

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: P332736-927

Luminaire Tested: **S124DIW-S350D1340U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332736-927
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: S124DIW-S350D1340U927-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4830.9 lumens
Efficiency: N/A
Efficacy: 103.7 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

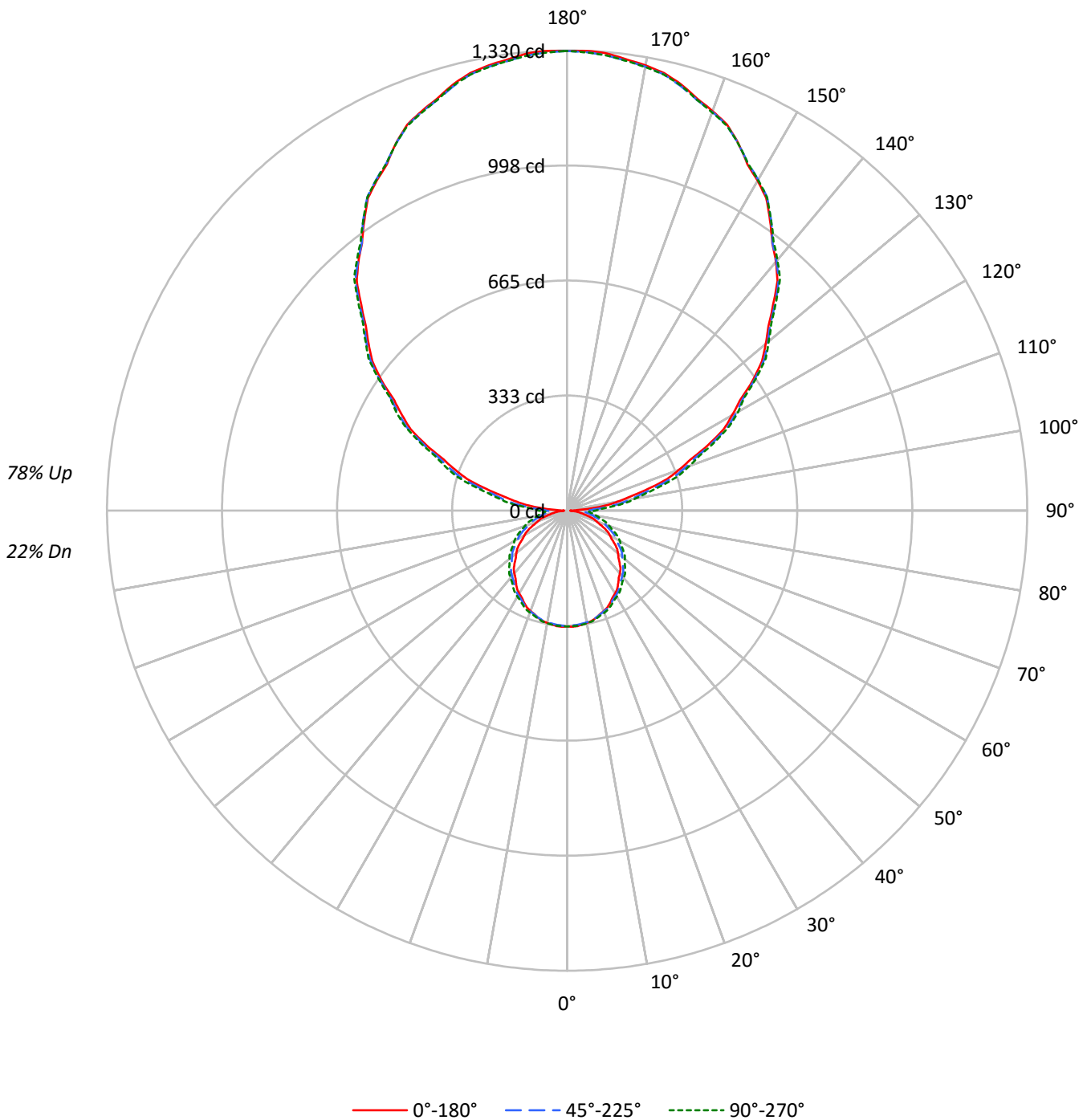
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	100	100	100	89	89	89	89	68	68	68	48	48	48	30	30	30	22
1	91	87	83	79	80	77	74	71	58	56	54	42	40	39	26	25	25	18
2	83	75	69	64	73	67	62	58	51	48	45	36	34	32	23	21	20	14
3	75	66	59	53	66	59	53	48	45	41	37	32	29	27	20	18	17	12
4	69	58	51	45	60	52	45	40	39	35	31	28	25	23	18	16	15	10
5	63	52	44	38	55	46	39	34	35	30	27	25	22	20	16	14	13	9
6	58	46	38	33	51	41	34	29	31	27	23	23	19	17	14	12	11	8
7	53	41	34	28	47	37	30	26	28	24	20	20	17	15	13	11	10	7
8	49	37	30	25	43	33	27	22	26	21	18	19	15	13	12	10	9	6
9	46	34	27	22	40	30	24	20	23	19	16	17	14	12	11	9	8	5
10	42	31	24	19	38	28	22	17	21	17	14	16	13	10	10	8	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2704	2704	2704
5°	2712	2641	2650
10°	2694	2599	2596
15°	2670	2549	2535
20°	2635	2494	2475
25°	2594	2432	2408
30°	2549	2370	2340
35°	2498	2307	2280
40°	2458	2247	2218
45°	2398	2191	2164
50°	2348	2128	2108
55°	2296	2068	2042
60°	2214	1991	1982
65°	2125	1909	1908
70°	2018	1816	1820
75°	1867	1712	1743
80°	1701	1613	1665
85°	1489	1525	1621



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.7	0.7
10°-20°	90.8	1.9
20°-30°	137.4	2.8
30°-40°	166.2	3.4
40°-50°	175.7	3.6
50°-60°	165.4	3.4
60°-70°	137.2	2.8
70°-80°	96.4	2.0
80°-90°	58.4	1.2
90°-100°	120.0	2.5
100°-110°	283.5	5.9
110°-120°	456.6	9.5
120°-130°	590.0	12.2
130°-140°	656.3	13.6
140°-150°	641.9	13.3
150°-160°	539.2	11.2
160°-170°	358.7	7.4
170°-180°	125.6	2.6
0°-30°	259.9	5.4
0°-40°	426.1	8.8
0°-60°	767.2	15.9
0°-90°	1059.3	21.9
90°-120°	860.1	17.8
90°-150°	2748.2	56.9
90°-180°	3772.0	78.1
0°-180°	4830.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	335	335	335	335	335	
5°	335	334	331	334	334	32
15°	321	322	321	324	324	90
25°	294	296	297	301	302	135
35°	257	262	266	270	272	161
45°	214	222	229	235	237	166
55°	168	176	187	194	197	150
65°	116	128	141	150	153	115
75°	64	78	94	104	108	69
85°	20	36	52	63	68	21
90°	9	35	60	76	82	8
95°	66	88	111	123	127	72
105°	243	252	269	281	288	258
115°	450	454	464	470	472	444
125°	654	654	662	667	667	583
135°	842	848	851	855	854	651
145°	1023	1026	1027	1028	1027	640
155°	1171	1171	1170	1174	1170	539
165°	1275	1272	1270	1275	1272	359
175°	1326	1321	1320	1327	1320	126
180°	1328	1328	1328	1328	1328	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	336.0	335.8	335.6	335.4	335.3	334.9	334.4	333.8	333.3	332.7	333.2
5°	335.3	334.9	334.7	334.5	334.2	333.8	333.2	332.6	332.1	331.4	332.2
7.5°	332.4	332.2	332.1	331.9	331.8	331.4	331.0	330.5	330.0	329.5	330.3
10°	329.9	329.9	329.8	329.7	329.6	329.4	329.0	328.5	328.1	327.7	328.4
12.5°	326.7	326.6	326.6	326.6	326.6	326.5	326.1	325.9	325.6	325.3	326.0
15°	321.3	321.5	321.5	321.6	321.7	321.6	321.3	321.1	320.8	320.6	321.3
17.5°	314.1	314.3	314.6	314.8	315.1	315.2	315.1	315.1	315.1	315.0	315.8
20°	309.0	309.2	309.5	309.7	310.0	310.1	310.2	310.3	310.4	310.5	311.3
22.5°	303.2	303.6	303.9	304.2	304.5	304.8	304.9	305.1	305.2	305.4	306.2
25°	294.0	294.5	295.0	295.5	296.0	296.4	296.6	296.8	297.1	297.4	298.3
27.5°	283.6	284.4	285.1	285.8	286.5	287.1	287.5	287.9	288.3	288.7	289.5
30°	276.7	277.4	278.1	278.7	279.4	280.0	280.6	281.1	281.8	282.3	283.3
32.5°	269.3	270.1	270.8	271.6	272.4	273.1	273.8	274.4	275.1	275.8	276.8
35°	257.2	258.3	259.2	260.2	261.3	262.1	263.0	263.8	264.7	265.5	266.6
37.5°	245.2	246.3	247.5	248.6	249.8	250.8	251.9	252.9	254.0	255.0	256.2
40°	237.3	238.4	239.6	240.6	241.7	242.8	244.0	245.2	246.3	247.5	248.7
42.5°	228.4	229.6	230.8	232.0	233.2	234.5	235.9	237.3	238.6	240.0	241.4
45°	214.4	216.0	217.6	219.2	220.8	222.4	223.9	225.5	227.1	228.7	230.1
47.5°	201.2	202.9	204.5	206.1	207.7	209.5	211.3	213.2	215.0	216.8	218.2
50°	191.6	193.5	195.3	197.1	198.9	200.7	202.6	204.5	206.3	208.1	209.8
52.5°	182.0	183.9	185.7	187.5	189.3	191.3	193.4	195.5	197.6	199.7	201.4
55°	168.0	169.8	171.5	173.3	175.0	177.1	179.6	182.1	184.6	187.1	188.8
57.5°	152.3	154.5	156.6	158.8	161.0	163.3	165.8	168.3	170.7	173.3	175.2
60°	142.1	144.3	146.5	148.6	150.8	153.2	156.0	158.8	161.4	164.2	166.1
62.5°	132.2	134.6	137.0	139.3	141.6	144.3	146.9	149.7	152.5	155.3	157.2
65°	116.2	118.9	121.6	124.2	126.9	129.7	132.5	135.3	138.2	141.0	143.1
67.5°	100.8	103.7	106.5	109.4	112.2	115.1	118.2	121.2	124.2	127.2	129.4
70°	90.4	93.2	96.0	98.9	101.7	104.7	107.9	111.1	114.2	117.4	119.6
72.5°	80.2	83.1	86.0	88.9	91.7	94.9	98.2	101.6	105.0	108.4	110.5
75°	64.5	67.6	70.7	73.8	76.8	80.1	83.7	87.1	90.6	94.1	96.5
77.5°	49.9	53.2	56.4	59.7	62.9	66.4	70.0	73.8	77.4	81.0	83.4
80°	40.9	44.2	47.5	50.9	54.2	57.7	61.4	65.0	68.7	72.4	74.9
82.5°	31.8	35.3	38.8	42.3	45.7	49.3	53.0	56.6	60.3	64.0	66.5
85°	19.9	23.4	26.9	30.3	33.9	37.5	41.3	45.0	48.7	52.5	55.0
87.5°	11.7	15.6	19.5	23.4	27.3	31.3	35.3	39.3	43.3	47.4	50.1
90°	9.1	14.9	20.8	26.6	32.5	38.1	43.5	48.9	54.3	59.7	63.5
92.5°	27.6	33.6	39.5	45.3	51.2	56.6	61.4	66.3	71.1	76.0	79.1
95°	66.5	71.3	76.1	81.0	85.7	90.6	95.7	100.7	105.7	110.7	113.6
97.5°	112.1	116.1	120.1	124.1	128.1	132.8	138.0	143.3	148.5	153.8	156.8
100°	148.0	151.1	154.1	157.2	160.3	164.5	169.8	175.1	180.4	185.7	188.4
102.5°	185.8	188.1	190.3	192.6	194.8	198.5	203.5	208.6	213.7	218.7	221.5
105°	242.7	244.6	246.5	248.4	250.3	253.3	257.3	261.3	265.3	269.3	272.0
107.5°	303.3	304.9	306.6	308.2	309.8	312.2	315.3	318.3	321.4	324.4	327.1
110°	344.1	345.7	347.3	349.0	350.5	352.8	355.5	358.1	360.8	363.5	365.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	386.5	387.6	388.8	389.9	391.0	392.8	395.1	397.5	399.9	402.3	404.0
115°	450.2	450.9	451.7	452.4	453.2	454.6	456.9	459.1	461.3	463.5	465.1
117.5°	510.5	511.1	511.7	512.4	513.0	514.4	516.6	518.8	520.9	523.1	524.0
120°	550.5	551.7	552.8	554.0	555.2	556.6	558.3	560.1	561.8	563.5	564.0
122.5°	592.4	592.8	593.3	593.7	594.1	595.2	597.2	599.2	601.1	603.1	604.0
125°	653.9	653.8	653.7	653.6	653.6	654.4	656.3	658.1	660.0	661.9	663.0
127.5°	709.9	710.5	711.1	711.7	712.3	713.2	714.5	715.7	716.9	718.2	719.2
130°	749.1	749.6	750.3	750.8	751.5	752.4	753.8	755.1	756.5	757.7	758.8
132.5°	789.3	789.7	790.1	790.6	791.0	791.6	792.5	793.4	794.3	795.2	796.1
135°	842.2	843.5	844.9	846.3	847.6	848.6	849.2	849.8	850.4	851.0	851.8
137.5°	900.1	900.6	901.2	901.7	902.3	902.9	903.6	904.2	904.9	905.5	906.2
140°	938.7	939.1	939.4	939.8	940.2	940.5	940.6	940.6	940.7	940.8	941.7
142.5°	973.8	974.2	974.6	975.1	975.6	975.7	975.4	975.2	974.9	974.7	975.7
145°	1022.6	1023.4	1024.3	1025.1	1026.0	1026.4	1026.7	1026.9	1027.1	1027.4	1027.6
147.5°	1071.1	1072.1	1073.1	1074.1	1075.1	1075.5	1075.4	1075.2	1075.0	1074.8	1074.8
150°	1100.7	1101.5	1102.3	1103.2	1104.0	1104.4	1104.4	1104.4	1104.4	1104.4	1104.4
152.5°	1128.3	1128.9	1129.4	1129.9	1130.4	1130.8	1131.0	1131.2	1131.4	1131.6	1132.1
155°	1171.2	1171.2	1171.2	1171.2	1171.2	1171.1	1170.8	1170.6	1170.4	1170.2	1171.1
157.5°	1207.4	1207.0	1206.6	1206.1	1205.7	1205.5	1205.5	1205.4	1205.4	1205.3	1206.0
160°	1228.8	1228.5	1228.3	1228.0	1227.8	1227.6	1227.3	1227.2	1226.9	1226.7	1227.3
162.5°	1248.5	1247.8	1247.3	1246.7	1246.1	1245.7	1245.5	1245.2	1245.0	1244.8	1246.0
165°	1274.9	1274.3	1273.6	1272.9	1272.2	1271.7	1271.2	1270.7	1270.3	1269.8	1271.2
167.5°	1295.3	1294.3	1293.4	1292.4	1291.5	1291.0	1291.1	1291.1	1291.2	1291.2	1292.6
170°	1306.8	1305.7	1304.6	1303.4	1302.3	1301.8	1302.0	1302.3	1302.5	1302.7	1304.1
172.5°	1315.0	1314.1	1313.1	1312.2	1311.2	1310.7	1310.8	1310.8	1310.9	1310.9	1312.5
175°	1326.4	1325.2	1324.1	1322.9	1321.8	1321.0	1320.9	1320.6	1320.4	1320.2	1321.8
177.5°	1330.0	1329.1	1328.2	1327.3	1326.4	1326.0	1326.0	1326.0	1326.0	1326.0	1327.2
180°	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	333.7	334.1	334.6	334.8	334.8	334.7	334.6	334.5
5°	332.8	333.4	334.1	334.5	334.4	334.2	334.1	334.1
7.5°	331.1	331.8	332.6	332.9	332.8	332.7	332.6	332.6
10°	329.2	329.9	330.7	331.1	331.0	330.9	330.8	330.7
12.5°	326.7	327.4	328.0	328.4	328.4	328.4	328.4	328.3
15°	322.1	322.8	323.6	323.9	323.8	323.8	323.7	323.6
17.5°	316.5	317.3	318.1	318.4	318.3	318.2	318.2	318.1
20°	312.1	313.0	313.8	314.3	314.3	314.3	314.3	314.3
22.5°	307.0	307.8	308.7	309.2	309.3	309.4	309.6	309.7
25°	299.2	300.1	301.0	301.5	301.6	301.7	301.7	301.8
27.5°	290.3	291.2	292.1	292.6	292.6	292.7	292.8	292.9
30°	284.2	285.1	286.0	286.5	286.7	286.9	287.1	287.2
32.5°	277.8	278.9	280.0	280.6	280.7	280.9	281.1	281.2
35°	267.8	268.9	270.1	270.8	271.1	271.3	271.6	271.9
37.5°	257.4	258.5	259.7	260.5	260.7	260.9	261.3	261.5
40°	250.0	251.2	252.5	253.3	253.6	254.0	254.3	254.6
42.5°	242.7	244.2	245.5	246.4	246.6	246.8	247.2	247.4
45°	231.6	233.0	234.4	235.3	235.8	236.1	236.5	236.9
47.5°	219.8	221.2	222.7	223.6	224.2	224.7	225.1	225.7
50°	211.4	213.1	214.8	215.9	216.3	216.8	217.4	217.9
52.5°	203.0	204.7	206.4	207.5	207.9	208.4	209.0	209.5
55°	190.4	192.1	193.8	194.9	195.4	195.8	196.4	196.9
57.5°	177.2	179.2	181.2	182.4	182.8	183.3	183.8	184.3
60°	168.1	170.0	171.9	173.2	173.9	174.5	175.2	175.9
62.5°	159.1	161.0	162.9	164.2	164.9	165.5	166.2	166.8
65°	145.1	147.3	149.3	150.7	151.4	152.0	152.7	153.4
67.5°	131.5	133.6	135.7	137.1	137.8	138.4	139.0	139.7
70°	121.8	124.1	126.4	127.8	128.3	129.0	129.5	130.1
72.5°	112.7	114.9	117.1	118.5	119.1	119.8	120.5	121.1
75°	98.8	101.1	103.5	105.0	105.8	106.5	107.3	108.0
77.5°	85.8	88.2	90.5	92.1	92.9	93.7	94.5	95.3
80°	77.4	79.9	82.4	84.0	84.6	85.3	86.0	86.6
82.5°	69.1	71.7	74.2	75.9	76.6	77.3	78.1	78.8
85°	57.5	60.0	62.5	64.2	65.0	65.8	66.6	67.5
87.5°	52.8	55.4	58.1	59.9	60.7	61.5	62.3	63.1
90°	67.3	71.1	74.9	77.3	78.4	79.5	80.7	81.8
92.5°	82.4	85.6	88.7	90.8	91.7	92.6	93.6	94.5
95°	116.6	119.5	122.5	124.3	125.0	125.8	126.5	127.3
97.5°	159.8	162.8	165.8	167.7	168.4	169.1	169.8	170.6
100°	191.1	193.8	196.5	198.1	198.8	199.3	199.9	200.5
102.5°	224.3	227.2	230.0	231.8	232.7	233.5	234.3	235.1
105°	274.8	277.6	280.4	282.4	283.8	285.1	286.5	287.8
107.5°	329.8	332.5	335.2	336.8	337.3	337.9	338.4	339.0
110°	366.4	367.9	369.3	370.7	372.1	373.4	374.8	376.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	405.8	407.5	409.3	410.6	411.4	412.2	413.0	413.8
115°	466.7	468.3	469.9	470.9	471.3	471.6	472.0	472.3
117.5°	525.0	526.0	527.0	527.5	527.8	527.9	528.1	528.4
120°	564.6	565.1	565.6	566.4	567.6	568.7	569.8	570.9
122.5°	604.9	605.8	606.7	607.0	606.8	606.6	606.3	606.1
125°	664.1	665.2	666.4	666.9	667.0	667.0	667.1	667.1
127.5°	720.3	721.3	722.3	722.9	723.2	723.3	723.6	723.7
130°	759.9	760.9	761.9	762.2	761.8	761.4	761.0	760.6
132.5°	797.2	798.1	799.1	799.6	799.8	799.9	800.0	800.2
135°	852.7	853.6	854.4	854.8	854.6	854.4	854.3	854.1
137.5°	906.8	907.4	908.0	908.6	909.2	909.7	910.3	910.9
140°	942.5	943.3	944.2	944.8	944.9	945.1	945.3	945.5
142.5°	976.5	977.4	978.3	978.9	979.2	979.5	979.9	980.2
145°	1027.9	1028.2	1028.5	1028.4	1028.1	1027.7	1027.4	1027.0
147.5°	1074.6	1074.5	1074.4	1074.4	1074.4	1074.4	1074.4	1074.5
150°	1104.4	1104.4	1104.4	1104.3	1104.1	1103.8	1103.6	1103.4
152.5°	1132.7	1133.2	1133.8	1133.7	1133.1	1132.5	1131.9	1131.3
155°	1172.0	1172.9	1173.9	1173.9	1172.9	1172.0	1171.1	1170.2
157.5°	1206.7	1207.4	1208.1	1208.0	1207.2	1206.4	1205.7	1204.9
160°	1228.0	1228.8	1229.4	1229.2	1228.0	1226.9	1225.7	1224.6
162.5°	1247.2	1248.5	1249.7	1249.7	1248.6	1247.4	1246.3	1245.2
165°	1272.6	1273.9	1275.3	1275.6	1274.6	1273.7	1272.8	1271.8
167.5°	1294.0	1295.3	1296.6	1296.6	1295.2	1293.8	1292.4	1291.0
170°	1305.4	1306.8	1308.2	1308.1	1306.5	1304.9	1303.3	1301.7
172.5°	1314.0	1315.6	1317.2	1317.1	1315.5	1313.9	1312.3	1310.7
175°	1323.3	1324.9	1326.6	1326.6	1324.9	1323.3	1321.8	1320.2
177.5°	1328.5	1329.8	1331.0	1330.9	1329.5	1328.0	1326.6	1325.1
180°	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4

(END OF REPORT)