Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03RMx xx DWDD1014 DLFLGPMW

Nom 3" diam Infinium, dim to warm 15L emitter - Flood optic, No lens

Test Number

SP-00942_3_M-15L

Test Date

5/1/2019

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

Summary of Results

Power

Input Watts	17.2 W

Lumen Output

Output Lumens	1056
Efficacy	61.42 lm/W

Luminous Dimensions

0° - 180° Size	-0.22
90° - 270° Size	-0.22
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.55
Two luminaires, plane 90°	0.56
Four luminaires	0.6

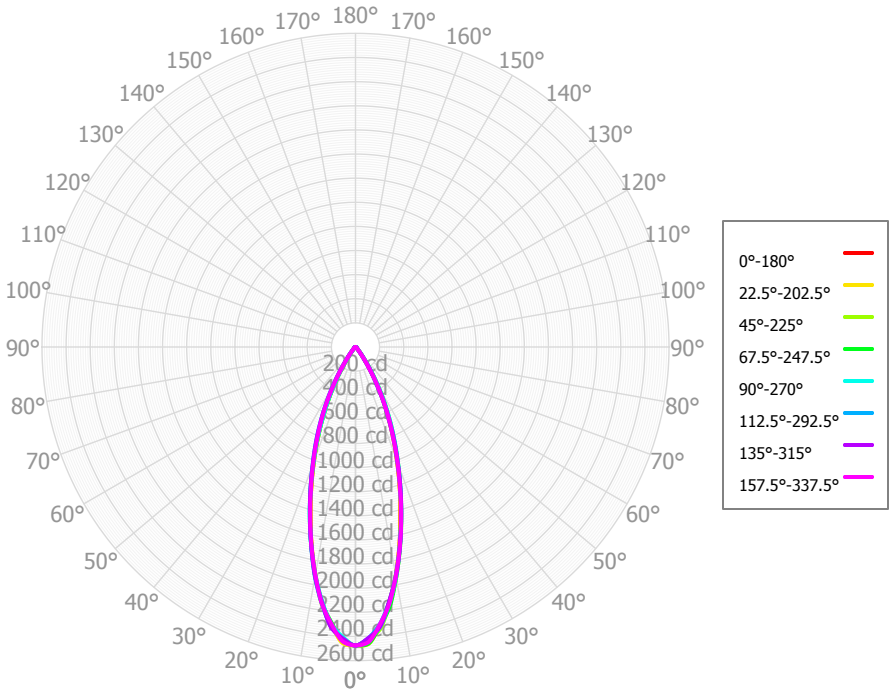
Full Beam Angle

0° - 180°	35°
90° - 270°	35°

IES File Header Contents

Keyword	Value
TEST	SP-00942_3_M-15L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	5/1/2019
ISSUEDATE	11/14/2019
LUMCAT	IF03RMx xx DWDD1014 DLFLGPMW
LUMINAIRE	Nom 3" diam Infinium, dim to warm 15L emitter - Flood optic, No lens
OTHER	Beam Angle: 34.6 degrees
LAMPCAT	N/A
LAMP	N/A
OTHER	CCT Output Multipliers: N/A - dim to warm
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	210.77	19.95%	90.00° - 100.00°	0.07	0.01%
10.00° - 20.00°	398.96	37.76%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	297.47	28.16%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	97.08	9.19%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	21.01	1.99%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	12.97	1.23%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	10.73	1.02%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	5.96	0.56%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.39	0.13%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1,056.35	99.99%	0.00° - 180.00°	1,056.42	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°	2,475.15	2,475.15	2,475.15	2,475.15	2,475.15	2,475.15	2,475.15	2,475.15	2,475.15	2,475.15	2,475.15	2,475.15	2,475.15	2,475.15	2,475.15	2,475.15	2,475.15
2.50°	2,424.05	2,465.31	2,427.73	2,462.58	2,421.46	2,427.17	2,419.23	2,444.21	2,420.51	2,458.00	2,415.49	2,441.17	2,408.12	2,418.93	2,417.06	2,450.38	2,424.05
5.00°	2,335.48	2,316.04	2,347.66	2,320.20	2,333.01	2,325.37	2,333.34	2,303.22	2,328.39	2,305.79	2,326.81	2,293.46	2,308.40	2,308.75	2,330.81	2,309.83	2,335.48
7.50°	2,135.04	2,159.04	2,149.28	2,172.95	2,143.89	2,145.41	2,134.45	2,144.67	2,132.84	2,149.22	2,129.24	2,141.77	2,125.32	2,135.09	2,132.34	2,148.75	2,135.04
10.00°	1,925.94	1,922.34	1,943.13	1,939.33	1,938.10	1,936.25	1,931.01	1,917.32	1,928.45	1,916.08	1,925.67	1,916.81	1,919.53	1,923.60	1,931.85	1,926.67	1,925.94
12.50°	1,682.57	1,685.50	1,696.28	1,705.38	1,696.72	1,695.23	1,692.26	1,687.94	1,682.91	1,682.83	1,690.43	1,691.44	1,693.24	1,696.45	1,698.07	1,697.92	1,682.57
15.00°	1,438.06	1,447.72	1,454.25	1,467.67	1,461.94	1,463.01	1,457.14	1,452.16	1,442.27	1,447.55	1,454.69	1,461.89	1,462.56	1,461.37	1,464.92	1,461.67	1,438.06
17.50°	1,221.13	1,215.72	1,232.18	1,234.50	1,239.05	1,239.05	1,242.37	1,226.34	1,220.44	1,214.79	1,232.15	1,234.62	1,239.06	1,239.14	1,242.10	1,224.88	1,221.13
20.00°	1,005.27	1,013.34	1,018.88	1,034.29	1,031.99	1,038.96	1,034.11	1,026.40	1,008.10	1,009.65	1,011.33	1,023.11	1,016.79	1,022.58	1,022.58	1,020.90	1,005.27
22.50°	820.75	818.01	834.67	839.66	850.04	858.77	855.18	837.30	825.23	808.69	821.61	816.86	823.33	828.25	834.33	818.20	820.75
25.00°	638.43	652.18	659.21	674.72	677.67	689.01	680.68	672.55	648.81	638.11	634.50	639.01	633.42	642.10	649.90	651.09	638.43
27.50°	485.26	492.28	507.53	514.45	518.32	526.73	521.95	512.50	488.91	472.43	476.36	468.73	476.41	481.60	490.41	485.02	485.26
30.00°	336.54	352.20	365.16	373.39	374.51	382.60	372.45	361.36	341.55	333.57	324.28	330.03	321.96	328.82	338.73	346.21	336.54
32.50°	224.61	226.71	244.61	244.59	248.84	249.57	249.72	234.44	221.90	206.71	216.63	206.24	220.84	221.64	227.28	212.20	224.61
35.00°	122.35	141.11	145.56	157.88	154.73	159.31	147.09	146.58	127.79	131.45	119.18	132.19	122.05	125.68	128.95	138.45	122.35
37.50°	78.80	73.67	88.92	86.09	93.29	92.04	94.55	83.11	81.36	68.45	76.41	71.39	81.99	79.98	83.10	70.51	78.80
40.00°	41.23	49.01	48.38	56.11	54.32	56.69	53.88	54.31	47.73	47.40	39.82	48.15	43.18	44.13	45.21	49.03	41.23
42.50°	31.81	30.69	34.83	32.97	35.38	35.82	38.03	34.72	34.44	30.51	30.01	29.93	33.00	31.61	32.87	29.78	31.81
45.00°	23.56	24.93	25.04	25.83	24.90	26.29	26.03	26.38	24.76	25.24	21.94	23.53	23.29	22.47	23.03	24.11	23.56
47.50°	19.62	20.32	20.82	20.38	20.91	21.07	20.84	20.64	20.17	20.53	19.84	18.63	20.21	18.99	20.02	19.08	19.62
50.00°	16.40	17.62	17.76	18.39	18.28	17.86	17.09	17.63	16.88	17.19	17.78	16.68	17.26	16.06	17.15	16.98	16.40
52.50°	15.29	15.43	16.18	16.60	16.57	15.30	15.53	15.38	15.18	14.69	15.82	15.14	15.50	15.03	14.63	15.06	15.29
55.00°	14.38	13.97	14.98	15.12	15.52	14.33	14.17	13.85	13.97	13.92	14.14	14.29	13.99	14.12	12.76	13.80	14.38
57.50°	13.99	12.73	14.19	14.21	14.85	13.78	13.05	12.84	13.28	13.13	13.15	13.25	13.96	13.19	12.17	12.66	13.99
60.00°	13.25	11.77	13.22	14.11	14.46	13.41	12.35	12.24	12.68	12.32	12.07	11.91	13.56	12.24	11.49	11.90	13.25
62.50°	11.72	11.16	12.09	13.81	14.19	13.08	12.14	11.58	12.19	11.57	10.83	10.84	11.41	10.25	10.66	11.20	11.72
65.00°	10.46	10.94	11.35	13.25	13.22	12.13	11.40	10.87	11.52	10.94	9.71	10.10	9.62	8.39	9.76	10.64	10.46
67.50°	9.66	10.06	10.94	12.18	11.96	11.09	10.16	9.52	10.74	9.85	8.80	9.05	9.05	8.20	8.75	9.74	9.66
70.00°	8.62	8.60	10.20	10.59	10.20	9.20	8.81	7.86	9.05	8.34	7.78	7.74	8.21	7.77	7.83	8.23	8.62
72.50°	7.29	7.23	9.28	9.23	8.32	7.45	7.40	6.73	7.11	6.69	6.68	6.36	7.00	6.60	6.99	6.78	7.29
75.00°	5.60	5.85	7.08	7.89	6.50	6.13	5.55	5.40	5.25	5.02	4.96	4.91	5.27	5.16	5.52	5.39	5.60
77.50°	3.80	3.64	4.89	5.19	4.89	4.71	3.93	3.68	3.82	3.37	3.46	3.28	3.75	3.58	3.93	3.62	3.80
80.00°	2.13	2.11	3.11	3.20	3.38	3.07	2.52	2.38	2.73	2.57	2.22	2.36	2.87	2.38	2.42	2.17	2.13
82.50°	1.40	1.24	1.97	1.80	1.20	1.40	1.30	1.41	1.74	1.26	1.36	1.44	0.98	1.56	1.65	1.22	1.40
85.00°	0.95	0.86	1.36	0.99	1.27	1.03	0.99	1.17	0.91	1.09	1.06	1.11	1.31	1.24	1.05	0.86	0.95
87.50°	0.86	0.96	1.02	1.28	1.18	1.32	1.15	0.83	0.84	1.09	0.99	1.05	1.23	1.04	0.70	1.09	0.86
90.00°	0.80	1.02	1.24	1.28	1.13	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.80	1.09	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	1,258	1,258	1,258	1,258	1,228	1,228	1,228	1,228	1,174	1,174	1,174	1,124	1,124	1,124	1,078	1,078	1,078	1,056
	1	1,205	1,178	1,154	1,132	1,179	1,155	1,134	1,114	1,113	1,096	1,080	1,074	1,060	1,048	1,038	1,027	1,018	1,007
	2	1,153	1,107	1,069	1,037	1,131	1,089	1,054	1,025	1,055	1,027	1,003	1,024	1,001	981	996	977	961	958
	3	1,105	1,045	998	961	1,085	1,030	988	953	1,003	968	938	978	949	924	955	931	910	913
	4	1,059	989	938	899	1,041	978	930	894	956	915	883	935	901	873	916	887	863	871
RCR	5	1,016	940	886	846	1,000	930	880	843	912	869	835	895	858	828	880	847	821	832
	6	976	895	840	801	962	887	836	798	872	827	793	858	818	788	845	810	783	796
	7	938	854	799	761	926	847	796	759	835	789	755	823	782	751	812	775	747	763
	8	903	817	762	725	891	811	759	723	800	754	721	790	748	718	781	743	715	732
	9	870	782	729	693	859	777	726	691	768	722	689	760	717	687	752	713	685	703
	10	838	751	698	663	829	747	696	662	739	692	661	731	689	659	724	685	657	676

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	81.8 fc	3.4 ft
6.5 ft	58.6 fc	4.1 ft
7.5 ft	44.0 fc	4.7 ft
8.0 ft	38.7 fc	5.0 ft
10.0 ft	24.8 fc	6.2 ft
12.0 ft	17.2 fc	7.5 ft
14.0 ft	12.6 fc	8.7 ft
16.0 ft	9.7 fc	10.0 ft
20.0 ft	6.2 fc	12.5 ft
24.0 ft	4.3 fc	15.0 ft
28.0 ft	3.2 fc	17.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	700,867	700,867	700,867
45.00°	9,433	10,028	9,972
55.00°	7,099	7,394	7,662
65.00°	7,007	7,603	8,860
75.00°	6,125	7,743	7,110
85.00°	3,097	4,417	4,131

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	9.8	10.8	10.2	11.1	11.4	10.2	11.2	10.6	11.5	11.8
	3H	12.0	12.9	12.4	13.2	13.6	12.4	13.2	12.8	13.6	13.9
	4H	12.7	13.5	13.1	13.8	14.2	13.0	13.8	13.4	14.2	14.6
	6H	12.9	13.6	13.4	14.0	14.4	13.4	14.1	13.8	14.5	14.9
	8H	13.0	13.6	13.4	14.0	14.4	13.4	14.1	13.8	14.5	14.9
	12H	12.9	13.6	13.4	14.0	14.4	13.4	14.0	13.8	14.4	14.9
4H	2H	10.5	11.3	10.9	11.6	12.0	10.8	11.6	11.2	11.9	12.3
	3H	12.9	13.5	13.3	13.9	14.3	13.1	13.7	13.5	14.1	14.5
	4H	13.6	14.2	14.0	14.6	15.1	13.8	14.4	14.3	14.8	15.3
	6H	13.9	14.4	14.4	14.8	15.3	14.2	14.7	14.7	15.2	15.6
	8H	13.9	14.4	14.4	14.8	15.3	14.3	14.7	14.7	15.2	15.6
	12H	13.9	14.3	14.4	14.8	15.3	14.3	14.7	14.8	15.2	15.6
8H	4H	13.9	14.3	14.4	14.8	15.3	14.0	14.4	14.4	14.9	15.3
	6H	14.2	14.6	14.7	15.1	15.6	14.4	14.8	15.0	15.3	15.8
	8H	14.3	14.6	14.8	15.1	15.6	14.5	14.8	15.0	15.3	15.8
	12H	14.3	14.6	14.8	15.1	15.7	14.6	14.9	15.1	15.4	15.9
12H	4H	13.9	14.2	14.3	14.7	15.2	13.9	14.3	14.4	14.8	15.3
	6H	14.2	14.5	14.8	15.0	15.6	14.4	14.7	15.0	15.2	15.8
	8H	14.3	14.6	14.8	15.1	15.7	14.5	14.8	15.0	15.3	15.9

Corrected UGR values based on total output lumens

SHR = 1.0