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 DLNFGPMW

Nom 3" Infinium Square Downlight, 7L dim to warm 27HK emitter

Test Number

SP-00944_2_M-07L

Test Date

11/6/2019

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

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Summary of Results

Power

Input Watts	9.3 W

Lumen Output

Output Lumens	345
Efficacy	37.09 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.45
Two luminaires, plane 90°	0.45
Four luminaires	0.51

Full Beam Angle

0° - 180°	28°
90° - 270°	28°

IES File Header Contents

Keyword	Value
TEST	SP-00944_2_M-07L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/6/2019
ISSUEDATE	11/13/2019
LUMCAT	IF03SMx xx DWDD1007 DLNFGPMW
LUMINAIRE	Nom 3" Infinium Square Downlight, 7L dim to warm 27HK emitter
OTHER	Beam angle: 27.8 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

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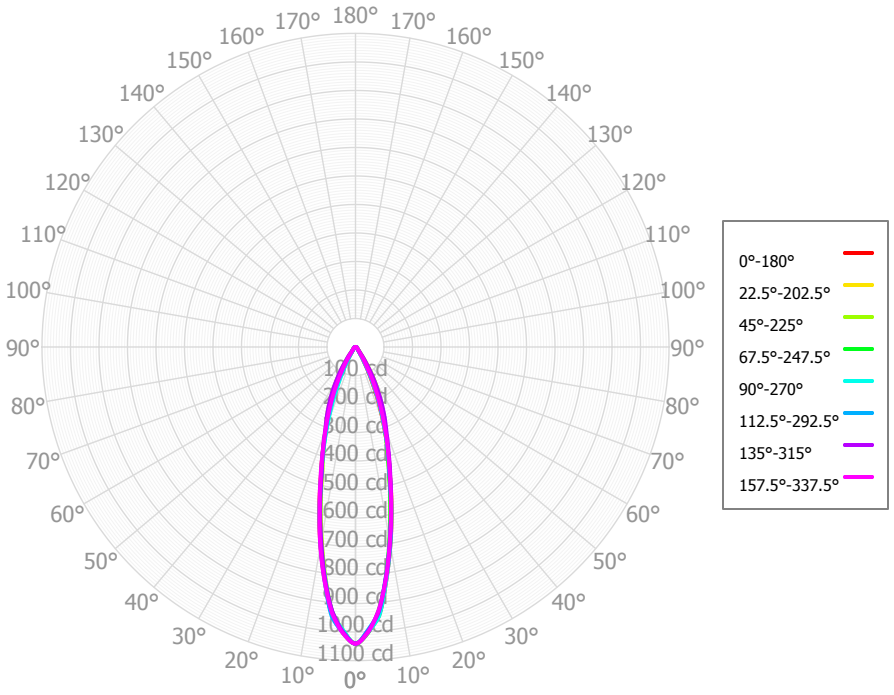
Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	81.93	23.75%	90.00° - 100.00°	0.04	0.01%
10.00° - 20.00°	128.68	37.30%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	82.00	23.77%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	25.55	7.41%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	9.12	2.64%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	6.83	1.98%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	5.89	1.71%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	3.89	1.13%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.05	0.30%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	344.95	99.99%	0.00° - 180.00°	344.98	100.00%

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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°	1,040.87	1,040.87	1,040.87	1,040.87	1,040.87	1,040.87	1,040.87	1,040.87	1,040.87	1,040.87	1,040.87	1,040.87	1,040.87	1,040.87	1,040.87	1,040.87	1,040.87
2.50°	1,000.24	1,001.66	1,001.59	1,004.45	1,001.75	1,003.05	1,001.12	1,005.85	999.23	1,003.23	996.83	1,004.00	995.26	994.46	999.17	1,002.86	1,000.24
5.00°	946.71	934.03	942.41	928.76	948.12	949.93	931.92	939.07	943.90	939.54	934.24	933.84	936.86	934.43	932.34	928.08	946.71
7.50°	825.52	820.72	817.16	818.67	825.98	828.02	820.52	829.72	825.97	822.82	812.77	823.86	818.25	815.10	816.01	820.09	825.52
10.00°	704.45	692.53	692.04	684.95	703.63	705.48	692.66	710.59	707.57	702.66	683.32	702.43	698.37	694.63	697.67	692.63	704.45
12.50°	584.56	573.62	567.29	565.00	580.24	579.93	574.31	582.44	585.59	577.26	564.86	571.92	578.61	576.63	576.69	576.12	584.56
15.00°	468.59	456.92	456.19	452.84	464.74	463.49	458.77	474.05	468.98	467.64	447.19	464.43	461.19	461.39	472.30	464.87	468.59
17.50°	377.23	371.09	374.63	369.24	376.50	378.64	380.47	380.38	379.71	377.64	375.78	371.60	371.54	377.24	386.09	377.76	377.23
20.00°	288.98	290.28	305.71	298.39	293.24	300.22	310.07	304.91	294.62	301.84	305.84	296.37	284.00	295.42	318.07	299.66	288.98
22.50°	214.66	224.46	258.44	237.72	223.42	239.24	262.06	240.31	224.61	240.53	260.70	230.07	210.50	229.06	266.19	233.82	214.66
25.00°	146.38	160.20	212.35	180.56	158.82	181.29	217.37	183.95	159.74	183.85	215.57	171.56	141.78	165.54	215.42	171.41	146.38
27.50°	97.66	113.46	167.89	130.63	105.17	129.72	173.55	131.63	108.83	130.99	170.60	116.25	94.37	114.62	165.44	122.23	97.66
30.00°	57.66	67.78	124.94	82.63	62.99	85.72	129.81	91.76	66.66	89.83	126.54	77.86	53.99	70.08	120.72	75.82	57.66
32.50°	39.18	47.86	83.73	54.78	39.93	54.32	93.85	56.62	43.50	56.46	88.16	44.76	36.80	46.20	79.11	51.58	39.18
35.00°	25.09	28.72	53.41	30.71	24.10	31.86	58.57	37.73	26.51	36.35	53.67	30.26	23.07	27.04	51.39	30.38	25.09
37.50°	19.75	22.53	33.15	22.13	18.25	21.72	40.01	23.51	20.12	23.49	35.77	19.99	18.12	19.95	30.19	22.84	19.75
40.00°	15.47	16.72	21.35	15.38	14.12	15.13	22.41	17.53	15.34	17.27	20.98	15.93	14.10	14.47	20.24	16.28	15.47
42.50°	12.88	14.03	15.89	12.84	11.90	12.48	16.84	13.34	12.79	13.91	16.27	12.88	11.90	12.20	14.37	13.82	12.88
45.00°	10.95	11.53	12.54	10.57	9.90	10.58	11.78	11.68	11.00	11.95	12.52	11.54	10.13	10.34	11.58	11.48	10.95
47.50°	9.86	10.00	10.49	9.10	8.10	9.33	10.20	10.38	10.06	10.44	11.10	10.37	9.04	9.09	9.66	10.39	9.86
50.00°	8.78	8.59	9.19	7.67	7.20	8.27	8.85	9.26	9.40	9.71	9.97	9.31	8.12	8.22	8.66	9.34	8.78
52.50°	7.71	7.67	8.26	6.95	6.97	7.34	8.50	8.16	8.97	9.18	9.38	8.27	7.41	7.82	7.85	8.74	7.71
55.00°	7.11	7.07	7.68	6.30	6.60	6.93	8.12	7.87	8.28	8.61	8.80	7.77	6.85	7.35	7.53	8.09	7.11
57.50°	6.90	7.37	7.22	6.34	6.13	6.82	7.65	7.60	7.41	8.04	8.24	7.27	6.44	6.79	7.27	7.15	6.90
60.00°	6.67	7.48	6.97	6.34	5.87	6.32	7.13	7.26	6.79	7.49	7.57	6.88	6.21	6.26	6.59	6.36	6.67
62.50°	6.43	7.20	6.77	6.16	5.71	5.63	6.53	6.89	6.35	6.94	6.76	6.45	6.14	5.75	5.89	6.19	6.43
65.00°	6.21	6.80	6.39	5.92	5.39	5.46	5.98	6.20	5.95	6.77	6.13	5.74	5.66	5.34	5.44	6.04	6.21
67.50°	6.00	6.22	5.98	5.46	5.00	5.49	5.55	5.59	5.59	6.55	5.69	5.13	4.92	5.01	5.00	5.88	6.00
70.00°	5.40	5.73	5.32	4.98	4.48	4.78	4.91	5.39	5.04	5.53	5.01	4.80	4.19	4.63	4.62	5.60	5.40
72.50°	4.66	5.34	4.67	4.43	3.89	3.95	4.08	4.92	4.43	4.78	4.22	4.29	3.46	4.19	4.25	5.10	4.66
75.00°	3.86	4.34	4.15	3.89	2.99	3.19	3.82	4.14	3.70	4.48	4.00	3.59	2.75	3.28	3.86	4.19	3.86
77.50°	2.99	3.25	3.61	3.26	2.47	2.71	3.24	3.27	2.98	3.33	3.29	2.85	2.23	2.54	2.87	3.07	2.99
80.00°	2.06	2.28	2.87	2.23	2.14	2.21	2.03	2.47	2.22	2.40	2.25	2.21	1.75	1.92	1.82	1.79	2.06
82.50°	1.27	1.42	1.57	1.55	1.32	1.09	1.19	1.71	1.37	1.83	1.44	1.52	1.05	1.20	1.04	1.21	1.27
85.00°	0.68	0.50	0.65	0.73	0.65	0.81	0.64	0.91	0.69	1.08	0.78	0.78	0.72	0.61	0.51	0.64	0.68
87.50°	0.50	0.54	0.54	0.62	0.66	0.45	0.48	0.52	0.58	0.70	0.65	0.77	0.56	0.48	0.42	0.53	0.50
90.00°	0.59	0.48	0.55	0.65	0.58	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.59
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

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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	411	411	411	411	401	401	401	401	383	383	383	367	367	367	352	352	352	345
	1	393	384	376	368	384	376	369	363	362	357	351	350	345	341	338	334	331	328
	2	376	360	348	337	368	355	343	333	343	334	326	333	326	319	324	318	312	312
	3	360	340	325	312	353	335	321	310	327	315	305	318	309	300	311	303	296	297
	4	345	322	306	293	340	319	303	291	311	298	288	305	293	284	299	289	281	284
RCR	5	332	307	289	276	327	304	287	275	298	284	273	292	280	270	287	277	268	272
	6	319	293	275	262	315	290	273	261	285	271	260	281	268	258	276	265	256	261
	7	307	280	262	250	303	278	261	249	274	259	248	270	257	247	266	255	246	250
	8	296	269	251	239	293	267	250	239	263	248	238	260	247	237	257	245	236	241
	9	286	258	241	229	283	257	240	229	254	239	228	251	237	227	248	236	227	232
	10	277	248	232	220	274	247	231	220	245	230	220	242	229	219	240	227	218	224

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	34.4 fc	2.7 ft
6.5 ft	24.6 fc	3.2 ft
7.5 ft	18.5 fc	3.7 ft
8.0 ft	16.3 fc	4.0 ft
10.0 ft	10.4 fc	4.9 ft
12.0 ft	7.2 fc	5.9 ft
14.0 ft	5.3 fc	6.9 ft
16.0 ft	4.1 fc	7.9 ft
20.0 ft	2.6 fc	9.9 ft
24.0 ft	1.8 fc	11.9 ft
28.0 ft	1.3 fc	13.8 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	437,648	437,648	437,648
45.00°	6,512	7,454	5,886
55.00°	5,210	5,628	4,837
65.00°	6,174	6,360	5,362
75.00°	6,274	6,746	4,858
85.00°	3,303	3,152	3,154

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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	11.8	12.8	12.2	13.1	13.4	11.5	12.5	11.9	12.8	13.2
	3H	14.4	15.3	14.8	15.7	16.0	13.7	14.6	14.1	14.9	15.3
	4H	15.4	16.2	15.8	16.6	17.0	14.4	15.2	14.8	15.6	15.9
	6H	15.9	16.7	16.3	17.0	17.4	14.9	15.7	15.3	16.0	16.4
	8H	16.0	16.7	16.5	17.1	17.5	15.1	15.8	15.5	16.1	16.6
	12H	16.1	16.7	16.5	17.1	17.5	15.1	15.8	15.5	16.2	16.6
4H	2H	12.5	13.3	12.9	13.7	14.1	12.3	13.1	12.7	13.5	13.9
	3H	15.3	16.0	15.8	16.4	16.8	14.6	15.3	15.1	15.7	16.1
	4H	16.4	17.0	16.9	17.5	17.9	15.5	16.1	15.9	16.5	17.0
	6H	17.1	17.6	17.5	18.0	18.5	16.1	16.7	16.6	17.1	17.6
	8H	17.2	17.7	17.7	18.1	18.6	16.3	16.8	16.8	17.2	17.7
	12H	17.2	17.6	17.7	18.1	18.6	16.4	16.8	16.9	17.3	17.8
8H	4H	16.7	17.2	17.2	17.7	18.2	15.9	16.4	16.4	16.8	17.3
	6H	17.5	17.9	18.0	18.4	18.8	16.7	17.1	17.2	17.6	18.1
	8H	17.7	18.0	18.2	18.5	19.0	16.9	17.3	17.5	17.8	18.3
	12H	17.7	18.0	18.3	18.5	19.1	17.1	17.4	17.6	17.9	18.5
12H	4H	16.7	17.2	17.2	17.6	18.1	15.9	16.4	16.4	16.8	17.3
	6H	17.5	17.8	18.0	18.3	18.9	16.8	17.1	17.3	17.6	18.1
	8H	17.7	18.0	18.2	18.5	19.1	17.0	17.3	17.6	17.8	18.4

Corrected UGR values based on total output lumens

SHR = 1.0

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