

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGRTV12BX-70L35K-WD-DO101-AR12BX-MWWF
Nom. 12" Diam x 10" H open aperture

Test Number

SP-00686_2_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	5575
Efficacy	109.31 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.91
Two luminaires, plane 90°	0.93
Four luminaires	0.91

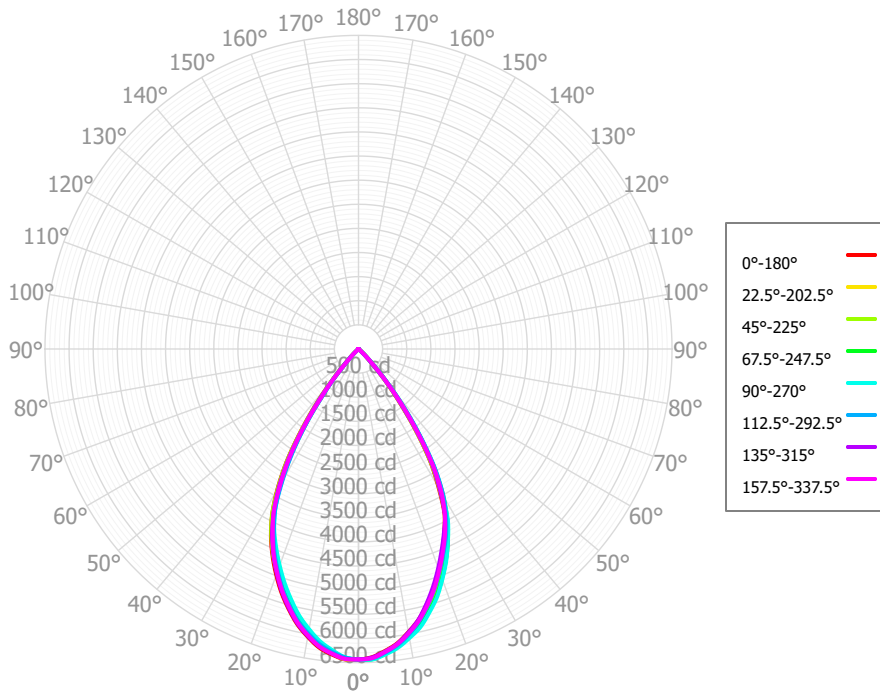
Full Beam Angle

0° - 180°	61°
90° - 270°	61°

IES File Header Contents

Keyword	Value
TEST	SP-00686_2_M-70L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	6/7/2018
UPDATE	6/12/2018
LUMCAT	SGRTV12BX-70L35K-WD-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, Wide Beam
OTHER	60.9 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°	601.51	10.79%	90.00° - 100.00°	0.12	0.00%
10.00° - 20.00°	1540.98	27.64%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	1924.46	34.52%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	1283.70	23.03%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	213.94	3.84%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	6.58	0.12%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	1.41	0.03%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	1.08	0.02%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.11	0.02%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	5574.77	100.00%	0.00° - 180.00°	5574.88	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°	6435.81	6435.81	6435.81	6435.81	6435.81	6435.81	6435.81	6435.81	6435.81	6435.81	6435.81	6435.81	6435.81	6435.81	6435.81	6435.81	6435.81
2.50°	6396.47	6421.45	6422.84	6438.15	6444.75	6401.16	6425.13	6431.33	6441.25	6432.59	6436.48	6404.68	6398.61	6420.32	6402.71	6415.75	6396.47
5.00°	6285.48	6307.05	6303.36	6340.55	6357.95	6302.29	6338.99	6339.32	6356.05	6325.31	6322.20	6281.88	6265.95	6323.42	6298.57	6306.50	6285.48
7.50°	6155.35	6178.20	6175.42	6223.39	6248.00	6173.77	6221.39	6221.10	6243.97	6198.87	6194.99	6132.08	6112.23	6194.10	6165.64	6174.03	6155.35
10.00°	5959.76	6000.00	5988.68	6060.01	6084.98	5988.06	6042.77	6027.70	6058.90	6001.08	5986.68	5916.43	5899.15	6010.08	5967.27	5987.64	5959.76
12.50°	5750.25	5801.35	5799.46	5873.34	5911.48	5780.67	5832.01	5815.04	5849.93	5792.72	5769.43	5684.29	5665.74	5790.96	5747.89	5773.82	5750.25
15.00°	5474.44	5543.34	5533.49	5639.62	5662.27	5512.48	5566.56	5542.64	5585.91	5522.64	5508.86	5408.47	5383.07	5519.69	5460.17	5505.49	5474.44
17.50°	5187.67	5265.47	5265.59	5376.93	5401.63	5224.94	5277.56	5257.67	5303.64	5246.04	5239.78	5123.68	5090.62	5226.74	5154.36	5215.85	5187.67
20.00°	4867.86	4938.94	4950.18	5063.73	5080.49	4895.35	4953.80	4930.19	4985.36	4928.77	4936.91	4817.82	4777.93	4905.75	4832.37	4889.12	4867.86
22.50°	4544.04	4612.38	4632.83	4736.98	4752.54	4554.73	4610.20	4595.77	4652.90	4608.64	4624.36	4508.64	4461.04	4593.14	4506.85	4565.07	4544.04
25.00°	4205.07	4285.78	4283.34	4389.46	4385.65	4153.38	4241.10	4206.08	4295.87	4240.62	4280.23	4154.74	4136.54	4290.16	4194.30	4245.10	4205.07
27.50°	3864.81	3905.27	3916.42	3986.97	4015.93	3738.91	3804.07	3809.78	3876.20	3870.66	3884.56	3795.49	3735.95	3932.84	3883.97	3877.43	3864.81
30.00°	3327.84	3426.21	3366.61	3511.09	3478.36	3156.80	3289.63	3239.30	3362.47	3283.08	3345.69	3203.98	3215.91	3521.07	3382.91	3446.99	3327.84
32.50°	2781.67	2867.55	2801.25	2940.37	2934.89	2546.46	2687.28	2654.37	2773.56	2692.39	2758.56	2594.14	2621.81	2970.48	2857.74	2899.72	2781.67
35.00°	2103.30	2182.91	2122.50	2257.55	2255.76	1883.97	1997.38	1971.02	2084.92	2006.82	2057.87	1922.39	1926.58	2298.25	2182.02	2216.31	2103.30
37.50°	1426.47	1541.35	1464.34	1613.76	1579.37	1214.76	1362.31	1283.23	1439.39	1332.45	1406.77	1248.10	1300.41	1652.20	1492.82	1572.03	1426.47
40.00°	905.79	959.99	922.38	1010.29	1010.55	732.59	775.67	783.16	843.77	818.60	855.49	773.84	757.74	1026.46	956.98	967.61	905.79
42.50°	403.45	520.84	442.80	563.81	464.65	266.82	392.31	293.08	428.15	339.00	425.63	309.56	379.55	582.18	428.97	532.71	403.45
45.00°	231.66	254.96	239.63	259.11	258.42	142.48	165.74	160.75	194.69	184.88	209.85	171.96	175.09	260.60	244.11	250.93	231.66
47.50°	71.26	93.42	72.80	93.46	68.46	34.98	54.36	34.71	63.58	47.66	64.88	40.75	59.01	101.50	67.93	95.29	71.26
50.00°	37.42	42.94	36.55	39.07	36.60	18.67	20.38	18.44	24.31	24.66	28.14	21.39	24.52	39.22	35.79	39.17	37.42
52.50°	7.21	14.23	8.41	12.71	8.35	4.17	6.63	3.47	5.97	5.15	6.07	3.65	7.12	12.85	5.14	11.98	7.21
55.00°	4.60	6.07	4.91	5.90	4.95	3.10	4.85	2.61	4.03	3.56	3.52	2.85	3.69	4.96	3.80	4.68	4.60
57.50°	2.41	2.06	2.28	2.61	2.01	2.06	3.61	1.86	2.63	2.25	2.03	2.11	2.07	2.28	2.53	1.80	2.41
60.00°	2.61	1.47	1.90	1.48	1.52	1.88	2.65	1.96	1.62	2.12	1.77	1.83	1.74	1.90	2.18	1.59	2.61
62.50°	2.61	1.29	1.52	1.24	1.11	1.66	2.35	2.03	1.54	1.89	1.39	1.55	1.39	1.57	1.81	1.50	2.61
65.00°	1.76	1.41	1.15	1.48	1.04	1.14	2.34	1.98	2.02	1.30	0.89	1.21	1.03	1.26	1.31	1.46	1.76
67.50°	1.10	1.37	0.91	1.17	0.99	0.78	1.62	1.83	1.94	0.96	0.67	0.87	0.93	1.13	0.94	1.37	1.10
70.00°	0.99	1.25	0.89	0.64	0.98	1.26	0.67	1.37	1.60	1.15	0.69	0.55	0.95	1.05	1.05	1.24	0.99
72.50°	0.94	1.12	0.84	0.67	0.93	1.45	1.16	1.02	1.33	1.29	0.95	0.60	0.81	1.22	1.13	1.15	0.94
75.00°	0.97	1.04	0.78	0.84	0.84	1.21	1.47	0.80	1.12	1.37	1.22	1.06	0.62	1.13	1.14	1.05	0.97
77.50°	1.31	1.13	0.91	1.17	0.97	1.30	1.21	1.09	1.05	0.92	1.15	0.93	0.38	0.49	1.17	0.89	1.31
80.00°	1.16	1.11	0.90	0.96	1.03	1.17	1.25	1.13	1.06	0.82	0.99	0.88	0.65	1.05	1.13	1.01	1.16
82.50°	0.71	1.13	0.98	0.85	1.05	1.00	1.47	0.99	1.16	0.95	0.79	1.03	0.77	1.08	1.13	1.16	0.71
85.00°	0.72	1.15	1.09	0.97	0.85	1.49	1.59	1.01	1.02	0.94	0.83	0.99	0.86	1.20	1.24	1.16	0.72
87.50°	1.00	1.14	0.60	1.13	0.46	1.15	2.19	0.74	1.06	1.27	1.04	0.83	1.16	0.71	0.69	1.78	1.00
90.00°	1.31	0.66	0.72	0.68	1.18	0.84	0.70	0.94	0.71	1.02	0.95	0.64	0.52	0.53	1.28	0.85	1.31
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	6637	6637	6637	6637	6482	6482	6482	6482	6194	6194	6194	5931	5931	5931	5689	5689	5689
	1	6337	6186	6051	5930	6200	6066	5945	5835	5841	5744	5656	5634	5558	5487	5443	5384	5329
	2	6034	5770	5551	5368	5911	5674	5476	5307	5494	5332	5191	5329	5196	5080	5176	5069	4974
	3	5739	5391	5121	4907	5629	5314	5066	4867	5168	4960	4789	5034	4860	4714	4909	4765	4642
	4	5456	5046	4746	4517	5357	4983	4705	4490	4864	4626	4437	4753	4550	4385	4650	4478	4335
	5	5187	4732	4415	4181	5097	4680	4384	4162	4581	4323	4125	4489	4265	4089	4403	4209	4053
	6	4931	4446	4120	3886	4850	4402	4096	3873	4319	4048	3846	4242	4003	3820	4169	3959	3795
	7	4691	4184	3856	3625	4618	4147	3836	3615	4077	3799	3596	4011	3762	3577	3949	3728	3558
	8	4466	3945	3617	3392	4399	3913	3602	3385	3853	3572	3371	3796	3542	3357	3743	3514	3343
	9	4254	3726	3402	3183	4194	3699	3389	3178	3647	3365	3167	3598	3341	3156	3552	3317	3146
	10	4057	3525	3207	2994	4002	3502	3196	2990	3456	3176	2982	3414	3156	2974	3373	3137	2966

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	212.8 fc	6.5 ft
6.5 ft	152.3 fc	7.7 ft
7.5 ft	114.4 fc	8.8 ft
8.0 ft	100.6 fc	9.4 ft
10.0 ft	64.4 fc	11.8 ft
12.0 ft	44.7 fc	14.2 ft
14.0 ft	32.8 fc	16.5 ft
16.0 ft	25.1 fc	18.9 ft
20.0 ft	16.1 fc	23.6 ft
24.0 ft	11.2 fc	28.3 ft
28.0 ft	8.2 fc	33.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	93743	93743	93743
45.00°	4772	4936	5323
55.00°	117	125	126
65.00°	61	40	36
75.00°	55	44	47
85.00°	120	181	142

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	-19.2	-18.3	-18.8	-17.9	-17.6	-19.0	-18.0	-18.6	-17.7	-17.4
	3H	-17.6	-16.8	-17.2	-16.4	-16.1	-18.1	-17.2	-17.7	-16.9	-16.5
	4H	-16.7	-15.9	-16.3	-15.6	-15.2	-17.2	-16.5	-16.8	-16.1	-15.7
	6H	-14.9	-14.2	-14.5	-13.9	-13.5	-16.0	-15.4	-15.6	-15.0	-14.6
	8H	-14.3	-13.7	-13.9	-13.3	-12.9	-15.2	-14.5	-14.7	-14.1	-13.7
	12H	-13.7	-13.1	-13.3	-12.7	-12.3	-14.1	-13.5	-13.7	-13.1	-12.7
4H	2H	-18.9	-18.1	-18.5	-17.8	-17.4	-18.2	-17.5	-17.8	-17.1	-16.7
	3H	-16.9	-16.3	-16.5	-15.9	-15.5	-17.1	-16.5	-16.7	-16.1	-15.7
	4H	-15.7	-15.2	-15.3	-14.8	-14.3	-15.9	-15.3	-15.5	-14.9	-14.5
	6H	-13.8	-13.3	-13.3	-12.9	-12.4	-14.4	-14.0	-13.9	-13.5	-13.0
	8H	-13.0	-12.6	-12.5	-12.1	-11.6	-13.5	-13.0	-13.0	-12.6	-12.1
	12H	-12.2	-11.8	-11.7	-11.3	-10.8	-12.3	-11.9	-11.8	-11.4	-10.9
8H	4H	-15.3	-14.8	-14.8	-14.4	-13.9	-15.2	-14.7	-14.7	-14.3	-13.8
	6H	-13.0	-12.7	-12.5	-12.2	-11.7	-13.3	-13.0	-12.8	-12.5	-12.0
	8H	-11.9	-11.6	-11.4	-11.1	-10.6	-12.2	-11.9	-11.6	-11.3	-10.8
	12H	-10.6	-10.4	-10.1	-9.9	-9.3	-10.6	-10.3	-10.1	-9.8	-9.3
12H	4H	-15.1	-14.8	-14.6	-14.3	-13.8	-15.0	-14.6	-14.5	-14.2	-13.7
	6H	-12.7	-12.4	-12.2	-12.0	-11.4	-13.0	-12.7	-12.5	-12.2	-11.7
	8H	-11.4	-11.2	-10.9	-10.7	-10.1	-11.6	-11.4	-11.1	-10.9	-10.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0