

## 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 WD xx xx RA3F 25L 35K WD MW NL (nadir)  
Nom. 3" Round Downlight, Wide Beam

### Test Number

SP-01394\_2

### Test Date

9/7/2022

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	2069
Efficacy	78.66 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.77
Two luminaires, plane 90°	0.79
Four luminaires	0.73

#### Full Beam Angle

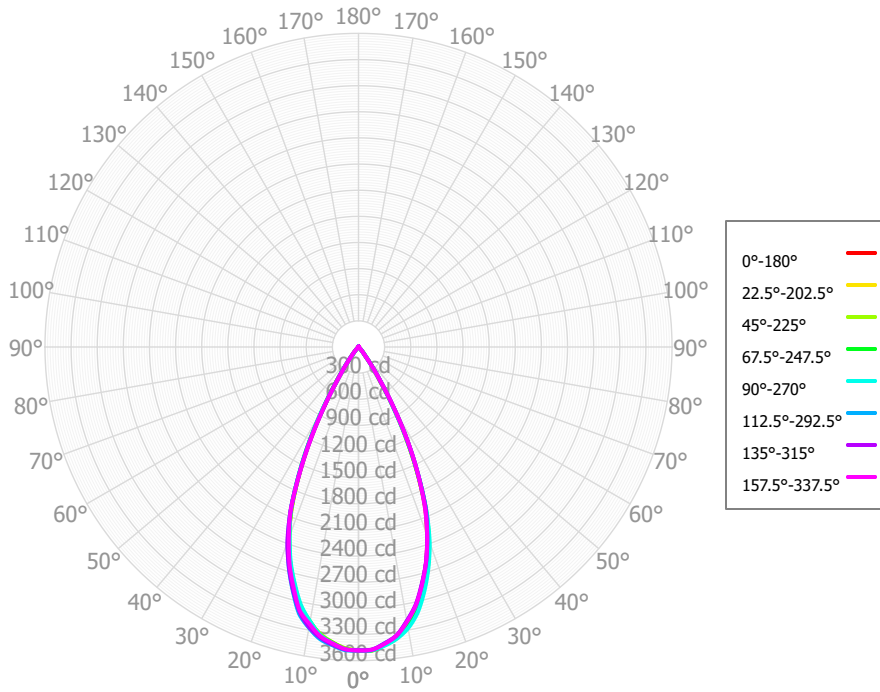
0° - 180°	48°
90° - 270°	49°

### IES File Header Contents

Keyword	Value
TEST	SP-01394_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/7/2022
ISSUDATE	12/16/2022
LUMCAT	SR3Mx 25L 35K WD xx xx RA3F 25L 35K WD MW NL (nadir)
LUMINAIRE	Nom. 3" Round Downlight, Wide Beam
OTHER	Matte White Trim, No Lens
OTHER	48 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 RA3F 25L 35K WD  
 MW NL (nadir)

**Candela Polar Plot**



**Zonal Lumen Summary**

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	325.25	15.72%	90.00° - 100.00°	1.65	0.08%
10.00° - 20.00°	786.66	38.02%	100.00° - 110.00°	1.55	0.07%
20.00° - 30.00°	716.34	34.62%	100.00° - 120.00°	3.38	0.16%
30.00° - 40.00°	194.32	9.39%	120.00° - 130.00°	1.97	0.10%
40.00° - 50.00°	21.22	1.03%	130.00° - 140.00°	2.20	0.11%
50.00° - 60.00°	2.87	0.14%	140.00° - 150.00°	1.85	0.09%
60.00° - 70.00°	3.02	0.15%	150.00° - 160.00°	1.12	0.05%
70.00° - 80.00°	3.90	0.19%	160.00° - 170.00°	0.62	0.03%
80.00° - 90.00°	2.31	0.11%	170.00° - 180.00°	0.20	0.01%
0.00° - 90.00°	2055.90	99.37%	0.00° - 180.00°	2068.89	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°	3484.09	3484.09	3484.09	3484.09	3484.09	3484.09	3484.09	3484.09	3484.09	3484.09	3484.09	3484.09	3484.09	3484.09	3484.09	3484.09	3484.09
2.50°	3485.18	3490.50	3480.71	3487.88	3485.16	3484.29	3476.34	3471.80	3468.86	3468.33	3462.11	3471.67	3475.33	3483.15	3477.33	3480.25	3485.18
5.00°	3424.27	3427.11	3429.25	3436.50	3442.89	3438.10	3430.44	3415.58	3410.76	3404.43	3407.08	3408.80	3416.08	3416.56	3417.57	3423.01	3424.27
7.50°	3358.16	3359.42	3357.71	3371.02	3378.63	3383.20	3365.39	3350.65	3341.23	3331.85	3327.21	3339.16	3339.65	3346.17	3339.66	3343.64	3358.16
10.00°	3208.50	3215.64	3229.81	3257.53	3279.46	3275.03	3267.05	3231.26	3220.67	3207.75	3208.45	3200.69	3199.36	3197.07	3194.11	3205.37	3208.50
12.50°	3054.17	3065.44	3085.65	3113.90	3128.95	3141.96	3117.47	3105.10	3075.71	3064.07	3051.08	3057.45	3041.03	3042.12	3031.35	3040.61	3054.17
15.00°	2821.80	2835.93	2858.91	2894.15	2912.95	2907.46	2897.66	2869.80	2853.27	2840.67	2845.14	2832.35	2821.27	2818.34	2811.77	2821.97	2821.80
17.50°	2584.87	2599.26	2615.14	2651.94	2666.63	2660.01	2655.02	2628.15	2615.69	2604.58	2606.39	2604.06	2589.16	2588.05	2582.17	2581.81	2584.87
20.00°	2301.30	2315.28	2319.99	2366.17	2389.49	2373.71	2387.49	2338.43	2341.48	2331.18	2334.77	2322.09	2312.47	2314.69	2302.75	2306.90	2301.30
22.50°	2002.00	2009.84	2017.96	2030.60	2038.34	2043.97	2037.25	2040.42	2017.85	2015.97	2000.45	2027.76	2030.02	2018.76	2018.19	1992.00	2002.00
25.00°	1610.23	1609.43	1604.21	1618.19	1627.26	1614.34	1614.09	1601.45	1602.13	1606.28	1616.07	1619.50	1627.66	1625.25	1620.52	1625.30	1610.23
27.50°	1217.35	1209.10	1183.13	1208.14	1210.17	1192.25	1191.42	1167.92	1188.77	1197.28	1211.92	1212.57	1217.95	1230.70	1218.36	1238.24	1217.35
30.00°	820.04	809.05	803.37	801.03	789.19	783.62	769.12	779.10	778.94	789.50	795.06	812.88	828.82	832.82	832.84	830.16	820.04
32.50°	472.84	468.67	434.45	489.41	494.06	464.92	475.42	427.26	464.25	466.22	491.99	457.28	450.58	488.72	461.32	509.85	472.84
35.00°	274.85	271.67	273.41	272.25	264.23	272.36	253.79	262.57	261.83	261.45	247.01	266.64	271.69	271.62	278.10	262.78	274.85
37.50°	123.86	126.37	124.30	142.58	148.91	142.09	141.72	124.10	134.31	128.35	133.55	115.01	107.60	115.35	112.98	129.97	123.86
40.00°	78.50	78.41	81.42	82.86	79.24	82.29	77.17	77.74	78.25	75.14	71.59	72.22	70.10	71.84	73.71	72.83	78.50
42.50°	42.93	42.16	42.43	45.37	44.51	42.29	43.19	38.95	42.15	40.30	42.72	37.85	36.40	38.80	38.60	41.00	42.93
45.00°	24.40	23.19	24.26	21.96	20.12	20.39	19.38	20.13	21.20	22.01	23.46	21.65	22.46	21.00	22.61	22.54	24.40
47.50°	11.47	10.63	9.21	10.41	10.39	8.86	9.95	6.70	10.03	10.90	13.17	9.89	10.56	9.28	9.51	12.44	11.47
50.00°	6.35	5.57	5.90	4.83	3.77	4.88	4.03	4.34	4.82	4.93	4.74	5.59	6.17	4.69	5.76	5.73	6.35
52.50°	3.32	3.06	3.44	3.35	2.83	3.05	2.99	2.84	3.25	2.80	3.58	3.21	2.92	2.47	3.04	3.51	3.32
55.00°	2.63	2.95	3.36	3.44	2.67	2.45	2.74	2.74	3.41	2.88	3.40	3.42	2.73	2.49	2.87	2.67	2.63
57.50°	2.40	3.09	3.36	3.11	2.57	2.34	2.33	2.89	3.25	3.24	3.18	3.35	2.54	2.54	2.81	2.61	2.40
60.00°	2.59	3.41	3.51	2.67	2.47	2.44	1.92	3.34	2.98	3.74	2.97	2.97	2.39	2.62	2.97	2.71	2.59
62.50°	2.47	3.22	3.42	2.33	2.85	2.21	2.71	3.75	3.25	4.07	3.16	2.73	2.34	2.69	3.22	2.91	2.47
65.00°	2.13	2.71	2.91	2.01	3.20	1.86	3.51	4.11	3.65	4.35	3.35	2.62	2.47	2.74	3.61	3.13	2.13
67.50°	2.62	2.82	2.95	2.35	2.88	2.29	3.35	4.02	3.50	4.23	3.60	2.48	2.83	3.04	3.78	3.03	2.62
70.00°	3.57	3.22	3.70	2.78	2.61	2.91	3.22	3.55	3.25	4.02	3.85	2.33	3.49	3.45	3.70	2.91	3.57
72.50°	4.01	3.33	3.98	3.05	2.81	3.04	3.61	3.76	3.47	4.51	4.12	2.69	3.63	3.72	3.82	3.65	4.01
75.00°	4.22	3.32	3.76	3.30	2.97	3.09	3.92	4.42	3.75	5.11	4.29	3.33	3.22	3.93	4.14	4.40	4.22
77.50°	4.22	3.77	3.53	3.69	2.94	3.16	3.78	4.24	4.00	4.64	4.03	3.73	3.09	3.48	4.15	4.74	4.22
80.00°	4.15	4.35	3.31	3.99	2.78	3.23	3.45	3.60	4.25	4.05	3.55	4.01	3.20	2.84	3.91	4.89	4.15
82.50°	3.09	3.28	2.66	2.66	2.15	2.40	2.26	2.63	2.95	2.74	2.28	3.27	2.62	2.46	3.00	3.23	3.09
85.00°	1.79	1.90	1.74	1.49	1.63	1.54	1.37	1.52	1.72	1.42	1.38	2.20	1.59	2.13	1.67	1.77	1.79
87.50°	1.58	1.66	1.40	1.64	1.46	1.47	1.40	1.32	1.53	1.33	1.52	1.89	1.28	1.62	1.37	1.49	1.58
90.00°	1.57	1.55	1.38	1.78	1.36	1.40	1.55	1.40	1.36	1.25	1.60	1.74	1.35	1.08	1.57	1.34	1.57
92.50°	1.65	1.41	1.35	1.88	1.44	1.22	1.96	1.42	1.36	1.34	1.56	1.51	1.56	1.09	1.72	1.71	1.65
95.00°	1.74	1.27	1.30	1.92	1.52	1.09	2.13	1.41	1.36	1.42	1.53	1.26	1.82	1.13	1.85	1.95	1.74
97.50°	1.72	1.33	1.46	1.75	1.60	1.30	1.86	1.48	1.40	1.37	1.54	1.49	1.54	1.10	1.71	1.82	1.72
100.00°	1.70	1.41	1.67	1.64	1.56	1.45	1.67	1.55	1.43	1.33	1.63	1.75	1.09	1.08	1.50	1.74	1.70

SR3Mx 25L 35K WD xx xx RA3F 25L 35K WD  
 MW NL (nadir)

### 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%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	<b>0</b>	2460	2460	2460	2460	2401	2401	2401	2401	2292	2292	2292	2191	2191	2191	2099	2099	2056
	<b>1</b>	2358	2306	2260	2218	2307	2261	2219	2182	2175	2142	2112	2097	2071	2047	2024	2005	1964
	<b>2</b>	2259	2170	2096	2034	2214	2134	2067	2011	2066	2012	1965	2003	1960	1921	1946	1911	1873
	<b>3</b>	2165	2048	1958	1887	2124	2019	1937	1871	1965	1896	1840	1914	1857	1810	1867	1821	1785
	<b>4</b>	2075	1939	1839	1763	2039	1915	1823	1752	1871	1792	1730	1829	1763	1709	1791	1735	1703
	<b>5</b>	1989	1839	1734	1657	1957	1820	1722	1649	1783	1698	1634	1749	1676	1619	1717	1654	1624
	<b>6</b>	1908	1748	1641	1564	1879	1732	1631	1558	1701	1613	1547	1672	1595	1536	1646	1578	1551
	<b>7</b>	1831	1664	1556	1481	1805	1651	1549	1476	1625	1534	1468	1600	1520	1460	1578	1506	1481
	<b>8</b>	1758	1587	1480	1406	1734	1575	1474	1403	1553	1462	1396	1533	1450	1390	1513	1439	1416
	<b>9</b>	1689	1516	1409	1338	1668	1506	1405	1335	1487	1395	1330	1469	1385	1326	1452	1376	1355
	<b>10</b>	1624	1450	1345	1276	1605	1441	1341	1274	1425	1333	1270	1409	1325	1266	1394	1318	1299

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	115.2 fc	4.9 ft
6.5 ft	82.5 fc	5.8 ft
7.5 ft	61.9 fc	6.7 ft
8.0 ft	54.4 fc	7.2 ft
10.0 ft	34.8 fc	9.0 ft
12.0 ft	24.2 fc	10.8 ft
14.0 ft	17.8 fc	12.5 ft
16.0 ft	13.6 fc	14.3 ft
20.0 ft	8.7 fc	17.9 ft
24.0 ft	6.0 fc	21.5 ft
28.0 ft	4.4 fc	25.1 ft

### Average Luminaire Luminance [cd/m<sup>2</sup>]

	0.00°	45.00°	90.00°
<b>0.00°</b>	763993	763993	763993
<b>45.00°</b>	7568	7523	6241
<b>55.00°</b>	1005	1286	1022
<b>65.00°</b>	1106	1512	1662
<b>75.00°</b>	3575	3184	2519
<b>85.00°</b>	4497	4373	4108

### 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	-4.0	-3.1	-3.6	-2.8	-2.4	-3.9	-3.0	-3.6	-2.7	-2.4
	3H	-0.1	0.7	0.3	1.0	1.4	-0.6	0.2	-0.2	0.6	0.9
	4H	2.9	3.6	3.3	4.0	4.4	1.7	2.4	2.1	2.8	3.2
	6H	5.7	6.4	6.1	6.8	7.2	4.0	4.7	4.5	5.1	5.5
	8H	6.6	7.3	7.1	7.7	8.1	4.9	5.6	5.4	6.0	6.4
	12H	7.1	7.7	7.6	8.1	8.6	5.5	6.1	6.0	6.5	7.0
4H	2H	-2.6	-1.8	-2.1	-1.5	-1.1	-2.5	-1.7	-2.0	-1.4	-0.9
	3H	1.5	2.1	1.9	2.5	2.9	1.0	1.6	1.5	2.0	2.5
	4H	4.4	5.0	4.9	5.4	5.9	3.4	3.9	3.8	4.3	4.8
	6H	7.4	7.9	7.9	8.3	8.8	5.9	6.3	6.3	6.8	7.3
	8H	8.4	8.8	8.9	9.2	9.7	6.8	7.2	7.3	7.7	8.2
	12H	8.9	9.2	9.4	9.7	10.2	7.4	7.8	7.9	8.3	8.8
8H	4H	5.3	5.8	5.8	6.2	6.7	4.6	5.1	5.1	5.5	6.0
	6H	8.5	8.8	9.0	9.3	9.8	7.2	7.5	7.7	8.0	8.5
	8H	9.5	9.8	10.1	10.3	10.8	8.2	8.5	8.8	9.0	9.6
	12H	10.1	10.4	10.7	10.9	11.5	9.0	9.2	9.5	9.7	10.3
12H	4H	5.5	5.9	6.0	6.4	6.9	4.9	5.3	5.4	5.8	6.3
	6H	8.6	8.9	9.2	9.4	10.0	7.5	7.7	8.0	8.2	8.8
	8H	9.8	10.0	10.3	10.5	11.1	8.5	8.8	9.1	9.3	9.9

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0