

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: P332530-935

Luminaire Tested: **S124DIP-S350D1205U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332530-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S350D1205U935-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1205 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4832.9 lumens
Efficiency: N/A
Efficacy: 114.5 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

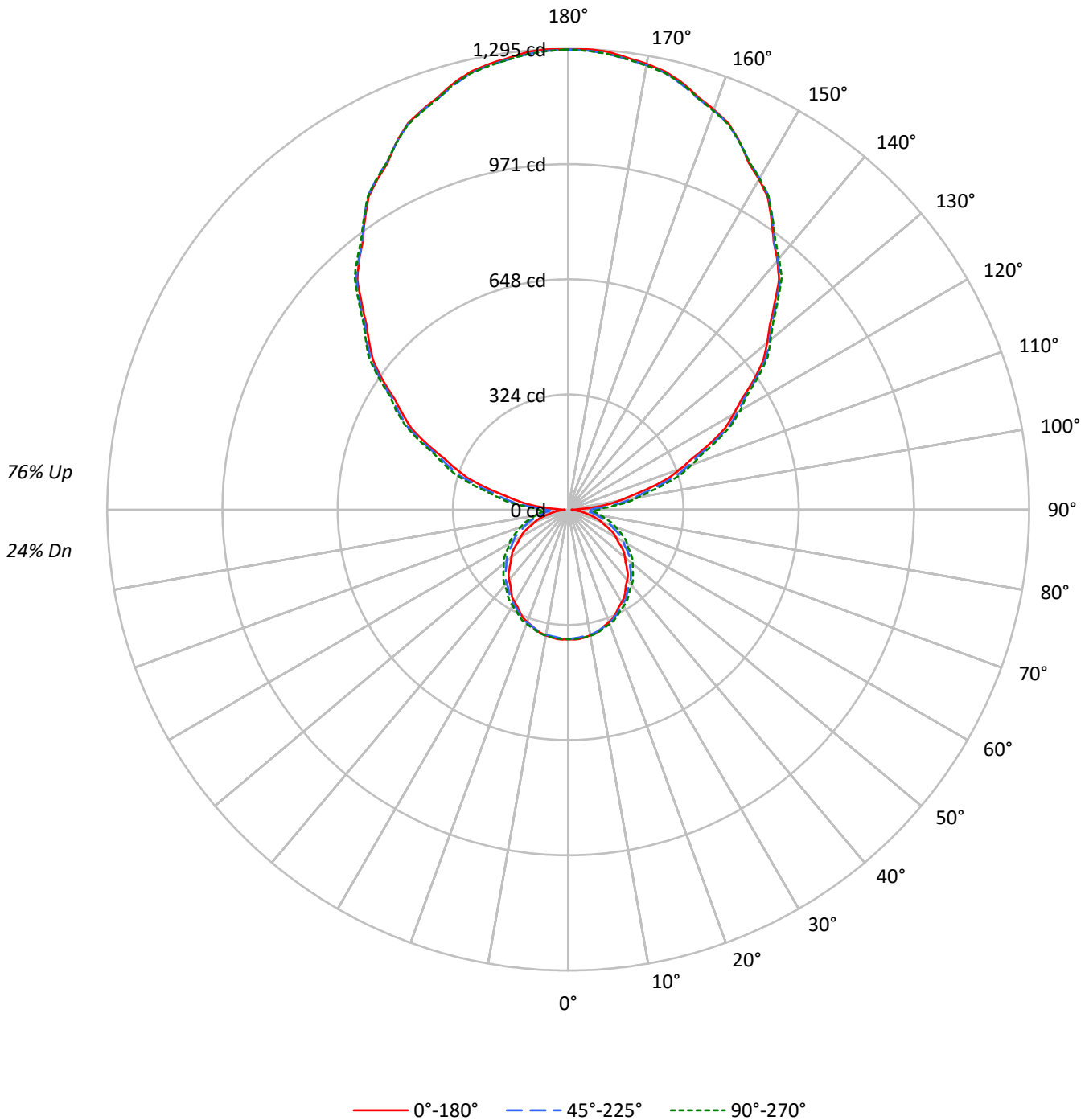
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	101	101	101	101	90	90	90	90	69	69	69	50	50	50	32	32	32	24
1	91	87	83	80	81	77	74	71	59	57	55	43	41	40	27	27	26	19
2	83	76	70	65	73	67	62	58	52	48	45	37	35	33	24	23	21	16
3	76	66	59	53	67	59	53	48	45	41	38	33	30	28	21	19	18	13
4	69	58	51	45	61	52	45	40	40	35	32	29	26	23	19	17	15	11
5	63	52	44	38	56	46	39	34	36	31	27	26	23	20	17	15	13	9
6	58	46	38	33	51	41	35	30	32	27	23	23	20	17	15	13	12	8
7	53	41	34	28	47	37	30	26	29	24	20	21	18	15	14	12	10	7
8	49	37	30	25	44	34	27	23	26	21	18	19	16	13	13	11	9	6
9	46	34	27	22	41	30	24	20	24	19	16	17	14	12	12	10	8	6
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	11	9	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2938	2938	2938
5°	2948	2871	2880
10°	2929	2825	2823
15°	2902	2770	2755
20°	2863	2710	2690
25°	2819	2643	2617
30°	2770	2576	2543
35°	2716	2507	2478
40°	2672	2442	2410
45°	2607	2382	2352
50°	2553	2313	2291
55°	2496	2248	2220
60°	2408	2164	2153
65°	2309	2076	2073
70°	2192	1973	1979
75°	2029	1861	1894
80°	1846	1754	1809
85°	1616	1659	1762



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.5	0.7
10°-20°	98.7	2.0
20°-30°	149.3	3.1
30°-40°	180.7	3.7
40°-50°	191.0	4.0
50°-60°	179.7	3.7
60°-70°	149.1	3.1
70°-80°	104.7	2.2
80°-90°	63.1	1.3
90°-100°	120.5	2.5
100°-110°	278.7	5.8
110°-120°	446.4	9.2
120°-130°	575.4	11.9
130°-140°	639.4	13.2
140°-150°	625.0	12.9
150°-160°	525.0	10.9
160°-170°	349.3	7.2
170°-180°	122.3	2.5
0°-30°	282.5	5.8
0°-40°	463.2	9.6
0°-60°	833.9	17.3
0°-90°	1150.8	23.8
90°-120°	845.6	17.5
90°-150°	2685.5	55.6
90°-180°	3682.0	76.2
0°-180°	4832.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	364	364	364	364	364	
5°	364	363	360	363	363	35
15°	349	350	348	352	352	98
25°	320	322	323	327	328	147
35°	280	284	288	294	296	175
45°	233	241	249	255	258	180
55°	183	191	203	211	214	163
65°	126	139	153	163	167	125
75°	70	85	102	113	117	75
85°	22	39	57	69	73	23
90°	10	37	62	80	85	8
95°	65	88	112	125	129	71
105°	237	246	265	278	284	251
115°	439	443	453	461	463	433
125°	637	637	646	651	652	567
135°	820	826	829	833	833	634
145°	996	999	1000	1002	1000	623
155°	1140	1140	1139	1143	1139	524
165°	1241	1238	1236	1242	1238	350
175°	1291	1287	1285	1292	1285	123
180°	1293	1293	1293	1293	1293	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	365.2	365.0	364.8	364.5	364.4	363.9	363.4	362.8	362.2	361.6	362.1
5°	364.4	364.0	363.8	363.5	363.3	362.8	362.1	361.5	360.9	360.2	361.0
7.5°	361.3	361.1	360.9	360.8	360.6	360.2	359.7	359.2	358.7	358.2	359.0
10°	358.6	358.5	358.4	358.3	358.3	358.0	357.6	357.1	356.6	356.2	357.0
12.5°	355.1	355.0	355.0	355.0	355.0	354.8	354.5	354.2	353.9	353.6	354.3
15°	349.2	349.4	349.5	349.6	349.7	349.6	349.2	349.0	348.7	348.4	349.2
17.5°	341.4	341.6	341.9	342.2	342.4	342.6	342.5	342.4	342.4	342.3	343.2
20°	335.8	336.0	336.4	336.7	336.9	337.1	337.2	337.3	337.3	337.4	338.4
22.5°	329.6	329.9	330.3	330.6	331.0	331.2	331.4	331.6	331.7	331.9	332.8
25°	319.5	320.0	320.6	321.2	321.7	322.1	322.4	322.6	322.9	323.2	324.2
27.5°	308.2	309.1	309.9	310.6	311.4	312.0	312.5	312.9	313.3	313.7	314.6
30°	300.7	301.5	302.2	302.9	303.7	304.4	305.0	305.6	306.3	306.9	307.9
32.5°	292.7	293.5	294.4	295.2	296.1	296.9	297.6	298.3	299.0	299.7	300.8
35°	279.6	280.7	281.7	282.8	284.0	284.9	285.9	286.7	287.7	288.5	289.8
37.5°	266.5	267.7	269.0	270.2	271.5	272.6	273.8	274.9	276.0	277.2	278.4
40°	258.0	259.2	260.4	261.5	262.7	263.9	265.2	266.5	267.7	269.0	270.4
42.5°	248.2	249.5	250.8	252.2	253.5	254.9	256.4	257.9	259.3	260.8	262.3
45°	233.1	234.8	236.5	238.2	240.0	241.7	243.4	245.1	246.8	248.6	250.1
47.5°	218.7	220.5	222.2	224.0	225.8	227.6	229.6	231.7	233.7	235.7	237.2
50°	208.3	210.3	212.2	214.2	216.2	218.2	220.2	222.2	224.2	226.2	228.0
52.5°	197.9	199.8	201.8	203.8	205.8	207.9	210.2	212.5	214.7	217.1	218.9
55°	182.6	184.5	186.4	188.3	190.2	192.5	195.2	197.9	200.6	203.4	205.2
57.5°	165.6	167.9	170.2	172.6	175.0	177.5	180.2	182.9	185.5	188.3	190.5
60°	154.5	156.8	159.2	161.5	163.8	166.5	169.5	172.5	175.5	178.5	180.6
62.5°	143.7	146.3	148.9	151.4	153.9	156.8	159.7	162.7	165.7	168.8	170.8
65°	126.3	129.2	132.2	135.0	137.9	140.9	144.0	147.1	150.2	153.3	155.5
67.5°	109.6	112.7	115.8	118.9	121.9	125.1	128.5	131.7	135.0	138.3	140.6
70°	98.2	101.3	104.4	107.5	110.6	113.8	117.3	120.7	124.2	127.6	130.0
72.5°	87.1	90.3	93.4	96.6	99.7	103.1	106.8	110.5	114.1	117.8	120.1
75°	70.1	73.4	76.8	80.2	83.5	87.0	90.9	94.7	98.5	102.3	104.9
77.5°	54.2	57.8	61.3	64.8	68.4	72.2	76.1	80.2	84.1	88.1	90.7
80°	44.4	48.0	51.7	55.3	58.9	62.7	66.7	70.7	74.6	78.7	81.4
82.5°	34.6	38.4	42.2	46.0	49.7	53.6	57.6	61.6	65.5	69.6	72.3
85°	21.6	25.4	29.2	33.0	36.9	40.7	44.9	48.9	53.0	57.1	59.8
87.5°	12.7	16.9	21.0	25.2	29.4	33.7	38.0	42.3	46.6	51.0	53.8
90°	9.6	15.6	21.7	27.7	33.8	39.7	45.4	51.0	56.7	62.3	66.3
92.5°	27.6	33.7	39.7	45.8	51.8	57.4	62.6	67.8	72.8	78.0	81.4
95°	65.3	70.3	75.3	80.2	85.2	90.4	95.7	100.9	106.2	111.5	114.6
97.5°	109.6	113.8	118.0	122.2	126.3	131.1	136.6	142.2	147.7	153.2	156.4
100°	144.6	147.7	151.0	154.3	157.5	161.9	167.5	173.0	178.5	184.0	186.9
102.5°	181.3	183.7	186.1	188.6	191.1	194.8	200.2	205.4	210.7	216.0	219.0
105°	236.8	238.8	240.8	242.8	244.9	248.0	252.3	256.5	260.7	264.9	267.9
107.5°	295.7	297.4	299.2	300.9	302.6	305.2	308.5	311.9	315.1	318.4	321.2
110°	335.4	337.1	338.8	340.5	342.2	344.6	347.5	350.4	353.4	356.4	358.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	376.7	377.9	379.1	380.3	381.5	383.4	386.1	388.7	391.3	393.9	395.8
115°	438.6	439.4	440.2	441.0	441.9	443.5	445.9	448.4	450.8	453.3	455.0
117.5°	497.3	498.0	498.7	499.3	500.0	501.5	503.9	506.3	508.7	511.1	512.2
120°	536.2	537.4	538.6	539.7	540.9	542.4	544.3	546.3	548.3	550.3	551.0
122.5°	577.0	577.4	577.8	578.2	578.7	580.0	582.1	584.3	586.4	588.7	589.7
125°	636.8	636.7	636.6	636.5	636.5	637.4	639.5	641.5	643.6	645.6	646.9
127.5°	691.4	691.9	692.5	693.1	693.7	694.7	696.0	697.4	698.8	700.2	701.4
130°	729.4	730.0	730.6	731.2	731.8	732.8	734.2	735.6	737.1	738.6	739.8
132.5°	768.7	769.0	769.5	769.8	770.3	770.9	771.9	772.9	773.9	774.9	776.0
135°	820.1	821.4	822.8	824.1	825.4	826.4	827.0	827.7	828.3	828.9	829.9
137.5°	876.5	877.0	877.5	878.0	878.7	879.2	879.9	880.5	881.2	881.8	882.6
140°	914.1	914.5	914.8	915.2	915.5	915.8	915.8	915.9	916.0	916.1	917.1
142.5°	948.2	948.6	949.0	949.4	949.9	949.9	949.8	949.5	949.3	949.1	950.0
145°	995.7	996.5	997.3	998.1	998.9	999.4	999.6	999.9	1000.1	1000.3	1000.7
147.5°	1042.9	1043.9	1044.9	1045.9	1046.8	1047.2	1047.1	1046.9	1046.7	1046.5	1046.5
150°	1071.8	1072.5	1073.3	1074.1	1075.0	1075.3	1075.3	1075.3	1075.3	1075.3	1075.3
152.5°	1098.6	1099.2	1099.7	1100.2	1100.7	1101.0	1101.2	1101.4	1101.6	1101.7	1102.3
155°	1140.3	1140.3	1140.3	1140.3	1140.3	1140.2	1140.1	1139.8	1139.5	1139.4	1140.2
157.5°	1175.5	1175.2	1174.7	1174.4	1174.0	1173.7	1173.7	1173.6	1173.6	1173.5	1174.2
160°	1196.4	1196.2	1195.9	1195.7	1195.5	1195.2	1195.1	1194.8	1194.6	1194.4	1195.1
162.5°	1215.6	1215.0	1214.4	1213.8	1213.2	1212.9	1212.6	1212.5	1212.2	1211.9	1213.1
165°	1241.4	1240.7	1240.0	1239.4	1238.7	1238.1	1237.7	1237.3	1236.8	1236.4	1237.7
167.5°	1261.2	1260.2	1259.3	1258.4	1257.5	1257.0	1257.1	1257.1	1257.1	1257.1	1258.5
170°	1272.4	1271.3	1270.1	1269.0	1267.9	1267.5	1267.7	1267.9	1268.2	1268.4	1269.7
172.5°	1280.4	1279.4	1278.5	1277.6	1276.7	1276.2	1276.3	1276.3	1276.3	1276.4	1277.9
175°	1291.4	1290.3	1289.2	1288.1	1286.9	1286.2	1286.1	1285.8	1285.6	1285.4	1286.9
177.5°	1295.0	1294.1	1293.2	1292.4	1291.4	1291.0	1291.0	1291.0	1291.0	1291.0	1292.3
180°	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	362.7	363.2	363.7	363.9	363.9	363.8	363.7	363.6
5°	361.7	362.4	363.2	363.5	363.4	363.3	363.2	363.1
7.5°	359.8	360.6	361.4	361.8	361.7	361.6	361.5	361.4
10°	357.8	358.6	359.5	359.8	359.7	359.6	359.6	359.5
12.5°	355.1	355.9	356.5	356.9	356.9	356.9	356.9	356.8
15°	350.1	350.9	351.7	352.1	352.0	351.9	351.8	351.7
17.5°	344.0	344.8	345.7	346.0	345.9	345.9	345.9	345.8
20°	339.2	340.2	341.0	341.6	341.6	341.6	341.6	341.6
22.5°	333.7	334.6	335.5	336.0	336.2	336.3	336.5	336.7
25°	325.2	326.1	327.2	327.7	327.8	327.9	328.0	328.0
27.5°	315.6	316.5	317.5	318.0	318.1	318.1	318.2	318.4
30°	308.8	309.9	310.8	311.4	311.6	311.9	312.0	312.2
32.5°	302.0	303.2	304.3	305.0	305.1	305.3	305.5	305.7
35°	291.1	292.3	293.6	294.4	294.6	294.9	295.2	295.5
37.5°	279.7	280.9	282.2	283.1	283.4	283.6	284.0	284.2
40°	271.7	273.0	274.4	275.3	275.6	276.0	276.4	276.7
42.5°	263.8	265.4	266.8	267.8	268.0	268.3	268.6	268.9
45°	251.7	253.2	254.8	255.7	256.2	256.7	257.1	257.5
47.5°	238.8	240.4	242.0	243.1	243.7	244.2	244.7	245.3
50°	229.8	231.6	233.4	234.6	235.1	235.7	236.3	236.8
52.5°	220.7	222.5	224.3	225.5	226.0	226.5	227.1	227.6
55°	207.0	208.8	210.6	211.8	212.3	212.8	213.4	214.0
57.5°	192.6	194.8	196.9	198.2	198.7	199.2	199.8	200.3
60°	182.7	184.8	186.8	188.2	189.0	189.7	190.5	191.1
62.5°	172.9	175.0	177.0	178.5	179.2	179.9	180.6	181.3
65°	157.7	160.1	162.3	163.8	164.5	165.2	166.0	166.7
67.5°	142.9	145.3	147.5	149.0	149.7	150.4	151.1	151.9
70°	132.4	134.9	137.3	138.9	139.5	140.2	140.8	141.4
72.5°	122.5	124.9	127.3	128.8	129.5	130.2	131.0	131.6
75°	107.4	109.9	112.4	114.1	114.9	115.7	116.6	117.4
77.5°	93.2	95.8	98.4	100.1	101.0	101.9	102.7	103.6
80°	84.1	86.8	89.5	91.3	92.0	92.7	93.4	94.1
82.5°	75.1	77.9	80.7	82.5	83.3	84.0	84.9	85.7
85°	62.5	65.2	67.9	69.7	70.6	71.5	72.4	73.4
87.5°	56.7	59.6	62.5	64.4	65.3	66.2	67.1	67.9
90°	70.3	74.2	78.2	80.8	82.0	83.1	84.3	85.4
92.5°	84.7	88.1	91.4	93.6	94.6	95.6	96.6	97.6
95°	117.7	120.8	123.9	125.9	126.7	127.5	128.4	129.2
97.5°	159.5	162.6	165.8	167.8	168.6	169.4	170.1	170.9
100°	189.8	192.7	195.6	197.3	197.9	198.6	199.2	199.8
102.5°	222.0	225.0	228.0	229.9	230.8	231.7	232.6	233.4
105°	270.9	273.8	276.7	278.9	280.3	281.6	283.0	284.4
107.5°	324.2	327.0	329.8	331.6	332.2	332.8	333.4	334.0
110°	359.6	361.3	362.9	364.4	365.8	367.2	368.6	370.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	397.8	399.7	401.6	402.9	403.8	404.7	405.5	406.4
115°	456.8	458.6	460.4	461.5	461.8	462.3	462.7	463.1
117.5°	513.3	514.4	515.6	516.3	516.6	516.9	517.1	517.4
120°	551.6	552.3	553.0	554.0	555.2	556.3	557.5	558.6
122.5°	590.7	591.8	592.9	593.3	593.1	593.0	592.9	592.7
125°	648.2	649.5	650.7	651.4	651.5	651.6	651.7	651.8
127.5°	702.6	703.7	704.9	705.7	705.9	706.2	706.5	706.7
130°	740.9	742.1	743.3	743.7	743.4	743.0	742.7	742.4
132.5°	777.1	778.2	779.3	780.0	780.2	780.3	780.5	780.8
135°	831.0	831.9	832.9	833.4	833.3	833.1	833.0	832.8
137.5°	883.4	884.1	884.8	885.5	886.1	886.7	887.3	887.9
140°	918.0	918.9	919.9	920.5	920.8	921.0	921.2	921.4
142.5°	951.1	952.0	953.0	953.6	954.0	954.3	954.7	955.0
145°	1000.9	1001.3	1001.6	1001.6	1001.3	1001.0	1000.7	1000.4
147.5°	1046.3	1046.2	1046.1	1046.1	1046.1	1046.2	1046.3	1046.4
150°	1075.3	1075.3	1075.3	1075.2	1075.0	1074.8	1074.5	1074.4
152.5°	1102.8	1103.4	1103.9	1103.9	1103.3	1102.7	1102.1	1101.6
155°	1141.2	1142.0	1142.9	1142.9	1142.0	1141.2	1140.2	1139.4
157.5°	1174.9	1175.5	1176.2	1176.2	1175.4	1174.7	1173.9	1173.2
160°	1195.7	1196.4	1197.0	1196.8	1195.7	1194.6	1193.5	1192.4
162.5°	1214.4	1215.6	1216.8	1216.9	1215.7	1214.6	1213.5	1212.4
165°	1239.1	1240.4	1241.7	1241.9	1241.0	1240.2	1239.2	1238.4
167.5°	1259.8	1261.2	1262.5	1262.5	1261.1	1259.7	1258.4	1257.0
170°	1271.1	1272.4	1273.8	1273.6	1272.0	1270.5	1268.9	1267.4
172.5°	1279.4	1280.9	1282.5	1282.5	1280.8	1279.3	1277.7	1276.2
175°	1288.5	1290.0	1291.6	1291.6	1290.0	1288.5	1286.9	1285.4
177.5°	1293.5	1294.8	1296.0	1295.9	1294.4	1293.0	1291.6	1290.2
180°	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4

(END OF REPORT)