

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03RSx IC 835 010 N11 DLNSGC MW

Test Number

SP-00776_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
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Lumen Output

Output Lumens	737
Efficacy	100.97 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.38
Two luminaires, plane 90°	0.38
Four luminaires	0.41

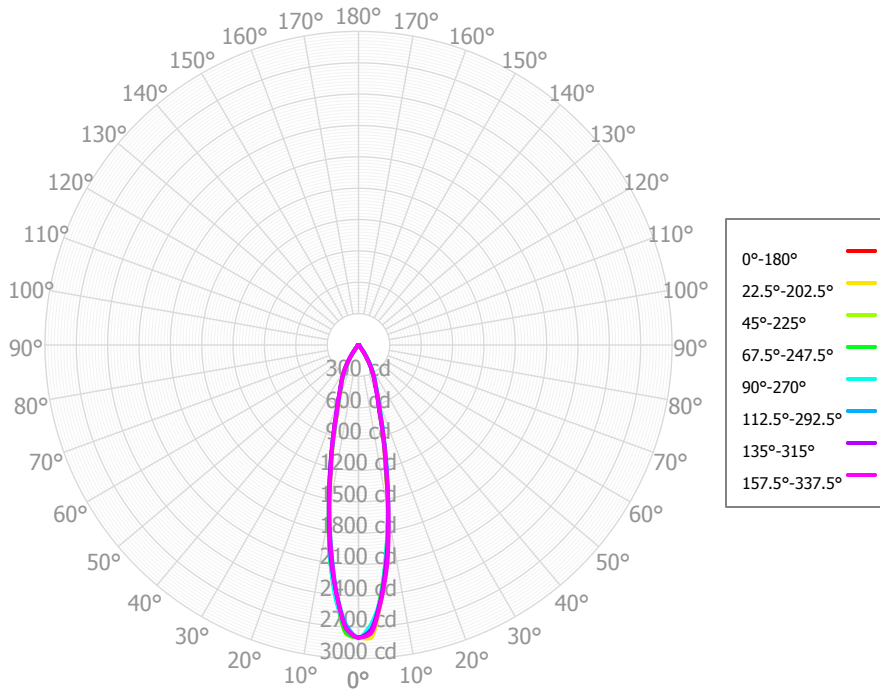
Full Beam Angle

0° - 180°	23°
90° - 270°	23°

IES File Header Contents

Keyword	Value
TEST	SP-00776_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 DLNSGC MW
LUMINIARE	Nominal 3" diam round recessed Infinium downlight
OTHER	Beam Angle: 23 degrees
OTHER	Spot optic, Clear glass lens
OTHER	Aluminum bezel contains lens
LAMPCAT	N/A
LAMP	N/A, CRI: 80, Philips
OTHER	CCT Multipliers: 40K x 1.03
OTHER	Total luminaire watts 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°	207.03	28.09%	90.00° - 100.00°	0.05	0.01%
10.00° - 20.00°	261.20	35.44%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	169.09	22.94%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	69.24	9.39%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	10.82	1.47%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	10.68	1.45%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	5.79	0.78%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	2.28	0.31%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.90	0.12%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	737.03	99.99%	0.00° - 180.00°	737.07	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°	2,798.04	2,798.04	2,798.04	2,798.04	2,798.04	2,798.04	2,798.04	2,798.04	2,798.04	2,798.04	2,798.04	2,798.04	2,798.04	2,798.04	2,798.04	2,798.04	2,798.04
2.50°	2,749.35	2,801.61	2,716.71	2,754.72	2,680.55	2,686.48	2,717.10	2,716.15	2,723.40	2,764.73	2,710.86	2,758.42	2,704.49	2,730.64	2,729.55	2,761.22	2,749.35
5.00°	2,460.41	2,450.50	2,452.99	2,414.31	2,437.32	2,389.40	2,399.14	2,399.71	2,417.15	2,404.79	2,438.08	2,428.32	2,457.77	2,442.42	2,443.77	2,460.32	2,460.41
7.50°	2,046.87	2,090.58	2,025.18	2,026.28	2,013.98	1,985.24	2,044.43	2,004.76	2,058.64	2,037.90	2,070.74	2,076.99	2,071.76	2,089.66	2,049.11	2,109.62	2,046.87
10.00°	1,625.10	1,635.68	1,614.24	1,623.54	1,614.57	1,606.25	1,633.09	1,613.82	1,627.67	1,618.23	1,628.10	1,640.69	1,629.37	1,645.15	1,637.17	1,648.72	1,625.10
12.50°	1,199.48	1,202.67	1,217.40	1,219.19	1,252.71	1,238.66	1,267.78	1,223.93	1,251.27	1,205.27	1,257.92	1,238.44	1,265.24	1,257.31	1,218.11	1,240.07	1,199.48
15.00°	907.96	930.42	916.77	938.58	945.76	952.44	964.79	947.95	941.44	926.32	937.77	949.31	928.15	939.33	918.10	931.68	907.96
17.50°	669.32	679.92	686.97	666.90	713.31	697.93	730.04	696.14	707.65	660.40	711.62	699.98	720.34	700.47	660.12	684.39	669.32
20.00°	531.93	551.54	539.06	547.76	543.83	555.73	575.44	563.25	554.48	539.07	542.34	560.31	549.40	547.59	522.20	537.84	531.93
22.50°	428.55	433.98	443.33	433.84	449.59	450.07	462.43	450.31	446.70	425.46	440.76	442.47	452.55	436.23	419.32	423.82	428.55
25.00°	353.93	363.79	363.52	365.58	368.97	375.31	391.88	382.62	381.36	371.72	374.38	375.32	373.13	364.07	348.36	356.83	353.93
27.50°	287.26	293.15	292.60	297.30	302.49	308.97	322.28	320.44	318.44	316.21	311.75	308.25	301.72	294.11	284.93	288.18	287.26
30.00°	214.51	220.94	222.39	228.54	236.82	242.55	253.55	251.01	257.49	250.49	250.82	241.36	231.79	225.97	216.38	217.48	214.51
32.50°	140.38	151.40	152.53	160.68	171.89	176.11	186.50	180.98	190.35	184.60	183.99	175.70	166.22	160.92	146.85	150.24	140.38
35.00°	86.23	89.79	96.32	104.96	114.62	117.18	120.77	117.79	118.80	117.91	114.91	112.15	101.24	98.09	92.43	86.79	86.23
37.50°	35.62	41.20	45.73	52.90	63.45	59.54	71.83	54.91	69.03	60.02	69.17	62.03	60.40	56.18	40.16	45.15	35.62
40.00°	21.91	24.89	24.89	33.59	34.04	35.92	34.43	33.56	32.72	34.23	30.82	32.14	21.92	27.36	24.90	24.48	21.91
42.50°	13.02	13.26	14.32	16.48	19.84	16.62	17.29	13.11	16.85	13.97	17.23	14.07	15.30	14.60	13.45	13.66	13.02
45.00°	11.36	11.65	11.57	13.43	13.62	13.48	12.18	10.67	11.84	10.56	10.19	11.41	10.52	10.61	10.94	11.08	11.36
47.50°	10.36	10.58	11.04	11.05	12.21	11.70	10.69	8.49	10.04	8.37	9.16	10.16	10.00	9.79	8.98	9.87	10.36
50.00°	11.33	10.49	11.83	11.97	11.97	12.36	11.06	10.63	9.73	9.29	9.39	10.50	9.61	10.46	9.59	9.68	11.33
52.50°	12.41	11.07	12.92	13.04	12.34	13.14	12.31	12.65	10.82	10.21	10.93	10.97	11.10	10.77	10.27	10.91	12.41
55.00°	13.08	12.73	13.87	14.71	13.64	13.42	13.95	13.33	12.45	11.11	12.68	11.55	12.44	10.95	10.92	13.06	13.08
57.50°	13.70	12.83	14.81	15.33	15.37	13.64	12.82	13.58	12.26	11.20	11.67	10.88	10.39	9.97	11.43	12.49	13.70
60.00°	11.64	10.79	11.96	12.52	12.76	10.53	10.67	10.84	11.46	9.74	10.33	9.10	8.32	8.60	8.98	10.39	11.64
62.50°	9.52	8.47	8.57	9.57	8.51	7.48	7.91	8.17	8.80	7.80	8.17	7.21	6.07	6.36	6.56	7.78	9.52
65.00°	6.31	5.81	6.33	6.27	5.60	5.19	4.97	5.88	5.62	5.08	5.94	5.23	4.06	3.89	4.54	4.91	6.31
67.50°	3.41	3.80	4.19	3.76	3.12	3.16	3.45	4.00	4.24	3.46	4.66	3.54	3.46	3.17	2.82	3.53	3.41
70.00°	2.45	2.42	3.18	2.80	2.58	2.65	2.24	3.40	3.22	3.12	3.58	2.00	3.12	2.78	2.65	2.67	2.45
72.50°	1.89	1.93	2.32	2.31	2.40	2.23	2.10	2.94	2.88	2.56	3.35	2.24	3.23	2.15	2.48	1.94	1.89
75.00°	1.99	1.82	1.99	2.23	1.80	1.92	1.93	2.64	2.52	1.98	2.76	2.51	2.83	1.74	2.29	1.52	1.99
77.50°	1.82	1.73	1.71	1.81	1.55	2.17	1.70	1.95	2.15	2.02	1.94	2.25	2.17	1.71	1.73	1.80	1.82
80.00°	1.49	1.42	1.48	1.40	1.64	2.13	1.57	1.42	2.48	1.59	1.38	1.50	1.38	1.29	1.30	1.26	1.49
82.50°	1.08	0.88	1.27	1.04	1.11	1.42	1.07	1.09	1.46	0.98	0.92	0.79	0.71	0.80	1.01	0.79	1.08
85.00°	0.80	0.46	0.91	0.76	0.76	0.59	0.74	0.68	0.77	0.54	0.55	0.71	0.81	0.58	0.54	0.68	0.80
87.50°	0.70	0.60	0.69	0.83	0.76	0.53	0.52	0.51	0.51	0.44	0.70	0.91	0.69	0.72	0.83	0.70	0.70
90.00°	0.78	0.63	0.62	0.70	0.45	0.66	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.27	0.70	0.39	0.78
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%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	877	877	877	877	857	857	857	857	819	819	819	784	784	784	752	752	752	737
	1	843	825	809	795	825	809	795	782	780	769	758	753	744	736	728	721	715	707
	2	809	779	754	732	794	767	744	724	743	725	709	722	707	694	702	690	679	677
	3	778	738	708	683	764	729	701	678	710	687	667	693	673	657	677	661	647	648
	4	748	703	669	643	736	695	664	639	679	653	632	665	643	625	652	634	618	622
	5	721	671	635	609	710	664	631	607	652	623	602	640	616	597	629	608	592	598
	6	695	642	606	580	685	636	603	578	626	597	575	617	591	571	608	585	567	575
	7	671	616	580	555	662	611	577	553	603	572	551	595	568	548	587	563	545	554
	8	648	592	556	532	640	588	554	531	581	550	529	574	547	527	568	543	525	535
	9	627	570	535	512	620	567	533	511	561	530	509	555	527	508	549	524	506	517
	10	607	550	516	493	601	547	514	492	542	512	491	537	509	490	532	507	489	500

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	92.5 fc	2.2 ft
6.5 ft	66.2 fc	2.6 ft
7.5 ft	49.7 fc	3.0 ft
8.0 ft	43.7 fc	3.2 ft
10.0 ft	28.0 fc	4.0 ft
12.0 ft	19.4 fc	4.8 ft
14.0 ft	14.3 fc	5.6 ft
16.0 ft	10.9 fc	6.5 ft
20.0 ft	7.0 fc	8.1 ft
24.0 ft	4.9 fc	9.7 ft
28.0 ft	3.6 fc	11.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	958,680	958,680	958,680
45.00°	5,505	5,606	6,597
55.00°	7,814	8,288	8,149
65.00°	5,118	5,128	4,538
75.00°	2,630	2,640	2,389
85.00°	3,146	3,576	2,996

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	11.7	12.6	12.0	12.9	13.2	11.4	12.4	11.8	12.7	13.0
	3H	11.8	12.7	12.2	13.0	13.4	11.6	12.4	12.0	12.8	13.1
	4H	11.9	12.6	12.3	13.0	13.4	11.8	12.5	12.2	12.9	13.3
	6H	12.0	12.7	12.4	13.1	13.5	11.9	12.6	12.3	13.0	13.4
	8H	12.0	12.7	12.5	13.1	13.5	12.0	12.6	12.4	13.0	13.4
	12H	12.0	12.7	12.5	13.0	13.5	12.0	12.6	12.4	13.0	13.4
4H	2H	11.7	12.4	12.1	12.8	13.2	11.5	12.2	11.9	12.6	13.0
	3H	11.9	12.5	12.3	12.9	13.3	11.7	12.3	12.1	12.8	13.2
	4H	12.0	12.6	12.4	13.0	13.4	12.0	12.5	12.4	12.9	13.4
	6H	12.2	12.7	12.7	13.1	13.6	12.3	12.8	12.8	13.2	13.7
	8H	12.3	12.7	12.7	13.2	13.6	12.3	12.8	12.8	13.2	13.7
	12H	12.3	12.7	12.8	13.2	13.7	12.4	12.8	12.9	13.3	13.8
8H	4H	12.0	12.4	12.4	12.9	13.3	12.0	12.4	12.5	12.9	13.3
	6H	12.3	12.6	12.8	13.1	13.6	12.4	12.8	12.9	13.3	13.8
	8H	12.4	12.7	12.9	13.2	13.7	12.6	12.9	13.1	13.4	13.9
	12H	12.5	12.7	13.0	13.2	13.8	12.7	12.9	13.2	13.4	14.0
12H	4H	11.9	12.3	12.4	12.8	13.3	11.9	12.3	12.4	12.8	13.3
	6H	12.3	12.6	12.8	13.0	13.6	12.4	12.7	12.9	13.2	13.7
	8H	12.4	12.7	12.9	13.2	13.7	12.6	12.9	13.1	13.4	13.9

Corrected UGR values based on total output lumens

SHR = 1.0