

## Indoor Distribution Test Report

# Spectrum Lighting Inc.

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## Spectrum Lighting Photometric Lab

### Luminaire

SR3Mx 25L 35K WD xx xx RA3F 25L 35K WD MW GL (nadir)  
Nom. 3" Round Downlight, Wide Beam

### Test Number

SP-01394

### 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	1937
Efficacy	73.64 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.78
Two luminaires, plane 90°	0.79
Four luminaires	0.73

#### Full Beam Angle

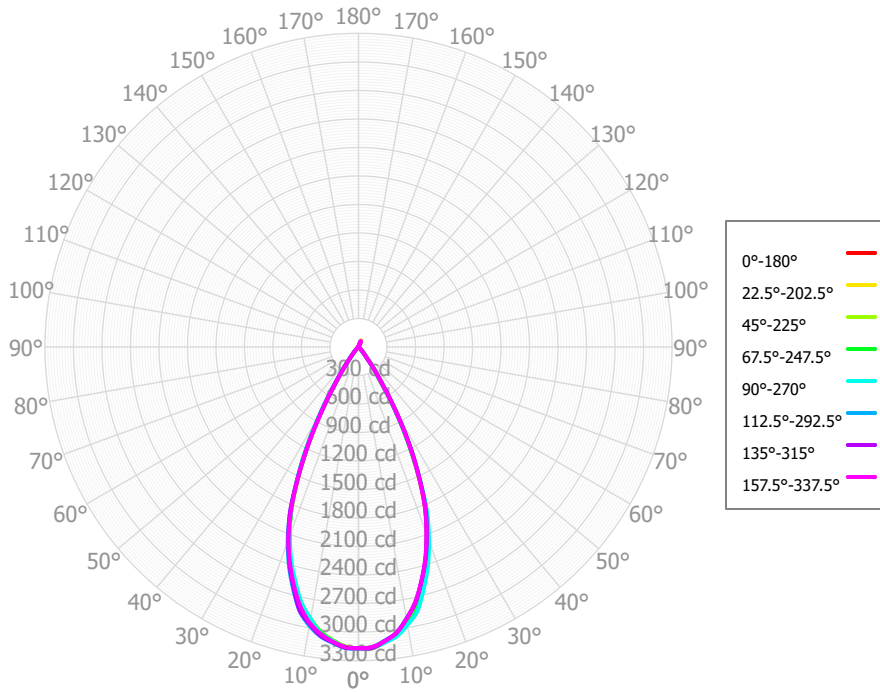
0° - 180°	49°
90° - 270°	49°

### IES File Header Contents

Keyword	Value
TEST	SP-01394
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/7/2022
ISSUE DATE	12/16/2022
LUMCAT	SR3Mx 25L 35K WD xx xx RA3F 25L 35K WD MW GL (nadir)
LUMINAIRE	Nom. 3" Round Downlight, Wide Beam
OTHER	Matte White Trim, Clear Glass Lens
OTHER	49 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 GL (nadir)

**Candela Polar Plot**



**Zonal Lumen Summary**

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	295.75	15.27%	90.00° - 100.00°	1.56	0.08%
10.00° - 20.00°	715.34	36.94%	100.00° - 110.00°	1.56	0.08%
20.00° - 30.00°	665.87	34.38%	100.00° - 120.00°	3.13	0.16%
30.00° - 40.00°	196.15	10.13%	120.00° - 130.00°	1.80	0.09%
40.00° - 50.00°	25.89	1.34%	130.00° - 140.00°	2.27	0.12%
50.00° - 60.00°	4.94	0.25%	140.00° - 150.00°	3.34	0.17%
60.00° - 70.00°	3.93	0.20%	150.00° - 160.00°	7.32	0.38%
70.00° - 80.00°	3.93	0.20%	160.00° - 170.00°	3.12	0.16%
80.00° - 90.00°	2.13	0.11%	170.00° - 180.00°	0.21	0.01%
0.00° - 90.00°	1913.92	98.82%	0.00° - 180.00°	1936.67	100.00%

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

### 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°	3171.15	3171.15	3171.15	3171.15	3171.15	3171.15	3171.15	3171.15	3171.15	3171.15	3171.15	3171.15	3171.15	3171.15	3171.15	3171.15	3171.15
2.50°	3168.87	3163.07	3178.16	3170.87	3171.20	3168.62	3168.76	3159.62	3160.83	3154.25	3163.50	3157.04	3169.83	3162.55	3173.90	3162.25	3168.87
5.00°	3113.98	3115.55	3121.16	3124.37	3124.96	3126.55	3118.70	3114.51	3103.89	3104.67	3097.70	3101.91	3107.52	3105.54	3109.74	3110.69	3113.98
7.50°	3050.50	3043.50	3058.90	3065.43	3072.44	3070.84	3066.26	3046.53	3044.58	3029.30	3029.31	3028.12	3042.86	3036.95	3040.48	3035.28	3050.50
10.00°	2917.85	2921.41	2935.75	2955.68	2971.49	2978.97	2962.12	2950.70	2927.50	2923.62	2904.42	2908.95	2905.14	2903.60	2905.66	2907.04	2917.85
12.50°	2773.94	2773.96	2803.18	2835.14	2854.13	2851.70	2848.16	2806.85	2805.19	2778.55	2773.25	2766.56	2764.01	2758.79	2762.59	2753.05	2773.94
15.00°	2566.43	2575.06	2598.73	2629.29	2644.56	2648.32	2632.00	2612.49	2595.63	2593.45	2576.72	2578.05	2561.16	2558.31	2556.42	2553.85	2566.43
17.50°	2350.69	2354.87	2385.88	2410.52	2425.97	2428.59	2411.23	2395.28	2381.83	2378.59	2373.30	2368.89	2354.82	2350.67	2344.43	2336.71	2350.69
20.00°	2099.91	2103.77	2128.76	2146.33	2170.12	2178.99	2159.94	2157.89	2126.66	2138.35	2121.16	2125.78	2112.67	2106.22	2101.72	2088.90	2099.91
22.50°	1829.18	1842.01	1851.24	1877.76	1885.73	1879.78	1885.42	1852.88	1855.48	1841.02	1850.83	1845.34	185717	1858.99	1841.50	1830.99	1829.18
25.00°	1493.10	1494.86	1489.91	1501.41	1506.30	1505.33	1495.56	1496.31	1483.02	1502.89	1490.07	1512.22	1514.05	1510.52	1509.23	149716	1493.10
27.50°	1151.07	1124.63	1130.17	1119.19	1131.57	1132.81	1112.44	1126.00	1113.72	1140.90	1130.41	1162.15	1168.24	1159.27	1170.68	1143.84	1151.07
30.00°	793.00	782.84	775.49	77716	769.21	762.82	754.49	746.94	759.61	764.25	774.85	792.06	809.80	810.28	812.14	804.83	793.00
32.50°	483.64	446.84	467.83	440.70	464.47	474.99	443.61	473.43	445.30	486.25	461.32	493.57	484.81	470.10	496.27	468.56	483.64
35.00°	280.81	275.31	279.42	284.48	283.21	27718	275.85	255.65	275.15	258.38	275.65	268.27	284.15	287.44	288.69	28713	280.81
37.50°	132.89	129.00	135.22	136.17	146.74	150.91	142.01	144.74	136.38	144.79	130.24	134.72	123.48	117.54	131.74	127.69	132.89
40.00°	83.73	82.12	85.35	89.93	91.85	90.47	90.76	81.68	86.96	80.32	82.97	79.93	79.34	77.78	82.91	80.46	83.73
42.50°	4713	45.00	4719	4705	50.97	51.42	50.08	48.87	46.61	48.55	45.57	46.04	43.39	41.49	45.79	43.08	4713
45.00°	29.88	29.85	29.62	29.89	31.28	29.37	30.40	27.01	27.81	28.09	28.46	2718	27.32	27.87	29.27	28.86	29.88
47.50°	1710	15.92	16.36	14.58	16.99	16.10	15.96	15.67	13.87	16.50	15.63	16.00	14.83	15.72	16.79	15.53	1710
50.00°	10.06	11.58	9.50	9.65	9.73	8.66	10.41	7.46	9.36	7.32	10.07	9.56	9.39	10.50	10.42	10.83	10.06
52.50°	5.99	7.43	5.41	5.50	5.38	5.28	6.51	5.39	6.17	5.72	6.55	6.42	5.72	6.28	6.20	6.29	5.99
55.00°	5.22	5.88	4.81	4.55	4.20	4.13	4.94	4.73	5.20	5.75	5.90	4.96	4.94	5.71	4.71	5.12	5.22
57.50°	4.74	4.44	4.29	3.74	3.65	3.72	3.93	4.36	4.54	4.75	5.16	4.50	4.26	5.15	4.07	4.06	4.74
60.00°	4.55	4.40	3.83	3.43	3.67	3.65	3.60	4.03	4.30	3.60	4.34	4.47	3.72	4.58	4.33	4.28	4.55
62.50°	4.08	4.38	3.65	3.25	3.51	3.41	3.55	4.18	4.12	3.75	3.83	4.29	3.59	4.20	4.60	4.50	4.08
65.00°	3.41	4.63	3.72	3.42	3.19	3.10	3.80	4.38	4.03	4.04	3.66	4.07	3.95	4.24	4.88	4.69	3.41
67.50°	3.48	4.73	3.62	3.51	3.08	3.26	3.60	3.99	4.20	4.02	3.75	3.99	4.10	4.43	4.81	4.82	3.48
70.00°	4.04	3.93	3.40	3.44	3.11	3.57	3.02	3.56	4.63	3.99	4.06	3.94	4.02	4.90	4.48	4.62	4.04
72.50°	4.35	3.38	3.42	3.30	3.16	3.68	3.13	3.73	4.69	4.14	4.20	4.28	3.80	4.85	4.19	4.38	4.35
75.00°	4.50	3.86	3.60	3.03	3.23	3.75	3.74	3.89	4.41	4.28	4.21	4.70	3.45	3.94	3.91	3.96	4.50
77.50°	3.94	3.96	3.48	2.91	2.78	3.15	3.53	3.51	3.65	4.16	3.92	3.84	3.12	3.45	4.00	3.55	3.94
80.00°	3.04	2.84	3.18	3.01	2.08	2.44	2.80	3.12	2.52	3.97	3.45	2.78	2.81	3.56	4.28	3.15	3.04
82.50°	2.30	1.95	2.54	2.70	1.81	1.81	2.20	2.68	1.98	2.77	2.58	2.19	2.19	3.11	3.35	2.61	2.30
85.00°	1.62	1.67	1.73	1.86	1.70	1.19	1.66	2.23	1.80	1.68	1.51	1.65	1.38	2.02	1.87	1.70	1.62
87.50°	1.33	1.46	1.48	1.52	1.46	1.33	1.68	1.79	1.49	1.50	1.35	1.53	1.26	1.46	1.34	1.10	1.33
90.00°	1.16	1.42	1.43	1.72	1.17	1.53	1.93	1.40	1.11	1.35	1.57	1.45	1.48	1.44	1.17	1.14	1.16
92.50°	1.29	1.51	1.32	1.73	1.30	1.39	1.69	1.32	1.04	1.39	1.64	1.49	1.40	1.37	1.36	1.32	1.29
95.00°	1.49	1.84	1.19	1.55	1.52	1.23	1.29	1.26	1.10	1.42	1.65	1.53	1.19	1.26	1.65	1.75	1.49
97.50°	1.41	1.92	1.23	1.52	1.47	1.29	1.24	1.29	1.31	1.40	1.81	1.56	1.11	1.31	1.61	1.87	1.41
100.00°	1.28	1.63	1.30	1.59	1.36	1.35	1.30	1.32	1.57	1.38	2.02	1.58	1.08	1.49	1.49	1.57	1.28

SR3Mx 25L 35K WD xx xx RA3F 25L 35K WD  
 MW GL (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%	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>	2300	2300	2300	2300	2244	2244	2244	2244	2139	2139	2139	2043	2043	2043	1955	1955	1955	1914
	<b>1</b>	2203	2154	2110	2071	2154	2110	2071	2036	2028	1997	1969	1953	1929	1907	1884	1865	1848	1826
	<b>2</b>	2109	2024	1954	1896	2065	1990	1926	1873	1924	1873	1828	1864	1823	1786	1808	1775	1746	1739
	<b>3</b>	2019	1909	1823	1755	1980	1881	1802	1739	1828	1763	1709	1779	1725	1680	1734	1689	1652	1656
	<b>4</b>	1933	1804	1710	1637	1899	1781	1694	1626	1738	1664	1605	1698	1635	1584	1661	1608	1564	1577
	<b>5</b>	1852	1709	1610	1536	1821	1690	1598	1529	1655	1575	1513	1621	1552	1498	1590	1531	1484	1503
	<b>6</b>	1775	1623	1521	1448	1747	1607	1512	1442	1577	1493	1431	1549	1476	1420	1523	1459	1409	1433
	<b>7</b>	1701	1543	1441	1369	1676	1530	1433	1365	1505	1419	1356	1481	1405	1348	1459	1391	1340	1368
	<b>8</b>	1633	1470	1368	1298	1610	1459	1362	1295	1437	1351	1289	1417	1339	1282	1398	1328	1276	1307
	<b>9</b>	1568	1403	1302	1234	1547	1393	1297	1232	1375	1288	1227	1357	1278	1222	1340	1269	1217	1249
	<b>10</b>	1506	1341	1242	1176	1488	1332	1237	1174	1316	1229	1170	1301	1221	1166	1286	1214	1162	1196

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	104.8 fc	5.0 ft
6.5 ft	75.1 fc	5.9 ft
7.5 ft	56.4 fc	6.8 ft
8.0 ft	49.5 fc	7.2 ft
10.0 ft	31.7 fc	9.0 ft
12.0 ft	22.0 fc	10.8 ft
14.0 ft	16.2 fc	12.6 ft
16.0 ft	12.4 fc	14.4 ft
20.0 ft	7.9 fc	18.0 ft
24.0 ft	5.5 fc	21.7 ft
28.0 ft	4.0 fc	25.3 ft

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

	0.00°	45.00°	90.00°
<b>0.00°</b>	695372	695372	695372
<b>45.00°</b>	9267	9184	9700
<b>55.00°</b>	1996	1841	1605
<b>65.00°</b>	1770	1931	1654
<b>75.00°</b>	3810	3052	2739
<b>85.00°</b>	4084	4365	4284

### 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	-0.7	0.2	-0.3	0.5	0.9	-1.1	-0.2	-0.7	0.1	0.4
	3H	2.6	3.4	3.0	3.7	4.1	1.9	2.7	2.3	3.0	3.4
	4H	4.5	5.2	4.9	5.6	6.0	3.6	4.4	4.1	4.8	5.2
	6H	6.0	6.7	6.5	7.1	7.5	5.0	5.6	5.4	6.0	6.5
	8H	6.5	7.1	7.0	7.5	8.0	5.4	6.1	5.9	6.5	6.9
	12H	6.9	7.5	7.3	7.9	8.3	5.8	6.4	6.3	6.9	7.3
4H	2H	0.3	1.0	0.7	1.4	1.8	-0.3	0.4	0.1	0.8	1.2
	3H	3.7	4.3	4.2	4.8	5.2	3.1	3.7	3.5	4.1	4.5
	4H	5.7	6.2	6.2	6.7	7.2	5.2	5.7	5.6	6.2	6.6
	6H	7.4	7.8	7.9	8.3	8.8	6.6	7.0	7.1	7.5	8.0
	8H	7.9	8.3	8.4	8.8	9.3	7.1	7.5	7.6	8.0	8.5
	12H	8.3	8.7	8.8	9.2	9.7	7.5	7.9	8.0	8.4	8.9
8H	4H	6.3	6.7	6.8	7.2	7.7	5.9	6.3	6.4	6.8	7.3
	6H	8.2	8.5	8.7	9.0	9.6	7.5	7.8	8.0	8.3	8.8
	8H	8.8	9.1	9.4	9.7	10.2	8.1	8.3	8.6	8.9	9.4
	12H	9.4	9.6	9.9	10.2	10.8	8.6	8.9	9.2	9.4	10.0
12H	4H	6.5	6.8	7.0	7.3	7.8	6.1	6.4	6.6	6.9	7.4
	6H	8.4	8.7	9.0	9.2	9.8	7.7	8.0	8.2	8.5	9.0
	8H	9.1	9.4	9.7	9.9	10.5	8.4	8.6	8.9	9.1	9.7

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0