Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03RMx xx 835 007 DLSPGC MW

Test Number

SP-00760_M-007L

Test Date

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

Summary of Results

Power

Input Watts	7.4 W

Lumen Output

Output Lumens	526
Efficacy	71.15 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

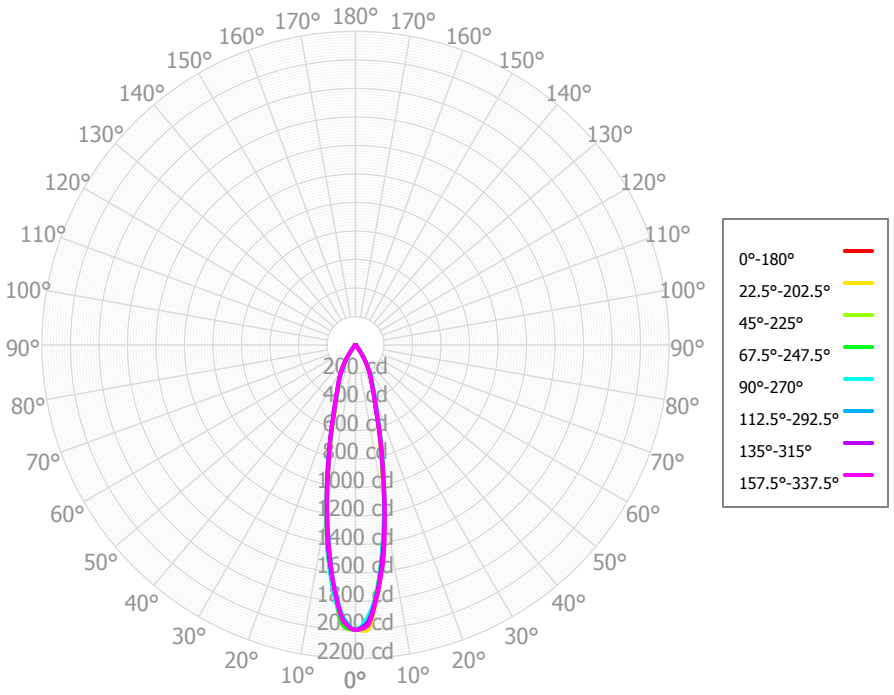
Full Beam Angle

0° - 180°	23°
90° - 270°	23°

IES File Header Contents

Keyword	Value
TEST	SP-00760_M-007L
TESTLAB	Spectrum Lighting Photometric lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/8/2019
UPDATE	2/27/2019
LUMCAT	IF03RMx xx 835 007 DLSPGC 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°	147.88	28.09%	90.00° - 100.00°	0.03	0.01%
10.00° - 20.00°	186.57	35.44%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	120.78	22.94%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	49.46	9.39%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	7.73	1.47%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	7.63	1.45%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	4.13	0.78%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	1.63	0.31%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.64	0.12%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	526.45	99.99%	0.00° - 180.00°	526.48	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°	1,998.60	1,998.60	1,998.60	1,998.60	1,998.60	1,998.60	1,998.60	1,998.60	1,998.60	1,998.60	1,998.60	1,998.60	1,998.60	1,998.60	1,998.60	1,998.60	1,998.60
2.50°	1,963.82	2,001.15	1,940.51	1,967.65	1,914.68	1,918.91	1,940.79	1,940.11	1,945.28	1,974.81	1,936.33	1,970.30	1,931.78	1,950.46	1,949.68	1,972.30	1,963.82
5.00°	1,757.43	1,750.36	1,752.13	1,724.51	1,740.95	1,706.72	1,713.67	1,714.08	1,726.54	1,717.71	1,741.49	1,734.51	1,755.55	1,744.59	1,745.55	1,757.37	1,757.43
7.50°	1,462.05	1,493.27	1,446.56	1,447.35	1,438.55	1,418.03	1,460.31	1,431.97	1,470.46	1,455.65	1,479.10	1,483.56	1,479.83	1,492.62	1,463.65	1,506.87	1,462.05
10.00°	1,160.79	1,168.35	1,153.03	1,159.67	1,153.26	1,147.32	1,166.49	1,152.73	1,162.62	1,155.88	1,162.93	1,171.92	1,163.83	1,175.11	1,169.41	1,177.66	1,160.79
12.50°	856.77	859.05	869.57	870.85	894.79	884.75	905.56	874.23	893.76	860.90	898.52	884.60	903.74	898.08	870.08	885.76	856.77
15.00°	648.54	664.59	654.83	670.41	675.54	680.32	689.14	677.11	672.46	661.65	669.84	678.08	662.96	670.95	655.79	665.49	648.54
17.50°	478.08	485.66	490.69	476.35	509.50	498.52	521.46	497.24	505.47	471.71	508.30	499.99	514.53	500.34	471.52	488.85	478.08
20.00°	379.95	393.95	385.05	391.25	388.45	396.95	411.03	402.32	396.06	385.05	387.39	400.22	392.43	391.14	373.00	384.17	379.95
22.50°	306.11	309.99	316.66	309.88	321.14	321.48	330.31	321.65	319.07	303.90	314.83	316.05	323.25	311.59	299.52	302.73	306.11
25.00°	252.81	259.85	259.66	261.13	263.55	268.08	279.91	273.30	272.40	265.52	267.41	268.08	266.52	260.05	248.83	254.88	252.81
27.50°	205.19	209.39	209.00	212.35	216.07	220.69	230.20	228.89	227.46	225.86	222.68	220.18	215.52	210.08	203.52	205.85	205.19
30.00°	153.22	157.81	158.85	163.24	169.16	173.25	181.11	179.30	183.92	178.92	179.16	172.40	165.57	161.41	154.55	155.34	153.22
32.50°	100.27	108.14	108.95	114.77	122.78	125.79	133.21	129.27	135.97	131.86	131.42	125.50	118.73	114.94	104.89	107.31	100.27
35.00°	61.59	64.13	68.80	74.97	81.87	83.70	86.27	84.14	84.86	84.22	82.08	80.11	72.31	70.06	66.02	61.99	61.59
37.50°	25.44	29.43	32.66	37.79	45.32	42.53	51.31	39.22	49.31	42.87	49.41	44.30	43.14	40.13	28.68	32.25	25.44
40.00°	15.65	17.78	17.78	23.99	24.31	25.66	24.59	23.97	23.37	24.45	22.01	22.96	15.66	19.54	17.78	17.48	15.65
42.50°	9.30	9.47	10.23	11.77	14.17	11.87	12.35	9.37	12.04	9.98	12.30	10.05	10.93	10.43	9.60	9.76	9.30
45.00°	8.12	8.32	8.26	9.59	9.73	9.63	8.70	7.62	8.45	7.54	7.28	8.15	7.51	7.58	7.81	7.91	8.12
47.50°	7.40	7.56	7.89	7.89	8.72	8.36	7.63	6.06	7.17	5.98	6.54	7.25	7.14	6.99	6.42	7.05	7.40
50.00°	8.10	7.49	8.45	8.55	8.55	8.83	7.90	7.60	6.95	6.64	6.71	7.50	6.87	7.47	6.85	6.91	8.10
52.50°	8.86	7.91	9.23	9.32	8.81	9.39	8.80	9.03	7.73	7.29	7.80	7.84	7.93	7.70	7.34	7.80	8.86
55.00°	9.34	9.09	9.91	10.51	9.74	9.59	9.96	9.52	8.89	7.94	9.06	8.25	8.89	7.82	7.80	9.33	9.34
57.50°	9.79	9.16	10.58	10.95	10.98	9.74	9.16	9.70	8.76	8.00	8.34	7.77	7.42	7.12	8.17	8.92	9.79
60.00°	8.31	7.71	8.54	8.94	9.12	7.52	7.62	7.74	8.19	6.96	7.38	6.50	5.95	6.14	6.42	7.42	8.31
62.50°	6.80	6.05	6.12	6.84	6.08	5.34	5.65	5.83	6.28	5.57	5.83	5.15	4.34	4.55	4.69	5.55	6.80
65.00°	4.51	4.15	4.52	4.48	4.00	3.71	3.55	4.20	4.02	3.63	4.24	3.73	2.90	2.78	3.24	3.51	4.51
67.50°	2.43	2.72	3.00	2.68	2.23	2.26	2.46	2.86	3.03	2.47	3.33	2.53	2.47	2.26	2.01	2.52	2.43
70.00°	1.75	1.73	2.27	2.00	1.84	1.90	1.60	2.43	2.30	2.23	2.56	1.43	2.23	1.99	1.90	1.91	1.75
72.50°	1.35	1.38	1.66	1.65	1.72	1.59	1.50	2.10	2.05	1.83	2.39	1.60	2.31	1.53	1.77	1.38	1.35
75.00°	1.42	1.30	1.42	1.59	1.29	1.37	1.38	1.88	1.80	1.42	1.97	1.79	2.02	1.24	1.63	1.08	1.42
77.50°	1.30	1.24	1.22	1.29	1.11	1.55	1.22	1.39	1.54	1.44	1.39	1.61	1.55	1.22	1.24	1.29	1.30
80.00°	1.07	1.01	1.05	1.00	1.17	1.52	1.12	1.02	1.77	1.14	0.99	1.07	0.99	0.92	0.93	0.90	1.07
82.50°	0.77	0.63	0.91	0.75	0.79	1.01	0.76	0.78	1.04	0.70	0.66	0.57	0.51	0.57	0.72	0.56	0.77
85.00°	0.57	0.33	0.65	0.54	0.54	0.42	0.53	0.49	0.55	0.39	0.39	0.51	0.58	0.42	0.39	0.49	0.57
87.50°	0.50	0.43	0.49	0.59	0.54	0.38	0.37	0.37	0.36	0.32	0.50	0.65	0.49	0.51	0.59	0.50	0.50
90.00°	0.56	0.45	0.44	0.50	0.32	0.47	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.19	0.50	0.28	0.56
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	627	627	627	627	612	612	612	612	585	585	585	560	560	560	537	537	537	526
	1	602	589	578	568	589	578	568	559	557	549	542	538	531	526	520	515	510	505
	2	578	556	538	523	567	548	531	517	531	518	506	515	505	495	501	493	485	483
	3	556	527	506	488	546	520	500	484	507	490	477	495	481	469	483	472	462	463
	4	535	502	478	459	526	496	474	457	485	466	452	475	459	446	466	453	441	444
RCR	5	515	479	454	435	507	474	451	433	465	445	430	457	440	426	450	435	423	427
	6	496	458	433	414	490	455	431	413	447	426	410	440	422	408	434	418	405	411
	7	479	440	414	396	473	437	412	395	430	409	393	425	406	391	419	402	389	396
	8	463	423	397	380	457	420	396	379	415	393	378	410	391	376	405	388	375	382
	9	448	407	382	365	443	405	381	365	400	379	364	396	377	363	392	375	362	369
	10	434	393	368	352	429	391	367	352	387	366	351	383	364	350	380	362	349	357

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	66.1 fc	2.2 ft
6.5 ft	47.3 fc	2.6 ft
7.5 ft	35.5 fc	3.0 ft
8.0 ft	31.2 fc	3.2 ft
10.0 ft	20.0 fc	4.0 ft
12.0 ft	13.9 fc	4.8 ft
14.0 ft	10.2 fc	5.6 ft
16.0 ft	7.8 fc	6.5 ft
20.0 ft	5.0 fc	8.1 ft
24.0 ft	3.5 fc	9.7 ft
28.0 ft	2.5 fc	11.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	684,771	684,771	684,771
45.00°	3,932	4,004	4,712
55.00°	5,582	5,920	5,821
65.00°	3,656	3,663	3,242
75.00°	1,878	1,886	1,706
85.00°	2,247	2,554	2,140

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	10.5	11.4	10.9	11.7	12.1	10.3	11.2	10.6	11.5	11.8
	3H	10.7	11.5	11.0	11.8	12.2	10.4	11.3	10.8	11.6	12.0
	4H	10.7	11.5	11.1	11.8	12.2	10.6	11.4	11.0	11.7	12.1
	6H	10.8	11.5	11.2	11.9	12.3	10.7	11.4	11.2	11.8	12.2
	8H	10.8	11.5	11.3	11.9	12.3	10.8	11.4	11.2	11.8	12.2
	12H	10.9	11.5	11.3	11.9	12.3	10.8	11.4	11.2	11.8	12.2
4H	2H	10.5	11.3	10.9	11.6	12.0	10.3	11.1	10.7	11.4	11.8
	3H	10.7	11.4	11.2	11.8	12.2	10.5	11.2	11.0	11.6	12.0
	4H	10.8	11.4	11.3	11.8	12.3	10.8	11.3	11.2	11.8	12.2
	6H	11.0	11.5	11.5	12.0	12.4	11.1	11.6	11.6	12.0	12.5
	8H	11.1	11.5	11.6	12.0	12.5	11.2	11.6	11.7	12.1	12.5
	12H	11.2	11.5	11.6	12.0	12.5	11.2	11.6	11.7	12.1	12.6
8H	4H	10.8	11.2	11.3	11.7	12.2	10.8	11.2	11.3	11.7	12.2
	6H	11.1	11.4	11.6	11.9	12.4	11.2	11.6	11.8	12.1	12.6
	8H	11.2	11.5	11.7	12.0	12.5	11.4	11.7	11.9	12.2	12.7
	12H	11.3	11.6	11.8	12.1	12.7	11.5	11.8	12.0	12.3	12.9
12H	4H	10.8	11.1	11.3	11.6	12.1	10.8	11.2	11.3	11.6	12.1
	6H	11.1	11.4	11.6	11.9	12.4	11.2	11.5	11.8	12.0	12.6
	8H	11.2	11.5	11.8	12.0	12.6	11.4	11.7	11.9	12.2	12.8

Corrected UGR values based on total output lumens

SHR = 1.0