

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: P332893-927

Luminaire Tested: **SA4XXRDIP-C350D1205U927-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332893-927
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-C350D1205U927-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1205 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4436.6 lumens
Efficiency: N/A
Efficacy: 105.1 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

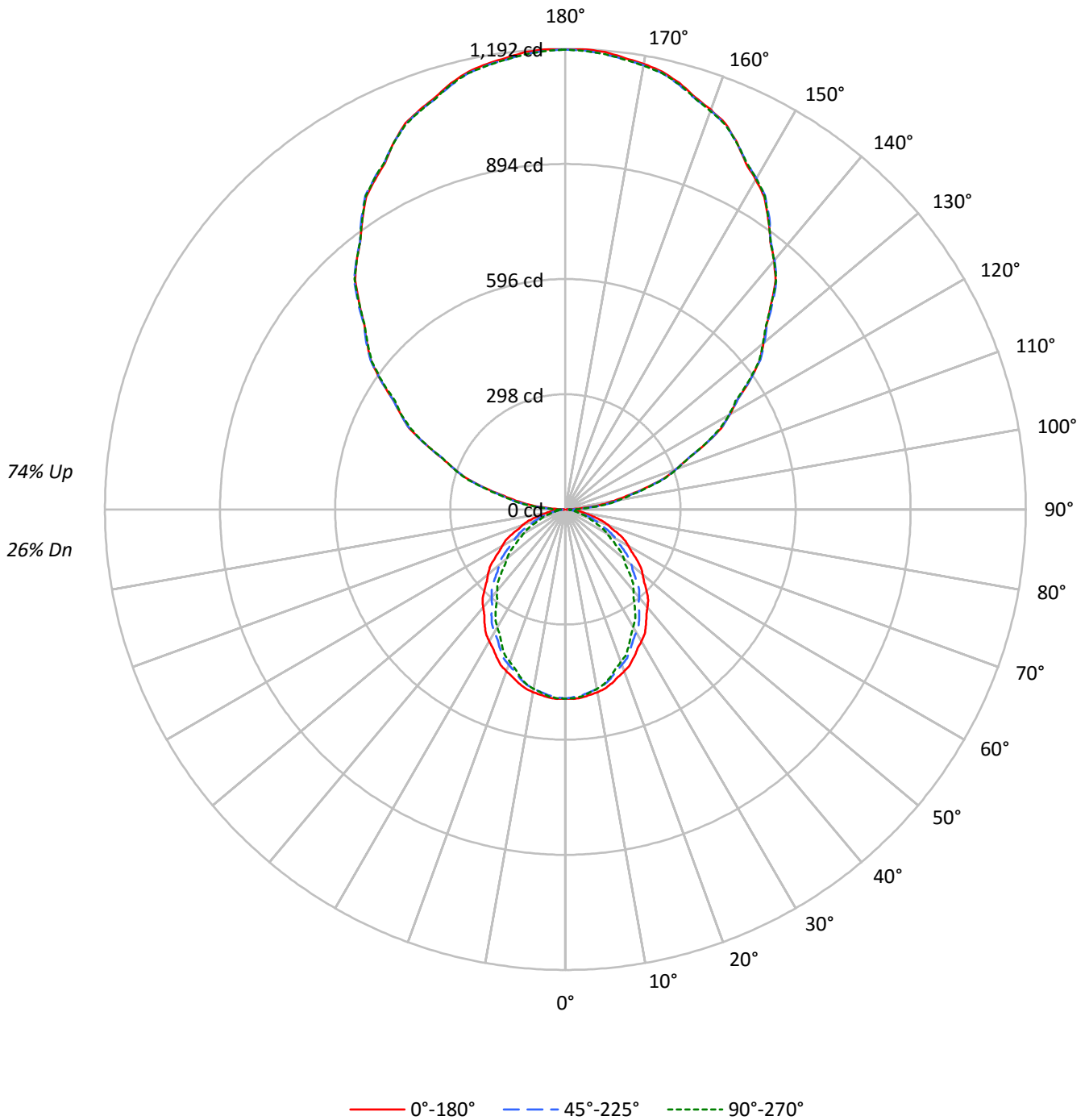
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	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	37	36	26	25	24	18				
3	77	68	61	55	68	61	55	50	47	43	40	35	32	30	24	22	21	16				
4	70	60	53	47	62	54	47	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	22	19	17	16	12				
6	59	48	40	35	53	43	36	31	34	29	25	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	14	12	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°	3953	3953	3953
5°	3962	3914	3938
10°	3937	3867	3867
15°	3892	3786	3758
20°	3830	3679	3611
25°	3751	3553	3463
30°	3674	3422	3278
35°	3588	3286	3094
40°	3485	3130	2893
45°	3391	2975	2689
50°	3282	2798	2473
55°	3167	2612	2238
60°	3039	2409	1997
65°	2923	2157	1761
70°	2752	1876	1496
75°	2539	1556	1216
80°	2213	1186	1116
85°	1880	1074	1010



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.0	1.0
10°-20°	128.3	2.9
20°-30°	185.2	4.2
30°-40°	210.0	4.7
40°-50°	202.8	4.6
50°-60°	168.6	3.8
60°-70°	116.4	2.6
70°-80°	59.0	1.3
80°-90°	18.7	0.4
90°-100°	78.5	1.8
100°-110°	232.5	5.2
110°-120°	394.6	8.9
120°-130°	520.4	11.7
130°-140°	584.4	13.2
140°-150°	574.3	12.9
150°-160°	483.0	10.9
160°-170°	321.4	7.2
170°-180°	112.5	2.5
0°-30°	359.5	8.1
0°-40°	569.5	12.8
0°-60°	940.8	21.2
0°-90°	1135.0	25.6
90°-120°	705.6	15.9
90°-150°	2384.7	53.8
90°-180°	3302.0	74.4
0°-180°	4436.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	490	490	490	490	490	
5°	489	487	483	486	486	46
15°	466	462	453	452	450	131
25°	421	414	399	393	389	194
35°	364	352	333	321	314	227
45°	297	283	261	243	236	229
55°	225	209	186	167	159	201
65°	153	136	113	97	92	151
75°	81	67	50	42	39	86
85°	20	13	12	11	11	23
90°	3	13	20	26	28	4
95°	55	63	70	73	73	61
105°	214	216	219	222	225	228
115°	401	401	399	398	398	396
125°	584	584	584	582	580	521
135°	754	759	759	757	755	583
145°	916	919	920	919	917	573
155°	1049	1049	1048	1052	1048	483
165°	1142	1139	1138	1143	1139	322
175°	1188	1184	1183	1188	1183	113
180°	1190	1190	1190	1190	1190	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7
2.5°	490.9	490.6	490.4	490.1	489.8	489.3	488.6	487.9	487.1	486.4	487.1
5°	488.9	488.6	488.3	488.0	487.6	487.0	485.9	485.0	483.9	483.0	483.8
7.5°	484.5	484.2	483.9	483.5	483.2	482.3	481.0	479.7	478.4	477.1	477.6
10°	480.3	479.9	479.5	479.1	478.6	477.7	476.2	474.7	473.2	471.7	472.1
12.5°	474.9	474.4	474.0	473.5	473.0	471.9	470.1	468.3	466.6	464.8	465.0
15°	465.7	464.9	464.2	463.4	462.7	461.3	459.2	457.1	455.0	453.0	452.8
17.5°	454.6	453.4	452.3	451.3	450.2	448.4	445.9	443.4	440.9	438.4	437.9
20°	445.8	444.7	443.7	442.6	441.5	439.6	436.7	433.9	431.0	428.2	427.5
22.5°	436.3	435.0	433.8	432.6	431.3	429.2	426.2	423.2	420.2	417.1	416.1
25°	421.1	419.6	418.1	416.6	415.1	412.6	409.2	405.8	402.3	398.9	397.5
27.5°	405.2	403.3	401.4	399.6	397.7	394.9	391.3	387.6	384.0	380.3	378.5
30°	394.1	392.0	389.9	387.9	385.8	382.8	378.8	374.9	371.0	367.1	365.0
32.5°	382.4	380.0	377.7	375.3	373.0	369.8	365.8	361.7	357.7	353.6	351.2
35°	364.1	361.4	358.8	356.1	353.4	350.0	345.9	341.7	337.5	333.4	330.5
37.5°	344.5	341.7	339.1	336.3	333.5	329.9	325.2	320.6	316.0	311.4	308.2
40°	330.7	328.0	325.2	322.5	319.7	316.0	311.2	306.5	301.7	297.0	293.5
42.5°	317.5	314.7	311.7	308.9	306.0	302.1	297.1	292.2	287.2	282.3	278.7
45°	297.0	293.9	290.8	287.7	284.6	280.6	275.6	270.6	265.6	260.6	256.5
47.5°	275.8	272.6	269.4	266.2	263.0	258.8	253.7	248.4	243.2	238.1	233.8
50°	261.3	258.1	254.8	251.6	248.3	244.1	238.8	233.4	228.1	222.8	218.6
52.5°	246.7	243.4	240.3	237.1	233.9	229.6	224.1	218.6	213.2	207.7	203.5
55°	225.0	221.7	218.3	215.0	211.7	207.2	201.8	196.5	191.0	185.6	181.3
57.5°	203.5	200.0	196.6	193.1	189.6	185.3	179.9	174.6	169.3	163.9	159.5
60°	188.2	184.9	181.6	178.2	174.9	170.6	165.2	159.9	154.6	149.2	144.9
62.5°	174.4	171.0	167.5	164.1	160.6	156.1	150.7	145.2	139.7	134.3	130.2
65°	153.0	149.4	145.8	142.3	138.6	134.2	128.9	123.5	118.2	112.9	109.3
67.5°	130.7	127.3	123.8	120.4	117.0	112.8	107.8	102.9	97.9	93.0	89.9
70°	116.6	113.1	109.6	106.2	102.6	98.5	93.7	89.0	84.2	79.5	76.8
72.5°	101.6	98.5	95.3	92.1	89.0	85.2	80.6	76.1	71.7	67.2	64.9
75°	81.4	78.3	75.2	72.1	69.0	65.5	61.6	57.7	53.8	49.9	47.9
77.5°	60.8	58.2	55.6	53.0	50.4	47.5	44.3	41.1	37.9	34.8	33.7
80°	47.6	45.2	42.8	40.4	37.9	35.5	33.0	30.5	28.0	25.5	25.3
82.5°	36.2	34.0	31.8	29.5	27.3	25.5	24.1	22.7	21.2	19.8	19.6
85°	20.3	18.6	17.0	15.2	13.5	12.6	12.4	12.1	11.9	11.6	11.5
87.5°	7.4	7.4	7.3	7.2	7.1	7.2	7.4	7.8	8.0	8.2	8.4
90°	2.8	5.0	7.3	9.5	11.7	13.7	15.4	17.0	18.6	20.3	21.5
92.5°	19.7	22.3	24.9	27.4	30.0	31.8	33.0	34.1	35.3	36.4	37.2
95°	55.2	57.0	58.9	60.8	62.6	64.2	65.7	67.1	68.5	69.9	70.6
97.5°	96.5	97.9	99.4	100.8	102.3	103.9	105.6	107.3	108.9	110.6	111.4
100°	128.9	129.7	130.5	131.3	132.1	133.5	135.3	137.1	138.9	140.9	141.2
102.5°	162.7	163.0	163.3	163.7	164.1	165.0	166.7	168.4	170.1	171.7	172.3
105°	214.4	214.7	214.8	215.1	215.2	215.8	216.6	217.4	218.2	219.0	219.7
107.5°	268.7	269.0	269.3	269.5	269.7	269.9	270.1	270.1	270.3	270.4	271.0
110°	305.5	305.9	306.3	306.8	307.2	307.3	307.1	306.9	306.7	306.5	306.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	343.8	344.0	344.0	344.1	344.2	344.0	343.6	343.3	342.9	342.5	342.5
115°	401.2	401.2	401.2	401.2	401.2	401.1	400.7	400.3	399.8	399.4	399.3
117.5°	455.4	455.6	455.7	455.9	456.1	456.0	455.7	455.4	455.1	454.9	454.2
120°	491.5	492.3	493.1	493.9	494.7	494.9	494.2	493.6	493.0	492.4	491.4
122.5°	529.0	529.3	529.7	530.0	530.4	530.4	530.0	529.8	529.5	529.2	528.5
125°	584.4	584.4	584.4	584.4	584.4	584.3	584.2	583.9	583.7	583.5	583.1
127.5°	634.7	635.3	635.9	636.5	637.2	637.3	636.9	636.6	636.3	636.0	635.6
130°	670.0	670.7	671.2	671.8	672.5	672.8	672.8	672.8	672.8	672.8	672.4
132.5°	706.1	706.5	707.0	707.4	707.9	708.1	707.9	707.7	707.6	707.4	706.9
135°	753.8	755.0	756.2	757.5	758.7	759.3	759.3	759.3	759.3	759.3	758.9
137.5°	805.6	806.3	806.8	807.4	807.9	808.4	808.7	809.1	809.4	809.7	809.2
140°	840.3	840.7	841.1	841.5	841.9	842.1	842.1	842.1	842.1	842.1	841.9
142.5°	872.0	872.4	872.7	873.1	873.6	873.7	873.5	873.4	873.2	873.1	873.0
145°	915.8	916.6	917.4	918.2	919.0	919.6	919.7	920.0	920.1	920.4	920.1
147.5°	959.2	960.2	961.2	962.1	963.1	963.5	963.4	963.2	963.1	962.9	962.7
150°	985.7	986.5	987.4	988.2	989.0	989.4	989.4	989.4	989.4	989.4	989.4
152.5°	1010.7	1011.2	1011.7	1012.2	1012.7	1013.0	1013.2	1013.4	1013.5	1013.7	1014.2
155°	1049.2	1049.2	1049.2	1049.2	1049.2	1049.1	1048.9	1048.7	1048.5	1048.3	1049.1
157.5°	1081.6	1081.2	1080.9	1080.5	1080.1	1079.9	1079.9	1079.8	1079.8	1079.7	1080.4
160°	1100.7	1100.6	1100.3	1100.1	1099.9	1099.7	1099.5	1099.3	1099.1	1098.9	1099.5
162.5°	1118.4	1117.8	1117.4	1116.8	1116.3	1115.9	1115.7	1115.6	1115.3	1115.1	1116.2
165°	1142.2	1141.5	1140.9	1140.3	1139.7	1139.2	1138.8	1138.4	1138.0	1137.6	1138.8
167.5°	1160.4	1159.5	1158.6	1157.8	1157.0	1156.5	1156.6	1156.6	1156.7	1156.7	1157.9
170°	1170.7	1169.7	1168.6	1167.6	1166.6	1166.2	1166.4	1166.6	1166.8	1167.0	1168.2
172.5°	1178.1	1177.2	1176.3	1175.4	1174.6	1174.2	1174.3	1174.3	1174.3	1174.4	1175.8
175°	1188.2	1187.2	1186.1	1185.1	1184.1	1183.4	1183.3	1183.0	1182.9	1182.6	1184.1
177.5°	1191.5	1190.6	1189.9	1189.1	1188.2	1187.8	1187.8	1187.8	1187.8	1187.8	1189.0
180°	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7
2.5°	487.9	488.6	489.3	489.6	489.6	489.6	489.5	489.4
5°	484.7	485.4	486.3	486.6	486.5	486.3	486.1	485.9
7.5°	478.2	478.7	479.3	479.3	479.1	478.9	478.6	478.3
10°	472.4	472.7	473.0	473.0	472.7	472.4	472.1	471.7
12.5°	465.2	465.4	465.6	465.5	465.0	464.5	464.1	463.6
15°	452.7	452.5	452.3	451.9	451.3	450.8	450.2	449.6
17.5°	437.4	437.0	436.6	435.9	435.0	434.1	433.2	432.4
20°	426.9	426.2	425.6	424.7	423.6	422.5	421.4	420.3
22.5°	415.1	414.1	413.1	412.2	411.3	410.4	409.6	408.6
25°	396.1	394.7	393.3	392.2	391.3	390.5	389.7	388.8
27.5°	376.8	375.0	373.3	371.9	370.6	369.4	368.2	367.0
30°	362.9	360.8	358.8	357.0	355.7	354.4	353.1	351.7
32.5°	348.8	346.3	344.0	342.1	340.8	339.5	338.3	337.0
35°	327.6	324.9	322.0	319.9	318.4	316.9	315.4	313.9
37.5°	305.1	301.9	298.7	296.4	294.9	293.3	291.8	290.3
40°	289.9	286.5	283.0	280.5	279.0	277.5	276.0	274.5
42.5°	275.1	271.6	268.0	265.5	263.9	262.3	260.7	259.2
45°	252.5	248.3	244.2	241.5	240.0	238.4	236.9	235.5
47.5°	229.6	225.3	221.1	218.2	216.5	214.8	213.2	211.6
50°	214.4	210.2	206.0	203.2	201.6	200.0	198.4	196.9
52.5°	199.2	195.0	190.8	187.8	186.2	184.6	182.9	181.3
55°	177.0	172.6	168.3	165.3	163.7	162.2	160.6	159.0
57.5°	155.1	150.8	146.3	143.5	142.4	141.2	139.9	138.7
60°	140.5	136.3	131.9	129.0	127.7	126.4	125.1	123.7
62.5°	126.3	122.2	118.3	115.7	114.6	113.6	112.5	111.5
65°	105.7	102.1	98.5	96.3	95.2	94.3	93.2	92.2
67.5°	86.8	83.7	80.6	78.6	77.5	76.4	75.3	74.1
70°	74.0	71.2	68.5	66.7	65.8	65.0	64.2	63.4
72.5°	62.5	60.1	57.8	56.2	55.5	54.7	53.9	53.2
75°	46.0	44.1	42.2	41.0	40.5	40.0	39.5	39.0
77.5°	32.6	31.4	30.3	29.7	29.5	29.4	29.2	29.1
80°	25.0	24.7	24.5	24.3	24.2	24.2	24.1	24.0
82.5°	19.4	19.3	19.1	18.9	18.9	18.8	18.7	18.6
85°	11.3	11.1	10.9	10.9	10.9	10.9	10.9	10.9
87.5°	8.6	8.8	9.0	9.1	9.3	9.4	9.6	9.7
90°	22.7	23.9	25.2	26.0	26.4	26.8	27.2	27.6
92.5°	37.9	38.7	39.4	39.8	40.2	40.4	40.6	40.9
95°	71.1	71.8	72.4	72.7	72.7	72.7	72.7	72.7
97.5°	112.1	112.8	113.6	113.9	113.9	113.9	113.9	113.9
100°	141.6	142.0	142.4	142.7	142.7	142.7	142.7	142.7
102.5°	172.9	173.5	174.0	174.4	174.6	174.8	174.9	175.1
105°	220.3	220.9	221.5	222.1	222.8	223.3	223.9	224.6
107.5°	271.6	272.1	272.7	273.0	272.9	272.9	272.8	272.8
110°	305.6	305.2	304.8	304.9	305.5	306.2	306.8	307.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	342.4	342.3	342.2	342.2	342.4	342.5	342.6	342.8
115°	399.0	398.8	398.6	398.4	398.2	398.0	397.8	397.6
117.5°	453.4	452.7	452.0	451.5	451.1	450.7	450.3	449.9
120°	490.4	489.3	488.3	488.0	488.4	488.8	489.3	489.6
122.5°	527.8	527.1	526.4	525.7	525.0	524.3	523.5	522.8
125°	582.7	582.3	581.9	581.5	581.1	580.7	580.2	579.8
127.5°	635.2	634.8	634.3	634.0	633.7	633.3	633.0	632.6
130°	671.9	671.5	671.1	670.5	669.7	668.9	668.0	667.3
132.5°	706.5	706.2	705.8	705.4	705.0	704.7	704.4	704.1
135°	758.5	758.0	757.6	757.2	756.5	755.9	755.3	754.7
137.5°	808.7	808.1	807.6	807.4	807.6	807.6	807.8	807.9
140°	841.7	841.5	841.3	841.1	840.9	840.7	840.5	840.3
142.5°	873.0	872.9	872.9	872.8	872.8	872.7	872.7	872.7
145°	920.0	919.7	919.6	919.1	918.5	917.9	917.3	916.7
147.5°	962.6	962.4	962.2	962.0	961.9	961.6	961.4	961.2
150°	989.4	989.4	989.4	989.3	989.0	988.9	988.6	988.5
152.5°	1014.6	1015.2	1015.7	1015.7	1015.1	1014.5	1014.0	1013.5
155°	1050.0	1050.8	1051.5	1051.5	1050.8	1050.0	1049.1	1048.3
157.5°	1081.0	1081.6	1082.2	1082.2	1081.5	1080.8	1080.1	1079.4
160°	1100.1	1100.7	1101.4	1101.1	1100.1	1099.1	1098.1	1097.1
162.5°	1117.3	1118.4	1119.5	1119.6	1118.6	1117.5	1116.5	1115.5
165°	1140.0	1141.2	1142.5	1142.6	1141.9	1141.1	1140.2	1139.4
167.5°	1159.1	1160.4	1161.6	1161.6	1160.3	1159.0	1157.8	1156.5
170°	1169.5	1170.7	1172.0	1171.8	1170.4	1168.9	1167.5	1166.1
172.5°	1177.2	1178.5	1180.0	1180.0	1178.5	1177.0	1175.6	1174.2
175°	1185.5	1186.9	1188.4	1188.4	1186.9	1185.5	1184.1	1182.6
177.5°	1190.1	1191.3	1192.4	1192.3	1191.0	1189.7	1188.4	1187.1
180°	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0

(END OF REPORT)