

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: P709079

Luminaire Tested: **4APN-X-37L850-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709079
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-X-37L850-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

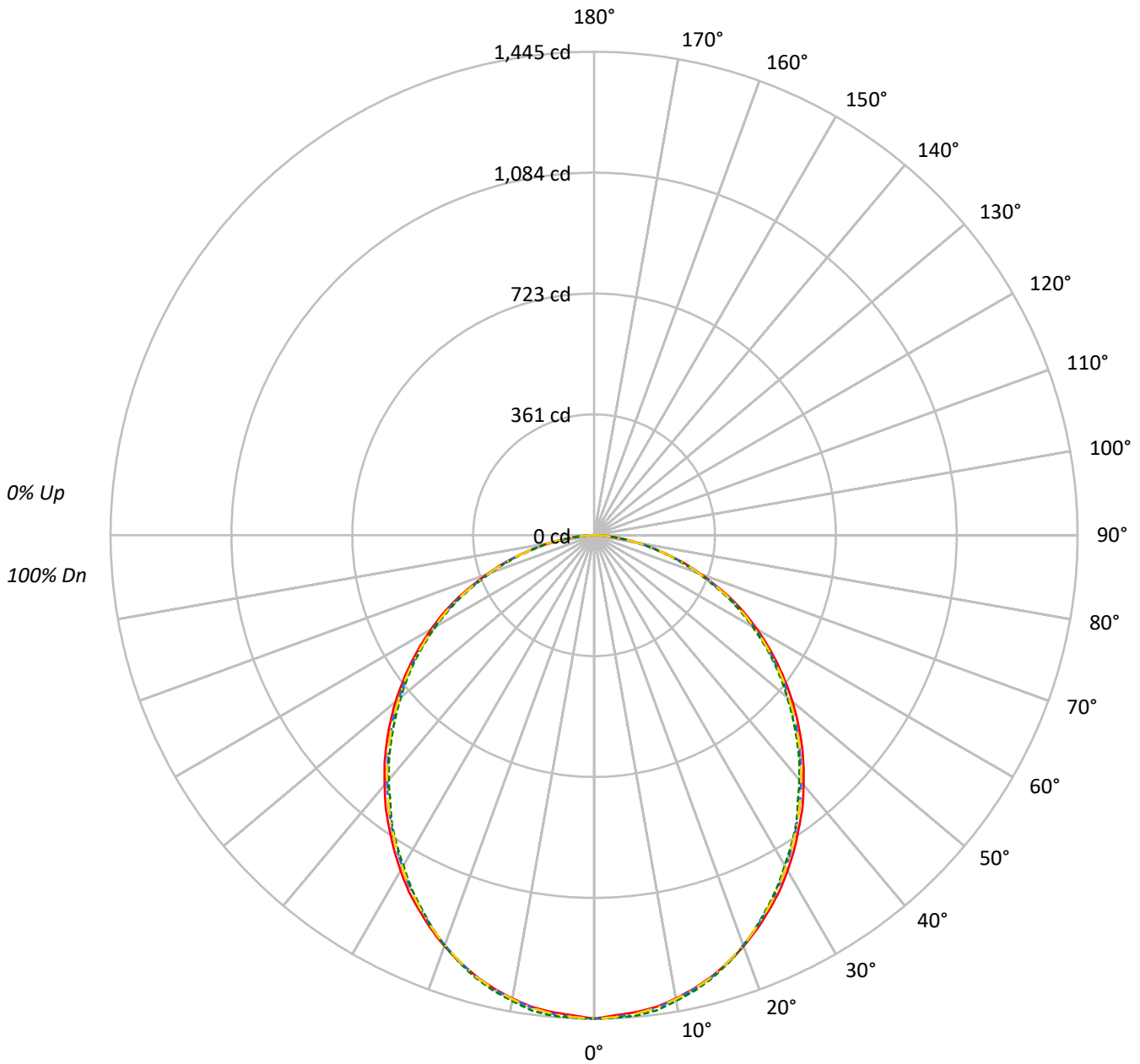
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3759.4 lumens
Efficiency: N/A
Efficacy: 92.1 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				
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°	13332	13332	13332	13332
5°	13251	13349	13251	13349
10°	13173	13240	13173	13240
15°	13027	13077	13027	13077
20°	12835	12819	12835	12819
25°	12591	12483	12591	12483
30°	12330	12142	12330	12142
35°	12022	11863	12022	11863
40°	11730	11496	11730	11496
45°	11442	11165	11442	11165
50°	11117	10814	11117	10814
55°	10756	10501	10756	10501
60°	10385	10092	10385	10092
65°	9937	9630	9937	9630
70°	9185	8899	9185	8899
75°	8302	8049	8302	8049
80°	7125	6939	7125	6939
85°	5420	5420	5420	5420



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.4	3.6
10°-20°	385.1	10.2
20°-30°	567.6	15.1
30°-40°	662.7	17.6
40°-50°	668.1	17.8
50°-60°	590.4	15.7
60°-70°	441.5	11.7
70°-80°	244.8	6.5
80°-90°	62.8	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°	1089.1	29.0
0°-40°	1751.8	46.6
0°-60°	3010.3	80.1
0°-90°	3759.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3759.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1445	1445	1445	1445	1445	
5°	1431	1441	1431	1441	1431	136
15°	1364	1369	1364	1369	1364	384
25°	1237	1226	1237	1226	1237	570
35°	1067	1053	1067	1053	1067	668
45°	877	856	877	856	877	676
55°	669	653	669	653	669	598
65°	455	441	455	441	455	448
75°	233	226	233	226	233	248
85°	51	51	51	51	51	62
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°	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0
2.5°	1436.1	1443.2	1450.3	1448.5	1443.2	1439.7	1441.4	1441.4	1443.2	1443.2	1443.2
5°	1430.8	1437.9	1443.2	1441.4	1436.1	1434.4	1434.4	1434.4	1437.9	1441.4	1437.9
7.5°	1422.0	1427.3	1432.6	1430.8	1425.6	1423.8	1423.8	1425.6	1429.1	1432.6	1429.1
10°	1406.1	1413.2	1418.5	1415.0	1409.7	1406.1	1406.1	1406.1	1409.7	1413.2	1409.7
12.5°	1386.7	1392.0	1397.3	1395.6	1390.3	1386.7	1386.7	1386.7	1390.3	1393.8	1390.3
15°	1363.8	1369.1	1374.4	1372.6	1367.3	1363.8	1363.8	1363.8	1367.3	1369.1	1367.3
17.5°	1337.3	1342.6	1347.9	1344.4	1337.3	1333.8	1333.8	1333.8	1337.3	1339.1	1337.3
20°	1307.3	1312.6	1316.2	1312.6	1305.6	1302.1	1300.3	1300.3	1303.8	1305.6	1303.8
22.5°	1273.8	1277.4	1280.9	1277.4	1270.3	1266.8	1265.0	1263.2	1265.0	1266.8	1265.0
25°	1236.8	1240.3	1243.8	1240.3	1233.2	1228.0	1226.2	1224.4	1226.2	1226.2	1226.2
27.5°	1199.7	1201.5	1205.0	1199.7	1192.7	1187.4	1185.6	1183.8	1185.6	1185.6	1185.6
30°	1157.4	1159.1	1162.7	1157.4	1148.6	1143.3	1141.5	1139.7	1139.7	1139.7	1139.7
32.5°	1113.3	1116.8	1120.3	1113.3	1104.5	1099.2	1097.4	1095.6	1097.4	1097.4	1097.4
35°	1067.4	1069.2	1072.7	1067.4	1058.6	1053.3	1049.8	1048.0	1051.5	1053.3	1051.5
37.5°	1023.3	1025.1	1026.8	1021.5	1012.7	1007.4	1003.9	1002.1	1000.4	1000.4	1000.4
40°	973.9	975.7	979.2	973.9	965.1	959.8	956.3	954.5	954.5	954.5	954.5
42.5°	926.3	928.0	929.8	924.5	915.7	910.4	906.9	905.1	906.9	906.9	906.9
45°	876.9	876.9	878.6	873.3	866.3	861.0	857.5	855.7	855.7	855.7	855.7
47.5°	825.7	827.5	829.2	823.9	816.9	811.6	808.0	804.5	804.5	804.5	804.5
50°	774.5	774.5	776.3	771.0	763.9	758.6	756.9	755.1	753.4	753.4	753.4
52.5°	721.6	723.4	725.1	719.8	714.5	709.2	705.7	704.0	704.0	704.0	704.0
55°	668.7	668.7	670.4	666.9	661.6	656.3	652.8	651.0	652.8	652.8	652.8
57.5°	615.7	617.5	619.3	614.0	608.7	603.4	601.6	599.9	599.9	599.9	599.9
60°	562.8	562.8	564.6	561.0	555.8	550.5	548.7	546.9	546.9	546.9	546.9
62.5°	509.9	509.9	511.6	508.1	502.8	497.5	495.8	494.0	494.0	494.0	494.0
65°	455.2	455.2	455.2	451.7	448.1	446.4	444.6	442.8	441.1	441.1	441.1
67.5°	395.2	395.2	397.0	393.4	389.9	388.1	386.4	384.6	382.9	382.9	382.9
70°	340.5	340.5	342.3	340.5	337.0	335.2	333.5	331.7	329.9	329.9	329.9
72.5°	287.6	287.6	287.6	285.8	284.1	282.3	280.5	278.8	277.0	277.0	277.0
75°	232.9	232.9	234.7	232.9	231.1	229.4	227.6	227.6	225.8	225.8	225.8
77.5°	181.7	183.5	185.3	183.5	181.7	180.0	178.2	178.2	176.4	176.4	176.4
80°	134.1	135.9	137.6	135.9	134.1	132.3	130.6	130.6	130.6	130.6	130.6
82.5°	90.0	91.7	93.5	91.7	90.0	90.0	88.2	88.2	88.2	88.2	88.2
85°	51.2	52.9	54.7	54.7	52.9	52.9	51.2	51.2	51.2	51.2	51.2
87.5°	19.4	21.2	22.9	22.9	21.2	21.2	21.2	21.2	21.2	21.2	21.2
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):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0
2.5°	1441.4	1441.4	1439.7	1443.2	1448.5	1450.3	1443.2	1436.1	1443.2	1450.3	1448.5
5°	1434.4	1434.4	1434.4	1436.1	1441.4	1443.2	1437.9	1430.8	1437.9	1443.2	1441.4
7.5°	1425.6	1423.8	1423.8	1425.6	1430.8	1432.6	1427.3	1422.0	1427.3	1432.6	1430.8
10°	1406.1	1406.1	1406.1	1409.7	1415.0	1418.5	1413.2	1406.1	1413.2	1418.5	1415.0
12.5°	1386.7	1386.7	1386.7	1390.3	1395.6	1397.3	1392.0	1386.7	1392.0	1397.3	1395.6
15°	1363.8	1363.8	1363.8	1367.3	1372.6	1374.4	1369.1	1363.8	1369.1	1374.4	1372.6
17.5°	1333.8	1333.8	1333.8	1337.3	1344.4	1347.9	1342.6	1337.3	1342.6	1347.9	1344.4
20°	1300.3	1300.3	1302.1	1305.6	1312.6	1316.2	1312.6	1307.3	1312.6	1316.2	1312.6
22.5°	1263.2	1265.0	1266.8	1270.3	1277.4	1280.9	1277.4	1273.8	1277.4	1280.9	1277.4
25°	1224.4	1226.2	1228.0	1233.2	1240.3	1243.8	1240.3	1236.8	1240.3	1243.8	1240.3
27.5°	1183.8	1185.6	1187.4	1192.7	1199.7	1205.0	1201.5	1199.7	1201.5	1205.0	1199.7
30°	1139.7	1141.5	1143.3	1148.6	1157.4	1162.7	1159.1	1157.4	1159.1	1162.7	1157.4
32.5°	1095.6	1097.4	1099.2	1104.5	1113.3	1120.3	1116.8	1113.3	1116.8	1120.3	1113.3
35°	1048.0	1049.8	1053.3	1058.6	1067.4	1072.7	1069.2	1067.4	1069.2	1072.7	1067.4
37.5°	1002.1	1003.9	1007.4	1012.7	1021.5	1026.8	1025.1	1023.3	1025.1	1026.8	1021.5
40°	954.5	956.3	959.8	965.1	973.9	979.2	975.7	973.9	975.7	979.2	973.9
42.5°	905.1	906.9	910.4	915.7	924.5	929.8	928.0	926.3	928.0	929.8	924.5
45°	855.7	857.5	861.0	866.3	873.3	878.6	876.9	876.9	876.9	878.6	873.3
47.5°	804.5	808.0	811.6	816.9	823.9	829.2	827.5	825.7	827.5	829.2	823.9
50°	755.1	756.9	758.6	763.9	771.0	776.3	774.5	774.5	774.5	776.3	771.0
52.5°	704.0	705.7	709.2	714.5	719.8	725.1	723.4	721.6	723.4	725.1	719.8
55°	651.0	652.8	656.3	661.6	666.9	670.4	668.7	668.7	668.7	670.4	666.9
57.5°	599.9	601.6	603.4	608.7	614.0	619.3	617.5	615.7	617.5	619.3	614.0
60°	546.9	548.7	550.5	555.8	561.0	564.6	562.8	562.8	562.8	564.6	561.0
62.5°	494.0	495.8	497.5	502.8	508.1	511.6	509.9	509.9	509.9	511.6	508.1
65°	442.8	444.6	446.4	448.1	451.7	455.2	455.2	455.2	455.2	455.2	451.7
67.5°	384.6	386.4	388.1	389.9	393.4	397.0	395.2	395.2	395.2	397.0	393.4
70°	331.7	333.5	335.2	337.0	340.5	342.3	340.5	340.5	340.5	342.3	340.5
72.5°	278.8	280.5	282.3	284.1	285.8	287.6	287.6	287.6	287.6	287.6	285.8
75°	227.6	227.6	229.4	231.1	232.9	234.7	232.9	232.9	232.9	234.7	232.9
77.5°	178.2	178.2	180.0	181.7	183.5	185.3	183.5	181.7	183.5	185.3	183.5
80°	130.6	130.6	132.3	134.1	135.9	137.6	135.9	134.1	135.9	137.6	135.9
82.5°	88.2	88.2	90.0	90.0	91.7	93.5	91.7	90.0	91.7	93.5	91.7
85°	51.2	51.2	52.9	52.9	54.7	54.7	52.9	51.2	52.9	54.7	54.7
87.5°	21.2	21.2	21.2	21.2	22.9	22.9	21.2	19.4	21.2	22.9	22.9
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°	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0	1445.0
2.5°	1443.2	1439.7	1441.4	1441.4	1443.2	1443.2	1443.2	1441.4	1441.4	1439.7	1443.2
5°	1436.1	1434.4	1434.4	1434.4	1437.9	1441.4	1437.9	1434.4	1434.4	1434.4	1436.1
7.5°	1425.6	1423.8	1423.8	1425.6	1429.1	1432.6	1429.1	1425.6	1423.8	1423.8	1425.6
10°	1409.7	1406.1	1406.1	1406.1	1409.7	1413.2	1409.7	1406.1	1406.1	1406.1	1409.7
12.5°	1390.3	1386.7	1386.7	1386.7	1390.3	1393.8	1390.3	1386.7	1386.7	1386.7	1390.3
15°	1367.3	1363.8	1363.8	1363.8	1367.3	1369.1	1367.3	1363.8	1363.8	1363.8	1367.3
17.5°	1337.3	1333.8	1333.8	1333.8	1337.3	1339.1	1337.3	1333.8	1333.8	1333.8	1337.3
20°	1305.6	1302.1	1300.3	1300.3	1303.8	1305.6	1303.8	1300.3	1300.3	1302.1	1305.6
22.5°	1270.3	1266.8	1265.0	1263.2	1265.0	1266.8	1265.0	1263.2	1265.0	1266.8	1270.3
25°	1233.2	1228.0	1226.2	1224.4	1226.2	1226.2	1226.2	1224.4	1226.2	1228.0	1233.2
27.5°	1192.7	1187.4	1185.6	1183.8	1185.6	1185.6	1185.6	1183.8	1185.6	1187.4	1192.7
30°	1148.6	1143.3	1141.5	1139.7	1139.7	1139.7	1139.7	1139.7	1141.5	1143.3	1148.6
32.5°	1104.5	1099.2	1097.4	1095.6	1097.4	1097.4	1097.4	1095.6	1097.4	1099.2	1104.5
35°	1058.6	1053.3	1049.8	1048.0	1051.5	1053.3	1051.5	1048.0	1049.8	1053.3	1058.6
37.5°	1012.7	1007.4	1003.9	1002.1	1000.4	1000.4	1000.4	1002.1	1003.9	1007.4	1012.7
40°	965.1	959.8	956.3	954.5	954.5	954.5	954.5	954.5	956.3	959.8	965.1
42.5°	915.7	910.4	906.9	905.1	906.9	906.9	906.9	905.1	906.9	910.4	915.7
45°	866.3	861.0	857.5	855.7	855.7	855.7	855.7	855.7	857.5	861.0	866.3
47.5°	816.9	811.6	808.0	804.5	804.5	804.5	804.5	804.5	808.0	811.6	816.9
50°	763.9	758.6	756.9	755.1	753.4	753.4	753.4	755.1	756.9	758.6	763.9
52.5°	714.5	709.2	705.7	704.0	704.0	704.0	704.0	704.0	705.7	709.2	714.5
55°	661.6	656.3	652.8	651.0	652.8	652.8	652.8	651.0	652.8	656.3	661.6
57.5°	608.7	603.4	601.6	599.9	599.9	599.9	599.9	599.9	601.6	603.4	608.7
60°	555.8	550.5	548.7	546.9	546.9	546.9	546.9	546.9	548.7	550.5	555.8
62.5°	502.8	497.5	495.8	494.0	494.0	494.0	494.0	494.0	495.8	497.5	502.8
65°	448.1	446.4	444.6	442.8	441.1	441.1	441.1	442.8	444.6	446.4	448.1
67.5°	389.9	388.1	386.4	384.6	382.9	382.9	382.9	384.6	386.4	388.1	389.9
70°	337.0	335.2	333.5	331.7	329.9	329.9	329.9	331.7	333.5	335.2	337.0
72.5°	284.1	282.3	280.5	278.8	277.0	277.0	277.0	278.8	280.5	282.3	284.1
75°	231.1	229.4	227.6	227.6	225.8	225.8	225.8	227.6	227.6	229.4	231.1
77.5°	181.7	180.0	178.2	178.2	176.4	176.4	176.4	178.2	178.2	180.0	181.7
80°	134.1	132.3	130.6	130.6	130.6	130.6	130.6	130.6	130.6	132.3	134.1
82.5°	90.0	90.0	88.2	88.2	88.2	88.2	88.2	88.2	88.2	90.0	90.0
85°	52.9	52.9	51.2	51.2	51.2	51.2	51.2	51.2	51.2	52.9	52.9
87.5°	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2
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: P709079

CATALOG NUMBER: 4APN-X-37L850-UNV

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1445.0	1445.0	1445.0	1445.0
2.5°	1448.5	1450.3	1443.2	1436.1
5°	1441.4	1443.2	1437.9	1430.8
7.5°	1430.8	1432.6	1427.3	1422.0
10°	1415.0	1418.5	1413.2	1406.1
12.5°	1395.6	1397.3	1392.0	1386.7
15°	1372.6	1374.4	1369.1	1363.8
17.5°	1344.4	1347.9	1342.6	1337.3
20°	1312.6	1316.2	1312.6	1307.3
22.5°	1277.4	1280.9	1277.4	1273.8
25°	1240.3	1243.8	1240.3	1236.8
27.5°	1199.7	1205.0	1201.5	1199.7
30°	1157.4	1162.7	1159.1	1157.4
32.5°	1113.3	1120.3	1116.8	1113.3
35°	1067.4	1072.7	1069.2	1067.4
37.5°	1021.5	1026.8	1025.1	1023.3
40°	973.9	979.2	975.7	973.9
42.5°	924.5	929.8	928.0	926.3
45°	873.3	878.6	876.9	876.9
47.5°	823.9	829.2	827.5	825.7
50°	771.0	776.3	774.5	774.5
52.5°	719.8	725.1	723.4	721.6
55°	666.9	670.4	668.7	668.7
57.5°	614.0	619.3	617.5	615.7
60°	561.0	564.6	562.8	562.8
62.5°	508.1	511.6	509.9	509.9
65°	451.7	455.2	455.2	455.2
67.5°	393.4	397.0	395.2	395.2
70°	340.5	342.3	340.5	340.5
72.5°	285.8	287.6	287.6	287.6
75°	232.9	234.7	232.9	232.9
77.5°	183.5	185.3	183.5	181.7
80°	135.9	137.6	135.9	134.1
82.5°	91.7	93.5	91.7	90.0
85°	54.7	54.7	52.9	51.2
87.5°	22.9	22.9	21.2	19.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)