

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

SGRTV12BX-80L35K-WD-DO101-AR12BX-SGWF
Nom. 12" Diam x 10" H open aperture

Test Number

SP-00686_6

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	6390
Efficacy	106.5 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.89
Two luminaires, plane 90°	0.91
Four luminaires	0.9

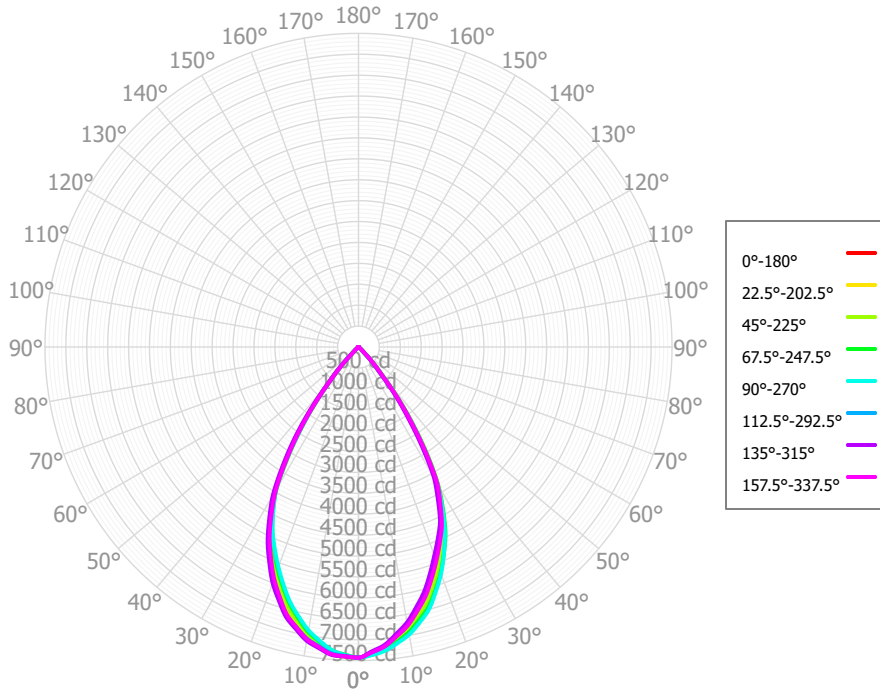
Full Beam Angle

0° - 180°	61°
90° - 270°	61°

IES File Header Contents

Keyword	Value
TEST	SP-00686_6
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	6/7/2018
UPDATE	6/29/2018
LUMCAT	SGRTV12BX-80L35K-WD-D0101-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, Wide Beam
OTHER	60.5 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°	692.09	10.83%	90.00° - 100.00°	0.11	0.00%
10.00° - 20.00°	1779.28	27.84%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	2209.56	34.58%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	1455.34	22.78%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	243.41	3.81%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	7.06	0.11%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	1.30	0.02%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	0.94	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°	6389.91	100.00%	0.00° - 180.00°	6390.01	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°	7431.76	7431.76	7431.76	7431.76	7431.76	7431.76	7431.76	7431.76	7431.76	7431.76	7431.76	7431.76	7431.76	7431.76	7431.76	7431.76	7431.76
2.50°	7311.64	7336.06	7330.08	7366.90	7376.04	7393.89	7407.79	7406.56	7412.48	7394.63	7398.73	7368.25	7375.51	7309.84	7289.50	7314.21	7311.64
5.00°	7177.08	7212.60	7214.15	7272.97	7294.40	7355.69	7392.35	7377.67	7379.37	7336.67	7333.76	7284.26	7281.35	7187.32	7155.30	7191.79	7177.08
7.50°	6975.43	7030.96	7032.99	7109.13	7145.43	7221.44	7265.13	7238.33	7235.85	7187.65	7181.09	7109.65	7090.06	6965.45	6922.87	6984.01	6975.43
10.00°	6772.55	6829.87	6834.68	6932.23	6984.59	7086.98	7136.82	7094.09	7090.57	7015.53	6999.61	6919.34	6882.52	6743.18	6689.70	6771.75	6772.55
12.50°	6490.14	6574.63	6585.20	6695.29	6753.22	6871.87	6913.83	6863.78	6851.63	6775.82	6752.08	6647.32	6605.79	6432.03	6376.71	6479.30	6490.14
15.00°	6206.48	6301.51	6310.27	6447.05	6503.04	6656.63	6689.61	6626.13	6610.26	6506.22	6482.73	6362.63	6317.71	6120.67	6063.04	6182.56	6206.48
17.50°	5853.37	5962.34	5960.41	6105.18	6143.10	6308.97	6349.16	6265.24	6254.51	6148.70	6152.42	6011.48	5964.95	5752.34	5684.21	5814.17	5853.37
20.00°	5499.10	5601.25	5604.44	5746.04	5772.56	5961.01	6007.51	5900.49	5897.43	5782.41	5802.25	5655.26	5601.48	5384.12	5304.99	5442.14	5499.10
22.50°	5118.41	5221.52	5230.40	5339.29	5341.39	5526.93	5575.40	5469.67	5484.96	5390.60	5418.11	5272.92	5233.73	5034.36	4960.00	5080.09	5118.41
25.00°	4737.35	4835.69	4817.12	4923.93	4892.35	5092.26	5141.92	5033.08	5070.27	4974.84	5022.83	4879.38	4865.29	4683.90	4615.13	4718.55	4737.35
27.50°	4232.49	4336.11	4289.29	4378.36	4340.33	4557.73	4620.64	4502.41	4558.78	4489.14	4542.90	4429.23	4414.73	4195.55	4115.14	4246.76	4232.49
30.00°	3726.20	3799.77	3702.88	3809.04	3757.18	4022.18	4096.53	3959.61	4041.67	3937.24	4035.60	3928.71	3951.14	3705.06	3614.44	3769.53	3726.20
32.50°	2951.24	3081.05	2947.65	3072.37	2998.06	3279.37	3379.40	3227.88	3303.38	3194.56	3327.35	3171.81	3224.92	2932.29	2840.69	3010.89	2951.24
35.00°	2172.92	2303.08	2202.16	2305.77	2242.95	2536.56	2661.50	2494.77	2564.69	2451.73	2555.03	2419.92	2456.68	2160.14	2066.38	2238.09	2172.92
37.50°	1501.42	1606.50	1484.90	1594.44	1510.67	1794.60	1899.57	1739.62	1809.48	1708.49	1826.65	1693.15	1748.04	1483.97	1405.04	1550.39	1501.42
40.00°	830.98	936.03	852.97	893.08	832.12	1054.52	1142.21	1004.55	1062.48	1035.64	1112.36	1014.67	1048.74	810.95	744.05	866.74	830.98
42.50°	493.27	533.80	465.03	509.37	453.81	606.83	668.40	574.30	619.69	564.05	645.24	579.46	623.41	485.64	448.38	522.90	493.27
45.00°	159.22	218.04	157.31	181.84	124.97	162.49	201.67	165.61	187.21	191.12	256.30	201.55	241.37	163.26	153.35	194.31	159.22
47.50°	88.27	94.37	80.14	83.28	67.35	92.19	113.57	89.91	102.83	96.71	108.13	107.17	118.95	93.70	85.93	102.78	88.27
50.00°	19.55	31.79	20.48	24.42	17.49	22.57	27.06	18.54	20.54	24.00	36.52	26.79	36.69	24.76	18.57	22.14	19.55
52.50°	11.57	11.43	10.52	10.65	10.49	12.46	15.15	11.14	11.83	12.84	13.64	14.46	16.37	14.18	10.76	11.40	11.57
55.00°	4.17	4.32	2.98	4.76	4.31	2.44	3.47	4.14	3.37	4.21	6.04	4.05	5.72	3.73	2.98	3.68	4.17
57.50°	3.15	2.34	2.35	2.91	2.60	2.22	2.86	3.10	2.80	2.65	3.04	3.00	3.61	2.74	2.62	2.73	3.15
60.00°	2.18	1.98	1.79	1.74	1.16	2.00	2.26	2.10	2.22	1.54	1.49	2.05	2.80	1.75	2.26	2.08	2.18
62.50°	1.60	1.52	1.41	1.48	1.19	1.85	1.97	1.47	1.69	1.64	0.99	1.63	2.26	1.20	1.82	1.47	1.60
65.00°	1.03	1.04	1.12	1.37	1.20	1.69	1.67	0.89	1.16	1.59	0.83	1.25	1.76	0.66	1.38	0.85	1.03
67.50°	1.10	1.06	1.08	1.14	1.10	1.29	1.10	0.81	0.87	1.13	0.71	1.11	1.49	0.69	1.08	0.86	1.10
70.00°	1.13	1.23	0.99	0.89	1.00	0.94	0.71	0.70	0.65	0.83	0.61	0.99	1.25	0.73	0.82	0.89	1.13
72.50°	0.78	0.83	0.82	0.88	0.91	0.89	1.48	0.43	0.80	0.85	1.14	0.96	0.98	0.80	0.89	0.76	0.78
75.00°	0.59	0.53	0.80	0.87	0.94	0.84	1.67	0.43	0.88	0.99	1.56	0.86	0.75	0.99	0.81	0.71	0.59
77.50°	0.67	0.89	0.90	0.85	1.08	0.77	1.02	0.76	0.86	1.14	1.26	0.72	0.61	1.36	0.52	0.77	0.67
80.00°	0.73	0.88	1.07	0.80	0.90	1.09	0.80	0.90	0.88	0.41	1.00	0.85	0.60	1.39	0.64	0.97	0.73
82.50°	0.98	0.83	0.73	0.90	0.67	0.98	0.87	0.77	0.76	0.66	0.93	0.80	0.66	0.92	0.65	0.98	0.98
85.00°	0.94	0.99	0.74	1.18	0.57	0.72	1.26	0.71	0.86	0.87	0.75	0.64	0.79	0.79	0.57	0.91	0.94
87.50°	1.18	1.34	0.94	1.10	0.89	0.97	0.87	0.91	0.89	0.45	0.55	1.42	0.90	1.07	0.47	0.89	1.18
90.00°	0.51	0.68	1.01	0.79	0.70	0.99	0.84	0.56	0.61	0.59	0.94	0.94	0.95	0.70	0.56	0.98	0.51
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%	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%	10%
	0	7607	7607	7607	7607	7430	7430	7430	7430	7100	7100	7100	6798	6798	6798	6520	6520	6520
	1	7264	7092	6937	6798	7107	6954	6816	6690	6696	6586	6484	6459	6372	6291	6240	6173	6110
	2	6918	6615	6366	6156	6777	6506	6279	6087	6300	6114	5953	6110	5959	5826	5935	5813	5704
	3	6581	6182	5874	5628	6455	6094	5811	5583	5927	5689	5494	5773	5575	5408	5630	5466	5325
	4	6257	5788	5445	5183	6143	5716	5398	5152	5579	5307	5091	5453	5220	5032	5335	5137	4974
	5	5949	5429	5066	4798	5846	5369	5030	4776	5256	4960	4734	5150	4894	4692	5052	4830	4652
	6	5657	5101	4729	4461	5564	5051	4701	4446	4956	4646	4415	4867	4594	4386	4784	4544	4356
	7	5382	4802	4426	4163	5298	4760	4404	4151	4679	4361	4129	4604	4319	4107	4533	4280	4086
	8	5124	4528	4153	3896	5047	4492	4136	3888	4423	4101	3871	4358	4068	3855	4297	4035	3839
	9	4882	4278	3907	3657	4813	4246	3892	3650	4187	3864	3638	4131	3837	3626	4078	3810	3614
	10	4657	4048	3683	3441	4593	4021	3671	3436	3969	3648	3426	3920	3625	3417	3874	3603	3408

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	245.7 fc	6.5 ft
6.5 ft	175.9 fc	7.7 ft
7.5 ft	132.1 fc	8.9 ft
8.0 ft	116.1 fc	9.5 ft
10.0 ft	74.3 fc	11.8 ft
12.0 ft	51.6 fc	14.2 ft
14.0 ft	37.9 fc	16.5 ft
16.0 ft	29.0 fc	18.9 ft
20.0 ft	18.6 fc	23.6 ft
24.0 ft	12.9 fc	28.4 ft
28.0 ft	9.5 fc	33.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	108250	108250	108250
45.00°	3280	3241	2574
55.00°	106	76	109
65.00°	35	39	41
75.00°	33	45	53
85.00°	158	123	96

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	-17.8	-16.9	-17.4	-16.6	-16.2	-17.6	-16.7	-17.3	-16.4	-16.1
	3H	-17.0	-16.2	-16.7	-15.9	-15.5	-16.8	-15.9	-16.4	-15.6	-15.2
	4H	-16.8	-16.0	-16.4	-15.7	-15.3	-16.3	-15.5	-15.9	-15.2	-14.8
	6H	-16.1	-15.4	-15.7	-15.1	-14.7	-15.6	-14.9	-15.2	-14.5	-14.1
	8H	-15.3	-14.7	-14.9	-14.3	-13.9	-15.2	-14.5	-14.7	-14.1	-13.7
	12H	-14.3	-13.7	-13.9	-13.3	-12.9	-14.6	-14.0	-14.2	-13.6	-13.2
4H	2H	-17.7	-17.0	-17.3	-16.6	-16.2	-17.5	-16.8	-17.1	-16.4	-16.0
	3H	-16.7	-16.1	-16.3	-15.7	-15.3	-16.5	-15.9	-16.0	-15.4	-15.0
	4H	-16.4	-15.8	-15.9	-15.4	-14.9	-15.8	-15.3	-15.4	-14.8	-14.4
	6H	-15.3	-14.8	-14.8	-14.3	-13.9	-14.8	-14.3	-14.3	-13.8	-13.4
	8H	-14.3	-13.8	-13.8	-13.4	-12.9	-14.1	-13.7	-13.7	-13.3	-12.8
	12H	-13.0	-12.6	-12.5	-12.1	-11.6	-13.4	-13.1	-12.9	-12.6	-12.1
8H	4H	-16.1	-15.7	-15.6	-15.2	-14.7	-15.2	-14.8	-14.8	-14.4	-13.9
	6H	-14.6	-14.2	-14.1	-13.7	-13.2	-13.9	-13.6	-13.4	-13.0	-12.6
	8H	-13.3	-13.0	-12.8	-12.5	-12.0	-13.1	-12.8	-12.5	-12.2	-11.7
	12H	-11.7	-11.4	-11.2	-10.9	-10.4	-12.1	-11.9	-11.6	-11.4	-10.8
12H	4H	-15.9	-15.6	-15.4	-15.1	-14.6	-15.2	-14.8	-14.7	-14.3	-13.8
	6H	-14.3	-14.0	-13.8	-13.6	-13.0	-13.7	-13.4	-13.2	-12.9	-12.4
	8H	-13.0	-12.7	-12.5	-12.2	-11.7	-12.7	-12.4	-12.2	-11.9	-11.4

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0