

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGRTV12BX-80L35K-ND-DO101-AR12BX-MWWF
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	60 W
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Lumen Output

Output Lumens	6505
Efficacy	108.41 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

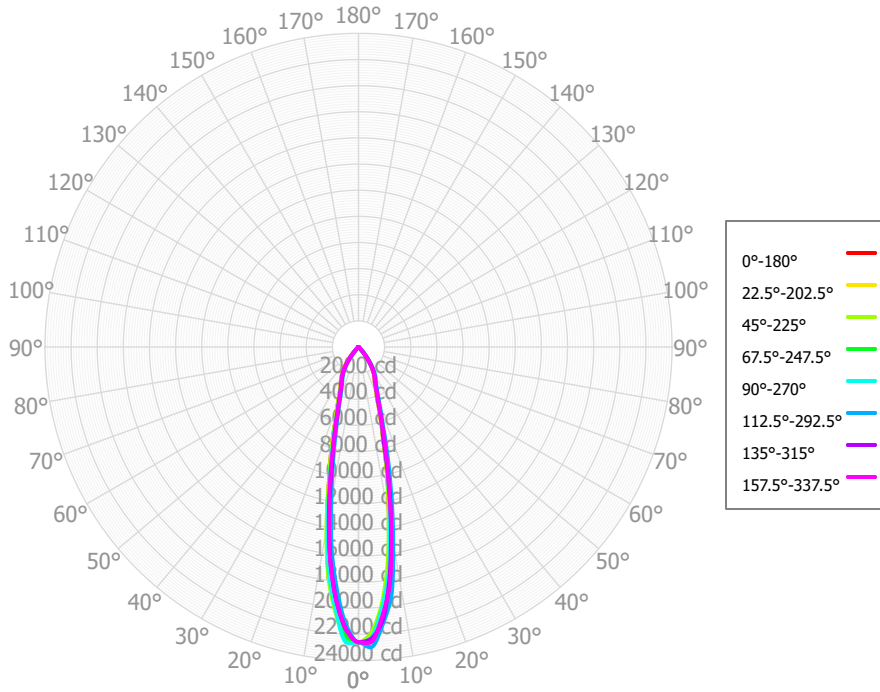
Full Beam Angle

0° - 180°	23°
90° - 270°	23°

IES File Header Contents

Keyword	Value
TEST	SP-00686_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	6/7/2018
UPDATE	6/19/2018
LUMCAT	SGRTV12BX-80L35K-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	This report prepared by Spectrum Lighting
_CCTMULT	CCT Output: 27K x 0.932, 30K x 1.00, 40K x 1.01

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	1728.46	26.57%	90.00° - 100.00°	0.08	0.00%
10.00° - 20.00°	2139.39	32.89%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	1456.85	22.40%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	994.22	15.28%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	181.72	2.79%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	1.70	0.03%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	0.87	0.01%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	0.78	0.01%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.74	0.01%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	6504.74	100.00%	0.00° - 180.00°	6504.82	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°	22597.93	22597.93	22597.93	22597.93	22597.93	22597.93	22597.93	22597.93	22597.93	22597.93	22597.93	22597.93	22597.93	22597.93	22597.93	22597.93	22597.93
2.50°	22184.82	22108.97	21937.70	22351.08	22295.13	21377.47	21682.90	21645.59	22212.40	21847.64	22339.03	22151.79	22609.21	22993.67	22357.23	22607.38	22184.82
5.00°	20156.02	20319.92	19951.51	20277.57	20237.59	18758.46	19492.47	19493.97	20042.23	20180.52	20361.09	20027.14	20138.48	21300.66	21069.42	20739.12	20156.02
7.50°	17310.01	17429.33	16955.46	17762.55	17566.98	15709.40	16501.20	16563.37	17556.88	17060.85	17716.46	17055.68	17390.33	19259.42	18070.80	18355.83	17310.01
10.00°	13448.01	13983.48	13258.09	14084.18	13853.91	11987.72	13038.15	12888.55	13870.42	13532.60	14114.50	13264.50	13488.01	15306.90	14321.95	14462.64	13448.01
12.50°	10174.54	10273.32	10135.50	10472.50	10583.53	9005.29	9431.05	9824.70	10379.35	10390.46	10394.46	10109.33	9921.16	11559.01	10823.37	10616.86	10174.54
15.00°	7290.63	7759.07	7208.51	7943.93	7716.97	6645.90	7250.40	7069.94	7878.17	7407.02	8001.75	7280.66	7414.78	8533.98	7371.75	7975.53	7290.63
17.50°	5531.39	5489.48	5562.51	5753.38	5858.49	5147.83	5280.65	5495.89	5794.00	5820.06	5822.95	5613.51	5438.57	6118.04	5774.14	5694.96	5531.39
20.00°	4144.86	4420.70	4112.44	4549.54	4484.00	4027.21	4340.76	4186.80	4606.23	4441.38	4665.83	4212.75	4281.33	4724.73	4310.47	4485.94	4144.86
22.50°	3491.72	3459.95	3518.57	3641.72	3747.13	3439.15	3516.76	3603.32	3738.23	3727.92	3717.87	3586.59	3505.04	3766.35	3606.64	3559.31	3491.72
25.00°	2930.84	3054.67	2986.59	3157.96	3142.45	2946.69	3101.72	3076.34	3230.61	3171.07	3202.81	3025.70	3045.98	3200.00	3027.08	3048.35	2930.84
27.50°	2655.87	2675.99	2700.95	2783.91	2846.93	2656.24	2731.87	2790.97	2863.29	2858.06	2800.22	2747.39	2718.71	2829.11	2729.62	2667.66	2655.87
30.00°	2347.42	2362.01	2371.09	2495.88	2541.25	2347.98	2436.80	2481.98	2580.95	2523.71	2520.24	2436.13	2448.39	2550.79	2398.51	2390.48	2347.42
32.50°	1914.81	1984.84	1961.49	2107.33	2137.61	1941.38	2072.53	2110.61	2221.99	2171.44	2154.52	2036.41	2028.04	2155.21	2027.11	2003.00	1914.81
35.00°	1474.91	1527.51	1522.72	1678.99	1718.37	1514.46	1646.73	1695.88	1840.86	1756.01	1738.69	1614.99	1581.42	1735.83	1603.93	1570.42	1474.91
37.50°	1022.14	1088.39	1055.46	1222.11	1260.82	1041.45	1191.20	1223.05	1376.93	1313.03	1300.37	1164.10	1138.50	1281.44	1147.80	1137.08	1022.14
40.00°	632.76	661.58	660.07	763.38	822.38	633.45	721.80	791.62	913.54	870.28	855.85	753.47	713.28	842.69	758.63	705.75	632.76
42.50°	302.43	360.46	301.37	420.79	408.36	302.18	406.97	390.17	529.37	427.96	506.64	372.38	383.61	506.37	390.57	412.61	302.43
45.00°	124.46	102.12	132.75	124.30	165.96	117.23	122.75	175.19	206.07	215.48	185.16	166.33	130.48	227.63	199.21	154.36	124.46
47.50°	22.52	40.17	8.31	51.22	40.45	25.35	57.08	28.25	82.67	32.95	81.18	25.24	48.59	90.35	34.76	65.19	22.52
50.00°	3.29	1.64	2.66	2.21	5.38	2.72	2.88	6.77	5.79	14.50	2.20	5.60	3.57	10.73	15.89	3.96	3.29
52.50°	1.84	1.55	1.22	2.70	1.38	1.50	1.93	1.72	2.90	1.68	1.67	2.30	1.57	3.92	1.16	2.00	1.84
55.00°	1.72	1.47	1.25	2.49	0.90	1.15	1.43	1.53	1.36	1.55	1.30	1.54	0.85	1.09	0.97	0.82	1.72
57.50°	1.57	1.47	1.33	1.51	0.81	0.87	2.03	1.33	0.99	1.32	1.15	0.91	0.94	0.96	0.86	0.49	1.57
60.00°	1.01	1.32	1.57	1.32	0.70	0.70	1.95	1.10	0.75	0.96	1.02	0.82	0.92	0.86	0.91	0.43	1.01
62.50°	0.70	0.93	1.43	1.58	0.68	0.61	1.02	0.87	0.57	0.84	0.88	0.69	0.86	0.77	0.89	0.54	0.70
65.00°	1.05	0.91	0.78	1.25	0.97	0.81	0.61	0.64	0.82	0.87	0.87	0.48	1.14	1.12	0.79	0.59	1.05
67.50°	1.02	1.26	0.63	0.75	1.05	0.78	0.53	0.66	1.16	0.70	0.91	0.40	1.39	1.46	0.93	0.62	1.02
70.00°	0.53	1.53	0.85	0.77	0.75	0.41	0.66	0.93	1.02	0.48	0.61	0.44	0.95	1.14	1.18	0.54	0.53
72.50°	0.46	1.77	0.75	0.78	0.60	0.44	0.83	0.78	0.86	0.74	0.30	0.70	0.73	0.79	0.80	0.50	0.46
75.00°	0.61	1.17	0.58	0.68	0.57	0.75	0.83	0.52	0.64	0.83	0.43	0.99	0.99	0.38	0.51	0.72	0.61
77.50°	0.73	0.81	0.53	0.58	1.02	0.88	0.66	1.01	0.57	0.49	0.61	0.57	1.29	0.89	0.78	0.59	0.73
80.00°	0.72	0.85	0.68	0.59	0.87	0.84	0.37	1.06	0.68	0.44	0.72	0.49	1.31	1.29	0.55	0.35	0.72
82.50°	0.64	0.47	0.71	0.93	0.63	0.71	0.74	0.88	1.02	0.56	0.37	0.54	0.77	0.76	0.44	0.46	0.64
85.00°	0.63	0.81	0.56	0.81	1.05	0.61	1.02	0.85	1.04	0.98	0.38	0.54	0.52	0.38	0.47	1.13	0.63
87.50°	0.88	0.73	0.54	0.66	0.63	0.74	0.59	0.54	0.80	0.58	0.93	0.54	0.70	0.64	0.60	0.80	0.88
90.00°	0.77	0.15	0.22	0.13	0.83	0.89	0.41	0.71	0.31	1.01	0.12	0.96	0.57	0.21	0.79	0.87	0.77
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-80L35K-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	7744	7744	7744	7744	7564	7564	7564	7564	7228	7228	7228	6920	6920	6920	6637	6637	6637	6505
	1	7442	7286	7147	7021	7285	7147	7023	6910	6886	6788	6698	6647	6571	6500	6426	6368	6313	6242
	2	7145	6876	6654	6467	7007	6767	6566	6395	6561	6397	6256	6371	6239	6124	6196	6091	5997	5973
	3	6861	6510	6239	6022	6739	6423	6174	5974	6258	6051	5881	6106	5934	5790	5964	5824	5703	5714
	4	6591	6182	5882	5653	6483	6111	5834	5620	5978	5742	5555	5854	5654	5492	5738	5570	5431	5469
	5	6336	5885	5570	5337	6240	5827	5534	5314	5718	5463	5268	5616	5396	5224	5521	5332	5180	5239
	6	6096	5616	5294	5063	6010	5568	5266	5046	5477	5212	5014	5392	5159	4981	5313	5109	4950	5023
	7	5870	5371	5048	4821	5793	5331	5026	4809	5255	4983	4785	5184	4942	4761	5117	4902	4738	4823
	8	5658	5148	4826	4605	5589	5114	4809	4596	5049	4775	4579	4988	4741	4561	4931	4709	4544	4637
	9	5460	4943	4626	4412	5398	4914	4612	4405	4859	4584	4391	4807	4557	4378	4758	4531	4365	4464
	10	5275	4755	4444	4237	5218	4730	4432	4231	4682	4409	4221	4637	4387	4211	4595	4366	4200	4304

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	747.0 fc	2.3 ft
6.5 ft	534.9 fc	2.7 ft
7.5 ft	401.7 fc	3.1 ft
8.0 ft	353.1 fc	3.3 ft
10.0 ft	226.0 fc	4.1 ft
12.0 ft	156.9 fc	4.9 ft
14.0 ft	115.3 fc	5.7 ft
16.0 ft	88.3 fc	6.6 ft
20.0 ft	56.5 fc	8.2 ft
24.0 ft	39.2 fc	9.8 ft
28.0 ft	28.8 fc	11.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	329159	329159	329159
45.00°	2564	2735	3419
55.00°	44	32	23
65.00°	36	27	34
75.00°	34	33	32
85.00°	105	94	175

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	-23.6	-22.7	-23.2	-22.3	-22.0	-25.4	-24.5	-25.0	-24.2	-23.9
	3H	-21.0	-20.2	-20.6	-19.8	-19.5	-22.4	-21.6	-22.0	-21.2	-20.8
	4H	-19.9	-19.1	-19.5	-18.8	-18.4	-20.7	-19.9	-20.3	-19.6	-19.2
	6H	-18.5	-17.8	-18.0	-17.4	-17.0	-17.7	-17.0	-17.3	-16.6	-16.2
	8H	-17.8	-17.1	-17.3	-16.7	-16.3	-16.8	-16.2	-16.4	-15.8	-15.4
	12H	-16.8	-16.2	-16.3	-15.8	-15.4	-15.8	-15.2	-15.4	-14.8	-14.4
4H	2H	-23.1	-22.4	-22.7	-22.0	-21.6	-24.7	-23.9	-24.2	-23.6	-23.2
	3H	-19.8	-19.2	-19.3	-18.8	-18.3	-21.8	-21.1	-21.3	-20.7	-20.3
	4H	-18.3	-17.8	-17.9	-17.3	-16.9	-19.5	-19.0	-19.1	-18.5	-18.1
	6H	-16.9	-16.4	-16.4	-16.0	-15.5	-16.6	-16.1	-16.1	-15.7	-15.2
	8H	-16.2	-15.8	-15.7	-15.3	-14.8	-15.6	-15.2	-15.2	-14.8	-14.3
	12H	-15.0	-14.7	-14.5	-14.2	-13.7	-14.5	-14.1	-14.0	-13.6	-13.2
8H	4H	-17.9	-17.5	-17.5	-17.1	-16.6	-19.0	-18.5	-18.5	-18.1	-17.6
	6H	-16.3	-16.0	-15.8	-15.5	-15.0	-16.0	-15.7	-15.5	-15.2	-14.7
	8H	-15.5	-15.2	-14.9	-14.6	-14.1	-14.9	-14.6	-14.4	-14.1	-13.6
	12H	-13.7	-13.5	-13.2	-13.0	-12.4	-13.5	-13.3	-13.0	-12.8	-12.2
12H	4H	-17.8	-17.4	-17.3	-16.9	-16.4	-18.8	-18.4	-18.3	-17.9	-17.5
	6H	-16.1	-15.8	-15.5	-15.3	-14.7	-15.9	-15.6	-15.3	-15.1	-14.6
	8H	-15.1	-14.8	-14.6	-14.3	-13.8	-14.6	-14.4	-14.1	-13.9	-13.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0