

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

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

### **Test Number**

SP-00765\_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	507
Efficacy	69.4 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.84
Two luminaires, plane 90°	0.84
Four luminaires	0.86

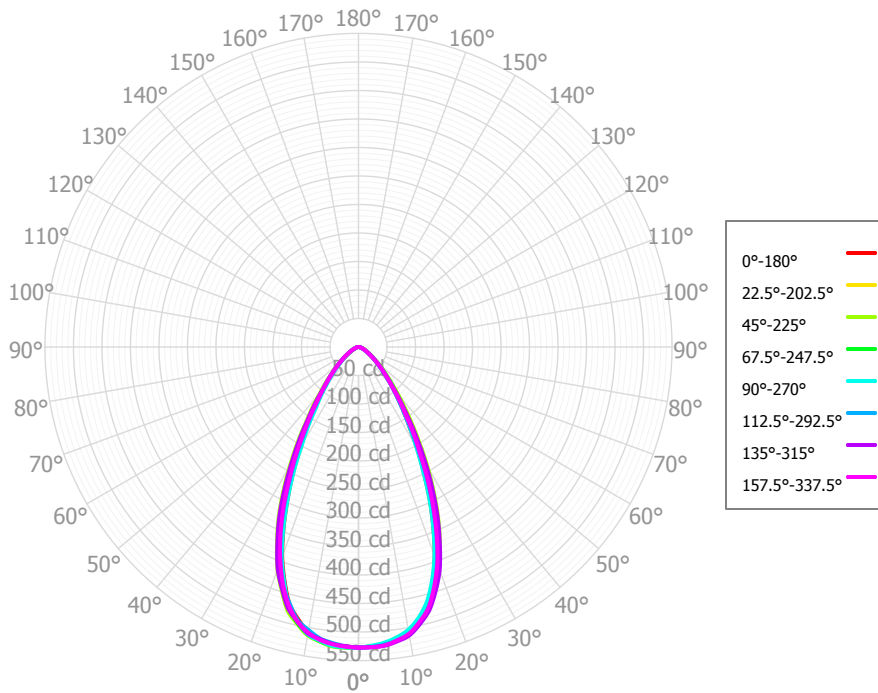
#### Full Beam Angle

0° - 180°	53°
90° - 270°	53°

### IES File Header Contents

Keyword	Value
TEST	SP-00765_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 DLWFGP MW
LUMINAIRE	Nom 3" Square Infinium recessed downlight
OTHER	Beam Angle: 54 degrees
OTHER	Wide 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°	50.25	9.92%	90.00° - 100.00°	0.05	0.01%
10.00° - 20.00°	129.90	25.64%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	140.85	27.80%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	92.51	18.26%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	50.58	9.98%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	25.04	4.94%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	11.53	2.28%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	4.85	0.96%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.08	0.21%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	506.60	99.99%	0.00° - 180.00°	506.65	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°	527.31	527.31	527.31	527.31	527.31	527.31	527.31	527.31	527.31	527.31	527.31	527.31	527.31	527.31	527.31	527.31	527.31
2.50°	525.76	526.04	525.97	525.25	524.61	525.77	525.27	526.30	525.77	526.98	527.85	527.46	527.32	526.82	527.09	527.14	525.76
5.00°	523.24	523.04	523.10	522.44	520.57	521.30	522.77	523.34	524.70	524.21	527.34	525.94	526.06	524.01	526.02	525.35	523.24
7.50°	517.30	516.34	517.31	514.66	513.91	515.85	516.77	518.30	517.55	519.59	521.02	520.47	519.64	519.45	520.86	519.14	517.30
10.00°	507.06	506.29	508.67	505.73	503.66	504.25	510.49	508.61	508.14	509.03	513.66	511.50	511.90	511.11	513.72	510.79	507.06
12.50°	490.77	489.28	493.27	488.45	486.72	491.39	493.46	493.66	489.19	494.83	497.10	495.60	492.18	497.14	497.71	494.07	490.77
15.00°	466.15	467.13	473.58	469.82	463.13	466.22	475.61	470.29	467.55	470.61	479.46	473.69	470.24	473.49	478.72	474.08	466.15
17.50°	432.01	435.57	445.83	437.32	429.41	439.36	445.70	439.14	431.20	441.32	447.82	442.09	432.88	442.84	449.52	441.24	432.01
20.00°	391.02	398.38	413.19	403.41	389.69	399.07	414.44	401.14	391.70	401.84	415.35	404.78	393.71	402.15	416.34	404.57	391.02
22.50°	343.46	354.87	373.01	357.61	342.52	357.65	371.95	357.98	343.73	358.29	373.58	359.88	344.03	357.39	372.73	358.70	343.46
25.00°	295.73	308.24	330.48	311.25	294.51	308.64	328.62	311.61	294.55	310.82	331.59	313.28	293.70	307.89	327.92	310.82	295.73
27.50°	247.87	262.23	284.98	264.78	245.62	259.57	280.83	263.22	248.55	262.14	285.33	264.83	246.14	259.61	280.64	263.24	247.87
30.00°	205.79	216.47	240.78	218.81	203.52	216.30	234.34	219.56	202.81	219.43	239.50	220.27	199.11	212.48	234.75	215.70	205.79
32.50°	167.39	179.52	197.94	181.78	167.18	173.93	192.80	178.27	168.52	178.14	198.15	179.21	164.22	172.55	191.22	178.52	167.39
35.00°	138.04	145.20	161.70	145.99	138.04	143.85	154.26	145.81	134.84	147.10	158.59	145.98	130.49	138.38	152.98	142.29	138.04
37.50°	113.47	119.95	131.13	121.45	113.89	115.09	124.64	116.92	113.35	117.74	130.08	118.57	109.10	112.44	122.00	117.40	113.47
40.00°	93.90	96.76	106.30	98.08	94.53	96.18	98.66	96.45	92.30	97.87	103.36	96.74	88.60	91.85	96.74	93.01	93.90
42.50°	76.41	79.97	85.54	81.35	77.93	78.22	81.09	78.64	77.12	78.93	84.64	78.27	73.90	75.11	77.86	77.82	76.41
45.00°	63.06	64.17	69.35	65.70	64.13	64.91	65.62	64.99	62.44	65.41	67.45	63.95	59.89	60.37	62.69	62.89	63.06
47.50°	51.04	53.55	55.77	54.37	51.61	52.45	54.02	52.31	51.61	52.18	55.33	51.69	48.94	49.51	50.99	52.18	51.04
50.00°	42.05	43.40	45.08	43.84	42.04	43.12	43.67	43.01	41.27	42.57	44.22	42.41	38.78	40.31	41.16	41.76	42.05
52.50°	33.82	35.21	35.73	35.76	33.51	34.34	35.21	34.27	33.43	33.14	35.67	34.30	31.23	32.95	32.75	33.78	33.82
55.00°	27.73	27.14	29.00	28.52	26.93	27.11	27.99	27.90	26.22	27.10	28.03	27.58	24.61	26.20	26.13	26.27	27.73
57.50°	22.02	22.62	23.23	23.30	20.90	20.98	22.31	21.77	21.31	21.28	22.26	21.27	20.38	21.08	20.61	21.42	22.02
60.00°	18.17	18.20	18.82	18.73	16.88	17.25	17.60	17.74	16.82	17.48	17.38	16.95	16.46	16.36	16.88	16.96	18.17
62.50°	14.53	15.23	14.79	15.42	13.26	13.78	13.86	13.81	13.54	13.83	13.97	13.07	13.16	13.73	14.06	14.00	14.53
65.00°	12.16	12.40	12.52	12.17	10.86	10.77	10.79	11.36	10.51	11.03	11.24	11.08	10.50	11.49	11.21	11.37	12.16
67.50°	9.89	10.59	10.60	8.99	8.63	8.29	8.24	8.97	7.98	8.61	9.39	9.39	8.82	9.24	8.34	9.66	9.89
70.00°	7.82	8.81	8.27	7.18	6.46	6.40	6.51	7.03	6.26	7.28	7.55	7.25	7.38	7.07	7.25	7.94	7.82
72.50°	5.98	7.14	6.18	6.54	4.59	5.14	5.14	5.45	5.35	5.95	5.72	5.43	6.14	5.79	6.50	6.24	5.98
75.00°	4.67	5.56	5.20	5.18	3.79	4.10	4.38	4.43	4.16	4.61	4.61	4.46	3.94	4.52	5.17	4.77	4.67
77.50°	3.37	4.00	4.05	3.77	2.86	2.93	3.05	3.12	2.87	3.21	3.47	3.37	2.36	3.28	3.76	3.45	3.37
80.00°	2.31	2.12	2.82	2.53	1.89	1.87	1.65	2.33	1.61	2.06	2.29	2.22	1.66	1.99	2.33	2.34	2.31
82.50°	1.68	1.35	1.71	1.10	1.01	1.04	1.12	1.82	1.08	1.22	1.49	1.19	1.14	1.15	1.22	1.56	1.68
85.00°	0.79	0.78	1.01	0.75	0.54	0.65	0.71	0.81	0.88	0.83	0.82	0.76	0.78	0.85	0.45	0.78	0.79
87.50°	0.67	0.73	0.71	0.91	0.66	0.56	0.49	0.59	0.74	0.75	0.60	0.68	0.63	0.70	0.75	0.68	0.67
90.00°	0.73	0.73	0.76	0.85	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.64	0.56	0.73
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.

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%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	603	603	603	603	589	589	589	589	563	563	563	539	539	539	517	517	517	507
	1	571	556	542	529	559	545	532	521	524	514	505	505	497	489	487	481	475	471
	2	539	512	489	470	528	503	482	464	486	469	454	471	457	444	456	445	435	436
	3	509	472	445	422	498	465	440	419	452	430	412	439	421	405	427	412	399	404
	4	480	438	407	383	470	432	403	381	421	396	376	410	389	372	400	382	368	375
	5	453	407	375	351	445	402	372	349	393	366	346	384	361	343	376	356	340	349
	6	429	380	347	323	421	376	345	322	368	340	320	360	336	318	354	332	315	326
	7	406	356	323	300	399	352	321	299	345	317	297	339	314	295	333	311	294	305
	8	385	334	301	279	379	331	300	278	325	297	277	320	294	276	315	292	275	287
	9	366	314	282	261	360	312	281	260	307	279	259	302	277	258	298	274	257	270
	10	349	297	265	245	343	294	264	244	290	262	243	286	261	243	282	259	242	255

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	17.4 fc	5.5 ft
6.5 ft	12.5 fc	6.5 ft
7.5 ft	9.4 fc	7.5 ft
8.0 ft	8.2 fc	8.0 ft
10.0 ft	5.3 fc	10.0 ft
12.0 ft	3.7 fc	12.0 ft
14.0 ft	2.7 fc	14.0 ft
16.0 ft	2.1 fc	16.0 ft
20.0 ft	1.3 fc	20.0 ft
24.0 ft	0.9 fc	24.1 ft
28.0 ft	0.7 fc	28.1 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	221,716	221,716	221,716
<b>45.00°</b>	37,498	41,237	38,135
<b>55.00°</b>	20,327	21,257	19,743
<b>65.00°</b>	12,102	12,454	10,808
<b>75.00°</b>	7,592	8,445	6,154
<b>85.00°</b>	3,825	4,878	2,605

### 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>	18.0	19.1	18.4	19.4	19.8	17.7	18.8	18.0	19.1	19.4
	<b>3H</b>	18.8	19.9	19.2	20.2	20.6	18.4	19.4	18.8	19.7	20.1
	<b>4H</b>	19.1	20.0	19.5	20.4	20.8	18.5	19.5	19.0	19.8	20.2
	<b>6H</b>	19.2	20.0	19.6	20.4	20.8	18.6	19.5	19.0	19.8	20.2
	<b>8H</b>	19.2	20.0	19.6	20.4	20.8	18.6	19.4	19.0	19.8	20.2
	<b>12H</b>	19.2	20.0	19.6	20.3	20.8	18.6	19.3	19.0	19.7	20.1
<b>4H</b>	<b>2H</b>	18.2	19.1	18.6	19.5	19.9	17.9	18.8	18.3	19.2	19.5
	<b>3H</b>	19.2	20.0	19.7	20.4	20.8	18.7	19.5	19.1	19.9	20.3
	<b>4H</b>	19.6	20.3	20.0	20.7	21.1	19.0	19.6	19.4	20.1	20.5
	<b>6H</b>	19.8	20.3	20.2	20.8	21.3	19.1	19.7	19.6	20.1	20.6
	<b>8H</b>	19.8	20.3	20.2	20.8	21.2	19.1	19.6	19.6	20.1	20.5
	<b>12H</b>	19.8	20.2	20.3	20.7	21.2	19.1	19.5	19.5	20.0	20.5
<b>8H</b>	<b>4H</b>	19.6	20.2	20.1	20.6	21.1	19.0	19.5	19.5	20.0	20.5
	<b>6H</b>	19.9	20.3	20.4	20.8	21.3	19.2	19.6	19.7	20.1	20.6
	<b>8H</b>	19.9	20.3	20.4	20.8	21.3	19.2	19.6	19.7	20.1	20.6
	<b>12H</b>	19.9	20.3	20.5	20.8	21.4	19.2	19.5	19.7	20.0	20.6
<b>12H</b>	<b>4H</b>	19.6	20.1	20.1	20.6	21.0	19.0	19.4	19.5	19.9	20.4
	<b>6H</b>	19.8	20.2	20.4	20.7	21.2	19.1	19.5	19.7	20.0	20.6
	<b>8H</b>	19.9	20.3	20.4	20.8	21.3	19.2	19.5	19.7	20.0	20.6

Corrected UGR values based on total output lumens

SHR = 1.0