Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03SSx IC 835 010 N11 DLWFGC MW

Nom 3" Square Infinium recessed downlight

Test Number

SP-00765_M-010L

Test Date

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

Summary of Results

Power

Input Watts	7.3 W

Lumen Output

Output Lumens	520
Efficacy	71.23 lm/W

Luminous Dimensions

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

Spacing Criterion

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

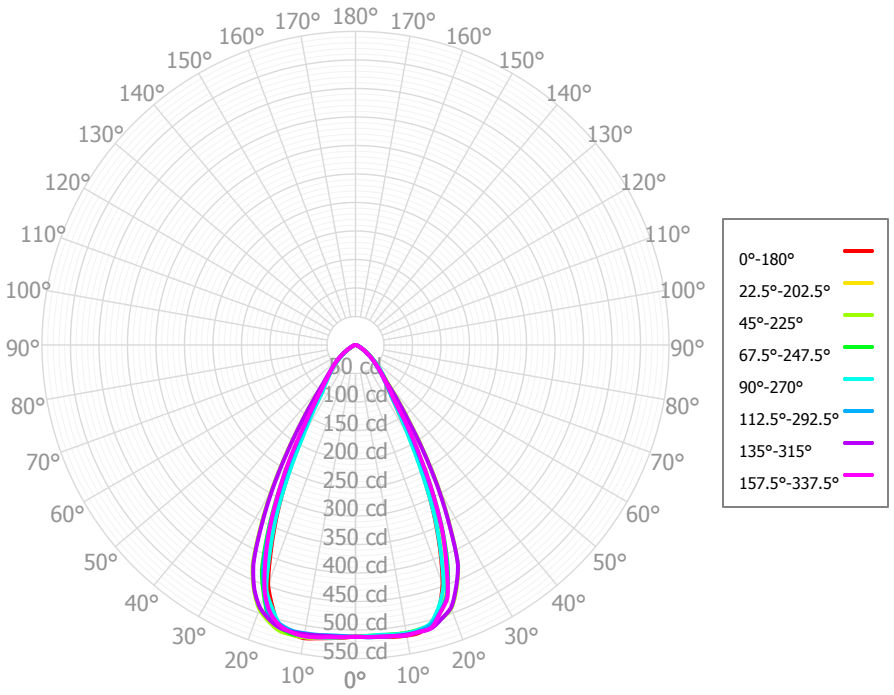
Full Beam Angle

0° - 180°	55°
90° - 270°	54°

IES File Header Contents

Keyword	Value
TEST	SP-00765_M-010L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/11/2019
UPDATE	3/11/2019
LUMCAT	IF03SSx IC 835 010 N11 DLWFGC MW
LUMINAIRE	Nom 3" Square Infinium recessed downlight
OTHER	Beam Angle: 54 degrees
OTHER	Wide 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°	49.90	9.60%	90.00° - 100.00°	0.04	0.01%
10.00° - 20.00°	141.98	27.30%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	162.66	31.28%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	85.62	16.47%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	44.74	8.60%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	22.78	4.38%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	8.48	1.63%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	2.93	0.56%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.86	0.16%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	519.95	99.99%	0.00° - 180.00°	519.99	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°	511.90	511.90	511.90	511.90	511.90	511.90	511.90	511.90	511.90	511.90	511.90	511.90	511.90	511.90	511.90	511.90	511.90
2.50°	512.93	512.75	510.66	511.27	510.67	510.95	512.38	513.15	514.10	512.61	513.13	512.00	513.18	513.28	512.97	512.72	512.93
5.00°	513.89	513.66	510.79	511.55	510.38	511.31	512.56	514.59	516.14	514.56	515.66	513.72	515.20	513.93	513.62	513.63	513.89
7.50°	516.38	514.89	511.99	512.10	512.17	512.88	513.76	517.43	519.02	518.45	518.28	516.08	517.07	515.03	514.79	515.37	516.38
10.00°	517.69	516.32	513.09	512.98	513.42	513.47	514.85	518.78	522.13	520.23	520.57	517.75	518.74	516.53	515.94	517.26	517.69
12.50°	517.00	514.43	512.94	511.47	511.98	513.47	515.45	516.77	518.98	520.04	520.50	519.14	514.32	514.08	515.57	515.60	517.00
15.00°	507.52	511.02	511.75	507.52	505.96	507.83	513.74	509.95	514.55	512.75	518.55	512.22	508.38	508.68	514.49	513.52	507.52
17.50°	485.99	491.27	503.34	492.78	483.71	499.50	504.37	494.42	483.12	500.01	507.76	502.69	485.33	492.00	503.33	493.12	485.99
20.00°	446.64	465.66	491.34	468.89	450.90	465.75	490.14	464.58	448.00	464.99	493.13	468.85	456.88	468.51	490.09	471.67	446.64
22.50°	387.29	414.17	462.79	423.28	389.97	422.66	463.73	414.03	386.49	416.03	465.32	429.18	392.61	420.04	460.84	416.81	387.29
25.00°	323.44	355.62	425.81	362.82	324.97	358.17	423.75	357.09	323.08	356.05	426.90	363.96	326.36	359.42	425.16	361.14	323.44
27.50°	255.44	291.13	359.62	295.46	251.28	287.55	357.13	292.58	255.47	290.57	360.43	294.55	251.11	289.84	357.62	293.99	255.44
30.00°	195.86	225.48	293.15	224.26	188.13	221.01	290.07	229.59	188.55	226.90	293.49	225.16	182.95	216.82	290.04	227.85	195.86
32.50°	142.56	171.69	225.95	169.73	142.84	155.32	222.29	168.08	146.08	163.93	225.58	155.78	138.15	162.40	222.32	171.21	142.56
35.00°	110.80	119.41	166.52	122.61	110.12	123.41	164.47	125.32	105.89	124.88	166.21	121.08	101.85	113.39	161.18	119.44	110.80
37.50°	92.11	98.45	122.91	98.14	94.51	96.01	119.57	97.32	90.48	93.14	120.96	88.15	87.21	91.91	118.19	97.04	92.11
40.00°	78.65	79.63	89.48	81.42	81.47	81.59	88.49	79.22	75.81	77.76	87.49	76.61	74.10	76.33	84.03	76.95	78.65
42.50°	67.75	68.12	73.03	69.81	71.34	68.18	71.89	67.50	66.07	66.01	69.88	65.20	64.07	64.70	68.70	66.43	67.75
45.00°	58.10	56.84	59.61	59.52	61.30	59.15	59.19	58.00	56.49	56.68	56.43	55.72	54.54	53.65	55.62	56.19	58.10
47.50°	48.92	49.00	50.25	50.17	51.34	50.21	49.89	49.65	47.59	47.71	47.50	46.33	45.83	45.35	46.40	46.83	48.92
50.00°	39.82	41.13	41.55	41.00	42.22	41.36	41.48	41.09	38.94	39.10	39.02	37.74	37.55	37.27	38.01	38.01	39.82
52.50°	30.73	32.95	33.56	32.89	33.73	32.68	33.69	32.45	31.11	30.53	30.95	29.60	29.85	30.62	30.78	30.52	30.73
55.00°	24.40	25.17	26.42	24.91	26.39	25.87	26.66	25.70	23.95	24.48	24.44	23.85	23.18	24.04	24.50	23.84	24.40
57.50°	18.66	19.79	20.07	19.46	19.77	19.42	20.04	19.53	18.51	18.54	19.08	18.39	17.63	18.88	19.27	18.72	18.66
60.00°	14.35	14.76	14.96	14.17	14.76	15.39	15.48	15.00	13.84	14.56	14.64	14.01	13.37	13.89	14.82	14.11	14.35
62.50°	10.24	11.26	10.76	11.04	10.55	11.52	11.88	10.84	10.66	10.68	10.75	10.11	10.23	11.08	11.10	10.31	10.24
65.00°	7.86	8.18	7.93	8.02	7.77	8.41	8.86	8.62	7.96	8.03	8.10	7.61	8.07	8.35	8.17	7.49	7.86
67.50°	5.65	6.36	5.90	6.65	5.54	5.80	6.04	6.70	5.97	5.68	6.02	5.52	6.58	6.24	5.85	5.88	5.65
70.00°	4.59	4.72	4.59	5.18	4.12	4.37	4.57	5.04	4.59	4.67	4.88	4.17	5.17	4.42	4.18	4.44	4.59
72.50°	3.60	3.35	3.53	3.35	2.93	3.30	3.35	3.60	3.70	3.84	3.94	3.49	3.81	3.41	2.81	3.11	3.60
75.00°	2.78	2.53	2.90	2.26	2.41	2.48	2.44	2.77	2.71	3.24	2.96	3.17	2.60	2.72	2.62	2.50	2.78
77.50°	2.01	1.94	2.13	1.76	1.96	1.73	1.94	2.06	2.04	2.27	2.29	1.82	1.68	2.23	2.12	1.91	2.01
80.00°	1.42	1.47	1.31	1.21	1.49	1.39	1.44	1.40	1.74	1.48	1.71	1.15	1.13	1.54	1.22	1.26	1.42
82.50°	1.09	1.18	1.08	0.83	0.69	1.05	0.90	0.87	1.18	0.98	1.04	0.95	0.94	1.29	1.01	1.13	1.09
85.00°	0.56	0.64	0.50	0.59	0.50	0.72	0.85	0.79	0.52	0.73	0.79	0.71	0.51	0.82	0.97	0.52	0.56
87.50°	0.64	0.55	0.44	0.48	0.55	0.61	0.65	0.79	0.69	0.65	0.60	0.70	0.58	0.49	0.71	0.61	0.64
90.00°	0.46	0.75	0.47	0.60	0.84	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.70	0.64	0.55	0.46
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.

	ρfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	ρcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	619	619	619	619	605	605	605	605	578	578	578	553	553	553	531	531	531	520
	1	588	572	558	546	575	561	549	537	540	530	521	520	512	505	502	496	490	486
	2	556	529	506	488	544	520	499	482	503	486	471	487	473	461	473	461	451	452
	3	526	490	462	440	515	483	457	437	469	447	430	456	438	423	444	429	416	421
	4	497	455	425	402	488	449	421	399	438	414	394	427	407	390	418	400	385	392
RCR	5	471	425	393	369	462	420	390	367	410	384	364	401	378	360	393	373	357	366
	6	446	397	364	341	438	393	362	340	385	358	337	377	353	335	370	349	333	343
	7	423	372	340	317	416	369	338	316	362	334	314	356	331	312	350	327	310	322
	8	402	350	318	295	395	347	316	295	341	313	293	336	311	292	331	308	291	303
	9	382	330	298	276	376	327	297	276	322	294	275	318	292	274	313	290	273	286
	10	364	312	281	260	359	310	280	259	305	278	259	301	276	258	297	274	257	270

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	16.9 fc	5.7 ft
6.5 ft	12.1 fc	6.7 ft
7.5 ft	9.1 fc	7.7 ft
8.0 ft	8.0 fc	8.2 ft
10.0 ft	5.1 fc	10.3 ft
12.0 ft	3.6 fc	12.4 ft
14.0 ft	2.6 fc	14.4 ft
16.0 ft	2.0 fc	16.5 ft
20.0 ft	1.3 fc	20.6 ft
24.0 ft	0.9 fc	24.7 ft
28.0 ft	0.7 fc	28.8 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	215,236	215,236	215,236
45.00°	34,548	35,448	36,451
55.00°	17,884	19,371	19,347
65.00°	7,822	7,890	7,732
75.00°	4,508	4,712	3,923
85.00°	2,702	2,391	2,418

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	17.0	18.1	17.3	18.4	18.7	16.9	18.0	17.2	18.3	18.6
	3H	17.3	18.2	17.7	18.6	18.9	17.2	18.2	17.6	18.5	18.9
	4H	17.3	18.2	17.8	18.6	19.0	17.3	18.1	17.7	18.5	18.9
	6H	17.4	18.2	17.8	18.5	18.9	17.2	18.1	17.7	18.4	18.8
	8H	17.3	18.1	17.8	18.5	18.9	17.2	18.0	17.7	18.4	18.8
	12H	17.3	18.1	17.8	18.4	18.9	17.2	17.9	17.6	18.3	18.7
4H	2H	17.0	17.9	17.4	18.2	18.6	16.9	17.8	17.3	18.2	18.6
	3H	17.4	18.1	17.8	18.5	18.9	17.4	18.1	17.8	18.5	18.9
	4H	17.5	18.2	17.9	18.6	19.0	17.5	18.1	17.9	18.5	19.0
	6H	17.6	18.1	18.0	18.6	19.0	17.5	18.1	18.0	18.5	19.0
	8H	17.6	18.1	18.0	18.5	19.0	17.5	18.0	18.0	18.5	18.9
	12H	17.6	18.0	18.1	18.5	19.0	17.5	17.9	18.0	18.4	18.9
8H	4H	17.5	18.0	17.9	18.4	18.9	17.4	17.9	17.9	18.4	18.9
	6H	17.5	18.0	18.1	18.5	18.9	17.5	17.9	18.0	18.4	18.9
	8H	17.6	18.0	18.1	18.5	19.0	17.5	17.9	18.0	18.4	18.9
	12H	17.6	17.9	18.1	18.4	19.0	17.5	17.9	18.1	18.4	18.9
12H	4H	17.4	17.9	17.9	18.3	18.8	17.4	17.8	17.9	18.3	18.8
	6H	17.5	17.9	18.0	18.4	18.9	17.5	17.8	18.0	18.3	18.9
	8H	17.6	17.9	18.1	18.4	19.0	17.5	17.8	18.0	18.3	18.9

Corrected UGR values based on total output lumens

SHR = 1.0