

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

AS01RDF NC 935 007 DL NF MW xx
Nom 1" round recessed downlight

Test Number

SP-01013

Test Date

10/29/2019

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

Summary of Results

Power

Input Watts	9.7 W
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Lumen Output

Output Lumens	524
Efficacy	54.07 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

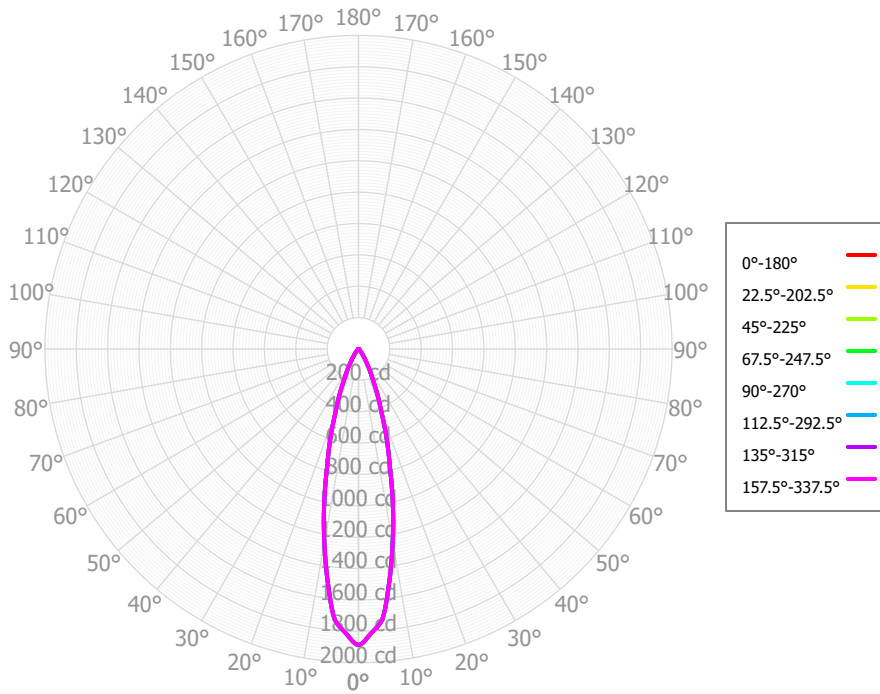
Full Beam Angle

0° - 180°	26°
90° - 270°	26°

IES File Header Contents

Keyword	Value
TEST	SP-01013
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	10/29/2019
ISSUEDATE	12/29/2021
LUMCAT	AS01RDF NC 935 007 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, 935 x 1.0, 940 x 1.02
OTHER	Total luminaire wattages is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	90+
_CCTMULT	927 x 0.96, 930 x 0.99, 940 x 1.02
_LAMPMULT	004 x 0.56

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	149.56	28.51%	90.00° - 100.00°	0.14	0.03%
10.00° - 20.00°	213.70	40.74%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	106.52	20.31%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	35.79	6.82%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	10.73	2.05%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	3.26	0.62%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	1.88	0.36%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	1.56	0.30%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.34	0.26%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	524.36	99.97%	0.00° - 180.00°	524.50	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°	1887.31	1887.31	1887.31	1887.31	1887.31	1887.31	1887.31	1887.31	1887.31	1887.31	1887.31	1887.31	1887.31	1887.31	1887.31	1887.31	1887.31
2.50°	1816.95	1816.95	1816.95	1816.95	1816.95	1816.95	1816.95	1816.95	1816.95	1816.95	1816.95	1816.95	1816.95	1816.95	1816.95	1816.95	1816.95
5.00°	1733.83	1733.83	1733.83	1733.83	1733.83	1733.83	1733.83	1733.83	1733.83	1733.83	1733.83	1733.83	1733.83	1733.83	1733.83	1733.83	1733.83
7.50°	1501.40	1501.40	1501.40	1501.40	1501.40	1501.40	1501.40	1501.40	1501.40	1501.40	1501.40	1501.40	1501.40	1501.40	1501.40	1501.40	1501.40
10.00°	1254.66	1254.66	1254.66	1254.66	1254.66	1254.66	1254.66	1254.66	1254.66	1254.66	1254.66	1254.66	1254.66	1254.66	1254.66	1254.66	1254.66
12.50°	1011.75	1011.75	1011.75	1011.75	1011.75	1011.75	1011.75	1011.75	1011.75	1011.75	1011.75	1011.75	1011.75	1011.75	1011.75	1011.75	1011.75
15.00°	771.45	771.45	771.45	771.45	771.45	771.45	771.45	771.45	771.45	771.45	771.45	771.45	771.45	771.45	771.45	771.45	771.45
17.50°	595.42	595.42	595.42	595.42	595.42	595.42	595.42	595.42	595.42	595.42	595.42	595.42	595.42	595.42	595.42	595.42	595.42
20.00°	426.45	426.45	426.45	426.45	426.45	426.45	426.45	426.45	426.45	426.45	426.45	426.45	426.45	426.45	426.45	426.45	426.45
22.50°	318.45	318.45	318.45	318.45	318.45	318.45	318.45	318.45	318.45	318.45	318.45	318.45	318.45	318.45	318.45	318.45	318.45
25.00°	218.67	218.67	218.67	218.67	218.67	218.67	218.67	218.67	218.67	218.67	218.67	218.67	218.67	218.67	218.67	218.67	218.67
27.50°	160.60	160.60	160.60	160.60	160.60	160.60	160.60	160.60	160.60	160.60	160.60	160.60	160.60	160.60	160.60	160.60	160.60
30.00°	108.83	108.83	108.83	108.83	108.83	108.83	108.83	108.83	108.83	108.83	108.83	108.83	108.83	108.83	108.83	108.83	108.83
32.50°	78.23	78.23	78.23	78.23	78.23	78.23	78.23	78.23	78.23	78.23	78.23	78.23	78.23	78.23	78.23	78.23	78.23
35.00°	52.35	52.35	52.35	52.35	52.35	52.35	52.35	52.35	52.35	52.35	52.35	52.35	52.35	52.35	52.35	52.35	52.35
37.50°	37.79	37.79	37.79	37.79	37.79	37.79	37.79	37.79	37.79	37.79	37.79	37.79	37.79	37.79	37.79	37.79	37.79
40.00°	25.81	25.81	25.81	25.81	25.81	25.81	25.81	25.81	25.81	25.81	25.81	25.81	25.81	25.81	25.81	25.81	25.81
42.50°	18.54	18.54	18.54	18.54	18.54	18.54	18.54	18.54	18.54	18.54	18.54	18.54	18.54	18.54	18.54	18.54	18.54
45.00°	12.81	12.81	12.81	12.81	12.81	12.81	12.81	12.81	12.81	12.81	12.81	12.81	12.81	12.81	12.81	12.81	12.81
47.50°	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23
50.00°	6.43	6.43	6.43	6.43	6.43	6.43	6.43	6.43	6.43	6.43	6.43	6.43	6.43	6.43	6.43	6.43	6.43
52.50°	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49
55.00°	3.26	3.26	3.26	3.26	3.26	3.26	3.26	3.26	3.26	3.26	3.26	3.26	3.26	3.26	3.26	3.26	3.26
57.50°	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64
60.00°	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27
62.50°	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05
65.00°	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
67.50°	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74
70.00°	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61
72.50°	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49
75.00°	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52
77.50°	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46
80.00°	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31
82.50°	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
85.00°	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31
87.50°	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
90.00°	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
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	624	624	624	624	610	610	610	610	583	583	583	558	558	558	535	535	524
	1	600	588	577	567	588	577	567	558	556	548	541	537	531	525	519	514	504
	2	578	557	540	525	567	548	532	519	532	519	508	516	506	497	502	494	485
	3	557	530	509	492	547	523	503	488	509	493	480	497	484	473	486	475	466
	4	537	505	482	465	528	500	478	462	489	471	457	479	464	452	470	457	449
	5	518	484	460	442	511	479	457	440	470	451	436	462	446	433	455	440	433
	6	501	464	440	422	494	460	437	421	453	433	418	446	429	415	440	425	418
	7	484	446	422	405	478	443	420	404	437	417	402	431	413	400	426	410	398
	8	468	430	406	389	463	427	404	388	422	402	387	417	399	385	413	396	384
	9	454	415	391	375	449	413	390	374	408	388	373	404	386	372	400	383	371
	10	440	401	378	362	436	399	377	362	395	375	361	392	373	360	389	371	359

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	62.4 fc	2.6 ft
6.5 ft	44.7 fc	3.1 ft
7.5 ft	33.6 fc	3.5 ft
8.0 ft	29.5 fc	3.8 ft
10.0 ft	18.9 fc	4.7 ft
12.0 ft	13.1 fc	5.6 ft
14.0 ft	9.6 fc	6.6 ft
16.0 ft	7.4 fc	7.5 ft
20.0 ft	4.7 fc	9.4 ft
24.0 ft	3.3 fc	11.3 ft
28.0 ft	2.4 fc	13.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	4041517	4041517	4041517
45.00°	38806	38806	38806
55.00°	12179	12179	12179
65.00°	9552	9552	9552
75.00°	12547	12547	12547
85.00°	32260	32260	32260

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	8.2	9.2	8.6	9.5	9.8	8.2	9.2	8.6	9.5	9.8
	3H	10.1	10.9	10.4	11.2	11.6	10.1	10.9	10.4	11.2	11.6
	4H	11.2	11.9	11.6	12.3	12.7	11.2	11.9	11.6	12.3	12.7
	6H	12.5	13.2	12.9	13.5	13.9	12.5	13.2	12.9	13.5	13.9
	8H	13.2	13.8	13.6	14.2	14.6	13.2	13.8	13.6	14.2	14.6
	12H	14.1	14.7	14.5	15.1	15.5	14.1	14.7	14.5	15.1	15.5
4H	2H	8.7	9.5	9.1	9.8	10.2	8.7	9.5	9.1	9.8	10.2
	3H	10.8	11.4	11.2	11.9	12.3	10.8	11.4	11.2	11.9	12.3
	4H	12.2	12.7	12.6	13.2	13.6	12.2	12.7	12.6	13.2	13.6
	6H	13.7	14.2	14.2	14.6	15.1	13.7	14.2	14.2	14.6	15.1
	8H	14.5	15.0	15.0	15.4	15.9	14.5	15.0	15.0	15.4	15.9
	12H	15.6	16.0	16.1	16.5	17.0	15.6	16.0	16.1	16.5	17.0
8H	4H	12.7	13.1	13.2	13.6	14.1	12.7	13.1	13.2	13.6	14.1
	6H	14.5	14.8	15.0	15.3	15.8	14.5	14.8	15.0	15.3	15.8
	8H	15.5	15.8	16.0	16.3	16.8	15.5	15.8	16.0	16.3	16.8
	12H	16.9	17.1	17.4	17.6	18.2	16.9	17.1	17.4	17.6	18.2
12H	4H	12.8	13.2	13.3	13.7	14.2	12.8	13.2	13.3	13.7	14.2
	6H	14.7	15.0	15.2	15.5	16.0	14.7	15.0	15.2	15.5	16.0
	8H	15.8	16.1	16.4	16.6	17.2	15.8	16.1	16.4	16.6	17.2

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0