

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: P332886-935

Luminaire Tested: **SA4XXRDIP-C350D1035U935-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332886-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C350D1035U935-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1035 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

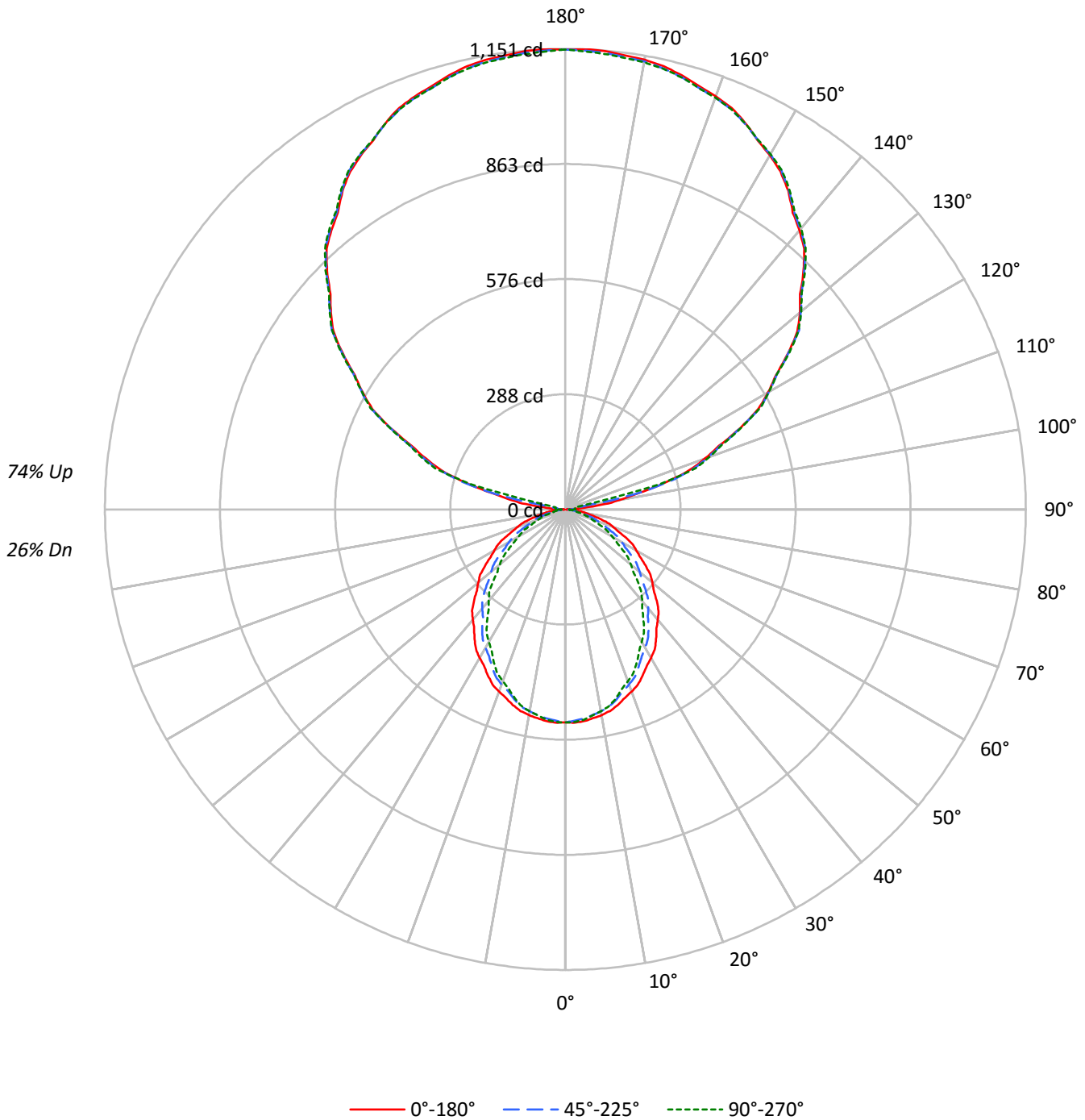
Lumens per Lamp: N/A
Luminaire Lumens: 4787.7 lumens
Efficiency: N/A
Efficacy: 128.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 37.3
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





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	50	30	10	0														
RCR																																						
0	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26																				
1	92	88	85	81	82	79	76	73	61	59	57	45	44	43	30	29	29	22																				
2	84	77	71	67	75	69	64	60	54	50	48	40	38	36	27	25	24	19																				
3	77	68	61	55	68	61	55	50	47	43	40	35	33	30	24	22	21	16																				
4	70	60	53	47	62	54	48	43	42	38	34	31	28	26	21	19	18	14																				
5	64	53	46	40	57	48	41	36	38	33	29	28	25	23	19	17	16	12																				
6	59	48	40	35	53	43	36	32	34	29	26	25	22	20	17	15	14	11																				
7	55	43	35	30	49	39	32	28	31	26	22	23	20	17	16	14	12	9																				
8	51	39	32	26	45	35	29	24	28	23	20	21	18	15	15	13	11	8																				
9	47	35	28	23	42	32	26	21	25	21	18	19	16	14	13	11	10	8																				
10	44	32	25	21	39	29	23	19	23	19	16	18	15	12	12	10	9	7																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4297	4297	4297
5°	4306	4254	4280
10°	4279	4203	4203
15°	4231	4115	4084
20°	4163	3998	3924
25°	4077	3862	3764
30°	3993	3719	3564
35°	3900	3571	3362
40°	3789	3402	3144
45°	3685	3234	2923
50°	3567	3041	2688
55°	3441	2839	2432
60°	3303	2619	2172
65°	3177	2344	1914
70°	2991	2039	1626
75°	2757	1691	1323
80°	2404	1288	1213
85°	2038	1176	1093



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.0	1.0
10°-20°	139.4	2.9
20°-30°	201.3	4.2
30°-40°	228.2	4.8
40°-50°	220.4	4.6
50°-60°	183.2	3.8
60°-70°	126.5	2.6
70°-80°	64.1	1.3
80°-90°	19.8	0.4
90°-100°	39.3	0.8
100°-110°	250.6	5.2
110°-120°	479.4	10.0
120°-130°	608.6	12.7
130°-140°	651.1	13.6
140°-150°	608.9	12.7
150°-160°	491.0	10.3
160°-170°	316.7	6.6
170°-180°	109.2	2.3
0°-30°	390.7	8.2
0°-40°	619.0	12.9
0°-60°	1022.6	21.4
0°-90°	1233.0	25.8
90°-120°	769.3	16.1
90°-150°	2637.9	55.1
90°-180°	3555.0	74.3
0°-180°	4787.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	532	532	532	532	532	
5°	531	530	525	529	528	50
15°	506	502	492	491	489	143
25°	458	450	434	427	423	211
35°	396	382	362	349	341	247
45°	323	307	283	264	256	249
55°	244	228	202	181	173	219
65°	166	148	123	106	100	164
75°	88	73	54	45	42	93
85°	22	14	13	12	12	25
90°	3	12	19	24	26	3
95°	47	20	19	24	25	61
105°	259	264	268	274	245	271
115°	483	485	485	486	486	475
125°	679	682	681	683	684	606
135°	842	842	845	847	848	649
145°	971	974	974	975	976	607
155°	1065	1066	1063	1066	1064	491
165°	1123	1119	1119	1125	1118	317
175°	1149	1144	1145	1152	1142	109
180°	1149	1149	1149	1149	1149	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3
2.5°	533.6	533.2	533.0	532.7	532.4	531.8	531.1	530.3	529.4	528.7	529.4
5°	531.4	531.1	530.7	530.4	529.9	529.3	528.1	527.1	526.0	525.0	525.8
7.5°	526.6	526.2	525.9	525.5	525.1	524.2	522.8	521.3	520.0	518.6	519.1
10°	522.0	521.6	521.2	520.7	520.2	519.2	517.5	515.9	514.3	512.7	513.1
12.5°	516.2	515.7	515.1	514.6	514.1	512.9	510.9	509.0	507.1	505.1	505.4
15°	506.2	505.3	504.5	503.7	502.9	501.4	499.1	496.8	494.6	492.3	492.1
17.5°	494.0	492.8	491.6	490.5	489.3	487.3	484.7	481.9	479.2	476.5	476.0
20°	484.6	483.4	482.2	481.0	479.8	477.8	474.7	471.6	468.5	465.4	464.7
22.5°	474.2	472.8	471.5	470.2	468.8	466.5	463.2	459.9	456.7	453.3	452.3
25°	457.7	456.1	454.4	452.8	451.2	448.5	444.8	441.1	437.3	433.6	432.0
27.5°	440.4	438.3	436.3	434.3	432.2	429.2	425.2	421.3	417.3	413.4	411.4
30°	428.3	426.0	423.8	421.5	419.3	416.0	411.7	407.5	403.2	399.0	396.7
32.5°	415.6	413.0	410.5	407.9	405.4	401.9	397.5	393.1	388.7	384.4	381.7
35°	395.7	392.8	389.9	387.0	384.1	380.4	375.9	371.3	366.9	362.3	359.2
37.5°	374.4	371.4	368.5	365.5	362.5	358.5	353.4	348.4	343.5	338.5	335.0
40°	359.5	356.5	353.4	350.5	347.5	343.5	338.3	333.1	328.0	322.8	319.0
42.5°	345.1	342.0	338.8	335.7	332.6	328.3	323.0	317.5	312.2	306.8	302.9
45°	322.8	319.4	316.1	312.7	309.4	305.0	299.5	294.1	288.7	283.3	278.8
47.5°	299.7	296.3	292.8	289.3	285.9	281.3	275.7	270.0	264.3	258.7	254.1
50°	284.0	280.5	277.0	273.5	269.9	265.3	259.5	253.7	247.9	242.1	237.5
52.5°	268.1	264.6	261.1	257.7	254.3	249.5	243.6	237.6	231.7	225.8	221.2
55°	244.5	240.9	237.3	233.7	230.1	225.2	219.4	213.5	207.6	201.7	197.0
57.5°	221.2	217.4	213.7	209.9	206.1	201.4	195.5	189.8	184.0	178.1	173.4
60°	204.6	201.0	197.3	193.7	190.1	185.4	179.6	173.7	168.0	162.2	157.5
62.5°	189.6	185.8	182.0	178.3	174.5	169.7	163.8	157.8	151.9	145.9	141.5
65°	166.3	162.4	158.5	154.6	150.7	145.9	140.1	134.2	128.5	122.7	118.8
67.5°	142.1	138.4	134.6	130.9	127.2	122.6	117.2	111.8	106.4	101.1	97.7
70°	126.7	123.0	119.2	115.4	111.5	107.0	101.9	96.7	91.5	86.4	83.4
72.5°	110.5	107.0	103.6	100.1	96.7	92.6	87.6	82.7	77.9	73.0	70.5
75°	88.4	85.1	81.7	78.4	75.0	71.2	67.0	62.7	58.5	54.2	52.1
77.5°	66.1	63.3	60.4	57.6	54.8	51.6	48.1	44.7	41.2	37.8	36.6
80°	51.7	49.2	46.5	43.9	41.2	38.6	35.9	33.1	30.4	27.7	27.5
82.5°	39.3	36.9	34.5	32.1	29.7	27.7	26.2	24.6	23.1	21.5	21.4
85°	22.0	20.2	18.4	16.5	14.7	13.7	13.4	13.2	12.9	12.7	12.5
87.5°	8.0	7.8	7.7	7.6	7.4	7.4	7.7	7.9	8.1	8.4	8.5
90°	2.6	4.6	6.8	8.9	11.0	12.8	14.3	15.8	17.4	18.9	20.1
92.5°	10.8	10.9	11.0	11.2	11.3	12.1	13.6	15.2	16.7	18.3	19.4
95°	47.3	40.8	34.3	27.8	21.3	18.2	18.3	18.5	18.7	18.9	20.1
97.5°	100.4	104.4	108.5	112.5	116.6	108.0	86.6	65.3	44.0	22.7	22.8
100°	140.9	144.4	147.8	151.3	154.7	143.3	116.9	90.6	64.1	37.8	34.6
102.5°	186.3	188.9	191.4	193.9	196.4	196.0	192.5	189.1	185.6	182.2	147.1
105°	258.7	259.8	261.0	262.2	263.3	264.3	265.3	266.2	267.3	268.2	269.9
107.5°	325.9	326.5	327.1	327.6	328.2	329.2	330.5	331.7	333.0	334.3	335.2
110°	371.3	371.9	372.5	373.0	373.6	374.4	375.6	376.8	377.9	379.0	379.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	415.3	416.4	417.4	418.4	419.5	420.3	420.8	421.3	421.8	422.3	422.3
115°	483.0	483.6	484.2	484.7	485.3	485.5	485.3	485.2	484.9	484.7	485.2
117.5°	544.1	544.8	545.6	546.4	547.2	547.7	548.1	548.5	549.0	549.4	549.3
120°	585.3	586.1	586.9	587.6	588.4	588.7	588.5	588.3	588.1	587.9	588.3
122.5°	623.8	624.3	624.7	625.2	625.7	626.0	626.3	626.5	626.8	627.1	627.3
125°	679.0	679.8	680.5	681.3	682.1	682.3	681.9	681.5	681.1	680.7	681.3
127.5°	731.2	731.4	731.7	731.8	732.0	732.5	733.5	734.3	735.2	736.1	736.0
130°	765.0	765.2	765.3	765.5	765.7	766.1	766.7	767.2	767.8	768.4	768.6
132.5°	795.9	796.3	796.6	796.9	797.3	797.8	798.6	799.3	800.0	800.7	800.9
135°	842.3	842.1	842.0	841.7	841.5	841.8	842.6	843.3	844.1	844.9	845.2
137.5°	883.4	883.5	883.6	883.6	883.7	884.2	885.0	885.9	886.7	887.5	887.9
140°	910.2	910.6	911.0	911.4	911.7	912.1	912.5	912.9	913.3	913.7	914.2
142.5°	934.3	935.0	935.6	936.3	937.0	937.5	937.7	938.0	938.1	938.4	938.8
145°	971.2	971.8	972.4	972.9	973.5	973.8	973.8	973.8	973.8	973.8	974.0
147.5°	1000.7	1001.7	1002.8	1003.8	1005.0	1005.4	1005.1	1005.0	1004.8	1004.6	1004.8
150°	1021.9	1022.7	1023.5	1024.2	1025.0	1025.3	1025.1	1024.9	1024.8	1024.5	1024.5
152.5°	1039.8	1040.4	1041.0	1041.6	1042.2	1042.4	1042.1	1041.7	1041.4	1041.0	1041.4
155°	1065.0	1065.1	1065.3	1065.5	1065.7	1065.5	1065.0	1064.4	1063.8	1063.2	1063.9
157.5°	1086.1	1086.0	1085.8	1085.7	1085.6	1085.2	1084.6	1083.9	1083.3	1082.6	1083.7
160°	1098.5	1097.9	1097.3	1096.7	1096.1	1095.8	1095.6	1095.4	1095.2	1095.0	1096.1
162.5°	1109.5	1108.7	1108.0	1107.2	1106.6	1106.1	1105.9	1105.7	1105.5	1105.4	1106.5
165°	1123.3	1122.4	1121.5	1120.5	1119.6	1119.0	1119.0	1119.0	1119.0	1119.0	1120.6
167.5°	1134.4	1133.4	1132.4	1131.4	1130.4	1129.9	1129.7	1129.6	1129.5	1129.4	1131.1
170°	1140.6	1139.4	1138.2	1137.1	1136.0	1135.5	1135.7	1135.9	1136.1	1136.3	1137.8
172.5°	1144.7	1143.6	1142.4	1141.3	1140.1	1139.6	1139.8	1140.1	1140.2	1140.4	1141.9
175°	1149.2	1148.1	1146.9	1145.7	1144.6	1144.1	1144.3	1144.5	1144.7	1144.9	1146.6
177.5°	1151.2	1150.1	1149.1	1148.1	1146.9	1146.6	1146.9	1147.2	1147.5	1147.8	1149.0
180°	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3
2.5°	530.3	531.1	531.8	532.2	532.1	532.1	532.0	531.9
5°	526.8	527.6	528.6	528.9	528.7	528.6	528.3	528.1
7.5°	519.7	520.3	520.9	521.0	520.7	520.5	520.1	519.9
10°	513.4	513.8	514.1	514.1	513.8	513.4	513.1	512.7
12.5°	505.6	505.8	506.1	505.9	505.4	504.9	504.4	503.9
15°	492.0	491.8	491.5	491.2	490.5	489.9	489.3	488.6
17.5°	475.4	475.0	474.5	473.7	472.8	471.8	470.9	469.9
20°	464.0	463.2	462.5	461.6	460.4	459.2	458.1	456.8
22.5°	451.2	450.0	449.0	448.0	447.0	446.1	445.1	444.1
25°	430.5	429.0	427.5	426.3	425.3	424.4	423.5	422.6
27.5°	409.5	407.6	405.7	404.2	402.8	401.5	400.2	398.9
30°	394.4	392.2	389.9	388.1	386.6	385.2	383.7	382.3
32.5°	379.1	376.4	373.8	371.8	370.4	369.0	367.6	366.3
35°	356.1	353.1	350.0	347.7	346.0	344.4	342.8	341.1
37.5°	331.6	328.1	324.7	322.1	320.5	318.8	317.2	315.6
40°	315.1	311.3	307.5	304.9	303.2	301.6	300.0	298.3
42.5°	299.0	295.2	291.3	288.5	286.8	285.1	283.4	281.7
45°	274.4	269.9	265.4	262.4	260.8	259.2	257.5	256.0
47.5°	249.5	244.9	240.3	237.1	235.3	233.5	231.7	230.0
50°	233.0	228.5	223.9	220.8	219.1	217.4	215.7	214.0
52.5°	216.5	212.0	207.4	204.1	202.4	200.6	198.8	197.0
55°	192.3	187.6	182.9	179.7	178.0	176.2	174.5	172.8
57.5°	168.6	163.8	159.0	156.0	154.7	153.4	152.1	150.8
60°	152.7	148.1	143.4	140.3	138.8	137.4	136.0	134.5
62.5°	137.2	132.9	128.5	125.8	124.6	123.5	122.3	121.1
65°	114.9	111.0	107.1	104.6	103.5	102.5	101.3	100.2
67.5°	94.4	91.0	87.6	85.4	84.2	83.0	81.8	80.6
70°	80.4	77.4	74.5	72.5	71.5	70.7	69.7	68.9
72.5°	67.9	65.3	62.9	61.1	60.3	59.5	58.6	57.8
75°	50.0	48.0	45.9	44.6	44.0	43.5	43.0	42.4
77.5°	35.4	34.2	33.0	32.3	32.1	31.9	31.8	31.6
80°	27.2	26.9	26.6	26.4	26.3	26.3	26.2	26.1
82.5°	21.1	20.9	20.8	20.6	20.5	20.4	20.3	20.2
85°	12.3	12.1	11.9	11.8	11.8	11.8	11.8	11.8
87.5°	8.7	8.8	9.0	9.1	9.3	9.4	9.6	9.7
90°	21.2	22.4	23.5	24.3	24.6	25.1	25.4	25.7
92.5°	20.5	21.7	22.8	23.4	23.5	23.6	23.7	23.8
95°	21.2	22.4	23.5	24.2	24.4	24.5	24.7	24.9
97.5°	22.9	23.1	23.2	23.3	23.5	23.7	23.8	24.1
100°	31.3	28.1	24.8	23.3	23.5	23.7	23.8	24.1
102.5°	112.2	77.1	42.1	24.6	24.6	24.7	24.7	24.8
105°	271.6	273.3	275.0	272.5	265.6	258.7	251.8	245.0
107.5°	336.0	336.9	337.7	338.5	339.2	339.9	340.7	341.4
110°	379.8	380.2	380.6	381.1	381.6	382.2	382.8	383.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	422.2	422.1	422.1	422.4	423.1	423.9	424.6	425.2
115°	485.5	485.9	486.3	486.5	486.5	486.5	486.5	486.5
117.5°	549.2	549.1	549.1	549.1	549.0	548.9	548.8	548.7
120°	588.7	589.0	589.4	589.4	589.0	588.7	588.3	587.9
122.5°	627.6	627.8	628.0	627.9	627.6	627.2	626.8	626.4
125°	681.9	682.4	683.0	683.4	683.6	683.8	684.0	684.2
127.5°	735.9	735.7	735.6	735.5	735.4	735.2	735.0	734.9
130°	768.8	769.0	769.1	769.3	769.3	769.3	769.3	769.3
132.5°	801.1	801.3	801.5	801.5	801.3	801.2	801.1	800.9
135°	845.7	846.0	846.4	846.8	847.2	847.6	847.9	848.3
137.5°	888.4	888.8	889.2	889.3	889.2	889.2	889.0	888.9
140°	914.8	915.4	915.9	916.4	916.5	916.7	916.9	917.1
142.5°	939.3	939.7	940.1	940.3	940.4	940.4	940.5	940.5
145°	974.2	974.4	974.6	974.9	975.3	975.6	976.0	976.4
147.5°	1004.9	1005.0	1005.2	1005.4	1005.6	1005.7	1006.0	1006.2
150°	1024.5	1024.5	1024.5	1024.6	1024.8	1025.0	1025.2	1025.4
152.5°	1041.6	1042.0	1042.2	1042.3	1042.2	1042.2	1042.0	1041.9
155°	1064.7	1065.5	1066.3	1066.3	1065.8	1065.2	1064.6	1064.1
157.5°	1084.6	1085.6	1086.6	1086.6	1085.6	1084.6	1083.7	1082.6
160°	1097.3	1098.5	1099.6	1099.6	1098.5	1097.3	1096.1	1095.0
162.5°	1107.6	1108.8	1109.9	1109.8	1108.5	1107.2	1106.0	1104.7
165°	1122.1	1123.7	1125.2	1125.1	1123.3	1121.6	1119.9	1118.2
167.5°	1132.7	1134.5	1136.1	1136.0	1134.1	1132.2	1130.2	1128.3
170°	1139.4	1140.8	1142.4	1142.2	1140.3	1138.4	1136.4	1134.5
172.5°	1143.5	1145.0	1146.5	1146.2	1144.2	1142.1	1140.1	1138.0
175°	1148.3	1150.0	1151.8	1151.4	1149.2	1146.9	1144.6	1142.3
177.5°	1150.2	1151.4	1152.7	1152.4	1150.6	1148.7	1146.9	1145.0
180°	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2

(END OF REPORT)