

## Indoor Distribution Test Report

# Spectrum Lighting Inc.

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## Spectrum Lighting Photometric Lab

### Luminaire

SR3Mx 25L 35K EB1 xx xx RDD3x 25L 35K EB1 MW xx  
3 inch A-Spec deep downlight, narrow beam, matte white finish, Hallway Optic,  
Spread lens

### Test Number

SP-01426\_1

### Test Date

10/26/2022

The results contained in this report pertain only to this IES file

SR3Mx 25L 35K EB1 xx xx RDD3x 25L 35K EB1  
MW xx

### Summary of Results

#### Power

Input Watts	26.3 W
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#### Lumen Output

Output Lumens	2324
Efficacy	88.37 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.94
Two luminaires, plane 90°	0.48
Four luminaires	0.67

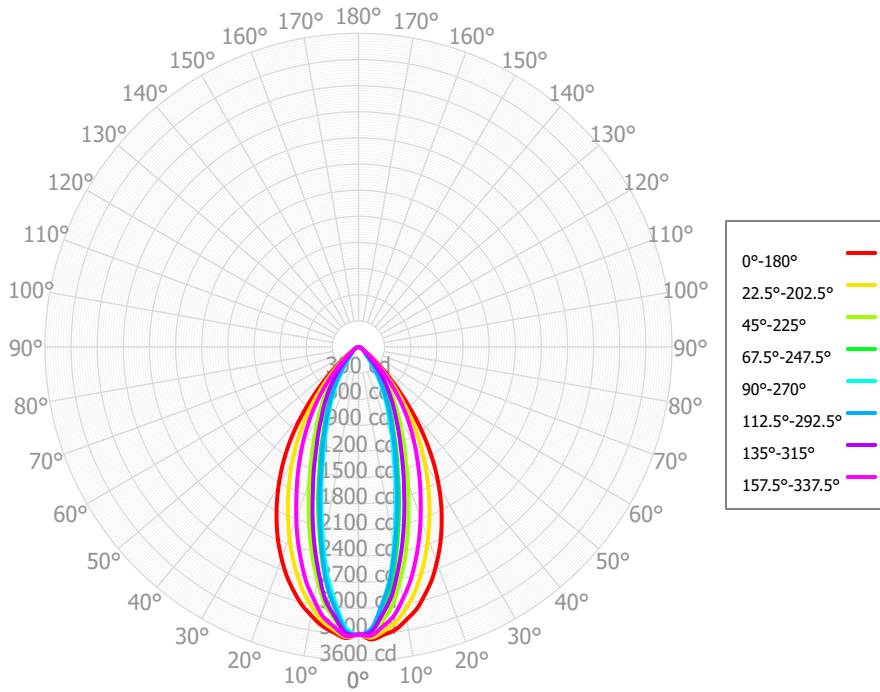
#### Full Beam Angle

0° - 180°	64°
90° - 270°	29°

### IES File Header Contents

Keyword	Value
TEST	SP-01426_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	10/26/2022
ISSUEDATE	12/19/2022
LUMCAT	SR3Mx 25L 35K EB1 xx xx RDD3x 25L 35K EB1 MW xx
LUMINAIRE	3 inch A-Spec deep downlight, narrow beam, matte white finish, Hallway Optic, Spread lens
OTHER	Asymmetric Beam Angle (Horiz Axis 0-180 × 90-270): 63.8 × 29.8 Deg
OTHER	Asymmetric Field Angle (Horiz Axis 0-180 × 90-270): 98.5 × 70.0 Deg
OTHER	Reference project SL167
LAMPCAT	N/A
LAMP	N/A, 19mm LES
OTHER	Total Luminaire Watts is approximate
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	This report prepared by Spectrum Lighting
_CRI	80

**Candela Polar Plot**



**Zonal Lumen Summary**

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	289.42	12.45%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	606.00	26.07%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	610.73	26.28%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	454.51	19.56%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	219.94	9.46%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	85.43	3.68%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	42.01	1.81%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	12.80	0.55%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	3.35	0.14%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	2324.20	100.00%	0.00° - 180.00°	2324.20	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°	3303.51	3303.51	3303.51	3303.51	3303.51	3303.51	3303.51	3303.51	3303.51	3303.51	3303.51	3303.51	3303.51	3303.51	3303.51	3303.51	3303.51
2.50°	3361.70	3340.20	3303.29	3267.26	3257.53	3269.88	3290.33	3320.81	3344.86	3332.50	3297.37	3253.96	3235.04	3244.12	3275.98	3316.82	3361.70
5.00°	3317.89	3278.08	3155.31	3046.11	2991.36	3020.52	3111.62	3224.08	3288.73	3258.99	3140.27	3019.84	2965.96	2992.66	3090.63	3220.55	3317.89
7.50°	3271.36	3196.83	2990.45	2801.86	2709.49	2761.05	2925.32	3122.64	3227.28	3172.98	2975.43	2767.68	2680.77	2726.83	2891.75	3112.83	3271.36
10.00°	3178.70	3066.29	2733.77	2453.63	2329.71	2396.21	2630.29	2946.03	3130.15	3037.90	2715.37	2430.35	2313.04	2373.08	2606.78	2936.18	3178.70
12.50°	3082.26	2917.73	2470.93	2112.11	1952.95	2034.87	2334.89	2766.13	3026.20	2896.27	2454.24	2092.05	1956.89	2027.53	2319.93	2751.31	3082.26
15.00°	2944.61	2732.82	2184.99	1792.20	1642.01	1717.96	2035.21	2543.44	2891.46	2711.87	2176.13	1785.97	1642.13	1716.44	2024.90	2533.07	2944.61
17.50°	2802.16	2539.99	1907.78	1497.43	1341.51	1414.03	1742.93	2319.68	2749.45	2524.46	1901.53	1486.55	1353.08	1427.17	1742.51	2312.32	2802.16
20.00°	2629.17	2334.44	1655.15	1263.56	1132.81	1198.10	1498.93	2088.29	2583.97	2319.80	1655.25	1260.17	1133.46	1204.32	1499.57	2084.14	2629.17
22.50°	2452.05	2127.99	1421.94	1056.37	934.40	994.31	1267.58	1861.94	2411.78	2115.11	1418.43	1043.66	936.50	1002.44	1276.19	1863.22	2452.05
25.00°	2257.42	1920.39	1230.54	900.10	791.16	844.47	1090.76	1658.89	2223.32	1913.77	1229.36	890.23	786.50	849.71	1099.73	1658.86	2257.42
27.50°	2058.18	1715.15	1058.01	759.49	653.34	702.70	926.17	1460.86	2031.57	1713.25	1050.91	743.89	647.31	708.27	939.70	1464.62	2058.18
30.00°	1844.80	1512.32	917.75	642.79	536.07	587.17	800.27	1279.69	1833.54	1520.54	910.79	627.67	526.00	587.40	810.26	1288.68	1844.80
32.50°	1625.86	1314.17	788.11	533.52	425.28	476.76	679.79	1102.26	1631.57	1328.53	776.33	515.56	417.37	476.21	689.77	1118.94	1625.86
35.00°	1393.80	1119.92	672.90	433.29	332.57	379.10	572.43	934.17	1423.55	1140.50	657.03	416.11	325.43	379.19	582.66	958.08	1393.80
37.50°	1160.28	930.72	558.53	337.74	249.85	289.31	465.82	770.99	1207.91	953.79	539.42	321.53	246.89	291.30	476.61	800.81	1160.28
40.00°	924.11	744.90	445.05	246.75	188.77	214.66	360.61	617.46	982.97	772.22	425.36	238.48	182.46	214.09	371.84	647.66	924.11
42.50°	709.35	580.90	344.31	181.66	142.19	157.30	268.62	478.81	775.09	601.01	323.08	171.13	140.21	159.38	280.99	509.80	709.35
45.00°	526.08	428.55	254.80	137.10	120.16	126.18	196.30	363.24	583.91	459.59	240.11	132.63	116.92	126.07	203.62	386.14	526.08
47.50°	373.74	315.09	186.34	110.86	103.89	103.94	141.62	265.46	426.91	333.54	173.57	103.76	101.13	104.67	149.63	285.47	373.74
50.00°	257.75	217.73	132.95	96.18	95.36	92.61	108.19	190.01	297.08	241.71	128.42	89.10	90.55	92.34	113.76	202.13	257.75
52.50°	172.86	155.26	100.00	85.31	87.41	83.09	85.79	133.35	204.41	165.83	96.46	78.16	83.34	83.23	91.17	143.66	172.86
55.00°	117.66	103.87	78.64	76.36	80.09	75.39	74.20	95.59	135.61	118.14	78.45	71.62	77.98	76.11	76.89	100.08	117.66
57.50°	82.80	79.20	66.73	69.05	72.16	68.03	63.82	71.42	95.23	82.99	64.87	64.13	70.24	69.08	67.64	77.19	82.80
60.00°	63.50	60.62	59.00	62.38	63.69	60.93	54.38	58.36	69.21	65.40	55.11	55.72	61.50	62.10	60.86	64.00	63.50
62.50°	51.30	51.48	50.26	54.26	55.78	52.46	46.34	47.65	55.83	51.19	46.36	47.37	53.03	53.16	51.01	53.92	51.30
65.00°	43.47	43.79	41.18	45.71	48.28	43.12	39.18	38.47	47.38	40.78	38.31	39.05	44.67	43.49	39.97	44.99	43.47
67.50°	34.68	35.49	33.02	36.18	37.45	33.66	30.58	29.61	37.14	32.13	30.44	30.90	33.90	34.06	32.89	36.18	34.68
70.00°	25.41	27.13	25.10	26.44	24.75	24.14	21.28	20.91	26.36	25.10	22.68	22.84	22.55	24.69	26.95	27.41	25.41
72.50°	18.22	19.06	17.24	17.84	15.81	16.10	14.43	14.44	18.74	17.98	16.26	16.01	15.02	17.87	18.56	19.47	18.22
75.00°	11.82	11.15	9.38	9.39	8.55	8.66	8.52	8.88	11.77	10.79	10.42	9.77	8.12	11.56	9.66	11.69	11.82
77.50°	8.47	8.19	7.01	6.58	5.32	5.49	6.09	6.17	8.81	6.91	7.06	6.88	5.66	8.15	6.93	8.18	8.47
80.00°	5.97	5.40	5.20	4.17	3.49	3.61	4.68	4.34	6.40	4.95	4.53	5.27	3.60	5.12	5.02	5.18	5.97
82.50°	4.46	4.64	4.31	3.36	2.81	3.19	3.68	3.36	4.46	3.67	3.36	3.79	3.03	3.97	4.22	3.93	4.46
85.00°	3.14	3.81	3.46	2.60	2.42	3.09	2.77	2.58	2.55	2.71	2.52	2.34	2.52	2.94	3.50	2.79	3.14
87.50°	2.38	2.55	2.63	2.28	2.21	2.79	2.26	2.10	2.25	2.17	2.16	1.96	2.02	2.24	2.81	2.65	2.38
90.00°	1.68	1.56	1.86	2.00	2.03	2.45	1.80	1.68	1.99	1.79	1.88	1.79	1.56	1.59	2.12	2.50	1.68

### 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>	2767	2767	2767	2767	2703	2703	2703	2703	2582	2582	2582	2473	2473	2473	2372	2372	2372	2324
	<b>1</b>	2628	2559	2498	2442	2570	2509	2454	2403	2414	2370	2329	2328	2292	2260	2248	2220	2194	2175
	<b>2</b>	2487	2366	2266	2182	2435	2326	2235	2158	2250	2175	2110	2180	2119	2065	2115	2066	2021	2024
	<b>3</b>	2353	2194	2071	1973	2305	2161	2048	1957	2099	2004	1925	2042	1962	1895	1989	1922	1865	1885
	<b>4</b>	2226	2040	1904	1800	2183	2013	1887	1790	1962	1854	1768	1915	1822	1747	1871	1792	1727	1758
	<b>5</b>	2108	1904	1761	1656	2069	1881	1748	1648	1839	1722	1633	1800	1698	1618	1763	1675	1604	1644
	<b>6</b>	1999	1782	1636	1532	1964	1763	1626	1526	1728	1606	1516	1694	1587	1505	1663	1569	1495	1541
	<b>7</b>	1898	1673	1527	1425	1866	1657	1519	1421	1627	1503	1413	1598	1488	1405	1572	1473	1398	1448
	<b>8</b>	1804	1575	1430	1331	1775	1561	1424	1328	1535	1411	1323	1511	1399	1317	1488	1387	1311	1364
	<b>9</b>	1718	1487	1345	1249	1692	1475	1339	1247	1453	1329	1242	1432	1319	1238	1412	1309	1234	1289
	<b>10</b>	1639	1407	1268	1176	1615	1397	1264	1174	1377	1255	1171	1359	1247	1167	1342	1239	1164	1220

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	109.2 fc	6.8 ft
6.5 ft	78.2 fc	8.1 ft
7.5 ft	58.7 fc	9.3 ft
8.0 ft	51.6 fc	10.0 ft
10.0 ft	33.0 fc	12.4 ft
12.0 ft	22.9 fc	14.9 ft
14.0 ft	16.9 fc	17.4 ft
16.0 ft	12.9 fc	19.9 ft
20.0 ft	8.3 fc	24.9 ft
24.0 ft	5.7 fc	29.9 ft
28.0 ft	4.2 fc	34.8 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	724395	724395	724395
<b>45.00°</b>	163141	79017	37264
<b>55.00°</b>	44981	30063	30619
<b>65.00°</b>	22557	21364	25050
<b>75.00°</b>	10016	7946	7245
<b>85.00°</b>	7910	8695	6079

### 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	18.5	19.6	18.9	19.9	20.3	17.4	18.5	17.8	18.8	19.2
	3H	19.3	20.3	19.7	20.6	21.0	18.4	19.3	18.7	19.7	20.0
	4H	19.4	20.3	19.8	20.6	21.0	18.4	19.3	18.8	19.7	20.1
	6H	19.4	20.2	19.8	20.6	21.0	18.4	19.2	18.8	19.6	20.0
	8H	19.4	20.1	19.8	20.5	20.9	18.3	19.1	18.8	19.5	19.9
	12H	19.3	20.1	19.8	20.5	20.9	18.3	19.1	18.8	19.4	19.9
4H	2H	18.7	19.6	19.1	19.9	20.3	17.7	18.6	18.1	18.9	19.3
	3H	19.6	20.3	20.0	20.7	21.1	18.7	19.4	19.1	19.8	20.2
	4H	19.7	20.4	20.1	20.8	21.2	18.8	19.4	19.2	19.9	20.3
	6H	19.7	20.3	20.2	20.7	21.2	18.8	19.3	19.2	19.8	20.2
	8H	19.7	20.2	20.2	20.7	21.2	18.7	19.3	19.2	19.7	20.2
	12H	19.7	20.2	20.2	20.7	21.1	18.7	19.2	19.2	19.7	20.1
8H	4H	19.6	20.2	20.1	20.6	21.1	18.7	19.2	19.2	19.7	20.2
	6H	19.7	20.1	20.2	20.6	21.1	18.7	19.1	19.2	19.6	20.1
	8H	19.7	20.1	20.2	20.6	21.1	18.7	19.1	19.2	19.6	20.1
	12H	19.7	20.1	20.3	20.6	21.1	18.7	19.1	19.3	19.6	20.1
12H	4H	19.6	20.0	20.1	20.5	21.0	18.7	19.1	19.2	19.6	20.1
	6H	19.7	20.0	20.2	20.5	21.0	18.7	19.1	19.2	19.5	20.1
	8H	19.7	20.0	20.2	20.5	21.1	18.7	19.0	19.2	19.5	20.1

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0