

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

IF03SSx IC 835 007 N11 DLFLGP MW  
Nom 3" Square Infinium recessed downlight

### **Test Number**

SP-00778\_2\_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	359
Efficacy	66.49 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.65
Two luminaires, plane 90°	0.65
Four luminaires	0.69

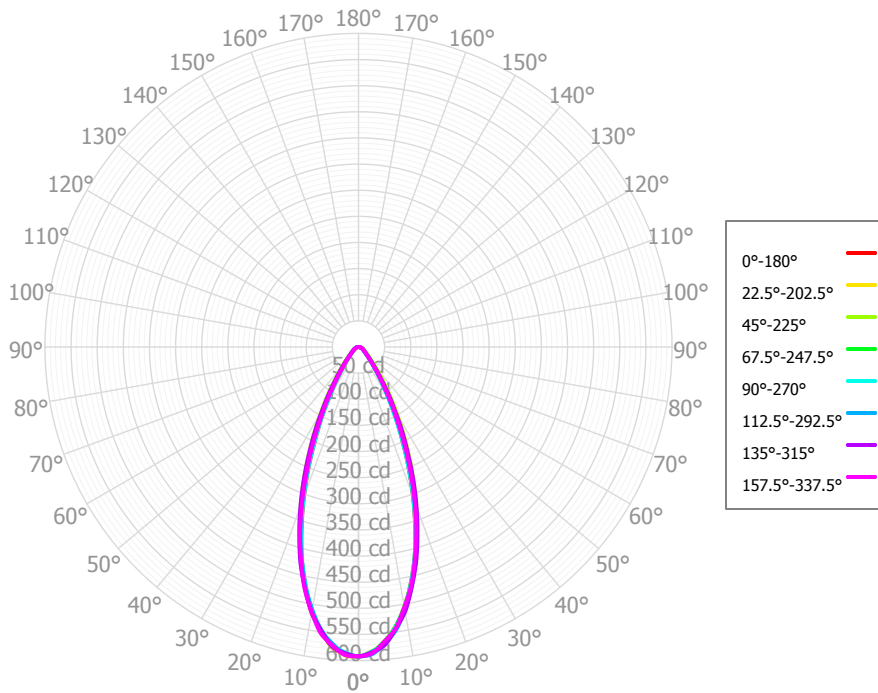
#### Full Beam Angle

0° - 180°	41°
90° - 270°	41°

### IES File Header Contents

Keyword	Value
TEST	SP-00778_2_M-007L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/11/2019
UPDATE	3/11/2019
LUMCAT	IF03SSx IC 835 007 N11 DLFLGP MW
LUMINAIRE	Nom 3" Square Infinium recessed downlight
OTHER	Beam Angle: 41 degrees
OTHER	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°	53.22	14.82%	90.00° - 100.00°	0.03	0.01%
10.00° - 20.00°	114.91	32.00%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	96.37	26.84%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	47.24	13.16%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	21.06	5.87%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	12.19	3.40%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	8.38	2.33%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	4.71	1.31%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.95	0.27%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	359.04	99.99%	0.00° - 180.00°	359.07	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°	592.00	592.00	592.00	592.00	592.00	592.00	592.00	592.00	592.00	592.00	592.00	592.00	592.00	592.00	592.00	592.00	592.00
2.50°	584.42	586.55	582.80	584.48	583.87	588.47	586.43	590.03	587.50	590.64	585.73	587.84	585.04	588.49	584.89	587.03	584.42
5.00°	570.47	565.76	570.89	565.73	569.00	570.08	575.35	573.08	576.98	571.73	576.10	571.57	572.60	570.17	572.83	566.16	570.47
7.50°	540.27	542.29	540.21	540.60	541.42	547.67	546.91	552.81	547.23	550.89	546.12	548.99	545.65	547.04	544.00	543.49	540.27
10.00°	507.81	504.33	509.03	504.70	507.17	510.32	516.16	515.16	516.42	512.08	514.82	512.50	511.95	510.76	514.09	505.56	507.81
12.50°	462.66	464.44	465.54	464.30	463.57	469.93	473.30	475.02	468.25	472.20	470.82	470.80	467.68	470.43	470.24	466.62	462.66
15.00°	415.69	416.21	421.59	417.26	415.29	420.13	428.67	424.16	419.56	420.15	425.88	421.26	419.10	420.62	425.97	417.18	415.69
17.50°	360.73	366.72	371.71	367.58	361.32	368.87	376.63	372.01	362.77	367.81	374.49	369.23	364.04	369.09	375.02	367.42	360.73
20.00°	305.93	312.81	322.00	314.53	306.50	314.14	324.54	315.37	306.06	313.07	323.21	315.11	306.77	314.10	324.05	314.21	305.93
22.50°	251.71	260.39	273.65	263.14	250.76	259.01	272.29	260.23	250.90	258.60	272.50	260.44	251.86	260.39	272.77	261.16	251.71
25.00°	200.44	212.34	226.25	213.63	199.93	209.71	222.01	209.32	196.67	210.15	223.36	211.90	197.61	208.91	222.07	212.49	200.44
27.50°	158.06	167.57	184.78	169.61	153.71	160.84	177.39	162.37	154.05	162.75	180.76	164.65	154.14	162.45	178.87	164.73	158.06
30.00°	119.67	131.08	145.19	131.05	116.92	125.36	136.40	125.20	113.26	128.09	140.75	128.38	113.21	123.55	136.91	128.59	119.67
32.50°	91.26	98.94	114.77	99.97	87.83	90.37	104.45	92.71	87.32	94.90	109.62	93.92	86.70	91.55	105.70	94.07	91.26
35.00°	67.15	76.10	86.64	75.31	66.25	70.92	76.82	70.03	63.20	73.90	81.87	72.80	62.85	68.68	76.24	72.90	67.15
37.50°	52.14	56.96	67.54	57.21	50.06	51.79	58.30	51.37	49.77	54.23	63.87	53.27	49.36	50.94	57.96	53.05	52.14
40.00°	39.58	44.58	50.50	44.15	38.65	41.30	43.02	39.94	37.46	42.78	48.20	42.61	37.29	39.12	41.35	41.55	39.58
42.50°	31.62	34.44	40.11	35.01	30.25	31.15	33.60	30.54	30.49	32.40	38.13	32.67	30.19	30.37	32.80	31.03	31.62
45.00°	24.95	27.95	31.12	28.46	24.41	25.94	26.04	24.39	24.16	27.07	29.63	26.47	23.58	24.74	25.07	25.31	24.95
47.50°	20.34	22.72	25.93	23.46	19.97	20.91	21.48	19.57	20.27	22.08	24.38	20.45	19.79	20.24	20.55	20.33	20.34
50.00°	16.93	19.26	21.35	19.35	16.92	17.59	17.89	16.57	16.66	18.35	19.85	17.96	16.17	16.75	16.69	18.17	16.93
52.50°	15.16	16.44	18.16	16.63	14.53	14.49	15.66	14.15	13.90	15.10	16.61	15.51	14.23	14.30	14.95	15.96	15.16
55.00°	13.62	14.39	15.43	14.63	12.68	12.94	13.69	12.42	11.50	13.33	13.92	13.38	12.32	12.66	13.25	13.61	13.62
57.50°	12.36	12.83	13.59	13.10	11.04	11.47	12.01	11.23	10.08	11.58	12.10	11.32	10.88	11.34	11.68	11.62	12.36
60.00°	11.04	11.79	12.11	11.78	9.80	10.49	10.48	10.62	8.94	9.86	10.65	10.42	9.47	10.22	10.29	10.59	11.04
62.50°	9.67	10.74	11.25	10.54	8.69	9.43	9.12	9.35	8.43	8.38	9.71	9.47	8.78	9.36	9.31	9.61	9.67
65.00°	8.76	9.66	10.29	9.34	8.09	8.07	7.80	7.47	7.61	7.42	8.67	8.14	8.08	8.64	8.23	8.72	8.76
67.50°	8.30	8.77	9.19	8.44	7.64	6.92	6.53	6.40	6.28	6.48	7.52	6.89	7.26	7.73	6.97	7.79	8.30
70.00°	7.44	8.01	8.18	7.61	6.61	6.26	5.55	5.84	5.33	5.58	6.19	5.96	6.38	6.73	6.06	6.79	7.44
72.50°	6.33	6.86	7.24	6.39	5.50	5.50	4.72	4.76	4.70	4.81	4.79	4.97	5.35	5.82	5.58	5.87	6.33
75.00°	4.96	5.56	6.02	5.19	4.46	4.65	4.27	3.57	3.41	4.00	4.18	3.94	4.18	4.76	5.07	4.99	4.96
77.50°	3.62	4.15	4.68	4.07	3.20	2.89	3.35	2.29	2.37	2.72	3.32	2.81	2.98	3.14	4.37	3.73	3.62
80.00°	2.44	3.02	3.18	2.47	1.87	1.87	2.11	1.64	1.62	1.74	2.21	1.83	1.83	2.18	3.05	2.60	2.44
82.50°	1.33	1.82	1.78	1.27	1.09	1.27	1.03	0.96	0.82	1.22	1.07	1.03	0.87	1.33	1.50	1.53	1.33
85.00°	0.50	0.69	0.83	0.59	0.50	0.68	0.55	0.47	0.44	0.61	0.57	0.49	0.47	0.66	0.72	0.58	0.50
87.50°	0.43	0.49	0.41	0.60	0.38	0.51	0.43	0.40	0.39	0.45	0.46	0.42	0.47	0.46	0.56	0.49	0.43
90.00°	0.36	0.39	0.43	0.51	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.53	0.40	0.36
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>	427	427	427	427	418	418	418	418	399	399	399	382	382	382	366	366	359
	<b>1</b>	406	396	387	378	397	388	380	372	374	367	361	360	355	350	348	344	337
	<b>2</b>	386	368	353	340	378	361	348	336	350	338	329	339	330	322	329	322	315
	<b>3</b>	366	343	324	310	359	338	321	307	328	314	302	319	308	298	311	301	296
	<b>4</b>	348	321	301	285	342	317	298	284	309	293	280	302	288	277	295	283	278
	<b>5</b>	331	302	281	265	326	298	279	264	292	275	262	286	271	259	280	267	262
	<b>6</b>	316	284	263	248	311	281	261	247	276	258	245	271	255	244	266	253	248
	<b>7</b>	302	269	248	233	297	266	246	232	262	244	231	258	242	230	254	239	235
	<b>8</b>	288	255	234	220	284	253	233	219	249	231	218	245	229	217	242	227	224
	<b>9</b>	276	242	222	208	272	241	221	207	237	219	207	234	218	206	231	216	213
	<b>10</b>	265	231	211	197	261	229	210	197	226	209	196	224	207	196	221	206	203

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	19.6 fc	4.1 ft
6.5 ft	14.0 fc	4.9 ft
7.5 ft	10.5 fc	5.6 ft
8.0 ft	9.2 fc	6.0 ft
10.0 ft	5.9 fc	7.5 ft
12.0 ft	4.1 fc	9.0 ft
14.0 ft	3.0 fc	10.4 ft
16.0 ft	2.3 fc	11.9 ft
20.0 ft	1.5 fc	14.9 ft
24.0 ft	1.0 fc	17.9 ft
28.0 ft	0.8 fc	20.9 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	248,915	248,915	248,915
<b>45.00°</b>	14,835	18,503	14,517
<b>55.00°</b>	9,987	11,309	9,294
<b>65.00°</b>	8,720	10,241	8,051
<b>75.00°</b>	8,051	9,782	7,245
<b>85.00°</b>	2,412	4,000	2,392

### 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>	15.3	16.3	15.6	16.6	17.0	14.7	15.8	15.1	16.1	16.4
	<b>3H</b>	17.1	18.1	17.5	18.4	18.8	16.4	17.3	16.7	17.6	18.0
	<b>4H</b>	17.8	18.7	18.2	19.1	19.4	17.0	17.9	17.4	18.2	18.6
	<b>6H</b>	18.2	19.0	18.6	19.4	19.7	17.2	18.0	17.7	18.4	18.8
	<b>8H</b>	18.2	19.0	18.7	19.4	19.8	17.3	18.0	17.7	18.4	18.8
	<b>12H</b>	18.2	18.9	18.6	19.3	19.7	17.2	18.0	17.7	18.3	18.8
<b>4H</b>	<b>2H</b>	15.8	16.7	16.2	17.1	17.5	15.2	16.1	15.6	16.5	16.8
	<b>3H</b>	17.9	18.6	18.3	19.1	19.5	17.0	17.8	17.5	18.2	18.6
	<b>4H</b>	18.7	19.4	19.2	19.8	20.2	17.8	18.4	18.2	18.8	19.3
	<b>6H</b>	19.2	19.7	19.7	20.2	20.7	18.1	18.7	18.6	19.1	19.6
	<b>8H</b>	19.3	19.8	19.7	20.2	20.7	18.1	18.6	18.6	19.1	19.6
	<b>12H</b>	19.3	19.7	19.8	20.2	20.7	18.1	18.6	18.6	19.1	19.5
<b>8H</b>	<b>4H</b>	19.0	19.5	19.5	20.0	20.4	17.9	18.4	18.4	18.9	19.4
	<b>6H</b>	19.6	20.0	20.1	20.5	21.0	18.3	18.8	18.8	19.3	19.7
	<b>8H</b>	19.7	20.1	20.2	20.6	21.1	18.4	18.8	18.9	19.3	19.8
	<b>12H</b>	19.7	20.1	20.3	20.6	21.1	18.4	18.8	19.0	19.3	19.8
<b>12H</b>	<b>4H</b>	19.0	19.4	19.5	19.9	20.4	17.9	18.3	18.4	18.8	19.3
	<b>6H</b>	19.6	20.0	20.1	20.4	21.0	18.3	18.7	18.9	19.2	19.7
	<b>8H</b>	19.8	20.1	20.3	20.6	21.1	18.4	18.7	18.9	19.2	19.8

Corrected UGR values based on total output lumens

SHR = 1.0