

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: P709090

Luminaire Tested: **4APN-X-42L935-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709090
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-X-42L935-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

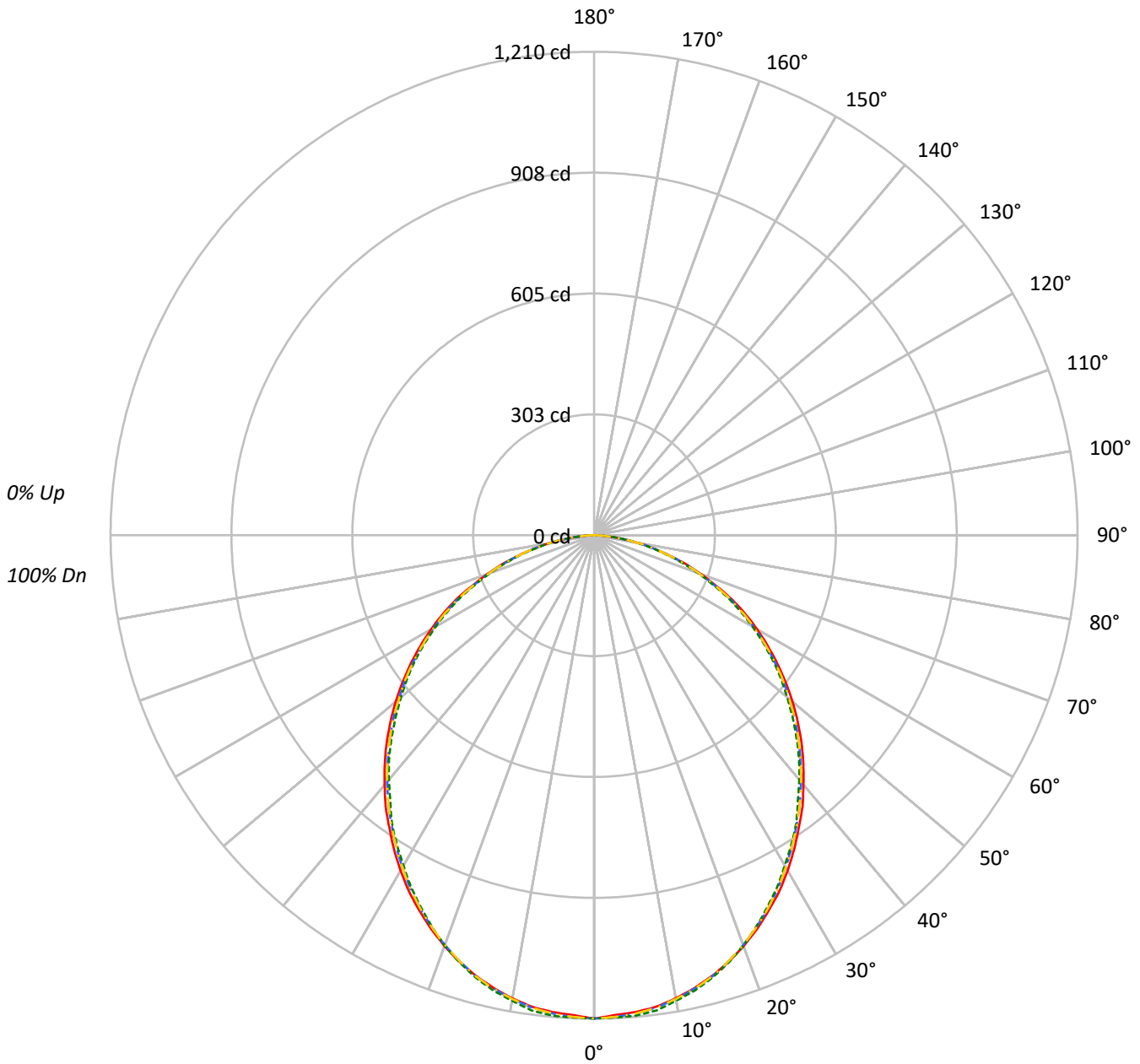
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3146.8 lumens
Efficiency: N/A
Efficacy: 68.1 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): 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°	11159	11159	11159	11159
5°	11092	11175	11092	11175
10°	11027	11083	11027	11083
15°	10904	10946	10904	10946
20°	10744	10730	10744	10730
25°	10539	10449	10539	10449
30°	10321	10163	10321	10163
35°	10064	9931	10064	9931
40°	9818	9623	9818	9623
45°	9577	9346	9577	9346
50°	9305	9051	9305	9051
55°	9003	8789	9003	8789
60°	8693	8448	8693	8448
65°	8318	8060	8318	8060
70°	7688	7451	7688	7451
75°	6948	6737	6948	6737
80°	5961	5807	5961	5807
85°	4531	4531	4531	4531



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.2	3.6
10°-20°	322.4	10.2
20°-30°	475.2	15.1
30°-40°	554.7	17.6
40°-50°	559.2	17.8
50°-60°	494.2	15.7
60°-70°	369.6	11.7
70°-80°	204.9	6.5
80°-90°	52.5	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°	911.7	29.0
0°-40°	1466.4	46.6
0°-60°	2519.9	80.1
0°-90°	3146.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3146.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1210	1210	1210	1210	1210	
5°	1198	1207	1198	1207	1198	114
15°	1142	1146	1142	1146	1142	322
25°	1035	1026	1035	1026	1035	477
35°	894	882	894	882	894	559
45°	734	716	734	716	734	566
55°	560	546	560	546	560	501
65°	381	369	381	369	381	375
75°	195	189	195	189	195	207
85°	43	43	43	43	43	52
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°	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5
2.5°	1202.2	1208.1	1214.0	1212.5	1208.1	1205.1	1206.6	1206.6	1208.1	1208.1	1208.1
5°	1197.7	1203.6	1208.1	1206.6	1202.2	1200.7	1200.7	1200.7	1203.6	1206.6	1203.6
7.5°	1190.3	1194.8	1199.2	1197.7	1193.3	1191.8	1191.8	1193.3	1196.2	1199.2	1196.2
10°	1177.0	1183.0	1187.4	1184.4	1180.0	1177.0	1177.0	1177.0	1180.0	1183.0	1180.0
12.5°	1160.8	1165.2	1169.7	1168.2	1163.8	1160.8	1160.8	1160.8	1163.8	1166.7	1163.8
15°	1141.6	1146.0	1150.5	1149.0	1144.6	1141.6	1141.6	1141.6	1144.6	1146.0	1144.6
17.5°	1119.5	1123.9	1128.3	1125.4	1119.5	1116.5	1116.5	1116.5	1119.5	1120.9	1119.5
20°	1094.3	1098.8	1101.7	1098.8	1092.9	1089.9	1088.4	1088.4	1091.4	1092.9	1091.4
22.5°	1066.3	1069.2	1072.2	1069.2	1063.3	1060.4	1058.9	1057.4	1058.9	1060.4	1058.9
25°	1035.3	1038.2	1041.2	1038.2	1032.3	1027.9	1026.4	1024.9	1026.4	1026.4	1026.4
27.5°	1004.3	1005.7	1008.7	1004.3	998.3	993.9	992.4	991.0	992.4	992.4	992.4
30°	968.8	970.3	973.2	968.8	961.4	957.0	955.5	954.0	954.0	954.0	954.0
32.5°	931.9	934.8	937.8	931.9	924.5	920.1	918.6	917.1	918.6	918.6	918.6
35°	893.5	895.0	897.9	893.5	886.1	881.7	878.7	877.2	880.2	881.7	880.2
37.5°	856.6	858.0	859.5	855.1	847.7	843.3	840.3	838.8	837.4	837.4	837.4
40°	815.2	816.7	819.7	815.2	807.8	803.4	800.5	799.0	799.0	799.0	799.0
42.5°	775.3	776.8	778.3	773.9	766.5	762.1	759.1	757.6	759.1	759.1	759.1
45°	734.0	734.0	735.5	731.0	725.1	720.7	717.7	716.3	716.3	716.3	716.3
47.5°	691.2	692.6	694.1	689.7	683.8	679.4	676.4	673.4	673.4	673.4	673.4
50°	648.3	648.3	649.8	645.4	639.5	635.0	633.6	632.1	630.6	630.6	630.6
52.5°	604.0	605.5	607.0	602.6	598.1	593.7	590.7	589.3	589.3	589.3	589.3
55°	559.7	559.7	561.2	558.2	553.8	549.4	546.4	545.0	546.4	546.4	546.4
57.5°	515.4	516.9	518.4	513.9	509.5	505.1	503.6	502.1	502.1	502.1	502.1
60°	471.1	471.1	472.6	469.6	465.2	460.8	459.3	457.8	457.8	457.8	457.8
62.5°	426.8	426.8	428.3	425.3	420.9	416.5	415.0	413.5	413.5	413.5	413.5
65°	381.0	381.0	381.0	378.1	375.1	373.6	372.2	370.7	369.2	369.2	369.2
67.5°	330.8	330.8	332.3	329.3	326.4	324.9	323.4	322.0	320.5	320.5	320.5
70°	285.0	285.0	286.5	285.0	282.1	280.6	279.1	277.6	276.2	276.2	276.2
72.5°	240.7	240.7	240.7	239.2	237.8	236.3	234.8	233.3	231.9	231.9	231.9
75°	194.9	194.9	196.4	194.9	193.5	192.0	190.5	190.5	189.0	189.0	189.0
77.5°	152.1	153.6	155.1	153.6	152.1	150.6	149.2	149.2	147.7	147.7	147.7
80°	112.2	113.7	115.2	113.7	112.2	110.8	109.3	109.3	109.3	109.3	109.3
82.5°	75.3	76.8	78.3	76.8	75.3	75.3	73.8	73.8	73.8	73.8	73.8
85°	42.8	44.3	45.8	45.8	44.3	44.3	42.8	42.8	42.8	42.8	42.8
87.5°	16.2	17.7	19.2	19.2	17.7	17.7	17.7	17.7	17.7	17.7	17.7
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°	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5
2.5°	1206.6	1206.6	1205.1	1208.1	1212.5	1214.0	1208.1	1202.2	1208.1	1214.0	1212.5
5°	1200.7	1200.7	1200.7	1202.2	1206.6	1208.1	1203.6	1197.7	1203.6	1208.1	1206.6
7.5°	1193.3	1191.8	1191.8	1193.3	1197.7	1199.2	1194.8	1190.3	1194.8	1199.2	1197.7
10°	1177.0	1177.0	1177.0	1180.0	1184.4	1187.4	1183.0	1177.0	1183.0	1187.4	1184.4
12.5°	1160.8	1160.8	1160.8	1163.8	1168.2	1169.7	1165.2	1160.8	1165.2	1169.7	1168.2
15°	1141.6	1141.6	1141.6	1144.6	1149.0	1150.5	1146.0	1141.6	1146.0	1150.5	1149.0
17.5°	1116.5	1116.5	1116.5	1119.5	1125.4	1128.3	1123.9	1119.5	1123.9	1128.3	1125.4
20°	1088.4	1088.4	1089.9	1092.9	1098.8	1101.7	1098.8	1094.3	1098.8	1101.7	1098.8
22.5°	1057.4	1058.9	1060.4	1063.3	1069.2	1072.2	1069.2	1066.3	1069.2	1072.2	1069.2
25°	1024.9	1026.4	1027.9	1032.3	1038.2	1041.2	1038.2	1035.3	1038.2	1041.2	1038.2
27.5°	991.0	992.4	993.9	998.3	1004.3	1008.7	1005.7	1004.3	1005.7	1008.7	1004.3
30°	954.0	955.5	957.0	961.4	968.8	973.2	970.3	968.8	970.3	973.2	968.8
32.5°	917.1	918.6	920.1	924.5	931.9	937.8	934.8	931.9	934.8	937.8	931.9
35°	877.2	878.7	881.7	886.1	893.5	897.9	895.0	893.5	895.0	897.9	893.5
37.5°	838.8	840.3	843.3	847.7	855.1	859.5	858.0	856.6	858.0	859.5	855.1
40°	799.0	800.5	803.4	807.8	815.2	819.7	816.7	815.2	816.7	819.7	815.2
42.5°	757.6	759.1	762.1	766.5	773.9	778.3	776.8	775.3	776.8	778.3	773.9
45°	716.3	717.7	720.7	725.1	731.0	735.5	734.0	734.0	734.0	735.5	731.0
47.5°	673.4	676.4	679.4	683.8	689.7	694.1	692.6	691.2	692.6	694.1	689.7
50°	632.1	633.6	635.0	639.5	645.4	649.8	648.3	648.3	648.3	649.8	645.4
52.5°	589.3	590.7	593.7	598.1	602.6	607.0	605.5	604.0	605.5	607.0	602.6
55°	545.0	546.4	549.4	553.8	558.2	561.2	559.7	559.7	559.7	561.2	558.2
57.5°	502.1	503.6	505.1	509.5	513.9	518.4	516.9	515.4	516.9	518.4	513.9
60°	457.8	459.3	460.8	465.2	469.6	472.6	471.1	471.1	471.1	472.6	469.6
62.5°	413.5	415.0	416.5	420.9	425.3	428.3	426.8	426.8	426.8	428.3	425.3
65°	370.7	372.2	373.6	375.1	378.1	381.0	381.0	381.0	381.0	381.0	378.1
67.5°	322.0	323.4	324.9	326.4	329.3	332.3	330.8	330.8	330.8	332.3	329.3
70°	277.6	279.1	280.6	282.1	285.0	286.5	285.0	285.0	285.0	286.5	285.0
72.5°	233.3	234.8	236.3	237.8	239.2	240.7	240.7	240.7	240.7	240.7	239.2
75°	190.5	190.5	192.0	193.5	194.9	196.4	194.9	194.9	194.9	196.4	194.9
77.5°	149.2	149.2	150.6	152.1	153.6	155.1	153.6	152.1	153.6	155.1	153.6
80°	109.3	109.3	110.8	112.2	113.7	115.2	113.7	112.2	113.7	115.2	113.7
82.5°	73.8	73.8	75.3	75.3	76.8	78.3	76.8	75.3	76.8	78.3	76.8
85°	42.8	42.8	44.3	44.3	45.8	45.8	44.3	42.8	44.3	45.8	45.8
87.5°	17.7	17.7	17.7	17.7	19.2	19.2	17.7	16.2	17.7	19.2	19.2
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°	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5	1209.5
2.5°	1208.1	1205.1	1206.6	1206.6	1208.1	1208.1	1208.1	1206.6	1206.6	1205.1	1208.1
5°	1202.2	1200.7	1200.7	1200.7	1203.6	1206.6	1203.6	1200.7	1200.7	1200.7	1202.2
7.5°	1193.3	1191.8	1191.8	1193.3	1196.2	1199.2	1196.2	1193.3	1191.8	1191.8	1193.3
10°	1180.0	1177.0	1177.0	1177.0	1180.0	1183.0	1180.0	1177.0	1177.0	1177.0	1180.0
12.5°	1163.8	1160.8	1160.8	1160.8	1163.8	1166.7	1163.8	1160.8	1160.8	1160.8	1163.8
15°	1144.6	1141.6	1141.6	1141.6	1144.6	1146.0	1144.6	1141.6	1141.6	1141.6	1144.6
17.5°	1119.5	1116.5	1116.5	1116.5	1119.5	1120.9	1119.5	1116.5	1116.5	1116.5	1119.5
20°	1092.9	1089.9	1088.4	1088.4	1091.4	1092.9	1091.4	1088.4	1088.4	1089.9	1092.9
22.5°	1063.3	1060.4	1058.9	1057.4	1058.9	1060.4	1058.9	1057.4	1058.9	1060.4	1063.3
25°	1032.3	1027.9	1026.4	1024.9	1026.4	1026.4	1026.4	1024.9	1026.4	1027.9	1032.3
27.5°	998.3	993.9	992.4	991.0	992.4	992.4	992.4	991.0	992.4	993.9	998.3
30°	961.4	957.0	955.5	954.0	954.0	954.0	954.0	954.0	955.5	957.0	961.4
32.5°	924.5	920.1	918.6	917.1	918.6	918.6	918.6	917.1	918.6	920.1	924.5
35°	886.1	881.7	878.7	877.2	880.2	881.7	880.2	877.2	878.7	881.7	886.1
37.5°	847.7	843.3	840.3	838.8	837.4	837.4	837.4	838.8	840.3	843.3	847.7
40°	807.8	803.4	800.5	799.0	799.0	799.0	799.0	799.0	800.5	803.4	807.8
42.5°	766.5	762.1	759.1	757.6	759.1	759.1	759.1	757.6	759.1	762.1	766.5
45°	725.1	720.7	717.7	716.3	716.3	716.3	716.3	716.3	717.7	720.7	725.1
47.5°	683.8	679.4	676.4	673.4	673.4	673.4	673.4	673.4	676.4	679.4	683.8
50°	639.5	635.0	633.6	632.1	630.6	630.6	630.6	632.1	633.6	635.0	639.5
52.5°	598.1	593.7	590.7	589.3	589.3	589.3	589.3	589.3	590.7	593.7	598.1
55°	553.8	549.4	546.4	545.0	546.4	546.4	546.4	545.0	546.4	549.4	553.8
57.5°	509.5	505.1	503.6	502.1	502.1	502.1	502.1	502.1	503.6	505.1	509.5
60°	465.2	460.8	459.3	457.8	457.8	457.8	457.8	457.8	459.3	460.8	465.2
62.5°	420.9	416.5	415.0	413.5	413.5	413.5	413.5	413.5	415.0	416.5	420.9
65°	375.1	373.6	372.2	370.7	369.2	369.2	369.2	370.7	372.2	373.6	375.1
67.5°	326.4	324.9	323.4	322.0	320.5	320.5	320.5	322.0	323.4	324.9	326.4
70°	282.1	280.6	279.1	277.6	276.2	276.2	276.2	277.6	279.1	280.6	282.1
72.5°	237.8	236.3	234.8	233.3	231.9	231.9	231.9	233.3	234.8	236.3	237.8
75°	193.5	192.0	190.5	190.5	189.0	189.0	189.0	190.5	190.5	192.0	193.5
77.5°	152.1	150.6	149.2	149.2	147.7	147.7	147.7	149.2	149.2	150.6	152.1
80°	112.2	110.8	109.3	109.3	109.3	109.3	109.3	109.3	109.3	110.8	112.2
82.5°	75.3	75.3	73.8	73.8	73.8	73.8	73.8	73.8	73.8	75.3	75.3
85°	44.3	44.3	42.8	42.8	42.8	42.8	42.8	42.8	42.8	44.3	44.3
87.5°	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7
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°	1209.5	1209.5	1209.5	1209.5
2.5°	1212.5	1214.0	1208.1	1202.2
5°	1206.6	1208.1	1203.6	1197.7
7.5°	1197.7	1199.2	1194.8	1190.3
10°	1184.4	1187.4	1183.0	1177.0
12.5°	1168.2	1169.7	1165.2	1160.8
15°	1149.0	1150.5	1146.0	1141.6
17.5°	1125.4	1128.3	1123.9	1119.5
20°	1098.8	1101.7	1098.8	1094.3
22.5°	1069.2	1072.2	1069.2	1066.3
25°	1038.2	1041.2	1038.2	1035.3
27.5°	1004.3	1008.7	1005.7	1004.3
30°	968.8	973.2	970.3	968.8
32.5°	931.9	937.8	934.8	931.9
35°	893.5	897.9	895.0	893.5
37.5°	855.1	859.5	858.0	856.6
40°	815.2	819.7	816.7	815.2
42.5°	773.9	778.3	776.8	775.3
45°	731.0	735.5	734.0	734.0
47.5°	689.7	694.1	692.6	691.2
50°	645.4	649.8	648.3	648.3
52.5°	602.6	607.0	605.5	604.0
55°	558.2	561.2	559.7	559.7
57.5°	513.9	518.4	516.9	515.4
60°	469.6	472.6	471.1	471.1
62.5°	425.3	428.3	426.8	426.8
65°	378.1	381.0	381.0	381.0
67.5°	329.3	332.3	330.8	330.8
70°	285.0	286.5	285.0	285.0
72.5°	239.2	240.7	240.7	240.7
75°	194.9	196.4	194.9	194.9
77.5°	153.6	155.1	153.6	152.1
80°	113.7	115.2	113.7	112.2
82.5°	76.8	78.3	76.8	75.3
85°	45.8	45.8	44.3	42.8
87.5°	19.2	19.2	17.7	16.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)