

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: P332523-840

Luminaire Tested: **S124DIP-S350D1035U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332523-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S350D1035U840-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5704.0 lumens
Efficiency: N/A
Efficacy: 152.9 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

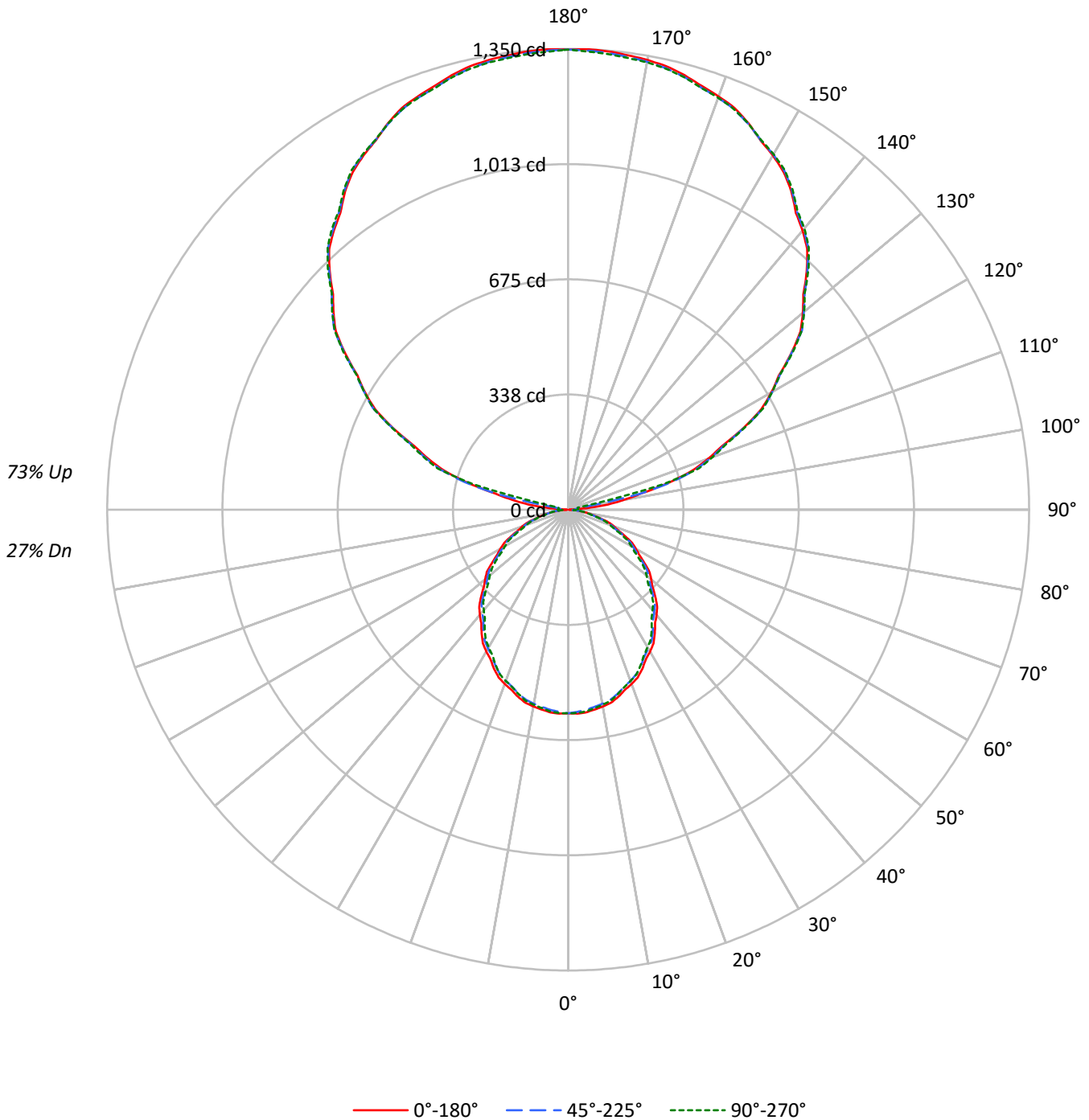
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	52	52	52	35	35	35	27
1	93	88	85	81	83	79	76	73	62	59	58	46	44	43	31	30	29	23
2	84	77	71	66	75	69	64	60	54	51	48	40	38	36	27	26	25	19
3	77	68	61	55	68	61	55	50	47	43	40	35	33	30	24	22	21	16
4	70	60	52	46	62	54	47	42	42	38	34	31	28	26	21	20	18	14
5	64	53	45	40	57	48	41	36	38	33	29	28	25	22	19	17	16	12
6	59	47	40	34	53	43	36	31	34	29	25	25	22	19	17	15	14	10
7	55	43	35	30	49	38	32	27	30	26	22	23	20	17	16	14	12	9
8	50	39	31	26	45	35	28	24	28	23	19	21	18	15	15	12	11	8
9	47	35	28	23	42	32	25	21	25	21	17	19	16	14	13	11	10	7
10	44	32	25	21	39	29	23	19	23	19	15	18	14	12	12	10	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4816	4816	4816
5°	4830	4772	4807
10°	4800	4733	4757
15°	4741	4667	4679
20°	4665	4582	4587
25°	4577	4488	4475
30°	4470	4376	4336
35°	4357	4258	4202
40°	4241	4126	4051
45°	4120	3995	3919
50°	3986	3878	3758
55°	3842	3727	3606
60°	3696	3559	3450
65°	3534	3396	3261
70°	3352	3182	3059
75°	3072	2923	2848
80°	2734	2627	2552
85°	2399	2297	2251



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.2	1.0
10°-20°	158.3	2.8
20°-30°	233.0	4.1
30°-40°	270.8	4.7
40°-50°	270.9	4.7
50°-60°	236.9	4.2
60°-70°	175.9	3.1
70°-80°	100.0	1.8
80°-90°	32.7	0.6
90°-100°	46.1	0.8
100°-110°	293.9	5.2
110°-120°	562.3	9.9
120°-130°	713.8	12.5
130°-140°	763.7	13.4
140°-150°	714.1	12.5
150°-160°	575.9	10.1
160°-170°	371.4	6.5
170°-180°	128.0	2.2
0°-30°	447.4	7.8
0°-40°	718.3	12.6
0°-60°	1226.1	21.5
0°-90°	1534.7	26.9
90°-120°	902.3	15.8
90°-150°	3094.0	54.2
90°-180°	4169.0	73.1
0°-180°	5704.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	596	596	596	596	596	
5°	596	594	589	594	593	57
15°	567	565	558	561	560	160
25°	514	510	504	504	502	236
35°	442	439	432	429	426	276
45°	361	357	350	345	343	278
55°	273	271	265	259	256	244
65°	185	182	178	173	171	183
75°	98	96	94	92	91	105
85°	26	26	25	25	24	28
90°	3	14	22	28	30	4
95°	55	23	22	28	29	71
105°	304	309	315	321	287	317
115°	566	569	569	570	571	557
125°	796	800	798	801	802	711
135°	988	987	991	993	995	761
145°	1139	1142	1142	1143	1145	712
155°	1249	1250	1247	1251	1248	576
165°	1318	1313	1312	1320	1312	372
175°	1348	1342	1343	1351	1340	128
180°	1348	1348	1348	1348	1348	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5
2.5°	598.0	597.8	597.5	597.3	597.0	596.4	595.5	594.6	593.7	592.7	593.6
5°	596.0	595.6	595.2	594.8	594.4	593.6	592.4	591.3	590.1	588.9	590.1
7.5°	590.6	590.1	589.7	589.3	588.9	587.9	586.6	585.4	584.1	582.8	583.7
10°	585.5	585.1	584.7	584.3	583.9	583.0	581.6	580.2	578.9	577.4	578.2
12.5°	579.1	578.7	578.2	577.7	577.3	576.4	574.9	573.5	572.0	570.6	571.5
15°	567.3	566.9	566.5	566.1	565.7	564.7	563.1	561.5	559.9	558.4	559.0
17.5°	553.3	552.8	552.3	551.8	551.2	550.2	548.7	547.1	545.6	544.1	544.5
20°	543.0	542.5	542.0	541.4	540.9	539.9	538.3	536.6	535.0	533.4	533.8
22.5°	531.9	531.2	530.5	529.8	529.1	528.0	526.3	524.8	523.2	521.6	522.2
25°	513.8	513.1	512.4	511.6	510.9	509.8	508.3	506.8	505.3	503.8	503.9
27.5°	493.2	492.4	491.7	490.9	490.2	489.1	487.7	486.4	484.9	483.5	483.3
30°	479.5	478.6	477.8	476.9	476.1	474.9	473.5	472.1	470.8	469.4	469.0
32.5°	464.9	464.1	463.3	462.6	461.8	460.7	459.3	457.8	456.4	454.8	454.3
35°	442.1	441.4	440.7	439.9	439.2	438.1	436.6	435.0	433.6	432.1	431.4
37.5°	418.2	417.5	416.8	416.2	415.5	414.3	412.7	411.1	409.5	407.9	407.1
40°	402.4	401.6	400.8	399.9	399.1	397.9	396.3	394.7	393.0	391.5	390.4
42.5°	385.7	385.2	384.7	384.2	383.6	382.4	380.7	378.9	377.2	375.5	374.2
45°	360.9	360.1	359.4	358.7	357.9	356.7	355.0	353.3	351.6	349.9	348.7
47.5°	335.0	334.5	334.0	333.5	333.0	331.9	330.3	328.7	327.2	325.6	324.3
50°	317.4	317.0	316.6	316.1	315.7	314.8	313.3	311.7	310.2	308.8	307.3
52.5°	300.2	299.6	299.1	298.6	298.1	297.1	295.5	294.0	292.4	290.8	289.5
55°	273.0	272.7	272.3	272.0	271.7	270.7	269.2	267.8	266.3	264.8	263.6
57.5°	246.9	246.6	246.2	245.9	245.5	244.6	243.1	241.7	240.1	238.7	237.5
60°	228.9	228.4	227.9	227.3	226.8	225.9	224.5	223.1	221.8	220.4	219.4
62.5°	211.4	211.0	210.5	210.1	209.5	208.6	207.1	205.7	204.2	202.8	201.9
65°	185.0	184.5	183.9	183.4	182.9	182.1	181.0	180.0	178.8	177.8	176.7
67.5°	158.4	157.9	157.4	156.9	156.4	155.7	154.7	153.7	152.7	151.6	150.6
70°	142.0	141.2	140.5	139.8	139.0	138.1	137.3	136.5	135.6	134.8	133.9
72.5°	124.4	123.6	122.9	122.2	121.4	120.7	120.0	119.4	118.7	118.0	117.2
75°	98.5	98.0	97.5	96.8	96.3	95.8	95.3	94.7	94.2	93.7	93.3
77.5°	73.7	73.5	73.2	73.0	72.8	72.4	72.0	71.5	71.0	70.6	70.4
80°	58.8	58.5	58.2	57.9	57.6	57.3	57.1	56.9	56.7	56.5	56.1
82.5°	44.2	44.1	43.9	43.8	43.6	43.5	43.5	43.5	43.4	43.4	43.3
85°	25.9	25.9	25.9	25.9	25.9	25.8	25.4	25.2	25.0	24.8	24.8
87.5°	10.5	10.9	11.4	11.8	12.2	12.5	12.8	13.0	13.3	13.6	13.8
90°	3.0	5.5	8.0	10.4	12.9	15.0	16.8	18.6	20.4	22.2	23.5
92.5°	12.7	12.8	12.9	13.1	13.2	14.2	16.0	17.8	19.6	21.4	22.7
95°	55.4	47.9	40.2	32.6	24.9	21.3	21.5	21.7	21.9	22.2	23.5
97.5°	117.8	122.5	127.2	132.0	136.7	126.6	101.6	76.6	51.6	26.7	26.8
100°	165.3	169.4	173.4	177.4	181.5	168.0	137.1	106.2	75.2	44.3	40.6
102.5°	218.5	221.6	224.5	227.4	230.4	229.8	225.8	221.8	217.7	213.7	172.6
105°	303.5	304.8	306.1	307.5	308.8	310.0	311.1	312.3	313.5	314.6	316.6
107.5°	382.2	382.9	383.6	384.3	385.0	386.1	387.6	389.1	390.6	392.1	393.1
110°	435.6	436.2	436.9	437.5	438.2	439.2	440.5	441.9	443.2	444.5	445.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	487.2	488.4	489.6	490.8	492.0	492.9	493.5	494.1	494.7	495.3	495.3
115°	566.5	567.2	567.9	568.6	569.3	569.5	569.3	569.1	568.8	568.6	569.1
117.5°	638.1	639.0	640.0	640.9	641.8	642.4	642.9	643.4	643.9	644.4	644.3
120°	686.5	687.4	688.3	689.2	690.1	690.4	690.2	690.0	689.7	689.5	690.0
122.5°	731.6	732.3	732.8	733.3	733.9	734.3	734.6	734.9	735.2	735.5	735.8
125°	796.4	797.3	798.2	799.1	800.0	800.2	799.8	799.3	798.9	798.4	799.1
127.5°	857.7	857.9	858.2	858.4	858.6	859.2	860.3	861.3	862.3	863.3	863.2
130°	897.3	897.5	897.7	897.9	898.1	898.6	899.3	899.9	900.6	901.3	901.5
132.5°	933.5	933.9	934.3	934.7	935.1	935.7	936.6	937.5	938.3	939.2	939.4
135°	988.0	987.7	987.5	987.2	987.0	987.3	988.3	989.2	990.1	991.0	991.4
137.5°	1036.1	1036.2	1036.3	1036.4	1036.5	1037.0	1038.0	1039.1	1040.0	1041.0	1041.5
140°	1067.6	1068.0	1068.5	1068.9	1069.3	1069.9	1070.3	1070.8	1071.2	1071.7	1072.3
142.5°	1095.8	1096.6	1097.4	1098.2	1099.0	1099.5	1099.8	1100.1	1100.3	1100.7	1101.2
145°	1139.1	1139.8	1140.5	1141.1	1141.9	1142.2	1142.2	1142.2	1142.2	1142.2	1142.5
147.5°	1173.7	1174.9	1176.2	1177.4	1178.7	1179.2	1178.9	1178.7	1178.5	1178.3	1178.5
150°	1198.6	1199.5	1200.4	1201.3	1202.2	1202.5	1202.3	1202.1	1201.9	1201.6	1201.6
152.5°	1219.6	1220.3	1221.0	1221.7	1222.4	1222.6	1222.2	1221.8	1221.4	1221.0	1221.4
155°	1249.1	1249.3	1249.5	1249.7	1249.9	1249.7	1249.1	1248.4	1247.7	1247.1	1247.9
157.5°	1273.8	1273.7	1273.5	1273.4	1273.3	1272.8	1272.1	1271.3	1270.6	1269.8	1271.0
160°	1288.4	1287.7	1287.1	1286.4	1285.7	1285.3	1285.1	1284.8	1284.5	1284.3	1285.7
162.5°	1301.3	1300.4	1299.6	1298.7	1297.9	1297.4	1297.1	1296.9	1296.7	1296.5	1297.8
165°	1317.6	1316.5	1315.3	1314.2	1313.1	1312.5	1312.5	1312.5	1312.5	1312.5	1314.3
167.5°	1330.5	1329.4	1328.2	1327.1	1325.9	1325.2	1325.0	1324.9	1324.8	1324.6	1326.7
170°	1337.8	1336.5	1335.0	1333.7	1332.4	1331.8	1332.0	1332.3	1332.5	1332.7	1334.5
172.5°	1342.6	1341.3	1339.9	1338.6	1337.3	1336.7	1336.9	1337.2	1337.4	1337.6	1339.4
175°	1347.9	1346.6	1345.1	1343.8	1342.5	1341.9	1342.1	1342.4	1342.6	1342.8	1344.8
177.5°	1350.3	1349.0	1347.8	1346.6	1345.2	1344.8	1345.1	1345.5	1345.8	1346.3	1347.7
180°	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5
2.5°	594.4	595.3	596.1	596.5	596.4	596.3	596.2	596.1
5°	591.3	592.4	593.6	594.0	593.8	593.6	593.4	593.2
7.5°	584.6	585.6	586.5	586.9	586.8	586.6	586.5	586.4
10°	579.2	580.0	580.9	581.2	581.0	580.7	580.5	580.3
12.5°	572.4	573.3	574.3	574.6	574.3	574.0	573.7	573.4
15°	559.6	560.2	560.9	561.0	560.7	560.4	560.1	559.8
17.5°	544.9	545.3	545.7	545.8	545.6	545.4	545.2	545.0
20°	534.1	534.4	534.7	534.8	534.5	534.3	534.1	533.9
22.5°	522.7	523.3	523.9	524.0	523.6	523.2	522.8	522.5
25°	504.0	504.1	504.2	504.1	503.6	503.2	502.8	502.4
27.5°	483.0	482.8	482.5	482.1	481.6	481.1	480.5	480.0
30°	468.6	468.2	467.7	467.3	466.7	466.2	465.6	465.1
32.5°	453.8	453.3	452.8	452.3	451.8	451.2	450.7	450.2
35°	430.6	429.9	429.1	428.5	428.0	427.5	426.9	426.4
37.5°	406.3	405.5	404.7	403.9	403.2	402.5	401.8	401.1
40°	389.4	388.3	387.3	386.5	385.9	385.4	384.9	384.4
42.5°	372.9	371.7	370.5	369.7	369.3	369.0	368.6	368.3
45°	347.6	346.4	345.3	344.5	344.2	343.9	343.6	343.3
47.5°	323.0	321.6	320.3	319.3	318.5	317.7	316.9	316.1
50°	305.8	304.4	302.9	301.7	301.1	300.5	299.8	299.2
52.5°	288.2	286.9	285.6	284.5	283.7	282.9	282.1	281.2
55°	262.3	260.9	259.7	258.7	258.1	257.5	256.8	256.2
57.5°	236.3	235.1	233.9	233.0	232.4	231.8	231.2	230.5
60°	218.4	217.5	216.5	215.8	215.3	214.7	214.2	213.7
62.5°	201.1	200.2	199.2	198.5	198.0	197.5	197.0	196.4
65°	175.7	174.6	173.6	172.8	172.3	171.7	171.2	170.7
67.5°	149.6	148.6	147.5	146.9	146.8	146.6	146.5	146.3
70°	133.1	132.3	131.4	130.8	130.5	130.2	129.9	129.6
72.5°	116.6	115.9	115.2	114.7	114.4	114.1	113.8	113.5
75°	92.8	92.4	92.0	91.7	91.6	91.5	91.4	91.3
77.5°	70.3	70.2	70.1	69.9	69.6	69.3	69.0	68.8
80°	55.9	55.7	55.5	55.4	55.2	55.1	55.0	54.9
82.5°	43.1	43.0	42.9	42.8	42.7	42.5	42.4	42.3
85°	24.8	24.8	24.8	24.8	24.7	24.6	24.4	24.3
87.5°	14.1	14.4	14.6	14.8	14.9	15.0	15.1	15.2
90°	24.8	26.3	27.6	28.5	28.9	29.4	29.8	30.2
92.5°	24.0	25.4	26.8	27.5	27.6	27.7	27.8	27.9
95°	24.8	26.3	27.6	28.4	28.6	28.8	29.0	29.2
97.5°	26.9	27.1	27.2	27.4	27.6	27.8	28.0	28.3
100°	36.8	32.9	29.1	27.4	27.6	27.8	28.0	28.3
102.5°	131.6	90.5	49.4	28.9	28.9	29.0	29.0	29.1
105°	318.6	320.5	322.6	319.6	311.5	303.5	295.4	287.3
107.5°	394.2	395.2	396.1	397.0	397.9	398.7	399.6	400.4
110°	445.5	446.0	446.4	447.0	447.6	448.3	449.0	449.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	495.2	495.1	495.0	495.4	496.2	497.2	498.0	498.8
115°	569.5	570.0	570.4	570.6	570.6	570.6	570.6	570.6
117.5°	644.2	644.1	644.0	644.0	643.9	643.8	643.7	643.6
120°	690.4	690.8	691.4	691.4	690.8	690.4	690.0	689.5
122.5°	736.1	736.3	736.6	736.5	736.1	735.6	735.2	734.7
125°	799.8	800.4	801.1	801.5	801.8	802.0	802.2	802.4
127.5°	863.1	862.9	862.8	862.6	862.5	862.3	862.1	861.9
130°	901.7	901.9	902.1	902.3	902.3	902.3	902.3	902.3
132.5°	939.6	939.9	940.1	940.1	939.9	939.7	939.6	939.4
135°	991.9	992.3	992.8	993.2	993.7	994.1	994.5	995.0
137.5°	1042.0	1042.5	1043.0	1043.1	1043.0	1042.9	1042.7	1042.6
140°	1073.0	1073.7	1074.3	1074.8	1075.0	1075.2	1075.4	1075.7
142.5°	1101.7	1102.2	1102.7	1102.9	1103.0	1103.0	1103.1	1103.1
145°	1142.7	1142.9	1143.1	1143.5	1143.9	1144.3	1144.8	1145.2
147.5°	1178.6	1178.8	1179.0	1179.2	1179.4	1179.6	1179.9	1180.1
150°	1201.6	1201.6	1201.6	1201.7	1202.0	1202.2	1202.4	1202.6
152.5°	1221.7	1222.1	1222.4	1222.5	1222.4	1222.3	1222.1	1222.0
155°	1248.8	1249.7	1250.6	1250.7	1250.1	1249.4	1248.7	1248.1
157.5°	1272.1	1273.3	1274.4	1274.4	1273.3	1272.1	1271.0	1269.8
160°	1287.1	1288.4	1289.7	1289.7	1288.4	1287.1	1285.7	1284.3
162.5°	1299.1	1300.5	1301.8	1301.7	1300.2	1298.7	1297.2	1295.7
165°	1316.2	1318.0	1319.7	1319.6	1317.6	1315.6	1313.5	1311.5
167.5°	1328.6	1330.6	1332.5	1332.4	1330.2	1328.0	1325.6	1323.4
170°	1336.4	1338.1	1339.9	1339.7	1337.5	1335.2	1332.9	1330.7
172.5°	1341.2	1342.9	1344.7	1344.4	1342.0	1339.6	1337.2	1334.7
175°	1346.9	1348.9	1350.9	1350.5	1347.9	1345.1	1342.5	1339.8
177.5°	1349.1	1350.5	1352.0	1351.6	1349.5	1347.4	1345.1	1343.0
180°	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9

(END OF REPORT)