

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

SR3Mx 25L 35K ND xx xx RH3F 25L 35K ND MW NL  
Nom. 3" Round Pinhole A-Spec, Narrow Beam

### **Test Number**

SP-01413\_1

### **Test Date**

9/21/2022

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	1827
Efficacy	69.47 lm/W

#### Luminous Dimensions

0° - 180° Size	-0.15
90° - 270° Size	-0.15
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	0.4
Two luminaires, plane 90°	0.4
Four luminaires	0.47

#### Full Beam Angle

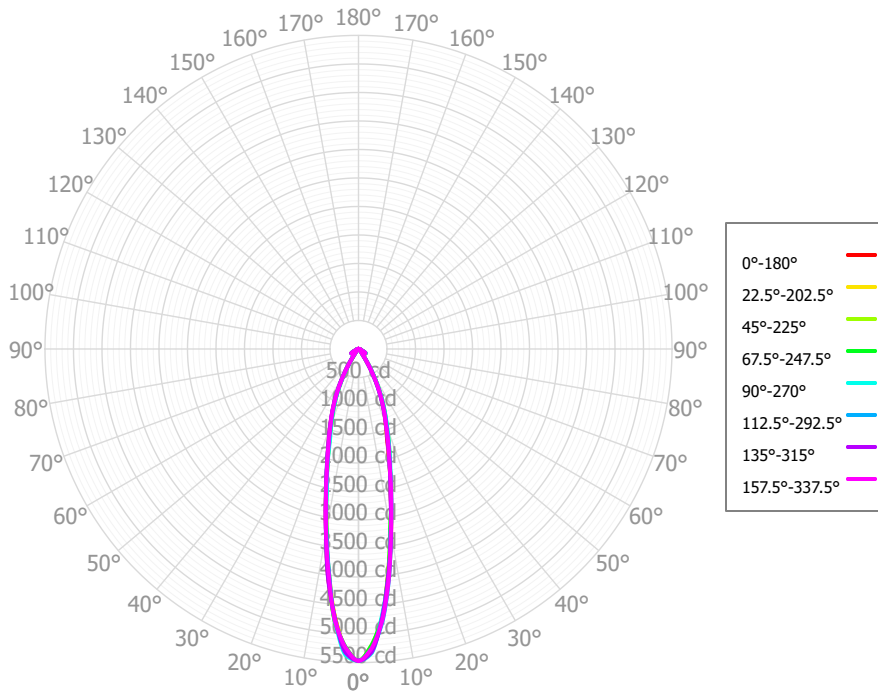
0° - 180°	24°
90° - 270°	24°

### IES File Header Contents

Keyword	Value
TEST	SP-01413_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/21/2022
ISSUDATE	10/25/2022
LUMCAT	SR3Mx 25L 35K ND xx xx RH3F 25L 35K ND MW NL
LUMINAIRE	Nom. 3" Round Pinhole A-Spec, Narrow Beam
OTHER	Matte White Trim, No lens
OTHER	24 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 ND xx xx RH3F 25L 35K ND  
MW NL

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	406.20	22.23%	90.00° - 100.00°	2.12	0.12%
10.00° - 20.00°	593.08	32.46%	100.00° - 110.00°	1.93	0.11%
20.00° - 30.00°	425.73	23.30%	100.00° - 120.00°	3.81	0.21%
30.00° - 40.00°	131.91	7.22%	120.00° - 130.00°	1.77	0.10%
40.00° - 50.00°	40.48	2.22%	130.00° - 140.00°	1.63	0.09%
50.00° - 60.00°	99.07	5.42%	140.00° - 150.00°	1.42	0.08%
60.00° - 70.00°	76.80	4.20%	150.00° - 160.00°	1.11	0.06%
70.00° - 80.00°	23.45	1.28%	160.00° - 170.00°	0.67	0.04%
80.00° - 90.00°	17.60	0.96%	170.00° - 180.00°	0.21	0.01%
0.00° - 90.00°	1814.31	99.30%	0.00° - 180.00°	1827.05	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°	5468.80	5468.80	5468.80	5468.80	5468.80	5468.80	5468.80	5468.80	5468.80	5468.80	5468.80	5468.80	5468.80	5468.80	5468.80	5468.80	5468.80
2.50°	5288.17	5278.72	5207.56	5208.94	5338.26	5255.33	5327.32	5243.05	5283.00	5259.77	5237.71	5233.25	5365.84	5276.50	5320.59	5258.49	5288.17
5.00°	4751.88	4732.21	4751.85	4736.74	4704.84	4776.53	4742.57	4777.95	4731.03	4729.21	4784.36	4794.72	4761.18	4806.22	4742.83	4783.67	4751.88
7.50°	3991.56	4055.85	3960.47	3996.39	4027.94	3958.80	4075.25	3992.70	4061.70	3968.21	4042.69	3978.86	4016.01	4080.19	3996.56	4067.56	3991.56
10.00°	3286.27	3263.38	3239.50	3198.33	3269.08	3242.79	3286.10	3274.99	3275.38	3264.70	3221.12	3237.77	3286.20	3260.17	3285.41	3259.25	3286.27
12.50°	2604.45	2627.37	2617.68	2644.62	2629.07	2641.19	2636.67	2630.95	2643.23	2589.46	2639.23	2619.21	2558.98	2654.02	2583.34	2652.88	2604.45
15.00°	2107.96	2097.23	2115.48	2121.78	2158.98	2146.27	2143.26	2127.30	2129.43	2111.14	2099.15	2099.73	2097.06	2102.62	2121.47	2100.70	2107.96
17.50°	1668.08	1724.63	1740.92	1782.52	1771.45	1743.87	1757.78	1740.02	1754.49	1702.42	1742.48	1704.36	1658.16	1749.13	1697.79	1736.90	1668.08
20.00°	1398.86	1432.69	1436.98	1453.74	1473.34	1438.06	1465.24	1443.72	1459.65	1422.60	1401.76	1391.89	1406.11	1426.62	1421.20	1404.54	1398.86
22.50°	1164.36	1185.36	1191.12	1207.39	1209.13	1196.51	1209.72	1205.15	1202.77	1174.24	1169.60	1159.44	1157.07	1169.82	1156.07	1165.29	1164.36
25.00°	934.91	954.53	952.44	962.60	973.22	964.59	978.30	966.03	961.96	939.89	939.32	929.84	923.28	917.73	919.48	933.93	934.91
27.50°	706.01	726.78	718.27	733.65	744.65	737.44	749.17	726.63	729.43	707.58	713.00	702.31	692.00	693.88	684.53	706.85	706.01
30.00°	492.59	499.82	504.77	511.67	520.71	524.96	521.17	510.60	499.40	495.33	492.54	492.54	478.79	473.23	473.06	482.67	492.59
32.50°	283.54	324.68	300.89	327.82	340.36	317.71	342.05	302.57	324.29	285.06	315.69	292.50	285.65	299.42	276.04	307.18	283.54
35.00°	188.05	157.75	187.68	173.01	180.66	204.69	180.19	192.79	160.24	188.92	163.41	183.72	179.83	143.22	176.03	148.52	188.05
37.50°	100.08	112.93	104.59	119.33	114.89	114.88	119.09	105.52	109.79	98.29	118.09	112.08	95.65	103.39	91.80	108.99	100.08
40.00°	78.78	77.56	76.41	76.24	80.96	83.95	82.54	77.77	71.82	76.49	79.09	78.87	74.58	68.72	72.89	73.85	78.78
42.50°	59.18	61.72	60.66	58.86	61.48	62.02	62.49	58.25	57.73	56.19	58.91	56.56	56.19	54.68	56.17	57.58	59.18
45.00°	48.09	46.86	49.36	46.57	45.35	48.77	44.86	47.85	44.82	45.25	44.13	45.40	43.50	43.79	45.60	44.97	48.09
47.50°	43.58	45.93	38.67	43.46	43.36	36.25	44.47	38.36	43.68	39.91	40.82	36.30	39.70	41.67	42.97	42.93	43.58
50.00°	60.54	50.19	60.75	55.02	43.28	57.48	45.39	58.58	46.50	56.44	51.30	52.69	49.88	51.10	56.61	53.33	60.54
52.50°	84.29	89.08	84.76	86.72	83.02	79.86	83.63	80.17	85.27	78.97	83.79	71.51	73.98	83.98	80.90	89.91	84.29
55.00°	123.92	123.32	118.78	116.04	124.70	117.73	120.37	117.37	120.38	117.50	112.75	109.75	114.61	113.68	121.41	120.46	123.92
57.50°	145.11	138.32	148.75	142.90	138.76	148.84	137.33	147.14	137.33	139.89	137.43	146.01	133.89	138.57	139.34	141.58	145.11
60.00°	134.65	140.91	133.74	139.86	149.08	137.60	147.49	133.20	142.81	131.08	135.15	131.71	133.63	138.62	130.91	138.59	134.65
62.50°	112.01	108.78	115.26	113.18	115.34	120.49	115.59	114.06	111.19	110.17	107.84	114.57	110.51	110.29	106.96	106.78	112.01
65.00°	73.40	77.05	76.76	80.01	81.73	80.28	83.06	75.38	78.73	71.55	76.24	74.63	71.30	77.92	69.23	74.50	73.40
67.50°	44.93	46.11	43.29	42.92	48.88	46.15	48.15	42.75	44.32	42.73	41.62	39.39	43.19	42.00	42.80	41.77	44.93
70.00°	26.53	25.14	28.12	25.19	22.20	28.37	21.48	25.82	21.27	24.92	24.58	25.67	20.91	24.19	24.06	24.64	26.53
72.50°	19.44	19.31	18.11	16.22	17.94	16.98	16.75	16.14	17.87	17.81	16.93	15.98	16.13	18.45	18.82	18.39	19.44
75.00°	21.00	18.95	21.06	19.03	16.74	18.21	15.76	20.10	18.30	19.85	19.36	18.75	18.03	20.62	20.43	20.93	21.00
77.50°	26.08	24.95	25.00	25.63	23.37	21.75	22.13	24.53	23.73	24.58	25.71	23.11	24.51	26.77	26.79	28.06	26.08
80.00°	33.20	27.65	30.76	28.57	27.34	28.68	25.54	29.61	26.36	31.06	27.46	30.92	32.22	27.10	34.88	29.14	33.20
82.50°	26.21	27.42	28.53	30.73	26.24	26.73	24.63	26.25	26.23	24.84	27.96	29.83	22.65	25.32	25.31	27.89	26.21
85.00°	13.18	19.58	15.15	19.28	20.53	14.73	18.83	13.63	19.28	12.44	16.93	14.07	10.12	16.06	11.23	17.51	13.18
87.50°	6.94	6.63	6.59	6.14	8.32	7.16	7.62	6.23	7.15	6.43	3.92	4.58	5.61	4.91	6.26	4.72	6.94
90.00°	2.74	2.08	3.18	3.96	1.88	3.40	2.25	3.17	2.44	2.69	2.37	2.87	1.78	2.99	2.76	2.42	2.74
92.50°	1.98	1.79	1.74	2.29	1.65	1.84	1.88	1.93	1.97	1.75	1.84	1.94	1.63	2.47	2.15	1.83	1.98
95.00°	1.91	1.71	1.89	2.08	1.65	1.72	1.71	1.82	1.66	1.49	1.83	1.78	1.54	2.25	1.77	1.87	1.91
97.50°	2.07	1.70	1.89	1.90	1.85	1.74	1.66	1.83	1.43	1.55	1.82	1.72	1.83	2.04	1.75	1.96	2.07
100.00°	2.25	1.89	1.81	2.09	1.85	1.84	1.77	1.89	1.53	1.64	1.78	1.74	2.07	2.16	1.74	1.84	2.25

SR3Mx 25L 35K ND xx xx RH3F 25L 35K ND  
 MW NL

### 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>	2172	2172	2172	2172	2120	2120	2120	2120	2023	2023	2023	1934	1934	1934	1853	1853	1814
	<b>1</b>	2062	2008	1959	1916	2015	1967	1924	1884	1891	1856	1824	1820	1792	1767	1755	1734	1698
	<b>2</b>	1960	1867	1791	1727	1918	1835	1766	1707	1773	1716	1667	1717	1670	1630	1664	1627	1594
	<b>3</b>	1866	1747	1656	1583	1828	1721	1637	1569	1671	1601	1543	1625	1566	1517	1582	1534	1503
	<b>4</b>	1780	1644	1545	1469	1747	1623	1531	1460	1582	1503	1441	1544	1477	1423	1509	1452	1424
	<b>5</b>	1702	1555	1452	1376	1672	1537	1441	1370	1504	1420	1356	1472	1400	1343	1443	1381	1355
	<b>6</b>	1631	1477	1373	1299	1605	1462	1365	1294	1434	1348	1284	1408	1332	1275	1383	1317	1294
	<b>7</b>	1566	1408	1305	1233	1542	1395	1298	1229	1372	1285	1222	1349	1272	1215	1328	1260	1239
	<b>8</b>	1507	1346	1245	1175	1485	1335	1239	1173	1315	1229	1167	1296	1218	1162	1278	1208	1189
	<b>9</b>	1451	1290	1191	1125	1432	1281	1187	1122	1264	1178	1118	1247	1170	1114	1232	1162	1144
	<b>10</b>	1400	1239	1143	1079	1382	1232	1140	1078	1217	1132	1074	1202	1125	1071	1189	1118	1102

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	180.8 fc	2.4 ft
6.5 ft	129.4 fc	2.8 ft
7.5 ft	97.2 fc	3.2 ft
8.0 ft	85.5 fc	3.4 ft
10.0 ft	54.7 fc	4.3 ft
12.0 ft	38.0 fc	5.1 ft
14.0 ft	27.9 fc	6.0 ft
16.0 ft	21.4 fc	6.8 ft
20.0 ft	13.7 fc	8.6 ft
24.0 ft	9.5 fc	10.3 ft
28.0 ft	7.0 fc	12.0 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	3331117	3331117	3331117
<b>45.00°</b>	41423	42522	39069
<b>55.00°</b>	131599	126134	132422
<b>65.00°</b>	105797	110635	117799
<b>75.00°</b>	49415	49570	39387
<b>85.00°</b>	92138	105905	143514

### 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>	27.0	28.1	27.4	28.4	28.7	27.2	28.3	27.6	28.6	28.9
	<b>3H</b>	27.2	28.2	27.6	28.5	28.9	27.4	28.4	27.8	28.7	29.1
	<b>4H</b>	27.3	28.2	27.7	28.5	28.9	27.4	28.3	27.8	28.7	29.1
	<b>6H</b>	27.7	28.5	28.1	28.9	29.3	27.7	28.5	28.1	28.9	29.3
	<b>8H</b>	28.0	28.8	28.5	29.2	29.6	28.0	28.8	28.4	29.2	29.6
	<b>12H</b>	28.2	29.0	28.7	29.4	29.8	28.2	29.0	28.7	29.4	29.8
<b>4H</b>	<b>2H</b>	27.2	28.1	27.6	28.4	28.8	27.4	28.3	27.8	28.7	29.1
	<b>3H</b>	27.4	28.2	27.8	28.6	29.0	27.6	28.3	28.0	28.8	29.2
	<b>4H</b>	27.5	28.2	28.0	28.6	29.1	27.6	28.3	28.1	28.8	29.2
	<b>6H</b>	28.2	28.8	28.7	29.2	29.7	28.2	28.8	28.7	29.2	29.7
	<b>8H</b>	28.7	29.2	29.2	29.7	30.2	28.7	29.2	29.1	29.7	30.1
	<b>12H</b>	29.0	29.5	29.5	30.0	30.4	29.0	29.4	29.5	29.9	30.4
<b>8H</b>	<b>4H</b>	27.5	28.1	28.0	28.5	29.0	27.6	28.2	28.1	28.6	29.1
	<b>6H</b>	28.5	28.9	29.0	29.5	30.0	28.5	28.9	29.0	29.4	29.9
	<b>8H</b>	29.2	29.6	29.7	30.1	30.6	29.1	29.5	29.7	30.1	30.6
	<b>12H</b>	29.7	30.0	30.2	30.5	31.1	29.6	29.9	30.1	30.5	31.0
<b>12H</b>	<b>4H</b>	27.6	28.1	28.1	28.6	29.0	27.7	28.1	28.2	28.6	29.1
	<b>6H</b>	28.7	29.0	29.2	29.5	30.1	28.6	29.0	29.1	29.5	30.0
	<b>8H</b>	29.4	29.8	30.0	30.3	30.9	29.4	29.7	29.9	30.2	30.8

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0