

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P709069

Luminaire Tested: **4APN-X-30L835-UNV**

Issue Date: 09/12/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P709069  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 09/12/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APN-X-30L835-UNV  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

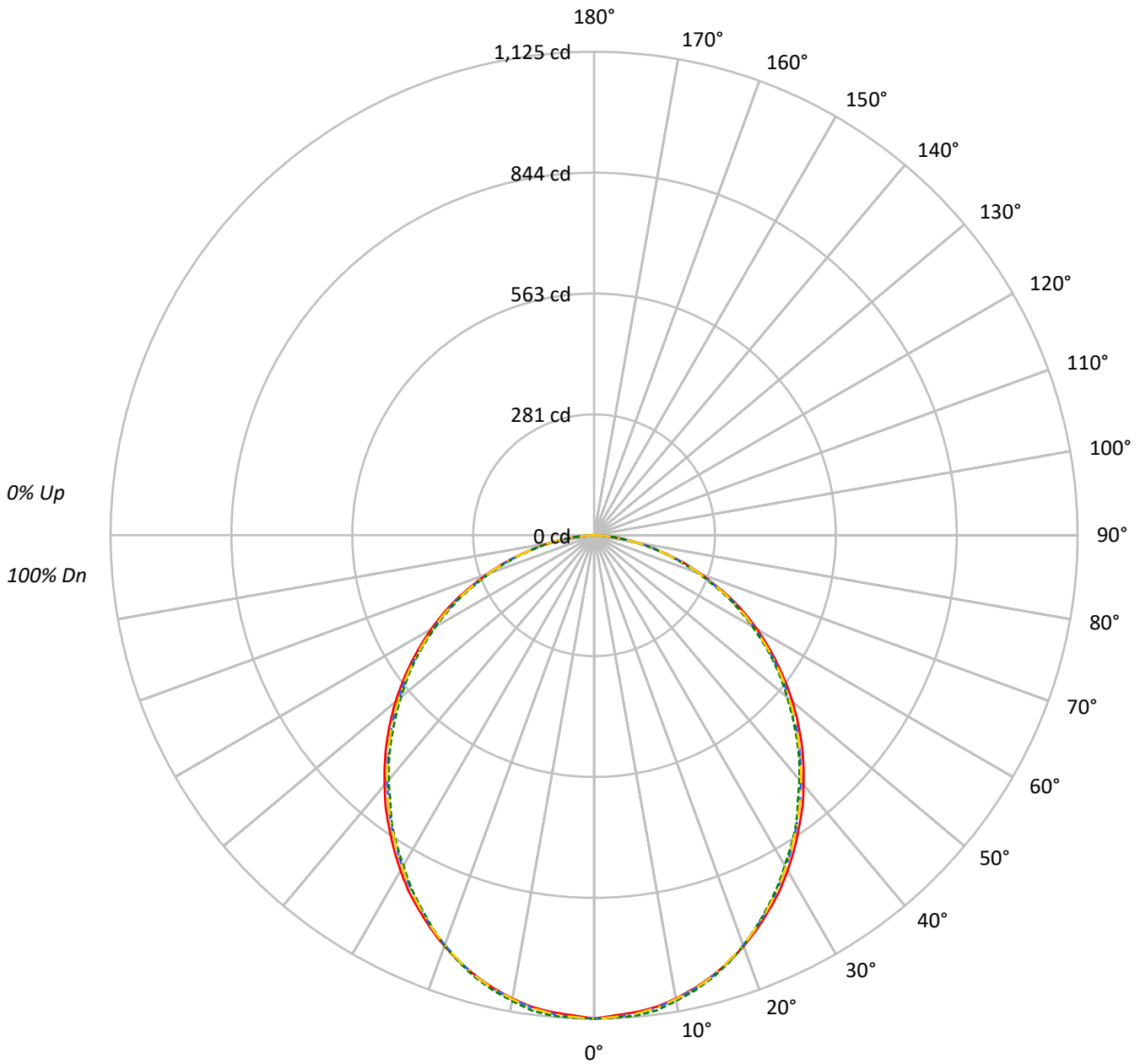
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2926.6 lumens  
Efficiency: N/A  
Efficacy: 90.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.18 / 1.3  
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 32.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

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### Luminous Intensity Polar Plot



— 0°-180°    - - 45°-225°    - - - 90°-270°    - · - 135°-315°



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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20				20
RC	80				70				50				30				10				0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	86	86	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	73	73	73	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	62	62	62	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	53	53	53	51
5	76	64	55	48	74	63	54	48	60	53	47	59	52	47	57	51	46	46	46	46	44
6	71	57	49	42	69	57	48	42	55	47	42	53	46	41	51	46	41	41	41	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	36	36	36	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	33	33	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	30	30	30	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	27	27	27	25

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	10379	10379	10379	10379
5°	10316	10392	10316	10392
10°	10256	10307	10256	10307
15°	10141	10180	10141	10180
20°	9992	9979	9992	9979
25°	9801	9718	9801	9718
30°	9599	9453	9599	9453
35°	9360	9236	9360	9236
40°	9132	8949	9132	8949
45°	8906	8691	8906	8691
50°	8655	8418	8655	8418
55°	8372	8175	8372	8175
60°	8084	7857	8084	7857
65°	7737	7497	7737	7497
70°	7151	6927	7151	6927
75°	6463	6267	6463	6267
80°	5547	5398	5547	5398
85°	4213	4213	4213	4213



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.2	3.6
10°-20°	299.8	10.2
20°-30°	441.9	15.1
30°-40°	515.9	17.6
40°-50°	520.1	17.8
50°-60°	459.6	15.7
60°-70°	343.7	11.7
70°-80°	190.5	6.5
80°-90°	48.9	1.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	847.9	29.0
0°-40°	1363.7	46.6
0°-60°	2343.5	80.1
0°-90°	2926.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2926.6	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1125	1125	1125	1125	1125	
5°	1114	1122	1114	1122	1114	106
15°	1062	1066	1062	1066	1062	299
25°	963	955	963	955	963	444
35°	831	820	831	820	831	520
45°	683	666	683	666	683	526
55°	520	508	520	508	520	466
65°	354	343	354	343	354	349
75°	181	176	181	176	181	193
85°	40	40	40	40	40	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9
2.5°	1118.0	1123.5	1129.0	1127.6	1123.5	1120.8	1122.1	1122.1	1123.5	1123.5	1123.5
5°	1113.9	1119.4	1123.5	1122.1	1118.0	1116.6	1116.6	1116.6	1119.4	1122.1	1119.4
7.5°	1107.0	1111.1	1115.3	1113.9	1109.8	1108.4	1108.4	1109.8	1112.5	1115.3	1112.5
10°	1094.7	1100.2	1104.3	1101.5	1097.4	1094.7	1094.7	1094.7	1097.4	1100.2	1097.4
12.5°	1079.5	1083.7	1087.8	1086.4	1082.3	1079.5	1079.5	1079.5	1082.3	1085.0	1082.3
15°	1061.7	1065.8	1069.9	1068.6	1064.4	1061.7	1061.7	1061.7	1064.4	1065.8	1064.4
17.5°	1041.1	1045.2	1049.3	1046.6	1041.1	1038.3	1038.3	1038.3	1041.1	1042.5	1041.1
20°	1017.7	1021.9	1024.6	1021.9	1016.4	1013.6	1012.2	1012.2	1015.0	1016.4	1015.0
22.5°	991.6	994.4	997.1	994.4	988.9	986.2	984.8	983.4	984.8	986.2	984.8
25°	962.8	965.6	968.3	965.6	960.1	955.9	954.6	953.2	954.6	954.6	954.6
27.5°	934.0	935.3	938.1	934.0	928.5	924.3	923.0	921.6	923.0	923.0	923.0
30°	901.0	902.4	905.1	901.0	894.1	890.0	888.6	887.3	887.3	887.3	887.3
32.5°	866.7	869.4	872.2	866.7	859.8	855.7	854.3	852.9	854.3	854.3	854.3
35°	831.0	832.3	835.1	831.0	824.1	820.0	817.2	815.8	818.6	820.0	818.6
37.5°	796.6	798.0	799.4	795.2	788.4	784.3	781.5	780.1	778.8	778.8	778.8
40°	758.2	759.5	762.3	758.2	751.3	747.2	744.4	743.0	743.0	743.0	743.0
42.5°	721.1	722.4	723.8	719.7	712.8	708.7	706.0	704.6	706.0	706.0	706.0
45°	682.6	682.6	684.0	679.9	674.4	670.3	667.5	666.1	666.1	666.1	666.1
47.5°	642.8	644.2	645.5	641.4	635.9	631.8	629.0	626.3	626.3	626.3	626.3
50°	603.0	603.0	604.3	600.2	594.7	590.6	589.2	587.8	586.5	586.5	586.5
52.5°	561.7	563.1	564.5	560.4	556.3	552.1	549.4	548.0	548.0	548.0	548.0
55°	520.5	520.5	521.9	519.2	515.1	510.9	508.2	506.8	508.2	508.2	508.2
57.5°	479.3	480.7	482.1	478.0	473.8	469.7	468.4	467.0	467.0	467.0	467.0
60°	438.1	438.1	439.5	436.8	432.6	428.5	427.1	425.8	425.8	425.8	425.8
62.5°	396.9	396.9	398.3	395.6	391.4	387.3	385.9	384.6	384.6	384.6	384.6
65°	354.4	354.4	354.4	351.6	348.9	347.5	346.1	344.7	343.4	343.4	343.4
67.5°	307.7	307.7	309.0	306.3	303.5	302.2	300.8	299.4	298.0	298.0	298.0
70°	265.1	265.1	266.5	265.1	262.3	261.0	259.6	258.2	256.8	256.8	256.8
72.5°	223.9	223.9	223.9	222.5	221.1	219.8	218.4	217.0	215.6	215.6	215.6
75°	181.3	181.3	182.7	181.3	179.9	178.6	177.2	177.2	175.8	175.8	175.8
77.5°	141.5	142.8	144.2	142.8	141.5	140.1	138.7	138.7	137.3	137.3	137.3
80°	104.4	105.8	107.1	105.8	104.4	103.0	101.6	101.6	101.6	101.6	101.6
82.5°	70.0	71.4	72.8	71.4	70.0	70.0	68.7	68.7	68.7	68.7	68.7
85°	39.8	41.2	42.6	42.6	41.2	41.2	39.8	39.8	39.8	39.8	39.8
87.5°	15.1	16.5	17.9	17.9	16.5	16.5	16.5	16.5	16.5	16.5	16.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9
2.5°	1122.1	1122.1	1120.8	1123.5	1127.6	1129.0	1123.5	1118.0	1123.5	1129.0	1127.6
5°	1116.6	1116.6	1116.6	1118.0	1122.1	1123.5	1119.4	1113.9	1119.4	1123.5	1122.1
7.5°	1109.8	1108.4	1108.4	1109.8	1113.9	1115.3	1111.1	1107.0	1111.1	1115.3	1113.9
10°	1094.7	1094.7	1094.7	1097.4	1101.5	1104.3	1100.2	1094.7	1100.2	1104.3	1101.5
12.5°	1079.5	1079.5	1079.5	1082.3	1086.4	1087.8	1083.7	1079.5	1083.7	1087.8	1086.4
15°	1061.7	1061.7	1061.7	1064.4	1068.6	1069.9	1065.8	1061.7	1065.8	1069.9	1068.6
17.5°	1038.3	1038.3	1038.3	1041.1	1046.6	1049.3	1045.2	1041.1	1045.2	1049.3	1046.6
20°	1012.2	1012.2	1013.6	1016.4	1021.9	1024.6	1021.9	1017.7	1021.9	1024.6	1021.9
22.5°	983.4	984.8	986.2	988.9	994.4	997.1	994.4	991.6	994.4	997.1	994.4
25°	953.2	954.6	955.9	960.1	965.6	968.3	965.6	962.8	965.6	968.3	965.6
27.5°	921.6	923.0	924.3	928.5	934.0	938.1	935.3	934.0	935.3	938.1	934.0
30°	887.3	888.6	890.0	894.1	901.0	905.1	902.4	901.0	902.4	905.1	901.0
32.5°	852.9	854.3	855.7	859.8	866.7	872.2	869.4	866.7	869.4	872.2	866.7
35°	815.8	817.2	820.0	824.1	831.0	835.1	832.3	831.0	832.3	835.1	831.0
37.5°	780.1	781.5	784.3	788.4	795.2	799.4	798.0	796.6	798.0	799.4	795.2
40°	743.0	744.4	747.2	751.3	758.2	762.3	759.5	758.2	759.5	762.3	758.2
42.5°	704.6	706.0	708.7	712.8	719.7	723.8	722.4	721.1	722.4	723.8	719.7
45°	666.1	667.5	670.3	674.4	679.9	684.0	682.6	682.6	682.6	684.0	679.9
47.5°	626.3	629.0	631.8	635.9	641.4	645.5	644.2	642.8	644.2	645.5	641.4
50°	587.8	589.2	590.6	594.7	600.2	604.3	603.0	603.0	603.0	604.3	600.2
52.5°	548.0	549.4	552.1	556.3	560.4	564.5	563.1	561.7	563.1	564.5	560.4
55°	506.8	508.2	510.9	515.1	519.2	521.9	520.5	520.5	520.5	521.9	519.2
57.5°	467.0	468.4	469.7	473.8	478.0	482.1	480.7	479.3	480.7	482.1	478.0
60°	425.8	427.1	428.5	432.6	436.8	439.5	438.1	438.1	438.1	439.5	436.8
62.5°	384.6	385.9	387.3	391.4	395.6	398.3	396.9	396.9	396.9	398.3	395.6
65°	344.7	346.1	347.5	348.9	351.6	354.4	354.4	354.4	354.4	354.4	351.6
67.5°	299.4	300.8	302.2	303.5	306.3	309.0	307.7	307.7	307.7	309.0	306.3
70°	258.2	259.6	261.0	262.3	265.1	266.5	265.1	265.1	265.1	266.5	265.1
72.5°	217.0	218.4	219.8	221.1	222.5	223.9	223.9	223.9	223.9	223.9	222.5
75°	177.2	177.2	178.6	179.9	181.3	182.7	181.3	181.3	181.3	182.7	181.3
77.5°	138.7	138.7	140.1	141.5	142.8	144.2	142.8	141.5	142.8	144.2	142.8
80°	101.6	101.6	103.0	104.4	105.8	107.1	105.8	104.4	105.8	107.1	105.8
82.5°	68.7	68.7	70.0	70.0	71.4	72.8	71.4	70.0	71.4	72.8	71.4
85°	39.8	39.8	41.2	41.2	42.6	42.6	41.2	39.8	41.2	42.6	42.6
87.5°	16.5	16.5	16.5	16.5	17.9	17.9	16.5	15.1	16.5	17.9	17.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9	1124.9
2.5°	1123.5	1120.8	1122.1	1122.1	1123.5	1123.5	1123.5	1122.1	1122.1	1120.8	1123.5
5°	1118.0	1116.6	1116.6	1116.6	1119.4	1122.1	1119.4	1116.6	1116.6	1116.6	1118.0
7.5°	1109.8	1108.4	1108.4	1109.8	1112.5	1115.3	1112.5	1109.8	1108.4	1108.4	1109.8
10°	1097.4	1094.7	1094.7	1094.7	1097.4	1100.2	1097.4	1094.7	1094.7	1094.7	1097.4
12.5°	1082.3	1079.5	1079.5	1079.5	1082.3	1085.0	1082.3	1079.5	1079.5	1079.5	1082.3
15°	1064.4	1061.7	1061.7	1061.7	1064.4	1065.8	1064.4	1061.7	1061.7	1061.7	1064.4
17.5°	1041.1	1038.3	1038.3	1038.3	1041.1	1042.5	1041.1	1038.3	1038.3	1038.3	1041.1
20°	1016.4	1013.6	1012.2	1012.2	1015.0	1016.4	1015.0	1012.2	1012.2	1013.6	1016.4
22.5°	988.9	986.2	984.8	983.4	984.8	986.2	984.8	983.4	984.8	986.2	988.9
25°	960.1	955.9	954.6	953.2	954.6	954.6	954.6	953.2	954.6	955.9	960.1
27.5°	928.5	924.3	923.0	921.6	923.0	923.0	923.0	921.6	923.0	924.3	928.5
30°	894.1	890.0	888.6	887.3	887.3	887.3	887.3	887.3	888.6	890.0	894.1
32.5°	859.8	855.7	854.3	852.9	854.3	854.3	854.3	852.9	854.3	855.7	859.8
35°	824.1	820.0	817.2	815.8	818.6	820.0	818.6	815.8	817.2	820.0	824.1
37.5°	788.4	784.3	781.5	780.1	778.8	778.8	778.8	780.1	781.5	784.3	788.4
40°	751.3	747.2	744.4	743.0	743.0	743.0	743.0	743.0	744.4	747.2	751.3
42.5°	712.8	708.7	706.0	704.6	706.0	706.0	706.0	704.6	706.0	708.7	712.8
45°	674.4	670.3	667.5	666.1	666.1	666.1	666.1	666.1	667.5	670.3	674.4
47.5°	635.9	631.8	629.0	626.3	626.3	626.3	626.3	626.3	629.0	631.8	635.9
50°	594.7	590.6	589.2	587.8	586.5	586.5	586.5	587.8	589.2	590.6	594.7
52.5°	556.3	552.1	549.4	548.0	548.0	548.0	548.0	548.0	549.4	552.1	556.3
55°	515.1	510.9	508.2	506.8	508.2	508.2	508.2	506.8	508.2	510.9	515.1
57.5°	473.8	469.7	468.4	467.0	467.0	467.0	467.0	467.0	468.4	469.7	473.8
60°	432.6	428.5	427.1	425.8	425.8	425.8	425.8	425.8	427.1	428.5	432.6
62.5°	391.4	387.3	385.9	384.6	384.6	384.6	384.6	384.6	385.9	387.3	391.4
65°	348.9	347.5	346.1	344.7	343.4	343.4	343.4	344.7	346.1	347.5	348.9
67.5°	303.5	302.2	300.8	299.4	298.0	298.0	298.0	299.4	300.8	302.2	303.5
70°	262.3	261.0	259.6	258.2	256.8	256.8	256.8	258.2	259.6	261.0	262.3
72.5°	221.1	219.8	218.4	217.0	215.6	215.6	215.6	217.0	218.4	219.8	221.1
75°	179.9	178.6	177.2	177.2	175.8	175.8	175.8	177.2	177.2	178.6	179.9
77.5°	141.5	140.1	138.7	138.7	137.3	137.3	137.3	138.7	138.7	140.1	141.5
80°	104.4	103.0	101.6	101.6	101.6	101.6	101.6	101.6	101.6	103.0	104.4
82.5°	70.0	70.0	68.7	68.7	68.7	68.7	68.7	68.7	68.7	70.0	70.0
85°	41.2	41.2	39.8	39.8	39.8	39.8	39.8	39.8	39.8	41.2	41.2
87.5°	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





TEST NUMBER: P709069

CATALOG NUMBER: 4APN-X-30L835-UNV

**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
0°	1124.9	1124.9	1124.9	1124.9
2.5°	1127.6	1129.0	1123.5	1118.0
5°	1122.1	1123.5	1119.4	1113.9
7.5°	1113.9	1115.3	1111.1	1107.0
10°	1101.5	1104.3	1100.2	1094.7
12.5°	1086.4	1087.8	1083.7	1079.5
15°	1068.6	1069.9	1065.8	1061.7
17.5°	1046.6	1049.3	1045.2	1041.1
20°	1021.9	1024.6	1021.9	1017.7
22.5°	994.4	997.1	994.4	991.6
25°	965.6	968.3	965.6	962.8
27.5°	934.0	938.1	935.3	934.0
30°	901.0	905.1	902.4	901.0
32.5°	866.7	872.2	869.4	866.7
35°	831.0	835.1	832.3	831.0
37.5°	795.2	799.4	798.0	796.6
40°	758.2	762.3	759.5	758.2
42.5°	719.7	723.8	722.4	721.1
45°	679.9	684.0	682.6	682.6
47.5°	641.4	645.5	644.2	642.8
50°	600.2	604.3	603.0	603.0
52.5°	560.4	564.5	563.1	561.7
55°	519.2	521.9	520.5	520.5
57.5°	478.0	482.1	480.7	479.3
60°	436.8	439.5	438.1	438.1
62.5°	395.6	398.3	396.9	396.9
65°	351.6	354.4	354.4	354.4
67.5°	306.3	309.0	307.7	307.7
70°	265.1	266.5	265.1	265.1
72.5°	222.5	223.9	223.9	223.9
75°	181.3	182.7	181.3	181.3
77.5°	142.8	144.2	142.8	141.5
80°	105.8	107.1	105.8	104.4
82.5°	71.4	72.8	71.4	70.0
85°	42.6	42.6	41.2	39.8
87.5°	17.9	17.9	16.5	15.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)