Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03RMx xx 835 015 DLWFGP MW

Nominal 3" diam round recessed Infinium downlight

Test Number

SP-00761_2_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

Lumen Output

Output Lumens	958
Efficacy	78.53 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.95
Two luminaires, plane 90°	0.95
Four luminaires	0.89

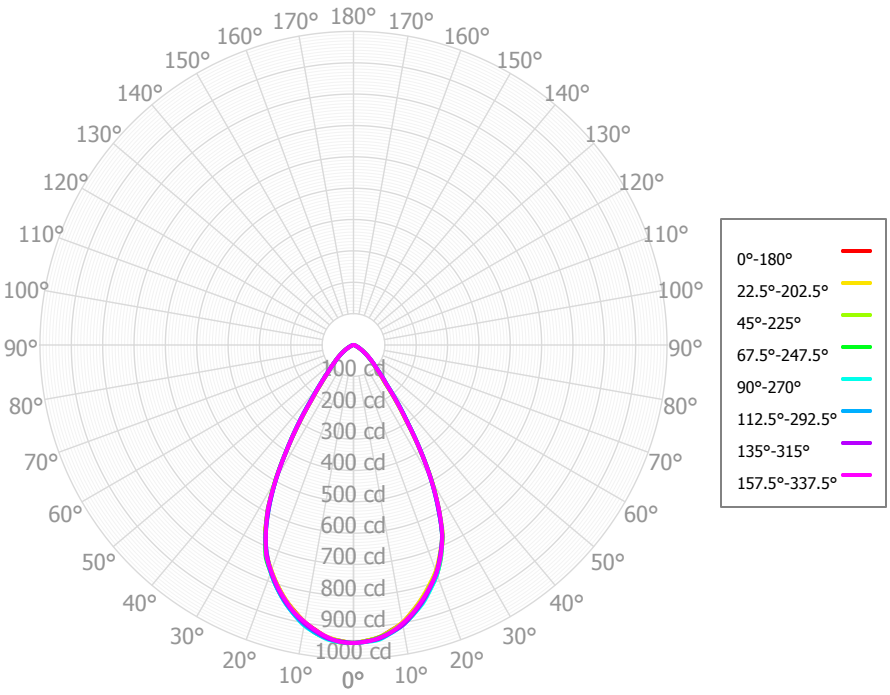
Full Beam Angle

0° - 180°	61°
90° - 270°	61°

IES File Header Contents

Keyword	Value
TEST	SP-00761_2_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 DLWFGP MW
LUMINAIRE	Nominal 3" diam round recessed Infinium downlight
OTHER	Beam Angle: 61 degrees
OTHER	Wide flood optic, Solite 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°	89.65	9.36%	90.00° - 100.00°	0.06	0.01%
10.00° - 20.00°	236.22	24.66%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	297.79	31.08%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	190.68	19.90%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	81.83	8.54%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	40.55	4.23%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	15.54	1.62%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	4.60	0.48%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.18	0.12%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	958.03	99.99%	0.00° - 180.00°	958.09	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°	950.22	950.22	950.22	950.22	950.22	950.22	950.22	950.22	950.22	950.22	950.22	950.22	950.22	950.22	950.22	950.22	950.22
2.50°	944.10	944.29	944.36	946.96	947.98	947.95	946.12	948.54	944.89	944.77	945.03	950.12	948.29	947.14	946.11	947.28	944.10
5.00°	935.74	935.45	936.20	936.71	943.43	940.20	939.37	935.94	936.96	935.30	937.48	939.88	942.99	940.64	940.20	937.80	935.74
7.50°	918.09	919.35	920.12	923.79	925.53	926.14	921.52	918.71	917.53	919.33	921.93	926.97	926.86	926.29	923.84	923.49	918.09
10.00°	899.63	898.37	902.52	904.55	907.00	905.60	901.90	896.91	897.07	897.39	902.39	903.27	908.36	907.23	906.95	901.43	899.63
12.50°	869.78	870.03	873.18	880.90	880.62	879.14	874.63	873.70	869.35	870.56	873.84	877.66	879.73	879.99	878.03	875.18	869.78
15.00°	839.42	837.70	842.35	849.03	853.65	847.77	845.29	841.43	840.26	838.89	842.52	845.18	849.07	848.77	848.61	843.48	839.42
17.50°	805.31	803.03	807.38	815.30	817.20	812.68	809.17	806.98	804.74	803.95	806.24	811.95	811.90	812.91	811.35	809.70	805.31
20.00°	769.20	767.34	772.12	778.66	779.13	771.55	769.82	767.30	767.15	765.06	767.59	772.03	771.26	775.28	772.82	773.73	769.20
22.50°	723.23	720.35	724.45	730.65	727.41	726.72	722.38	726.75	722.55	723.98	725.48	731.72	722.05	723.70	723.77	726.85	723.23
25.00°	669.43	669.48	675.28	668.44	670.40	661.37	663.82	660.94	667.92	662.07	667.51	663.15	662.44	668.00	669.11	670.34	669.43
27.50°	586.83	586.30	588.24	589.69	584.13	585.84	583.07	592.62	586.40	591.08	590.57	593.05	582.28	583.40	583.80	590.26	586.83
30.00°	497.61	494.82	499.71	493.88	495.01	493.55	494.96	493.88	497.17	496.50	499.58	494.43	494.81	492.45	495.20	493.28	497.61
32.50°	390.02	392.09	394.47	396.77	394.76	394.62	394.94	393.73	391.76	393.82	394.90	396.48	395.61	395.70	393.95	394.20	390.02
35.00°	292.62	287.21	293.58	298.55	301.48	307.96	304.37	303.75	296.65	302.00	302.86	305.07	305.90	298.10	299.63	293.90	292.62
37.50°	217.26	217.69	221.02	223.36	228.86	225.02	226.19	216.16	218.76	213.03	221.14	219.66	228.51	230.59	226.04	221.51	217.26
40.00°	157.47	152.49	156.06	164.04	167.43	172.23	167.72	168.60	159.67	165.01	165.49	170.02	169.43	165.74	164.46	162.37	157.47
42.50°	125.30	123.85	125.58	126.49	132.11	126.24	130.51	123.71	126.70	124.60	127.07	125.64	130.23	133.46	130.63	127.43	125.30
45.00°	99.61	97.44	98.41	101.19	102.77	103.12	102.58	102.70	100.89	103.02	101.78	102.95	102.04	102.55	102.57	101.47	99.61
47.50°	83.18	81.92	82.42	82.95	84.46	83.62	82.91	82.87	83.14	83.74	83.46	82.49	83.57	85.23	85.06	84.43	83.18
50.00°	68.29	66.70	67.29	67.91	68.44	69.07	67.93	69.70	68.30	69.48	68.57	69.10	68.41	68.18	69.01	69.93	68.29
52.50°	55.20	55.26	54.37	55.82	55.86	54.99	56.34	56.95	56.12	55.55	55.17	56.38	55.63	55.17	55.17	57.17	55.20
55.00°	43.94	43.98	42.87	44.77	44.51	45.12	45.51	45.83	45.41	45.23	44.78	45.32	44.33	42.66	43.30	44.76	43.94
57.50°	34.46	34.30	34.31	35.43	34.68	35.45	35.14	35.55	35.83	35.05	35.41	35.29	33.92	34.04	33.88	35.10	34.46
60.00°	26.48	25.30	26.14	26.56	26.84	28.12	27.23	27.79	27.80	27.17	28.16	27.27	26.48	25.86	26.01	25.83	26.48
62.50°	19.68	20.62	18.62	20.30	21.02	20.97	20.49	20.73	20.74	19.59	21.44	20.19	20.45	19.85	19.69	19.46	19.68
65.00°	14.65	15.81	13.16	14.57	15.93	16.52	15.23	15.30	15.17	15.01	15.58	14.64	16.03	14.45	14.24	13.34	14.65
67.50°	10.75	10.39	10.43	10.54	11.46	12.32	10.52	11.05	10.30	10.80	9.87	10.47	12.17	11.22	9.50	9.86	10.75
70.00°	7.99	6.38	8.13	6.85	8.14	9.24	7.30	8.54	7.24	8.02	7.35	7.71	8.62	8.24	6.87	6.74	7.99
72.50°	5.67	5.10	6.20	5.56	5.42	6.79	4.68	6.04	4.81	5.83	5.13	5.83	5.55	5.70	5.30	5.36	5.67
75.00°	4.22	4.09	4.73	4.15	4.16	5.13	3.74	3.73	3.81	4.24	3.56	4.23	3.94	4.21	3.88	3.92	4.22
77.50°	3.02	3.14	3.42	2.57	3.11	3.48	2.76	3.14	2.73	3.04	3.11	2.47	3.04	3.18	2.72	2.46	3.02
80.00°	2.11	1.82	2.23	1.81	2.20	2.20	1.90	2.02	1.84	1.89	2.29	2.15	2.16	2.16	1.91	1.81	2.11
82.50°	1.17	1.32	1.42	1.30	1.53	1.37	1.29	1.17	1.31	1.17	1.25	1.40	1.24	1.27	1.26	1.37	1.17
85.00°	0.95	0.93	0.96	1.15	1.00	0.98	0.93	0.93	0.78	1.04	0.89	0.89	0.92	0.96	1.18	0.85	0.95
87.50°	0.76	0.76	0.63	0.74	0.99	0.94	1.21	0.74	0.82	0.72	0.79	0.88	1.03	0.83	0.81	0.78	0.76
90.00°	0.70	0.75	1.02	0.77	1.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.94	0.58	0.70
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	1,141	1,141	1,141	1,141	1,114	1,114	1,114	1,114	1,065	1,065	1,065	1,019	1,019	1,019	978	978	978	958
	1	1,082	1,054	1,028	1,005	1,059	1,033	1,010	989	994	975	958	958	943	930	925	914	903	895
	2	1,023	973	931	896	1,002	956	918	886	925	893	866	896	870	847	869	848	830	831
	3	966	900	848	807	947	886	839	801	861	821	788	837	803	775	815	787	763	772
	4	913	835	778	734	895	824	771	730	803	757	721	783	744	712	765	732	704	718
RCR	5	863	777	717	673	847	768	711	669	750	701	663	734	691	657	718	681	651	669
	6	816	725	664	620	802	717	659	617	702	651	613	689	643	609	676	636	605	624
	7	773	678	617	574	760	672	614	572	659	607	569	647	601	566	636	595	563	585
	8	733	637	576	534	721	631	573	533	620	568	530	610	563	528	600	558	526	548
	9	697	599	539	498	686	594	537	497	585	532	496	576	528	494	568	524	492	516
	10	663	565	506	467	653	560	504	466	552	501	465	545	497	463	537	494	462	486

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	31.4 fc	6.5 ft
6.5 ft	22.5 fc	7.7 ft
7.5 ft	16.9 fc	8.8 ft
8.0 ft	14.8 fc	9.4 ft
10.0 ft	9.5 fc	11.8 ft
12.0 ft	6.6 fc	14.1 ft
14.0 ft	4.8 fc	16.5 ft
16.0 ft	3.7 fc	18.9 ft
20.0 ft	2.4 fc	23.6 ft
24.0 ft	1.6 fc	28.3 ft
28.0 ft	1.2 fc	33.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	325,570	325,570	325,570
45.00°	48,267	47,682	49,798
55.00°	26,246	25,610	26,590
65.00°	11,874	10,666	12,914
75.00°	5,588	6,264	5,504
85.00°	3,751	3,774	3,943

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	17.4	18.5	17.8	18.8	19.1	17.5	18.6	17.9	18.9	19.3
	3H	17.7	18.6	18.1	19.0	19.3	17.9	18.9	18.3	19.2	19.6
	4H	17.7	18.6	18.1	18.9	19.3	17.9	18.8	18.3	19.2	19.6
	6H	17.7	18.5	18.1	18.9	19.3	17.9	18.7	18.3	19.1	19.5
	8H	17.6	18.4	18.1	18.8	19.2	17.9	18.6	18.3	19.0	19.4
	12H	17.6	18.3	18.0	18.7	19.2	17.8	18.6	18.3	18.9	19.4
4H	2H	17.4	18.3	17.8	18.7	19.0	17.6	18.5	18.0	18.8	19.2
	3H	17.7	18.5	18.2	18.9	19.3	18.0	18.7	18.4	19.2	19.6
	4H	17.8	18.4	18.2	18.9	19.3	18.1	18.7	18.5	19.2	19.6
	6H	17.8	18.4	18.3	18.8	19.3	18.1	18.7	18.6	19.1	19.6
	8H	17.8	18.3	18.3	18.7	19.2	18.1	18.6	18.6	19.0	19.5
	12H	17.7	18.2	18.2	18.7	19.2	18.1	18.5	18.5	19.0	19.5
8H	4H	17.7	18.2	18.2	18.7	19.2	18.0	18.5	18.5	19.0	19.4
	6H	17.7	18.2	18.3	18.7	19.1	18.0	18.4	18.5	18.9	19.4
	8H	17.7	18.1	18.3	18.6	19.1	18.0	18.4	18.6	18.9	19.4
	12H	17.7	18.0	18.2	18.5	19.1	18.0	18.3	18.5	18.8	19.4
12H	4H	17.7	18.1	18.2	18.6	19.1	18.0	18.4	18.4	18.9	19.4
	6H	17.7	18.1	18.2	18.5	19.1	18.0	18.4	18.5	18.8	19.4
	8H	17.7	18.0	18.2	18.5	19.1	18.0	18.3	18.5	18.8	19.4

Corrected UGR values based on total output lumens

SHR = 1.0