Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire
IF03RSx IC 835 010 N11 DLFLGN MW

Test Number
SP-00774_1_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	774
Efficacy	106.06 lm/W

Luminous Dimensions

0° - 180° Size	-0.2
90° - 270° Size	-0.2
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.6
Two luminaires, plane 90°	0.61
Four luminaires	0.63

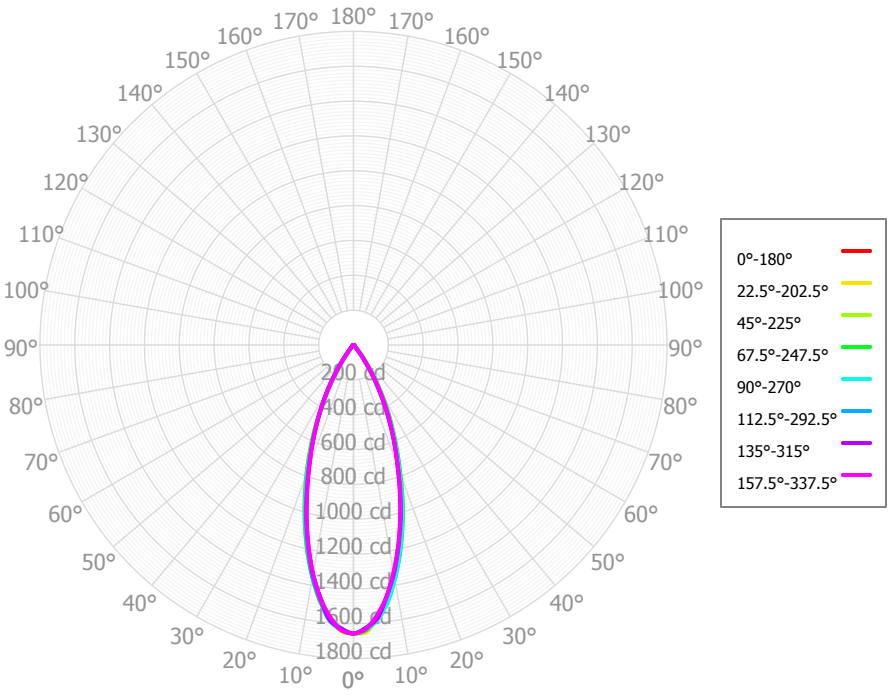
Full Beam Angle

0° - 180°	38°
90° - 270°	38°

IES File Header Contents

Keyword	Value
TEST	SP-00774_1_M-010L
TESTLAB	Spectrum Lighting Photometric lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/8/2019
UPDATE	3/11/2019
LUMCAT	IF03RSx IC 835 010 N11 DLFLGN MW
LUMINIARE	Nominal 3" diam round recessed Infinium downlight
OTHER	Beam Angle: 38 degrees
OTHER	Flood optic, open aperture / no lens
OTHER	Aluminum bezel
LAMPCAT	N/A
LAMP	N/A, CRI: 80, Philips
OTHER	CCT Multipliers: 40K x 1.03
OTHER	Total luminaire wattages 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°	144.29	18.64%	90.00° - 100.00°	0.04	0.01%
10.00° - 20.00°	289.50	37.39%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	230.89	29.82%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	80.69	10.42%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	11.19	1.45%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	6.68	0.86%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	6.08	0.79%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	3.88	0.50%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.96	0.12%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	774.17	99.99%	0.00° - 180.00°	774.21	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°	1,656.43	1,656.43	1,656.43	1,656.43	1,656.43	1,656.43	1,656.43	1,656.43	1,656.43	1,656.43	1,656.43	1,656.43	1,656.43	1,656.43	1,656.43	1,656.43	1,656.43
2.50°	1,628.75	1,651.53	1,633.07	1,640.58	1,632.59	1,635.08	1,628.69	1,638.50	1,631.51	1,644.31	1,632.80	1,638.06	1,628.87	1,625.84	1,625.99	1,632.72	1,628.75
5.00°	1,567.59	1,566.73	1,582.03	1,576.10	1,582.88	1,587.97	1,582.27	1,563.60	1,572.36	1,567.59	1,577.52	1,565.67	1,565.91	1,573.36	1,575.77	1,555.68	1,567.59
7.50°	1,459.54	1,479.05	1,482.78	1,493.84	1,489.35	1,476.90	1,461.74	1,465.67	1,463.57	1,484.41	1,476.68	1,479.45	1,462.59	1,459.25	1,455.07	1,457.64	1,459.54
10.00°	1,333.01	1,344.57	1,362.69	1,365.13	1,364.87	1,355.46	1,338.72	1,333.76	1,341.07	1,352.99	1,358.44	1,353.20	1,342.07	1,336.11	1,331.60	1,323.51	1,333.01
12.50°	1,192.74	1,209.25	1,226.14	1,230.83	1,223.79	1,206.66	1,189.19	1,192.21	1,200.38	1,217.76	1,218.83	1,220.96	1,208.11	1,193.20	1,186.32	1,183.34	1,192.74
15.00°	1,048.33	1,063.82	1,083.98	1,085.10	1,073.27	1,055.86	1,039.26	1,039.84	1,054.01	1,063.42	1,075.65	1,076.18	1,064.91	1,048.58	1,039.84	1,034.58	1,048.33
17.50°	899.88	918.42	934.21	937.06	920.66	900.95	886.76	885.26	901.34	912.93	928.86	930.22	915.68	898.81	886.90	887.62	899.88
20.00°	750.55	773.21	782.50	785.25	767.10	754.18	739.33	749.90	761.25	776.33	787.37	787.96	772.85	749.26	739.73	742.74	750.55
22.50°	626.64	634.08	652.50	647.68	637.22	621.27	614.82	617.11	632.53	642.00	650.25	645.97	633.37	618.96	614.51	614.32	626.64
25.00°	506.72	524.14	526.58	529.45	515.96	500.27	494.77	502.35	509.54	513.97	516.58	512.22	502.84	489.89	493.41	501.41	506.72
27.50°	403.16	416.35	421.08	418.91	407.68	395.63	389.44	389.02	390.74	390.08	385.24	380.16	376.01	377.89	384.04	394.27	403.16
30.00°	301.10	316.01	318.03	316.84	302.95	297.48	288.32	286.12	282.10	275.29	272.32	274.07	273.74	269.31	281.35	291.67	301.10
32.50°	209.98	220.66	227.67	224.55	216.12	206.57	198.00	184.40	179.65	174.71	169.61	172.36	179.57	187.07	193.99	201.16	209.98
35.00°	119.69	138.47	138.06	141.04	132.80	130.52	119.68	114.35	107.11	98.93	100.54	105.19	112.28	110.82	118.55	118.36	119.69
37.50°	70.49	72.01	82.80	80.54	79.24	68.34	65.92	48.23	49.17	46.35	46.24	46.35	51.58	64.58	64.76	66.16	70.49
40.00°	23.93	39.13	29.73	37.32	29.74	33.44	28.93	31.90	26.54	26.86	25.10	29.88	30.84	26.57	28.57	29.61	23.93
42.50°	16.79	16.74	19.75	17.27	18.51	19.24	19.33	17.15	17.39	15.13	15.43	16.31	16.90	18.74	18.09	15.93	16.79
45.00°	10.28	12.19	10.53	11.30	10.09	12.33	12.88	13.49	13.01	12.51	12.78	13.72	13.46	12.57	11.83	11.79	10.28
47.50°	8.74	8.87	8.90	8.38	8.91	9.90	10.64	10.24	10.06	10.82	11.98	11.43	11.19	11.08	10.73	9.95	8.74
50.00°	7.37	7.22	7.39	6.93	7.87	8.41	9.08	8.85	9.02	10.02	10.60	10.00	9.89	9.91	9.89	8.85	7.37
52.50°	6.92	6.30	6.65	6.28	6.89	7.40	8.26	7.64	8.41	9.15	9.12	8.82	8.63	9.47	9.30	8.06	6.92
55.00°	6.46	6.23	6.02	5.95	5.95	7.12	7.53	7.04	7.59	8.23	8.16	8.22	8.57	8.86	8.61	7.35	6.46
57.50°	5.95	6.12	5.79	5.95	5.62	7.15	6.90	6.52	6.74	7.35	7.27	7.57	8.46	7.97	7.84	7.01	5.95
60.00°	5.64	5.98	5.58	6.05	5.43	6.82	6.68	6.23	6.44	6.49	6.93	6.83	7.45	7.36	7.53	6.73	5.64
62.50°	5.91	5.92	5.47	6.09	6.20	6.38	6.75	6.01	6.20	6.28	6.63	6.49	6.51	7.13	7.53	6.69	5.91
65.00°	6.12	5.91	5.26	6.11	6.74	6.09	6.32	5.94	6.02	6.41	6.81	6.70	6.12	6.66	7.03	6.67	6.12
67.50°	6.18	5.75	4.85	5.81	6.21	5.83	5.60	5.68	5.81	5.97	6.79	6.40	5.73	5.91	6.26	5.87	6.18
70.00°	5.73	5.49	4.60	5.47	5.62	5.42	5.12	5.16	5.37	5.35	5.62	5.63	5.32	5.20	5.61	5.09	5.73
72.50°	4.60	4.83	4.61	4.91	4.91	4.84	4.61	4.13	4.59	4.40	4.22	4.50	4.70	4.52	4.97	4.69	4.60
75.00°	3.90	4.06	4.28	4.31	4.23	3.76	3.36	3.00	3.37	3.43	2.58	3.34	3.86	3.73	3.54	3.84	3.90
77.50°	3.31	3.21	3.68	3.63	3.55	3.25	2.47	2.59	2.35	2.43	2.03	2.39	2.32	2.76	2.46	2.45	3.31
80.00°	2.34	2.31	2.40	2.89	2.41	2.52	1.69	1.66	1.38	1.58	1.32	1.56	1.40	1.58	1.76	1.96	2.34
82.50°	1.50	1.38	1.29	1.81	1.27	1.17	0.83	0.91	0.73	0.68	0.94	1.06	0.85	1.00	0.98	1.29	1.50
85.00°	0.65	0.72	0.84	0.85	0.72	0.73	0.52	0.73	0.50	0.60	0.81	0.65	0.60	0.62	0.54	0.82	0.65
87.50°	0.52	0.58	0.77	0.71	0.69	0.71	0.71	0.68	0.55	0.40	0.68	0.57	0.63	0.62	0.71	0.68	0.52
90.00°	0.50	0.65	0.76	0.69	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.56	0.58	0.50
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	922	922	922	922	900	900	900	900	860	860	860	824	824	824	790	790	790	774
	1	883	863	846	830	864	847	831	817	815	803	792	787	777	768	760	753	746	738
	2	845	811	783	760	829	798	773	751	774	753	735	751	734	719	730	716	704	702
	3	810	766	731	704	795	755	724	699	735	709	688	717	695	677	700	682	667	669
	4	776	725	687	658	763	716	681	654	700	670	647	685	660	639	671	650	632	638
RCR	5	744	688	648	619	732	681	644	616	668	636	611	655	628	606	644	620	601	609
	6	714	654	614	585	704	649	611	583	637	604	579	627	598	576	618	592	572	582
	7	686	624	583	555	677	619	581	554	610	576	551	601	571	548	593	566	545	557
	8	660	596	556	528	651	592	554	527	584	550	525	576	546	523	570	542	521	533
	9	635	570	531	504	627	567	529	503	560	526	501	554	522	500	548	519	498	511
	10	611	546	508	482	604	543	506	481	538	503	480	532	501	479	527	498	477	491

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	54.8 fc	3.8 ft
6.5 ft	39.2 fc	4.4 ft
7.5 ft	29.4 fc	5.1 ft
8.0 ft	25.9 fc	5.5 ft
10.0 ft	16.6 fc	6.8 ft
12.0 ft	11.5 fc	8.2 ft
14.0 ft	8.5 fc	9.6 ft
16.0 ft	6.5 fc	10.9 ft
20.0 ft	4.1 fc	13.7 ft
24.0 ft	2.9 fc	16.4 ft
28.0 ft	2.1 fc	19.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	567,537	567,537	567,537
45.00°	4,983	5,101	4,888
55.00°	3,856	3,595	3,557
65.00°	4,960	4,267	5,463
75.00°	5,163	5,662	5,600
85.00°	2,574	3,299	2,833

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	6.8	7.7	7.2	8.0	8.4	7.6	8.6	8.0	8.9	9.2
	3H	9.8	10.7	10.2	11.0	11.4	10.2	11.0	10.6	11.4	11.7
	4H	10.8	11.6	11.2	11.9	12.3	11.1	11.8	11.5	12.2	12.6
	6H	11.5	12.2	11.9	12.5	12.9	11.6	12.3	12.0	12.6	13.0
	8H	11.6	12.3	12.1	12.7	13.1	11.6	12.3	12.1	12.7	13.1
	12H	11.7	12.3	12.1	12.7	13.1	11.7	12.3	12.1	12.7	13.1
4H	2H	7.7	8.5	8.2	8.9	9.3	8.4	9.2	8.9	9.6	10.0
	3H	10.8	11.4	11.2	11.8	12.2	11.1	11.7	11.5	12.1	12.6
	4H	11.9	12.4	12.3	12.9	13.3	12.0	12.6	12.5	13.0	13.5
	6H	12.6	13.1	13.1	13.5	14.0	12.6	13.1	13.1	13.5	14.0
	8H	12.8	13.2	13.2	13.7	14.1	12.7	13.1	13.2	13.6	14.1
	12H	12.8	13.2	13.3	13.7	14.2	12.7	13.1	13.2	13.6	14.1
8H	4H	12.2	12.6	12.7	13.1	13.6	12.2	12.6	12.7	13.1	13.6
	6H	13.0	13.3	13.5	13.9	14.3	12.9	13.2	13.4	13.7	14.2
	8H	13.2	13.5	13.8	14.1	14.6	13.0	13.3	13.5	13.8	14.3
	12H	13.4	13.6	13.9	14.1	14.7	13.1	13.4	13.6	13.9	14.4
12H	4H	12.2	12.6	12.7	13.1	13.5	12.2	12.5	12.6	13.0	13.5
	6H	13.0	13.3	13.6	13.8	14.3	12.8	13.2	13.4	13.6	14.2
	8H	13.3	13.6	13.8	14.1	14.6	13.0	13.3	13.5	13.8	14.4

Corrected UGR values based on total output lumens

SHR = 1.0