

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03RMx xx 835 015 DLSGN MW

Test Number

SP-00760_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
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Lumen Output

Output Lumens	1027
Efficacy	84.15 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.38
Two luminaires, plane 90°	0.38
Four luminaires	0.41

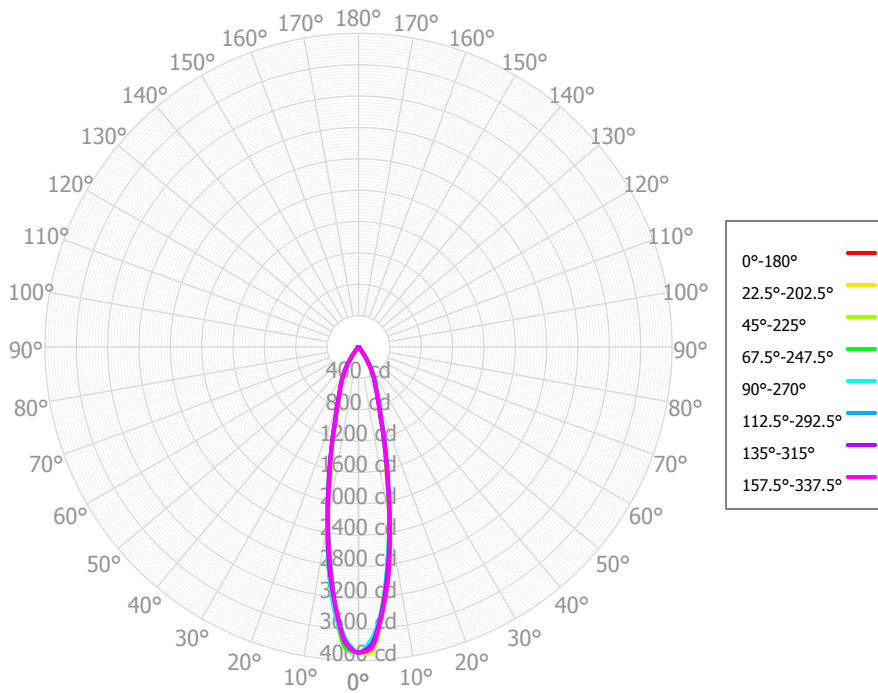
Full Beam Angle

0° - 180°	23°
90° - 270°	23°

IES File Header Contents

Keyword	Value
TEST	SP-00760_M-015L
TESTLAB	Spectrum Lighting Photometric lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/8/2019
UPDATE	2/27/2019
LUMCAT	IF03RMx xx 835 015 DLSGN MW
LUMINIARE	Nominal 3" diam round recessed Infinium downlight
OTHER	Beam Angle: 23 degrees
OTHER	Spot 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°	288.36	28.09%	90.00° - 100.00°	0.07	0.01%
10.00° - 20.00°	363.81	35.44%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	235.52	22.94%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	96.44	9.39%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	15.07	1.47%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	14.87	1.45%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	8.06	0.78%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	3.18	0.31%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.26	0.12%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1,026.57	99.99%	0.00° - 180.00°	1,026.64	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°	3,897.27	3,897.27	3,897.27	3,897.27	3,897.27	3,897.27	3,897.27	3,897.27	3,897.27	3,897.27	3,897.27	3,897.27	3,897.27	3,897.27	3,897.27	3,897.27	3,897.27
2.50°	3,829.46	3,902.24	3,783.99	3,836.93	3,733.63	3,741.88	3,784.53	3,783.21	3,793.30	3,850.88	3,775.84	3,842.08	3,766.97	3,803.39	3,801.87	3,845.99	3,829.46
5.00°	3,427.00	3,413.20	3,416.66	3,362.79	3,394.84	3,328.10	3,341.66	3,342.45	3,366.75	3,349.54	3,395.90	3,382.30	3,423.32	3,401.95	3,403.83	3,426.87	3,427.00
7.50°	2,851.00	2,911.88	2,820.79	2,822.32	2,805.18	2,765.15	2,847.60	2,792.35	2,867.39	2,838.51	2,884.25	2,892.95	2,885.66	2,910.60	2,854.11	2,938.40	2,851.00
10.00°	2,263.53	2,278.27	2,248.41	2,261.36	2,248.87	2,237.27	2,274.66	2,247.81	2,267.12	2,253.96	2,267.71	2,285.25	2,269.48	2,291.47	2,280.35	2,296.43	2,263.53
12.50°	1,670.71	1,675.15	1,695.67	1,698.16	1,744.85	1,725.27	1,765.84	1,704.76	1,742.84	1,678.76	1,752.11	1,724.97	1,762.30	1,751.26	1,696.65	1,727.24	1,670.71
15.00°	1,264.65	1,295.94	1,276.93	1,307.30	1,317.31	1,326.62	1,343.81	1,320.36	1,311.30	1,290.22	1,306.19	1,322.26	1,292.78	1,308.35	1,278.78	1,297.70	1,264.65
17.50°	932.26	947.03	956.85	928.89	993.53	972.11	1,016.84	969.62	985.66	919.84	991.18	974.97	1,003.34	975.66	919.46	953.26	932.26
20.00°	740.90	768.21	750.84	762.95	757.48	774.06	801.51	784.53	772.31	750.85	755.40	780.43	765.23	762.72	727.35	749.14	740.90
22.50°	596.91	604.48	617.49	604.27	626.21	626.88	644.10	627.21	622.18	592.60	613.91	616.30	630.34	607.60	584.06	590.32	596.91
25.00°	492.98	506.71	506.34	509.19	513.92	522.75	545.83	532.93	531.18	517.76	521.46	522.76	519.71	507.10	485.21	497.01	492.98
27.50°	400.11	408.32	407.55	414.09	421.33	430.35	448.90	446.33	443.54	440.43	434.23	429.35	420.26	409.65	396.87	401.40	400.11
30.00°	298.78	307.73	309.76	318.32	329.86	337.84	353.16	349.63	358.64	348.90	349.35	336.18	322.86	314.75	301.38	302.91	298.78
32.50°	195.52	210.88	212.46	223.80	239.41	245.30	259.77	252.07	265.14	257.12	256.27	244.73	231.52	224.13	204.54	209.26	195.52
35.00°	120.11	125.06	134.17	146.20	159.65	163.21	168.22	164.07	165.47	164.23	160.06	156.21	141.01	136.62	128.74	120.88	120.11
37.50°	49.61	57.38	63.69	73.68	88.38	82.93	100.05	76.48	96.15	83.60	96.34	86.39	84.12	78.26	55.93	62.89	49.61
40.00°	30.52	34.66	34.67	46.79	47.41	50.03	47.95	46.74	45.58	47.68	42.93	44.77	30.53	38.11	34.68	34.09	30.52
42.50°	18.14	18.47	19.95	22.96	27.64	23.15	24.08	18.27	23.47	19.45	23.99	19.59	21.31	20.33	18.73	19.03	18.14
45.00°	15.83	16.23	16.11	18.71	18.96	18.77	16.96	14.86	16.49	14.71	14.19	15.90	14.65	14.77	15.23	15.43	15.83
47.50°	14.43	14.73	15.38	15.39	17.00	16.29	14.88	11.83	13.99	11.66	12.75	14.14	13.93	13.64	12.51	13.75	14.43
50.00°	15.79	14.61	16.47	16.67	16.67	17.21	15.41	14.81	13.55	12.94	13.08	14.63	13.39	14.56	13.36	13.48	15.79
52.50°	17.28	15.42	17.99	18.16	17.18	18.30	17.15	17.61	15.07	14.22	15.22	15.28	15.47	15.01	14.31	15.20	17.28
55.00°	18.22	17.72	19.33	20.49	19.00	18.70	19.42	18.56	17.34	15.48	17.66	16.09	17.33	15.26	15.21	18.20	18.22
57.50°	19.09	17.87	20.62	21.35	21.41	18.99	17.86	18.92	17.07	15.59	16.26	15.15	14.47	13.89	15.92	17.39	19.09
60.00°	16.21	15.03	16.65	17.43	17.78	14.67	14.86	15.09	15.96	13.56	14.39	12.67	11.60	11.98	12.51	14.48	16.21
62.50°	13.25	11.79	11.94	13.34	11.85	10.41	11.02	11.37	12.25	10.86	11.38	10.04	8.45	8.86	9.14	10.83	13.25
65.00°	8.79	8.09	8.81	8.74	7.80	7.23	6.92	8.19	7.83	7.07	8.27	7.28	5.65	5.41	6.32	6.84	8.79
67.50°	4.75	5.30	5.84	5.23	4.35	4.41	4.80	5.57	5.91	4.81	6.49	4.93	4.82	4.41	3.93	4.91	4.75
70.00°	3.42	3.37	4.43	3.91	3.59	3.70	3.12	4.73	4.49	4.34	4.98	2.79	4.34	3.88	3.70	3.72	3.42
72.50°	2.63	2.69	3.24	3.22	3.35	3.10	2.92	4.09	4.01	3.57	4.66	3.12	4.50	2.99	3.45	2.70	2.63
75.00°	2.77	2.53	2.78	3.10	2.51	2.67	2.68	3.67	3.51	2.76	3.84	3.50	3.94	2.42	3.19	2.11	2.77
77.50°	2.53	2.41	2.39	2.52	2.15	3.03	2.37	2.71	3.00	2.82	2.71	3.14	3.03	2.38	2.42	2.51	2.53
80.00°	2.08	1.98	2.05	1.95	2.29	2.97	2.19	1.98	3.45	2.22	1.93	2.09	1.92	1.80	1.82	1.75	2.08
82.50°	1.50	1.23	1.78	1.45	1.55	1.98	1.49	1.51	2.03	1.36	1.28	1.10	0.99	1.11	1.41	1.10	1.50
85.00°	1.11	0.64	1.27	1.06	1.06	0.83	1.03	0.95	1.07	0.76	0.77	0.98	1.13	0.81	0.76	0.95	1.11
87.50°	0.97	0.84	0.96	1.15	1.06	0.73	0.72	0.72	0.71	0.62	0.97	1.27	0.96	1.00	1.15	0.98	0.97
90.00°	1.08	0.87	0.86	0.98	0.62	0.92	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.37	0.98	0.54	1.08
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%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	1,222	1,222	1,222	1,222	1,194	1,194	1,194	1,194	1,141	1,141	1,141	1,092	1,092	1,092	1,048	1,048	1,027
	1	1,174	1,149	1,127	1,107	1,149	1,127	1,107	1,089	1,086	1,070	1,056	1,048	1,036	1,025	1,013	1,004	995
	2	1,127	1,085	1,050	1,020	1,106	1,068	1,036	1,009	1,035	1,009	987	1,005	984	966	977	961	946
	3	1,084	1,029	986	952	1,064	1,015	976	944	989	956	929	965	938	915	942	920	901
	4	1,043	979	932	896	1,026	967	924	891	946	910	880	927	896	871	909	883	861
	5	1,004	934	885	849	989	925	879	845	908	868	838	892	858	831	877	847	824
	6	968	894	844	808	955	886	840	806	872	831	800	859	823	795	846	815	790
	7	934	857	808	773	922	851	804	771	839	797	767	828	791	763	818	785	759
	8	903	824	775	741	892	819	772	740	809	767	737	799	762	734	791	757	731
	9	873	794	745	712	864	789	743	711	781	739	709	773	734	707	765	730	705
	10	846	766	718	687	837	762	717	686	755	713	684	748	709	682	741	706	681

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	128.8 fc	2.2 ft
6.5 ft	92.2 fc	2.6 ft
7.5 ft	69.3 fc	3.0 ft
8.0 ft	60.9 fc	3.2 ft
10.0 ft	39.0 fc	4.0 ft
12.0 ft	27.1 fc	4.8 ft
14.0 ft	19.9 fc	5.6 ft
16.0 ft	15.2 fc	6.5 ft
20.0 ft	9.7 fc	8.1 ft
24.0 ft	6.8 fc	9.7 ft
28.0 ft	5.0 fc	11.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1,335,304	1,335,304	1,335,304
45.00°	7,668	7,808	9,189
55.00°	10,884	11,544	11,351
65.00°	7,128	7,143	6,321
75.00°	3,663	3,678	3,327
85.00°	4,382	4,981	4,173

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	12.8	13.8	13.2	14.1	14.4	12.6	13.5	13.0	13.8	14.2
	3H	13.0	13.8	13.4	14.1	14.5	12.8	13.6	13.1	13.9	14.3
	4H	13.0	13.8	13.4	14.1	14.5	12.9	13.7	13.3	14.0	14.4
	6H	13.1	13.8	13.6	14.2	14.6	13.1	13.8	13.5	14.1	14.5
	8H	13.2	13.8	13.6	14.2	14.6	13.1	13.8	13.5	14.1	14.6
	12H	13.2	13.8	13.6	14.2	14.6	13.1	13.7	13.6	14.1	14.6
4H	2H	12.8	13.6	13.2	13.9	14.3	12.6	13.4	13.0	13.7	14.1
	3H	13.1	13.7	13.5	14.1	14.5	12.9	13.5	13.3	13.9	14.3
	4H	13.1	13.7	13.6	14.1	14.6	13.1	13.7	13.6	14.1	14.5
	6H	13.4	13.8	13.8	14.3	14.8	13.4	13.9	13.9	14.4	14.8
	8H	13.4	13.9	13.9	14.3	14.8	13.5	13.9	14.0	14.4	14.9
	12H	13.5	13.9	14.0	14.3	14.8	13.6	13.9	14.0	14.4	14.9
8H	4H	13.1	13.6	13.6	14.0	14.5	13.1	13.6	13.6	14.0	14.5
	6H	13.4	13.8	13.9	14.3	14.7	13.6	13.9	14.1	14.4	14.9
	8H	13.5	13.8	14.1	14.3	14.8	13.7	14.0	14.2	14.5	15.0
	12H	13.6	13.9	14.2	14.4	15.0	13.8	14.1	14.4	14.6	15.2
12H	4H	13.1	13.5	13.6	13.9	14.4	13.1	13.5	13.6	14.0	14.4
	6H	13.4	13.7	13.9	14.2	14.7	13.6	13.9	14.1	14.3	14.9
	8H	13.5	13.8	14.1	14.3	14.9	13.7	14.0	14.3	14.5	15.1

Corrected UGR values based on total output lumens

SHR = 1.0