

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03RMx xx 835 020 DLWFGN MW
Nominal 3" diam round recessed Infinium downlight

Test Number

SP-00761_1

Test Date

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

Summary of Results

Power

Input Watts	15 W
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Lumen Output

Output Lumens	1271
Efficacy	84.75 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

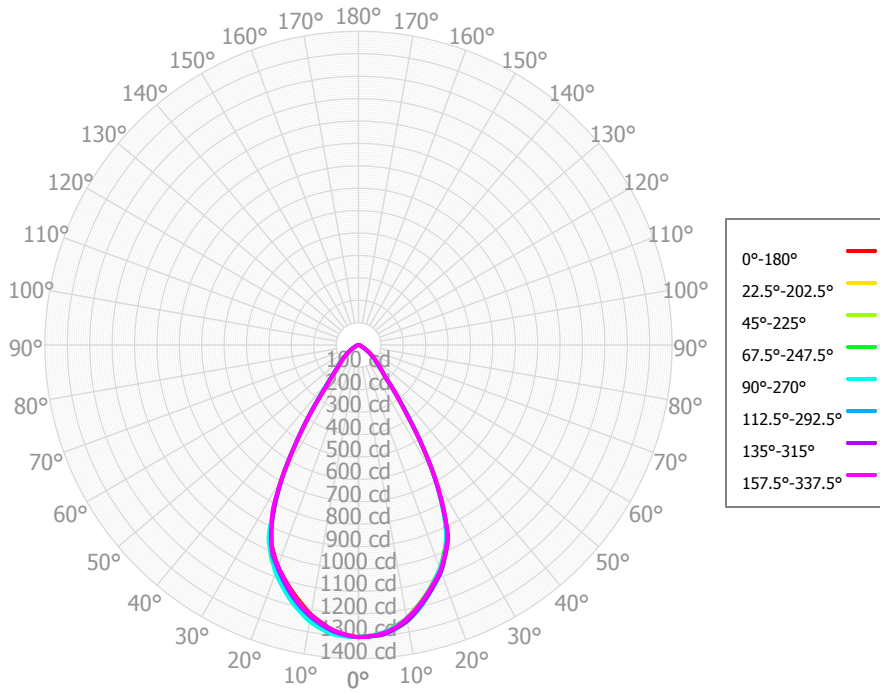
Full Beam Angle

0° - 180°	61°
90° - 270°	61°

IES File Header Contents

Keyword	Value
TEST	SP-00761_1
TESTLAB	Spectrum Lighting Photometric lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/8/2019
UPDATE	2/28/2019
LUMCAT	IF03RMx xx 835 020 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
_CRI	80
_CCTMULT	40K x 1.03
_LAMPMULT	07L x 0.40, 10L x 0.56, 15L x 0.78

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	123.07	9.68%	90.00° - 100.00°	0.08	0.01%
10.00° - 20.00°	324.74	25.54%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	413.66	32.54%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	242.53	19.08%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	96.46	7.59%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	49.07	3.86%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	16.01	1.26%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	4.30	0.34%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.40	0.11%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1,271.23	99.99%	0.00° - 180.00°	1,271.31	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°	1,304.18	1,304.18	1,304.18	1,304.18	1,304.18	1,304.18	1,304.18	1,304.18	1,304.18	1,304.18	1,304.18	1,304.18	1,304.18	1,304.18	1,304.18	1,304.18	1,304.18
2.50°	1,299.85	1,298.95	1,298.38	1,298.65	1,298.44	1,298.05	1,295.50	1,294.51	1,294.54	1,294.45	1,299.29	1,302.49	1,303.10	1,302.71	1,301.87	1,300.90	1,299.85
5.00°	1,290.96	1,288.43	1,287.29	1,288.24	1,286.99	1,283.57	1,282.97	1,277.60	1,281.20	1,280.45	1,289.12	1,294.25	1,297.09	1,295.11	1,296.92	1,290.67	1,290.96
7.50°	1,266.13	1,265.50	1,266.59	1,267.38	1,266.82	1,263.45	1,257.89	1,255.03	1,251.83	1,256.80	1,265.49	1,278.20	1,277.72	1,278.75	1,275.41	1,271.27	1,266.13
10.00°	1,238.48	1,239.56	1,239.14	1,240.85	1,240.12	1,234.34	1,229.59	1,224.67	1,221.64	1,227.94	1,238.06	1,251.55	1,254.13	1,252.62	1,251.36	1,240.86	1,238.48
12.50°	1,199.06	1,200.54	1,200.11	1,201.72	1,203.20	1,200.91	1,193.09	1,190.89	1,181.01	1,189.17	1,199.77	1,214.35	1,217.70	1,216.77	1,210.44	1,203.95	1,199.06
15.00°	1,158.57	1,159.26	1,158.25	1,157.01	1,161.40	1,157.73	1,152.69	1,146.80	1,140.18	1,148.04	1,159.28	1,171.90	1,178.22	1,172.02	1,168.04	1,160.61	1,158.57
17.50°	1,114.70	1,113.74	1,112.35	1,109.87	1,113.34	1,110.90	1,104.49	1,099.23	1,096.05	1,103.33	1,113.49	1,125.21	1,131.11	1,125.66	1,122.19	1,115.73	1,114.70
20.00°	1,067.98	1,067.77	1,063.82	1,061.88	1,061.97	1,060.61	1,054.67	1,051.14	1,050.77	1,055.46	1,066.99	1,074.72	1,082.76	1,078.09	1,075.95	1,069.60	1,067.98
22.50°	1,014.29	1,008.76	1,012.26	999.50	1,007.16	1,009.31	1,002.18	1,002.91	995.68	1,003.64	1,005.20	1,021.74	1,017.57	1,013.49	1,013.67	1,009.02	1,014.29
25.00°	938.69	948.97	928.98	933.47	921.85	918.19	923.99	919.32	930.69	925.05	942.26	930.30	950.69	938.55	946.58	938.91	938.69
27.50°	821.11	816.55	816.14	809.00	810.38	818.60	811.80	829.22	812.15	818.97	810.96	818.12	815.05	816.84	813.82	820.24	821.11
30.00°	684.33	682.51	677.97	673.59	676.16	673.13	678.27	677.77	683.94	682.17	677.66	675.79	676.21	672.16	678.34	675.56	684.33
32.50°	517.26	518.17	520.11	522.75	525.92	521.20	521.86	519.23	518.95	519.76	521.79	520.63	525.63	524.56	521.51	522.06	517.26
35.00°	373.73	360.92	383.46	370.08	390.12	385.39	383.12	379.50	367.93	380.02	370.14	384.95	377.86	375.81	373.63	364.78	373.73
37.50°	260.17	265.77	260.11	273.63	262.49	250.94	260.20	240.88	258.23	255.78	268.01	255.63	275.83	274.25	270.95	266.92	260.17
40.00°	185.91	180.37	192.00	180.37	191.74	194.14	185.37	187.85	171.98	184.39	175.35	192.74	181.31	186.69	183.40	188.67	185.91
42.50°	152.24	151.27	151.52	149.29	146.88	140.29	145.41	136.89	139.21	142.42	145.91	146.60	149.91	148.36	151.53	151.53	152.24
45.00°	126.67	124.55	125.54	119.31	120.18	119.13	118.32	116.93	112.33	117.04	118.55	122.74	120.79	120.87	123.15	124.88	126.67
47.50°	108.10	107.40	105.44	101.60	100.00	98.33	98.73	97.38	96.07	98.97	100.77	102.81	103.78	102.54	104.57	106.36	108.10
50.00°	90.34	90.14	87.61	84.05	83.24	82.27	81.75	81.72	80.11	82.05	83.55	85.79	86.89	85.61	86.90	89.30	90.34
52.50°	73.15	72.58	70.49	68.08	67.40	66.48	66.02	66.32	64.60	65.54	68.20	69.10	70.42	69.56	71.23	71.29	73.15
55.00°	57.13	56.16	55.44	52.69	53.69	52.70	52.55	52.46	51.18	51.92	53.64	54.17	55.20	53.58	56.22	53.18	57.13
57.50°	41.79	42.48	40.86	40.81	40.40	39.52	39.93	39.41	40.26	39.05	41.09	39.34	43.62	42.30	42.36	42.10	41.79
60.00°	30.72	30.76	30.49	29.63	30.13	29.21	30.31	29.67	30.18	29.51	29.90	30.07	32.60	31.20	30.75	31.41	30.72
62.50°	21.61	22.72	20.80	21.43	20.25	19.95	21.54	20.92	20.94	20.58	21.52	20.95	22.80	22.47	22.37	22.44	21.61
65.00°	15.13	15.66	14.94	14.32	15.24	14.39	15.95	15.28	14.49	15.76	14.51	14.52	14.82	14.09	15.46	13.83	15.13
67.50°	9.59	10.02	9.49	10.42	10.65	9.88	11.01	10.38	10.22	11.44	9.64	8.76	10.00	9.96	10.24	10.55	9.59
70.00°	6.42	6.43	6.81	7.08	8.30	7.46	7.72	6.87	7.52	8.27	6.71	6.59	6.62	6.34	6.58	7.45	6.42
72.50°	3.90	4.52	4.57	4.57	6.16	5.73	5.14	4.64	5.48	5.73	5.33	4.92	4.50	4.46	4.05	4.93	3.90
75.00°	3.06	3.69	3.52	3.51	4.57	4.46	4.22	3.30	4.52	4.75	3.78	3.92	3.01	3.25	3.61	3.27	3.06
77.50°	2.63	3.09	2.93	2.82	3.49	3.60	3.29	2.97	3.66	3.46	2.63	2.87	2.11	2.60	3.12	2.34	2.63
80.00°	2.37	2.55	2.46	1.71	2.59	2.56	2.36	2.66	2.75	2.30	2.02	2.13	1.91	1.89	1.89	2.07	2.37
82.50°	1.57	1.67	1.84	1.02	1.69	1.72	1.44	1.82	1.55	1.56	1.14	1.52	1.40	1.57	1.34	1.80	1.57
85.00°	1.06	0.95	1.30	0.83	1.10	1.10	1.06	0.95	1.16	1.06	1.36	0.94	1.21	1.20	1.13	1.18	1.06
87.50°	1.27	0.90	1.12	1.27	1.12	1.42	1.15	0.86	0.92	1.07	1.19	1.09	0.85	1.00	1.08	1.10	1.27
90.00°	1.16	1.27	1.09	1.45	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	1.12	1.16
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%	10%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	1,513	1,513	1,513	1,513	1,478	1,478	1,478	1,478	1,413	1,413	1,413	1,352	1,352	1,352	1,297	1,297	1,297
	1	1,438	1,401	1,368	1,338	1,407	1,373	1,343	1,316	1,322	1,298	1,276	1,274	1,255	1,238	1,231	1,216	1,202
	2	1,362	1,296	1,242	1,196	1,333	1,274	1,225	1,183	1,233	1,192	1,157	1,194	1,161	1,132	1,159	1,132	1,108
	3	1,288	1,202	1,135	1,082	1,262	1,184	1,122	1,073	1,150	1,098	1,056	1,119	1,075	1,039	1,090	1,054	1,023
	4	1,219	1,117	1,043	987	1,195	1,103	1,034	981	1,075	1,016	969	1,049	998	957	1,025	982	946
	5	1,153	1,042	964	906	1,132	1,029	956	902	1,006	942	894	985	929	886	964	916	878
	6	1,093	974	894	837	1,073	963	888	834	944	877	828	926	867	822	909	857	816
	7	1,036	913	833	776	1,019	904	828	774	887	819	770	872	811	766	857	803	762
	8	984	858	778	724	968	850	775	722	836	768	719	823	761	716	810	754	713
	9	935	808	729	677	921	801	727	675	789	721	673	777	715	671	767	710	668
	10	890	762	686	635	877	757	683	634	746	679	632	736	674	630	727	670	628

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	43.1 fc	6.5 ft
6.5 ft	30.9 fc	7.6 ft
7.5 ft	23.2 fc	8.8 ft
8.0 ft	20.4 fc	9.4 ft
10.0 ft	13.0 fc	11.8 ft
12.0 ft	9.1 fc	14.1 ft
14.0 ft	6.7 fc	16.5 ft
16.0 ft	5.1 fc	18.8 ft
20.0 ft	3.3 fc	23.5 ft
24.0 ft	2.3 fc	28.2 ft
28.0 ft	1.7 fc	32.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	446,847	446,847	446,847
45.00°	61,379	60,828	58,231
55.00°	34,129	33,116	32,074
65.00°	12,268	12,109	12,358
75.00°	4,046	4,660	6,055
85.00°	4,148	5,105	4,309

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

Corrected UGR values based on total output lumens

SHR = 1.0