

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

SB1016GV 15L 35K XX TF1 MWI MW  
Nom 16" diam x 10" H Subway Series /Boylston luminaire

### **Test Number**

SP-010xx

### **Test Date**

3/2/2020

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

### Summary of Results

#### Power

Input Watts	11 W
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#### Lumen Output

Output Lumens	1284
Efficacy	116.71 lm/W

#### Luminous Dimensions

0° - 180° Size	-1.33
90° - 270° Size	-1.33
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	1.26
Two luminaires, plane 90°	1.26
Four luminaires	1.4

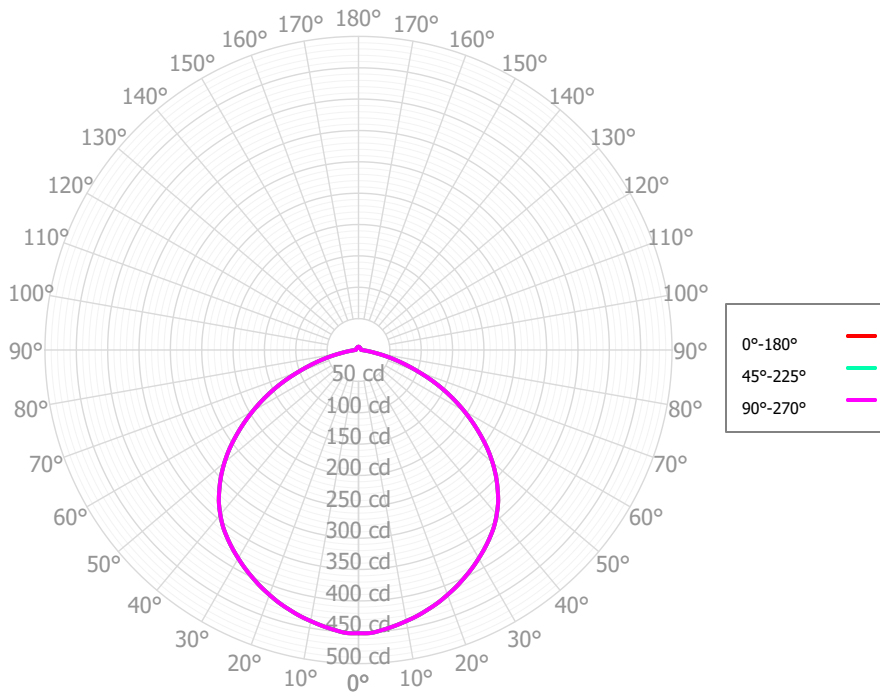
#### Full Beam Angle

0° - 180°	113°
90° - 270°	113°

### IES File Header Contents

Keyword	Value
TEST	SP-010xx
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	3/2/2020
ISSUEDATE	3/3/2020
LUMCAT	SB1016GV 15L 35K XX TF1 MWI MW
LUMINAIRE	Nom 16" diam x 10" H Subway Series /Boylston luminaire
OTHER	Beam Angle: 112 degrees
LAMPCAT	N/A
LAMP	15L/35K
OTHER	CCT Output Multipliers: 27K x 0.97, 30K x 0.99, 40K x 1.03
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°	44.23	3.44%	90.00° - 100.00°	4.60	0.36%
10.00° - 20.00°	120.90	9.41%	100.00° - 110.00°	4.38	0.34%
20.00° - 30.00°	184.63	14.37%	100.00° - 120.00°	8.48	0.66%
30.00° - 40.00°	228.35	17.77%	120.00° - 130.00°	3.67	0.29%
40.00° - 50.00°	241.44	18.79%	130.00° - 140.00°	3.16	0.25%
50.00° - 60.00°	212.37	16.53%	140.00° - 150.00°	2.49	0.19%
60.00° - 70.00°	147.11	11.45%	150.00° - 160.00°	2.01	0.16%
70.00° - 80.00°	65.66	5.11%	160.00° - 170.00°	1.26	0.10%
80.00° - 90.00°	14.16	1.10%	170.00° - 180.00°	0.46	0.04%
0.00° - 90.00°	1,258.86	97.97%	0.00° - 180.00°	1,284.99	100.00%

### Candela Distribution

	0.00°	45.00°	90.00°
0.00°	451.69	451.69	451.69
2.50°	451.69	451.69	451.69
5.00°	447.96	447.96	447.96
7.50°	443.76	443.76	443.76
10.00°	439.00	439.00	439.00
12.50°	434.20	434.20	434.20
15.00°	428.36	428.36	428.36
17.50°	422.45	422.45	422.45
20.00°	415.41	415.41	415.41
22.50°	408.28	408.28	408.28
25.00°	400.35	400.35	400.35
27.50°	392.31	392.31	392.31
30.00°	383.58	383.58	383.58
32.50°	374.71	374.71	374.71
35.00°	365.19	365.19	365.19
37.50°	355.03	355.03	355.03
40.00°	342.83	342.83	342.83
42.50°	329.59	329.59	329.59
45.00°	313.82	313.82	313.82
47.50°	297.21	297.21	297.21
50.00°	278.97	278.97	278.97
52.50°	259.52	259.52	259.52
55.00°	238.19	238.19	238.19
57.50°	216.54	216.54	216.54
60.00°	194.47	194.47	194.47
62.50°	172.09	172.09	172.09
65.00°	149.41	149.41	149.41
67.50°	126.02	126.02	126.02
70.00°	102.05	102.05	102.05
72.50°	80.55	80.55	80.55
75.00°	60.73	60.73	60.73
77.50°	43.48	43.48	43.48
80.00°	27.66	27.66	27.66
82.50°	17.88	17.88	17.88
85.00°	10.70	10.70	10.70
87.50°	7.19	7.19	7.19
90.00°	4.92	4.92	4.92
92.50°	4.29	4.29	4.29
95.00°	4.08	4.08	4.08
97.50°	4.03	4.03	4.03
100.00°	4.01	4.01	4.01
102.50°	4.09	4.09	4.09
105.00°	4.17	4.17	4.17
107.50°	4.20	4.20	4.20
110.00°	4.24	4.24	4.24
112.50°	4.15	4.15	4.15

### 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%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	1,524	1,524	1,524	1,524	1,485	1,485	1,485	1,485	1,413	1,413	1,413	1,348	1,348	1,348	1,287	1,287	1,287
	1	1,399	1,341	1,289	1,242	1,362	1,309	1,262	1,219	1,250	1,211	1,176	1,196	1,164	1,135	1,146	1,121	1,097
	2	1,275	1,173	1,089	1,018	1,239	1,147	1,069	1,004	1,097	1,032	976	1,051	998	950	1,009	965	925
	3	1,164	1,032	930	849	1,130	1,010	915	839	968	887	821	929	861	804	893	836	787
	4	1,066	915	804	720	1,034	896	793	713	860	771	700	828	751	688	797	731	676
	5	980	817	703	619	951	801	694	615	771	677	606	743	661	597	717	645	588
	6	904	735	621	540	878	721	614	536	696	601	530	672	587	523	649	575	516
	7	838	666	554	476	814	654	549	473	632	537	468	612	527	463	592	516	458
	8	780	607	499	424	758	597	494	422	578	485	418	560	476	414	543	467	410
	9	728	557	452	381	709	548	448	379	532	440	376	516	433	373	501	425	369
	10	682	513	412	345	664	506	409	344	491	402	341	478	396	338	465	390	335

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	14.9 fc	16.6 ft
6.5 ft	10.7 fc	19.6 ft
7.5 ft	8.0 fc	22.6 ft
8.0 ft	7.1 fc	24.1 ft
10.0 ft	4.5 fc	30.1 ft
12.0 ft	3.1 fc	36.2 ft
14.0 ft	2.3 fc	42.2 ft
16.0 ft	1.8 fc	48.2 ft
20.0 ft	1.1 fc	60.3 ft
24.0 ft	0.8 fc	72.3 ft
28.0 ft	0.6 fc	84.4 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	3,500	3,500	3,500
<b>45.00°</b>	3,439	3,439	3,439
<b>55.00°</b>	3,217	3,217	3,217
<b>65.00°</b>	2,739	2,739	2,739
<b>75.00°</b>	1,818	1,818	1,818
<b>85.00°</b>	951	951	951

### 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>	15.3	16.9	15.7	17.2	17.6	15.3	16.9	15.7	17.2	17.6
	<b>3H</b>	16.7	18.1	17.1	18.5	18.9	16.7	18.1	17.1	18.5	18.9
	<b>4H</b>	17.1	18.4	17.5	18.8	19.3	17.1	18.4	17.5	18.8	19.3
	<b>6H</b>	17.3	18.5	17.7	18.9	19.4	17.3	18.5	17.7	18.9	19.4
	<b>8H</b>	17.3	18.5	17.8	18.9	19.4	17.3	18.5	17.8	18.9	19.4
	<b>12H</b>	17.3	18.5	17.8	18.9	19.4	17.3	18.5	17.8	18.9	19.4
<b>4H</b>	<b>2H</b>	15.8	17.2	16.3	17.6	18.0	15.8	17.2	16.3	17.6	18.0
	<b>3H</b>	17.4	18.5	17.9	19.0	19.4	17.4	18.5	17.9	19.0	19.4
	<b>4H</b>	17.9	18.9	18.4	19.4	19.8	17.9	18.9	18.4	19.4	19.8
	<b>6H</b>	18.2	19.0	18.7	19.5	20.0	18.2	19.0	18.7	19.5	20.0
	<b>8H</b>	18.2	19.0	18.7	19.5	20.0	18.2	19.0	18.7	19.5	20.0
	<b>12H</b>	18.3	19.0	18.8	19.5	20.0	18.3	19.0	18.8	19.5	20.0
<b>8H</b>	<b>4H</b>	18.1	18.9	18.6	19.4	19.9	18.1	18.9	18.6	19.4	19.9
	<b>6H</b>	18.4	19.1	18.9	19.6	20.1	18.4	19.1	18.9	19.6	20.1
	<b>8H</b>	18.5	19.1	19.0	19.6	20.1	18.5	19.1	19.0	19.6	20.1
	<b>12H</b>	18.5	19.1	19.1	19.6	20.2	18.5	19.1	19.1	19.6	20.2
<b>12H</b>	<b>4H</b>	18.1	18.8	18.6	19.3	19.8	18.1	18.8	18.6	19.3	19.8
	<b>6H</b>	18.4	19.0	18.9	19.5	20.1	18.4	19.0	18.9	19.5	20.1
	<b>8H</b>	18.5	19.0	19.0	19.6	20.2	18.5	19.0	19.0	19.6	20.2

Corrected UGR values based on total output lumens

SHR = 1.0