

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

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

Test Number

SP-00686_1

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	5620
Efficacy	110.19 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.38
Two luminaires, plane 90°	0.38
Four luminaires	0.41

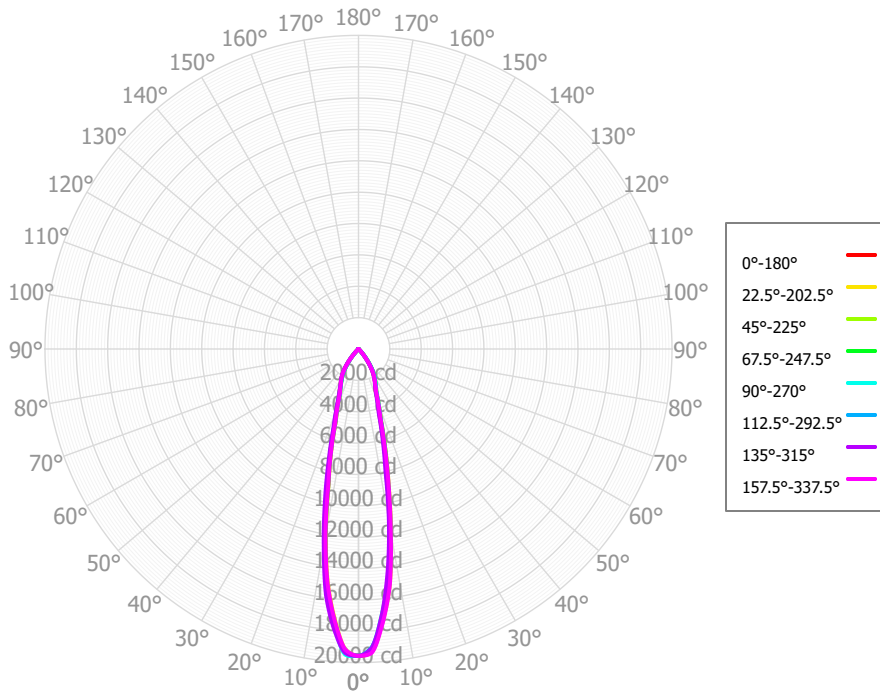
Full Beam Angle

0° - 180°	24°
90° - 270°	24°

IES File Header Contents

Keyword	Value
TEST	SP-00686_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	6/7/2018
UPDATE	6/29/2018
LUMCAT	SGRTV12BX-70L35K-ND-DO101-AR12BX-SGWF
LUMINAIRE	Nom. 12" Diam x 10" H, Open aperture
OTHER	Semi-diffuse clear anodized alum. 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°	1502.56	26.74%	90.00° - 100.00°	0.08	0.00%
10.00° - 20.00°	1858.43	33.07%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	1245.78	22.17%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	849.91	15.12%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	158.34	2.82%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	2.04	0.04%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	0.88	0.02%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	0.80	0.01%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.80	0.01%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	5619.55	100.00%	0.00° - 180.00°	5619.63	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°	19571.28	19571.28	19571.28	19571.28	19571.28	19571.28	19571.28	19571.28	19571.28	19571.28	19571.28	19571.28	19571.28	19571.28	19571.28	19571.28	19571.28
2.50°	19328.73	19350.23	19169.27	19233.54	19129.42	19266.96	19409.63	19202.16	19295.23	19201.65	19374.45	19357.22	19506.06	19064.08	19115.86	19395.86	19328.7
5.00°	17343.28	17518.54	17090.81	17303.90	17032.30	17780.47	17932.00	17403.68	17627.70	17338.90	17681.81	17477.28	17738.43	17296.06	17046.16	17593.75	17343.2
7.50°	14778.66	15250.34	14610.36	15065.34	14654.28	15404.95	15856.45	15097.58	15486.18	15037.74	15609.03	15253.27	15662.10	14698.53	14279.18	15252.99	14778.6
10.00°	11626.72	11901.72	11477.36	11776.56	11533.12	12558.55	12745.29	12110.61	12302.71	12016.64	12409.04	12138.85	12395.58	11353.79	11177.21	11855.19	11626.7
12.50°	8311.52	8885.15	8222.80	8775.45	8319.38	9355.58	9858.99	8905.80	9392.69	8823.80	9446.88	8888.87	9348.70	8557.57	7950.80	8842.35	8311.52
15.00°	6265.66	6571.97	6234.93	6592.23	6386.75	6992.55	7311.48	6757.71	7000.51	6726.69	7091.64	6804.37	7015.62	6200.37	5942.13	6493.73	6265.6
17.50°	4507.15	4724.89	4426.57	4756.87	4562.30	5184.89	5347.86	4889.65	5099.43	4843.35	5140.30	4853.37	5029.62	4619.30	4313.69	4686.77	4507.15
20.00°	3604.59	3729.94	3592.99	3775.02	3721.57	4015.93	4163.69	3907.89	4017.09	3898.85	4069.56	3926.35	3990.58	3581.25	3459.12	3692.88	3604.5
22.50°	2859.33	2976.35	2857.24	2993.96	2927.17	3214.29	3304.01	3116.18	3207.51	3095.05	3218.41	3076.25	3141.87	2952.14	2808.53	2954.15	2859.3
25.00°	2522.90	2611.71	2564.49	2634.78	2614.58	2733.37	2823.44	2735.79	2794.00	2730.82	2779.84	2721.31	2742.44	2572.33	2480.40	2554.81	2522.9
27.50°	2243.46	2288.24	2300.96	2309.67	2309.85	2414.57	2459.32	2426.41	2452.18	2414.04	2408.47	2385.37	2392.06	2275.10	2221.00	2222.59	2243.4
30.00°	1933.94	2022.59	1997.72	2046.39	2017.83	2121.19	2214.44	2156.65	2202.67	2127.11	2148.31	2092.89	2141.04	2022.23	1903.72	1968.51	1933.9
32.50°	1621.46	1707.54	1693.26	1745.96	1721.94	1838.84	1919.68	1892.01	1908.08	1842.35	1846.62	1798.45	1841.55	1675.21	1576.51	1651.48	1621.4
35.00°	1234.96	1330.92	1310.54	1386.12	1352.96	1485.88	1579.52	1513.58	1562.67	1478.50	1485.06	1416.04	1457.13	1284.60	1194.98	1270.23	1234.9
37.50°	843.72	962.67	929.20	1015.84	982.71	1106.34	1201.49	1125.06	1185.98	1111.76	1117.29	1035.30	1078.02	918.39	806.51	907.95	843.72
40.00°	540.63	603.54	587.98	630.98	597.86	732.67	793.27	734.76	778.38	724.52	741.71	681.64	707.11	561.82	522.27	562.89	540.63
42.50°	241.05	329.65	260.55	331.58	242.01	360.86	465.67	344.35	449.97	343.22	430.22	344.35	401.52	320.67	247.16	311.52	241.05
45.00°	124.16	137.32	127.49	136.40	115.04	174.09	194.27	178.81	191.11	176.62	190.48	177.74	184.07	118.86	123.89	134.61	124.16
47.50°	11.19	35.60	6.86	26.72	6.15	35.81	62.50	19.74	56.69	19.47	53.79	29.38	51.17	45.52	8.81	43.85	11.19
50.00°	6.10	10.96	3.80	9.72	3.50	7.52	16.82	10.16	17.98	10.28	18.20	14.24	18.10	8.70	3.95	12.94	6.10
52.50°	1.34	1.03	1.14	1.27	1.28	3.09	0.89	0.99	2.02	1.87	1.51	1.39	1.12	1.44	1.19	0.97	1.34
55.00°	1.13	2.03	1.25	0.95	1.10	1.66	0.87	0.97	1.34	1.25	1.29	1.22	1.03	1.05	1.20	0.65	1.13
57.50°	0.94	1.84	1.30	0.89	0.93	0.73	0.80	0.97	1.00	0.76	1.01	1.09	0.89	0.89	1.21	0.63	0.94
60.00°	0.88	0.87	1.08	1.03	0.82	0.50	0.72	1.15	0.85	1.24	0.69	1.19	0.72	0.77	1.13	0.76	0.88
62.50°	0.83	0.59	0.96	1.02	0.79	0.37	0.72	1.27	0.87	1.56	0.80	1.23	0.71	0.78	1.05	0.82	0.83
65.00°	0.83	0.71	1.27	0.90	1.03	0.40	0.75	0.93	0.98	1.05	1.20	1.06	0.83	0.80	1.07	0.85	0.83
67.50°	0.80	0.68	1.41	0.85	1.12	0.44	0.85	0.64	0.86	0.71	1.39	0.81	0.85	0.78	1.08	0.73	0.80
70.00°	0.67	0.59	1.08	0.84	0.88	0.48	0.97	0.64	0.66	0.93	1.46	0.39	0.81	0.74	1.06	0.56	0.67
72.50°	0.68	0.61	0.87	0.67	0.68	0.61	0.78	0.78	0.99	0.87	1.16	0.43	0.82	0.51	0.96	0.41	0.68
75.00°	0.86	0.61	0.76	0.57	0.49	0.98	0.57	1.11	1.23	0.49	0.86	0.88	0.77	0.58	0.77	0.44	0.86
77.50°	0.83	0.56	0.93	0.85	0.56	0.91	0.37	1.09	1.09	0.68	0.74	0.68	0.43	1.01	0.73	0.84	0.83
80.00°	0.79	0.93	1.21	1.05	0.50	0.69	1.28	0.72	0.74	0.87	0.70	0.53	0.42	0.54	0.65	0.61	0.79
82.50°	0.76	0.99	1.34	0.91	0.60	0.58	1.45	0.34	0.72	0.89	0.82	0.67	0.56	0.42	0.50	0.34	0.76
85.00°	0.72	0.70	1.02	0.90	0.87	0.65	0.78	0.82	0.69	0.66	0.78	0.82	0.82	0.49	0.48	0.81	0.72
87.50°	0.75	0.70	1.14	0.91	0.49	0.81	0.43	0.79	1.07	0.85	1.00	0.88	0.51	0.70	1.11	0.52	0.75
90.00°	0.49	0.64	0.56	0.55	0.85	0.54	0.50	0.79	0.34	0.48	1.04	0.51	0.48	0.45	0.42	0.25	0.49
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-SGWF

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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	6690	6690	6690	6690	6534	6534	6534	6534	6244	6244	6244	5978	5978	5978	5734	5734	5734	5620
	1	6429	6295	6175	6067	6294	6175	6068	5971	5950	5865	5788	5743	5677	5616	5552	5502	5455	5393
	2	6174	5942	5750	5589	6055	5847	5674	5527	5669	5528	5407	5506	5392	5292	5354	5264	5183	5162
	3	5929	5626	5392	5206	5824	5551	5337	5164	5409	5230	5083	5277	5129	5005	5155	5034	4930	4939
	4	5697	5343	5085	4887	5603	5282	5043	4859	5167	4964	4803	5060	4888	4748	4960	4816	4696	4728
	5	5477	5088	4816	4616	5394	5038	4785	4595	4943	4724	4556	4855	4666	4518	4773	4611	4480	4530
	6	5270	4856	4579	4379	5196	4815	4554	4365	4737	4508	4337	4663	4462	4309	4595	4419	4282	4345
	7	5076	4645	4367	4171	5009	4611	4348	4161	4545	4311	4140	4483	4275	4120	4426	4241	4099	4172
	8	4893	4453	4176	3986	4833	4424	4161	3978	4368	4131	3962	4316	4103	3947	4266	4075	3932	4012
	9	4722	4277	4003	3819	4669	4252	3991	3813	4204	3967	3801	4159	3944	3790	4117	3922	3778	3864
	10	4563	4115	3847	3668	4514	4093	3837	3664	4052	3817	3655	4013	3798	3646	3977	3779	3637	3726

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	647.0 fc	2.3 ft
6.5 ft	463.2 fc	2.7 ft
7.5 ft	347.9 fc	3.1 ft
8.0 ft	305.8 fc	3.3 ft
10.0 ft	195.7 fc	4.2 ft
12.0 ft	135.9 fc	5.0 ft
14.0 ft	99.9 fc	5.8 ft
16.0 ft	76.5 fc	6.7 ft
20.0 ft	48.9 fc	8.3 ft
24.0 ft	34.0 fc	10.0 ft
28.0 ft	25.0 fc	11.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	285073	285073	285073
45.00°	2558	2626	2370
55.00°	29	32	28
65.00°	28	44	35
75.00°	48	43	28
85.00°	120	170	145

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	-22.5	-21.6	-22.1	-21.3	-20.9	-24.6	-23.7	-24.2	-23.4	-23.1
	3H	-21.1	-20.2	-20.7	-19.9	-19.5	-22.0	-21.2	-21.6	-20.9	-20.5
	4H	-19.9	-19.1	-19.5	-18.8	-18.4	-20.5	-19.7	-20.0	-19.4	-19.0
	6H	-18.0	-17.3	-17.5	-16.9	-16.5	-19.3	-18.6	-18.9	-18.2	-17.8
	8H	-17.0	-16.3	-16.5	-15.9	-15.5	-18.5	-17.8	-18.0	-17.4	-17.0
	12H	-15.8	-15.2	-15.4	-14.9	-14.4	-16.8	-16.2	-16.3	-15.8	-15.3
4H	2H	-21.6	-20.9	-21.2	-20.5	-20.1	-23.4	-22.7	-23.0	-22.3	-21.9
	3H	-20.0	-19.4	-19.6	-19.0	-18.6	-20.8	-20.2	-20.4	-19.8	-19.4
	4H	-18.8	-18.3	-18.4	-17.9	-17.4	-18.8	-18.2	-18.3	-17.8	-17.3
	6H	-16.7	-16.2	-16.2	-15.8	-15.3	-17.4	-16.9	-16.9	-16.5	-16.0
	8H	-15.5	-15.1	-15.1	-14.7	-14.2	-16.6	-16.1	-16.1	-15.7	-15.2
	12H	-14.3	-13.9	-13.8	-13.4	-12.9	-14.9	-14.5	-14.4	-14.0	-13.5
8H	4H	-18.1	-17.6	-17.6	-17.2	-16.7	-18.1	-17.7	-17.6	-17.2	-16.7
	6H	-15.6	-15.2	-15.0	-14.7	-14.2	-16.2	-15.9	-15.7	-15.4	-14.9
	8H	-14.3	-14.0	-13.7	-13.5	-13.0	-15.2	-14.9	-14.6	-14.3	-13.8
	12H	-12.8	-12.5	-12.3	-12.0	-11.5	-13.3	-13.1	-12.8	-12.6	-12.0
12H	4H	-17.8	-17.4	-17.3	-16.9	-16.4	-17.8	-17.4	-17.3	-16.9	-16.5
	6H	-15.1	-14.8	-14.5	-14.3	-13.8	-15.6	-15.3	-15.0	-14.8	-14.2
	8H	-13.7	-13.4	-13.2	-12.9	-12.3	-14.3	-14.1	-13.8	-13.6	-13.0

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0