

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 FL MW xx
Nom 1" round recessed downlight

Test Number

SP-01012

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
-------------	-------

Lumen Output

Output Lumens	474
Efficacy	48.88 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.63
Two luminaires, plane 90°	0.63
Four luminaires	0.63

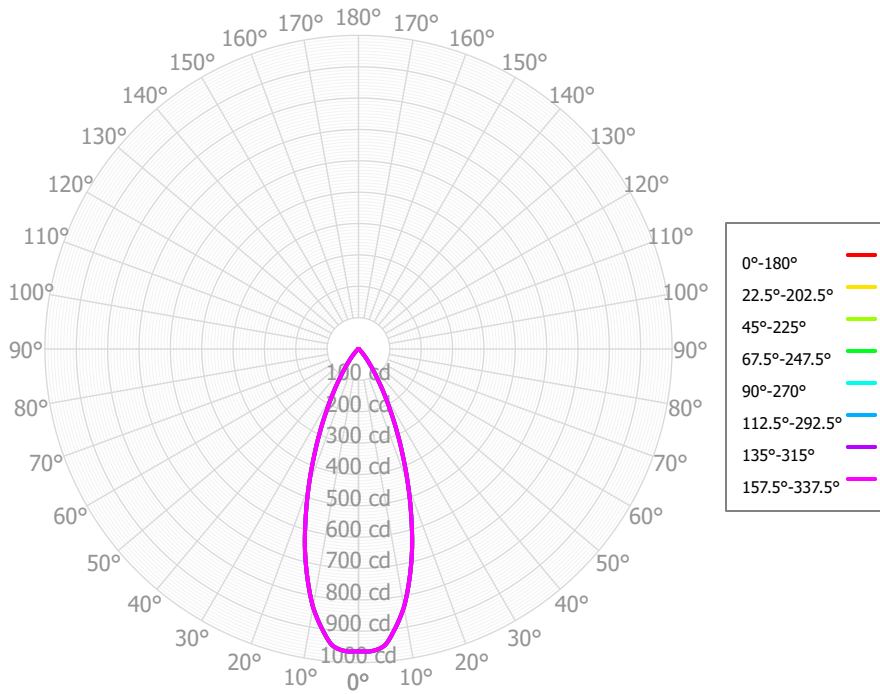
Full Beam Angle

0° - 180°	39°
90° - 270°	39°

IES File Header Contents

Keyword	Value
TEST	SP-01012
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 FL MW xx
LUMINAIRE	Nom 1" round recessed downlight
OTHER	Beam angle: 38.9 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°	87.70	18.50%	90.00° - 100.00°	0.16	0.03%
10.00° - 20.00°	179.12	37.78%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	132.57	27.96%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	52.10	10.99%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	13.09	2.76%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	3.90	0.82%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	2.38	0.50%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	1.72	0.36%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.34	0.28%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	473.93	99.97%	0.00° - 180.00°	474.09	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°	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52
2.50°	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52	964.52
5.00°	949.71	949.71	949.71	949.71	949.71	949.71	949.71	949.71	949.71	949.71	949.71	949.71	949.71	949.71	949.71	949.71	949.71
7.50°	898.45	898.45	898.45	898.45	898.45	898.45	898.45	898.45	898.45	898.45	898.45	898.45	898.45	898.45	898.45	898.45	898.45
10.00°	835.55	835.55	835.55	835.55	835.55	835.55	835.55	835.55	835.55	835.55	835.55	835.55	835.55	835.55	835.55	835.55	835.55
12.50°	751.29	751.29	751.29	751.29	751.29	751.29	751.29	751.29	751.29	751.29	751.29	751.29	751.29	751.29	751.29	751.29	751.29
15.00°	660.16	660.16	660.16	660.16	660.16	660.16	660.16	660.16	660.16	660.16	660.16	660.16	660.16	660.16	660.16	660.16	660.16
17.50°	559.47	559.47	559.47	559.47	559.47	559.47	559.47	559.47	559.47	559.47	559.47	559.47	559.47	559.47	559.47	559.47	559.47
20.00°	462.83	462.83	462.83	462.83	462.83	462.83	462.83	462.83	462.83	462.83	462.83	462.83	462.83	462.83	462.83	462.83	462.83
22.50°	370.57	370.57	370.57	370.57	370.57	370.57	370.57	370.57	370.57	370.57	370.57	370.57	370.57	370.57	370.57	370.57	370.57
25.00°	289.33	289.33	289.33	289.33	289.33	289.33	289.33	289.33	289.33	289.33	289.33	289.33	289.33	289.33	289.33	289.33	289.33
27.50°	217.28	217.28	217.28	217.28	217.28	217.28	217.28	217.28	217.28	217.28	217.28	217.28	217.28	217.28	217.28	217.28	217.28
30.00°	160.18	160.18	160.18	160.18	160.18	160.18	160.18	160.18	160.18	160.18	160.18	160.18	160.18	160.18	160.18	160.18	160.18
32.50°	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67
35.00°	79.36	79.36	79.36	79.36	79.36	79.36	79.36	79.36	79.36	79.36	79.36	79.36	79.36	79.36	79.36	79.36	79.36
37.50°	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00
40.00°	36.38	36.38	36.38	36.38	36.38	36.38	36.38	36.38	36.38	36.38	36.38	36.38	36.38	36.38	36.38	36.38	36.38
42.50°	23.23	23.23	23.23	23.23	23.23	23.23	23.23	23.23	23.23	23.23	23.23	23.23	23.23	23.23	23.23	23.23	23.23
45.00°	15.55	15.55	15.55	15.55	15.55	15.55	15.55	15.55	15.55	15.55	15.55	15.55	15.55	15.55	15.55	15.55	15.55
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°	6.73	6.73	6.73	6.73	6.73	6.73	6.73	6.73	6.73	6.73	6.73	6.73	6.73	6.73	6.73	6.73	6.73
52.50°	4.82	4.82	4.82	4.82	4.82	4.82	4.82	4.82	4.82	4.82	4.82	4.82	4.82	4.82	4.82	4.82	4.82
55.00°	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17
57.50°	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62
60.00°	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14
62.50°	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68
65.00°	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36
67.50°	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07
70.00°	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88
72.50°	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
75.00°	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
77.50°	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54
80.00°	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47
82.50°	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28
85.00°	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
87.50°	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16
90.00°	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
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	564	564	564	564	551	551	551	551	527	527	527	504	504	504	484	484	474
	1	540	528	517	508	529	518	508	499	499	491	484	481	475	470	465	461	451
	2	517	496	479	465	507	488	473	459	473	460	449	459	449	440	446	438	430
	3	495	468	447	430	486	462	442	427	450	433	420	438	425	414	428	417	409
	4	475	443	420	402	466	438	416	400	428	410	395	419	403	391	410	397	390
	5	455	420	396	378	448	416	393	376	408	388	373	400	383	370	393	378	372
	6	436	400	375	357	430	396	373	356	389	369	353	383	365	351	377	361	355
	7	419	381	356	338	413	378	354	337	372	351	336	367	348	334	362	345	339
	8	403	363	339	322	398	361	337	321	356	335	320	352	332	319	347	330	325
	9	387	348	323	307	383	345	322	306	341	320	305	337	318	304	334	316	311
	10	373	333	309	293	369	331	308	293	328	307	292	324	305	291	321	303	299

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	31.9 fc	3.9 ft
6.5 ft	22.8 fc	4.6 ft
7.5 ft	17.1 fc	5.3 ft
8.0 ft	15.1 fc	5.7 ft
10.0 ft	9.6 fc	7.1 ft
12.0 ft	6.7 fc	8.5 ft
14.0 ft	4.9 fc	9.9 ft
16.0 ft	3.8 fc	11.3 ft
20.0 ft	2.4 fc	14.2 ft
24.0 ft	1.7 fc	17.0 ft
28.0 ft	1.2 fc	19.8 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	2065444	2065444	2065444
45.00°	47100	47100	47100
55.00°	15563	15563	15563
65.00°	11974	11974	11974
75.00°	13104	13104	13104
85.00°	28923	28923	28923

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	10.8	11.7	11.1	12.0	12.3	10.8	11.7	11.1	12.0	12.3
	3H	12.2	13.0	12.6	13.3	13.7	12.2	13.0	12.6	13.3	13.7
	4H	13.0	13.7	13.4	14.1	14.5	13.0	13.7	13.4	14.1	14.5
	6H	14.0	14.7	14.4	15.1	15.5	14.0	14.7	14.4	15.1	15.5
	8H	14.6	15.2	15.0	15.6	16.0	14.6	15.2	15.0	15.6	16.0
	12H	15.2	15.8	15.6	16.2	16.6	15.2	15.8	15.6	16.2	16.6
4H	2H	11.1	11.9	11.5	12.2	12.6	11.1	11.9	11.5	12.2	12.6
	3H	12.8	13.4	13.2	13.9	14.3	12.8	13.4	13.2	13.9	14.3
	4H	13.8	14.4	14.2	14.8	15.2	13.8	14.4	14.2	14.8	15.2
	6H	15.1	15.6	15.6	16.0	16.5	15.1	15.6	15.6	16.0	16.5
	8H	15.8	16.2	16.2	16.7	17.1	15.8	16.2	16.2	16.7	17.1
	12H	16.5	16.9	17.0	17.4	17.9	16.5	16.9	17.0	17.4	17.9
8H	4H	14.2	14.6	14.7	15.1	15.6	14.2	14.6	14.7	15.1	15.6
	6H	15.8	16.1	16.3	16.6	17.1	15.8	16.1	16.3	16.6	17.1
	8H	16.6	16.9	17.2	17.5	18.0	16.6	16.9	17.2	17.5	18.0
	12H	17.6	17.9	18.2	18.4	19.0	17.6	17.9	18.2	18.4	19.0
12H	4H	14.3	14.7	14.8	15.2	15.6	14.3	14.7	14.8	15.2	15.6
	6H	16.0	16.3	16.5	16.7	17.3	16.0	16.3	16.5	16.7	17.3
	8H	16.9	17.2	17.4	17.7	18.3	16.9	17.2	17.4	17.7	18.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0