

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: P709103

Luminaire Tested: **4APN-X-37L950-UNV**

Issue Date: 09/12/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P709103  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 09/12/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APN-X-37L950-UNV  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

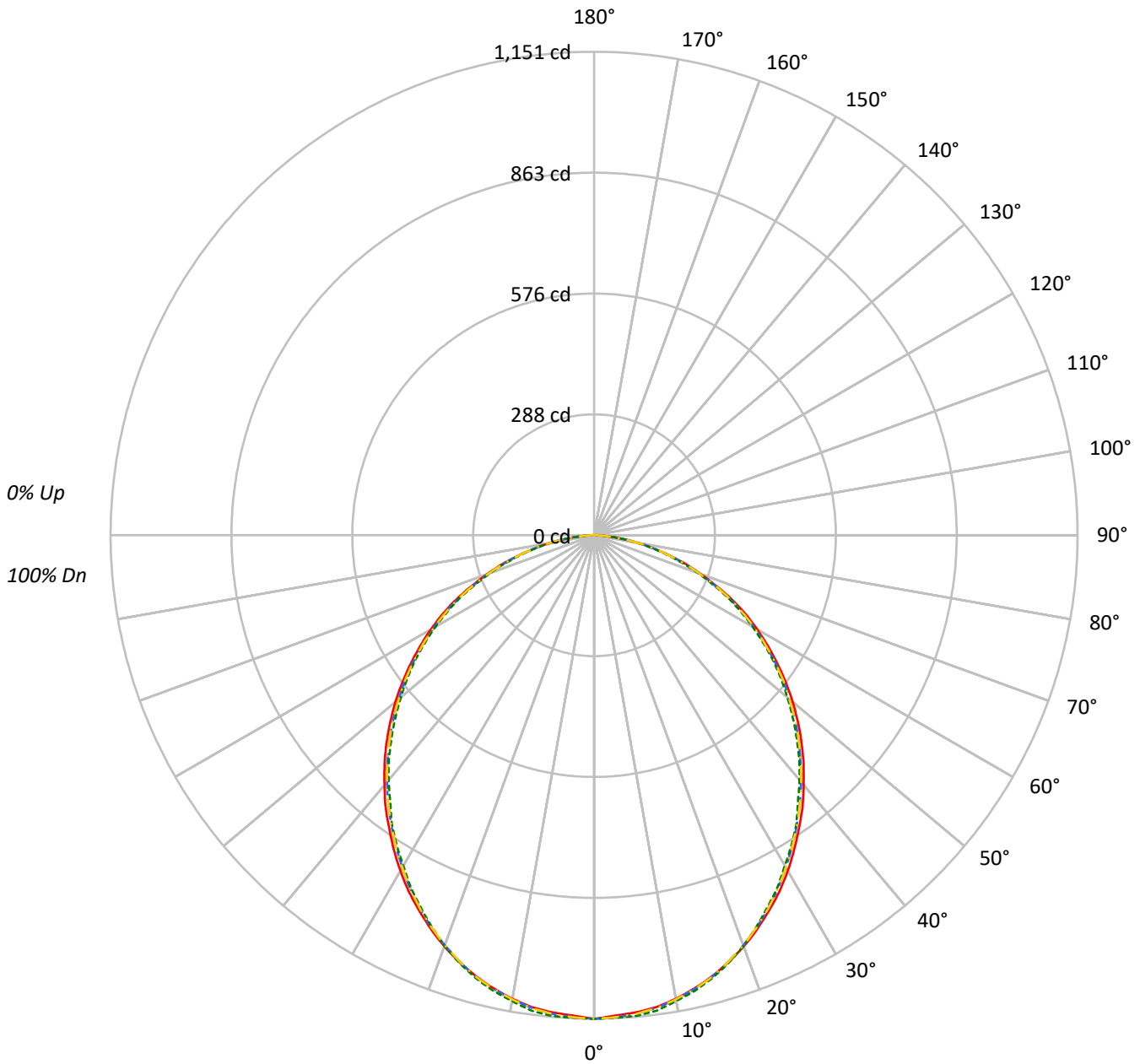
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2995.7 lumens  
Efficiency: N/A  
Efficacy: 73.4 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): 40.8  
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				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°	10623	10623	10623	10623
5°	10560	10638	10560	10638
10°	10497	10550	10497	10550
15°	10381	10421	10381	10421
20°	10229	10215	10229	10215
25°	10032	9947	10032	9947
30°	9826	9676	9826	9676
35°	9580	9453	9580	9453
40°	9347	9161	9347	9161
45°	9117	8897	9117	8897
50°	8859	8616	8859	8616
55°	8570	8368	8570	8368
60°	8276	8042	8276	8042
65°	7918	7674	7918	7674
70°	7318	7092	7318	7092
75°	6616	6417	6616	6417
80°	5674	5526	5674	5526
85°	4319	4319	4319	4319



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.7	3.6
10°-20°	306.9	10.2
20°-30°	452.3	15.1
30°-40°	528.0	17.6
40°-50°	532.4	17.8
50°-60°	470.5	15.7
60°-70°	351.8	11.7
70°-80°	195.0	6.5
80°-90°	50.0	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°	867.9	29.0
0°-40°	1395.9	46.6
0°-60°	2398.8	80.1
0°-90°	2995.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2995.7	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1151	1151	1151	1151	1151	
5°	1140	1149	1140	1149	1140	108
15°	1087	1091	1087	1091	1087	306
25°	986	977	986	977	986	454
35°	851	839	851	839	851	533
45°	699	682	699	682	699	539
55°	533	520	533	520	533	477
65°	363	352	363	352	363	357
75°	186	180	186	180	186	197
85°	41	41	41	41	41	49
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°	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4
2.5°	1144.4	1150.0	1155.6	1154.2	1150.0	1147.2	1148.6	1148.6	1150.0	1150.0	1150.0
5°	1140.2	1145.8	1150.0	1148.6	1144.4	1143.0	1143.0	1143.0	1145.8	1148.6	1145.8
7.5°	1133.1	1137.4	1141.6	1140.2	1136.0	1134.6	1134.6	1136.0	1138.8	1141.6	1138.8
10°	1120.5	1126.1	1130.3	1127.5	1123.3	1120.5	1120.5	1120.5	1123.3	1126.1	1123.3
12.5°	1105.0	1109.2	1113.5	1112.1	1107.8	1105.0	1105.0	1105.0	1107.8	1110.7	1107.8
15°	1086.8	1091.0	1095.2	1093.8	1089.6	1086.8	1086.8	1086.8	1089.6	1091.0	1089.6
17.5°	1065.7	1069.9	1074.1	1071.3	1065.7	1062.9	1062.9	1062.9	1065.7	1067.1	1065.7
20°	1041.8	1046.0	1048.8	1046.0	1040.4	1037.5	1036.1	1036.1	1039.0	1040.4	1039.0
22.5°	1015.1	1017.9	1020.7	1017.9	1012.2	1009.4	1008.0	1006.6	1008.0	1009.4	1008.0
25°	985.5	988.3	991.2	988.3	982.7	978.5	977.1	975.7	977.1	977.1	977.1
27.5°	956.0	957.4	960.2	956.0	950.4	946.2	944.8	943.4	944.8	944.8	944.8
30°	922.3	923.7	926.5	922.3	915.2	911.0	909.6	908.2	908.2	908.2	908.2
32.5°	887.1	889.9	892.7	887.1	880.1	875.9	874.5	873.1	874.5	874.5	874.5
35°	850.6	852.0	854.8	850.6	843.5	839.3	836.5	835.1	837.9	839.3	837.9
37.5°	815.4	816.8	818.2	814.0	807.0	802.8	800.0	798.5	797.1	797.1	797.1
40°	776.1	777.5	780.3	776.1	769.0	764.8	762.0	760.6	760.6	760.6	760.6
42.5°	738.1	739.5	740.9	736.7	729.7	725.4	722.6	721.2	722.6	722.6	722.6
45°	698.7	698.7	700.1	695.9	690.3	686.1	683.3	681.9	681.9	681.9	681.9
47.5°	658.0	659.4	660.8	656.6	650.9	646.7	643.9	641.1	641.1	641.1	641.1
50°	617.2	617.2	618.6	614.4	608.7	604.5	603.1	601.7	600.3	600.3	600.3
52.5°	575.0	576.4	577.8	573.6	569.4	565.2	562.4	560.9	560.9	560.9	560.9
55°	532.8	532.8	534.2	531.4	527.2	523.0	520.2	518.8	520.2	520.2	520.2
57.5°	490.7	492.1	493.5	489.2	485.0	480.8	479.4	478.0	478.0	478.0	478.0
60°	448.5	448.5	449.9	447.1	442.9	438.6	437.2	435.8	435.8	435.8	435.8
62.5°	406.3	406.3	407.7	404.9	400.7	396.5	395.1	393.6	393.6	393.6	393.6
65°	362.7	362.7	362.7	359.9	357.1	355.7	354.3	352.9	351.5	351.5	351.5
67.5°	314.9	314.9	316.3	313.5	310.7	309.3	307.9	306.5	305.1	305.1	305.1
70°	271.3	271.3	272.7	271.3	268.5	267.1	265.7	264.3	262.9	262.9	262.9
72.5°	229.2	229.2	229.2	227.8	226.3	224.9	223.5	222.1	220.7	220.7	220.7
75°	185.6	185.6	187.0	185.6	184.2	182.8	181.4	181.4	180.0	180.0	180.0
77.5°	144.8	146.2	147.6	146.2	144.8	143.4	142.0	142.0	140.6	140.6	140.6
80°	106.8	108.3	109.7	108.3	106.8	105.4	104.0	104.0	104.0	104.0	104.0
82.5°	71.7	73.1	74.5	73.1	71.7	71.7	70.3	70.3	70.3	70.3	70.3
85°	40.8	42.2	43.6	43.6	42.2	42.2	40.8	40.8	40.8	40.8	40.8
87.5°	15.5	16.9	18.3	18.3	16.9	16.9	16.9	16.9	16.9	16.9	16.9
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):**

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4
2.5°	1148.6	1148.6	1147.2	1150.0	1154.2	1155.6	1150.0	1144.4	1150.0	1155.6	1154.2
5°	1143.0	1143.0	1143.0	1144.4	1148.6	1150.0	1145.8	1140.2	1145.8	1150.0	1148.6
7.5°	1136.0	1134.6	1134.6	1136.0	1140.2	1141.6	1137.4	1133.1	1137.4	1141.6	1140.2
10°	1120.5	1120.5	1120.5	1123.3	1127.5	1130.3	1126.1	1120.5	1126.1	1130.3	1127.5
12.5°	1105.0	1105.0	1105.0	1107.8	1112.1	1113.5	1109.2	1105.0	1109.2	1113.5	1112.1
15°	1086.8	1086.8	1086.8	1089.6	1093.8	1095.2	1091.0	1086.8	1091.0	1095.2	1093.8
17.5°	1062.9	1062.9	1062.9	1065.7	1071.3	1074.1	1069.9	1065.7	1069.9	1074.1	1071.3
20°	1036.1	1036.1	1037.5	1040.4	1046.0	1048.8	1046.0	1041.8	1046.0	1048.8	1046.0
22.5°	1006.6	1008.0	1009.4	1012.2	1017.9	1020.7	1017.9	1015.1	1017.9	1020.7	1017.9
25°	975.7	977.1	978.5	982.7	988.3	991.2	988.3	985.5	988.3	991.2	988.3
27.5°	943.4	944.8	946.2	950.4	956.0	960.2	957.4	956.0	957.4	960.2	956.0
30°	908.2	909.6	911.0	915.2	922.3	926.5	923.7	922.3	923.7	926.5	922.3
32.5°	873.1	874.5	875.9	880.1	887.1	892.7	889.9	887.1	889.9	892.7	887.1
35°	835.1	836.5	839.3	843.5	850.6	854.8	852.0	850.6	852.0	854.8	850.6
37.5°	798.5	800.0	802.8	807.0	814.0	818.2	816.8	815.4	816.8	818.2	814.0
40°	760.6	762.0	764.8	769.0	776.1	780.3	777.5	776.1	777.5	780.3	776.1
42.5°	721.2	722.6	725.4	729.7	736.7	740.9	739.5	738.1	739.5	740.9	736.7
45°	681.9	683.3	686.1	690.3	695.9	700.1	698.7	698.7	698.7	700.1	695.9
47.5°	641.1	643.9	646.7	650.9	656.6	660.8	659.4	658.0	659.4	660.8	656.6
50°	601.7	603.1	604.5	608.7	614.4	618.6	617.2	617.2	617.2	618.6	614.4
52.5°	560.9	562.4	565.2	569.4	573.6	577.8	576.4	575.0	576.4	577.8	573.6
55°	518.8	520.2	523.0	527.2	531.4	534.2	532.8	532.8	532.8	534.2	531.4
57.5°	478.0	479.4	480.8	485.0	489.2	493.5	492.1	490.7	492.1	493.5	489.2
60°	435.8	437.2	438.6	442.9	447.1	449.9	448.5	448.5	448.5	449.9	447.1
62.5°	393.6	395.1	396.5	400.7	404.9	407.7	406.3	406.3	406.3	407.7	404.9
65°	352.9	354.3	355.7	357.1	359.9	362.7	362.7	362.7	362.7	362.7	359.9
67.5°	306.5	307.9	309.3	310.7	313.5	316.3	314.9	314.9	314.9	316.3	313.5
70°	264.3	265.7	267.1	268.5	271.3	272.7	271.3	271.3	271.3	272.7	271.3
72.5°	222.1	223.5	224.9	226.3	227.8	229.2	229.2	229.2	229.2	229.2	227.8
75°	181.4	181.4	182.8	184.2	185.6	187.0	185.6	185.6	185.6	187.0	185.6
77.5°	142.0	142.0	143.4	144.8	146.2	147.6	146.2	144.8	146.2	147.6	146.2
80°	104.0	104.0	105.4	106.8	108.3	109.7	108.3	106.8	108.3	109.7	108.3
82.5°	70.3	70.3	71.7	71.7	73.1	74.5	73.1	71.7	73.1	74.5	73.1
85°	40.8	40.8	42.2	42.2	43.6	43.6	42.2	40.8	42.2	43.6	43.6
87.5°	16.9	16.9	16.9	16.9	18.3	18.3	16.9	15.5	16.9	18.3	18.3
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°	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4	1151.4
2.5°	1150.0	1147.2	1148.6	1148.6	1150.0	1150.0	1150.0	1148.6	1148.6	1147.2	1150.0
5°	1144.4	1143.0	1143.0	1143.0	1145.8	1148.6	1145.8	1143.0	1143.0	1143.0	1144.4
7.5°	1136.0	1134.6	1134.6	1136.0	1138.8	1141.6	1138.8	1136.0	1134.6	1134.6	1136.0
10°	1123.3	1120.5	1120.5	1120.5	1123.3	1126.1	1123.3	1120.5	1120.5	1120.5	1123.3
12.5°	1107.8	1105.0	1105.0	1105.0	1107.8	1110.7	1107.8	1105.0	1105.0	1105.0	1107.8
15°	1089.6	1086.8	1086.8	1086.8	1089.6	1091.0	1089.6	1086.8	1086.8	1086.8	1089.6
17.5°	1065.7	1062.9	1062.9	1062.9	1065.7	1067.1	1065.7	1062.9	1062.9	1062.9	1065.7
20°	1040.4	1037.5	1036.1	1036.1	1039.0	1040.4	1039.0	1036.1	1036.1	1037.5	1040.4
22.5°	1012.2	1009.4	1008.0	1006.6	1008.0	1009.4	1008.0	1006.6	1008.0	1009.4	1012.2
25°	982.7	978.5	977.1	975.7	977.1	977.1	977.1	975.7	977.1	978.5	982.7
27.5°	950.4	946.2	944.8	943.4	944.8	944.8	944.8	943.4	944.8	946.2	950.4
30°	915.2	911.0	909.6	908.2	908.2	908.2	908.2	908.2	909.6	911.0	915.2
32.5°	880.1	875.9	874.5	873.1	874.5	874.5	874.5	873.1	874.5	875.9	880.1
35°	843.5	839.3	836.5	835.1	837.9	839.3	837.9	835.1	836.5	839.3	843.5
37.5°	807.0	802.8	800.0	798.5	797.1	797.1	797.1	798.5	800.0	802.8	807.0
40°	769.0	764.8	762.0	760.6	760.6	760.6	760.6	760.6	762.0	764.8	769.0
42.5°	729.7	725.4	722.6	721.2	722.6	722.6	722.6	721.2	722.6	725.4	729.7
45°	690.3	686.1	683.3	681.9	681.9	681.9	681.9	681.9	683.3	686.1	690.3
47.5°	650.9	646.7	643.9	641.1	641.1	641.1	641.1	641.1	643.9	646.7	650.9
50°	608.7	604.5	603.1	601.7	600.3	600.3	600.3	601.7	603.1	604.5	608.7
52.5°	569.4	565.2	562.4	560.9	560.9	560.9	560.9	560.9	562.4	565.2	569.4
55°	527.2	523.0	520.2	518.8	520.2	520.2	520.2	518.8	520.2	523.0	527.2
57.5°	485.0	480.8	479.4	478.0	478.0	478.0	478.0	478.0	479.4	480.8	485.0
60°	442.9	438.6	437.2	435.8	435.8	435.8	435.8	435.8	437.2	438.6	442.9
62.5°	400.7	396.5	395.1	393.6	393.6	393.6	393.6	393.6	395.1	396.5	400.7
65°	357.1	355.7	354.3	352.9	351.5	351.5	351.5	352.9	354.3	355.7	357.1
67.5°	310.7	309.3	307.9	306.5	305.1	305.1	305.1	306.5	307.9	309.3	310.7
70°	268.5	267.1	265.7	264.3	262.9	262.9	262.9	264.3	265.7	267.1	268.5
72.5°	226.3	224.9	223.5	222.1	220.7	220.7	220.7	222.1	223.5	224.9	226.3
75°	184.2	182.8	181.4	181.4	180.0	180.0	180.0	181.4	181.4	182.8	184.2
77.5°	144.8	143.4	142.0	142.0	140.6	140.6	140.6	142.0	142.0	143.4	144.8
80°	106.8	105.4	104.0	104.0	104.0	104.0	104.0	104.0	104.0	105.4	106.8
82.5°	71.7	71.7	70.3	70.3	70.3	70.3	70.3	70.3	70.3	71.7	71.7
85°	42.2	42.2	40.8	40.8	40.8	40.8	40.8	40.8	40.8	42.2	42.2
87.5°	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9
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: P709103  
 CATALOG NUMBER: 4APN-X-37L950-UNV

**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
0°	1151.4	1151.4	1151.4	1151.4
2.5°	1154.2	1155.6	1150.0	1144.4
5°	1148.6	1150.0	1145.8	1140.2
7.5°	1140.2	1141.6	1137.4	1133.1
10°	1127.5	1130.3	1126.1	1120.5
12.5°	1112.1	1113.5	1109.2	1105.0
15°	1093.8	1095.2	1091.0	1086.8
17.5°	1071.3	1074.1	1069.9	1065.7
20°	1046.0	1048.8	1046.0	1041.8
22.5°	1017.9	1020.7	1017.9	1015.1
25°	988.3	991.2	988.3	985.5
27.5°	956.0	960.2	957.4	956.0
30°	922.3	926.5	923.7	922.3
32.5°	887.1	892.7	889.9	887.1
35°	850.6	854.8	852.0	850.6
37.5°	814.0	818.2	816.8	815.4
40°	776.1	780.3	777.5	776.1
42.5°	736.7	740.9	739.5	738.1
45°	695.9	700.1	698.7	698.7
47.5°	656.6	660.8	659.4	658.0
50°	614.4	618.6	617.2	617.2
52.5°	573.6	577.8	576.4	575.0
55°	531.4	534.2	532.8	532.8
57.5°	489.2	493.5	492.1	490.7
60°	447.1	449.9	448.5	448.5
62.5°	404.9	407.7	406.3	406.3
65°	359.9	362.7	362.7	362.7
67.5°	313.5	316.3	314.9	314.9
70°	271.3	272.7	271.3	271.3
72.5°	227.8	229.2	229.2	229.2
75°	185.6	187.0	185.6	185.6
77.5°	146.2	147.6	146.2	144.8
80°	108.3	109.7	108.3	106.8
82.5°	73.1	74.5	73.1	71.7
85°	43.6	43.6	42.2	40.8
87.5°	18.3	18.3	16.9	15.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)