

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

IF03RMx xx DWDD1015 DLNFGPMW

Nom 3" diam Infinium, dim to warm 15L emitter - Narrow flood optic, No lens

### **Test Number**

SP-00942\_2\_M-15L

### **Test Date**

5/1/2019

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	1030
Efficacy	59.91 lm/W

#### Luminous Dimensions

0° - 180° Size	-0.22
90° - 270° Size	-0.22
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	0.43
Two luminaires, plane 90°	0.43
Four luminaires	0.45

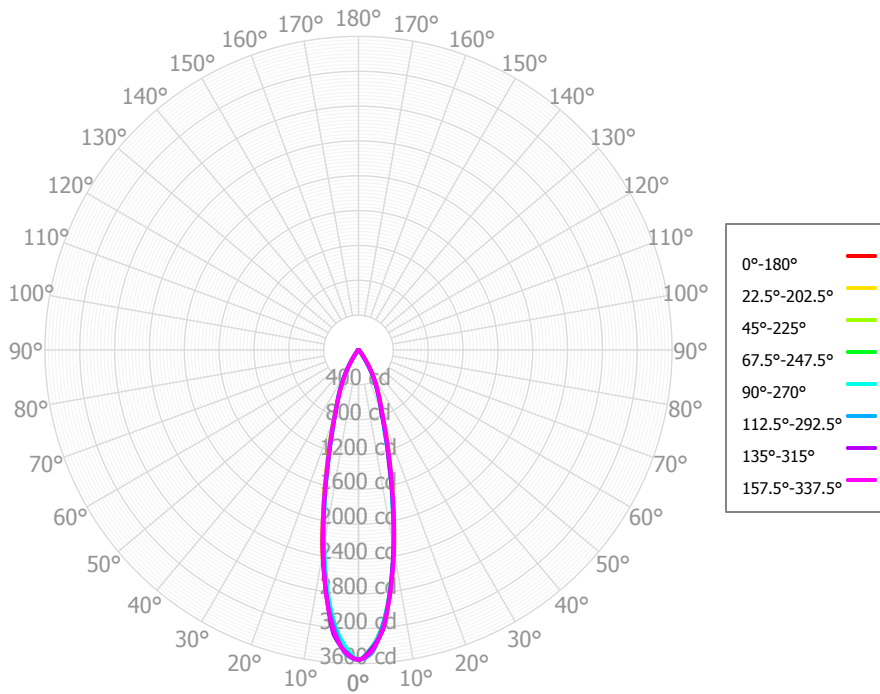
#### Full Beam Angle

0° - 180°	26°
90° - 270°	25°

### IES File Header Contents

Keyword	Value
TEST	SP-00942_2_M-15L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	5/1/2019
ISSUEDATE	11/14/2019
LUMCAT	IF03RMx xx DWDD1015 DLNFGPMW
LUMINAIRE	Nom 3" diam Infinium, dim to warm 15L emitter - Narrow flood optic, No lens
OTHER	Beam Angle: 25.9 degrees
LAMPCAT	N/A
LAMP	N/A
OTHER	CCT Output Multipliers: N/A - dim to warm
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°	278.65	27.04%	90.00° - 100.00°	0.07	0.01%
10.00° - 20.00°	385.79	37.44%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	231.31	22.45%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	81.20	7.88%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	20.04	1.94%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	13.76	1.33%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	11.74	1.14%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	6.42	0.62%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.47	0.14%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1,030.37	99.99%	0.00° - 180.00°	1,030.44	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°	3,556.55	3,556.55	3,556.55	3,556.55	3,556.55	3,556.55	3,556.55	3,556.55	3,556.55	3,556.55	3,556.55	3,556.55	3,556.55	3,556.55	3,556.55	3,556.55	3,556.55
2.50°	3,442.77	3,448.00	3,415.39	3,428.00	3,422.77	3,489.82	3,464.57	3,480.51	3,461.66	3,444.81	3,415.34	3,428.41	3,410.65	3,484.81	3,432.25	3,465.16	3,442.77
5.00°	3,220.65	3,211.71	3,227.26	3,173.95	3,197.31	3,191.21	3,279.19	3,237.76	3,258.68	3,198.40	3,226.37	3,157.41	3,166.76	3,174.41	3,224.80	3,210.43	3,220.65
7.50°	2,797.85	2,805.68	2,775.80	2,781.53	2,777.45	2,834.25	2,824.28	2,845.65	2,829.89	2,806.34	2,776.89	2,771.95	2,755.38	2,801.55	2,783.23	2,805.05	2,797.85
10.00°	2,326.13	2,356.78	2,322.67	2,322.19	2,318.98	2,303.35	2,355.27	2,330.40	2,376.53	2,326.20	2,325.01	2,279.80	2,269.72	2,312.98	2,311.01	2,346.54	2,326.13
12.50°	1,858.81	1,860.32	1,842.41	1,814.31	1,803.66	1,799.19	1,834.17	1,841.72	1,863.94	1,856.14	1,842.61	1,810.48	1,801.77	1,802.75	1,831.83	1,844.42	1,858.81
15.00°	1,392.36	1,437.05	1,377.85	1,397.22	1,367.17	1,362.18	1,361.82	1,372.14	1,408.41	1,391.43	1,378.38	1,359.76	1,340.61	1,396.37	1,352.03	1,425.36	1,392.36
17.50°	1,087.17	1,084.79	1,076.54	1,038.26	1,031.85	997.75	1,041.37	1,037.14	1,070.45	1,062.34	1,072.41	1,029.62	1,032.43	1,004.69	1,055.12	1,066.66	1,087.17
20.00°	806.59	832.96	794.63	803.47	783.17	788.77	769.13	787.57	794.95	795.10	787.97	785.11	773.51	802.67	767.55	823.68	806.59
22.50°	660.15	666.25	653.24	637.56	632.99	611.93	622.99	616.47	632.07	620.70	639.59	617.70	624.62	619.49	636.49	653.84	660.15
25.00°	528.99	529.98	516.44	509.46	500.28	495.23	486.84	488.52	487.06	482.99	496.99	498.59	505.60	511.02	508.78	524.03	528.99
27.50°	417.69	416.55	404.61	399.72	384.93	379.42	372.96	370.92	369.96	366.97	383.23	385.51	395.01	407.34	406.03	416.46	417.69
30.00°	307.86	310.38	296.16	292.19	276.71	265.07	266.33	258.22	264.10	258.16	274.59	275.70	286.26	301.14	303.68	312.57	307.86
32.50°	216.63	208.96	202.58	185.59	174.66	170.72	173.78	173.30	173.51	177.23	186.38	187.67	195.92	195.01	209.84	210.44	216.63
35.00°	126.07	136.27	120.39	120.40	106.83	104.50	101.58	99.77	106.06	104.15	109.92	109.80	108.73	128.75	120.17	138.31	126.07
37.50°	85.10	80.12	78.96	70.00	65.31	59.12	63.47	62.60	66.44	68.52	71.99	68.29	71.32	64.27	79.38	78.44	85.10
40.00°	45.23	50.24	45.01	47.44	41.83	39.64	37.34	38.03	40.68	41.45	41.41	41.50	40.46	45.96	41.94	49.58	45.23
42.50°	33.87	33.40	33.25	33.17	30.43	27.46	28.89	28.17	29.51	30.90	31.37	30.18	30.44	28.62	31.92	31.61	33.87
45.00°	23.07	25.60	23.81	26.56	24.02	23.21	22.75	22.56	22.52	23.33	23.53	24.13	22.29	23.97	22.92	24.20	23.07
47.50°	20.89	21.71	20.25	21.81	20.52	19.58	19.56	20.03	19.42	19.87	20.85	20.69	19.38	19.58	20.08	19.87	20.89
50.00°	18.85	19.22	17.51	18.52	18.01	16.54	16.91	18.25	17.18	16.98	18.62	18.01	16.73	17.49	17.37	17.66	18.85
52.50°	18.20	17.25	16.53	15.53	16.02	14.82	14.86	15.99	15.65	15.98	17.32	15.99	16.22	15.57	15.26	15.94	18.20
55.00°	17.54	16.72	15.71	15.52	14.99	14.21	14.04	13.63	14.42	15.16	16.01	14.13	15.74	14.64	13.74	14.98	17.54
57.50°	16.74	16.63	15.18	15.98	14.39	13.72	14.44	12.70	13.42	14.41	14.67	13.75	14.04	13.86	14.54	14.16	16.74
60.00°	15.89	16.17	14.64	15.14	13.76	13.31	13.60	11.98	12.41	13.66	13.46	13.65	12.41	13.83	14.76	14.03	15.89
62.50°	14.73	15.61	14.08	14.16	13.14	12.31	11.70	10.76	11.40	12.13	12.47	12.90	12.19	13.55	13.14	14.00	14.73
65.00°	13.63	14.57	13.41	12.61	12.31	10.91	10.63	9.48	10.16	10.62	11.50	12.06	11.86	12.21	11.69	13.32	13.63
67.50°	12.81	13.43	12.58	11.02	11.43	9.54	10.13	8.33	8.81	9.77	10.57	10.66	10.75	10.75	10.65	12.57	12.81
70.00°	11.86	11.70	11.16	9.12	9.54	8.18	7.89	7.26	7.26	8.98	8.60	9.26	9.51	8.92	9.36	10.65	11.86
72.50°	10.58	9.89	9.10	7.37	7.47	6.88	5.39	6.47	5.96	8.32	6.15	7.94	8.00	7.22	7.65	8.73	10.58
75.00°	8.52	8.11	7.31	6.18	5.67	5.53	4.80	5.05	5.55	6.43	5.13	6.14	6.20	5.66	6.28	7.10	8.52
77.50°	5.72	6.20	5.62	4.25	4.00	4.09	3.33	3.41	3.58	4.32	3.76	4.07	4.20	4.01	5.09	5.41	5.72
80.00°	3.85	4.16	3.98	2.07	2.48	1.93	1.85	2.15	1.95	2.72	2.53	2.28	2.09	2.46	3.33	3.67	3.85
82.50°	2.09	2.28	1.99	1.13	1.50	0.97	1.22	1.24	1.56	1.40	1.64	1.22	1.17	1.19	1.99	1.75	2.09
85.00°	1.02	1.50	1.11	0.98	1.29	0.87	1.08	0.92	1.05	1.05	0.99	1.36	1.09	0.72	1.22	1.00	1.02
87.50°	1.06	1.09	1.19	1.07	1.16	1.13	1.22	1.08	1.15	1.16	1.17	1.15	1.59	1.22	1.40	1.22	1.06
90.00°	1.20	0.92	0.98	0.85	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	1.00	1.09	1.20
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%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	1,227	1,227	1,227	1,227	1,198	1,198	1,198	1,198	1,145	1,145	1,145	1,096	1,096	1,096	1,051	1,051	1,051
	1	1,177	1,152	1,129	1,109	1,152	1,130	1,110	1,091	1,089	1,073	1,058	1,051	1,038	1,026	1,015	1,006	997
	2	1,130	1,086	1,051	1,021	1,108	1,069	1,037	1,009	1,036	1,010	987	1,006	985	966	978	961	946
	3	1,085	1,029	986	952	1,066	1,016	976	944	989	956	929	965	938	915	943	920	901
	4	1,044	979	932	895	1,027	968	924	890	947	909	880	927	896	870	909	882	860
	5	1,006	935	885	848	990	925	879	845	908	868	837	892	857	830	877	847	823
	6	969	894	844	808	956	887	840	805	872	831	800	859	823	795	847	815	790
	7	936	858	808	772	924	852	804	770	840	797	767	828	791	763	818	785	759
	8	904	825	775	741	893	820	772	739	809	767	736	800	762	734	791	757	731
	9	875	794	745	712	865	790	743	711	781	739	709	773	735	707	765	730	705
	10	847	767	719	687	838	763	717	686	755	713	684	748	710	682	742	706	681

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	117.6 fc	2.5 ft
6.5 ft	84.2 fc	3.0 ft
7.5 ft	63.2 fc	3.4 ft
8.0 ft	55.6 fc	3.7 ft
10.0 ft	35.6 fc	4.6 ft
12.0 ft	24.7 fc	5.5 ft
14.0 ft	18.1 fc	6.4 ft
16.0 ft	13.9 fc	7.4 ft
20.0 ft	8.9 fc	9.2 ft
24.0 ft	6.2 fc	11.0 ft
28.0 ft	4.5 fc	12.9 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	1,007,080	1,007,080	1,007,080
<b>45.00°</b>	9,240	9,536	9,621
<b>55.00°</b>	8,659	7,756	7,401
<b>65.00°</b>	9,132	8,986	8,251
<b>75.00°</b>	9,320	7,994	6,208
<b>85.00°</b>	3,305	3,594	4,182

### 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>	11.3	12.2	11.6	12.5	12.9	10.4	11.4	10.8	11.7	12.0
	<b>3H</b>	13.8	14.6	14.2	15.0	15.3	12.6	13.4	13.0	13.8	14.1
	<b>4H</b>	14.7	15.4	15.1	15.8	16.2	13.3	14.0	13.7	14.4	14.8
	<b>6H</b>	15.1	15.8	15.5	16.1	16.5	13.5	14.2	13.9	14.6	15.0
	<b>8H</b>	15.1	15.8	15.5	16.2	16.6	13.5	14.2	13.9	14.6	15.0
	<b>12H</b>	15.1	15.7	15.5	16.1	16.6	13.5	14.1	13.9	14.5	15.0
<b>4H</b>	<b>2H</b>	11.9	12.7	12.3	13.0	13.4	11.0	11.8	11.4	12.2	12.5
	<b>3H</b>	14.5	15.2	15.0	15.6	16.0	13.3	13.9	13.7	14.3	14.8
	<b>4H</b>	15.5	16.1	15.9	16.5	16.9	14.0	14.6	14.5	15.0	15.5
	<b>6H</b>	16.0	16.5	16.5	16.9	17.4	14.4	14.8	14.8	15.3	15.8
	<b>8H</b>	16.1	16.5	16.5	17.0	17.4	14.4	14.8	14.8	15.3	15.7
	<b>12H</b>	16.1	16.5	16.6	16.9	17.4	14.4	14.8	14.9	15.3	15.7
<b>8H</b>	<b>4H</b>	15.6	16.1	16.1	16.5	17.0	14.2	14.6	14.6	15.1	15.5
	<b>6H</b>	16.2	16.6	16.8	17.1	17.6	14.5	14.9	15.0	15.4	15.9
	<b>8H</b>	16.4	16.7	16.9	17.2	17.7	14.5	14.9	15.1	15.4	15.9
	<b>12H</b>	16.4	16.7	16.9	17.2	17.8	14.6	14.9	15.1	15.4	16.0
<b>12H</b>	<b>4H</b>	15.6	16.0	16.1	16.5	17.0	14.1	14.5	14.6	15.0	15.5
	<b>6H</b>	16.2	16.5	16.8	17.0	17.6	14.5	14.8	15.0	15.3	15.8
	<b>8H</b>	16.4	16.6	16.9	17.1	17.7	14.5	14.8	15.1	15.3	15.9

Corrected UGR values based on total output lumens

SHR = 1.0