Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SR3Mx 25L 35K WD xx xx RH3F 25L 35K WD MW SO

Nom. 3" Round Pinhole A-Spec, Wide Beam

Test Number

SP-01414_2

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

Lumen Output

Output Lumens	1676
Efficacy	63.71 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.67
Two luminaires, plane 90°	0.68
Four luminaires	0.67

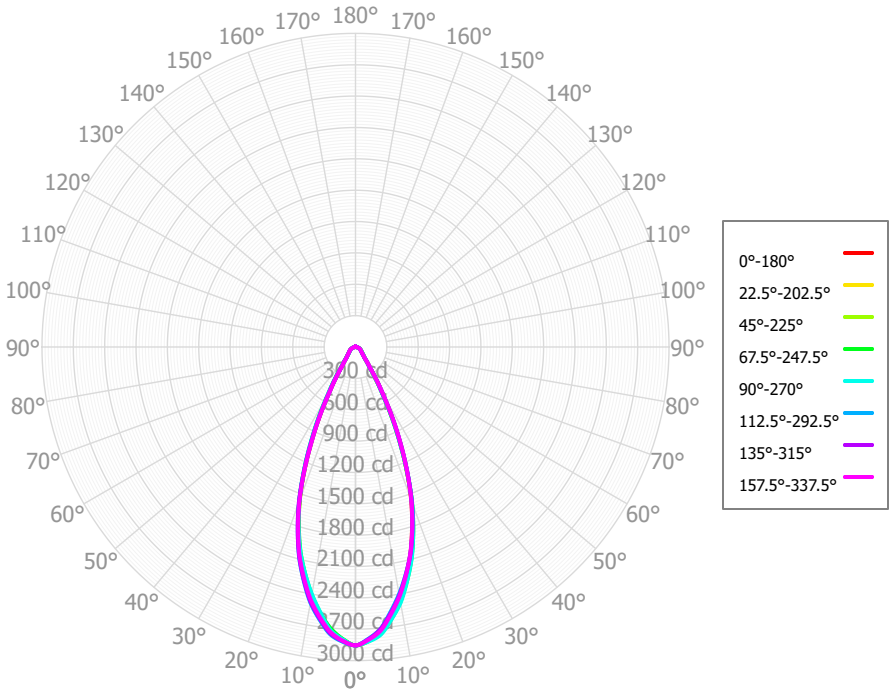
Full Beam Angle

0° - 180°	42°
90° - 270°	43°

IES File Header Contents

Keyword	Value
TEST	SP-01414_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/21/2022
ISSUEDATE	10/25/2022
LUMCAT	SR3Mx 25L 35K WD xx xx RH3F 25L 35K WD MW SO
LUMINAIRE	Nom. 3" Round Pinhole A-Spec, Wide Beam
OTHER	Matte White Trim, Solite lens
OTHER	42 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°	254.31	15.18%	90.00° - 100.00°	2.05	0.12%
10.00° - 20.00°	561.62	33.52%	100.00° - 110.00°	2.04	0.12%
20.00° - 30.00°	455.27	27.17%	100.00° - 120.00°	3.90	0.23%
30.00° - 40.00°	168.02	10.03%	120.00° - 130.00°	1.79	0.11%
40.00° - 50.00°	79.09	4.72%	130.00° - 140.00°	1.68	0.10%
50.00° - 60.00°	60.68	3.62%	140.00° - 150.00°	1.53	0.09%
60.00° - 70.00°	47.62	2.84%	150.00° - 160.00°	1.24	0.07%
70.00° - 80.00°	27.92	1.67%	160.00° - 170.00°	0.69	0.04%
80.00° - 90.00°	8.05	0.48%	170.00° - 180.00°	0.21	0.01%
0.00° - 90.00°	1662.57	99.22%	0.00° - 180.00°	1675.66	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°	2855.16	2855.16	2855.16	2855.16	2855.16	2855.16	2855.16	2855.16	2855.16	2855.16	2855.16	2855.16	2855.16	2855.16	2855.16	2855.16	2855.16
2.50°	2805.14	2819.28	2815.15	2817.42	2821.84	2822.94	2816.38	2813.59	2804.19	2808.54	2799.25	2796.96	2800.75	2795.83	2800.56	2805.50	2805.14
5.00°	2734.64	2744.19	2755.74	2752.38	2764.28	2761.29	2753.15	2738.96	2736.39	2718.38	2721.95	2705.84	2723.18	2712.11	2713.71	2728.52	2734.64
7.50°	2591.24	2609.69	2615.35	2626.06	2629.81	2632.07	2622.34	2609.10	2597.00	2588.71	2583.94	2569.42	2564.34	2559.37	2570.24	2583.99	2591.24
10.00°	2437.24	2451.99	2464.37	2474.68	2485.48	2485.08	2476.07	2458.90	2449.06	2434.19	2436.19	2409.11	2402.08	2400.82	2413.12	2424.75	2437.24
12.50°	2239.58	2265.32	2270.08	2286.25	2287.33	2289.70	2284.04	2270.40	2263.53	2251.97	2246.74	2225.77	2223.32	2225.66	2229.42	2235.28	2239.58
15.00°	2036.38	2057.17	2066.13	2077.14	2083.27	2083.24	2079.30	2068.81	2066.39	2053.37	2051.41	2031.43	2035.91	2037.22	2040.18	2032.43	2036.38
17.50°	1799.79	1824.45	1827.58	1839.26	1834.58	1834.24	1839.68	1824.31	1824.77	1816.87	1813.38	1803.49	1812.49	1814.84	1809.74	1804.67	1799.79
20.00°	1559.88	1567.29	1576.60	1577.24	1582.16	1576.88	1583.93	1566.78	1570.76	1560.00	1570.52	1560.54	1576.95	1575.14	1571.58	1561.74	1559.88
22.50°	1284.02	1283.76	1284.73	1284.51	1289.56	1288.34	1288.53	1277.47	1274.98	1278.84	1287.36	1289.76	1297.31	1295.58	1294.62	1292.31	1284.02
25.00°	1005.20	1010.81	1001.81	1003.82	994.26	994.32	1002.92	979.66	988.19	985.83	1000.70	1007.78	1023.27	1022.80	1011.56	1026.81	1005.20
27.50°	760.81	748.32	745.10	737.14	746.88	743.15	739.02	728.06	729.31	736.05	755.48	760.61	767.94	764.60	764.73	767.55	760.81
30.00°	518.37	532.59	516.21	518.62	501.53	498.26	509.77	487.75	499.19	505.99	513.15	525.99	536.84	537.60	522.56	545.05	518.37
32.50°	374.04	359.22	360.02	353.01	362.87	357.92	352.31	344.86	348.69	355.56	371.86	373.51	377.56	371.32	374.71	375.96	374.04
35.00°	232.94	243.43	233.43	238.88	226.25	229.96	230.69	222.53	226.24	237.87	235.14	248.48	244.73	242.72	237.28	249.97	232.94
37.50°	182.13	176.82	178.86	176.55	179.71	179.82	176.42	171.75	175.96	177.12	184.46	185.58	184.59	180.74	180.91	182.94	182.13
40.00°	133.05	135.91	135.35	136.55	134.08	137.52	135.40	133.84	135.56	138.15	135.67	141.10	135.60	134.36	131.35	135.73	133.05
42.50°	114.96	115.08	116.09	117.14	117.16	118.11	117.03	115.45	118.02	117.05	118.37	118.07	114.06	113.86	112.54	113.30	114.96
45.00°	97.10	99.61	99.82	101.64	100.51	100.41	101.78	100.17	102.32	102.04	101.38	100.63	96.23	96.82	95.55	96.30	97.10
47.50°	87.98	87.96	89.65	89.54	90.52	90.76	91.56	90.40	90.45	91.88	91.01	89.65	86.60	85.04	85.45	85.71	87.98
50.00°	78.93	79.58	80.49	80.58	80.72	81.58	82.28	81.36	80.35	83.18	80.78	80.22	78.07	75.58	75.66	77.04	78.93
52.50°	71.87	73.39	73.22	74.13	74.26	76.06	74.39	75.42	73.74	75.70	74.21	73.61	71.82	69.31	68.69	70.43	71.87
55.00°	64.98	68.04	67.24	68.47	67.95	70.66	68.52	69.83	67.94	68.57	67.74	67.58	65.96	63.51	61.79	65.16	64.98
57.50°	60.76	63.22	63.43	63.39	63.60	65.58	65.44	64.82	63.59	63.08	63.13	62.04	60.82	58.29	57.75	61.19	60.76
60.00°	56.59	58.15	59.58	58.78	59.23	60.51	61.04	59.87	59.08	58.00	58.55	56.60	55.88	53.85	53.74	56.67	56.59
62.50°	52.89	52.96	55.67	54.50	54.79	55.37	54.95	54.21	54.31	52.50	54.21	51.91	51.25	50.32	50.26	51.61	52.89
65.00°	49.04	47.75	50.76	49.77	50.16	50.21	48.75	48.51	49.11	46.92	49.70	47.34	46.71	46.85	46.76	47.08	49.04
67.50°	43.94	42.53	44.40	44.77	44.04	44.13	42.41	42.21	43.24	41.32	43.36	42.01	42.29	43.46	42.68	43.00	43.94
70.00°	38.73	37.06	38.44	39.10	38.05	38.03	36.62	35.87	37.42	35.71	37.09	36.58	37.43	38.76	38.55	38.06	38.73
72.50°	32.74	31.48	33.01	33.03	32.94	31.65	31.43	30.68	31.67	30.52	31.43	31.29	31.95	32.71	33.52	32.43	32.74
75.00°	26.86	26.67	27.43	27.02	27.76	25.35	25.80	25.51	25.56	25.41	25.69	26.01	26.55	26.79	28.42	27.26	26.86
77.50°	21.70	22.21	21.63	21.05	22.18	20.36	19.71	19.65	18.99	19.94	19.45	20.51	21.26	20.99	22.54	22.41	21.70
80.00°	16.52	16.86	16.15	15.95	16.54	15.42	14.91	13.82	13.72	14.42	13.52	14.99	15.90	15.82	16.67	16.91	16.52
82.50°	11.34	11.17	11.01	11.28	10.65	10.84	11.28	9.59	10.01	10.07	9.42	10.46	10.43	11.20	10.95	10.97	11.34
85.00°	6.62	7.17	6.78	7.50	5.53	6.46	7.62	5.44	6.62	5.86	5.68	5.99	6.23	7.13	5.65	6.79	6.62
87.50°	4.02	3.76	3.54	4.11	3.61	3.85	3.92	3.51	3.57	3.87	3.76	3.84	3.51	3.49	3.62	3.73	4.02
90.00°	1.91	2.52	1.95	2.79	2.02	1.58	2.17	1.70	2.00	2.07	2.20	1.79	1.96	1.77	1.87	2.37	1.91
92.50°	1.85	2.00	1.99	2.30	1.74	1.74	1.95	1.78	1.97	1.90	2.21	1.66	1.70	1.49	1.91	1.98	1.85
95.00°	1.84	1.72	1.98	2.11	1.58	1.88	1.81	1.86	2.00	1.85	2.16	1.56	1.54	1.48	1.94	1.89	1.84
97.50°	1.98	1.51	1.91	2.03	1.87	1.91	1.73	1.86	2.10	1.94	1.87	1.62	1.50	1.65	1.93	1.96	1.98
100.00°	2.02	1.85	1.97	2.00	2.12	1.88	1.86	1.86	2.13	2.04	1.68	1.69	1.53	1.79	1.94	1.86	2.02

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	ρfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	ρcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	1992	1992	1992	1992	1944	1944	1944	1944	1855	1855	1855	1773	1773	1773	1698	1698	1698	1663
	1	1891	1842	1797	1757	1848	1804	1764	1728	1733	1701	1672	1669	1643	1620	1609	1589	1571	1556
	2	1794	1709	1638	1579	1756	1679	1615	1560	1622	1569	1524	1570	1527	1489	1522	1487	1456	1456
	3	1705	1594	1509	1441	1670	1570	1491	1428	1524	1458	1403	1481	1426	1380	1442	1396	1357	1368
	4	1622	1494	1401	1329	1591	1474	1388	1321	1436	1362	1304	1401	1338	1287	1369	1315	1271	1290
RCR	5	1546	1406	1309	1237	1518	1390	1299	1231	1358	1279	1219	1329	1261	1207	1302	1243	1195	1220
	6	1475	1328	1230	1159	1450	1314	1222	1154	1288	1206	1146	1264	1192	1137	1240	1177	1128	1156
	7	1410	1258	1160	1091	1387	1247	1154	1088	1224	1142	1081	1204	1130	1075	1184	1118	1068	1099
	8	1350	1195	1098	1032	1329	1185	1093	1029	1166	1083	1024	1149	1074	1019	1132	1065	1014	1047
	9	1294	1138	1043	979	1275	1130	1039	977	1113	1031	973	1098	1023	969	1083	1015	965	999
	10	1242	1086	993	931	1225	1079	990	930	1065	983	927	1051	976	924	1038	970	921	956

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	94.4 fc	4.3 ft
6.5 ft	67.6 fc	5.0 ft
7.5 ft	50.8 fc	5.8 ft
8.0 ft	44.6 fc	6.2 ft
10.0 ft	28.6 fc	7.8 ft
12.0 ft	19.8 fc	9.3 ft
14.0 ft	14.6 fc	10.9 ft
16.0 ft	11.2 fc	12.4 ft
20.0 ft	7.1 fc	15.5 ft
24.0 ft	5.0 fc	18.6 ft
28.0 ft	3.6 fc	21.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1739117	1739117	1739117
45.00°	83647	85986	86577
55.00°	69005	71405	72164
65.00°	70686	73158	72291
75.00°	63223	64544	65336
85.00°	46273	47409	38664

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	21.6	22.6	22.0	23.0	23.3	21.7	22.8	22.1	23.1	23.5
	3H	23.5	24.5	23.9	24.8	25.2	23.6	24.5	24.0	24.9	25.3
	4H	24.2	25.1	24.7	25.5	25.9	24.3	25.2	24.7	25.5	25.9
	6H	24.8	25.6	25.2	26.0	26.4	24.8	25.6	25.2	26.0	26.4
	8H	24.9	25.7	25.4	26.1	26.5	24.9	25.7	25.3	26.1	26.5
	12H	25.0	25.7	25.4	26.1	26.6	25.0	25.7	25.4	26.1	26.5
4H	2H	22.2	23.1	22.6	23.4	23.9	22.3	23.2	22.8	23.6	24.0
	3H	24.3	25.1	24.8	25.5	25.9	24.4	25.1	24.8	25.5	25.9
	4H	25.2	25.8	25.6	26.2	26.7	25.1	25.8	25.6	26.2	26.7
	6H	25.8	26.4	26.3	26.8	27.3	25.7	26.3	26.2	26.8	27.2
	8H	26.0	26.5	26.5	27.0	27.5	25.9	26.4	26.4	26.9	27.4
	12H	26.1	26.6	26.6	27.1	27.6	26.0	26.4	26.5	26.9	27.4
8H	4H	25.4	26.0	25.9	26.4	26.9	25.4	25.9	25.8	26.3	26.8
	6H	26.2	26.6	26.7	27.2	27.7	26.1	26.5	26.6	27.0	27.5
	8H	26.5	26.9	27.0	27.4	27.9	26.3	26.7	26.8	27.2	27.7
	12H	26.7	27.0	27.2	27.5	28.1	26.5	26.8	27.0	27.3	27.9
12H	4H	25.4	25.9	25.9	26.4	26.9	25.3	25.8	25.9	26.3	26.8
	6H	26.3	26.6	26.8	27.1	27.7	26.1	26.5	26.6	26.9	27.5
	8H	26.6	26.9	27.1	27.4	28.0	26.4	26.7	26.9	27.2	27.8

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0