

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: P332738-935

Luminaire Tested: **S124DIW-S350D1340U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332738-935
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: S124DIW-S350D1340U935-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH 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: 5315.1 lumens
Efficiency: N/A
Efficacy: 114.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

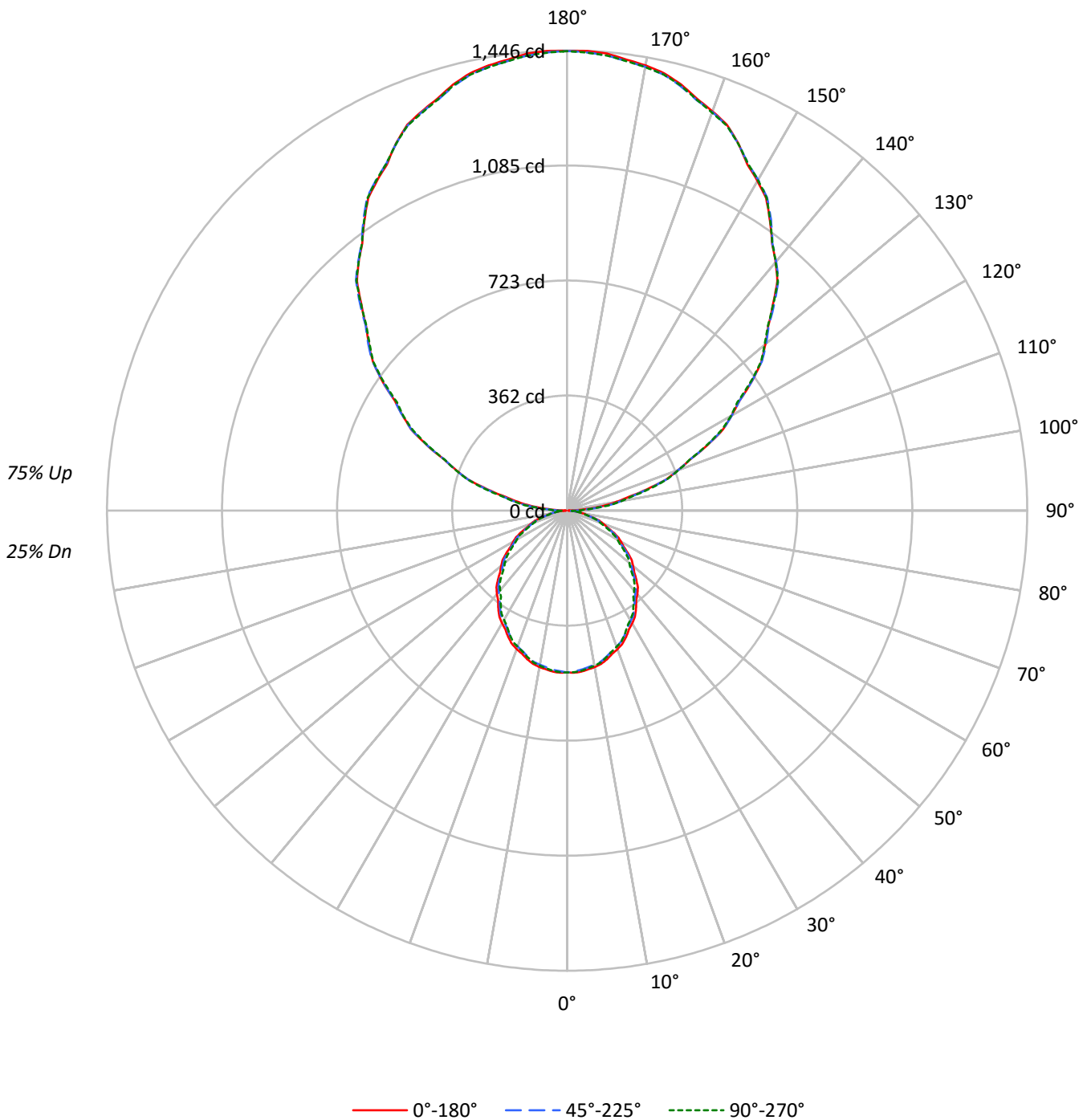
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	101	101	101	101	90	90	90	90	69	69	69	50	50	50	33	33	33
1	92	88	84	81	82	78	75	72	60	58	57	44	43	42	29	28	28
2	84	77	71	66	74	68	63	59	53	50	47	39	37	35	25	24	23
3	76	67	60	55	68	60	54	49	47	43	39	34	31	29	22	21	20
4	70	59	52	46	62	53	47	42	41	37	33	30	27	25	20	18	17
5	64	53	45	39	57	47	41	36	37	32	29	27	24	22	18	16	15
6	59	47	39	34	52	42	36	31	33	28	25	24	21	19	16	14	13
7	54	42	35	29	48	38	32	27	30	25	22	22	19	16	15	13	11
8	50	38	31	26	45	34	28	24	27	22	19	20	17	15	14	12	10
9	47	35	28	23	41	31	25	21	25	20	17	18	15	13	13	11	9
10	43	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4106	4106	4106
5°	4118	4068	4099
10°	4092	4036	4055
15°	4043	3978	3989
20°	3978	3907	3911
25°	3902	3827	3815
30°	3811	3731	3697
35°	3714	3631	3582
40°	3616	3518	3453
45°	3513	3406	3342
50°	3399	3307	3204
55°	3275	3178	3074
60°	3152	3034	2942
65°	3012	2896	2779
70°	2858	2712	2608
75°	2617	2492	2427
80°	2329	2236	2176
85°	2038	1964	1927



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.9	0.9
10°-20°	135.0	2.5
20°-30°	198.6	3.7
30°-40°	230.9	4.3
40°-50°	230.9	4.3
50°-60°	202.0	3.8
60°-70°	150.0	2.8
70°-80°	85.2	1.6
80°-90°	28.9	0.5
90°-100°	95.2	1.8
100°-110°	282.1	5.3
110°-120°	478.8	9.0
120°-130°	631.3	11.9
130°-140°	709.0	13.3
140°-150°	696.7	13.1
150°-160°	586.0	11.0
160°-170°	389.9	7.3
170°-180°	136.5	2.6
0°-30°	381.5	7.2
0°-40°	612.4	11.5
0°-60°	1045.3	19.7
0°-90°	1309.5	24.6
90°-120°	856.1	16.1
90°-150°	2893.2	54.4
90°-180°	4006.0	75.4
0°-180°	5315.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	509	509	509	509	509	
5°	508	506	502	506	506	48
15°	484	482	476	478	477	136
25°	438	435	430	430	428	201
35°	377	374	368	366	364	236
45°	308	305	298	294	293	237
55°	233	231	226	221	218	208
65°	158	156	152	148	146	156
75°	84	82	80	78	78	89
85°	22	22	21	21	21	24
90°	3	15	24	31	34	5
95°	67	77	85	88	88	75
105°	260	261	266	269	272	276
115°	487	487	485	484	482	480
125°	709	709	708	706	703	632
135°	914	921	921	919	916	707
145°	1111	1115	1117	1115	1112	695
155°	1273	1273	1272	1276	1272	585
165°	1386	1382	1380	1386	1382	390
175°	1442	1436	1435	1442	1435	137
180°	1444	1444	1444	1444	1444	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6
2.5°	509.9	509.7	509.5	509.3	509.0	508.5	507.7	507.0	506.2	505.3	506.1
5°	508.2	507.8	507.5	507.1	506.8	506.1	505.1	504.1	503.1	502.0	503.1
7.5°	503.5	503.1	502.7	502.4	502.0	501.3	500.2	499.1	498.0	496.9	497.7
10°	499.2	498.9	498.5	498.2	497.8	497.1	495.8	494.6	493.5	492.3	493.0
12.5°	493.7	493.4	493.0	492.6	492.2	491.5	490.2	489.0	487.7	486.5	487.2
15°	483.7	483.4	483.0	482.7	482.3	481.5	480.1	478.7	477.3	476.0	476.6
17.5°	471.7	471.3	470.9	470.5	469.9	469.1	467.8	466.5	465.2	463.9	464.3
20°	463.0	462.5	462.1	461.6	461.2	460.3	458.9	457.5	456.2	454.8	455.1
22.5°	453.5	452.9	452.3	451.7	451.1	450.1	448.8	447.5	446.1	444.7	445.2
25°	438.1	437.5	436.9	436.2	435.6	434.6	433.3	432.0	430.8	429.6	429.6
27.5°	420.5	419.8	419.2	418.5	417.9	417.0	415.8	414.7	413.5	412.2	412.1
30°	408.8	408.0	407.3	406.6	405.9	404.9	403.7	402.5	401.4	400.2	399.8
32.5°	396.4	395.7	395.0	394.4	393.7	392.8	391.6	390.3	389.1	387.8	387.4
35°	376.9	376.3	375.7	375.1	374.4	373.5	372.2	370.9	369.7	368.4	367.8
37.5°	356.5	355.9	355.3	354.8	354.2	353.3	351.9	350.5	349.1	347.8	347.1
40°	343.1	342.4	341.7	341.0	340.3	339.2	337.9	336.5	335.1	333.8	332.9
42.5°	328.8	328.4	328.0	327.5	327.1	326.1	324.6	323.0	321.6	320.1	319.0
45°	307.7	307.0	306.4	305.8	305.1	304.1	302.6	301.2	299.8	298.3	297.3
47.5°	285.6	285.2	284.7	284.3	283.9	283.0	281.6	280.3	279.0	277.6	276.5
50°	270.6	270.3	269.9	269.5	269.1	268.4	267.1	265.8	264.5	263.3	262.0
52.5°	256.0	255.5	255.0	254.6	254.2	253.3	251.9	250.6	249.3	248.0	246.8
55°	232.7	232.5	232.1	231.9	231.6	230.8	229.5	228.3	227.0	225.8	224.7
57.5°	210.5	210.3	209.9	209.7	209.3	208.5	207.2	206.0	204.7	203.5	202.5
60°	195.2	194.8	194.3	193.8	193.4	192.6	191.4	190.2	189.1	187.9	187.1
62.5°	180.2	179.9	179.4	179.1	178.7	177.9	176.6	175.4	174.1	172.9	172.1
65°	157.7	157.3	156.8	156.4	155.9	155.2	154.3	153.4	152.5	151.6	150.7
67.5°	135.1	134.7	134.2	133.8	133.4	132.8	131.9	131.0	130.2	129.2	128.4
70°	121.1	120.4	119.8	119.2	118.5	117.8	117.1	116.4	115.6	114.9	114.2
72.5°	106.1	105.4	104.8	104.2	103.5	102.9	102.3	101.8	101.2	100.6	100.0
75°	83.9	83.5	83.1	82.6	82.1	81.7	81.3	80.8	80.3	79.9	79.6
77.5°	62.9	62.7	62.4	62.3	62.1	61.7	61.4	61.0	60.5	60.2	60.0
80°	50.1	49.9	49.6	49.3	49.1	48.8	48.6	48.5	48.3	48.1	47.9
82.5°	37.7	37.6	37.5	37.4	37.2	37.1	37.1	37.1	37.0	37.0	36.9
85°	22.0	22.0	22.0	22.0	22.0	22.0	21.7	21.5	21.4	21.2	21.2
87.5°	9.1	9.6	10.1	10.6	11.0	11.5	11.8	12.1	12.4	12.7	13.0
90°	3.4	6.1	8.8	11.5	14.3	16.6	18.6	20.6	22.6	24.5	26.1
92.5°	23.9	27.0	30.1	33.2	36.4	38.7	40.0	41.4	42.8	44.3	45.1
95°	67.0	69.2	71.5	73.7	75.9	77.9	79.6	81.4	83.1	84.9	85.6
97.5°	117.0	118.8	120.6	122.3	124.2	126.1	128.1	130.2	132.2	134.2	135.1
100°	156.4	157.3	158.3	159.3	160.3	161.9	164.1	166.3	168.6	170.8	171.3
102.5°	197.4	197.9	198.2	198.6	199.0	200.2	202.2	204.3	206.3	208.4	209.1
105°	260.2	260.5	260.7	260.9	261.1	261.7	262.8	263.8	264.8	265.8	266.5
107.5°	326.1	326.3	326.7	326.9	327.3	327.4	327.6	327.8	328.0	328.0	328.7
110°	370.7	371.2	371.7	372.2	372.7	372.8	372.6	372.3	372.1	371.9	371.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	417.2	417.2	417.3	417.5	417.6	417.4	417.0	416.5	416.0	415.6	415.5
115°	486.8	486.8	486.8	486.8	486.8	486.6	486.1	485.6	485.1	484.6	484.4
117.5°	552.5	552.7	552.9	553.1	553.3	553.2	552.8	552.5	552.2	551.8	551.0
120°	596.2	597.3	598.2	599.3	600.2	600.4	599.6	598.9	598.1	597.4	596.2
122.5°	641.8	642.2	642.7	643.0	643.4	643.4	643.1	642.7	642.4	642.0	641.2
125°	709.0	709.0	709.0	709.0	709.0	708.9	708.7	708.4	708.2	707.9	707.4
127.5°	770.0	770.8	771.5	772.2	773.0	773.2	772.7	772.4	772.0	771.5	771.1
130°	812.9	813.6	814.4	815.1	815.9	816.2	816.2	816.2	816.2	816.2	815.7
132.5°	856.7	857.2	857.7	858.3	858.8	859.0	858.8	858.6	858.4	858.2	857.7
135°	914.5	916.0	917.5	918.9	920.5	921.2	921.2	921.2	921.2	921.2	920.8
137.5°	977.5	978.2	978.9	979.6	980.2	980.9	981.2	981.6	982.0	982.4	981.7
140°	1019.5	1019.9	1020.5	1021.0	1021.5	1021.7	1021.7	1021.7	1021.7	1021.7	1021.5
142.5°	1057.9	1058.3	1058.9	1059.4	1059.9	1060.0	1059.8	1059.6	1059.5	1059.2	1059.2
145°	1111.0	1112.1	1113.0	1114.0	1115.0	1115.6	1115.9	1116.1	1116.4	1116.6	1116.4
147.5°	1163.7	1164.9	1166.1	1167.3	1168.5	1169.0	1168.8	1168.6	1168.4	1168.2	1168.0
150°	1195.9	1196.9	1197.9	1198.9	1199.9	1200.3	1200.3	1200.3	1200.3	1200.3	1200.3
152.5°	1226.2	1226.8	1227.4	1228.0	1228.6	1229.1	1229.2	1229.4	1229.7	1229.9	1230.5
155°	1272.9	1272.9	1272.9	1272.9	1272.9	1272.8	1272.6	1272.3	1272.0	1271.9	1272.8
157.5°	1312.3	1311.8	1311.4	1310.9	1310.4	1310.2	1310.2	1310.1	1310.1	1310.0	1310.8
160°	1335.5	1335.2	1335.0	1334.7	1334.5	1334.2	1333.9	1333.8	1333.5	1333.3	1333.9
162.5°	1356.9	1356.2	1355.6	1355.0	1354.4	1353.9	1353.7	1353.4	1353.1	1352.9	1354.3
165°	1385.7	1385.0	1384.2	1383.5	1382.8	1382.2	1381.6	1381.1	1380.6	1380.1	1381.6
167.5°	1407.8	1406.8	1405.8	1404.7	1403.7	1403.2	1403.3	1403.3	1403.3	1403.3	1404.9
170°	1420.3	1419.1	1417.9	1416.6	1415.4	1414.9	1415.1	1415.4	1415.7	1415.8	1417.4
172.5°	1429.3	1428.2	1427.2	1426.2	1425.1	1424.6	1424.7	1424.7	1424.8	1424.8	1426.5
175°	1441.6	1440.3	1439.1	1437.9	1436.6	1435.8	1435.6	1435.4	1435.1	1434.9	1436.6
177.5°	1445.5	1444.6	1443.6	1442.6	1441.6	1441.1	1441.1	1441.1	1441.1	1441.1	1442.5
180°	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6
2.5°	506.8	507.6	508.2	508.6	508.5	508.4	508.3	508.2
5°	504.1	505.1	506.1	506.4	506.3	506.1	505.9	505.8
7.5°	498.4	499.3	500.1	500.4	500.3	500.2	500.1	500.0
10°	493.8	494.5	495.2	495.5	495.3	495.1	494.9	494.7
12.5°	488.0	488.8	489.7	489.9	489.7	489.4	489.1	488.9
15°	477.1	477.6	478.2	478.3	478.0	477.8	477.5	477.3
17.5°	464.6	464.9	465.3	465.4	465.2	465.0	464.9	464.7
20°	455.4	455.6	455.9	456.0	455.7	455.6	455.4	455.2
22.5°	445.7	446.2	446.7	446.8	446.4	446.1	445.7	445.5
25°	429.7	429.8	429.9	429.8	429.4	429.0	428.7	428.3
27.5°	411.8	411.6	411.4	411.0	410.6	410.2	409.7	409.2
30°	399.5	399.2	398.7	398.4	397.9	397.4	397.0	396.6
32.5°	386.9	386.5	386.1	385.6	385.2	384.7	384.3	383.8
35°	367.1	366.5	365.8	365.3	364.9	364.5	363.9	363.5
37.5°	346.4	345.7	345.0	344.4	343.8	343.2	342.6	342.0
40°	332.0	331.1	330.2	329.5	329.0	328.6	328.1	327.7
42.5°	318.0	316.9	315.9	315.2	314.9	314.6	314.3	314.0
45°	296.4	295.3	294.4	293.7	293.4	293.2	292.9	292.7
47.5°	275.3	274.2	273.1	272.2	271.6	270.9	270.2	269.5
50°	260.7	259.5	258.2	257.3	256.8	256.2	255.6	255.1
52.5°	245.7	244.6	243.5	242.5	241.9	241.2	240.5	239.8
55°	223.6	222.5	221.4	220.6	220.1	219.6	219.0	218.4
57.5°	201.5	200.4	199.4	198.6	198.1	197.6	197.1	196.5
60°	186.2	185.5	184.6	184.0	183.6	183.0	182.6	182.2
62.5°	171.4	170.7	169.9	169.3	168.8	168.4	168.0	167.5
65°	149.8	148.9	148.0	147.3	146.9	146.4	145.9	145.5
67.5°	127.5	126.7	125.8	125.3	125.2	125.0	124.9	124.8
70°	113.5	112.8	112.0	111.5	111.2	111.0	110.7	110.5
72.5°	99.4	98.8	98.2	97.8	97.6	97.3	97.0	96.8
75°	79.1	78.8	78.4	78.2	78.1	78.0	77.9	77.8
77.5°	59.9	59.8	59.8	59.6	59.3	59.1	58.8	58.6
80°	47.7	47.5	47.4	47.3	47.1	47.0	46.9	46.8
82.5°	36.8	36.7	36.6	36.5	36.4	36.2	36.2	36.1
85°	21.2	21.2	21.2	21.2	21.1	21.0	20.8	20.8
87.5°	13.3	13.6	13.9	14.1	14.2	14.3	14.5	14.6
90°	27.6	29.0	30.5	31.5	32.0	32.5	33.0	33.5
92.5°	46.0	46.9	47.8	48.4	48.6	49.0	49.2	49.6
95°	86.4	87.1	87.8	88.3	88.3	88.3	88.3	88.3
97.5°	136.0	136.9	137.8	138.3	138.3	138.3	138.3	138.3
100°	171.9	172.4	172.8	173.1	173.1	173.1	173.1	173.1
102.5°	209.7	210.4	211.1	211.5	211.8	212.0	212.2	212.4
105°	267.3	268.0	268.7	269.5	270.2	271.0	271.7	272.4
107.5°	329.4	330.1	330.9	331.1	331.1	331.1	331.1	331.0
110°	370.8	370.3	369.9	370.0	370.7	371.4	372.2	373.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	415.4	415.3	415.2	415.3	415.3	415.5	415.7	415.9
115°	484.1	483.9	483.6	483.4	483.1	482.8	482.6	482.4
117.5°	550.2	549.3	548.5	547.8	547.3	546.8	546.3	545.8
120°	595.0	593.7	592.5	592.0	592.5	593.1	593.6	594.0
122.5°	640.3	639.6	638.7	637.8	636.9	636.0	635.2	634.2
125°	707.0	706.5	705.9	705.4	705.0	704.5	704.0	703.4
127.5°	770.6	770.1	769.6	769.1	768.8	768.4	767.9	767.6
130°	815.3	814.8	814.2	813.6	812.5	811.5	810.5	809.5
132.5°	857.2	856.8	856.3	855.8	855.4	855.0	854.6	854.2
135°	920.2	919.7	919.2	918.6	917.8	917.1	916.4	915.6
137.5°	981.1	980.5	979.8	979.6	979.7	979.9	980.0	980.2
140°	1021.2	1021.0	1020.7	1020.5	1020.2	1019.9	1019.7	1019.5
142.5°	1059.1	1059.1	1059.0	1058.9	1058.9	1058.9	1058.9	1058.8
145°	1116.1	1115.9	1115.6	1115.2	1114.4	1113.6	1112.9	1112.2
147.5°	1167.8	1167.6	1167.4	1167.2	1166.9	1166.7	1166.5	1166.2
150°	1200.3	1200.3	1200.3	1200.2	1200.0	1199.7	1199.5	1199.3
152.5°	1231.1	1231.7	1232.3	1232.2	1231.6	1230.9	1230.3	1229.6
155°	1273.8	1274.8	1275.8	1275.8	1274.8	1273.8	1272.8	1271.9
157.5°	1311.5	1312.3	1313.0	1312.9	1312.1	1311.2	1310.4	1309.6
160°	1334.7	1335.5	1336.2	1335.9	1334.7	1333.5	1332.2	1331.0
162.5°	1355.6	1356.9	1358.2	1358.3	1357.0	1355.8	1354.6	1353.3
165°	1383.1	1384.6	1386.1	1386.4	1385.3	1384.3	1383.4	1382.3
167.5°	1406.4	1407.8	1409.3	1409.3	1407.7	1406.2	1404.7	1403.2
170°	1418.8	1420.3	1421.9	1421.7	1420.0	1418.2	1416.5	1414.8
172.5°	1428.1	1429.9	1431.6	1431.5	1429.8	1428.1	1426.3	1424.6
175°	1438.3	1440.0	1441.8	1441.8	1440.0	1438.3	1436.6	1434.9
177.5°	1443.9	1445.3	1446.7	1446.6	1445.0	1443.4	1441.8	1440.2
180°	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8

(END OF REPORT)