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 SO

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

Test Number

SP-01414_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

Lumen Output

Output Lumens	1679
Efficacy	63.85 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°	0.91
Four luminaires	0.83

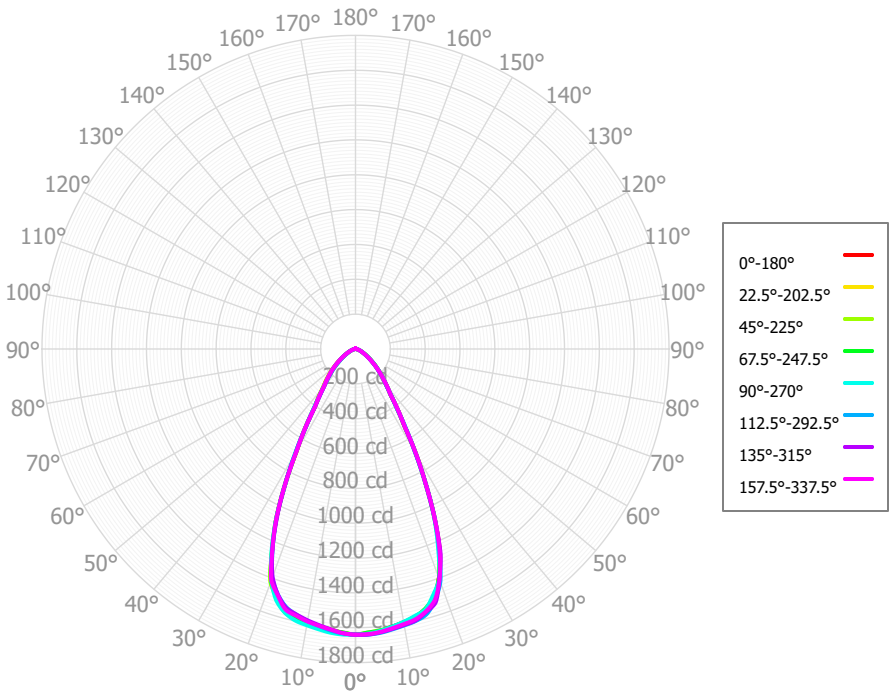
Full Beam Angle

0° - 180°	56°
90° - 270°	56°

IES File Header Contents

Keyword	Value
TEST	SP-01414_3
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/21/2022
ISSUEDATE	10/25/2022
LUMCAT	SR3Mx 25L 35K XW xx xx RH3F 25L 35K 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. 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

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture
0.00° - 10.00°	156.50	9.32%
10.00° - 20.00°	431.76	25.71%
20.00° - 30.00°	479.76	28.57%
30.00° - 40.00°	270.99	16.14%
40.00° - 50.00°	162.64	9.69%
50.00° - 60.00°	93.31	5.56%
60.00° - 70.00°	45.45	2.71%
70.00° - 80.00°	19.93	1.19%
80.00° - 90.00°	5.72	0.34%
0.00° - 90.00°	1666.07	99.22%

Zone	Lumens	% Fixture
90.00° - 100.00°	2.18	0.13%
100.00° - 110.00°	2.00	0.12%
100.00° - 120.00°	3.95	0.24%
120.00° - 130.00°	1.85	0.11%
130.00° - 140.00°	1.67	0.10%
140.00° - 150.00°	1.44	0.09%
150.00° - 160.00°	1.10	0.07%
160.00° - 170.00°	0.66	0.04%
170.00° - 180.00°	0.22	0.01%
0.00° - 180.00°	1679.14	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°	1640.13	1640.13	1640.13	1640.13	1640.13	1640.13	1640.13	1640.13	1640.13	1640.13	1640.13	1640.13	1640.13	1640.13	1640.13	1640.13	1640.13
2.50°	1633.55	1634.45	1629.40	1629.90	1635.96	1634.49	1633.57	1633.27	1631.86	1633.66	1630.12	1629.50	1640.93	1641.00	1641.51	1638.50	1633.55
5.00°	1623.51	1627.49	1621.87	1622.69	1624.99	1622.88	1616.56	1618.04	1617.64	1626.03	1619.63	1621.90	1635.30	1635.88	1632.85	1630.83	1623.51
7.50°	1607.80	1613.79	1612.58	1608.33	1608.30	1604.28	1599.43	1603.32	1605.52	1612.25	1610.11	1612.37	1623.09	1623.66	1620.83	1617.31	1607.80
10.00°	1593.29	1599.07	1599.88	1592.87	1590.83	1585.28	1582.09	1588.73	1594.51	1597.31	1600.83	1602.67	1610.44	1611.46	1608.65	1603.67	1593.29
12.50°	1579.78	1582.62	1582.32	1574.57	1570.51	1563.50	1561.88	1569.47	1578.05	1580.86	1583.72	1583.79	1596.85	1599.34	1596.44	1589.83	1579.78
15.00°	1547.82	1550.68	1551.39	1544.30	1548.85	1534.90	1538.27	1549.46	1559.57	1564.25	1565.43	1561.80	1567.26	1576.43	1563.30	1559.92	1547.82
17.50°	1504.43	1499.14	1505.88	1492.11	1481.96	1479.16	1480.52	1483.40	1491.38	1496.61	1497.91	1496.77	1513.12	1515.26	1527.55	1513.09	1504.43
20.00°	1400.10	1399.67	1404.62	1399.98	1406.13	1396.82	1392.70	1413.48	1410.98	1422.59	1426.58	1417.57	1412.94	1423.95	1405.40	1411.04	1400.10
22.50°	1268.41	1253.54	1257.89	1252.32	1241.12	1243.65	1248.70	1246.64	1250.84	1251.32	1252.17	1251.45	1260.25	1259.71	1277.68	1264.22	1268.41
25.00°	1080.46	1073.97	1075.62	1076.82	1070.27	1074.29	1066.80	1077.12	1078.59	1076.05	1075.38	1077.38	1078.46	1080.53	1073.35	1080.02	1080.46
27.50°	874.30	870.12	871.22	872.42	869.56	873.30	874.80	872.80	876.93	870.53	871.17	872.53	871.12	874.55	871.09	873.37	874.30
30.00°	694.23	688.49	691.39	689.82	681.35	690.27	677.81	677.31	674.31	676.93	676.35	682.83	691.30	689.21	687.67	693.69	694.23
32.50°	519.58	518.74	522.69	524.64	533.57	533.02	531.97	534.42	538.94	534.36	533.80	532.48	529.44	531.22	517.86	525.71	519.58
35.00°	420.41	412.39	417.47	412.74	408.49	414.45	403.89	407.83	409.28	412.26	408.28	410.58	420.16	413.10	417.28	420.31	420.41
37.50°	329.58	331.05	332.18	332.35	336.06	338.45	334.43	341.59	346.77	347.91	343.95	341.43	335.91	335.57	329.29	334.40	329.58
40.00°	284.21	281.19	281.34	280.53	277.45	282.25	278.95	284.00	288.37	292.45	287.27	284.32	283.15	279.64	281.93	284.44	284.21
42.50°	240.91	239.73	237.73	240.89	242.00	242.35	242.97	248.48	253.20	255.29	249.31	244.14	241.28	240.12	238.67	241.59	240.91
45.00°	208.93	206.86	205.92	207.87	208.39	209.60	209.64	215.03	219.30	220.13	213.73	208.17	206.39	204.54	204.59	207.10	208.93
47.50°	177.28	175.45	175.44	176.88	177.16	181.23	181.37	185.33	189.83	187.99	182.47	176.61	173.09	171.16	172.62	173.47	177.28
50.00°	148.49	147.98	148.97	150.47	149.23	154.37	153.41	157.32	161.19	158.15	153.34	147.73	145.45	142.91	144.18	145.70	148.49
52.50°	121.14	120.82	122.82	124.94	124.46	128.20	129.29	131.63	134.60	130.98	127.07	120.95	118.56	116.79	119.08	118.42	121.14
55.00°	100.55	101.37	102.12	103.97	103.29	106.35	105.67	108.76	110.08	107.37	104.12	99.84	98.60	96.83	98.11	98.08	100.55
57.50°	81.59	82.21	82.17	83.44	84.69	85.87	87.18	88.78	89.21	86.81	84.49	82.11	79.12	78.63	79.64	78.48	81.59
60.00°	67.55	67.21	68.34	68.84	69.65	70.89	69.76	72.02	71.48	70.46	68.68	67.17	64.82	64.13	63.50	64.89	67.55
62.50°	54.60	53.02	55.20	54.62	56.52	57.04	58.03	57.73	57.98	56.81	55.82	53.43	51.05	50.29	51.00	52.25	54.60
65.00°	44.04	43.85	45.28	45.22	45.95	47.22	46.97	46.23	46.70	45.96	45.00	44.14	42.55	43.08	41.11	43.80	44.04
67.50°	34.92	35.35	36.42	36.06	36.35	37.88	38.16	36.35	37.65	36.46	35.34	36.24	34.51	36.49	33.55	35.82	34.92
70.00°	28.07	29.37	30.82	28.65	29.35	31.43	30.32	29.40	30.59	29.68	28.78	28.93	28.86	30.36	27.21	29.21	28.07
72.50°	22.32	23.58	25.40	21.86	23.02	25.10	24.69	23.67	25.00	23.83	23.47	21.73	23.23	24.24	22.20	22.86	22.32
75.00°	17.85	18.29	20.37	17.76	18.52	19.42	19.51	18.81	19.93	19.22	17.76	17.75	17.65	18.05	17.69	17.08	17.85
77.50°	13.82	13.65	15.49	13.83	14.31	14.07	15.14	14.20	15.16	14.88	11.92	14.09	12.76	12.27	13.71	12.29	13.82
80.00°	10.18	10.22	10.87	10.39	10.59	11.40	11.09	10.34	11.52	10.72	8.70	10.73	9.48	9.39	9.87	9.04	10.18
82.50°	6.97	7.21	7.41	7.29	6.91	8.72	7.47	6.63	8.33	6.58	5.94	7.43	6.50	6.68	6.85	6.21	6.97
85.00°	4.04	4.79	5.34	4.89	5.00	6.02	4.81	4.42	5.85	4.37	4.54	4.85	4.00	4.64	3.97	3.85	4.04
87.50°	2.59	2.99	3.78	3.09	3.19	3.74	3.09	2.36	3.55	2.29	3.27	2.58	2.46	2.98	2.87	2.43	2.59
90.00°	1.90	1.85	2.66	2.19	2.65	2.75	2.33	2.22	2.78	1.98	2.65	2.48	2.09	2.38	1.90	1.83	1.90
92.50°	1.69	1.73	2.07	1.78	2.16	2.06	2.27	2.12	2.28	1.71	2.09	2.36	1.98	1.97	1.94	1.65	1.69
95.00°	1.65	2.42	1.83	1.93	1.96	2.02	1.99	1.97	2.05	1.77	2.10	2.19	2.12	1.94	1.96	1.72	1.65
97.50°	1.66	2.41	1.98	2.09	1.82	2.05	1.59	1.85	1.84	1.84	2.10	2.01	2.15	1.94	1.80	1.70	1.66
100.00°	1.67	1.98	2.32	2.24	1.89	2.19	1.66	1.95	1.83	2.00	2.01	1.80	2.10	1.97	1.68	1.63	1.67

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	1996	1996	1996	1996	1948	1948	1948	1948	1858	1858	1858	1777	1777	1777	1701	1701	1701	1666
	1	1887	1834	1787	1744	1844	1797	1754	1715	1726	1691	1660	1660	1633	1608	1600	1579	1559	1546
	2	1779	1686	1609	1545	1739	1655	1585	1526	1598	1540	1490	1545	1497	1456	1496	1457	1423	1427
	3	1676	1555	1461	1386	1640	1530	1443	1373	1483	1409	1349	1439	1378	1326	1399	1347	1304	1320
	4	1581	1439	1336	1256	1548	1419	1322	1248	1380	1297	1231	1343	1273	1215	1310	1249	1200	1225
RCR	5	1493	1337	1229	1149	1463	1320	1219	1143	1287	1199	1131	1257	1180	1120	1229	1162	1108	1140
	6	1411	1247	1137	1058	1384	1233	1129	1054	1205	1113	1045	1179	1098	1037	1155	1084	1028	1064
	7	1337	1167	1057	980	1312	1155	1050	977	1131	1038	970	1109	1026	964	1089	1014	958	996
	8	1268	1095	986	912	1246	1085	981	909	1064	971	904	1046	961	900	1028	952	895	936
	9	1205	1031	924	852	1185	1022	920	850	1004	912	847	988	903	843	972	896	839	881
	10	1147	973	869	799	1128	965	865	798	950	858	795	935	851	792	922	845	789	832

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	54.2 fc	5.9 ft
6.5 ft	38.8 fc	7.0 ft
7.5 ft	29.2 fc	8.0 ft
8.0 ft	25.6 fc	8.6 ft
10.0 ft	16.4 fc	10.7 ft
12.0 ft	11.4 fc	12.9 ft
14.0 ft	8.4 fc	15.0 ft
16.0 ft	6.4 fc	17.2 ft
20.0 ft	4.1 fc	21.5 ft
24.0 ft	2.8 fc	25.8 ft
28.0 ft	2.1 fc	30.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	999021	999021	999021
45.00°	179975	177385	179513
55.00°	106778	108446	109690
65.00°	63476	65256	66220
75.00°	42019	47939	43576
85.00°	28205	37337	34940

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	23.2	24.4	23.6	24.7	25.1	23.5	24.6	23.9	25.0	25.3
	3H	24.0	25.0	24.4	25.4	25.8	24.3	25.3	24.7	25.6	26.0
	4H	24.3	25.2	24.7	25.6	26.0	24.5	25.5	24.9	25.8	26.2
	6H	24.4	25.3	24.9	25.7	26.1	24.7	25.5	25.1	25.9	26.3
	8H	24.5	25.3	24.9	25.7	26.1	24.7	25.5	25.1	25.9	26.3
	12H	24.5	25.2	24.9	25.6	26.1	24.7	25.5	25.1	25.9	26.3
4H	2H	23.4	24.4	23.9	24.8	25.2	23.7	24.7	24.1	25.0	25.4
	3H	24.4	25.2	24.9	25.6	26.0	24.7	25.4	25.1	25.9	26.3
	4H	24.7	25.4	25.2	25.9	26.3	25.0	25.7	25.5	26.1	26.6
	6H	25.0	25.6	25.5	26.0	26.5	25.2	25.8	25.7	26.3	26.8
	8H	25.0	25.6	25.5	26.0	26.5	25.3	25.8	25.8	26.3	26.8
	12H	25.1	25.5	25.6	26.0	26.5	25.3	25.8	25.8	26.3	26.8
8H	4H	24.8	25.4	25.3	25.8	26.3	25.1	25.6	25.5	26.1	26.6
	6H	25.1	25.6	25.6	26.1	26.6	25.4	25.8	25.9	26.3	26.8
	8H	25.2	25.6	25.8	26.2	26.7	25.5	25.9	26.0	26.4	26.9
	12H	25.3	25.7	25.8	26.2	26.8	25.6	25.9	26.1	26.5	27.1
12H	4H	24.8	25.3	25.3	25.8	26.3	25.0	25.5	25.5	26.0	26.5
	6H	25.1	25.5	25.7	26.0	26.6	25.4	25.8	25.9	26.2	26.8
	8H	25.3	25.6	25.8	26.1	26.7	25.5	25.9	26.0	26.4	27.0

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0