

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

IF03SMx xx 835 010 DLFLGN MW  
Nom 3" Square Infinium recessed downlight

### **Test Number**

SP-00762\_1\_M-010L

### **Test Date**

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

### Summary of Results

#### Power

Input Watts	9.3 W
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#### Lumen Output

Output Lumens	526
Efficacy	56.56 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°	0.66
Four luminaires	0.7

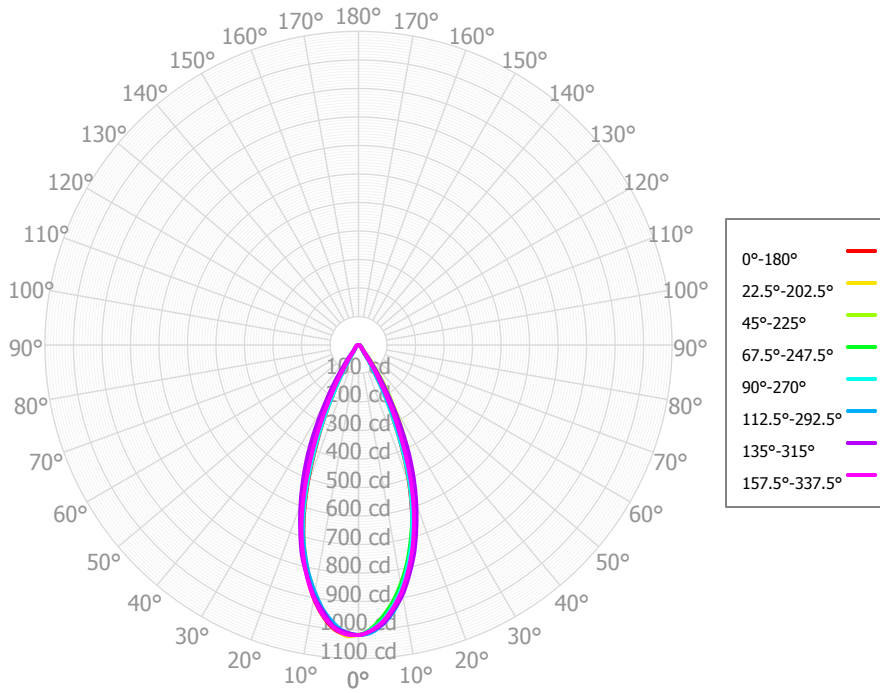
#### Full Beam Angle

0° - 180°	41°
90° - 270°	41°

### IES File Header Contents

Keyword	Value
TEST	SP-00762_1_M-010L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/11/2019
UPDATE	2/28/2019
LUMCAT	IF03SMx xx 835 010 DLFLGN MW
LUMINAIRE	Nom 3" Square Infinium recessed downlight
OTHER	Beam Angle: 41 degrees
OTHER	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°	91.52	17.40%	90.00° - 100.00°	0.05	0.01%
10.00° - 20.00°	200.90	38.19%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	154.88	29.44%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	42.98	8.17%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	13.69	2.60%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	9.32	1.77%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	7.27	1.38%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	4.31	0.82%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.09	0.21%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	525.95	99.99%	0.00° - 180.00°	526.00	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°	1,017.55	1,017.55	1,017.55	1,017.55	1,017.55	1,017.55	1,017.55	1,017.55	1,017.55	1,017.55	1,017.55	1,017.55	1,017.55	1,017.55	1,017.55	1,017.55	1,017.55
2.50°	1,001.76	1,003.48	999.19	997.22	1,000.59	1,011.33	1,009.03	1,016.21	1,017.36	1,021.25	1,010.91	1,010.54	1,008.44	1,010.22	1,004.39	1,003.32	1,001.76
5.00°	972.12	965.13	965.49	958.71	970.40	981.39	992.14	995.78	999.31	991.58	988.39	984.92	986.22	983.42	982.34	974.43	972.12
7.50°	924.98	921.48	916.39	911.43	922.97	939.30	944.88	956.56	958.65	956.24	942.11	946.91	945.17	943.23	938.14	930.26	924.98
10.00°	869.89	861.11	861.30	852.68	866.64	880.61	896.27	901.78	902.79	890.24	885.88	888.87	890.40	885.16	890.02	876.16	869.89
12.50°	798.60	795.51	797.30	785.20	795.54	815.43	831.47	833.79	829.08	821.08	816.27	822.77	821.19	817.91	824.22	808.50	798.60
15.00°	721.58	716.75	730.66	708.31	718.43	737.26	765.26	754.13	741.15	735.97	740.91	743.01	738.93	740.71	755.06	733.67	721.58
17.50°	624.55	631.85	651.07	627.33	625.93	655.21	679.83	666.43	639.44	649.92	659.09	658.97	645.32	653.14	674.35	646.54	624.55
20.00°	522.08	534.83	568.62	542.76	528.53	557.39	594.08	561.38	524.69	538.38	573.88	553.66	533.76	556.14	592.15	554.19	522.08
22.50°	409.92	435.74	487.78	446.93	413.86	455.97	505.91	446.56	399.49	427.20	485.57	443.45	409.36	447.78	506.06	451.01	409.92
25.00°	295.83	333.39	407.19	342.85	295.05	349.46	416.48	340.31	289.24	322.22	391.00	332.87	293.63	331.04	415.49	344.29	295.83
27.50°	205.50	241.28	323.21	248.14	199.61	242.17	320.59	237.95	188.67	220.58	291.79	222.24	182.88	229.52	315.73	251.52	205.50
30.00°	118.24	162.65	238.93	158.97	108.04	161.84	230.01	160.25	117.58	147.42	208.53	144.90	111.47	137.07	224.79	162.31	118.24
32.50°	75.18	100.87	171.49	97.63	67.63	83.94	158.74	91.25	62.06	81.11	135.14	70.93	58.40	81.52	148.72	102.88	75.18
35.00°	35.27	57.15	105.05	49.40	32.53	55.29	96.25	56.78	37.65	51.75	85.42	48.90	36.66	44.09	88.72	48.76	35.27
37.50°	27.35	32.23	67.47	30.39	25.90	28.90	58.80	31.67	26.44	27.47	47.40	29.19	26.52	28.83	50.56	33.15	27.35
40.00°	20.20	23.70	31.88	22.52	20.67	24.05	30.69	24.58	21.91	23.41	30.79	24.54	21.49	22.10	27.43	21.81	20.20
42.50°	17.95	18.74	24.63	19.39	18.16	19.36	23.27	21.07	19.58	19.94	22.49	20.03	17.89	18.77	20.90	18.69	17.95
45.00°	15.75	16.39	17.97	17.62	15.71	17.14	17.71	18.64	17.70	18.21	18.55	17.84	16.33	16.44	16.58	16.05	15.75
47.50°	14.01	14.74	15.91	15.52	14.43	15.03	15.43	16.36	15.93	16.42	15.95	15.69	15.20	14.62	14.32	14.19	14.01
50.00°	12.33	13.50	13.80	13.35	13.14	13.83	13.41	14.12	14.11	14.45	13.43	13.88	13.67	12.91	12.47	12.32	12.33
52.50°	11.07	11.94	11.39	11.51	11.70	12.53	11.77	11.88	12.27	12.70	10.93	12.19	12.10	11.69	10.95	10.12	11.07
55.00°	9.76	10.22	9.32	9.71	10.26	10.71	10.30	10.67	10.65	11.34	10.06	11.15	11.02	10.54	9.80	8.10	9.76
57.50°	8.19	8.96	8.50	8.94	8.85	9.12	9.05	9.50	9.04	10.08	9.44	10.12	9.99	9.10	8.89	7.84	8.19
60.00°	6.98	7.88	7.92	8.25	7.69	8.37	8.35	8.82	7.99	8.98	9.04	9.10	8.72	7.62	7.88	7.53	6.98
62.50°	6.96	7.44	8.04	7.87	7.57	7.73	8.21	8.21	6.98	8.24	8.67	8.18	7.49	7.11	6.81	6.91	6.96
65.00°	6.90	7.20	7.96	7.50	7.41	7.40	7.78	8.27	7.26	7.96	7.85	7.53	7.57	6.63	6.45	6.40	6.90
67.50°	6.68	7.06	7.47	7.06	7.13	7.11	7.13	8.04	7.39	7.56	6.98	6.66	7.46	6.25	6.37	6.36	6.68
70.00°	6.08	6.95	6.95	6.56	6.40	6.92	6.44	6.58	6.57	7.05	5.92	5.43	6.38	5.80	5.50	5.91	6.08
72.50°	4.91	5.82	6.37	5.77	4.94	5.68	5.70	5.05	5.23	5.54	4.78	4.36	5.19	5.03	4.52	4.67	4.91
75.00°	4.21	4.76	5.53	4.71	3.85	3.79	4.46	3.45	3.22	3.85	3.56	3.35	3.88	3.99	4.09	4.10	4.21
77.50°	3.62	3.84	4.56	3.36	2.97	2.85	3.14	2.20	2.23	2.24	2.20	2.05	2.51	2.75	3.20	3.65	3.62
80.00°	2.49	2.55	3.55	2.54	2.23	1.86	1.95	1.51	1.52	1.15	1.39	1.44	1.57	1.58	2.04	2.23	2.49
82.50°	1.75	1.64	2.23	1.61	1.40	1.22	1.35	1.07	0.98	0.76	0.90	0.94	0.89	1.12	1.54	1.43	1.75
85.00°	0.96	1.17	1.19	0.84	0.73	0.97	1.03	0.63	0.69	0.68	0.73	0.64	0.71	0.84	1.00	0.98	0.96
87.50°	0.66	0.85	0.63	0.67	0.65	0.67	0.66	0.63	0.56	0.78	0.61	0.66	0.59	0.66	0.72	0.55	0.66
90.00°	0.69	0.61	0.59	0.82	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80	0.76	0.81	0.69
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>	626	626	626	626	612	612	612	612	584	584	584	560	560	560	537	537	526
	<b>1</b>	599	585	572	561	586	573	562	552	552	543	535	533	526	519	515	509	499
	<b>2</b>	572	548	528	512	561	539	521	506	522	508	495	507	495	484	492	483	473
	<b>3</b>	547	516	492	473	537	509	487	469	495	477	461	483	467	454	471	458	449
	<b>4</b>	523	487	461	441	514	481	457	438	470	450	433	460	442	428	451	436	428
	<b>5</b>	501	462	434	414	493	457	431	412	448	426	408	439	420	405	432	415	408
	<b>6</b>	481	439	411	391	474	435	408	389	427	404	387	420	400	384	414	396	389
	<b>7</b>	461	418	390	370	455	415	388	369	408	385	367	402	381	365	397	378	372
	<b>8</b>	443	399	371	352	438	396	370	351	391	367	350	386	364	348	381	362	356
	<b>9</b>	426	382	354	336	421	379	353	335	375	351	334	370	348	333	366	346	341
	<b>10</b>	411	366	339	321	406	363	338	320	359	336	319	356	334	319	352	332	327

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	33.6 fc	4.1 ft
6.5 ft	24.1 fc	4.8 ft
7.5 ft	18.1 fc	5.6 ft
8.0 ft	15.9 fc	5.9 ft
10.0 ft	10.2 fc	7.4 ft
12.0 ft	7.1 fc	8.9 ft
14.0 ft	5.2 fc	10.4 ft
16.0 ft	4.0 fc	11.9 ft
20.0 ft	2.5 fc	14.8 ft
24.0 ft	1.8 fc	17.8 ft
28.0 ft	1.3 fc	20.7 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	427,843	427,843	427,843
<b>45.00°</b>	9,365	10,687	9,344
<b>55.00°</b>	7,156	6,835	7,523
<b>65.00°</b>	6,861	7,921	7,372
<b>75.00°</b>	6,847	8,982	6,250
<b>85.00°</b>	4,646	5,764	3,526

### 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>	11.4	12.4	11.8	12.7	13.0	12.3	13.3	12.7	13.6	14.0
	<b>3H</b>	13.9	14.8	14.3	15.1	15.5	14.5	15.3	14.9	15.7	16.0
	<b>4H</b>	14.7	15.5	15.1	15.9	16.3	15.1	15.9	15.5	16.2	16.6
	<b>6H</b>	15.3	16.1	15.8	16.4	16.8	15.3	16.1	15.8	16.4	16.8
	<b>8H</b>	15.5	16.2	15.9	16.6	17.0	15.4	16.1	15.8	16.5	16.9
	<b>12H</b>	15.6	16.2	16.0	16.6	17.0	15.4	16.0	15.8	16.4	16.9
<b>4H</b>	<b>2H</b>	12.2	13.0	12.6	13.3	13.7	13.0	13.8	13.4	14.2	14.5
	<b>3H</b>	14.8	15.5	15.3	15.9	16.3	15.3	15.9	15.7	16.3	16.8
	<b>4H</b>	15.8	16.4	16.2	16.8	17.3	15.9	16.5	16.3	16.9	17.4
	<b>6H</b>	16.5	17.0	17.0	17.4	17.9	16.2	16.7	16.7	17.2	17.7
	<b>8H</b>	16.7	17.1	17.1	17.6	18.1	16.3	16.8	16.8	17.2	17.7
	<b>12H</b>	16.8	17.2	17.3	17.7	18.1	16.3	16.7	16.8	17.2	17.7
<b>8H</b>	<b>4H</b>	16.2	16.6	16.6	17.1	17.6	16.1	16.6	16.6	17.0	17.5
	<b>6H</b>	17.0	17.3	17.5	17.8	18.3	16.5	16.8	17.0	17.3	17.8
	<b>8H</b>	17.2	17.5	17.7	18.0	18.5	16.6	16.9	17.1	17.4	17.9
	<b>12H</b>	17.4	17.6	17.9	18.1	18.7	16.7	16.9	17.2	17.4	18.0
<b>12H</b>	<b>4H</b>	16.2	16.6	16.6	17.0	17.5	16.0	16.4	16.5	16.9	17.4
	<b>6H</b>	17.0	17.3	17.5	17.8	18.4	16.4	16.8	17.0	17.2	17.8
	<b>8H</b>	17.3	17.6	17.8	18.1	18.6	16.6	16.9	17.1	17.4	17.9

Corrected UGR values based on total output lumens

SHR = 1.0