

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

AS01RDF NC 935 004 DL NF MW xx
Nom 1" round recessed downlight

Test Number

SP-01013_M-4L

Test Date

10/29/2019

The results contained in this report pertain only to this IES file.

Summary of Results

Power

Input Watts	6.3 W
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Lumen Output

Output Lumens	300
Efficacy	47.57 lm/W

Luminous Dimensions

0° - 180° Size	-0.08
90° - 270° Size	-0.08
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.43
Two luminaires, plane 90°	0.43
Four luminaires	0.46

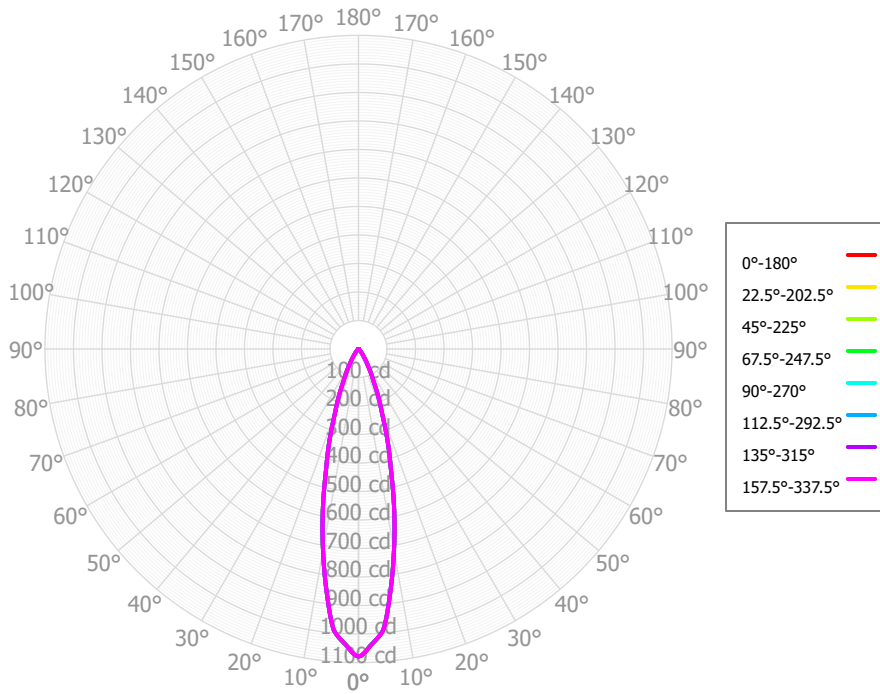
Full Beam Angle

0° - 180°	26°
90° - 270°	26°

IES File Header Contents

Keyword	Value
TEST	SP-01013_M-4L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	10/29/2019
ISSUEDATE	12/29/2021
LUMCAT	AS01RDF NC 935 004 DL NF MW xx
LUMINAIRE	Nom 1" round recessed downlight
OTHER	Beam angle: 26.4 degrees
LAMP	N/A
LAMPCAT	N/A, CRI: 90 min
OTHER	CCT Multipliers: 927 x 0.96, 930 x 0.99, 940 x 1.02
OTHER	Total luminaire wattages is approximate
OTHER	This report prepared by Spectrum Lighting, scaled from 7L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	85.46	28.51%	90.00° - 100.00°	0.08	0.03%
10.00° - 20.00°	122.12	40.74%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	60.87	20.31%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	20.45	6.82%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	6.13	2.05%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	1.86	0.62%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	1.08	0.36%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	0.89	0.30%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.77	0.26%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	299.63	99.97%	0.00° - 180.00°	299.71	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°	1078.47	1078.47	1078.47	1078.47	1078.47	1078.47	1078.47	1078.47	1078.47	1078.47	1078.47	1078.47	1078.47	1078.47	1078.47	1078.47	1078.47
2.50°	1038.26	1038.26	1038.26	1038.26	1038.26	1038.26	1038.26	1038.26	1038.26	1038.26	1038.26	1038.26	1038.26	1038.26	1038.26	1038.26	1038.26
5.00°	990.76	990.76	990.76	990.76	990.76	990.76	990.76	990.76	990.76	990.76	990.76	990.76	990.76	990.76	990.76	990.76	990.76
7.50°	857.94	857.94	857.94	857.94	857.94	857.94	857.94	857.94	857.94	857.94	857.94	857.94	857.94	857.94	857.94	857.94	857.94
10.00°	716.95	716.95	716.95	716.95	716.95	716.95	716.95	716.95	716.95	716.95	716.95	716.95	716.95	716.95	716.95	716.95	716.95
12.50°	578.14	578.14	578.14	578.14	578.14	578.14	578.14	578.14	578.14	578.14	578.14	578.14	578.14	578.14	578.14	578.14	578.14
15.00°	440.83	440.83	440.83	440.83	440.83	440.83	440.83	440.83	440.83	440.83	440.83	440.83	440.83	440.83	440.83	440.83	440.83
17.50°	340.24	340.24	340.24	340.24	340.24	340.24	340.24	340.24	340.24	340.24	340.24	340.24	340.24	340.24	340.24	340.24	340.24
20.00°	243.69	243.69	243.69	243.69	243.69	243.69	243.69	243.69	243.69	243.69	243.69	243.69	243.69	243.69	243.69	243.69	243.69
22.50°	181.97	181.97	181.97	181.97	181.97	181.97	181.97	181.97	181.97	181.97	181.97	181.97	181.97	181.97	181.97	181.97	181.97
25.00°	124.95	124.95	124.95	124.95	124.95	124.95	124.95	124.95	124.95	124.95	124.95	124.95	124.95	124.95	124.95	124.95	124.95
27.50°	91.77	91.77	91.77	91.77	91.77	91.77	91.77	91.77	91.77	91.77	91.77	91.77	91.77	91.77	91.77	91.77	91.77
30.00°	62.19	62.19	62.19	62.19	62.19	62.19	62.19	62.19	62.19	62.19	62.19	62.19	62.19	62.19	62.19	62.19	62.19
32.50°	44.70	44.70	44.70	44.70	44.70	44.70	44.70	44.70	44.70	44.70	44.70	44.70	44.70	44.70	44.70	44.70	44.70
35.00°	29.92	29.92	29.92	29.92	29.92	29.92	29.92	29.92	29.92	29.92	29.92	29.92	29.92	29.92	29.92	29.92	29.92
37.50°	21.59	21.59	21.59	21.59	21.59	21.59	21.59	21.59	21.59	21.59	21.59	21.59	21.59	21.59	21.59	21.59	21.59
40.00°	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75
42.50°	10.59	10.59	10.59	10.59	10.59	10.59	10.59	10.59	10.59	10.59	10.59	10.59	10.59	10.59	10.59	10.59	10.59
45.00°	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32
47.50°	5.27	5.27	5.27	5.27	5.27	5.27	5.27	5.27	5.27	5.27	5.27	5.27	5.27	5.27	5.27	5.27	5.27
50.00°	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68
52.50°	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
55.00°	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86
57.50°	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51
60.00°	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
62.50°	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
65.00°	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
67.50°	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
70.00°	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
72.50°	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
75.00°	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
77.50°	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
80.00°	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
82.50°	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
85.00°	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
87.50°	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
90.00°	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
92.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	357	357	357	357	348	348	348	348	333	333	333	319	319	319	306	306	300
	1	343	336	330	324	336	330	324	319	318	313	309	307	303	300	296	294	288
	2	330	318	308	300	324	313	304	297	304	296	290	295	289	284	287	282	277
	3	318	303	291	281	313	299	288	279	291	282	274	284	277	270	278	271	266
	4	307	289	276	266	302	286	273	264	279	269	261	274	265	258	269	261	257
	5	296	276	263	253	292	274	261	251	269	258	249	264	255	247	260	252	247
	6	286	265	251	241	282	263	250	240	259	247	239	255	245	237	251	243	239
	7	277	255	241	231	273	253	240	231	250	238	230	247	236	228	244	234	231
	8	268	246	232	222	265	244	231	222	241	229	221	239	228	220	236	226	219
	9	259	237	223	214	257	236	223	214	233	222	213	231	220	213	229	219	212
	10	252	229	216	207	249	228	215	207	226	214	206	224	213	206	222	212	205

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	35.7 fc	2.6 ft
6.5 ft	25.5 fc	3.1 ft
7.5 ft	19.2 fc	3.5 ft
8.0 ft	16.9 fc	3.8 ft
10.0 ft	10.8 fc	4.7 ft
12.0 ft	7.5 fc	5.6 ft
14.0 ft	5.5 fc	6.6 ft
16.0 ft	4.2 fc	7.5 ft
20.0 ft	2.7 fc	9.4 ft
24.0 ft	1.9 fc	11.3 ft
28.0 ft	1.4 fc	13.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	2309438	2309438	2309438
45.00°	22175	22175	22175
55.00°	6959	6959	6959
65.00°	5459	5459	5459
75.00°	7170	7170	7170
85.00°	18435	18435	18435

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	6.3	7.2	6.7	7.5	7.9	6.3	7.2	6.7	7.5	7.9
	3H	8.1	8.9	8.5	9.3	9.6	8.1	8.9	8.5	9.3	9.6
	4H	9.2	10.0	9.6	10.3	10.7	9.2	10.0	9.6	10.3	10.7
	6H	10.5	11.2	11.0	11.6	12.0	10.5	11.2	11.0	11.6	12.0
	8H	11.2	11.9	11.7	12.3	12.7	11.2	11.9	11.7	12.3	12.7
	12H	12.2	12.8	12.6	13.2	13.6	12.2	12.8	12.6	13.2	13.6
4H	2H	6.8	7.5	7.2	7.9	8.3	6.8	7.5	7.2	7.9	8.3
	3H	8.9	9.5	9.3	9.9	10.3	8.9	9.5	9.3	9.9	10.3
	4H	10.2	10.8	10.7	11.2	11.7	10.2	10.8	10.7	11.2	11.7
	6H	11.8	12.2	12.3	12.7	13.2	11.8	12.2	12.3	12.7	13.2
	8H	12.6	13.0	13.0	13.5	13.9	12.6	13.0	13.0	13.5	13.9
	12H	13.7	14.0	14.2	14.5	15.0	13.7	14.0	14.2	14.5	15.0
8H	4H	10.8	11.2	11.2	11.6	12.1	10.8	11.2	11.2	11.6	12.1
	6H	12.5	12.9	13.1	13.4	13.9	12.5	12.9	13.1	13.4	13.9
	8H	13.5	13.8	14.1	14.4	14.9	13.5	13.8	14.1	14.4	14.9
	12H	14.9	15.2	15.4	15.7	16.3	14.9	15.2	15.4	15.7	16.3
12H	4H	10.9	11.2	11.4	11.7	12.2	10.9	11.2	11.4	11.7	12.2
	6H	12.8	13.1	13.3	13.5	14.1	12.8	13.1	13.3	13.5	14.1
	8H	13.9	14.2	14.4	14.7	15.2	13.9	14.2	14.4	14.7	15.2

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0