

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

AP12XT 13L 35K XX MWI
Nom 12" diam x 12" H Aluminum reflector pendant

Test Number

SP-00684_4_M-13L

Test Date

10/14/2019

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

Summary of Results

Power

Input Watts	11.2 W
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Lumen Output

Output Lumens	730
Efficacy	65.15 lm/W

Luminous Dimensions

0° - 180° Size	-1
90° - 270° Size	-1
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.81
Two luminaires, plane 90°	0.8
Four luminaires	0.98

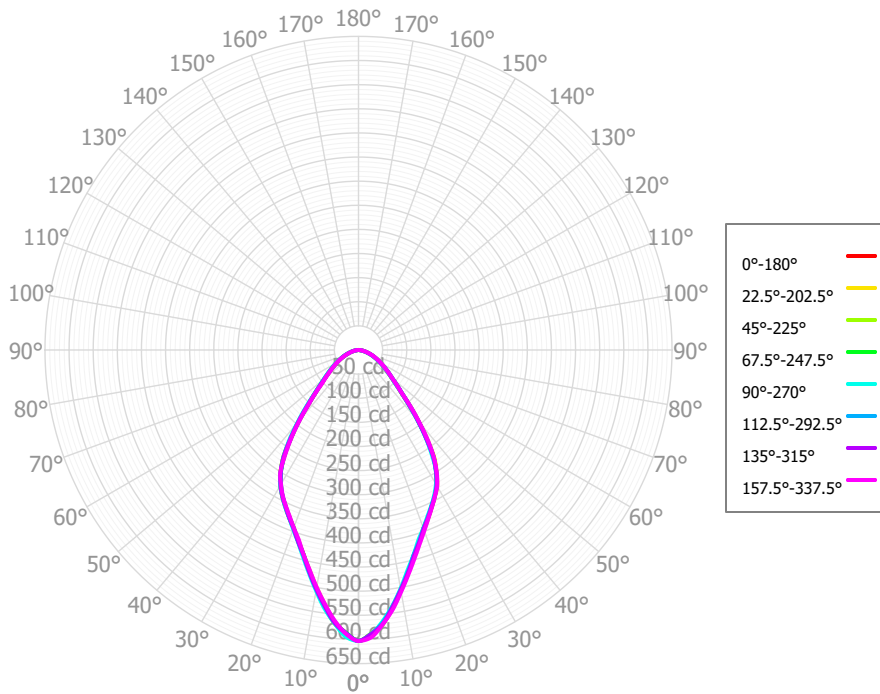
Full Beam Angle

0° - 180°	65°
90° - 270°	65°

IES File Header Contents

Keyword	Value
TEST	SP-00684_4_M-13L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	10/14/2019
ISSUEDATE	5/15/2020
LUMCAT	AP12XT 13L 35K XX MWI
LUMINAIRE	Nom 12" diam x 12" H Aluminum reflector pendant
OTHER	Matte White finish - Interior, Khatod closed sphere optic, Open aperture
OTHER	Beam Angle: 64.5 degrees
LAMPCAT	N/A
LAMP	N/A, 19mm LES
OTHER	LEDXT lumen output is the same for all available CCT's
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting, scaled from 30L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	52.75	7.23%	90.00° - 100.00°	0.04	0.01%
10.00° - 20.00°	124.16	17.02%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	164.80	22.59%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	164.51	22.55%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	101.78	13.95%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	61.93	8.49%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	37.89	5.19%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	17.89	2.45%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	3.92	0.54%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	729.63	99.99%	0.00° - 180.00°	729.67	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°	603.09	603.09	603.09	603.09	603.09	603.09	603.09	603.09	603.09	603.09	603.09	603.09	603.09	603.09	603.09	603.09	603.09
2.50°	589.83	593.63	588.74	590.23	591.33	587.47	588.30	589.31	587.36	587.89	588.10	587.53	595.32	589.44	590.14	596.65	589.83
5.00°	571.24	571.12	570.72	569.99	565.66	567.52	567.70	563.52	566.65	565.42	569.36	567.82	568.95	568.53	571.19	571.37	571.24
7.50°	538.62	541.10	538.01	538.83	535.62	535.68	535.54	531.63	534.21	532.21	535.87	535.89	540.50	537.13	538.05	542.97	538.62
10.00°	506.09	507.18	505.43	505.47	502.26	503.58	503.40	499.46	501.84	499.70	502.46	503.43	506.56	504.39	505.04	509.09	506.09
12.50°	474.56	475.60	473.57	473.49	468.40	470.73	471.39	467.21	470.10	467.90	470.85	469.82	473.93	472.47	473.60	477.14	474.56
15.00°	443.85	444.99	442.89	441.71	440.51	440.39	440.65	439.28	439.63	439.40	439.98	439.55	443.96	440.62	443.03	447.93	443.85
17.50°	418.52	420.08	417.16	417.54	413.12	415.60	416.42	412.21	415.87	413.78	415.68	415.04	417.17	417.31	418.24	421.64	418.52
20.00°	394.52	396.95	393.43	393.98	393.16	393.31	393.51	392.15	393.41	392.53	392.39	393.24	395.59	394.31	394.62	398.80	394.52
22.50°	376.43	377.74	375.89	376.10	373.52	375.38	375.46	373.05	376.02	374.40	374.74	375.20	376.07	375.83	376.53	378.30	376.43
25.00°	358.66	359.48	358.64	358.36	356.79	357.81	357.89	356.53	358.85	357.41	357.42	357.85	359.36	357.56	358.83	360.05	358.66
27.50°	341.93	342.81	342.07	341.52	339.93	340.75	341.63	340.19	342.32	341.08	341.45	341.31	342.23	341.57	342.43	342.81	341.93
30.00°	323.48	326.40	323.37	324.05	321.30	321.43	323.23	321.45	323.76	322.04	323.70	321.75	324.63	324.36	323.93	326.36	323.48
32.50°	300.66	301.16	300.54	298.89	300.73	299.44	300.08	302.15	300.61	301.73	300.50	299.34	300.72	298.79	299.93	302.17	300.66
35.00°	272.01	275.01	270.96	271.93	264.99	268.85	270.81	264.71	271.32	267.63	272.10	267.79	271.12	270.73	270.73	273.00	272.01
37.50°	231.64	235.32	230.94	232.40	228.77	230.01	230.76	227.23	230.65	228.48	231.44	229.21	236.01	231.36	230.74	236.78	231.64
40.00°	192.79	194.94	192.69	193.68	190.13	192.32	192.38	189.19	191.97	190.70	192.42	192.10	196.73	193.11	192.40	196.86	192.79
42.50°	156.37	159.83	156.64	158.89	154.00	155.55	156.35	152.63	156.27	153.30	156.54	155.95	162.07	158.59	156.84	161.63	156.37
45.00°	126.76	125.65	127.63	127.48	126.92	127.85	127.30	125.95	127.28	127.12	126.98	128.87	130.24	128.25	127.64	128.34	126.76
47.50°	106.13	107.76	106.01	107.98	103.38	106.03	106.53	101.60	106.39	103.27	107.15	106.45	109.17	108.89	107.07	108.07	106.13
50.00°	89.77	90.56	89.82	90.71	89.85	90.66	90.06	88.36	89.73	89.57	91.02	91.16	93.36	92.16	90.89	91.94	89.77
52.50°	78.05	79.47	78.29	79.40	77.39	78.65	77.76	76.04	77.34	77.27	79.49	78.75	81.16	80.83	79.56	80.29	78.05
55.00°	68.02	68.82	67.93	68.84	67.27	68.25	67.30	66.88	67.03	67.56	69.20	69.18	70.40	70.24	69.51	69.74	68.02
57.50°	59.49	60.67	58.38	59.91	58.02	58.54	58.28	58.25	58.44	58.03	60.20	60.52	61.73	60.85	60.63	61.12	59.49
60.00°	51.81	52.69	50.56	51.57	50.31	51.02	50.62	51.00	50.80	50.69	52.07	52.58	53.70	52.45	52.83	52.83	51.81
62.50°	44.75	45.42	43.72	44.26	43.07	44.22	43.84	43.79	43.79	43.40	44.67	44.81	46.36	45.41	45.83	46.06	44.75
65.00°	38.46	38.55	37.71	37.57	36.54	37.44	37.39	36.67	37.49	36.70	38.04	38.23	39.18	38.91	39.19	39.45	38.46
67.50°	32.64	32.83	32.05	31.69	30.72	30.68	31.12	30.33	31.57	30.21	31.91	31.85	33.27	32.97	32.75	33.78	32.64
70.00°	27.15	27.12	26.38	25.95	25.57	25.47	25.60	25.03	25.70	24.96	26.52	26.50	27.57	27.13	27.07	28.11	27.15
72.50°	21.78	21.42	20.88	20.32	20.57	20.61	20.41	20.32	20.09	20.22	21.44	21.36	22.39	21.34	21.68	22.24	21.78
75.00°	17.10	16.97	17.01	16.14	15.81	16.55	16.43	15.92	16.16	16.18	17.17	16.84	17.60	16.82	17.53	17.38	17.10
77.50°	12.85	13.13	12.82	12.19	11.68	12.69	12.31	11.84	11.91	11.99	12.82	12.63	13.48	12.69	13.35	13.67	12.85
80.00°	9.13	9.77	8.67	8.47	7.91	8.83	8.44	8.18	7.89	8.12	8.71	8.76	9.33	9.00	9.19	9.16	9.13
82.50°	5.79	6.48	5.48	5.16	5.00	5.02	5.37	4.79	4.89	4.87	5.76	5.48	6.05	5.71	5.23	6.38	5.79
85.00°	3.05	3.06	3.17	3.12	2.20	2.70	2.84	2.84	2.80	2.58	3.00	3.41	3.82	3.05	3.35	3.97	3.05
87.50°	1.36	1.35	1.42	1.32	1.15	1.32	1.32	1.08	1.30	1.08	1.54	1.40	1.83	1.29	1.75	1.44	1.36
90.00°	0.67	0.64	0.62	0.00	0.00	0.48	0.00	0.00	0.00	0.00	0.00	0.52	0.81	0.00	0.58	0.54	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
102.50°	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
105.00°	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
107.50°	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
110.00°	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
112.50°	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

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	869	869	869	869	848	848	848	848	811	811	811	776	776	776	745	745	730
	1	814	787	763	742	795	771	750	730	741	723	707	713	699	686	688	676	663
	2	758	711	673	641	740	698	663	633	674	644	619	651	627	605	630	610	592
	3	706	646	599	561	690	635	591	556	614	577	547	596	564	538	578	552	541
	4	659	589	537	498	644	580	532	495	563	521	488	547	511	482	532	502	492
	5	616	539	486	446	603	532	481	444	518	473	439	504	466	435	492	458	449
	6	577	496	442	403	565	490	439	402	478	432	398	467	426	395	456	420	412
	7	542	459	405	367	531	453	402	366	443	397	364	433	392	361	424	387	380
	8	510	426	373	336	500	421	371	335	412	366	334	404	362	332	396	359	352
	9	481	397	345	310	472	393	343	309	385	340	308	378	336	307	371	333	328
	10	455	371	320	287	446	367	319	286	361	316	285	354	313	284	348	311	306

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	19.9 fc	7.0 ft
6.5 ft	14.3 fc	8.3 ft
7.5 ft	10.7 fc	9.5 ft
8.0 ft	9.4 fc	10.2 ft
10.0 ft	6.0 fc	12.7 ft
12.0 ft	4.2 fc	15.2 ft
14.0 ft	3.1 fc	17.8 ft
16.0 ft	2.4 fc	20.3 ft
20.0 ft	1.5 fc	25.4 ft
24.0 ft	1.0 fc	30.5 ft
28.0 ft	0.8 fc	35.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	8,265	8,265	8,265
45.00°	2,457	2,474	2,460
55.00°	1,625	1,623	1,607
65.00°	1,247	1,223	1,185
75.00°	905	901	837
85.00°	480	499	347

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	10.8	12.2	11.2	12.5	12.8	10.7	12.0	11.1	12.4	12.7
	3H	12.1	13.3	12.5	13.6	14.0	11.9	13.1	12.3	13.4	13.8
	4H	12.5	13.6	12.9	13.9	14.3	12.3	13.4	12.7	13.8	14.1
	6H	12.7	13.7	13.1	14.1	14.5	12.5	13.5	13.0	13.9	14.3
	8H	12.8	13.7	13.2	14.1	14.5	12.6	13.5	13.0	13.9	14.3
	12H	12.8	13.7	13.2	14.1	14.5	12.6	13.5	13.0	13.9	14.3
4H	2H	11.2	12.3	11.6	12.7	13.1	11.1	12.2	11.5	12.6	12.9
	3H	12.7	13.6	13.1	14.0	14.4	12.5	13.4	12.9	13.8	14.2
	4H	13.2	14.0	13.6	14.4	14.8	13.0	13.8	13.4	14.2	14.7
	6H	13.5	14.2	14.0	14.6	15.1	13.3	14.0	13.8	14.5	14.9
	8H	13.6	14.2	14.1	14.7	15.1	13.4	14.0	13.8	14.5	14.9
	12H	13.6	14.2	14.1	14.7	15.1	13.4	14.0	13.9	14.5	14.9
8H	4H	13.3	14.0	13.8	14.4	14.9	13.1	13.8	13.6	14.2	14.7
	6H	13.7	14.3	14.2	14.8	15.2	13.5	14.0	14.0	14.5	15.0
	8H	13.9	14.3	14.4	14.8	15.3	13.6	14.1	14.1	14.6	15.1
	12H	13.9	14.4	14.5	14.8	15.4	13.7	14.1	14.2	14.6	15.2
12H	4H	13.3	13.9	13.8	14.3	14.8	13.1	13.7	13.6	14.2	14.6
	6H	13.7	14.2	14.3	14.7	15.2	13.5	14.0	14.0	14.5	15.0
	8H	13.9	14.3	14.4	14.8	15.4	13.6	14.1	14.2	14.6	15.1

Corrected UGR values based on total output lumens

SHR = 1.0