

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

994 Jefferson Street  
Fall River, MA 02721  
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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

SGRTV12BX-70L35K-XW-DO101-AR12BX-SGWF  
Nom. 12" Diam x 10" H open aperture

### **Test Number**

SP-00686\_7

### **Test Date**

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

## Summary of Results

### Power

<b>Input Watts</b>	51 W
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### Lumen Output

<b>Output Lumens</b>	5490
<b>Efficacy</b>	107.65 lm/W

### Luminous Dimensions

<b>0° - 180° Size</b>	-0.97
<b>90° - 270° Size</b>	-0.97
<b>Height</b>	0

### Spacing Criterion

<b>Two luminaires, plane 0°</b>	1.06
<b>Two luminaires, plane 90°</b>	1.1
<b>Four luminaires</b>	0.99

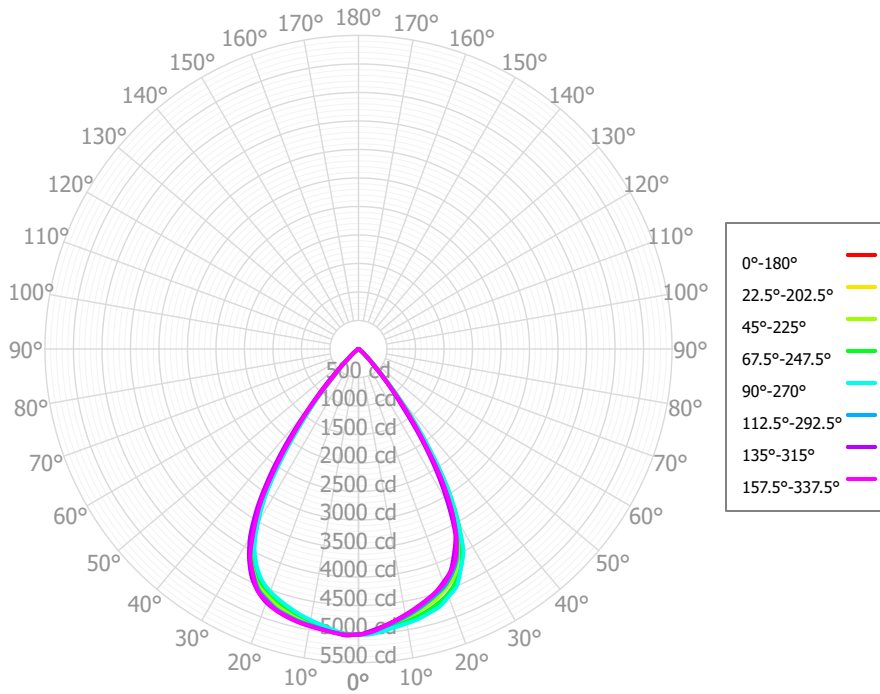
### Full Beam Angle

<b>0° - 180°</b>	68°
<b>90° - 270°</b>	68°

## IES File Header Contents

Keyword	Value
TEST	SP-00686_7
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	6/7/2018
UPDATE	6/29/2018
LUMCAT	SGRTV12BX-70L35K-XW-DO101-AR12BX-SGWF
LUMINAIRE	Nom. 12" Diam x 10" H open aperture
OTHER	Semi-diffuse clear anodized alum. reflector trim
OTHER	Deep regressed retrofit high output LED downlight
OTHER	BX Series, Xtra Wide Beam
OTHER	68.6 Deg Beam Angle
LAMPCAT	N/A
LAMP	N/A, Bridgelux Vero 29
OTHER	Dimmable driver tested at 100% output
OTHER	Tested CCT: 3500K
OTHER	CCT Output: 27K x 0.932, 30K x 1.00, 40K x 1.01
OTHER	This report prepared by Spectrum Lighting, scaled from 80L

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	475.74	8.67%	90.00° - 100.00°	0.09	0.00%
10.00° - 20.00°	1330.72	24.24%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	1904.58	34.69%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	1404.04	25.57%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	325.74	5.93%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	44.48	0.81%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	2.70	0.05%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	1.05	0.02%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.00	0.02%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	5490.04	100.00%	0.00° - 180.00°	5490.13	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°	5009.03	5009.03	5009.03	5009.03	5009.03	5009.03	5009.03	5009.03	5009.03	5009.03	5009.03	5009.03	5009.03	5009.03	5009.03	5009.03	5009.03
2.50°	4957.94	4988.42	4977.64	5005.70	5006.69	5013.65	5027.74	5015.30	5025.52	5007.03	5018.34	5001.82	5013.62	4973.99	4951.06	4971.97	4957.94
5.00°	4893.45	4915.32	4925.67	4950.99	4967.45	4990.84	4993.14	4994.19	4981.81	4974.48	4969.62	4958.26	4950.18	4905.08	4884.44	4896.29	4893.45
7.50°	4822.42	4843.50	4866.73	4900.01	4923.59	4951.46	4962.76	4958.78	4943.94	4930.28	4922.62	4903.56	4887.78	4836.62	4811.87	4820.33	4822.42
10.00°	4745.57	4774.11	4801.73	4856.89	4887.29	4917.09	4938.72	4928.08	4916.53	4889.35	4879.19	4846.71	4829.62	4768.78	4732.68	4743.94	4745.57
12.50°	4666.66	4701.15	4734.89	4806.98	4851.83	4885.05	4907.03	4899.21	4884.72	4849.51	4828.75	4789.23	4767.71	4693.94	4650.55	4662.82	4666.66
15.00°	4578.65	4622.29	4659.34	4744.83	4794.97	4836.31	4865.38	4855.40	4845.95	4798.32	4765.83	4721.44	4693.05	4610.34	4565.74	4574.89	4578.65
17.50°	4487.90	4534.43	4581.63	4670.87	4736.47	4780.95	4807.96	4806.65	4789.26	4743.99	4695.20	4651.14	4614.73	4520.89	4479.91	4481.48	4487.90
20.00°	4375.60	4433.66	4467.78	4578.16	4621.12	4684.29	4732.35	4711.25	4707.98	4647.25	4612.49	4551.78	4526.07	4425.06	4354.65	4381.10	4375.60
22.50°	4258.00	4292.11	4346.59	4440.94	4503.58	4573.56	4605.66	4603.07	4577.99	4540.79	4495.16	4446.82	4407.25	4275.91	4216.95	4234.38	4258.00
25.00°	4023.37	4098.83	4107.90	4242.15	4249.36	4363.03	4427.44	4373.16	4388.86	4320.86	4330.62	4243.23	4216.40	4075.21	3964.79	4036.02	4023.37
27.50°	3765.84	3793.44	3850.84	3932.90	3987.10	4124.28	4157.29	4115.63	4104.41	4080.44	4070.06	4024.70	3953.00	3732.82	3682.24	3718.00	3765.84
30.00°	3238.62	3363.91	3317.82	3488.44	3465.01	3692.20	3804.88	3672.86	3718.79	3617.75	3695.28	3546.23	3539.01	3270.74	3149.82	3281.73	3238.62
32.50°	2669.82	2812.44	2753.61	2929.56	2933.23	3215.69	3310.07	3197.06	3202.21	3123.92	3177.61	3039.54	3029.72	2683.02	2563.94	2714.47	2669.82
35.00°	2014.46	2141.23	2092.03	2248.31	2249.82	2567.62	2704.00	2539.51	2564.12	2457.67	2509.27	2358.24	2350.06	2001.33	1906.11	2034.06	2014.46
37.50°	1349.48	1524.49	1422.96	1604.28	1576.49	1887.63	2044.83	1856.86	1913.13	1774.52	1857.32	1664.21	1704.27	1401.27	1235.95	1426.01	1349.48
40.00°	886.75	954.51	934.13	995.55	1004.90	1263.47	1349.50	1250.92	1251.55	1197.60	1220.49	1118.40	1111.74	854.35	812.97	873.31	886.75
42.50°	439.22	571.24	452.40	582.66	483.61	647.16	835.92	652.35	767.88	627.37	749.76	577.87	657.55	514.59	421.35	521.65	439.22
45.00°	296.92	329.89	305.74	332.08	318.76	408.71	431.37	413.40	411.81	405.94	414.75	384.37	392.58	293.54	279.45	303.96	296.92
47.50°	166.13	193.28	164.15	187.75	170.49	209.11	232.82	195.03	222.21	194.90	228.24	196.24	213.92	175.73	160.03	181.58	166.13
50.00°	115.04	126.00	114.05	120.24	113.54	138.28	141.04	131.41	137.99	135.15	147.54	136.62	139.75	108.93	105.88	115.15	115.04
52.50°	65.16	78.65	65.27	73.14	62.28	75.61	85.47	71.93	84.16	76.54	91.90	78.83	84.25	65.81	55.10	70.78	65.16
55.00°	40.25	42.74	38.90	39.08	35.68	46.58	46.26	45.16	46.98	47.10	52.02	48.48	48.50	32.88	32.75	37.59	40.25
57.50°	16.35	21.56	14.31	19.13	13.48	18.65	24.27	19.11	24.88	19.14	27.25	20.10	24.32	16.43	11.20	19.13	16.35
60.00°	9.15	7.78	7.85	6.98	7.13	10.72	8.90	10.48	9.99	10.46	10.71	10.95	10.84	6.00	6.75	7.06	9.15
62.50°	2.53	2.84	2.08	2.36	2.26	3.03	3.86	2.43	4.16	2.60	3.90	2.84	3.91	2.74	2.48	2.88	2.53
65.00°	1.69	1.71	1.49	1.38	1.86	2.16	2.21	1.79	2.04	1.94	1.72	1.94	2.37	1.72	1.77	1.66	1.69
67.50°	1.03	1.33	1.02	1.13	1.49	1.38	1.50	1.25	1.25	1.35	1.13	1.20	1.72	1.47	1.14	1.29	1.03
70.00°	1.14	1.21	0.99	1.14	1.22	1.24	1.02	1.21	0.87	1.07	1.11	1.07	1.62	1.40	0.95	1.15	1.14
72.50°	1.05	0.93	0.90	1.02	1.08	1.13	1.02	1.15	0.96	0.88	1.06	0.97	1.34	1.22	0.78	1.26	1.05
75.00°	0.70	0.73	0.75	0.92	1.04	1.10	1.04	1.07	1.01	0.80	0.97	0.92	1.06	1.09	0.65	1.23	0.70
77.50°	0.85	0.74	0.93	0.86	0.81	0.87	1.06	1.09	0.92	0.98	0.82	1.14	0.93	1.03	0.82	0.91	0.85
80.00°	1.22	0.89	1.03	0.70	0.87	0.72	1.10	1.20	0.99	1.10	0.83	1.25	1.01	1.09	0.87	0.91	1.22
82.50°	1.37	0.79	1.03	0.90	1.04	0.80	1.04	1.28	0.97	0.98	0.96	1.09	1.23	0.96	0.78	1.02	1.37
85.00°	0.75	0.88	1.07	0.88	1.05	1.02	0.69	1.00	0.89	0.68	0.87	0.91	1.19	1.12	0.88	0.93	0.75
87.50°	0.97	0.74	0.89	0.80	0.81	1.17	1.00	0.93	0.81	1.00	0.91	0.90	1.04	1.04	0.70	0.69	0.97
90.00°	0.52	0.47	0.77	0.63	0.94	0.97	0.76	0.96	0.73	0.54	0.46	0.50	0.45	0.40	1.11	0.46	0.52
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

SGRTV12BX-70L35K-XW-DO101-AR12BX-SGWF

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### 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>	6536	6536	6536	6536	6384	6384	6384	6384	6100	6100	6100	5840	5840	5840	5602	5602	5490
	<b>1</b>	6227	6073	5935	5810	6091	5954	5830	5718	5732	5633	5542	5527	5449	5377	5339	5278	5173
	<b>2</b>	5911	5640	5415	5226	5789	5545	5341	5167	5367	5199	5054	5203	5066	4945	5051	4940	4843
	<b>3</b>	5604	5244	4966	4745	5493	5168	4912	4706	5023	4808	4631	4889	4709	4558	4765	4616	4526
	<b>4</b>	5308	4885	4575	4338	5209	4822	4534	4312	4703	4456	4261	4593	4381	4211	4490	4310	4229
	<b>5</b>	5028	4558	4230	3988	4937	4506	4199	3970	4407	4139	3934	4314	4082	3899	4228	4027	3953
	<b>6</b>	4763	4261	3924	3682	4681	4217	3900	3669	4134	3853	3644	4056	3808	3619	3983	3765	3698
	<b>7</b>	4514	3990	3651	3413	4439	3953	3632	3403	3882	3594	3385	3816	3558	3366	3754	3524	3464
	<b>8</b>	4282	3744	3406	3173	4214	3712	3390	3166	3651	3360	3153	3594	3331	3139	3541	3303	3249
	<b>9</b>	4065	3520	3185	2959	4003	3492	3173	2954	3440	3148	2944	3390	3124	2933	3343	3101	3053
	<b>10</b>	3864	3315	2986	2768	3807	3291	2976	2764	3245	2956	2756	3202	2936	2748	3161	2917	2873

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	165.6 fc	7.5 ft
6.5 ft	118.6 fc	8.8 ft
7.5 ft	89.0 fc	10.2 ft
8.0 ft	78.3 fc	10.9 ft
10.0 ft	50.1 fc	13.6 ft
12.0 ft	34.8 fc	16.3 ft
14.0 ft	25.6 fc	19.0 ft
16.0 ft	19.6 fc	21.7 ft
20.0 ft	12.5 fc	27.1 ft
24.0 ft	8.7 fc	32.6 ft
28.0 ft	6.4 fc	38.0 ft

### Average Luminaire Luminance [cd/m<sup>2</sup>]

	0.00°	45.00°	90.00°
<b>0.00°</b>	72961	72961	72961
<b>45.00°</b>	6116	6298	6566
<b>55.00°</b>	1022	988	906
<b>65.00°</b>	58	51	64
<b>75.00°</b>	40	42	59
<b>85.00°</b>	125	179	175

### 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	-3.6	-2.6	-3.2	-2.3	-2.0	-3.6	-2.7	-3.3	-2.4	-2.0
	3H	-3.8	-2.9	-3.4	-2.6	-2.2	-3.8	-2.9	-3.4	-2.6	-2.2
	4H	-3.9	-3.1	-3.5	-2.7	-2.3	-3.9	-3.1	-3.5	-2.7	-2.3
	6H	-3.9	-3.2	-3.5	-2.8	-2.5	-3.9	-3.2	-3.5	-2.9	-2.5
	8H	-3.9	-3.3	-3.5	-2.9	-2.5	-4.0	-3.3	-3.5	-2.9	-2.5
	12H	-3.9	-3.3	-3.5	-2.9	-2.5	-3.9	-3.3	-3.5	-2.9	-2.5
4H	2H	-3.9	-3.1	-3.5	-2.8	-2.4	-3.9	-3.1	-3.5	-2.8	-2.4
	3H	-4.1	-3.4	-3.7	-3.0	-2.6	-4.1	-3.4	-3.7	-3.0	-2.6
	4H	-4.2	-3.6	-3.7	-3.2	-2.7	-4.2	-3.6	-3.7	-3.2	-2.7
	6H	-4.2	-3.7	-3.7	-3.3	-2.8	-4.2	-3.7	-3.7	-3.3	-2.8
	8H	-4.2	-3.7	-3.7	-3.3	-2.8	-4.2	-3.7	-3.7	-3.3	-2.8
	12H	-4.1	-3.8	-3.7	-3.3	-2.8	-4.1	-3.7	-3.6	-3.3	-2.8
8H	4H	-4.3	-3.9	-3.9	-3.4	-3.0	-4.3	-3.9	-3.8	-3.4	-2.9
	6H	-4.4	-4.0	-3.8	-3.5	-3.0	-4.3	-4.0	-3.8	-3.5	-3.0
	8H	-4.3	-4.0	-3.8	-3.5	-3.0	-4.3	-4.0	-3.8	-3.5	-3.0
	12H	-4.2	-3.9	-3.7	-3.4	-2.8	-4.1	-3.9	-3.6	-3.4	-2.8
12H	4H	-4.4	-4.0	-3.9	-3.5	-3.0	-4.4	-4.0	-3.9	-3.5	-3.0
	6H	-4.4	-4.1	-3.9	-3.6	-3.1	-4.4	-4.1	-3.8	-3.6	-3.0
	8H	-4.3	-4.0	-3.8	-3.5	-3.0	-4.3	-4.0	-3.8	-3.5	-2.9

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0