

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

IF03SMx IC DWDD1010 WWWFLWMW

Nom 3" square recessed Infinium wall wash luminaire with 10L 27HK dim to warm emitter

### **Test Number**

SP-00950\_M-10L

### **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	332
Efficacy	35.65 lm/W

#### Luminous Dimensions

0° - 180° Size	0.13
90° - 270° Size	0.13
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	1.53
Two luminaires, plane 90°	0.71
Four luminaires	1.09

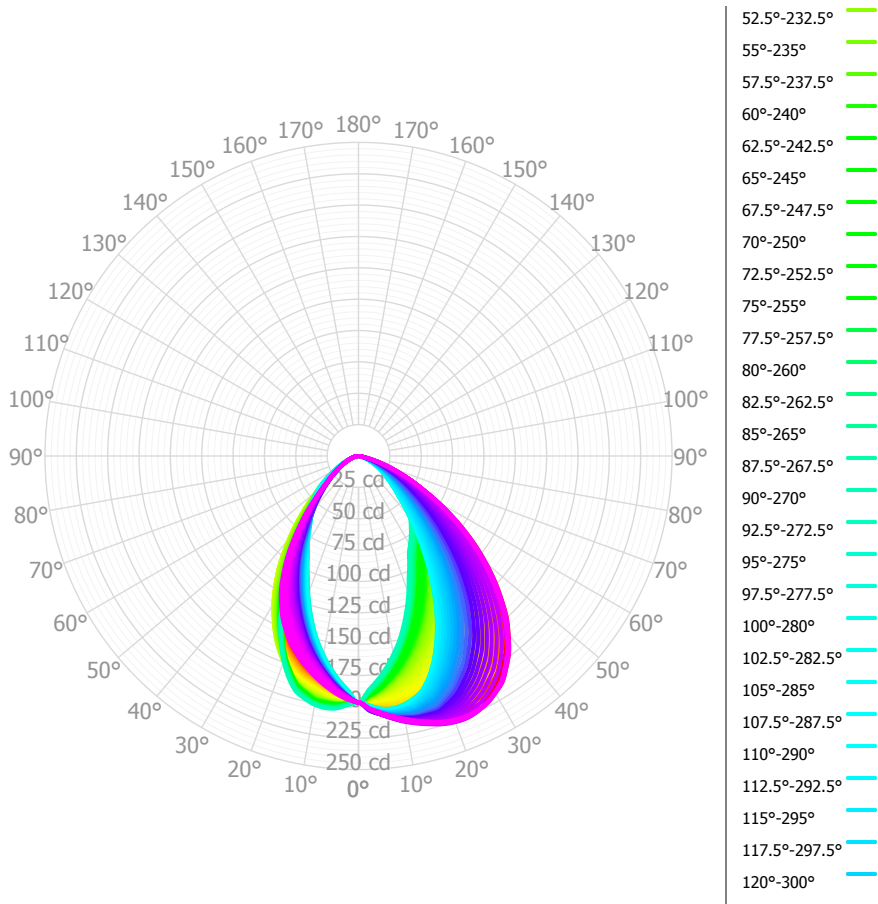
#### Full Beam Angle

0° - 180°	86°
90° - 270°	51°

### IES File Header Contents

Keyword	Value
TEST	SP-00950_M-10L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/6/2019
ISSUEDATE	12/2/2019
LUMCAT	IF03SMx IC DWDD1010 WWWFLWMW
LUMINAIRE	Nom 3" square recessed Infinium wall wash luminaire with 10L 27HK dim to warm emitter
OTHER	Wide Flood Optic
OTHER	Beam Angle: 86 deg x 128 deg
LAMPCAT	N/A
LAMP	N/A
OTHER	CCT Output Multipliers: N/A, dim to warm emitter
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°	18.69	5.64%	90.00° - 100.00°	0.04	0.01%
10.00° - 20.00°	50.69	15.29%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	69.51	20.97%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	70.54	21.27%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	56.94	17.17%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	37.85	11.41%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	19.62	5.92%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	6.63	2.00%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.09	0.33%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	331.56	100.00%	0.00° - 180.00°	331.56	100.00%

	0.00°	2.50°	5.00°	7.50°	10.00°	12.50°	15.00°	17.50°	20.00°	22.50°	25.00°	27.50°	30.00°	32.50°	35.00°	37.50°	40.00°	42.50°	45.00°	47.50°	50.00°
0.00°	196.46	196.46	196.46	196.46	196.46	196.46	196.46	196.46	196.46	196.46	196.46	196.46	196.46	196.46	196.46	196.46	196.46	196.46	196.46	196.46	196.46
2.50°	201.51	201.06	200.62	200.18	199.74	199.30	198.86	198.41	197.97	197.53	197.14	196.75	196.36	195.96	195.57	195.18	194.79	194.39	194.00	193.64	193.28
5.00°	205.07	204.34	203.60	202.86	202.13	201.39	200.65	199.92	199.18	198.44	197.63	196.82	196.01	195.20	194.38	193.57	192.76	191.95	191.14	190.53	189.92
7.50°	208.85	207.88	206.91	205.94	204.97	204.00	203.03	202.06	201.09	200.12	198.78	197.43	196.09	194.75	193.40	192.06	190.72	189.37	188.03	186.95	185.87
10.00°	212.46	211.18	209.90	208.63	207.35	206.07	204.80	203.52	202.24	200.96	199.08	197.20	195.32	193.45	191.57	189.69	187.81	185.93	184.05	182.56	181.07
12.50°	215.95	214.28	212.61	210.94	209.28	207.61	205.94	204.27	202.60	200.93	198.60	196.27	193.93	191.60	189.27	186.93	184.60	182.27	179.94	177.95	175.96
15.00°	219.05	217.03	215.01	213.00	210.98	208.97	206.95	204.94	202.92	200.90	197.94	194.98	192.02	189.06	186.10	183.14	180.17	177.21	174.25	171.90	169.54
17.50°	221.90	219.57	217.23	214.90	212.56	210.23	207.89	205.56	203.22	200.88	197.28	193.68	190.07	186.47	182.86	179.26	175.65	172.05	168.45	165.65	162.86
20.00°	223.45	220.78	218.11	215.44	212.77	210.10	207.43	204.76	202.09	199.42	195.24	191.06	186.88	182.70	178.52	174.33	170.15	165.97	161.79	158.64	155.45
22.50°	224.42	221.38	218.34	215.30	212.26	209.22	206.18	203.14	200.09	197.05	192.38	187.71	183.04	178.37	173.70	169.03	164.36	159.69	155.02	151.50	147.98
25.00°	223.65	220.26	216.88	213.50	210.12	206.73	203.35	199.97	196.59	193.20	188.02	182.84	177.65	172.47	167.29	162.10	156.92	151.74	146.55	142.88	139.20
27.50°	222.29	218.55	214.82	211.08	207.34	203.61	199.87	196.13	192.39	188.66	183.02	177.37	171.73	166.09	160.45	154.81	149.16	143.52	137.88	134.11	130.33
30.00°	218.30	214.32	210.34	206.36	202.37	198.39	194.41	190.43	186.45	182.46	176.38	170.29	164.21	158.12	152.04	145.96	139.87	133.79	127.70	124.19	120.68
32.50°	213.72	209.50	205.27	201.05	196.82	192.60	188.38	184.15	179.93	175.71	169.25	162.80	156.34	149.89	143.44	136.98	130.53	124.07	117.62	114.54	111.46
35.00°	205.74	201.49	197.25	193.00	188.76	184.51	180.26	176.02	171.77	167.53	160.91	154.29	147.67	141.05	134.43	127.81	121.19	114.57	107.95	105.36	102.78
37.50°	197.30	193.04	188.79	184.54	180.28	176.03	171.77	167.52	163.26	159.01	152.31	145.61	138.91	132.21	125.51	118.81	112.11	105.40	98.70	96.64	94.58
40.00°	186.28	182.08	177.89	173.69	169.49	165.29	161.09	156.89	152.69	148.50	142.08	135.66	129.25	122.83	116.41	110.00	103.58	97.16	90.75	88.99	87.23
42.50°	175.09	170.93	166.78	162.62	158.47	154.31	150.15	146.00	141.84	137.69	131.61	125.54	119.47	113.40	107.32	101.25	95.18	89.11	83.03	81.52	80.00
45.00°	161.27	157.35	153.42	149.50	145.57	141.65	137.72	133.80	129.87	125.95	120.39	114.82	109.26	103.69	98.13	92.56	87.00	81.44	75.87	74.53	73.19
47.50°	147.39	143.70	140.01	136.31	132.62	128.93	125.23	121.54	117.85	114.15	109.09	104.03	98.96	93.90	88.84	83.78	78.71	73.65	68.59	67.44	66.29
50.00°	132.72	129.31	125.89	122.47	119.05	115.64	112.22	108.80	105.38	101.97	97.43	92.89	88.35	83.80	79.26	74.72	70.18	65.64	61.10	60.12	59.15
52.50°	117.98	114.84	111.71	108.58	105.45	102.32	99.19	96.05	92.92	89.79	85.82	81.86	77.89	73.92	69.96	65.99	62.02	58.05	54.09	53.21	52.34
55.00°	102.71	99.94	97.17	94.40	91.63	88.86	86.10	83.33	80.56	77.79	74.44	71.10	67.75	64.40	61.05	57.71	54.36	51.01	47.67	46.82	45.96
57.50°	87.51	85.10	82.70	80.30	77.90	75.50	73.10	70.70	68.29	65.89	63.16	60.42	57.69	54.95	52.22	49.48	46.75	44.01	41.28	40.44	39.60
60.00°	72.55	70.56	68.58	66.60	64.62	62.64	60.66	58.68	56.70	54.72	52.52	50.32	48.12	45.92	43.72	41.52	39.32	37.12	34.92	34.18	33.43
62.50°	58.51	56.91	55.30	53.70	52.09	50.49	48.88	47.28	45.67	44.07	42.35	40.63	38.91	37.19	35.47	33.75	32.03	30.31	28.59	27.96	27.32
65.00°	47.04	45.77	44.51	43.24	41.97	40.70	39.43	38.17	36.90	35.63	34.15	32.67	31.19	29.71	28.22	26.74	25.26	23.78	22.30	21.91	21.52
67.50°	36.50	35.50	34.51	33.52	32.53	31.53	30.54	29.55	28.56	27.56	26.39	25.22	24.05	22.88	21.72	20.55	19.38	18.21	17.04	16.79	16.54
70.00°	27.42	26.63	25.84	25.05	24.26	23.47	22.68	21.89	21.10	20.31	19.42	18.52	17.63	16.74	15.84	14.95	14.06	13.17	12.27	12.14	12.01
72.50°	19.17	18.59	18.01	17.44	16.86	16.28	15.70	15.13	14.55	13.97	13.44	12.91	12.38	11.85	11.32	10.79	10.26	9.73	9.20	9.07	8.93
75.00°	11.54	11.19	10.83	10.48	10.13	9.77	9.42	9.06	8.71	8.36	8.15	7.94	7.73	7.52	7.31	7.10	6.90	6.69	6.48	6.39	6.30
77.50°	5.35	5.26	5.17	5.08	4.99	4.90	4.81	4.72	4.63	4.54	4.49	4.44	4.39	4.34	4.29	4.24	4.20	4.15	4.10	4.02	3.94
80.00°	2.08	2.07	2.06	2.05	2.04	2.03	2.02	2.01	2.00	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.95	1.93
82.50°	0.73	0.74	0.76	0.77	0.78	0.79	0.81	0.82	0.83	0.84	0.85	0.86	0.88	0.89	0.90	0.91	0.92	0.93	0.94	0.93	0.92
85.00°	0.48	0.50	0.52	0.54	0.56	0.58	0.60	0.62	0.64	0.66	0.65	0.64	0.63	0.62	0.61	0.60	0.59	0.58	0.57	0.58	0.59
87.50°	0.63	0.62	0.62	0.61	0.61	0.60	0.59	0.59	0.58	0.57	0.58	0.59	0.59	0.60	0.60	0.61	0.61	0.62	0.62	0.62	0.62
90.00°	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	0.00	0.00	0.00	0.00

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

<b>RCR</b>	<b>pfc</b>	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	<b>0</b>	395	395	395	395	386	386	386	386	368	368	368	353	353	353	338	338	332
	<b>1</b>	369	357	346	336	360	349	339	330	336	328	320	323	316	310	311	306	300
	<b>2</b>	342	321	303	287	334	315	298	284	303	289	278	293	281	271	283	274	266
	<b>3</b>	318	289	267	249	310	284	263	247	275	257	243	266	251	239	258	245	240
	<b>4</b>	295	262	237	219	288	257	235	217	250	230	214	242	225	212	236	221	217
	<b>5</b>	274	238	213	194	268	235	211	193	228	207	191	222	203	189	216	200	196
	<b>6</b>	256	218	192	173	250	215	190	173	209	188	171	204	185	170	199	182	179
	<b>7</b>	239	200	174	157	234	197	173	156	193	171	155	188	169	154	184	166	163
	<b>8</b>	224	185	159	142	220	182	159	142	178	157	141	174	155	140	171	153	150
	<b>9</b>	211	171	147	130	207	169	146	130	166	144	129	162	143	129	159	141	139
	<b>10</b>	199	159	135	120	195	158	135	119	154	133	119	152	132	119	149	131	129

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	6.5 fc	10.9 ft
6.5 ft	4.6 fc	12.9 ft
7.5 ft	3.5 fc	14.9 ft
8.0 ft	3.1 fc	15.8 ft
10.0 ft	2.0 fc	19.8 ft
12.0 ft	1.4 fc	23.8 ft
14.0 ft	1.0 fc	27.7 ft
16.0 ft	0.8 fc	31.7 ft
20.0 ft	0.5 fc	39.6 ft
24.0 ft	0.3 fc	47.5 ft
28.0 ft	0.3 fc	55.4 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	125,130	125,130	125,130
<b>45.00°</b>	145,264	68,340	49,094
<b>55.00°</b>	114,053	52,932	35,566
<b>65.00°</b>	70,897	33,609	21,466
<b>75.00°</b>	28,396	15,940	9,427
<b>85.00°</b>	3,484	4,136	3,953

### UGR CIE 190:2010

<b>Ceiling reflectance</b>		<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>
<b>Wall reflectance</b>		<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>
<b>Plane reflectance</b>		<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Room dimensions</b>		<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>2H</b>	<b>2H</b>	29.4	30.7	29.7	31.1	31.4	20.8	22.2	21.2	22.5	22.8
	<b>3H</b>	30.1	31.4	30.5	31.7	32.0	21.6	22.9	22.0	23.2	23.6
	<b>4H</b>	30.2	31.4	30.6	31.7	32.1	21.8	23.0	22.2	23.3	23.7
	<b>6H</b>	30.2	31.2	30.6	31.6	32.0	21.9	23.0	22.3	23.3	23.7
	<b>8H</b>	30.1	31.1	30.6	31.5	31.9	21.9	22.9	22.3	23.3	23.7
	<b>12H</b>	30.1	31.1	30.5	31.4	31.9	21.9	22.9	22.3	23.2	23.7
<b>4H</b>	<b>2H</b>	29.3	30.4	29.7	30.8	31.2	21.1	22.2	21.5	22.6	23.0
	<b>3H</b>	30.2	31.1	30.6	31.5	31.9	22.1	23.0	22.5	23.4	23.8
	<b>4H</b>	30.3	31.1	30.7	31.6	32.0	22.4	23.2	22.8	23.6	24.1
	<b>6H</b>	30.3	31.0	30.7	31.4	31.9	22.6	23.3	23.0	23.7	24.2
	<b>8H</b>	30.2	30.9	30.7	31.3	31.8	22.6	23.2	23.0	23.7	24.2
	<b>12H</b>	30.2	30.8	30.7	31.3	31.7	22.6	23.2	23.1	23.6	24.1
<b>8H</b>	<b>4H</b>	30.2	30.9	30.7	31.3	31.8	22.5	23.2	22.9	23.6	24.1
	<b>6H</b>	30.2	30.7	30.7	31.2	31.7	22.7	23.3	23.2	23.8	24.3
	<b>8H</b>	30.1	30.6	30.6	31.1	31.6	22.8	23.3	23.3	23.8	24.3
	<b>12H</b>	30.1	30.5	30.6	31.0	31.6	22.8	23.3	23.3	23.8	24.3
<b>12H</b>	<b>4H</b>	30.2	30.8	30.6	31.2	31.7	22.5	23.1	23.0	23.5	24.0
	<b>6H</b>	30.1	30.6	30.6	31.1	31.6	22.7	23.2	23.3	23.7	24.2
	<b>8H</b>	30.1	30.5	30.6	31.0	31.6	22.8	23.3	23.3	23.8	24.3

Corrected UGR values based on total output lumens

SHR = 1.0