

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

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

### **Test Number**

SP-00765\_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	399
Efficacy	73.82 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.9
Two luminaires, plane 90°	0.9
Four luminaires	0.9

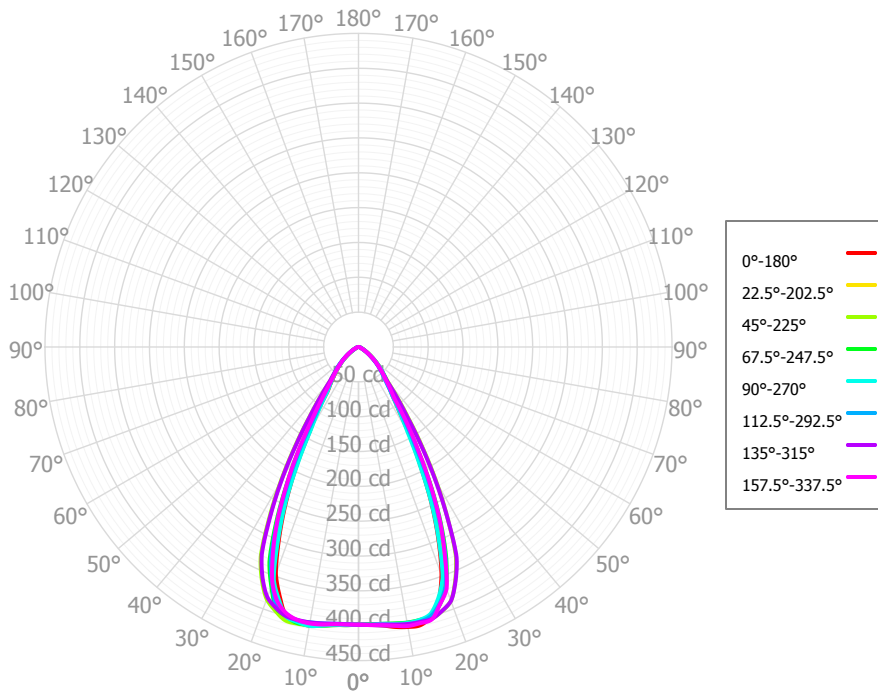
#### Full Beam Angle

0° - 180°	54°
90° - 270°	54°

### IES File Header Contents

Keyword	Value
TEST	SP-00765_1_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 DLWFGN MW
LUMINAIRE	Nom 3" Square Infinium recessed downlight
OTHER	Beam Angle: 54 degrees
OTHER	Wide Flood optic, Open aperture / no lens
OTHER	Aluminum bezel
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°	38.94	9.77%	90.00° - 100.00°	0.03	0.01%
10.00° - 20.00°	111.22	27.90%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	125.34	31.44%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	64.03	16.06%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	33.47	8.39%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	16.64	4.17%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	6.11	1.53%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	2.24	0.56%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.63	0.16%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	398.62	99.99%	0.00° - 180.00°	398.65	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°	398.58	398.58	398.58	398.58	398.58	398.58	398.58	398.58	398.58	398.58	398.58	398.58	398.58	398.58	398.58	398.58	398.58
2.50°	399.35	398.70	399.08	398.21	398.79	398.09	398.38	398.76	399.06	398.72	399.79	399.07	399.66	399.36	398.93	399.61	399.35
5.00°	401.34	400.22	398.96	399.02	398.77	398.82	398.72	399.48	400.23	400.42	400.37	400.90	400.28	400.97	399.77	400.95	401.34
7.50°	405.30	402.44	400.78	400.14	400.79	400.14	400.18	401.74	402.94	403.27	403.16	403.29	403.45	402.79	401.82	403.70	405.30
10.00°	408.04	405.09	402.53	401.66	402.35	401.25	401.45	402.89	406.24	404.72	405.79	404.75	406.51	404.87	403.77	406.75	408.04
12.50°	409.11	405.08	403.69	401.58	401.56	402.27	401.46	401.67	404.08	404.96	406.74	405.82	404.37	404.04	404.49	406.18	409.11
15.00°	400.96	403.69	403.78	399.80	397.18	397.33	400.22	396.57	400.26	399.14	406.25	400.45	400.79	400.12	404.33	405.11	400.96
17.50°	382.48	386.48	397.72	387.84	379.42	390.46	393.00	384.63	375.81	389.03	396.97	393.05	380.20	386.74	397.51	387.98	382.48
20.00°	348.44	362.62	387.88	366.80	352.92	362.00	382.34	361.13	346.79	360.88	385.18	365.81	355.51	365.11	387.93	369.61	348.44
22.50°	300.15	320.79	362.92	329.31	301.85	328.35	359.70	321.20	298.32	322.11	362.30	333.88	303.19	326.26	363.97	324.08	300.15
25.00°	248.14	273.13	330.78	279.87	248.55	275.08	328.49	275.69	246.93	274.03	332.02	280.94	249.60	275.03	333.09	277.61	248.14
27.50°	193.29	221.76	276.76	225.50	190.21	218.33	274.58	223.71	193.57	221.58	277.72	224.46	189.90	219.51	276.43	224.24	193.29
30.00°	147.62	169.49	223.20	168.19	140.91	165.47	220.79	173.79	140.02	171.20	223.62	170.15	136.30	161.44	220.68	171.63	147.62
32.50°	107.66	128.76	170.73	126.49	107.95	113.05	167.25	125.89	107.76	121.60	170.01	116.06	103.89	119.78	167.46	128.50	107.66
35.00°	85.15	90.08	124.75	92.36	83.61	90.72	121.14	92.56	76.59	91.95	122.79	90.34	77.31	85.86	120.65	88.63	85.15
37.50°	71.36	74.47	91.10	73.92	71.83	69.94	87.78	70.80	65.77	68.11	88.55	66.01	66.18	68.21	88.35	73.40	71.36
40.00°	61.41	61.43	66.09	61.46	61.90	60.59	63.42	57.09	55.21	56.61	62.78	56.85	56.29	56.68	63.59	59.38	61.41
42.50°	53.02	53.06	54.46	52.58	54.25	51.41	51.74	48.56	48.80	47.73	50.80	47.80	49.05	48.76	52.40	51.36	53.02
45.00°	45.37	44.93	44.91	44.74	46.49	44.54	42.40	41.34	42.29	40.75	40.98	40.83	41.68	41.91	42.77	43.65	45.37
47.50°	37.94	37.92	38.00	37.78	38.64	37.65	35.79	34.82	35.01	34.06	34.01	33.98	34.09	34.96	35.40	37.09	37.94
50.00°	30.48	30.95	31.16	31.02	31.41	30.53	29.67	28.86	27.96	27.83	27.83	28.27	27.32	28.00	28.73	30.60	30.48
52.50°	23.00	24.83	24.39	24.74	24.68	23.70	24.03	23.15	22.07	21.64	22.50	22.62	21.69	22.51	22.88	24.30	23.00
55.00°	18.39	18.93	18.82	18.53	19.16	18.69	18.87	18.56	16.72	16.87	17.70	17.33	16.84	17.25	17.88	18.61	18.39
57.50°	14.28	15.05	14.29	14.41	14.45	14.01	14.09	14.35	13.51	12.19	13.39	12.50	12.86	13.41	13.72	14.25	14.28
60.00°	11.17	11.34	10.78	10.48	11.00	10.73	10.47	11.27	10.43	9.63	10.07	9.54	9.73	9.70	10.35	10.43	11.17
62.50°	8.17	8.70	7.99	8.11	8.24	7.79	7.59	8.48	7.73	7.14	7.49	6.92	7.39	7.23	7.62	7.59	8.17
65.00°	6.30	6.33	5.99	5.83	6.43	5.93	5.66	6.28	5.58	5.59	5.46	5.38	5.66	4.86	5.77	5.36	6.30
67.50°	4.55	4.97	4.44	4.50	5.04	4.31	4.19	4.18	4.58	4.20	3.75	4.09	4.39	4.37	4.50	4.01	4.55
70.00°	3.87	3.81	3.48	3.31	4.04	3.18	3.08	3.40	3.58	3.55	2.91	3.28	3.38	3.80	3.29	3.06	3.87
72.50°	3.14	2.99	2.72	2.70	3.15	2.42	2.10	2.68	2.57	2.87	2.33	2.63	2.51	2.89	2.12	2.42	3.14
75.00°	2.25	2.30	2.13	2.16	2.55	1.91	1.47	1.99	2.15	2.16	1.94	2.08	2.16	2.09	1.82	1.82	2.25
77.50°	1.72	1.72	1.59	1.67	1.85	1.51	1.19	1.46	1.70	1.58	1.57	1.55	1.54	1.40	1.42	1.33	1.72
80.00°	1.29	1.30	1.13	1.12	1.09	1.13	1.05	1.09	1.02	1.09	1.15	1.07	0.87	1.20	0.91	1.00	1.29
82.50°	0.83	0.81	0.92	0.83	0.53	0.72	0.76	0.84	0.55	0.77	0.63	0.68	0.58	0.80	0.66	0.72	0.83
85.00°	0.46	0.62	0.62	0.56	0.39	0.43	0.51	0.49	0.41	0.56	0.48	0.46	0.41	0.57	0.66	0.46	0.46
87.50°	0.51	0.43	0.41	0.52	0.41	0.40	0.40	0.39	0.43	0.47	0.47	0.43	0.48	0.32	0.38	0.38	0.51
90.00°	0.29	0.35	0.40	0.38	0.40	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.33	0.38	0.13	0.29
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>	475	475	475	475	464	464	464	464	443	443	443	424	424	424	407	407	399
	<b>1</b>	451	439	428	419	441	430	421	412	414	407	400	399	393	388	386	381	376
	<b>2</b>	427	406	389	375	418	399	384	370	386	373	362	374	364	354	363	354	347
	<b>3</b>	404	377	356	339	396	371	352	336	360	344	331	351	337	325	341	330	324
	<b>4</b>	382	350	327	309	375	346	324	307	337	318	304	329	313	300	321	308	297
	<b>5</b>	362	327	302	284	355	323	300	283	316	296	280	309	292	278	303	288	275
	<b>6</b>	343	306	281	263	337	303	279	262	297	276	260	291	272	258	285	269	265
	<b>7</b>	326	287	262	244	320	284	261	244	279	258	242	274	255	241	270	253	240
	<b>8</b>	309	270	245	228	304	268	244	228	263	242	227	259	240	226	255	238	225
	<b>9</b>	294	255	230	214	290	253	229	213	249	228	213	245	226	212	242	224	211
	<b>10</b>	281	241	217	201	276	239	216	201	236	215	200	233	213	200	230	212	199

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	13.2 fc	5.6 ft
6.5 ft	9.4 fc	6.6 ft
7.5 ft	7.1 fc	7.6 ft
8.0 ft	6.2 fc	8.1 ft
10.0 ft	4.0 fc	10.2 ft
12.0 ft	2.8 fc	12.2 ft
14.0 ft	2.0 fc	14.2 ft
16.0 ft	1.6 fc	16.3 ft
20.0 ft	1.0 fc	20.3 ft
24.0 ft	0.7 fc	24.4 ft
28.0 ft	0.5 fc	28.5 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	167,587	167,587	167,587
<b>45.00°</b>	26,977	26,703	27,646
<b>55.00°</b>	13,484	13,798	14,045
<b>65.00°</b>	6,271	5,960	6,400
<b>75.00°</b>	3,648	3,467	4,138
<b>85.00°</b>	2,213	3,011	1,869

### 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	16.0	17.1	16.4	17.4	17.7	15.4	16.5	15.8	16.8	17.1
	3H	16.3	17.3	16.7	17.6	18.0	15.8	16.7	16.2	17.1	17.4
	4H	16.4	17.3	16.8	17.7	18.1	15.9	16.8	16.3	17.1	17.5
	6H	16.5	17.3	16.9	17.7	18.1	15.9	16.8	16.4	17.1	17.5
	8H	16.5	17.2	16.9	17.6	18.0	15.9	16.7	16.4	17.1	17.5
	12H	16.4	17.2	16.9	17.6	18.0	15.9	16.6	16.3	17.0	17.4
4H	2H	16.0	16.9	16.4	17.2	17.6	15.4	16.3	15.8	16.7	17.0
	3H	16.4	17.2	16.9	17.6	18.0	15.9	16.6	16.3	17.0	17.4
	4H	16.6	17.2	17.0	17.6	18.1	16.1	16.7	16.5	17.1	17.6
	6H	16.7	17.2	17.1	17.7	18.2	16.2	16.7	16.6	17.2	17.6
	8H	16.7	17.2	17.2	17.6	18.1	16.2	16.7	16.6	17.1	17.6
	12H	16.7	17.1	17.2	17.6	18.1	16.1	16.6	16.6	17.1	17.5
8H	4H	16.5	17.0	17.0	17.5	18.0	16.0	16.5	16.5	17.0	17.5
	6H	16.7	17.1	17.2	17.6	18.1	16.2	16.6	16.7	17.1	17.6
	8H	16.7	17.1	17.2	17.6	18.1	16.2	16.5	16.7	17.1	17.5
	12H	16.7	17.0	17.2	17.5	18.1	16.2	16.5	16.7	17.0	17.6
12H	4H	16.5	16.9	17.0	17.4	17.9	16.0	16.4	16.5	16.9	17.4
	6H	16.6	17.0	17.2	17.5	18.0	16.1	16.5	16.7	17.0	17.5
	8H	16.7	17.0	17.2	17.5	18.1	16.2	16.5	16.7	17.0	17.6

Corrected UGR values based on total output lumens

SHR = 1.0