

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

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

Test Number

SP-00944_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	493
Efficacy	43.64 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.91
Two luminaires, plane 90°	0.9
Four luminaires	0.89

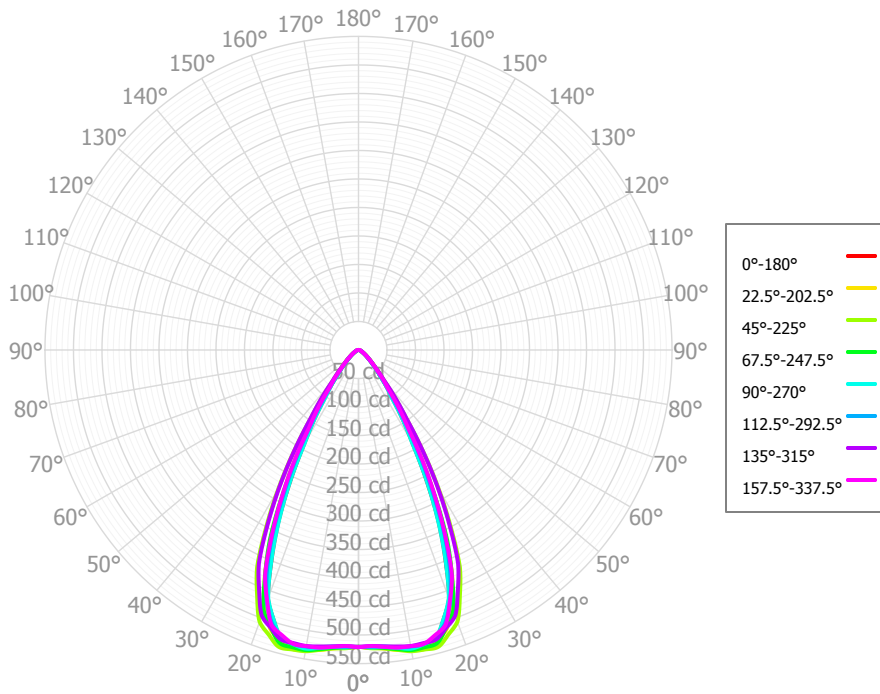
Full Beam Angle

0° - 180°	54°
90° - 270°	54°

IES File Header Contents

Keyword	Value
TEST	SP-00944_M-10L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/6/2019
ISSUEDATE	11/14/2019
LUMCAT	IF03SMx xx DWDD1010 DLWFGPMW
LUMINAIRE	Nom 3" Infinium Square Downlight, 10L dim to warm 27HK emitter
OTHER	Beam angle: 53.6 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°	51.08	10.36%	90.00° - 100.00°	0.05	0.01%
10.00° - 20.00°	145.84	29.57%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	163.14	33.08%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	79.60	16.14%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	29.79	6.04%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	13.25	2.69%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	6.30	1.28%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	3.10	0.63%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.99	0.20%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	493.09	99.99%	0.00° - 180.00°	493.14	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°	520.92	520.92	520.92	520.92	520.92	520.92	520.92	520.92	520.92	520.92	520.92	520.92	520.92	520.92	520.92	520.92	520.92
2.50°	523.02	522.68	523.83	522.03	522.13	521.10	519.79	519.98	523.02	522.68	523.83	522.03	522.13	521.10	519.79	519.98	523.02
5.00°	524.67	525.80	525.49	524.79	523.04	522.27	522.01	522.79	524.67	525.80	525.49	524.79	523.04	522.27	522.01	522.79	524.67
7.50°	528.60	530.81	530.68	529.42	526.90	525.77	524.65	526.55	528.60	530.81	530.68	529.42	526.90	525.77	524.65	526.55	528.60
10.00°	532.71	534.30	536.46	534.55	531.94	528.07	527.36	527.67	532.71	534.30	536.46	534.55	531.94	528.07	527.36	527.67	532.71
12.50°	529.11	537.07	538.08	534.13	528.77	528.48	526.73	528.10	529.11	537.07	538.08	534.13	528.77	528.48	526.73	528.10	529.11
15.00°	524.72	527.63	539.28	532.61	523.13	521.15	525.79	518.19	524.72	527.63	539.28	532.61	523.13	521.15	525.79	518.19	524.72
17.50°	496.03	513.63	523.70	510.76	495.61	503.92	511.29	506.40	496.03	513.63	523.70	510.76	495.61	503.92	511.29	506.40	496.03
20.00°	464.58	475.06	507.25	486.33	463.11	470.60	496.02	468.71	464.58	475.06	507.25	486.33	463.11	470.60	496.02	468.71	464.58
22.50°	399.06	429.30	464.92	428.18	399.09	420.12	455.65	428.12	399.06	429.30	464.92	428.18	399.09	420.12	455.65	428.12	399.06
25.00°	332.66	361.19	420.90	367.87	330.24	357.34	413.48	360.67	332.66	361.19	420.90	367.87	330.24	357.34	413.48	360.67	332.66
27.50°	259.88	288.39	350.79	292.30	259.57	283.93	345.33	291.67	259.88	288.39	350.79	292.30	259.57	283.93	345.33	291.67	259.88
30.00°	191.70	222.61	280.68	217.30	188.75	218.14	277.27	225.57	191.70	222.61	280.68	217.30	188.75	218.14	277.27	225.57	191.70
32.50°	145.55	157.79	210.54	162.27	144.04	157.67	209.86	160.81	145.55	157.79	210.54	162.27	144.04	157.67	209.86	160.81	145.55
35.00°	104.56	118.91	145.03	109.83	100.66	115.15	146.85	121.18	104.56	118.91	145.03	109.83	100.66	115.15	146.85	121.18	104.56
37.50°	81.21	82.13	104.03	83.37	79.02	82.94	106.40	83.62	81.21	82.13	104.03	83.37	79.02	82.94	106.40	83.62	81.21
40.00°	60.70	64.40	68.23	58.82	58.07	62.11	70.75	64.72	60.70	64.40	68.23	58.82	58.07	62.11	70.75	64.72	60.70
42.50°	47.78	47.35	51.75	46.42	46.21	46.44	52.55	47.20	47.78	47.35	51.75	46.42	46.21	46.44	52.55	47.20	47.78
45.00°	36.66	38.30	37.51	34.98	34.95	36.21	37.12	37.55	36.66	38.30	37.51	34.98	34.95	36.21	37.12	37.55	36.66
47.50°	29.27	29.52	29.48	27.63	27.88	27.88	29.22	28.73	29.27	29.52	29.48	27.63	27.88	27.88	29.22	28.73	29.27
50.00°	22.95	24.13	22.65	21.08	21.36	22.32	22.40	23.17	22.95	24.13	22.65	21.08	21.36	22.32	22.40	23.17	22.95
52.50°	18.39	18.99	18.49	17.04	17.54	17.52	17.93	18.13	18.39	18.99	18.49	17.04	17.54	17.52	17.93	18.13	18.39
55.00°	14.57	15.45	14.70	13.43	13.97	14.13	14.13	14.59	14.57	15.45	14.70	13.43	13.97	14.13	14.13	14.59	14.57
57.50°	11.75	12.16	11.56	10.88	11.30	11.02	11.50	11.48	11.75	12.16	11.56	10.88	11.30	11.02	11.50	11.48	11.75
60.00°	9.45	10.00	9.03	8.66	8.93	8.97	9.21	9.39	9.45	10.00	9.03	8.66	8.93	8.97	9.21	9.39	9.45
62.50°	7.72	8.04	7.37	7.09	7.31	7.06	7.40	7.61	7.72	8.04	7.37	7.09	7.31	7.06	7.40	7.61	7.72
65.00°	6.42	6.77	5.96	5.79	5.90	6.05	6.04	6.41	6.42	6.77	5.96	5.79	5.90	6.05	6.04	6.41	6.42
67.50°	5.51	5.55	4.81	4.90	4.93	5.12	5.17	5.41	5.51	5.55	4.81	4.90	4.93	5.12	5.17	5.41	5.51
70.00°	4.54	4.43	4.10	4.16	4.03	4.32	4.26	4.65	4.54	4.43	4.10	4.16	4.03	4.32	4.26	4.65	4.54
72.50°	3.53	3.72	3.64	3.54	3.24	3.55	3.32	3.84	3.53	3.72	3.64	3.54	3.24	3.55	3.32	3.84	3.53
75.00°	2.86	3.23	3.07	2.69	2.56	2.85	3.12	3.02	2.86	3.23	3.07	2.69	2.56	2.85	3.12	3.02	2.86
77.50°	2.27	2.28	2.49	2.01	1.95	2.34	2.64	2.25	2.27	2.28	2.49	2.01	1.95	2.34	2.64	2.25	2.27
80.00°	1.75	1.73	1.89	1.64	1.43	1.77	1.88	1.74	1.75	1.73	1.89	1.64	1.43	1.77	1.88	1.74	1.75
82.50°	1.25	1.19	1.19	1.13	1.14	1.18	1.08	1.20	1.25	1.19	1.19	1.13	1.14	1.18	1.08	1.20	1.25
85.00°	0.77	0.83	0.78	0.87	0.60	0.83	0.81	0.72	0.77	0.83	0.78	0.87	0.60	0.83	0.81	0.72	0.77
87.50°	0.68	0.68	0.63	0.63	0.61	0.70	0.74	0.68	0.68	0.68	0.63	0.63	0.61	0.70	0.74	0.68	0.68
90.00°	0.31	0.40	0.33	0.32	0.46	0.33	0.27	0.35	0.31	0.40	0.33	0.32	0.46	0.33	0.27	0.35	0.31
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	587	587	587	587	573	573	573	573	548	548	548	525	525	525	503	503	493
	1	559	544	532	520	546	534	522	512	514	504	496	495	488	481	478	473	463
	2	530	505	485	468	519	497	478	462	481	465	452	466	453	442	452	442	433
	3	503	470	445	425	493	463	440	422	450	431	415	438	422	408	427	414	406
	4	477	439	411	390	468	433	408	388	423	401	383	413	394	379	404	388	380
	5	453	411	382	360	445	406	379	359	398	374	356	389	369	352	382	364	357
	6	430	386	356	335	423	382	354	334	375	350	331	368	346	329	361	342	336
	7	409	363	333	312	403	360	332	311	354	328	310	348	325	308	342	322	316
	8	390	343	313	292	384	340	312	292	334	309	291	329	306	289	325	304	299
	9	372	324	295	275	366	321	293	274	317	291	273	312	289	272	308	287	283
	10	355	307	278	259	350	305	277	259	301	275	258	297	274	257	293	272	268

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	17.2 fc	5.6 ft
6.5 ft	12.3 fc	6.7 ft
7.5 ft	9.3 fc	7.7 ft
8.0 ft	8.1 fc	8.2 ft
10.0 ft	5.2 fc	10.3 ft
12.0 ft	3.6 fc	12.3 ft
14.0 ft	2.7 fc	14.4 ft
16.0 ft	2.0 fc	16.4 ft
20.0 ft	1.3 fc	20.5 ft
24.0 ft	0.9 fc	24.6 ft
28.0 ft	0.7 fc	28.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	219,028	219,028	219,028
45.00°	21,797	22,306	20,781
55.00°	10,679	10,778	10,239
65.00°	6,392	5,928	5,874
75.00°	4,654	4,984	4,153
85.00°	3,723	3,758	2,910

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	13.9	14.9	14.3	15.2	15.6	13.4	14.4	13.8	14.7	15.1
	3H	14.8	15.7	15.2	16.0	16.4	14.2	15.2	14.6	15.5	15.9
	4H	15.1	15.9	15.5	16.3	16.7	14.5	15.4	14.9	15.7	16.1
	6H	15.3	16.1	15.7	16.4	16.8	14.7	15.5	15.1	15.8	16.2
	8H	15.3	16.1	15.8	16.5	16.9	14.8	15.5	15.2	15.9	16.3
	12H	15.4	16.1	15.8	16.5	16.9	14.8	15.5	15.2	15.8	16.3
4H	2H	14.0	14.9	14.4	15.2	15.6	13.6	14.4	14.0	14.8	15.2
	3H	15.1	15.8	15.5	16.2	16.6	14.7	15.3	15.1	15.7	16.2
	4H	15.6	16.2	16.0	16.6	17.0	15.0	15.7	15.5	16.1	16.5
	6H	15.9	16.4	16.3	16.8	17.3	15.3	15.9	15.8	16.3	16.8
	8H	16.0	16.4	16.4	16.9	17.4	15.4	15.9	15.9	16.4	16.8
	12H	16.0	16.4	16.5	16.9	17.4	15.5	15.9	16.0	16.4	16.9
8H	4H	15.6	16.1	16.1	16.6	17.1	15.2	15.7	15.7	16.1	16.6
	6H	16.1	16.4	16.6	16.9	17.4	15.6	16.0	16.1	16.5	17.0
	8H	16.2	16.6	16.7	17.1	17.6	15.7	16.1	16.3	16.6	17.1
	12H	16.3	16.6	16.9	17.1	17.7	15.9	16.2	16.4	16.7	17.2
12H	4H	15.6	16.0	16.1	16.5	17.0	15.2	15.6	15.7	16.1	16.6
	6H	16.1	16.4	16.6	16.9	17.4	15.6	15.9	16.1	16.4	17.0
	8H	16.2	16.5	16.8	17.0	17.6	15.8	16.1	16.3	16.6	17.2

Corrected UGR values based on total output lumens

SHR = 1.0