

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03SMx xx 835 010 DLNFGC MW
Nom 3" Square Infinium recessed downlight

Test Number

SP-007673_M-010L

Test Date

The results contained in this report pertain only to this IES file.

Summary of Results

Power

Input Watts	9.3 W
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Lumen Output

Output Lumens	498
Efficacy	53.57 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.51
Two luminaires, plane 90°	0.51
Four luminaires	0.56

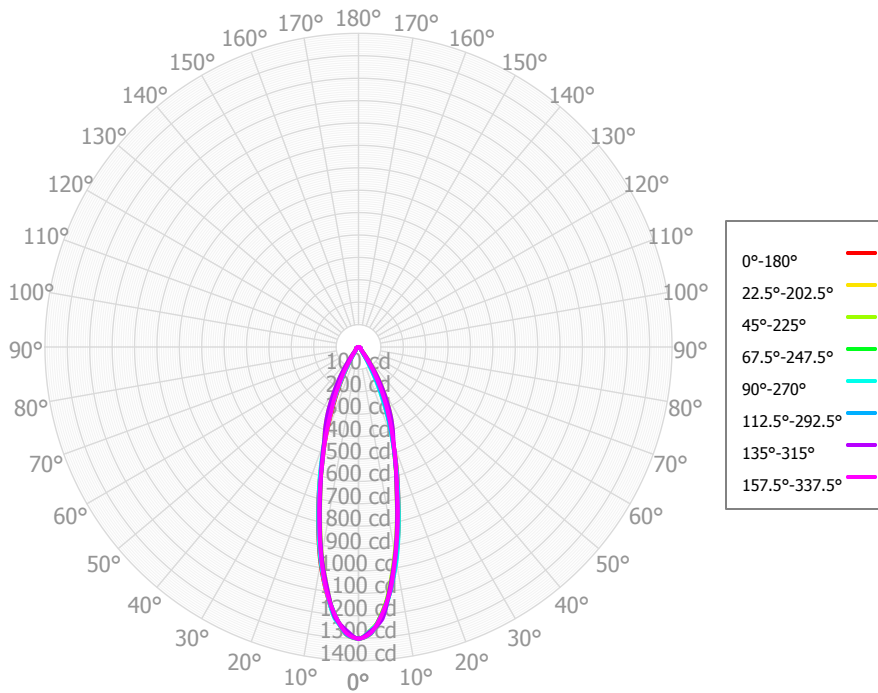
Full Beam Angle

0° - 180°	31°
90° - 270°	31°

IES File Header Contents

Keyword	Value
TEST	SP-007673_M-010L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/11/2019
UPDATE	2/28/2019
LUMCAT	IF03SMx xx 835 010 DLNFGC MW
LUMINAIRE	Nom 3" Square Infinium recessed downlight
OTHER	Beam Angle: 31 degrees
OTHER	Narrow Flood optic, Clear glass lens
OTHER	Aluminum bezel contains lens
LAMPCAT	N/A
LAMP	N/A, CRI: 80, Philips
OTHER	CCT Multiplier: 40K x 1.03
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting, scaled from 20L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	107.80	21.64%	90.00° - 100.00°	0.05	0.01%
10.00° - 20.00°	184.17	36.97%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	127.65	25.62%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	41.08	8.25%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	12.83	2.58%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	10.14	2.03%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	9.94	2.00%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	3.40	0.68%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.14	0.23%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	498.15	99.99%	0.00° - 180.00°	498.20	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°	1,302.24	1,302.24	1,302.24	1,302.24	1,302.24	1,302.24	1,302.24	1,302.24	1,302.24	1,302.24	1,302.24	1,302.24	1,302.24	1,302.24	1,302.24	1,302.24	1,302.24
2.50°	1,269.53	1,281.62	1,264.32	1,275.84	1,265.79	1,283.72	1,265.57	1,278.57	1,271.18	1,285.06	1,267.96	1,279.04	1,269.43	1,280.71	1,269.08	1,277.76	1,269.53
5.00°	1,206.96	1,192.08	1,207.96	1,195.52	1,213.52	1,201.34	1,211.60	1,201.52	1,212.10	1,201.44	1,211.44	1,201.38	1,217.92	1,199.18	1,219.77	1,198.73	1,206.96
7.50°	1,094.12	1,088.73	1,073.09	1,089.55	1,095.23	1,099.31	1,081.17	1,099.13	1,103.01	1,102.57	1,079.27	1,093.24	1,097.91	1,098.14	1,081.27	1,094.03	1,094.12
10.00°	965.20	947.15	933.15	949.44	974.59	958.11	948.37	958.99	978.99	957.89	943.14	953.19	973.45	955.28	942.16	949.55	965.20
12.50°	826.76	806.75	791.71	808.16	829.40	808.81	798.12	806.57	831.51	807.06	791.92	800.59	827.83	813.22	795.77	807.40	826.76
15.00°	686.03	668.87	651.63	665.63	685.75	671.76	654.76	667.79	687.62	668.79	651.88	664.62	686.40	672.56	654.93	668.21	686.03
17.50°	566.61	545.72	549.79	547.52	561.82	536.38	545.70	532.36	548.36	531.48	543.87	533.62	559.66	548.00	552.43	551.10	566.61
20.00°	450.75	448.27	452.10	451.53	440.81	444.32	447.09	428.55	424.72	429.93	449.83	436.24	439.66	446.26	457.79	456.84	450.75
22.50°	354.72	359.96	398.12	366.94	341.16	355.45	386.58	330.14	317.44	329.99	387.39	346.54	337.64	354.44	400.37	372.86	354.72
25.00°	260.78	284.69	342.82	290.75	244.96	276.94	324.29	256.20	227.28	256.45	322.81	267.72	242.45	274.02	341.09	297.80	260.78
27.50°	188.64	215.33	278.80	218.02	165.79	199.10	257.14	184.92	151.94	184.33	254.33	190.59	161.73	198.98	275.44	228.57	188.64
30.00°	117.70	152.83	215.99	147.36	96.04	136.34	193.48	128.97	96.21	129.37	190.86	129.55	96.12	129.13	211.29	163.44	117.70
32.50°	76.33	100.51	158.67	94.08	59.81	76.45	137.56	73.85	54.44	77.84	134.73	69.98	56.38	78.92	151.10	109.12	76.33
35.00°	36.64	57.91	105.55	49.30	31.45	50.42	89.58	50.28	33.48	50.51	88.45	47.15	30.54	44.08	97.86	60.94	36.64
37.50°	27.66	33.64	66.24	30.60	24.68	26.95	55.57	27.58	24.48	27.22	54.07	26.03	23.87	26.93	59.32	37.01	27.66
40.00°	19.28	23.81	34.89	21.90	19.25	21.81	31.71	22.18	20.08	22.84	32.25	21.76	19.18	20.98	31.61	24.36	19.28
42.50°	16.28	18.12	24.23	18.07	16.71	17.36	22.22	17.20	17.83	18.96	22.92	17.63	16.71	17.45	22.14	18.51	16.28
45.00°	13.58	15.08	16.48	15.66	14.37	16.16	16.52	16.25	15.95	16.84	17.77	15.62	14.50	15.17	15.93	15.14	13.58
47.50°	12.52	13.19	14.63	14.04	12.38	14.71	15.31	15.15	14.22	14.87	15.99	13.75	12.52	13.67	14.20	13.39	12.52
50.00°	11.32	11.90	13.28	12.59	10.86	12.39	14.20	13.23	12.44	13.27	14.40	13.12	10.80	12.48	12.77	12.10	11.32
52.50°	9.51	11.44	12.75	11.30	10.02	10.73	13.21	11.70	10.64	11.93	12.93	12.47	9.27	11.19	11.66	10.89	9.51
55.00°	8.27	11.32	12.61	10.04	9.61	10.84	13.06	11.77	10.00	11.13	12.74	11.73	8.77	9.86	11.35	9.70	8.27
57.50°	8.74	11.27	13.01	10.87	9.71	11.10	13.57	11.83	9.59	11.15	13.25	11.26	8.91	10.07	11.76	10.45	8.74
60.00°	9.42	11.24	12.94	11.89	10.15	11.67	13.47	11.88	10.52	12.57	13.44	11.85	9.74	10.65	11.77	11.46	9.42
62.50°	10.60	11.12	12.33	11.59	10.93	11.66	12.97	11.64	11.63	12.73	13.49	11.97	10.92	10.77	11.47	11.31	10.60
65.00°	10.80	10.98	10.87	11.20	10.67	10.71	10.85	10.70	10.67	11.13	10.98	10.68	10.39	10.82	10.15	11.07	10.80
67.50°	9.10	9.30	8.63	9.05	9.58	8.75	7.92	8.90	9.38	8.94	7.64	8.79	9.21	9.05	8.19	8.69	9.10
70.00°	7.04	7.37	6.58	6.89	7.01	5.66	5.42	5.86	5.94	6.21	5.50	5.87	6.20	7.06	6.03	6.33	7.04
72.50°	4.57	4.79	4.63	4.74	3.72	3.63	3.26	3.82	3.40	4.07	3.79	3.66	3.36	4.39	3.78	4.33	4.57
75.00°	3.31	3.02	3.55	3.11	2.78	2.23	2.34	2.41	2.23	2.44	3.10	1.97	2.42	2.64	2.79	2.91	3.31
77.50°	2.59	2.61	2.86	2.03	2.17	2.05	1.73	2.01	1.99	2.02	2.20	1.59	1.78	2.16	2.07	2.13	2.59
80.00°	2.37	2.32	2.71	1.93	1.85	1.80	1.42	1.76	1.88	1.68	1.64	1.24	1.41	2.04	1.69	2.41	2.37
82.50°	2.16	1.82	1.82	1.55	1.25	1.57	1.25	1.34	1.44	1.47	1.34	1.01	1.09	1.46	1.40	1.95	2.16
85.00°	1.10	1.10	0.97	0.96	0.65	0.90	0.90	0.77	0.79	0.89	0.91	0.69	0.60	0.91	0.85	1.08	1.10
87.50°	0.64	0.66	1.05	0.67	0.70	0.64	0.65	0.71	0.89	0.72	0.66	0.45	0.64	0.86	0.68	0.81	0.64
90.00°	0.66	0.68	0.78	0.63	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.61	0.62	0.66
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	593	593	593	593	579	579	579	579	554	554	554	530	530	530	508	508	498
	1	567	554	543	532	555	544	533	524	523	515	508	505	499	492	488	483	478
	2	542	520	502	486	532	512	495	481	496	482	470	481	470	460	467	458	449
	3	519	490	468	450	510	483	463	446	470	453	439	459	444	432	448	436	428
	4	497	464	439	420	489	458	436	418	448	428	413	438	422	408	429	415	404
	5	477	440	415	396	470	436	412	394	427	407	391	419	401	387	412	396	384
	6	458	420	393	375	452	416	391	373	409	387	371	402	383	369	396	379	366
	7	441	401	375	356	435	398	373	355	392	370	354	386	366	352	381	363	350
	8	425	383	358	340	419	381	356	339	376	354	338	371	351	337	367	349	335
	9	409	368	342	325	404	366	341	325	361	339	324	357	337	323	353	335	322
	10	395	353	329	312	390	351	328	312	348	326	311	344	324	310	341	322	309

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	43.0 fc	3.1 ft
6.5 ft	30.8 fc	3.7 ft
7.5 ft	23.2 fc	4.2 ft
8.0 ft	20.3 fc	4.5 ft
10.0 ft	13.0 fc	5.6 ft
12.0 ft	9.0 fc	6.8 ft
14.0 ft	6.6 fc	7.9 ft
16.0 ft	5.1 fc	9.0 ft
20.0 ft	3.3 fc	11.3 ft
24.0 ft	2.3 fc	13.5 ft
28.0 ft	1.7 fc	15.8 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	547,547	547,547	547,547
45.00°	8,073	9,798	8,545
55.00°	6,059	9,246	7,046
65.00°	10,743	10,812	10,612
75.00°	5,379	5,767	4,523
85.00°	5,325	4,681	3,156

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	13.2	14.2	13.6	14.5	14.8	13.4	14.4	13.8	14.8	15.1
	3H	15.7	16.5	16.0	16.9	17.2	15.6	16.5	16.0	16.9	17.2
	4H	16.0	16.8	16.4	17.1	17.5	15.8	16.6	16.2	17.0	17.3
	6H	16.2	16.9	16.6	17.3	17.7	15.9	16.6	16.3	17.0	17.4
	8H	16.4	17.1	16.8	17.4	17.9	15.9	16.6	16.3	17.0	17.4
	12H	16.5	17.1	16.9	17.5	17.9	15.9	16.6	16.3	17.0	17.4
4H	2H	14.3	15.1	14.7	15.4	15.8	14.5	15.3	14.9	15.7	16.1
	3H	16.5	17.1	16.9	17.6	18.0	16.4	17.1	16.8	17.5	17.9
	4H	16.8	17.4	17.2	17.8	18.3	16.5	17.1	17.0	17.5	18.0
	6H	17.1	17.6	17.6	18.1	18.5	16.7	17.2	17.1	17.6	18.1
	8H	17.3	17.8	17.8	18.2	18.7	16.7	17.2	17.2	17.6	18.1
	12H	17.4	17.8	17.9	18.3	18.8	16.7	17.1	17.2	17.6	18.1
8H	4H	16.8	17.3	17.3	17.8	18.2	16.5	17.0	17.0	17.4	17.9
	6H	17.3	17.7	17.8	18.2	18.7	16.7	17.1	17.2	17.6	18.1
	8H	17.6	17.9	18.1	18.4	18.9	16.8	17.2	17.4	17.7	18.2
	12H	17.8	18.1	18.3	18.6	19.2	16.9	17.2	17.4	17.7	18.3
12H	4H	16.8	17.2	17.3	17.7	18.2	16.5	16.9	17.0	17.4	17.9
	6H	17.3	17.6	17.8	18.1	18.6	16.7	17.0	17.2	17.5	18.1
	8H	17.6	17.9	18.2	18.4	19.0	16.9	17.2	17.4	17.6	18.2

Corrected UGR values based on total output lumens

SHR = 1.0