

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SR3Mx 25L 35K ND xx xx RD3F 25L 35K ND MW GL
Nom. 3" Round Downlight, Narrow Beam

Test Number

SP-01415_1

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	2336
Efficacy	88.84 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.39
Two luminaires, plane 90°	0.39
Four luminaires	0.42

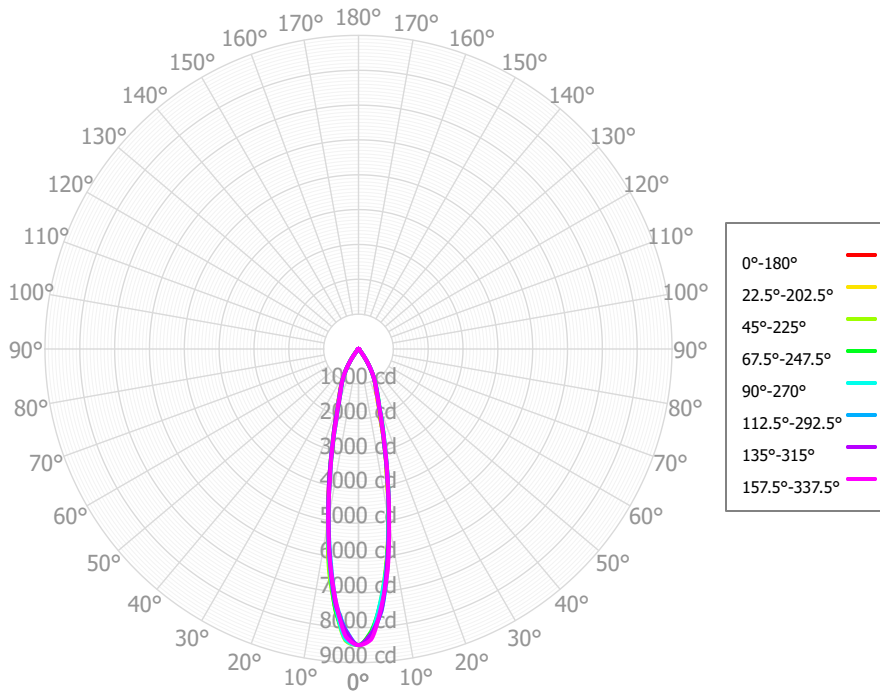
Full Beam Angle

0° - 180°	23°
90° - 270°	23°

IES File Header Contents

Keyword	Value
TEST	SP-01415_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/21/2022
ISSUDATE	10/24/2022
LUMCAT	SR3Mx 25L 35K ND xx xx RD3F 25L 35K ND MW GL
LUMINAIRE	Nom. 3" Round Downlight, Narrow Beam
OTHER	Matte White Trim, Clear glass lens
OTHER	23 Degree Beam Angle
LAMP	N/A, 19mm LES
LAMPCAT	N/A, Min. 80 CRI
OTHER	Reference project SL167
OTHER	Total Luminaire Watts is approximate
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	For RD3F or RD3N Downlight Trim
OTHER	This report prepared by Spectrum Lighting

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	631.75	27.04%	90.00° - 100.00°	1.83	0.08%
10.00° - 20.00°	811.49	34.73%	100.00° - 110.00°	1.86	0.08%
20.00° - 30.00°	538.00	23.03%	100.00° - 120.00°	3.57	0.15%
30.00° - 40.00°	238.44	10.21%	120.00° - 130.00°	1.70	0.07%
40.00° - 50.00°	39.75	1.70%	130.00° - 140.00°	1.47	0.06%
50.00° - 60.00°	35.84	1.53%	140.00° - 150.00°	1.34	0.06%
60.00° - 70.00°	19.91	0.85%	150.00° - 160.00°	1.13	0.05%
70.00° - 80.00°	6.69	0.29%	160.00° - 170.00°	0.63	0.03%
80.00° - 90.00°	2.66	0.11%	170.00° - 180.00°	0.20	0.01%
0.00° - 90.00°	2324.53	99.49%	0.00° - 180.00°	2336.40	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°	8500.16	8500.16	8500.16	8500.16	8500.16	8500.16	8500.16	8500.16	8500.16	8500.16	8500.16	8500.16	8500.16	8500.16	8500.16	8500.16	8500.16
2.50°	8233.99	8158.23	8232.08	8130.50	8210.76	8087.93	8119.12	8271.91	8266.78	8213.38	8385.01	8270.58	8355.62	8218.12	8191.53	8344.71	8233.99
5.00°	7389.95	7454.26	7281.76	7319.86	7265.37	7344.04	7417.68	7326.59	7448.14	7542.18	7506.57	7544.31	7454.99	7555.61	7538.45	7446.87	7389.95
7.50°	6202.13	6265.59	6152.49	6206.74	6213.81	6123.06	6240.66	6208.57	6368.45	6251.47	6456.98	6266.24	6301.23	6360.64	6256.69	6405.28	6202.13
10.00°	4995.58	4957.31	4957.10	4945.52	4981.67	4956.25	4961.00	4990.29	5021.77	5002.88	5060.34	5014.87	5032.02	4981.45	5014.94	5057.07	4995.58
12.50°	3781.15	3880.90	3751.98	3893.54	3887.02	3854.23	3896.13	3758.68	3888.48	3817.52	3849.12	3787.13	3739.44	3885.53	3839.64	3869.70	3781.15
15.00°	2883.78	2840.06	2911.41	2915.17	2968.28	2942.70	2857.54	2910.51	2920.92	2865.96	2917.48	2848.75	2880.26	2855.44	2882.60	2940.24	2883.78
17.50°	2079.83	2206.73	2097.79	2281.45	2263.45	2204.31	2229.61	2089.30	2246.79	2183.69	2196.77	2106.91	2071.07	2240.18	2198.52	2209.92	2079.83
20.00°	1665.47	1603.00	1730.26	1731.37	1766.46	1714.98	1628.22	1712.68	1744.01	1703.95	1720.03	1654.75	1685.38	1683.45	1709.43	1723.96	1665.47
22.50°	1326.80	1372.99	1374.42	1447.32	1425.75	1397.07	1394.67	1352.74	1431.11	1401.52	1388.34	1349.20	1322.47	1416.83	1408.23	1384.06	1326.80
25.00°	1139.71	1145.99	1174.14	1201.91	1201.92	1168.37	1165.49	1173.32	1201.06	1172.48	1186.01	1142.25	1148.02	1167.84	1170.59	1180.35	1139.71
27.50°	968.39	959.70	971.65	985.61	986.58	986.20	980.95	989.05	993.68	992.03	988.10	971.98	970.67	970.02	979.39	977.77	968.39
30.00°	758.52	770.20	755.36	771.26	776.08	780.91	791.46	777.18	793.27	788.37	793.19	773.70	766.87	771.31	772.04	775.99	758.52
32.50°	548.30	559.96	544.15	561.08	571.22	566.73	575.49	568.35	582.96	573.09	591.60	568.32	564.57	562.18	555.85	569.63	548.30
35.00°	358.18	361.88	352.43	355.93	368.72	377.92	372.98	370.38	370.66	381.34	386.66	382.42	369.93	361.58	366.54	360.80	358.18
37.50°	180.67	211.73	190.48	212.86	224.56	195.82	216.52	203.68	225.61	198.23	238.63	199.63	200.65	212.07	188.14	217.68	180.67
40.00°	111.67	94.03	108.29	86.54	97.44	118.45	96.40	114.85	88.20	116.14	111.60	125.83	115.35	88.41	108.71	100.20	111.67
42.50°	52.76	63.71	51.02	63.16	60.94	58.25	64.77	53.64	61.11	59.30	66.30	60.13	52.50	61.00	57.85	59.92	52.76
45.00°	42.21	42.15	42.85	43.71	41.85	45.43	42.57	43.40	38.84	43.62	41.58	46.82	42.81	40.28	43.72	40.87	42.21
47.50°	34.51	37.93	38.71	39.48	38.90	36.50	37.17	37.38	34.76	34.17	37.25	34.52	36.54	36.75	36.36	37.32	34.51
50.00°	35.80	36.96	40.51	37.79	37.60	38.12	35.60	37.29	31.65	34.92	36.03	36.36	36.20	36.04	35.90	36.45	35.80
52.50°	37.73	40.78	43.34	42.86	41.10	39.99	39.15	39.48	37.35	36.40	37.63	38.24	37.10	40.69	36.10	38.86	37.73
55.00°	41.13	43.36	47.34	46.36	44.52	44.43	41.28	44.11	41.88	38.78	39.42	40.46	39.67	42.39	39.55	41.55	41.13
57.50°	41.01	44.51	46.24	46.85	42.72	47.13	41.95	41.95	40.45	40.46	37.49	40.73	38.41	39.91	42.47	38.96	41.01
60.00°	34.93	39.09	40.77	42.02	39.88	37.69	37.17	34.30	37.16	32.85	35.06	33.04	33.30	33.38	33.24	35.94	34.93
62.50°	27.73	28.00	30.89	29.45	28.25	28.28	28.06	26.17	27.74	25.39	25.77	25.29	26.57	22.50	24.25	26.71	27.73
65.00°	19.10	19.78	18.15	19.77	17.97	19.01	20.75	17.73	19.27	18.92	17.27	17.37	18.60	15.39	17.21	18.01	19.10
67.50°	12.84	13.44	11.80	13.29	14.09	11.63	14.51	12.87	13.03	13.09	13.85	11.26	14.14	11.42	11.03	13.24	12.84
70.00°	8.87	9.93	8.57	9.64	10.42	9.66	10.65	9.66	8.76	9.79	10.53	8.77	11.72	8.89	8.77	9.10	8.87
72.50°	6.56	7.80	7.11	8.40	7.43	7.84	7.85	6.99	7.87	7.10	7.63	6.75	8.77	7.28	6.95	7.74	6.56
75.00°	5.49	6.25	6.27	7.05	5.06	6.35	6.37	4.51	6.78	6.07	5.39	5.46	5.57	6.22	6.49	6.48	5.49
77.50°	4.92	4.90	5.37	5.63	4.10	4.91	5.30	4.15	5.43	5.08	4.94	4.43	4.64	5.42	5.74	5.47	4.92
80.00°	4.64	3.81	4.46	3.95	3.32	3.53	4.06	4.25	4.40	4.17	4.32	3.73	4.39	4.41	4.31	4.47	4.64
82.50°	3.47	2.78	3.34	2.15	2.87	2.48	2.78	2.97	3.69	3.20	3.32	2.92	3.23	3.33	2.98	3.46	3.47
85.00°	1.92	2.69	2.18	1.52	2.38	1.80	2.05	1.51	2.87	2.11	2.52	2.04	1.88	2.67	1.79	2.57	1.92
87.50°	1.46	2.74	1.87	1.30	1.86	1.53	1.38	1.31	1.99	1.51	2.03	1.82	1.66	2.10	1.15	1.86	1.46
90.00°	1.31	1.99	1.62	1.24	1.61	1.64	1.38	1.18	1.74	1.45	1.81	2.05	1.56	1.68	1.19	1.41	1.31
92.50°	1.31	1.20	1.78	1.21	1.63	1.64	1.40	1.60	1.85	1.37	1.90	2.09	1.56	1.29	1.43	1.27	1.31
95.00°	1.34	1.58	1.93	1.42	1.67	1.56	1.56	1.99	1.82	1.26	2.17	2.06	1.56	1.40	1.86	1.44	1.34
97.50°	1.70	1.92	1.78	1.65	1.73	1.55	1.69	1.92	1.71	1.34	2.60	2.09	1.38	1.55	2.13	1.87	1.70
100.00°	2.09	1.75	1.65	1.66	2.02	1.57	1.67	1.87	2.44	1.53	2.38	2.15	1.24	2.04	2.29	2.07	2.09

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%	20%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%
	0	2779	2779	2779	2779	2713	2713	2713	2713	2589	2589	2589	2477	2477	2477	2373	2373	2373
	1	2667	2610	2559	2513	2609	2559	2513	2472	2463	2427	2394	2375	2347	2321	2293	2272	2252
	2	2559	2461	2379	2311	2508	2420	2347	2285	2344	2285	2233	2274	2226	2184	2209	2171	2137
	3	2457	2329	2231	2152	2412	2297	2207	2134	2236	2161	2099	2180	2118	2065	2127	2077	2033
	4	2361	2213	2105	2022	2322	2187	2087	2009	2138	2052	1985	2092	2020	1961	2049	1988	1938
	5	2272	2110	1996	1912	2236	2088	1982	1903	2047	1956	1886	2009	1931	1869	1974	1907	1852
	6	2188	2016	1901	1818	2157	1998	1890	1811	1965	1870	1799	1933	1850	1786	1903	1831	1774
	7	2110	1932	1816	1735	2082	1917	1808	1730	1888	1792	1721	1862	1776	1712	1837	1761	1703
	8	2037	1855	1740	1662	2011	1842	1734	1658	1818	1721	1651	1795	1708	1644	1774	1696	1637
	9	1968	1784	1672	1596	1945	1774	1666	1593	1753	1656	1587	1734	1645	1582	1715	1635	1577
	10	1904	1720	1610	1536	1883	1711	1605	1534	1693	1596	1530	1676	1588	1525	1660	1579	1521

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	281.0 fc	2.3 ft
6.5 ft	201.2 fc	2.7 ft
7.5 ft	151.1 fc	3.1 ft
8.0 ft	132.8 fc	3.3 ft
10.0 ft	85.0 fc	4.1 ft
12.0 ft	59.0 fc	4.9 ft
14.0 ft	43.4 fc	5.8 ft
16.0 ft	33.2 fc	6.6 ft
20.0 ft	21.3 fc	8.2 ft
24.0 ft	14.8 fc	9.9 ft
28.0 ft	10.8 fc	11.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1863920	1863920	1863920
45.00°	13089	13288	12978
55.00°	15723	18098	17019
65.00°	9912	9416	9325
75.00°	4652	5311	4285
85.00°	4842	5485	6000

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	14.3	15.2	14.7	15.5	15.9	14.5	15.5	14.9	15.8	16.1
	3H	14.5	15.4	14.9	15.7	16.1	14.8	15.6	15.2	15.9	16.3
	4H	14.6	15.3	15.0	15.7	16.1	14.8	15.6	15.2	15.9	16.3
	6H	14.6	15.3	15.1	15.7	16.1	14.8	15.5	15.3	15.9	16.3
	8H	14.7	15.3	15.1	15.7	16.2	14.8	15.5	15.3	15.9	16.3
	12H	14.7	15.3	15.1	15.7	16.1	14.8	15.4	15.3	15.8	16.3
4H	2H	14.3	15.0	14.7	15.4	15.8	14.5	15.3	15.0	15.7	16.1
	3H	14.6	15.3	15.1	15.7	16.1	14.9	15.5	15.3	15.9	16.3
	4H	14.7	15.3	15.2	15.7	16.2	15.0	15.5	15.4	15.9	16.4
	6H	14.9	15.4	15.4	15.8	16.3	15.0	15.5	15.5	16.0	16.5
	8H	14.9	15.4	15.4	15.8	16.3	15.1	15.5	15.5	16.0	16.4
	12H	15.0	15.4	15.5	15.9	16.3	15.1	15.5	15.6	16.0	16.4
8H	4H	14.7	15.1	15.2	15.6	16.1	14.9	15.3	15.4	15.8	16.3
	6H	14.9	15.3	15.4	15.8	16.3	15.0	15.4	15.5	15.9	16.4
	8H	15.0	15.3	15.6	15.9	16.4	15.1	15.4	15.6	15.9	16.4
	12H	15.1	15.4	15.7	15.9	16.5	15.2	15.4	15.7	15.9	16.5
12H	4H	14.6	15.0	15.1	15.5	16.0	14.8	15.2	15.3	15.7	16.2
	6H	14.9	15.2	15.4	15.7	16.2	15.0	15.3	15.5	15.8	16.4
	8H	15.0	15.3	15.6	15.8	16.4	15.1	15.4	15.6	15.9	16.5

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0