Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03RMx xx 835 010 DLWFGC MW

Nominal 3" diam round recessed Infinium downlight

Test Number

SP-00761_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

Lumen Output

Output Lumens	673
Efficacy	72.41 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°	0.96
Four luminaires	0.9

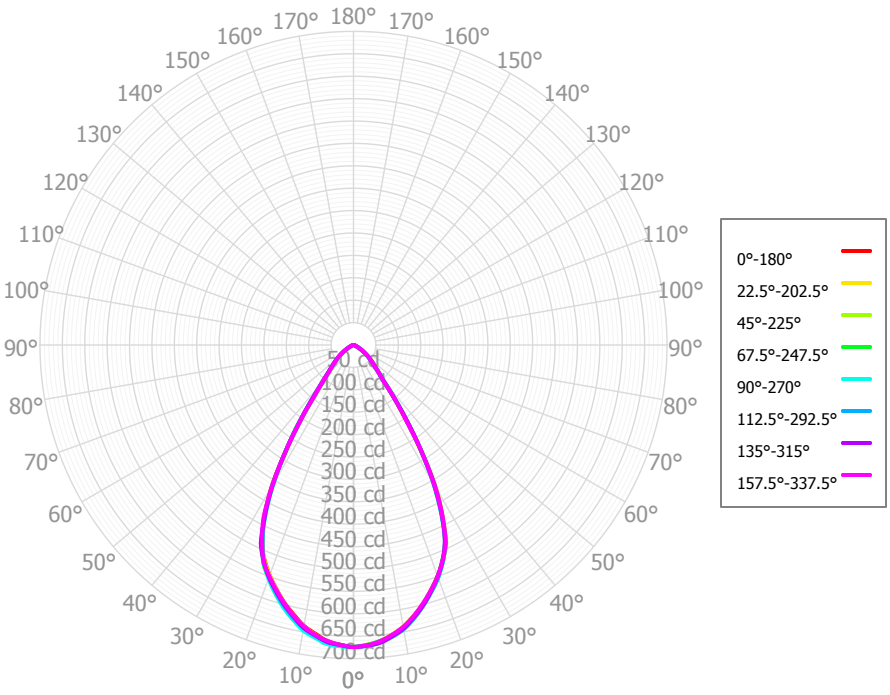
Full Beam Angle

0° - 180°	62°
90° - 270°	61°

IES File Header Contents

Keyword	Value
TEST	SP-00761_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 DLWFGC MW
LUMINAIRE	Nominal 3" diam round recessed Infinium downlight
OTHER	Beam Angle: 62 degrees
OTHER	Wide 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°	63.62	9.45%	90.00° - 100.00°	0.04	0.01%
10.00° - 20.00°	168.04	24.95%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	215.71	32.03%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	133.05	19.76%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	53.77	7.99%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	27.31	4.06%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	8.86	1.32%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	2.28	0.34%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.72	0.11%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	673.36	99.99%	0.00° - 180.00°	673.40	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°	674.27	674.27	674.27	674.27	674.27	674.27	674.27	674.27	674.27	674.27	674.27	674.27	674.27	674.27	674.27	674.27	674.27
2.50°	670.68	670.17	670.63	670.40	671.86	671.30	670.48	670.29	670.00	670.62	670.26	672.84	673.27	672.82	671.71	671.51	670.68
5.00°	665.07	664.47	664.60	663.81	667.23	664.94	665.89	663.34	663.85	664.58	664.43	667.09	670.47	667.51	667.71	664.36	665.07
7.50°	652.91	652.74	653.25	654.23	656.45	655.19	653.87	653.27	650.55	652.70	653.98	658.18	659.15	657.50	656.21	653.30	652.91
10.00°	639.74	638.73	640.94	641.25	643.81	641.10	641.41	637.86	636.81	637.84	641.01	643.92	647.41	644.47	642.95	639.02	639.74
12.50°	619.96	619.31	620.47	623.20	623.11	623.27	620.55	618.88	616.60	618.89	622.20	627.15	626.82	625.09	622.77	619.98	619.96
15.00°	599.28	598.30	599.06	600.29	601.63	601.80	599.49	597.05	595.96	597.30	601.40	605.09	605.96	602.43	601.28	597.76	599.28
17.50°	574.49	574.64	574.29	576.13	577.65	577.73	575.97	573.67	571.94	572.76	576.95	581.09	580.80	578.02	575.95	574.06	574.49
20.00°	549.14	550.40	549.31	550.97	552.11	551.77	551.97	549.20	547.28	547.20	551.11	554.17	554.97	552.89	549.53	549.53	549.14
22.50°	521.91	520.47	519.38	519.34	522.68	524.71	523.07	524.26	519.33	520.67	523.17	526.45	523.38	520.91	520.64	519.62	521.91
25.00°	486.67	489.71	487.99	483.62	483.38	480.41	489.70	482.70	485.52	481.14	483.20	480.90	487.00	486.71	482.46	487.33	486.67
27.50°	430.45	427.54	425.46	426.01	424.41	428.18	427.68	435.50	429.50	431.77	428.46	431.64	424.46	425.61	427.03	428.42	430.45
30.00°	365.63	362.65	361.40	357.01	358.98	359.05	362.45	362.76	366.18	362.93	361.31	359.00	359.09	358.07	362.27	360.45	365.63
32.50°	283.16	281.63	281.53	283.15	283.08	283.65	283.20	283.41	282.07	282.17	281.75	283.15	282.80	282.96	283.58	282.91	283.16
35.00°	208.76	200.66	205.07	207.30	213.11	214.10	209.14	211.45	205.49	209.75	210.03	212.71	210.59	206.60	211.60	202.83	208.76
37.50°	147.58	149.07	149.65	152.41	150.89	146.19	151.70	140.88	145.80	141.54	144.87	142.71	150.60	152.00	147.72	149.26	147.58
40.00°	103.90	99.84	101.44	104.14	107.19	111.04	104.80	108.55	100.54	104.84	104.84	109.97	102.55	99.76	104.59	100.67	103.90
42.50°	84.06	83.41	83.86	82.10	83.47	82.47	84.70	80.78	81.44	80.67	81.86	78.74	82.13	81.71	82.47	81.61	84.06
45.00°	68.73	67.76	67.90	66.43	66.79	68.96	67.82	68.43	66.09	66.22	66.77	67.36	65.34	65.35	66.58	66.09	68.73
47.50°	58.40	58.05	57.19	56.07	56.38	57.57	57.37	57.04	56.23	54.73	55.98	56.14	55.19	55.52	55.82	56.36	58.40
50.00°	48.62	48.42	47.08	46.60	46.81	48.51	47.69	48.03	46.97	46.19	46.69	46.76	45.61	45.75	46.34	47.01	48.62
52.50°	39.35	39.15	38.48	37.94	37.83	39.63	39.26	39.07	38.42	38.33	38.07	37.63	36.90	37.36	37.69	38.46	39.35
55.00°	31.14	30.36	30.28	29.37	30.03	30.64	31.06	30.49	30.37	30.29	29.98	30.32	29.21	29.21	29.83	29.97	31.14
57.50°	23.74	23.31	22.84	22.62	22.94	21.74	23.16	22.25	22.82	22.22	22.08	23.19	22.76	23.25	22.41	22.88	23.74
60.00°	17.54	16.88	16.44	15.96	17.13	16.37	16.76	17.45	16.76	16.63	16.92	16.97	16.97	17.40	16.45	16.03	17.54
62.50°	12.09	12.19	11.72	11.88	11.94	11.19	11.99	12.78	11.91	11.28	12.47	11.45	11.82	12.22	11.14	11.84	12.09
65.00°	8.63	8.29	8.09	7.94	8.50	8.25	8.38	8.97	8.29	8.03	8.74	8.41	8.16	7.67	7.76	7.90	8.63
67.50°	6.13	6.08	5.90	5.98	5.72	5.51	5.74	5.63	5.46	5.03	5.15	5.80	5.69	5.56	5.04	5.43	6.13
70.00°	4.28	4.24	4.13	4.14	4.07	3.58	3.90	3.72	3.98	3.97	4.23	4.09	3.84	3.82	3.62	3.52	4.28
72.50°	2.65	2.81	2.69	2.72	2.71	2.31	2.43	2.61	2.96	2.95	3.19	2.69	2.28	2.76	2.51	2.90	2.65
75.00°	1.86	2.04	2.14	1.93	1.83	1.76	1.75	2.24	2.41	1.99	1.69	1.54	1.74	2.12	2.11	2.23	1.86
77.50°	1.25	1.54	1.66	1.65	1.37	1.56	1.29	1.50	1.67	1.41	1.39	1.25	1.38	1.66	1.60	1.57	1.25
80.00°	0.86	1.32	1.02	1.46	1.21	1.28	1.05	1.13	0.99	1.12	1.22	1.10	1.10	1.15	1.04	1.07	0.86
82.50°	0.70	0.73	0.78	0.89	0.66	0.74	0.91	0.87	0.72	0.95	0.75	0.87	0.67	0.72	0.66	0.89	0.70
85.00°	0.71	0.56	0.70	0.58	0.73	0.51	0.63	0.56	0.59	0.66	0.42	0.55	0.43	0.64	0.70	0.73	0.71
87.50°	0.54	0.64	0.46	0.54	0.57	0.31	0.57	0.50	0.63	0.65	0.60	0.45	0.61	0.50	0.61	0.60	0.54
90.00°	0.67	0.56	0.38	0.54	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59	0.63	0.52	0.67
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	802	802	802	802	783	783	783	783	748	748	748	716	716	716	687	687	687	673
	1	761	742	724	708	745	727	711	697	700	687	675	674	664	655	651	643	636	630
	2	721	685	657	632	705	674	647	625	652	630	611	631	614	598	613	598	585	586
	3	681	635	599	571	667	625	593	566	608	580	557	591	568	548	576	556	540	545
	4	644	590	550	520	631	582	545	517	567	535	510	553	526	504	541	518	498	508
RCR	5	609	549	508	477	598	543	504	475	530	496	470	519	489	466	508	482	462	474
	6	576	513	470	440	566	507	467	438	497	462	435	487	456	432	478	451	429	443
	7	546	480	438	408	537	476	435	406	467	431	404	459	426	402	451	422	400	415
	8	518	451	409	379	510	447	407	379	439	403	377	432	399	375	426	396	374	389
	9	493	424	383	354	485	421	381	354	414	378	352	408	375	351	403	372	350	366
	10	469	400	359	332	462	397	358	332	392	356	331	386	353	330	381	351	329	346

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	22.3 fc	6.6 ft
6.5 ft	16.0 fc	7.7 ft
7.5 ft	12.0 fc	8.9 ft
8.0 ft	10.5 fc	9.5 ft
10.0 ft	6.7 fc	11.9 ft
12.0 ft	4.7 fc	14.3 ft
14.0 ft	3.4 fc	16.7 ft
16.0 ft	2.6 fc	19.1 ft
20.0 ft	1.7 fc	23.8 ft
24.0 ft	1.2 fc	28.6 ft
28.0 ft	0.9 fc	33.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	231,022	231,022	231,022
45.00°	33,302	32,900	32,362
55.00°	18,600	18,085	17,941
65.00°	6,995	6,562	6,891
75.00°	2,462	2,838	2,422
85.00°	2,797	2,746	2,887

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	15.9	16.9	16.2	17.2	17.6	15.7	16.7	16.0	17.1	17.4
	3H	16.0	16.9	16.4	17.3	17.6	15.8	16.7	16.2	17.1	17.4
	4H	16.0	16.8	16.4	17.2	17.6	15.8	16.6	16.2	17.0	17.4
	6H	15.9	16.7	16.3	17.1	17.5	15.7	16.5	16.1	16.9	17.3
	8H	15.9	16.6	16.3	17.0	17.4	15.7	16.4	16.1	16.8	17.2
	12H	15.8	16.5	16.3	16.9	17.4	15.6	16.3	16.1	16.7	17.2
4H	2H	15.8	16.7	16.2	17.0	17.4	15.6	16.5	16.1	16.9	17.3
	3H	16.0	16.7	16.4	17.1	17.5	15.8	16.5	16.2	16.9	17.3
	4H	16.0	16.6	16.4	17.0	17.5	15.8	16.4	16.2	16.8	17.3
	6H	15.9	16.5	16.4	16.9	17.4	15.8	16.3	16.2	16.8	17.2
	8H	15.9	16.4	16.4	16.8	17.3	15.7	16.2	16.2	16.7	17.2
	12H	15.9	16.3	16.4	16.8	17.3	15.7	16.1	16.2	16.6	17.1
8H	4H	15.9	16.4	16.3	16.8	17.3	15.7	16.2	16.1	16.6	17.1
	6H	15.8	16.2	16.3	16.7	17.2	15.7	16.1	16.2	16.6	17.0
	8H	15.8	16.2	16.3	16.7	17.2	15.6	16.0	16.2	16.5	17.0
	12H	15.8	16.1	16.3	16.6	17.2	15.6	15.9	16.1	16.4	17.0
12H	4H	15.8	16.2	16.3	16.7	17.2	15.6	16.1	16.1	16.5	17.0
	6H	15.8	16.1	16.3	16.6	17.2	15.6	16.0	16.1	16.4	17.0
	8H	15.8	16.1	16.3	16.6	17.2	15.6	15.9	16.1	16.4	17.0

Corrected UGR values based on total output lumens

SHR = 1.0