.3	12.8	11.3	12.0	11.8	12.4	12.8
	12H	11.4	12.0	11.9	12.4	12.9	11.5	12.1	11.9	12.5	12.9
4H	2H	8.9	9.6	9.3	10.0	10.4	8.9	9.7	9.3	10.0	10.4
	3H	11.5	12.1	11.9	12.6	13.0	11.6	12.2	12.0	12.6	13.0
	4H	11.8	12.4	12.3	12.8	13.3	11.9	12.4	12.3	12.9	13.3
	6H	12.0	12.5	12.5	13.0	13.4	12.1	12.5	12.6	13.0	13.5
	8H	12.2	12.6	12.7	13.1	13.6	12.2	12.6	12.7	13.1	13.6
	12H	12.4	12.7	12.9	13.2	13.7	12.4	12.7	12.9	13.2	13.7
8H	4H	11.9	12.3	12.4	12.8	13.3	11.9	12.3	12.4	12.8	13.3
	6H	12.2	12.5	12.7	13.0	13.5	12.2	12.5	12.7	13.0	13.5
	8H	12.4	12.7	13.0	13.2	13.8	12.4	12.7	12.9	13.2	13.7
	12H	12.7	13.0	13.2	13.5	14.1	12.7	12.9	13.2	13.4	14.0
12H	4H	11.9	12.2	12.4	12.7	13.2	11.9	12.2	12.4	12.7	13.2
	6H	12.2	12.5	12.7	13.0	13.5	12.2	12.5	12.7	13.0	13.5
	8H	12.5	12.7	13.0	13.2	13.8	12.4	12.7	13.0	13.2	13.8

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0