

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

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

Test Number

SP-01410_2

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	2630
Efficacy	99.99 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.58
Two luminaires, plane 90°	0.59
Four luminaires	0.63

Full Beam Angle

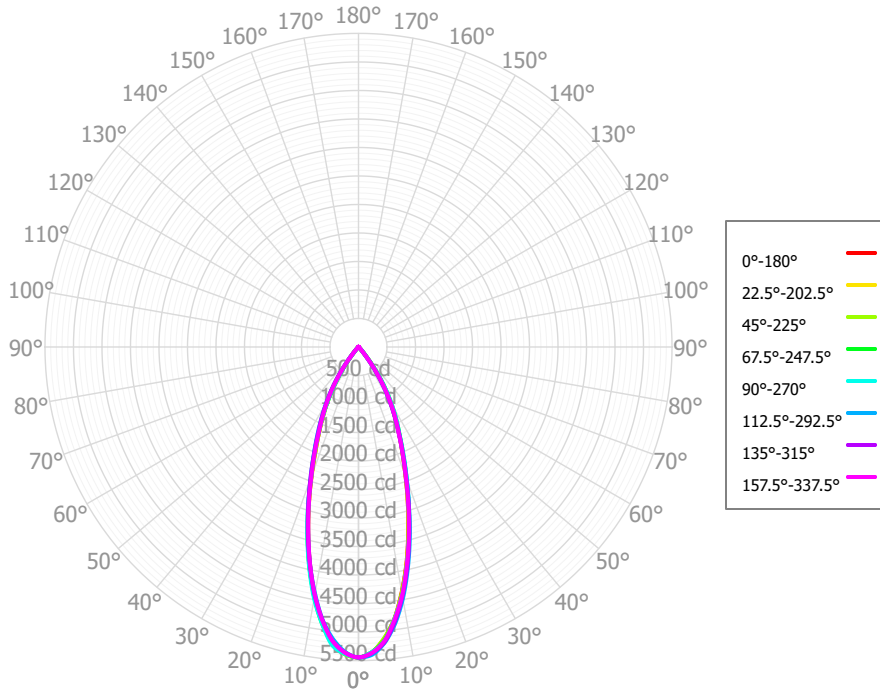
0° - 180°	37°
90° - 270°	37°

IES File Header Contents

Keyword	Value
TEST	SP-01410_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/19/2022
ISSUDATE	10/25/2022
LUMCAT	SR3Mx 25L 35K WD xx xx RDD3F 25L 35K WD MW NL
LUMINAIRE	Nom. 3" Round Deep Downlight A-Spec, Wide Beam
OTHER	Matte White Trim, No lens
OTHER	37 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 WD xx xx RDD3F 25L 35K WD
MW NL

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	475.24	18.07%	90.00° - 100.00°	1.83	0.07%
10.00° - 20.00°	936.17	35.60%	100.00° - 110.00°	1.82	0.07%
20.00° - 30.00°	769.59	29.27%	100.00° - 120.00°	3.52	0.13%
30.00° - 40.00°	354.75	13.49%	120.00° - 130.00°	1.69	0.06%
40.00° - 50.00°	46.85	1.78%	130.00° - 140.00°	1.57	0.06%
50.00° - 60.00°	18.92	0.72%	140.00° - 150.00°	1.40	0.05%
60.00° - 70.00°	10.27	0.39%	150.00° - 160.00°	1.08	0.04%
70.00° - 80.00°	3.73	0.14%	160.00° - 170.00°	0.65	0.02%
80.00° - 90.00°	2.14	0.08%	170.00° - 180.00°	0.21	0.01%
0.00° - 90.00°	2617.66	99.55%	0.00° - 180.00°	2629.62	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°	5445.27	5445.27	5445.27	5445.27	5445.27	5445.27	5445.27	5445.27	5445.27	5445.27	5445.27	5445.27	5445.27	5445.27	5445.27	5445.27	5445.27
2.50°	5364.24	5361.52	5361.30	5359.89	5357.59	5356.95	5368.18	5368.79	5390.73	5383.43	5398.81	5384.87	5389.37	5405.38	5377.03	5371.47	5364.24
5.00°	5141.06	5150.83	5132.11	5169.57	5189.28	5142.01	5182.32	5181.18	5191.58	5195.55	5196.25	5223.76	5256.47	5213.50	5204.38	5182.00	5141.06
7.50°	4815.03	4815.64	4818.82	4825.67	4821.31	4829.14	4834.54	4843.15	4873.08	4874.07	4888.34	4892.69	4897.74	4901.35	4869.49	4829.94	4815.03
10.00°	4367.21	4396.00	4379.19	4420.13	4424.29	4392.19	4427.02	4410.45	4441.70	4416.65	4462.95	4455.04	4483.77	4483.21	4438.55	4417.36	4367.21
12.50°	3887.11	3900.70	3905.79	3925.36	3925.73	3921.45	3928.05	3921.46	3924.51	3927.87	3967.46	3967.03	3985.13	3989.80	3953.14	3918.48	3887.11
15.00°	3369.70	3400.49	3383.45	3427.96	3429.43	3409.35	3429.64	3398.32	3408.40	3408.26	3446.73	3448.57	3466.90	3475.30	3436.66	3415.31	3369.70
17.50°	2877.25	2896.03	2886.05	2926.87	2940.64	2920.29	2932.05	2898.65	2893.09	2896.18	2911.48	2932.13	2951.10	2946.34	2932.17	2906.17	2877.25
20.00°	2412.69	2440.84	2423.95	2465.47	2473.29	2458.43	2465.84	2412.71	2418.52	2391.24	2433.33	2416.85	2435.84	2473.46	2434.27	2437.18	2412.69
22.50°	2013.04	2026.82	2019.23	2057.56	2074.98	2052.45	2044.34	2004.94	1972.81	1968.59	1986.81	2003.68	2035.53	2037.65	2031.72	2022.12	2013.04
25.00°	1683.43	1688.45	1692.84	1706.89	1707.84	1710.22	1680.50	1641.20	1625.17	1621.40	1634.76	1647.81	1659.31	1684.43	1679.59	1667.86	1683.43
27.50°	1381.60	1411.11	1395.39	1430.72	1436.46	1400.16	1395.95	1344.75	1344.54	1316.94	1333.09	1331.26	1350.09	1383.87	1374.99	1392.46	1381.60
30.00°	1108.72	1137.62	1136.10	1161.45	1165.94	1125.54	1118.26	1084.80	1077.15	1050.34	1049.20	1035.96	1054.08	1093.00	1094.59	1115.44	1108.72
32.50°	835.31	867.11	874.71	900.84	897.97	856.71	849.68	823.92	818.48	785.82	774.44	759.97	779.25	808.16	818.07	836.41	835.31
35.00°	561.37	599.61	610.68	637.84	632.11	594.05	586.24	562.55	561.62	523.08	516.28	494.02	508.34	541.11	543.45	566.71	561.37
37.50°	337.03	334.38	379.61	371.91	372.15	366.09	329.40	345.65	305.90	312.90	266.32	293.31	303.96	284.73	326.31	308.31	337.03
40.00°	160.92	173.41	189.06	187.54	163.90	173.83	155.49	151.10	159.98	146.17	139.29	125.27	111.09	146.35	136.56	141.33	160.92
42.50°	66.01	88.99	74.62	99.80	94.41	67.38	84.20	70.85	81.37	63.31	70.61	60.14	66.32	76.12	64.90	81.11	66.01
45.00°	48.24	48.48	50.47	47.59	42.13	46.17	41.52	45.83	46.92	47.38	43.12	44.55	45.41	45.99	47.33	45.47	48.24
47.50°	36.76	39.09	34.37	36.03	34.08	32.69	33.01	33.93	38.57	36.72	34.42	35.85	36.66	38.17	37.36	37.86	36.76
50.00°	31.06	32.19	27.49	27.38	27.06	26.70	26.32	28.12	31.76	30.13	29.41	30.34	29.73	32.02	30.72	31.42	31.06
52.50°	25.65	27.01	22.53	21.93	22.58	21.92	21.74	23.25	25.82	24.99	26.01	26.00	25.65	26.77	26.05	26.27	25.65
55.00°	20.50	22.26	19.72	18.43	18.58	18.27	17.96	18.80	21.81	20.92	22.00	22.17	21.98	22.17	22.21	22.05	20.50
57.50°	17.29	17.79	17.35	17.01	15.75	15.64	15.08	16.58	18.85	18.43	17.75	18.91	18.27	17.92	18.75	18.81	17.29
60.00°	15.75	14.96	15.46	15.08	13.16	13.94	12.67	15.33	15.81	17.06	15.22	15.89	14.56	14.97	15.46	15.97	15.75
62.50°	13.38	13.18	13.04	12.65	11.08	11.70	10.75	13.02	12.74	14.98	13.41	13.39	12.57	12.68	13.09	13.54	13.38
65.00°	10.32	10.62	10.06	10.41	9.14	9.00	9.00	10.28	10.16	12.40	10.40	11.09	10.79	10.37	11.09	11.03	10.32
67.50°	7.86	7.59	7.87	8.36	7.50	6.98	7.45	8.04	7.84	9.48	6.92	8.47	8.33	8.05	8.34	8.46	7.86
70.00°	5.90	5.67	6.47	6.39	5.97	5.51	5.87	6.00	5.79	6.34	5.18	5.72	5.79	6.11	5.32	6.10	5.90
72.50°	4.44	4.40	4.94	4.49	4.70	4.29	4.26	4.68	3.87	4.40	4.09	4.03	4.03	4.35	3.85	3.96	4.44
75.00°	3.37	3.70	3.29	3.31	3.65	3.26	3.32	3.65	2.87	3.24	3.02	2.76	2.35	3.34	2.93	2.76	3.37
77.50°	2.71	3.32	2.41	2.79	3.07	2.52	3.04	2.89	2.30	2.52	1.97	2.38	2.08	2.66	2.62	2.43	2.71
80.00°	2.36	3.00	2.25	2.45	2.46	2.00	2.69	2.24	2.15	2.09	1.96	2.33	1.94	2.34	2.52	2.16	2.36
82.50°	2.11	2.71	2.07	2.27	1.84	1.88	2.29	2.15	2.17	1.86	2.30	2.30	1.75	2.18	2.31	1.93	2.11
85.00°	1.94	2.39	1.87	2.13	1.40	2.06	1.95	2.27	2.01	1.76	1.96	2.28	1.55	2.08	2.06	1.73	1.94
87.50°	1.95	2.04	1.72	2.04	1.29	1.90	1.66	2.14	1.76	1.75	1.40	1.89	1.75	2.00	1.76	1.56	1.95
90.00°	2.08	1.83	1.62	1.85	1.37	1.48	1.43	1.93	1.68	1.80	1.39	1.37	1.97	1.81	1.45	1.35	2.08
92.50°	2.10	1.69	1.68	1.58	1.79	1.46	1.27	1.78	1.67	1.92	1.55	1.39	1.71	1.56	1.54	1.12	2.10
95.00°	2.04	1.82	1.89	1.49	2.01	1.72	1.31	1.66	1.63	2.08	1.57	1.58	1.42	1.57	1.74	1.19	2.04
97.50°	1.89	2.09	1.96	1.55	1.90	1.73	1.52	1.67	1.58	1.98	1.54	1.69	1.76	1.66	1.65	1.50	1.89
100.00°	1.68	2.20	1.91	1.56	1.83	1.55	1.72	1.71	1.58	1.73	1.64	1.78	2.14	1.69	1.47	1.63	1.68

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	3128	3128	3128	3128	3054	3054	3054	3054	2915	2915	2915	2789	2789	2789	2672	2672	2672	2618
	1	2997	2930	2871	2817	2932	2873	2819	2771	2765	2723	2684	2666	2633	2602	2574	2549	2525	2497
	2	2868	2753	2658	2578	2811	2708	2621	2548	2622	2552	2491	2543	2486	2436	2470	2424	2384	2377
	3	2745	2595	2479	2386	2694	2558	2452	2366	2489	2400	2327	2426	2352	2290	2366	2306	2254	2261
	4	2629	2453	2324	2226	2583	2423	2304	2212	2367	2265	2185	2315	2229	2159	2266	2193	2134	2153
	5	2518	2324	2189	2089	2477	2300	2174	2079	2253	2144	2060	2210	2116	2042	2170	2089	2023	2051
	6	2414	2208	2069	1970	2377	2187	2057	1963	2148	2034	1949	2112	2012	1935	2078	1991	1922	1956
	7	2315	2101	1962	1864	2282	2084	1952	1859	2051	1934	1849	2020	1916	1839	1992	1899	1829	1868
	8	2223	2003	1865	1770	2193	1989	1857	1766	1961	1843	1758	1935	1828	1751	1910	1815	1743	1786
	9	2136	1913	1777	1685	2109	1901	1771	1682	1877	1759	1676	1854	1747	1670	1833	1736	1664	1709
	10	2055	1831	1697	1607	2030	1820	1692	1605	1799	1682	1600	1780	1672	1596	1761	1662	1591	1638

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	180.0 fc	3.7 ft
6.5 ft	128.9 fc	4.3 ft
7.5 ft	96.8 fc	5.0 ft
8.0 ft	85.1 fc	5.3 ft
10.0 ft	54.5 fc	6.6 ft
12.0 ft	37.8 fc	8.0 ft
14.0 ft	27.8 fc	9.3 ft
16.0 ft	21.3 fc	10.6 ft
20.0 ft	13.6 fc	13.3 ft
24.0 ft	9.5 fc	15.9 ft
28.0 ft	6.9 fc	18.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1194043	1194043	1194043
45.00°	14960	15653	13066
55.00°	7835	7540	7104
65.00°	5354	5221	4744
75.00°	2854	2788	3095
85.00°	4869	4712	3514

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	8.1	9.0	8.5	9.3	9.7	7.8	8.7	8.1	9.0	9.3
	3H	8.8	9.6	9.2	9.9	10.3	8.5	9.3	8.9	9.7	10.0
	4H	8.9	9.7	9.3	10.0	10.4	8.6	9.4	9.1	9.7	10.1
	6H	9.0	9.7	9.5	10.1	10.5	8.7	9.4	9.2	9.8	10.2
	8H	9.1	9.8	9.6	10.2	10.6	8.8	9.4	9.2	9.8	10.3
	12H	9.2	9.8	9.7	10.2	10.7	8.9	9.5	9.3	9.9	10.3
4H	2H	8.3	9.1	8.7	9.4	9.8	8.0	8.7	8.4	9.1	9.5
	3H	9.1	9.7	9.5	10.1	10.6	8.8	9.4	9.2	9.8	10.2
	4H	9.3	9.8	9.7	10.3	10.7	9.0	9.5	9.4	9.9	10.4
	6H	9.5	10.0	10.0	10.4	10.9	9.2	9.6	9.6	10.1	10.6
	8H	9.7	10.1	10.1	10.5	11.0	9.3	9.7	9.8	10.2	10.6
	12H	9.9	10.2	10.4	10.7	11.2	9.4	9.8	9.9	10.3	10.8
8H	4H	9.3	9.7	9.8	10.2	10.6	9.0	9.4	9.4	9.8	10.3
	6H	9.6	10.0	10.1	10.5	11.0	9.2	9.6	9.8	10.1	10.6
	8H	9.9	10.2	10.4	10.7	11.2	9.5	9.8	10.0	10.3	10.8
	12H	10.3	10.5	10.8	11.0	11.6	9.8	10.1	10.3	10.6	11.2
12H	4H	9.2	9.6	9.7	10.1	10.6	8.9	9.3	9.4	9.8	10.3
	6H	9.6	9.9	10.2	10.4	11.0	9.3	9.6	9.8	10.0	10.6
	8H	10.0	10.2	10.5	10.7	11.3	9.6	9.8	10.1	10.3	10.9

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0