

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 DLNFGC MW
Nominal 3" diam round recessed Infinium downlight

Test Number

SP-00759_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	1018
Efficacy	83.48 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.46
Two luminaires, plane 90°	0.47
Four luminaires	0.48

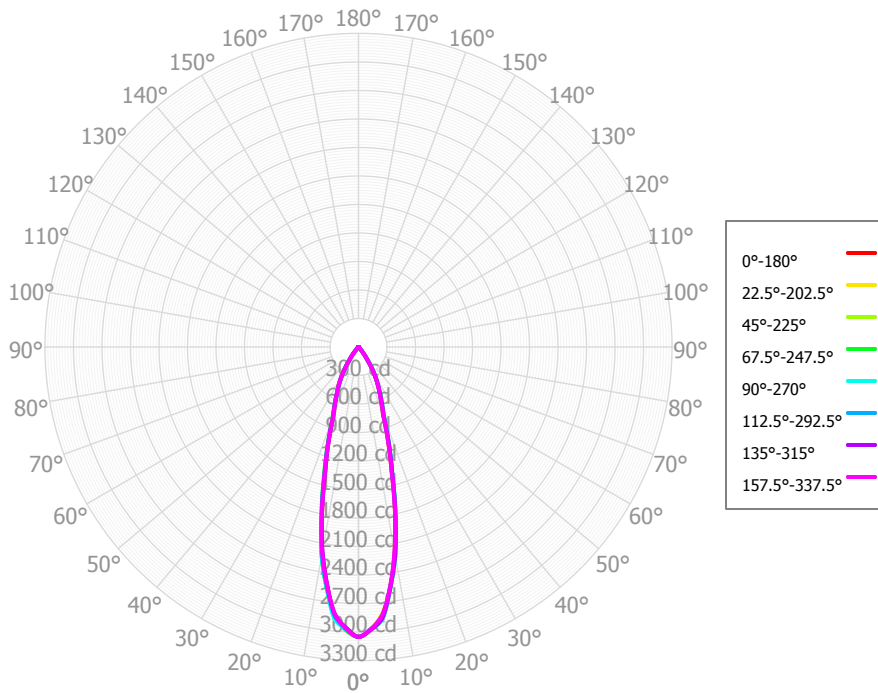
Full Beam Angle

0° - 180°	28°
90° - 270°	28°

IES File Header Contents

Keyword	Value
TEST	SP-00759_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 DLNFGC MW
LUMINAIRE	Nominal 3" diam round recessed Infinium downlight
OTHER	Beam Angle: 28 degrees
OTHER	Narrow 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°	252.15	24.76%	90.00° - 100.00°	0.05	0.01%
10.00° - 20.00°	378.91	37.20%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	244.71	24.03%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	106.84	10.49%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	17.64	1.73%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	8.57	0.84%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	5.73	0.56%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	2.84	0.28%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.03	0.10%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1,018.40	99.99%	0.00° - 180.00°	1,018.45	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°	3,050.95	3,050.95	3,050.95	3,050.95	3,050.95	3,050.95	3,050.95	3,050.95	3,050.95	3,050.95	3,050.95	3,050.95	3,050.95	3,050.95	3,050.95	3,050.95	3,050.95
2.50°	2,972.13	2,976.44	2,976.37	2,977.98	2,976.58	2,974.00	2,960.50	2,969.03	2,962.34	2,984.26	2,970.07	2,986.42	2,975.53	2,973.73	2,980.84	2,973.85	2,972.13
5.00°	2,870.49	2,825.70	2,877.17	2,842.94	2,880.02	2,848.23	2,833.24	2,825.82	2,852.89	2,828.89	2,866.32	2,849.41	2,877.38	2,851.31	2,869.09	2,838.15	2,870.49
7.50°	2,547.16	2,559.79	2,557.96	2,565.09	2,565.14	2,548.95	2,529.47	2,535.26	2,527.09	2,552.02	2,543.25	2,564.80	2,558.58	2,553.79	2,557.60	2,551.43	2,547.16
10.00°	2,210.77	2,180.60	2,227.08	2,200.58	2,231.33	2,221.61	2,182.82	2,200.92	2,199.47	2,206.42	2,218.83	2,230.84	2,234.95	2,197.47	2,225.97	2,180.42	2,210.77
12.50°	1,779.15	1,780.48	1,796.11	1,798.69	1,804.35	1,791.16	1,776.81	1,773.87	1,772.61	1,779.61	1,790.52	1,801.13	1,802.10	1,789.10	1,786.93	1,774.00	1,779.15
15.00°	1,340.57	1,358.71	1,358.42	1,372.89	1,367.88	1,383.26	1,355.21	1,377.86	1,346.51	1,390.10	1,362.28	1,403.75	1,373.17	1,362.08	1,366.24	1,346.71	1,340.57
17.50°	1,041.05	1,025.37	1,056.40	1,050.30	1,065.49	1,064.84	1,053.83	1,051.56	1,053.30	1,046.94	1,064.95	1,072.67	1,071.70	1,052.54	1,053.40	1,027.04	1,041.05
20.00°	753.73	788.14	765.46	797.28	778.81	782.12	786.44	782.89	760.08	790.19	767.62	801.90	773.37	787.87	765.75	774.24	753.73
22.50°	630.53	618.63	638.00	632.94	644.47	652.73	643.75	651.48	646.27	646.41	649.03	662.19	652.39	635.95	642.41	617.00	630.53
25.00°	524.20	526.53	526.31	531.54	530.39	530.53	538.94	533.23	533.69	529.40	532.63	537.81	531.55	529.83	523.18	522.33	524.20
27.50°	432.18	431.75	432.43	434.96	437.43	441.90	443.48	448.29	449.60	449.22	445.65	448.77	437.84	433.31	433.89	428.47	432.18
30.00°	341.85	333.76	340.55	341.98	347.61	352.49	351.08	359.50	366.07	361.50	359.42	357.46	344.12	340.94	344.03	335.16	341.85
32.50°	243.30	238.79	244.60	250.59	256.67	259.12	256.97	260.23	264.12	262.86	262.59	260.59	252.83	250.64	249.36	242.43	243.30
35.00°	143.65	147.64	148.13	160.45	165.55	170.06	162.28	168.52	161.57	174.09	165.35	171.86	161.56	161.30	157.90	150.11	143.65
37.50°	88.67	80.71	91.49	96.08	104.28	105.13	99.65	98.87	100.18	100.39	105.86	104.32	101.71	99.03	97.82	87.98	88.67
40.00°	40.41	45.98	40.56	53.03	48.48	47.20	48.91	42.81	40.71	48.40	48.33	50.28	42.51	49.87	41.66	48.92	40.41
42.50°	26.89	23.60	26.27	28.56	30.70	32.67	28.59	29.09	28.32	31.34	32.42	33.69	28.97	27.68	30.42	27.26	26.89
45.00°	19.31	18.50	17.85	20.24	20.57	19.39	20.28	17.94	18.78	19.42	19.26	20.40	16.97	19.31	19.67	19.61	19.31
47.50°	15.56	14.74	14.47	15.42	16.24	14.97	15.75	15.38	15.05	16.24	15.55	16.85	14.94	14.93	15.62	14.89	15.56
50.00°	12.53	12.94	12.01	13.78	13.19	11.01	12.81	12.92	11.75	13.37	12.60	13.59	13.39	12.69	11.70	12.67	12.53
52.50°	11.34	11.32	10.59	11.66	10.88	10.67	11.01	10.82	10.56	11.04	11.22	11.21	11.03	10.75	10.01	10.67	11.34
55.00°	10.54	9.97	9.38	9.08	8.75	10.19	9.70	8.93	9.57	9.15	9.99	9.12	8.63	8.97	8.36	8.86	10.54
57.50°	9.55	8.86	8.44	7.81	8.19	8.37	8.63	7.88	8.49	8.13	8.55	7.98	7.54	7.70	7.53	7.68	9.55
60.00°	8.52	8.13	7.56	7.85	8.02	6.70	7.66	7.02	7.40	7.20	7.09	6.94	6.55	6.73	6.71	7.08	8.52
62.50°	7.21	7.35	6.60	7.56	7.16	6.64	6.67	6.96	6.82	6.47	7.02	6.22	5.65	5.99	6.26	6.31	7.21
65.00°	5.84	6.47	5.62	6.89	6.11	6.51	5.67	6.66	6.30	5.74	7.13	5.45	4.76	5.40	5.80	5.38	5.84
67.50°	4.85	5.25	4.70	6.04	4.97	5.53	5.09	5.26	5.30	4.99	5.24	4.48	3.82	4.62	4.43	4.43	4.85
70.00°	3.95	3.42	3.81	4.99	3.81	4.54	4.73	3.97	4.24	4.20	3.05	3.57	2.89	3.70	3.06	3.44	3.95
72.50°	3.28	2.25	2.90	3.99	3.36	3.33	4.02	3.20	3.50	3.31	2.56	2.92	2.98	3.03	2.78	2.76	3.28
75.00°	2.66	2.38	1.99	3.06	3.14	2.20	3.10	2.55	2.82	2.56	2.34	2.31	3.20	2.52	2.50	2.41	2.66
77.50°	2.40	2.22	1.92	2.36	2.50	2.07	2.47	2.45	2.37	2.14	2.16	1.91	2.39	2.19	2.06	1.85	2.40
80.00°	2.23	1.60	2.07	1.91	1.73	1.85	1.98	2.09	1.92	1.72	1.92	1.46	1.58	1.96	1.61	1.11	2.23
82.50°	1.42	0.98	1.29	1.30	1.16	1.36	1.09	1.23	1.30	1.32	1.27	0.95	1.04	1.20	1.15	0.86	1.42
85.00°	0.82	0.54	0.66	0.77	0.77	0.94	0.68	0.79	0.93	0.75	0.81	0.71	1.12	0.85	0.87	0.79	0.82
87.50°	0.64	0.54	0.43	0.62	0.64	0.86	0.68	0.75	0.84	0.63	0.77	0.80	0.62	1.07	0.64	0.71	0.64
90.00°	0.53	0.59	1.05	0.77	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.85	0.81	0.53
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	1,212	1,212	1,212	1,212	1,184	1,184	1,184	1,184	1,132	1,132	1,132	1,083	1,083	1,083	1,039	1,039	1,018
	1	1,164	1,139	1,117	1,097	1,140	1,118	1,098	1,080	1,077	1,061	1,047	1,039	1,027	1,016	1,005	995	976
	2	1,117	1,075	1,040	1,010	1,096	1,058	1,026	999	1,026	1,000	977	996	975	957	968	952	933
	3	1,073	1,018	975	941	1,054	1,004	965	934	978	946	919	955	928	905	932	910	893
	4	1,032	967	920	884	1,015	956	913	879	935	898	869	916	885	859	898	871	856
	5	992	922	872	836	977	913	867	832	896	856	825	880	845	818	865	835	821
	6	955	881	830	794	942	873	826	792	859	817	786	846	809	781	833	801	788
	7	921	843	793	757	909	837	789	755	825	783	752	814	776	748	803	770	757
	8	888	809	759	724	877	803	756	723	793	751	720	784	746	717	775	741	729
	9	858	777	728	695	848	773	726	694	764	721	692	756	717	689	748	713	703
	10	829	748	700	668	820	744	698	667	737	695	665	730	691	664	723	688	678

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	100.9 fc	2.7 ft
6.5 ft	72.2 fc	3.2 ft
7.5 ft	54.2 fc	3.7 ft
8.0 ft	47.7 fc	4.0 ft
10.0 ft	30.5 fc	5.0 ft
12.0 ft	21.2 fc	6.0 ft
14.0 ft	15.6 fc	7.0 ft
16.0 ft	11.9 fc	8.0 ft
20.0 ft	7.6 fc	10.0 ft
24.0 ft	5.3 fc	12.0 ft
28.0 ft	3.9 fc	14.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1,045,334	1,045,334	1,045,334
45.00°	9,358	8,647	9,966
55.00°	6,295	5,602	5,229
65.00°	4,735	4,556	4,956
75.00°	3,521	2,628	4,154
85.00°	3,222	2,596	3,031

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	7.7	8.7	8.1	9.0	9.3	7.4	8.3	7.7	8.6	8.9
	3H	9.0	9.8	9.3	10.1	10.5	8.7	9.5	9.1	9.8	10.2
	4H	9.3	10.1	9.7	10.4	10.8	9.2	10.0	9.6	10.3	10.7
	6H	9.8	10.5	10.2	10.8	11.2	9.6	10.3	10.0	10.7	11.1
	8H	9.9	10.6	10.4	11.0	11.4	9.7	10.3	10.1	10.7	11.1
	12H	10.0	10.6	10.5	11.0	11.5	9.8	10.4	10.2	10.8	11.2
4H	2H	8.1	8.9	8.5	9.2	9.6	8.0	8.7	8.4	9.1	9.5
	3H	9.4	10.0	9.8	10.4	10.8	9.4	10.0	9.8	10.4	10.9
	4H	9.9	10.4	10.3	10.8	11.3	9.9	10.5	10.4	10.9	11.4
	6H	10.4	10.9	10.9	11.3	11.8	10.4	10.9	10.9	11.4	11.8
	8H	10.6	11.0	11.1	11.5	12.0	10.6	11.0	11.0	11.5	11.9
	12H	10.7	11.1	11.2	11.6	12.1	10.7	11.1	11.2	11.6	12.0
8H	4H	10.0	10.4	10.5	10.9	11.4	10.1	10.5	10.6	11.0	11.5
	6H	10.6	11.0	11.1	11.5	12.0	10.7	11.1	11.2	11.6	12.1
	8H	10.9	11.2	11.4	11.7	12.2	10.9	11.2	11.5	11.8	12.3
	12H	11.1	11.3	11.6	11.8	12.4	11.2	11.4	11.7	11.9	12.5
12H	4H	10.0	10.4	10.5	10.8	11.3	10.1	10.5	10.6	11.0	11.4
	6H	10.7	11.0	11.2	11.4	12.0	10.8	11.1	11.3	11.5	12.1
	8H	10.9	11.2	11.5	11.7	12.3	11.0	11.3	11.6	11.8	12.4

Corrected UGR values based on total output lumens

SHR = 1.0