

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03SMx xx DWDD1015 DLFLGPMW

Nom 3" Infinium Square Downlight, 15L dim to warm 27HK emitter

Test Number

SP-00944_3_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	744
Efficacy	43.26 lm/W

Luminous Dimensions

0° - 180° Size	0.16
90° - 270° Size	0.16
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.61
Two luminaires, plane 90°	0.61
Four luminaires	0.67

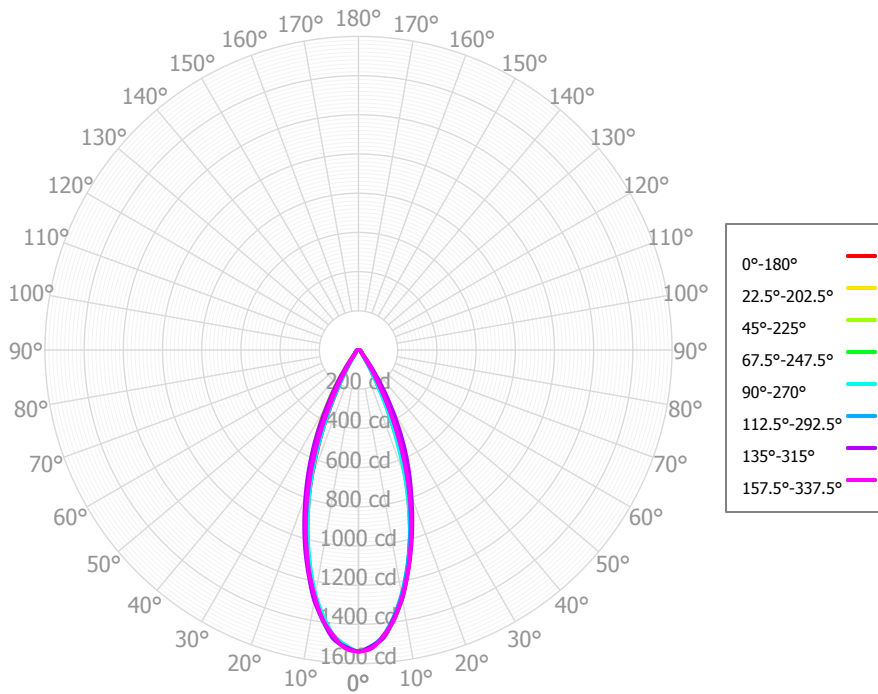
Full Beam Angle

0° - 180°	38°
90° - 270°	38°

IES File Header Contents

Keyword	Value
TEST	SP-00944_3_M-15L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/6/2019
ISSUEDATE	11/13/2019
LUMCAT	IF03SMx xx DWDD1015 DLFLGPMW
LUMINAIRE	Nom 3" Infinium Square Downlight, 15L dim to warm 27HK emitter
OTHER	Beam angle: 38.0 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°	135.63	18.23%	90.00° - 100.00°	0.07	0.01%
10.00° - 20.00°	278.65	37.45%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	207.18	27.84%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	64.86	8.72%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	21.78	2.93%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	14.35	1.93%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	11.60	1.56%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	7.87	1.06%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	2.10	0.28%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	744.01	99.99%	0.00° - 180.00°	744.08	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°	1,537.79	1,537.79	1,537.79	1,537.79	1,537.79	1,537.79	1,537.79	1,537.79	1,537.79	1,537.79	1,537.79	1,537.79	1,537.79	1,537.79	1,537.79	1,537.79	1,537.79
2.50°	1,516.55	1,522.70	1,513.24	1,515.91	1,511.99	1,522.16	1,515.88	1,524.03	1,516.30	1,525.46	1,514.65	1,519.86	1,507.66	1,515.66	1,513.31	1,524.28	1,516.55
5.00°	1,473.27	1,466.63	1,471.73	1,465.48	1,469.73	1,476.10	1,478.80	1,463.28	1,472.15	1,468.44	1,476.28	1,466.95	1,461.67	1,463.16	1,472.29	1,463.12	1,473.27
7.50°	1,386.36	1,390.68	1,384.60	1,385.54	1,387.90	1,394.79	1,389.94	1,390.82	1,386.09	1,394.87	1,379.99	1,387.63	1,371.49	1,374.96	1,381.88	1,388.82	1,386.36
10.00°	1,287.53	1,277.82	1,286.40	1,275.38	1,285.59	1,289.84	1,299.04	1,279.86	1,282.49	1,278.24	1,275.49	1,274.67	1,266.57	1,267.59	1,286.19	1,280.41	1,287.53
12.50°	1,154.04	1,154.73	1,159.45	1,151.33	1,152.20	1,160.90	1,175.25	1,163.10	1,147.95	1,150.65	1,148.00	1,143.84	1,135.24	1,142.76	1,163.25	1,163.34	1,154.04
15.00°	1,013.79	1,016.42	1,030.14	1,015.38	1,010.64	1,026.10	1,050.84	1,029.80	1,007.95	1,012.42	1,018.52	1,009.37	997.36	1,010.53	1,039.28	1,028.66	1,013.79
17.50°	862.51	874.32	895.87	875.48	859.03	886.47	919.24	895.07	860.18	872.18	892.41	873.39	853.71	876.90	911.54	891.88	862.51
20.00°	709.78	727.65	766.67	732.83	698.36	738.19	788.34	751.18	705.56	728.34	766.61	733.07	709.00	742.81	787.14	751.69	709.78
22.50°	550.76	580.81	645.99	585.73	528.37	583.94	662.03	606.97	542.81	584.06	650.51	591.35	552.75	603.53	672.38	609.56	550.76
25.00°	391.29	433.81	526.63	436.12	377.17	437.89	536.43	463.35	394.61	445.98	534.72	453.16	395.17	462.93	556.64	464.83	391.29
27.50°	272.87	308.65	409.08	310.84	241.71	296.39	414.02	322.80	260.46	308.26	423.25	315.86	274.79	335.46	438.72	336.03	272.87
30.00°	157.62	201.49	300.80	196.72	151.64	197.67	298.75	224.89	165.77	215.26	313.96	217.04	156.43	210.32	327.02	224.76	157.62
32.50°	110.71	131.49	203.00	128.02	92.39	117.76	207.80	133.36	102.06	124.98	220.93	124.94	106.75	140.71	226.36	144.89	110.71
35.00°	66.36	86.28	130.29	75.56	60.08	76.56	130.00	92.72	65.12	87.94	135.95	83.96	59.17	77.72	144.93	93.11	66.36
37.50°	51.77	59.78	80.65	52.77	42.94	49.03	86.24	56.61	45.69	53.29	90.32	48.51	46.35	56.39	91.80	60.94	51.77
40.00°	38.33	43.63	52.12	37.96	34.04	37.37	52.48	43.74	35.19	42.53	51.76	38.31	34.11	37.50	55.50	43.44	38.33
42.50°	32.48	34.41	39.39	31.12	28.83	29.93	39.02	32.63	29.38	32.62	39.15	29.33	27.42	30.14	39.29	32.77	32.48
45.00°	27.14	28.22	30.70	25.88	25.38	26.31	28.92	28.00	25.66	28.06	28.64	25.14	21.49	23.03	28.86	26.22	27.14
47.50°	24.13	23.96	24.53	22.07	22.54	23.42	24.45	23.76	22.81	23.77	23.93	21.05	19.92	21.02	24.05	22.69	24.13
50.00°	21.09	20.35	20.65	18.45	19.48	20.85	20.87	20.64	20.06	20.65	19.82	18.89	18.22	19.01	20.30	20.62	21.09
52.50°	17.95	18.81	17.91	17.67	16.35	18.31	18.50	17.97	17.34	17.76	16.99	16.73	15.99	17.05	17.42	18.53	17.95
55.00°	15.47	17.80	16.37	17.09	14.73	16.12	16.64	16.32	16.14	15.61	14.70	14.60	13.98	15.19	15.31	16.44	15.47
57.50°	14.71	16.37	15.30	14.76	13.41	13.95	15.34	14.73	15.31	13.91	13.37	12.73	12.68	13.95	13.72	15.04	14.71
60.00°	14.14	14.85	14.00	12.44	12.24	13.21	14.15	13.24	13.80	13.36	12.48	12.40	11.70	12.87	13.05	13.85	14.14
62.50°	13.92	14.04	12.63	11.88	11.08	12.46	13.07	12.09	12.17	12.77	12.23	12.04	11.46	12.52	12.86	13.25	13.92
65.00°	13.39	13.31	11.62	11.25	10.08	11.18	11.70	11.43	11.64	12.09	11.90	11.58	10.85	12.15	11.99	12.78	13.39
67.50°	12.36	12.04	10.69	10.01	9.09	9.94	10.15	10.93	11.17	11.18	11.48	10.96	9.54	11.73	10.83	12.39	12.36
70.00°	11.12	10.73	9.81	8.75	8.15	8.87	9.49	10.57	9.93	9.98	10.23	9.96	8.85	10.98	10.31	12.00	11.12
72.50°	9.68	9.37	8.89	7.41	7.16	7.48	9.01	8.96	8.48	9.32	8.53	9.24	8.75	9.71	9.93	11.32	9.68
75.00°	8.05	8.07	7.72	5.82	6.04	5.63	7.59	7.14	6.71	8.54	7.63	8.76	7.23	8.34	9.45	9.99	8.05
77.50°	6.36	6.86	6.20	4.26	4.57	4.80	6.33	5.77	5.24	6.12	6.54	6.17	5.44	6.80	7.93	7.53	6.36
80.00°	4.69	4.82	4.43	3.86	3.30	3.74	4.71	4.22	3.71	4.07	4.88	4.57	3.69	4.75	5.35	5.52	4.69
82.50°	2.67	3.16	2.63	2.50	2.35	2.40	2.52	2.74	2.23	2.63	2.39	3.30	2.57	3.32	2.97	3.36	2.67
85.00°	1.59	1.80	1.09	1.39	1.01	1.29	1.47	1.50	1.07	1.41	1.61	1.73	1.09	1.61	1.60	1.64	1.59
87.50°	1.12	1.15	1.07	1.08	1.05	1.09	0.99	1.00	1.28	1.08	1.26	1.04	1.24	1.09	0.90	0.99	1.12
90.00°	1.08	0.97	0.91	0.86	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.08	1.24	1.00	1.08
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	886	886	886	886	865	865	865	865	827	827	827	792	792	792	759	759	744
	1	846	826	808	792	828	810	794	779	780	767	756	752	742	733	727	719	705
	2	808	773	745	721	792	761	735	713	737	716	698	715	698	683	694	681	667
	3	772	728	693	666	758	717	686	660	698	672	650	680	658	640	664	646	633
	4	739	687	649	621	726	679	644	617	663	633	610	649	623	603	635	614	602
	5	707	651	612	583	696	644	607	580	631	599	575	619	592	570	608	584	574
	6	678	619	579	550	668	613	575	548	602	569	544	592	563	541	583	557	548
	7	651	589	549	521	642	585	547	520	576	542	517	567	537	515	559	532	524
	8	626	563	523	496	617	559	521	495	551	517	493	544	513	491	537	509	501
	9	602	538	499	473	594	535	498	472	528	494	471	522	491	469	516	488	481
	10	580	516	477	452	573	513	476	451	507	473	450	502	471	449	497	468	462

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	50.8 fc	3.8 ft
6.5 ft	36.4 fc	4.5 ft
7.5 ft	27.3 fc	5.2 ft
8.0 ft	24.0 fc	5.5 ft
10.0 ft	15.4 fc	6.9 ft
12.0 ft	10.7 fc	8.3 ft
14.0 ft	7.8 fc	9.6 ft
16.0 ft	6.0 fc	11.0 ft
20.0 ft	3.8 fc	13.8 ft
24.0 ft	2.7 fc	16.5 ft
28.0 ft	2.0 fc	19.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	646,586	646,586	646,586
45.00°	16,139	18,256	15,090
55.00°	11,337	11,998	10,799
65.00°	13,326	11,562	10,029
75.00°	13,082	12,538	9,811
85.00°	7,670	5,241	4,896

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	14.5	15.5	14.8	15.8	16.1	13.4	14.4	13.8	14.7	15.0
	3H	16.9	17.8	17.3	18.1	18.5	15.6	16.5	16.0	16.8	17.2
	4H	17.8	18.7	18.2	19.0	19.4	16.5	17.3	16.9	17.7	18.1
	6H	18.4	19.2	18.9	19.6	20.0	17.0	17.8	17.5	18.2	18.6
	8H	18.6	19.3	19.0	19.7	20.1	17.2	17.9	17.6	18.3	18.7
	12H	18.6	19.3	19.0	19.7	20.1	17.2	17.9	17.7	18.3	18.7
4H	2H	15.0	15.8	15.4	16.2	16.6	14.2	15.0	14.6	15.4	15.8
	3H	17.7	18.4	18.1	18.8	19.2	16.6	17.3	17.0	17.7	18.1
	4H	18.9	19.5	19.3	19.9	20.3	17.7	18.3	18.1	18.7	19.1
	6H	19.6	20.1	20.1	20.6	21.0	18.3	18.8	18.8	19.3	19.7
	8H	19.8	20.2	20.2	20.7	21.2	18.5	18.9	18.9	19.4	19.9
	12H	19.8	20.2	20.3	20.7	21.2	18.5	18.9	19.0	19.4	19.9
8H	4H	19.2	19.7	19.7	20.1	20.6	18.1	18.6	18.6	19.0	19.5
	6H	20.1	20.4	20.6	20.9	21.4	18.8	19.2	19.4	19.7	20.2
	8H	20.3	20.6	20.8	21.1	21.6	19.1	19.4	19.6	19.9	20.4
	12H	20.4	20.7	21.0	21.2	21.8	19.2	19.5	19.7	20.0	20.6
12H	4H	19.2	19.6	19.7	20.1	20.6	18.1	18.5	18.6	19.0	19.5
	6H	20.1	20.4	20.6	20.9	21.4	18.9	19.2	19.4	19.7	20.3
	8H	20.4	20.6	20.9	21.1	21.7	19.2	19.5	19.7	20.0	20.6

Corrected UGR values based on total output lumens

SHR = 1.0