

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03RMx xx 835 010 DLNFGC MW
Nominal 3" diam round recessed Infinium downlight

Test Number

SP-00759_M-010L

Test Date

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

Summary of Results

Power

Input Watts	9.3 W
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Lumen Output

Output Lumens	731
Efficacy	78.62 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.46
Two luminaires, plane 90°	0.47
Four luminaires	0.48

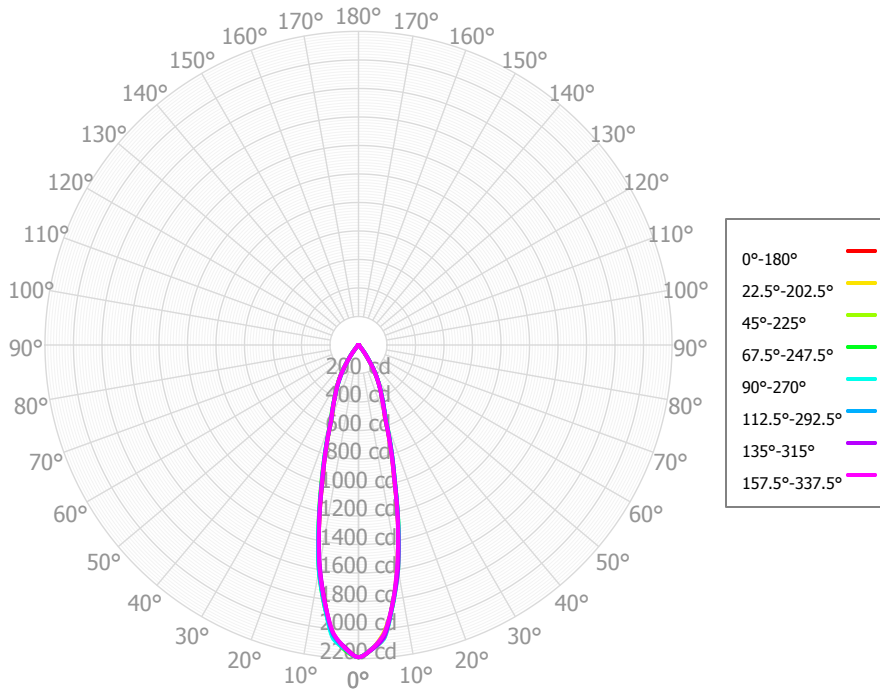
Full Beam Angle

0° - 180°	28°
90° - 270°	28°

IES File Header Contents

Keyword	Value
TEST	SP-00759_M-010L
TESTLAB	Spectrum Lighting Photometric lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/8/2019
UPDATE	2/27/2019
LUMCAT	IF03RMx xx 835 010 DLNFGC MW
LUMINAIRE	Nominal 3" diam round recessed Infinium downlight
OTHER	Beam Angle: 28 degrees
OTHER	Narrow flood 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 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°	181.03	24.76%	90.00° - 100.00°	0.04	0.01%
10.00° - 20.00°	272.04	37.20%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	175.69	24.03%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	76.71	10.49%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	12.66	1.73%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	6.15	0.84%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	4.11	0.56%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	2.04	0.28%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.74	0.10%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	731.16	99.99%	0.00° - 180.00°	731.20	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°	2,190.42	2,190.42	2,190.42	2,190.42	2,190.42	2,190.42	2,190.42	2,190.42	2,190.42	2,190.42	2,190.42	2,190.42	2,190.42	2,190.42	2,190.42	2,190.42	2,190.42
2.50°	2,133.84	2,136.93	2,136.88	2,138.04	2,137.03	2,135.18	2,125.49	2,131.61	2,126.81	2,142.55	2,132.36	2,144.10	2,136.28	2,134.98	2,140.09	2,135.07	2,133.84
5.00°	2,060.86	2,028.71	2,065.66	2,041.09	2,067.71	2,044.88	2,034.12	2,028.80	2,048.23	2,031.00	2,057.87	2,045.73	2,065.81	2,047.10	2,059.86	2,037.64	2,060.86
7.50°	1,828.73	1,837.80	1,836.49	1,841.60	1,841.64	1,830.01	1,816.03	1,820.19	1,814.32	1,832.22	1,825.93	1,841.39	1,836.93	1,833.49	1,836.23	1,831.79	1,828.73
10.00°	1,587.22	1,565.56	1,598.93	1,579.90	1,601.98	1,595.00	1,567.15	1,580.15	1,579.11	1,584.09	1,593.00	1,601.63	1,604.58	1,577.67	1,598.13	1,565.43	1,587.22
12.50°	1,277.34	1,278.29	1,289.51	1,291.37	1,295.43	1,285.96	1,275.66	1,273.54	1,272.65	1,277.67	1,285.50	1,293.12	1,293.82	1,284.49	1,282.92	1,273.64	1,277.34
15.00°	962.46	975.49	975.27	985.66	982.07	993.11	972.97	989.24	966.73	998.02	978.05	1,007.82	985.87	977.90	980.89	966.87	962.46
17.50°	747.42	736.16	758.44	754.06	764.97	764.50	756.60	754.96	756.21	751.65	764.58	770.12	769.43	755.67	756.28	737.36	747.42
20.00°	541.14	565.85	549.56	572.41	559.14	561.52	564.62	562.07	545.70	567.32	551.11	575.72	555.24	565.65	549.77	555.86	541.14
22.50°	452.69	444.15	458.05	454.42	462.70	468.63	462.18	467.73	463.99	464.09	465.97	475.42	468.38	456.58	461.22	442.97	452.69
25.00°	376.35	378.02	377.86	381.62	380.80	380.90	386.93	382.83	383.16	380.08	382.40	386.12	381.63	380.39	375.62	375.00	376.35
27.50°	310.28	309.98	310.47	312.28	314.05	317.26	318.40	321.85	322.79	322.52	319.95	322.20	314.34	311.10	311.51	307.62	310.28
30.00°	245.43	239.62	244.50	245.53	249.56	253.07	252.06	258.10	262.82	259.54	258.04	256.64	247.06	244.77	246.99	240.63	245.43
32.50°	174.68	171.44	175.61	179.91	184.28	186.04	184.49	186.83	189.63	188.72	188.52	187.09	181.52	179.95	179.03	174.05	174.68
35.00°	103.14	106.00	106.35	115.20	118.86	122.09	116.51	120.99	116.00	124.99	118.71	123.39	115.99	115.80	113.37	107.77	103.14
37.50°	63.66	57.94	65.68	68.98	74.87	75.48	71.54	70.98	71.93	72.07	76.00	74.89	73.02	71.10	70.23	63.16	63.66
40.00°	29.01	33.01	29.12	38.07	34.81	33.89	35.11	30.73	29.22	34.75	34.70	36.10	30.52	35.81	29.91	35.12	29.01
42.50°	19.31	16.95	18.86	20.50	22.04	23.45	20.52	20.89	20.34	22.50	23.28	24.19	20.80	19.87	21.84	19.57	19.31
45.00°	13.87	13.28	12.81	14.53	14.77	13.92	14.56	12.88	13.48	13.94	13.83	14.64	12.18	13.87	14.12	14.08	13.87
47.50°	11.17	10.58	10.39	11.07	11.66	10.75	11.31	11.04	10.80	11.66	11.17	12.10	10.73	10.72	11.21	10.69	11.17
50.00°	9.00	9.29	8.62	9.89	9.47	7.90	9.20	9.28	8.43	9.60	9.05	9.75	9.61	9.11	8.40	9.09	9.00
52.50°	8.14	8.13	7.60	8.37	7.81	7.66	7.90	7.77	7.58	7.92	8.06	8.05	7.92	7.72	7.19	7.66	8.14
55.00°	7.57	7.16	6.73	6.52	6.29	7.32	6.96	6.41	6.87	6.57	7.17	6.55	6.20	6.44	6.00	6.36	7.57
57.50°	6.86	6.36	6.06	5.61	5.88	6.01	6.19	5.66	6.09	5.83	6.14	5.73	5.42	5.53	5.41	5.51	6.86
60.00°	6.12	5.84	5.43	5.64	5.76	4.81	5.50	5.04	5.31	5.17	5.09	4.98	4.70	4.83	4.82	5.08	6.12
62.50°	5.18	5.27	4.74	5.43	5.14	4.77	4.79	5.00	4.90	4.65	5.04	4.47	4.06	4.30	4.50	4.53	5.18
65.00°	4.19	4.65	4.03	4.95	4.39	4.67	4.07	4.78	4.53	4.12	5.12	3.92	3.42	3.88	4.16	3.87	4.19
67.50°	3.48	3.77	3.38	4.34	3.57	3.97	3.65	3.78	3.81	3.58	3.76	3.22	2.75	3.31	3.18	3.18	3.48
70.00°	2.84	2.45	2.73	3.58	2.73	3.26	3.40	2.85	3.04	3.01	2.19	2.56	2.07	2.66	2.20	2.47	2.84
72.50°	2.35	1.62	2.08	2.86	2.41	2.39	2.88	2.30	2.52	2.38	1.84	2.09	2.14	2.18	2.00	1.98	2.35
75.00°	1.91	1.71	1.43	2.20	2.25	1.58	2.23	1.83	2.02	1.84	1.68	1.66	2.30	1.81	1.79	1.73	1.91
77.50°	1.72	1.59	1.38	1.69	1.80	1.49	1.78	1.76	1.70	1.54	1.55	1.37	1.72	1.57	1.48	1.33	1.72
80.00°	1.60	1.15	1.49	1.37	1.24	1.33	1.42	1.50	1.38	1.24	1.38	1.05	1.13	1.40	1.16	0.80	1.60
82.50°	1.02	0.71	0.93	0.93	0.84	0.98	0.78	0.88	0.93	0.95	0.91	0.68	0.75	0.86	0.82	0.62	1.02
85.00°	0.59	0.39	0.47	0.55	0.55	0.67	0.49	0.56	0.67	0.54	0.58	0.51	0.81	0.61	0.62	0.56	0.59
87.50°	0.46	0.39	0.31	0.44	0.46	0.62	0.49	0.54	0.60	0.45	0.55	0.57	0.45	0.77	0.46	0.51	0.46
90.00°	0.38	0.42	0.75	0.55	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59	0.61	0.58	0.38
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%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	870	870	870	870	850	850	850	850	812	812	812	778	778	778	746	746	731
	1	836	818	802	788	818	802	788	775	773	762	752	746	737	729	721	715	708
	2	802	772	746	725	787	759	737	717	736	718	702	715	700	687	695	683	673
	3	771	731	700	676	757	721	693	670	702	679	660	685	666	650	669	653	640
	4	741	694	661	635	728	687	655	631	671	645	624	658	635	617	645	626	610
	5	712	662	626	600	702	655	622	598	643	614	592	631	607	587	621	600	583
	6	686	632	596	570	676	627	593	568	617	587	565	607	581	561	598	575	557
	7	661	605	569	544	652	601	567	542	592	562	540	584	557	537	577	553	534
	8	638	581	545	520	630	577	543	519	570	539	517	563	535	515	556	532	513
	9	616	558	523	499	609	555	521	498	549	518	496	543	515	495	537	512	493
	10	595	537	503	479	589	534	501	479	529	499	478	524	496	477	519	494	475

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	72.4 fc	2.7 ft
6.5 ft	51.8 fc	3.2 ft
7.5 ft	38.9 fc	3.7 ft
8.0 ft	34.2 fc	4.0 ft
10.0 ft	21.9 fc	5.0 ft
12.0 ft	15.2 fc	6.0 ft
14.0 ft	11.2 fc	7.0 ft
16.0 ft	8.6 fc	8.0 ft
20.0 ft	5.5 fc	10.0 ft
24.0 ft	3.8 fc	12.0 ft
28.0 ft	2.8 fc	14.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	750,496	750,496	750,496
45.00°	6,719	6,208	7,155
55.00°	4,519	4,022	3,754
65.00°	3,400	3,271	3,558
75.00°	2,528	1,887	2,982
85.00°	2,313	1,864	2,176

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	6.6	7.5	7.0	7.8	8.1	6.2	7.2	6.6	7.5	7.8
	3H	7.8	8.6	8.2	9.0	9.3	7.5	8.4	7.9	8.7	9.1
	4H	8.2	8.9	8.6	9.3	9.7	8.0	8.8	8.5	9.2	9.5
	6H	8.6	9.3	9.0	9.7	10.1	8.4	9.1	8.9	9.5	9.9
	8H	8.8	9.4	9.2	9.8	10.2	8.5	9.2	9.0	9.6	10.0
	12H	8.9	9.5	9.3	9.9	10.3	8.6	9.3	9.1	9.6	10.1
4H	2H	7.0	7.7	7.4	8.1	8.5	6.8	7.6	7.2	7.9	8.3
	3H	8.2	8.9	8.7	9.3	9.7	8.3	8.9	8.7	9.3	9.7
	4H	8.7	9.3	9.2	9.7	10.1	8.8	9.3	9.2	9.8	10.2
	6H	9.3	9.7	9.7	10.2	10.7	9.3	9.7	9.8	10.2	10.7
	8H	9.5	9.9	9.9	10.3	10.8	9.4	9.8	9.9	10.3	10.8
	12H	9.6	10.0	10.1	10.4	10.9	9.6	9.9	10.0	10.4	10.9
8H	4H	8.8	9.3	9.3	9.7	10.2	9.0	9.4	9.4	9.8	10.3
	6H	9.5	9.8	10.0	10.3	10.8	9.6	9.9	10.1	10.4	10.9
	8H	9.7	10.0	10.3	10.5	11.0	9.8	10.1	10.3	10.6	11.1
	12H	9.9	10.2	10.4	10.7	11.3	10.0	10.3	10.5	10.8	11.4
12H	4H	8.8	9.2	9.3	9.7	10.2	9.0	9.3	9.4	9.8	10.3
	6H	9.5	9.8	10.1	10.3	10.8	9.6	9.9	10.2	10.4	10.9
	8H	9.8	10.1	10.3	10.6	11.1	9.9	10.1	10.4	10.6	11.2

Corrected UGR values based on total output lumens

SHR = 1.0