

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
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Spectrum Lighting Photometric Lab

Luminaire

IF03RMx xx 835 015 DLWFGN MW
Nominal 3" diam round recessed Infinium downlight

Test Number

SP-00761_1_M-015L

Test Date

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

Summary of Results

Power

Input Watts	12.2 W
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Lumen Output

Output Lumens	992
Efficacy	81.28 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.96
Two luminaires, plane 90°	0.95
Four luminaires	0.88

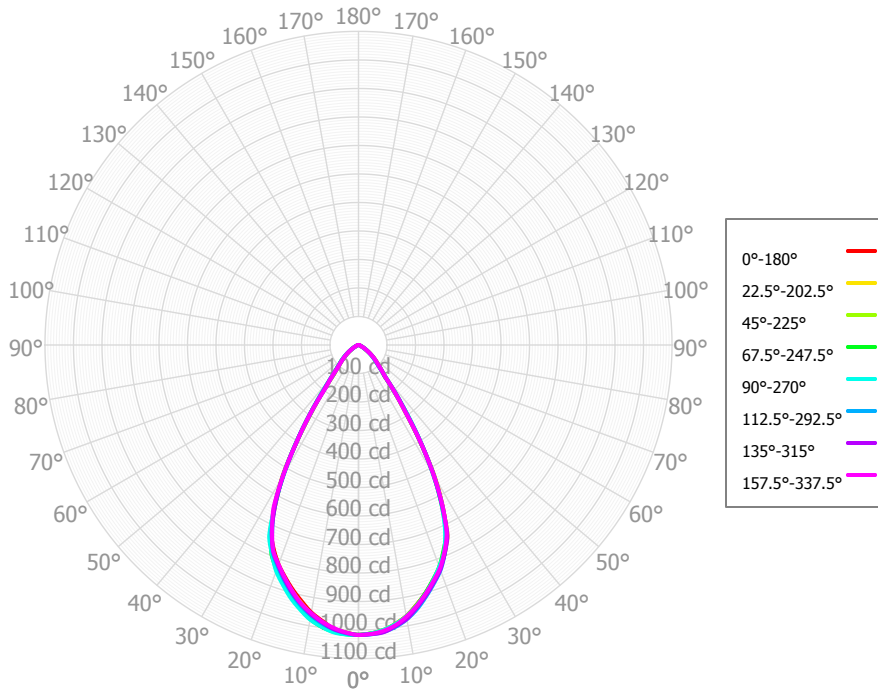
Full Beam Angle

0° - 180°	61°
90° - 270°	61°

IES File Header Contents

Keyword	Value
TEST	SP-00761_1_M-015L
TESTLAB	Spectrum Lighting Photometric lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/8/2019
UPDATE	2/28/2019
LUMCAT	IF03RMx xx 835 015 DLWFGN MW
LUMINAIRE	Nominal 3" diam round recessed Infinium downlight
OTHER	Beam Angle: 61 degrees
OTHER	Wide 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°	95.99	9.68%	90.00° - 100.00°	0.06	0.01%
10.00° - 20.00°	253.30	25.54%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	322.66	32.54%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	189.18	19.08%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	75.24	7.59%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	38.27	3.86%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	12.49	1.26%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	3.35	0.34%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.09	0.11%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	991.56	99.99%	0.00° - 180.00°	991.62	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°	1,017.26	1,017.26	1,017.26	1,017.26	1,017.26	1,017.26	1,017.26	1,017.26	1,017.26	1,017.26	1,017.26	1,017.26	1,017.26	1,017.26	1,017.26	1,017.26	1,017.26
2.50°	1,013.88	1,013.18	1,012.73	1,012.95	1,012.78	1,012.48	1,010.49	1,009.72	1,009.74	1,009.67	1,013.45	1,015.94	1,016.42	1,016.11	1,015.46	1,014.70	1,013.88
5.00°	1,006.95	1,004.97	1,004.09	1,004.82	1,003.85	1,001.18	1,000.72	996.52	999.34	998.75	1,005.52	1,009.52	1,011.73	1,010.19	1,011.60	1,006.72	1,006.95
7.50°	987.58	987.09	987.94	988.55	988.12	985.49	981.15	978.92	976.43	980.30	987.08	996.99	996.62	997.42	994.82	991.59	987.58
10.00°	966.01	966.86	966.53	967.87	967.30	962.78	959.08	955.24	952.88	957.79	965.69	976.21	978.22	977.04	976.06	967.87	966.01
12.50°	935.27	936.42	936.09	937.34	938.50	936.71	930.61	928.89	921.19	927.55	935.82	947.19	949.80	949.08	944.14	939.08	935.27
15.00°	903.69	904.22	903.43	902.47	905.89	903.03	899.10	894.51	889.34	895.47	904.24	914.08	919.01	914.18	911.07	905.27	903.69
17.50°	869.47	868.72	867.63	865.70	868.40	866.50	861.51	857.40	854.92	860.60	868.53	877.67	882.26	878.02	875.31	870.27	869.47
20.00°	833.02	832.86	829.78	828.27	828.34	827.27	822.64	819.89	819.60	823.26	832.25	838.28	844.55	840.91	839.24	834.29	833.02
22.50°	791.15	786.83	789.56	779.61	785.58	787.26	781.70	782.27	776.63	782.84	784.06	796.95	793.71	790.52	790.67	787.03	791.15
25.00°	732.18	740.19	724.60	728.10	719.04	716.19	720.71	717.07	725.94	721.54	734.96	725.63	741.54	732.07	738.33	732.35	732.18
27.50°	640.46	636.91	636.59	631.02	632.10	638.51	633.21	646.79	633.47	638.80	632.55	638.13	635.74	637.13	634.78	639.79	640.46
30.00°	533.78	532.36	528.82	525.40	527.41	525.04	529.05	528.66	533.48	532.09	528.57	527.11	527.45	524.29	529.10	526.94	533.78
32.50°	403.46	404.17	405.69	407.74	410.21	406.54	407.05	405.00	404.78	405.41	407.00	406.09	409.99	409.16	406.78	407.21	403.46
35.00°	291.51	281.52	299.10	288.66	304.29	300.60	298.83	296.01	286.99	296.42	288.71	300.26	294.73	293.13	291.43	284.53	291.51
37.50°	202.93	207.30	202.89	213.43	204.74	195.73	202.96	187.88	201.42	199.51	209.05	199.39	215.15	213.92	211.34	208.19	202.93
40.00°	145.01	140.69	149.76	140.69	149.55	151.43	144.59	146.53	134.15	143.82	136.77	150.34	141.42	145.62	143.05	147.16	145.01
42.50°	118.75	117.99	118.18	116.45	114.57	109.43	113.42	106.77	108.59	111.08	113.81	114.35	116.93	115.72	118.20	118.19	118.75
45.00°	98.81	97.15	97.92	93.07	93.74	92.92	92.29	91.21	87.62	91.29	92.47	95.74	94.21	94.28	96.05	97.41	98.81
47.50°	84.32	83.77	82.24	79.25	78.00	76.70	77.01	75.96	74.93	77.19	78.60	80.19	80.95	79.98	81.56	82.96	84.32
50.00°	70.46	70.31	68.34	65.56	64.93	64.17	63.77	63.74	62.48	64.00	65.17	66.92	67.77	66.78	67.78	69.65	70.46
52.50°	57.05	56.61	54.98	53.10	52.58	51.86	51.49	51.73	50.39	51.12	53.20	53.89	54.92	54.26	55.56	55.61	57.05
55.00°	44.56	43.81	43.24	41.09	41.88	41.10	40.99	40.92	39.92	40.50	41.84	42.25	43.05	41.79	43.85	41.48	44.56
57.50°	32.60	33.14	31.87	31.83	31.51	30.83	31.14	30.74	31.40	30.46	32.05	30.68	34.03	32.99	33.04	32.83	32.60
60.00°	23.96	24.00	23.78	23.11	23.50	22.79	23.64	23.14	23.54	23.02	23.33	23.45	25.43	24.34	23.99	24.50	23.96
62.50°	16.85	17.72	16.22	16.72	15.79	15.56	16.80	16.32	16.33	16.05	16.79	16.34	17.78	17.52	17.45	17.50	16.85
65.00°	11.80	12.21	11.65	11.17	11.89	11.22	12.44	11.92	11.30	12.29	11.32	11.33	11.56	10.99	12.06	10.79	11.80
67.50°	7.48	7.82	7.40	8.13	8.31	7.70	8.59	8.09	7.97	8.92	7.52	6.84	7.80	7.77	7.98	8.23	7.48
70.00°	5.01	5.01	5.31	5.52	6.47	5.82	6.02	5.36	5.86	6.45	5.23	5.14	5.17	4.95	5.14	5.81	5.01
72.50°	3.04	3.52	3.56	3.57	4.81	4.47	4.01	3.62	4.27	4.47	4.16	3.84	3.51	3.48	3.16	3.85	3.04
75.00°	2.38	2.88	2.75	2.74	3.57	3.48	3.29	2.57	3.53	3.71	2.95	3.06	2.35	2.54	2.81	2.55	2.38
77.50°	2.05	2.41	2.29	2.20	2.72	2.81	2.57	2.32	2.86	2.70	2.05	2.24	1.65	2.03	2.43	1.82	2.05
80.00°	1.85	1.99	1.92	1.33	2.02	2.00	1.84	2.07	2.14	1.79	1.58	1.66	1.49	1.47	1.48	1.62	1.85
82.50°	1.22	1.30	1.44	0.79	1.32	1.34	1.13	1.42	1.21	1.22	0.89	1.18	1.10	1.22	1.04	1.40	1.22
85.00°	0.82	0.74	1.01	0.65	0.85	0.86	0.83	0.74	0.90	0.83	1.06	0.73	0.94	0.93	0.88	0.92	0.82
87.50°	0.99	0.70	0.88	0.99	0.87	1.11	0.90	0.67	0.72	0.84	0.93	0.85	0.66	0.78	0.84	0.86	0.99
90.00°	0.90	0.99	0.85	1.13	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.88	0.92	0.90
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	1,180	1,180	1,180	1,180	1,153	1,153	1,153	1,153	1,102	1,102	1,102	1,055	1,055	1,055	1,012	1,012	992
	1	1,122	1,093	1,067	1,043	1,097	1,071	1,048	1,027	1,031	1,012	995	994	979	965	960	948	929
	2	1,062	1,011	969	933	1,040	994	955	923	961	930	902	932	906	883	904	883	864
	3	1,005	937	885	844	985	923	875	837	897	857	823	873	839	810	850	822	798
	4	951	872	814	769	932	860	806	765	838	792	756	818	779	747	799	766	738
	5	900	812	752	707	883	803	746	703	785	735	697	768	725	691	752	715	685
	6	852	760	697	653	837	752	693	650	736	684	646	722	676	641	709	668	637
	7	808	712	649	606	794	705	646	604	692	639	601	680	633	597	669	626	594
	8	767	669	607	564	755	663	604	563	652	599	561	642	593	558	632	588	556
	9	729	630	569	528	718	625	567	527	615	562	525	606	558	523	598	554	521
	10	694	595	535	495	684	590	533	494	582	529	493	574	526	492	567	522	490

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	33.6 fc	6.5 ft
6.5 ft	24.1 fc	7.6 ft
7.5 ft	18.1 fc	8.8 ft
8.0 ft	15.9 fc	9.4 ft
10.0 ft	10.2 fc	11.8 ft
12.0 ft	7.1 fc	14.1 ft
14.0 ft	5.2 fc	16.5 ft
16.0 ft	4.0 fc	18.8 ft
20.0 ft	2.5 fc	23.5 ft
24.0 ft	1.8 fc	28.2 ft
28.0 ft	1.3 fc	32.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	348,541	348,541	348,541
45.00°	47,876	47,446	45,420
55.00°	26,620	25,830	25,018
65.00°	9,569	9,445	9,639
75.00°	3,156	3,635	4,723
85.00°	3,236	3,982	3,361

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	17.0	18.0	17.3	18.3	18.7	16.6	17.6	16.9	18.0	18.3
	3H	17.0	18.0	17.4	18.3	18.7	16.7	17.6	17.1	18.0	18.3
	4H	17.0	17.9	17.4	18.2	18.6	16.7	17.6	17.1	17.9	18.3
	6H	17.0	17.7	17.4	18.1	18.5	16.7	17.5	17.1	17.8	18.2
	8H	16.9	17.7	17.4	18.1	18.5	16.6	17.4	17.1	17.8	18.2
	12H	16.9	17.6	17.3	18.0	18.4	16.6	17.3	17.0	17.7	18.1
4H	2H	16.9	17.8	17.3	18.1	18.5	16.6	17.4	17.0	17.8	18.2
	3H	17.0	17.7	17.5	18.2	18.6	16.7	17.4	17.2	17.9	18.3
	4H	17.0	17.6	17.4	18.1	18.5	16.8	17.4	17.2	17.8	18.3
	6H	17.0	17.5	17.5	18.0	18.4	16.8	17.3	17.2	17.7	18.2
	8H	17.0	17.5	17.4	17.9	18.4	16.7	17.2	17.2	17.7	18.2
	12H	16.9	17.4	17.4	17.9	18.3	16.7	17.1	17.2	17.6	18.1
8H	4H	16.9	17.4	17.4	17.8	18.3	16.7	17.2	17.1	17.6	18.1
	6H	16.9	17.3	17.4	17.8	18.3	16.7	17.1	17.2	17.6	18.1
	8H	16.9	17.2	17.4	17.8	18.3	16.7	17.0	17.2	17.5	18.0
	12H	16.9	17.2	17.4	17.7	18.3	16.7	17.0	17.2	17.5	18.1
12H	4H	16.8	17.3	17.3	17.8	18.2	16.6	17.0	17.1	17.5	18.0
	6H	16.8	17.2	17.4	17.7	18.2	16.6	17.0	17.2	17.5	18.0
	8H	16.9	17.2	17.4	17.7	18.2	16.6	17.0	17.2	17.5	18.0

Corrected UGR values based on total output lumens

SHR = 1.0