Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

IF03RMx xx 835 007 DLWFGN MW

Nominal 3" diam round recessed Infinium downlight

Test Number

SP-00761_M-007L

Test Date

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

Summary of Results

Power

Input Watts	7.4 W

Lumen Output

Output Lumens	481
Efficacy	65 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

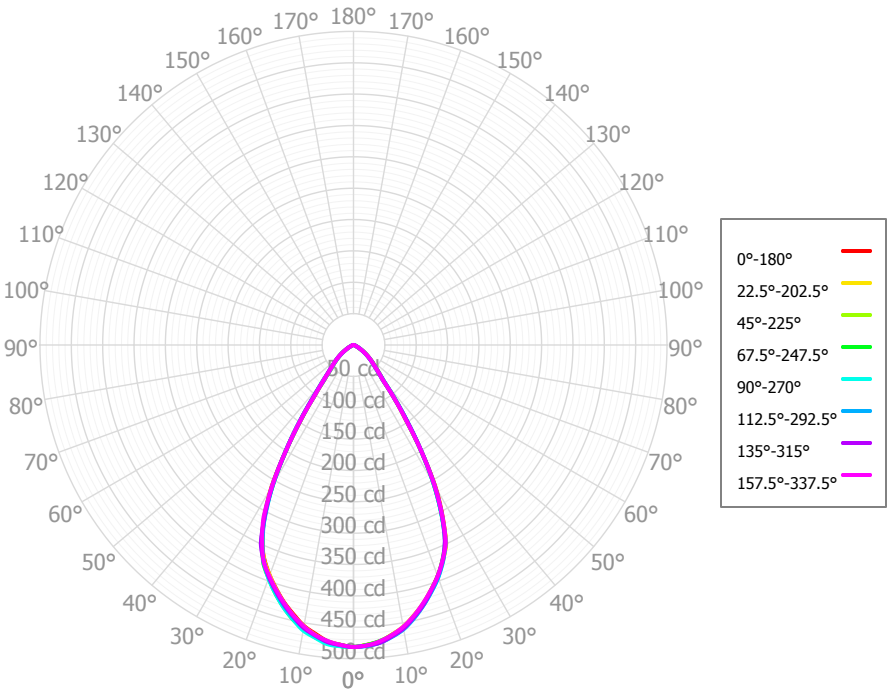
Full Beam Angle

0° - 180°	62°
90° - 270°	61°

IES File Header Contents

Keyword	Value
TEST	SP-00761_M-007L
TESTLAB	Spectrum Lighting Photometric lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/8/2019
UPDATE	2/27/2019
LUMCAT	IF03RMx xx 835 007 DLWFGN 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°	45.44	9.45%	90.00° - 100.00°	0.03	0.01%
10.00° - 20.00°	120.03	24.95%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	154.08	32.03%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	95.04	19.76%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	38.41	7.99%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	19.51	4.06%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	6.33	1.32%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	1.63	0.34%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.51	0.11%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	480.97	99.99%	0.00° - 180.00°	481.00	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°	481.62	481.62	481.62	481.62	481.62	481.62	481.62	481.62	481.62	481.62	481.62	481.62	481.62	481.62	481.62	481.62	481.62
2.50°	479.05	478.69	479.02	478.86	479.90	479.50	478.92	478.78	478.57	479.02	478.75	480.60	480.91	480.58	479.79	479.65	479.05
5.00°	475.05	474.62	474.71	474.15	476.60	474.96	475.64	473.81	474.18	474.70	474.59	476.49	478.91	476.79	476.93	474.54	475.05
7.50°	466.36	466.24	466.61	467.31	468.89	468.00	467.05	466.62	464.68	466.21	467.13	470.13	470.82	469.64	468.72	466.64	466.36
10.00°	456.95	456.24	457.81	458.03	459.86	457.93	458.15	455.62	454.87	455.60	457.86	459.94	462.43	460.34	459.25	456.44	456.95
12.50°	442.83	442.36	443.19	445.14	445.08	445.19	443.25	442.06	440.43	442.06	444.43	447.96	447.73	446.49	444.84	442.85	442.83
15.00°	428.06	427.36	427.90	428.78	429.74	429.86	428.21	426.46	425.69	426.64	429.57	432.21	432.83	430.31	429.49	426.97	428.06
17.50°	410.35	410.46	410.21	411.52	412.61	412.66	411.41	409.76	408.53	409.12	412.10	415.07	414.85	412.87	411.39	410.04	410.35
20.00°	392.24	393.14	392.37	393.55	394.37	394.12	394.26	392.29	390.92	390.85	393.65	395.84	396.40	394.92	392.52	392.52	392.24
22.50°	372.79	371.76	370.99	370.96	373.34	374.79	373.62	374.47	370.95	371.90	373.69	376.04	373.84	372.08	371.89	371.16	372.79
25.00°	347.62	349.79	348.57	345.44	345.27	343.15	349.79	344.79	346.80	343.67	345.14	343.50	347.86	347.65	344.61	348.09	347.62
27.50°	307.47	305.39	303.90	304.30	303.15	305.84	305.48	311.07	306.79	308.40	306.04	308.31	303.19	304.01	305.02	306.02	307.47
30.00°	261.16	259.04	258.14	255.01	256.41	256.46	258.89	259.12	261.56	259.24	258.08	256.43	256.49	255.76	258.76	257.47	261.16
32.50°	202.26	201.17	201.09	202.25	202.20	202.61	202.28	202.43	201.48	201.55	201.25	202.25	202.00	202.11	202.56	202.08	202.26
35.00°	149.12	143.33	146.48	148.07	152.22	152.93	149.38	151.04	146.78	149.82	150.02	151.94	150.42	147.57	151.14	144.88	149.12
37.50°	105.42	106.48	106.89	108.87	107.78	104.42	108.36	100.63	104.14	101.10	103.48	101.93	107.57	108.57	105.51	106.61	105.42
40.00°	74.22	71.32	72.46	74.38	76.56	79.31	74.85	77.54	71.82	74.89	74.89	78.55	73.25	71.26	74.71	71.91	74.22
42.50°	60.04	59.58	59.90	58.64	59.62	58.91	60.50	57.70	58.17	57.62	58.47	56.24	58.67	58.37	58.90	58.29	60.04
45.00°	49.09	48.40	48.50	47.45	47.71	49.26	48.44	48.88	47.21	47.30	47.69	48.12	46.67	46.68	47.55	47.21	49.09
47.50°	41.71	41.47	40.85	40.05	40.27	41.12	40.98	40.74	40.16	39.09	39.98	40.10	39.42	39.66	39.87	40.25	41.71
50.00°	34.73	34.59	33.63	33.29	33.43	34.65	34.06	34.31	33.55	32.99	33.35	33.40	32.58	32.68	33.10	33.58	34.73
52.50°	28.10	27.97	27.49	27.10	27.02	28.31	28.04	27.90	27.44	27.38	27.19	26.88	26.36	26.69	26.92	27.47	28.10
55.00°	22.24	21.69	21.63	20.98	21.45	21.89	22.19	21.78	21.69	21.64	21.42	21.65	20.86	20.86	21.31	21.41	22.24
57.50°	16.95	16.65	16.32	16.15	16.38	15.53	16.54	15.89	16.30	15.87	15.77	16.57	16.26	16.60	16.00	16.34	16.95
60.00°	12.53	12.06	11.75	11.40	12.23	11.69	11.97	12.46	11.97	11.88	12.09	12.12	12.12	12.43	11.75	11.45	12.53
62.50°	8.64	8.71	8.37	8.49	8.53	7.99	8.56	9.13	8.51	8.06	8.91	8.18	8.44	8.73	7.96	8.46	8.64
65.00°	6.16	5.92	5.78	5.67	6.07	5.89	5.99	6.41	5.92	5.73	6.25	6.01	5.83	5.48	5.54	5.65	6.16
67.50°	4.38	4.34	4.22	4.27	4.08	3.93	4.10	4.02	3.90	3.59	3.68	4.14	4.07	3.97	3.60	3.88	4.38
70.00°	3.05	3.03	2.95	2.96	2.91	2.56	2.78	2.66	2.84	2.84	3.02	2.92	2.74	2.73	2.58	2.51	3.05
72.50°	1.89	2.01	1.92	1.94	1.94	1.65	1.74	1.86	2.11	2.10	2.28	1.92	1.63	1.97	1.79	2.07	1.89
75.00°	1.33	1.45	1.53	1.38	1.31	1.26	1.25	1.60	1.72	1.42	1.20	1.10	1.25	1.51	1.51	1.59	1.33
77.50°	0.89	1.10	1.19	1.18	0.98	1.11	0.92	1.07	1.20	1.01	0.99	0.89	0.99	1.19	1.14	1.12	0.89
80.00°	0.61	0.94	0.73	1.04	0.86	0.91	0.75	0.81	0.71	0.80	0.87	0.79	0.78	0.82	0.74	0.77	0.61
82.50°	0.50	0.52	0.56	0.63	0.47	0.53	0.65	0.62	0.52	0.68	0.53	0.62	0.48	0.52	0.47	0.64	0.50
85.00°	0.51	0.40	0.50	0.42	0.52	0.36	0.45	0.40	0.42	0.47	0.30	0.39	0.30	0.46	0.50	0.52	0.51
87.50°	0.39	0.46	0.33	0.39	0.41	0.22	0.41	0.36	0.45	0.46	0.43	0.32	0.43	0.36	0.44	0.43	0.39
90.00°	0.48	0.40	0.27	0.38	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.45	0.37	0.48
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	573	573	573	573	559	559	559	559	534	534	534	512	512	512	491	491	491	481
	1	544	530	517	506	532	519	508	498	500	491	482	482	474	468	465	460	454	450
	2	515	490	469	452	504	481	462	446	466	450	437	451	438	427	438	427	418	419
	3	487	454	428	408	477	447	423	404	434	414	398	422	405	392	411	397	385	390
	4	460	421	393	371	451	416	389	369	405	382	365	395	376	360	386	370	356	363
RCR	5	435	392	363	341	427	388	360	339	379	355	336	371	349	333	363	345	330	338
	6	412	366	336	314	404	362	334	313	355	330	311	348	326	309	342	322	306	316
	7	390	343	313	291	384	340	311	290	333	308	289	328	304	287	322	301	286	296
	8	370	322	292	271	364	319	290	270	314	288	269	309	285	268	304	283	267	278
	9	352	303	273	253	346	301	272	253	296	270	252	292	268	251	288	266	250	262
	10	335	286	257	237	330	284	256	237	280	254	236	276	252	236	272	251	235	247

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	15.9 fc	6.6 ft
6.5 ft	11.4 fc	7.7 ft
7.5 ft	8.6 fc	8.9 ft
8.0 ft	7.5 fc	9.5 ft
10.0 ft	4.8 fc	11.9 ft
12.0 ft	3.3 fc	14.3 ft
14.0 ft	2.5 fc	16.7 ft
16.0 ft	1.9 fc	19.1 ft
20.0 ft	1.2 fc	23.8 ft
24.0 ft	0.8 fc	28.6 ft
28.0 ft	0.6 fc	33.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	165,016	165,016	165,016
45.00°	23,787	23,500	23,116
55.00°	13,286	12,918	12,815
65.00°	4,996	4,687	4,922
75.00°	1,759	2,027	1,730
85.00°	1,998	1,961	2,062

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	14.7	15.8	15.1	16.1	16.4	14.5	15.6	14.9	15.9	16.2
	3H	14.8	15.8	15.2	16.1	16.5	14.6	15.6	15.0	15.9	16.3
	4H	14.8	15.7	15.2	16.0	16.4	14.6	15.5	15.0	15.8	16.2
	6H	14.7	15.5	15.2	15.9	16.3	14.5	15.3	15.0	15.7	16.1
	8H	14.7	15.4	15.1	15.8	16.2	14.5	15.3	14.9	15.6	16.1
	12H	14.7	15.4	15.1	15.8	16.2	14.5	15.2	14.9	15.6	16.0
4H	2H	14.6	15.5	15.0	15.8	16.2	14.5	15.3	14.9	15.7	16.1
	3H	14.8	15.5	15.2	15.9	16.3	14.7	15.4	15.1	15.8	16.2
	4H	14.8	15.4	15.2	15.9	16.3	14.6	15.3	15.1	15.7	16.1
	6H	14.8	15.3	15.2	15.7	16.2	14.6	15.1	15.1	15.6	16.1
	8H	14.7	15.2	15.2	15.7	16.1	14.6	15.1	15.0	15.5	16.0
	12H	14.7	15.1	15.2	15.6	16.1	14.5	15.0	15.0	15.4	15.9
8H	4H	14.7	15.2	15.2	15.6	16.1	14.5	15.0	15.0	15.5	15.9
	6H	14.7	15.1	15.2	15.6	16.0	14.5	14.9	15.0	15.4	15.9
	8H	14.6	15.0	15.2	15.5	16.0	14.5	14.8	15.0	15.3	15.8
	12H	14.6	14.9	15.2	15.4	16.0	14.5	14.8	15.0	15.3	15.8
12H	4H	14.6	15.1	15.1	15.6	16.0	14.4	14.9	14.9	15.4	15.8
	6H	14.6	15.0	15.1	15.4	16.0	14.4	14.8	15.0	15.3	15.8
	8H	14.6	14.9	15.1	15.4	16.0	14.4	14.7	15.0	15.2	15.8

Corrected UGR values based on total output lumens

SHR = 1.0