

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGRTV12BX-70L35K-ND-DO101-AR12BX-MWWF
Nom. 12" Diam x 10" H, Open aperture

Test Number

SP-00686_1_M-70L

Test Date

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

Summary of Results

Power

Input Watts	51 W
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Lumen Output

Output Lumens	5594
Efficacy	109.69 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.39
Two luminaires, plane 90°	0.4
Four luminaires	0.41

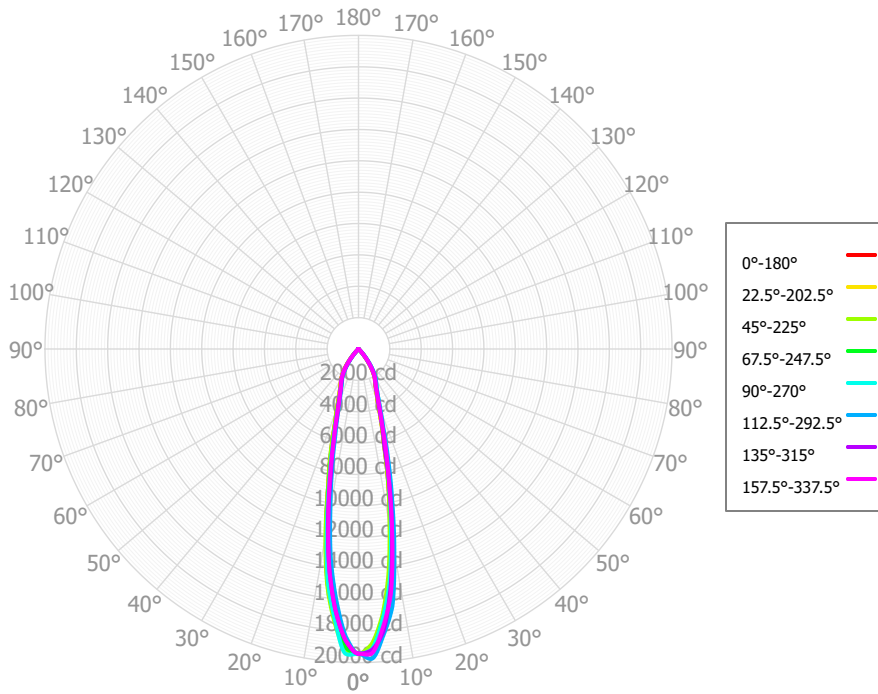
Full Beam Angle

0° - 180°	23°
90° - 270°	23°

IES File Header Contents

Keyword	Value
TEST	SP-00686_1_M-70L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	6/7/2018
UPDATE	6/12/2018
LUMCAT	SGRTV12BX-70L35K-ND-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, 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	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°	1486.48	26.57%	90.00° - 100.00°	0.07	0.00%
10.00° - 20.00°	1839.88	32.89%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	1252.89	22.40%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	855.03	15.28%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	156.28	2.79%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	1.46	0.03%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	0.75	0.01%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	0.67	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°	5594.08	100.00%	0.00° - 180.00°	5594.14	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°	19434.22	19434.22	19434.22	19434.22	19434.22	19434.22	19434.22	19434.22	19434.22	19434.22	19434.22	19434.22	19434.22	19434.22	19434.22	19434.22	19434.22
2.50°	19078.94	19013.71	18866.42	19221.93	19173.81	18384.63	18647.29	18615.21	19102.66	18788.97	19211.57	19050.54	19443.92	19774.56	19227.22	19442.35	19078.94
5.00°	17334.18	17475.13	17158.30	17438.71	17404.32	16132.27	16763.53	16764.81	17236.32	17355.25	17510.54	17223.34	17319.09	18318.57	18119.70	17835.65	17334.18
7.50°	14886.61	14989.23	14581.69	15275.80	15107.60	13510.08	14191.03	14244.50	15098.92	14672.33	15236.15	14667.88	14955.68	16563.10	15540.89	15786.02	14886.61
10.00°	11565.29	12025.80	11401.96	12112.39	11914.36	10309.44	11212.81	11084.15	11928.56	11638.03	12138.47	11407.47	11599.69	13163.94	12316.87	12437.87	11565.29
12.50°	8750.11	8835.06	8716.53	9006.35	9101.84	7744.55	8110.71	8449.24	8926.24	8935.79	8939.23	8694.02	8532.20	9940.75	9308.10	9130.50	8750.11
15.00°	6269.94	6672.80	6199.32	6831.78	6636.59	5715.47	6235.34	6080.15	6775.23	6370.04	6881.50	6261.37	6376.71	7339.22	6339.70	6858.96	6269.94
17.50°	4757.00	4720.95	4783.76	4947.90	5038.30	4427.14	4541.36	4726.46	4982.84	5005.25	5007.74	4827.62	4677.17	5261.51	4965.76	4897.67	4757.00
20.00°	3564.58	3801.80	3536.70	3912.60	3856.24	3463.40	3733.06	3600.65	3961.36	3819.59	4012.61	3622.96	3681.94	4063.27	3707.00	3857.91	3564.58
22.50°	3002.88	2975.56	3025.97	3131.88	3222.53	2957.67	3024.41	3098.85	3214.88	3206.01	3197.37	3084.47	3014.33	3239.06	3101.71	3061.01	3002.88
25.00°	2520.52	2627.01	2568.47	2715.85	2702.51	2534.16	2667.48	2645.65	2778.33	2727.12	2754.42	2602.10	2619.55	2752.00	2603.29	2621.58	2520.52
27.50°	2284.05	2301.35	2322.81	2394.16	2448.36	2284.37	2349.41	2400.24	2462.43	2457.94	2408.19	2362.76	2338.09	2433.03	2347.48	2294.19	2284.05
30.00°	2018.78	2031.33	2039.14	2146.46	2185.47	2019.26	2095.65	2134.50	2219.61	2170.39	2167.41	2095.07	2105.61	2193.68	2062.72	2055.81	2018.78
32.50°	1646.74	1706.96	1686.89	1812.30	1838.35	1669.59	1782.38	1815.12	1910.91	1867.44	1852.89	1751.31	1744.11	1853.48	1743.31	1722.58	1646.74
35.00°	1268.42	1313.65	1309.54	1443.93	1477.79	1302.43	1416.19	1458.46	1583.14	1510.17	1495.27	1388.89	1360.02	1492.81	1379.38	1350.56	1268.42
37.50°	879.04	936.01	907.70	1051.01	1084.31	895.65	1024.43	1051.83	1184.16	1129.21	1118.32	1001.13	979.11	1102.04	987.10	977.89	879.04
40.00°	544.17	568.96	567.66	656.51	707.25	544.77	620.75	680.80	785.65	748.44	736.03	647.98	613.42	724.71	652.43	606.94	544.17
42.50°	260.09	310.00	259.18	361.88	351.19	259.88	350.00	335.54	455.26	368.05	435.71	320.25	329.90	435.48	335.89	354.84	260.09
45.00°	107.03	87.82	114.16	106.90	142.73	100.82	105.57	150.66	177.22	185.31	159.24	143.05	112.21	195.76	171.32	132.75	107.03
47.50°	19.37	34.55	7.14	44.05	34.79	21.80	49.09	24.29	71.09	28.34	69.82	21.70	41.79	77.70	29.89	56.06	19.37
50.00°	2.83	1.41	2.29	1.90	4.62	2.34	2.47	5.82	4.98	12.47	1.90	4.82	3.07	9.23	13.67	3.41	2.83
52.50°	1.58	1.33	1.05	2.32	1.18	1.29	1.66	1.48	2.49	1.44	1.44	1.98	1.35	3.37	1.00	1.72	1.58
55.00°	1.48	1.27	1.08	2.14	0.77	0.99	1.23	1.31	1.17	1.33	1.11	1.32	0.73	0.94	0.83	0.70	1.48
57.50°	1.35	1.26	1.15	1.30	0.69	0.75	1.75	1.14	0.85	1.13	0.99	0.78	0.81	0.83	0.74	0.42	1.35
60.00°	0.87	1.14	1.35	1.13	0.61	0.60	1.68	0.94	0.64	0.83	0.87	0.70	0.79	0.74	0.79	0.37	0.87
62.50°	0.61	0.80	1.23	1.36	0.59	0.53	0.88	0.75	0.49	0.73	0.76	0.59	0.74	0.66	0.76	0.47	0.61
65.00°	0.90	0.78	0.67	1.07	0.84	0.69	0.52	0.55	0.71	0.75	0.75	0.42	0.98	0.96	0.68	0.51	0.90
67.50°	0.88	1.08	0.54	0.65	0.91	0.67	0.46	0.57	1.00	0.61	0.79	0.35	1.20	1.26	0.80	0.53	0.88
70.00°	0.46	1.32	0.73	0.66	0.65	0.35	0.56	0.80	0.88	0.41	0.52	0.38	0.82	0.98	1.01	0.46	0.46
72.50°	0.39	1.52	0.65	0.67	0.52	0.38	0.72	0.67	0.74	0.64	0.26	0.60	0.63	0.68	0.69	0.43	0.39
75.00°	0.53	1.01	0.50	0.59	0.49	0.64	0.72	0.44	0.55	0.72	0.37	0.85	0.85	0.33	0.44	0.62	0.53
77.50°	0.63	0.70	0.46	0.50	0.88	0.76	0.56	0.87	0.49	0.42	0.52	0.49	1.11	0.76	0.67	0.51	0.63
80.00°	0.62	0.73	0.58	0.51	0.75	0.72	0.32	0.91	0.58	0.38	0.62	0.42	1.12	1.11	0.47	0.31	0.62
82.50°	0.55	0.41	0.61	0.80	0.55	0.61	0.63	0.76	0.88	0.48	0.32	0.46	0.66	0.66	0.38	0.40	0.55
85.00°	0.54	0.70	0.49	0.70	0.90	0.53	0.88	0.73	0.89	0.84	0.33	0.47	0.44	0.33	0.41	0.97	0.54
87.50°	0.75	0.63	0.46	0.56	0.54	0.64	0.51	0.46	0.69	0.50	0.80	0.47	0.61	0.55	0.51	0.69	0.75
90.00°	0.67	0.13	0.18	0.12	0.71	0.77	0.35	0.61	0.27	0.87	0.11	0.83	0.49	0.18	0.68	0.75	0.67
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-70L35K-ND-DO101-AR12BX-MWWF

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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	6660	6660	6660	6660	6505	6505	6505	6505	6216	6216	6216	5951	5951	5951	5708	5708	5708	5594
	1	6400	6266	6146	6038	6265	6146	6040	5943	5922	5838	5761	5716	5651	5590	5527	5476	5429	5368
	2	6145	5913	5722	5562	6026	5819	5646	5500	5642	5502	5380	5479	5366	5267	5328	5238	5158	5137
	3	5901	5599	5365	5179	5796	5524	5310	5138	5382	5204	5057	5251	5103	4980	5129	5008	4905	4914
	4	5669	5316	5058	4861	5576	5255	5017	4833	5141	4938	4777	5034	4862	4723	4935	4790	4671	4703
	5	5449	5061	4790	4590	5367	5011	4759	4570	4917	4699	4531	4830	4641	4493	4748	4585	4455	4505
	6	5243	4830	4553	4354	5169	4789	4529	4340	4711	4482	4312	4638	4437	4284	4569	4394	4257	4320
	7	5048	4619	4341	4146	4982	4585	4322	4136	4519	4285	4115	4458	4250	4095	4400	4216	4075	4148
	8	4866	4427	4151	3961	4807	4398	4136	3953	4342	4106	3938	4290	4078	3922	4241	4050	3907	3988
	9	4696	4251	3978	3794	4642	4226	3966	3788	4178	3942	3777	4134	3919	3765	4091	3897	3754	3839
	10	4536	4089	3822	3644	4488	4068	3812	3639	4027	3792	3630	3988	3773	3621	3951	3755	3612	3702

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	642.5 fc	2.3 ft
6.5 ft	460.0 fc	2.7 ft
7.5 ft	345.5 fc	3.1 ft
8.0 ft	303.7 fc	3.3 ft
10.0 ft	194.3 fc	4.1 ft
12.0 ft	135.0 fc	4.9 ft
14.0 ft	99.2 fc	5.7 ft
16.0 ft	75.9 fc	6.6 ft
20.0 ft	48.6 fc	8.2 ft
24.0 ft	33.7 fc	9.8 ft
28.0 ft	24.8 fc	11.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	283076	283076	283076
45.00°	2205	2352	2940
55.00°	38	27	20
65.00°	31	23	29
75.00°	30	28	27
85.00°	90	81	151

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	-24.1	-23.2	-23.7	-22.9	-22.6	-25.9	-25.0	-25.6	-24.7	-24.4
	3H	-21.5	-20.7	-21.1	-20.4	-20.0	-22.9	-22.1	-22.5	-21.7	-21.4
	4H	-20.4	-19.7	-20.0	-19.3	-18.9	-21.2	-20.5	-20.8	-20.1	-19.7
	6H	-19.0	-18.3	-18.6	-17.9	-17.5	-18.2	-17.5	-17.8	-17.2	-16.8
	8H	-18.3	-17.6	-17.8	-17.3	-16.8	-17.4	-16.7	-16.9	-16.3	-15.9
	12H	-17.3	-16.7	-16.9	-16.3	-15.9	-16.4	-15.8	-15.9	-15.4	-14.9
4H	2H	-23.7	-22.9	-23.2	-22.6	-22.2	-25.2	-24.4	-24.8	-24.1	-23.7
	3H	-20.3	-19.7	-19.9	-19.3	-18.9	-22.3	-21.7	-21.9	-21.3	-20.9
	4H	-18.8	-18.3	-18.4	-17.9	-17.4	-20.0	-19.5	-19.6	-19.1	-18.6
	6H	-17.4	-17.0	-16.9	-16.5	-16.0	-17.1	-16.7	-16.6	-16.2	-15.7
	8H	-16.7	-16.3	-16.2	-15.8	-15.4	-16.2	-15.7	-15.7	-15.3	-14.8
	12H	-15.6	-15.2	-15.1	-14.7	-14.2	-15.0	-14.7	-14.5	-14.2	-13.7
8H	4H	-18.5	-18.0	-18.0	-17.6	-17.1	-19.5	-19.1	-19.0	-18.6	-18.1
	6H	-16.8	-16.5	-16.3	-16.0	-15.5	-16.6	-16.2	-16.1	-15.7	-15.2
	8H	-16.0	-15.7	-15.4	-15.2	-14.7	-15.4	-15.1	-14.9	-14.6	-14.1
	12H	-14.3	-14.0	-13.7	-13.5	-12.9	-14.1	-13.8	-13.5	-13.3	-12.7
12H	4H	-18.3	-17.9	-17.8	-17.4	-17.0	-19.3	-19.0	-18.8	-18.5	-18.0
	6H	-16.6	-16.3	-16.0	-15.8	-15.3	-16.4	-16.1	-15.9	-15.6	-15.1
	8H	-15.6	-15.4	-15.1	-14.9	-14.3	-15.2	-14.9	-14.6	-14.4	-13.8

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0