

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

IF03SSx IC 835 010 N11 DLNFGP MW  
Nom 3" Square Infinium recessed downlight

### **Test Number**

SP-00779\_2\_M-010L

### **Test Date**

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

### Summary of Results

#### Power

Input Watts	7.3 W
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#### Lumen Output

Output Lumens	520
Efficacy	71.22 lm/W

#### Luminous Dimensions

0° - 180° Size	0.16
90° - 270° Size	0.16
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	0.51
Two luminaires, plane 90°	0.52
Four luminaires	0.57

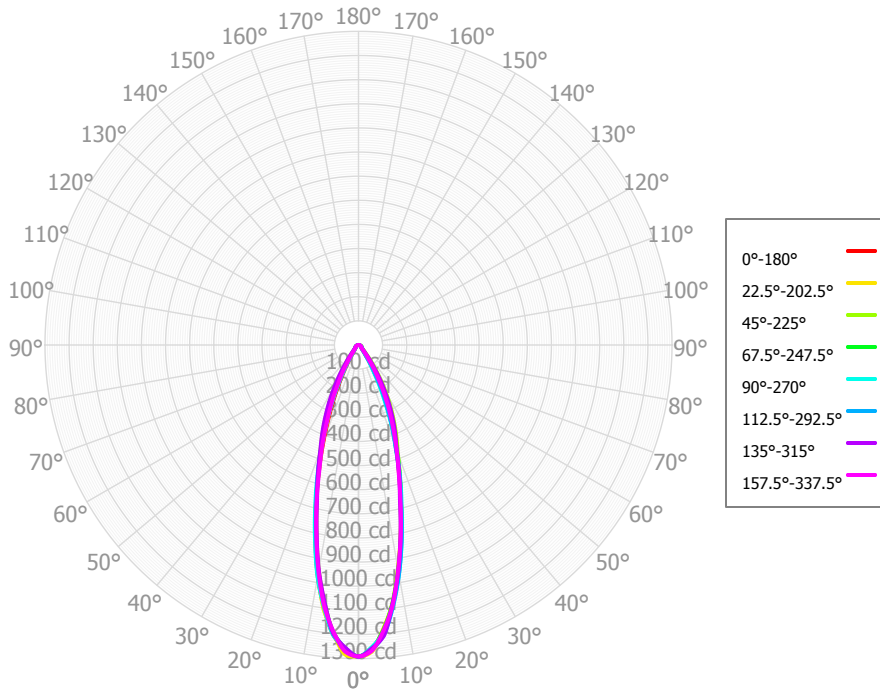
#### Full Beam Angle

0° - 180°	31°
90° - 270°	32°

### IES File Header Contents

Keyword	Value
TEST	SP-00779_2_M-010L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/11/2019
UPDATE	3/11/2019
LUMCAT	IF03SSx IC 835 010 N11 DLNFGP MW
LUMINAIRE	Nom 3" Square Infinium recessed downlight
OTHER	Beam Angle: 31 degrees
OTHER	Narrow Flood optic, Solite Lens
OTHER	Aluminum bezel contains lens
LAMPCAT	N/A
LAMP	N/A, CRI: 80, Philips
OTHER	CCT Multiplier: 40K x 1.03
OTHER	Total luminaire wattage 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°	107.34	20.65%	90.00° - 100.00°	0.04	0.01%
10.00° - 20.00°	186.36	35.84%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	131.00	25.20%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	48.13	9.26%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	16.52	3.18%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	12.95	2.49%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	10.66	2.05%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	5.66	1.09%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.27	0.24%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	519.88	99.99%	0.00° - 180.00°	519.92	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°	1,291.62	1,291.62	1,291.62	1,291.62	1,291.62	1,291.62	1,291.62	1,291.62	1,291.62	1,291.62	1,291.62	1,291.62	1,291.62	1,291.62	1,291.62	1,291.62	1,291.62
2.50°	1,260.30	1,272.64	1,257.08	1,262.42	1,254.62	1,259.38	1,256.63	1,272.15	1,265.26	1,284.12	1,259.37	1,270.11	1,259.30	1,263.56	1,259.80	1,269.37	1,260.30
5.00°	1,194.58	1,181.06	1,195.24	1,185.83	1,198.60	1,198.20	1,201.39	1,193.00	1,205.72	1,198.04	1,198.19	1,197.33	1,207.01	1,206.93	1,209.99	1,189.16	1,194.58
7.50°	1,084.40	1,082.05	1,077.83	1,083.26	1,085.95	1,083.10	1,076.56	1,091.67	1,098.26	1,106.49	1,078.58	1,093.30	1,096.61	1,094.62	1,081.76	1,087.62	1,084.40
10.00°	955.44	943.55	944.99	948.18	965.01	956.92	948.28	954.09	973.06	963.02	949.07	960.23	976.89	966.29	951.82	946.94	955.44
12.50°	819.87	807.01	808.48	813.95	828.19	811.88	801.95	807.13	825.65	819.14	802.32	814.90	832.12	824.57	806.24	807.99	819.87
15.00°	682.15	678.04	671.21	680.58	690.04	677.42	664.23	671.21	682.95	680.69	669.15	680.05	692.73	680.01	664.05	671.65	682.15
17.50°	566.77	558.07	570.66	565.86	571.24	557.45	558.45	537.29	545.18	545.08	555.32	548.76	564.78	562.83	560.00	554.34	566.77
20.00°	456.90	464.02	475.02	466.61	453.33	452.37	461.55	436.38	424.93	439.06	459.15	445.74	446.32	449.68	461.35	460.44	456.90
22.50°	364.67	375.85	409.25	379.94	355.46	364.10	390.38	339.25	319.63	337.00	383.41	349.86	343.95	362.83	397.77	376.71	364.67
25.00°	275.56	301.04	345.86	301.99	259.28	282.51	321.10	263.80	232.45	260.22	312.21	272.09	252.23	278.16	334.47	303.16	275.56
27.50°	203.63	230.88	285.24	230.82	185.37	207.13	256.08	189.71	157.81	187.47	245.35	197.52	175.32	209.09	272.39	235.25	203.63
30.00°	133.57	169.25	224.85	163.44	116.04	145.85	194.71	137.01	104.84	132.66	186.03	142.08	114.93	140.96	211.49	172.06	133.57
32.50°	91.86	116.62	170.22	113.31	79.75	95.26	139.86	85.67	64.34	84.19	132.66	88.91	73.45	97.93	154.57	120.97	91.86
35.00°	51.67	77.22	117.08	70.80	47.63	63.01	94.35	60.13	43.01	56.38	92.08	62.76	46.40	56.79	104.00	78.09	51.67
37.50°	38.04	49.06	82.81	48.10	36.49	42.17	62.66	36.18	30.43	34.40	59.66	38.17	32.80	40.83	69.72	51.07	38.04
40.00°	24.97	34.50	51.05	32.43	26.87	30.53	40.38	28.59	24.39	27.26	40.41	30.52	24.88	26.28	42.56	32.71	24.97
42.50°	21.15	25.12	37.06	24.90	22.71	23.56	29.40	21.76	20.67	21.65	28.00	23.13	21.33	22.30	29.77	23.64	21.15
45.00°	17.49	20.92	24.84	19.55	19.19	19.71	22.34	19.59	17.85	19.15	22.03	20.48	18.87	18.67	20.77	18.72	17.49
47.50°	15.32	18.03	20.97	17.63	17.41	17.12	19.16	17.44	15.29	17.09	18.76	17.94	17.11	16.78	18.08	16.20	15.32
50.00°	13.45	16.20	17.91	16.38	15.70	15.57	17.35	15.40	14.33	15.73	16.94	16.46	15.36	15.09	16.38	14.50	13.45
52.50°	13.27	15.33	17.69	15.56	14.15	14.34	16.65	13.78	13.70	14.73	15.59	15.14	13.62	14.16	16.00	14.03	13.27
55.00°	13.09	15.10	17.25	14.80	13.43	14.17	16.04	13.52	13.61	14.21	14.75	14.73	12.91	13.45	15.23	13.87	13.09
57.50°	12.85	14.66	16.18	14.79	14.15	14.24	15.50	13.22	13.59	13.54	14.03	14.27	12.61	13.34	14.05	13.53	12.85
60.00°	12.56	14.10	14.94	14.83	14.25	13.41	14.03	12.85	12.55	12.71	13.12	13.60	12.08	12.78	12.92	13.16	12.56
62.50°	12.11	12.79	13.35	12.70	13.46	12.42	12.06	12.14	11.44	11.47	12.17	12.66	11.47	11.24	11.84	12.21	12.11
65.00°	11.49	11.15	11.82	10.59	12.30	10.37	10.65	10.78	10.22	9.85	10.35	10.86	10.50	9.78	10.65	11.19	11.49
67.50°	10.48	9.96	10.38	9.89	10.70	8.26	9.46	9.02	8.95	8.54	8.49	9.27	9.44	8.45	9.36	9.96	10.48
70.00°	9.06	8.91	9.09	9.02	9.09	7.42	7.73	6.79	7.35	7.42	7.02	8.05	7.63	7.06	8.12	8.71	9.06
72.50°	7.05	7.62	7.97	7.46	7.49	6.38	5.99	5.22	5.56	6.15	5.86	6.70	5.99	5.61	6.90	7.43	7.05
75.00°	5.60	6.38	7.19	6.25	6.24	4.91	4.58	4.00	3.54	4.88	5.17	5.29	4.80	4.47	5.94	6.05	5.60
77.50°	4.44	5.32	6.33	5.39	4.74	3.52	3.44	3.19	2.49	3.65	3.87	3.93	3.63	3.42	4.57	4.53	4.44
80.00°	3.48	3.73	4.65	3.90	2.59	2.40	2.45	1.95	1.91	2.61	2.47	2.29	2.39	2.44	2.61	3.23	3.48
82.50°	2.10	2.30	2.85	1.96	1.29	1.56	1.57	1.16	1.25	1.22	1.33	1.12	1.18	1.29	1.73	2.00	2.10
85.00°	0.93	1.27	1.30	0.72	0.68	0.83	0.97	0.65	0.69	0.88	0.74	0.67	0.56	0.70	0.98	0.94	0.93
87.50°	0.53	0.64	0.61	0.57	0.58	0.67	0.78	0.62	0.69	0.54	0.73	0.63	0.67	0.64	0.38	0.72	0.53
90.00°	0.58	0.64	0.63	0.67	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.66	0.74	0.58
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>	619	619	619	619	605	605	605	605	578	578	578	553	553	553	530	530	520
	<b>1</b>	591	577	564	553	578	566	555	544	545	536	528	526	518	512	508	502	497
	<b>2</b>	564	540	520	503	553	531	513	498	514	500	487	499	487	476	485	475	466
	<b>3</b>	539	508	484	464	529	501	478	460	487	468	453	475	459	446	463	450	442
	<b>4</b>	516	479	453	433	507	474	449	430	463	442	425	452	435	420	443	428	420
	<b>5</b>	494	454	427	406	486	450	424	405	441	418	401	432	413	398	424	408	400
	<b>6</b>	474	432	404	384	467	428	402	383	421	397	380	414	393	378	407	389	382
	<b>7</b>	455	412	384	364	449	409	382	363	402	379	362	396	375	360	391	372	366
	<b>8</b>	438	394	366	347	432	391	365	346	386	362	345	380	359	344	376	357	351
	<b>9</b>	421	377	350	331	416	375	349	331	370	346	330	366	344	329	362	342	337
	<b>10</b>	406	362	335	318	401	360	334	317	356	332	316	352	331	315	349	329	324

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	42.7 fc	3.1 ft
6.5 ft	30.6 fc	3.7 ft
7.5 ft	23.0 fc	4.3 ft
8.0 ft	20.2 fc	4.5 ft
10.0 ft	12.9 fc	5.7 ft
12.0 ft	9.0 fc	6.8 ft
14.0 ft	6.6 fc	8.0 ft
16.0 ft	5.0 fc	9.1 ft
20.0 ft	3.2 fc	11.4 ft
24.0 ft	2.2 fc	13.6 ft
28.0 ft	1.6 fc	15.9 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	543,083	543,083	543,083
<b>45.00°</b>	10,400	14,772	11,412
<b>55.00°</b>	9,595	12,643	9,847
<b>65.00°</b>	11,433	11,756	12,238
<b>75.00°</b>	9,103	11,679	10,130
<b>85.00°</b>	4,507	6,256	3,290

### 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>	14.9	16.0	15.3	16.3	16.6	15.0	16.1	15.4	16.4	16.7
	<b>3H</b>	17.0	17.9	17.4	18.3	18.6	16.8	17.7	17.2	18.0	18.4
	<b>4H</b>	17.7	18.5	18.1	18.9	19.2	17.4	18.2	17.8	18.6	19.0
	<b>6H</b>	18.1	18.9	18.5	19.2	19.6	17.7	18.4	18.1	18.8	19.2
	<b>8H</b>	18.2	18.9	18.6	19.3	19.7	17.7	18.4	18.1	18.8	19.2
	<b>12H</b>	18.2	18.9	18.7	19.3	19.7	17.7	18.4	18.1	18.7	19.2
<b>4H</b>	<b>2H</b>	15.6	16.4	16.0	16.8	17.2	15.6	16.4	16.0	16.8	17.1
	<b>3H</b>	17.8	18.5	18.2	18.9	19.3	17.5	18.1	17.9	18.5	19.0
	<b>4H</b>	18.6	19.2	19.0	19.6	20.1	18.1	18.7	18.6	19.2	19.6
	<b>6H</b>	19.2	19.7	19.6	20.1	20.6	18.5	19.0	19.0	19.5	19.9
	<b>8H</b>	19.3	19.8	19.8	20.2	20.7	18.5	19.0	19.0	19.5	19.9
	<b>12H</b>	19.3	19.7	19.8	20.2	20.7	18.5	18.9	19.0	19.4	19.9
<b>8H</b>	<b>4H</b>	18.9	19.4	19.4	19.8	20.3	18.2	18.7	18.7	19.2	19.7
	<b>6H</b>	19.6	19.9	20.1	20.4	20.9	18.7	19.1	19.2	19.6	20.1
	<b>8H</b>	19.7	20.1	20.3	20.6	21.1	18.8	19.1	19.3	19.6	20.1
	<b>12H</b>	19.8	20.1	20.3	20.6	21.2	18.8	19.1	19.3	19.6	20.2
<b>12H</b>	<b>4H</b>	18.9	19.3	19.4	19.8	20.3	18.2	18.6	18.7	19.1	19.6
	<b>6H</b>	19.6	19.9	20.1	20.4	20.9	18.7	19.0	19.2	19.5	20.0
	<b>8H</b>	19.8	20.1	20.3	20.6	21.2	18.8	19.1	19.3	19.6	20.1

Corrected UGR values based on total output lumens

SHR = 1.0