

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03SMx xx DWDD1015 DLSPGPMW
Nom 3" Infinium Square Downlight, 15L dim to warm 27HK emitter

Test Number

SP-00944_1_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	697
Efficacy	40.51 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.35
Two luminaires, plane 90°	0.34
Four luminaires	0.4

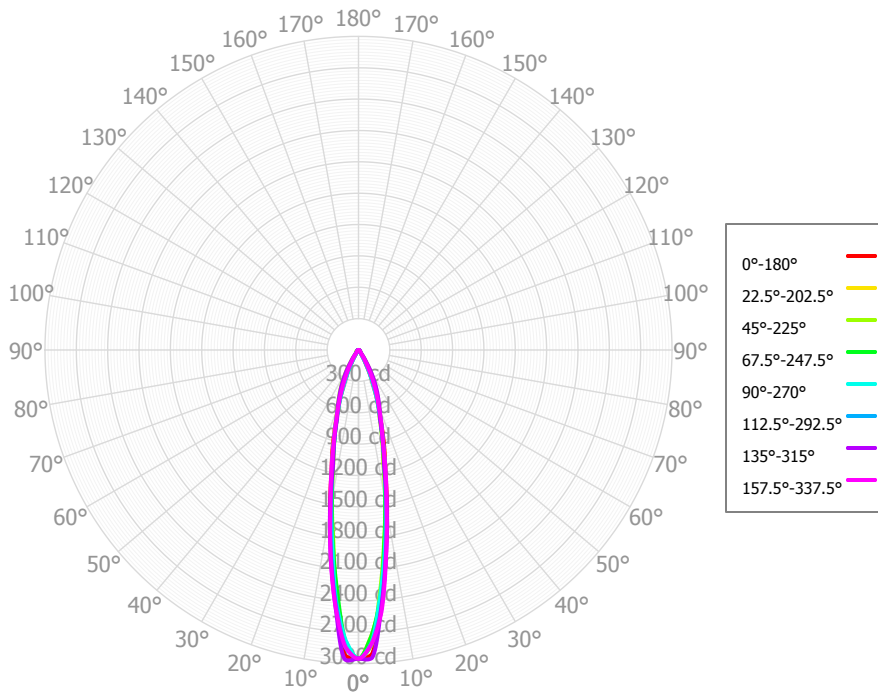
Full Beam Angle

0° - 180°	21°
90° - 270°	20°

IES File Header Contents

Keyword	Value
TEST	SP-00944_1_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 DLSPGPMW
LUMINAIRE	Nom 3" Infinium Square Downlight, 15L dim to warm 27HK emitter
OTHER	Beam angle: 21.0 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°	202.20	29.02%	90.00° - 100.00°	0.08	0.01%
10.00° - 20.00°	252.69	36.26%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	146.77	21.06%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	41.03	5.89%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	14.80	2.12%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	16.05	2.30%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	13.24	1.90%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	7.90	1.13%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	2.08	0.30%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	696.77	99.99%	0.00° - 180.00°	696.85	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°	2,953.13	2,953.13	2,953.13	2,953.13	2,953.13	2,953.13	2,953.13	2,953.13	2,953.13	2,953.13	2,953.13	2,953.13	2,953.13	2,953.13	2,953.13	2,953.13	2,953.13
2.50°	2,915.99	2,746.55	2,828.19	2,749.65	2,812.18	2,849.36	2,964.19	2,846.83	2,924.89	2,808.87	2,820.60	2,801.63	2,784.97	2,816.78	2,949.52	2,819.43	2,915.99
5.00°	2,441.18	2,417.05	2,341.19	2,395.27	2,368.07	2,448.00	2,489.68	2,482.66	2,440.82	2,378.07	2,379.24	2,328.09	2,428.50	2,495.15	2,484.58	2,517.73	2,441.18
7.50°	1,966.37	1,931.89	1,868.76	1,888.24	1,930.51	1,998.07	2,015.55	2,031.38	1,952.04	1,940.93	1,846.76	1,880.52	1,911.39	1,977.57	2,005.20	2,014.03	1,966.37
10.00°	1,574.76	1,506.84	1,466.39	1,473.98	1,502.82	1,515.61	1,569.60	1,546.83	1,571.22	1,499.11	1,465.15	1,466.40	1,501.52	1,524.21	1,567.73	1,549.52	1,574.76
12.50°	1,183.81	1,172.34	1,093.24	1,139.20	1,147.91	1,159.78	1,124.30	1,202.91	1,192.61	1,166.45	1,120.46	1,129.06	1,170.41	1,177.11	1,131.90	1,201.28	1,183.81
15.00°	945.71	892.97	871.57	883.89	905.80	892.56	901.60	914.60	951.96	916.22	892.53	894.93	912.39	891.18	901.37	895.53	945.71
17.50°	709.91	700.38	668.79	698.60	694.59	697.88	678.89	714.51	715.15	719.82	695.11	694.85	710.40	709.48	680.45	720.60	709.91
20.00°	545.96	532.67	569.14	550.33	533.45	555.43	577.08	551.16	548.69	565.23	578.99	541.88	534.36	548.19	581.13	559.05	545.96
22.50°	383.61	405.31	471.79	435.59	387.61	428.41	475.75	422.11	384.97	435.35	485.03	405.57	378.77	422.76	488.93	441.13	383.61
25.00°	269.91	290.34	387.71	327.99	267.31	312.98	389.98	307.83	272.94	325.52	398.88	292.96	255.43	306.21	399.59	327.63	269.91
27.50°	157.82	196.08	302.94	227.13	167.55	215.73	304.44	217.19	163.32	230.75	314.95	196.63	158.25	206.00	310.43	229.11	157.82
30.00°	107.26	120.98	213.83	147.07	103.67	132.54	222.57	137.24	110.44	148.53	230.95	124.50	93.98	124.50	223.87	141.56	107.26
32.50°	59.20	79.33	130.62	87.22	56.52	77.90	140.77	88.27	60.63	91.58	146.93	71.03	57.56	78.47	137.50	93.54	59.20
35.00°	44.48	47.97	86.72	48.57	39.49	46.31	94.01	53.75	45.51	56.60	94.09	46.09	35.79	43.80	91.01	52.61	44.48
37.50°	31.38	35.11	46.68	31.41	26.58	28.13	48.27	35.90	32.67	35.33	51.03	28.08	26.79	31.30	47.97	38.33	31.38
40.00°	25.55	25.19	34.02	21.09	21.32	21.06	34.85	26.23	27.45	26.33	32.55	21.14	20.45	22.01	32.86	26.09	25.55
42.50°	20.15	20.83	22.47	17.89	17.17	17.13	22.74	21.52	22.80	20.60	22.07	16.44	16.50	19.30	20.40	22.06	20.15
45.00°	18.15	17.71	19.69	16.05	15.18	15.87	21.23	19.33	20.75	17.90	18.82	15.41	14.64	17.37	19.49	18.82	18.15
47.50°	16.38	17.00	17.35	15.68	14.12	15.68	20.23	18.58	18.92	16.84	18.07	15.18	14.75	17.08	19.83	18.93	16.38
50.00°	18.07	17.03	18.73	15.87	14.96	16.43	19.56	18.58	18.73	17.33	19.23	16.33	15.27	17.23	20.23	19.01	18.07
52.50°	20.02	18.58	19.96	16.68	15.58	16.56	18.92	18.45	18.70	18.18	21.07	17.60	16.18	18.32	20.63	18.93	20.02
55.00°	17.94	19.15	19.77	17.05	15.77	16.12	17.46	18.26	18.68	19.38	21.87	19.09	16.88	18.85	19.60	18.61	17.94
57.50°	15.50	17.66	19.36	16.90	15.69	15.58	15.95	17.20	18.66	19.51	22.29	19.50	17.37	18.07	18.38	17.13	15.50
60.00°	14.77	15.96	16.75	16.30	15.05	14.93	15.24	15.66	16.89	18.54	19.40	17.90	16.49	16.85	16.48	15.74	14.77
62.50°	14.22	13.81	14.23	15.14	14.42	14.27	14.59	14.39	14.92	16.47	15.22	16.11	14.20	14.59	14.48	14.80	14.22
65.00°	14.19	11.98	12.83	13.62	13.81	13.58	13.30	13.27	13.49	13.24	13.21	13.96	12.69	12.72	13.32	13.84	14.19
67.50°	14.23	10.82	11.48	11.67	12.41	12.20	11.99	11.96	12.09	11.48	12.00	11.70	11.96	11.75	12.27	12.79	14.23
70.00°	11.73	10.28	10.39	10.08	9.65	10.28	11.08	10.55	9.67	10.95	9.69	9.30	9.80	10.48	11.06	11.59	11.73
72.50°	9.41	10.51	9.43	8.75	7.65	8.77	9.97	9.22	7.84	9.48	7.51	7.82	6.76	8.79	9.94	10.00	9.41
75.00°	8.23	9.18	8.71	6.69	6.18	7.27	8.48	7.77	7.24	7.72	7.46	6.89	5.90	7.31	9.33	8.35	8.23
77.50°	6.56	7.22	7.02	4.86	4.72	5.30	6.70	6.05	5.83	5.99	6.76	5.86	4.91	5.77	7.40	6.59	6.56
80.00°	4.72	4.93	4.86	3.58	3.36	3.90	4.48	4.41	4.36	4.70	5.44	4.04	3.52	3.68	4.70	4.15	4.72
82.50°	3.43	2.73	2.56	2.23	2.22	2.75	2.30	2.73	2.76	3.56	3.48	2.37	2.35	2.17	2.90	2.72	3.43
85.00°	1.39	1.05	1.38	1.34	1.44	1.45	1.23	1.38	1.38	1.85	1.43	1.44	1.31	1.29	1.82	1.42	1.39
87.50°	1.25	0.95	0.82	0.85	1.04	1.56	1.37	0.83	1.31	1.15	1.25	0.88	1.14	0.98	1.01	1.13	1.25
90.00°	1.15	1.15	1.13	0.81	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.30	1.42	1.26	0.91	1.15
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%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	830	830	830	830	810	810	810	810	774	774	774	741	741	741	711	711	711	697
	1	795	777	761	747	778	762	748	735	734	723	712	708	699	691	684	678	671	664
	2	762	731	706	685	747	719	697	678	697	679	663	677	662	649	658	646	635	633
	3	731	692	662	638	718	683	655	633	665	642	623	649	629	613	633	618	604	606
	4	703	658	625	600	691	651	620	597	636	610	590	623	601	583	611	592	577	581
	5	677	628	594	569	667	622	591	567	610	583	562	600	576	557	589	569	552	559
	6	653	602	568	543	644	597	564	541	587	559	537	578	553	534	569	548	531	538
	7	631	578	544	520	623	574	541	518	566	537	516	558	532	513	551	528	511	520
	8	610	557	523	499	603	553	521	498	546	517	497	540	514	495	534	510	493	502
	9	591	537	504	481	584	534	502	481	528	499	479	522	496	478	517	494	476	486
	10	573	519	486	465	567	516	485	464	511	483	463	506	480	462	502	478	461	471

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	97.6 fc	2.1 ft
6.5 ft	69.9 fc	2.4 ft
7.5 ft	52.5 fc	2.8 ft
8.0 ft	46.1 fc	3.0 ft
10.0 ft	29.5 fc	3.7 ft
12.0 ft	20.5 fc	4.5 ft
14.0 ft	15.1 fc	5.2 ft
16.0 ft	11.5 fc	6.0 ft
20.0 ft	7.4 fc	7.5 ft
24.0 ft	5.1 fc	9.0 ft
28.0 ft	3.8 fc	10.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1,241,687	1,241,687	1,241,687
45.00°	10,794	11,709	9,024
55.00°	13,152	14,490	11,560
65.00°	14,120	12,767	13,742
75.00°	13,363	14,153	10,039
85.00°	6,723	6,637	6,942

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	15.3	16.3	15.7	16.7	17.0	15.5	16.5	15.9	16.8	17.1
	3H	17.6	18.5	18.0	18.8	19.2	17.3	18.2	17.7	18.5	18.9
	4H	18.4	19.2	18.8	19.6	20.0	17.8	18.6	18.2	19.0	19.4
	6H	18.9	19.7	19.3	20.1	20.5	18.2	18.9	18.6	19.3	19.7
	8H	19.1	19.8	19.5	20.2	20.6	18.2	19.0	18.7	19.3	19.8
	12H	19.1	19.8	19.6	20.2	20.6	18.3	18.9	18.7	19.3	19.8
4H	2H	15.9	16.7	16.3	17.1	17.5	16.1	16.9	16.5	17.2	17.6
	3H	18.3	19.0	18.8	19.4	19.8	18.0	18.7	18.5	19.1	19.5
	4H	19.3	19.9	19.8	20.4	20.8	18.7	19.3	19.1	19.7	20.2
	6H	20.0	20.5	20.5	20.9	21.4	19.2	19.7	19.6	20.1	20.6
	8H	20.1	20.6	20.6	21.1	21.6	19.3	19.8	19.7	20.2	20.7
	12H	20.2	20.6	20.7	21.1	21.6	19.3	19.7	19.8	20.2	20.7
8H	4H	19.6	20.1	20.1	20.6	21.0	19.0	19.5	19.5	20.0	20.4
	6H	20.4	20.8	20.9	21.3	21.8	19.6	20.0	20.1	20.5	21.0
	8H	20.6	20.9	21.1	21.5	22.0	19.8	20.1	20.3	20.6	21.1
	12H	20.7	21.0	21.2	21.5	22.1	19.9	20.2	20.4	20.7	21.3
12H	4H	19.6	20.0	20.1	20.5	21.0	19.0	19.4	19.5	19.9	20.4
	6H	20.4	20.7	20.9	21.2	21.8	19.7	20.0	20.2	20.5	21.0
	8H	20.7	20.9	21.2	21.4	22.0	19.9	20.2	20.4	20.7	21.3

Corrected UGR values based on total output lumens

SHR = 1.0