

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGRTV12BX-60L35K-XW-DO101-AR12BX-MWWF
Nom. 12" Diam x 10" H open aperture

Test Number

SP-00686_3_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	4912
Efficacy	111.64 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°	1.09
Four luminaires	0.98

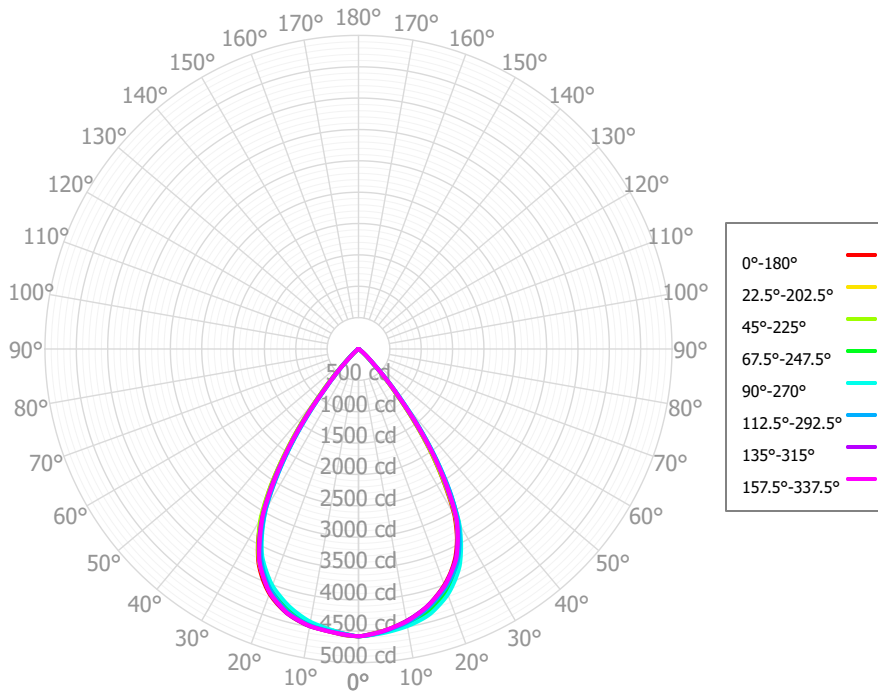
Full Beam Angle

0° - 180°	68°
90° - 270°	68°

IES File Header Contents

Keyword	Value
TEST	SP-00686_3_M-60L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	6/7/2018
UPDATE	6/12/2018
LUMCAT	SGRTV12BX-60L35K-XW-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, Xtra Wide Beam
OTHER	67.7 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°	436.14	8.88%	90.00° - 100.00°	0.08	0.00%
10.00° - 20.00°	1209.82	24.63%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	1679.13	34.18%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	1247.29	25.39%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	299.48	6.10%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	36.60	0.75%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	1.78	0.04%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	0.86	0.02%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.83	0.02%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	4911.93	100.00%	0.00° - 180.00°	4912.01	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°	4580.79	4580.79	4580.79	4580.79	4580.79	4580.79	4580.79	4580.79	4580.79	4580.79	4580.79	4580.79	4580.79	4580.79	4580.79	4580.79	4580.79
2.50°	4549.61	4559.29	4554.36	4564.20	4565.01	4552.56	4566.23	4560.64	4570.78	4560.56	4566.08	4553.35	4553.32	4563.72	4552.48	4556.79	4549.61
5.00°	4513.21	4517.06	4522.32	4532.76	4547.49	4528.33	4538.87	4537.64	4540.83	4536.66	4533.47	4519.36	4510.39	4524.84	4518.96	4515.46	4513.21
7.50°	4463.38	4470.30	4479.59	4499.26	4520.20	4506.08	4513.08	4513.64	4513.39	4510.37	4501.52	4483.08	4464.62	4481.18	4465.34	4466.31	4463.38
10.00°	4404.83	4421.70	4430.70	4465.41	4487.62	4471.54	4488.14	4483.38	4487.79	4476.61	4469.82	4442.68	4417.39	4434.40	4405.01	4414.64	4404.83
12.50°	4332.44	4350.90	4361.55	4407.10	4442.59	4415.04	4436.59	4428.89	4438.63	4420.34	4408.14	4367.87	4342.48	4365.24	4330.08	4336.69	4332.44
15.00°	4244.88	4270.49	4282.95	4344.23	4381.94	4338.96	4369.59	4364.26	4371.28	4352.98	4334.64	4289.14	4252.58	4280.61	4244.72	4249.73	4244.88
17.50°	4131.89	4163.71	4170.90	4236.09	4282.26	4225.89	4265.38	4257.28	4274.44	4249.87	4227.39	4172.89	4139.94	4176.50	4135.27	4139.03	4131.89
20.00°	4003.56	4044.83	4048.81	4118.71	4166.23	4089.45	4138.37	4135.67	4153.64	4130.11	4105.99	4051.16	4014.30	4058.23	4012.57	4019.64	4003.56
22.50°	3848.09	3887.32	3888.39	3959.41	4006.75	3906.34	3957.23	3947.65	3983.95	3952.73	3938.58	3868.21	3839.88	3910.74	3857.44	3862.35	3848.09
25.00°	3657.11	3711.04	3704.00	3790.80	3817.60	3677.95	3741.11	3735.71	3772.45	3747.80	3750.71	3676.39	3636.06	3740.90	3675.22	3690.29	3657.11
27.50°	3399.75	3435.13	3420.77	3507.24	3544.43	3353.84	3431.52	3402.93	3471.58	3440.31	3461.56	3365.85	3330.08	3492.82	3422.42	3429.61	3399.75
30.00°	3058.55	3108.02	3093.97	3195.92	3215.53	2964.93	3058.28	3039.89	3090.35	3088.20	3124.68	3041.49	2959.14	3181.73	3109.06	3132.22	3058.55
32.50°	2551.60	2636.18	2568.81	2703.58	2718.02	2430.86	2566.07	2508.94	2614.79	2556.80	2633.16	2488.67	2469.52	2744.38	2627.59	2669.44	2551.60
35.00°	2026.51	2084.79	2036.64	2163.99	2198.88	1881.04	1988.55	1970.25	2050.07	2017.74	2064.50	1935.71	1899.50	2200.08	2120.50	2133.91	2026.51
37.50°	1463.47	1540.77	1469.62	1607.71	1609.69	1293.81	1426.13	1384.10	1493.43	1445.33	1510.61	1379.75	1367.44	1654.66	1537.52	1586.75	1463.47
40.00°	961.17	1001.01	937.47	1046.74	1061.22	783.44	875.23	832.42	944.82	911.69	964.52	832.13	862.46	1108.25	1007.04	1034.17	961.17
42.50°	593.52	626.66	595.36	667.75	654.24	467.25	505.07	516.10	548.02	561.77	592.34	536.80	521.05	695.89	642.97	658.13	593.52
45.00°	305.52	353.55	288.47	343.75	310.36	216.15	280.00	227.19	309.83	254.51	317.06	245.74	302.50	409.08	336.22	369.25	305.52
47.50°	204.77	200.89	193.42	201.73	202.55	140.04	144.66	148.70	156.59	168.42	172.56	169.30	170.41	225.55	224.28	217.02	204.77
50.00°	120.03	125.96	105.74	118.62	107.95	75.52	85.08	75.14	96.69	90.03	104.97	93.16	106.66	143.70	126.54	136.13	120.03
52.50°	75.28	75.49	67.44	71.39	66.75	44.21	44.95	46.06	52.66	55.61	60.61	59.19	61.41	84.59	80.70	82.58	75.28
55.00°	37.65	41.65	31.83	36.58	30.62	18.41	22.09	18.75	26.95	24.36	30.67	25.21	31.54	49.03	40.30	44.11	37.65
57.50°	18.94	20.28	17.02	18.41	16.64	9.50	8.81	10.02	10.35	13.06	13.70	14.01	13.39	23.82	21.29	21.40	18.94
60.00°	4.67	7.83	3.61	6.37	4.72	2.46	4.46	1.91	4.80	3.04	5.21	2.93	5.49	9.87	5.46	7.85	4.67
62.50°	2.93	2.16	2.35	2.27	2.58	1.62	2.01	1.35	1.51	2.03	1.63	1.93	1.55	2.11	3.16	2.21	2.93
65.00°	1.53	1.58	1.21	1.32	0.78	0.95	1.43	0.82	1.16	1.11	1.42	1.11	1.26	1.42	1.22	1.43	1.53
67.50°	1.13	1.07	1.13	1.04	0.83	0.90	1.10	0.80	0.94	0.88	1.16	0.95	1.06	1.01	1.00	1.04	1.13
70.00°	0.80	0.60	1.05	1.03	0.86	0.86	1.01	0.77	0.88	0.67	0.87	0.82	0.95	0.93	0.83	0.91	0.80
72.50°	0.74	0.57	0.94	1.09	0.76	0.86	0.90	0.73	0.88	0.72	0.74	0.94	0.85	0.81	0.91	0.77	0.74
75.00°	0.67	0.92	0.84	1.17	0.71	0.85	0.78	0.68	0.96	0.77	0.74	1.08	0.76	0.66	0.94	0.63	0.67
77.50°	0.62	1.02	0.79	1.03	0.89	0.81	0.78	0.69	0.96	0.75	0.65	1.02	0.78	0.65	0.73	0.59	0.62
80.00°	0.58	0.92	0.77	0.80	1.00	0.86	0.90	0.73	0.85	0.71	0.49	0.95	0.88	0.79	0.59	0.61	0.58
82.50°	0.57	0.64	0.88	0.65	0.96	1.04	0.69	0.84	0.82	0.63	0.78	0.89	0.69	0.75	0.58	0.74	0.57
85.00°	0.60	0.60	0.75	0.71	0.82	0.75	0.55	0.79	0.95	0.78	0.89	0.98	0.72	0.72	0.82	0.88	0.60
87.50°	0.54	0.79	0.76	0.86	0.80	0.74	0.76	0.70	1.09	0.68	0.76	0.95	0.99	0.78	0.93	0.91	0.54
90.00°	0.40	0.70	0.67	0.67	0.45	0.60	0.84	0.38	0.48	0.50	0.91	0.69	0.49	0.42	0.51	0.70	0.40
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%	0%	
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%	
	0	5848	5848	5848	5848	5712	5712	5712	5712	5458	5458	5458	5225	5225	5225	5012	5012	5012	4912
	1	5572	5434	5311	5200	5451	5328	5218	5117	5129	5041	4960	4946	4877	4812	4778	4724	4673	4629
	2	5291	5048	4848	4679	5181	4963	4781	4626	4804	4654	4525	4657	4535	4428	4522	4423	4335	4336
	3	5016	4696	4448	4250	4918	4627	4399	4215	4498	4306	4148	4378	4217	4082	4267	4134	4019	4054
	4	4753	4375	4098	3887	4664	4319	4062	3864	4212	3992	3818	4114	3925	3773	4022	3862	3729	3789
	5	4503	4084	3791	3575	4422	4037	3763	3559	3948	3709	3526	3866	3658	3495	3789	3609	3464	3543
	6	4266	3819	3518	3302	4193	3779	3496	3291	3705	3454	3268	3635	3414	3245	3570	3375	3223	3316
	7	4045	3577	3274	3062	3978	3544	3257	3053	3481	3224	3037	3421	3192	3020	3366	3161	3004	3107
	8	3837	3358	3056	2848	3777	3329	3042	2842	3275	3015	2830	3224	2989	2818	3176	2964	2806	2916
	9	3644	3158	2859	2658	3589	3133	2848	2653	3086	2826	2644	3042	2805	2635	3000	2784	2625	2741
	10	3465	2975	2682	2487	3414	2954	2673	2483	2913	2654	2476	2874	2637	2469	2838	2620	2462	2581

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	151.4 fc	7.4 ft
6.5 ft	108.4 fc	8.7 ft
7.5 ft	81.4 fc	10.1 ft
8.0 ft	71.6 fc	10.7 ft
10.0 ft	45.8 fc	13.4 ft
12.0 ft	31.8 fc	16.1 ft
14.0 ft	23.4 fc	18.8 ft
16.0 ft	17.9 fc	21.5 ft
20.0 ft	11.5 fc	26.8 ft
24.0 ft	8.0 fc	32.2 ft
28.0 ft	5.8 fc	37.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	66723	66723	66723
45.00°	6294	5942	6393
55.00°	956	808	777
65.00°	53	42	27
75.00°	38	47	40
85.00°	101	126	137

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	-3.0	-2.0	-2.6	-1.7	-1.4	-6.5	-5.5	-6.1	-5.2	-4.9
	3H	-3.1	-2.3	-2.8	-2.0	-1.6	-6.6	-5.8	-6.3	-5.5	-5.1
	4H	-3.2	-2.4	-2.8	-2.1	-1.7	-6.7	-5.9	-6.3	-5.6	-5.2
	6H	-3.3	-2.6	-2.9	-2.2	-1.8	-6.7	-6.0	-6.3	-5.6	-5.2
	8H	-3.4	-2.7	-2.9	-2.3	-1.9	-6.7	-6.0	-6.3	-5.6	-5.2
	12H	-3.4	-2.8	-3.0	-2.4	-1.9	-6.7	-6.0	-6.2	-5.6	-5.2
4H	2H	-3.2	-2.5	-2.8	-2.1	-1.7	-6.8	-6.0	-6.3	-5.6	-5.2
	3H	-3.4	-2.8	-3.0	-2.4	-2.0	-6.9	-6.3	-6.5	-5.9	-5.5
	4H	-3.5	-3.0	-3.1	-2.6	-2.1	-7.0	-6.4	-6.5	-6.0	-5.5
	6H	-3.6	-3.1	-3.1	-2.7	-2.2	-6.9	-6.4	-6.4	-6.0	-5.5
	8H	-3.7	-3.2	-3.2	-2.8	-2.3	-6.8	-6.4	-6.4	-5.9	-5.5
	12H	-3.7	-3.3	-3.2	-2.8	-2.3	-6.7	-6.3	-6.2	-5.9	-5.4
8H	4H	-3.7	-3.3	-3.2	-2.8	-2.3	-7.1	-6.7	-6.6	-6.2	-5.7
	6H	-3.8	-3.4	-3.3	-2.9	-2.4	-7.0	-6.7	-6.5	-6.1	-5.7
	8H	-3.8	-3.5	-3.3	-3.0	-2.5	-6.9	-6.5	-6.3	-6.0	-5.5
	12H	-3.8	-3.5	-3.3	-3.0	-2.4	-6.6	-6.3	-6.1	-5.8	-5.2
12H	4H	-3.8	-3.4	-3.3	-2.9	-2.4	-7.2	-6.8	-6.7	-6.3	-5.8
	6H	-3.8	-3.5	-3.3	-3.1	-2.5	-7.0	-6.7	-6.5	-6.3	-5.7
	8H	-3.8	-3.6	-3.3	-3.1	-2.5	-6.8	-6.6	-6.3	-6.1	-5.5

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0