

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Fall River, MA 02721
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Spectrum Lighting Photometric Lab

Luminaire

IF03SMx xx 835 020 DLFLGN MW
Nom 3" Square Infinium recessed downlight

Test Number

SP-00762_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	939
Efficacy	62.62 lm/W

Luminous Dimensions

0° - 180° Size	0.16
90° - 270° Size	0.16
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.65
Two luminaires, plane 90°	0.66
Four luminaires	0.7

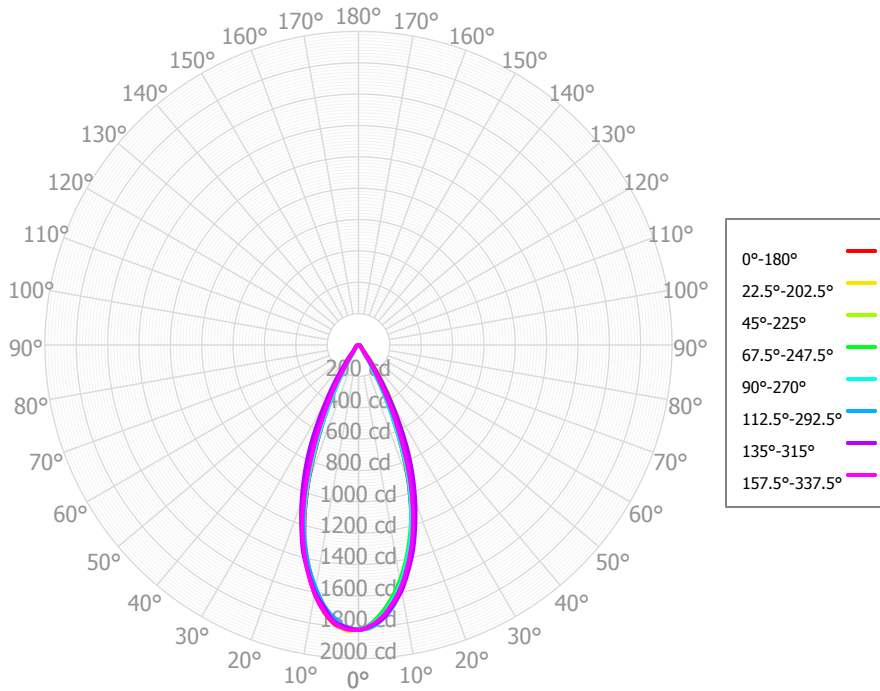
Full Beam Angle

0° - 180°	41°
90° - 270°	41°

IES File Header Contents

Keyword	Value
TEST	SP-00762_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/11/2019
UPDATE	2/28/2019
LUMCAT	IF03SMx xx 835 020 DLFLGN MW
LUMINAIRE	Nom 3" Square Infinium recessed downlight
OTHER	Beam Angle: 41 degrees
OTHER	Flood optic, Open aperture / no lens
OTHER	Aluminum bezel
LAMPCAT	N/A
LAMP	N/A, CRI: 80, Philips
OTHER	CCT Multiplier: 40K x 1.03
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	80
_LAMPMULT	07L x 0.40, 10L x 0.56, 15L x 0.78
_CCTMULT	40K x 1.03

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	163.43	17.40%	90.00° - 100.00°	0.09	0.01%
10.00° - 20.00°	358.74	38.19%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	276.56	29.44%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	76.76	8.17%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	24.44	2.60%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	16.64	1.77%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	12.98	1.38%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	7.70	0.82%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.94	0.21%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	939.20	99.99%	0.00° - 180.00°	939.28	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°	1,817.05	1,817.05	1,817.05	1,817.05	1,817.05	1,817.05	1,817.05	1,817.05	1,817.05	1,817.05	1,817.05	1,817.05	1,817.05	1,817.05	1,817.05	1,817.05	1,817.05
2.50°	1,788.85	1,791.93	1,784.28	1,780.74	1,786.77	1,805.94	1,801.84	1,814.66	1,816.72	1,823.65	1,805.20	1,804.53	1,800.78	1,803.96	1,793.55	1,791.64	1,788.85
5.00°	1,735.92	1,723.44	1,724.10	1,711.98	1,732.86	1,752.48	1,771.67	1,778.18	1,784.48	1,770.68	1,764.98	1,758.79	1,761.11	1,756.10	1,754.19	1,740.06	1,735.92
7.50°	1,651.76	1,645.50	1,636.41	1,627.55	1,648.16	1,677.31	1,687.29	1,708.14	1,711.87	1,707.58	1,682.35	1,690.91	1,687.81	1,684.34	1,675.25	1,661.18	1,651.76
10.00°	1,553.37	1,537.70	1,538.04	1,522.64	1,547.58	1,572.51	1,600.48	1,610.33	1,612.13	1,589.72	1,581.93	1,587.26	1,590.00	1,580.64	1,589.32	1,564.57	1,553.37
12.50°	1,426.07	1,420.55	1,423.75	1,402.14	1,420.60	1,456.12	1,484.77	1,488.92	1,480.49	1,466.21	1,457.62	1,469.23	1,466.41	1,460.56	1,471.82	1,443.75	1,426.07
15.00°	1,288.53	1,279.91	1,304.75	1,264.84	1,282.91	1,316.53	1,366.54	1,346.67	1,323.49	1,314.23	1,323.05	1,326.81	1,319.51	1,322.70	1,348.32	1,310.12	1,288.53
17.50°	1,115.27	1,128.31	1,162.62	1,120.23	1,117.72	1,170.02	1,213.97	1,190.06	1,141.86	1,160.57	1,176.95	1,176.73	1,152.35	1,166.32	1,204.19	1,154.53	1,115.27
20.00°	932.29	955.04	1,015.40	969.21	943.81	995.33	1,060.86	1,002.46	936.94	961.40	1,024.79	988.68	953.14	993.10	1,057.40	989.62	932.29
22.50°	732.00	778.10	871.04	798.09	739.04	814.23	903.41	797.43	713.38	762.86	867.09	791.87	731.01	799.61	903.68	805.37	732.00
25.00°	528.27	595.34	727.13	612.22	526.87	624.04	743.71	607.69	516.50	575.40	698.22	594.42	524.33	591.14	741.94	614.80	528.27
27.50°	366.97	430.85	577.16	443.10	356.45	432.44	572.49	424.91	336.91	393.89	521.05	396.86	326.58	409.85	563.80	449.15	366.97
30.00°	211.15	290.44	426.66	283.87	192.94	288.99	410.74	286.16	209.97	263.26	372.38	258.75	199.06	244.77	401.42	289.84	211.15
32.50°	134.25	180.13	306.23	174.34	120.77	149.89	283.47	162.95	110.82	144.84	241.32	126.66	104.29	145.57	265.57	183.72	134.25
35.00°	62.98	102.05	187.59	88.22	58.09	98.74	171.87	101.40	67.24	92.42	152.53	87.33	65.47	78.73	158.42	87.08	62.98
37.50°	48.83	57.55	120.49	54.28	46.26	51.61	105.00	56.55	47.21	49.05	84.63	52.12	47.35	51.48	90.28	59.20	48.83
40.00°	36.07	42.32	56.94	40.22	36.91	42.94	54.80	43.90	39.13	41.80	54.99	43.83	38.37	39.47	48.99	38.94	36.07
42.50°	32.06	33.47	43.99	34.62	32.43	34.58	41.55	37.62	34.96	35.61	40.16	35.77	31.94	33.53	37.32	33.37	32.06
45.00°	28.12	29.26	32.10	31.47	28.06	30.61	31.63	33.29	31.60	32.53	33.12	31.86	29.16	29.37	29.61	28.66	28.12
47.50°	25.01	26.31	28.42	27.72	25.77	26.84	27.56	29.21	28.45	29.31	28.48	28.01	27.13	26.11	25.57	25.34	25.01
50.00°	22.01	24.10	24.64	23.84	23.46	24.69	23.95	25.21	25.19	25.80	23.98	24.78	24.42	23.06	22.27	21.99	22.01
52.50°	19.77	21.31	20.35	20.55	20.89	22.38	21.02	21.21	21.92	22.67	19.51	21.76	21.61	20.88	19.55	18.07	19.77
55.00°	17.43	18.25	16.65	17.34	18.33	19.13	18.40	19.05	19.01	20.25	17.96	19.91	19.69	18.83	17.50	14.47	17.43
57.50°	14.63	16.01	15.18	15.96	15.81	16.28	16.15	16.96	16.15	18.00	16.86	18.07	17.84	16.24	15.88	14.01	14.63
60.00°	12.46	14.06	14.15	14.74	13.74	14.95	14.92	15.76	14.27	16.03	16.15	16.26	15.57	13.61	14.07	13.45	12.46
62.50°	12.44	13.29	14.35	14.06	13.52	13.81	14.66	14.66	12.46	14.72	15.48	14.61	13.37	12.69	12.17	12.33	12.44
65.00°	12.31	12.85	14.22	13.40	13.23	13.21	13.89	14.77	12.97	14.22	14.01	13.44	13.52	11.83	11.53	11.43	12.31
67.50°	11.93	12.61	13.34	12.61	12.72	12.70	12.73	14.35	13.19	13.49	12.47	11.89	13.31	11.16	11.38	11.35	11.93
70.00°	10.85	12.41	12.41	11.72	11.43	12.36	11.50	11.75	11.74	12.59	10.56	9.69	11.39	10.35	9.83	10.54	10.85
72.50°	8.77	10.40	11.38	10.31	8.82	10.14	10.18	9.02	9.33	9.89	8.54	7.79	9.27	8.98	8.07	8.35	8.77
75.00°	7.53	8.50	9.87	8.40	6.87	6.78	7.96	6.16	5.76	6.87	6.36	5.98	6.93	7.13	7.30	7.32	7.53
77.50°	6.47	6.85	8.14	6.00	5.30	5.08	5.60	3.93	3.98	4.00	3.92	3.65	4.49	4.91	5.71	6.52	6.47
80.00°	4.44	4.55	6.35	4.53	3.99	3.33	3.49	2.70	2.71	2.06	2.48	2.57	2.81	2.83	3.65	3.98	4.44
82.50°	3.12	2.94	3.98	2.88	2.51	2.17	2.40	1.91	1.75	1.36	1.61	1.68	1.59	2.01	2.75	2.55	3.12
85.00°	1.72	2.09	2.13	1.50	1.31	1.74	1.85	1.13	1.23	1.22	1.30	1.15	1.27	1.50	1.79	1.76	1.72
87.50°	1.17	1.51	1.13	1.19	1.16	1.20	1.17	1.12	0.99	1.39	1.09	1.18	1.05	1.18	1.29	0.99	1.17
90.00°	1.23	1.08	1.05	1.47	1.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.42	1.36	1.44	1.23
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%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	1,118	1,118	1,118	1,118	1,092	1,092	1,092	1,092	1,044	1,044	1,044	999	999	999	958	958	958	939
	1	1,069	1,044	1,022	1,002	1,046	1,024	1,004	986	986	970	956	951	939	927	919	910	901	891
	2	1,021	979	943	914	1,001	963	931	903	933	906	884	905	883	865	879	862	847	845
	3	977	921	878	844	958	908	869	837	884	851	824	862	834	811	841	818	799	803
	4	935	870	823	787	918	860	816	782	840	803	773	822	790	764	805	778	756	764
	5	895	825	775	739	881	816	770	736	800	760	729	785	750	723	771	741	717	728
	6	859	784	734	698	846	777	729	695	763	722	691	750	714	686	739	707	682	695
	7	824	747	696	661	812	741	693	659	729	687	656	719	681	653	709	675	649	664
	8	792	713	663	628	781	707	660	627	698	655	625	689	650	622	680	646	620	636
	9	761	681	632	599	752	677	630	598	669	626	596	661	622	594	654	618	593	609
	10	733	653	605	573	724	649	603	572	642	599	570	635	596	569	629	593	567	585

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	60.1 fc	4.1 ft
6.5 ft	43.0 fc	4.8 ft
7.5 ft	32.3 fc	5.6 ft
8.0 ft	28.4 fc	5.9 ft
10.0 ft	18.2 fc	7.4 ft
12.0 ft	12.6 fc	8.9 ft
14.0 ft	9.3 fc	10.4 ft
16.0 ft	7.1 fc	11.9 ft
20.0 ft	4.5 fc	14.8 ft
24.0 ft	3.2 fc	17.8 ft
28.0 ft	2.3 fc	20.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	764,005	764,005	764,005
45.00°	16,723	19,085	16,686
55.00°	12,778	12,206	13,434
65.00°	12,252	14,144	13,164
75.00°	12,226	16,040	11,161
85.00°	8,297	10,293	6,297

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	13.4	14.4	13.8	14.7	15.0	14.4	15.3	14.7	15.6	16.0
	3H	15.9	16.8	16.3	17.1	17.5	16.5	17.4	16.9	17.7	18.1
	4H	16.7	17.5	17.1	17.9	18.3	17.1	17.9	17.5	18.2	18.6
	6H	17.4	18.1	17.8	18.5	18.9	17.3	18.1	17.8	18.5	18.9
	8H	17.5	18.2	17.9	18.6	19.0	17.4	18.1	17.8	18.5	18.9
	12H	17.6	18.2	18.0	18.6	19.0	17.4	18.1	17.8	18.4	18.9
4H	2H	14.2	15.0	14.6	15.3	15.7	15.0	15.8	15.4	16.2	16.6
	3H	16.9	17.5	17.3	17.9	18.3	17.3	18.0	17.7	18.4	18.8
	4H	17.8	18.4	18.2	18.8	19.3	17.9	18.5	18.4	18.9	19.4
	6H	18.5	19.0	19.0	19.5	19.9	18.2	18.7	18.7	19.2	19.7
	8H	18.7	19.1	19.2	19.6	20.1	18.3	18.8	18.8	19.2	19.7
	12H	18.8	19.2	19.3	19.7	20.1	18.3	18.7	18.8	19.2	19.7
8H	4H	18.2	18.6	18.7	19.1	19.6	18.1	18.6	18.6	19.0	19.5
	6H	19.0	19.4	19.5	19.9	20.3	18.5	18.9	19.0	19.4	19.8
	8H	19.2	19.5	19.7	20.1	20.6	18.6	18.9	19.1	19.4	19.9
	12H	19.4	19.7	19.9	20.2	20.7	18.7	19.0	19.2	19.5	20.0
12H	4H	18.2	18.6	18.7	19.1	19.5	18.1	18.5	18.6	19.0	19.4
	6H	19.0	19.4	19.6	19.8	20.4	18.5	18.8	19.0	19.3	19.8
	8H	19.3	19.6	19.8	20.1	20.7	18.6	18.9	19.1	19.4	20.0

Corrected UGR values based on total output lumens

SHR = 1.0