

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

SR3Mx 25L 35K MD xx xx RDD3F 25L 35K MD MW SO  
Nom. 3" Round Deep Downlight A-Spec, Medium Beam

### **Test Number**

SP-01411

### **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	2438
Efficacy	92.7 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

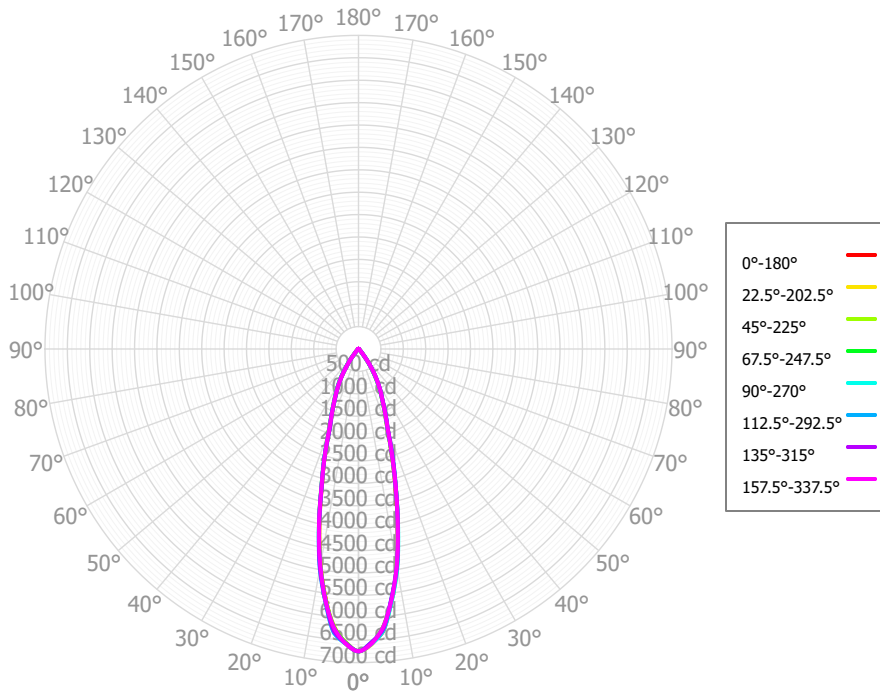
0° - 180°	29°
90° - 270°	29°

### IES File Header Contents

Keyword	Value
TEST	SP-01411
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/19/2022
ISSUE DATE	10/25/2022
LUMCAT	SR3Mx 25L 35K MD xx xx RDD3F 25L 35K MD MW SO
LUMINAIRE	Nom. 3" Round Deep Downlight A-Spec, Medium Beam
OTHER	Matte White Trim, Solite 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	This report prepared by Spectrum Lighting
_CRI	80

SR3Mx 25L 35K MD xx xx RDD3F 25L 35K MD  
MW SO

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	558.45	22.91%	90.00° - 100.00°	1.65	0.07%
10.00° - 20.00°	880.34	36.11%	100.00° - 110.00°	1.55	0.06%
20.00° - 30.00°	591.15	24.25%	100.00° - 120.00°	3.00	0.12%
30.00° - 40.00°	284.61	11.67%	120.00° - 130.00°	1.49	0.06%
40.00° - 50.00°	60.24	2.47%	130.00° - 140.00°	1.49	0.06%
50.00° - 60.00°	28.71	1.18%	140.00° - 150.00°	1.30	0.05%
60.00° - 70.00°	16.68	0.68%	150.00° - 160.00°	1.01	0.04%
70.00° - 80.00°	5.13	0.21%	160.00° - 170.00°	0.60	0.02%
80.00° - 90.00°	1.95	0.08%	170.00° - 180.00°	0.18	0.01%
0.00° - 90.00°	2427.26	99.56%	0.00° - 180.00°	2438.00	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°	6749.12	6749.12	6749.12	6749.12	6749.12	6749.12	6749.12	6749.12	6749.12	6749.12	6749.12	6749.12	6749.12	6749.12	6749.12	6749.12	6749.12
2.50°	6582.53	6606.91	6574.70	6586.41	6594.45	6587.81	6574.81	6586.77	6564.87	6583.65	6553.07	6572.99	6577.97	6559.87	6560.46	6591.30	6582.53
5.00°	6325.17	6248.18	6287.57	6246.07	6323.74	6354.88	6321.85	6250.09	6298.49	6221.37	6259.58	6239.83	6303.17	6288.38	6284.90	6246.81	6325.17
7.50°	5649.44	5665.12	5659.45	5657.56	5680.97	5682.39	5656.50	5665.88	5617.27	5651.17	5634.36	5664.88	5653.60	5624.20	5625.17	5649.56	5649.44
10.00°	4947.22	4915.10	4952.31	4923.50	4980.92	4976.69	4955.05	4906.51	4916.07	4887.55	4913.49	4909.50	4936.34	4930.59	4932.37	4914.90	4947.22
12.50°	4047.93	4030.92	4054.24	4043.83	4084.17	4084.01	4071.09	4073.17	4036.51	4065.80	4059.16	4080.42	4075.01	4060.32	4056.50	4035.45	4047.93
15.00°	3179.00	3218.08	3211.17	3224.06	3231.22	3182.54	3175.74	3192.73	3153.49	3194.49	3171.79	3201.06	3192.61	3220.20	3213.50	3221.44	3179.00
17.50°	2496.23	2456.91	2485.98	2459.23	2511.61	2518.15	2512.18	2500.75	2503.67	2493.52	2502.77	2508.70	2532.70	2533.11	2525.70	2470.64	2496.23
20.00°	1873.79	1921.62	1891.54	1908.90	1896.09	1860.17	1857.52	1918.12	1861.88	1925.53	1879.42	1931.03	1899.11	1912.46	1909.43	1920.23	1873.79
22.50°	1555.22	1535.89	1551.03	1536.21	1558.23	1556.52	1552.92	1544.58	1562.02	1541.02	1545.68	1557.82	1576.10	1582.00	1578.97	1544.65	1555.22
25.00°	1258.39	1259.30	1257.23	1253.07	1257.97	1255.24	1253.77	1281.39	1266.53	1285.61	1263.55	1298.81	1281.60	1277.56	1276.19	1263.43	1258.39
27.50°	1055.81	1047.62	1044.62	1036.82	1047.81	1050.01	1050.12	1054.65	1057.00	1062.25	1056.08	1078.99	1075.79	1069.98	1068.44	1057.62	1055.81
30.00°	852.34	837.69	832.26	823.78	838.22	844.64	846.32	845.07	847.78	859.19	859.73	878.75	875.51	862.51	860.92	853.44	852.34
32.50°	645.55	628.70	620.32	612.94	629.85	636.42	638.41	639.59	642.37	656.38	661.70	676.57	671.17	655.41	654.10	650.42	645.55
35.00°	448.95	439.28	427.85	426.82	436.64	432.72	433.98	435.83	441.76	453.73	463.49	473.53	466.68	458.11	457.73	459.53	448.95
37.50°	284.93	259.30	263.14	256.13	272.68	284.79	283.21	284.85	286.56	297.13	304.66	312.46	303.87	288.92	289.21	276.62	284.93
40.00°	151.28	159.38	147.69	156.10	151.38	147.02	141.63	153.68	144.75	164.31	149.20	168.20	143.24	152.60	155.01	167.24	151.28
42.50°	104.08	94.43	96.46	95.59	103.68	104.31	101.95	99.31	103.75	100.29	103.13	103.79	102.17	100.58	103.01	101.34	104.08
45.00°	66.51	66.16	63.84	66.74	69.00	65.27	65.31	70.70	66.77	68.45	63.68	67.50	62.18	61.48	64.10	67.75	66.51
47.50°	53.50	52.07	53.10	53.73	54.80	53.65	53.71	56.01	53.89	52.09	52.28	51.45	51.46	51.66	52.98	51.53	53.50
50.00°	42.96	43.57	44.26	44.99	43.49	43.08	42.86	45.38	42.10	42.15	41.79	41.74	41.02	43.21	43.01	41.73	42.96
52.50°	37.97	37.00	37.42	38.20	36.26	38.74	37.07	38.88	35.73	36.46	36.33	35.34	34.81	37.52	35.25	34.99	37.97
55.00°	33.06	32.60	31.58	32.18	30.98	34.65	31.64	33.41	29.99	32.35	30.95	29.86	28.84	32.03	28.96	29.19	33.06
57.50°	28.34	28.85	26.73	26.48	28.17	31.79	28.19	30.05	26.92	28.29	26.80	26.31	25.64	26.92	25.21	23.78	28.34
60.00°	23.84	24.47	23.19	22.62	24.41	28.44	24.77	27.15	24.14	24.23	22.69	23.23	22.46	22.46	22.28	20.41	23.84
62.50°	19.76	19.93	20.82	19.42	19.52	23.06	21.51	22.73	22.43	20.82	19.37	20.02	19.46	19.05	20.66	17.83	19.76
65.00°	16.07	16.13	17.64	16.30	16.03	18.00	17.95	18.04	20.10	17.60	16.04	16.79	16.38	15.88	17.75	14.83	16.07
67.50°	13.02	12.51	13.79	13.21	14.02	14.13	13.26	13.69	15.76	14.92	12.36	13.76	12.79	13.05	13.00	11.68	13.02
70.00°	9.62	8.79	10.36	9.60	10.70	10.17	9.09	9.40	11.56	12.37	8.82	10.77	9.31	9.99	9.11	8.30	9.62
72.50°	5.67	5.06	7.23	5.83	6.09	5.93	6.78	6.53	7.78	8.26	6.76	7.14	6.41	6.59	6.33	4.86	5.67
75.00°	3.42	3.67	5.19	4.05	3.54	2.71	4.81	3.83	4.69	3.82	4.82	3.41	3.86	4.21	4.06	3.38	3.42
77.50°	3.45	2.65	3.88	2.75	2.77	2.34	3.86	3.12	3.36	2.88	3.81	2.56	2.91	3.06	2.38	2.42	3.45
80.00°	3.10	2.08	2.87	2.23	2.27	2.07	2.83	2.60	2.38	2.57	2.82	2.01	2.12	2.27	1.59	2.01	3.10
82.50°	2.30	1.56	2.04	1.86	1.97	2.01	1.56	2.15	2.18	2.31	1.98	1.72	1.97	1.87	1.73	1.73	2.30
85.00°	1.80	1.44	1.58	1.64	1.83	1.92	0.74	1.72	1.83	2.06	1.30	1.46	1.83	1.77	1.89	1.77	1.80
87.50°	1.65	1.36	1.32	1.45	1.80	1.76	1.01	1.37	1.16	1.68	1.51	1.81	1.74	1.98	2.09	1.88	1.65
90.00°	1.53	1.46	1.31	1.69	1.60	1.69	1.15	1.03	0.86	1.29	1.64	2.19	1.66	1.93	1.83	1.61	1.53
92.50°	1.46	1.58	1.42	1.99	1.30	1.82	1.03	1.34	1.19	1.58	1.44	1.86	1.60	1.63	1.17	1.27	1.46
95.00°	1.50	1.82	1.47	1.88	1.31	1.89	1.04	1.66	1.52	1.93	1.30	1.51	1.50	1.41	1.03	1.30	1.50
97.50°	1.66	2.06	1.50	1.71	1.49	1.85	1.26	1.57	1.85	1.75	1.42	1.51	1.28	1.28	1.31	1.38	1.66
100.00°	1.83	1.73	1.50	1.54	1.56	1.77	1.32	1.49	1.91	1.53	1.51	1.51	1.26	1.11	1.32	1.41	1.83

SR3Mx 25L 35K MD xx xx RDD3F 25L 35K MD  
 MW SO

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

<b>RCR</b>	<b>pfc</b>	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	<b>0</b>	2900	2900	2900	2900	2831	2831	2831	2831	2703	2703	2703	2586	2586	2586	2478	2478	2478	2427
	<b>1</b>	2781	2720	2666	2617	2721	2667	2619	2575	2567	2529	2494	2476	2446	2418	2391	2368	2347	2320
	<b>2</b>	2665	2560	2474	2401	2612	2518	2440	2374	2439	2375	2320	2366	2315	2270	2299	2258	2221	2213
	<b>3</b>	2555	2419	2313	2229	2508	2385	2288	2211	2321	2241	2175	2262	2196	2140	2208	2153	2106	2112
	<b>4</b>	2451	2292	2176	2087	2409	2265	2157	2074	2213	2122	2049	2165	2088	2025	2120	2055	2001	2017
	<b>5</b>	2353	2179	2057	1967	2316	2156	2043	1958	2114	2015	1940	2074	1989	1923	2037	1964	1906	1929
	<b>6</b>	2262	2076	1952	1863	2228	2058	1941	1856	2022	1920	1844	1989	1899	1831	1958	1880	1818	1847
	<b>7</b>	2176	1983	1859	1772	2146	1968	1850	1767	1938	1833	1757	1910	1817	1748	1884	1801	1738	1772
	<b>8</b>	2095	1899	1775	1690	2068	1885	1768	1686	1860	1754	1679	1836	1741	1672	1814	1729	1665	1702
	<b>9</b>	2020	1821	1699	1617	1995	1810	1694	1614	1788	1682	1609	1767	1672	1603	1748	1661	1598	1636
	<b>10</b>	1949	1750	1630	1551	1927	1740	1626	1549	1721	1616	1544	1703	1607	1540	1686	1599	1536	1576

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	223.1 fc	2.8 ft
6.5 ft	159.7 fc	3.3 ft
7.5 ft	120.0 fc	3.9 ft
8.0 ft	105.5 fc	4.1 ft
10.0 ft	67.5 fc	5.1 ft
12.0 ft	46.9 fc	6.2 ft
14.0 ft	34.4 fc	7.2 ft
16.0 ft	26.4 fc	8.2 ft
20.0 ft	16.9 fc	10.3 ft
24.0 ft	11.7 fc	12.3 ft
28.0 ft	8.6 fc	14.4 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	1479950	1479950	1479950
<b>45.00°</b>	20625	19796	21398
<b>55.00°</b>	12641	12074	11842
<b>65.00°</b>	8340	9152	8317
<b>75.00°</b>	2899	4398	2999
<b>85.00°</b>	4528	3982	4603

### 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	11.0	12.0	11.4	12.3	12.6	11.6	12.5	11.9	12.8	13.1
	3H	11.8	12.7	12.2	13.0	13.4	12.4	13.2	12.8	13.6	13.9
	4H	11.9	12.6	12.3	13.0	13.4	12.4	13.2	12.8	13.5	14.0
	6H	11.9	12.6	12.3	13.0	13.4	12.4	13.1	12.8	13.5	13.9
	8H	11.9	12.6	12.4	13.0	13.4	12.4	13.0	12.8	13.4	13.9
	12H	11.9	12.6	12.4	12.9	13.4	12.4	13.0	12.8	13.4	13.8
4H	2H	11.4	12.2	11.8	12.5	12.9	11.8	12.6	12.2	12.9	13.3
	3H	12.2	12.9	12.7	13.3	13.7	12.7	13.3	13.1	13.8	14.2
	4H	12.3	12.8	12.7	13.3	13.7	12.7	13.3	13.2	13.7	14.2
	6H	12.3	12.8	12.8	13.3	13.8	12.7	13.2	13.2	13.7	14.2
	8H	12.4	12.8	12.9	13.3	13.8	12.7	13.2	13.2	13.6	14.1
	12H	12.4	12.8	12.9	13.3	13.8	12.8	13.2	13.3	13.7	14.1
8H	4H	12.2	12.7	12.7	13.1	13.6	12.7	13.1	13.2	13.6	14.1
	6H	12.3	12.7	12.9	13.2	13.7	12.7	13.1	13.3	13.6	14.1
	8H	12.4	12.7	12.9	13.2	13.7	12.8	13.1	13.3	13.6	14.1
	12H	12.5	12.8	13.0	13.3	13.9	12.9	13.1	13.4	13.6	14.2
12H	4H	12.2	12.6	12.7	13.1	13.5	12.6	13.0	13.1	13.5	14.0
	6H	12.3	12.6	12.8	13.1	13.6	12.7	13.0	13.2	13.5	14.0
	8H	12.4	12.7	12.9	13.2	13.8	12.8	13.0	13.3	13.5	14.1

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0