Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

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

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

Test Number

SP-01405_2

Test Date

9/14/2022

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

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Summary of Results

Power

Input Watts	26.3 W

Lumen Output

Output Lumens	1427
Efficacy	54.26 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.69
Two luminaires, plane 90°	0.68
Four luminaires	0.67

Full Beam Angle

0° - 180°	43°
90° - 270°	43°

IES File Header Contents

Keyword	Value
TEST	SP-01405_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/14/2022
ISSUEDATE	10/25/2022
LUMCAT	SR3Mx 25L 35HK WD xx xx RH3F 25L 35HK WD MW SO
LUMINAIRE	Nom. 3" Round Pinhole A-Spec, Wide Beam
OTHER	Matte White Trim, Solite lens
OTHER	43 Degree Beam Angle
LAMP	N/A, 19mm LES
LAMPCAT	N/A, Min. 90 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	90

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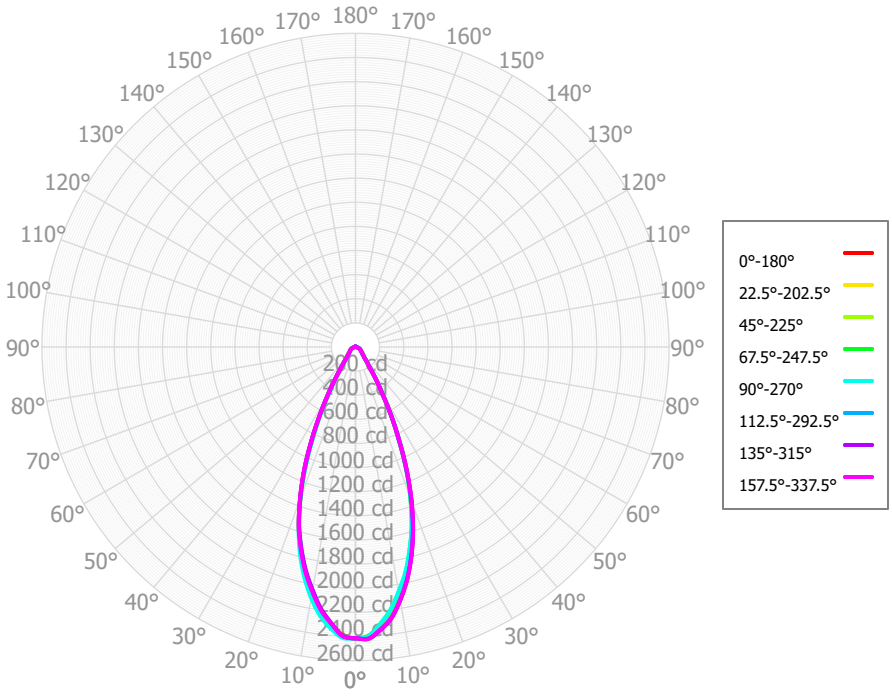
Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	217.01	15.21%	90.00° - 100.00°	2.04	0.14%
10.00° - 20.00°	481.11	33.71%	100.00° - 110.00°	1.95	0.14%
20.00° - 30.00°	390.50	27.36%	100.00° - 120.00°	3.79	0.27%
30.00° - 40.00°	142.90	10.01%	120.00° - 130.00°	1.76	0.12%
40.00° - 50.00°	65.83	4.61%	130.00° - 140.00°	1.63	0.11%
50.00° - 60.00°	49.91	3.50%	140.00° - 150.00°	1.41	0.10%
60.00° - 70.00°	38.89	2.72%	150.00° - 160.00°	1.11	0.08%
70.00° - 80.00°	22.10	1.55%	160.00° - 170.00°	0.66	0.05%
80.00° - 90.00°	6.31	0.44%	170.00° - 180.00°	0.21	0.01%
0.00° - 90.00°	1414.56	99.12%	0.00° - 180.00°	1427.16	100.00%

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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°	2415.81	2415.81	2415.81	2415.81	2415.81	2415.81	2415.81	2415.81	2415.81	2415.81	2415.81	2415.81	2415.81	2415.81	2415.81	2415.81	2415.81
2.50°	2405.95	2414.72	2403.78	2398.35	2403.65	2399.44	2398.32	2401.50	2391.48	2399.12	2401.31	2394.70	2415.44	2419.35	2422.72	2423.86	2405.95
5.00°	2341.24	2325.83	2314.72	2309.10	2310.29	2305.53	2298.50	2303.56	2308.94	2305.87	2307.99	2315.27	2344.00	2354.77	2358.59	2352.39	2341.24
7.50°	2243.84	2231.01	2214.27	2204.18	2201.63	2192.95	2190.14	2201.55	2201.16	2203.81	2209.15	2216.64	2249.42	2262.35	2272.94	2267.73	2243.84
10.00°	2114.51	2093.71	2076.44	2063.09	2058.42	2050.69	2046.57	2061.43	2064.53	2061.81	2068.10	2084.65	2115.22	2129.85	2135.25	2130.16	2114.51
12.50°	1959.54	1946.77	1926.24	1918.34	1911.79	1904.89	1900.44	1915.70	1920.55	1911.34	1921.10	1933.79	1959.04	1970.55	1978.69	1977.93	1959.54
15.00°	1788.13	1765.42	1750.90	1737.94	1733.56	1732.56	1734.39	1747.52	1746.02	1739.56	1745.62	1761.54	1778.27	1785.83	1793.34	1791.93	1788.13
17.50°	1579.42	1569.80	1555.54	1551.82	1549.97	1555.57	1558.03	1564.82	1568.10	1551.82	1557.07	1560.32	1570.19	1574.46	1585.91	1588.47	1579.42
20.00°	1355.14	1344.14	1333.99	1329.78	1331.66	1335.74	1342.93	1348.78	1343.45	1338.84	1333.02	1336.76	1341.93	1346.51	1355.71	1359.46	1355.14
22.50°	1105.04	1108.62	1099.23	1103.67	1108.47	1112.09	1118.66	1121.05	1117.05	1110.01	1101.92	1094.19	1096.18	1099.29	1112.30	1117.06	1105.04
25.00°	848.85	859.38	853.07	864.76	869.32	872.12	874.28	875.74	876.41	864.24	858.93	842.17	841.86	844.31	859.91	861.40	848.85
27.50°	635.05	638.19	638.65	643.43	646.77	647.46	651.49	653.73	647.42	645.67	640.06	629.23	628.52	632.09	642.68	638.90	635.05
30.00°	426.44	442.73	442.65	456.69	457.37	459.84	459.79	454.76	464.02	446.22	447.78	427.86	427.08	429.51	440.85	438.00	426.44
32.50°	304.54	305.36	310.18	308.71	307.69	308.17	312.46	313.34	308.84	311.66	307.48	304.42	303.04	308.28	310.48	304.71	304.54
35.00°	191.46	202.85	200.48	210.01	209.19	211.41	207.24	209.30	219.58	207.17	206.09	192.85	190.44	195.32	198.50	199.16	191.46
37.50°	148.52	148.68	151.60	146.95	145.47	146.11	146.35	152.53	153.26	153.91	150.44	149.83	149.73	153.75	151.66	149.93	148.52
40.00°	111.45	113.19	114.34	114.67	112.20	113.30	113.05	115.77	120.92	114.56	116.79	110.92	112.73	115.18	112.18	114.30	111.45
42.50°	96.71	95.76	98.16	94.91	92.17	92.99	93.72	96.57	97.96	98.27	98.37	97.72	97.45	98.86	97.55	97.97	96.71
45.00°	83.71	82.16	83.66	82.19	79.71	81.19	80.03	81.59	84.40	84.85	84.29	85.26	83.15	83.90	83.57	83.60	83.71
47.50°	74.58	73.84	74.87	73.15	71.20	71.77	70.70	72.82	74.33	75.14	75.25	76.37	73.50	73.86	74.50	75.07	74.58
50.00°	66.83	66.00	66.60	65.38	64.08	63.39	62.35	64.74	66.56	65.95	66.93	68.18	64.81	65.33	66.04	66.78	66.83
52.50°	61.05	60.86	61.57	60.85	58.49	58.27	57.19	60.32	60.83	61.43	61.52	61.87	58.64	60.02	60.00	60.48	61.05
55.00°	55.75	55.83	56.64	56.95	53.19	54.00	52.34	56.01	55.94	57.14	56.31	56.62	53.57	54.77	54.58	54.98	55.75
57.50°	50.92	51.59	51.99	52.32	48.58	50.83	49.66	52.60	50.73	53.86	52.69	53.14	50.28	49.60	50.65	52.43	50.92
60.00°	46.81	47.24	47.87	47.64	44.12	47.78	46.75	48.80	45.44	50.17	49.05	48.89	47.19	45.78	46.87	49.09	46.81
62.50°	43.15	42.53	44.77	42.82	41.77	44.19	42.21	43.45	42.64	45.49	45.30	43.76	44.33	43.21	43.30	43.97	43.15
65.00°	38.20	37.86	40.28	38.22	39.03	40.40	37.93	38.75	40.09	40.83	41.40	40.08	40.46	39.45	39.88	38.84	38.20
67.50°	32.74	33.30	34.02	35.04	33.80	34.83	34.57	35.47	36.85	36.20	37.09	37.44	35.86	34.96	36.60	33.70	32.74
70.00°	28.48	28.65	29.08	31.24	28.66	29.52	30.69	31.49	33.41	32.00	32.35	32.71	31.19	30.47	31.81	28.64	28.48
72.50°	24.49	23.86	25.26	25.51	23.85	25.22	25.71	26.49	28.20	28.24	26.88	26.96	26.49	25.96	26.00	23.65	24.49
75.00°	19.86	19.31	20.62	20.15	19.30	20.70	20.98	21.49	22.93	23.10	21.95	21.60	21.21	21.31	20.56	18.99	19.86
77.50°	15.19	14.97	15.53	15.50	15.22	15.64	16.60	16.51	17.43	17.01	17.62	16.36	15.77	16.62	15.26	14.55	15.19
80.00°	11.22	11.30	11.26	11.41	11.44	11.20	12.31	12.36	12.58	12.60	13.22	12.31	11.44	12.12	11.14	11.19	11.22
82.50°	7.42	8.02	7.28	8.01	8.02	7.69	8.09	8.73	9.17	8.91	8.76	8.41	7.25	7.66	7.30	8.26	7.42
85.00°	4.93	5.48	4.73	5.25	5.21	5.00	5.08	5.75	6.00	6.16	5.59	5.62	4.33	5.00	4.73	5.63	4.93
87.50°	2.85	3.20	2.44	3.02	2.93	3.14	2.79	3.03	3.15	3.65	3.04	3.02	1.69	2.61	2.32	3.07	2.85
90.00°	2.25	2.36	1.97	2.11	2.00	2.13	2.15	2.23	1.74	2.69	2.07	2.38	1.91	2.23	1.96	2.30	2.25
92.50°	1.88	1.82	1.64	1.93	1.83	1.68	2.13	1.88	1.72	1.91	1.54	1.87	2.07	1.90	1.67	1.71	1.88
95.00°	2.04	2.04	1.76	2.04	1.54	1.67	1.92	1.84	1.70	1.86	1.50	2.01	1.95	1.73	2.05	1.62	2.04
97.50°	2.10	2.31	1.84	2.24	1.20	1.85	1.66	1.83	1.69	1.83	1.52	2.08	1.83	1.65	2.27	1.54	2.10
100.00°	2.01	2.22	1.72	2.14	1.43	1.82	1.73	1.90	1.70	2.10	1.66	1.99	1.69	1.76	1.89	1.58	2.01

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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	1696	1696	1696	1696	1655	1655	1655	1655	1579	1579	1579	1509	1509	1509	1445	1445	1445	1415
	1	1611	1569	1532	1498	1575	1537	1503	1473	1477	1450	1425	1421	1400	1380	1370	1354	1338	1326
	2	1529	1457	1398	1347	1496	1431	1377	1331	1383	1338	1300	1338	1302	1270	1297	1268	1242	1242
	3	1454	1360	1288	1230	1424	1339	1273	1219	1300	1244	1198	1263	1217	1178	1230	1191	1158	1167
	4	1383	1275	1196	1136	1357	1258	1185	1128	1226	1163	1113	1196	1142	1099	1168	1123	1085	1101
RCR	5	1319	1201	1118	1057	1295	1186	1110	1052	1160	1093	1041	1135	1077	1031	1111	1061	1021	1041
	6	1259	1134	1051	991	1237	1122	1044	987	1100	1031	979	1079	1018	972	1059	1006	964	988
	7	1203	1075	991	933	1184	1065	986	930	1046	976	924	1028	965	919	1011	956	913	939
	8	1152	1021	939	882	1134	1013	934	880	996	926	876	981	918	871	967	910	867	895
	9	1104	972	892	837	1088	965	888	836	951	881	832	938	874	829	925	868	825	854
	10	1060	928	849	797	1045	922	846	795	910	840	793	898	835	790	887	829	787	817

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	79.9 fc	4.3 ft
6.5 ft	57.2 fc	5.1 ft
7.5 ft	42.9 fc	5.9 ft
8.0 ft	37.7 fc	6.3 ft
10.0 ft	24.2 fc	7.9 ft
12.0 ft	16.8 fc	9.4 ft
14.0 ft	12.3 fc	11.0 ft
16.0 ft	9.4 fc	12.6 ft
20.0 ft	6.0 fc	15.7 ft
24.0 ft	4.2 fc	18.9 ft
28.0 ft	3.1 fc	22.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1471500	1471500	1471500
45.00°	72112	72065	68660
55.00°	59206	60145	56487
65.00°	55063	58057	56251
75.00°	46748	48530	45410
85.00°	34443	33029	36446

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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	20.9	22.0	21.3	22.3	22.6	20.9	21.9	21.2	22.3	22.6
	3H	22.5	23.5	22.9	23.8	24.2	22.7	23.7	23.1	24.0	24.4
	4H	23.1	24.0	23.6	24.4	24.8	23.4	24.2	23.8	24.6	25.0
	6H	23.5	24.3	24.0	24.7	25.1	23.7	24.5	24.2	24.9	25.4
	8H	23.6	24.4	24.1	24.8	25.2	23.8	24.6	24.3	25.0	25.4
	12H	23.7	24.4	24.1	24.8	25.3	23.9	24.6	24.3	25.0	25.5
4H	2H	21.5	22.4	21.9	22.7	23.1	21.4	22.3	21.9	22.7	23.1
	3H	23.3	24.0	23.8	24.5	24.9	23.5	24.2	24.0	24.7	25.1
	4H	24.0	24.6	24.5	25.1	25.6	24.3	24.9	24.7	25.3	25.8
	6H	24.5	25.0	25.0	25.5	26.0	24.7	25.3	25.2	25.8	26.3
	8H	24.6	25.1	25.1	25.6	26.1	24.9	25.4	25.4	25.9	26.4
	12H	24.7	25.2	25.2	25.7	26.2	25.0	25.4	25.5	25.9	26.4
8H	4H	24.2	24.7	24.7	25.2	25.7	24.5	25.0	25.0	25.5	26.0
	6H	24.8	25.2	25.3	25.8	26.3	25.1	25.5	25.6	26.0	26.5
	8H	25.0	25.4	25.6	25.9	26.5	25.3	25.7	25.9	26.2	26.7
	12H	25.2	25.5	25.8	26.1	26.7	25.5	25.8	26.0	26.3	26.9
12H	4H	24.2	24.7	24.7	25.2	25.7	24.5	25.0	25.0	25.5	26.0
	6H	24.8	25.2	25.4	25.7	26.3	25.1	25.5	25.7	26.0	26.6
	8H	25.1	25.4	25.6	25.9	26.5	25.4	25.7	25.9	26.2	26.8

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0

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