

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGRTV12BX-80L35K-ND-DO101-AR12BX-SGWF
Nom. 12" Diam x 10" H, Open aperture

Test Number

SP-00686_1

Test Date

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

Summary of Results

Power

Input Watts	60 W
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Lumen Output

Output Lumens	6534
Efficacy	108.91 lm/W

Luminous Dimensions

0° - 180° Size	-0.97
90° - 270° Size	-0.97
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.38
Two luminaires, plane 90°	0.38
Four luminaires	0.41

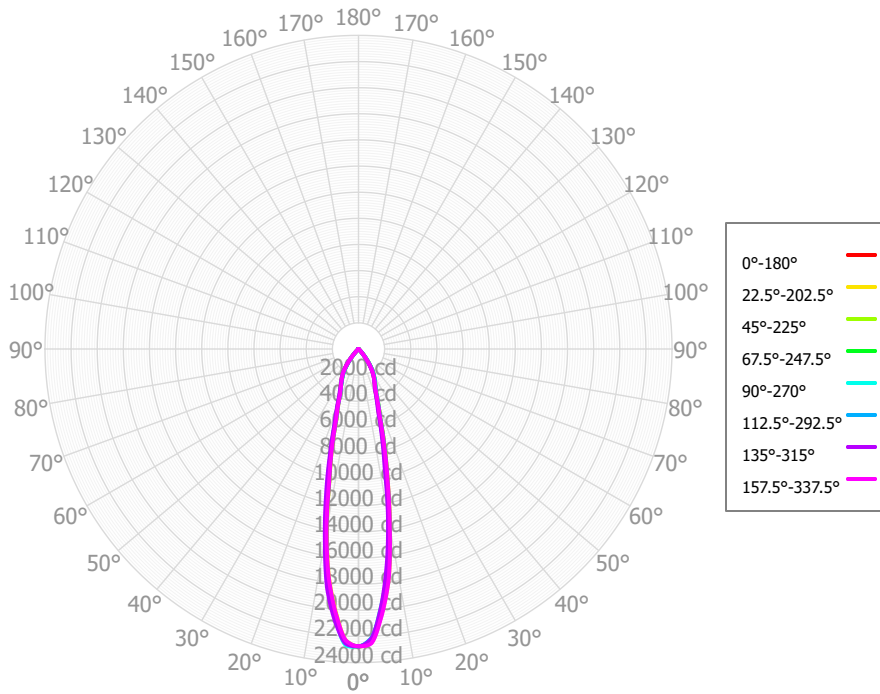
Full Beam Angle

0° - 180°	24°
90° - 270°	24°

IES File Header Contents

Keyword	Value
TEST	SP-00686_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	6/7/2018
UPDATE	6/29/2018
LUMCAT	SGRTV12BX-80L35K-ND-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, Narrow Beam
OTHER	23.6 Deg Beam Angle
LAMPCAT	N/A
LAMP	N/A, Bridgelux Vero 29
OTHER	Dimmable driver tested at 100% output
OTHER	Tested CCT: 3500K
OTHER	This report prepared by Spectrum Lighting
_CCTMULT	CCT Output: 27K x 0.932, 30K x 1.00, 40K x 1.01

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	1747.16	26.74%	90.00° - 100.00°	0.09	0.00%
10.00° - 20.00°	2160.96	33.07%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	1448.58	22.17%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	988.27	15.12%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	184.12	2.82%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	2.38	0.04%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	1.02	0.02%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	0.93	0.01%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.93	0.01%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	6534.36	100.00%	0.00° - 180.00°	6534.45	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°	22757.30	22757.30	22757.30	22757.30	22757.30	22757.30	22757.30	22757.30	22757.30	22757.30	22757.30	22757.30	22757.30	22757.30	22757.30	22757.30	22757.30
2.50°	22475.27	22500.26	22289.85	22364.58	22243.52	22403.45	22569.34	22328.09	22436.31	22327.50	22528.43	22508.40	22681.47	22167.53	22227.75	22553.32	22757.30
5.00°	20166.61	20370.40	19873.03	20120.81	19805.00	20674.96	20851.16	20236.84	20497.32	20161.51	20560.25	20322.42	20626.08	20111.69	19821.11	20457.85	20757.30
7.50°	17184.49	17732.95	16988.79	17517.83	17039.86	17912.73	18437.74	17555.32	18007.19	17485.75	18150.04	17736.36	18211.74	17091.32	16603.70	17736.03	17957.30
10.00°	13519.44	13839.21	13345.77	13693.67	13410.61	14602.97	14820.11	14082.11	14305.48	13972.84	14429.12	14114.94	14413.46	13202.08	12996.75	13785.10	14057.30
12.50°	9664.56	10331.57	9561.39	10204.01	9673.70	10878.58	11463.94	10355.58	10921.73	10260.23	10984.75	10335.90	10870.58	9950.67	9245.12	10281.80	10557.30
15.00°	7285.65	7641.83	7249.92	7665.38	7426.45	8130.87	8501.72	7857.80	8140.13	7821.73	8246.09	7912.05	8157.70	7209.74	6909.45	7550.85	7757.30
17.50°	5240.87	5494.06	5147.17	5531.25	5305.00	6028.94	6218.45	5685.64	5929.57	5631.80	5977.10	5643.45	5848.39	5371.28	5015.92	5449.73	5657.30
20.00°	4191.38	4337.14	4177.89	4389.56	4327.41	4669.69	4841.50	4544.05	4671.03	4533.54	4732.05	4565.52	4640.21	4164.25	4022.24	4294.05	4457.30
22.50°	3324.81	3460.87	3322.38	3481.35	3403.68	3737.55	3841.87	3623.47	3729.67	3598.90	3742.34	3577.03	3653.34	3432.72	3265.73	3435.06	3607.30
25.00°	2933.61	3036.87	2981.97	3063.69	3040.20	3178.34	3283.07	3181.15	3248.83	3175.37	3232.37	3164.31	3188.89	2991.08	2884.19	2970.71	3070.71
27.50°	2608.67	2660.74	2675.53	2685.67	2685.88	2807.64	2859.68	2821.41	2851.37	2807.02	2800.55	2773.69	2781.46	2645.47	2582.56	2584.40	2644.40
30.00°	2248.76	2351.85	2322.92	2379.52	2346.32	2466.50	2574.93	2507.74	2561.25	2473.38	2498.04	2433.59	2489.58	2351.43	2213.62	2288.97	2358.97
32.50°	1885.42	1985.51	1968.90	2030.19	2002.26	2138.19	2232.18	2200.01	2218.70	2142.27	2147.23	2091.23	2141.34	1947.92	1833.15	1920.33	1990.33
35.00°	1436.00	1547.59	1523.88	1611.77	1573.21	1727.77	1836.65	1759.97	1817.05	1719.18	1726.81	1646.56	1694.34	1493.73	1389.51	1477.01	1547.01
37.50°	981.07	1119.38	1080.47	1181.21	1142.68	1286.44	1397.09	1308.21	1379.04	1292.74	1299.18	1203.84	1253.51	1067.89	937.80	1055.76	1115.76
40.00°	628.64	701.79	683.70	733.70	695.19	851.94	922.41	854.37	905.10	842.47	862.45	792.60	822.22	653.28	607.29	654.52	704.52
42.50°	280.29	383.31	302.96	385.56	281.41	419.61	541.48	400.41	523.22	399.09	500.26	400.40	466.89	372.87	287.39	362.23	412.23
45.00°	144.37	159.67	148.25	158.61	133.77	202.42	225.90	207.92	222.22	205.37	221.48	206.67	214.04	138.21	144.05	156.52	164.52
47.50°	13.01	41.40	7.98	31.07	7.15	41.64	72.68	22.96	65.92	22.64	62.54	34.16	59.50	52.93	10.24	50.99	60.99
50.00°	7.09	12.75	4.42	11.30	4.07	8.74	19.56	11.82	20.91	11.96	21.17	16.55	21.04	10.11	4.60	15.05	21.05
52.50°	1.55	1.19	1.33	1.48	1.49	3.59	1.03	1.15	2.35	2.17	1.75	1.62	1.30	1.68	1.39	1.13	1.13
55.00°	1.32	2.36	1.45	1.11	1.27	1.93	1.01	1.13	1.56	1.45	1.50	1.41	1.19	1.22	1.40	0.76	0.76
57.50°	1.10	2.14	1.51	1.03	1.08	0.85	0.94	1.13	1.16	0.89	1.17	1.27	1.04	1.03	1.40	0.73	0.73
60.00°	1.02	1.01	1.26	1.20	0.95	0.59	0.83	1.34	0.99	1.44	0.80	1.38	0.84	0.90	1.31	0.89	0.89
62.50°	0.96	0.69	1.12	1.19	0.92	0.43	0.83	1.48	1.01	1.82	0.93	1.43	0.83	0.90	1.22	0.96	0.96
65.00°	0.96	0.82	1.48	1.05	1.19	0.46	0.88	1.08	1.14	1.22	1.39	1.23	0.97	0.93	1.25	0.99	0.99
67.50°	0.93	0.79	1.63	0.99	1.30	0.52	0.99	0.75	1.01	0.83	1.61	0.95	0.99	0.91	1.26	0.85	0.85
70.00°	0.78	0.69	1.25	0.97	1.03	0.56	1.13	0.74	0.77	1.08	1.70	0.46	0.94	0.86	1.23	0.65	0.65
72.50°	0.79	0.71	1.01	0.77	0.79	0.72	0.90	0.91	1.15	1.01	1.35	0.50	0.95	0.59	1.12	0.48	0.48
75.00°	1.00	0.71	0.89	0.66	0.57	1.14	0.67	1.29	1.43	0.57	1.00	1.02	0.89	0.67	0.89	0.51	0.51
77.50°	0.97	0.65	1.08	0.99	0.66	1.05	0.44	1.26	1.27	0.79	0.86	0.79	0.51	1.17	0.85	0.98	0.98
80.00°	0.91	1.08	1.41	1.22	0.58	0.80	1.49	0.83	0.86	1.01	0.81	0.61	0.49	0.63	0.75	0.70	0.70
82.50°	0.89	1.15	1.55	1.06	0.69	0.67	1.68	0.40	0.84	1.04	0.95	0.77	0.65	0.49	0.58	0.40	0.40
85.00°	0.83	0.82	1.18	1.04	1.01	0.76	0.90	0.95	0.80	0.77	0.91	0.96	0.96	0.56	0.56	0.95	0.95
87.50°	0.87	0.82	1.33	1.06	0.57	0.94	0.50	0.92	1.25	0.99	1.16	1.02	0.60	0.82	1.29	0.61	0.61
90.00°	0.57	0.74	0.65	0.64	0.99	0.62	0.58	0.92	0.39	0.56	1.21	0.59	0.55	0.52	0.49	0.29	0.29
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-80L35K-ND-DO101-AR12BX-SGWF

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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%	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	7779	7779	7779	7779	7598	7598	7598	7598	7260	7260	7260	6951	6951	6951	6668	6668	6668	6534
	1	7476	7320	7180	7054	7318	7180	7056	6943	6918	6820	6730	6678	6601	6530	6456	6398	6343	6271
	2	7179	6909	6686	6499	7040	6799	6597	6426	6592	6428	6287	6402	6270	6154	6226	6120	6027	6002
	3	6894	6542	6270	6053	6772	6454	6205	6005	6289	6082	5911	6136	5964	5820	5994	5853	5732	5743
	4	6624	6213	5912	5683	6516	6142	5864	5650	6008	5772	5585	5884	5684	5521	5768	5599	5460	5498
	5	6369	5916	5600	5367	6272	5858	5564	5344	5748	5493	5298	5646	5426	5253	5550	5361	5209	5267
	6	6128	5647	5324	5092	6042	5599	5296	5076	5508	5241	5043	5422	5189	5010	5343	5138	4979	5052
	7	5902	5402	5077	4850	5825	5361	5055	4838	5285	5012	4814	5213	4971	4790	5146	4931	4767	4852
	8	5690	5178	4856	4634	5620	5144	4838	4625	5079	4804	4607	5018	4771	4590	4961	4738	4572	4665
	9	5491	4973	4655	4441	5429	4944	4641	4434	4888	4613	4420	4836	4586	4407	4787	4560	4393	4493
	10	5306	4785	4473	4265	5249	4760	4461	4260	4712	4438	4250	4667	4416	4239	4624	4395	4229	4333

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	752.3 fc	2.3 ft
6.5 ft	538.6 fc	2.7 ft
7.5 ft	404.6 fc	3.1 ft
8.0 ft	355.6 fc	3.3 ft
10.0 ft	227.6 fc	4.2 ft
12.0 ft	158.0 fc	5.0 ft
14.0 ft	116.1 fc	5.8 ft
16.0 ft	88.9 fc	6.7 ft
20.0 ft	56.9 fc	8.3 ft
24.0 ft	39.5 fc	10.0 ft
28.0 ft	29.0 fc	11.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	331480	331480	331480
45.00°	2974	3054	2756
55.00°	33	37	32
65.00°	33	51	41
75.00°	56	50	32
85.00°	139	198	169

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	-22.0	-21.0	-21.6	-20.7	-20.4	-24.1	-23.2	-23.7	-22.8	-22.5
	3H	-20.5	-19.7	-20.1	-19.4	-19.0	-21.5	-20.7	-21.1	-20.4	-20.0
	4H	-19.3	-18.6	-18.9	-18.3	-17.9	-19.9	-19.2	-19.5	-18.8	-18.4
	6H	-17.4	-16.8	-17.0	-16.4	-16.0	-18.8	-18.1	-18.3	-17.7	-17.3
	8H	-16.4	-15.8	-16.0	-15.4	-15.0	-17.9	-17.3	-17.5	-16.9	-16.5
	12H	-15.3	-14.7	-14.9	-14.3	-13.9	-16.2	-15.6	-15.8	-15.2	-14.8
4H	2H	-21.1	-20.3	-20.7	-20.0	-19.6	-22.9	-22.2	-22.5	-21.8	-21.4
	3H	-19.4	-18.8	-19.0	-18.4	-18.0	-20.3	-19.7	-19.9	-19.3	-18.9
	4H	-18.3	-17.8	-17.9	-17.3	-16.9	-18.2	-17.7	-17.8	-17.3	-16.8
	6H	-16.1	-15.7	-15.7	-15.2	-14.8	-16.9	-16.4	-16.4	-16.0	-15.5
	8H	-15.0	-14.6	-14.5	-14.1	-13.7	-16.0	-15.6	-15.6	-15.2	-14.7
	12H	-13.7	-13.4	-13.2	-12.9	-12.4	-14.3	-14.0	-13.8	-13.5	-13.0
8H	4H	-17.5	-17.1	-17.0	-16.7	-16.2	-17.6	-17.1	-17.1	-16.7	-16.2
	6H	-15.0	-14.7	-14.5	-14.2	-13.7	-15.7	-15.4	-15.2	-14.9	-14.4
	8H	-13.8	-13.5	-13.2	-12.9	-12.4	-14.6	-14.3	-14.1	-13.8	-13.3
	12H	-12.3	-12.0	-11.8	-11.5	-10.9	-12.8	-12.5	-12.3	-12.0	-11.4
12H	4H	-17.2	-16.9	-16.8	-16.4	-15.9	-17.3	-16.9	-16.8	-16.4	-15.9
	6H	-14.6	-14.3	-14.0	-13.8	-13.2	-15.0	-14.7	-14.5	-14.3	-13.7
	8H	-13.2	-12.9	-12.6	-12.4	-11.8	-13.8	-13.5	-13.3	-13.0	-12.5

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0