

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: NEO-RAY

Report Number: P332941-830

Luminaire Tested: **SA4XXRDIP-C795D810U830-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332941-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C795D810U830-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

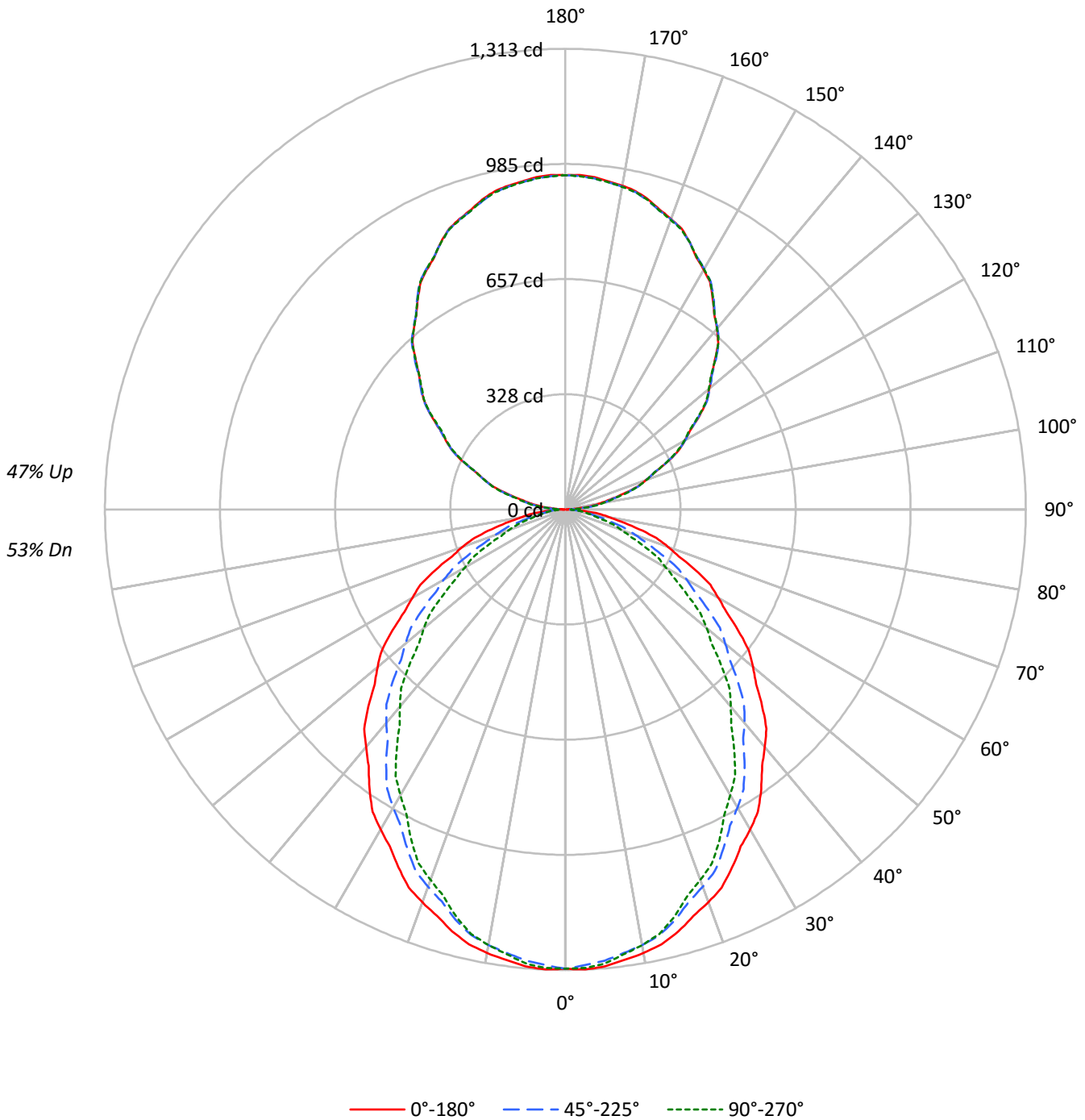
Lumens per Lamp: N/A
Luminaire Lumens: 5671.3 lumens
Efficiency: N/A
Efficacy: 123.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 45.9
Input Voltage (V): 120
Input Current (A_{in}): 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





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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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	53	53	53	53	
1	99	95	91	87	91	88	85	82	75	73	71	64	62	60	53	52	51	46	46	46	46	
2	90	83	77	72	83	77	72	67	66	62	59	56	53	51	47	45	43	39	39	39	39	
3	82	73	66	60	76	68	62	57	59	54	50	50	46	43	42	39	37	33	33	33	33	
4	76	65	57	51	70	61	54	48	52	47	43	45	41	37	37	34	32	29	29	29	29	
5	69	58	50	44	64	54	47	42	47	41	37	40	36	32	34	31	28	25	25	25	25	
6	64	52	44	38	59	49	42	36	42	37	32	36	32	29	31	27	25	22	22	22	22	
7	59	47	39	34	55	44	37	32	38	33	29	33	29	25	28	25	22	20	20	20	20	
8	55	43	35	30	51	40	33	28	35	30	26	30	26	23	26	22	20	18	18	18	18	
9	51	39	32	27	48	37	30	25	32	27	23	28	24	20	24	21	18	16	16	16	16	
10	48	36	29	24	45	34	27	23	30	24	21	26	22	19	22	19	16	15	15	15	15	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10571	10571	10571
5°	10594	10464	10529
10°	10528	10339	10339
15°	10407	10122	10046
20°	10241	9836	9655
25°	10029	9502	9260
30°	9822	9149	8766
35°	9594	8784	8270
40°	9319	8368	7734
45°	9065	7955	7188
50°	8776	7479	6610
55°	8466	6984	5983
60°	8126	6442	5341
65°	7815	5765	4713
70°	7360	5016	4001
75°	6784	4161	3250
80°	5918	3166	2985
85°	5011	2881	2686



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.0	2.2
10°-20°	343.0	6.0
20°-30°	495.3	8.7
30°-40°	561.4	9.9
40°-50°	542.1	9.6
50°-60°	450.8	7.9
60°-70°	311.3	5.5
70°-80°	157.8	2.8
80°-90°	43.3	0.8
90°-100°	62.8	1.1
100°-110°	186.2	3.3
110°-120°	316.0	5.6
120°-130°	416.6	7.3
130°-140°	467.9	8.3
140°-150°	459.8	8.1
150°-160°	386.7	6.8
160°-170°	257.3	4.5
170°-180°	90.1	1.6
0°-30°	961.2	16.9
0°-40°	1522.6	26.8
0°-60°	2515.6	44.4
0°-90°	3027.9	53.4
90°-120°	565.0	10.0
90°-150°	1909.3	33.7
90°-180°	2643.0	46.6
0°-180°	5671.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1309	1309	1309	1309	1309	
5°	1307	1303	1291	1301	1299	124
15°	1245	1235	1211	1209	1202	351
25°	1126	1106	1067	1050	1040	519
35°	974	940	891	858	839	608
45°	794	756	697	649	630	612
55°	602	560	496	446	425	538
65°	409	365	302	260	247	404
75°	218	180	133	111	104	230
85°	54	35	31	29	29	61
90°	2	10	16	20	22	5
95°	44	51	56	58	58	49
105°	172	173	175	178	180	182
115°	321	321	320	319	318	317
125°	468	468	467	466	464	417
135°	604	608	608	606	604	467
145°	733	736	737	736	734	459
155°	840	840	839	842	839	386
165°	914	912	911	915	912	258
175°	951	948	947	952	947	90
180°	953	953	953	953	953	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4
2.5°	1312.6	1311.8	1311.1	1310.4	1309.7	1308.3	1306.4	1304.5	1302.5	1300.5	1302.5
5°	1307.3	1306.5	1305.5	1304.7	1303.7	1302.0	1299.3	1296.7	1293.9	1291.3	1293.5
7.5°	1295.5	1294.6	1293.6	1292.7	1291.8	1289.6	1286.1	1282.6	1279.1	1275.6	1277.1
10°	1284.3	1283.2	1282.0	1280.9	1279.8	1277.2	1273.3	1269.2	1265.3	1261.2	1262.1
12.5°	1269.8	1268.6	1267.2	1265.9	1264.7	1261.7	1257.0	1252.2	1247.5	1242.7	1243.3
15°	1245.2	1243.2	1241.1	1239.2	1237.2	1233.4	1227.8	1222.2	1216.6	1211.1	1210.6
17.5°	1215.3	1212.4	1209.5	1206.6	1203.7	1198.9	1192.2	1185.5	1178.8	1172.1	1170.9
20°	1192.0	1189.1	1186.3	1183.4	1180.4	1175.3	1167.6	1160.1	1152.4	1144.9	1143.1
22.5°	1166.4	1163.1	1159.9	1156.6	1153.4	1147.6	1139.5	1131.4	1123.3	1115.2	1112.6
25°	1125.9	1121.8	1117.9	1113.8	1109.8	1103.2	1094.1	1085.0	1075.8	1066.7	1062.9
27.5°	1083.4	1078.4	1073.3	1068.3	1063.2	1055.8	1046.0	1036.3	1026.5	1016.8	1012.1
30°	1053.7	1048.1	1042.5	1037.0	1031.4	1023.4	1013.0	1002.5	991.9	981.5	975.9
32.5°	1022.4	1016.2	1009.8	1003.5	997.3	988.7	977.9	967.0	956.2	945.4	939.0
35°	973.5	966.4	959.2	952.1	945.0	935.9	924.7	913.5	902.4	891.3	883.7
37.5°	921.1	913.8	906.4	899.1	891.7	881.9	869.6	857.2	844.9	832.5	824.1
40°	884.3	876.9	869.6	862.2	854.9	844.8	832.1	819.4	806.7	794.0	784.7
42.5°	848.9	841.2	833.6	825.9	818.1	807.7	794.5	781.2	768.0	754.7	745.2
45°	794.0	785.8	777.5	769.3	761.0	750.3	736.9	723.5	710.1	696.8	685.9
47.5°	737.3	728.8	720.3	711.7	703.2	692.0	678.2	664.2	650.4	636.4	625.1
50°	698.8	690.1	681.4	672.7	664.0	652.5	638.3	624.1	609.7	595.5	584.4
52.5°	659.5	651.0	642.4	634.0	625.5	613.9	599.3	584.7	570.0	555.4	544.1
55°	601.5	592.6	583.7	574.8	565.9	554.2	539.7	525.2	510.8	496.2	484.7
57.5°	544.2	534.9	525.7	516.4	507.1	495.3	481.1	466.8	452.6	438.3	426.6
60°	503.3	494.4	485.5	476.5	467.6	456.1	441.8	427.5	413.3	399.0	387.4
62.5°	466.4	457.1	447.9	438.6	429.3	417.4	402.7	388.1	373.5	358.9	348.2
65°	409.1	399.4	389.8	380.3	370.7	358.8	344.5	330.3	316.0	301.8	292.2
67.5°	349.5	340.4	331.1	322.0	312.7	301.6	288.3	275.1	261.8	248.6	240.3
70°	311.8	302.5	293.0	283.7	274.4	263.3	250.6	237.9	225.3	212.5	205.2
72.5°	271.7	263.3	254.8	246.3	237.8	227.6	215.7	203.6	191.6	179.6	173.3
75°	217.5	209.3	201.0	192.8	184.5	175.2	164.8	154.3	143.8	133.4	128.2
77.5°	162.6	155.6	148.6	141.7	134.6	126.9	118.5	110.0	101.5	93.0	90.0
80°	127.3	120.8	114.4	107.9	101.5	94.9	88.2	81.5	74.8	68.1	67.5
82.5°	96.9	91.0	85.0	79.1	73.1	68.2	64.5	60.6	56.7	53.0	52.4
85°	54.1	49.7	45.2	40.8	36.3	33.7	33.1	32.4	31.8	31.1	30.6
87.5°	18.9	17.8	16.8	15.6	14.6	14.1	14.2	14.3	14.4	14.5	14.5
90°	2.2	4.1	5.8	7.6	9.4	10.9	12.3	13.6	14.9	16.2	17.2
92.5°	15.7	17.8	19.9	22.0	24.0	25.5	26.4	27.3	28.3	29.2	29.8
95°	44.2	45.7	47.1	48.6	50.1	51.5	52.6	53.7	54.9	56.0	56.5
97.5°	77.2	78.4	79.6	80.8	81.9	83.2	84.5	85.9	87.2	88.6	89.2
100°	103.2	103.8	104.4	105.1	105.8	106.9	108.3	109.8	111.2	112.7	113.1
102.5°	130.3	130.5	130.8	131.1	131.3	132.1	133.5	134.8	136.2	137.5	138.0
105°	171.7	171.8	172.0	172.2	172.4	172.8	173.4	174.1	174.7	175.4	175.9
107.5°	215.2	215.4	215.6	215.7	215.9	216.1	216.2	216.3	216.4	216.5	217.0
110°	244.7	245.0	245.2	245.6	245.9	246.0	245.9	245.7	245.5	245.3	245.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	275.3	275.3	275.4	275.5	275.6	275.4	275.1	274.8	274.6	274.3	274.2
115°	321.3	321.3	321.3	321.3	321.3	321.1	320.7	320.5	320.1	319.8	319.6
117.5°	364.6	364.8	364.9	365.0	365.1	365.0	364.9	364.6	364.4	364.2	363.6
120°	393.5	394.2	394.8	395.5	396.2	396.2	395.7	395.2	394.7	394.3	393.4
122.5°	423.6	423.8	424.0	424.3	424.6	424.6	424.4	424.1	424.0	423.7	423.1
125°	467.9	467.9	467.9	467.9	467.9	467.8	467.7	467.5	467.3	467.2	466.8
127.5°	508.1	508.6	509.2	509.6	510.1	510.2	509.9	509.7	509.4	509.2	508.9
130°	536.4	537.0	537.4	537.9	538.4	538.7	538.7	538.7	538.7	538.7	538.3
132.5°	565.3	565.7	566.1	566.4	566.8	566.8	566.8	566.7	566.5	566.4	566.0
135°	603.5	604.5	605.5	606.4	607.5	607.9	607.9	607.9	607.9	607.9	607.6
137.5°	645.1	645.5	645.9	646.4	646.9	647.2	647.5	647.8	648.0	648.3	647.9
140°	672.8	673.1	673.4	673.7	674.1	674.2	674.2	674.2	674.2	674.2	674.1
142.5°	698.1	698.4	698.8	699.1	699.5	699.6	699.4	699.3	699.1	699.0	699.0
145°	733.2	733.9	734.5	735.2	735.8	736.2	736.4	736.5	736.7	736.9	736.7
147.5°	768.0	768.7	769.5	770.3	771.1	771.5	771.3	771.2	771.0	770.9	770.8
150°	789.2	789.9	790.5	791.2	791.8	792.1	792.1	792.1	792.1	792.1	792.1
152.5°	809.3	809.6	810.0	810.4	810.8	811.1	811.2	811.3	811.4	811.6	812.0
155°	840.0	840.0	840.0	840.0	840.0	839.9	839.8	839.6	839.4	839.3	839.9
157.5°	866.0	865.6	865.3	865.1	864.8	864.6	864.6	864.6	864.5	864.5	865.0
160°	881.3	881.1	881.0	880.8	880.6	880.4	880.3	880.1	880.0	879.9	880.3
162.5°	895.4	895.0	894.6	894.2	893.7	893.4	893.2	893.2	893.0	892.8	893.7
165°	914.5	914.0	913.5	912.9	912.5	912.1	911.7	911.4	911.1	910.8	911.7
167.5°	929.1	928.3	927.7	927.0	926.3	926.0	926.0	926.0	926.0	926.0	927.1
170°	937.3	936.5	935.7	934.8	934.1	933.7	933.9	934.1	934.2	934.3	935.3
172.5°	943.2	942.5	941.8	941.1	940.5	940.1	940.2	940.2	940.2	940.3	941.3
175°	951.3	950.5	949.6	948.9	948.0	947.5	947.3	947.2	947.1	946.9	948.0
177.5°	953.9	953.3	952.6	952.0	951.3	951.0	951.0	951.0	951.0	951.0	951.9
180°	952.7	952.7	952.7	952.7	952.7	952.7	952.7	952.7	952.7	952.7	952.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4
2.5°	1304.5	1306.4	1308.3	1309.3	1309.1	1308.9	1308.7	1308.5
5°	1295.7	1298.0	1300.2	1301.1	1300.6	1300.2	1299.8	1299.3
7.5°	1278.5	1280.0	1281.4	1281.7	1281.0	1280.3	1279.6	1278.8
10°	1263.0	1263.9	1264.8	1264.8	1263.9	1263.0	1262.1	1261.2
12.5°	1243.9	1244.3	1244.9	1244.5	1243.3	1242.1	1240.8	1239.5
15°	1210.2	1209.8	1209.3	1208.3	1206.7	1205.1	1203.6	1202.0
17.5°	1169.7	1168.5	1167.2	1165.4	1163.0	1160.6	1158.3	1155.9
20°	1141.3	1139.5	1137.7	1135.5	1132.6	1129.6	1126.7	1123.9
22.5°	1109.9	1107.2	1104.6	1102.0	1099.7	1097.3	1095.0	1092.6
25°	1059.1	1055.4	1051.6	1048.6	1046.3	1044.1	1041.9	1039.6
27.5°	1007.4	1002.8	998.1	994.1	990.9	987.7	984.5	981.3
30°	970.3	964.8	959.2	954.6	951.1	947.5	944.0	940.4
32.5°	932.5	926.0	919.5	914.6	911.3	907.9	904.5	901.1
35°	876.1	868.6	861.0	855.2	851.2	847.2	843.1	839.1
37.5°	815.6	807.1	798.6	792.4	788.4	784.4	780.4	776.4
40°	775.3	765.9	756.6	749.9	745.9	741.9	737.9	733.9
42.5°	735.7	726.1	716.6	709.7	705.5	701.3	697.2	693.0
45°	675.0	664.0	653.1	645.6	641.6	637.6	633.6	629.6
47.5°	613.8	602.5	591.2	583.2	578.9	574.5	570.0	565.6
50°	573.3	562.1	550.9	543.3	539.0	534.8	530.6	526.3
52.5°	532.8	521.5	510.1	502.3	497.9	493.4	489.1	484.7
55°	473.1	461.5	450.0	442.1	437.8	433.6	429.3	425.1
57.5°	414.8	403.0	391.2	383.8	380.6	377.4	374.2	371.0
60°	375.9	364.3	352.7	345.1	341.6	338.0	334.4	330.8
62.5°	337.5	326.9	316.1	309.3	306.5	303.7	300.8	297.9
65°	282.6	273.1	263.4	257.3	254.7	251.9	249.3	246.7
67.5°	232.1	223.9	215.7	210.1	207.2	204.2	201.2	198.3
70°	197.8	190.5	183.1	178.3	176.2	173.9	171.6	169.5
72.5°	167.1	160.8	154.5	150.3	148.4	146.3	144.2	142.1
75°	123.1	118.0	112.8	109.6	108.3	107.0	105.6	104.2
77.5°	87.1	84.1	81.1	79.4	79.0	78.6	78.2	77.8
80°	66.8	66.2	65.5	65.0	64.8	64.6	64.4	64.2
82.5°	51.9	51.5	51.0	50.6	50.4	50.1	50.0	49.8
85°	30.2	29.8	29.3	29.0	29.0	29.0	29.0	29.0
87.5°	14.5	14.5	14.5	14.7	14.9	15.2	15.4	15.6
90°	18.2	19.1	20.2	20.8	21.1	21.5	21.8	22.1
92.5°	30.3	30.9	31.6	32.0	32.1	32.3	32.5	32.7
95°	57.0	57.5	58.0	58.2	58.2	58.2	58.2	58.2
97.5°	89.7	90.3	91.0	91.2	91.2	91.2	91.2	91.2
100°	113.4	113.8	114.0	114.2	114.2	114.2	114.2	114.2
102.5°	138.5	138.8	139.3	139.6	139.8	139.9	140.1	140.2
105°	176.3	176.8	177.3	177.9	178.3	178.8	179.3	179.8
107.5°	217.4	217.8	218.3	218.6	218.5	218.5	218.5	218.4
110°	244.7	244.4	244.0	244.1	244.7	245.2	245.6	246.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	274.1	274.1	274.0	274.0	274.1	274.2	274.3	274.4
115°	319.4	319.3	319.1	319.0	318.9	318.7	318.5	318.3
117.5°	363.1	362.5	361.9	361.5	361.2	360.8	360.5	360.1
120°	392.6	391.7	391.0	390.7	391.1	391.3	391.7	392.0
122.5°	422.5	422.1	421.5	420.9	420.3	419.7	419.1	418.6
125°	466.6	466.2	465.9	465.5	465.2	464.9	464.6	464.2
127.5°	508.5	508.2	507.8	507.6	507.3	507.1	506.8	506.5
130°	538.0	537.6	537.3	536.9	536.2	535.6	534.9	534.2
132.5°	565.7	565.3	565.1	564.8	564.5	564.2	563.9	563.7
135°	607.3	606.9	606.6	606.1	605.7	605.2	604.7	604.3
137.5°	647.4	647.1	646.6	646.4	646.5	646.6	646.7	646.9
140°	673.9	673.7	673.5	673.4	673.3	673.1	672.9	672.8
142.5°	698.9	698.9	698.9	698.8	698.8	698.8	698.7	698.7
145°	736.5	736.4	736.2	735.8	735.4	734.9	734.4	734.0
147.5°	770.6	770.5	770.3	770.2	770.1	769.9	769.8	769.6
150°	792.1	792.1	792.1	792.0	791.9	791.7	791.5	791.4
152.5°	812.4	812.8	813.1	813.1	812.8	812.3	811.9	811.4
155°	840.6	841.2	841.9	841.9	841.2	840.6	839.9	839.3
157.5°	865.4	866.0	866.5	866.4	865.9	865.3	864.8	864.2
160°	880.8	881.3	881.7	881.7	880.8	880.0	879.2	878.4
162.5°	894.6	895.4	896.4	896.4	895.5	894.8	893.9	893.1
165°	912.8	913.7	914.7	914.8	914.2	913.5	912.9	912.3
167.5°	928.0	929.1	930.0	930.0	929.0	927.9	927.0	926.0
170°	936.3	937.3	938.3	938.2	937.1	935.9	934.7	933.6
172.5°	942.4	943.6	944.7	944.7	943.6	942.4	941.2	940.1
175°	949.1	950.3	951.5	951.5	950.3	949.1	948.0	946.9
177.5°	952.8	953.8	954.7	954.6	953.6	952.5	951.5	950.4
180°	952.7	952.7	952.7	952.7	952.7	952.7	952.7	952.7

(END OF REPORT)