

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: P709068

Luminaire Tested: **4APN-X-34L835-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709068
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-X-34L835-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

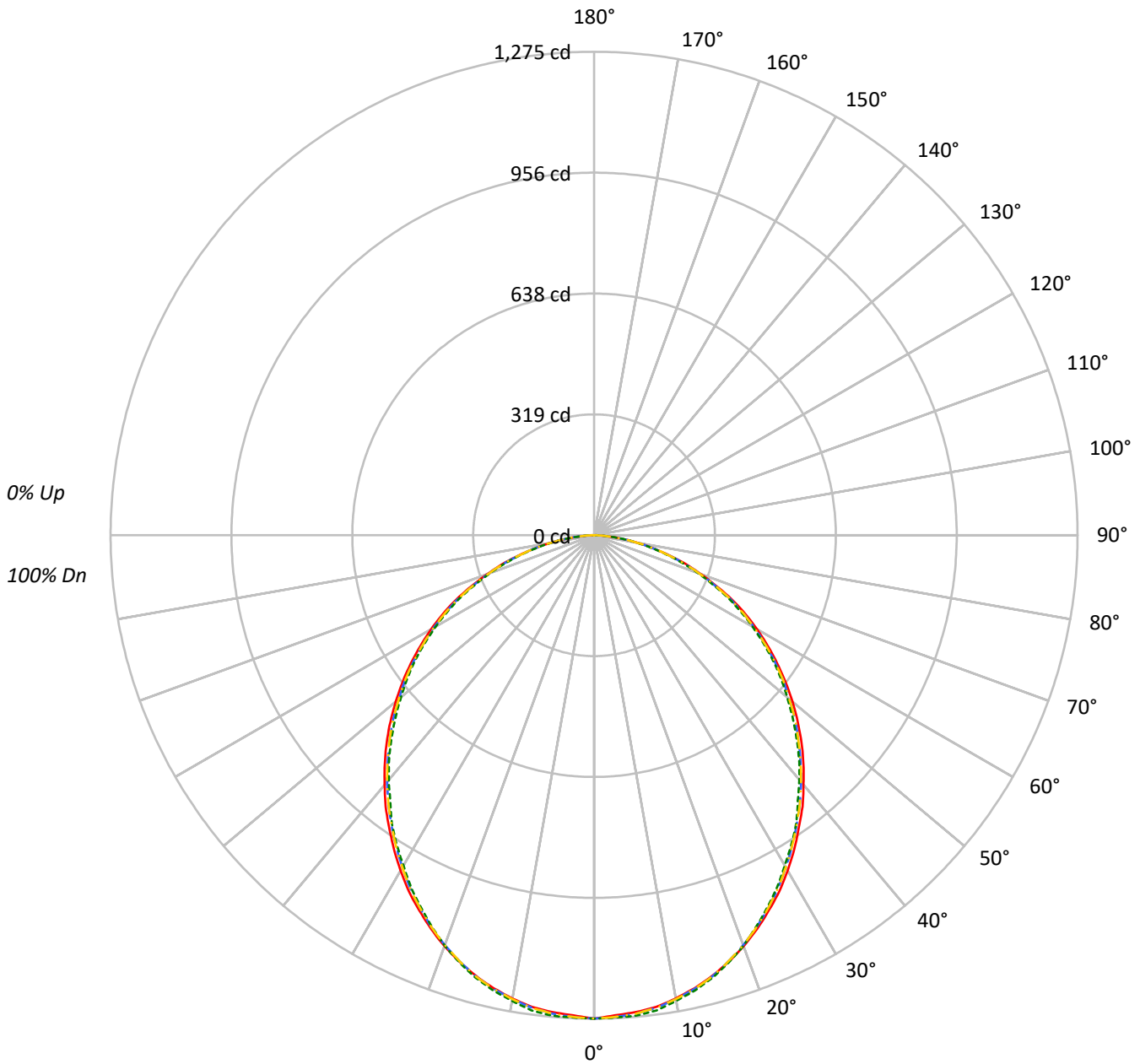
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3316.6 lumens
Efficiency: N/A
Efficacy: 90.1 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): 36.8
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				
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°	11762	11762	11762	11762
5°	11691	11778	11691	11778
10°	11622	11681	11622	11681
15°	11493	11537	11493	11537
20°	11324	11309	11324	11309
25°	11107	11013	11107	11013
30°	10878	10712	10878	10712
35°	10606	10466	10606	10466
40°	10348	10142	10348	10142
45°	10094	9850	10094	9850
50°	9808	9539	9808	9539
55°	9489	9264	9489	9264
60°	9162	8903	9162	8903
65°	8767	8494	8767	8494
70°	8103	7853	8103	7853
75°	7326	7101	7326	7101
80°	6285	6121	6285	6121
85°	4774	4774	4774	4774



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.3	3.6
10°-20°	339.8	10.2
20°-30°	500.8	15.1
30°-40°	584.6	17.6
40°-50°	589.4	17.8
50°-60°	520.9	15.7
60°-70°	389.5	11.7
70°-80°	215.9	6.5
80°-90°	55.4	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°	960.9	29.0
0°-40°	1545.5	46.6
0°-60°	2655.8	80.1
0°-90°	3316.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3316.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1275	1275	1275	1275	1275	
5°	1262	1272	1262	1272	1262	120
15°	1203	1208	1203	1208	1203	339
25°	1091	1082	1091	1082	1091	503
35°	942	929	942	929	942	590
45°	774	755	774	755	774	596
55°	590	576	590	576	590	528
65°	402	389	402	389	402	395
75°	206	199	206	199	206	219
85°	45	45	45	45	45	55
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°	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8
2.5°	1267.0	1273.2	1279.5	1277.9	1273.2	1270.1	1271.7	1271.7	1273.2	1273.2	1273.2
5°	1262.3	1268.6	1273.2	1271.7	1267.0	1265.4	1265.4	1265.4	1268.6	1271.7	1268.6
7.5°	1254.5	1259.2	1263.9	1262.3	1257.7	1256.1	1256.1	1257.7	1260.8	1263.9	1260.8
10°	1240.5	1246.8	1251.4	1248.3	1243.7	1240.5	1240.5	1240.5	1243.7	1246.8	1243.7
12.5°	1223.4	1228.1	1232.8	1231.2	1226.5	1223.4	1223.4	1223.4	1226.5	1229.6	1226.5
15°	1203.2	1207.9	1212.5	1211.0	1206.3	1203.2	1203.2	1203.2	1206.3	1207.9	1206.3
17.5°	1179.8	1184.5	1189.2	1186.1	1179.8	1176.7	1176.7	1176.7	1179.8	1181.4	1179.8
20°	1153.4	1158.0	1161.2	1158.0	1151.8	1148.7	1147.1	1147.1	1150.3	1151.8	1150.3
22.5°	1123.8	1126.9	1130.0	1126.9	1120.7	1117.6	1116.0	1114.5	1116.0	1117.6	1116.0
25°	1091.1	1094.2	1097.3	1094.2	1088.0	1083.3	1081.8	1080.2	1081.8	1081.8	1081.8
27.5°	1058.4	1060.0	1063.1	1058.4	1052.2	1047.5	1046.0	1044.4	1046.0	1046.0	1046.0
30°	1021.1	1022.6	1025.7	1021.1	1013.3	1008.6	1007.1	1005.5	1005.5	1005.5	1005.5
32.5°	982.2	985.3	988.4	982.2	974.4	969.7	968.1	966.6	968.1	968.1	968.1
35°	941.7	943.2	946.4	941.7	933.9	929.2	926.1	924.6	927.7	929.2	927.7
37.5°	902.8	904.3	905.9	901.2	893.4	888.8	885.7	884.1	882.5	882.5	882.5
40°	859.2	860.7	863.9	859.2	851.4	846.7	843.6	842.1	842.1	842.1	842.1
42.5°	817.2	818.7	820.3	815.6	807.8	803.2	800.0	798.5	800.0	800.0	800.0
45°	773.6	773.6	775.1	770.5	764.2	759.6	756.5	754.9	754.9	754.9	754.9
47.5°	728.4	730.0	731.6	726.9	720.7	716.0	712.9	709.8	709.8	709.8	709.8
50°	683.3	683.3	684.9	680.2	674.0	669.3	667.7	666.2	664.6	664.6	664.6
52.5°	636.6	638.2	639.7	635.1	630.4	625.7	622.6	621.0	621.0	621.0	621.0
55°	589.9	589.9	591.5	588.4	583.7	579.0	575.9	574.4	575.9	575.9	575.9
57.5°	543.2	544.8	546.3	541.7	537.0	532.3	530.8	529.2	529.2	529.2	529.2
60°	496.5	496.5	498.1	495.0	490.3	485.6	484.1	482.5	482.5	482.5	482.5
62.5°	449.8	449.8	451.4	448.3	443.6	438.9	437.4	435.8	435.8	435.8	435.8
65°	401.6	401.6	401.6	398.5	395.4	393.8	392.2	390.7	389.1	389.1	389.1
67.5°	348.7	348.7	350.2	347.1	344.0	342.4	340.9	339.3	337.8	337.8	337.8
70°	300.4	300.4	302.0	300.4	297.3	295.7	294.2	292.6	291.1	291.1	291.1
72.5°	253.7	253.7	253.7	252.2	250.6	249.0	247.5	245.9	244.4	244.4	244.4
75°	205.5	205.5	207.0	205.5	203.9	202.3	200.8	200.8	199.2	199.2	199.2
77.5°	160.3	161.9	163.4	161.9	160.3	158.8	157.2	157.2	155.7	155.7	155.7
80°	118.3	119.9	121.4	119.9	118.3	116.7	115.2	115.2	115.2	115.2	115.2
82.5°	79.4	80.9	82.5	80.9	79.4	79.4	77.8	77.8	77.8	77.8	77.8
85°	45.1	46.7	48.3	48.3	46.7	46.7	45.1	45.1	45.1	45.1	45.1
87.5°	17.1	18.7	20.2	20.2	18.7	18.7	18.7	18.7	18.7	18.7	18.7
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°	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8
2.5°	1271.7	1271.7	1270.1	1273.2	1277.9	1279.5	1273.2	1267.0	1273.2	1279.5	1277.9
5°	1265.4	1265.4	1265.4	1267.0	1271.7	1273.2	1268.6	1262.3	1268.6	1273.2	1271.7
7.5°	1257.7	1256.1	1256.1	1257.7	1262.3	1263.9	1259.2	1254.5	1259.2	1263.9	1262.3
10°	1240.5	1240.5	1240.5	1243.7	1248.3	1251.4	1246.8	1240.5	1246.8	1251.4	1248.3
12.5°	1223.4	1223.4	1223.4	1226.5	1231.2	1232.8	1228.1	1223.4	1228.1	1232.8	1231.2
15°	1203.2	1203.2	1203.2	1206.3	1211.0	1212.5	1207.9	1203.2	1207.9	1212.5	1211.0
17.5°	1176.7	1176.7	1176.7	1179.8	1186.1	1189.2	1184.5	1179.8	1184.5	1189.2	1186.1
20°	1147.1	1147.1	1148.7	1151.8	1158.0	1161.2	1158.0	1153.4	1158.0	1161.2	1158.0
22.5°	1114.5	1116.0	1117.6	1120.7	1126.9	1130.0	1126.9	1123.8	1126.9	1130.0	1126.9
25°	1080.2	1081.8	1083.3	1088.0	1094.2	1097.3	1094.2	1091.1	1094.2	1097.3	1094.2
27.5°	1044.4	1046.0	1047.5	1052.2	1058.4	1063.1	1060.0	1058.4	1060.0	1063.1	1058.4
30°	1005.5	1007.1	1008.6	1013.3	1021.1	1025.7	1022.6	1021.1	1022.6	1025.7	1021.1
32.5°	966.6	968.1	969.7	974.4	982.2	988.4	985.3	982.2	985.3	988.4	982.2
35°	924.6	926.1	929.2	933.9	941.7	946.4	943.2	941.7	943.2	946.4	941.7
37.5°	884.1	885.7	888.8	893.4	901.2	905.9	904.3	902.8	904.3	905.9	901.2
40°	842.1	843.6	846.7	851.4	859.2	863.9	860.7	859.2	860.7	863.9	859.2
42.5°	798.5	800.0	803.2	807.8	815.6	820.3	818.7	817.2	818.7	820.3	815.6
45°	754.9	756.5	759.6	764.2	770.5	775.1	773.6	773.6	773.6	775.1	770.5
47.5°	709.8	712.9	716.0	720.7	726.9	731.6	730.0	728.4	730.0	731.6	726.9
50°	666.2	667.7	669.3	674.0	680.2	684.9	683.3	683.3	683.3	684.9	680.2
52.5°	621.0	622.6	625.7	630.4	635.1	639.7	638.2	636.6	638.2	639.7	635.1
55°	574.4	575.9	579.0	583.7	588.4	591.5	589.9	589.9	589.9	591.5	588.4
57.5°	529.2	530.8	532.3	537.0	541.7	546.3	544.8	543.2	544.8	546.3	541.7
60°	482.5	484.1	485.6	490.3	495.0	498.1	496.5	496.5	496.5	498.1	495.0
62.5°	435.8	437.4	438.9	443.6	448.3	451.4	449.8	449.8	449.8	451.4	448.3
65°	390.7	392.2	393.8	395.4	398.5	401.6	401.6	401.6	401.6	401.6	398.5
67.5°	339.3	340.9	342.4	344.0	347.1	350.2	348.7	348.7	348.7	350.2	347.1
70°	292.6	294.2	295.7	297.3	300.4	302.0	300.4	300.4	300.4	302.0	300.4
72.5°	245.9	247.5	249.0	250.6	252.2	253.7	253.7	253.7	253.7	253.7	252.2
75°	200.8	200.8	202.3	203.9	205.5	207.0	205.5	205.5	205.5	207.0	205.5
77.5°	157.2	157.2	158.8	160.3	161.9	163.4	161.9	160.3	161.9	163.4	161.9
80°	115.2	115.2	116.7	118.3	119.9	121.4	119.9	118.3	119.9	121.4	119.9
82.5°	77.8	77.8	79.4	79.4	80.9	82.5	80.9	79.4	80.9	82.5	80.9
85°	45.1	45.1	46.7	46.7	48.3	48.3	46.7	45.1	46.7	48.3	48.3
87.5°	18.7	18.7	18.7	18.7	20.2	20.2	18.7	17.1	18.7	20.2	20.2
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°	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8
2.5°	1273.2	1270.1	1271.7	1271.7	1273.2	1273.2	1273.2	1271.7	1271.7	1270.1	1273.2
5°	1267.0	1265.4	1265.4	1265.4	1268.6	1271.7	1268.6	1265.4	1265.4	1265.4	1267.0
7.5°	1257.7	1256.1	1256.1	1257.7	1260.8	1263.9	1260.8	1257.7	1256.1	1256.1	1257.7
10°	1243.7	1240.5	1240.5	1240.5	1243.7	1246.8	1243.7	1240.5	1240.5	1240.5	1243.7
12.5°	1226.5	1223.4	1223.4	1223.4	1226.5	1229.6	1226.5	1223.4	1223.4	1223.4	1226.5
15°	1206.3	1203.2	1203.2	1203.2	1206.3	1207.9	1206.3	1203.2	1203.2	1203.2	1206.3
17.5°	1179.8	1176.7	1176.7	1176.7	1179.8	1181.4	1179.8	1176.7	1176.7	1176.7	1179.8
20°	1151.8	1148.7	1147.1	1147.1	1150.3	1151.8	1150.3	1147.1	1147.1	1148.7	1151.8
22.5°	1120.7	1117.6	1116.0	1114.5	1116.0	1117.6	1116.0	1114.5	1116.0	1117.6	1120.7
25°	1088.0	1083.3	1081.8	1080.2	1081.8	1081.8	1081.8	1080.2	1081.8	1083.3	1088.0
27.5°	1052.2	1047.5	1046.0	1044.4	1046.0	1046.0	1046.0	1044.4	1046.0	1047.5	1052.2
30°	1013.3	1008.6	1007.1	1005.5	1005.5	1005.5	1005.5	1005.5	1007.1	1008.6	1013.3
32.5°	974.4	969.7	968.1	966.6	968.1	968.1	968.1	966.6	968.1	969.7	974.4
35°	933.9	929.2	926.1	924.6	927.7	929.2	927.7	924.6	926.1	929.2	933.9
37.5°	893.4	888.8	885.7	884.1	882.5	882.5	882.5	884.1	885.7	888.8	893.4
40°	851.4	846.7	843.6	842.1	842.1	842.1	842.1	842.1	843.6	846.7	851.4
42.5°	807.8	803.2	800.0	798.5	800.0	800.0	800.0	798.5	800.0	803.2	807.8
45°	764.2	759.6	756.5	754.9	754.9	754.9	754.9	754.9	756.5	759.6	764.2
47.5°	720.7	716.0	712.9	709.8	709.8	709.8	709.8	709.8	712.9	716.0	720.7
50°	674.0	669.3	667.7	666.2	664.6	664.6	664.6	666.2	667.7	669.3	674.0
52.5°	630.4	625.7	622.6	621.0	621.0	621.0	621.0	621.0	622.6	625.7	630.4
55°	583.7	579.0	575.9	574.4	575.9	575.9	575.9	574.4	575.9	579.0	583.7
57.5°	537.0	532.3	530.8	529.2	529.2	529.2	529.2	529.2	530.8	532.3	537.0
60°	490.3	485.6	484.1	482.5	482.5	482.5	482.5	482.5	484.1	485.6	490.3
62.5°	443.6	438.9	437.4	435.8	435.8	435.8	435.8	435.8	437.4	438.9	443.6
65°	395.4	393.8	392.2	390.7	389.1	389.1	389.1	390.7	392.2	393.8	395.4
67.5°	344.0	342.4	340.9	339.3	337.8	337.8	337.8	339.3	340.9	342.4	344.0
70°	297.3	295.7	294.2	292.6	291.1	291.1	291.1	292.6	294.2	295.7	297.3
72.5°	250.6	249.0	247.5	245.9	244.4	244.4	244.4	245.9	247.5	249.0	250.6
75°	203.9	202.3	200.8	200.8	199.2	199.2	199.2	200.8	200.8	202.3	203.9
77.5°	160.3	158.8	157.2	157.2	155.7	155.7	155.7	157.2	157.2	158.8	160.3
80°	118.3	116.7	115.2	115.2	115.2	115.2	115.2	115.2	115.2	116.7	118.3
82.5°	79.4	79.4	77.8	77.8	77.8	77.8	77.8	77.8	77.8	79.4	79.4
85°	46.7	46.7	45.1	45.1	45.1	45.1	45.1	45.1	45.1	46.7	46.7
87.5°	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7
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°	1274.8	1274.8	1274.8	1274.8
2.5°	1277.9	1279.5	1273.2	1267.0
5°	1271.7	1273.2	1268.6	1262.3
7.5°	1262.3	1263.9	1259.2	1254.5
10°	1248.3	1251.4	1246.8	1240.5
12.5°	1231.2	1232.8	1228.1	1223.4
15°	1211.0	1212.5	1207.9	1203.2
17.5°	1186.1	1189.2	1184.5	1179.8
20°	1158.0	1161.2	1158.0	1153.4
22.5°	1126.9	1130.0	1126.9	1123.8
25°	1094.2	1097.3	1094.2	1091.1
27.5°	1058.4	1063.1	1060.0	1058.4
30°	1021.1	1025.7	1022.6	1021.1
32.5°	982.2	988.4	985.3	982.2
35°	941.7	946.4	943.2	941.7
37.5°	901.2	905.9	904.3	902.8
40°	859.2	863.9	860.7	859.2
42.5°	815.6	820.3	818.7	817.2
45°	770.5	775.1	773.6	773.6
47.5°	726.9	731.6	730.0	728.4
50°	680.2	684.9	683.3	683.3
52.5°	635.1	639.7	638.2	636.6
55°	588.4	591.5	589.9	589.9
57.5°	541.7	546.3	544.8	543.2
60°	495.0	498.1	496.5	496.5
62.5°	448.3	451.4	449.8	449.8
65°	398.5	401.6	401.6	401.6
67.5°	347.1	350.2	348.7	348.7
70°	300.4	302.0	300.4	300.4
72.5°	252.2	253.7	253.7	253.7
75°	205.5	207.0	205.5	205.5
77.5°	161.9	163.4	161.9	160.3
80°	119.9	121.4	119.9	118.3
82.5°	80.9	82.5	80.9	79.4
85°	48.3	48.3	46.7	45.1
87.5°	20.2	20.2	18.7	17.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)