

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
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Spectrum Lighting Photometric Lab

Luminaire

IF03RMx xx 835 015 DLNFGN MW
Nominal 3" diam round recessed Infinium downlight

Test Number

SP-00759_1_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	1081
Efficacy	88.64 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.47
Two luminaires, plane 90°	0.47
Four luminaires	0.48

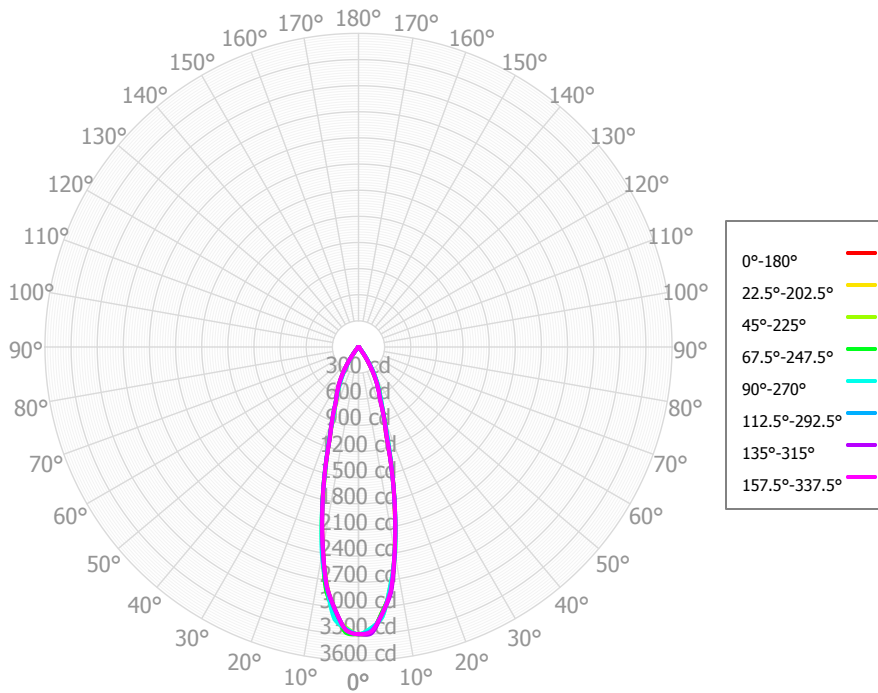
Full Beam Angle

0° - 180°	28°
90° - 270°	28°

IES File Header Contents

Keyword	Value
TEST	SP-00759_1_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 DLNFGN MW
LUMINAIRE	Nominal 3" diam round recessed Infinium downlight
OTHER	Beam Angle: 28 degrees
OTHER	Narrow 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, scaled from 20L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	274.46	25.38%	90.00° - 100.00°	0.07	0.01%
10.00° - 20.00°	407.34	37.67%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	258.30	23.88%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	101.88	9.42%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	13.67	1.26%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	8.37	0.77%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	10.26	0.95%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	5.73	0.53%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.35	0.12%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1,081.36	99.99%	0.00° - 180.00°	1,081.43	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°	3,297.72	3,297.72	3,297.72	3,297.72	3,297.72	3,297.72	3,297.72	3,297.72	3,297.72	3,297.72	3,297.72	3,297.72	3,297.72	3,297.72	3,297.72	3,297.72	3,297.72
2.50°	3,276.69	3,287.71	3,238.43	3,284.27	3,231.07	3,249.83	3,254.04	3,255.80	3,253.68	3,276.02	3,226.21	3,285.43	3,239.11	3,261.52	3,294.73	3,271.81	3,276.69
5.00°	3,071.15	3,065.73	3,112.13	3,063.57	3,118.77	3,047.74	3,035.58	3,038.30	3,040.12	3,047.82	3,101.00	3,064.48	3,141.55	3,082.99	3,083.45	3,083.03	3,071.15
7.50°	2,824.35	2,836.14	2,779.32	2,830.97	2,774.33	2,786.02	2,784.05	2,775.53	2,776.16	2,802.13	2,760.28	2,833.35	2,783.94	2,819.08	2,850.40	2,828.41	2,824.35
10.00°	2,389.62	2,382.86	2,415.88	2,384.36	2,418.68	2,375.15	2,355.98	2,359.33	2,352.10	2,364.59	2,393.26	2,383.50	2,421.04	2,385.05	2,397.75	2,387.63	2,389.62
12.50°	1,923.73	1,930.18	1,934.36	1,938.58	1,940.59	1,917.95	1,927.02	1,912.22	1,924.18	1,927.22	1,929.24	1,935.09	1,941.45	1,941.50	1,930.93	1,940.13	1,923.73
15.00°	1,488.55	1,489.54	1,482.27	1,501.97	1,478.80	1,502.60	1,494.21	1,497.70	1,485.98	1,491.13	1,456.93	1,503.65	1,472.39	1,481.34	1,492.50	1,476.56	1,488.55
17.50°	1,057.26	1,066.62	1,125.52	1,090.79	1,139.55	1,097.93	1,107.02	1,088.22	1,107.54	1,086.24	1,129.98	1,094.97	1,136.24	1,104.42	1,055.56	1,084.03	1,057.26
20.00°	844.39	855.30	827.55	872.81	831.33	872.51	880.26	872.07	866.54	862.14	809.91	874.07	821.43	853.51	848.52	839.11	844.39
22.50°	650.15	655.89	688.88	671.70	697.57	684.69	685.62	677.51	675.21	661.88	684.42	669.82	684.73	661.93	645.29	644.73	650.15
25.00°	545.05	551.94	559.98	568.97	569.70	575.89	586.65	580.19	581.73	572.33	561.68	566.44	552.06	549.71	542.52	540.81	545.05
27.50°	444.51	446.47	453.53	465.51	468.50	479.93	485.84	490.23	485.40	479.67	464.61	462.46	443.97	439.85	439.26	434.15	444.51
30.00°	328.00	331.71	346.25	358.74	367.09	376.16	380.41	383.40	384.14	375.33	367.05	355.60	337.31	332.77	329.61	323.25	328.00
32.50°	211.75	221.35	237.27	254.46	264.90	271.42	276.28	275.92	279.65	271.65	260.72	251.41	237.63	232.00	222.35	219.55	211.75
35.00°	128.38	131.79	143.69	159.38	169.91	178.98	174.95	177.58	170.33	170.05	157.81	157.52	145.48	137.77	136.51	125.73	128.38
37.50°	48.30	56.47	76.70	79.44	97.14	87.55	93.65	81.07	89.10	85.95	93.20	78.47	82.73	74.19	59.30	62.70	48.30
40.00°	32.52	35.41	31.90	46.57	40.73	53.63	49.80	48.55	44.52	48.18	34.63	46.69	32.25	38.35	37.95	36.46	32.52
42.50°	17.82	18.68	20.83	21.57	26.78	22.50	20.25	17.73	17.91	19.97	22.20	21.68	21.89	19.53	19.38	20.69	17.82
45.00°	15.16	15.83	13.86	17.12	16.27	17.64	13.83	13.31	12.06	13.27	11.39	15.09	13.78	14.17	15.00	16.00	15.16
47.50°	12.67	13.25	12.31	13.58	13.50	13.20	10.10	9.28	9.23	8.61	10.14	10.33	11.82	11.18	11.29	12.63	12.67
50.00°	11.48	11.37	11.19	12.10	11.41	12.20	10.21	9.17	9.43	7.98	9.00	9.78	10.09	9.86	10.27	10.48	11.48
52.50°	10.37	10.10	10.58	10.69	10.63	11.17	10.09	9.03	9.15	7.73	8.42	8.99	8.94	9.57	9.33	9.45	10.37
55.00°	9.78	10.21	9.93	9.40	10.06	9.52	9.67	8.64	8.41	8.15	7.89	7.68	7.93	9.91	8.67	9.34	9.78
57.50°	9.39	10.57	9.24	8.72	9.88	8.15	9.68	8.47	8.04	8.52	7.57	7.35	7.22	9.56	8.61	9.57	9.39
60.00°	9.98	11.42	9.87	9.06	10.24	9.86	10.18	9.57	7.95	8.81	7.71	8.69	7.72	8.84	10.26	10.04	9.98
62.50°	10.59	12.05	11.66	9.96	11.43	11.49	10.57	10.44	8.75	9.37	9.24	9.50	10.33	9.03	11.52	10.88	10.59
65.00°	11.22	12.30	11.71	11.69	11.63	12.49	10.87	10.37	10.18	10.30	10.14	9.50	11.41	9.63	11.82	11.94	11.22
67.50°	11.11	11.36	10.38	11.41	10.60	12.80	10.50	10.15	10.62	10.35	9.55	9.13	10.43	9.25	11.39	10.58	11.11
70.00°	9.12	8.89	8.80	8.78	8.96	10.20	9.63	9.53	10.55	9.57	8.26	8.37	8.73	8.56	9.74	8.08	9.12
72.50°	6.77	6.66	7.08	6.26	6.79	8.35	8.15	8.30	8.21	7.66	6.16	6.87	6.60	6.21	6.96	5.97	6.77
75.00°	4.05	4.60	5.17	3.80	5.36	7.53	6.45	6.42	5.79	5.43	4.87	5.13	4.91	4.29	3.46	4.15	4.05
77.50°	2.89	3.19	3.63	3.46	4.23	5.85	4.52	5.06	4.12	3.79	3.74	3.36	3.47	3.35	2.69	3.00	2.89
80.00°	1.94	1.80	2.84	2.71	3.38	4.03	3.28	3.43	3.18	2.67	2.60	2.37	2.13	2.04	1.82	1.92	1.94
82.50°	1.24	0.99	1.81	1.78	2.03	2.24	1.78	1.73	1.62	1.61	1.37	1.47	0.91	1.27	1.04	1.55	1.24
85.00°	1.08	1.04	0.94	1.26	1.29	0.83	0.82	0.99	0.93	0.95	0.60	0.71	0.91	0.90	0.77	1.31	1.08
87.50°	0.75	1.09	0.72	0.97	1.03	0.93	0.89	0.84	0.90	0.83	0.83	0.85	0.92	0.97	0.94	0.99	0.75
90.00°	1.11	0.81	0.90	0.90	0.84	1.33	0.85	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	1.11
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%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	1,287	1,287	1,287	1,287	1,257	1,257	1,257	1,257	1,202	1,202	1,202	1,150	1,150	1,150	1,103	1,103	1,103	1,081
	1	1,236	1,209	1,186	1,164	1,210	1,186	1,165	1,146	1,143	1,126	1,111	1,103	1,090	1,078	1,066	1,056	1,047	1,035
	2	1,186	1,141	1,103	1,072	1,163	1,122	1,089	1,060	1,088	1,061	1,037	1,057	1,034	1,015	1,027	1,010	994	990
	3	1,139	1,081	1,035	999	1,119	1,066	1,025	991	1,039	1,004	975	1,013	985	960	990	966	946	948
	4	1,096	1,028	978	940	1,078	1,016	970	934	994	954	923	973	940	913	954	926	903	909
	5	1,055	980	928	889	1,039	970	922	885	952	910	878	935	899	870	919	888	863	873
	6	1,016	937	884	846	1,002	929	879	843	914	870	838	900	862	832	887	853	827	839
	7	980	898	845	808	967	891	841	806	879	834	802	867	827	798	856	821	794	807
	8	946	862	810	773	935	857	807	772	846	801	769	836	796	766	827	790	763	778
	9	914	830	778	743	904	825	775	741	816	771	739	807	766	737	799	762	735	751
	10	884	799	748	715	875	795	747	714	787	743	712	780	739	710	773	736	709	725

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	109.0 fc	2.8 ft
6.5 ft	78.1 fc	3.3 ft
7.5 ft	58.6 fc	3.8 ft
8.0 ft	51.5 fc	4.0 ft
10.0 ft	33.0 fc	5.0 ft
12.0 ft	22.9 fc	6.0 ft
14.0 ft	16.8 fc	7.0 ft
16.0 ft	12.9 fc	8.0 ft
20.0 ft	8.2 fc	10.0 ft
24.0 ft	5.7 fc	12.0 ft
28.0 ft	4.2 fc	14.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1,129,884	1,129,884	1,129,884
45.00°	7,348	6,718	7,882
55.00°	5,841	5,931	6,011
65.00°	9,093	9,495	9,432
75.00°	5,357	6,839	7,098
85.00°	4,233	3,708	5,090

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	8.7	9.6	9.1	9.9	10.2	7.1	8.1	7.5	8.4	8.7
	3H	12.2	13.1	12.6	13.4	13.8	11.8	12.6	12.2	12.9	13.3
	4H	12.7	13.5	13.1	13.8	14.2	12.6	13.4	13.0	13.7	14.1
	6H	12.9	13.6	13.3	14.0	14.3	13.1	13.8	13.5	14.1	14.5
	8H	12.9	13.5	13.3	13.9	14.4	13.1	13.8	13.6	14.2	14.6
	12H	12.9	13.5	13.3	13.9	14.3	13.2	13.8	13.6	14.2	14.6
4H	2H	10.1	10.9	10.5	11.2	11.6	8.9	9.6	9.3	10.0	10.4
	3H	13.2	13.9	13.6	14.3	14.7	12.9	13.5	13.3	13.9	14.3
	4H	13.7	14.3	14.2	14.7	15.2	13.9	14.4	14.3	14.9	15.3
	6H	13.9	14.4	14.4	14.9	15.3	14.4	14.9	14.9	15.3	15.8
	8H	13.9	14.4	14.4	14.8	15.3	14.5	14.9	15.0	15.4	15.9
	12H	14.0	14.4	14.5	14.8	15.3	14.5	14.9	15.0	15.4	15.9
8H	4H	13.9	14.3	14.3	14.7	15.2	14.2	14.6	14.6	15.0	15.5
	6H	14.1	14.5	14.6	15.0	15.5	14.8	15.1	15.3	15.6	16.1
	8H	14.2	14.5	14.7	15.0	15.5	14.9	15.2	15.5	15.8	16.3
	12H	14.3	14.5	14.8	15.0	15.6	15.0	15.3	15.5	15.8	16.4
12H	4H	13.8	14.2	14.3	14.7	15.2	14.1	14.5	14.6	15.0	15.5
	6H	14.1	14.4	14.6	14.9	15.4	14.8	15.1	15.3	15.6	16.1
	8H	14.2	14.5	14.7	15.0	15.5	15.0	15.2	15.5	15.7	16.3

Corrected UGR values based on total output lumens

SHR = 1.0