Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

IF03SSx IC 835 007 N11 DLFLGC MW

Nom 3" Square Shallow IC Infinium recessed downlight

Test Number

SP-00778_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	356
Efficacy	65.99 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.66
Two luminaires, plane 90°	0.67
Four luminaires	0.71

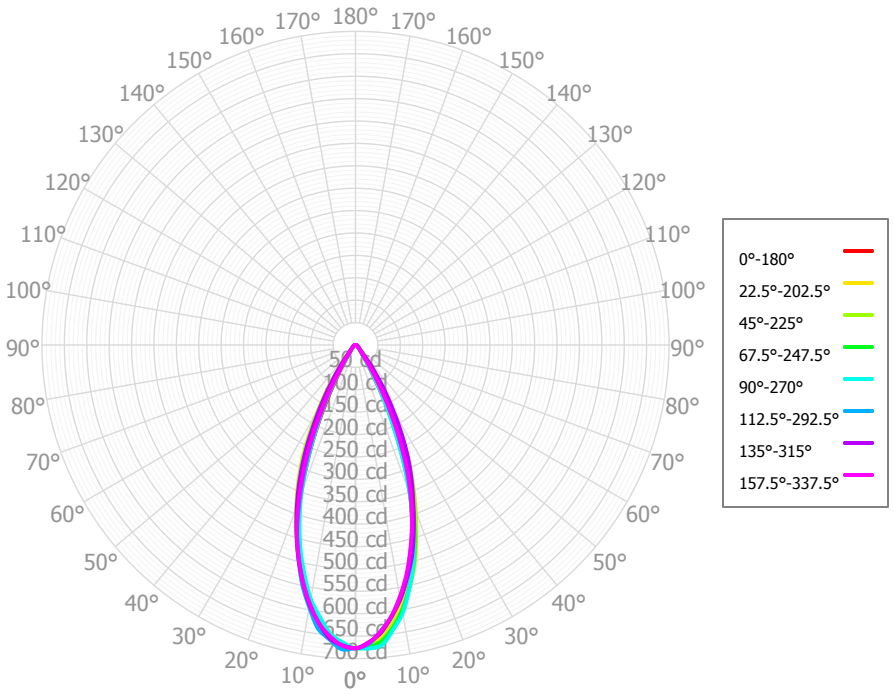
Full Beam Angle

0° - 180°	41°
90° - 270°	41°

IES File Header Contents

Keyword	Value
TEST	SP-00778_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 DLFLGC MW
LUMINAIRE	Nom 3" Square Shallow IC Infinium recessed downlight
OTHER	Beam Angle: 41 degrees
OTHER	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°	60.88	17.08%	90.00° - 100.00°	0.03	0.01%
10.00° - 20.00°	133.37	37.43%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	106.05	29.76%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	32.98	9.26%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	9.91	2.78%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	5.94	1.67%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	4.28	1.20%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	2.19	0.61%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.72	0.20%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	356.32	99.99%	0.00° - 180.00°	356.35	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°	677.01	677.01	677.01	677.01	677.01	677.01	677.01	677.01	677.01	677.01	677.01	677.01	677.01	677.01	677.01	677.01	677.01
2.50°	667.25	671.22	671.29	675.74	678.15	680.24	671.11	672.12	668.29	668.16	665.32	666.91	664.69	668.76	664.69	666.34	667.25
5.00°	652.30	652.52	661.90	664.69	672.91	660.37	657.73	652.96	653.85	646.82	651.03	647.03	647.01	641.96	645.60	642.01	652.30
7.50°	618.61	626.79	632.19	637.81	641.55	639.22	626.07	626.79	622.09	620.35	617.37	617.08	612.18	613.25	612.28	611.56	618.61
10.00°	582.36	587.47	600.20	601.05	607.73	594.28	589.95	586.73	585.77	579.45	583.08	578.56	576.13	571.87	576.73	570.98	582.36
12.50°	532.49	542.90	555.57	554.13	555.84	548.66	542.45	542.52	536.94	535.08	538.09	532.48	525.80	528.36	532.53	525.53	532.49
15.00°	481.62	489.95	508.17	502.15	500.64	492.26	492.54	489.95	484.68	483.54	492.38	482.73	474.39	475.30	487.48	473.56	481.62
17.50°	420.26	432.40	450.01	439.10	429.00	434.13	437.81	435.58	425.08	430.81	439.36	430.29	415.59	420.30	432.51	419.62	420.26
20.00°	358.19	368.91	391.84	371.71	355.35	362.15	382.24	369.16	358.49	368.69	386.46	369.54	354.12	358.92	377.20	363.47	358.19
22.50°	280.57	301.73	333.67	298.74	274.38	290.66	325.31	300.88	279.61	305.64	334.26	303.84	279.99	296.39	327.08	301.29	280.57
25.00°	204.01	230.69	274.40	224.02	198.53	221.63	266.18	231.12	204.70	235.73	280.61	239.97	208.90	230.85	276.67	233.64	204.01
27.50°	140.65	166.35	212.53	164.37	136.79	156.68	204.14	161.23	135.39	165.57	220.85	176.97	148.30	169.94	221.56	171.69	140.65
30.00°	81.45	107.91	155.80	108.15	84.25	107.39	149.20	109.99	82.85	112.53	163.66	124.72	94.47	118.44	167.52	113.95	81.45
32.50°	52.01	66.71	108.56	70.97	51.79	64.68	101.96	59.77	49.58	61.20	114.75	76.61	58.64	75.39	122.39	72.14	52.01
35.00°	26.68	37.85	69.45	36.74	28.67	40.82	66.00	41.69	29.49	40.69	72.07	48.91	31.47	46.10	79.89	40.13	26.68
37.50°	20.87	23.86	42.79	25.82	22.00	22.99	39.99	24.42	22.09	21.78	44.80	27.20	22.60	26.24	51.27	25.14	20.87
40.00°	15.84	18.45	24.73	17.21	16.90	18.58	24.72	18.99	17.00	17.31	24.45	19.42	15.90	19.13	26.94	18.52	15.84
42.50°	13.54	14.86	17.31	14.88	14.01	15.13	17.36	14.00	13.73	13.23	17.57	14.67	12.89	14.39	19.37	15.02	13.54
45.00°	11.42	12.14	12.82	12.80	11.76	13.41	13.22	12.28	11.46	11.34	12.38	11.99	10.37	12.25	13.20	12.72	11.42
47.50°	9.80	10.46	11.29	10.73	10.27	11.60	11.00	10.64	9.81	9.57	9.92	9.62	8.57	10.25	11.08	10.68	9.80
50.00°	8.35	9.16	9.66	8.72	9.02	9.69	9.27	9.43	8.40	8.29	8.07	8.68	7.17	8.37	9.13	8.71	8.35
52.50°	7.30	7.61	7.97	7.64	8.01	8.05	7.77	8.23	7.13	7.16	7.01	7.87	6.24	6.98	7.56	7.80	7.30
55.00°	6.34	5.98	6.81	6.60	6.96	6.75	6.91	7.08	6.03	6.50	6.24	6.52	5.49	5.96	6.31	7.13	6.34
57.50°	5.54	5.22	6.00	5.80	5.88	6.07	6.31	6.01	5.01	5.86	5.77	5.17	4.91	5.42	5.67	6.41	5.54
60.00°	4.92	4.64	5.57	5.10	5.32	6.00	5.88	5.13	4.64	5.27	5.30	4.85	4.44	5.17	5.20	5.67	4.92
62.50°	4.57	4.41	5.35	4.87	5.10	5.57	5.50	4.44	4.49	4.69	4.81	4.53	4.06	4.84	5.00	5.12	4.57
65.00°	4.22	4.23	4.70	4.58	4.63	4.83	4.75	4.21	4.10	4.18	4.23	4.15	3.88	4.47	4.61	4.58	4.22
67.50°	3.88	3.94	3.88	4.07	4.04	3.97	3.93	3.82	3.64	3.67	3.59	3.73	3.82	3.81	3.98	4.10	3.88
70.00°	3.52	3.59	3.24	3.41	3.15	3.04	3.00	3.21	2.90	3.16	3.02	3.09	3.18	3.06	3.31	3.59	3.52
72.50°	3.14	2.87	2.63	2.50	2.20	2.39	2.22	2.63	2.25	2.54	2.49	2.60	2.40	2.60	2.62	2.94	3.14
75.00°	2.29	2.10	1.85	1.98	1.85	1.83	1.72	2.07	1.89	1.88	2.21	2.32	1.91	2.15	2.20	2.29	2.29
77.50°	1.57	1.27	1.34	1.63	1.41	1.38	1.25	1.54	1.64	1.21	1.60	1.81	1.60	1.67	1.81	1.66	1.57
80.00°	1.28	1.09	1.10	1.38	0.94	0.99	0.95	1.22	1.28	1.08	1.01	1.36	1.34	1.27	1.33	1.37	1.28
82.50°	1.09	0.82	0.91	0.97	0.88	0.76	0.77	1.00	0.88	0.82	0.89	1.07	0.88	0.93	0.78	0.99	1.09
85.00°	0.58	0.63	0.64	0.46	0.39	0.41	0.58	0.66	0.67	0.49	0.51	0.70	0.48	0.68	0.63	0.64	0.58
87.50°	0.53	0.47	0.43	0.54	0.31	0.47	0.49	0.55	0.50	0.40	0.48	0.38	0.48	0.48	0.37	0.51	0.53
90.00°	0.35	0.51	0.45	0.51	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.42	0.43	0.35
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	424	424	424	424	414	414	414	414	396	396	396	379	379	379	364	364	364	356
	1	406	396	388	380	397	389	381	374	374	368	363	361	356	352	349	345	342	338
	2	388	371	358	347	380	365	353	343	354	344	335	343	335	328	334	327	321	321
	3	371	349	333	320	364	345	330	318	335	323	313	327	317	308	319	310	303	305
	4	354	330	312	298	348	326	309	297	319	304	293	312	300	290	305	295	287	290
RCR	5	339	313	294	280	334	309	292	279	303	288	276	297	284	274	292	281	272	276
	6	325	297	278	264	320	294	276	263	289	273	261	284	270	260	280	268	258	263
	7	312	283	263	250	308	280	262	249	276	260	248	272	258	247	268	255	246	251
	8	300	269	250	237	296	268	249	237	264	248	236	260	246	235	257	244	234	240
	9	288	257	239	226	284	256	238	226	253	236	225	250	235	224	247	233	224	230
	10	277	246	228	216	274	245	227	216	242	226	215	240	225	214	237	224	214	221

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	22.4 fc	4.1 ft
6.5 ft	16.0 fc	4.9 ft
7.5 ft	12.0 fc	5.6 ft
8.0 ft	10.6 fc	6.0 ft
10.0 ft	6.8 fc	7.5 ft
12.0 ft	4.7 fc	9.0 ft
14.0 ft	3.5 fc	10.5 ft
16.0 ft	2.6 fc	12.0 ft
20.0 ft	1.7 fc	15.0 ft
24.0 ft	1.2 fc	18.0 ft
28.0 ft	0.9 fc	21.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	284,661	284,661	284,661
45.00°	6,793	7,625	6,995
55.00°	4,646	4,991	5,104
65.00°	4,200	4,680	4,610
75.00°	3,718	2,998	3,007
85.00°	2,782	3,064	1,903

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	10.2	11.1	10.5	11.5	11.8	10.0	11.0	10.3	11.3	11.6
	3H	12.1	12.9	12.5	13.3	13.6	11.8	12.6	12.2	13.0	13.3
	4H	12.7	13.5	13.1	13.9	14.2	12.2	13.0	12.7	13.4	13.8
	6H	13.0	13.7	13.4	14.1	14.5	12.6	13.3	13.0	13.7	14.1
	8H	13.1	13.8	13.6	14.2	14.6	12.7	13.4	13.1	13.8	14.2
	12H	13.2	13.9	13.7	14.3	14.7	12.7	13.4	13.2	13.8	14.2
4H	2H	10.8	11.6	11.2	12.0	12.4	10.6	11.4	11.0	11.8	12.2
	3H	12.9	13.5	13.3	13.9	14.3	12.5	13.1	12.9	13.5	14.0
	4H	13.5	14.1	14.0	14.5	15.0	13.1	13.6	13.5	14.1	14.5
	6H	13.9	14.4	14.4	14.9	15.3	13.5	14.0	14.0	14.4	14.9
	8H	14.1	14.6	14.6	15.0	15.5	13.6	14.1	14.1	14.6	15.0
	12H	14.2	14.6	14.7	15.1	15.6	13.7	14.1	14.2	14.6	15.1
8H	4H	13.7	14.1	14.1	14.6	15.1	13.2	13.7	13.7	14.1	14.6
	6H	14.2	14.5	14.7	15.0	15.5	13.7	14.1	14.3	14.6	15.1
	8H	14.4	14.7	14.9	15.3	15.8	14.0	14.3	14.5	14.8	15.3
	12H	14.6	14.9	15.1	15.4	16.0	14.1	14.4	14.7	14.9	15.5
12H	4H	13.6	14.0	14.1	14.5	15.0	13.2	13.6	13.7	14.1	14.5
	6H	14.2	14.5	14.7	15.0	15.5	13.7	14.1	14.3	14.5	15.1
	8H	14.5	14.8	15.0	15.3	15.8	14.0	14.3	14.6	14.8	15.4

Corrected UGR values based on total output lumens

SHR = 1.0