

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SR3Mx 25L 35K ND xx xx RDD3F 25L 35K ND MW NL
Nom. 3" Round Deep Downlight A-Spec, Narrow Beam

Test Number

SP-01410_1

Test Date

9/19/2022

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	2565
Efficacy	97.54 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.39
Two luminaires, plane 90°	0.39
Four luminaires	0.43

Full Beam Angle

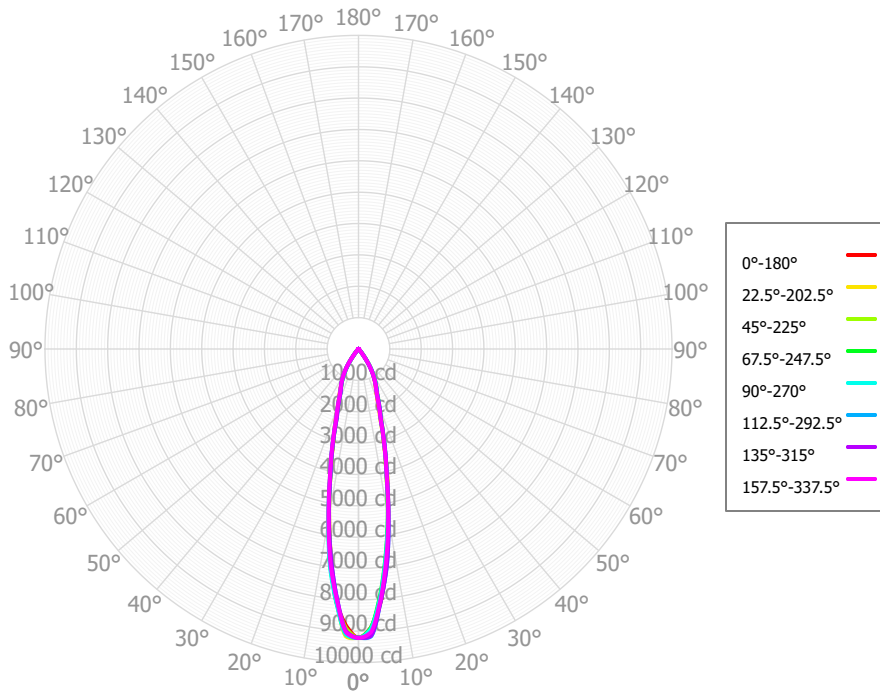
0° - 180°	23°
90° - 270°	23°

IES File Header Contents

Keyword	Value
TEST	SP-01410_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/19/2022
ISSUEDATE	10/25/2022
LUMCAT	SR3Mx 25L 35K ND xx xx RDD3F 25L 35K ND MW NL
LUMINAIRE	Nom. 3" Round Deep Downlight A-Spec, Narrow Beam
OTHER	Matte White Trim, No lens
OTHER	23 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	This report prepared by Spectrum Lighting
_CRI	80

SR3Mx 25L 35K ND xx xx RDD3F 25L 35K ND
MW NL

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	687.02	26.78%	90.00° - 100.00°	1.73	0.07%
10.00° - 20.00°	889.07	34.66%	100.00° - 110.00°	1.62	0.06%
20.00° - 30.00°	609.55	23.76%	100.00° - 120.00°	3.29	0.13%
30.00° - 40.00°	298.75	11.65%	120.00° - 130.00°	1.60	0.06%
40.00° - 50.00°	31.93	1.24%	130.00° - 140.00°	1.44	0.06%
50.00° - 60.00°	20.70	0.81%	140.00° - 150.00°	1.32	0.05%
60.00° - 70.00°	11.48	0.45%	150.00° - 160.00°	1.01	0.04%
70.00° - 80.00°	3.49	0.14%	160.00° - 170.00°	0.61	0.02%
80.00° - 90.00°	2.07	0.08%	170.00° - 180.00°	0.20	0.01%
0.00° - 90.00°	2554.06	99.56%	0.00° - 180.00°	2565.27	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°	9212.30	9212.30	9212.30	9212.30	9212.30	9212.30	9212.30	9212.30	9212.30	9212.30	9212.30	9212.30	9212.30	9212.30	9212.30	9212.30	9212.30
2.50°	8907.29	9103.89	8915.63	8918.48	8946.59	9055.37	9012.27	9047.81	8853.52	9175.02	8929.53	9100.54	9122.60	9175.96	9155.06	9046.04	8907.29
5.00°	8106.27	7959.44	7980.02	7893.48	7943.39	7953.60	7954.46	8002.77	8105.59	8028.52	8088.58	8063.85	8115.96	8082.61	8081.12	8041.56	8106.27
7.50°	6854.56	6777.76	6817.58	6634.54	6665.01	6733.78	6728.56	6873.56	6728.27	6869.32	6720.78	6924.77	6979.77	6947.31	6943.33	6769.15	6854.56
10.00°	5428.07	5441.36	5442.45	5378.27	5410.35	5444.92	5442.56	5500.75	5402.26	5475.04	5408.09	5482.69	5527.33	5522.92	5518.71	5464.54	5428.07
12.50°	4245.89	4101.42	4243.96	4122.76	4164.25	4148.28	4145.68	4231.26	4193.22	4111.75	4148.49	4163.12	4215.74	4167.50	4185.14	4150.44	4245.89
15.00°	3153.47	3184.72	3204.07	3198.06	3223.19	3212.29	3193.80	3249.76	3146.31	3216.69	3143.16	3192.52	3230.59	3244.58	3241.31	3194.39	3153.47
17.50°	2420.04	2274.52	2447.20	2364.73	2386.25	2312.23	2300.87	2408.25	2450.95	2354.32	2372.51	2356.80	2399.05	2393.31	2394.87	2339.70	2420.04
20.00°	1811.35	1875.28	1937.14	1910.84	1907.23	1884.63	1860.17	1936.10	1883.51	1930.59	1847.33	1884.57	1911.51	1953.48	1937.53	1872.37	1811.35
22.50°	1500.95	1478.91	1583.49	1555.16	1545.73	1499.97	1490.14	1542.70	1584.31	1524.95	1539.12	1491.89	1515.73	1549.49	1533.26	1510.09	1500.95
25.00°	1290.31	1304.45	1360.44	1337.06	1330.20	1319.83	1306.15	1346.23	1324.20	1337.20	1300.46	1305.93	1315.39	1339.99	1331.70	1294.41	1290.31
27.50°	1100.67	1129.47	1147.10	1152.25	1159.86	1155.67	1148.58	1149.32	1142.15	1147.53	1121.49	1115.11	1112.11	1127.96	1126.75	1115.96	1100.67
30.00°	917.79	917.31	941.52	941.36	955.40	953.23	947.14	951.35	946.17	937.80	921.06	912.33	902.84	902.91	909.63	904.02	917.79
32.50°	697.83	704.47	721.38	724.45	740.81	748.26	739.88	741.71	723.26	725.33	702.72	701.00	686.00	676.13	688.06	684.13	697.83
35.00°	466.63	464.50	489.96	489.39	505.19	510.90	503.39	505.30	498.16	487.72	478.41	469.28	454.29	441.13	451.20	452.22	466.63
37.50°	278.91	229.02	293.85	250.45	263.70	271.67	263.30	295.60	269.05	262.86	249.33	268.63	257.19	230.26	243.12	217.59	278.91
40.00°	103.58	129.75	124.34	136.35	142.79	155.74	148.83	145.08	104.94	146.15	117.43	138.17	125.83	126.06	128.05	118.37	103.58
42.50°	49.85	34.04	44.31	47.73	53.45	45.91	48.17	39.63	56.88	41.26	59.74	44.16	38.25	40.01	39.13	47.61	49.85
45.00°	29.32	25.86	28.77	28.19	28.98	31.89	28.84	29.16	25.23	29.38	30.24	29.71	29.99	30.43	29.86	29.53	29.32
47.50°	22.22	18.20	21.44	21.68	20.76	21.49	17.37	21.78	21.55	18.88	21.65	19.24	23.74	22.43	22.29	21.95	22.22
50.00°	18.56	20.51	19.75	20.67	19.72	20.96	18.14	20.72	19.38	18.12	18.24	17.03	20.97	20.81	19.72	21.90	18.56
52.50°	21.55	22.88	21.32	20.65	20.39	20.69	20.00	21.11	19.66	18.04	18.55	17.31	20.05	20.51	18.70	23.23	21.55
55.00°	26.17	26.22	25.06	24.66	24.95	23.11	24.96	24.33	21.30	22.40	21.64	22.60	22.24	25.22	22.07	25.69	26.17
57.50°	26.97	28.87	25.28	29.33	30.36	25.58	30.15	25.15	25.06	25.53	26.62	24.37	22.65	27.88	23.85	28.35	26.97
60.00°	26.89	22.17	23.22	23.45	25.22	20.37	23.54	21.54	24.44	21.29	24.12	19.44	20.24	23.31	21.35	22.12	26.89
62.50°	19.01	15.62	17.55	15.96	17.90	15.07	16.15	16.88	17.11	16.89	16.70	14.38	16.52	18.13	17.73	14.47	19.01
65.00°	9.43	11.00	9.63	10.67	11.81	9.73	10.93	10.33	11.15	11.62	11.06	9.11	10.78	10.87	11.24	9.54	9.43
67.50°	6.10	6.68	5.91	5.69	5.97	4.43	5.83	5.96	7.17	6.93	6.57	5.50	6.58	5.16	6.30	5.00	6.10
70.00°	4.02	5.67	4.66	4.42	4.58	4.16	4.35	5.39	4.64	5.34	4.57	4.83	4.67	4.40	5.19	4.04	4.02
72.50°	3.45	4.63	3.64	3.64	4.00	3.89	3.03	4.57	4.14	3.95	4.08	4.19	3.40	3.61	4.02	3.58	3.45
75.00°	3.16	3.38	2.74	3.21	3.38	3.13	3.04	3.35	3.49	3.52	3.15	3.62	3.08	2.75	2.74	3.82	3.16
77.50°	2.62	2.21	2.24	2.83	2.76	2.38	3.09	2.62	2.61	3.04	1.97	3.22	2.83	2.04	1.93	4.15	2.62
80.00°	2.03	1.79	1.96	2.25	2.23	2.07	2.64	2.69	2.07	2.28	1.72	3.10	2.71	1.81	2.19	3.29	2.03
82.50°	2.11	1.42	1.80	1.66	1.72	1.77	2.18	2.62	1.98	1.62	2.01	2.80	2.37	1.68	2.41	2.29	2.11
85.00°	2.29	1.45	1.71	1.64	1.63	1.73	1.81	2.36	1.98	1.40	1.99	2.21	1.73	1.84	2.54	1.87	2.29
87.50°	2.16	1.49	1.59	1.68	1.61	1.69	1.44	2.07	2.09	1.27	1.81	1.72	1.32	1.88	2.46	1.51	2.16
90.00°	1.99	1.55	1.46	1.43	1.33	1.61	1.54	1.76	2.00	1.55	1.55	1.36	1.21	1.60	1.93	1.29	1.99
92.50°	1.71	1.65	1.50	1.16	1.02	1.55	1.64	1.61	1.64	1.77	1.26	1.24	1.14	1.46	1.72	1.07	1.71
95.00°	1.42	1.94	1.63	1.41	1.35	1.95	1.40	1.69	1.48	1.73	1.36	1.46	1.15	1.64	2.15	1.48	1.42
97.50°	1.72	2.15	1.64	1.69	1.76	2.29	1.15	1.74	1.52	1.67	1.65	1.56	1.15	1.71	2.31	1.93	1.72
100.00°	2.09	1.80	1.59	1.49	1.74	2.03	1.30	1.77	1.48	1.54	1.67	1.46	1.17	1.51	1.96	1.61	2.09

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	3051	3051	3051	3051	2979	2979	2979	2979	2844	2844	2844	2721	2721	2721	2607	2607	2607	2554
	1	2931	2870	2815	2765	2868	2814	2765	2720	2709	2670	2635	2613	2583	2555	2524	2501	2479	2451
	2	2815	2709	2622	2548	2760	2665	2586	2519	2582	2518	2463	2506	2454	2409	2435	2394	2358	2347
	3	2705	2567	2461	2376	2656	2532	2435	2356	2466	2385	2318	2404	2337	2281	2347	2292	2245	2249
	4	2601	2441	2324	2234	2558	2412	2304	2220	2358	2266	2194	2308	2231	2168	2262	2196	2142	2156
	5	2503	2327	2204	2113	2465	2304	2189	2104	2259	2161	2085	2218	2133	2066	2180	2107	2048	2069
	6	2411	2224	2099	2009	2377	2205	2087	2002	2168	2065	1988	2134	2044	1975	2102	2023	1961	1989
	7	2325	2131	2005	1917	2294	2115	1996	1912	2084	1978	1902	2055	1961	1892	2028	1945	1882	1913
	8	2244	2046	1921	1835	2216	2032	1914	1831	2006	1899	1824	1981	1886	1816	1958	1872	1808	1843
	9	2168	1967	1844	1761	2143	1955	1838	1758	1933	1827	1752	1912	1816	1747	1892	1805	1741	1778
	10	2097	1895	1775	1694	2074	1885	1770	1692	1866	1760	1687	1847	1751	1683	1830	1742	1678	1717

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	304.5 fc	2.3 ft
6.5 ft	218.0 fc	2.7 ft
7.5 ft	163.8 fc	3.1 ft
8.0 ft	143.9 fc	3.3 ft
10.0 ft	92.1 fc	4.1 ft
12.0 ft	64.0 fc	5.0 ft
14.0 ft	47.0 fc	5.8 ft
16.0 ft	36.0 fc	6.6 ft
20.0 ft	23.0 fc	8.3 ft
24.0 ft	16.0 fc	9.9 ft
28.0 ft	11.8 fc	11.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	2020078	2020078	2020078
45.00°	9092	8923	8987
55.00°	10006	9580	9537
65.00°	4895	4997	6130
75.00°	2675	2324	2865
85.00°	5750	4302	4101

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	11.3	12.2	11.6	12.5	12.8	10.5	11.4	10.8	11.7	12.0
	3H	11.3	12.1	11.7	12.4	12.8	10.5	11.3	10.9	11.7	12.1
	4H	11.3	12.0	11.7	12.4	12.8	10.6	11.3	11.0	11.7	12.1
	6H	11.3	12.0	11.7	12.3	12.8	10.6	11.3	11.0	11.7	12.1
	8H	11.3	11.9	11.7	12.3	12.7	10.6	11.3	11.1	11.7	12.1
	12H	11.3	11.9	11.8	12.3	12.8	10.7	11.3	11.1	11.7	12.1
4H	2H	11.2	11.9	11.6	12.3	12.7	10.5	11.2	10.9	11.6	12.0
	3H	11.3	11.9	11.7	12.3	12.7	10.6	11.2	11.0	11.6	12.1
	4H	11.3	11.9	11.8	12.3	12.8	10.7	11.2	11.1	11.7	12.1
	6H	11.4	11.9	11.9	12.3	12.8	10.8	11.3	11.3	11.7	12.2
	8H	11.4	11.9	11.9	12.3	12.8	10.9	11.3	11.4	11.8	12.3
	12H	11.6	11.9	12.1	12.4	12.9	11.0	11.4	11.5	11.9	12.3
8H	4H	11.2	11.6	11.7	12.1	12.6	10.6	11.0	11.1	11.5	12.0
	6H	11.4	11.7	11.9	12.2	12.7	10.8	11.1	11.3	11.7	12.2
	8H	11.5	11.7	12.0	12.3	12.8	11.0	11.3	11.5	11.8	12.3
	12H	11.7	11.9	12.2	12.4	13.0	11.2	11.5	11.7	12.0	12.6
12H	4H	11.2	11.5	11.7	12.0	12.5	10.6	10.9	11.1	11.4	11.9
	6H	11.3	11.6	11.9	12.1	12.7	10.8	11.1	11.3	11.6	12.1
	8H	11.5	11.7	12.0	12.2	12.8	11.0	11.3	11.5	11.8	12.4

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0