

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

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

### **Test Number**

SP-01411\_3

### **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	2188
Efficacy	83.21 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.95
Two luminaires, plane 90°	0.96
Four luminaires	0.92

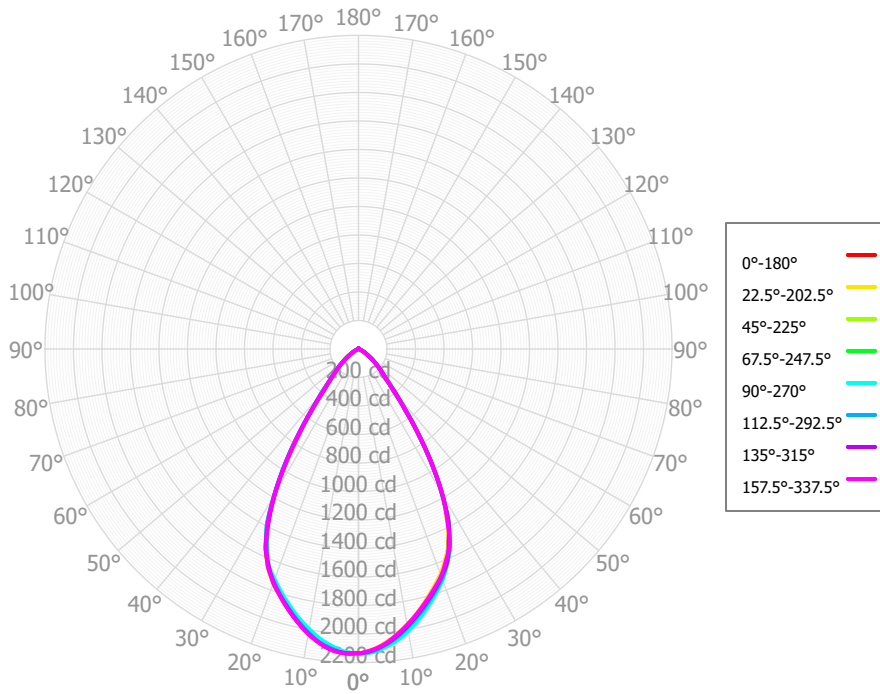
#### Full Beam Angle

0° - 180°	62°
90° - 270°	62°

### IES File Header Contents

Keyword	Value
TEST	SP-01411_3
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/19/2022
ISSUDATE	10/25/2022
LUMCAT	SR3Mx 25L 35K XW xx xx RDD3F 25L 35K XW MW SO
LUMINAIRE	Nom. 3" Round Deep Downlight A-Spec, Xtra Wide Beam
OTHER	Matte White Trim, Solite lens
OTHER	62 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

**Candela Polar Plot**



**Zonal Lumen Summary**

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	199.92	9.14%	90.00° - 100.00°	2.04	0.09%
10.00° - 20.00°	523.27	23.91%	100.00° - 110.00°	2.02	0.09%
20.00° - 30.00°	681.90	31.16%	100.00° - 120.00°	3.97	0.18%
30.00° - 40.00°	462.17	21.12%	120.00° - 130.00°	1.89	0.09%
40.00° - 50.00°	189.94	8.68%	130.00° - 140.00°	1.74	0.08%
50.00° - 60.00°	83.19	3.80%	140.00° - 150.00°	1.42	0.07%
60.00° - 70.00°	25.85	1.18%	150.00° - 160.00°	1.10	0.05%
70.00° - 80.00°	6.34	0.29%	160.00° - 170.00°	0.69	0.03%
80.00° - 90.00°	2.75	0.13%	170.00° - 180.00°	0.24	0.01%
0.00° - 90.00°	2175.33	99.40%	0.00° - 180.00°	2188.42	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°	2134.83	2134.83	2134.83	2134.83	2134.83	2134.83	2134.83	2134.83	2134.83	2134.83	2134.83	2134.83	2134.83	2134.83	2134.83	2134.83	2134.83
2.50°	2117.69	2113.05	2123.41	2128.07	2131.03	2136.98	2135.16	2137.46	2137.05	2131.17	2133.58	2132.34	2126.63	2123.51	2118.26	2115.29	2117.69
5.00°	2076.65	2076.28	2084.46	2096.05	2103.46	2112.30	2120.31	2122.17	2112.05	2111.70	2104.81	2102.75	2094.31	2087.98	2083.84	2080.50	2076.65
7.50°	2026.90	2026.08	2041.98	2054.37	2064.59	2077.53	2083.21	2081.61	2076.91	2075.17	2070.77	2065.01	2051.88	2042.65	2034.53	2026.58	2026.90
10.00°	1965.64	1966.96	1977.83	1994.29	2009.33	2020.80	2028.90	2031.12	2024.50	2023.91	2017.17	2008.56	1995.07	1982.67	1975.27	1966.88	1965.64
12.50°	1901.48	1898.50	1912.63	1928.31	1946.65	1957.42	1963.87	1965.77	1964.08	1961.43	1959.05	1948.14	1933.75	1919.53	1909.33	1900.66	1901.48
15.00°	1831.09	1825.06	1839.29	1853.28	1875.49	1887.03	1892.36	1896.35	1892.97	1894.31	1888.80	1877.82	1864.66	1852.55	1841.92	1833.07	1831.09
17.50°	1759.60	1753.47	1766.00	1779.29	1801.17	1815.18	1819.45	1822.01	1821.10	1824.41	1817.59	1806.19	1793.86	1783.71	1773.74	1764.65	1759.60
20.00°	1686.57	1682.62	1693.33	1706.53	1723.89	1736.74	1745.91	1742.18	1748.38	1746.00	1744.43	1729.05	1719.81	1713.07	1699.10	1696.12	1686.57
22.50°	1613.38	1593.09	1615.22	1617.36	1628.29	1657.45	1648.19	1657.08	1654.48	1663.54	1653.21	1651.53	1645.29	1623.61	1621.89	1606.27	1613.38
25.00°	1492.64	1497.97	1499.11	1512.59	1519.24	1528.09	1541.65	1532.69	1542.47	1532.78	1532.68	1521.30	1518.27	1519.53	1501.05	1514.98	1492.64
27.50°	1368.82	1339.73	1368.11	1359.66	1359.19	1395.35	1366.20	1378.16	1375.73	1384.76	1374.99	1386.54	1387.28	1363.36	1366.94	1347.34	1368.82
30.00°	1167.62	1167.75	1167.74	1169.54	1169.85	1181.56	1172.56	1179.43	1172.18	1176.10	1170.01	1175.82	1175.85	1175.46	1170.32	1176.90	1167.62
32.50°	965.10	954.72	963.05	959.55	959.02	967.05	952.81	953.75	950.31	951.84	954.91	963.91	962.49	962.11	960.48	956.45	965.10
35.00°	746.72	736.08	744.36	737.53	738.39	746.65	728.45	737.34	718.54	732.56	729.35	741.84	739.48	736.78	745.49	739.09	746.72
37.50°	539.06	551.00	547.64	555.80	558.56	535.99	546.64	525.29	537.25	514.18	543.77	534.66	525.92	551.19	529.81	547.85	539.06
40.00°	403.83	368.40	405.57	392.89	392.65	407.86	369.50	393.73	376.75	394.86	390.89	404.32	398.60	380.20	403.44	375.58	403.83
42.50°	285.05	298.67	295.03	304.99	308.38	292.28	298.98	291.74	292.87	285.88	295.54	291.58	283.25	296.02	283.23	299.77	285.05
45.00°	237.51	231.50	244.20	244.40	244.91	240.63	233.18	233.37	232.29	235.04	237.16	240.87	235.66	234.91	237.95	231.83	237.51
47.50°	192.86	192.02	198.62	200.18	199.69	191.93	191.04	186.61	187.40	186.55	190.91	193.44	190.08	192.32	193.53	192.54	192.86
50.00°	157.05	153.23	160.77	160.26	157.56	153.97	149.51	149.68	145.99	149.37	150.90	154.78	152.17	153.02	157.14	154.91	157.05
52.50°	123.19	120.69	125.80	125.21	124.01	118.28	115.96	114.51	114.28	113.00	117.50	119.57	117.05	120.18	121.67	121.65	123.19
55.00°	93.95	89.83	94.26	91.07	91.27	88.61	84.11	86.91	83.93	86.76	86.69	91.33	89.59	88.06	93.97	91.61	93.95
57.50°	68.74	67.86	69.48	69.22	69.02	63.40	63.71	60.15	64.26	61.79	64.92	67.12	65.60	66.66	68.00	68.02	68.74
60.00°	50.82	48.04	51.10	48.71	47.36	47.09	44.73	45.35	45.41	45.68	45.72	49.37	49.00	45.81	50.91	48.34	50.82
62.50°	36.18	35.98	36.67	37.11	34.71	33.37	32.23	31.18	33.73	31.13	33.50	35.11	34.77	34.73	35.49	34.91	36.18
65.00°	26.18	25.17	25.18	25.92	22.60	23.78	21.49	23.61	22.42	23.46	22.72	25.24	24.42	23.98	26.14	24.26	26.18
67.50°	17.85	17.75	17.96	18.11	16.31	16.26	16.35	16.25	16.81	16.52	16.35	17.38	16.36	17.84	17.85	17.10	17.85
70.00°	11.45	11.47	13.30	10.66	10.40	11.35	11.73	11.49	11.44	11.89	10.53	11.53	11.35	11.98	12.38	11.68	11.45
72.50°	7.22	7.54	9.03	7.85	6.97	7.48	8.37	7.11	8.28	7.91	7.49	7.36	7.50	8.08	7.91	8.03	7.22
75.00°	4.98	4.93	4.94	5.23	4.10	4.64	5.72	5.31	5.44	5.47	4.62	4.56	4.87	4.79	5.42	5.84	4.98
77.50°	3.82	4.40	3.68	3.91	3.62	3.31	4.37	3.72	4.37	3.71	3.62	3.35	3.48	4.30	3.75	4.81	3.82
80.00°	3.42	3.74	3.44	2.78	3.15	3.18	3.53	3.10	3.40	3.17	2.67	3.17	3.13	3.73	3.40	3.93	3.42
82.50°	3.11	2.91	2.99	2.53	2.74	2.78	3.40	2.59	2.78	2.68	2.40	2.80	2.60	2.88	3.05	3.14	3.11
85.00°	2.84	2.26	2.50	2.35	2.42	2.20	3.03	2.45	2.34	2.24	2.11	2.33	1.96	2.25	2.72	2.71	2.84
87.50°	2.50	1.81	2.22	2.44	2.33	2.12	2.35	2.30	2.38	1.91	1.76	2.04	1.78	2.11	2.37	2.47	2.50
90.00°	2.11	1.67	1.97	2.41	2.21	2.29	2.00	2.13	2.31	1.70	1.50	1.83	1.85	1.89	2.01	2.29	2.11
92.50°	1.97	1.81	1.86	2.10	2.07	1.97	1.97	1.98	2.00	1.70	1.68	1.67	1.96	1.51	1.99	2.15	1.97
95.00°	1.93	1.86	1.75	1.86	1.97	1.46	1.90	1.83	1.78	1.89	1.80	1.53	2.08	1.41	2.23	2.18	1.93
97.50°	1.94	1.86	1.67	1.77	1.94	1.56	1.79	1.76	1.71	1.94	1.68	1.57	2.00	1.69	2.09	2.26	1.94
100.00°	1.97	1.80	1.59	1.67	1.97	1.83	1.81	1.80	1.70	1.89	1.64	1.66	1.84	1.90	1.70	2.10	1.97

### 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>	2602	2602	2602	2602	2540	2540	2540	2540	2424	2424	2424	2318	2318	2318	2221	2221	2221	2175
	<b>1</b>	2470	2405	2347	2295	2415	2357	2304	2257	2265	2223	2185	2181	2148	2117	2104	2078	2054	2035
	<b>2</b>	2336	2221	2127	2047	2285	2182	2096	2023	2109	2037	1976	2041	1983	1932	1978	1931	1889	1891
	<b>3</b>	2207	2056	1938	1845	2161	2024	1916	1829	1963	1873	1798	1908	1832	1768	1856	1793	1739	1757
	<b>4</b>	2084	1907	1777	1678	2042	1880	1760	1667	1831	1727	1645	1784	1696	1624	1741	1666	1604	1634
	<b>5</b>	1970	1774	1637	1536	1932	1752	1624	1528	1710	1598	1513	1671	1574	1498	1635	1551	1484	1522
	<b>6</b>	1863	1654	1514	1414	1828	1636	1504	1408	1601	1484	1397	1568	1465	1387	1537	1447	1376	1420
	<b>7</b>	1763	1547	1407	1308	1732	1531	1398	1304	1501	1383	1296	1473	1367	1288	1447	1352	1280	1329
	<b>8</b>	1672	1450	1311	1215	1643	1437	1304	1212	1411	1292	1206	1387	1279	1200	1364	1267	1194	1246
	<b>9</b>	1587	1363	1226	1134	1561	1351	1221	1131	1329	1210	1126	1308	1200	1122	1289	1190	1117	1171
	<b>10</b>	1508	1284	1150	1061	1485	1274	1146	1059	1255	1137	1055	1236	1128	1051	1219	1120	1048	1102

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	70.6 fc	6.7 ft
6.5 ft	50.5 fc	7.9 ft
7.5 ft	38.0 fc	9.1 ft
8.0 ft	33.4 fc	9.7 ft
10.0 ft	21.3 fc	12.1 ft
12.0 ft	14.8 fc	14.5 ft
14.0 ft	10.9 fc	17.0 ft
16.0 ft	8.3 fc	19.4 ft
20.0 ft	5.3 fc	24.2 ft
24.0 ft	3.7 fc	29.1 ft
28.0 ft	2.7 fc	33.9 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	468127	468127	468127
<b>45.00°</b>	73654	75728	75949
<b>55.00°</b>	35917	36035	34894
<b>65.00°</b>	13584	13067	11724
<b>75.00°</b>	4221	4183	3475
<b>85.00°</b>	7157	6285	6083

### UGR CIE 190:2010

<b>Ceiling reflectance</b>		<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>
<b>Wall reflectance</b>		<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>
<b>Plane reflectance</b>		<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Room dimensions</b>		<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>2H</b>	<b>2H</b>	17.7	18.7	18.0	19.0	19.4	17.4	18.5	17.8	18.8	19.1
	<b>3H</b>	17.8	18.7	18.2	19.1	19.5	17.5	18.5	17.9	18.8	19.2
	<b>4H</b>	17.8	18.6	18.2	19.0	19.4	17.5	18.4	17.9	18.7	19.1
	<b>6H</b>	17.7	18.5	18.1	18.9	19.3	17.4	18.2	17.9	18.6	19.0
	<b>8H</b>	17.7	18.4	18.1	18.8	19.2	17.4	18.1	17.8	18.6	19.0
	<b>12H</b>	17.7	18.4	18.1	18.8	19.2	17.4	18.1	17.8	18.5	18.9
<b>4H</b>	<b>2H</b>	17.6	18.5	18.0	18.9	19.3	17.3	18.2	17.8	18.6	19.0
	<b>3H</b>	17.8	18.5	18.2	18.9	19.4	17.5	18.2	17.9	18.6	19.1
	<b>4H</b>	17.8	18.4	18.2	18.8	19.3	17.5	18.1	17.9	18.5	19.0
	<b>6H</b>	17.8	18.3	18.2	18.8	19.2	17.4	18.0	17.9	18.4	18.9
	<b>8H</b>	17.7	18.2	18.2	18.7	19.2	17.4	17.9	17.9	18.4	18.9
	<b>12H</b>	17.7	18.2	18.2	18.7	19.2	17.4	17.8	17.9	18.3	18.8
<b>8H</b>	<b>4H</b>	17.7	18.2	18.1	18.6	19.1	17.4	17.9	17.8	18.3	18.8
	<b>6H</b>	17.7	18.1	18.2	18.6	19.1	17.3	17.7	17.8	18.2	18.7
	<b>8H</b>	17.7	18.0	18.2	18.5	19.1	17.3	17.7	17.9	18.2	18.7
	<b>12H</b>	17.7	18.0	18.2	18.5	19.1	17.3	17.7	17.9	18.2	18.8
<b>12H</b>	<b>4H</b>	17.6	18.0	18.1	18.5	19.0	17.3	17.7	17.8	18.2	18.7
	<b>6H</b>	17.6	18.0	18.2	18.4	19.0	17.3	17.6	17.8	18.1	18.7
	<b>8H</b>	17.6	17.9	18.2	18.5	19.0	17.3	17.6	17.8	18.1	18.7

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0