Indoor Distribution Test Report

Spectrum Lighting Inc.

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

Luminaire

IF03SSx IC 835 015 N11 DLSPGP MW

Nom 3" Square Infinium recessed downlight

Test Number

SP-00780_2_M-015L

Test Date

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

Summary of Results

Power

Input Watts	10.2 W

Lumen Output

Output Lumens	730
Efficacy	71.61 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.42
Two luminaires, plane 90°	0.44
Four luminaires	0.47

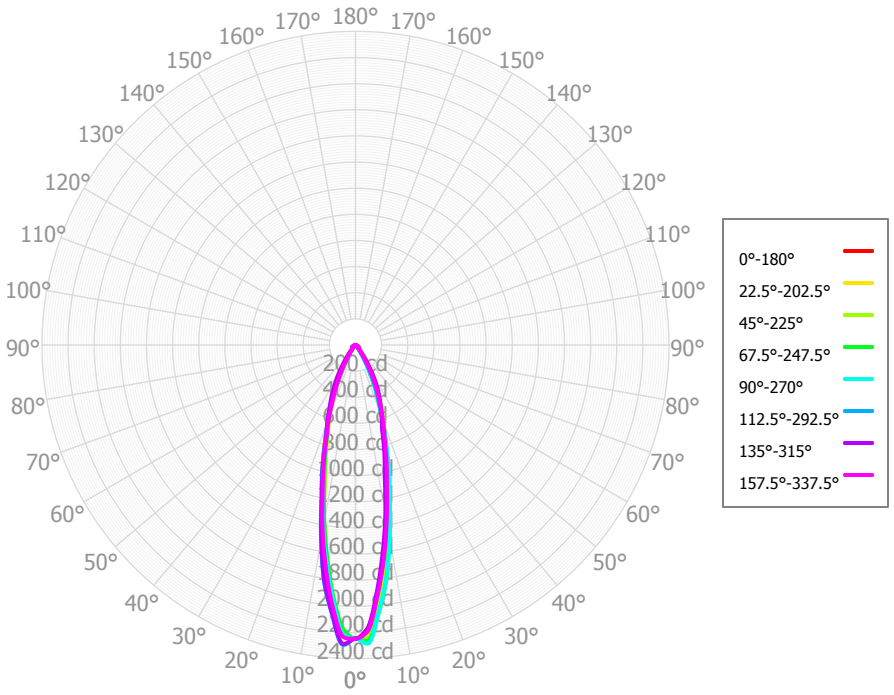
Full Beam Angle

0° - 180°	25°
90° - 270°	26°

IES File Header Contents

Keyword	Value
TEST	SP-00780_2_M-015L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/11/2019
UPDATE	4/4/2019
LUMCAT	IF03SSx IC 835 015 N11 DLSPGP MW
LUMINAIRE	Nom 3" Square Infinium recessed downlight
OTHER	Beam Angle: 25 degrees
OTHER	Narrow Flood optic, Solite Lens
OTHER	Aluminum bezel contains lens
LAMPCAT	N/A
LAMP	N/A, CRI: 80, Philips
OTHER	CCT Multiplier: 27K x 0.95, 30K x 0.98, 40K x 1.03
OTHER	Total luminaire wattage is approximate, +2W for thermal protection
OTHER	This report prepared by Spectrum Lighting, scaled from 20L
_CRI	80
_CCTMULT	27K x 0.95, 30K x 0.98, 40K x 1.03
_LAMPMULT	07L x 0.40, 10L x 0.56

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	172.38	23.60%	90.00° - 100.00°	0.10	0.01%
10.00° - 20.00°	256.33	35.09%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	172.15	23.57%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	59.79	8.19%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	19.98	2.74%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	24.54	3.36%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	16.40	2.25%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	7.19	0.99%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.56	0.21%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	730.31	99.99%	0.00° - 180.00°	730.41	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°	2,247.48	2,247.48	2,247.48	2,247.48	2,247.48	2,247.48	2,247.48	2,247.48	2,247.48	2,247.48	2,247.48	2,247.48	2,247.48	2,247.48	2,247.48	2,247.48	2,247.48
2.50°	2,170.87	2,252.02	2,239.33	2,265.65	2,286.02	2,297.09	2,288.66	2,233.72	2,229.42	2,222.48	2,218.93	2,177.01	2,214.28	2,187.59	2,169.13	2,192.22	2,170.87
5.00°	1,930.23	1,979.76	1,990.45	2,052.79	2,050.05	2,068.24	2,060.26	2,010.74	1,994.16	1,945.75	1,959.24	1,940.79	1,962.45	1,918.03	1,890.05	1,926.39	1,930.23
7.50°	1,631.30	1,705.09	1,705.65	1,810.73	1,806.88	1,834.77	1,825.49	1,730.66	1,744.86	1,668.84	1,693.12	1,651.49	1,689.34	1,638.70	1,598.27	1,656.61	1,631.30
10.00°	1,375.78	1,421.88	1,402.95	1,488.86	1,505.61	1,516.94	1,503.35	1,446.47	1,455.76	1,380.33	1,386.47	1,376.17	1,422.03	1,361.70	1,315.59	1,372.52	1,375.78
12.50°	1,134.44	1,138.88	1,097.75	1,190.95	1,212.66	1,204.60	1,188.17	1,161.23	1,187.44	1,093.96	1,094.78	1,105.60	1,155.34	1,084.78	1,033.43	1,108.98	1,134.44
15.00°	940.67	946.31	895.64	957.32	986.94	979.71	963.37	942.91	975.92	898.99	891.92	903.98	954.80	889.59	853.51	916.51	940.67
17.50°	762.44	754.11	707.94	748.12	768.17	759.90	747.05	740.85	776.53	705.82	704.43	724.91	760.68	696.96	678.98	738.92	762.44
20.00°	609.78	623.91	603.50	603.33	601.73	620.81	629.93	592.03	609.12	579.35	603.11	591.42	613.22	577.88	590.04	612.83	609.78
22.50°	465.15	494.09	509.92	470.59	441.46	484.12	515.57	456.14	455.08	453.83	505.59	472.55	470.08	461.12	504.92	492.61	465.15
25.00°	347.50	393.20	428.99	368.50	324.64	381.24	431.97	349.97	336.27	359.48	429.39	368.33	354.03	364.68	427.66	391.93	347.50
27.50°	238.00	292.67	349.60	272.43	213.91	280.04	348.65	250.69	229.71	265.93	352.22	268.72	240.38	268.72	350.72	295.69	238.00
30.00°	161.12	213.24	268.81	191.43	146.02	201.27	268.40	178.21	154.31	193.11	269.84	190.88	166.15	193.62	270.46	213.90	161.12
32.50°	94.09	134.54	187.86	121.63	83.76	125.29	190.17	111.66	92.25	121.55	191.65	119.61	95.07	118.85	190.08	139.86	94.09
35.00°	60.46	90.48	130.60	79.33	58.60	84.49	131.77	74.28	62.95	82.55	134.53	78.84	65.35	82.02	135.07	90.53	60.46
37.50°	36.53	47.28	76.00	45.77	35.93	46.07	76.77	43.35	39.30	44.84	82.57	47.09	38.78	45.81	80.80	49.72	36.53
40.00°	26.75	34.40	52.07	32.91	28.81	34.80	53.50	31.51	29.56	34.90	56.53	33.46	29.76	34.53	58.44	35.02	26.75
42.50°	20.91	21.89	31.32	23.44	22.56	24.43	32.24	23.70	22.04	25.37	34.21	25.08	22.00	23.46	37.02	23.42	20.91
45.00°	19.41	20.75	27.03	21.88	21.72	23.78	28.96	21.83	19.83	23.46	29.68	24.02	21.24	23.35	31.75	21.13	19.41
47.50°	19.11	19.78	24.46	21.51	21.45	23.34	26.27	21.14	19.39	21.91	26.64	25.00	20.93	23.26	26.84	20.42	19.11
50.00°	22.42	23.36	26.28	23.88	24.46	25.18	28.57	24.18	23.04	27.07	30.53	27.53	24.57	25.66	29.18	24.33	22.42
52.50°	26.70	26.81	28.53	25.72	26.97	26.90	30.67	27.96	26.28	31.83	33.40	30.49	28.45	28.05	31.63	27.41	26.70
55.00°	27.80	27.03	27.40	26.42	26.70	27.53	31.19	29.22	28.59	30.15	31.63	29.14	27.85	27.05	29.39	28.11	27.80
57.50°	28.07	27.06	25.97	25.88	26.06	27.76	31.08	30.00	29.07	28.25	29.30	26.65	27.01	26.02	27.07	27.53	28.07
60.00°	25.33	23.26	22.38	22.62	23.38	24.27	26.03	25.99	25.52	23.29	24.47	22.73	24.90	22.21	22.40	23.34	25.33
62.50°	21.83	19.50	18.61	19.45	20.60	20.70	21.00	21.13	21.73	18.48	19.70	18.46	22.73	18.42	17.73	19.33	21.83
65.00°	18.07	16.21	15.38	16.48	17.30	16.37	16.06	16.49	17.41	15.54	15.13	16.30	18.85	15.17	14.21	15.79	18.07
67.50°	14.25	13.14	12.23	13.90	14.29	12.53	11.61	11.88	13.70	12.71	11.44	14.64	15.00	12.07	10.85	12.68	14.25
70.00°	12.10	11.32	10.61	11.93	12.20	10.71	8.95	9.64	10.92	10.44	10.06	11.51	12.51	10.14	9.14	10.40	12.10
72.50°	10.15	9.30	8.90	9.50	9.93	8.67	7.11	7.60	8.29	8.47	8.36	8.47	9.96	8.51	7.73	8.48	10.15
75.00°	8.34	6.98	6.97	6.82	7.46	6.37	6.21	5.92	5.80	6.94	6.39	6.33	7.30	7.37	6.86	6.81	8.34
77.50°	5.87	4.84	4.77	4.64	4.97	4.62	4.57	4.16	4.49	4.67	4.39	4.20	5.05	5.58	5.30	5.37	5.87
80.00°	3.57	3.34	2.90	3.00	3.10	3.16	3.34	2.49	3.28	2.94	2.98	2.58	3.05	3.50	3.67	3.97	3.57
82.50°	2.24	2.41	1.79	1.78	1.79	1.92	2.32	1.32	1.95	1.87	1.93	2.02	1.50	1.57	2.18	2.45	2.24
85.00°	0.71	1.37	1.10	0.91	0.97	0.98	1.14	1.13	0.95	0.95	0.90	1.23	0.96	0.95	1.04	1.06	0.71
87.50°	0.77	0.79	1.00	0.78	0.79	0.87	0.79	0.93	0.86	0.74	0.65	0.77	0.99	0.84	0.71	0.76	0.77
90.00°	0.80	0.77	0.88	0.78	0.69	0.71	0.82	0.83	0.62	0.51	0.58	0.61	0.71	0.51	0.63	0.77	0.80
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.

	ρfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	ρcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	870	870	870	870	849	849	849	849	812	812	812	777	777	777	745	745	745	730
	1	831	812	794	778	813	796	780	766	766	754	742	739	729	720	714	707	700	693
	2	794	760	732	709	778	748	722	701	724	704	686	703	686	671	683	669	657	656
	3	759	715	682	655	745	705	675	650	687	661	640	669	648	630	653	635	620	623
	4	727	677	640	612	714	668	634	608	653	624	601	639	614	594	626	605	588	594
RCR	5	697	642	604	576	686	636	600	573	623	592	568	611	584	563	600	577	559	567
	6	670	612	573	545	659	606	570	544	596	564	540	586	558	536	577	552	533	543
	7	644	585	546	519	635	580	543	518	571	539	515	563	534	512	555	529	510	521
	8	620	560	522	496	612	556	520	495	548	516	493	542	512	491	535	508	489	501
	9	598	537	500	475	591	534	498	474	528	495	473	522	492	471	516	489	470	482
	10	578	517	480	456	571	514	479	455	509	476	454	503	474	453	498	472	452	465

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	74.3 fc	2.5 ft
6.5 ft	53.2 fc	2.9 ft
7.5 ft	40.0 fc	3.4 ft
8.0 ft	35.1 fc	3.6 ft
10.0 ft	22.5 fc	4.5 ft
12.0 ft	15.6 fc	5.4 ft
14.0 ft	11.5 fc	6.4 ft
16.0 ft	8.8 fc	7.3 ft
20.0 ft	5.6 fc	9.1 ft
24.0 ft	3.9 fc	10.9 ft
28.0 ft	2.9 fc	12.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	944,989	944,989	944,989
45.00°	11,541	16,073	12,918
55.00°	20,377	20,088	19,573
65.00°	17,979	15,297	17,210
75.00°	13,551	11,320	12,125
85.00°	3,427	5,304	4,684

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	18.4	19.5	18.8	19.8	20.1	18.3	19.4	18.7	19.7	20.0
	3H	19.4	20.3	19.8	20.7	21.0	19.5	20.4	19.8	20.7	21.1
	4H	19.8	20.7	20.2	21.0	21.4	19.8	20.6	20.2	21.0	21.4
	6H	20.0	20.8	20.4	21.2	21.6	19.9	20.7	20.3	21.0	21.4
	8H	20.0	20.8	20.5	21.2	21.6	19.9	20.6	20.3	21.0	21.4
	12H	20.0	20.7	20.4	21.1	21.5	19.8	20.5	20.3	20.9	21.4
4H	2H	18.6	19.4	19.0	19.8	20.2	18.6	19.4	19.0	19.8	20.2
	3H	19.8	20.5	20.2	20.9	21.3	19.8	20.5	20.2	20.9	21.3
	4H	20.3	20.9	20.7	21.3	21.8	20.2	20.8	20.6	21.2	21.7
	6H	20.5	21.1	21.0	21.5	22.0	20.4	20.9	20.9	21.4	21.8
	8H	20.6	21.1	21.1	21.5	22.0	20.4	20.9	20.9	21.3	21.8
	12H	20.6	21.0	21.1	21.5	22.0	20.4	20.8	20.9	21.3	21.8
8H	4H	20.3	20.8	20.8	21.3	21.7	20.2	20.7	20.7	21.2	21.6
	6H	20.7	21.1	21.2	21.6	22.0	20.5	20.8	21.0	21.3	21.8
	8H	20.7	21.1	21.3	21.6	22.1	20.5	20.8	21.0	21.4	21.9
	12H	20.8	21.1	21.3	21.6	22.1	20.5	20.8	21.0	21.3	21.9
12H	4H	20.3	20.7	20.8	21.2	21.7	20.2	20.6	20.7	21.1	21.6
	6H	20.6	21.0	21.2	21.5	22.0	20.4	20.8	21.0	21.2	21.8
	8H	20.8	21.0	21.3	21.5	22.1	20.5	20.8	21.0	21.3	21.9

Corrected UGR values based on total output lumens

SHR = 1.0