

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

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

Test Number

SP-01404

Test Date

9/14/2022

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	1545
Efficacy	58.73 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.41
Two luminaires, plane 90°	0.41
Four luminaires	0.47

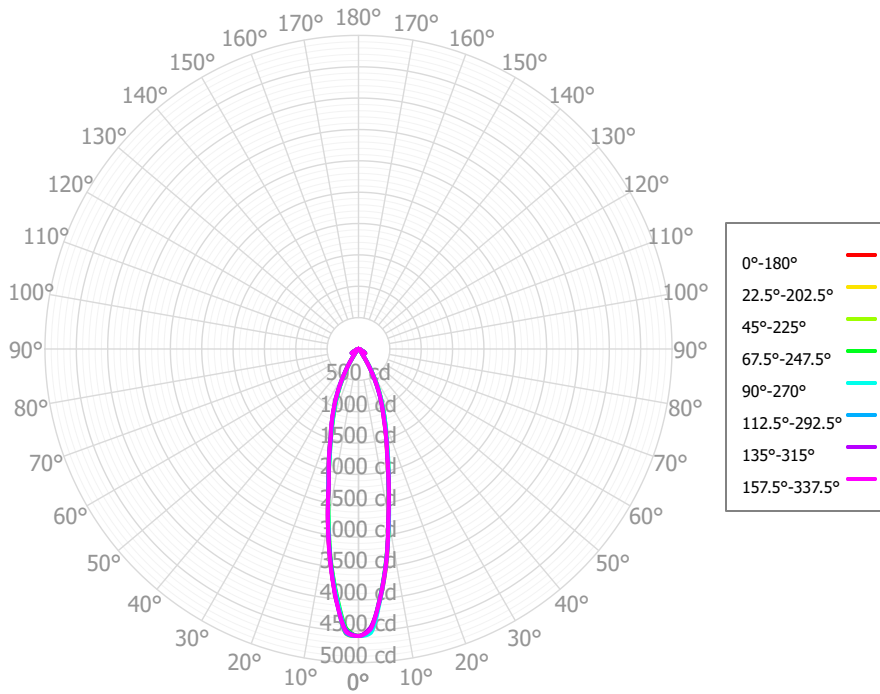
Full Beam Angle

0° - 180°	24°
90° - 270°	24°

IES File Header Contents

Keyword	Value
TEST	SP-01404
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/14/2022
ISSUDATE	10/25/2022
LUMCAT	SR3Mx 25L 35HK ND xx xx RH3F 25L 35HK 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. 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

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	344.14	22.28%	90.00° - 100.00°	1.56	0.10%
10.00° - 20.00°	503.08	32.57%	100.00° - 110.00°	1.49	0.10%
20.00° - 30.00°	360.90	23.37%	100.00° - 120.00°	2.89	0.19%
30.00° - 40.00°	112.68	7.30%	120.00° - 130.00°	1.33	0.09%
40.00° - 50.00°	32.20	2.08%	130.00° - 140.00°	1.17	0.08%
50.00° - 60.00°	84.76	5.49%	140.00° - 150.00°	1.06	0.07%
60.00° - 70.00°	64.70	4.19%	150.00° - 160.00°	0.81	0.05%
70.00° - 80.00°	18.31	1.19%	160.00° - 170.00°	0.47	0.03%
80.00° - 90.00°	14.30	0.93%	170.00° - 180.00°	0.15	0.01%
0.00° - 90.00°	1535.07	99.39%	0.00° - 180.00°	1544.51	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°	4576.50	4576.50	4576.50	4576.50	4576.50	4576.50	4576.50	4576.50	4576.50	4576.50	4576.50	4576.50	4576.50	4576.50	4576.50	4576.50	4576.50
2.50°	4449.16	4484.84	4495.60	4498.55	4530.96	4540.48	4493.67	4519.92	4485.88	4545.66	4533.69	4462.16	4489.31	4474.10	4443.21	4471.77	4449.16
5.00°	3996.66	3963.64	3967.48	3977.01	4004.73	4023.43	4043.18	4032.95	4027.65	4007.63	3976.48	3953.29	3977.69	3960.90	3983.88	3974.91	3996.66
7.50°	3424.43	3403.46	3409.14	3380.24	3408.81	3427.14	3416.13	3450.01	3425.63	3435.65	3409.98	3388.27	3412.60	3395.57	3401.61	3405.68	3424.43
10.00°	2754.05	2759.46	2766.18	2774.95	2797.74	2807.20	2803.45	2813.35	2810.98	2801.02	2783.98	2740.88	2764.24	2754.84	2739.61	2748.30	2754.05
12.50°	2225.47	2210.51	2215.89	2197.98	2217.69	2216.12	2194.55	2194.37	2194.08	2217.31	2215.58	2205.51	2219.39	2222.03	2228.14	2217.66	2225.47
15.00°	1763.72	1777.66	1807.00	1818.81	1832.76	1834.56	1813.85	1823.47	1826.75	1821.23	1804.78	1766.31	1768.64	1781.55	1769.74	1777.47	1763.72
17.50°	1455.57	1457.25	1483.35	1476.90	1486.50	1488.64	1460.19	1482.73	1478.64	1476.06	1456.24	1446.18	1448.93	1462.03	1465.74	1455.55	1455.57
20.00°	1182.89	1218.16	1236.50	1243.45	1244.86	1247.01	1244.61	1255.35	1245.88	1227.02	1200.95	1185.17	1197.79	1201.65	1184.75	1180.49	1182.89
22.50°	985.79	1004.05	1018.16	1022.24	1022.38	1025.04	1031.86	1034.66	1019.56	1000.45	977.98	972.31	981.71	979.78	978.95	975.06	985.79
25.00°	793.12	800.00	814.60	820.30	828.33	834.12	831.24	826.77	813.17	798.33	783.33	771.42	775.00	767.28	775.10	782.01	793.12
27.50°	600.99	605.20	617.85	627.05	638.04	645.49	635.11	628.24	614.51	606.02	595.10	583.89	584.51	577.39	583.49	589.87	600.99
30.00°	416.01	412.09	422.88	441.77	451.06	458.97	448.41	440.01	428.63	419.94	410.09	400.07	397.74	391.96	401.19	402.55	416.01
32.50°	257.83	264.41	274.03	289.34	297.51	304.82	290.74	287.10	276.27	274.83	267.44	254.96	251.39	245.82	244.38	252.31	257.83
35.00°	137.92	129.77	134.93	154.31	160.77	167.88	168.18	157.18	156.17	143.80	135.48	131.40	125.36	121.41	132.05	129.37	137.92
37.50°	91.25	91.49	94.79	99.11	104.63	108.36	99.55	98.94	95.39	100.58	96.32	94.54	87.53	82.51	86.31	89.62	91.25
40.00°	59.54	59.10	59.64	65.58	68.87	69.97	69.14	66.10	67.64	69.80	65.09	64.40	57.39	53.29	57.47	59.58	59.54
42.50°	44.30	45.21	46.15	49.11	51.41	51.50	50.49	50.10	50.36	51.97	50.20	47.78	43.56	43.49	43.41	45.39	44.30
45.00°	34.63	34.34	35.49	34.91	36.26	35.54	36.46	36.64	36.12	36.33	37.51	36.64	34.46	35.59	34.79	35.32	34.63
47.50°	28.53	28.50	30.87	34.84	35.30	34.27	35.13	35.56	34.83	34.17	33.96	31.80	31.06	29.87	28.89	29.16	28.53
50.00°	43.79	39.93	41.55	40.69	40.67	38.91	36.02	39.22	36.34	41.28	41.72	45.78	44.69	43.36	43.40	42.86	43.79
52.50°	66.50	68.18	70.75	72.66	71.98	70.34	71.66	72.88	73.13	73.12	72.78	72.45	70.37	69.76	63.06	67.60	66.50
55.00°	97.61	95.91	97.68	100.85	99.83	99.05	105.68	103.00	106.33	101.06	100.39	99.30	98.86	97.52	95.70	94.99	97.61
57.50°	129.59	123.37	123.02	120.94	120.63	121.78	122.48	123.47	122.34	123.28	123.92	126.21	128.46	125.78	126.42	123.15	129.59
60.00°	112.76	114.35	115.99	120.46	121.31	124.08	128.20	125.20	125.04	121.01	119.56	113.87	115.89	112.53	112.41	111.72	112.76
62.50°	93.63	94.57	96.24	94.84	98.55	101.08	99.98	99.06	97.50	97.71	95.98	95.27	95.78	92.73	94.67	95.53	93.63
65.00°	59.98	61.46	64.26	65.32	70.08	71.88	70.01	69.42	68.94	67.56	66.04	62.02	61.01	59.84	61.45	61.47	59.98
67.50°	32.12	27.86	30.13	33.00	37.73	38.20	37.16	36.76	39.07	34.04	33.65	31.48	28.87	29.80	34.19	31.30	32.12
70.00°	19.94	17.77	19.88	18.70	22.05	21.44	18.05	20.21	22.02	19.88	20.56	20.37	19.36	19.36	19.22	19.68	19.94
72.50°	13.57	10.24	11.66	11.67	12.63	11.63	12.05	11.71	14.59	10.52	10.74	13.04	13.22	12.75	13.16	12.78	13.57
75.00°	15.83	15.14	15.71	14.39	13.59	13.29	12.61	13.65	14.96	14.19	15.43	16.55	17.37	16.96	17.61	16.68	15.83
77.50°	19.94	20.08	19.88	18.88	16.24	17.10	16.78	18.21	18.65	18.82	20.29	20.63	21.76	21.46	22.17	21.33	19.94
80.00°	25.67	25.12	24.41	23.24	21.60	21.20	20.97	23.81	21.61	23.87	25.11	25.59	26.56	26.41	26.83	26.94	25.67
82.50°	19.87	22.46	23.00	25.76	24.92	23.71	25.16	28.28	24.42	25.54	25.46	21.69	22.34	22.02	20.15	22.33	19.87
85.00°	8.35	9.84	11.95	13.60	13.51	12.92	14.55	15.41	13.35	13.57	12.65	9.73	9.45	9.27	9.18	9.97	8.35
87.50°	4.08	3.40	5.12	3.99	4.51	4.27	2.94	4.70	2.85	4.83	4.08	4.15	3.73	3.63	4.80	4.53	4.08
90.00°	1.66	1.67	2.28	2.30	2.54	2.39	2.27	2.91	1.77	2.58	2.27	1.93	2.02	1.65	1.52	2.02	1.66
92.50°	1.39	1.30	1.38	1.30	1.34	1.20	1.67	1.54	0.96	1.32	1.43	1.28	1.59	1.25	1.33	1.50	1.39
95.00°	1.28	1.52	1.55	1.44	1.34	1.20	1.42	1.07	1.04	1.19	1.48	1.05	1.55	1.28	1.24	1.36	1.28
97.50°	1.16	1.50	1.53	1.47	1.30	1.13	1.29	1.04	1.11	1.23	1.36	1.33	1.38	1.37	1.59	1.36	1.16
100.00°	1.07	1.43	1.45	1.38	1.21	1.00	1.44	1.52	1.16	1.38	1.14	1.63	1.21	1.46	1.80	1.38	1.07

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

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	pfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	1836	1836	1836	1836	1793	1793	1793	1793	1711	1711	1711	1636	1636	1636	1567	1567	1567	1535
	1	1744	1699	1658	1621	1705	1664	1628	1594	1600	1570	1544	1541	1517	1496	1486	1468	1451	1438
	2	1658	1580	1516	1462	1623	1553	1495	1445	1501	1453	1412	1453	1414	1380	1409	1378	1350	1350
	3	1579	1479	1402	1341	1547	1457	1386	1329	1415	1355	1307	1376	1327	1285	1340	1299	1264	1273
	4	1506	1392	1308	1244	1478	1374	1296	1236	1340	1273	1221	1308	1251	1205	1278	1230	1191	1207
	5	1441	1317	1230	1166	1415	1302	1221	1160	1273	1203	1149	1247	1186	1138	1222	1170	1128	1148
	6	1381	1251	1163	1100	1358	1238	1156	1096	1214	1142	1088	1192	1129	1080	1172	1116	1072	1096
	7	1326	1192	1105	1045	1306	1182	1100	1041	1162	1089	1035	1143	1078	1029	1125	1068	1024	1050
	8	1275	1140	1054	996	1257	1131	1050	994	1114	1041	989	1098	1032	984	1083	1024	980	1008
	9	1229	1093	1009	953	1212	1085	1006	951	1070	998	948	1057	991	944	1044	984	941	969
	10	1185	1050	969	915	1170	1043	965	913	1031	959	910	1019	954	908	1008	948	905	934

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	151.3 fc	2.4 ft
6.5 ft	108.3 fc	2.8 ft
7.5 ft	81.4 fc	3.2 ft
8.0 ft	71.5 fc	3.4 ft
10.0 ft	45.8 fc	4.3 ft
12.0 ft	31.8 fc	5.2 ft
14.0 ft	23.3 fc	6.0 ft
16.0 ft	17.9 fc	6.9 ft
20.0 ft	11.4 fc	8.6 ft
24.0 ft	7.9 fc	10.3 ft
28.0 ft	5.8 fc	12.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	2787606	2787606	2787606
45.00°	29831	30575	31238
55.00°	103654	103736	106010
65.00°	86448	92617	101006
75.00°	37247	36961	31990
85.00°	58331	83502	94422

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	26.7	27.8	27.1	28.1	28.4	26.7	27.8	27.1	28.1	28.4
	3H	26.8	27.7	27.2	28.1	28.5	26.8	27.8	27.2	28.1	28.5
	4H	26.8	27.7	27.2	28.0	28.4	26.8	27.7	27.2	28.1	28.5
	6H	27.1	28.0	27.6	28.3	28.7	27.1	28.0	27.6	28.3	28.8
	8H	27.4	28.2	27.8	28.6	29.0	27.5	28.2	27.9	28.6	29.1
	12H	27.5	28.3	28.0	28.7	29.1	27.7	28.4	28.1	28.8	29.2
4H	2H	26.8	27.7	27.2	28.1	28.5	26.9	27.8	27.3	28.2	28.6
	3H	26.9	27.7	27.4	28.1	28.5	27.0	27.8	27.5	28.2	28.6
	4H	27.0	27.7	27.4	28.1	28.6	27.1	27.8	27.5	28.2	28.7
	6H	27.6	28.2	28.1	28.6	29.1	27.6	28.2	28.1	28.6	29.1
	8H	28.0	28.6	28.5	29.0	29.5	28.1	28.6	28.6	29.1	29.6
	12H	28.2	28.7	28.7	29.2	29.7	28.4	28.9	28.9	29.3	29.8
8H	4H	27.0	27.5	27.5	28.0	28.5	27.1	27.6	27.5	28.1	28.5
	6H	27.9	28.3	28.4	28.8	29.3	27.8	28.3	28.4	28.8	29.3
	8H	28.5	28.9	29.1	29.4	29.9	28.5	28.9	29.1	29.4	29.9
	12H	28.8	29.2	29.4	29.7	30.3	29.0	29.3	29.5	29.8	30.4
12H	4H	27.0	27.5	27.5	28.0	28.5	27.1	27.6	27.6	28.0	28.5
	6H	28.0	28.4	28.6	28.9	29.5	28.0	28.4	28.5	28.8	29.4
	8H	28.7	29.0	29.3	29.6	30.1	28.8	29.1	29.3	29.6	30.2

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0