

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: P709081

Luminaire Tested: **4APN-X-30L850-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709081
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-X-30L850-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

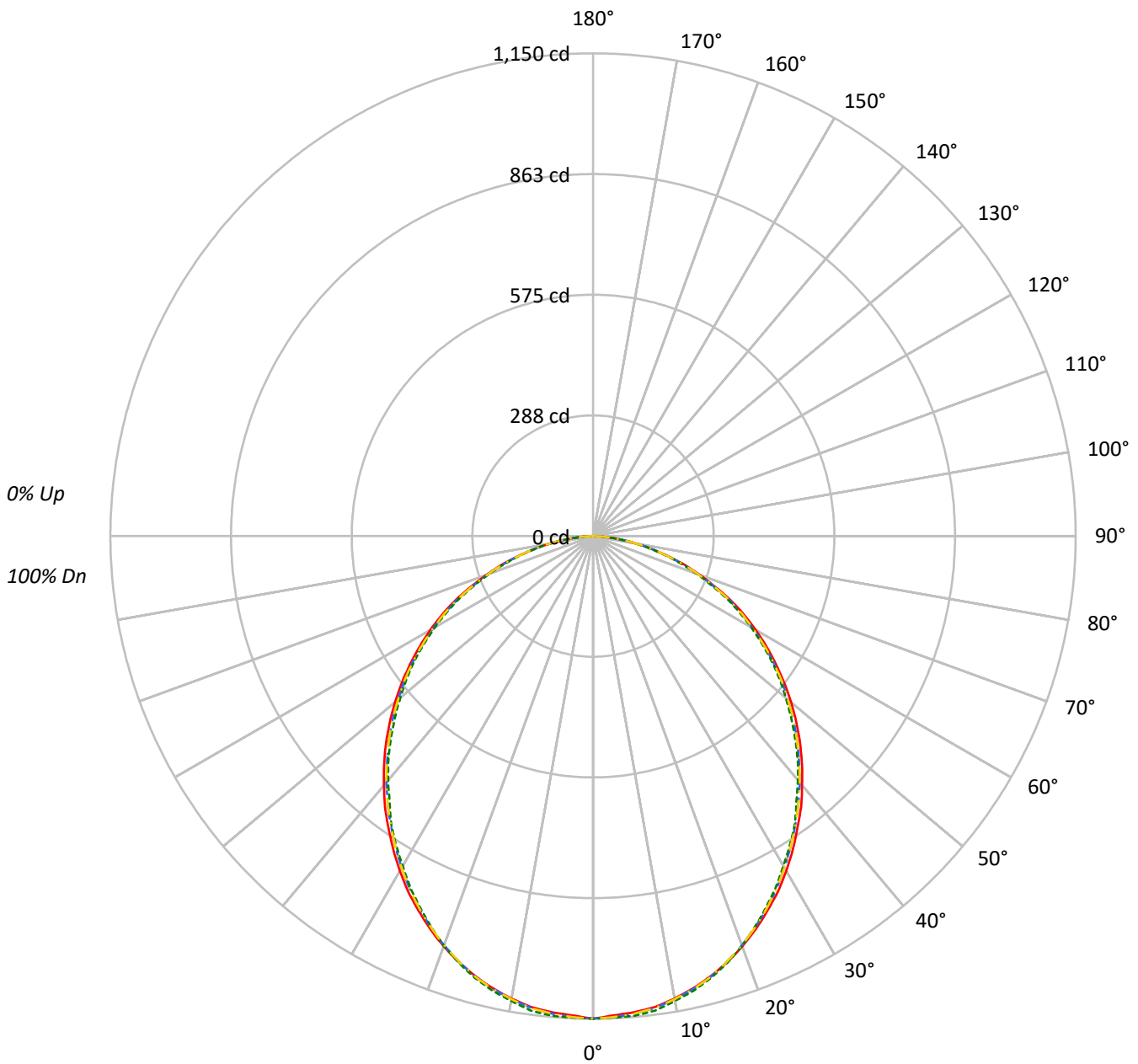
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2991.2 lumens
Efficiency: N/A
Efficacy: 92.0 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°	10607	10607	10607	10607
5°	10544	10622	10544	10622
10°	10482	10534	10482	10534
15°	10365	10406	10365	10406
20°	10213	10199	10213	10199
25°	10018	9932	10018	9932
30°	9811	9662	9811	9662
35°	9566	9440	9566	9440
40°	9333	9147	9333	9147
45°	9103	8883	9103	8883
50°	8846	8603	8846	8603
55°	8557	8355	8557	8355
60°	8263	8030	8263	8030
65°	7907	7663	7907	7663
70°	7308	7081	7308	7081
75°	6605	6406	6605	6406
80°	5669	5520	5669	5520
85°	4308	4308	4308	4308



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.5	3.6
10°-20°	306.4	10.2
20°-30°	451.7	15.1
30°-40°	527.3	17.6
40°-50°	531.6	17.8
50°-60°	469.8	15.7
60°-70°	351.3	11.7
70°-80°	194.7	6.5
80°-90°	49.9	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°	866.6	29.0
0°-40°	1393.9	46.6
0°-60°	2395.2	80.1
0°-90°	2991.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2991.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1150	1150	1150	1150	1150	
5°	1138	1147	1138	1147	1138	108
15°	1085	1089	1085	1089	1085	306
25°	984	976	984	976	984	453
35°	849	838	849	838	849	532
45°	698	681	698	681	698	538
55°	532	519	532	519	532	476
65°	362	351	362	351	362	357
75°	185	180	185	180	185	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°	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7
2.5°	1142.7	1148.3	1153.9	1152.5	1148.3	1145.5	1146.9	1146.9	1148.3	1148.3	1148.3
5°	1138.5	1144.1	1148.3	1146.9	1142.7	1141.3	1141.3	1141.3	1144.1	1146.9	1144.1
7.5°	1131.5	1135.7	1139.9	1138.5	1134.3	1132.9	1132.9	1134.3	1137.1	1139.9	1137.1
10°	1118.8	1124.4	1128.7	1125.9	1121.6	1118.8	1118.8	1118.8	1121.6	1124.4	1121.6
12.5°	1103.4	1107.6	1111.8	1110.4	1106.2	1103.4	1103.4	1103.4	1106.2	1109.0	1106.2
15°	1085.1	1089.4	1093.6	1092.2	1088.0	1085.1	1085.1	1085.1	1088.0	1089.4	1088.0
17.5°	1064.1	1068.3	1072.5	1069.7	1064.1	1061.3	1061.3	1061.3	1064.1	1065.5	1064.1
20°	1040.2	1044.4	1047.2	1044.4	1038.8	1036.0	1034.6	1034.6	1037.4	1038.8	1037.4
22.5°	1013.5	1016.4	1019.2	1016.4	1010.7	1007.9	1006.5	1005.1	1006.5	1007.9	1006.5
25°	984.1	986.9	989.7	986.9	981.3	977.0	975.6	974.2	975.6	975.6	975.6
27.5°	954.6	956.0	958.8	954.6	949.0	944.8	943.4	942.0	943.4	943.4	943.4
30°	920.9	922.3	925.1	920.9	913.9	909.7	908.3	906.9	906.9	906.9	906.9
32.5°	885.8	888.6	891.4	885.8	878.8	874.6	873.2	871.8	873.2	873.2	873.2
35°	849.3	850.7	853.5	849.3	842.3	838.1	835.3	833.9	836.7	838.1	836.7
37.5°	814.2	815.6	817.0	812.8	805.8	801.6	798.8	797.4	796.0	796.0	796.0
40°	774.9	776.3	779.1	774.9	767.9	763.7	760.9	759.5	759.5	759.5	759.5
42.5°	737.0	738.4	739.8	735.6	728.6	724.4	721.6	720.2	721.6	721.6	721.6
45°	697.7	697.7	699.1	694.9	689.3	685.1	682.2	680.8	680.8	680.8	680.8
47.5°	657.0	658.4	659.8	655.6	650.0	645.8	642.9	640.1	640.1	640.1	640.1
50°	616.3	616.3	617.7	613.5	607.8	603.6	602.2	600.8	599.4	599.4	599.4
52.5°	574.2	575.6	577.0	572.8	568.5	564.3	561.5	560.1	560.1	560.1	560.1
55°	532.0	532.0	533.4	530.6	526.4	522.2	519.4	518.0	519.4	519.4	519.4
57.5°	489.9	491.3	492.7	488.5	484.3	480.1	478.7	477.3	477.3	477.3	477.3
60°	447.8	447.8	449.2	446.4	442.2	438.0	436.6	435.2	435.2	435.2	435.2
62.5°	405.7	405.7	407.1	404.3	400.1	395.9	394.5	393.1	393.1	393.1	393.1
65°	362.2	362.2	362.2	359.4	356.6	355.2	353.8	352.4	351.0	351.0	351.0
67.5°	314.5	314.5	315.9	313.0	310.2	308.8	307.4	306.0	304.6	304.6	304.6
70°	270.9	270.9	272.3	270.9	268.1	266.7	265.3	263.9	262.5	262.5	262.5
72.5°	228.8	228.8	228.8	227.4	226.0	224.6	223.2	221.8	220.4	220.4	220.4
75°	185.3	185.3	186.7	185.3	183.9	182.5	181.1	181.1	179.7	179.7	179.7
77.5°	144.6	146.0	147.4	146.0	144.6	143.2	141.8	141.8	140.4	140.4	140.4
80°	106.7	108.1	109.5	108.1	106.7	105.3	103.9	103.9	103.9	103.9	103.9
82.5°	71.6	73.0	74.4	73.0	71.6	71.6	70.2	70.2	70.2	70.2	70.2
85°	40.7	42.1	43.5	43.5	42.1	42.1	40.7	40.7	40.7	40.7	40.7
87.5°	15.4	16.8	18.2	18.2	16.8	16.8	16.8	16.8	16.8	16.8	16.8
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°	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7
2.5°	1146.9	1146.9	1145.5	1148.3	1152.5	1153.9	1148.3	1142.7	1148.3	1153.9	1152.5
5°	1141.3	1141.3	1141.3	1142.7	1146.9	1148.3	1144.1	1138.5	1144.1	1148.3	1146.9
7.5°	1134.3	1132.9	1132.9	1134.3	1138.5	1139.9	1135.7	1131.5	1135.7	1139.9	1138.5
10°	1118.8	1118.8	1118.8	1121.6	1125.9	1128.7	1124.4	1118.8	1124.4	1128.7	1125.9
12.5°	1103.4	1103.4	1103.4	1106.2	1110.4	1111.8	1107.6	1103.4	1107.6	1111.8	1110.4
15°	1085.1	1085.1	1085.1	1088.0	1092.2	1093.6	1089.4	1085.1	1089.4	1093.6	1092.2
17.5°	1061.3	1061.3	1061.3	1064.1	1069.7	1072.5	1068.3	1064.1	1068.3	1072.5	1069.7
20°	1034.6	1034.6	1036.0	1038.8	1044.4	1047.2	1044.4	1040.2	1044.4	1047.2	1044.4
22.5°	1005.1	1006.5	1007.9	1010.7	1016.4	1019.2	1016.4	1013.5	1016.4	1019.2	1016.4
25°	974.2	975.6	977.0	981.3	986.9	989.7	986.9	984.1	986.9	989.7	986.9
27.5°	942.0	943.4	944.8	949.0	954.6	958.8	956.0	954.6	956.0	958.8	954.6
30°	906.9	908.3	909.7	913.9	920.9	925.1	922.3	920.9	922.3	925.1	920.9
32.5°	871.8	873.2	874.6	878.8	885.8	891.4	888.6	885.8	888.6	891.4	885.8
35°	833.9	835.3	838.1	842.3	849.3	853.5	850.7	849.3	850.7	853.5	849.3
37.5°	797.4	798.8	801.6	805.8	812.8	817.0	815.6	814.2	815.6	817.0	812.8
40°	759.5	760.9	763.7	767.9	774.9	779.1	776.3	774.9	776.3	779.1	774.9
42.5°	720.2	721.6	724.4	728.6	735.6	739.8	738.4	737.0	738.4	739.8	735.6
45°	680.8	682.2	685.1	689.3	694.9	699.1	697.7	697.7	697.7	699.1	694.9
47.5°	640.1	642.9	645.8	650.0	655.6	659.8	658.4	657.0	658.4	659.8	655.6
50°	600.8	602.2	603.6	607.8	613.5	617.7	616.3	616.3	616.3	617.7	613.5
52.5°	560.1	561.5	564.3	568.5	572.8	577.0	575.6	574.2	575.6	577.0	572.8
55°	518.0	519.4	522.2	526.4	530.6	533.4	532.0	532.0	532.0	533.4	530.6
57.5°	477.3	478.7	480.1	484.3	488.5	492.7	491.3	489.9	491.3	492.7	488.5
60°	435.2	436.6	438.0	442.2	446.4	449.2	447.8	447.8	447.8	449.2	446.4
62.5°	393.1	394.5	395.9	400.1	404.3	407.1	405.7	405.7	405.7	407.1	404.3
65°	352.4	353.8	355.2	356.6	359.4	362.2	362.2	362.2	362.2	362.2	359.4
67.5°	306.0	307.4	308.8	310.2	313.0	315.9	314.5	314.5	314.5	315.9	313.0
70°	263.9	265.3	266.7	268.1	270.9	272.3	270.9	270.9	270.9	272.3	270.9
72.5°	221.8	223.2	224.6	226.0	227.4	228.8	228.8	228.8	228.8	228.8	227.4
75°	181.1	181.1	182.5	183.9	185.3	186.7	185.3	185.3	185.3	186.7	185.3
77.5°	141.8	141.8	143.2	144.6	146.0	147.4	146.0	144.6	146.0	147.4	146.0
80°	103.9	103.9	105.3	106.7	108.1	109.5	108.1	106.7	108.1	109.5	108.1
82.5°	70.2	70.2	71.6	71.6	73.0	74.4	73.0	71.6	73.0	74.4	73.0
85°	40.7	40.7	42.1	42.1	43.5	43.5	42.1	40.7	42.1	43.5	43.5
87.5°	16.8	16.8	16.8	16.8	18.2	18.2	16.8	15.4	16.8	18.2	18.2
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°	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7
2.5°	1148.3	1145.5	1146.9	1146.9	1148.3	1148.3	1148.3	1146.9	1146.9	1145.5	1148.3
5°	1142.7	1141.3	1141.3	1141.3	1144.1	1146.9	1144.1	1141.3	1141.3	1141.3	1142.7
7.5°	1134.3	1132.9	1132.9	1134.3	1137.1	1139.9	1137.1	1134.3	1132.9	1132.9	1134.3
10°	1121.6	1118.8	1118.8	1118.8	1121.6	1124.4	1121.6	1118.8	1118.8	1118.8	1121.6
12.5°	1106.2	1103.4	1103.4	1103.4	1106.2	1109.0	1106.2	1103.4	1103.4	1103.4	1106.2
15°	1088.0	1085.1	1085.1	1085.1	1088.0	1089.4	1088.0	1085.1	1085.1	1085.1	1088.0
17.5°	1064.1	1061.3	1061.3	1061.3	1064.1	1065.5	1064.1	1061.3	1061.3	1061.3	1064.1
20°	1038.8	1036.0	1034.6	1034.6	1037.4	1038.8	1037.4	1034.6	1034.6	1036.0	1038.8
22.5°	1010.7	1007.9	1006.5	1005.1	1006.5	1007.9	1006.5	1005.1	1006.5	1007.9	1010.7
25°	981.3	977.0	975.6	974.2	975.6	975.6	975.6	974.2	975.6	977.0	981.3
27.5°	949.0	944.8	943.4	942.0	943.4	943.4	943.4	942.0	943.4	944.8	949.0
30°	913.9	909.7	908.3	906.9	906.9	906.9	906.9	906.9	908.3	909.7	913.9
32.5°	878.8	874.6	873.2	871.8	873.2	873.2	873.2	871.8	873.2	874.6	878.8
35°	842.3	838.1	835.3	833.9	836.7	838.1	836.7	833.9	835.3	838.1	842.3
37.5°	805.8	801.6	798.8	797.4	796.0	796.0	796.0	797.4	798.8	801.6	805.8
40°	767.9	763.7	760.9	759.5	759.5	759.5	759.5	759.5	760.9	763.7	767.9
42.5°	728.6	724.4	721.6	720.2	721.6	721.6	721.6	720.2	721.6	724.4	728.6
45°	689.3	685.1	682.2	680.8	680.8	680.8	680.8	680.8	682.2	685.1	689.3
47.5°	650.0	645.8	642.9	640.1	640.1	640.1	640.1	640.1	642.9	645.8	650.0
50°	607.8	603.6	602.2	600.8	599.4	599.4	599.4	600.8	602.2	603.6	607.8
52.5°	568.5	564.3	561.5	560.1	560.1	560.1	560.1	560.1	561.5	564.3	568.5
55°	526.4	522.2	519.4	518.0	519.4	519.4	519.4	518.0	519.4	522.2	526.4
57.5°	484.3	480.1	478.7	477.3	477.3	477.3	477.3	477.3	478.7	480.1	484.3
60°	442.2	438.0	436.6	435.2	435.2	435.2	435.2	435.2	436.6	438.0	442.2
62.5°	400.1	395.9	394.5	393.1	393.1	393.1	393.1	393.1	394.5	395.9	400.1
65°	356.6	355.2	353.8	352.4	351.0	351.0	351.0	352.4	353.8	355.2	356.6
67.5°	310.2	308.8	307.4	306.0	304.6	304.6	304.6	306.0	307.4	308.8	310.2
70°	268.1	266.7	265.3	263.9	262.5	262.5	262.5	263.9	265.3	266.7	268.1
72.5°	226.0	224.6	223.2	221.8	220.4	220.4	220.4	221.8	223.2	224.6	226.0
75°	183.9	182.5	181.1	181.1	179.7	179.7	179.7	181.1	181.1	182.5	183.9
77.5°	144.6	143.2	141.8	141.8	140.4	140.4	140.4	141.8	141.8	143.2	144.6
80°	106.7	105.3	103.9	103.9	103.9	103.9	103.9	103.9	103.9	105.3	106.7
82.5°	71.6	71.6	70.2	70.2	70.2	70.2	70.2	70.2	70.2	71.6	71.6
85°	42.1	42.1	40.7	40.7	40.7	40.7	40.7	40.7	40.7	42.1	42.1
87.5°	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8
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: P709081
CATALOG NUMBER: 4APN-X-30L850-UNV

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1149.7	1149.7	1149.7	1149.7
2.5°	1152.5	1153.9	1148.3	1142.7
5°	1146.9	1148.3	1144.1	1138.5
7.5°	1138.5	1139.9	1135.7	1131.5
10°	1125.9	1128.7	1124.4	1118.8
12.5°	1110.4	1111.8	1107.6	1103.4
15°	1092.2	1093.6	1089.4	1085.1
17.5°	1069.7	1072.5	1068.3	1064.1
20°	1044.4	1047.2	1044.4	1040.2
22.5°	1016.4	1019.2	1016.4	1013.5
25°	986.9	989.7	986.9	984.1
27.5°	954.6	958.8	956.0	954.6
30°	920.9	925.1	922.3	920.9
32.5°	885.8	891.4	888.6	885.8
35°	849.3	853.5	850.7	849.3
37.5°	812.8	817.0	815.6	814.2
40°	774.9	779.1	776.3	774.9
42.5°	735.6	739.8	738.4	737.0
45°	694.9	699.1	697.7	697.7
47.5°	655.6	659.8	658.4	657.0
50°	613.5	617.7	616.3	616.3
52.5°	572.8	577.0	575.6	574.2
55°	530.6	533.4	532.0	532.0
57.5°	488.5	492.7	491.3	489.9
60°	446.4	449.2	447.8	447.8
62.5°	404.3	407.1	405.7	405.7
65°	359.4	362.2	362.2	362.2
67.5°	313.0	315.9	314.5	314.5
70°	270.9	272.3	270.9	270.9
72.5°	227.4	228.8	228.8	228.8
75°	185.3	186.7	185.3	185.3
77.5°	146.0	147.4	146.0	144.6
80°	108.1	109.5	108.1	106.7
82.5°	73.0	74.4	73.0	71.6
85°	43.5	43.5	42.1	40.7
87.5°	18.2	18.2	16.8	15.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)