

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGRTV12BX-80L35K-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

Input Watts	60 W
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Lumen Output

Output Lumens	6384
Efficacy	106.4 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.06
Two luminaires, plane 90°	1.1
Four luminaires	0.99

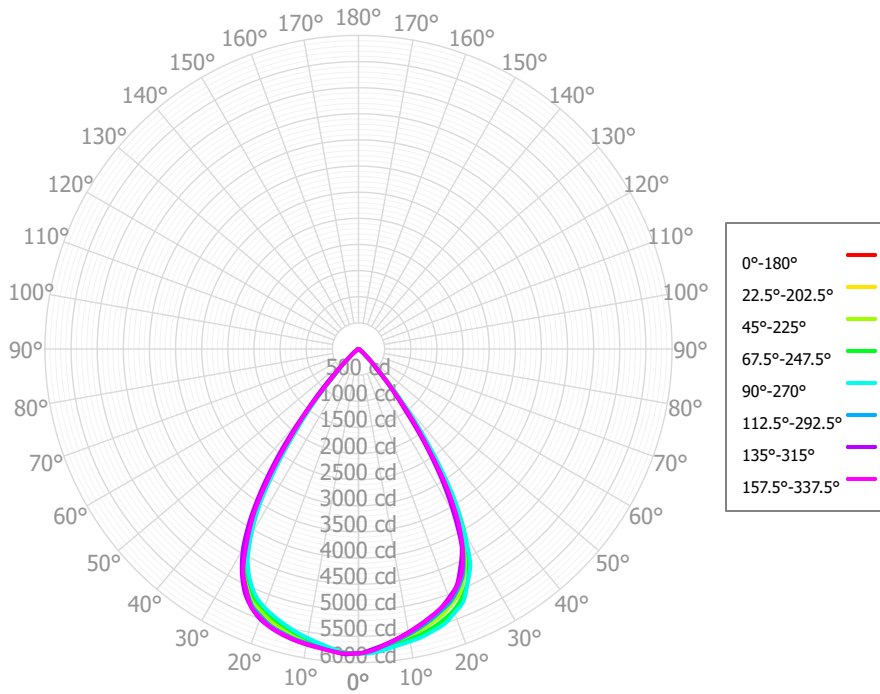
Full Beam Angle

0° - 180°	68°
90° - 270°	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-80L35K-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	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°	553.18	8.67%	90.00° - 100.00°	0.11	0.00%
10.00° - 20.00°	1547.35	24.24%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	2214.62	34.69%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	1632.60	25.57%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	378.76	5.93%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	51.73	0.81%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	3.14	0.05%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	1.22	0.02%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.16	0.02%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	6383.77	100.00%	0.00° - 180.00°	6383.87	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°	5824.45	5824.45	5824.45	5824.45	5824.45	5824.45	5824.45	5824.45	5824.45	5824.45	5824.45	5824.45	5824.45	5824.45	5824.45	5824.45	5824.45
2.50°	5765.04	5800.49	5787.95	5820.58	5821.74	5829.83	5846.20	5831.75	5843.63	5822.13	5835.27	5816.07	5829.79	5783.71	5757.05	5781.36	5765.04
5.00°	5690.06	5715.48	5727.53	5756.96	5776.11	5803.31	5805.97	5807.19	5792.80	5784.28	5778.63	5765.42	5756.02	5703.58	5679.58	5693.36	5690.06
7.50°	5607.46	5631.98	5658.99	5697.69	5725.10	5757.52	5770.66	5766.02	5748.76	5732.88	5723.98	5701.81	5683.46	5623.98	5595.20	5605.04	5607.46
10.00°	5518.10	5551.29	5583.40	5647.54	5682.89	5717.55	5742.70	5730.33	5716.90	5685.29	5673.48	5635.71	5615.84	5545.10	5503.12	5516.21	5518.10
12.50°	5426.35	5466.46	5505.69	5589.52	5641.67	5680.29	5705.85	5696.75	5679.91	5638.97	5614.83	5568.87	5543.84	5458.07	5407.62	5421.89	5426.35
15.00°	5324.01	5374.76	5417.84	5517.24	5575.54	5623.61	5657.42	5645.81	5634.82	5579.44	5541.67	5490.04	5457.03	5360.86	5309.00	5319.64	5324.01
17.50°	5218.49	5272.60	5327.48	5431.25	5507.52	5559.24	5590.65	5589.13	5568.90	5516.27	5459.54	5408.30	5365.96	5256.85	5209.20	5211.03	5218.49
20.00°	5087.91	5155.42	5195.09	5323.44	5373.40	5446.85	5502.74	5478.19	5474.39	5403.78	5363.36	5292.76	5262.87	5145.42	5063.55	5094.30	5087.91
22.50°	4951.17	4990.82	5054.17	5163.88	5236.72	5318.10	5355.42	5352.41	5323.25	5279.99	5226.93	5170.72	5124.71	4971.98	4903.43	4923.70	4951.17
25.00°	4678.33	4766.08	4776.62	4932.73	4941.12	5073.29	5148.19	5085.07	5103.33	5024.25	5035.60	4933.98	4902.80	4738.62	4610.22	4693.05	4678.33
27.50°	4378.89	4410.98	4477.73	4573.14	4636.16	4795.67	4834.05	4785.62	4772.56	4744.70	4732.62	4679.88	4596.52	4340.49	4281.67	4323.26	4378.89
30.00°	3765.83	3911.52	3857.93	4056.32	4029.08	4293.25	4424.28	4270.77	4324.18	4206.69	4296.84	4123.53	4115.13	3803.18	3662.58	3815.97	3765.83
32.50°	3104.44	3270.28	3201.87	3406.46	3410.73	3739.18	3848.92	3717.52	3723.50	3632.46	3694.90	3534.35	3522.93	3119.79	2981.33	3156.37	3104.44
35.00°	2342.39	2489.80	2432.60	2614.31	2616.08	2985.60	3144.19	2952.92	2981.53	2857.75	2917.75	2742.14	2732.63	2327.13	2216.40	2365.19	2342.39
37.50°	1569.16	1772.66	1654.60	1865.44	1833.13	2194.92	2377.70	2159.14	2224.57	2063.39	2159.67	1935.13	1981.71	1629.38	1437.15	1658.15	1569.16
40.00°	1031.10	1109.89	1086.20	1157.62	1168.49	1469.15	1569.19	1454.56	1455.29	1392.55	1419.17	1300.47	1292.72	993.43	945.31	1015.47	1031.10
42.50°	510.72	664.23	526.05	677.51	562.34	752.52	972.00	758.54	892.89	729.50	871.82	671.94	764.59	598.36	489.94	606.57	510.72
45.00°	345.26	383.60	355.51	386.13	370.65	475.25	501.59	480.70	478.85	472.02	482.27	446.94	456.49	341.33	324.95	353.44	345.26
47.50°	193.17	224.75	190.87	218.31	198.25	243.16	270.72	226.78	258.39	226.63	265.40	228.19	248.75	204.34	186.08	211.14	193.17
50.00°	133.77	146.51	132.61	139.81	132.03	160.79	164.00	152.80	160.46	157.15	171.56	158.85	162.50	126.66	123.12	133.90	133.77
52.50°	75.77	91.45	75.89	85.05	72.41	87.92	99.38	83.64	97.86	89.00	106.86	91.66	97.97	76.52	64.07	82.31	75.77
55.00°	46.80	49.70	45.23	45.44	41.49	54.16	53.79	52.52	54.63	54.77	60.49	56.37	56.40	38.23	38.08	43.71	46.80
57.50°	19.01	25.07	16.64	22.24	15.68	21.69	28.22	22.23	28.93	22.26	31.69	23.37	28.28	19.11	13.02	22.24	19.01
60.00°	10.64	9.05	9.12	8.12	8.29	12.46	10.35	12.18	11.62	12.17	12.46	12.73	12.60	6.98	7.85	8.21	10.64
62.50°	2.95	3.30	2.42	2.75	2.63	3.52	4.49	2.82	4.84	3.02	4.54	3.31	4.55	3.19	2.88	3.35	2.95
65.00°	1.97	1.98	1.74	1.60	2.16	2.51	2.57	2.08	2.37	2.26	2.00	2.26	2.75	2.00	2.06	1.93	1.97
67.50°	1.19	1.55	1.19	1.31	1.74	1.60	1.75	1.45	1.46	1.57	1.32	1.40	2.00	1.72	1.33	1.50	1.19
70.00°	1.32	1.40	1.15	1.33	1.42	1.44	1.18	1.40	1.01	1.25	1.29	1.24	1.89	1.63	1.10	1.33	1.32
72.50°	1.22	1.08	1.05	1.19	1.25	1.32	1.19	1.33	1.12	1.02	1.23	1.13	1.56	1.42	0.91	1.46	1.22
75.00°	0.82	0.85	0.87	1.07	1.21	1.28	1.21	1.24	1.17	0.93	1.13	1.07	1.23	1.26	0.75	1.43	0.82
77.50°	0.99	0.87	1.08	1.00	0.95	1.01	1.23	1.26	1.07	1.14	0.95	1.33	1.08	1.19	0.95	1.06	0.99
80.00°	1.42	1.04	1.20	0.81	1.01	0.84	1.28	1.40	1.16	1.28	0.96	1.45	1.18	1.27	1.01	1.05	1.42
82.50°	1.59	0.92	1.20	1.04	1.21	0.93	1.21	1.49	1.13	1.14	1.12	1.26	1.43	1.12	0.91	1.18	1.59
85.00°	0.87	1.02	1.25	1.03	1.22	1.18	0.80	1.17	1.03	0.79	1.01	1.06	1.39	1.30	1.03	1.08	0.87
87.50°	1.13	0.86	1.04	0.93	0.94	1.36	1.16	1.08	0.94	1.16	1.06	1.04	1.21	1.20	0.82	0.80	1.13
90.00°	0.60	0.55	0.89	0.74	1.10	1.13	0.88	1.11	0.85	0.63	0.54	0.58	0.53	0.46	1.29	0.53	0.60
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

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	7600	7600	7600	7600	7423	7423	7423	7423	7093	7093	7093	6791	6791	6791	6514	6514	6514	6384
	1	7240	7061	6901	6756	7083	6923	6779	6649	6665	6549	6444	6427	6336	6252	6208	6137	6071	6015
	2	6874	6558	6296	6077	6732	6447	6210	6009	6241	6045	5876	6050	5890	5750	5873	5745	5630	5631
	3	6516	6098	5775	5517	6388	6009	5712	5472	5841	5591	5385	5685	5476	5300	5541	5367	5218	5263
	4	6173	5680	5320	5045	6056	5607	5273	5014	5469	5182	4954	5340	5095	4896	5221	5012	4839	4918
	5	5846	5300	4919	4637	5741	5239	4883	4616	5124	4813	4574	5017	4746	4534	4917	4682	4494	4597
	6	5538	4955	4563	4282	5443	4903	4535	4267	4806	4480	4237	4716	4428	4208	4631	4377	4179	4300
	7	5249	4640	4245	3968	5162	4597	4223	3957	4514	4179	3936	4437	4138	3914	4365	4097	3893	4028
	8	4979	4354	3960	3690	4900	4316	3942	3682	4246	3907	3666	4179	3874	3650	4117	3841	3634	3778
	9	4727	4093	3704	3441	4655	4061	3689	3435	4000	3661	3423	3942	3633	3411	3888	3606	3399	3550
	10	4493	3855	3473	3218	4427	3827	3460	3214	3774	3437	3204	3723	3414	3195	3676	3391	3186	3341

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	192.5 fc	7.5 ft
6.5 ft	137.9 fc	8.8 ft
7.5 ft	103.5 fc	10.2 ft
8.0 ft	91.0 fc	10.9 ft
10.0 ft	58.2 fc	13.6 ft
12.0 ft	40.4 fc	16.3 ft
14.0 ft	29.7 fc	19.0 ft
16.0 ft	22.8 fc	21.7 ft
20.0 ft	14.6 fc	27.1 ft
24.0 ft	10.1 fc	32.6 ft
28.0 ft	7.4 fc	38.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	84838	84838	84838
45.00°	7112	7323	7635
55.00°	1189	1149	1054
65.00°	68	60	74
75.00°	46	49	68
85.00°	145	209	204

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	-3.1	-2.1	-2.7	-1.8	-1.5	-3.1	-2.1	-2.7	-1.8	-1.5
	3H	-3.3	-2.4	-2.9	-2.1	-1.7	-3.3	-2.4	-2.9	-2.1	-1.7
	4H	-3.3	-2.6	-2.9	-2.2	-1.8	-3.4	-2.6	-2.9	-2.2	-1.8
	6H	-3.4	-2.7	-3.0	-2.3	-1.9	-3.4	-2.7	-3.0	-2.3	-1.9
	8H	-3.4	-2.7	-3.0	-2.3	-1.9	-3.4	-2.8	-3.0	-2.4	-2.0
	12H	-3.4	-2.8	-3.0	-2.4	-2.0	-3.4	-2.8	-3.0	-2.4	-2.0
4H	2H	-3.4	-2.6	-3.0	-2.2	-1.8	-3.4	-2.6	-3.0	-2.3	-1.9
	3H	-3.6	-2.9	-3.1	-2.5	-2.1	-3.6	-2.9	-3.1	-2.5	-2.1
	4H	-3.6	-3.1	-3.2	-2.7	-2.2	-3.6	-3.1	-3.2	-2.6	-2.2
	6H	-3.7	-3.2	-3.2	-2.7	-2.3	-3.7	-3.2	-3.2	-2.7	-2.3
	8H	-3.7	-3.2	-3.2	-2.8	-2.3	-3.7	-3.2	-3.2	-2.8	-2.3
	12H	-3.6	-3.2	-3.1	-2.7	-2.3	-3.6	-3.2	-3.1	-2.7	-2.2
8H	4H	-3.8	-3.4	-3.3	-2.9	-2.4	-3.8	-3.4	-3.3	-2.9	-2.4
	6H	-3.8	-3.5	-3.3	-3.0	-2.5	-3.8	-3.5	-3.3	-3.0	-2.5
	8H	-3.8	-3.5	-3.2	-2.9	-2.4	-3.8	-3.5	-3.2	-2.9	-2.4
	12H	-3.7	-3.4	-3.1	-2.9	-2.3	-3.6	-3.3	-3.1	-2.8	-2.3
12H	4H	-3.9	-3.5	-3.4	-3.0	-2.5	-3.9	-3.5	-3.4	-3.0	-2.5
	6H	-3.9	-3.6	-3.3	-3.1	-2.5	-3.9	-3.5	-3.3	-3.1	-2.5
	8H	-3.8	-3.5	-3.3	-3.0	-2.4	-3.8	-3.5	-3.3	-3.0	-2.4

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0