

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SR3Mx 25L 35K MD xx xx RDD3F 25L 35K MD MW NL
Nom. 3" Round Deep Downlight A-Spec, Medium Beam

Test Number

SP-01410

Test Date

9/19/2022

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	2605
Efficacy	99.05 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.47
Two luminaires, plane 90°	0.47
Four luminaires	0.48

Full Beam Angle

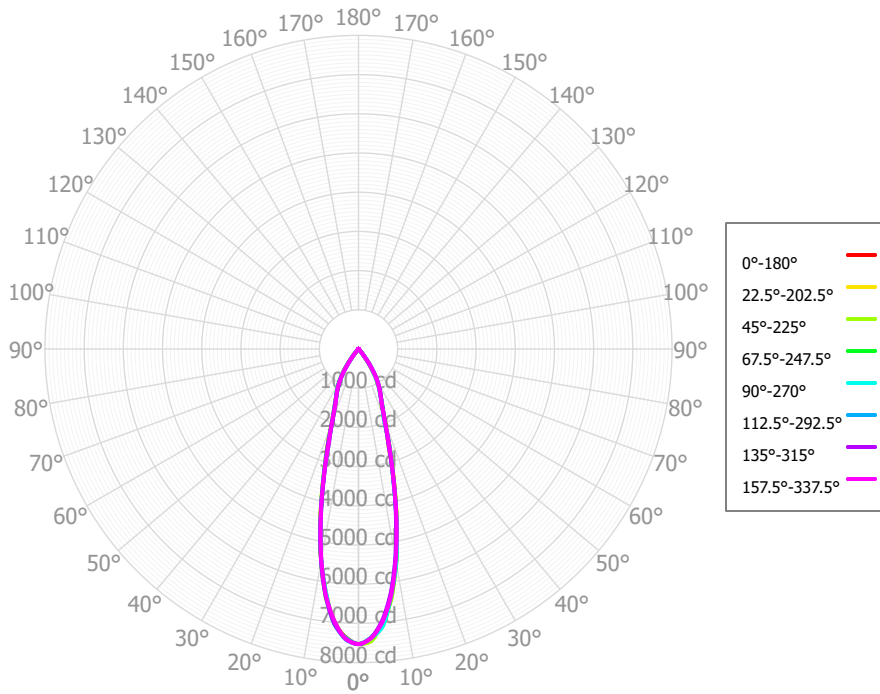
0° - 180°	29°
90° - 270°	28°

IES File Header Contents

Keyword	Value
TEST	SP-01410
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/19/2022
ISSUDATE	10/25/2022
LUMCAT	SR3Mx 25L 35K MD xx xx RDD3F 25L 35K MD MW NL
LUMINAIRE	Nom. 3" Round Deep Downlight A-Spec, Medium Beam
OTHER	Matte White Trim, No lens
OTHER	29 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 MD xx xx RDD3F 25L 35K MD
MW NL

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	625.40	24.01%	90.00° - 100.00°	1.98	0.08%
10.00° - 20.00°	946.04	36.32%	100.00° - 110.00°	2.01	0.08%
20.00° - 30.00°	626.69	24.06%	100.00° - 120.00°	3.85	0.15%
30.00° - 40.00°	320.78	12.31%	120.00° - 130.00°	1.70	0.07%
40.00° - 50.00°	39.16	1.50%	130.00° - 140.00°	1.66	0.06%
50.00° - 60.00°	16.70	0.64%	140.00° - 150.00°	1.52	0.06%
60.00° - 70.00°	11.24	0.43%	150.00° - 160.00°	1.16	0.04%
70.00° - 80.00°	3.82	0.15%	160.00° - 170.00°	0.69	0.03%
80.00° - 90.00°	2.29	0.09%	170.00° - 180.00°	0.22	0.01%
0.00° - 90.00°	2592.12	99.51%	0.00° - 180.00°	2604.90	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°	7528.39	7528.39	7528.39	7528.39	7528.39	7528.39	7528.39	7528.39	7528.39	7528.39	7528.39	7528.39	7528.39	7528.39	7528.39	7528.39	7528.39
2.50°	7402.82	7392.59	7461.26	7373.45	7383.91	7422.21	7397.98	7408.48	7365.52	7384.36	7406.24	7376.73	7383.15	7370.50	7379.07	7385.69	7402.82
5.00°	7022.99	7074.09	7007.56	7098.31	7103.65	7024.15	7040.53	6980.74	7027.25	6998.71	6991.69	7050.11	7049.90	6990.27	6954.78	6996.80	7022.99
7.50°	6358.62	6384.80	6435.77	6355.08	6354.41	6380.69	6374.34	6353.75	6351.30	6322.63	6398.49	6313.36	6308.13	6316.30	6291.63	6354.84	6358.62
10.00°	5490.16	5525.72	5490.70	5547.67	5537.95	5484.10	5490.64	5458.07	5494.75	5474.88	5482.23	5484.23	5472.07	5429.80	5420.56	5470.10	5490.16
12.50°	4456.29	4519.73	4478.61	4496.58	4477.28	4432.46	4484.65	4441.64	4498.36	4467.35	4514.74	4462.80	4443.90	4451.89	4418.59	4488.50	4456.29
15.00°	3485.61	3466.08	3492.64	3436.15	3403.85	3452.30	3414.48	3465.46	3447.77	3504.26	3477.98	3489.76	3473.71	3424.61	3462.00	3436.63	3485.61
17.50°	2553.98	2664.88	2509.14	2645.16	2622.29	2504.35	2614.84	2502.05	2653.27	2572.88	2628.75	2592.43	2591.08	2633.75	2526.49	2626.74	2553.98
20.00°	1979.90	1918.85	2007.38	1896.06	1877.96	1957.86	1917.85	1972.65	1926.93	1983.50	1974.09	1944.95	1952.58	1935.52	1980.40	1947.90	1979.90
22.50°	1571.37	1605.19	1530.64	1607.94	1593.09	1541.74	1583.20	1535.53	1601.55	1578.99	1563.84	1591.73	1596.13	1591.77	1565.24	1581.44	1571.37
25.00°	1340.46	1345.08	1344.07	1335.29	1323.27	1326.32	1344.55	1338.49	1343.97	1347.96	1345.69	1344.39	1347.38	1345.65	1351.87	1339.96	1340.46
27.50°	1167.92	1158.12	1153.76	1151.08	1142.93	1153.77	1159.14	1169.98	1162.15	1184.98	1161.33	1192.94	1194.32	1165.14	1183.55	1153.51	1167.92
30.00°	961.64	973.32	935.34	955.15	951.77	944.60	982.43	962.64	986.83	985.79	997.19	1008.50	1004.69	995.93	981.40	982.60	961.64
32.50°	748.03	738.84	712.51	717.16	720.70	730.89	750.73	752.72	759.77	776.83	790.79	801.50	790.54	778.03	774.93	761.10	748.03
35.00°	503.79	505.79	469.98	484.33	492.70	489.36	514.59	506.18	532.56	538.19	565.81	567.10	555.01	556.03	528.81	530.59	503.79
37.50°	255.66	286.69	258.14	264.31	272.62	250.05	303.40	272.16	311.20	294.44	350.54	318.55	308.84	327.96	282.95	314.74	255.66
40.00°	147.88	97.10	137.44	107.46	112.78	148.14	102.98	153.69	112.15	168.13	138.28	174.04	168.14	109.92	161.37	100.20	147.88
42.50°	48.52	63.33	51.86	66.52	67.61	54.74	69.16	52.61	69.46	51.73	71.49	68.26	65.78	70.51	49.40	65.53	48.52
45.00°	39.59	35.80	40.50	39.96	38.34	43.86	38.89	40.71	33.96	39.58	34.63	37.41	36.32	35.21	38.35	35.26	39.59
47.50°	30.93	29.29	31.73	33.38	31.61	33.92	32.66	30.37	28.36	28.66	26.76	25.55	24.80	29.19	28.29	30.56	30.93
50.00°	25.00	23.23	27.06	26.93	26.41	28.76	26.75	25.19	23.14	22.97	22.28	20.66	21.15	24.05	23.58	25.79	25.00
52.50°	19.88	18.23	23.17	20.62	22.85	24.15	22.17	20.74	19.01	17.78	19.30	16.87	18.67	22.62	19.61	20.52	19.88
55.00°	19.11	14.84	20.21	17.82	20.55	21.41	18.58	18.03	16.00	16.04	16.43	15.50	16.83	20.82	18.24	15.99	19.11
57.50°	17.99	14.27	18.88	17.84	19.28	18.95	17.74	15.84	15.27	14.77	15.04	14.31	15.04	17.95	17.00	14.70	17.99
60.00°	15.65	13.48	19.04	16.68	16.87	17.16	16.91	14.54	14.45	15.46	13.66	14.53	14.45	15.21	16.08	13.69	15.65
62.50°	13.87	12.40	16.86	14.80	13.77	14.85	16.09	13.12	13.46	15.31	12.40	14.53	13.77	12.77	14.61	13.52	13.87
65.00°	13.45	10.37	13.06	11.86	10.88	11.61	13.31	11.56	11.70	12.81	10.92	11.43	11.95	10.48	12.15	11.99	13.45
67.50°	11.68	7.39	9.30	8.43	8.11	8.54	7.60	9.42	9.07	10.05	8.35	8.44	9.91	8.45	9.32	7.60	11.68
70.00°	7.51	5.42	5.56	5.96	6.39	5.69	4.22	6.71	6.59	6.74	6.04	6.14	6.52	6.72	5.98	4.64	7.51
72.50°	4.56	4.23	4.37	3.79	5.03	3.90	3.48	4.81	4.25	4.28	4.55	4.15	3.64	5.35	3.97	3.93	4.56
75.00°	3.23	3.10	4.14	2.96	3.98	3.19	2.87	3.51	2.98	3.10	3.26	3.33	2.67	4.27	3.34	3.31	3.23
77.50°	2.33	2.02	3.47	2.42	3.00	2.98	2.39	2.79	2.42	2.51	2.44	2.69	1.95	3.45	3.00	2.81	2.33
80.00°	1.86	2.18	2.69	2.39	2.57	3.15	2.24	2.38	2.14	2.60	2.13	2.49	1.89	2.85	2.88	2.48	1.86
82.50°	1.71	2.88	2.27	2.43	2.21	2.57	2.31	2.19	2.01	2.53	2.67	2.24	1.95	2.39	2.61	2.32	1.71
85.00°	1.80	2.64	1.92	2.03	1.72	1.56	2.10	2.09	2.01	2.32	2.75	1.89	2.26	2.21	2.26	2.02	1.80
87.50°	1.77	2.11	2.00	1.63	1.24	1.38	1.75	1.92	2.06	1.95	2.23	1.67	2.26	2.17	1.98	1.62	1.77
90.00°	1.68	1.80	2.11	1.72	1.45	1.56	1.93	1.74	1.97	1.47	2.00	1.63	1.82	1.94	1.75	1.64	1.68
92.50°	1.87	1.53	1.88	1.81	1.63	1.53	2.30	1.51	1.84	1.79	2.05	1.65	1.63	1.63	1.79	1.87	1.87
95.00°	2.19	1.58	1.68	1.86	1.54	1.42	2.32	1.27	1.70	2.51	2.01	1.74	1.71	1.71	1.92	1.96	2.19
97.50°	2.01	1.67	1.80	1.87	1.49	1.55	2.26	1.25	1.55	2.51	1.89	1.82	1.91	1.87	2.17	2.00	2.01
100.00°	1.68	1.74	1.87	1.68	1.72	1.72	1.95	1.26	1.66	2.24	1.71	1.90	2.21	2.00	2.44	2.16	1.68

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	3098	3098	3098	3098	3024	3024	3024	3024	2887	2887	2887	2762	2762	2762	2646	2646	2592
	1	2974	2911	2854	2803	2910	2854	2803	2757	2747	2707	2670	2649	2618	2589	2558	2535	2483
	2	2854	2745	2654	2579	2797	2700	2618	2549	2615	2549	2492	2537	2484	2437	2465	2423	2375
	3	2740	2597	2487	2400	2690	2561	2461	2380	2494	2410	2341	2431	2361	2303	2372	2316	2271
	4	2632	2466	2345	2252	2587	2437	2325	2238	2381	2286	2211	2330	2250	2185	2283	2215	2174
	5	2530	2347	2220	2126	2490	2323	2205	2117	2278	2176	2097	2236	2148	2078	2196	2121	2083
	6	2434	2240	2110	2017	2398	2220	2099	2010	2183	2076	1996	2147	2054	1982	2114	2033	1998
	7	2343	2142	2012	1921	2312	2126	2003	1916	2094	1985	1905	2064	1967	1895	2036	1951	1885
	8	2259	2053	1924	1835	2230	2039	1916	1831	2012	1902	1823	1987	1888	1815	1963	1874	1808
	9	2179	1971	1844	1758	2153	1959	1838	1754	1936	1826	1748	1914	1814	1742	1894	1803	1737
	10	2105	1896	1771	1687	2081	1885	1765	1685	1865	1756	1680	1846	1746	1675	1828	1737	1712

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	248.9 fc	2.8 ft
6.5 ft	178.2 fc	3.3 ft
7.5 ft	133.8 fc	3.8 ft
8.0 ft	117.6 fc	4.1 ft
10.0 ft	75.3 fc	5.1 ft
12.0 ft	52.3 fc	6.1 ft
14.0 ft	38.4 fc	7.1 ft
16.0 ft	29.4 fc	8.1 ft
20.0 ft	18.8 fc	10.2 ft
24.0 ft	13.1 fc	12.2 ft
28.0 ft	9.6 fc	14.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1650831	1650831	1650831
45.00°	12277	12560	11888
55.00°	7306	7725	7856
65.00°	6981	6775	5647
75.00°	2737	3511	3371
85.00°	4525	4827	4338

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	6.9	7.8	7.3	8.1	8.5	7.7	8.6	8.1	8.9	9.2
	3H	8.2	9.1	8.6	9.4	9.8	8.6	9.4	9.0	9.8	10.2
	4H	8.4	9.2	8.8	9.5	9.9	8.8	9.5	9.2	9.9	10.3
	6H	8.5	9.2	8.9	9.6	10.0	8.9	9.6	9.3	9.9	10.4
	8H	8.6	9.2	9.0	9.6	10.0	9.0	9.6	9.4	10.0	10.4
	12H	8.7	9.3	9.1	9.7	10.1	9.1	9.7	9.5	10.1	10.5
4H	2H	7.6	8.4	8.0	8.7	9.1	8.1	8.9	8.6	9.3	9.7
	3H	8.8	9.4	9.2	9.8	10.3	9.1	9.7	9.5	10.1	10.5
	4H	9.0	9.6	9.5	10.0	10.5	9.3	9.8	9.7	10.2	10.7
	6H	9.2	9.6	9.7	10.1	10.6	9.5	10.0	10.0	10.4	10.9
	8H	9.3	9.7	9.8	10.2	10.7	9.6	10.1	10.1	10.5	11.0
	12H	9.5	9.9	10.0	10.4	10.9	9.8	10.2	10.3	10.7	11.2
8H	4H	9.1	9.5	9.5	9.9	10.4	9.2	9.7	9.7	10.1	10.6
	6H	9.3	9.7	9.9	10.2	10.7	9.6	9.9	10.1	10.5	10.9
	8H	9.6	9.9	10.2	10.4	11.0	9.9	10.2	10.4	10.7	11.2
	12H	10.0	10.3	10.6	10.8	11.4	10.2	10.5	10.8	11.0	11.6
12H	4H	9.0	9.4	9.5	9.9	10.4	9.2	9.6	9.7	10.1	10.6
	6H	9.4	9.7	9.9	10.2	10.7	9.6	9.9	10.2	10.4	11.0
	8H	9.7	10.0	10.3	10.5	11.1	10.0	10.2	10.5	10.7	11.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0