Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03SSx IC 835 007 N11 DLNFGN MW

Nom 3" Square Infinium recessed downlight

Test Number

SP-00779_1_M-007L

Test Date

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

Summary of Results

Power

Input Watts	5.4 W

Lumen Output

Output Lumens	370
Efficacy	68.6 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

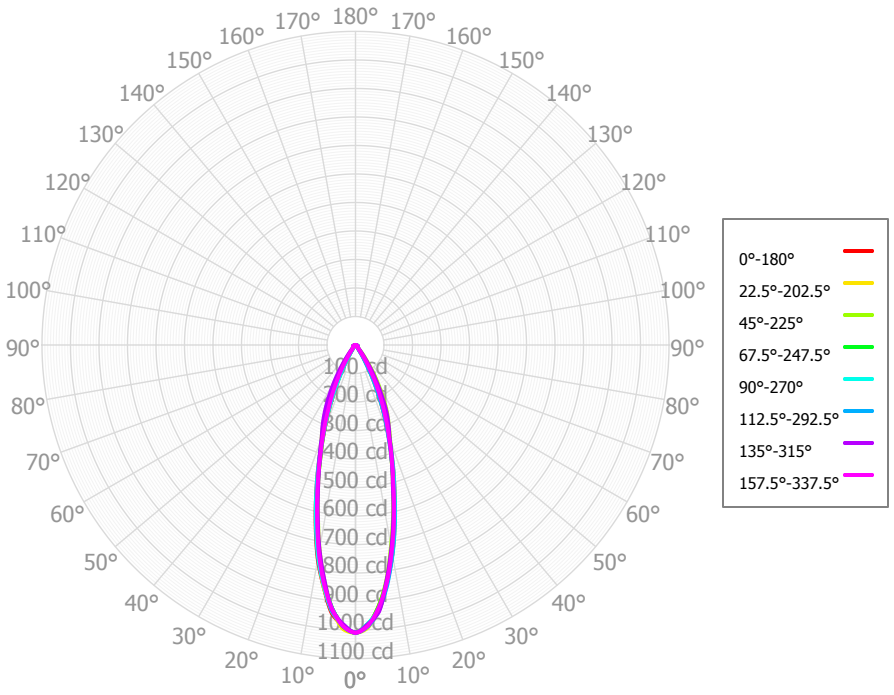
Full Beam Angle

0° - 180°	31°
90° - 270°	31°

IES File Header Contents

Keyword	Value
TEST	SP-00779_1_M-007L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/11/2019
UPDATE	3/11/2019
LUMCAT	IF03SSx IC 835 007 N11 DLNFGN MW
LUMINAIRE	Nom 3" Square Infinium recessed downlight
OTHER	Beam Angle: 31 degrees
OTHER	Narrow Flood optic, Open aperture / no lens
OTHER	Aluminum bezel
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°	83.31	22.49%	90.00° - 100.00°	0.03	0.01%
10.00° - 20.00°	141.76	38.27%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	94.33	25.46%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	26.54	7.17%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	7.21	1.95%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	5.66	1.53%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	7.96	2.15%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	2.91	0.78%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.73	0.20%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	370.41	99.99%	0.00° - 180.00°	370.44	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°	1,009.28	1,009.28	1,009.28	1,009.28	1,009.28	1,009.28	1,009.28	1,009.28	1,009.28	1,009.28	1,009.28	1,009.28	1,009.28	1,009.28	1,009.28	1,009.28	1,009.28
2.50°	980.34	992.66	983.34	986.25	979.28	987.45	981.24	988.54	985.28	997.22	988.37	989.36	983.39	988.78	981.95	986.75	980.34
5.00°	936.76	921.25	923.85	923.25	932.51	930.57	936.17	931.67	946.02	932.09	930.49	930.14	940.70	934.42	940.00	926.82	936.76
7.50°	841.57	840.26	832.20	839.40	843.25	842.49	833.78	846.17	855.65	856.38	835.54	846.16	852.25	850.24	834.67	841.79	841.57
10.00°	745.19	730.92	717.49	730.37	747.27	737.54	728.72	739.94	762.09	742.33	727.35	738.39	756.30	742.04	725.58	734.11	745.19
12.50°	635.82	622.35	609.97	621.27	638.28	621.22	613.45	621.28	645.17	623.94	609.12	620.35	641.73	630.48	615.11	624.72	635.82
15.00°	528.13	515.59	506.58	512.08	528.11	515.64	505.79	513.57	529.94	515.69	506.69	511.86	530.12	516.71	506.04	514.05	528.13
17.50°	431.47	419.01	425.61	422.90	434.57	415.85	420.22	411.07	423.22	408.01	414.20	406.66	424.31	420.92	426.12	422.80	431.47
20.00°	338.26	340.98	354.82	349.54	341.85	339.11	346.45	329.26	321.98	327.51	347.52	324.47	326.35	334.72	349.32	343.22	338.26
22.50°	260.55	270.63	304.39	284.71	263.87	272.29	299.55	255.09	240.33	248.07	293.72	248.16	240.86	261.90	302.24	275.55	260.55
25.00°	187.31	211.63	261.36	225.48	187.01	210.05	250.55	195.08	165.68	189.20	237.80	184.41	165.00	194.68	253.72	213.55	187.31
27.50°	128.68	156.97	211.54	167.25	125.62	149.34	197.80	139.16	109.86	131.77	181.03	122.89	101.44	135.51	196.85	158.42	128.68
30.00°	77.54	107.57	159.86	109.54	68.30	99.73	147.67	94.37	63.62	87.56	131.88	78.92	56.71	78.97	142.34	105.92	77.54
32.50°	45.28	67.42	115.24	67.99	42.01	52.88	101.36	51.89	38.05	47.52	85.08	37.01	31.75	47.74	97.45	67.05	45.28
35.00°	21.72	36.34	71.97	33.07	19.36	32.87	63.96	33.07	20.40	30.91	54.06	25.22	18.18	22.72	57.72	32.14	21.72
37.50°	15.60	19.08	44.69	19.47	15.12	17.74	37.18	17.43	16.26	16.93	26.55	15.11	14.42	15.93	33.83	19.90	15.60
40.00°	11.23	12.93	19.48	12.78	11.54	13.30	20.62	13.96	13.08	13.48	17.51	12.75	11.96	12.21	15.75	12.49	11.23
42.50°	9.68	9.35	12.97	10.13	10.35	10.07	13.92	11.45	11.23	10.59	11.29	10.42	10.41	10.26	11.32	9.95	9.68
45.00°	8.37	7.46	7.72	8.45	9.11	9.23	10.09	9.61	9.86	9.41	9.33	8.91	8.99	8.50	8.06	8.13	8.37
47.50°	7.37	6.39	6.93	7.57	7.73	8.51	8.53	7.81	9.05	8.25	7.77	7.47	7.65	7.29	7.03	6.90	7.37
50.00°	6.21	5.73	6.21	6.82	6.53	7.19	7.68	7.21	8.05	7.13	7.54	6.57	6.62	6.11	6.23	5.73	6.21
52.50°	4.89	5.31	5.69	6.33	5.69	5.94	7.28	6.65	6.88	6.39	7.37	5.83	5.73	5.88	5.78	5.55	4.89
55.00°	4.31	5.00	5.34	5.87	5.30	5.96	7.47	6.59	6.13	6.35	7.39	5.97	5.46	5.69	5.97	5.40	4.31
57.50°	4.37	5.57	6.76	6.51	5.68	6.16	7.97	6.74	5.70	6.84	7.48	6.33	5.39	6.17	6.93	5.45	4.37
60.00°	5.26	6.43	7.99	7.20	6.84	7.81	8.96	8.24	6.67	8.12	8.68	7.63	6.36	6.75	7.85	5.60	5.26
62.50°	6.74	7.36	8.09	8.31	9.07	9.29	10.16	9.53	8.49	8.97	9.67	8.61	7.60	8.14	8.71	7.11	6.74
65.00°	7.55	8.30	7.95	9.26	9.75	9.81	9.38	9.89	9.13	9.33	9.30	8.66	8.35	9.07	8.34	8.30	7.55
67.50°	7.97	7.51	6.81	7.82	8.68	9.43	8.01	9.23	9.23	8.03	8.13	7.76	8.97	7.76	6.95	7.39	7.97
70.00°	6.63	6.42	5.51	6.20	6.76	6.48	5.84	6.18	6.53	5.44	4.77	5.32	6.07	6.19	5.24	6.13	6.63
72.50°	4.68	4.57	3.86	3.88	4.22	4.14	3.75	3.69	3.59	3.06	2.75	3.32	3.52	4.07	3.37	3.97	4.68
75.00°	2.92	2.98	2.70	2.34	2.65	2.39	2.17	1.66	1.73	1.27	1.73	1.71	1.63	2.43	2.51	2.58	2.92
77.50°	1.95	1.88	1.92	1.59	1.58	1.53	1.38	1.22	1.22	0.86	1.22	1.02	1.15	1.28	1.90	1.76	1.95
80.00°	2.01	1.82	1.75	1.41	1.32	1.09	0.97	1.07	1.00	1.06	0.96	0.73	0.84	1.18	1.52	1.50	2.01
82.50°	1.32	1.44	1.42	1.20	0.98	0.80	0.70	0.82	0.60	0.67	0.77	0.61	0.58	0.91	1.05	1.30	1.32
85.00°	0.55	0.72	0.78	0.80	0.53	0.45	0.57	0.42	0.51	0.40	0.41	0.46	0.36	0.50	0.65	0.79	0.55
87.50°	0.44	0.43	0.43	0.64	0.35	0.43	0.45	0.58	0.41	0.41	0.32	0.43	0.45	0.45	0.42	0.50	0.44
90.00°	0.34	0.31	0.38	0.58	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.48	0.45	0.34
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	441	441	441	441	431	431	431	431	412	412	412	394	394	394	378	378	378	370
	1	422	413	404	396	413	405	397	390	390	384	378	376	371	367	363	360	356	353
	2	404	388	374	363	396	381	369	359	369	359	351	359	350	343	349	342	336	335
	3	387	366	349	336	380	361	346	334	351	339	328	343	332	323	334	326	318	320
	4	371	347	329	315	365	343	326	313	335	321	310	328	316	306	321	311	303	305
RCR	5	357	330	311	297	351	327	309	296	320	305	294	314	301	291	309	298	289	292
	6	343	315	296	282	338	312	294	281	307	291	279	302	288	278	297	285	276	280
	7	330	301	282	269	326	299	281	268	294	278	267	290	276	265	286	274	264	269
	8	319	289	270	257	315	287	269	256	283	267	255	280	265	254	276	263	253	259
	9	307	277	259	246	304	276	258	246	272	256	245	269	255	244	267	253	244	250
	10	297	267	249	237	294	265	248	236	263	247	236	260	245	235	258	244	235	241

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	33.4 fc	3.1 ft
6.5 ft	23.9 fc	3.6 ft
7.5 ft	17.9 fc	4.2 ft
8.0 ft	15.8 fc	4.5 ft
10.0 ft	10.1 fc	5.6 ft
12.0 ft	7.0 fc	6.7 ft
14.0 ft	5.1 fc	7.8 ft
16.0 ft	3.9 fc	8.9 ft
20.0 ft	2.5 fc	11.2 ft
24.0 ft	1.8 fc	13.4 ft
28.0 ft	1.3 fc	15.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	424,367	424,367	424,367
45.00°	4,976	4,589	5,418
55.00°	3,156	3,918	3,883
65.00°	7,509	7,908	9,701
75.00°	4,749	4,385	4,303
85.00°	2,660	3,781	2,548

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	9.5	10.5	9.9	10.8	11.2	10.6	11.6	11.0	11.9	12.2
	3H	14.5	15.4	14.9	15.7	16.1	15.1	16.0	15.5	16.3	16.7
	4H	15.1	15.9	15.5	16.2	16.6	15.4	16.2	15.8	16.5	16.9
	6H	15.3	16.1	15.7	16.4	16.8	15.4	16.1	15.8	16.5	16.9
	8H	15.4	16.1	15.9	16.5	16.9	15.4	16.1	15.8	16.5	16.9
	12H	15.5	16.1	15.9	16.5	16.9	15.4	16.0	15.8	16.4	16.8
4H	2H	11.8	12.6	12.2	13.0	13.4	12.8	13.6	13.2	14.0	14.4
	3H	15.6	16.3	16.0	16.7	17.1	16.1	16.8	16.5	17.2	17.6
	4H	16.1	16.7	16.5	17.1	17.6	16.3	16.9	16.7	17.3	17.8
	6H	16.4	16.9	16.9	17.4	17.8	16.4	16.9	16.8	17.3	17.8
	8H	16.5	17.0	17.0	17.5	17.9	16.4	16.8	16.8	17.3	17.8
	12H	16.6	17.0	17.1	17.5	18.0	16.4	16.8	16.8	17.2	17.7
8H	4H	16.2	16.6	16.7	17.1	17.6	16.3	16.8	16.8	17.2	17.7
	6H	16.6	17.0	17.1	17.5	17.9	16.4	16.7	16.9	17.2	17.7
	8H	16.8	17.1	17.3	17.7	18.2	16.4	16.7	16.9	17.3	17.8
	12H	16.9	17.2	17.5	17.7	18.3	16.4	16.7	17.0	17.2	17.8
12H	4H	16.1	16.5	16.6	17.0	17.5	16.2	16.6	16.7	17.1	17.6
	6H	16.6	16.9	17.1	17.4	17.9	16.3	16.7	16.9	17.1	17.7
	8H	16.9	17.1	17.4	17.6	18.2	16.4	16.7	16.9	17.2	17.8

Corrected UGR values based on total output lumens

SHR = 1.0