

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: P709096

Luminaire Tested: **4APN-X-42L940-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709096
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-X-42L940-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

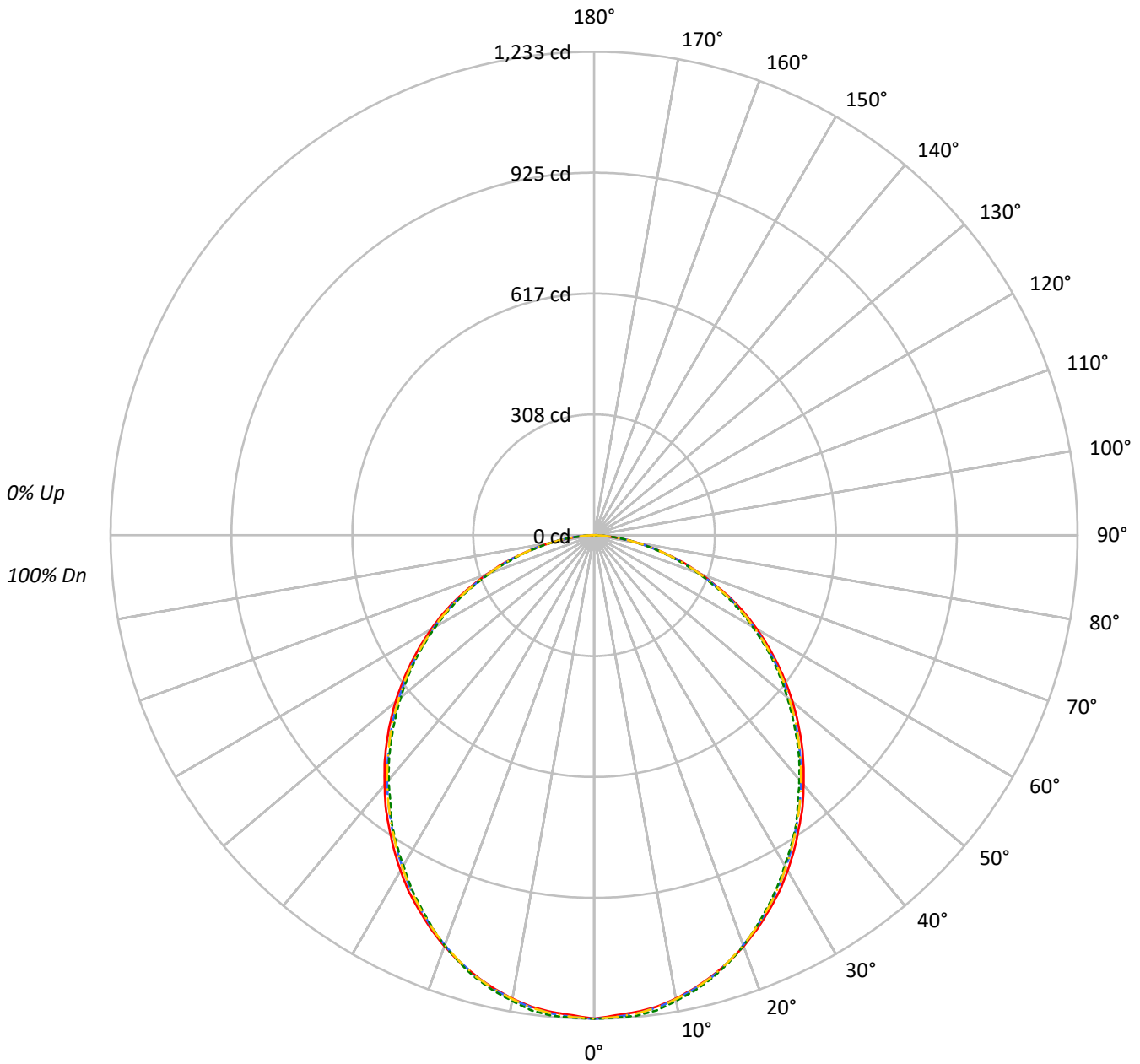
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3207.9 lumens
Efficiency: N/A
Efficacy: 69.4 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): 46.2
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°	11376	11376	11376	11376
5°	11307	11392	11307	11392
10°	11241	11298	11241	11298
15°	11115	11159	11115	11159
20°	10953	10939	10953	10939
25°	10743	10651	10743	10651
30°	10521	10361	10521	10361
35°	10258	10123	10258	10123
40°	10009	9810	10009	9810
45°	9762	9528	9762	9528
50°	9486	9226	9486	9226
55°	9178	8960	9178	8960
60°	8861	8612	8861	8612
65°	8479	8217	8479	8217
70°	7839	7594	7839	7594
75°	7083	6869	7083	6869
80°	6078	5919	6078	5919
85°	4626	4626	4626	4626



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.4	3.6
10°-20°	328.6	10.2
20°-30°	484.4	15.1
30°-40°	565.4	17.6
40°-50°	570.1	17.8
50°-60°	503.8	15.7
60°-70°	376.8	11.7
70°-80°	208.9	6.5
80°-90°	53.6	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°	929.4	29.0
0°-40°	1494.8	46.6
0°-60°	2568.7	80.1
0°-90°	3207.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3207.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1233	1233	1233	1233	1233	
5°	1221	1230	1221	1230	1221	116
15°	1164	1168	1164	1168	1164	328
25°	1055	1046	1055	1046	1055	486
35°	911	899	911	899	911	570
45°	748	730	748	730	748	577
55°	571	557	571	557	571	510
65°	388	376	388	376	388	382
75°	199	193	199	193	199	211
85°	44	44	44	44	44	53
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°	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0
2.5°	1225.5	1231.5	1237.5	1236.0	1231.5	1228.5	1230.0	1230.0	1231.5	1231.5	1231.5
5°	1220.9	1227.0	1231.5	1230.0	1225.5	1224.0	1224.0	1224.0	1227.0	1230.0	1227.0
7.5°	1213.4	1217.9	1222.5	1220.9	1216.4	1214.9	1214.9	1216.4	1219.4	1222.5	1219.4
10°	1199.9	1205.9	1210.4	1207.4	1202.9	1199.9	1199.9	1199.9	1202.9	1205.9	1202.9
12.5°	1183.3	1187.8	1192.3	1190.8	1186.3	1183.3	1183.3	1183.3	1186.3	1189.3	1186.3
15°	1163.7	1168.3	1172.8	1171.3	1166.7	1163.7	1163.7	1163.7	1166.7	1168.3	1166.7
17.5°	1141.2	1145.7	1150.2	1147.2	1141.2	1138.1	1138.1	1138.1	1141.2	1142.7	1141.2
20°	1115.6	1120.1	1123.1	1120.1	1114.1	1111.0	1109.5	1109.5	1112.6	1114.1	1112.6
22.5°	1087.0	1090.0	1093.0	1090.0	1083.9	1080.9	1079.4	1077.9	1079.4	1080.9	1079.4
25°	1055.3	1058.4	1061.4	1058.4	1052.3	1047.8	1046.3	1044.8	1046.3	1046.3	1046.3
27.5°	1023.7	1025.2	1028.2	1023.7	1017.7	1013.2	1011.7	1010.2	1011.7	1011.7	1011.7
30°	987.6	989.1	992.1	987.6	980.1	975.6	974.0	972.5	972.5	972.5	972.5
32.5°	950.0	953.0	956.0	950.0	942.4	937.9	936.4	934.9	936.4	936.4	936.4
35°	910.8	912.3	915.3	910.8	903.3	898.8	895.8	894.3	897.3	898.8	897.3
37.5°	873.2	874.7	876.2	871.7	864.1	859.6	856.6	855.1	853.6	853.6	853.6
40°	831.0	832.5	835.5	831.0	823.5	819.0	816.0	814.5	814.5	814.5	814.5
42.5°	790.4	791.9	793.4	788.9	781.3	776.8	773.8	772.3	773.8	773.8	773.8
45°	748.2	748.2	749.7	745.2	739.2	734.7	731.7	730.2	730.2	730.2	730.2
47.5°	704.6	706.1	707.6	703.1	697.0	692.5	689.5	686.5	686.5	686.5	686.5
50°	660.9	660.9	662.4	657.9	651.9	647.4	645.9	644.3	642.8	642.8	642.8
52.5°	615.7	617.2	618.8	614.2	609.7	605.2	602.2	600.7	600.7	600.7	600.7
55°	570.6	570.6	572.1	569.1	564.6	560.0	557.0	555.5	557.0	557.0	557.0
57.5°	525.4	526.9	528.4	523.9	519.4	514.9	513.4	511.9	511.9	511.9	511.9
60°	480.2	480.2	481.8	478.7	474.2	469.7	468.2	466.7	466.7	466.7	466.7
62.5°	435.1	435.1	436.6	433.6	429.1	424.5	423.0	421.5	421.5	421.5	421.5
65°	388.4	388.4	388.4	385.4	382.4	380.9	379.4	377.9	376.4	376.4	376.4
67.5°	337.2	337.2	338.7	335.7	332.7	331.2	329.7	328.2	326.7	326.7	326.7
70°	290.6	290.6	292.1	290.6	287.5	286.0	284.5	283.0	281.5	281.5	281.5
72.5°	245.4	245.4	245.4	243.9	242.4	240.9	239.4	237.9	236.4	236.4	236.4
75°	198.7	198.7	200.2	198.7	197.2	195.7	194.2	194.2	192.7	192.7	192.7
77.5°	155.1	156.6	158.1	156.6	155.1	153.6	152.1	152.1	150.5	150.5	150.5
80°	114.4	115.9	117.4	115.9	114.4	112.9	111.4	111.4	111.4	111.4	111.4
82.5°	76.8	78.3	79.8	78.3	76.8	76.8	75.3	75.3	75.3	75.3	75.3
85°	43.7	45.2	46.7	46.7	45.2	45.2	43.7	43.7	43.7	43.7	43.7
87.5°	16.6	18.1	19.6	19.6	18.1	18.1	18.1	18.1	18.1	18.1	18.1
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°	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0
2.5°	1230.0	1230.0	1228.5	1231.5	1236.0	1237.5	1231.5	1225.5	1231.5	1237.5	1236.0
5°	1224.0	1224.0	1224.0	1225.5	1230.0	1231.5	1227.0	1220.9	1227.0	1231.5	1230.0
7.5°	1216.4	1214.9	1214.9	1216.4	1220.9	1222.5	1217.9	1213.4	1217.9	1222.5	1220.9
10°	1199.9	1199.9	1199.9	1202.9	1207.4	1210.4	1205.9	1199.9	1205.9	1210.4	1207.4
12.5°	1183.3	1183.3	1183.3	1186.3	1190.8	1192.3	1187.8	1183.3	1187.8	1192.3	1190.8
15°	1163.7	1163.7	1163.7	1166.7	1171.3	1172.8	1168.3	1163.7	1168.3	1172.8	1171.3
17.5°	1138.1	1138.1	1138.1	1141.2	1147.2	1150.2	1145.7	1141.2	1145.7	1150.2	1147.2
20°	1109.5	1109.5	1111.0	1114.1	1120.1	1123.1	1120.1	1115.6	1120.1	1123.1	1120.1
22.5°	1077.9	1079.4	1080.9	1083.9	1090.0	1093.0	1090.0	1087.0	1090.0	1093.0	1090.0
25°	1044.8	1046.3	1047.8	1052.3	1058.4	1061.4	1058.4	1055.3	1058.4	1061.4	1058.4
27.5°	1010.2	1011.7	1013.2	1017.7	1023.7	1028.2	1025.2	1023.7	1025.2	1028.2	1023.7
30°	972.5	974.0	975.6	980.1	987.6	992.1	989.1	987.6	989.1	992.1	987.6
32.5°	934.9	936.4	937.9	942.4	950.0	956.0	953.0	950.0	953.0	956.0	950.0
35°	894.3	895.8	898.8	903.3	910.8	915.3	912.3	910.8	912.3	915.3	910.8
37.5°	855.1	856.6	859.6	864.1	871.7	876.2	874.7	873.2	874.7	876.2	871.7
40°	814.5	816.0	819.0	823.5	831.0	835.5	832.5	831.0	832.5	835.5	831.0
42.5°	772.3	773.8	776.8	781.3	788.9	793.4	791.9	790.4	791.9	793.4	788.9
45°	730.2	731.7	734.7	739.2	745.2	749.7	748.2	748.2	748.2	749.7	745.2
47.5°	686.5	689.5	692.5	697.0	703.1	707.6	706.1	704.6	706.1	707.6	703.1
50°	644.3	645.9	647.4	651.9	657.9	662.4	660.9	660.9	660.9	662.4	657.9
52.5°	600.7	602.2	605.2	609.7	614.2	618.8	617.2	615.7	617.2	618.8	614.2
55°	555.5	557.0	560.0	564.6	569.1	572.1	570.6	570.6	570.6	572.1	569.1
57.5°	511.9	513.4	514.9	519.4	523.9	528.4	526.9	525.4	526.9	528.4	523.9
60°	466.7	468.2	469.7	474.2	478.7	481.8	480.2	480.2	480.2	481.8	478.7
62.5°	421.5	423.0	424.5	429.1	433.6	436.6	435.1	435.1	435.1	436.6	433.6
65°	377.9	379.4	380.9	382.4	385.4	388.4	388.4	388.4	388.4	388.4	385.4
67.5°	328.2	329.7	331.2	332.7	335.7	338.7	337.2	337.2	337.2	338.7	335.7
70°	283.0	284.5	286.0	287.5	290.6	292.1	290.6	290.6	290.6	292.1	290.6
72.5°	237.9	239.4	240.9	242.4	243.9	245.4	245.4	245.4	245.4	245.4	243.9
75°	194.2	194.2	195.7	197.2	198.7	200.2	198.7	198.7	198.7	200.2	198.7
77.5°	152.1	152.1	153.6	155.1	156.6	158.1	156.6	155.1	156.6	158.1	156.6
80°	111.4	111.4	112.9	114.4	115.9	117.4	115.9	114.4	115.9	117.4	115.9
82.5°	75.3	75.3	76.8	76.8	78.3	79.8	78.3	76.8	78.3	79.8	78.3
85°	43.7	43.7	45.2	45.2	46.7	46.7	45.2	43.7	45.2	46.7	46.7
87.5°	18.1	18.1	18.1	18.1	19.6	19.6	18.1	16.6	18.1	19.6	19.6
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°	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0	1233.0
2.5°	1231.5	1228.5	1230.0	1230.0	1231.5	1231.5	1231.5	1230.0	1230.0	1228.5	1231.5
5°	1225.5	1224.0	1224.0	1224.0	1227.0	1230.0	1227.0	1224.0	1224.0	1224.0	1225.5
7.5°	1216.4	1214.9	1214.9	1216.4	1219.4	1222.5	1219.4	1216.4	1214.9	1214.9	1216.4
10°	1202.9	1199.9	1199.9	1199.9	1202.9	1205.9	1202.9	1199.9	1199.9	1199.9	1202.9
12.5°	1186.3	1183.3	1183.3	1183.3	1186.3	1189.3	1186.3	1183.3	1183.3	1183.3	1186.3
15°	1166.7	1163.7	1163.7	1163.7	1166.7	1168.3	1166.7	1163.7	1163.7	1163.7	1166.7
17.5°	1141.2	1138.1	1138.1	1138.1	1141.2	1142.7	1141.2	1138.1	1138.1	1138.1	1141.2
20°	1114.1	1111.0	1109.5	1109.5	1112.6	1114.1	1112.6	1109.5	1109.5	1111.0	1114.1
22.5°	1083.9	1080.9	1079.4	1077.9	1079.4	1080.9	1079.4	1077.9	1079.4	1080.9	1083.9
25°	1052.3	1047.8	1046.3	1044.8	1046.3	1046.3	1046.3	1044.8	1046.3	1047.8	1052.3
27.5°	1017.7	1013.2	1011.7	1010.2	1011.7	1011.7	1011.7	1010.2	1011.7	1013.2	1017.7
30°	980.1	975.6	974.0	972.5	972.5	972.5	972.5	972.5	974.0	975.6	980.1
32.5°	942.4	937.9	936.4	934.9	936.4	936.4	936.4	934.9	936.4	937.9	942.4
35°	903.3	898.8	895.8	894.3	897.3	898.8	897.3	894.3	895.8	898.8	903.3
37.5°	864.1	859.6	856.6	855.1	853.6	853.6	853.6	855.1	856.6	859.6	864.1
40°	823.5	819.0	816.0	814.5	814.5	814.5	814.5	814.5	816.0	819.0	823.5
42.5°	781.3	776.8	773.8	772.3	773.8	773.8	773.8	772.3	773.8	776.8	781.3
45°	739.2	734.7	731.7	730.2	730.2	730.2	730.2	730.2	731.7	734.7	739.2
47.5°	697.0	692.5	689.5	686.5	686.5	686.5	686.5	686.5	689.5	692.5	697.0
50°	651.9	647.4	645.9	644.3	642.8	642.8	642.8	644.3	645.9	647.4	651.9
52.5°	609.7	605.2	602.2	600.7	600.7	600.7	600.7	600.7	602.2	605.2	609.7
55°	564.6	560.0	557.0	555.5	557.0	557.0	557.0	555.5	557.0	560.0	564.6
57.5°	519.4	514.9	513.4	511.9	511.9	511.9	511.9	511.9	513.4	514.9	519.4
60°	474.2	469.7	468.2	466.7	466.7	466.7	466.7	466.7	468.2	469.7	474.2
62.5°	429.1	424.5	423.0	421.5	421.5	421.5	421.5	421.5	423.0	424.5	429.1
65°	382.4	380.9	379.4	377.9	376.4	376.4	376.4	377.9	379.4	380.9	382.4
67.5°	332.7	331.2	329.7	328.2	326.7	326.7	326.7	328.2	329.7	331.2	332.7
70°	287.5	286.0	284.5	283.0	281.5	281.5	281.5	283.0	284.5	286.0	287.5
72.5°	242.4	240.9	239.4	237.9	236.4	236.4	236.4	237.9	239.4	240.9	242.4
75°	197.2	195.7	194.2	194.2	192.7	192.7	192.7	194.2	194.2	195.7	197.2
77.5°	155.1	153.6	152.1	152.1	150.5	150.5	150.5	152.1	152.1	153.6	155.1
80°	114.4	112.9	111.4	111.4	111.4	111.4	111.4	111.4	111.4	112.9	114.4
82.5°	76.8	76.8	75.3	75.3	75.3	75.3	75.3	75.3	75.3	76.8	76.8
85°	45.2	45.2	43.7	43.7	43.7	43.7	43.7	43.7	43.7	45.2	45.2
87.5°	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
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°	1233.0	1233.0	1233.0	1233.0
2.5°	1236.0	1237.5	1231.5	1225.5
5°	1230.0	1231.5	1227.0	1220.9
7.5°	1220.9	1222.5	1217.9	1213.4
10°	1207.4	1210.4	1205.9	1199.9
12.5°	1190.8	1192.3	1187.8	1183.3
15°	1171.3	1172.8	1168.3	1163.7
17.5°	1147.2	1150.2	1145.7	1141.2
20°	1120.1	1123.1	1120.1	1115.6
22.5°	1090.0	1093.0	1090.0	1087.0
25°	1058.4	1061.4	1058.4	1055.3
27.5°	1023.7	1028.2	1025.2	1023.7
30°	987.6	992.1	989.1	987.6
32.5°	950.0	956.0	953.0	950.0
35°	910.8	915.3	912.3	910.8
37.5°	871.7	876.2	874.7	873.2
40°	831.0	835.5	832.5	831.0
42.5°	788.9	793.4	791.9	790.4
45°	745.2	749.7	748.2	748.2
47.5°	703.1	707.6	706.1	704.6
50°	657.9	662.4	660.9	660.9
52.5°	614.2	618.8	617.2	615.7
55°	569.1	572.1	570.6	570.6
57.5°	523.9	528.4	526.9	525.4
60°	478.7	481.8	480.2	480.2
62.5°	433.6	436.6	435.1	435.1
65°	385.4	388.4	388.4	388.4
67.5°	335.7	338.7	337.2	337.2
70°	290.6	292.1	290.6	290.6
72.5°	243.9	245.4	245.4	245.4
75°	198.7	200.2	198.7	198.7
77.5°	156.6	158.1	156.6	155.1
80°	115.9	117.4	115.9	114.4
82.5°	78.3	79.8	78.3	76.8
85°	46.7	46.7	45.2	43.7
87.5°	19.6	19.6	18.1	16.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)