

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03RMx xx DWDD1010 DLNFGPMW

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

Test Number

SP-00942_2_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	11.3 W
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Lumen Output

Output Lumens	631
Efficacy	55.85 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

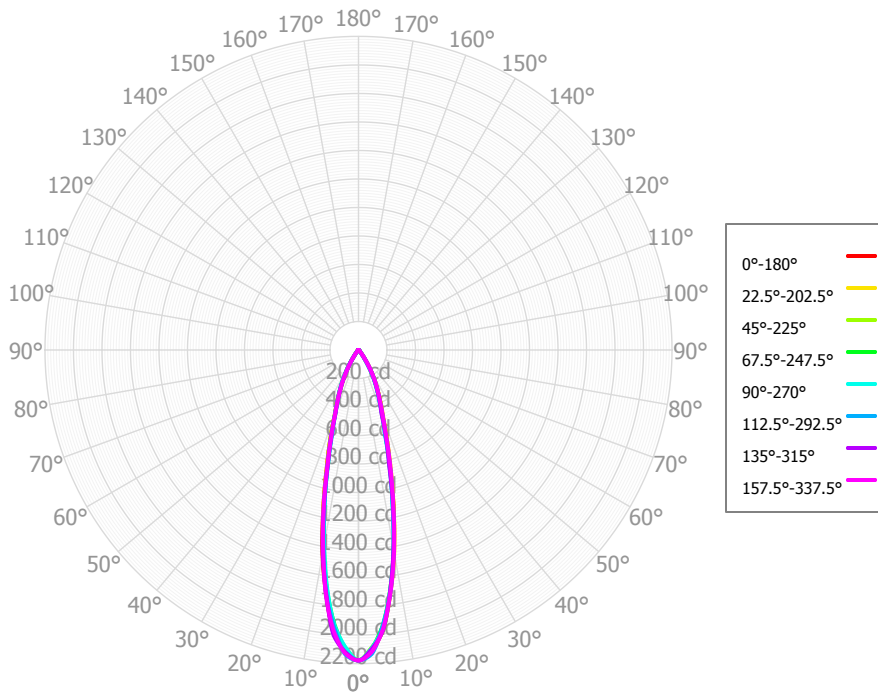
Full Beam Angle

0° - 180°	26°
90° - 270°	25°

IES File Header Contents

Keyword	Value
TEST	SP-00942_2_M-10L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	5/1/2019
ISSUEDATE	11/14/2019
LUMCAT	IF03RMx xx DWDD1010 DLNFGPMW
LUMINAIRE	Nom 3" diam Infinium, dim to warm 10L 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°	170.68	27.04%	90.00° - 100.00°	0.04	0.01%
10.00° - 20.00°	236.30	37.44%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	141.68	22.45%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	49.73	7.88%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	12.27	1.94%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	8.43	1.33%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	7.19	1.14%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	3.93	0.62%	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°	631.10	99.99%	0.00° - 180.00°	631.14	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°	2,178.39	2,178.39	2,178.39	2,178.39	2,178.39	2,178.39	2,178.39	2,178.39	2,178.39	2,178.39	2,178.39	2,178.39	2,178.39	2,178.39	2,178.39	2,178.39	2,178.39
2.50°	2,108.69	2,111.90	2,091.93	2,099.65	2,096.44	2,137.51	2,122.05	2,131.81	2,120.27	2,109.94	2,091.90	2,099.90	2,089.03	2,134.45	2,102.25	2,122.41	2,108.69
5.00°	1,972.65	1,967.17	1,976.70	1,944.04	1,958.35	1,954.62	2,008.51	1,983.13	1,995.94	1,959.02	1,976.15	1,933.92	1,939.64	1,944.33	1,975.19	1,966.39	1,972.65
7.50°	1,713.68	1,718.48	1,700.18	1,703.69	1,701.19	1,735.98	1,729.87	1,742.96	1,733.31	1,718.89	1,700.85	1,697.82	1,687.67	1,715.95	1,704.73	1,718.09	1,713.68
10.00°	1,424.76	1,443.53	1,422.64	1,422.34	1,420.38	1,410.80	1,442.60	1,427.37	1,455.62	1,424.80	1,424.07	1,396.37	1,390.20	1,416.70	1,415.50	1,437.26	1,424.76
12.50°	1,138.52	1,139.44	1,128.47	1,111.26	1,104.74	1,102.01	1,123.43	1,128.05	1,141.66	1,136.89	1,128.60	1,108.92	1,103.58	1,104.19	1,122.00	1,129.71	1,138.52
15.00°	852.82	880.19	843.93	855.80	837.39	834.33	834.11	840.44	862.65	852.25	844.26	832.85	821.13	855.28	828.12	873.03	852.82
17.50°	665.89	664.44	659.38	635.93	632.01	611.12	637.84	635.25	655.65	650.68	656.85	630.64	632.36	615.37	646.26	653.33	665.89
20.00°	494.04	510.19	486.71	492.13	479.69	483.12	471.09	482.38	486.91	487.00	482.63	480.88	473.78	491.63	470.12	504.50	494.04
22.50°	404.34	408.08	400.11	390.50	387.71	374.81	381.58	377.59	387.14	380.18	391.75	378.34	382.58	379.44	389.85	400.48	404.34
25.00°	324.01	324.61	316.32	312.05	306.42	303.33	298.19	299.22	298.32	295.83	304.40	305.39	309.68	313.00	311.63	320.97	324.01
27.50°	255.84	255.13	247.83	244.83	235.77	232.39	228.44	227.19	226.60	224.77	234.73	236.12	241.94	249.49	248.69	255.08	255.84
30.00°	188.57	190.11	181.40	178.97	169.48	162.35	163.13	158.16	161.76	158.12	168.19	168.87	175.33	184.45	186.00	191.45	188.57
32.50°	132.68	127.99	124.08	113.67	106.98	104.56	106.44	106.14	106.28	108.56	114.16	114.95	120.00	119.44	128.53	128.90	132.68
35.00°	77.22	83.47	73.74	73.74	65.43	64.01	62.22	61.11	64.96	63.79	67.33	67.25	66.60	78.86	73.60	84.72	77.22
37.50°	52.12	49.07	48.36	42.88	40.01	36.21	38.88	38.34	40.69	41.97	44.09	41.83	43.68	39.36	48.62	48.05	52.12
40.00°	27.70	30.77	27.57	29.06	25.62	24.28	22.87	23.29	24.92	25.39	25.36	25.42	24.78	28.15	25.69	30.37	27.70
42.50°	20.74	20.46	20.37	20.31	18.64	16.82	17.70	17.25	18.08	18.93	19.22	18.48	18.64	17.53	19.55	19.36	20.74
45.00°	14.13	15.68	14.59	16.27	14.72	14.22	13.93	13.82	13.79	14.29	14.41	14.78	13.65	14.68	14.04	14.82	14.13
47.50°	12.80	13.30	12.41	13.36	12.57	11.99	11.98	12.27	11.89	12.17	12.77	12.67	11.87	11.99	12.30	12.17	12.80
50.00°	11.55	11.77	10.73	11.35	11.03	10.13	10.36	11.18	10.52	10.40	11.41	11.03	10.25	10.71	10.64	10.81	11.55
52.50°	11.15	10.56	10.13	9.51	9.81	9.08	9.10	9.79	9.59	9.79	10.61	9.79	9.94	9.53	9.34	9.76	11.15
55.00°	10.74	10.24	9.62	9.51	9.18	8.71	8.60	8.35	8.83	9.29	9.81	8.65	9.64	8.96	8.42	9.17	10.74
57.50°	10.26	10.18	9.30	9.79	8.81	8.40	8.84	7.78	8.22	8.83	8.98	8.42	8.60	8.49	8.90	8.67	10.26
60.00°	9.73	9.90	8.97	9.27	8.43	8.15	8.33	7.34	7.60	8.37	8.24	8.36	7.60	8.47	9.04	8.59	9.73
62.50°	9.02	9.56	8.62	8.68	8.05	7.54	7.17	6.59	6.98	7.43	7.64	7.90	7.46	8.30	8.05	8.58	9.02
65.00°	8.35	8.93	8.21	7.73	7.54	6.69	6.51	5.81	6.22	6.51	7.04	7.38	7.27	7.48	7.16	8.16	8.35
67.50°	7.84	8.23	7.71	6.75	7.00	5.84	6.21	5.10	5.40	5.98	6.47	6.53	6.58	6.59	6.52	7.70	7.84
70.00°	7.27	7.16	6.83	5.59	5.84	5.01	4.83	4.45	4.45	5.50	5.26	5.67	5.82	5.47	5.73	6.52	7.27
72.50°	6.48	6.06	5.57	4.51	4.57	4.21	3.30	3.96	3.65	5.09	3.77	4.86	4.90	4.42	4.69	5.35	6.48
75.00°	5.22	4.96	4.48	3.78	3.48	3.39	2.94	3.09	3.40	3.94	3.14	3.76	3.80	3.46	3.85	4.35	5.22
77.50°	3.50	3.80	3.44	2.61	2.45	2.50	2.04	2.09	2.19	2.65	2.30	2.49	2.57	2.46	3.12	3.32	3.50
80.00°	2.36	2.55	2.43	1.27	1.52	1.18	1.13	1.32	1.19	1.66	1.55	1.40	1.28	1.50	2.04	2.25	2.36
82.50°	1.28	1.40	1.22	0.69	0.92	0.59	0.75	0.76	0.95	0.86	1.01	0.75	0.72	0.73	1.22	1.07	1.28
85.00°	0.62	0.92	0.68	0.60	0.79	0.53	0.66	0.57	0.65	0.64	0.61	0.83	0.67	0.44	0.74	0.61	0.62
87.50°	0.65	0.67	0.73	0.66	0.71	0.69	0.74	0.66	0.70	0.71	0.72	0.71	0.97	0.75	0.86	0.75	0.65
90.00°	0.74	0.56	0.60	0.52	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.61	0.67	0.74
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%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	751	751	751	751	734	734	734	734	701	701	701	671	671	671	644	644	631
	1	721	706	692	679	706	692	680	668	667	657	648	643	636	629	622	616	604
	2	692	665	644	625	679	655	635	618	635	619	605	616	603	592	599	589	578
	3	665	631	604	583	653	622	598	578	606	586	569	591	574	560	577	564	553
	4	640	600	571	548	629	593	566	545	580	557	539	568	549	533	557	540	531
	5	616	572	542	520	607	567	538	517	556	532	513	546	525	509	537	519	510
	6	594	548	517	495	585	543	514	493	534	509	490	526	504	487	519	499	491
	7	573	526	495	473	566	522	493	472	514	488	470	507	484	467	501	481	473
	8	554	505	475	454	547	502	473	453	496	470	451	490	466	449	484	463	456
	9	536	487	457	436	530	484	455	436	479	453	434	474	450	433	469	447	441
	10	519	470	440	421	513	467	439	420	463	437	419	458	435	418	454	433	427

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	72.0 fc	2.5 ft
6.5 ft	51.6 fc	3.0 ft
7.5 ft	38.7 fc	3.4 ft
8.0 ft	34.0 fc	3.7 ft
10.0 ft	21.8 fc	4.6 ft
12.0 ft	15.1 fc	5.5 ft
14.0 ft	11.1 fc	6.4 ft
16.0 ft	8.5 fc	7.4 ft
20.0 ft	5.4 fc	9.2 ft
24.0 ft	3.8 fc	11.0 ft
28.0 ft	2.8 fc	12.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	616,837	616,837	616,837
45.00°	5,660	5,841	5,893
55.00°	5,304	4,750	4,533
65.00°	5,593	5,504	5,054
75.00°	5,708	4,896	3,803
85.00°	2,025	2,202	2,562

UGR CIE 190:2010

Ceiling reflectance		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall reflectance		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Plane reflectance		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
2H	2H	9.6	10.5	9.9	10.8	11.2	8.7	9.6	9.1	10.0	10.3
	3H	12.1	12.9	12.5	13.3	13.6	10.9	11.7	11.3	12.1	12.4
	4H	13.0	13.7	13.4	14.1	14.5	11.6	12.3	12.0	12.7	13.1
	6H	13.4	14.1	13.8	14.4	14.8	11.8	12.5	12.2	12.9	13.3
	8H	13.4	14.1	13.8	14.5	14.9	11.8	12.5	12.2	12.9	13.3
	12H	13.4	14.0	13.8	14.4	14.9	11.8	12.4	12.2	12.8	13.3
4H	2H	10.2	11.0	10.6	11.3	11.7	9.3	10.1	9.7	10.4	10.8
	3H	12.8	13.5	13.2	13.9	14.3	11.6	12.2	12.0	12.6	13.0
	4H	13.8	14.4	14.2	14.8	15.2	12.3	12.9	12.8	13.3	13.8
	6H	14.3	14.8	14.8	15.2	15.7	12.6	13.1	13.1	13.6	14.1
	8H	14.4	14.8	14.8	15.3	15.7	12.7	13.1	13.1	13.6	14.0
	12H	14.4	14.7	14.9	15.2	15.7	12.7	13.1	13.2	13.6	14.0
8H	4H	13.9	14.4	14.4	14.8	15.3	12.4	12.9	12.9	13.4	13.8
	6H	14.5	14.9	15.1	15.4	15.9	12.8	13.2	13.3	13.7	14.1
	8H	14.6	15.0	15.2	15.5	16.0	12.8	13.1	13.4	13.7	14.2
	12H	14.7	15.0	15.2	15.5	16.1	12.9	13.2	13.4	13.7	14.3
12H	4H	13.9	14.3	14.4	14.8	15.3	12.4	12.8	12.9	13.3	13.8
	6H	14.5	14.8	15.1	15.3	15.9	12.8	13.1	13.3	13.6	14.1
	8H	14.7	14.9	15.2	15.4	16.0	12.8	13.1	13.4	13.6	14.2

Corrected UGR values based on total output lumens

SHR = 1.0