

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: P709078

Luminaire Tested: **4APN-X-42L850-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709078
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-X-42L850-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

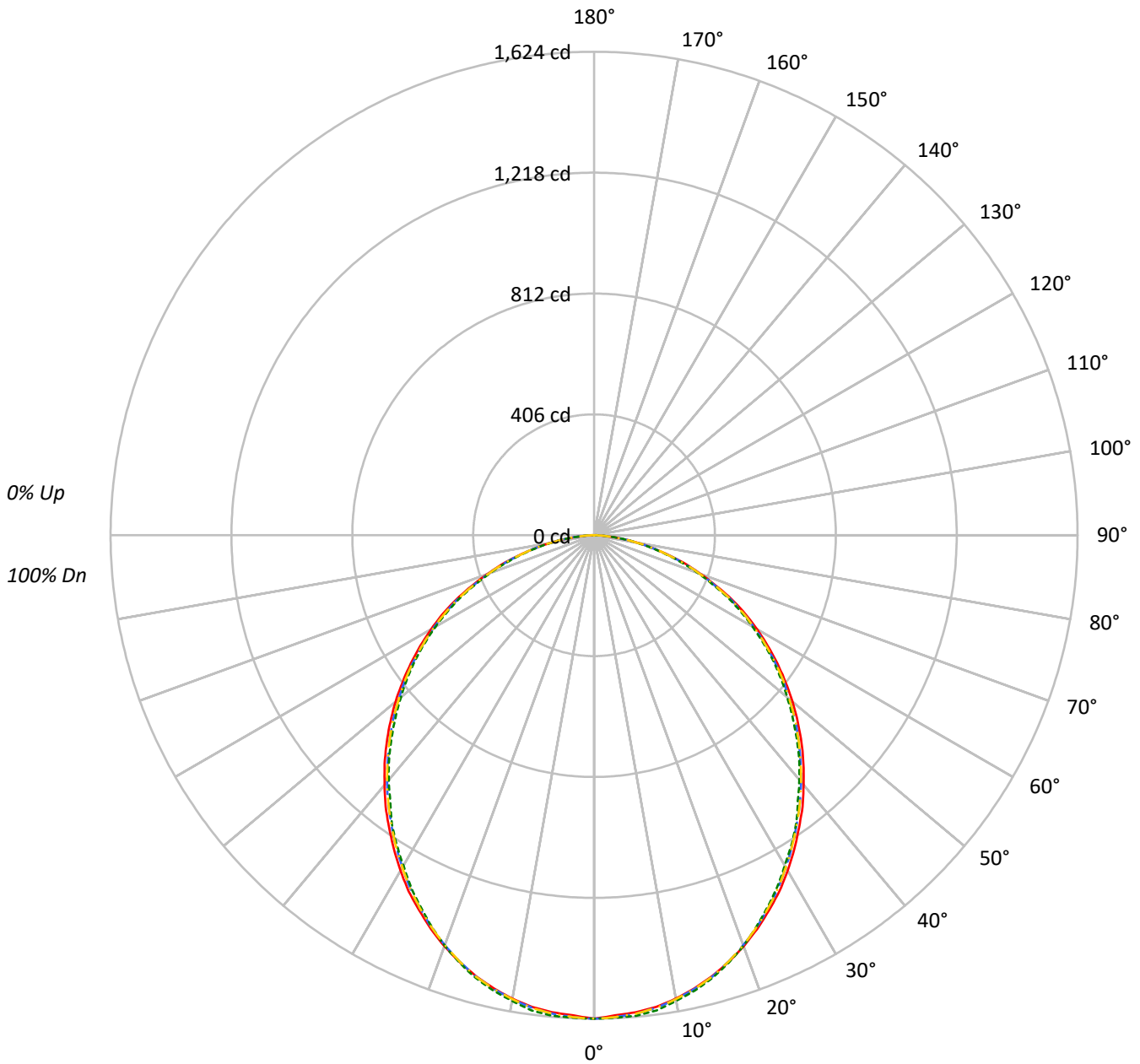
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4225.3 lumens
Efficiency: N/A
Efficacy: 91.5 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): 46.2
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	100	100	100	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84	84	84	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70	70	70	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60	60	60	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51	51	51	51
5	76	64	55	48	74	63	54	48	60	53	47	59	52	47	57	51	46	44	44	44	44
6	71	57	49	42	69	57	48	42	55	47	42	53	46	41	51	46	41	39	39	39	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34	34	34	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31	31	31	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28	28	28	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25	25	25	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	14983	14983	14983	14983
5°	14894	15004	14894	15004
10°	14806	14880	14806	14880
15°	14641	14698	14641	14698
20°	14427	14407	14427	14407
25°	14151	14030	14151	14030
30°	13858	13647	13858	13647
35°	13512	13333	13512	13333
40°	13183	12921	13183	12921
45°	12859	12548	12859	12548
50°	12495	12153	12495	12153
55°	12088	11802	12088	11802
60°	11673	11343	11673	11343
65°	11169	10822	11169	10822
70°	10324	10003	10324	10003
75°	9329	9047	9329	9047
80°	8007	7794	8007	7794
85°	6087	6087	6087	6087



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.3	3.6
10°-20°	432.9	10.2
20°-30°	638.0	15.1
30°-40°	744.8	17.6
40°-50°	750.9	17.8
50°-60°	663.6	15.7
60°-70°	496.3	11.7
70°-80°	275.1	6.5
80°-90°	70.5	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°	1224.1	29.0
0°-40°	1968.9	46.6
0°-60°	3383.4	80.1
0°-90°	4225.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4225.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1624	1624	1624	1624	1624	
5°	1608	1620	1608	1620	1608	153
15°	1533	1539	1533	1539	1533	432
25°	1390	1378	1390	1378	1390	641
35°	1200	1184	1200	1184	1200	751
45°	986	962	986	962	986	760
55°	752	734	752	734	752	672
65°	512	496	512	496	512	504
75°	262	254	262	254	262	278
85°	58	58	58	58	58	70
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°	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0
2.5°	1614.1	1622.1	1630.0	1628.0	1622.1	1618.1	1620.1	1620.1	1622.1	1622.1	1622.1
5°	1608.2	1616.1	1622.1	1620.1	1614.1	1612.1	1612.1	1612.1	1616.1	1620.1	1616.1
7.5°	1598.3	1604.2	1610.2	1608.2	1602.2	1600.2	1600.2	1602.2	1606.2	1610.2	1606.2
10°	1580.4	1588.3	1594.3	1590.3	1584.4	1580.4	1580.4	1580.4	1584.4	1588.3	1584.4
12.5°	1558.6	1564.6	1570.5	1568.5	1562.6	1558.6	1558.6	1558.6	1562.6	1566.5	1562.6
15°	1532.8	1538.8	1544.7	1542.7	1536.8	1532.8	1532.8	1532.8	1536.8	1538.8	1536.8
17.5°	1503.1	1509.0	1515.0	1511.0	1503.1	1499.1	1499.1	1499.1	1503.1	1505.1	1503.1
20°	1469.4	1475.3	1479.3	1475.3	1467.4	1463.4	1461.4	1461.4	1465.4	1467.4	1465.4
22.5°	1431.7	1435.7	1439.6	1435.7	1427.7	1423.8	1421.8	1419.8	1421.8	1423.8	1421.8
25°	1390.1	1394.0	1398.0	1394.0	1386.1	1380.1	1378.2	1376.2	1378.2	1378.2	1378.2
27.5°	1348.4	1350.4	1354.4	1348.4	1340.5	1334.5	1332.5	1330.6	1332.5	1332.5	1332.5
30°	1300.8	1302.8	1306.8	1300.8	1290.9	1285.0	1283.0	1281.0	1281.0	1281.0	1281.0
32.5°	1251.2	1255.2	1259.2	1251.2	1241.3	1235.4	1233.4	1231.4	1233.4	1233.4	1233.4
35°	1199.7	1201.7	1205.6	1199.7	1189.8	1183.8	1179.9	1177.9	1181.8	1183.8	1181.8
37.5°	1150.1	1152.1	1154.1	1148.1	1138.2	1132.3	1128.3	1126.3	1124.3	1124.3	1124.3
40°	1094.6	1096.6	1100.5	1094.6	1084.7	1078.7	1074.8	1072.8	1072.8	1072.8	1072.8
42.5°	1041.1	1043.0	1045.0	1039.1	1029.2	1023.2	1019.2	1017.3	1019.2	1019.2	1019.2
45°	985.5	985.5	987.5	981.6	973.6	967.7	963.7	961.7	961.7	961.7	961.7
47.5°	928.0	930.0	932.0	926.0	918.1	912.2	908.2	904.2	904.2	904.2	904.2
50°	870.5	870.5	872.5	866.6	858.6	852.7	850.7	848.7	846.7	846.7	846.7
52.5°	811.0	813.0	815.0	809.0	803.1	797.1	793.2	791.2	791.2	791.2	791.2
55°	751.5	751.5	753.5	749.6	743.6	737.7	733.7	731.7	733.7	733.7	733.7
57.5°	692.1	694.0	696.0	690.1	684.1	678.2	676.2	674.2	674.2	674.2	674.2
60°	632.6	632.6	634.5	630.6	624.6	618.7	616.7	614.7	614.7	614.7	614.7
62.5°	573.1	573.1	575.1	571.1	565.1	559.2	557.2	555.2	555.2	555.2	555.2
65°	511.6	511.6	511.6	507.6	503.7	501.7	499.7	497.7	495.7	495.7	495.7
67.5°	444.2	444.2	446.2	442.2	438.2	436.2	434.3	432.3	430.3	430.3	430.3
70°	382.7	382.7	384.7	382.7	378.7	376.8	374.8	372.8	370.8	370.8	370.8
72.5°	323.2	323.2	323.2	321.2	319.3	317.3	315.3	313.3	311.3	311.3	311.3
75°	261.7	261.7	263.7	261.7	259.8	257.8	255.8	255.8	253.8	253.8	253.8
77.5°	204.2	206.2	208.2	206.2	204.2	202.3	200.3	200.3	198.3	198.3	198.3
80°	150.7	152.7	154.7	152.7	150.7	148.7	146.7	146.7	146.7	146.7	146.7
82.5°	101.1	103.1	105.1	103.1	101.1	101.1	99.1	99.1	99.1	99.1	99.1
85°	57.5	59.5	61.5	61.5	59.5	59.5	57.5	57.5	57.5	57.5	57.5
87.5°	21.8	23.8	25.8	25.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
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°	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0
2.5°	1620.1	1620.1	1618.1	1622.1	1628.0	1630.0	1622.1	1614.1	1622.1	1630.0	1628.0
5°	1612.1	1612.1	1612.1	1614.1	1620.1	1622.1	1616.1	1608.2	1616.1	1622.1	1620.1
7.5°	1602.2	1600.2	1600.2	1602.2	1608.2	1610.2	1604.2	1598.3	1604.2	1610.2	1608.2
10°	1580.4	1580.4	1580.4	1584.4	1590.3	1594.3	1588.3	1580.4	1588.3	1594.3	1590.3
12.5°	1558.6	1558.6	1558.6	1562.6	1568.5	1570.5	1564.6	1558.6	1564.6	1570.5	1568.5
15°	1532.8	1532.8	1532.8	1536.8	1542.7	1544.7	1538.8	1532.8	1538.8	1544.7	1542.7
17.5°	1499.1	1499.1	1499.1	1503.1	1511.0	1515.0	1509.0	1503.1	1509.0	1515.0	1511.0
20°	1461.4	1461.4	1463.4	1467.4	1475.3	1479.3	1475.3	1469.4	1475.3	1479.3	1475.3
22.5°	1419.8	1421.8	1423.8	1427.7	1435.7	1439.6	1435.7	1431.7	1435.7	1439.6	1435.7
25°	1376.2	1378.2	1380.1	1386.1	1394.0	1398.0	1394.0	1390.1	1394.0	1398.0	1394.0
27.5°	1330.6	1332.5	1334.5	1340.5	1348.4	1354.4	1350.4	1348.4	1350.4	1354.4	1348.4
30°	1281.0	1283.0	1285.0	1290.9	1300.8	1306.8	1302.8	1300.8	1302.8	1306.8	1300.8
32.5°	1231.4	1233.4	1235.4	1241.3	1251.2	1259.2	1255.2	1251.2	1255.2	1259.2	1251.2
35°	1177.9	1179.9	1183.8	1189.8	1199.7	1205.6	1201.7	1199.7	1201.7	1205.6	1199.7
37.5°	1126.3	1128.3	1132.3	1138.2	1148.1	1154.1	1152.1	1150.1	1152.1	1154.1	1148.1
40°	1072.8	1074.8	1078.7	1084.7	1094.6	1100.5	1096.6	1094.6	1096.6	1100.5	1094.6
42.5°	1017.3	1019.2	1023.2	1029.2	1039.1	1045.0	1043.0	1041.1	1043.0	1045.0	1039.1
45°	961.7	963.7	967.7	973.6	981.6	987.5	985.5	985.5	985.5	987.5	981.6
47.5°	904.2	908.2	912.2	918.1	926.0	932.0	930.0	928.0	930.0	932.0	926.0
50°	848.7	850.7	852.7	858.6	866.6	872.5	870.5	870.5	870.5	872.5	866.6
52.5°	791.2	793.2	797.1	803.1	809.0	815.0	813.0	811.0	813.0	815.0	809.0
55°	731.7	733.7	737.7	743.6	749.6	753.5	751.5	751.5	751.5	753.5	749.6
57.5°	674.2	676.2	678.2	684.1	690.1	696.0	694.0	692.1	694.0	696.0	690.1
60°	614.7	616.7	618.7	624.6	630.6	634.5	632.6	632.6	632.6	634.5	630.6
62.5°	555.2	557.2	559.2	565.1	571.1	575.1	573.1	573.1	573.1	575.1	571.1
65°	497.7	499.7	501.7	503.7	507.6	511.6	511.6	511.6	511.6	511.6	507.6
67.5°	432.3	434.3	436.2	438.2	442.2	446.2	444.2	444.2	444.2	446.2	442.2
70°	372.8	374.8	376.8	378.7	382.7	384.7	382.7	382.7	382.7	384.7	382.7
72.5°	313.3	315.3	317.3	319.3	321.2	323.2	323.2	323.2	323.2	323.2	321.2
75°	255.8	255.8	257.8	259.8	261.7	263.7	261.7	261.7	261.7	263.7	261.7
77.5°	200.3	200.3	202.3	204.2	206.2	208.2	206.2	204.2	206.2	208.2	206.2
80°	146.7	146.7	148.7	150.7	152.7	154.7	152.7	150.7	152.7	154.7	152.7
82.5°	99.1	99.1	101.1	101.1	103.1	105.1	103.1	101.1	103.1	105.1	103.1
85°	57.5	57.5	59.5	59.5	61.5	61.5	59.5	57.5	59.5	61.5	61.5
87.5°	23.8	23.8	23.8	23.8	25.8	25.8	23.8	21.8	23.8	25.8	25.8
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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0	1624.0
2.5°	1622.1	1618.1	1620.1	1620.1	1622.1	1622.1	1622.1	1620.1	1620.1	1618.1	1622.1
5°	1614.1	1612.1	1612.1	1612.1	1616.1	1620.1	1616.1	1612.1	1612.1	1612.1	1614.1
7.5°	1602.2	1600.2	1600.2	1602.2	1606.2	1610.2	1606.2	1602.2	1600.2	1600.2	1602.2
10°	1584.4	1580.4	1580.4	1580.4	1584.4	1588.3	1584.4	1580.4	1580.4	1580.4	1584.4
12.5°	1562.6	1558.6	1558.6	1558.6	1562.6	1566.5	1562.6	1558.6	1558.6	1558.6	1562.6
15°	1536.8	1532.8	1532.8	1532.8	1536.8	1538.8	1536.8	1532.8	1532.8	1532.8	1536.8
17.5°	1503.1	1499.1	1499.1	1499.1	1503.1	1505.1	1503.1	1499.1	1499.1	1499.1	1503.1
20°	1467.4	1463.4	1461.4	1461.4	1465.4	1467.4	1465.4	1461.4	1461.4	1463.4	1467.4
22.5°	1427.7	1423.8	1421.8	1419.8	1421.8	1423.8	1421.8	1419.8	1421.8	1423.8	1427.7
25°	1386.1	1380.1	1378.2	1376.2	1378.2	1378.2	1378.2	1376.2	1378.2	1380.1	1386.1
27.5°	1340.5	1334.5	1332.5	1330.6	1332.5	1332.5	1332.5	1330.6	1332.5	1334.5	1340.5
30°	1290.9	1285.0	1283.0	1281.0	1281.0	1281.0	1281.0	1281.0	1283.0	1285.0	1290.9
32.5°	1241.3	1235.4	1233.4	1231.4	1233.4	1233.4	1233.4	1231.4	1233.4	1235.4	1241.3
35°	1189.8	1183.8	1179.9	1177.9	1181.8	1183.8	1181.8	1177.9	1179.9	1183.8	1189.8
37.5°	1138.2	1132.3	1128.3	1126.3	1124.3	1124.3	1124.3	1126.3	1128.3	1132.3	1138.2
40°	1084.7	1078.7	1074.8	1072.8	1072.8	1072.8	1072.8	1072.8	1074.8	1078.7	1084.7
42.5°	1029.2	1023.2	1019.2	1017.3	1019.2	1019.2	1019.2	1017.3	1019.2	1023.2	1029.2
45°	973.6	967.7	963.7	961.7	961.7	961.7	961.7	961.7	963.7	967.7	973.6
47.5°	918.1	912.2	908.2	904.2	904.2	904.2	904.2	904.2	908.2	912.2	918.1
50°	858.6	852.7	850.7	848.7	846.7	846.7	846.7	848.7	850.7	852.7	858.6
52.5°	803.1	797.1	793.2	791.2	791.2	791.2	791.2	791.2	793.2	797.1	803.1
55°	743.6	737.7	733.7	731.7	733.7	733.7	733.7	731.7	733.7	737.7	743.6
57.5°	684.1	678.2	676.2	674.2	674.2	674.2	674.2	674.2	676.2	678.2	684.1
60°	624.6	618.7	616.7	614.7	614.7	614.7	614.7	614.7	616.7	618.7	624.6
62.5°	565.1	559.2	557.2	555.2	555.2	555.2	555.2	555.2	557.2	559.2	565.1
65°	503.7	501.7	499.7	497.7	495.7	495.7	495.7	497.7	499.7	501.7	503.7
67.5°	438.2	436.2	434.3	432.3	430.3	430.3	430.3	432.3	434.3	436.2	438.2
70°	378.7	376.8	374.8	372.8	370.8	370.8	370.8	372.8	374.8	376.8	378.7
72.5°	319.3	317.3	315.3	313.3	311.3	311.3	311.3	313.3	315.3	317.3	319.3
75°	259.8	257.8	255.8	255.8	253.8	253.8	253.8	255.8	255.8	257.8	259.8
77.5°	204.2	202.3	200.3	200.3	198.3	198.3	198.3	200.3	200.3	202.3	204.2
80°	150.7	148.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	148.7	150.7
82.5°	101.1	101.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	101.1	101.1
85°	59.5	59.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	59.5	59.5
87.5°	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
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: P709078

CATALOG NUMBER: 4APN-X-42L850-UNV

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1624.0	1624.0	1624.0	1624.0
2.5°	1628.0	1630.0	1622.1	1614.1
5°	1620.1	1622.1	1616.1	1608.2
7.5°	1608.2	1610.2	1604.2	1598.3
10°	1590.3	1594.3	1588.3	1580.4
12.5°	1568.5	1570.5	1564.6	1558.6
15°	1542.7	1544.7	1538.8	1532.8
17.5°	1511.0	1515.0	1509.0	1503.1
20°	1475.3	1479.3	1475.3	1469.4
22.5°	1435.7	1439.6	1435.7	1431.7
25°	1394.0	1398.0	1394.0	1390.1
27.5°	1348.4	1354.4	1350.4	1348.4
30°	1300.8	1306.8	1302.8	1300.8
32.5°	1251.2	1259.2	1255.2	1251.2
35°	1199.7	1205.6	1201.7	1199.7
37.5°	1148.1	1154.1	1152.1	1150.1
40°	1094.6	1100.5	1096.6	1094.6
42.5°	1039.1	1045.0	1043.0	1041.1
45°	981.6	987.5	985.5	985.5
47.5°	926.0	932.0	930.0	928.0
50°	866.6	872.5	870.5	870.5
52.5°	809.0	815.0	813.0	811.0
55°	749.6	753.5	751.5	751.5
57.5°	690.1	696.0	694.0	692.1
60°	630.6	634.5	632.6	632.6
62.5°	571.1	575.1	573.1	573.1
65°	507.6	511.6	511.6	511.6
67.5°	442.2	446.2	444.2	444.2
70°	382.7	384.7	382.7	382.7
72.5°	321.2	323.2	323.2	323.2
75°	261.7	263.7	261.7	261.7
77.5°	206.2	208.2	206.2	204.2
80°	152.7	154.7	152.7	150.7
82.5°	103.1	105.1	103.1	101.1
85°	61.5	61.5	59.5	57.5
87.5°	25.8	25.8	23.8	21.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)