

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: P709115

Luminaire Tested: **4APN-35L835-X-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709115
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-35L835-X-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

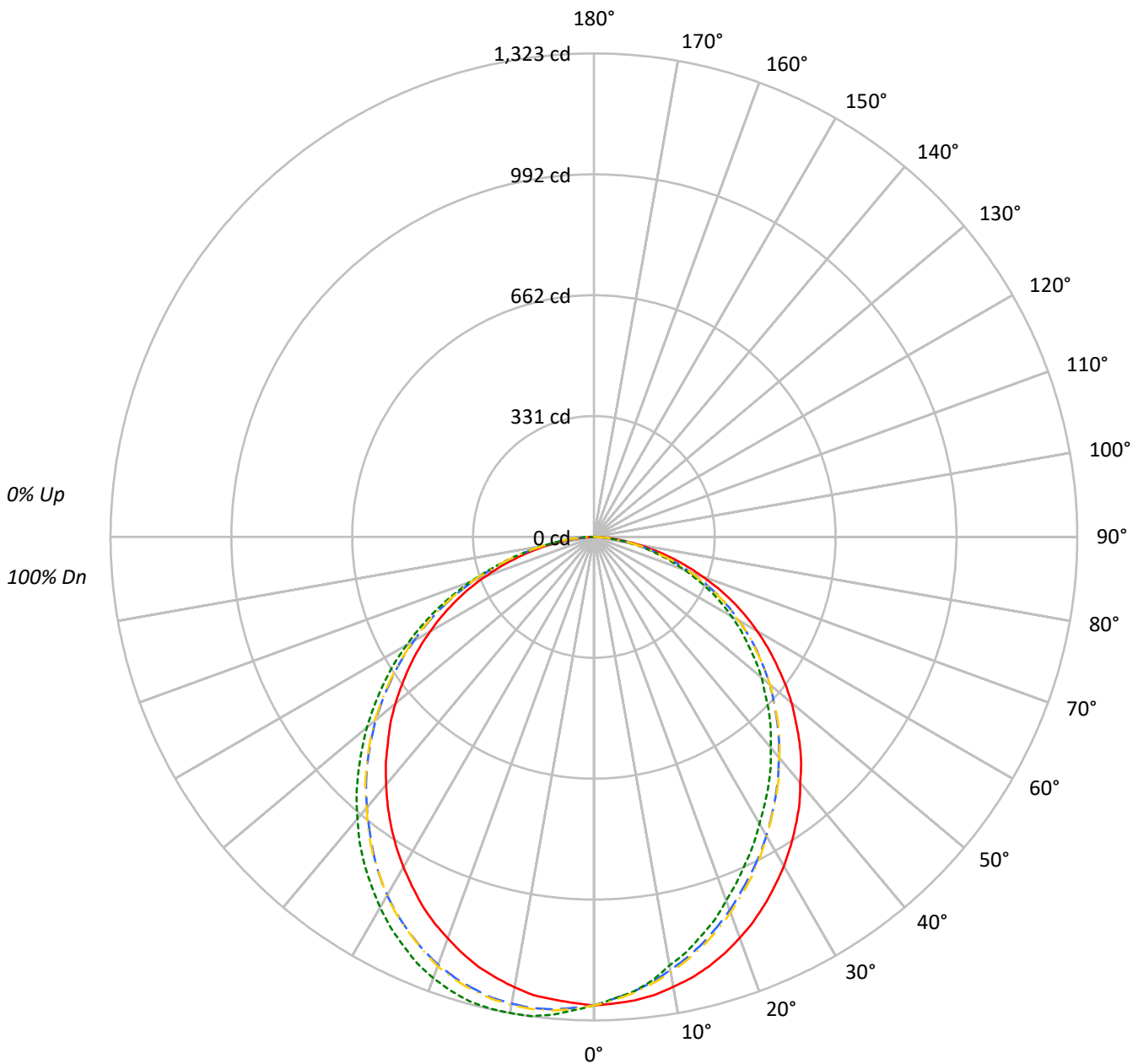
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3438.5 lumens
Efficiency: N/A
Efficacy: 85.1 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): 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

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	11829	11829	11829	11829
5°	11794	11565	11767	12157
10°	11713	11155	11726	12392
15°	11622	10806	11637	12565
20°	11463	10395	11478	12617
25°	11280	10010	11324	12564
30°	11079	9657	11109	12469
35°	10846	9377	10896	12333
40°	10585	9065	10655	12122
45°	10389	8837	10408	11904
50°	10138	8598	10179	11636
55°	9822	8282	9891	11314
60°	9527	8029	9555	10918
65°	9149	7693	9149	10448
70°	8530	7122	8489	9741
75°	7757	6463	7650	8737
80°	6705	5547	6471	7476
85°	5219	4150	4912	6140



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.1	3.5
10°-20°	343.8	10.0
20°-30°	511.1	14.9
30°-40°	602.4	17.5
40°-50°	613.4	17.8
50°-60°	546.5	15.9
60°-70°	411.7	12.0
70°-80°	228.9	6.7
80°-90°	59.5	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°	976.1	28.4
0°-40°	1578.5	45.9
0°-60°	2738.4	79.6
0°-90°	3438.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3438.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1282	1282	1282	1282	1282	
5°	1273	1249	1270	1313	1273	121
15°	1217	1131	1218	1316	1217	343
25°	1108	983	1112	1234	1108	510
35°	963	832	967	1095	963	602
45°	796	677	798	912	796	614
55°	611	515	615	703	611	547
65°	419	352	419	479	419	414
75°	218	181	215	245	218	231
85°	49	39	46	58	49	59
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°	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1
2.5°	1277.7	1277.7	1279.2	1273.4	1266.1	1263.2	1261.8	1260.3	1263.2	1264.7	1263.2
5°	1273.4	1270.5	1267.6	1260.3	1251.6	1245.8	1242.9	1241.5	1244.4	1248.7	1244.4
7.5°	1264.7	1258.9	1253.1	1242.9	1232.8	1224.1	1219.7	1216.8	1219.7	1224.1	1221.2
10°	1250.2	1242.9	1234.2	1222.6	1208.1	1198.0	1193.6	1189.3	1190.7	1190.7	1190.7
12.5°	1235.7	1225.5	1215.4	1200.9	1184.9	1173.3	1166.1	1160.3	1163.2	1164.6	1164.6
15°	1216.8	1203.8	1189.3	1173.3	1157.4	1144.3	1135.6	1129.8	1131.3	1131.3	1132.7
17.5°	1193.6	1179.1	1164.6	1145.8	1126.9	1112.4	1102.3	1095.0	1097.9	1099.4	1100.8
20°	1167.5	1151.6	1135.6	1115.3	1095.0	1079.1	1068.9	1060.2	1058.7	1058.7	1060.2
22.5°	1140.0	1122.6	1103.7	1082.0	1060.2	1042.8	1032.6	1023.9	1022.5	1022.5	1023.9
25°	1108.1	1089.2	1070.3	1048.6	1025.4	1008.0	994.9	986.2	984.8	983.3	986.2
27.5°	1074.7	1055.8	1037.0	1015.2	990.6	973.2	960.1	951.4	948.5	947.1	950.0
30°	1039.9	1018.1	997.8	974.6	952.9	935.5	922.4	912.3	909.4	906.5	909.4
32.5°	1002.2	980.4	958.7	935.5	913.7	896.3	883.3	873.1	870.2	868.8	871.7
35°	963.0	941.3	921.0	897.8	876.0	858.6	845.5	836.8	833.9	832.5	833.9
37.5°	923.9	902.1	881.8	858.6	836.8	819.4	806.4	797.7	796.2	794.8	796.2
40°	878.9	860.1	839.7	818.0	796.2	778.8	768.7	758.5	755.6	752.7	757.1
42.5°	839.7	820.9	800.6	780.3	758.5	741.1	729.5	720.8	717.9	716.5	717.9
45°	796.2	775.9	755.6	736.8	716.5	700.5	688.9	680.2	678.8	677.3	678.8
47.5°	749.8	732.4	715.0	696.2	675.9	659.9	649.8	641.0	638.1	635.2	638.1
50°	706.3	688.9	671.5	654.1	635.2	620.7	610.6	601.9	600.4	599.0	600.4
52.5°	659.9	642.5	626.5	609.1	593.2	578.7	568.5	561.3	559.8	558.4	559.8
55°	610.6	596.1	581.6	567.1	551.1	538.1	529.4	520.7	517.8	514.9	517.8
57.5°	564.2	551.1	536.6	522.1	507.6	496.0	487.3	480.1	478.6	477.2	478.6
60°	516.3	504.7	491.7	478.6	464.1	452.5	445.3	439.5	436.6	435.1	436.6
62.5°	468.5	456.9	446.7	433.7	420.6	411.9	404.6	398.8	395.9	394.5	395.9
65°	419.1	409.0	398.8	387.2	377.1	368.4	361.1	355.3	353.9	352.4	352.4
67.5°	368.4	359.7	351.0	340.8	329.2	320.5	313.3	308.9	307.5	306.0	307.5
70°	316.2	308.9	300.2	291.5	282.8	275.6	271.2	266.9	265.4	264.0	264.0
72.5°	266.9	261.1	253.8	246.6	239.3	232.1	227.7	224.8	223.4	221.9	221.9
75°	217.6	211.7	207.4	201.6	194.3	190.0	185.6	182.7	181.3	181.3	181.3
77.5°	171.1	166.8	162.4	156.6	152.3	147.9	145.0	143.6	142.1	142.1	142.1
80°	126.2	123.3	120.4	117.5	113.1	108.8	107.3	105.9	104.4	104.4	104.4
82.5°	85.6	84.1	81.2	78.3	75.4	74.0	72.5	71.1	71.1	71.1	71.1
85°	49.3	47.9	46.4	45.0	43.5	43.5	42.1	40.6	39.2	39.2	39.2
87.5°	20.3	20.3	20.3	18.9	17.4	17.4	17.4	17.4	17.4	17.4	17.4
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°	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1
2.5°	1260.3	1263.2	1266.1	1270.5	1274.8	1279.2	1277.7	1276.3	1282.1	1289.3	1290.8
5°	1241.5	1244.4	1248.7	1256.0	1263.2	1269.0	1270.5	1270.5	1282.1	1292.3	1295.2
7.5°	1218.3	1222.6	1228.4	1235.7	1245.8	1254.5	1258.9	1264.7	1276.3	1289.3	1295.2
10°	1189.3	1196.5	1205.2	1215.4	1225.5	1235.7	1244.4	1251.6	1266.1	1280.6	1289.3
12.5°	1163.2	1170.4	1179.1	1190.7	1203.8	1216.8	1225.5	1235.7	1253.1	1270.5	1280.6
15°	1134.2	1141.4	1151.6	1163.2	1177.7	1192.2	1205.2	1218.3	1235.7	1254.5	1266.1
17.5°	1102.3	1109.5	1119.7	1134.2	1150.1	1166.1	1180.6	1195.1	1215.4	1235.7	1248.7
20°	1063.1	1073.2	1086.3	1100.8	1119.7	1138.5	1153.0	1169.0	1190.7	1212.5	1227.0
22.5°	1025.4	1035.5	1050.0	1067.4	1087.8	1108.1	1125.5	1142.9	1166.1	1187.8	1203.8
25°	989.1	1000.7	1015.2	1032.6	1051.5	1071.8	1092.1	1112.4	1135.6	1158.8	1174.8
27.5°	952.9	963.0	977.5	994.9	1016.7	1037.0	1057.3	1077.6	1102.3	1126.9	1144.3
30°	912.3	923.9	936.9	954.3	977.5	1000.7	1021.0	1042.8	1067.4	1092.1	1109.5
32.5°	874.6	884.7	897.8	915.2	938.4	961.6	983.3	1006.5	1029.7	1054.4	1071.8
35°	836.8	847.0	860.1	877.5	900.7	923.9	945.6	967.4	990.6	1013.8	1031.2
37.5°	799.1	809.3	822.3	839.7	861.5	884.7	905.0	926.8	950.0	973.2	989.1
40°	760.0	770.1	780.3	797.7	819.4	842.6	863.0	884.7	907.9	931.1	947.1
42.5°	720.8	731.0	744.0	761.4	781.7	802.0	822.3	842.6	864.4	886.2	902.1
45°	681.7	690.4	703.4	719.4	739.7	758.5	778.8	797.7	819.4	839.7	855.7
47.5°	641.0	649.8	659.9	675.9	696.2	716.5	736.8	755.6	774.5	794.8	809.3
50°	601.9	610.6	622.2	636.7	655.6	674.4	691.8	709.2	728.1	746.9	760.0
52.5°	561.3	570.0	580.1	594.6	610.6	628.0	643.9	661.4	678.8	696.2	709.2
55°	520.7	526.5	535.2	548.2	565.6	583.0	599.0	614.9	630.9	645.4	658.5
57.5°	480.1	487.3	497.5	509.1	523.6	538.1	552.6	567.1	581.6	596.1	607.7
60°	439.5	445.3	452.5	462.7	477.2	490.2	504.7	517.8	530.8	543.9	554.0
62.5°	397.4	403.2	410.4	420.6	432.2	443.8	456.9	468.5	480.1	491.7	501.8
65°	353.9	359.7	366.9	375.6	385.8	395.9	407.5	419.1	427.8	436.6	446.7
67.5°	308.9	314.7	322.0	329.2	337.9	348.1	358.2	368.4	377.1	385.8	393.0
70°	265.4	269.8	277.0	282.8	290.1	297.3	306.0	314.7	320.5	327.8	336.5
72.5°	223.4	227.7	233.5	239.3	243.7	249.5	258.2	265.4	272.7	281.4	285.7
75°	182.7	185.6	190.0	194.3	198.7	203.0	208.8	214.6	220.5	224.8	230.6
77.5°	142.1	145.0	149.4	152.3	155.2	158.1	162.4	166.8	171.1	174.0	179.8
80°	104.4	107.3	110.2	113.1	116.0	118.9	120.4	121.8	127.6	132.0	134.9
82.5°	71.1	72.5	74.0	76.9	78.3	79.8	81.2	81.2	84.1	87.0	91.4
85°	40.6	42.1	43.5	43.5	43.5	43.5	45.0	46.4	47.9	50.8	53.7
87.5°	16.0	16.0	17.4	17.4	17.4	17.4	17.4	17.4	18.9	21.8	23.2
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°	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1	1282.1
2.5°	1289.3	1290.8	1293.7	1295.2	1296.6	1296.6	1298.1	1299.5	1296.6	1293.7	1292.3
5°	1296.6	1298.1	1302.4	1306.8	1309.7	1312.6	1311.1	1309.7	1306.8	1302.4	1299.5
7.5°	1298.1	1302.4	1306.8	1312.6	1316.9	1322.7	1319.8	1316.9	1311.1	1305.3	1301.0
10°	1293.7	1299.5	1306.8	1314.0	1318.4	1322.7	1319.8	1316.9	1311.1	1303.9	1298.1
12.5°	1287.9	1295.2	1303.9	1311.1	1315.5	1321.3	1316.9	1312.6	1305.3	1298.1	1290.8
15°	1274.8	1283.5	1293.7	1302.4	1309.7	1315.5	1311.1	1308.2	1299.5	1289.3	1279.2
17.5°	1258.9	1270.5	1280.6	1290.8	1296.6	1302.4	1299.5	1296.6	1286.4	1274.8	1263.2
20°	1240.0	1251.6	1261.8	1271.9	1279.2	1285.0	1280.6	1276.3	1266.1	1256.0	1244.4
22.5°	1216.8	1228.4	1240.0	1250.2	1257.4	1263.2	1257.4	1250.2	1240.0	1229.9	1218.3
25°	1187.8	1200.9	1213.9	1224.1	1228.4	1234.2	1228.4	1222.6	1212.5	1202.3	1189.3
27.5°	1158.8	1171.9	1184.9	1195.1	1199.4	1205.2	1199.4	1193.6	1183.5	1173.3	1160.3
30°	1125.5	1138.5	1151.6	1161.7	1166.1	1170.4	1164.6	1158.8	1150.1	1140.0	1126.9
32.5°	1087.8	1100.8	1111.0	1121.1	1126.9	1132.7	1126.9	1122.6	1112.4	1099.4	1086.3
35°	1047.1	1060.2	1073.2	1083.4	1089.2	1095.0	1087.8	1080.5	1071.8	1061.6	1050.0
37.5°	1002.2	1016.7	1031.2	1042.8	1047.1	1052.9	1047.1	1039.9	1031.2	1021.0	1008.0
40°	960.1	973.2	986.2	997.8	1002.2	1006.5	1000.7	994.9	984.8	974.6	961.6
42.5°	916.6	929.7	941.3	951.4	955.8	961.6	955.8	948.5	941.3	932.6	921.0
45°	870.2	883.3	893.4	903.6	907.9	912.3	906.5	899.2	892.0	884.7	873.1
47.5°	822.3	833.9	844.1	854.2	857.1	861.5	855.7	851.3	844.1	836.8	826.7
50°	773.0	784.6	794.8	803.5	806.4	810.7	804.9	799.1	793.3	787.5	778.8
52.5°	722.3	732.4	742.6	751.3	754.2	757.1	751.3	745.5	739.7	733.9	725.2
55°	670.1	680.2	690.4	697.6	700.5	703.4	697.6	693.3	687.5	683.1	674.4
57.5°	617.8	628.0	636.7	643.9	646.9	649.8	643.9	638.1	633.8	629.4	622.2
60°	564.2	574.3	581.6	587.4	590.3	591.7	585.9	581.6	578.7	575.8	568.5
62.5°	512.0	519.2	526.5	530.8	533.7	535.2	530.8	527.9	525.0	522.1	516.3
65°	456.9	465.6	471.4	475.7	477.2	478.6	474.3	471.4	468.5	465.6	461.2
67.5°	401.7	409.0	413.3	417.7	419.1	419.1	419.1	417.7	414.8	410.4	406.1
70°	346.6	352.4	356.8	359.7	361.1	361.1	358.2	355.3	355.3	353.9	351.0
72.5°	290.1	294.4	297.3	300.2	300.2	300.2	300.2	301.7	300.2	297.3	293.0
75°	236.4	240.8	243.7	245.1	245.1	245.1	245.1	246.6	245.1	243.7	240.8
77.5°	185.6	188.5	190.0	191.4	191.4	191.4	192.9	194.3	192.9	191.4	190.0
80°	137.8	139.2	140.7	142.1	140.7	140.7	142.1	145.0	143.6	142.1	140.7
82.5°	94.3	95.7	97.2	97.2	98.6	100.1	100.1	100.1	100.1	98.6	97.2
85°	56.6	58.0	58.0	58.0	58.0	58.0	59.5	60.9	60.9	59.5	59.5
87.5°	26.1	27.6	26.1	24.7	23.2	23.2	26.1	29.0	29.0	27.6	27.6
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: P709115

CATALOG NUMBER: 4APN-35L835-X-UNV

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1282.1	1282.1	1282.1	1282.1
2.5°	1293.7	1292.3	1285.0	1277.7
5°	1298.1	1293.7	1283.5	1273.4
7.5°	1298.1	1292.3	1277.7	1264.7
10°	1290.8	1282.1	1266.1	1250.2
12.5°	1282.1	1271.9	1253.1	1235.7
15°	1269.0	1257.4	1237.1	1216.8
17.5°	1250.2	1235.7	1215.4	1193.6
20°	1231.3	1215.4	1190.7	1167.5
22.5°	1205.2	1190.7	1164.6	1140.0
25°	1176.2	1160.3	1134.2	1108.1
27.5°	1145.8	1126.9	1100.8	1074.7
30°	1111.0	1092.1	1066.0	1039.9
32.5°	1073.2	1055.8	1029.7	1002.2
35°	1035.5	1016.7	990.6	963.0
37.5°	993.5	976.1	950.0	923.9
40°	948.5	931.1	905.0	878.9
42.5°	906.5	890.5	864.4	839.7
45°	860.1	844.1	819.4	796.2
47.5°	812.2	796.2	773.0	749.8
50°	765.8	749.8	728.1	706.3
52.5°	713.6	700.5	680.2	659.9
55°	662.8	649.8	629.4	610.6
57.5°	612.0	600.4	581.6	564.2
60°	558.4	546.8	532.3	516.3
62.5°	507.6	497.5	483.0	468.5
65°	454.0	445.3	432.2	419.1
67.5°	398.8	391.6	380.0	368.4
70°	343.7	335.0	326.3	316.2
72.5°	288.6	284.3	275.6	266.9
75°	236.4	232.1	224.8	217.6
77.5°	187.1	182.7	176.9	171.1
80°	137.8	134.9	130.5	126.2
82.5°	95.7	92.8	89.9	85.6
85°	58.0	55.1	52.2	49.3
87.5°	26.1	24.7	21.8	20.3
90°	0.0	0.0	0.0	0.0

(END OF REPORT)