

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: P709067

Luminaire Tested: **4APN-X-37L835-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709067
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-X-37L835-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

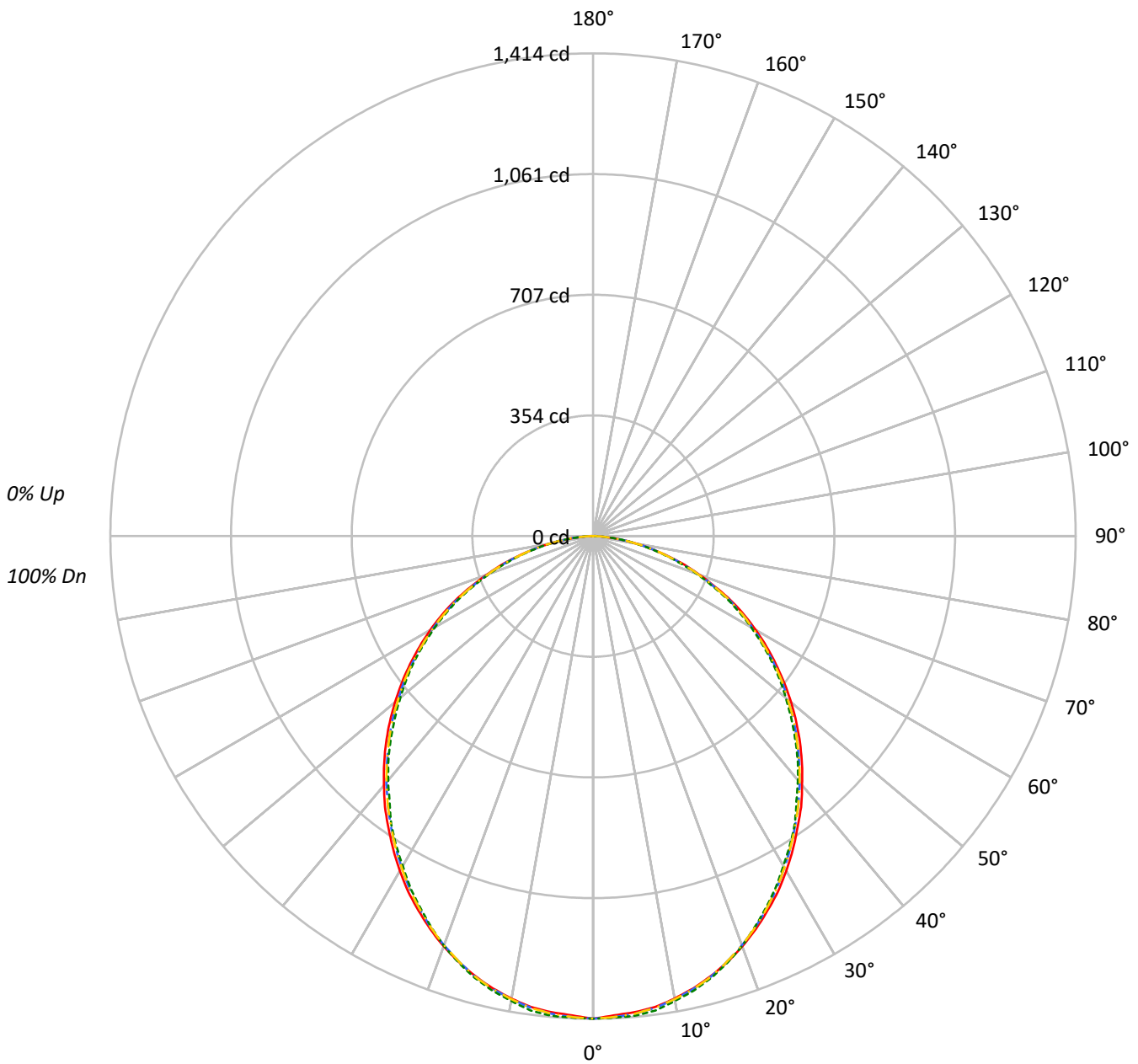
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3678.1 lumens
Efficiency: N/A
Efficacy: 90.2 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			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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	63	54	48	60	53	47	59	52	47	57	51	46	44
6	71	57	49	42	69	57	48	42	55	47	42	53	46	41	51	46	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	13043	13043	13043	13043
5°	12965	13061	12965	13061
10°	12889	12954	12889	12954
15°	12745	12794	12745	12794
20°	12559	12542	12559	12542
25°	12318	12213	12318	12213
30°	12064	11880	12064	11880
35°	11762	11607	11762	11607
40°	11475	11248	11475	11248
45°	11194	10924	11194	10924
50°	10877	10580	10877	10580
55°	10523	10274	10523	10274
60°	10160	9874	10160	9874
65°	9724	9420	9724	9420
70°	8988	8708	8988	8708
75°	8124	7878	8124	7878
80°	6971	6785	6971	6785
85°	5304	5304	5304	5304



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.4	3.6
10°-20°	376.8	10.2
20°-30°	555.4	15.1
30°-40°	648.3	17.6
40°-50°	653.6	17.8
50°-60°	577.7	15.7
60°-70°	432.0	11.7
70°-80°	239.5	6.5
80°-90°	61.4	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°	1065.6	29.0
0°-40°	1713.9	46.6
0°-60°	2945.3	80.1
0°-90°	3678.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3678.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1414	1414	1414	1414	1414	
5°	1400	1410	1400	1410	1400	133
15°	1334	1340	1334	1340	1334	376
25°	1210	1200	1210	1200	1210	558
35°	1044	1030	1044	1030	1044	654
45°	858	837	858	837	858	661
55°	654	639	654	639	654	585
65°	445	432	445	432	445	439
75°	228	221	228	221	228	242
85°	50	50	50	50	50	61
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°	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7
2.5°	1405.1	1412.0	1418.9	1417.2	1412.0	1408.6	1410.3	1410.3	1412.0	1412.0	1412.0
5°	1399.9	1406.8	1412.0	1410.3	1405.1	1403.4	1403.4	1403.4	1406.8	1410.3	1406.8
7.5°	1391.3	1396.5	1401.7	1399.9	1394.7	1393.0	1393.0	1394.7	1398.2	1401.7	1398.2
10°	1375.8	1382.7	1387.8	1384.4	1379.2	1375.8	1375.8	1375.8	1379.2	1382.7	1379.2
12.5°	1356.8	1362.0	1367.1	1365.4	1360.2	1356.8	1356.8	1356.8	1360.2	1363.7	1360.2
15°	1334.3	1339.5	1344.7	1343.0	1337.8	1334.3	1334.3	1334.3	1337.8	1339.5	1337.8
17.5°	1308.4	1313.6	1318.8	1315.3	1308.4	1305.0	1305.0	1305.0	1308.4	1310.2	1308.4
20°	1279.1	1284.3	1287.7	1284.3	1277.4	1273.9	1272.2	1272.2	1275.6	1277.4	1275.6
22.5°	1246.3	1249.8	1253.2	1249.8	1242.8	1239.4	1237.7	1235.9	1237.7	1239.4	1237.7
25°	1210.0	1213.5	1217.0	1213.5	1206.6	1201.4	1199.7	1198.0	1199.7	1199.7	1199.7
27.5°	1173.8	1175.5	1179.0	1173.8	1166.9	1161.7	1160.0	1158.3	1160.0	1160.0	1160.0
30°	1132.4	1134.1	1137.5	1132.4	1123.7	1118.6	1116.8	1115.1	1115.1	1115.1	1115.1
32.5°	1089.2	1092.7	1096.1	1089.2	1080.6	1075.4	1073.7	1072.0	1073.7	1073.7	1073.7
35°	1044.3	1046.1	1049.5	1044.3	1035.7	1030.5	1027.1	1025.3	1028.8	1030.5	1028.8
37.5°	1001.2	1002.9	1004.6	999.5	990.8	985.6	982.2	980.5	978.7	978.7	978.7
40°	952.8	954.6	958.0	952.8	944.2	939.0	935.6	933.9	933.9	933.9	933.9
42.5°	906.2	908.0	909.7	904.5	895.9	890.7	887.3	885.5	887.3	887.3	887.3
45°	857.9	857.9	859.6	854.5	847.6	842.4	838.9	837.2	837.2	837.2	837.2
47.5°	807.9	809.6	811.3	806.1	799.2	794.0	790.6	787.1	787.1	787.1	787.1
50°	757.8	757.8	759.5	754.3	747.4	742.3	740.5	738.8	737.1	737.1	737.1
52.5°	706.0	707.7	709.5	704.3	699.1	693.9	690.5	688.7	688.7	688.7	688.7
55°	654.2	654.2	655.9	652.5	647.3	642.1	638.7	637.0	638.7	638.7	638.7
57.5°	602.4	604.2	605.9	600.7	595.5	590.4	588.6	586.9	586.9	586.9	586.9
60°	550.6	550.6	552.4	548.9	543.7	538.6	536.8	535.1	535.1	535.1	535.1
62.5°	498.9	498.9	500.6	497.1	492.0	486.8	485.1	483.3	483.3	483.3	483.3
65°	445.4	445.4	445.4	441.9	438.4	436.7	435.0	433.3	431.5	431.5	431.5
67.5°	386.7	386.7	388.4	384.9	381.5	379.8	378.0	376.3	374.6	374.6	374.6
70°	333.2	333.2	334.9	333.2	329.7	328.0	326.2	324.5	322.8	322.8	322.8
72.5°	281.4	281.4	281.4	279.6	277.9	276.2	274.5	272.7	271.0	271.0	271.0
75°	227.9	227.9	229.6	227.9	226.1	224.4	222.7	222.7	221.0	221.0	221.0
77.5°	177.8	179.5	181.2	179.5	177.8	176.1	174.3	174.3	172.6	172.6	172.6
80°	131.2	132.9	134.6	132.9	131.2	129.5	127.7	127.7	127.7	127.7	127.7
82.5°	88.0	89.8	91.5	89.8	88.0	88.0	86.3	86.3	86.3	86.3	86.3
85°	50.1	51.8	53.5	53.5	51.8	51.8	50.1	50.1	50.1	50.1	50.1
87.5°	19.0	20.7	22.4	22.4	20.7	20.7	20.7	20.7	20.7	20.7	20.7
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°	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7
2.5°	1410.3	1410.3	1408.6	1412.0	1417.2	1418.9	1412.0	1405.1	1412.0	1418.9	1417.2
5°	1403.4	1403.4	1403.4	1405.1	1410.3	1412.0	1406.8	1399.9	1406.8	1412.0	1410.3
7.5°	1394.7	1393.0	1393.0	1394.7	1399.9	1401.7	1396.5	1391.3	1396.5	1401.7	1399.9
10°	1375.8	1375.8	1375.8	1379.2	1384.4	1387.8	1382.7	1375.8	1382.7	1387.8	1384.4
12.5°	1356.8	1356.8	1356.8	1360.2	1365.4	1367.1	1362.0	1356.8	1362.0	1367.1	1365.4
15°	1334.3	1334.3	1334.3	1337.8	1343.0	1344.7	1339.5	1334.3	1339.5	1344.7	1343.0
17.5°	1305.0	1305.0	1305.0	1308.4	1315.3	1318.8	1313.6	1308.4	1313.6	1318.8	1315.3
20°	1272.2	1272.2	1273.9	1277.4	1284.3	1287.7	1284.3	1279.1	1284.3	1287.7	1284.3
22.5°	1235.9	1237.7	1239.4	1242.8	1249.8	1253.2	1249.8	1246.3	1249.8	1253.2	1249.8
25°	1198.0	1199.7	1201.4	1206.6	1213.5	1217.0	1213.5	1210.0	1213.5	1217.0	1213.5
27.5°	1158.3	1160.0	1161.7	1166.9	1173.8	1179.0	1175.5	1173.8	1175.5	1179.0	1173.8
30°	1115.1	1116.8	1118.6	1123.7	1132.4	1137.5	1134.1	1132.4	1134.1	1137.5	1132.4
32.5°	1072.0	1073.7	1075.4	1080.6	1089.2	1096.1	1092.7	1089.2	1092.7	1096.1	1089.2
35°	1025.3	1027.1	1030.5	1035.7	1044.3	1049.5	1046.1	1044.3	1046.1	1049.5	1044.3
37.5°	980.5	982.2	985.6	990.8	999.5	1004.6	1002.9	1001.2	1002.9	1004.6	999.5
40°	933.9	935.6	939.0	944.2	952.8	958.0	954.6	952.8	954.6	958.0	952.8
42.5°	885.5	887.3	890.7	895.9	904.5	909.7	908.0	906.2	908.0	909.7	904.5
45°	837.2	838.9	842.4	847.6	854.5	859.6	857.9	857.9	857.9	859.6	854.5
47.5°	787.1	790.6	794.0	799.2	806.1	811.3	809.6	807.9	809.6	811.3	806.1
50°	738.8	740.5	742.3	747.4	754.3	759.5	757.8	757.8	757.8	759.5	754.3
52.5°	688.7	690.5	693.9	699.1	704.3	709.5	707.7	706.0	707.7	709.5	704.3
55°	637.0	638.7	642.1	647.3	652.5	655.9	654.2	654.2	654.2	655.9	652.5
57.5°	586.9	588.6	590.4	595.5	600.7	605.9	604.2	602.4	604.2	605.9	600.7
60°	535.1	536.8	538.6	543.7	548.9	552.4	550.6	550.6	550.6	552.4	548.9
62.5°	483.3	485.1	486.8	492.0	497.1	500.6	498.9	498.9	498.9	500.6	497.1
65°	433.3	435.0	436.7	438.4	441.9	445.4	445.4	445.4	445.4	445.4	441.9
67.5°	376.3	378.0	379.8	381.5	384.9	388.4	386.7	386.7	386.7	388.4	384.9
70°	324.5	326.2	328.0	329.7	333.2	334.9	333.2	333.2	333.2	334.9	333.2
72.5°	272.7	274.5	276.2	277.9	279.6	281.4	281.4	281.4	281.4	281.4	279.6
75°	222.7	222.7	224.4	226.1	227.9	229.6	227.9	227.9	227.9	229.6	227.9
77.5°	174.3	174.3	176.1	177.8	179.5	181.2	179.5	177.8	179.5	181.2	179.5
80°	127.7	127.7	129.5	131.2	132.9	134.6	132.9	131.2	132.9	134.6	132.9
82.5°	86.3	86.3	88.0	88.0	89.8	91.5	89.8	88.0	89.8	91.5	89.8
85°	50.1	50.1	51.8	51.8	53.5	53.5	51.8	50.1	51.8	53.5	53.5
87.5°	20.7	20.7	20.7	20.7	22.4	22.4	20.7	19.0	20.7	22.4	22.4
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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7	1413.7
2.5°	1412.0	1408.6	1410.3	1410.3	1412.0	1412.0	1412.0	1410.3	1410.3	1408.6	1412.0
5°	1405.1	1403.4	1403.4	1403.4	1406.8	1410.3	1406.8	1403.4	1403.4	1403.4	1405.1
7.5°	1394.7	1393.0	1393.0	1394.7	1398.2	1401.7	1398.2	1394.7	1393.0	1393.0	1394.7
10°	1379.2	1375.8	1375.8	1375.8	1379.2	1382.7	1379.2	1375.8	1375.8	1375.8	1379.2
12.5°	1360.2	1356.8	1356.8	1356.8	1360.2	1363.7	1360.2	1356.8	1356.8	1356.8	1360.2
15°	1337.8	1334.3	1334.3	1334.3	1337.8	1339.5	1337.8	1334.3	1334.3	1334.3	1337.8
17.5°	1308.4	1305.0	1305.0	1305.0	1308.4	1310.2	1308.4	1305.0	1305.0	1305.0	1308.4
20°	1277.4	1273.9	1272.2	1272.2	1275.6	1277.4	1275.6	1272.2	1272.2	1273.9	1277.4
22.5°	1242.8	1239.4	1237.7	1235.9	1237.7	1239.4	1237.7	1235.9	1237.7	1239.4	1242.8
25°	1206.6	1201.4	1199.7	1198.0	1199.7	1199.7	1199.7	1198.0	1199.7	1201.4	1206.6
27.5°	1166.9	1161.7	1160.0	1158.3	1160.0	1160.0	1160.0	1158.3	1160.0	1161.7	1166.9
30°	1123.7	1118.6	1116.8	1115.1	1115.1	1115.1	1115.1	1115.1	1116.8	1118.6	1123.7
32.5°	1080.6	1075.4	1073.7	1072.0	1073.7	1073.7	1073.7	1072.0	1073.7	1075.4	1080.6
35°	1035.7	1030.5	1027.1	1025.3	1028.8	1030.5	1028.8	1025.3	1027.1	1030.5	1035.7
37.5°	990.8	985.6	982.2	980.5	978.7	978.7	978.7	980.5	982.2	985.6	990.8
40°	944.2	939.0	935.6	933.9	933.9	933.9	933.9	933.9	935.6	939.0	944.2
42.5°	895.9	890.7	887.3	885.5	887.3	887.3	887.3	885.5	887.3	890.7	895.9
45°	847.6	842.4	838.9	837.2	837.2	837.2	837.2	837.2	838.9	842.4	847.6
47.5°	799.2	794.0	790.6	787.1	787.1	787.1	787.1	787.1	790.6	794.0	799.2
50°	747.4	742.3	740.5	738.8	737.1	737.1	737.1	738.8	740.5	742.3	747.4
52.5°	699.1	693.9	690.5	688.7	688.7	688.7	688.7	688.7	690.5	693.9	699.1
55°	647.3	642.1	638.7	637.0	638.7	638.7	638.7	637.0	638.7	642.1	647.3
57.5°	595.5	590.4	588.6	586.9	586.9	586.9	586.9	586.9	588.6	590.4	595.5
60°	543.7	538.6	536.8	535.1	535.1	535.1	535.1	535.1	536.8	538.6	543.7
62.5°	492.0	486.8	485.1	483.3	483.3	483.3	483.3	483.3	485.1	486.8	492.0
65°	438.4	436.7	435.0	433.3	431.5	431.5	431.5	433.3	435.0	436.7	438.4
67.5°	381.5	379.8	378.0	376.3	374.6	374.6	374.6	376.3	378.0	379.8	381.5
70°	329.7	328.0	326.2	324.5	322.8	322.8	322.8	324.5	326.2	328.0	329.7
72.5°	277.9	276.2	274.5	272.7	271.0	271.0	271.0	272.7	274.5	276.2	277.9
75°	226.1	224.4	222.7	222.7	221.0	221.0	221.0	222.7	222.7	224.4	226.1
77.5°	177.8	176.1	174.3	174.3	172.6	172.6	172.6	174.3	174.3	176.1	177.8
80°	131.2	129.5	127.7	127.7	127.7	127.7	127.7	127.7	127.7	129.5	131.2
82.5°	88.0	88.0	86.3	86.3	86.3	86.3	86.3	86.3	86.3	88.0	88.0
85°	51.8	51.8	50.1	50.1	50.1	50.1	50.1	50.1	50.1	51.8	51.8
87.5°	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7
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):

	330°	340°	350°	360°
0°	1413.7	1413.7	1413.7	1413.7
2.5°	1417.2	1418.9	1412.0	1405.1
5°	1410.3	1412.0	1406.8	1399.9
7.5°	1399.9	1401.7	1396.5	1391.3
10°	1384.4	1387.8	1382.7	1375.8
12.5°	1365.4	1367.1	1362.0	1356.8
15°	1343.0	1344.7	1339.5	1334.3
17.5°	1315.3	1318.8	1313.6	1308.4
20°	1284.3	1287.7	1284.3	1279.1
22.5°	1249.8	1253.2	1249.8	1246.3
25°	1213.5	1217.0	1213.5	1210.0
27.5°	1173.8	1179.0	1175.5	1173.8
30°	1132.4	1137.5	1134.1	1132.4
32.5°	1089.2	1096.1	1092.7	1089.2
35°	1044.3	1049.5	1046.1	1044.3
37.5°	999.5	1004.6	1002.9	1001.2
40°	952.8	958.0	954.6	952.8
42.5°	904.5	909.7	908.0	906.2
45°	854.5	859.6	857.9	857.9
47.5°	806.1	811.3	809.6	807.9
50°	754.3	759.5	757.8	757.8
52.5°	704.3	709.5	707.7	706.0
55°	652.5	655.9	654.2	654.2
57.5°	600.7	605.9	604.2	602.4
60°	548.9	552.4	550.6	550.6
62.5°	497.1	500.6	498.9	498.9
65°	441.9	445.4	445.4	445.4
67.5°	384.9	388.4	386.7	386.7
70°	333.2	334.9	333.2	333.2
72.5°	279.6	281.4	281.4	281.4
75°	227.9	229.6	227.9	227.9
77.5°	179.5	181.2	179.5	177.8
80°	132.9	134.6	132.9	131.2
82.5°	89.8	91.5	89.8	88.0
85°	53.5	53.5	51.8	50.1
87.5°	22.4	22.4	20.7	19.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)