Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

AP8XT 30L 35HK XX MWI

Nom 8.5" diam x 12" H Aluminum reflector pendant

Test Number

SP-00589_3

Test Date

10/15/2019

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

Summary of Results

Power

Input Watts	35.9 W

Lumen Output

Output Lumens	1411
Efficacy	39.31 lm/W

Luminous Dimensions

0° - 180° Size	-0.67
90° - 270° Size	-0.67
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.82
Two luminaires, plane 90°	0.82
Four luminaires	0.81

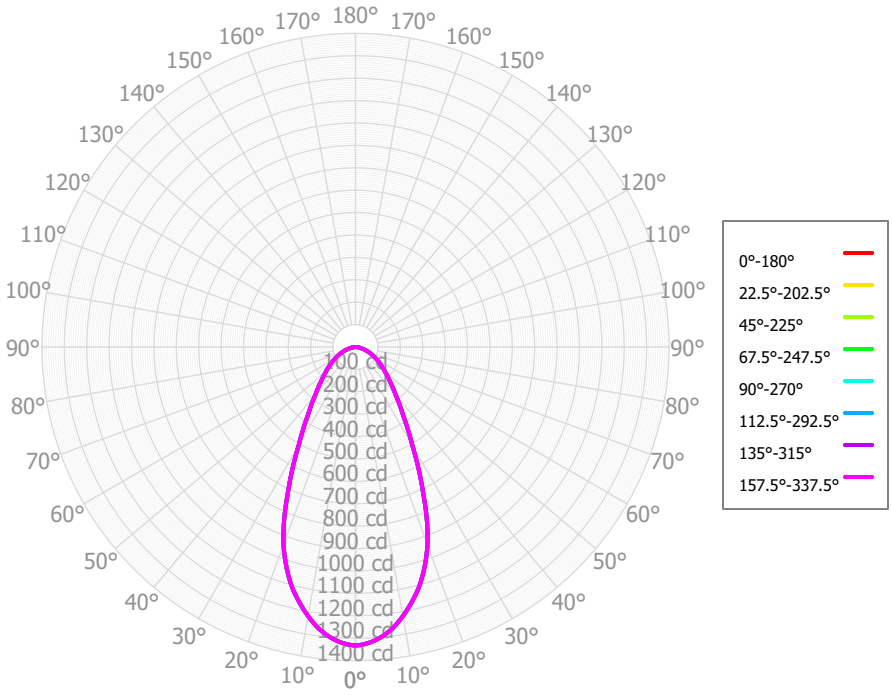
Full Beam Angle

0° - 180°	52°
90° - 270°	52°

IES File Header Contents

Keyword	Value
TEST	SP-00589_3
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	10/15/2019
ISSUEDATE	5/15/2020
LUMCAT	AP8XT 30L 35HK XX MWI
LUMINAIRE	Nom 8.5" diam x 12" H Aluminum reflector pendant
OTHER	Matte White finish - Interior, Khatod closed sphere optic, Open aperture
OTHER	Beam Angle: 52.2 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
_CRI	95
_CCTMULT	Same for all available CCT's
_LAMPMULT	13L x 0.43, 20L x 0.65

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	123.27	8.73%	90.00° - 100.00°	0.15	0.01%
10.00° - 20.00°	305.24	21.63%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	325.58	23.07%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	235.26	16.67%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	170.01	12.05%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	123.83	8.77%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	80.54	5.71%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	38.90	2.76%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	8.47	0.60%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1,411.09	99.99%	0.00° - 180.00°	1,411.24	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°	1,332.54	1,332.54	1,332.54	1,332.54	1,332.54	1,332.54	1,332.54	1,332.54	1,332.54	1,332.54	1,332.54	1,332.54	1,332.54	1,332.54	1,332.54	1,332.54	1,332.54
2.50°	1,323.05	1,323.05	1,323.05	1,323.05	1,323.05	1,323.05	1,323.05	1,323.05	1,323.05	1,323.05	1,323.05	1,323.05	1,323.05	1,323.05	1,323.05	1,323.05	1,323.05
5.00°	1,301.09	1,301.09	1,301.09	1,301.09	1,301.09	1,301.09	1,301.09	1,301.09	1,301.09	1,301.09	1,301.09	1,301.09	1,301.09	1,301.09	1,301.09	1,301.09	1,301.09
7.50°	1,266.98	1,266.98	1,266.98	1,266.98	1,266.98	1,266.98	1,266.98	1,266.98	1,266.98	1,266.98	1,266.98	1,266.98	1,266.98	1,266.98	1,266.98	1,266.98	1,266.98
10.00°	1,219.89	1,219.89	1,219.89	1,219.89	1,219.89	1,219.89	1,219.89	1,219.89	1,219.89	1,219.89	1,219.89	1,219.89	1,219.89	1,219.89	1,219.89	1,219.89	1,219.89
12.50°	1,165.19	1,165.19	1,165.19	1,165.19	1,165.19	1,165.19	1,165.19	1,165.19	1,165.19	1,165.19	1,165.19	1,165.19	1,165.19	1,165.19	1,165.19	1,165.19	1,165.19
15.00°	1,103.88	1,103.88	1,103.88	1,103.88	1,103.88	1,103.88	1,103.88	1,103.88	1,103.88	1,103.88	1,103.88	1,103.88	1,103.88	1,103.88	1,103.88	1,103.88	1,103.88
17.50°	1,027.31	1,027.31	1,027.31	1,027.31	1,027.31	1,027.31	1,027.31	1,027.31	1,027.31	1,027.31	1,027.31	1,027.31	1,027.31	1,027.31	1,027.31	1,027.31	1,027.31
20.00°	939.84	939.84	939.84	939.84	939.84	939.84	939.84	939.84	939.84	939.84	939.84	939.84	939.84	939.84	939.84	939.84	939.84
22.50°	832.05	832.05	832.05	832.05	832.05	832.05	832.05	832.05	832.05	832.05	832.05	832.05	832.05	832.05	832.05	832.05	832.05
25.00°	712.59	712.59	712.59	712.59	712.59	712.59	712.59	712.59	712.59	712.59	712.59	712.59	712.59	712.59	712.59	712.59	712.59
27.50°	607.14	607.14	607.14	607.14	607.14	607.14	607.14	607.14	607.14	607.14	607.14	607.14	607.14	607.14	607.14	607.14	607.14
30.00°	508.07	508.07	508.07	508.07	508.07	508.07	508.07	508.07	508.07	508.07	508.07	508.07	508.07	508.07	508.07	508.07	508.07
32.50°	434.32	434.32	434.32	434.32	434.32	434.32	434.32	434.32	434.32	434.32	434.32	434.32	434.32	434.32	434.32	434.32	434.32
35.00°	369.72	369.72	369.72	369.72	369.72	369.72	369.72	369.72	369.72	369.72	369.72	369.72	369.72	369.72	369.72	369.72	369.72
37.50°	322.07	322.07	322.07	322.07	322.07	322.07	322.07	322.07	322.07	322.07	322.07	322.07	322.07	322.07	322.07	322.07	322.07
40.00°	279.02	279.02	279.02	279.02	279.02	279.02	279.02	279.02	279.02	279.02	279.02	279.02	279.02	279.02	279.02	279.02	279.02
42.50°	247.15	247.15	247.15	247.15	247.15	247.15	247.15	247.15	247.15	247.15	247.15	247.15	247.15	247.15	247.15	247.15	247.15
45.00°	217.47	217.47	217.47	217.47	217.47	217.47	217.47	217.47	217.47	217.47	217.47	217.47	217.47	217.47	217.47	217.47	217.47
47.50°	194.70	194.70	194.70	194.70	194.70	194.70	194.70	194.70	194.70	194.70	194.70	194.70	194.70	194.70	194.70	194.70	194.70
50.00°	172.83	172.83	172.83	172.83	172.83	172.83	172.83	172.83	172.83	172.83	172.83	172.83	172.83	172.83	172.83	172.83	172.83
52.50°	154.97	154.97	154.97	154.97	154.97	154.97	154.97	154.97	154.97	154.97	154.97	154.97	154.97	154.97	154.97	154.97	154.97
55.00°	137.39	137.39	137.39	137.39	137.39	137.39	137.39	137.39	137.39	137.39	137.39	137.39	137.39	137.39	137.39	137.39	137.39
57.50°	122.54	122.54	122.54	122.54	122.54	122.54	122.54	122.54	122.54	122.54	122.54	122.54	122.54	122.54	122.54	122.54	122.54
60.00°	107.77	107.77	107.77	107.77	107.77	107.77	107.77	107.77	107.77	107.77	107.77	107.77	107.77	107.77	107.77	107.77	107.77
62.50°	94.22	94.22	94.22	94.22	94.22	94.22	94.22	94.22	94.22	94.22	94.22	94.22	94.22	94.22	94.22	94.22	94.22
65.00°	80.81	80.81	80.81	80.81	80.81	80.81	80.81	80.81	80.81	80.81	80.81	80.81	80.81	80.81	80.81	80.81	80.81
67.50°	68.76	68.76	68.76	68.76	68.76	68.76	68.76	68.76	68.76	68.76	68.76	68.76	68.76	68.76	68.76	68.76	68.76
70.00°	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06
72.50°	46.47	46.47	46.47	46.47	46.47	46.47	46.47	46.47	46.47	46.47	46.47	46.47	46.47	46.47	46.47	46.47	46.47
75.00°	36.37	36.37	36.37	36.37	36.37	36.37	36.37	36.37	36.37	36.37	36.37	36.37	36.37	36.37	36.37	36.37	36.37
77.50°	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09
80.00°	18.68	18.68	18.68	18.68	18.68	18.68	18.68	18.68	18.68	18.68	18.68	18.68	18.68	18.68	18.68	18.68	18.68
82.50°	11.77	11.77	11.77	11.77	11.77	11.77	11.77	11.77	11.77	11.77	11.77	11.77	11.77	11.77	11.77	11.77	11.77
85.00°	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48
87.50°	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02
90.00°	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12
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.

	ρfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	ρcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	1,680	1,680	1,680	1,680	1,641	1,641	1,641	1,641	1,568	1,568	1,568	1,501	1,501	1,501	1,440	1,440	1,440	1,411
	1	1,575	1,524	1,479	1,438	1,538	1,493	1,452	1,415	1,435	1,401	1,371	1,381	1,354	1,330	1,332	1,311	1,291	1,284
	2	1,470	1,382	1,308	1,247	1,436	1,356	1,289	1,233	1,309	1,253	1,205	1,265	1,219	1,178	1,224	1,187	1,153	1,162
	3	1,374	1,259	1,170	1,099	1,342	1,238	1,156	1,090	1,199	1,129	1,071	1,162	1,103	1,054	1,129	1,079	1,037	1,057
	4	1,286	1,153	1,056	982	1,258	1,136	1,046	976	1,103	1,025	963	1,073	1,006	951	1,045	987	940	968
RCR	5	1,207	1,062	962	887	1,181	1,048	953	883	1,021	938	874	995	923	866	972	908	858	891
	6	1,135	984	882	809	1,112	972	876	806	949	863	800	927	851	794	907	840	788	825
	7	1,070	915	814	743	1,049	905	809	741	885	799	737	867	790	732	849	781	728	767
	8	1,012	854	755	687	993	846	751	686	829	743	682	813	736	679	798	728	676	716
	9	958	801	704	639	941	793	701	638	779	694	635	765	688	633	752	682	630	671
	10	910	753	659	597	894	747	657	596	734	651	594	722	646	592	711	641	590	631

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	44.1 fc	5.4 ft
6.5 ft	31.5 fc	6.4 ft
7.5 ft	23.7 fc	7.3 ft
8.0 ft	20.8 fc	7.8 ft
10.0 ft	13.3 fc	9.8 ft
12.0 ft	9.3 fc	11.8 ft
14.0 ft	6.8 fc	13.7 ft
16.0 ft	5.2 fc	15.7 ft
20.0 ft	3.3 fc	19.6 ft
24.0 ft	2.3 fc	23.5 ft
28.0 ft	1.7 fc	27.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	40,683	40,683	40,683
45.00°	9,389	9,389	9,389
55.00°	7,313	7,313	7,313
65.00°	5,838	5,838	5,838
75.00°	4,290	4,290	4,290
85.00°	2,269	2,269	2,269

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	16.2	17.5	16.6	17.9	18.2	16.2	17.5	16.6	17.9	18.2
	3H	17.6	18.7	17.9	19.1	19.4	17.6	18.7	17.9	19.1	19.4
	4H	18.0	19.1	18.4	19.4	19.8	18.0	19.1	18.4	19.4	19.8
	6H	18.2	19.2	18.6	19.6	20.0	18.2	19.2	18.6	19.6	20.0
	8H	18.3	19.2	18.7	19.6	20.0	18.3	19.2	18.7	19.6	20.0
	12H	18.3	19.2	18.7	19.6	20.0	18.3	19.2	18.7	19.6	20.0
4H	2H	16.7	17.8	17.1	18.1	18.5	16.7	17.8	17.1	18.1	18.5
	3H	18.2	19.1	18.6	19.5	19.9	18.2	19.1	18.6	19.5	19.9
	4H	18.7	19.5	19.1	19.9	20.4	18.7	19.5	19.1	19.9	20.4
	6H	19.0	19.7	19.5	20.2	20.6	19.0	19.7	19.5	20.2	20.6
	8H	19.1	19.7	19.6	20.2	20.7	19.1	19.7	19.6	20.2	20.7
	12H	19.1	19.7	19.6	20.2	20.7	19.1	19.7	19.6	20.2	20.7
8H	4H	18.9	19.5	19.3	20.0	20.4	18.9	19.5	19.3	20.0	20.4
	6H	19.3	19.8	19.8	20.3	20.8	19.3	19.8	19.8	20.3	20.8
	8H	19.4	19.8	19.9	20.4	20.8	19.4	19.8	19.9	20.4	20.8
	12H	19.4	19.9	20.0	20.3	20.9	19.4	19.9	20.0	20.3	20.9
12H	4H	18.8	19.4	19.3	19.9	20.4	18.8	19.4	19.3	19.9	20.4
	6H	19.3	19.7	19.8	20.2	20.7	19.3	19.7	19.8	20.2	20.7
	8H	19.4	19.8	19.9	20.3	20.9	19.4	19.8	19.9	20.3	20.9

Corrected UGR values based on total output lumens

SHR = 1.0