

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

IF03SMx xx DWDD1007 DLWFGPMW
Nom 3" Infinium Square Downlight, 7L dim to warm 27HK emitter

Test Number

SP-00944_M-7L

Test Date

11/6/2019

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

Summary of Results

Power

Input Watts	9.3 W
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Lumen Output

Output Lumens	382
Efficacy	41.12 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.91
Two luminaires, plane 90°	0.9
Four luminaires	0.89

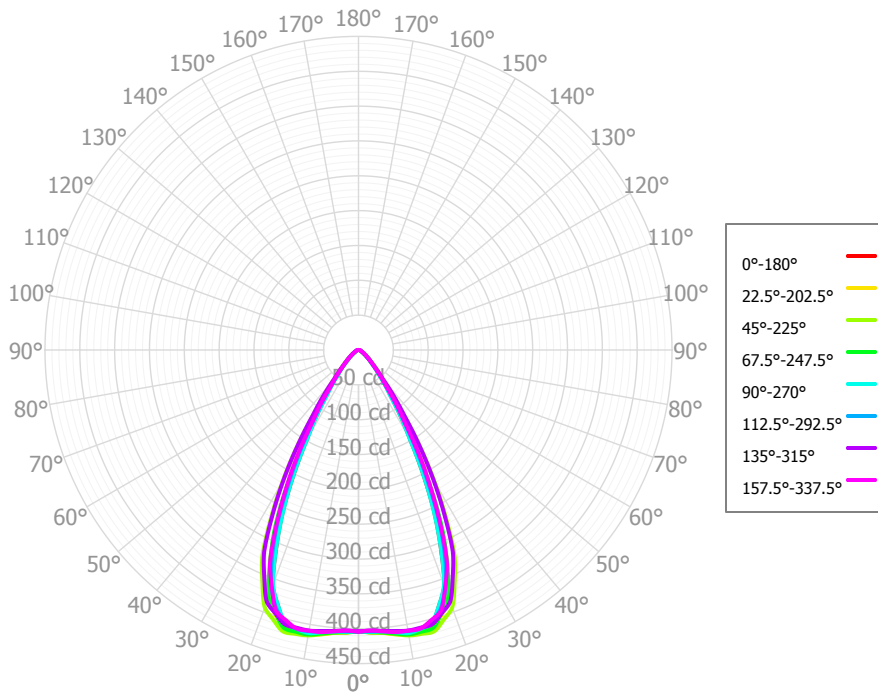
Full Beam Angle

0° - 180°	54°
90° - 270°	54°

IES File Header Contents

Keyword	Value
TEST	SP-00944_M-7L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/6/2019
ISSUEDATE	11/13/2019
LUMCAT	IF03SMx xx DWDD1007 DLWFGPMW
LUMINAIRE	Nom 3" Infinium Square Downlight, 7L dim to warm 27HK emitter
OTHER	Beam angle: 53.6 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°	39.61	10.36%	90.00° - 100.00°	0.04	0.01%
10.00° - 20.00°	113.10	29.57%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	126.51	33.08%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	61.73	16.14%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	23.10	6.04%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	10.27	2.69%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	4.89	1.28%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	2.41	0.63%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.77	0.20%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	382.40	99.99%	0.00° - 180.00°	382.44	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°	403.98	403.98	403.98	403.98	403.98	403.98	403.98	403.98	403.98	403.98	403.98	403.98	403.98	403.98	403.98	403.98	403.98
2.50°	405.61	405.35	406.24	404.84	404.92	404.12	403.10	403.25	405.61	405.35	406.24	404.84	404.92	404.12	403.10	403.25	405.61
5.00°	406.89	407.76	407.52	406.98	405.62	405.02	404.83	405.43	406.89	407.76	407.52	406.98	405.62	405.02	404.83	405.43	406.89
7.50°	409.93	411.65	411.55	410.57	408.62	407.74	406.87	408.35	409.93	411.65	411.55	410.57	408.62	407.74	406.87	408.35	409.93
10.00°	413.12	414.35	416.03	414.55	412.53	409.53	408.97	409.21	413.12	414.35	416.03	414.55	412.53	409.53	408.97	409.21	413.12
12.50°	410.33	416.50	417.28	414.22	410.07	409.84	408.48	409.55	410.33	416.50	417.28	414.22	410.07	409.84	408.48	409.55	410.33
15.00°	406.92	409.18	418.22	413.04	405.69	404.16	407.75	401.86	406.92	409.18	418.22	413.04	405.69	404.16	407.75	401.86	406.92
17.50°	384.68	398.33	406.13	396.10	384.35	390.79	396.51	392.72	384.68	398.33	406.13	396.10	384.35	390.79	396.51	392.72	384.68
20.00°	360.29	368.41	393.38	377.15	359.15	364.96	384.67	363.49	360.29	368.41	393.38	377.15	359.15	364.96	384.67	363.49	360.29
22.50°	309.48	332.93	360.55	332.06	309.49	325.81	353.36	332.01	309.48	332.93	360.55	332.06	309.49	325.81	353.36	332.01	309.48
25.00°	257.98	280.11	326.41	285.29	256.10	277.12	320.66	279.71	257.98	280.11	326.41	285.29	256.10	277.12	320.66	279.71	257.98
27.50°	201.54	223.65	272.04	226.68	201.30	220.19	267.81	226.20	201.54	223.65	272.04	226.68	201.30	220.19	267.81	226.20	201.54
30.00°	148.67	172.64	217.67	168.52	146.38	169.17	215.03	174.93	148.67	172.64	217.67	168.52	146.38	169.17	215.03	174.93	148.67
32.50°	112.88	122.37	163.27	125.84	111.70	122.27	162.75	124.71	112.88	122.37	163.27	125.84	111.70	122.27	162.75	124.71	112.88
35.00°	81.08	92.22	112.48	85.18	78.06	89.30	113.88	93.98	81.08	92.22	112.48	85.18	78.06	89.30	113.88	93.98	81.08
37.50°	62.98	63.69	80.68	64.65	61.28	64.32	82.51	64.85	62.98	63.69	80.68	64.65	61.28	64.32	82.51	64.85	62.98
40.00°	47.07	49.94	52.91	45.62	45.03	48.17	54.87	50.19	47.07	49.94	52.91	45.62	45.03	48.17	54.87	50.19	47.07
42.50°	37.05	36.72	40.13	36.00	35.84	36.02	40.75	36.60	37.05	36.72	40.13	36.00	35.84	36.02	40.75	36.60	37.05
45.00°	28.43	29.70	29.09	27.12	27.10	28.08	28.78	29.12	28.43	29.70	29.09	27.12	27.10	28.08	28.78	29.12	28.43
47.50°	22.70	22.89	22.86	21.43	21.62	21.62	22.66	22.28	22.70	22.89	22.86	21.43	21.62	21.62	22.66	22.28	22.70
50.00°	17.80	18.72	17.56	16.35	16.57	17.31	17.37	17.97	17.80	18.72	17.56	16.35	16.57	17.31	17.37	17.97	17.80
52.50°	14.26	14.72	14.34	13.22	13.60	13.59	13.90	14.06	14.26	14.72	14.34	13.22	13.60	13.59	13.90	14.06	14.26
55.00°	11.30	11.98	11.40	10.42	10.83	10.96	10.96	11.31	11.30	11.98	11.40	10.42	10.83	10.96	10.96	11.31	11.30
57.50°	9.11	9.43	8.96	8.44	8.77	8.54	8.92	8.90	9.11	9.43	8.96	8.44	8.77	8.54	8.92	8.90	9.11
60.00°	7.33	7.75	7.00	6.72	6.92	6.96	7.14	7.28	7.33	7.75	7.00	6.72	6.92	6.96	7.14	7.28	7.33
62.50°	5.99	6.23	5.72	5.50	5.67	5.47	5.74	5.91	5.99	6.23	5.72	5.50	5.67	5.47	5.74	5.91	5.99
65.00°	4.98	5.25	4.62	4.49	4.58	4.69	4.69	4.97	4.98	5.25	4.62	4.49	4.58	4.69	4.69	4.97	4.98
67.50°	4.27	4.30	3.73	3.80	3.82	3.97	4.01	4.20	4.27	4.30	3.73	3.80	3.82	3.97	4.01	4.20	4.27
70.00°	3.52	3.44	3.18	3.23	3.13	3.35	3.30	3.61	3.52	3.44	3.18	3.23	3.13	3.35	3.30	3.61	3.52
72.50°	2.74	2.89	2.83	2.75	2.51	2.75	2.58	2.98	2.74	2.89	2.83	2.75	2.51	2.75	2.58	2.98	2.74
75.00°	2.22	2.50	2.38	2.09	1.98	2.21	2.42	2.34	2.22	2.50	2.38	2.09	1.98	2.21	2.42	2.34	2.22
77.50°	1.76	1.77	1.93	1.56	1.51	1.82	2.05	1.75	1.76	1.77	1.93	1.56	1.51	1.82	2.05	1.75	1.76
80.00°	1.36	1.34	1.46	1.27	1.11	1.38	1.46	1.35	1.36	1.34	1.46	1.27	1.11	1.38	1.46	1.35	1.36
82.50°	0.97	0.92	0.92	0.88	0.89	0.91	0.84	0.93	0.97	0.92	0.92	0.88	0.89	0.91	0.84	0.93	0.97
85.00°	0.60	0.65	0.60	0.68	0.47	0.65	0.63	0.56	0.60	0.65	0.60	0.68	0.47	0.65	0.63	0.56	0.60
87.50°	0.53	0.53	0.49	0.49	0.47	0.55	0.58	0.52	0.53	0.53	0.49	0.49	0.47	0.55	0.58	0.52	0.53
90.00°	0.24	0.31	0.25	0.25	0.36	0.25	0.21	0.27	0.24	0.31	0.25	0.25	0.36	0.25	0.21	0.27	0.24
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	455	455	455	455	445	445	445	445	425	425	425	407	407	407	390	390	390	382
	1	433	422	412	403	424	414	405	397	398	391	385	384	378	373	371	367	362	359
	2	411	392	376	363	402	385	371	359	373	361	351	361	352	343	351	343	336	336
	3	390	365	345	330	382	359	341	327	349	334	322	340	327	317	331	321	312	315
	4	370	341	319	303	363	336	316	301	328	311	297	320	306	294	313	301	290	295
	5	351	319	296	279	345	315	294	278	308	290	276	302	286	273	296	282	271	277
	6	334	299	276	260	328	296	275	259	291	271	257	285	268	255	280	265	253	260
	7	317	282	258	242	312	279	257	242	274	255	240	270	252	239	265	250	238	245
	8	302	266	243	227	298	263	242	226	259	239	225	255	237	224	252	236	223	232
	9	288	251	228	213	284	249	228	213	246	226	212	242	224	211	239	223	211	219
	10	275	238	216	201	271	236	215	201	233	213	200	230	212	199	227	211	199	208

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	13.4 fc	5.6 ft
6.5 ft	9.6 fc	6.7 ft
7.5 ft	7.2 fc	7.7 ft
8.0 ft	6.3 fc	8.2 ft
10.0 ft	4.0 fc	10.3 ft
12.0 ft	2.8 fc	12.3 ft
14.0 ft	2.1 fc	14.4 ft
16.0 ft	1.6 fc	16.4 ft
20.0 ft	1.0 fc	20.5 ft
24.0 ft	0.7 fc	24.6 ft
28.0 ft	0.5 fc	28.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	169,858	169,858	169,858
45.00°	16,904	17,299	16,116
55.00°	8,282	8,358	7,940
65.00°	4,957	4,597	4,555
75.00°	3,609	3,865	3,220
85.00°	2,887	2,914	2,257

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	13.0	14.0	13.4	14.4	14.7	12.5	13.6	12.9	13.9	14.2
	3H	13.9	14.8	14.3	15.1	15.5	13.4	14.3	13.7	14.6	15.0
	4H	14.2	15.0	14.6	15.4	15.8	13.6	14.5	14.1	14.8	15.2
	6H	14.4	15.2	14.8	15.6	15.9	13.8	14.6	14.2	15.0	15.4
	8H	14.5	15.2	14.9	15.6	16.0	13.9	14.6	14.3	15.0	15.4
	12H	14.5	15.2	14.9	15.6	16.0	13.9	14.6	14.3	15.0	15.4
4H	2H	13.1	14.0	13.6	14.3	14.7	12.7	13.6	13.1	13.9	14.3
	3H	14.2	14.9	14.7	15.3	15.7	13.8	14.5	14.2	14.9	15.3
	4H	14.7	15.3	15.1	15.7	16.2	14.2	14.8	14.6	15.2	15.6
	6H	15.0	15.5	15.4	16.0	16.4	14.4	15.0	14.9	15.4	15.9
	8H	15.1	15.6	15.5	16.0	16.5	14.5	15.0	15.0	15.5	15.9
	12H	15.1	15.6	15.6	16.0	16.5	14.6	15.0	15.1	15.5	16.0
8H	4H	14.8	15.3	15.2	15.7	16.2	14.3	14.8	14.8	15.2	15.7
	6H	15.2	15.6	15.7	16.1	16.6	14.7	15.1	15.2	15.6	16.1
	8H	15.3	15.7	15.9	16.2	16.7	14.8	15.2	15.4	15.7	16.2
	12H	15.5	15.8	16.0	16.2	16.8	15.0	15.3	15.5	15.8	16.4
12H	4H	14.7	15.2	15.2	15.7	16.1	14.3	14.7	14.8	15.2	15.7
	6H	15.2	15.5	15.7	16.0	16.5	14.7	15.1	15.2	15.5	16.1
	8H	15.4	15.7	15.9	16.2	16.7	14.9	15.2	15.4	15.7	16.3

Corrected UGR values based on total output lumens

SHR = 1.0