

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

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

Test Number

SP-00686_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	5599
Efficacy	109.78 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

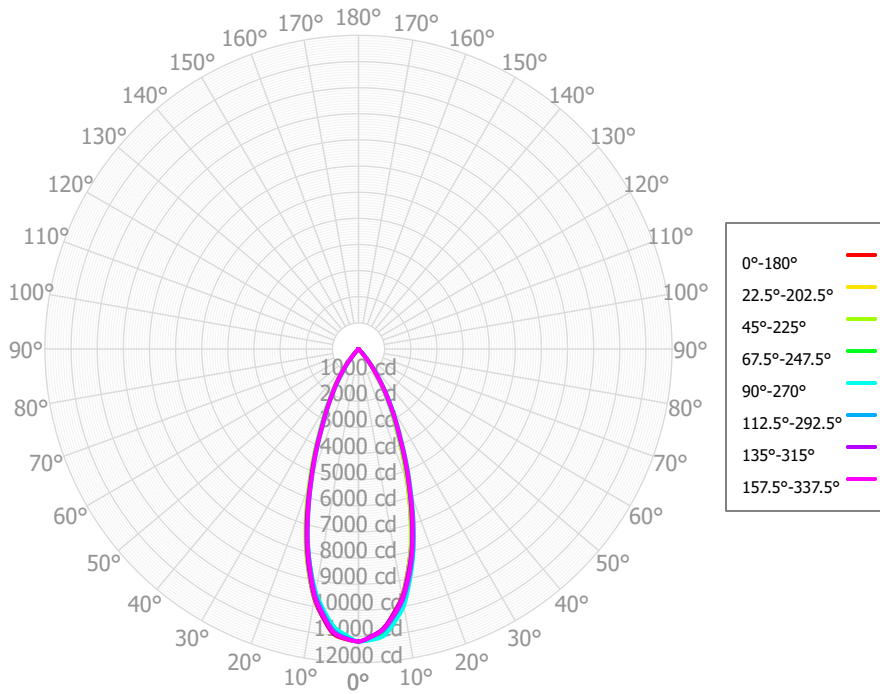
Full Beam Angle

0° - 180°	39°
90° - 270°	40°

IES File Header Contents

Keyword	Value
TEST	SP-00686_M-70L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	6/7/2018
UPDATE	6/12/2018
LUMCAT	SGRTV12BX-70L35K-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°	1007.01	17.99%	90.00° - 100.00°	0.06	0.00%
10.00° - 20.00°	2107.52	37.64%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	1643.12	29.35%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	752.11	13.43%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	84.94	1.52%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	1.52	0.03%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	0.84	0.02%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	0.79	0.01%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.72	0.01%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	5598.59	100.00%	0.00° - 180.00°	5598.65	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°	1193.19	1193.19	1193.19	1193.19	1193.19	1193.19	1193.19	1193.19	1193.19	1193.19	1193.19	1193.19	1193.19	1193.19	1193.19	1193.19	1193.19
2.50°	11017.82	11063.52	11067.87	11123.31	11147.85	11057.02	11097.68	11099.25	11118.48	11088.16	11070.22	10993.56	10963.27	11041.46	11008.93	11036.32	11017.82
5.00°	10760.69	10835.15	10829.20	10959.14	11028.38	10819.44	10919.33	10878.48	10953.70	10866.84	10841.38	10694.93	10679.78	10819.55	10756.21	10786.66	10760.69
7.50°	10221.08	10321.61	10297.41	10502.72	10552.42	10217.49	10349.98	10285.01	10386.67	10296.96	10320.77	10137.22	10101.37	10347.07	10245.95	10303.23	10221.08
10.00°	9624.62	9713.76	9659.74	9896.31	9994.55	9524.98	9665.43	9593.25	9721.45	9642.70	9674.63	9469.95	9439.47	9780.54	9666.51	9728.94	9624.62
12.50°	8716.74	8829.87	8724.59	9033.40	9069.29	8536.98	8712.61	8592.91	8768.73	8671.33	8786.23	8548.04	8528.82	8972.08	8790.75	8903.15	8716.74
15.00°	7775.44	7848.94	7735.28	8029.78	8103.12	7506.71	7673.84	7551.60	7740.59	7660.35	7787.76	7563.86	7542.94	8067.42	7874.03	7972.12	7775.44
17.50°	6633.51	6739.76	6581.18	6908.02	6933.22	6326.09	6533.11	6373.11	6594.62	6485.95	6681.11	6424.04	6435.27	7003.01	6763.09	6900.32	6633.51
20.00°	5509.83	5581.87	5458.04	5718.10	5776.96	5179.90	5357.61	5231.00	5415.53	5340.26	5521.79	5319.47	5287.59	5870.26	5670.23	5766.28	5509.83
22.50°	4507.05	4572.09	4435.27	4665.52	4694.69	4164.88	4335.48	4221.85	4405.74	4322.28	4493.80	4308.23	4323.94	4852.65	4670.54	4749.51	4507.05
25.00°	3541.79	3621.87	3490.31	3696.22	3661.91	3218.37	3368.91	3284.18	3447.82	3363.43	3533.20	3383.07	3424.61	3887.06	3715.35	3788.36	3541.79
27.50°	2862.28	2893.51	2820.14	2931.55	2931.97	2558.75	2664.13	2626.69	2751.76	2696.60	2792.10	2699.72	2727.56	3130.50	3010.44	3026.21	2862.28
30.00°	2198.41	2259.53	2183.00	2299.14	2232.04	1936.90	2061.67	2010.13	2141.20	2063.17	2171.40	2062.10	2106.86	2473.60	2325.72	2363.54	2198.41
32.50°	1668.46	1724.05	1670.87	1761.05	1735.03	1485.77	1578.67	1570.21	1664.24	1609.41	1659.05	1563.60	1582.43	1891.35	1769.46	1791.60	1668.46
35.00°	1151.38	1233.56	1183.09	1286.96	1250.23	1045.36	1145.10	1137.37	1234.53	1166.56	1209.21	1092.87	1096.50	1347.19	1229.52	1267.43	1151.38
37.50°	765.40	824.88	794.33	875.22	857.40	657.44	750.52	737.58	836.87	789.83	815.46	712.10	705.33	899.94	804.59	831.60	765.40
40.00°	394.02	455.60	436.21	508.49	480.28	304.61	373.26	371.98	451.25	433.56	455.71	371.92	354.24	504.76	404.24	445.47	394.02
42.50°	195.77	224.14	215.49	254.11	241.28	143.93	168.93	179.54	224.44	214.15	221.70	175.07	162.78	249.97	204.56	209.71	195.77
45.00°	9.74	63.74	29.88	84.78	22.92	5.92	45.72	14.93	60.77	19.69	68.94	17.64	43.82	75.75	23.27	62.86	9.74
47.50°	6.39	5.70	14.79	7.45	11.84	3.98	4.30	8.18	8.67	10.93	5.72	9.31	4.08	7.66	12.20	4.69	6.39
50.00°	3.17	3.24	1.98	3.14	1.60	2.21	3.34	2.32	4.27	3.01	3.23	2.48	2.30	3.59	2.06	2.42	3.17
52.50°	2.23	2.28	1.62	1.27	1.71	1.61	2.65	2.05	2.73	2.38	2.16	1.71	1.55	1.91	1.82	1.47	2.23
55.00°	1.30	2.19	1.27	1.46	1.79	1.08	2.10	1.77	2.48	1.78	2.12	1.10	1.33	1.76	1.58	1.40	1.30
57.50°	0.86	1.88	0.99	1.37	1.34	0.96	1.56	1.45	1.99	1.43	1.76	1.14	1.31	1.41	1.23	1.19	0.86
60.00°	0.42	1.42	0.76	1.04	0.92	0.85	1.02	1.15	1.38	1.08	1.16	1.14	1.41	0.92	0.89	0.89	0.42
62.50°	0.54	1.17	0.86	0.90	0.97	0.80	0.92	0.89	1.03	0.82	0.83	0.92	1.19	0.78	0.62	0.77	0.54
65.00°	0.66	1.04	0.94	0.93	1.01	0.75	1.08	0.66	0.82	0.58	0.73	0.78	0.80	0.87	0.37	0.79	0.66
67.50°	0.64	0.96	0.91	0.94	0.99	0.77	1.03	0.58	0.58	0.64	0.75	1.03	0.83	0.77	0.63	0.82	0.64
70.00°	0.66	0.91	0.84	0.95	0.99	0.77	0.87	0.54	0.33	0.67	0.87	1.13	1.10	0.53	0.86	0.88	0.66
72.50°	0.90	0.85	0.64	0.90	1.04	0.65	0.83	0.65	0.48	0.57	0.68	0.79	0.94	0.79	0.93	0.75	0.90
75.00°	0.96	0.78	0.55	0.82	0.97	0.59	0.84	0.67	0.71	0.48	0.38	0.57	0.69	1.22	0.84	0.58	0.96
77.50°	0.74	0.66	0.61	0.46	0.73	0.59	0.81	0.61	0.74	0.41	0.75	0.45	0.75	1.34	0.54	1.10	0.74
80.00°	0.60	0.45	0.91	0.49	1.16	0.56	0.83	0.69	0.68	0.32	0.84	0.90	0.72	1.23	0.51	1.11	0.60
82.50°	0.73	0.57	0.60	0.72	0.99	0.61	0.82	0.81	0.55	0.42	0.75	0.76	0.52	0.95	0.52	0.94	0.73
85.00°	0.73	1.06	0.64	0.57	0.72	0.63	0.73	0.79	0.49	0.73	0.76	0.56	0.29	0.73	0.52	0.96	0.73
87.50°	0.60	0.56	0.87	0.59	0.88	0.83	0.72	0.85	0.58	0.52	0.75	0.59	0.34	0.71	0.45	0.67	0.60
90.00°	0.85	0.22	0.62	0.39	0.43	0.73	0.33	0.72	0.24	0.77	0.25	0.27	0.58	0.24	0.48	0.39	0.85
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-MD-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%	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	6665	6665	6665	6665	6510	6510	6510	6510	6221	6221	6221	5956	5956	5956	5713	5713	5599
	1	6396	6258	6135	6024	6260	6138	6028	5929	5914	5827	5747	5707	5639	5576	5517	5465	5357
	2	6132	5893	5696	5531	6012	5799	5620	5469	5621	5476	5350	5457	5340	5237	5306	5212	5111
	3	5877	5566	5325	5133	5771	5490	5269	5092	5347	5163	5011	5216	5063	4934	5093	4967	4874
	4	5634	5270	5003	4799	5540	5208	4962	4771	5093	4882	4716	4985	4807	4662	4885	4734	4648
	5	5403	5001	4720	4512	5319	4950	4688	4492	4855	4628	4454	4766	4570	4416	4683	4514	4435
	6	5184	4755	4467	4260	5108	4713	4443	4246	4634	4396	4219	4560	4351	4191	4490	4307	4235
	7	4977	4530	4240	4037	4909	4495	4221	4026	4428	4184	4006	4365	4148	3986	4307	4114	3966
	8	4781	4323	4034	3836	4720	4293	4019	3828	4236	3989	3813	4183	3960	3798	4133	3933	3783
	9	4597	4132	3846	3654	4542	4106	3834	3648	4058	3810	3636	4012	3787	3625	3968	3764	3708
	10	4424	3955	3675	3488	4374	3933	3664	3483	3891	3645	3474	3851	3625	3466	3814	3607	3555

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	370.0 fc	3.9 ft
6.5 ft	264.9 fc	4.7 ft
7.5 ft	199.0 fc	5.4 ft
8.0 ft	174.9 fc	5.7 ft
10.0 ft	111.9 fc	7.2 ft
12.0 ft	77.7 fc	8.6 ft
14.0 ft	57.1 fc	10.0 ft
16.0 ft	43.7 fc	11.5 ft
20.0 ft	28.0 fc	14.3 ft
24.0 ft	19.4 fc	17.2 ft
28.0 ft	14.3 fc	20.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	163039	163039	163039
45.00°	201	616	472
55.00°	33	32	45
65.00°	23	32	35
75.00°	54	31	55
85.00°	122	107	120

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	-21.6	-20.7	-21.2	-20.4	-20.0	-23.3	-22.4	-22.9	-22.1	-21.8
	3H	-20.2	-19.4	-19.8	-19.1	-18.7	-20.4	-19.6	-20.0	-19.3	-18.9
	4H	-18.8	-18.1	-18.4	-17.8	-17.4	-19.2	-18.4	-18.8	-18.1	-17.7
	6H	-17.5	-16.9	-17.1	-16.5	-16.1	-17.6	-16.9	-17.1	-16.5	-16.1
	8H	-16.7	-16.1	-16.3	-15.7	-15.3	-16.5	-15.9	-16.1	-15.5	-15.1
	12H	-15.6	-15.0	-15.2	-14.6	-14.2	-15.8	-15.2	-15.4	-14.8	-14.4
4H	2H	-21.5	-20.8	-21.1	-20.4	-20.0	-22.6	-21.9	-22.2	-21.6	-21.2
	3H	-19.5	-18.9	-19.1	-18.5	-18.1	-19.5	-19.0	-19.1	-18.5	-18.1
	4H	-18.0	-17.5	-17.6	-17.1	-16.6	-18.3	-17.8	-17.9	-17.4	-16.9
	6H	-16.3	-15.8	-15.8	-15.4	-14.9	-16.5	-16.0	-16.0	-15.6	-15.1
	8H	-15.3	-14.9	-14.8	-14.4	-14.0	-15.3	-14.9	-14.9	-14.5	-14.0
	12H	-14.0	-13.6	-13.5	-13.1	-12.6	-14.4	-14.1	-13.9	-13.6	-13.1
8H	4H	-17.5	-17.1	-17.1	-16.7	-16.2	-17.9	-17.4	-17.4	-17.0	-16.5
	6H	-15.4	-15.1	-14.9	-14.6	-14.1	-15.7	-15.3	-15.1	-14.8	-14.3
	8H	-14.2	-13.9	-13.7	-13.4	-12.9	-14.4	-14.1	-13.8	-13.6	-13.1
	12H	-12.4	-12.2	-11.9	-11.7	-11.1	-13.2	-13.0	-12.7	-12.5	-11.9
12H	4H	-17.4	-17.0	-16.9	-16.5	-16.0	-17.7	-17.4	-17.2	-16.9	-16.4
	6H	-15.2	-14.9	-14.7	-14.4	-13.9	-15.4	-15.1	-14.8	-14.6	-14.1
	8H	-13.9	-13.6	-13.3	-13.1	-12.5	-14.0	-13.7	-13.4	-13.2	-12.6

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0