

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03SMx xx DWDD1010 DLNFGPMW
Nom 3" Infinium Square Downlight, 10L dim to warm 27HK emitter

Test Number

SP-00944_2_M-10L

Test Date

11/6/2019

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	445
Efficacy	39.37 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.45
Two luminaires, plane 90°	0.45
Four luminaires	0.51

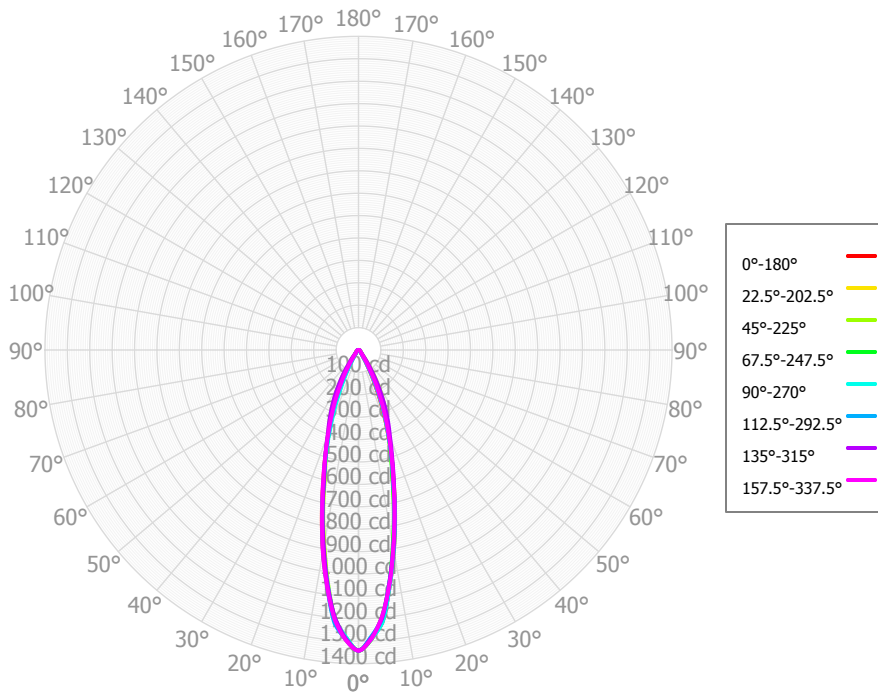
Full Beam Angle

0° - 180°	28°
90° - 270°	28°

IES File Header Contents

Keyword	Value
TEST	SP-00944_2_M-10L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/6/2019
ISSUEDATE	11/13/2019
LUMCAT	IF03SMx xx DWDD1010 DLNFGPMW
LUMINAIRE	Nom 3" Infinium Square Downlight, 10L dim to warm 27HK emitter
OTHER	Beam angle: 27.8 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°	105.64	23.75%	90.00° - 100.00°	0.05	0.01%
10.00° - 20.00°	165.94	37.30%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	105.73	23.77%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	32.94	7.41%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	11.76	2.64%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	8.81	1.98%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	7.59	1.71%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	5.02	1.13%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.35	0.30%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	444.80	99.99%	0.00° - 180.00°	444.85	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°	1,342.17	1,342.17	1,342.17	1,342.17	1,342.17	1,342.17	1,342.17	1,342.17	1,342.17	1,342.17	1,342.17	1,342.17	1,342.17	1,342.17	1,342.17	1,342.17	1,342.17
2.50°	1,289.78	1,291.61	1,291.52	1,295.21	1,291.73	1,293.40	1,290.92	1,297.02	1,288.48	1,293.64	1,285.39	1,294.64	1,283.36	1,282.33	1,288.40	1,293.17	1,289.78
5.00°	1,220.76	1,204.41	1,215.22	1,197.61	1,222.58	1,224.91	1,201.68	1,210.90	1,217.13	1,211.52	1,204.67	1,204.16	1,208.06	1,204.93	1,202.23	1,196.74	1,220.76
7.50°	1,064.49	1,058.30	1,053.70	1,055.65	1,065.08	1,067.70	1,058.03	1,069.91	1,065.07	1,061.01	1,048.05	1,062.35	1,055.11	1,051.05	1,052.22	1,057.49	1,064.49
10.00°	908.36	893.00	892.36	883.22	907.31	909.70	893.16	916.29	912.39	906.06	881.12	905.76	900.53	895.71	899.63	893.13	908.36
12.50°	753.77	739.67	731.50	728.55	748.20	747.80	740.56	751.04	755.10	744.36	728.37	737.48	746.10	743.55	743.62	742.89	753.77
15.00°	604.24	589.19	588.24	583.93	599.27	597.66	591.57	611.28	604.74	603.01	576.64	598.87	594.69	594.95	609.01	599.43	604.24
17.50°	486.42	478.51	483.07	476.12	485.49	488.25	490.60	490.48	489.63	486.95	484.56	479.16	479.09	486.44	497.85	487.11	486.42
20.00°	372.63	374.31	394.21	384.77	378.12	387.13	399.83	393.17	379.91	389.21	394.37	382.16	366.21	380.94	410.14	386.40	372.63
22.50°	276.80	289.43	333.25	306.54	288.09	308.49	337.92	309.87	289.62	310.16	336.16	296.66	271.43	295.37	343.24	301.50	276.80
25.00°	188.75	206.57	273.82	232.83	204.79	233.76	280.29	237.20	205.99	237.07	277.98	221.22	182.82	213.46	277.77	221.03	188.75
27.50°	125.93	146.31	216.48	168.44	135.61	167.28	223.79	169.73	140.33	168.91	219.99	149.90	121.69	147.80	213.33	157.61	125.93
30.00°	74.35	87.40	161.11	106.54	81.23	110.53	167.38	118.32	85.96	115.84	163.17	100.40	69.61	90.37	155.66	97.77	74.35
32.50°	50.52	61.71	107.97	70.63	51.49	70.04	121.01	73.01	56.10	72.81	113.68	57.72	47.46	59.57	102.01	66.51	50.52
35.00°	32.35	37.03	68.87	39.60	31.08	41.08	75.52	48.66	34.19	46.87	69.21	39.02	29.74	34.87	66.27	39.18	32.35
37.50°	25.46	29.05	42.74	28.54	23.53	28.01	51.59	30.31	25.94	30.29	46.13	25.77	23.37	25.72	38.93	29.45	25.46
40.00°	19.95	21.56	27.54	19.83	18.20	19.51	28.90	22.61	19.78	22.27	27.05	20.54	18.18	18.66	26.09	21.00	19.95
42.50°	16.61	18.10	20.49	16.55	15.34	16.10	21.72	17.20	16.49	17.94	20.98	16.61	15.35	15.74	18.53	17.81	16.61
45.00°	14.12	14.87	16.17	13.63	12.76	13.64	15.19	15.06	14.18	15.40	16.14	14.88	13.07	13.33	14.93	14.80	14.12
47.50°	12.71	12.89	13.53	11.74	10.44	12.04	13.16	13.38	12.98	13.47	14.31	13.37	11.66	11.73	12.46	13.40	12.71
50.00°	11.32	11.08	11.85	9.90	9.28	10.66	11.41	11.94	12.12	12.52	12.85	12.01	10.46	10.60	11.17	12.05	11.32
52.50°	9.94	9.89	10.65	8.96	8.99	9.47	10.96	10.52	11.57	11.83	12.10	10.66	9.56	10.09	10.12	11.26	9.94
55.00°	9.16	9.12	9.90	8.12	8.51	8.93	10.47	10.15	10.68	11.10	11.35	10.02	8.83	9.48	9.70	10.43	9.16
57.50°	8.90	9.50	9.32	8.17	7.91	8.80	9.86	9.80	9.55	10.36	10.63	9.38	8.30	8.75	9.37	9.22	8.90
60.00°	8.60	9.65	8.98	8.18	7.57	8.15	9.20	9.36	8.76	9.65	9.76	8.87	8.01	8.07	8.50	8.20	8.60
62.50°	8.29	9.28	8.73	7.94	7.37	7.26	8.42	8.89	8.18	8.95	8.72	8.32	7.91	7.41	7.59	7.99	8.29
65.00°	8.00	8.77	8.24	7.63	6.95	7.04	7.71	7.99	7.68	8.73	7.91	7.41	7.30	6.89	7.01	7.78	8.00
67.50°	7.73	8.02	7.71	7.04	6.45	7.08	7.15	7.21	7.21	8.45	7.34	6.61	6.34	6.47	6.44	7.59	7.73
70.00°	6.96	7.39	6.86	6.42	5.77	6.16	6.33	6.94	6.50	7.13	6.46	6.19	5.40	5.97	5.96	7.21	6.96
72.50°	6.01	6.89	6.03	5.72	5.02	5.09	5.26	6.34	5.71	6.16	5.44	5.53	4.46	5.41	5.47	6.57	6.01
75.00°	4.98	5.60	5.35	5.02	3.86	4.11	4.92	5.33	4.77	5.78	5.16	4.63	3.54	4.23	4.97	5.40	4.98
77.50°	3.86	4.19	4.65	4.20	3.18	3.50	4.18	4.22	3.85	4.29	4.25	3.67	2.88	3.27	3.70	3.96	3.86
80.00°	2.65	2.94	3.70	2.88	2.76	2.85	2.62	3.19	2.86	3.09	2.90	2.84	2.26	2.48	2.35	2.31	2.65
82.50°	1.63	1.83	2.02	1.99	1.70	1.40	1.53	2.21	1.76	2.36	1.86	1.96	1.36	1.55	1.34	1.56	1.63
85.00°	0.88	0.64	0.84	0.94	0.84	1.04	0.83	1.17	0.88	1.40	1.00	1.00	0.92	0.79	0.66	0.83	0.88
87.50°	0.65	0.70	0.70	0.80	0.86	0.58	0.62	0.67	0.75	0.90	0.84	1.00	0.72	0.62	0.55	0.69	0.65
90.00°	0.77	0.61	0.71	0.84	0.75	0.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.64	0.77
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	530	530	530	530	517	517	517	517	494	494	494	473	473	473	454	454	445
	1	507	495	485	475	496	485	476	468	467	460	453	451	445	440	436	431	427
	2	485	465	448	434	475	457	442	430	443	431	420	430	420	411	418	410	403
	3	464	439	419	403	456	433	414	400	421	406	393	411	398	387	401	390	381
	4	445	416	394	377	438	411	391	375	402	384	371	393	378	367	385	373	363
	5	428	396	373	356	421	392	370	355	384	366	352	377	361	349	370	357	346
	6	412	377	355	338	406	374	353	337	368	349	335	362	345	333	356	342	330
	7	396	361	338	322	391	358	337	321	353	334	320	348	331	318	343	328	317
	8	382	346	324	308	377	344	323	308	340	320	306	335	318	305	331	316	304
	9	369	333	311	296	365	331	310	295	327	308	294	323	306	293	320	304	292
	10	357	320	299	284	353	319	298	284	315	296	283	312	295	282	309	293	282

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	44.4 fc	2.7 ft
6.5 ft	31.8 fc	3.2 ft
7.5 ft	23.9 fc	3.7 ft
8.0 ft	21.0 fc	4.0 ft
10.0 ft	13.4 fc	4.9 ft
12.0 ft	9.3 fc	5.9 ft
14.0 ft	6.8 fc	6.9 ft
16.0 ft	5.2 fc	7.9 ft
20.0 ft	3.4 fc	9.9 ft
24.0 ft	2.3 fc	11.9 ft
28.0 ft	1.7 fc	13.8 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	564,336	564,336	564,336
45.00°	8,397	9,612	7,589
55.00°	6,718	7,257	6,237
65.00°	7,961	8,201	6,914
75.00°	8,090	8,699	6,264
85.00°	4,259	4,064	4,066

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	12.7	13.7	13.1	14.0	14.3	12.4	13.4	12.8	13.7	14.0
	3H	15.3	16.2	15.7	16.5	16.9	14.6	15.4	14.9	15.8	16.1
	4H	16.3	17.1	16.7	17.5	17.8	15.3	16.1	15.7	16.4	16.8
	6H	16.8	17.6	17.2	17.9	18.3	15.8	16.5	16.2	16.9	17.3
	8H	16.9	17.6	17.3	18.0	18.4	15.9	16.6	16.4	17.0	17.4
	12H	16.9	17.6	17.4	18.0	18.4	16.0	16.7	16.4	17.0	17.5
4H	2H	13.4	14.2	13.8	14.5	14.9	13.2	14.0	13.6	14.4	14.8
	3H	16.2	16.9	16.6	17.3	17.7	15.5	16.2	15.9	16.6	17.0
	4H	17.3	17.9	17.8	18.4	18.8	16.4	17.0	16.8	17.4	17.8
	6H	17.9	18.5	18.4	18.9	19.4	17.0	17.5	17.5	18.0	18.5
	8H	18.1	18.5	18.5	19.0	19.5	17.2	17.7	17.7	18.1	18.6
	12H	18.1	18.5	18.6	19.0	19.5	17.3	17.7	17.8	18.2	18.7
8H	4H	17.6	18.1	18.1	18.6	19.0	16.8	17.3	17.3	17.7	18.2
	6H	18.4	18.7	18.9	19.2	19.7	17.6	18.0	18.1	18.5	19.0
	8H	18.5	18.9	19.1	19.4	19.9	17.8	18.2	18.4	18.7	19.2
	12H	18.6	18.9	19.2	19.4	20.0	18.0	18.3	18.5	18.8	19.3
12H	4H	17.6	18.0	18.1	18.5	19.0	16.8	17.2	17.3	17.7	18.2
	6H	18.4	18.7	18.9	19.2	19.7	17.6	18.0	18.2	18.5	19.0
	8H	18.6	18.9	19.1	19.4	20.0	17.9	18.2	18.4	18.7	19.3

Corrected UGR values based on total output lumens

SHR = 1.0