

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SR3Mx 25L 35K XW xx xx RH3F 25L 35K XW MW NL
Nom. 3" Round Pinhole A-Spec, Xtra Wide Beam

Test Number

SP-01413_3

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
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Lumen Output

Output Lumens	1859
Efficacy	70.67 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.95
Two luminaires, plane 90°	0.94
Four luminaires	0.85

Full Beam Angle

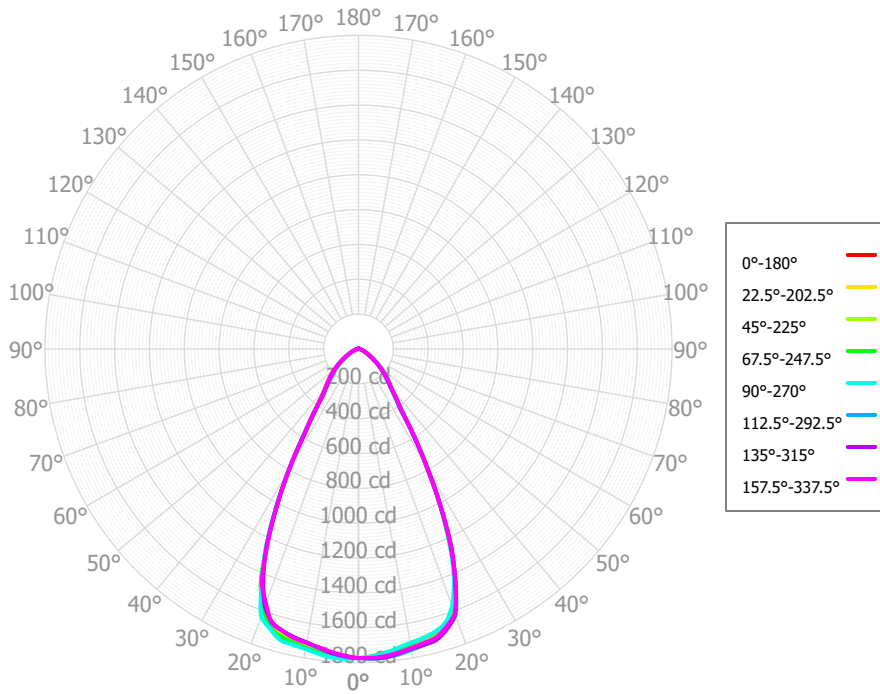
0° - 180°	58°
90° - 270°	58°

IES File Header Contents

Keyword	Value
TEST	SP-01413_3
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/21/2022
ISSUDATE	10/25/2022
LUMCAT	SR3Mx 25L 35K XW xx xx RH3F 25L 35K XW MW NL
LUMINAIRE	Nom. 3" Round Pinhole A-Spec, Xtra Wide Beam
OTHER	Matte White Trim, No lens
OTHER	58 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

SR3Mx 25L 35K XW xx xx RH3F 25L 35K XW
MW NL

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	169.51	9.12%	90.00° - 100.00°	2.09	0.11%
10.00° - 20.00°	475.57	25.59%	100.00° - 110.00°	1.91	0.10%
20.00° - 30.00°	554.90	29.85%	100.00° - 120.00°	3.83	0.21%
30.00° - 40.00°	291.94	15.71%	120.00° - 130.00°	1.90	0.10%
40.00° - 50.00°	173.13	9.31%	130.00° - 140.00°	1.66	0.09%
50.00° - 60.00°	102.50	5.51%	140.00° - 150.00°	1.37	0.07%
60.00° - 70.00°	48.29	2.60%	150.00° - 160.00°	1.03	0.06%
70.00° - 80.00°	21.84	1.17%	160.00° - 170.00°	0.63	0.03%
80.00° - 90.00°	8.27	0.45%	170.00° - 180.00°	0.22	0.01%
0.00° - 90.00°	1845.95	99.31%	0.00° - 180.00°	1858.69	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°	1774.53	1774.53	1774.53	1774.53	1774.53	1774.53	1774.53	1774.53	1774.53	1774.53	1774.53	1774.53	1774.53	1774.53	1774.53	1774.53	1774.53
2.50°	1772.32	1771.36	1767.27	1764.92	1768.36	1768.52	1765.32	1762.85	1764.25	1770.94	1770.50	1773.58	1780.61	1780.42	1777.42	1775.31	1772.32
5.00°	1768.45	1759.86	1754.76	1750.61	1753.62	1752.30	1752.43	1747.20	1752.79	1758.24	1761.33	1764.67	1778.13	1778.02	1777.28	1768.99	1768.45
7.50°	1750.39	1744.84	1739.44	1735.76	1731.33	1730.16	1730.97	1728.12	1736.20	1740.67	1747.85	1755.47	1764.88	1768.39	1762.00	1758.23	1750.39
10.00°	1731.54	1726.11	1721.31	1717.91	1713.16	1712.72	1711.16	1713.99	1719.96	1727.01	1735.27	1742.39	1749.46	1753.76	1746.62	1743.10	1731.54
12.50°	1719.82	1709.96	1705.96	1700.52	1701.72	1698.17	1696.52	1701.90	1704.68	1714.82	1723.05	1728.69	1739.69	1740.13	1739.39	1728.85	1719.82
15.00°	1706.13	1695.92	1692.72	1684.84	1682.74	1676.45	1676.80	1677.18	1685.59	1696.14	1704.75	1711.13	1730.57	1727.04	1728.41	1715.23	1706.13
17.50°	1671.83	1655.85	1653.05	1652.11	1654.64	1651.57	1645.67	1648.93	1658.98	1675.82	1684.79	1679.10	1685.90	1682.80	1686.85	1673.45	1671.83
20.00°	1617.05	1600.22	1598.51	1577.17	1569.75	1558.21	1572.15	1555.81	1584.27	1576.57	1582.29	1592.55	1634.05	1627.08	1621.68	1616.02	1617.05
22.50°	1449.33	1447.54	1443.11	1453.12	1432.25	1444.01	1429.83	1451.02	1440.36	1464.93	1466.09	1468.80	1450.24	1458.45	1450.64	1455.70	1449.33
25.00°	1265.14	1253.07	1246.45	1239.37	1241.85	1238.30	1246.77	1238.23	1253.38	1244.57	1245.67	1247.33	1260.55	1261.02	1261.76	1254.56	1265.14
27.50°	1024.79	1024.97	1020.89	1018.89	1015.04	1014.20	1014.78	1016.13	1018.98	1016.99	1016.63	1021.48	1023.41	1025.14	1020.89	1024.29	1024.79
30.00°	795.34	786.55	787.14	789.38	796.04	792.46	792.27	792.42	795.75	792.47	790.29	787.47	792.33	783.53	791.19	786.24	795.34
32.50°	591.35	597.94	598.87	596.45	580.99	570.97	578.51	574.59	581.70	575.78	570.40	587.67	588.22	594.07	585.05	599.08	591.35
35.00°	433.45	418.95	418.47	440.10	447.75	447.97	436.66	449.50	444.22	453.38	446.88	436.09	417.79	408.87	429.22	420.53	433.45
37.50°	355.48	348.51	348.81	343.07	344.57	331.39	344.07	335.80	353.25	342.93	334.52	335.59	344.91	345.05	350.60	351.80	355.48
40.00°	295.32	288.64	289.00	291.55	293.04	290.72	289.94	296.38	301.15	300.34	293.26	288.67	284.06	283.64	290.34	291.57	295.32
42.50°	257.92	254.98	255.94	253.64	254.07	251.64	255.05	259.43	266.67	260.80	254.63	250.29	248.52	249.09	250.96	257.46	257.92
45.00°	224.67	222.11	223.39	223.41	225.05	224.44	225.55	232.45	235.76	231.87	225.97	218.59	214.84	215.21	216.27	223.70	224.67
47.50°	195.47	192.50	194.90	194.49	197.51	197.14	198.03	204.78	205.97	202.44	197.08	189.06	184.00	185.01	185.69	192.54	195.47
50.00°	165.94	163.31	166.51	166.10	169.65	169.33	170.53	175.25	176.74	171.79	167.61	160.81	155.22	155.43	156.10	161.82	165.94
52.50°	136.18	137.27	138.79	139.48	141.84	142.35	143.03	147.36	147.62	142.73	139.43	133.87	128.83	128.03	127.16	133.71	136.18
55.00°	111.33	112.15	112.35	113.37	117.36	117.75	120.18	122.60	122.03	116.46	113.67	107.49	105.36	102.99	103.26	107.18	111.33
57.50°	89.13	90.94	90.91	91.48	93.55	95.50	98.01	100.04	96.82	94.31	91.01	88.13	84.41	83.61	81.79	86.68	89.13
60.00°	71.86	71.61	71.82	70.32	77.20	77.99	80.26	80.61	80.02	77.65	72.60	70.84	68.15	66.72	67.11	68.44	71.86
62.50°	56.54	57.53	58.89	57.69	61.57	62.72	62.88	64.50	63.62	62.94	57.71	57.01	54.91	54.09	54.75	55.99	56.54
65.00°	45.42	45.32	47.18	45.82	49.89	50.85	51.08	51.94	51.60	50.18	46.52	43.85	44.31	43.47	44.75	44.63	45.42
67.50°	35.41	36.90	37.81	38.17	39.13	41.23	39.63	41.36	40.00	40.05	37.54	36.44	34.99	35.46	35.28	35.28	35.41
70.00°	29.92	29.76	29.79	30.70	31.47	34.16	31.94	32.41	31.69	31.87	30.30	29.59	28.60	28.88	28.84	27.87	29.92
72.50°	25.15	24.50	23.64	25.20	24.56	27.81	24.74	25.35	24.15	25.28	24.43	24.19	23.20	23.70	22.79	23.15	25.15
75.00°	19.89	20.31	19.60	19.97	19.41	22.09	20.16	19.44	19.97	19.58	19.37	18.96	20.03	19.39	19.02	19.43	19.89
77.50°	14.59	17.30	17.81	16.61	15.40	17.69	16.05	16.06	16.46	16.50	16.45	16.23	17.34	15.73	15.43	16.75	14.59
80.00°	12.55	14.17	14.87	13.39	13.35	14.13	13.54	13.78	14.89	14.48	14.46	13.44	14.72	12.80	14.12	13.83	12.55
82.50°	10.37	10.95	11.01	10.71	10.58	10.51	10.90	10.63	12.33	11.17	11.14	10.25	12.11	10.26	12.44	10.72	10.37
85.00°	6.33	7.34	7.28	7.86	6.91	6.86	7.97	7.20	7.72	7.51	7.44	7.09	7.63	6.79	7.34	7.14	6.33
87.50°	2.79	3.49	3.63	4.59	4.28	4.55	5.35	4.70	4.26	4.87	4.90	4.04	3.17	2.94	3.02	3.28	2.79
90.00°	2.22	2.13	2.19	2.34	2.67	2.69	3.26	2.39	2.54	2.41	2.57	1.79	2.27	2.07	2.54	1.97	2.22
92.50°	1.81	1.95	1.71	2.02	2.02	2.08	2.05	1.97	1.58	1.90	2.04	1.75	1.47	2.02	2.18	1.74	1.81
95.00°	1.97	1.94	1.83	1.82	2.06	1.74	1.95	1.75	1.50	1.55	1.68	1.67	1.56	2.11	2.17	1.78	1.97
97.50°	2.03	1.99	2.14	1.78	1.98	1.69	1.92	1.68	1.53	1.98	1.73	1.52	1.65	2.22	2.10	1.89	2.03
100.00°	1.80	1.97	2.17	1.70	1.83	1.69	1.96	1.63	1.66	2.36	1.79	1.51	1.71	2.01	1.90	1.58	1.80

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%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	2210	2210	2210	2210	2157	2157	2157	2157	2058	2058	2058	1968	1968	1968	1885	1885	1846
	1	2089	2031	1978	1930	2041	1989	1941	1898	1910	1872	1837	1839	1808	1780	1772	1748	1712
	2	1970	1867	1782	1710	1926	1833	1756	1690	1770	1706	1651	1711	1659	1613	1657	1615	1582
	3	1856	1722	1618	1535	1817	1695	1599	1522	1643	1562	1496	1595	1527	1470	1550	1494	1463
	4	1751	1595	1480	1393	1715	1572	1466	1384	1529	1438	1365	1489	1411	1348	1452	1386	1358
	5	1654	1482	1363	1274	1621	1463	1351	1268	1428	1330	1255	1394	1309	1242	1363	1289	1264
	6	1564	1383	1261	1174	1534	1367	1252	1169	1336	1235	1159	1308	1219	1150	1282	1203	1181
	7	1481	1294	1172	1087	1454	1280	1165	1084	1255	1152	1077	1230	1138	1070	1208	1126	1106
	8	1405	1214	1094	1012	1381	1203	1089	1009	1181	1077	1004	1160	1067	999	1140	1056	1039
	9	1335	1143	1025	946	1313	1133	1021	944	1114	1011	939	1096	1002	935	1079	994	978
	10	1271	1079	964	887	1251	1070	960	885	1053	952	882	1038	945	879	1023	937	923

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	58.7 fc	6.1 ft
6.5 ft	42.0 fc	7.2 ft
7.5 ft	31.5 fc	8.3 ft
8.0 ft	27.7 fc	8.9 ft
10.0 ft	17.7 fc	11.1 ft
12.0 ft	12.3 fc	13.3 ft
14.0 ft	9.1 fc	15.5 ft
16.0 ft	6.9 fc	17.7 ft
20.0 ft	4.4 fc	22.1 ft
24.0 ft	3.1 fc	26.6 ft
28.0 ft	2.3 fc	31.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1080891	1080891	1080891
45.00°	193531	192429	193860
55.00°	118229	119311	124629
65.00°	65459	67994	71904
75.00°	46804	46126	45677
85.00°	44253	50905	48273

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	23.9	25.0	25.4	23.8	24.9	24.1	25.2	25.6
	3H	24.2	25.2	24.6	25.6	26.0	24.5	25.5	24.9	25.8	26.2
	4H	24.5	25.4	24.9	25.8	26.2	24.7	25.7	25.1	26.0	26.4
	6H	24.7	25.5	25.1	25.9	26.3	24.9	25.8	25.4	26.2	26.6
	8H	24.8	25.6	25.2	26.0	26.4	25.0	25.8	25.5	26.3	26.7
	12H	24.8	25.6	25.3	26.0	26.5	25.1	25.9	25.6	26.3	26.7
4H	2H	23.7	24.7	24.2	25.0	25.5	24.0	24.9	24.4	25.3	25.7
	3H	24.6	25.3	25.0	25.8	26.2	24.9	25.6	25.3	26.0	26.5
	4H	24.9	25.6	25.4	26.0	26.5	25.2	25.9	25.6	26.3	26.8
	6H	25.3	25.8	25.7	26.3	26.8	25.5	26.1	26.0	26.6	27.1
	8H	25.4	26.0	25.9	26.4	26.9	25.7	26.2	26.2	26.7	27.2
	12H	25.5	26.0	26.0	26.5	27.0	25.8	26.3	26.3	26.8	27.3
8H	4H	25.0	25.6	25.5	26.0	26.5	25.3	25.8	25.7	26.3	26.8
	6H	25.5	25.9	26.0	26.4	26.9	25.7	26.2	26.2	26.7	27.2
	8H	25.7	26.1	26.2	26.6	27.1	25.9	26.3	26.5	26.9	27.4
	12H	25.9	26.3	26.5	26.8	27.4	26.2	26.5	26.7	27.0	27.6
12H	4H	25.0	25.5	25.5	26.0	26.5	25.2	25.7	25.7	26.2	26.7
	6H	25.5	25.9	26.0	26.4	26.9	25.7	26.1	26.3	26.6	27.2
	8H	25.8	26.1	26.3	26.7	27.2	26.0	26.4	26.6	26.9	27.5

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0