

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: P709114

Luminaire Tested: **4APN-39L835-X-UNV**

Issue Date: 09/12/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P709114  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 09/12/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APN-39L835-X-UNV  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

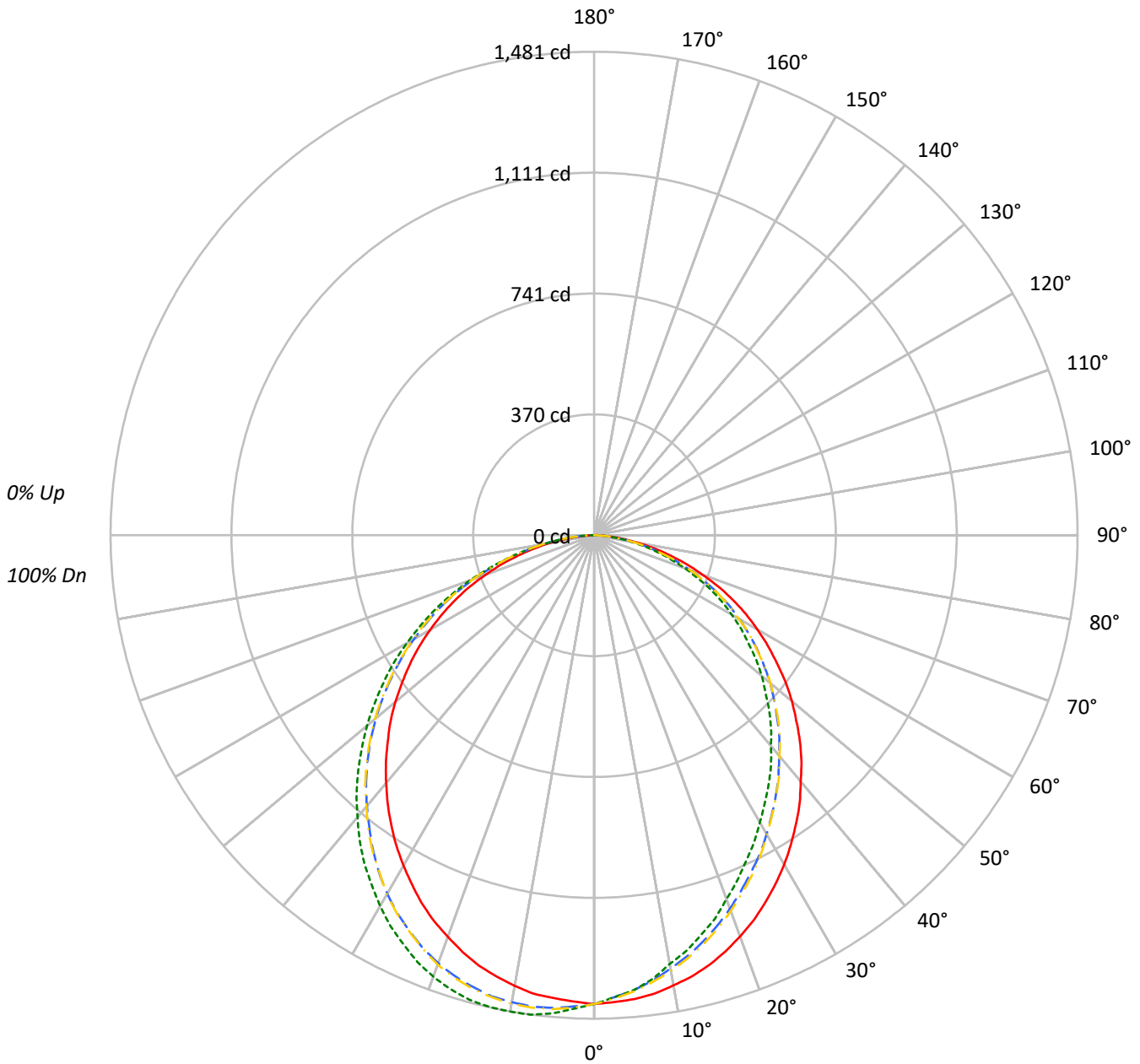
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3851.1 lumens  
Efficiency: N/A  
Efficacy: 84.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.33  
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 45.8  
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	94	92	94	91	89	90	88	86	86	86	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	76	72	72	72	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	61	61	61	59
4	83	71	62	55	81	70	61	55	67	60	54	65	59	54	63	57	53	53	53	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	46	46	46	44
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	41	41	41	41	38
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	36	36	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	32	32	32	30
9	57	43	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	29	29	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	27	27	27	25

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	13249	13249	13249	13249
5°	13209	12953	13179	13615
10°	13118	12494	13133	13879
15°	13018	12102	13033	14072
20°	12838	11643	12854	14131
25°	12633	11211	12683	14072
30°	12408	10815	12442	13966
35°	12148	10502	12204	13813
40°	11856	10154	11934	13577
45°	11636	9898	11657	13331
50°	11355	9630	11401	13033
55°	11001	9276	11078	12672
60°	10671	8992	10701	12228
65°	10247	8617	10247	11701
70°	9552	7974	9509	10912
75°	8687	7236	8570	9785
80°	7507	6216	7247	8374
85°	5843	4647	5505	6881



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	135.7	3.5
10°-20°	385.1	10.0
20°-30°	572.5	14.9
30°-40°	674.7	17.5
40°-50°	687.0	17.8
50°-60°	612.0	15.9
60°-70°	461.1	12.0
70°-80°	256.4	6.7
80°-90°	66.6	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°	1093.2	28.4
0°-40°	1767.9	45.9
0°-60°	3067.0	79.6
0°-90°	3851.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3851.1	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1436	1436	1436	1436	1436	
5°	1426	1399	1423	1470	1426	135
15°	1363	1267	1364	1473	1363	384
25°	1241	1101	1246	1382	1241	572
35°	1079	932	1084	1226	1079	675
45°	892	759	893	1022	892	687
55°	684	577	689	788	684	613
65°	469	395	469	536	469	463
75°	244	203	240	274	244	259
85°	55	44	52	65	55	66
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°	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0
2.5°	1431.1	1431.1	1432.7	1426.2	1418.1	1414.8	1413.2	1411.6	1414.8	1416.5	1414.8
5°	1426.2	1423.0	1419.7	1411.6	1401.8	1395.3	1392.1	1390.5	1393.7	1398.6	1393.7
7.5°	1416.5	1410.0	1403.5	1392.1	1380.7	1371.0	1366.1	1362.9	1366.1	1371.0	1367.7
10°	1400.2	1392.1	1382.3	1369.4	1353.1	1341.7	1336.9	1332.0	1333.6	1333.6	1333.6
12.5°	1384.0	1372.6	1361.2	1345.0	1327.1	1314.1	1306.0	1299.5	1302.8	1304.4	1304.4
15°	1362.9	1348.2	1332.0	1314.1	1296.3	1281.6	1271.9	1265.4	1267.0	1267.0	1268.6
17.5°	1336.9	1320.6	1304.4	1283.3	1262.1	1245.9	1234.5	1226.4	1229.7	1231.3	1232.9
20°	1307.6	1289.8	1271.9	1249.1	1226.4	1208.5	1197.2	1187.4	1185.8	1185.8	1187.4
22.5°	1276.8	1257.3	1236.2	1211.8	1187.4	1167.9	1156.6	1146.8	1145.2	1145.2	1146.8
25°	1241.0	1219.9	1198.8	1174.4	1148.4	1128.9	1114.3	1104.6	1103.0	1101.3	1104.6
27.5°	1203.7	1182.5	1161.4	1137.1	1109.5	1090.0	1075.3	1065.6	1062.3	1060.7	1064.0
30°	1164.7	1140.3	1117.6	1091.6	1067.2	1047.7	1033.1	1021.7	1018.5	1015.2	1018.5
32.5°	1122.4	1098.1	1073.7	1047.7	1023.4	1003.9	989.2	977.9	974.6	973.0	976.3
35°	1078.6	1054.2	1031.5	1005.5	981.1	961.6	947.0	937.3	934.0	932.4	934.0
37.5°	1034.7	1010.4	987.6	961.6	937.3	917.8	903.2	893.4	891.8	890.2	891.8
40°	984.4	963.3	940.5	916.1	891.8	872.3	860.9	849.5	846.3	843.1	847.9
42.5°	940.5	919.4	896.7	873.9	849.5	830.1	817.1	807.3	804.1	802.4	804.1
45°	891.8	869.0	846.3	825.2	802.4	784.6	771.6	761.8	760.2	758.6	760.2
47.5°	839.8	820.3	800.8	779.7	757.0	739.1	727.7	718.0	714.7	711.5	714.7
50°	791.1	771.6	752.1	732.6	711.5	695.2	683.9	674.1	672.5	670.9	672.5
52.5°	739.1	719.6	701.7	682.2	664.4	648.1	636.8	628.6	627.0	625.4	627.0
55°	683.9	667.6	651.4	635.1	617.3	602.6	592.9	583.2	579.9	576.7	579.9
57.5°	631.9	617.3	601.0	584.8	568.5	555.5	545.8	537.7	536.0	534.4	536.0
60°	578.3	565.3	550.7	536.0	519.8	506.8	498.7	492.2	488.9	487.3	488.9
62.5°	524.7	511.7	500.3	485.7	471.1	461.3	453.2	446.7	443.5	441.8	443.5
65°	469.4	458.1	446.7	433.7	422.3	412.6	404.5	398.0	396.3	394.7	394.7
67.5°	412.6	402.8	393.1	381.7	368.7	359.0	350.9	346.0	344.4	342.7	344.4
70°	354.1	346.0	336.2	326.5	316.8	308.6	303.8	298.9	297.3	295.6	295.6
72.5°	298.9	292.4	284.3	276.1	268.0	259.9	255.0	251.8	250.2	248.5	248.5
75°	243.7	237.2	232.3	225.8	217.7	212.8	207.9	204.7	203.0	203.0	203.0
77.5°	191.7	186.8	181.9	175.4	170.6	165.7	162.4	160.8	159.2	159.2	159.2
80°	141.3	138.1	134.8	131.6	126.7	121.8	120.2	118.6	117.0	117.0	117.0
82.5°	95.8	94.2	91.0	87.7	84.5	82.8	81.2	79.6	79.6	79.6	79.6
85°	55.2	53.6	52.0	50.4	48.7	48.7	47.1	45.5	43.9	43.9	43.9
87.5°	22.7	22.7	22.7	21.1	19.5	19.5	19.5	19.5	19.5	19.5	19.5
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°	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0
2.5°	1411.6	1414.8	1418.1	1423.0	1427.8	1432.7	1431.1	1429.5	1436.0	1444.1	1445.7
5°	1390.5	1393.7	1398.6	1406.7	1414.8	1421.3	1423.0	1423.0	1436.0	1447.3	1450.6
7.5°	1364.5	1369.4	1375.8	1384.0	1395.3	1405.1	1410.0	1416.5	1429.5	1444.1	1450.6
10°	1332.0	1340.1	1349.9	1361.2	1372.6	1384.0	1393.7	1401.8	1418.1	1434.3	1444.1
12.5°	1302.8	1310.9	1320.6	1333.6	1348.2	1362.9	1372.6	1384.0	1403.5	1423.0	1434.3
15°	1270.3	1278.4	1289.8	1302.8	1319.0	1335.2	1349.9	1364.5	1384.0	1405.1	1418.1
17.5°	1234.5	1242.6	1254.0	1270.3	1288.1	1306.0	1322.2	1338.5	1361.2	1384.0	1398.6
20°	1190.7	1202.0	1216.7	1232.9	1254.0	1275.1	1291.4	1309.2	1333.6	1358.0	1374.2
22.5°	1148.4	1159.8	1176.0	1195.5	1218.3	1241.0	1260.5	1280.0	1306.0	1330.4	1348.2
25°	1107.8	1120.8	1137.1	1156.6	1177.7	1200.4	1223.2	1245.9	1271.9	1297.9	1315.7
27.5°	1067.2	1078.6	1094.8	1114.3	1138.7	1161.4	1184.2	1206.9	1234.5	1262.1	1281.6
30°	1021.7	1034.7	1049.3	1068.8	1094.8	1120.8	1143.6	1167.9	1195.5	1223.2	1242.6
32.5°	979.5	990.9	1005.5	1025.0	1051.0	1077.0	1101.3	1127.3	1153.3	1180.9	1200.4
35°	937.3	948.6	963.3	982.7	1008.7	1034.7	1059.1	1083.5	1109.5	1135.4	1154.9
37.5°	895.0	906.4	921.0	940.5	964.9	990.9	1013.6	1038.0	1064.0	1090.0	1107.8
40°	851.2	862.5	873.9	893.4	917.8	943.8	966.5	990.9	1016.9	1042.9	1060.7
42.5°	807.3	818.7	833.3	852.8	875.5	898.3	921.0	943.8	968.1	992.5	1010.4
45°	763.5	773.2	787.8	805.7	828.4	849.5	872.3	893.4	917.8	940.5	958.4
47.5°	718.0	727.7	739.1	757.0	779.7	802.4	825.2	846.3	867.4	890.2	906.4
50°	674.1	683.9	696.9	713.1	734.2	755.3	774.8	794.3	815.4	836.6	851.2
52.5°	628.6	638.4	649.8	666.0	683.9	703.4	721.2	740.7	760.2	779.7	794.3
55°	583.2	589.6	599.4	614.0	633.5	653.0	670.9	688.7	706.6	722.8	737.5
57.5°	537.7	545.8	557.2	570.2	586.4	602.6	618.9	635.1	651.4	667.6	680.6
60°	492.2	498.7	506.8	518.2	534.4	549.0	565.3	579.9	594.5	609.1	620.5
62.5°	445.1	451.6	459.7	471.1	484.1	497.1	511.7	524.7	537.7	550.7	562.0
65°	396.3	402.8	411.0	420.7	432.1	443.5	456.5	469.4	479.2	488.9	500.3
67.5°	346.0	352.5	360.6	368.7	378.5	389.9	401.2	412.6	422.3	432.1	440.2
70°	297.3	302.1	310.3	316.8	324.9	333.0	342.7	352.5	359.0	367.1	376.9
72.5°	250.2	255.0	261.5	268.0	272.9	279.4	289.1	297.3	305.4	315.1	320.0
75°	204.7	207.9	212.8	217.7	222.5	227.4	233.9	240.4	246.9	251.8	258.3
77.5°	159.2	162.4	167.3	170.6	173.8	177.1	181.9	186.8	191.7	194.9	201.4
80°	117.0	120.2	123.5	126.7	130.0	133.2	134.8	136.4	142.9	147.8	151.1
82.5°	79.6	81.2	82.8	86.1	87.7	89.3	91.0	91.0	94.2	97.5	102.3
85°	45.5	47.1	48.7	48.7	48.7	48.7	50.4	52.0	53.6	56.9	60.1
87.5°	17.9	17.9	19.5	19.5	19.5	19.5	19.5	19.5	21.1	24.4	26.0
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):**

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0	1436.0
2.5°	1444.1	1445.7	1448.9	1450.6	1452.2	1452.2	1453.8	1455.4	1452.2	1448.9	1447.3
5°	1452.2	1453.8	1458.7	1463.6	1466.8	1470.1	1468.4	1466.8	1463.6	1458.7	1455.4
7.5°	1453.8	1458.7	1463.6	1470.1	1474.9	1481.4	1478.2	1474.9	1468.4	1461.9	1457.1
10°	1448.9	1455.4	1463.6	1471.7	1476.6	1481.4	1478.2	1474.9	1468.4	1460.3	1453.8
12.5°	1442.4	1450.6	1460.3	1468.4	1473.3	1479.8	1474.9	1470.1	1461.9	1453.8	1445.7
15°	1427.8	1437.6	1448.9	1458.7	1466.8	1473.3	1468.4	1465.2	1455.4	1444.1	1432.7
17.5°	1410.0	1423.0	1434.3	1445.7	1452.2	1458.7	1455.4	1452.2	1440.8	1427.8	1414.8
20°	1388.8	1401.8	1413.2	1424.6	1432.7	1439.2	1434.3	1429.5	1418.1	1406.7	1393.7
22.5°	1362.9	1375.8	1388.8	1400.2	1408.3	1414.8	1408.3	1400.2	1388.8	1377.5	1364.5
25°	1330.4	1345.0	1359.6	1371.0	1375.8	1382.3	1375.8	1369.4	1358.0	1346.6	1332.0
27.5°	1297.9	1312.5	1327.1	1338.5	1343.4	1349.9	1343.4	1336.9	1325.5	1314.1	1299.5
30°	1260.5	1275.1	1289.8	1301.1	1306.0	1310.9	1304.4	1297.9	1288.1	1276.8	1262.1
32.5°	1218.3	1232.9	1244.3	1255.6	1262.1	1268.6	1262.1	1257.3	1245.9	1231.3	1216.7
35°	1172.8	1187.4	1202.0	1213.4	1219.9	1226.4	1218.3	1210.2	1200.4	1189.0	1176.0
37.5°	1122.4	1138.7	1154.9	1167.9	1172.8	1179.3	1172.8	1164.7	1154.9	1143.6	1128.9
40°	1075.3	1090.0	1104.6	1117.6	1122.4	1127.3	1120.8	1114.3	1103.0	1091.6	1077.0
42.5°	1026.6	1041.2	1054.2	1065.6	1070.5	1077.0	1070.5	1062.3	1054.2	1044.5	1031.5
45°	974.6	989.2	1000.6	1012.0	1016.9	1021.7	1015.2	1007.1	999.0	990.9	977.9
47.5°	921.0	934.0	945.4	956.8	960.0	964.9	958.4	953.5	945.4	937.3	925.9
50°	865.8	878.8	890.2	899.9	903.2	908.0	901.5	895.0	888.5	882.0	872.3
52.5°	808.9	820.3	831.7	841.4	844.7	847.9	841.4	834.9	828.4	821.9	812.2
55°	750.5	761.8	773.2	781.3	784.6	787.8	781.3	776.5	770.0	765.1	755.3
57.5°	692.0	703.4	713.1	721.2	724.5	727.7	721.2	714.7	709.9	705.0	696.9
60°	631.9	643.3	651.4	657.9	661.1	662.7	656.2	651.4	648.1	644.9	636.8
62.5°	573.4	581.5	589.6	594.5	597.8	599.4	594.5	591.3	588.0	584.8	578.3
65°	511.7	521.4	527.9	532.8	534.4	536.0	531.2	527.9	524.7	521.4	516.6
67.5°	450.0	458.1	462.9	467.8	469.4	469.4	469.4	467.8	464.6	459.7	454.8
70°	388.2	394.7	399.6	402.8	404.5	404.5	401.2	398.0	398.0	396.3	393.1
72.5°	324.9	329.7	333.0	336.2	336.2	336.2	336.2	337.9	336.2	333.0	328.1
75°	264.8	269.6	272.9	274.5	274.5	274.5	274.5	276.1	274.5	272.9	269.6
77.5°	207.9	211.2	212.8	214.4	214.4	214.4	216.0	217.7	216.0	214.4	212.8
80°	154.3	155.9	157.6	159.2	157.6	157.6	159.2	162.4	160.8	159.2	157.6
82.5°	105.6	107.2	108.8	108.8	110.5	112.1	112.1	112.1	112.1	110.5	108.8
85°	63.4	65.0	65.0	65.0	65.0	65.0	66.6	68.2	68.2	66.6	66.6
87.5°	29.2	30.9	29.2	27.6	26.0	26.0	29.2	32.5	32.5	30.9	30.9
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: P709114  
 CATALOG NUMBER: 4APN-39L835-X-UNV

**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
0°	1436.0	1436.0	1436.0	1436.0
2.5°	1448.9	1447.3	1439.2	1431.1
5°	1453.8	1448.9	1437.6	1426.2
7.5°	1453.8	1447.3	1431.1	1416.5
10°	1445.7	1436.0	1418.1	1400.2
12.5°	1436.0	1424.6	1403.5	1384.0
15°	1421.3	1408.3	1385.6	1362.9
17.5°	1400.2	1384.0	1361.2	1336.9
20°	1379.1	1361.2	1333.6	1307.6
22.5°	1349.9	1333.6	1304.4	1276.8
25°	1317.4	1299.5	1270.3	1241.0
27.5°	1283.3	1262.1	1232.9	1203.7
30°	1244.3	1223.2	1193.9	1164.7
32.5°	1202.0	1182.5	1153.3	1122.4
35°	1159.8	1138.7	1109.5	1078.6
37.5°	1112.7	1093.2	1064.0	1034.7
40°	1062.3	1042.9	1013.6	984.4
42.5°	1015.2	997.4	968.1	940.5
45°	963.3	945.4	917.8	891.8
47.5°	909.7	891.8	865.8	839.8
50°	857.7	839.8	815.4	791.1
52.5°	799.2	784.6	761.8	739.1
55°	742.3	727.7	705.0	683.9
57.5°	685.5	672.5	651.4	631.9
60°	625.4	612.4	596.1	578.3
62.5°	568.5	557.2	540.9	524.7
65°	508.4	498.7	484.1	469.4
67.5°	446.7	438.6	425.6	412.6
70°	385.0	375.2	365.5	354.1
72.5°	323.3	318.4	308.6	298.9
75°	264.8	259.9	251.8	243.7
77.5°	209.5	204.7	198.2	191.7
80°	154.3	151.1	146.2	141.3
82.5°	107.2	104.0	100.7	95.8
85°	65.0	61.7	58.5	55.2
87.5°	29.2	27.6	24.4	22.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)