

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

994 Jefferson Street  
Fall River, MA 02721  
+1.508.678.2303

## **Spectrum Lighting Photometric Lab**

### **Luminaire**

IF03RSx IC 835 007 N11 DLFLGN MW

### **Test Number**

SP-00774\_1\_M-007L

### **Test Date**

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

### Summary of Results

#### Power

Input Watts	5.4 W
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#### Lumen Output

Output Lumens	553
Efficacy	102.41 lm/W

#### Luminous Dimensions

0° - 180° Size	-0.2
90° - 270° Size	-0.2
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	0.6
Two luminaires, plane 90°	0.61
Four luminaires	0.63

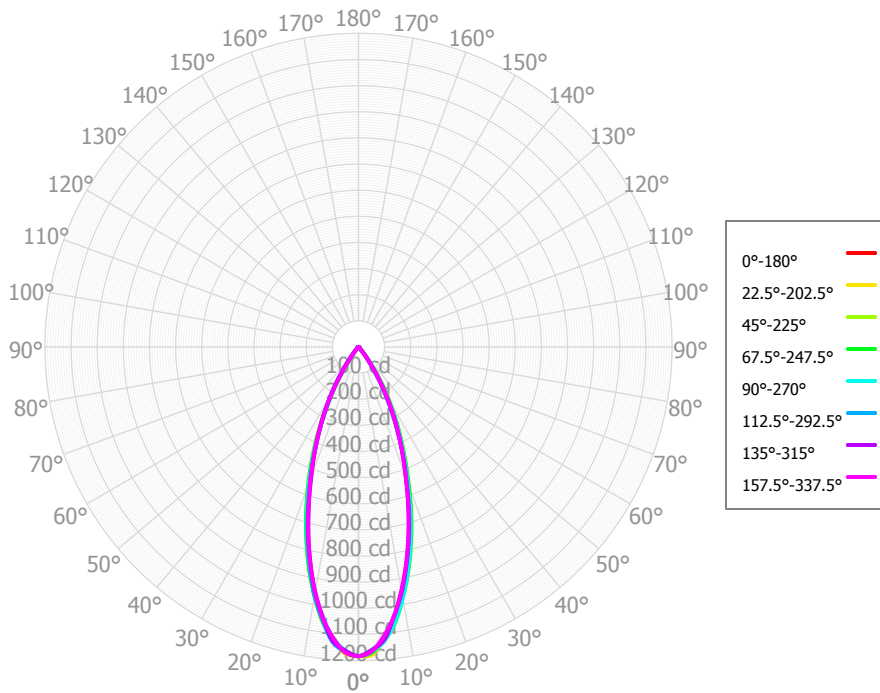
#### Full Beam Angle

0° - 180°	38°
90° - 270°	38°

### IES File Header Contents

Keyword	Value
TEST	SP-00774_1_M-007L
TESTLAB	Spectrum Lighting Photometric lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/8/2019
UPDATE	3/11/2019
LUMCAT	IF03RSx IC 835 007 N11 DLFLGN MW
LUMINIARE	Nominal 3" diam round recessed Infinium downlight
OTHER	Beam Angle: 38 degrees
OTHER	Flood optic, open aperture / no lens
OTHER	Aluminum bezel
LAMPCAT	N/A
LAMP	N/A, CRI: 80, Philips
OTHER	CCT Multipliers: 40K x 1.03
OTHER	Total luminaire wattages is approximate
OTHER	This report prepared by Spectrum Lighting, scaled from 20L

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	103.07	18.64%	90.00° - 100.00°	0.03	0.01%
10.00° - 20.00°	206.79	37.39%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	164.92	29.82%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	57.64	10.42%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	7.99	1.45%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	4.77	0.86%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	4.34	0.79%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	2.77	0.50%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.69	0.12%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	552.98	99.99%	0.00° - 180.00°	553.01	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°	1,183.17	1,183.17	1,183.17	1,183.17	1,183.17	1,183.17	1,183.17	1,183.17	1,183.17	1,183.17	1,183.17	1,183.17	1,183.17	1,183.17	1,183.17	1,183.17	1,183.17
2.50°	1,163.39	1,179.66	1,166.48	1,171.84	1,166.14	1,167.91	1,163.35	1,170.36	1,165.37	1,174.51	1,166.29	1,170.04	1,163.48	1,161.32	1,161.42	1,166.23	1,163.39
5.00°	1,119.71	1,119.09	1,130.02	1,125.79	1,130.63	1,134.27	1,130.19	1,116.86	1,123.12	1,119.71	1,126.80	1,118.34	1,118.51	1,123.83	1,125.55	1,111.20	1,119.71
7.50°	1,042.53	1,056.46	1,059.13	1,067.03	1,063.82	1,054.93	1,044.10	1,046.91	1,045.41	1,060.29	1,054.77	1,056.75	1,044.70	1,042.32	1,039.34	1,041.17	1,042.53
10.00°	952.15	960.40	973.35	975.09	974.91	968.19	956.23	952.68	957.91	966.42	970.32	966.57	958.62	954.37	951.14	945.36	952.15
12.50°	851.96	863.75	875.82	879.17	874.14	861.90	849.42	851.58	857.41	869.83	870.59	872.12	862.93	852.29	847.37	845.25	851.96
15.00°	748.81	759.87	774.27	775.07	766.62	754.19	742.33	742.74	752.86	759.58	768.32	768.70	760.65	748.98	742.75	738.99	748.81
17.50°	642.77	656.01	667.29	669.33	657.61	643.53	633.40	632.33	643.81	652.09	663.47	664.45	654.06	642.01	633.50	634.01	642.77
20.00°	536.11	552.30	558.93	560.89	547.93	538.70	528.09	535.64	543.75	554.52	562.41	562.83	552.03	535.18	528.38	530.53	536.11
22.50°	447.60	452.91	466.07	462.63	455.16	443.76	439.15	440.79	451.81	458.57	464.47	461.41	452.41	442.11	438.94	438.80	447.60
25.00°	361.95	374.39	376.13	378.18	368.54	357.34	353.41	358.82	363.95	367.12	368.98	365.87	359.17	349.92	352.44	358.15	361.95
27.50°	287.97	297.39	300.77	299.22	291.20	282.59	278.17	277.87	279.10	278.63	275.17	271.54	268.58	269.92	274.31	281.62	287.97
30.00°	215.07	225.72	227.17	226.32	216.40	212.48	205.94	204.37	201.50	196.64	194.51	195.76	195.53	192.36	200.97	208.34	215.07
32.50°	149.98	157.61	162.62	160.39	154.37	147.55	141.43	131.71	128.32	124.79	121.15	123.11	128.26	133.62	138.57	143.69	149.98
35.00°	85.50	98.91	98.61	100.74	94.85	93.23	85.49	81.68	76.51	70.66	71.81	75.14	80.20	79.16	84.68	84.54	85.50
37.50°	50.35	51.44	59.14	57.53	56.60	48.81	47.09	34.45	35.12	33.10	33.03	33.10	36.84	46.13	46.26	47.26	50.35
40.00°	17.09	27.95	21.23	26.66	21.24	23.89	20.66	22.78	18.95	19.19	17.93	21.35	22.03	18.98	20.41	21.15	17.09
42.50°	11.99	11.96	14.11	12.34	13.22	13.74	13.81	12.25	12.42	10.81	11.02	11.65	12.07	13.38	12.92	11.38	11.99
45.00°	7.35	8.71	7.52	8.07	7.21	8.81	9.20	9.64	9.29	8.94	9.13	9.80	9.61	8.98	8.45	8.42	7.35
47.50°	6.24	6.33	6.35	5.98	6.37	7.07	7.60	7.31	7.18	7.73	8.56	8.16	8.00	7.91	7.66	7.11	6.24
50.00°	5.27	5.16	5.28	4.95	5.62	6.01	6.48	6.32	6.45	7.16	7.57	7.14	7.06	7.08	7.06	6.32	5.27
52.50°	4.94	4.50	4.75	4.49	4.92	5.28	5.90	5.45	6.01	6.54	6.51	6.30	6.17	6.76	6.64	5.76	4.94
55.00°	4.61	4.45	4.30	4.25	4.25	5.09	5.38	5.03	5.42	5.88	5.83	5.87	6.12	6.33	6.15	5.25	4.61
57.50°	4.25	4.37	4.13	4.25	4.02	5.11	4.93	4.66	4.82	5.25	5.19	5.41	6.04	5.70	5.60	5.01	4.25
60.00°	4.03	4.27	3.99	4.32	3.88	4.87	4.77	4.45	4.60	4.63	4.95	4.88	5.32	5.26	5.38	4.81	4.03
62.50°	4.22	4.23	3.90	4.35	4.43	4.56	4.82	4.29	4.43	4.49	4.73	4.63	4.65	5.10	5.38	4.78	4.22
65.00°	4.37	4.22	3.76	4.36	4.81	4.35	4.51	4.24	4.30	4.58	4.86	4.79	4.37	4.76	5.02	4.77	4.37
67.50°	4.41	4.11	3.46	4.15	4.43	4.17	4.00	4.06	4.15	4.27	4.85	4.57	4.10	4.22	4.47	4.19	4.41
70.00°	4.09	3.92	3.29	3.91	4.02	3.87	3.66	3.69	3.84	3.82	4.02	4.02	3.80	3.71	4.00	3.63	4.09
72.50°	3.29	3.45	3.29	3.51	3.51	3.46	3.29	2.95	3.28	3.14	3.02	3.21	3.35	3.23	3.55	3.35	3.29
75.00°	2.79	2.90	3.06	3.08	3.02	2.68	2.40	2.14	2.41	2.45	1.84	2.39	2.76	2.67	2.53	2.74	2.79
77.50°	2.36	2.29	2.63	2.59	2.54	2.32	1.76	1.85	1.68	1.74	1.45	1.71	1.66	1.97	1.76	1.75	2.36
80.00°	1.67	1.65	1.71	2.07	1.72	1.80	1.21	1.19	0.99	1.13	0.94	1.12	1.00	1.13	1.26	1.40	1.67
82.50°	1.07	0.99	0.92	1.29	0.91	0.83	0.59	0.65	0.52	0.48	0.67	0.76	0.61	0.72	0.70	0.92	1.07
85.00°	0.47	0.51	0.60	0.61	0.51	0.52	0.37	0.52	0.35	0.43	0.58	0.47	0.43	0.44	0.39	0.59	0.47
87.50°	0.37	0.41	0.55	0.51	0.49	0.51	0.51	0.48	0.40	0.29	0.49	0.40	0.45	0.44	0.51	0.49	0.37
90.00°	0.35	0.46	0.54	0.49	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.40	0.41	0.35
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
102.50°	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
105.00°	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
107.50°	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
110.00°	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
112.50°	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

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

<b>RCR</b>	<b>pfc</b>	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	<b>0</b>	658	658	658	658	643	643	643	643	614	614	614	588	588	588	564	564	553
	<b>1</b>	631	617	604	593	617	605	593	583	582	574	565	562	555	549	543	538	527
	<b>2</b>	604	580	560	543	592	570	552	537	553	538	525	536	524	514	521	512	502
	<b>3</b>	578	547	522	503	568	539	517	499	525	506	491	512	497	483	500	487	478
	<b>4</b>	554	518	491	470	545	511	487	467	500	479	462	489	471	457	479	464	456
	<b>5</b>	532	491	463	442	523	486	460	440	477	454	437	468	448	433	460	443	435
	<b>6</b>	510	467	439	418	503	463	436	417	455	432	414	448	427	411	441	423	416
	<b>7</b>	490	446	417	396	483	442	415	395	435	411	393	429	408	392	423	404	398
	<b>8</b>	471	426	397	377	465	423	395	377	417	393	375	412	390	374	407	387	381
	<b>9</b>	453	407	379	360	448	405	378	359	400	375	358	395	373	357	391	371	365
	<b>10</b>	437	390	363	344	432	388	362	344	384	360	343	380	358	342	376	356	351

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	39.1 fc	3.8 ft
6.5 ft	28.0 fc	4.4 ft
7.5 ft	21.0 fc	5.1 ft
8.0 ft	18.5 fc	5.5 ft
10.0 ft	11.8 fc	6.8 ft
12.0 ft	8.2 fc	8.2 ft
14.0 ft	6.0 fc	9.6 ft
16.0 ft	4.6 fc	10.9 ft
20.0 ft	3.0 fc	13.7 ft
24.0 ft	2.1 fc	16.4 ft
28.0 ft	1.5 fc	19.1 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	405,384	405,384	405,384
<b>45.00°</b>	3,559	3,644	3,492
<b>55.00°</b>	2,754	2,568	2,541
<b>65.00°</b>	3,543	3,048	3,902
<b>75.00°</b>	3,688	4,044	4,000
<b>85.00°</b>	1,839	2,356	2,023

### UGR CIE 190:2010

<b>Ceiling reflectance</b>		<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>
<b>Wall reflectance</b>		<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>
<b>Plane reflectance</b>		<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Room dimensions</b>		<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>2H</b>	<b>2H</b>	5.6	6.6	6.0	6.9	7.2	6.5	7.4	6.8	7.7	8.0
	<b>3H</b>	8.7	9.5	9.0	9.8	10.2	9.0	9.9	9.4	10.2	10.6
	<b>4H</b>	9.6	10.4	10.0	10.8	11.1	9.9	10.7	10.3	11.0	11.4
	<b>6H</b>	10.3	11.0	10.7	11.4	11.8	10.4	11.1	10.8	11.5	11.9
	<b>8H</b>	10.5	11.1	10.9	11.5	11.9	10.5	11.1	10.9	11.5	11.9
	<b>12H</b>	10.5	11.1	10.9	11.5	11.9	10.5	11.1	10.9	11.5	11.9
<b>4H</b>	<b>2H</b>	6.6	7.3	7.0	7.7	8.1	7.3	8.0	7.7	8.4	8.8
	<b>3H</b>	9.6	10.3	10.0	10.7	11.1	9.9	10.6	10.4	11.0	11.4
	<b>4H</b>	10.7	11.3	11.1	11.7	12.1	10.9	11.4	11.3	11.8	12.3
	<b>6H</b>	11.4	11.9	11.9	12.3	12.8	11.4	11.9	11.9	12.4	12.8
	<b>8H</b>	11.6	12.0	12.1	12.5	13.0	11.5	12.0	12.0	12.4	12.9
	<b>12H</b>	11.7	12.0	12.2	12.5	13.0	11.6	11.9	12.1	12.4	12.9
<b>8H</b>	<b>4H</b>	11.0	11.5	11.5	11.9	12.4	11.0	11.5	11.5	11.9	12.4
	<b>6H</b>	11.8	12.2	12.3	12.7	13.2	11.7	12.0	12.2	12.5	13.0
	<b>8H</b>	12.1	12.4	12.6	12.9	13.4	11.8	12.1	12.4	12.7	13.2
	<b>12H</b>	12.2	12.5	12.7	13.0	13.5	11.9	12.2	12.5	12.7	13.3
<b>12H</b>	<b>4H</b>	11.0	11.4	11.5	11.9	12.4	11.0	11.4	11.5	11.9	12.3
	<b>6H</b>	11.9	12.2	12.4	12.6	13.2	11.7	12.0	12.2	12.5	13.0
	<b>8H</b>	12.1	12.4	12.6	12.9	13.5	11.9	12.1	12.4	12.6	13.2

Corrected UGR values based on total output lumens

SHR = 1.0