

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: P709127

Luminaire Tested: **4APN-35L850-X-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709127
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-35L850-X-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

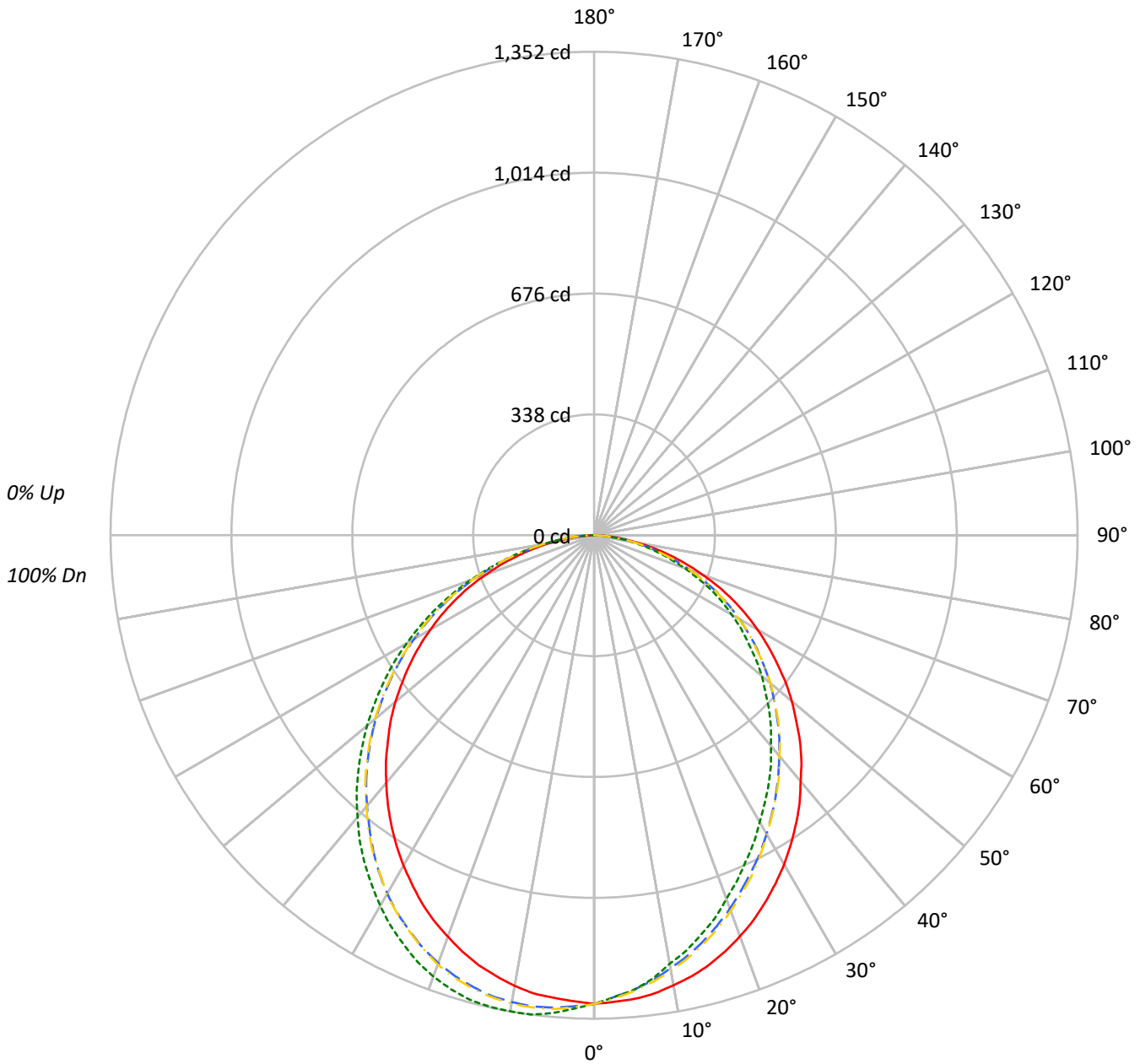
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3514.4 lumens
Efficiency: N/A
Efficacy: 87.0 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): 40.4
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

TEST NUMBER: P709127
CATALOG NUMBER: 4APN-35L850-X-UNV

Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - · - · 90°-270° - · - · 135°-315°



TEST NUMBER: P709127
 CATALOG NUMBER: 4APN-35L850-X-UNV

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	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°	12090	12090	12090	12090
5°	12054	11820	12027	12424
10°	11971	11402	11985	12665
15°	11879	11044	11894	12842
20°	11716	10624	11731	12895
25°	11529	10231	11575	12842
30°	11324	9870	11355	12745
35°	11086	9584	11136	12606
40°	10819	9267	10890	12391
45°	10618	9033	10638	12166
50°	10362	8787	10405	11893
55°	10039	8464	10110	11564
60°	9737	8206	9765	11160
65°	9352	7864	9352	10680
70°	8719	7278	8678	9957
75°	7928	6605	7821	8930
80°	6854	5669	6615	7640
85°	5335	4234	5018	6277



TEST NUMBER: P709127
 CATALOG NUMBER: 4APN-35L850-X-UNV

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.8	3.5
10°-20°	351.4	10.0
20°-30°	522.4	14.9
30°-40°	615.7	17.5
40°-50°	626.9	17.8
50°-60°	558.5	15.9
60°-70°	420.8	12.0
70°-80°	234.0	6.7
80°-90°	60.8	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°	997.6	28.4
0°-40°	1613.4	45.9
0°-60°	2798.9	79.6
0°-90°	3514.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3514.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1310	1310	1310	1310	1310	
5°	1302	1276	1299	1342	1302	124
15°	1244	1156	1245	1344	1244	350
25°	1132	1005	1137	1262	1132	522
35°	984	851	989	1119	984	616
45°	814	692	815	932	814	627
55°	624	526	628	719	624	559
65°	428	360	428	489	428	423
75°	222	185	219	250	222	236
85°	50	40	47	59	50	61
90°	0	0	0	0	0	



TEST NUMBER: P709127

CATALOG NUMBER: 4APN-35L850-X-UNV

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4
2.5°	1306.0	1306.0	1307.5	1301.5	1294.1	1291.1	1289.7	1288.2	1291.1	1292.6	1291.1
5°	1301.5	1298.6	1295.6	1288.2	1279.3	1273.4	1270.4	1268.9	1271.9	1276.3	1271.9
7.5°	1292.6	1286.7	1280.8	1270.4	1260.0	1251.1	1246.7	1243.7	1246.7	1251.1	1248.2
10°	1277.8	1270.4	1261.5	1249.6	1234.8	1224.4	1220.0	1215.5	1217.0	1217.0	1217.0
12.5°	1263.0	1252.6	1242.2	1227.4	1211.1	1199.2	1191.8	1185.9	1188.9	1190.3	1190.3
15°	1243.7	1230.4	1215.5	1199.2	1182.9	1169.6	1160.7	1154.8	1156.2	1156.2	1157.7
17.5°	1220.0	1205.2	1190.3	1171.1	1151.8	1137.0	1126.6	1119.2	1122.2	1123.6	1125.1
20°	1193.3	1177.0	1160.7	1139.9	1119.2	1102.9	1092.5	1083.6	1082.1	1082.1	1083.6
22.5°	1165.1	1147.4	1128.1	1105.8	1083.6	1065.8	1055.4	1046.6	1045.1	1045.1	1046.6
25°	1132.5	1113.3	1094.0	1071.8	1048.0	1030.2	1016.9	1008.0	1006.5	1005.0	1008.0
27.5°	1098.4	1079.2	1059.9	1037.7	1012.5	994.7	981.3	972.4	969.5	968.0	971.0
30°	1062.9	1040.6	1019.9	996.2	973.9	956.1	942.8	932.4	929.4	926.5	929.4
32.5°	1024.3	1002.1	979.8	956.1	933.9	916.1	902.8	892.4	889.4	887.9	890.9
35°	984.3	962.1	941.3	917.6	895.4	877.6	864.2	855.3	852.4	850.9	852.4
37.5°	944.3	922.0	901.3	877.6	855.3	837.5	824.2	815.3	813.8	812.3	813.8
40°	898.3	879.0	858.3	836.1	813.8	796.0	785.7	775.3	772.3	769.4	773.8
42.5°	858.3	839.0	818.3	797.5	775.3	757.5	745.6	736.7	733.8	732.3	733.8
45°	813.8	793.1	772.3	753.0	732.3	716.0	704.1	695.2	693.7	692.3	693.7
47.5°	766.4	748.6	730.8	711.5	690.8	674.5	664.1	655.2	652.2	649.3	652.2
50°	721.9	704.1	686.3	668.5	649.3	634.5	624.1	615.2	613.7	612.2	613.7
52.5°	674.5	656.7	640.4	622.6	606.3	591.5	581.1	573.7	572.2	570.7	572.2
55°	624.1	609.3	594.4	579.6	563.3	550.0	541.1	532.2	529.2	526.2	529.2
57.5°	576.6	563.3	548.5	533.7	518.8	507.0	498.1	490.7	489.2	487.7	489.2
60°	527.7	515.9	502.5	489.2	474.4	462.5	455.1	449.2	446.2	444.7	446.2
62.5°	478.8	466.9	456.6	443.2	429.9	421.0	413.6	407.7	404.7	403.2	404.7
65°	428.4	418.0	407.7	395.8	385.4	376.5	369.1	363.2	361.7	360.2	360.2
67.5°	376.5	367.6	358.7	348.4	336.5	327.6	320.2	315.7	314.3	312.8	314.3
70°	323.2	315.7	306.9	298.0	289.1	281.7	277.2	272.8	271.3	269.8	269.8
72.5°	272.8	266.8	259.4	252.0	244.6	237.2	232.7	229.8	228.3	226.8	226.8
75°	222.4	216.4	212.0	206.0	198.6	194.2	189.7	186.8	185.3	185.3	185.3
77.5°	174.9	170.5	166.0	160.1	155.6	151.2	148.2	146.8	145.3	145.3	145.3
80°	129.0	126.0	123.0	120.1	115.6	111.2	109.7	108.2	106.7	106.7	106.7
82.5°	87.5	86.0	83.0	80.0	77.1	75.6	74.1	72.6	72.6	72.6	72.6
85°	50.4	48.9	47.4	46.0	44.5	44.5	43.0	41.5	40.0	40.0	40.0
87.5°	20.8	20.8	20.8	19.3	17.8	17.8	17.8	17.8	17.8	17.8	17.8
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: P709127

CATALOG NUMBER: 4APN-35L850-X-UNV

CANDELA DISTRIBUTION (continued):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4
2.5°	1288.2	1291.1	1294.1	1298.6	1303.0	1307.5	1306.0	1304.5	1310.4	1317.8	1319.3
5°	1268.9	1271.9	1276.3	1283.7	1291.1	1297.1	1298.6	1298.6	1310.4	1320.8	1323.8
7.5°	1245.2	1249.6	1255.6	1263.0	1273.4	1282.3	1286.7	1292.6	1304.5	1317.8	1323.8
10°	1215.5	1223.0	1231.8	1242.2	1252.6	1263.0	1271.9	1279.3	1294.1	1308.9	1317.8
12.5°	1188.9	1196.3	1205.2	1217.0	1230.4	1243.7	1252.6	1263.0	1280.8	1298.6	1308.9
15°	1159.2	1166.6	1177.0	1188.9	1203.7	1218.5	1231.8	1245.2	1263.0	1282.3	1294.1
17.5°	1126.6	1134.0	1144.4	1159.2	1175.5	1191.8	1206.6	1221.5	1242.2	1263.0	1276.3
20°	1086.6	1097.0	1110.3	1125.1	1144.4	1163.7	1178.5	1194.8	1217.0	1239.3	1254.1
22.5°	1048.0	1058.4	1073.2	1091.0	1111.8	1132.5	1150.3	1168.1	1191.8	1214.1	1230.4
25°	1011.0	1022.8	1037.7	1055.4	1074.7	1095.5	1116.2	1137.0	1160.7	1184.4	1200.7
27.5°	973.9	984.3	999.1	1016.9	1039.1	1059.9	1080.6	1101.4	1126.6	1151.8	1169.6
30°	932.4	944.3	957.6	975.4	999.1	1022.8	1043.6	1065.8	1091.0	1116.2	1134.0
32.5°	893.9	904.2	917.6	935.4	959.1	982.8	1005.0	1028.8	1052.5	1077.7	1095.5
35°	855.3	865.7	879.0	896.8	920.6	944.3	966.5	988.7	1012.5	1036.2	1054.0
37.5°	816.8	827.2	840.5	858.3	880.5	904.2	925.0	947.2	971.0	994.7	1011.0
40°	776.8	787.1	797.5	815.3	837.5	861.3	882.0	904.2	928.0	951.7	968.0
42.5°	736.7	747.1	760.5	778.2	799.0	819.8	840.5	861.3	883.5	905.7	922.0
45°	696.7	705.6	718.9	735.3	756.0	775.3	796.0	815.3	837.5	858.3	874.6
47.5°	655.2	664.1	674.5	690.8	711.5	732.3	753.0	772.3	791.6	812.3	827.2
50°	615.2	624.1	635.9	650.8	670.0	689.3	707.1	724.9	744.1	763.4	776.8
52.5°	573.7	582.6	592.9	607.8	624.1	641.9	658.2	676.0	693.7	711.5	724.9
55°	532.2	538.1	547.0	560.3	578.1	595.9	612.2	628.5	644.8	659.7	673.0
57.5°	490.7	498.1	508.5	520.3	535.1	550.0	564.8	579.6	594.4	609.3	621.1
60°	449.2	455.1	462.5	472.9	487.7	501.0	515.9	529.2	542.5	555.9	566.3
62.5°	406.2	412.1	419.5	429.9	441.7	453.6	466.9	478.8	490.7	502.5	512.9
65°	361.7	367.6	375.0	383.9	394.3	404.7	416.5	428.4	437.3	446.2	456.6
67.5°	315.7	321.7	329.1	336.5	345.4	355.8	366.1	376.5	385.4	394.3	401.7
70°	271.3	275.7	283.1	289.1	296.5	303.9	312.8	321.7	327.6	335.0	343.9
72.5°	228.3	232.7	238.7	244.6	249.0	255.0	263.9	271.3	278.7	287.6	292.0
75°	186.8	189.7	194.2	198.6	203.1	207.5	213.5	219.4	225.3	229.8	235.7
77.5°	145.3	148.2	152.7	155.6	158.6	161.6	166.0	170.5	174.9	177.9	183.8
80°	106.7	109.7	112.7	115.6	118.6	121.6	123.0	124.5	130.4	134.9	137.9
82.5°	72.6	74.1	75.6	78.6	80.0	81.5	83.0	83.0	86.0	88.9	93.4
85°	41.5	43.0	44.5	44.5	44.5	44.5	46.0	47.4	48.9	51.9	54.8
87.5°	16.3	16.3	17.8	17.8	17.8	17.8	17.8	17.8	19.3	22.2	23.7
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: P709127

CATALOG NUMBER: 4APN-35L850-X-UNV

CANDELA DISTRIBUTION (continued):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4	1310.4
2.5°	1317.8	1319.3	1322.3	1323.8	1325.2	1325.2	1326.7	1328.2	1325.2	1322.3	1320.8
5°	1325.2	1326.7	1331.2	1335.6	1338.6	1341.5	1340.1	1338.6	1335.6	1331.2	1328.2
7.5°	1326.7	1331.2	1335.6	1341.5	1346.0	1351.9	1349.0	1346.0	1340.1	1334.1	1329.7
10°	1322.3	1328.2	1335.6	1343.0	1347.5	1351.9	1349.0	1346.0	1340.1	1332.7	1326.7
12.5°	1316.3	1323.8	1332.7	1340.1	1344.5	1350.4	1346.0	1341.5	1334.1	1326.7	1319.3
15°	1303.0	1311.9	1322.3	1331.2	1338.6	1344.5	1340.1	1337.1	1328.2	1317.8	1307.5
17.5°	1286.7	1298.6	1308.9	1319.3	1325.2	1331.2	1328.2	1325.2	1314.9	1303.0	1291.1
20°	1267.4	1279.3	1289.7	1300.0	1307.5	1313.4	1308.9	1304.5	1294.1	1283.7	1271.9
22.5°	1243.7	1255.6	1267.4	1277.8	1285.2	1291.1	1285.2	1277.8	1267.4	1257.1	1245.2
25°	1214.1	1227.4	1240.7	1251.1	1255.6	1261.5	1255.6	1249.6	1239.3	1228.9	1215.5
27.5°	1184.4	1197.8	1211.1	1221.5	1225.9	1231.8	1225.9	1220.0	1209.6	1199.2	1185.9
30°	1150.3	1163.7	1177.0	1187.4	1191.8	1196.3	1190.3	1184.4	1175.5	1165.1	1151.8
32.5°	1111.8	1125.1	1135.5	1145.9	1151.8	1157.7	1151.8	1147.4	1137.0	1123.6	1110.3
35°	1070.3	1083.6	1097.0	1107.3	1113.3	1119.2	1111.8	1104.4	1095.5	1085.1	1073.2
37.5°	1024.3	1039.1	1054.0	1065.8	1070.3	1076.2	1070.3	1062.9	1054.0	1043.6	1030.2
40°	981.3	994.7	1008.0	1019.9	1024.3	1028.8	1022.8	1016.9	1006.5	996.2	982.8
42.5°	936.9	950.2	962.1	972.4	976.9	982.8	976.9	969.5	962.1	953.2	941.3
45°	889.4	902.8	913.1	923.5	928.0	932.4	926.5	919.1	911.7	904.2	892.4
47.5°	840.5	852.4	862.7	873.1	876.1	880.5	874.6	870.2	862.7	855.3	845.0
50°	790.1	802.0	812.3	821.2	824.2	828.6	822.7	816.8	810.9	804.9	796.0
52.5°	738.2	748.6	759.0	767.9	770.8	773.8	767.9	761.9	756.0	750.1	741.2
55°	684.9	695.2	705.6	713.0	716.0	718.9	713.0	708.6	702.6	698.2	689.3
57.5°	631.5	641.9	650.8	658.2	661.1	664.1	658.2	652.2	647.8	643.3	635.9
60°	576.6	587.0	594.4	600.4	603.3	604.8	598.9	594.4	591.5	588.5	581.1
62.5°	523.3	530.7	538.1	542.5	545.5	547.0	542.5	539.6	536.6	533.7	527.7
65°	466.9	475.8	481.8	486.2	487.7	489.2	484.7	481.8	478.8	475.8	471.4
67.5°	410.6	418.0	422.5	426.9	428.4	428.4	428.4	426.9	424.0	419.5	415.1
70°	354.3	360.2	364.7	367.6	369.1	369.1	366.1	363.2	363.2	361.7	358.7
72.5°	296.5	300.9	303.9	306.9	306.9	306.9	306.9	308.3	306.9	303.9	299.4
75°	241.6	246.1	249.0	250.5	250.5	250.5	250.5	252.0	250.5	249.0	246.1
77.5°	189.7	192.7	194.2	195.7	195.7	195.7	197.2	198.6	197.2	195.7	194.2
80°	140.8	142.3	143.8	145.3	143.8	143.8	145.3	148.2	146.8	145.3	143.8
82.5°	96.4	97.8	99.3	99.3	100.8	102.3	102.3	102.3	102.3	100.8	99.3
85°	57.8	59.3	59.3	59.3	59.3	59.3	60.8	62.3	62.3	60.8	60.8
87.5°	26.7	28.2	26.7	25.2	23.7	23.7	26.7	29.6	29.6	28.2	28.2
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: P709127

CATALOG NUMBER: 4APN-35L850-X-UNV

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1310.4	1310.4	1310.4	1310.4
2.5°	1322.3	1320.8	1313.4	1306.0
5°	1326.7	1322.3	1311.9	1301.5
7.5°	1326.7	1320.8	1306.0	1292.6
10°	1319.3	1310.4	1294.1	1277.8
12.5°	1310.4	1300.0	1280.8	1263.0
15°	1297.1	1285.2	1264.5	1243.7
17.5°	1277.8	1263.0	1242.2	1220.0
20°	1258.5	1242.2	1217.0	1193.3
22.5°	1231.8	1217.0	1190.3	1165.1
25°	1202.2	1185.9	1159.2	1132.5
27.5°	1171.1	1151.8	1125.1	1098.4
30°	1135.5	1116.2	1089.5	1062.9
32.5°	1097.0	1079.2	1052.5	1024.3
35°	1058.4	1039.1	1012.5	984.3
37.5°	1015.4	997.6	971.0	944.3
40°	969.5	951.7	925.0	898.3
42.5°	926.5	910.2	883.5	858.3
45°	879.0	862.7	837.5	813.8
47.5°	830.1	813.8	790.1	766.4
50°	782.7	766.4	744.1	721.9
52.5°	729.3	716.0	695.2	674.5
55°	677.4	664.1	643.3	624.1
57.5°	625.6	613.7	594.4	576.6
60°	570.7	558.9	544.0	527.7
62.5°	518.8	508.5	493.6	478.8
65°	464.0	455.1	441.7	428.4
67.5°	407.7	400.2	388.4	376.5
70°	351.3	342.4	333.5	323.2
72.5°	295.0	290.5	281.7	272.8
75°	241.6	237.2	229.8	222.4
77.5°	191.2	186.8	180.8	174.9
80°	140.8	137.9	133.4	129.0
82.5°	97.8	94.9	91.9	87.5
85°	59.3	56.3	53.4	50.4
87.5°	26.7	25.2	22.2	20.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)