

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGRTV12BX-60L35K-MD-DO101-AR12BX-MWWF
Nom. 12" Diam x 10" H, Open aperture

Test Number

SP-00686_M-60L

Test Date

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

Summary of Results

Power

Input Watts	44 W
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Lumen Output

Output Lumens	4948
Efficacy	112.45 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.64
Two luminaires, plane 90°	0.66
Four luminaires	0.64

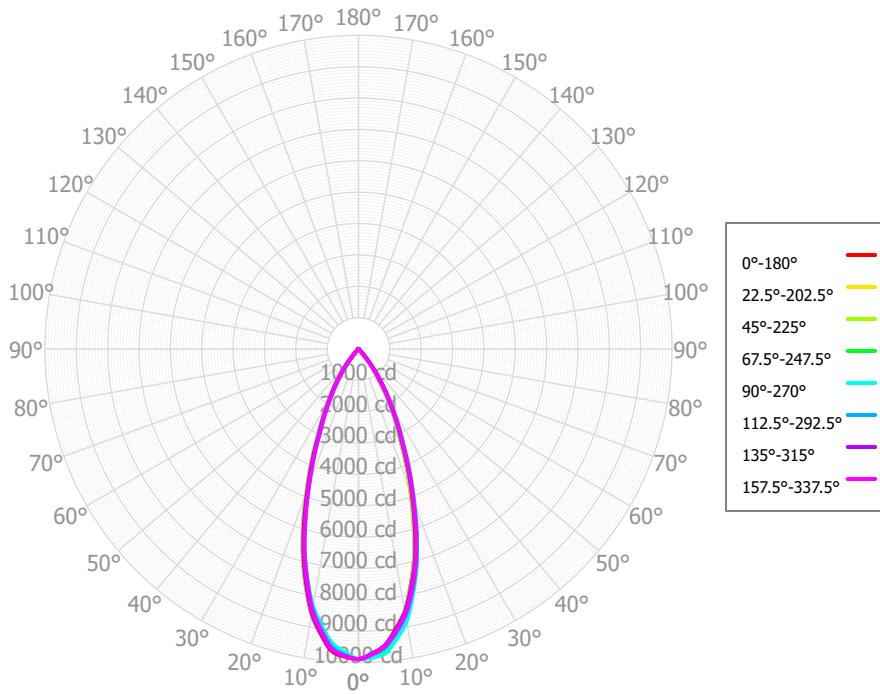
Full Beam Angle

0° - 180°	39°
90° - 270°	40°

IES File Header Contents

Keyword	Value
TEST	SP-00686_M-60L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	6/7/2018
UPDATE	6/12/2018
LUMCAT	SGRTV12BX-60L35K-MD-DO101-AR12BX-MWWF
LUMINAIRE	Nom. 12" Diam x 10" H, Open aperture
OTHER	Matte White reflector trim
OTHER	Deep regressed retrofit high output LED downlight
OTHER	BX Series, Medium Beam
OTHER	39.5 Deg Beam Angle
LAMPCAT	N/A
LAMP	N/A, Bridgelux Vero 29
OTHER	Dimmable driver tested at 100% output
OTHER	Tested CCT: 3500K
OTHER	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°	889.91	17.99%	90.00° - 100.00°	0.06	0.00%
10.00° - 20.00°	1862.46	37.64%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	1452.06	29.35%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	664.66	13.43%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	75.06	1.52%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	1.35	0.03%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	0.74	0.02%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	0.70	0.01%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.64	0.01%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	4947.59	100.00%	0.00° - 180.00°	4947.64	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°	9891.65	9891.65	9891.65	9891.65	9891.65	9891.65	9891.65	9891.65	9891.65	9891.65	9891.65	9891.65	9891.65	9891.65	9891.65	9891.65	9891.65
2.50°	9736.68	9777.07	9780.91	9829.90	9851.59	9771.32	9807.26	9808.64	9825.63	9798.84	9782.99	9715.24	9688.47	9757.57	9728.83	9753.03	9736.68
5.00°	9509.45	9575.25	9569.99	9684.82	9746.01	9561.37	9649.64	9613.54	9680.01	9603.26	9580.76	9451.33	9437.95	9561.46	9505.49	9532.39	9509.45
7.50°	9032.59	9121.42	9100.03	9281.48	9325.39	9029.41	9146.49	9089.08	9178.92	9099.64	9120.68	8958.47	8926.79	9143.92	9054.56	9105.18	9032.59
10.00°	8505.48	8584.25	8536.51	8745.58	8832.40	8417.42	8541.54	8477.76	8591.05	8521.45	8549.67	8368.79	8341.86	8643.26	8542.50	8597.67	8505.48
12.50°	7703.16	7803.14	7710.11	7983.01	8014.72	7544.31	7699.52	7593.73	7749.11	7663.03	7764.57	7554.08	7537.10	7928.81	7768.57	7867.90	7703.16
15.00°	6871.32	6936.27	6835.83	7096.09	7160.90	6633.83	6781.53	6673.51	6840.52	6769.61	6882.21	6684.34	6665.85	7129.34	6958.45	7045.13	6871.32
17.50°	5862.17	5956.06	5815.93	6104.76	6127.03	5590.50	5773.44	5632.05	5827.80	5731.77	5904.24	5677.06	5686.98	6188.70	5976.68	6097.96	5862.17
20.00°	4869.15	4932.81	4823.39	5053.20	5105.22	4577.59	4734.63	4622.75	4785.81	4719.30	4879.72	4700.93	4672.75	5187.67	5010.90	5095.78	4869.15
22.50°	3982.97	4040.45	3919.54	4123.02	4148.79	3680.59	3831.36	3730.94	3893.44	3819.69	3971.26	3807.28	3821.16	4288.39	4127.45	4197.24	3982.97
25.00°	3129.95	3200.72	3084.46	3266.42	3236.11	2844.14	2977.18	2902.30	3046.91	2972.34	3122.36	2989.69	3026.40	3435.08	3283.33	3347.85	3129.95
27.50°	2529.46	2557.06	2492.21	2590.67	2591.04	2261.22	2354.35	2321.26	2431.79	2383.04	2467.44	2385.79	2410.40	2766.49	2660.39	2674.32	2529.46
30.00°	1942.78	1996.80	1929.16	2031.80	1972.50	1711.68	1821.94	1776.40	1892.23	1823.27	1918.91	1822.32	1861.87	2185.98	2055.28	2088.71	1942.78
32.50°	1474.45	1523.58	1476.58	1556.28	1533.28	1313.01	1395.11	1387.63	1470.73	1422.27	1466.14	1381.79	1398.43	1671.42	1563.71	1583.28	1474.45
35.00°	1017.50	1090.13	1045.52	1137.31	1104.85	923.81	1011.95	1005.12	1090.98	1030.92	1068.60	965.79	969.00	1190.54	1086.55	1120.05	1017.50
37.50°	676.40	728.96	701.96	773.45	757.70	580.99	663.25	651.81	739.56	697.99	720.63	629.30	623.31	795.29	711.03	734.90	676.40
40.00°	348.20	402.63	385.48	449.37	424.44	269.19	329.86	328.72	398.78	383.15	402.72	328.67	313.05	446.07	357.24	393.67	348.20
42.50°	173.01	198.08	190.43	224.56	213.22	127.19	149.28	158.66	198.34	189.25	195.92	154.71	143.85	220.91	180.77	185.32	173.01
45.00°	8.61	56.33	26.41	74.92	20.25	5.23	40.40	13.19	53.71	17.40	60.93	15.59	38.72	66.94	20.56	55.55	8.61
47.50°	5.65	5.04	13.07	6.58	10.46	3.52	3.80	7.23	7.66	9.66	5.06	8.23	3.60	6.77	10.78	4.14	5.65
50.00°	2.80	2.86	1.75	2.77	1.41	1.95	2.96	2.05	3.77	2.66	2.85	2.19	2.03	3.18	1.82	2.14	2.80
52.50°	1.97	2.02	1.44	1.12	1.51	1.43	2.34	1.81	2.41	2.11	1.91	1.52	1.37	1.69	1.61	1.30	1.97
55.00°	1.15	1.94	1.13	1.29	1.58	0.95	1.85	1.56	2.20	1.57	1.87	0.97	1.18	1.55	1.39	1.23	1.15
57.50°	0.76	1.66	0.88	1.21	1.19	0.85	1.38	1.29	1.76	1.26	1.56	1.01	1.16	1.24	1.09	1.05	0.76
60.00°	0.37	1.26	0.67	0.92	0.81	0.76	0.90	1.01	1.22	0.95	1.02	1.01	1.25	0.81	0.79	0.78	0.37
62.50°	0.48	1.03	0.76	0.79	0.85	0.70	0.81	0.79	0.91	0.72	0.74	0.82	1.06	0.69	0.55	0.68	0.48
65.00°	0.58	0.92	0.83	0.82	0.89	0.66	0.95	0.58	0.72	0.51	0.64	0.69	0.71	0.77	0.33	0.70	0.58
67.50°	0.57	0.85	0.81	0.83	0.88	0.68	0.91	0.51	0.51	0.56	0.66	0.91	0.74	0.68	0.56	0.73	0.57
70.00°	0.58	0.80	0.75	0.84	0.87	0.68	0.76	0.48	0.29	0.59	0.77	1.00	0.97	0.47	0.76	0.78	0.58
72.50°	0.79	0.75	0.56	0.79	0.92	0.58	0.74	0.57	0.42	0.50	0.60	0.70	0.83	0.70	0.82	0.66	0.79
75.00°	0.85	0.69	0.49	0.72	0.86	0.52	0.74	0.59	0.63	0.43	0.34	0.50	0.61	1.08	0.75	0.51	0.85
77.50°	0.66	0.58	0.54	0.40	0.65	0.53	0.72	0.54	0.65	0.36	0.66	0.40	0.66	1.19	0.48	0.97	0.66
80.00°	0.53	0.40	0.80	0.44	1.02	0.50	0.74	0.61	0.60	0.28	0.74	0.79	0.63	1.09	0.45	0.98	0.53
82.50°	0.64	0.50	0.53	0.64	0.87	0.54	0.73	0.72	0.49	0.37	0.66	0.67	0.46	0.84	0.46	0.83	0.64
85.00°	0.64	0.93	0.57	0.50	0.64	0.56	0.64	0.70	0.44	0.64	0.67	0.50	0.26	0.64	0.46	0.85	0.64
87.50°	0.53	0.49	0.77	0.52	0.78	0.73	0.64	0.75	0.51	0.46	0.66	0.52	0.30	0.62	0.39	0.59	0.53
90.00°	0.75	0.19	0.55	0.34	0.38	0.65	0.29	0.64	0.22	0.68	0.22	0.24	0.51	0.21	0.42	0.35	0.75
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	5890	5890	5890	5890	5753	5753	5753	5753	5497	5497	5497	5263	5263	5263	5049	5049	5049	4948
	1	5652	5531	5422	5324	5532	5425	5327	5239	5226	5149	5079	5044	4984	4928	4876	4829	4786	4734
	2	5419	5208	5034	4888	5313	5124	4967	4833	4967	4839	4728	4823	4719	4628	4689	4606	4532	4517
	3	5194	4919	4706	4536	5100	4852	4657	4499	4726	4563	4429	4609	4474	4361	4501	4390	4295	4307
	4	4979	4657	4421	4241	4896	4603	4385	4216	4500	4315	4167	4405	4248	4120	4317	4184	4074	4108
	5	4775	4419	4171	3987	4700	4375	4143	3970	4291	4090	3936	4212	4038	3902	4139	3989	3869	3919
	6	4581	4202	3948	3765	4514	4165	3926	3753	4095	3885	3728	4030	3845	3704	3968	3807	3680	3742
	7	4398	4003	3747	3567	4338	3972	3730	3558	3913	3697	3540	3858	3666	3523	3806	3635	3505	3576
	8	4225	3820	3565	3390	4171	3794	3551	3383	3744	3525	3369	3696	3500	3356	3652	3475	3343	3421
	9	4063	3651	3399	3229	4014	3629	3388	3224	3586	3367	3213	3545	3346	3203	3507	3326	3194	3277
	10	3910	3495	3247	3082	3865	3476	3238	3078	3439	3221	3070	3404	3204	3063	3370	3187	3055	3142

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	327.0 fc	3.9 ft
6.5 ft	234.1 fc	4.7 ft
7.5 ft	175.9 fc	5.4 ft
8.0 ft	154.6 fc	5.7 ft
10.0 ft	98.9 fc	7.2 ft
12.0 ft	68.7 fc	8.6 ft
14.0 ft	50.5 fc	10.0 ft
16.0 ft	38.6 fc	11.5 ft
20.0 ft	24.7 fc	14.3 ft
24.0 ft	17.2 fc	17.2 ft
28.0 ft	12.6 fc	20.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	144081	144081	144081
45.00°	177	544	417
55.00°	29	29	40
65.00°	20	29	31
75.00°	48	28	48
85.00°	108	95	106

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	-21.1	-21.6	-20.8	-20.5	-23.7	-22.8	-23.4	-22.5	-22.2
	3H	-20.6	-19.8	-20.2	-19.5	-19.1	-20.9	-20.1	-20.5	-19.7	-19.4
	4H	-19.3	-18.5	-18.9	-18.2	-17.8	-19.6	-18.9	-19.2	-18.5	-18.1
	6H	-18.0	-17.3	-17.6	-16.9	-16.5	-18.0	-17.3	-17.6	-17.0	-16.6
	8H	-17.2	-16.6	-16.7	-16.2	-15.8	-17.0	-16.4	-16.5	-16.0	-15.6
	12H	-16.1	-15.5	-15.6	-15.1	-14.6	-16.2	-15.6	-15.8	-15.2	-14.8
4H	2H	-21.9	-21.2	-21.5	-20.8	-20.5	-23.1	-22.3	-22.7	-22.0	-21.6
	3H	-19.9	-19.4	-19.5	-18.9	-18.5	-20.0	-19.4	-19.6	-19.0	-18.6
	4H	-18.5	-17.9	-18.0	-17.5	-17.1	-18.8	-18.2	-18.3	-17.8	-17.4
	6H	-16.7	-16.3	-16.2	-15.8	-15.3	-16.9	-16.5	-16.4	-16.0	-15.5
	8H	-15.7	-15.3	-15.3	-14.9	-14.4	-15.8	-15.4	-15.3	-14.9	-14.4
	12H	-14.4	-14.0	-13.9	-13.5	-13.1	-14.9	-14.5	-14.4	-14.0	-13.5
8H	4H	-18.0	-17.6	-17.5	-17.1	-16.6	-18.3	-17.9	-17.8	-17.4	-16.9
	6H	-15.9	-15.5	-15.3	-15.0	-14.5	-16.1	-15.8	-15.6	-15.3	-14.8
	8H	-14.6	-14.3	-14.1	-13.8	-13.3	-14.8	-14.5	-14.3	-14.0	-13.5
	12H	-12.9	-12.6	-12.3	-12.1	-11.5	-13.7	-13.4	-13.2	-12.9	-12.4
12H	4H	-17.8	-17.4	-17.3	-16.9	-16.5	-18.2	-17.8	-17.7	-17.3	-16.8
	6H	-15.6	-15.3	-15.1	-14.9	-14.3	-15.8	-15.5	-15.3	-15.0	-14.5
	8H	-14.3	-14.0	-13.8	-13.5	-13.0	-14.4	-14.1	-13.9	-13.6	-13.1

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0