

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: P332887-830

Luminaire Tested: **SA4XXRDIP-C350D1035U830-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332887-830
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-C350D1035U830-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1035 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4724.7 lumens
Efficiency: N/A
Efficacy: 126.7 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

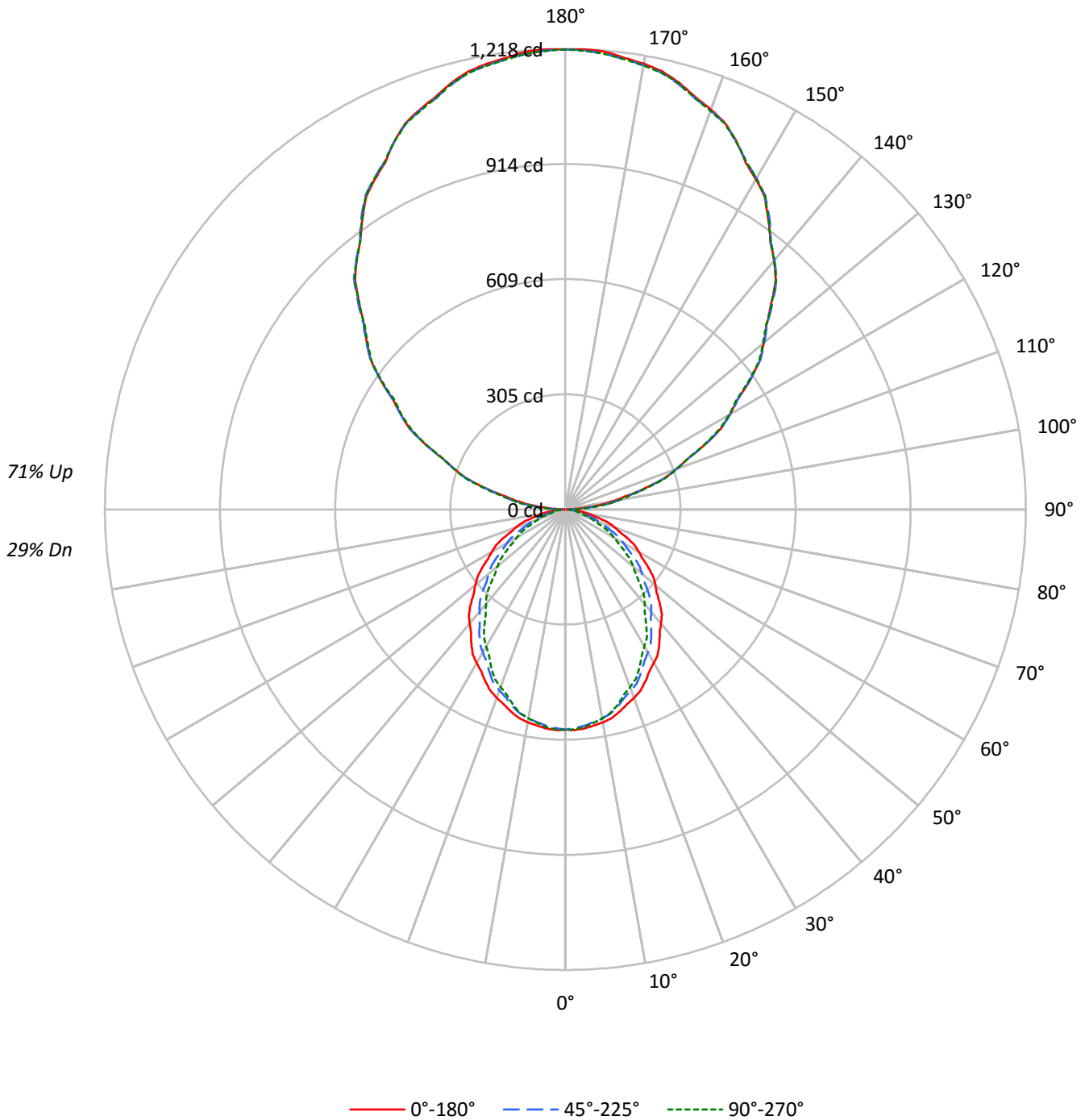
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	0
RCR																		
0	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	29
1	93	89	85	82	83	80	77	74	63	61	59	47	46	44	32	32	31	24
2	85	78	72	67	76	70	65	61	55	52	49	41	39	37	29	27	26	21
3	77	68	62	56	69	62	56	51	49	45	41	37	34	32	26	24	23	18
4	71	61	53	47	63	55	48	43	43	39	35	33	30	27	23	21	19	15
5	65	54	46	40	58	49	42	37	39	34	30	29	26	24	21	19	17	13
6	60	48	40	35	53	44	37	32	35	30	26	26	23	21	19	17	15	12
7	55	43	36	30	49	39	33	28	31	27	23	24	21	18	17	15	13	10
8	51	39	32	27	46	36	29	25	29	24	20	22	19	16	16	14	12	9
9	48	36	29	24	43	32	26	22	26	21	18	20	17	14	14	12	11	9
10	44	33	26	21	40	30	24	20	24	19	16	19	15	13	13	11	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4704	4704	4704
5°	4714	4657	4686
10°	4685	4601	4601
15°	4631	4504	4471
20°	4558	4376	4296
25°	4464	4228	4121
30°	4371	4072	3901
35°	4269	3909	3680
40°	4147	3724	3442
45°	4035	3540	3199
50°	3905	3328	2941
55°	3768	3108	2663
60°	3615	2868	2377
65°	3477	2565	2096
70°	3274	2231	1780
75°	3019	1853	1447
80°	2631	1409	1330
85°	2232	1288	1195



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.7	1.2
10°-20°	152.6	3.2
20°-30°	220.4	4.7
30°-40°	249.8	5.3
40°-50°	241.2	5.1
50°-60°	200.6	4.2
60°-70°	138.5	2.9
70°-80°	70.2	1.5
80°-90°	21.6	0.5
90°-100°	80.2	1.7
100°-110°	237.7	5.0
110°-120°	403.4	8.5
120°-130°	531.9	11.3
130°-140°	597.4	12.6
140°-150°	587.0	12.4
150°-160°	493.7	10.4
160°-170°	328.5	7.0
170°-180°	115.0	2.4
0°-30°	427.8	9.1
0°-40°	677.6	14.3
0°-60°	1119.4	23.7
0°-90°	1349.8	28.6
90°-120°	721.3	15.3
90°-150°	2437.7	51.6
90°-180°	3375.0	71.4
0°-180°	4724.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	583	583	583	583	583	
5°	582	580	575	579	578	55
15°	554	550	539	538	535	156
25°	501	492	475	467	463	231
35°	433	418	397	382	373	271
45°	353	336	310	289	280	272
55°	268	249	221	198	189	239
65°	182	162	134	116	110	180
75°	97	80	59	50	46	102
85°	24	16	14	13	13	27
90°	3	13	21	26	28	5
95°	56	65	72	74	74	63
105°	219	220	224	227	230	233
115°	410	410	408	407	406	404
125°	597	597	596	595	593	532
135°	770	776	776	774	772	596
145°	936	940	941	940	937	586
155°	1072	1072	1072	1075	1072	493
165°	1168	1165	1163	1168	1165	329
175°	1215	1210	1209	1215	1209	115
180°	1216	1216	1216	1216	1216	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7
2.5°	584.1	583.7	583.4	583.2	582.8	582.2	581.4	580.5	579.6	578.7	579.6
5°	581.7	581.4	581.0	580.6	580.1	579.4	578.2	577.0	575.8	574.7	575.6
7.5°	576.5	576.1	575.7	575.2	574.9	573.8	572.3	570.7	569.2	567.7	568.3
10°	571.5	571.0	570.5	570.0	569.5	568.4	566.6	564.8	563.0	561.3	561.7
12.5°	565.1	564.5	563.9	563.4	562.8	561.5	559.3	557.2	555.2	553.0	553.3
15°	554.1	553.2	552.3	551.4	550.5	548.8	546.4	543.8	541.4	538.9	538.8
17.5°	540.8	539.5	538.2	537.0	535.6	533.5	530.6	527.5	524.6	521.6	521.0
20°	530.5	529.1	527.9	526.6	525.3	523.0	519.6	516.2	512.8	509.4	508.7
22.5°	519.1	517.6	516.1	514.7	513.2	510.7	507.1	503.5	499.9	496.2	495.1
25°	501.1	499.3	497.5	495.7	493.9	491.0	486.9	482.9	478.7	474.7	473.0
27.5°	482.1	479.8	477.6	475.4	473.2	469.9	465.5	461.2	456.9	452.5	450.3
30°	468.9	466.4	463.9	461.5	459.0	455.4	450.7	446.1	441.4	436.8	434.3
32.5°	455.0	452.1	449.4	446.6	443.7	440.0	435.2	430.4	425.6	420.8	417.8
35°	433.2	430.0	426.9	423.7	420.5	416.4	411.5	406.5	401.6	396.6	393.2
37.5°	409.9	406.6	403.4	400.1	396.8	392.5	386.9	381.4	376.0	370.5	366.7
40°	393.5	390.2	386.9	383.7	380.4	376.0	370.3	364.7	359.0	353.4	349.2
42.5°	377.8	374.4	370.9	367.5	364.1	359.4	353.5	347.6	341.8	335.8	331.6
45°	353.4	349.7	346.0	342.3	338.7	333.8	327.9	322.0	316.0	310.1	305.2
47.5°	328.1	324.3	320.6	316.7	312.9	307.9	301.8	295.6	289.4	283.2	278.1
50°	310.9	307.1	303.2	299.4	295.5	290.4	284.1	277.7	271.4	265.0	260.0
52.5°	293.5	289.6	285.9	282.1	278.3	273.1	266.6	260.1	253.6	247.1	242.1
55°	267.7	263.7	259.8	255.8	251.8	246.6	240.2	233.8	227.2	220.8	215.7
57.5°	242.1	238.0	233.9	229.8	225.6	220.5	214.1	207.7	201.4	195.0	189.8
60°	223.9	220.0	216.0	212.1	208.1	202.9	196.6	190.2	183.9	177.6	172.4
62.5°	207.5	203.4	199.3	195.2	191.1	185.8	179.3	172.8	166.3	159.8	155.0
65°	182.0	177.8	173.5	169.3	164.9	159.7	153.4	146.9	140.6	134.3	130.1
67.5°	155.5	151.5	147.3	143.3	139.2	134.2	128.3	122.4	116.5	110.7	107.0
70°	138.7	134.6	130.4	126.3	122.1	117.2	111.5	105.8	100.2	94.5	91.3
72.5°	120.9	117.2	113.4	109.6	105.8	101.3	96.0	90.6	85.3	79.9	77.2
75°	96.8	93.1	89.4	85.8	82.1	77.9	73.3	68.6	64.0	59.4	57.0
77.5°	72.4	69.3	66.2	63.1	59.9	56.5	52.7	48.9	45.1	41.4	40.1
80°	56.6	53.8	50.9	48.1	45.1	42.2	39.3	36.3	33.3	30.3	30.1
82.5°	43.1	40.4	37.8	35.2	32.5	30.3	28.7	27.0	25.3	23.6	23.4
85°	24.1	22.1	20.2	18.1	16.1	15.0	14.7	14.4	14.1	13.9	13.7
87.5°	8.8	8.6	8.4	8.3	8.1	8.1	8.4	8.7	8.9	9.1	9.3
90°	2.8	5.1	7.4	9.7	12.1	14.0	15.6	17.3	19.0	20.7	22.0
92.5°	20.2	22.8	25.4	28.0	30.6	32.6	33.7	34.9	36.1	37.2	38.0
95°	56.5	58.3	60.2	62.1	64.0	65.6	67.1	68.6	70.0	71.5	72.1
97.5°	98.6	100.1	101.6	103.1	104.6	106.2	107.9	109.6	111.4	113.1	113.9
100°	131.7	132.5	133.4	134.2	135.1	136.4	138.3	140.2	142.0	143.9	144.4
102.5°	166.4	166.6	167.0	167.3	167.7	168.7	170.4	172.1	173.8	175.6	176.2
105°	219.2	219.4	219.6	219.8	220.1	220.6	221.4	222.3	223.1	223.9	224.5
107.5°	274.8	274.9	275.2	275.5	275.7	275.9	276.1	276.2	276.3	276.4	277.0
110°	312.4	312.7	313.2	313.6	314.1	314.1	313.9	313.7	313.5	313.3	312.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	351.5	351.6	351.7	351.8	351.9	351.7	351.3	350.9	350.5	350.2	350.1
115°	410.2	410.2	410.2	410.2	410.2	410.0	409.5	409.2	408.7	408.3	408.1
117.5°	465.5	465.7	465.8	466.0	466.2	466.1	465.8	465.5	465.2	465.0	464.2
120°	502.4	503.2	504.1	504.9	505.8	505.9	505.2	504.5	504.0	503.3	502.3
122.5°	540.7	541.1	541.4	541.8	542.1	542.2	541.9	541.5	541.2	540.9	540.3
125°	597.4	597.4	597.4	597.4	597.4	597.3	597.1	596.9	596.6	596.4	596.1
127.5°	648.8	649.4	650.0	650.6	651.3	651.4	651.1	650.7	650.4	650.1	649.7
130°	684.9	685.5	686.2	686.7	687.4	687.7	687.7	687.7	687.7	687.7	687.3
132.5°	721.8	722.3	722.6	723.1	723.6	723.8	723.6	723.4	723.2	723.1	722.6
135°	770.5	771.8	773.0	774.3	775.5	776.2	776.2	776.2	776.2	776.2	775.7
137.5°	823.6	824.2	824.7	825.3	826.0	826.3	826.7	827.1	827.4	827.7	827.2
140°	858.9	859.3	859.8	860.2	860.6	860.8	860.8	860.8	860.8	860.8	860.6
142.5°	891.3	891.7	892.1	892.6	893.0	893.1	893.0	892.8	892.6	892.4	892.4
145°	936.0	936.9	937.7	938.6	939.4	939.9	940.2	940.4	940.6	940.8	940.6
147.5°	980.5	981.5	982.5	983.5	984.5	985.0	984.8	984.6	984.4	984.3	984.1
150°	1007.6	1008.4	1009.3	1010.1	1011.0	1011.3	1011.3	1011.3	1011.3	1011.3	1011.3
152.5°	1033.2	1033.7	1034.2	1034.7	1035.2	1035.5	1035.7	1035.9	1036.0	1036.1	1036.7
155°	1072.5	1072.5	1072.5	1072.5	1072.5	1072.4	1072.1	1072.0	1071.8	1071.6	1072.4
157.5°	1105.6	1105.2	1104.8	1104.5	1104.1	1103.9	1103.8	1103.8	1103.8	1103.7	1104.4
160°	1125.2	1124.9	1124.7	1124.5	1124.4	1124.2	1123.9	1123.7	1123.5	1123.3	1123.9
162.5°	1143.2	1142.7	1142.2	1141.6	1141.0	1140.7	1140.5	1140.3	1140.1	1139.8	1140.9
165°	1167.5	1166.9	1166.3	1165.6	1165.0	1164.5	1164.0	1163.7	1163.2	1162.8	1164.0
167.5°	1186.2	1185.2	1184.4	1183.6	1182.6	1182.2	1182.2	1182.3	1182.3	1182.4	1183.6
170°	1196.7	1195.6	1194.6	1193.5	1192.5	1192.0	1192.3	1192.5	1192.7	1192.9	1194.2
172.5°	1204.2	1203.3	1202.5	1201.6	1200.7	1200.2	1200.3	1200.3	1200.4	1200.4	1201.8
175°	1214.6	1213.5	1212.5	1211.4	1210.4	1209.8	1209.6	1209.3	1209.1	1208.9	1210.4
177.5°	1218.0	1217.1	1216.3	1215.4	1214.6	1214.2	1214.2	1214.2	1214.2	1214.2	1215.3
180°	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7
2.5°	580.5	581.4	582.2	582.6	582.5	582.5	582.4	582.3
5°	576.6	577.6	578.6	579.0	578.8	578.6	578.3	578.2
7.5°	568.9	569.6	570.2	570.3	570.0	569.8	569.4	569.1
10°	562.0	562.4	562.8	562.8	562.4	562.0	561.7	561.3
12.5°	553.5	553.7	554.0	553.8	553.3	552.7	552.1	551.6
15°	538.6	538.4	538.1	537.7	537.0	536.3	535.6	534.9
17.5°	520.5	520.0	519.4	518.6	517.6	516.5	515.5	514.4
20°	507.9	507.1	506.3	505.3	504.0	502.7	501.4	500.1
22.5°	493.9	492.7	491.5	490.4	489.4	488.3	487.3	486.2
25°	471.3	469.7	468.0	466.7	465.6	464.6	463.6	462.6
27.5°	448.3	446.2	444.1	442.4	440.9	439.5	438.1	436.7
30°	431.8	429.3	426.9	424.8	423.2	421.7	420.1	418.5
32.5°	415.0	412.1	409.3	407.0	405.5	404.0	402.5	401.0
35°	389.8	386.5	383.1	380.6	378.8	377.0	375.2	373.4
37.5°	363.0	359.2	355.4	352.6	350.8	349.0	347.2	345.4
40°	345.0	340.8	336.7	333.8	332.0	330.2	328.4	326.6
42.5°	327.3	323.1	318.9	315.8	314.0	312.1	310.2	308.4
45°	300.4	295.5	290.6	287.3	285.5	283.7	281.9	280.2
47.5°	273.1	268.1	263.1	259.6	257.6	255.6	253.6	251.8
50°	255.1	250.2	245.2	241.8	239.9	238.0	236.1	234.2
52.5°	237.0	232.1	227.1	223.5	221.6	219.6	217.6	215.7
55°	210.6	205.4	200.2	196.7	194.8	192.9	191.1	189.2
57.5°	184.5	179.4	174.1	170.8	169.4	168.0	166.5	165.0
60°	167.2	162.1	156.9	153.5	151.9	150.4	148.8	147.2
62.5°	150.2	145.4	140.7	137.7	136.4	135.2	133.8	132.6
65°	125.7	121.5	117.3	114.5	113.3	112.2	110.9	109.7
67.5°	103.3	99.6	96.0	93.5	92.2	90.9	89.5	88.2
70°	88.0	84.7	81.5	79.4	78.3	77.4	76.3	75.4
72.5°	74.4	71.5	68.8	66.9	66.0	65.1	64.2	63.2
75°	54.8	52.5	50.2	48.8	48.2	47.6	47.0	46.4
77.5°	38.7	37.4	36.1	35.3	35.2	35.0	34.8	34.6
80°	29.8	29.4	29.1	28.9	28.8	28.7	28.7	28.6
82.5°	23.1	22.9	22.7	22.5	22.4	22.3	22.2	22.1
85°	13.5	13.2	13.0	12.9	12.9	12.9	12.9	12.9
87.5°	9.5	9.6	9.8	10.0	10.2	10.3	10.5	10.7
90°	23.2	24.5	25.7	26.6	27.0	27.4	27.8	28.2
92.5°	38.7	39.5	40.2	40.8	41.0	41.3	41.6	41.8
95°	72.8	73.4	74.0	74.4	74.4	74.4	74.4	74.4
97.5°	114.6	115.4	116.1	116.5	116.5	116.5	116.5	116.5
100°	144.8	145.2	145.6	145.8	145.8	145.8	145.8	145.8
102.5°	176.7	177.3	177.9	178.2	178.4	178.6	178.8	178.9
105°	225.2	225.8	226.4	227.1	227.6	228.3	228.9	229.5
107.5°	277.6	278.1	278.7	279.0	279.0	278.9	278.9	278.8
110°	312.5	312.0	311.6	311.7	312.4	312.9	313.6	314.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	350.0	349.9	349.9	349.9	350.0	350.1	350.2	350.3
115°	407.8	407.6	407.5	407.3	407.1	406.8	406.6	406.4
117.5°	463.5	462.8	462.1	461.6	461.1	460.7	460.2	459.9
120°	501.2	500.2	499.2	498.8	499.3	499.6	500.1	500.5
122.5°	539.5	538.9	538.1	537.3	536.6	535.8	535.1	534.3
125°	595.6	595.2	594.7	594.4	594.0	593.5	593.1	592.7
127.5°	649.2	648.8	648.4	648.0	647.7	647.3	647.1	646.7
130°	686.9	686.5	686.1	685.4	684.6	683.7	682.9	682.0
132.5°	722.3	721.8	721.4	721.0	720.7	720.4	720.0	719.7
135°	775.3	774.9	774.5	773.9	773.4	772.7	772.0	771.5
137.5°	826.6	826.0	825.6	825.3	825.5	825.6	825.7	825.9
140°	860.4	860.2	860.0	859.8	859.6	859.3	859.1	858.9
142.5°	892.3	892.3	892.3	892.2	892.2	892.1	892.1	892.0
145°	940.4	940.2	939.9	939.5	938.9	938.3	937.6	937.0
147.5°	983.9	983.7	983.5	983.4	983.2	983.0	982.8	982.6
150°	1011.3	1011.3	1011.3	1011.3	1011.1	1010.8	1010.6	1010.4
152.5°	1037.2	1037.6	1038.2	1038.2	1037.6	1037.1	1036.5	1035.9
155°	1073.3	1074.0	1074.9	1074.9	1074.0	1073.3	1072.4	1071.6
157.5°	1104.9	1105.6	1106.3	1106.2	1105.5	1104.8	1104.1	1103.3
160°	1124.5	1125.2	1125.8	1125.6	1124.5	1123.5	1122.5	1121.4
162.5°	1142.1	1143.2	1144.3	1144.4	1143.4	1142.4	1141.3	1140.2
165°	1165.4	1166.6	1167.8	1168.0	1167.2	1166.4	1165.5	1164.7
167.5°	1184.9	1186.2	1187.4	1187.4	1186.1	1184.8	1183.5	1182.2
170°	1195.4	1196.7	1198.0	1197.8	1196.4	1194.9	1193.4	1191.9
172.5°	1203.2	1204.7	1206.2	1206.1	1204.7	1203.2	1201.7	1200.2
175°	1211.8	1213.3	1214.7	1214.7	1213.3	1211.8	1210.4	1208.9
177.5°	1216.5	1217.7	1218.9	1218.8	1217.5	1216.1	1214.7	1213.4
180°	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4

(END OF REPORT)