Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

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

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

Test Number

SP-01405_3

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	1424
Efficacy	54.14 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.92
Two luminaires, plane 90°	0.92
Four luminaires	0.83

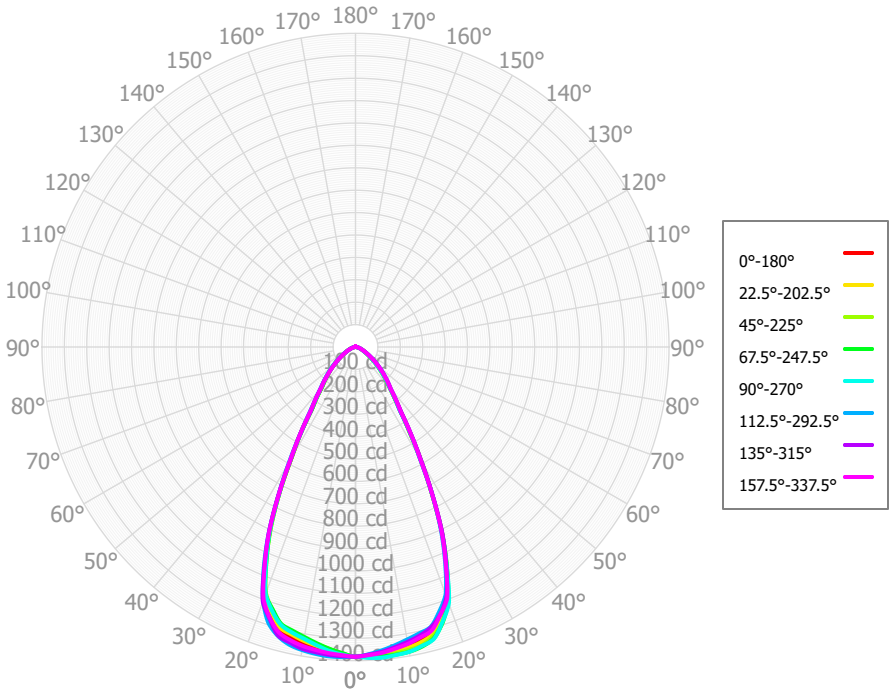
Full Beam Angle

0° - 180°	56°
90° - 270°	56°

IES File Header Contents

Keyword	Value
TEST	SP-01405_3
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/14/2022
ISSUEDATE	10/25/2022
LUMCAT	SR3Mx 25L 35HK XW xx xx RH3F 25L 35HK XW MW SO
LUMINAIRE	Nom. 3" Round Pinhole A-Spec, Xtra Wide Beam
OTHER	Matte White Trim, Solite lens
OTHER	56 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°	132.13	9.28%	90.00° - 100.00°	1.76	0.12%
10.00° - 20.00°	364.70	25.61%	100.00° - 110.00°	1.73	0.12%
20.00° - 30.00°	405.64	28.49%	100.00° - 120.00°	3.38	0.24%
30.00° - 40.00°	230.53	16.19%	120.00° - 130.00°	1.49	0.10%
40.00° - 50.00°	138.39	9.72%	130.00° - 140.00°	1.40	0.10%
50.00° - 60.00°	79.72	5.60%	140.00° - 150.00°	1.16	0.08%
60.00° - 70.00°	39.25	2.76%	150.00° - 160.00°	0.89	0.06%
70.00° - 80.00°	17.63	1.24%	160.00° - 170.00°	0.53	0.04%
80.00° - 90.00°	5.18	0.36%	170.00° - 180.00°	0.19	0.01%
0.00° - 90.00°	1413.17	99.24%	0.00° - 180.00°	1423.97	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°	1382.85	1382.85	1382.85	1382.85	1382.85	1382.85	1382.85	1382.85	1382.85	1382.85	1382.85	1382.85	1382.85	1382.85	1382.85	1382.85	1382.85
2.50°	1378.80	1380.36	1383.00	1384.75	1389.92	1386.11	1382.02	1377.62	1375.44	1371.25	1369.56	1367.94	1374.61	1373.09	1374.96	1377.31	1378.80
5.00°	1373.84	1377.48	1382.91	1387.02	1392.40	1386.34	1379.70	1372.20	1365.76	1357.81	1353.16	1352.29	1361.63	1359.62	1365.96	1370.82	1373.84
7.50°	1364.97	1370.96	1379.36	1385.59	1387.45	1381.67	1374.34	1364.60	1354.10	1344.96	1337.78	1333.75	1342.06	1343.56	1351.89	1358.70	1364.97
10.00°	1354.72	1363.16	1373.47	1381.87	1382.19	1374.14	1368.55	1355.88	1342.11	1332.18	1322.98	1314.81	1322.84	1326.47	1337.22	1346.25	1354.72
12.50°	1340.24	1350.70	1364.88	1370.63	1367.73	1362.18	1352.13	1341.47	1327.71	1315.43	1305.35	1297.46	1306.25	1310.42	1320.49	1329.24	1340.24
15.00°	1315.96	1328.67	1337.26	1347.52	1350.44	1336.54	1334.66	1319.96	1313.02	1298.36	1286.37	1280.27	1284.86	1294.72	1297.12	1311.60	1315.96
17.50°	1266.64	1278.17	1290.66	1292.01	1289.23	1292.67	1273.74	1270.01	1255.64	1244.11	1234.41	1228.75	1236.78	1240.86	1255.26	1256.12	1266.64
20.00°	1191.19	1202.41	1199.13	1209.88	1219.28	1206.59	1210.35	1199.37	1194.97	1188.38	1169.15	1175.14	1173.31	1176.53	1187.80	1196.63	1191.19
22.50°	1059.44	1062.94	1068.76	1066.62	1067.36	1071.83	1064.04	1061.44	1053.40	1047.43	1042.53	1039.85	1043.42	1047.05	1060.51	1054.18	1059.44
25.00°	913.15	912.36	913.03	913.01	912.72	917.68	915.78	914.22	908.82	905.36	895.25	902.34	905.30	903.28	917.83	909.59	913.15
27.50°	740.14	738.11	738.32	739.19	740.09	744.12	744.11	741.98	739.19	736.62	735.33	736.98	738.59	741.57	744.58	740.93	740.14
30.00°	583.61	579.81	585.43	581.31	575.95	590.69	575.28	583.48	571.41	571.36	571.93	573.79	581.81	576.84	588.13	578.19	583.61
32.50°	453.08	450.52	446.67	450.05	453.96	454.95	457.47	456.57	454.07	453.23	451.32	452.93	453.38	457.99	460.17	459.97	453.08
35.00°	351.73	348.00	353.32	347.47	345.45	358.29	345.37	351.89	341.20	341.57	340.14	337.62	345.73	344.75	358.75	351.24	351.73
37.50°	290.07	287.27	285.22	286.17	289.86	291.36	292.15	290.62	286.69	285.61	282.16	282.51	288.53	291.17	296.13	295.11	290.07
40.00°	241.71	238.58	239.18	237.46	239.58	244.41	241.47	240.07	234.69	233.37	233.21	230.62	240.11	242.31	247.39	243.85	241.71
42.50°	209.01	206.12	203.77	204.42	206.27	210.60	208.75	207.45	204.46	204.04	203.15	202.30	209.72	213.74	216.19	213.57	209.01
45.00°	179.64	176.21	174.23	174.07	174.78	180.01	177.13	177.02	174.98	175.52	175.42	174.75	181.75	185.97	187.42	184.30	179.64
47.50°	153.67	149.29	147.08	146.62	148.08	151.24	151.27	149.75	150.21	150.75	151.41	151.34	158.03	160.61	161.30	158.50	153.67
50.00°	129.94	125.13	123.75	121.75	122.93	126.66	126.45	125.26	126.14	127.00	127.71	128.47	134.40	135.40	136.79	133.58	129.94
52.50°	108.19	103.77	101.72	99.31	101.27	104.11	105.88	104.22	105.37	107.09	107.49	107.86	110.91	114.37	113.84	111.12	108.19
55.00°	88.79	85.70	84.52	81.17	81.99	86.06	86.37	85.59	85.88	87.93	87.41	88.37	90.72	93.65	94.10	90.68	88.79
57.50°	71.20	70.51	68.67	66.54	67.27	69.86	70.37	69.57	71.23	71.02	72.33	72.78	74.81	77.25	77.04	75.06	71.20
60.00°	57.88	58.11	55.98	54.75	54.71	57.09	56.08	56.63	57.66	56.23	57.44	58.64	61.06	61.34	62.71	60.83	57.88
62.50°	47.40	47.83	43.99	44.96	45.71	45.49	46.53	46.60	47.44	46.83	48.05	48.66	49.77	49.93	50.35	49.43	47.40
65.00°	39.48	38.99	36.86	36.41	37.64	36.89	37.69	38.14	38.15	38.32	38.87	39.47	39.97	39.24	41.01	39.62	39.48
67.50°	33.02	31.10	30.56	28.62	30.89	29.12	30.50	30.97	31.25	31.72	32.48	32.19	31.65	33.18	33.54	32.57	33.02
70.00°	27.32	25.28	25.18	23.38	25.43	24.35	24.26	25.01	24.84	25.30	26.20	25.70	25.52	27.34	27.49	26.47	27.32
72.50°	21.98	20.65	19.92	19.45	21.55	20.27	19.88	19.90	19.51	19.19	20.91	20.79	21.24	22.65	22.19	21.80	21.98
75.00°	17.76	16.84	15.60	15.58	17.12	16.38	15.75	15.39	14.94	14.19	15.80	16.40	17.27	17.96	17.37	17.56	17.76
77.50°	14.01	13.42	11.37	11.72	12.11	12.53	12.05	11.22	11.77	10.95	11.81	12.89	13.52	13.25	12.76	13.90	14.01
80.00°	10.62	10.35	9.07	8.66	8.60	9.27	8.71	8.53	8.96	8.27	8.07	9.40	10.17	9.10	9.33	10.50	10.62
82.50°	7.35	7.43	6.85	5.91	6.46	6.09	5.92	6.60	6.73	6.35	5.54	5.94	7.09	6.70	6.35	7.39	7.35
85.00°	4.97	4.95	4.58	4.29	4.44	4.09	3.74	4.47	4.67	4.47	3.34	3.55	4.69	4.53	4.28	4.83	4.97
87.50°	2.83	2.63	2.35	3.03	2.50	2.20	2.34	2.25	2.85	2.62	2.41	2.56	2.67	2.95	2.49	2.79	2.83
90.00°	2.10	1.91	1.98	2.30	1.63	1.71	1.54	1.62	1.79	1.68	1.67	1.84	2.11	1.82	1.84	1.91	2.10
92.50°	1.69	1.65	1.63	1.69	1.52	1.28	1.41	1.57	1.64	1.69	1.55	1.42	2.23	1.68	1.49	1.98	1.69
95.00°	1.64	1.63	1.63	1.58	1.47	1.39	1.44	1.48	1.57	1.66	1.48	1.29	2.03	1.57	1.55	1.80	1.64
97.50°	1.65	1.66	1.62	1.56	1.46	1.50	1.62	1.37	1.56	1.61	1.51	1.43	1.70	1.52	1.69	1.43	1.65
100.00°	1.91	1.52	1.59	1.53	1.58	1.59	1.62	1.36	1.56	1.54	1.54	1.60	1.60	1.55	1.56	1.48	1.91

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	1693	1693	1693	1693	1652	1652	1652	1652	1576	1576	1576	1507	1507	1507	1443	1443	1443	1413
	1	1600	1555	1515	1478	1563	1523	1487	1454	1463	1434	1407	1408	1384	1363	1357	1338	1321	1310
	2	1508	1429	1363	1308	1474	1403	1343	1293	1354	1305	1262	1309	1269	1233	1268	1235	1206	1209
	3	1421	1317	1237	1173	1390	1296	1222	1163	1256	1194	1143	1219	1167	1123	1185	1141	1104	1118
	4	1340	1219	1131	1064	1312	1202	1120	1057	1169	1098	1042	1138	1078	1029	1109	1058	1016	1037
RCR	5	1265	1133	1040	972	1239	1118	1032	967	1090	1015	957	1065	999	948	1041	984	938	965
	6	1196	1056	962	895	1173	1044	956	892	1020	942	884	999	930	877	978	918	870	901
	7	1132	988	894	829	1111	978	889	826	958	878	821	939	868	816	922	858	810	843
	8	1074	927	835	771	1055	918	830	769	901	822	765	885	813	761	870	805	757	792
	9	1020	873	782	721	1003	865	778	719	850	771	716	836	764	713	823	758	710	745
	10	971	823	735	676	955	817	732	675	804	726	672	792	720	670	780	715	667	704

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	45.7 fc	5.9 ft
6.5 ft	32.7 fc	7.0 ft
7.5 ft	24.6 fc	8.0 ft
8.0 ft	21.6 fc	8.6 ft
10.0 ft	13.8 fc	10.7 ft
12.0 ft	9.6 fc	12.9 ft
14.0 ft	7.1 fc	15.0 ft
16.0 ft	5.4 fc	17.1 ft
20.0 ft	3.5 fc	21.4 ft
24.0 ft	2.4 fc	25.7 ft
28.0 ft	1.8 fc	30.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	842313	842313	842313
45.00°	154746	150084	150556
55.00°	94294	89757	87070
65.00°	56899	53121	54246
75.00°	41801	36722	40292
85.00°	34712	31978	31028

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	23.1	24.2	23.5	24.6	24.9	23.0	24.1	23.3	24.4	24.8
	3H	23.9	24.9	24.3	25.3	25.7	23.7	24.8	24.1	25.1	25.5
	4H	24.2	25.1	24.6	25.5	25.9	24.0	25.0	24.4	25.3	25.7
	6H	24.4	25.3	24.8	25.7	26.1	24.2	25.1	24.6	25.5	25.9
	8H	24.5	25.3	24.9	25.7	26.1	24.2	25.1	24.7	25.5	25.9
	12H	24.5	25.3	25.0	25.7	26.1	24.3	25.1	24.7	25.5	25.9
4H	2H	23.3	24.2	23.7	24.6	25.0	23.2	24.1	23.6	24.5	24.9
	3H	24.3	25.1	24.7	25.5	25.9	24.1	24.9	24.5	25.3	25.7
	4H	24.7	25.4	25.1	25.8	26.3	24.5	25.2	24.9	25.6	26.1
	6H	25.0	25.6	25.5	26.1	26.6	24.8	25.4	25.3	25.8	26.3
	8H	25.1	25.7	25.6	26.1	26.6	24.8	25.4	25.3	25.9	26.3
	12H	25.2	25.7	25.7	26.2	26.7	24.9	25.4	25.4	25.9	26.4
8H	4H	24.7	25.3	25.2	25.8	26.3	24.6	25.1	25.0	25.6	26.1
	6H	25.2	25.6	25.7	26.1	26.6	24.9	25.3	25.4	25.9	26.4
	8H	25.3	25.7	25.9	26.2	26.8	25.0	25.4	25.6	25.9	26.5
	12H	25.5	25.8	26.0	26.3	26.9	25.1	25.5	25.7	26.0	26.6
12H	4H	24.7	25.2	25.2	25.7	26.2	24.5	25.0	25.0	25.5	26.0
	6H	25.2	25.6	25.7	26.0	26.6	24.9	25.3	25.4	25.8	26.3
	8H	25.3	25.7	25.9	26.2	26.8	25.0	25.4	25.6	25.9	26.5

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0