

## Indoor Distribution Test Report

# Spectrum Lighting Inc.

994 Jefferson Street  
Fall River, MA 02721  
+1.508.678.2303

## Spectrum Lighting Photometric Lab

### Luminaire

IF03RMx IC DWDD1010 DLSPGPM

Nom 3" diam Infinium, dim to warm 10L emitter - Spot optic, No lens

### Test Number

SP-00947\_1\_M-10L

### Test Date

5/1/2019

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

### Summary of Results

#### Power

Input Watts	9.3 W
-------------	-------

#### Lumen Output

Output Lumens	626
Efficacy	67.31 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.33
Two luminaires, plane 90°	0.33
Four luminaires	0.37

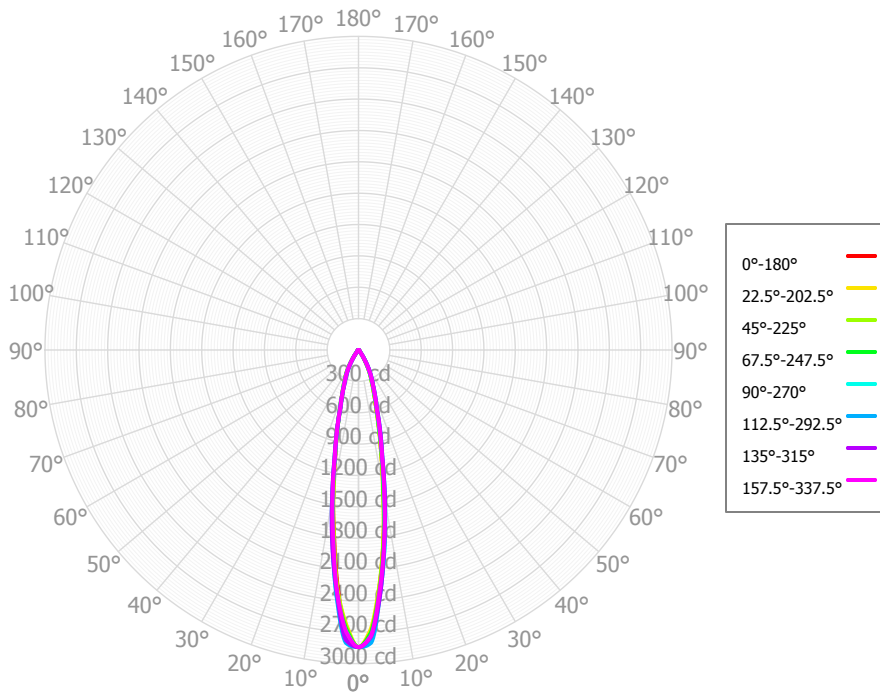
#### Full Beam Angle

0° - 180°	20°
90° - 270°	20°

### IES File Header Contents

Keyword	Value
TEST	SP-00947_1_M-10L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	5/1/2019
ISSUEDATE	11/15/2019
LUMCAT	IF03RMx IC DWDD1010 DLSPGPM
LUMINAIRE	Nom 3" diam Infinium, dim to warm 10L emitter - Spot optic, No lens
OTHER	Beam Angle: 19.8 degrees
OTHER	Shallow IC
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°	192.39	30.73%	90.00° - 100.00°	0.04	0.01%
10.00° - 20.00°	218.40	34.89%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	132.70	21.20%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	47.50	7.59%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	12.09	1.93%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	10.09	1.61%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	7.85	1.25%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	4.07	0.65%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.90	0.14%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	625.98	99.99%	0.00° - 180.00°	626.03	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°	2,842.94	2,842.94	2,842.94	2,842.94	2,842.94	2,842.94	2,842.94	2,842.94	2,842.94	2,842.94	2,842.94	2,842.94	2,842.94	2,842.94	2,842.94	2,842.94	2,842.94
2.50°	2,765.78	2,676.68	2,709.24	2,709.25	2,744.61	2,802.93	2,776.83	2,700.43	2,727.84	2,637.19	2,657.69	2,675.73	2,701.33	2,802.35	2,745.53	2,737.10	2,765.78
5.00°	2,295.27	2,272.91	2,282.48	2,313.30	2,353.17	2,382.36	2,346.56	2,336.92	2,281.99	2,311.26	2,313.52	2,353.75	2,373.70	2,352.87	2,362.58	2,314.96	2,295.27
7.50°	1,830.17	1,822.14	1,832.24	1,857.49	1,901.16	1,897.20	1,909.11	1,843.07	1,791.38	1,811.88	1,810.12	1,848.22	1,870.55	1,904.55	1,876.55	1,879.59	1,830.17
10.00°	1,398.42	1,345.28	1,361.35	1,372.39	1,409.54	1,460.70	1,454.61	1,426.95	1,399.83	1,380.25	1,387.76	1,403.90	1,429.53	1,461.43	1,453.83	1,422.99	1,398.42
12.50°	997.23	1,000.38	1,003.41	1,027.88	1,048.51	1,031.11	1,060.34	1,048.92	1,016.99	1,043.88	1,038.29	1,056.44	1,064.31	1,056.62	1,050.83	1,043.87	997.23
15.00°	760.45	723.40	736.76	745.88	765.69	785.80	795.83	788.51	787.56	775.14	775.48	774.90	782.04	805.06	795.65	778.68	760.45
17.50°	547.32	547.23	550.70	568.13	580.40	562.56	578.73	580.48	567.94	593.76	584.36	590.46	592.85	583.66	582.25	575.23	547.32
20.00°	443.89	418.30	425.39	433.09	448.50	451.04	456.12	453.98	463.71	459.12	454.72	450.61	455.81	468.75	461.05	455.12	443.89
22.50°	347.51	333.66	334.59	344.71	354.81	350.06	354.42	360.94	364.66	379.97	372.53	371.06	373.42	366.15	362.84	358.42	347.51
25.00°	279.72	268.17	267.68	273.57	280.50	283.23	290.75	294.37	306.59	310.95	305.44	301.80	302.70	302.21	292.65	291.16	279.72
27.50°	212.40	202.60	203.90	208.42	214.10	218.79	228.37	237.59	249.46	253.16	249.06	245.33	243.23	238.13	228.72	223.64	212.40
30.00°	146.80	137.00	142.10	145.31	151.34	160.08	168.15	178.52	187.12	193.24	190.23	187.45	183.86	173.67	166.34	155.79	146.80
32.50°	89.24	90.24	94.12	98.12	102.91	101.67	115.02	118.69	125.06	131.15	129.80	127.95	124.57	115.58	104.27	101.19	89.24
35.00°	57.70	50.23	54.29	55.74	60.48	68.06	72.87	77.30	81.74	82.95	84.06	81.67	79.93	73.92	68.67	60.68	57.70
37.50°	32.13	32.19	33.00	35.72	37.94	35.15	42.12	41.48	39.58	47.81	47.20	49.51	47.42	40.94	37.41	35.07	32.13
40.00°	23.85	21.20	21.70	21.68	23.05	25.43	27.52	26.70	27.95	27.17	28.01	28.54	28.12	28.21	25.79	24.25	23.85
42.50°	16.89	16.66	16.15	16.82	17.23	15.94	17.77	17.57	16.80	19.23	18.75	18.57	18.88	18.56	16.94	17.64	16.89
45.00°	13.41	13.97	13.48	14.16	14.55	14.17	14.33	14.46	14.18	14.74	14.37	13.66	14.22	15.54	14.19	14.88	13.41
47.50°	11.06	12.59	12.28	13.59	13.06	12.43	12.31	12.77	11.77	13.03	12.51	13.40	12.76	13.20	12.14	13.09	11.06
50.00°	11.41	11.55	11.75	13.45	11.93	11.70	12.00	12.35	11.79	12.19	11.89	13.18	12.08	12.19	12.16	12.13	11.41
52.50°	11.55	11.16	11.26	12.28	11.02	11.00	11.45	12.19	11.78	12.00	11.86	12.98	11.89	11.51	12.37	11.80	11.55
55.00°	11.20	10.92	10.80	10.91	10.18	10.96	10.64	11.77	11.49	11.76	11.91	12.66	11.52	11.39	11.83	11.97	11.20
57.50°	10.51	10.51	10.03	10.29	9.50	10.83	9.95	11.31	11.14	11.50	12.00	12.23	11.03	11.02	11.24	11.14	10.51
60.00°	9.11	10.06	9.14	9.78	8.85	9.57	9.39	10.13	10.43	10.58	11.38	11.40	10.76	10.21	10.19	9.58	9.11
62.50°	7.73	8.67	7.52	8.49	8.14	8.33	8.75	8.85	9.65	9.24	10.49	10.26	10.60	9.46	9.11	8.48	7.73
65.00°	6.39	7.12	5.64	7.10	7.41	7.34	8.04	8.33	8.52	8.58	9.36	9.29	9.63	8.78	7.73	7.68	6.39
67.50°	5.27	5.71	4.90	6.06	6.28	6.34	6.93	7.90	7.32	8.30	8.13	8.44	8.24	7.94	6.39	6.55	5.27
70.00°	4.44	4.40	4.41	5.04	5.10	5.28	5.51	6.30	5.83	7.02	7.35	7.54	7.21	6.90	5.82	5.24	4.44
72.50°	3.75	3.56	3.55	4.06	3.98	4.32	4.68	4.77	4.86	5.32	6.64	6.63	6.30	5.96	5.13	4.43	3.75
75.00°	3.10	2.55	2.74	3.10	2.94	3.48	3.94	3.69	4.62	4.57	5.25	5.35	5.15	4.98	4.16	3.51	3.10
77.50°	2.12	1.50	2.00	2.21	1.98	2.48	2.89	2.82	3.66	3.53	3.95	4.01	4.00	2.82	3.06	2.14	2.12
80.00°	1.16	1.00	1.14	1.47	1.05	1.40	2.04	1.99	2.45	1.90	2.74	2.63	2.82	1.89	1.90	1.20	1.16
82.50°	0.57	0.61	0.62	0.75	0.61	0.60	1.15	1.03	1.22	1.22	1.46	1.35	1.38	1.38	0.85	0.77	0.57
85.00°	0.53	0.58	0.64	0.73	0.56	0.63	0.59	0.71	0.63	0.66	0.75	0.76	0.73	0.78	0.65	0.67	0.53
87.50°	0.52	0.65	0.61	0.76	0.52	0.59	0.57	0.60	0.72	0.48	0.82	0.56	0.62	0.86	0.48	0.59	0.52
90.00°	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.62	0.57	0.73	0.54	0.63	0.61	0.74	0.68	0.00	0.00
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>	745	745	745	745	728	728	728	728	696	696	696	666	666	666	639	639	626
	<b>1</b>	716	700	687	675	700	687	675	664	662	652	643	639	631	624	618	612	606
	<b>2</b>	687	661	640	622	674	651	631	615	631	615	601	613	600	589	596	585	576
	<b>3</b>	661	627	601	580	649	619	595	576	603	583	567	588	572	558	575	561	551
	<b>4</b>	636	597	569	547	626	591	564	544	578	555	538	566	547	532	555	539	529
	<b>5</b>	613	571	541	519	604	565	538	517	555	531	513	545	525	508	536	518	509
	<b>6</b>	592	547	517	496	584	543	515	494	534	509	491	526	504	488	518	500	491
	<b>7</b>	572	526	496	475	565	522	494	474	515	490	471	508	486	469	502	482	474
	<b>8</b>	554	507	477	457	547	503	475	456	497	472	454	492	469	452	486	466	459
	<b>9</b>	537	489	460	440	531	486	459	440	481	456	438	476	453	437	472	451	444
	<b>10</b>	520	473	444	425	515	470	443	425	466	441	424	462	439	423	458	437	431

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	94.0 fc	1.9 ft
6.5 ft	67.3 fc	2.3 ft
7.5 ft	50.5 fc	2.6 ft
8.0 ft	44.4 fc	2.8 ft
10.0 ft	28.4 fc	3.5 ft
12.0 ft	19.7 fc	4.2 ft
14.0 ft	14.5 fc	4.9 ft
16.0 ft	11.1 fc	5.6 ft
20.0 ft	7.1 fc	7.0 ft
24.0 ft	4.9 fc	8.3 ft
28.0 ft	3.6 fc	9.7 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	805,014	805,014	805,014
<b>45.00°</b>	5,369	5,398	5,827
<b>55.00°</b>	5,530	5,333	5,027
<b>65.00°</b>	4,280	3,781	4,964
<b>75.00°</b>	3,395	3,002	3,215
<b>85.00°</b>	1,719	2,064	1,829

### 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>	10.3	11.3	10.7	11.6	11.9	10.7	11.7	11.1	12.0	12.3
	<b>3H</b>	11.5	12.3	11.8	12.6	13.0	12.4	13.3	12.8	13.6	14.0
	<b>4H</b>	11.8	12.6	12.2	13.0	13.4	13.0	13.8	13.4	14.1	14.5
	<b>6H</b>	11.9	12.7	12.4	13.0	13.4	13.3	14.0	13.7	14.4	14.8
	<b>8H</b>	11.9	12.6	12.4	13.0	13.4	13.3	14.0	13.8	14.4	14.8
	<b>12H</b>	11.9	12.5	12.3	12.9	13.4	13.3	14.0	13.8	14.3	14.8
<b>4H</b>	<b>2H</b>	10.7	11.4	11.1	11.8	12.2	11.3	12.1	11.7	12.4	12.8
	<b>3H</b>	12.0	12.6	12.4	13.1	13.5	13.2	13.8	13.6	14.2	14.6
	<b>4H</b>	12.5	13.0	12.9	13.5	13.9	13.9	14.5	14.3	14.9	15.3
	<b>6H</b>	12.6	13.1	13.1	13.6	14.0	14.3	14.8	14.7	15.2	15.7
	<b>8H</b>	12.6	13.1	13.1	13.5	14.0	14.3	14.8	14.8	15.2	15.7
	<b>12H</b>	12.6	13.0	13.1	13.5	14.0	14.3	14.7	14.8	15.2	15.7
<b>8H</b>	<b>4H</b>	12.6	13.1	13.1	13.5	14.0	14.1	14.5	14.6	15.0	15.5
	<b>6H</b>	12.8	13.2	13.3	13.7	14.2	14.6	14.9	15.1	15.4	15.9
	<b>8H</b>	12.8	13.2	13.4	13.7	14.2	14.6	14.9	15.2	15.5	16.0
	<b>12H</b>	12.9	13.1	13.4	13.6	14.2	14.7	14.9	15.2	15.4	16.0
<b>12H</b>	<b>4H</b>	12.6	13.0	13.1	13.5	14.0	14.1	14.5	14.6	14.9	15.4
	<b>6H</b>	12.8	13.1	13.4	13.6	14.2	14.6	14.9	15.1	15.3	15.9
	<b>8H</b>	12.8	13.1	13.4	13.6	14.2	14.6	14.9	15.2	15.4	16.0

Corrected UGR values based on total output lumens

SHR = 1.0