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 ND xx xx RH3F 25L 35HK ND MW SO

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

Test Number

SP-01405

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

Lumen Output

Output Lumens	1384
Efficacy	52.62 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.42
Two luminaires, plane 90°	0.42
Four luminaires	0.49

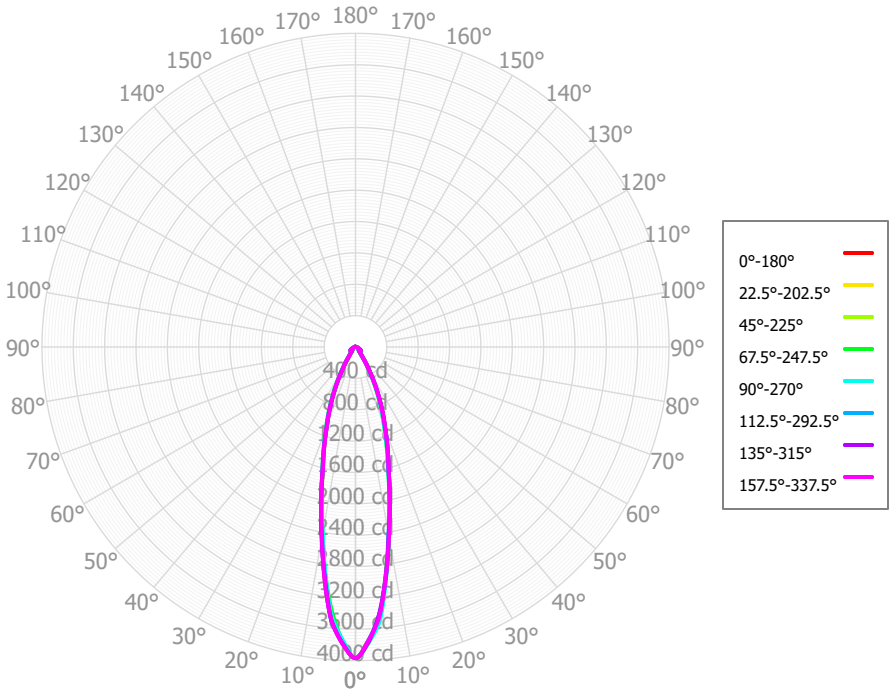
Full Beam Angle

0° - 180°	25°
90° - 270°	25°

IES File Header Contents

Keyword	Value
TEST	SP-01405
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/14/2022
ISSUEDATE	10/25/2022
LUMCAT	SR3Mx 25L 35HK ND xx xx RH3F 25L 35HK ND MW SO
LUMINAIRE	Nom. 3" Round Pinhole A-Spec, Narrow Beam
OTHER	Matte White Trim, Solite lens
OTHER	25 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
0.00° - 10.00°	298.39	21.56%
10.00° - 20.00°	453.92	32.80%
20.00° - 30.00°	311.63	22.52%
30.00° - 40.00°	108.14	7.81%
40.00° - 50.00°	49.73	3.59%
50.00° - 60.00°	67.39	4.87%
60.00° - 70.00°	50.93	3.68%
70.00° - 80.00°	24.56	1.77%
80.00° - 90.00°	6.69	0.48%
0.00° - 90.00°	1371.39	99.09%

Zone	Lumens	% Fixture
90.00° - 100.00°	2.03	0.15%
100.00° - 110.00°	1.96	0.14%
100.00° - 120.00°	3.77	0.27%
120.00° - 130.00°	1.79	0.13%
130.00° - 140.00°	1.58	0.11%
140.00° - 150.00°	1.45	0.10%
150.00° - 160.00°	1.12	0.08%
160.00° - 170.00°	0.66	0.05%
170.00° - 180.00°	0.21	0.02%
0.00° - 180.00°	1384.00	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°	3968.87	3968.87	3968.87	3968.87	3968.87	3968.87	3968.87	3968.87	3968.87	3968.87	3968.87	3968.87	3968.87	3968.87	3968.87	3968.87	3968.87
2.50°	3751.52	3757.42	3758.82	3780.32	3774.62	3780.59	3789.57	3790.49	3782.18	3786.46	3758.70	3760.30	3743.66	3751.84	3770.32	3751.90	3751.52
5.00°	3468.68	3457.53	3487.75	3486.05	3522.19	3518.16	3504.00	3508.20	3501.78	3463.35	3470.96	3404.95	3459.22	3438.54	3431.61	3465.47	3468.68
7.50°	2953.27	2943.63	2956.87	2965.05	2980.56	2984.04	2985.39	3009.16	2997.52	2987.89	2958.66	2939.77	2933.44	2945.31	2964.73	2952.80	2953.27
10.00°	2455.30	2454.86	2441.26	2467.22	2448.00	2468.80	2487.13	2463.29	2459.30	2449.04	2427.48	2418.01	2405.37	2421.88	2438.38	2459.98	2455.30
12.50°	2024.47	2009.18	2013.23	2002.60	2011.47	2021.17	2021.00	2026.50	2024.18	2008.61	2013.00	2000.60	2011.20	2019.08	2016.42	2027.18	2024.47
15.00°	1629.84	1627.02	1611.16	1613.07	1593.85	1613.71	1625.39	1609.20	1601.70	1604.84	1604.87	1630.92	1621.68	1632.94	1637.27	1637.74	1629.84
17.50°	1357.27	1343.88	1331.84	1320.30	1325.72	1332.95	1329.64	1326.02	1325.59	1320.82	1340.68	1346.36	1353.74	1360.32	1358.16	1362.83	1357.27
20.00°	1101.79	1091.38	1068.92	1069.22	1066.50	1071.64	1071.70	1062.75	1063.39	1075.71	1080.81	1096.82	1089.89	1099.65	1115.76	1108.88	1101.79
22.50°	896.35	881.76	871.34	866.51	864.57	863.82	861.91	861.03	866.46	871.98	881.08	887.27	890.97	898.69	909.32	904.52	896.35
25.00°	698.61	686.47	680.32	677.66	668.04	665.73	667.64	666.40	673.75	680.11	682.15	692.43	694.51	702.16	714.60	708.35	698.61
27.50°	520.61	509.46	512.21	503.50	499.71	491.58	491.44	498.42	505.96	512.14	514.26	521.76	525.66	533.24	540.91	529.38	520.61
30.00°	361.39	358.84	357.58	355.04	341.94	336.99	342.88	332.78	339.07	350.02	349.34	358.85	363.12	365.67	373.14	370.73	361.39
32.50°	245.36	238.53	244.35	231.49	231.28	224.90	223.72	234.57	239.06	243.48	246.88	249.76	252.92	258.03	259.25	250.54	245.36
35.00°	153.34	154.07	150.59	149.60	136.52	137.98	143.83	140.26	140.56	148.67	148.84	155.57	152.27	152.00	158.32	157.68	153.34
37.50°	111.08	107.27	109.04	104.09	101.82	100.43	101.55	107.20	108.24	109.43	111.60	110.91	113.38	114.52	112.64	111.02	111.08
40.00°	79.19	77.17	76.29	75.57	72.39	72.32	75.34	76.19	76.74	79.88	76.96	78.21	79.03	77.82	78.39	77.86	79.19
42.50°	66.43	62.87	64.27	60.39	60.41	60.74	62.98	66.95	67.04	68.51	67.47	66.57	69.21	67.85	67.59	65.46	66.43
45.00°	60.15	58.47	57.04	54.61	52.49	54.78	58.25	58.06	58.26	59.77	59.68	59.19	61.75	58.55	60.89	60.34	60.15
47.50°	64.54	62.62	59.97	55.57	56.30	57.75	59.51	62.54	63.28	63.58	64.81	62.88	65.12	61.84	64.49	65.26	64.54
50.00°	70.50	69.67	65.12	62.14	61.51	63.41	65.62	67.14	68.46	68.77	70.15	68.47	69.42	65.70	69.55	71.29	70.50
52.50°	78.80	78.97	74.55	72.37	70.30	72.91	75.17	74.68	75.31	74.72	76.74	74.98	77.33	76.78	76.84	78.72	78.80
55.00°	81.44	80.24	79.11	75.38	75.77	77.60	77.91	81.18	80.73	80.73	81.26	81.62	82.82	86.20	84.37	80.34	81.44
57.50°	76.45	75.89	75.32	74.17	73.73	76.02	76.27	73.70	74.27	75.54	75.28	76.52	80.23	80.36	77.59	75.38	76.45
60.00°	69.71	67.43	69.11	67.80	68.97	70.50	67.99	66.21	67.59	69.75	68.89	70.14	75.42	73.93	69.66	68.59	69.71
62.50°	60.81	56.34	59.19	58.73	58.67	60.37	55.89	58.81	59.48	61.79	60.78	60.74	64.03	63.26	60.33	59.90	60.81
65.00°	52.57	47.87	50.06	50.19	49.30	50.86	47.94	51.40	51.42	53.78	52.41	51.10	52.98	52.70	50.92	51.33	52.57
67.50°	45.06	40.90	42.03	41.89	41.61	42.00	42.17	44.00	43.56	43.19	43.11	43.70	42.81	42.78	44.42	42.88	45.06
70.00°	37.99	34.76	35.25	36.35	34.69	34.80	35.31	36.64	35.82	32.71	34.45	36.43	33.78	33.47	38.01	35.68	37.99
72.50°	31.35	29.04	30.08	31.95	29.03	29.22	27.95	29.56	28.60	27.43	27.80	29.02	27.40	27.14	30.12	29.53	31.35
75.00°	25.26	23.79	24.73	26.07	23.35	23.29	21.41	22.79	21.76	22.16	21.54	21.61	21.35	21.19	22.30	23.67	25.26
77.50°	19.66	18.75	19.17	19.64	17.66	17.05	15.21	17.56	16.35	16.94	16.38	15.96	15.98	16.80	17.14	18.03	19.66
80.00°	14.35	13.85	14.13	14.27	12.67	12.15	11.32	12.60	11.54	11.82	11.69	10.38	11.17	12.44	12.10	13.06	14.35
82.50°	9.30	9.00	9.63	9.23	8.65	8.30	8.28	8.84	8.75	8.13	8.17	7.41	7.38	8.21	9.29	8.54	9.30
85.00°	5.83	5.73	6.04	6.07	5.38	5.37	5.69	5.43	6.11	4.66	5.09	4.52	4.47	4.66	6.53	5.33	5.83
87.50°	3.54	3.04	3.30	3.44	3.01	3.12	3.26	3.29	3.90	3.30	3.00	3.17	3.04	3.27	4.38	2.95	3.54
90.00°	2.48	2.09	1.91	2.37	1.81	2.09	2.42	1.69	2.25	2.07	1.81	1.90	1.99	2.13	2.42	2.04	2.48
92.50°	2.27	1.70	1.70	1.69	1.89	1.86	2.02	1.87	2.08	1.91	2.40	1.75	1.51	1.69	2.26	1.94	2.27
95.00°	2.13	1.72	1.62	1.75	1.78	1.73	1.81	1.98	1.88	1.77	2.59	1.67	1.31	1.39	2.08	1.93	2.13
97.50°	2.03	1.86	1.64	1.96	1.46	1.65	1.65	1.94	1.65	1.73	2.06	2.19	1.50	1.44	1.73	1.96	2.03
100.00°	1.99	1.96	1.93	2.09	1.38	1.58	1.63	1.92	1.51	1.69	1.77	2.59	1.64	1.52	1.48	1.85	1.99

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	1645	1645	1645	1645	1605	1605	1605	1605	1531	1531	1531	1463	1463	1463	1401	1401	1401	1371
	1	1563	1522	1486	1453	1527	1491	1459	1429	1433	1407	1383	1379	1358	1339	1329	1313	1298	1286
	2	1485	1415	1358	1309	1452	1390	1338	1294	1343	1300	1263	1300	1265	1234	1260	1232	1207	1206
	3	1413	1323	1254	1199	1384	1303	1240	1188	1265	1212	1168	1230	1185	1148	1197	1160	1129	1137
	4	1348	1245	1169	1112	1322	1228	1158	1104	1197	1137	1090	1168	1117	1076	1141	1098	1062	1077
RCR	5	1288	1176	1098	1041	1265	1163	1090	1035	1137	1073	1025	1113	1058	1015	1090	1043	1005	1023
	6	1234	1116	1038	981	1213	1105	1031	977	1083	1018	970	1063	1006	962	1044	994	955	976
	7	1184	1063	985	930	1165	1053	980	927	1035	969	921	1018	960	916	1002	950	910	934
	8	1138	1015	939	886	1121	1007	934	884	992	926	879	977	918	875	963	910	871	896
	9	1095	973	897	847	1080	966	894	845	952	887	841	940	881	838	928	874	835	861
	10	1056	934	860	812	1042	928	857	810	916	852	808	905	846	805	895	841	802	829

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	131.2 fc	2.5 ft
6.5 ft	93.9 fc	2.9 ft
7.5 ft	70.6 fc	3.4 ft
8.0 ft	62.0 fc	3.6 ft
10.0 ft	39.7 fc	4.5 ft
12.0 ft	27.6 fc	5.4 ft
14.0 ft	20.2 fc	6.3 ft
16.0 ft	15.5 fc	7.2 ft
20.0 ft	9.9 fc	9.0 ft
24.0 ft	6.9 fc	10.9 ft
28.0 ft	5.1 fc	12.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	2417491	2417491	2417491
45.00°	51811	49133	45218
55.00°	86482	84012	80469
65.00°	75767	72152	71048
75.00°	59438	58194	54961
85.00°	40739	42187	37574

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	23.6	24.7	24.0	25.0	25.4	23.7	24.8	24.0	25.1	25.4
	3H	24.9	25.9	25.3	26.3	26.7	24.9	25.9	25.3	26.2	26.6
	4H	25.4	26.3	25.8	26.7	27.1	25.3	26.2	25.7	26.6	27.0
	6H	25.7	26.6	26.2	27.0	27.4	25.5	26.4	26.0	26.7	27.2
	8H	25.8	26.6	26.3	27.0	27.4	25.6	26.4	26.0	26.8	27.2
	12H	25.9	26.6	26.3	27.0	27.5	25.6	26.3	26.0	26.7	27.2
4H	2H	24.0	24.9	24.4	25.3	25.7	24.0	24.9	24.5	25.3	25.7
	3H	25.5	26.3	26.0	26.7	27.1	25.5	26.2	25.9	26.6	27.1
	4H	26.1	26.8	26.6	27.2	27.7	26.0	26.6	26.4	27.1	27.5
	6H	26.5	27.1	27.0	27.6	28.1	26.3	26.8	26.8	27.3	27.8
	8H	26.6	27.2	27.1	27.6	28.1	26.3	26.9	26.8	27.3	27.8
	12H	26.7	27.2	27.2	27.7	28.2	26.4	26.9	26.9	27.4	27.9
8H	4H	26.2	26.8	26.7	27.2	27.7	26.1	26.6	26.6	27.1	27.6
	6H	26.8	27.2	27.3	27.7	28.2	26.5	26.9	27.0	27.4	27.9
	8H	26.9	27.3	27.5	27.8	28.4	26.6	27.0	27.1	27.5	28.0
	12H	27.1	27.4	27.6	27.9	28.5	26.7	27.0	27.2	27.5	28.1
12H	4H	26.2	26.7	26.7	27.2	27.7	26.1	26.5	26.6	27.0	27.5
	6H	26.8	27.2	27.3	27.6	28.2	26.5	26.8	27.0	27.3	27.9
	8H	27.0	27.3	27.5	27.8	28.4	26.6	27.0	27.2	27.5	28.1

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0