

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

IF03SMx xx DWDD1015 DLWFGP WWLWMW

Nom 3" square recessed Infinium wall wash luminaire with 15L 27HK dim to warm emitter

### **Test Number**

SP-00950\_M-15L

### **Test Date**

11/6/2019

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

### Summary of Results

#### Power

Input Watts	17.2 W
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#### Lumen Output

Output Lumens	541
Efficacy	31.47 lm/W

#### Luminous Dimensions

0° - 180° Size	0.13
90° - 270° Size	0.13
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	1.53
Two luminaires, plane 90°	0.71
Four luminaires	1.09

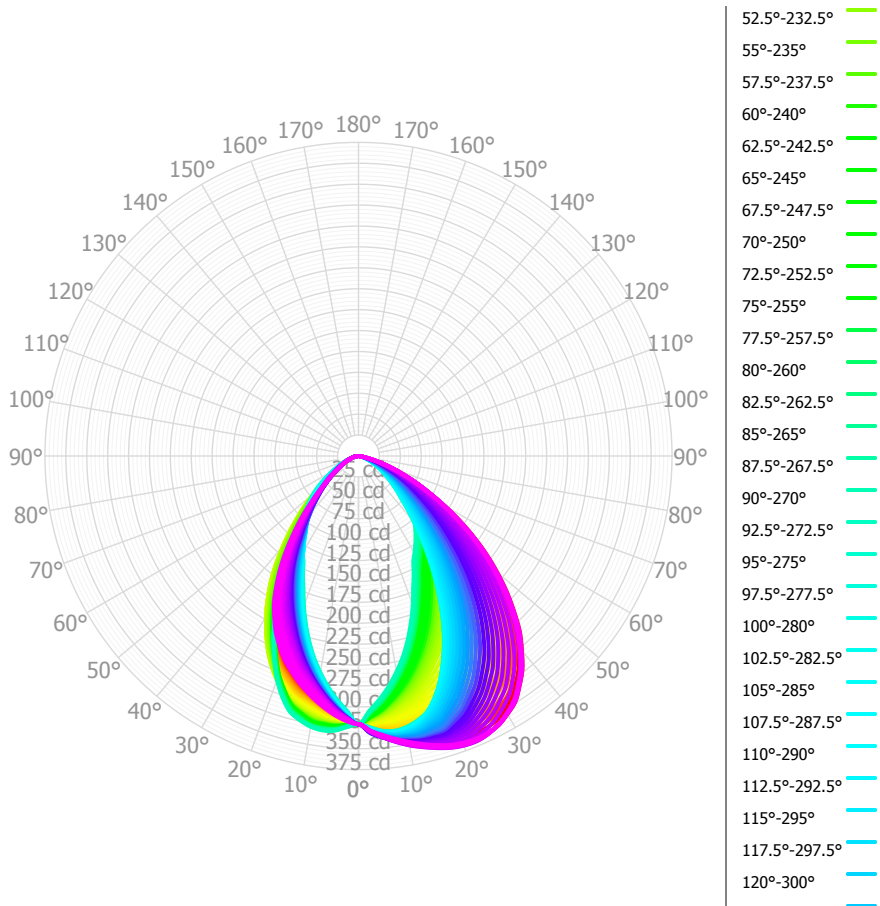
#### Full Beam Angle

0° - 180°	86°
90° - 270°	51°

### IES File Header Contents

Keyword	Value
TEST	SP-00950_M-15L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/6/2019
ISSUEDATE	11/25/2019
LUMCAT	IF03SMx xx DWDD1015 DLWFGP WWLWMW
LUMINAIRE	Nom 3" square recessed Infinium wall wash luminaire with 15L 27HK dim to warm emitter
OTHER	Wide Flood Optic
OTHER	Beam Angle: 86 deg x 128 deg
LAMPCAT	N/A
LAMP	N/A
OTHER	CCT Output Multipliers: N/A, dim to warm emitter
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	30.51	5.64%	90.00° - 100.00°	0.06	0.01%
10.00° - 20.00°	82.77	15.29%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	113.49	20.97%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	115.16	21.27%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	92.97	17.17%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	61.79	11.41%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	32.03	5.92%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	10.82	2.00%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.79	0.33%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	541.32	100.00%	0.00° - 180.00°	541.32	100.00%

	0.00°	2.50°	5.00°	7.50°	10.00°	12.50°	15.00°	17.50°	20.00°	22.50°	25.00°	27.50°	30.00°	32.50°	35.00°	37.50°	40.00°	42.50°	45.00°	47.50°	50.00°
0.00°	320.75	320.75	320.75	320.75	320.75	320.75	320.75	320.75	320.75	320.75	320.75	320.75	320.75	320.75	320.75	320.75	320.75	320.75	320.75	320.75	320.75
2.50°	328.99	328.27	327.55	326.83	326.11	325.38	324.66	323.94	323.22	322.50	321.86	321.22	320.58	319.94	319.30	318.66	318.02	317.38	316.74	316.15	315.56
5.00°	334.82	333.61	332.41	331.21	330.00	328.80	327.60	326.39	325.19	323.99	322.66	321.34	320.01	318.69	317.36	316.04	314.71	313.39	312.06	311.07	310.08
7.50°	340.97	339.39	337.81	336.22	334.64	333.06	331.48	329.89	328.31	326.73	324.53	322.34	320.15	317.95	315.76	313.57	311.37	309.18	306.99	305.23	303.47
10.00°	346.87	344.79	342.70	340.62	338.53	336.44	334.36	332.27	330.19	328.10	325.03	321.97	318.90	315.83	312.76	309.69	306.62	303.56	300.49	298.06	295.63
12.50°	352.57	349.85	347.12	344.40	341.67	338.95	336.22	333.50	330.77	328.05	324.24	320.43	316.62	312.82	309.01	305.20	301.39	297.58	293.77	290.53	287.28
15.00°	357.63	354.34	351.04	347.75	344.46	341.17	337.88	334.59	331.30	328.01	323.17	318.34	313.50	308.67	303.83	299.00	294.16	289.33	284.49	280.65	276.80
17.50°	362.29	358.48	354.67	350.85	347.04	343.23	339.41	335.60	331.79	327.97	322.09	316.20	310.32	304.44	298.55	292.67	286.78	280.90	275.01	270.46	265.90
20.00°	364.82	360.46	356.10	351.74	347.39	343.03	338.67	334.31	329.95	325.59	318.76	311.93	305.11	298.28	291.45	284.63	277.80	270.98	264.15	259.01	253.87
22.50°	366.40	361.44	356.47	351.51	346.54	341.58	336.61	331.65	326.68	321.72	314.10	306.47	298.85	291.22	283.60	275.97	268.35	260.72	253.10	247.35	241.60
25.00°	365.14	359.61	354.09	348.57	343.05	337.53	332.00	326.48	320.96	315.44	306.97	298.51	290.05	281.58	273.12	264.66	256.20	247.73	239.27	233.27	227.27
27.50°	362.92	356.82	350.72	344.62	338.52	332.42	326.32	320.22	314.11	308.01	298.80	289.59	280.38	271.17	261.96	252.74	243.53	234.32	225.11	218.95	212.78
30.00°	356.41	349.91	343.41	336.91	330.40	323.90	317.40	310.90	304.40	297.90	287.96	278.03	268.10	258.16	248.23	238.30	228.36	218.43	208.49	202.76	197.02
32.50°	348.93	342.03	335.14	328.24	321.35	314.45	307.55	300.66	293.76	286.87	276.33	265.79	255.25	244.72	234.18	223.64	213.11	202.57	192.03	187.01	181.98
35.00°	335.90	328.96	322.03	315.10	308.17	301.24	294.31	287.38	280.45	273.52	262.71	251.90	241.09	230.28	219.47	208.66	197.86	187.05	176.24	172.02	167.80
37.50°	322.12	315.17	308.23	301.28	294.34	287.39	280.44	273.50	266.55	259.60	248.67	237.73	226.79	215.85	204.91	193.97	183.03	172.09	161.15	157.78	154.47
40.00°	304.14	297.28	290.43	283.57	276.72	269.86	263.01	256.15	249.30	242.44	231.97	221.49	211.01	200.54	190.06	179.58	169.11	158.63	148.16	145.29	142.42
42.50°	285.86	279.07	272.29	265.50	258.72	251.93	245.15	238.37	231.58	224.80	214.88	204.97	195.05	185.14	175.22	165.31	155.39	145.48	135.57	133.09	130.67
45.00°	263.30	256.89	250.49	244.08	237.67	231.26	224.86	218.45	212.04	205.63	196.55	187.46	178.38	169.30	160.21	151.13	142.04	132.96	123.87	121.68	119.50
47.50°	240.64	234.61	228.58	222.55	216.52	210.49	204.46	198.43	192.40	186.37	178.10	169.84	161.57	153.31	145.04	136.78	128.51	120.24	111.98	110.11	108.24
50.00°	216.69	211.11	205.53	199.95	194.37	188.80	183.22	177.64	172.06	166.48	159.06	151.65	144.24	136.82	129.41	122.00	114.58	107.17	99.76	98.16	96.57
52.50°	192.61	187.50	182.39	177.28	172.16	167.05	161.94	156.82	151.71	146.60	140.12	133.64	127.17	120.69	114.21	107.74	101.26	94.78	88.31	86.88	85.45
55.00°	167.69	163.17	158.65	154.13	149.61	145.09	140.56	136.04	131.52	127.00	121.54	116.07	110.61	105.15	99.68	94.22	88.75	83.29	77.82	76.43	75.04
57.50°	142.87	138.94	135.02	131.10	127.18	123.26	119.34	115.42	111.50	107.58	103.11	98.65	94.18	89.72	85.25	80.79	76.32	71.86	67.39	66.02	64.65
60.00°	118.44	115.21	111.98	108.74	105.51	102.28	99.04	95.81	92.58	89.34	85.75	82.16	78.56	74.97	71.38	67.79	64.19	60.60	57.01	55.80	54.59
62.50°	95.53	92.91	90.29	87.67	85.05	82.42	79.80	77.18	74.56	71.94	69.14	66.33	63.52	60.72	57.91	55.10	52.30	49.49	46.68	45.64	44.60
65.00°	76.80	74.73	72.66	70.59	68.52	66.45	64.38	62.31	60.24	58.17	55.75	53.33	50.92	48.50	46.08	43.66	41.25	38.83	36.41	35.77	35.13
67.50°	59.59	57.97	56.35	54.73	53.10	51.48	49.86	48.24	46.62	45.00	43.09	41.18	39.27	37.36	35.45	33.54	31.63	29.72	27.81	27.40	27.00
70.00°	44.77	43.48	42.19	40.90	39.61	38.32	37.03	35.74	34.45	33.16	31.70	30.24	28.79	27.33	25.87	24.41	22.95	21.49	20.04	19.82	19.61
72.50°	31.30	30.36	29.41	28.47	27.53	26.58	25.64	24.70	23.75	22.81	21.95	21.08	20.22	19.35	18.49	17.62	16.76	15.89	15.03	14.81	14.58
75.00°	18.84	18.26	17.68	17.11	16.53	15.95	15.38	14.80	14.22	13.65	13.30	12.96	12.62	12.28	11.94	11.60	11.26	10.92	10.58	10.43	10.29
77.50°	8.74	8.59	8.44	8.30	8.15	8.00	7.85	7.71	7.56	7.41	7.33	7.25	7.17	7.09	7.01	6.93	6.85	6.77	6.69	6.56	6.44
80.00°	3.40	3.38	3.36	3.35	3.33	3.31	3.29	3.28	3.26	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.19	3.14
82.50°	1.19	1.21	1.23	1.25	1.27	1.29	1.31	1.33	1.36	1.38	1.39	1.41	1.43	1.45	1.47	1.48	1.50	1.52	1.54	1.52	1.51
85.00°	0.78	0.81	0.84	0.88	0.91	0.94	0.98	1.01	1.04	1.08	1.06	1.04	1.02	1.01	0.99	0.97	0.96	0.94	0.92	0.94	0.96
87.50°	1.03	1.02	1.01	1.00	0.99	0.98	0.97	0.96	0.95	0.94	0.95	0.96	0.96	0.97	0.98	0.99	1.00	1.01	1.02	1.01	1.01
90.00°	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	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>	644	644	644	644	629	629	629	629	602	602	602	576	576	576	552	552	541
	<b>1</b>	603	582	564	548	588	570	554	539	548	535	523	527	517	507	508	492	490
	<b>2</b>	559	523	494	469	546	514	487	464	495	473	453	478	460	443	463	447	438
	<b>3</b>	519	472	435	407	506	464	430	403	448	420	396	434	410	390	421	401	392
	<b>4</b>	482	427	387	357	470	420	383	354	408	375	350	396	368	345	385	361	353
	<b>5</b>	448	389	347	316	438	383	344	315	372	338	312	362	332	309	353	327	320
	<b>6</b>	418	355	313	283	409	351	311	282	341	306	280	333	302	278	325	297	291
	<b>7</b>	391	326	285	256	382	322	283	255	315	279	253	307	275	251	300	272	267
	<b>8</b>	366	301	260	232	359	298	259	232	291	256	230	285	253	229	279	250	245
	<b>9</b>	344	279	239	212	337	276	238	212	270	236	211	265	233	210	260	231	227
	<b>10</b>	325	260	221	195	318	257	220	195	252	218	194	247	216	194	243	214	210

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	10.6 fc	10.9 ft
6.5 ft	7.6 fc	12.9 ft
7.5 ft	5.7 fc	14.9 ft
8.0 ft	5.0 fc	15.8 ft
10.0 ft	3.2 fc	19.8 ft
12.0 ft	2.2 fc	23.8 ft
14.0 ft	1.6 fc	27.7 ft
16.0 ft	1.3 fc	31.7 ft
20.0 ft	0.8 fc	39.6 ft
24.0 ft	0.6 fc	47.5 ft
28.0 ft	0.4 fc	55.4 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	204,294	204,294	204,294
<b>45.00°</b>	237,166	111,576	80,154
<b>55.00°</b>	186,209	86,419	58,068
<b>65.00°</b>	115,749	54,872	35,046
<b>75.00°</b>	46,361	26,024	15,391
<b>85.00°</b>	5,688	6,752	6,454

### 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>	31.1	32.4	31.4	32.8	33.1	22.5	23.9	22.9	24.2	24.5
	<b>3H</b>	31.8	33.1	32.2	33.4	33.8	23.3	24.6	23.7	24.9	25.3
	<b>4H</b>	31.9	33.1	32.3	33.4	33.8	23.5	24.7	23.9	25.0	25.4
	<b>6H</b>	31.9	32.9	32.3	33.3	33.7	23.6	24.7	24.0	25.0	25.4
	<b>8H</b>	31.8	32.8	32.3	33.2	33.6	23.6	24.6	24.0	25.0	25.4
	<b>12H</b>	31.8	32.8	32.2	33.1	33.6	23.6	24.6	24.0	24.9	25.4
<b>4H</b>	<b>2H</b>	31.0	32.1	31.4	32.5	32.9	22.8	23.9	23.2	24.3	24.7
	<b>3H</b>	31.9	32.8	32.3	33.2	33.6	23.8	24.7	24.2	25.1	25.5
	<b>4H</b>	32.0	32.8	32.4	33.3	33.7	24.1	24.9	24.5	25.4	25.8
	<b>6H</b>	32.0	32.7	32.4	33.1	33.6	24.3	25.0	24.7	25.4	25.9
	<b>8H</b>	31.9	32.6	32.4	33.0	33.5	24.3	24.9	24.7	25.4	25.9
	<b>12H</b>	31.9	32.5	32.4	33.0	33.4	24.3	24.9	24.8	25.4	25.8
<b>8H</b>	<b>4H</b>	31.9	32.6	32.4	33.0	33.5	24.2	24.9	24.7	25.3	25.8
	<b>6H</b>	31.9	32.4	32.4	32.9	33.4	24.4	25.0	24.9	25.5	26.0
	<b>8H</b>	31.8	32.3	32.3	32.8	33.3	24.5	25.0	25.0	25.5	26.0
	<b>12H</b>	31.8	32.2	32.3	32.7	33.3	24.5	25.0	25.0	25.5	26.0
<b>12H</b>	<b>4H</b>	31.9	32.5	32.3	32.9	33.4	24.2	24.8	24.7	25.3	25.7
	<b>6H</b>	31.8	32.3	32.3	32.8	33.3	24.4	24.9	25.0	25.4	26.0
	<b>8H</b>	31.8	32.2	32.3	32.7	33.3	24.5	25.0	25.0	25.5	26.0

Corrected UGR values based on total output lumens

SHR = 1.0