

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SR3Mx 25L 35K ND xx xx RA3F 25L 35K ND MW GL (nadir)
Nom. 3" Round Downlight, Narrow Beam

Test Number

SP-01392

Test Date

9/7/2022

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	1969
Efficacy	74.87 lm/W

Luminous Dimensions

0° - 180° Size	-0.25
90° - 270° Size	-0.25
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.58
Two luminaires, plane 90°	0.58
Four luminaires	0.58

Full Beam Angle

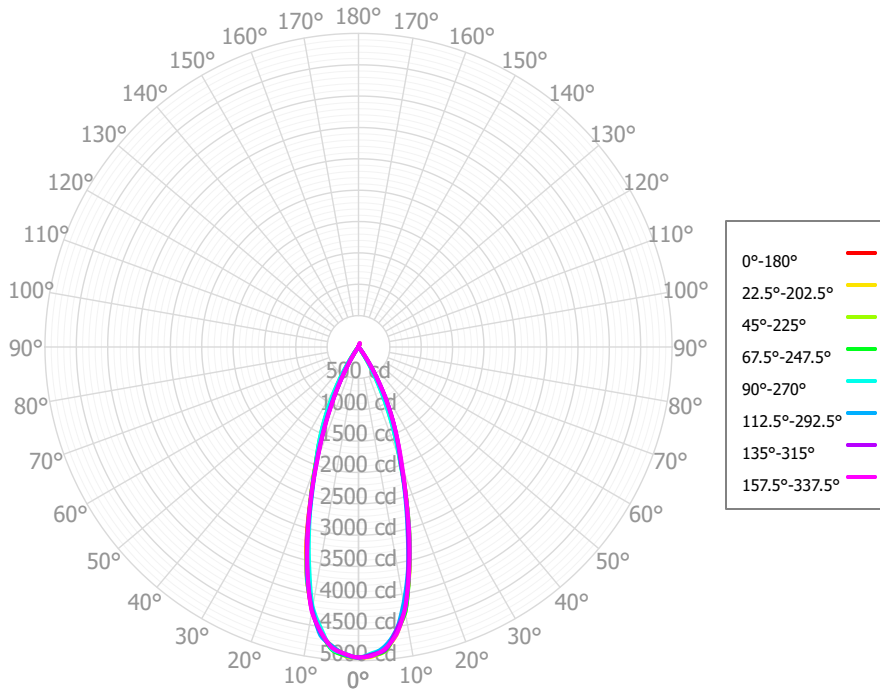
0° - 180°	36°
90° - 270°	35°

IES File Header Contents

Keyword	Value
TEST	SP-01392
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/7/2022
ISSUDATE	12/16/2022
LUMCAT	SR3Mx 25L 35K ND xx xx RA3F 25L 35K ND MW GL (nadir)
LUMINAIRE	Nom. 3" Round Downlight, Narrow Beam
OTHER	Matte White Trim, Clear Glass Lens
OTHER	36 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 ND xx xx RA3F 25L 35K ND
 MW GL (nadir)

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	447.06	22.70%	90.00° - 100.00°	1.62	0.08%
10.00° - 20.00°	842.67	42.80%	100.00° - 110.00°	1.54	0.08%
20.00° - 30.00°	533.39	27.09%	100.00° - 120.00°	3.03	0.15%
30.00° - 40.00°	105.56	5.36%	120.00° - 130.00°	1.68	0.09%
40.00° - 50.00°	7.23	0.37%	130.00° - 140.00°	1.97	0.10%
50.00° - 60.00°	4.35	0.22%	140.00° - 150.00°	2.12	0.11%
60.00° - 70.00°	3.74	0.19%	150.00° - 160.00°	4.89	0.25%
70.00° - 80.00°	3.70	0.19%	160.00° - 170.00°	3.71	0.19%
80.00° - 90.00°	2.11	0.11%	170.00° - 180.00°	0.22	0.01%
0.00° - 90.00°	1949.82	99.02%	0.00° - 180.00°	1969.06	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°	4952.03	4952.03	4952.03	4952.03	4952.03	4952.03	4952.03	4952.03	4952.03	4952.03	4952.03	4952.03	4952.03	4952.03	4952.03	4952.03	4952.03
2.50°	4917.67	4942.76	4931.36	4922.65	4889.38	4914.31	4904.29	4898.36	4905.13	4931.39	4915.00	4923.56	4897.98	4914.95	4908.98	4929.88	4917.67
5.00°	4849.28	4839.55	4869.59	4861.37	4812.64	4789.19	4814.94	4816.60	4796.10	4793.04	4842.33	4848.04	4837.61	4792.37	4851.56	4832.64	4849.28
7.50°	4600.06	4633.96	4604.87	4592.09	4561.97	4641.19	4598.18	4582.94	4604.95	4624.05	4563.98	4576.35	4538.41	4574.33	4571.19	4627.02	4600.06
10.00°	4264.06	4235.08	4293.48	4295.01	4257.81	4233.62	4274.40	4286.90	4263.89	4232.40	4251.38	4250.27	4210.04	4145.12	4255.69	4256.69	4264.06
12.50°	3714.32	3738.43	3720.55	3722.61	3692.91	3794.30	3741.39	3742.86	3788.06	3804.39	3689.30	3677.21	3624.48	3642.28	3664.94	3719.65	3714.32
15.00°	3091.63	3102.52	3138.47	3142.79	3115.16	3132.86	3161.25	3126.89	3201.39	3170.68	3120.52	3102.19	3044.80	3019.85	3053.51	3138.24	3091.63
17.50°	2529.41	2521.15	2523.58	2523.36	2496.75	2466.97	2512.79	2521.46	2539.70	2520.50	2522.58	2521.17	2494.29	2467.35	2507.20	2522.41	2529.41
20.00°	1981.21	1999.16	1970.65	1949.00	1931.43	1967.17	1946.48	1918.02	1986.27	2016.83	1974.88	2005.49	1991.92	2001.23	1974.51	2046.14	1981.21
22.50°	1618.34	1574.03	1571.34	1527.41	1486.37	1476.65	1469.86	1456.98	1487.94	1520.57	1572.59	1630.88	1643.77	1608.70	1633.99	1650.77	1618.34
25.00°	1280.37	1228.62	1188.44	1123.92	1072.56	1076.41	1049.24	1009.82	1077.30	1126.83	1184.56	1265.93	1298.61	1284.89	1295.29	1302.13	1280.37
27.50°	946.70	895.29	835.52	763.89	711.39	695.15	675.51	674.73	698.69	746.64	825.93	916.32	960.28	963.72	968.21	973.59	946.70
30.00°	614.85	569.42	525.38	453.64	415.95	411.26	394.31	349.98	419.25	455.79	511.44	601.13	645.61	644.44	654.39	675.83	614.85
32.50°	371.66	329.17	273.49	230.44	203.37	173.81	172.14	189.82	164.81	203.27	265.17	327.57	370.55	388.68	392.89	387.31	371.66
35.00°	143.33	128.37	113.46	84.34	77.27	89.34	71.59	45.68	81.72	106.03	104.56	150.10	173.26	166.64	177.96	213.98	143.33
37.50°	77.35	53.50	49.14	40.45	33.56	26.98	28.19	26.63	25.40	31.37	44.89	61.77	74.84	71.66	87.66	63.36	77.35
40.00°	20.24	20.42	17.22	15.89	12.43	16.43	14.63	10.67	15.52	18.39	14.43	20.75	22.20	26.23	24.61	31.34	20.24
42.50°	13.31	11.68	10.79	10.67	7.77	9.23	11.01	8.53	8.91	9.11	10.00	12.79	13.54	12.52	14.88	11.75	13.31
45.00°	7.67	8.27	7.66	7.57	6.01	7.87	9.07	6.85	7.63	7.18	7.58	9.34	8.80	7.28	8.74	9.23	7.67
47.50°	6.55	7.54	6.51	6.10	5.86	6.80	7.50	6.58	6.38	5.83	6.52	8.27	6.95	6.08	7.79	7.24	6.55
50.00°	5.59	7.14	5.50	5.50	5.26	6.12	6.13	6.18	5.41	5.36	6.04	6.78	5.86	5.56	6.76	6.22	5.59
52.50°	5.04	6.87	4.55	5.41	4.48	5.27	4.79	5.49	4.60	5.19	5.87	5.14	5.20	5.34	5.62	5.28	5.04
55.00°	4.78	6.58	4.39	4.79	4.15	4.26	4.28	4.97	4.77	5.36	5.19	4.73	4.86	5.14	4.62	4.98	4.78
57.50°	5.03	4.85	4.47	3.96	3.96	3.93	3.83	4.71	4.80	4.90	4.34	4.64	4.66	4.07	3.73	4.67	5.03
60.00°	4.76	3.29	4.22	4.03	3.47	4.10	3.74	4.53	4.30	3.90	3.81	4.13	4.10	3.08	3.72	4.33	4.76
62.50°	3.76	3.44	3.91	4.37	2.92	3.86	3.68	4.46	3.93	3.57	3.37	3.56	3.44	3.28	4.29	4.11	3.76
65.00°	3.24	3.61	3.90	4.07	3.03	3.38	3.94	4.42	3.92	3.68	3.54	3.67	3.55	3.46	4.22	4.26	3.24
67.50°	3.22	3.91	3.92	3.64	3.19	3.40	4.09	4.42	3.98	3.47	3.80	3.84	3.81	3.42	3.84	4.30	3.22
70.00°	3.37	4.11	3.98	3.38	3.06	3.63	3.66	4.27	4.16	3.09	4.15	3.66	3.52	3.46	3.57	4.11	3.37
72.50°	3.65	3.92	4.04	3.13	2.92	3.35	3.32	4.00	4.01	3.54	4.52	3.54	3.19	3.77	3.32	4.21	3.65
75.00°	3.98	3.60	4.03	3.11	2.94	2.93	3.28	3.36	3.41	4.28	3.87	4.24	3.43	3.86	3.27	4.79	3.98
77.50°	4.34	2.95	3.95	3.08	2.90	2.69	2.92	2.51	2.90	3.69	3.21	4.67	3.65	3.30	3.26	4.80	4.34
80.00°	4.01	2.42	3.23	2.74	2.46	2.48	1.81	2.06	2.48	2.78	2.49	3.34	3.23	2.73	3.22	4.11	4.01
82.50°	3.37	2.09	2.51	2.38	2.04	1.96	1.20	1.76	2.00	2.14	1.83	2.15	2.77	2.14	3.18	3.42	3.37
85.00°	2.57	1.85	1.79	1.90	1.70	1.41	1.49	1.47	1.46	1.54	1.54	1.59	1.99	1.70	2.23	2.71	2.57
87.50°	1.72	1.73	1.26	1.53	1.47	1.30	1.67	1.19	1.46	1.36	1.35	1.19	1.39	1.48	1.26	2.12	1.72
90.00°	1.45	1.59	1.32	1.62	1.55	1.20	1.71	1.14	1.81	1.21	1.52	1.19	1.55	1.35	1.44	1.60	1.45
92.50°	1.29	1.42	1.39	1.69	1.59	1.25	1.64	1.13	1.84	1.23	1.60	1.25	1.67	1.32	1.61	1.40	1.29
95.00°	1.23	1.49	1.50	1.70	1.53	1.35	1.48	1.45	1.73	1.27	1.43	1.39	1.71	1.30	1.55	1.37	1.23
97.50°	1.17	1.74	1.51	1.72	1.41	1.72	1.38	1.80	1.81	1.49	1.36	1.56	1.67	1.28	1.48	1.30	1.17
100.00°	1.24	1.57	1.36	1.79	1.19	1.96	1.34	1.75	1.95	1.65	1.49	1.77	1.47	1.28	1.27	1.21	1.24

SR3Mx 25L 35K ND xx xx RA3F 25L 35K ND
 MW GL (nadir)

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	2340	2340	2340	2340	2283	2283	2283	2283	2177	2177	2177	2080	2080	2080	1992	1992	1950
	1	2250	2203	2162	2124	2200	2159	2122	2089	2077	2048	2021	2001	1979	1958	1932	1915	1875
	2	2164	2085	2019	1964	2121	2050	1991	1941	1985	1937	1896	1925	1887	1853	1869	1839	1802
	3	2083	1980	1901	1838	2045	1953	1880	1822	1900	1840	1791	1852	1803	1761	1807	1767	1733
	4	2006	1887	1800	1733	1973	1864	1784	1722	1822	1754	1700	1783	1725	1679	1746	1698	1666
	5	1934	1803	1711	1644	1904	1784	1699	1636	1749	1676	1620	1717	1654	1605	1687	1633	1604
	6	1865	1726	1632	1565	1838	1711	1623	1560	1682	1605	1548	1654	1588	1537	1629	1571	1544
	7	1800	1655	1562	1496	1776	1643	1554	1492	1618	1540	1483	1595	1526	1474	1574	1513	1488
	8	1739	1590	1497	1433	1717	1580	1491	1430	1559	1480	1423	1539	1469	1417	1521	1458	1435
	9	1680	1530	1438	1376	1661	1521	1433	1374	1503	1424	1368	1486	1415	1363	1471	1406	1385
	10	1626	1474	1384	1324	1608	1466	1380	1322	1451	1372	1318	1436	1365	1314	1423	1357	1338

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	163.7 fc	3.5 ft
6.5 ft	117.2 fc	4.2 ft
7.5 ft	88.0 fc	4.8 ft
8.0 ft	77.4 fc	5.1 ft
10.0 ft	49.5 fc	6.4 ft
12.0 ft	34.4 fc	7.7 ft
14.0 ft	25.3 fc	9.0 ft
16.0 ft	19.3 fc	10.3 ft
20.0 ft	12.4 fc	12.8 ft
24.0 ft	8.6 fc	15.4 ft
28.0 ft	6.3 fc	17.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1085885	1085885	1085885
45.00°	2377	2376	1865
55.00°	1827	1676	1588
65.00°	1682	2023	1570
75.00°	3369	3414	2489
85.00°	6469	4513	4283

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	-0.1	0.8	0.3	1.1	1.4	-0.8	0.0	-0.5	0.4	0.7
	3H	2.3	3.1	2.7	3.5	3.9	1.8	2.6	2.2	3.0	3.4
	4H	4.1	4.9	4.6	5.2	5.6	3.3	4.0	3.7	4.4	4.8
	6H	6.2	6.9	6.7	7.3	7.7	5.0	5.7	5.5	6.1	6.5
	8H	7.1	7.7	7.5	8.1	8.5	5.7	6.3	6.1	6.7	7.1
	12H	7.8	8.4	8.2	8.8	9.2	6.2	6.8	6.7	7.2	7.7
4H	2H	0.6	1.3	1.0	1.7	2.1	-0.1	0.6	0.3	1.0	1.4
	3H	3.5	4.1	3.9	4.5	4.9	3.0	3.6	3.4	4.0	4.4
	4H	5.5	6.1	6.0	6.5	7.0	4.8	5.3	5.2	5.7	6.2
	6H	7.6	8.1	8.1	8.6	9.1	6.6	7.0	7.1	7.5	8.0
	8H	8.5	8.9	9.0	9.4	9.9	7.2	7.7	7.7	8.1	8.6
	12H	9.3	9.6	9.8	10.2	10.7	7.8	8.2	8.3	8.7	9.2
8H	4H	6.1	6.5	6.6	7.0	7.5	5.4	5.8	5.9	6.3	6.8
	6H	8.4	8.7	8.9	9.2	9.7	7.3	7.7	7.9	8.2	8.7
	8H	9.4	9.7	9.9	10.2	10.7	8.1	8.4	8.6	8.9	9.4
	12H	10.3	10.6	10.9	11.1	11.7	8.8	9.0	9.3	9.5	10.1
12H	4H	6.2	6.6	6.7	7.1	7.6	5.5	5.8	6.0	6.3	6.8
	6H	8.5	8.8	9.1	9.3	9.9	7.4	7.7	8.0	8.2	8.8
	8H	9.6	9.9	10.2	10.4	11.0	8.2	8.5	8.8	9.0	9.6

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0