

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: P709074

Luminaire Tested: **4APN-X-34L840-UNV**

Issue Date: 09/12/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P709074  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 09/12/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APN-X-34L840-UNV  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

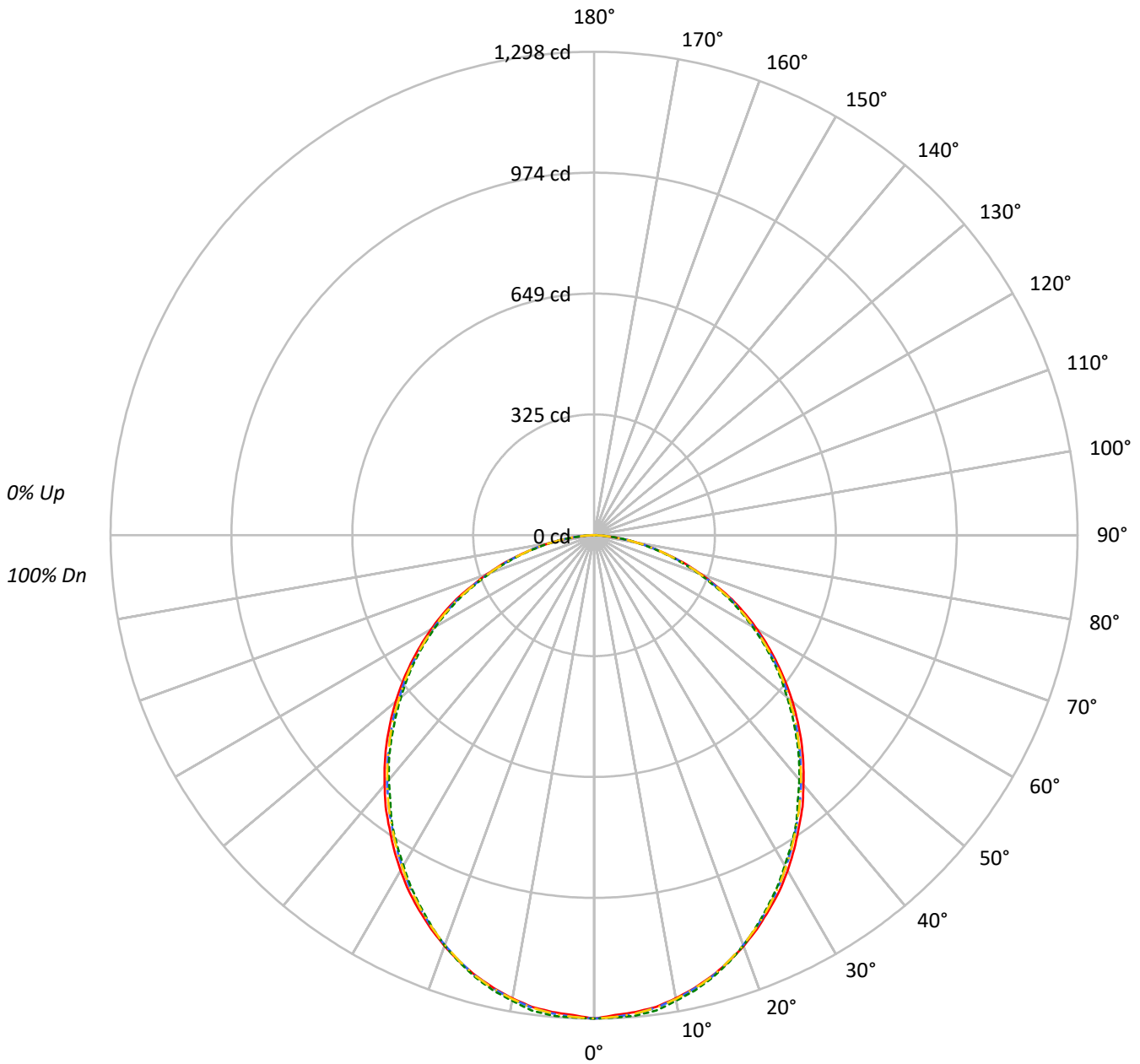
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3375.7 lumens  
Efficiency: N/A  
Efficacy: 91.7 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): 36.8  
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				
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°	11971	11971	11971	11971
5°	11899	11987	11899	11987
10°	11829	11889	11829	11889
15°	11697	11743	11697	11743
20°	11526	11510	11526	11510
25°	11305	11208	11305	11208
30°	11072	10903	11072	10903
35°	10796	10653	10796	10653
40°	10532	10323	10532	10323
45°	10274	10026	10274	10026
50°	9983	9710	9983	9710
55°	9658	9429	9658	9429
60°	9326	9062	9326	9062
65°	8922	8647	8922	8647
70°	8249	7993	8249	7993
75°	7454	7229	7454	7229
80°	6397	6227	6397	6227
85°	4859	4859	4859	4859



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.5	3.6
10°-20°	345.8	10.2
20°-30°	509.7	15.1
30°-40°	595.0	17.6
40°-50°	599.9	17.8
50°-60°	530.2	15.7
60°-70°	396.5	11.7
70°-80°	219.8	6.5
80°-90°	56.3	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°	978.0	29.0
0°-40°	1573.0	46.6
0°-60°	2703.1	80.1
0°-90°	3375.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3375.7	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1298	1298	1298	1298	1298	
5°	1285	1294	1285	1294	1285	122
15°	1225	1229	1225	1229	1225	345
25°	1110	1101	1110	1101	1110	512
35°	958	946	958	946	958	600
45°	787	768	787	768	787	607
55°	600	586	600	586	600	537
65°	409	396	409	396	409	402
75°	209	203	209	203	209	222
85°	46	46	46	46	46	56
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°	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5
2.5°	1289.6	1295.9	1302.2	1300.7	1295.9	1292.7	1294.3	1294.3	1295.9	1295.9	1295.9
5°	1284.8	1291.1	1295.9	1294.3	1289.6	1288.0	1288.0	1288.0	1291.1	1294.3	1291.1
7.5°	1276.9	1281.6	1286.4	1284.8	1280.1	1278.5	1278.5	1280.1	1283.2	1286.4	1283.2
10°	1262.6	1269.0	1273.7	1270.6	1265.8	1262.6	1262.6	1262.6	1265.8	1269.0	1265.8
12.5°	1245.2	1250.0	1254.7	1253.1	1248.4	1245.2	1245.2	1245.2	1248.4	1251.5	1248.4
15°	1224.6	1229.4	1234.1	1232.5	1227.8	1224.6	1224.6	1224.6	1227.8	1229.4	1227.8
17.5°	1200.8	1205.6	1210.4	1207.2	1200.8	1197.7	1197.7	1197.7	1200.8	1202.4	1200.8
20°	1173.9	1178.7	1181.8	1178.7	1172.3	1169.2	1167.6	1167.6	1170.7	1172.3	1170.7
22.5°	1143.8	1147.0	1150.2	1147.0	1140.6	1137.5	1135.9	1134.3	1135.9	1137.5	1135.9
25°	1110.5	1113.7	1116.9	1113.7	1107.4	1102.6	1101.0	1099.5	1101.0	1101.0	1101.0
27.5°	1077.3	1078.9	1082.0	1077.3	1070.9	1066.2	1064.6	1063.0	1064.6	1064.6	1064.6
30°	1039.3	1040.8	1044.0	1039.3	1031.3	1026.6	1025.0	1023.4	1023.4	1023.4	1023.4
32.5°	999.7	1002.8	1006.0	999.7	991.7	987.0	985.4	983.8	985.4	985.4	985.4
35°	958.5	960.0	963.2	958.5	950.5	945.8	942.6	941.0	944.2	945.8	944.2
37.5°	918.9	920.4	922.0	917.3	909.3	904.6	901.4	899.8	898.3	898.3	898.3
40°	874.5	876.1	879.2	874.5	866.6	861.8	858.7	857.1	857.1	857.1	857.1
42.5°	831.7	833.3	834.9	830.1	822.2	817.5	814.3	812.7	814.3	814.3	814.3
45°	787.4	787.4	788.9	784.2	777.9	773.1	769.9	768.4	768.4	768.4	768.4
47.5°	741.4	743.0	744.6	739.8	733.5	728.7	725.6	722.4	722.4	722.4	722.4
50°	695.5	695.5	697.1	692.3	686.0	681.2	679.6	678.1	676.5	676.5	676.5
52.5°	648.0	649.5	651.1	646.4	641.6	636.9	633.7	632.1	632.1	632.1	632.1
55°	600.4	600.4	602.0	598.8	594.1	589.3	586.2	584.6	586.2	586.2	586.2
57.5°	552.9	554.5	556.1	551.3	546.6	541.8	540.2	538.6	538.6	538.6	538.6
60°	505.4	505.4	507.0	503.8	499.0	494.3	492.7	491.1	491.1	491.1	491.1
62.5°	457.8	457.8	459.4	456.3	451.5	446.8	445.2	443.6	443.6	443.6	443.6
65°	408.7	408.7	408.7	405.6	402.4	400.8	399.2	397.6	396.1	396.1	396.1
67.5°	354.9	354.9	356.5	353.3	350.1	348.5	346.9	345.4	343.8	343.8	343.8
70°	305.8	305.8	307.3	305.8	302.6	301.0	299.4	297.8	296.3	296.3	296.3
72.5°	258.2	258.2	258.2	256.6	255.1	253.5	251.9	250.3	248.7	248.7	248.7
75°	209.1	209.1	210.7	209.1	207.5	206.0	204.4	204.4	202.8	202.8	202.8
77.5°	163.2	164.8	166.3	164.8	163.2	161.6	160.0	160.0	158.4	158.4	158.4
80°	120.4	122.0	123.6	122.0	120.4	118.8	117.2	117.2	117.2	117.2	117.2
82.5°	80.8	82.4	84.0	82.4	80.8	80.8	79.2	79.2	79.2	79.2	79.2
85°	45.9	47.5	49.1	49.1	47.5	47.5	45.9	45.9	45.9	45.9	45.9
87.5°	17.4	19.0	20.6	20.6	19.0	19.0	19.0	19.0	19.0	19.0	19.0
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°	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5
2.5°	1294.3	1294.3	1292.7	1295.9	1300.7	1302.2	1295.9	1289.6	1295.9	1302.2	1300.7
5°	1288.0	1288.0	1288.0	1289.6	1294.3	1295.9	1291.1	1284.8	1291.1	1295.9	1294.3
7.5°	1280.1	1278.5	1278.5	1280.1	1284.8	1286.4	1281.6	1276.9	1281.6	1286.4	1284.8
10°	1262.6	1262.6	1262.6	1265.8	1270.6	1273.7	1269.0	1262.6	1269.0	1273.7	1270.6
12.5°	1245.2	1245.2	1245.2	1248.4	1253.1	1254.7	1250.0	1245.2	1250.0	1254.7	1253.1
15°	1224.6	1224.6	1224.6	1227.8	1232.5	1234.1	1229.4	1224.6	1229.4	1234.1	1232.5
17.5°	1197.7	1197.7	1197.7	1200.8	1207.2	1210.4	1205.6	1200.8	1205.6	1210.4	1207.2
20°	1167.6	1167.6	1169.2	1172.3	1178.7	1181.8	1178.7	1173.9	1178.7	1181.8	1178.7
22.5°	1134.3	1135.9	1137.5	1140.6	1147.0	1150.2	1147.0	1143.8	1147.0	1150.2	1147.0
25°	1099.5	1101.0	1102.6	1107.4	1113.7	1116.9	1113.7	1110.5	1113.7	1116.9	1113.7
27.5°	1063.0	1064.6	1066.2	1070.9	1077.3	1082.0	1078.9	1077.3	1078.9	1082.0	1077.3
30°	1023.4	1025.0	1026.6	1031.3	1039.3	1044.0	1040.8	1039.3	1040.8	1044.0	1039.3
32.5°	983.8	985.4	987.0	991.7	999.7	1006.0	1002.8	999.7	1002.8	1006.0	999.7
35°	941.0	942.6	945.8	950.5	958.5	963.2	960.0	958.5	960.0	963.2	958.5
37.5°	899.8	901.4	904.6	909.3	917.3	922.0	920.4	918.9	920.4	922.0	917.3
40°	857.1	858.7	861.8	866.6	874.5	879.2	876.1	874.5	876.1	879.2	874.5
42.5°	812.7	814.3	817.5	822.2	830.1	834.9	833.3	831.7	833.3	834.9	830.1
45°	768.4	769.9	773.1	777.9	784.2	788.9	787.4	787.4	787.4	788.9	784.2
47.5°	722.4	725.6	728.7	733.5	739.8	744.6	743.0	741.4	743.0	744.6	739.8
50°	678.1	679.6	681.2	686.0	692.3	697.1	695.5	695.5	695.5	697.1	692.3
52.5°	632.1	633.7	636.9	641.6	646.4	651.1	649.5	648.0	649.5	651.1	646.4
55°	584.6	586.2	589.3	594.1	598.8	602.0	600.4	600.4	600.4	602.0	598.8
57.5°	538.6	540.2	541.8	546.6	551.3	556.1	554.5	552.9	554.5	556.1	551.3
60°	491.1	492.7	494.3	499.0	503.8	507.0	505.4	505.4	505.4	507.0	503.8
62.5°	443.6	445.2	446.8	451.5	456.3	459.4	457.8	457.8	457.8	459.4	456.3
65°	397.6	399.2	400.8	402.4	405.6	408.7	408.7	408.7	408.7	408.7	405.6
67.5°	345.4	346.9	348.5	350.1	353.3	356.5	354.9	354.9	354.9	356.5	353.3
70°	297.8	299.4	301.0	302.6	305.8	307.3	305.8	305.8	305.8	307.3	305.8
72.5°	250.3	251.9	253.5	255.1	256.6	258.2	258.2	258.2	258.2	258.2	256.6
75°	204.4	204.4	206.0	207.5	209.1	210.7	209.1	209.1	209.1	210.7	209.1
77.5°	160.0	160.0	161.6	163.2	164.8	166.3	164.8	163.2	164.8	166.3	164.8
80°	117.2	117.2	118.8	120.4	122.0	123.6	122.0	120.4	122.0	123.6	122.0
82.5°	79.2	79.2	80.8	80.8	82.4	84.0	82.4	80.8	82.4	84.0	82.4
85°	45.9	45.9	47.5	47.5	49.1	49.1	47.5	45.9	47.5	49.1	49.1
87.5°	19.0	19.0	19.0	19.0	20.6	20.6	19.0	17.4	19.0	20.6	20.6
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°	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5	1297.5
2.5°	1295.9	1292.7	1294.3	1294.3	1295.9	1295.9	1295.9	1294.3	1294.3	1292.7	1295.9
5°	1289.6	1288.0	1288.0	1288.0	1291.1	1294.3	1291.1	1288.0	1288.0	1288.0	1289.6
7.5°	1280.1	1278.5	1278.5	1280.1	1283.2	1286.4	1283.2	1280.1	1278.5	1278.5	1280.1
10°	1265.8	1262.6	1262.6	1262.6	1265.8	1269.0	1265.8	1262.6	1262.6	1262.6	1265.8
12.5°	1248.4	1245.2	1245.2	1245.2	1248.4	1251.5	1248.4	1245.2	1245.2	1245.2	1248.4
15°	1227.8	1224.6	1224.6	1224.6	1227.8	1229.4	1227.8	1224.6	1224.6	1224.6	1227.8
17.5°	1200.8	1197.7	1197.7	1197.7	1200.8	1202.4	1200.8	1197.7	1197.7	1197.7	1200.8
20°	1172.3	1169.2	1167.6	1167.6	1170.7	1172.3	1170.7	1167.6	1167.6	1169.2	1172.3
22.5°	1140.6	1137.5	1135.9	1134.3	1135.9	1137.5	1135.9	1134.3	1135.9	1137.5	1140.6
25°	1107.4	1102.6	1101.0	1099.5	1101.0	1101.0	1101.0	1099.5	1101.0	1102.6	1107.4
27.5°	1070.9	1066.2	1064.6	1063.0	1064.6	1064.6	1064.6	1063.0	1064.6	1066.2	1070.9
30°	1031.3	1026.6	1025.0	1023.4	1023.4	1023.4	1023.4	1023.4	1025.0	1026.6	1031.3
32.5°	991.7	987.0	985.4	983.8	985.4	985.4	985.4	983.8	985.4	987.0	991.7
35°	950.5	945.8	942.6	941.0	944.2	945.8	944.2	941.0	942.6	945.8	950.5
37.5°	909.3	904.6	901.4	899.8	898.3	898.3	898.3	899.8	901.4	904.6	909.3
40°	866.6	861.8	858.7	857.1	857.1	857.1	857.1	857.1	858.7	861.8	866.6
42.5°	822.2	817.5	814.3	812.7	814.3	814.3	814.3	812.7	814.3	817.5	822.2
45°	777.9	773.1	769.9	768.4	768.4	768.4	768.4	768.4	769.9	773.1	777.9
47.5°	733.5	728.7	725.6	722.4	722.4	722.4	722.4	722.4	725.6	728.7	733.5
50°	686.0	681.2	679.6	678.1	676.5	676.5	676.5	678.1	679.6	681.2	686.0
52.5°	641.6	636.9	633.7	632.1	632.1	632.1	632.1	632.1	633.7	636.9	641.6
55°	594.1	589.3	586.2	584.6	586.2	586.2	586.2	584.6	586.2	589.3	594.1
57.5°	546.6	541.8	540.2	538.6	538.6	538.6	538.6	538.6	540.2	541.8	546.6
60°	499.0	494.3	492.7	491.1	491.1	491.1	491.1	491.1	492.7	494.3	499.0
62.5°	451.5	446.8	445.2	443.6	443.6	443.6	443.6	443.6	445.2	446.8	451.5
65°	402.4	400.8	399.2	397.6	396.1	396.1	396.1	397.6	399.2	400.8	402.4
67.5°	350.1	348.5	346.9	345.4	343.8	343.8	343.8	345.4	346.9	348.5	350.1
70°	302.6	301.0	299.4	297.8	296.3	296.3	296.3	297.8	299.4	301.0	302.6
72.5°	255.1	253.5	251.9	250.3	248.7	248.7	248.7	250.3	251.9	253.5	255.1
75°	207.5	206.0	204.4	204.4	202.8	202.8	202.8	204.4	204.4	206.0	207.5
77.5°	163.2	161.6	160.0	160.0	158.4	158.4	158.4	160.0	160.0	161.6	163.2
80°	120.4	118.8	117.2	117.2	117.2	117.2	117.2	117.2	117.2	118.8	120.4
82.5°	80.8	80.8	79.2	79.2	79.2	79.2	79.2	79.2	79.2	80.8	80.8
85°	47.5	47.5	45.9	45.9	45.9	45.9	45.9	45.9	45.9	47.5	47.5
87.5°	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
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: P709074  
 CATALOG NUMBER: 4APN-X-34L840-UNV

**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
0°	1297.5	1297.5	1297.5	1297.5
2.5°	1300.7	1302.2	1295.9	1289.6
5°	1294.3	1295.9	1291.1	1284.8
7.5°	1284.8	1286.4	1281.6	1276.9
10°	1270.6	1273.7	1269.0	1262.6
12.5°	1253.1	1254.7	1250.0	1245.2
15°	1232.5	1234.1	1229.4	1224.6
17.5°	1207.2	1210.4	1205.6	1200.8
20°	1178.7	1181.8	1178.7	1173.9
22.5°	1147.0	1150.2	1147.0	1143.8
25°	1113.7	1116.9	1113.7	1110.5
27.5°	1077.3	1082.0	1078.9	1077.3
30°	1039.3	1044.0	1040.8	1039.3
32.5°	999.7	1006.0	1002.8	999.7
35°	958.5	963.2	960.0	958.5
37.5°	917.3	922.0	920.4	918.9
40°	874.5	879.2	876.1	874.5
42.5°	830.1	834.9	833.3	831.7
45°	784.2	788.9	787.4	787.4
47.5°	739.8	744.6	743.0	741.4
50°	692.3	697.1	695.5	695.5
52.5°	646.4	651.1	649.5	648.0
55°	598.8	602.0	600.4	600.4
57.5°	551.3	556.1	554.5	552.9
60°	503.8	507.0	505.4	505.4
62.5°	456.3	459.4	457.8	457.8
65°	405.6	408.7	408.7	408.7
67.5°	353.3	356.5	354.9	354.9
70°	305.8	307.3	305.8	305.8
72.5°	256.6	258.2	258.2	258.2
75°	209.1	210.7	209.1	209.1
77.5°	164.8	166.3	164.8	163.2
80°	122.0	123.6	122.0	120.4
82.5°	82.4	84.0	82.4	80.8
85°	49.1	49.1	47.5	45.9
87.5°	20.6	20.6	19.0	17.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)