

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

IF03SMx xx 835 007 DLSPGC MW  
Nom 3" Square Infinium recessed downlight

### **Test Number**

SP-00764\_M-007L

### **Test Date**

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

### Summary of Results

#### Power

Input Watts	7.4 W
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#### Lumen Output

Output Lumens	361
Efficacy	48.77 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.4
Two luminaires, plane 90°	0.41
Four luminaires	0.44

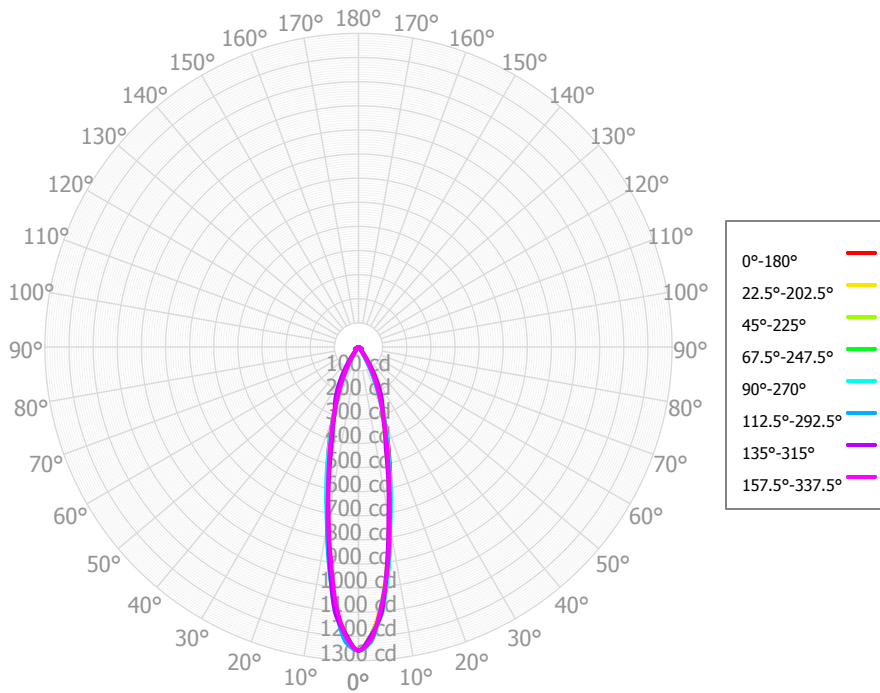
#### Full Beam Angle

0° - 180°	24°
90° - 270°	25°

### IES File Header Contents

Keyword	Value
TEST	SP-00764_M-007L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/11/2019
UPDATE	2/28/2019
LUMCAT	IF03SMx xx 835 007 DLSPGC MW
LUMINAIRE	Nom 3" Square Infinium recessed downlight
OTHER	Beam Angle: 24 degrees
OTHER	Spot optic, Clear glass 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°	92.61	25.66%	90.00° - 100.00°	0.03	0.01%
10.00° - 20.00°	130.14	36.06%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	84.10	23.30%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	24.88	6.89%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	6.66	1.85%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	12.25	3.39%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	7.27	2.01%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	2.11	0.58%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.84	0.23%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	360.87	99.99%	0.00° - 180.00°	360.90	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°	1,258.65	1,258.65	1,258.65	1,258.65	1,258.65	1,258.65	1,258.65	1,258.65	1,258.65	1,258.65	1,258.65	1,258.65	1,258.65	1,258.65	1,258.65	1,258.65	1,258.65
2.50°	1,196.01	1,197.37	1,194.22	1,218.43	1,202.70	1,224.82	1,196.84	1,201.74	1,193.03	1,206.79	1,201.18	1,216.06	1,199.02	1,221.75	1,197.30	1,211.80	1,196.01
5.00°	1,083.60	1,072.95	1,097.01	1,093.23	1,110.76	1,092.43	1,107.19	1,071.34	1,086.26	1,094.01	1,108.22	1,085.42	1,105.55	1,077.58	1,105.32	1,082.39	1,083.60
7.50°	914.54	912.03	906.67	942.46	938.67	926.89	910.95	881.45	894.48	901.49	919.89	907.63	921.56	923.36	906.45	923.52	914.54
10.00°	730.00	730.89	725.18	756.09	757.55	753.22	715.49	720.92	727.47	730.79	720.70	745.73	751.13	748.63	716.12	736.52	730.00
12.50°	608.11	592.43	570.32	598.09	621.09	577.74	571.50	577.23	604.19	581.65	576.55	589.74	621.78	594.58	570.92	586.68	608.11
15.00°	498.44	473.01	437.45	472.65	486.98	459.46	433.48	466.14	490.83	462.01	435.57	468.42	498.61	474.67	439.40	466.12	498.44
17.50°	399.60	380.70	355.79	376.04	395.11	349.79	358.19	370.16	391.99	366.41	359.27	357.07	390.15	373.68	360.29	373.21	399.60
20.00°	302.13	297.76	290.59	306.36	304.42	289.72	288.61	294.06	302.19	291.28	285.33	285.56	293.69	298.29	292.76	297.93	302.13
22.50°	232.99	236.80	256.66	246.30	233.25	234.15	255.64	225.14	223.13	229.66	252.63	222.31	220.11	232.44	259.15	238.38	232.99
25.00°	165.92	181.65	220.10	193.75	163.93	185.60	220.82	172.09	157.86	177.48	218.82	170.37	154.16	177.06	222.13	186.99	165.92
27.50°	117.00	136.27	179.50	143.31	111.84	137.39	177.92	123.54	105.89	130.38	174.18	120.02	99.91	125.87	177.37	141.62	117.00
30.00°	69.22	92.77	138.59	94.20	63.65	93.55	135.45	83.78	66.11	90.16	130.29	78.94	58.30	78.46	133.43	98.75	69.22
32.50°	44.15	60.14	97.31	58.18	39.06	51.25	94.39	45.80	36.19	52.92	91.04	38.62	32.59	45.78	91.01	63.99	44.15
35.00°	20.62	28.85	62.80	28.78	18.39	31.45	58.44	28.86	20.73	31.96	55.28	25.92	17.51	24.13	55.68	31.81	20.62
37.50°	15.01	18.86	35.28	16.08	14.11	13.54	35.48	14.74	14.73	16.45	34.26	14.14	13.44	13.76	30.90	19.55	15.01
40.00°	9.94	10.37	19.25	10.24	10.27	10.72	18.34	11.14	10.86	11.19	17.29	11.42	10.56	10.22	15.35	12.09	9.94
42.50°	8.43	8.71	12.88	7.97	7.77	8.18	12.87	8.39	8.11	8.54	13.19	8.83	8.68	8.05	10.91	9.44	8.43
45.00°	7.07	7.22	9.76	6.81	5.92	6.99	9.31	7.71	6.61	7.48	10.00	7.79	7.24	6.55	8.47	7.62	7.07
47.50°	6.38	7.47	8.85	7.40	5.66	6.56	8.86	7.17	5.65	6.71	9.04	7.08	6.10	6.71	8.00	7.07	6.38
50.00°	6.68	8.00	10.52	8.40	6.69	8.94	10.38	9.54	7.53	8.85	9.90	8.79	7.39	7.53	9.30	6.66	6.68
52.50°	10.37	11.79	13.64	11.07	10.19	11.69	14.53	11.98	10.36	11.32	14.29	10.88	10.07	10.84	12.07	10.68	10.37
55.00°	13.52	15.07	15.17	14.03	13.16	15.45	16.98	15.43	13.70	14.58	17.23	14.75	12.91	14.89	14.67	14.93	13.52
57.50°	15.24	15.00	15.97	14.03	15.29	17.08	17.58	17.99	17.17	17.89	17.84	17.06	15.81	15.12	17.16	15.76	15.24
60.00°	15.24	14.13	13.07	13.73	14.72	13.94	15.12	14.28	14.67	14.60	15.99	13.76	14.37	14.50	14.98	16.31	15.24
62.50°	11.63	9.71	8.88	9.76	10.64	10.45	9.92	10.48	11.10	11.21	10.93	10.38	11.36	10.66	10.27	11.62	11.63
65.00°	8.18	5.93	5.91	5.67	7.24	6.34	6.11	6.26	7.30	6.89	6.78	6.79	7.79	6.32	6.63	7.17	8.18
67.50°	4.97	4.22	3.27	4.23	4.56	3.50	3.29	3.05	3.62	3.17	3.56	4.06	4.08	3.94	3.46	4.61	4.97
70.00°	3.03	3.07	2.37	2.92	3.02	2.19	2.13	2.37	2.76	2.57	2.07	2.78	2.93	1.91	2.23	2.58	3.03
72.50°	2.35	2.82	1.80	2.26	2.21	1.91	1.60	2.02	2.23	2.03	1.45	2.10	2.14	1.85	1.53	2.08	2.35
75.00°	2.32	2.36	1.86	1.98	2.44	2.01	1.79	1.93	2.31	1.55	1.30	1.76	1.92	1.74	1.66	2.14	2.32
77.50°	2.48	1.94	1.87	2.09	2.47	1.75	1.76	1.88	1.94	1.60	1.28	1.42	2.02	1.57	1.78	2.55	2.48
80.00°	2.68	2.06	1.75	1.67	1.81	1.59	1.53	1.52	1.67	1.66	1.25	1.16	1.70	1.24	1.78	2.03	2.68
82.50°	1.91	1.30	1.29	1.03	1.13	1.30	1.09	1.04	1.20	1.23	0.88	0.90	0.82	0.85	1.07	1.31	1.91
85.00°	0.76	0.52	0.46	0.50	0.57	0.76	0.57	0.60	0.53	0.44	0.61	0.50	0.46	0.51	0.71	0.67	0.76
87.50°	0.44	0.50	0.31	0.40	0.50	0.53	0.35	0.41	0.63	0.30	0.42	0.31	0.42	0.35	0.55	0.43	0.44
90.00°	0.58	0.41	0.40	0.34	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.49	0.47	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>	430	430	430	430	420	420	420	420	401	401	401	384	384	384	368	368	361
	<b>1</b>	411	402	394	386	403	394	387	380	380	374	368	366	362	358	354	351	344
	<b>2</b>	394	378	365	354	386	372	360	350	360	350	342	350	342	335	340	333	327
	<b>3</b>	377	357	341	328	370	352	337	325	342	330	320	334	324	315	326	318	312
	<b>4</b>	362	338	321	307	356	334	318	306	327	313	302	320	308	299	313	303	298
	<b>5</b>	348	322	304	290	342	319	302	289	312	298	286	307	294	284	301	290	285
	<b>6</b>	335	307	289	276	330	305	287	275	300	284	273	295	281	271	290	279	274
	<b>7</b>	323	294	276	263	318	292	275	262	288	272	261	284	270	260	280	268	263
	<b>8</b>	311	283	264	252	308	281	263	251	277	261	250	274	260	249	270	258	254
	<b>9</b>	301	272	254	242	297	270	253	242	267	252	241	264	250	240	261	249	245
	<b>10</b>	291	262	245	233	288	261	244	233	258	243	232	255	241	231	253	240	237

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	41.6 fc	2.4 ft
6.5 ft	29.8 fc	2.8 ft
7.5 ft	22.4 fc	3.2 ft
8.0 ft	19.7 fc	3.5 ft
10.0 ft	12.6 fc	4.3 ft
12.0 ft	8.7 fc	5.2 ft
14.0 ft	6.4 fc	6.1 ft
16.0 ft	4.9 fc	6.9 ft
20.0 ft	3.1 fc	8.7 ft
24.0 ft	2.2 fc	10.4 ft
28.0 ft	1.6 fc	12.1 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	529,219	529,219	529,219
<b>45.00°</b>	4,202	5,801	3,517
<b>55.00°</b>	9,907	11,118	9,644
<b>65.00°</b>	8,136	5,879	7,204
<b>75.00°</b>	3,774	3,023	3,970
<b>85.00°</b>	3,684	2,208	2,769

### 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>	16.9	17.9	17.3	18.3	18.6	17.5	18.5	17.8	18.8	19.1
	<b>3H</b>	17.2	18.0	17.5	18.4	18.7	17.6	18.4	17.9	18.8	19.1
	<b>4H</b>	17.2	18.0	17.6	18.4	18.8	17.6	18.4	18.0	18.7	19.1
	<b>6H</b>	17.4	18.2	17.8	18.6	18.9	17.6	18.4	18.1	18.8	19.2
	<b>8H</b>	17.6	18.3	18.0	18.6	19.1	17.6	18.3	18.1	18.7	19.2
	<b>12H</b>	17.6	18.3	18.0	18.6	19.1	17.6	18.3	18.1	18.7	19.1
<b>4H</b>	<b>2H</b>	16.9	17.7	17.3	18.1	18.5	17.4	18.3	17.8	18.6	19.0
	<b>3H</b>	17.2	17.9	17.6	18.3	18.7	17.5	18.2	18.0	18.6	19.0
	<b>4H</b>	17.3	17.9	17.7	18.3	18.8	17.6	18.2	18.0	18.6	19.1
	<b>6H</b>	17.7	18.2	18.1	18.6	19.1	17.7	18.2	18.2	18.7	19.2
	<b>8H</b>	17.8	18.3	18.3	18.8	19.3	17.8	18.2	18.2	18.7	19.2
	<b>12H</b>	17.9	18.3	18.4	18.8	19.3	17.8	18.2	18.2	18.7	19.1
<b>8H</b>	<b>4H</b>	17.2	17.7	17.7	18.1	18.6	17.5	18.0	18.0	18.4	18.9
	<b>6H</b>	17.7	18.1	18.2	18.6	19.1	17.7	18.1	18.2	18.6	19.0
	<b>8H</b>	17.9	18.3	18.5	18.8	19.3	17.8	18.1	18.3	18.6	19.1
	<b>12H</b>	18.1	18.4	18.6	18.9	19.4	17.8	18.1	18.3	18.6	19.2
<b>12H</b>	<b>4H</b>	17.2	17.6	17.7	18.1	18.6	17.4	17.8	17.9	18.3	18.8
	<b>6H</b>	17.7	18.0	18.2	18.5	19.0	17.7	18.0	18.2	18.5	19.0
	<b>8H</b>	18.0	18.3	18.5	18.8	19.3	17.8	18.1	18.3	18.5	19.1

Corrected UGR values based on total output lumens

SHR = 1.0