

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: P331907-935

Luminaire Tested: **S123DIP-S340D1195U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331907-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S340D1195U935-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5323.8 lumens
Efficiency: N/A
Efficacy: 126.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

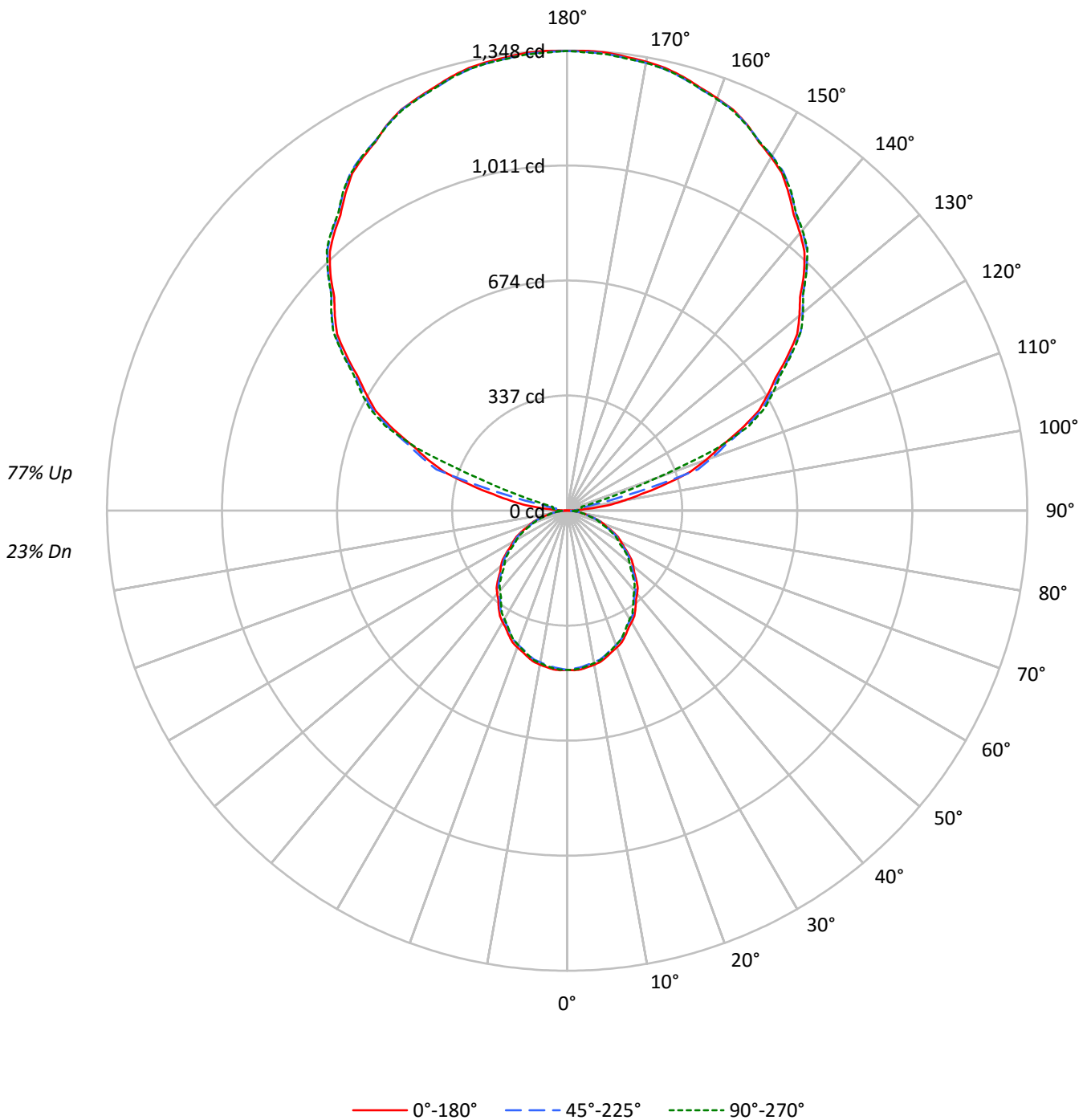
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	89	89	89	89	68	68	68	49	49	49	31	31	31	23
1	92	87	84	80	81	78	75	72	60	58	56	43	42	40	27	27	26	19
2	83	76	70	66	74	68	63	59	52	49	46	38	36	34	24	23	22	16
3	76	67	60	54	67	60	54	49	46	42	39	33	31	28	21	20	19	14
4	69	59	52	46	61	53	46	41	41	36	33	29	27	24	19	17	16	12
5	64	52	45	39	56	47	40	35	36	32	28	26	23	21	17	15	14	10
6	58	47	39	34	52	42	35	30	33	28	24	24	21	18	15	14	12	9
7	54	42	35	29	48	38	31	27	29	25	21	21	18	16	14	12	11	8
8	50	38	31	26	44	34	28	23	27	22	19	20	16	14	13	11	10	7
9	46	35	27	23	41	31	25	21	24	20	17	18	15	13	12	10	9	6
10	43	32	25	20	38	28	22	18	22	18	15	16	13	11	11	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5022	5022	5022
5°	5046	4976	5010
10°	5012	4933	4964
15°	4953	4878	4886
20°	4885	4798	4802
25°	4793	4703	4694
30°	4692	4598	4561
35°	4586	4486	4428
40°	4477	4363	4295
45°	4354	4250	4147
50°	4232	4113	3997
55°	4074	3969	3847
60°	3914	3800	3679
65°	3769	3617	3505
70°	3559	3408	3257
75°	3256	3136	3003
80°	2938	2814	2783
85°	2569	2482	2384



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.0	0.8
10°-20°	124.1	2.3
20°-30°	183.3	3.4
30°-40°	214.1	4.0
40°-50°	215.3	4.0
50°-60°	189.1	3.6
60°-70°	140.9	2.6
70°-80°	80.3	1.5
80°-90°	26.8	0.5
90°-100°	48.9	0.9
100°-110°	233.3	4.4
110°-120°	560.4	10.5
120°-130°	713.6	13.4
130°-140°	762.5	14.3
140°-150°	713.0	13.4
150°-160°	575.1	10.8
160°-170°	371.2	7.0
170°-180°	127.9	2.4
0°-30°	351.4	6.6
0°-40°	565.5	10.6
0°-60°	969.9	18.2
0°-90°	1217.8	22.9
90°-120°	842.6	15.8
90°-150°	3031.7	56.9
90°-180°	4106.0	77.1
0°-180°	5323.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	467	467	467	467	467	
5°	467	465	460	464	464	44
15°	444	443	438	441	438	125
25°	404	401	396	396	395	186
35°	349	346	341	339	337	218
45°	286	284	279	275	272	221
55°	217	216	212	207	205	194
65°	148	146	142	139	138	146
75°	78	77	75	73	72	84
85°	21	20	20	19	19	23
90°	1	11	24	28	30	4
95°	61	23	31	38	38	75
105°	298	304	219	52	44	316
115°	559	565	574	584	588	552
125°	788	796	800	802	804	704
135°	981	987	991	994	991	755
145°	1132	1139	1141	1143	1143	709
155°	1247	1246	1246	1251	1245	574
165°	1315	1313	1311	1319	1312	371
175°	1346	1342	1342	1349	1341	128
180°	1346	1346	1346	1346	1346	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6
2.5°	468.2	467.9	467.6	467.4	467.0	466.5	465.7	464.9	464.2	463.4	464.1
5°	467.0	466.5	466.1	465.6	465.2	464.5	463.5	462.5	461.5	460.5	461.4
7.5°	462.4	461.9	461.5	461.1	460.6	459.9	458.9	457.9	456.8	455.8	456.6
10°	458.6	458.1	457.6	457.2	456.8	456.0	454.8	453.7	452.5	451.3	452.1
12.5°	453.4	453.1	452.6	452.3	451.9	451.2	450.1	449.0	447.9	446.9	447.5
15°	444.5	444.2	443.8	443.4	443.1	442.3	441.2	440.0	438.9	437.7	438.4
17.5°	434.1	433.7	433.3	432.7	432.3	431.5	430.3	429.2	428.0	426.9	427.3
20°	426.5	425.9	425.4	424.8	424.3	423.4	422.3	421.1	420.0	418.9	419.2
22.5°	417.8	417.2	416.7	416.2	415.7	414.8	413.6	412.5	411.3	410.2	410.4
25°	403.6	403.0	402.5	402.0	401.5	400.6	399.4	398.3	397.1	396.0	396.1
27.5°	388.4	387.9	387.4	386.8	386.3	385.5	384.3	383.0	381.8	380.5	380.6
30°	377.5	377.0	376.6	376.2	375.7	374.9	373.7	372.4	371.2	369.9	369.9
32.5°	366.6	366.0	365.4	364.8	364.3	363.4	362.5	361.5	360.6	359.6	359.1
35°	349.0	348.5	347.9	347.4	346.9	346.0	344.9	343.7	342.6	341.4	340.9
37.5°	331.1	330.4	329.7	329.0	328.4	327.4	326.2	325.0	323.9	322.7	322.1
40°	318.6	318.0	317.5	316.9	316.4	315.5	314.3	313.0	311.8	310.5	309.8
42.5°	306.0	305.4	304.8	304.2	303.6	302.6	301.4	300.1	298.9	297.6	297.0
45°	286.0	285.7	285.3	285.0	284.6	283.9	282.7	281.5	280.3	279.2	278.2
47.5°	266.2	265.7	265.2	264.7	264.2	263.4	262.3	261.1	260.1	259.0	258.0
50°	252.7	252.3	251.8	251.4	251.0	250.1	249.0	247.9	246.7	245.6	244.5
52.5°	238.6	238.3	238.0	237.7	237.4	236.6	235.4	234.2	233.0	231.7	230.9
55°	217.1	217.0	216.9	216.8	216.7	216.0	214.9	213.7	212.6	211.5	210.4
57.5°	196.5	196.2	195.9	195.6	195.3	194.7	193.7	192.8	191.9	191.0	190.1
60°	181.8	181.7	181.6	181.5	181.4	180.8	179.7	178.7	177.6	176.5	175.7
62.5°	168.6	168.3	168.2	167.9	167.6	167.0	165.9	164.9	163.8	162.7	162.0
65°	148.0	147.6	147.1	146.7	146.3	145.6	144.7	143.8	142.9	142.0	141.3
67.5°	126.3	125.9	125.5	125.1	124.8	124.2	123.6	122.9	122.2	121.5	120.9
70°	113.1	112.6	112.1	111.5	111.0	110.5	109.9	109.3	108.8	108.3	107.7
72.5°	99.4	98.9	98.6	98.2	97.7	97.3	96.7	96.1	95.5	94.9	94.3
75°	78.3	77.8	77.5	77.1	76.8	76.5	76.2	75.9	75.7	75.4	75.0
77.5°	59.5	59.3	59.2	59.0	58.7	58.5	58.2	57.9	57.5	57.2	56.9
80°	47.4	47.1	46.8	46.6	46.2	46.1	45.9	45.7	45.5	45.4	45.2
82.5°	35.5	35.4	35.4	35.3	35.2	35.2	35.1	35.1	35.1	35.0	34.9
85°	20.8	20.7	20.5	20.3	20.1	20.1	20.1	20.1	20.1	20.1	19.9
87.5°	8.5	8.8	9.0	9.2	9.5	9.8	10.3	10.8	11.4	11.9	12.0
90°	1.0	3.2	5.4	7.7	9.9	12.5	15.3	18.3	21.1	24.0	24.9
92.5°	18.6	18.0	17.4	16.7	16.1	16.9	19.1	21.3	23.4	25.6	27.0
95°	61.0	51.9	42.8	33.7	24.5	21.3	23.7	26.1	28.6	31.0	32.5
97.5°	122.6	118.6	114.4	110.4	106.2	96.3	80.2	64.2	48.2	32.2	34.0
100°	169.0	173.5	178.0	182.4	186.8	171.7	137.1	102.4	67.7	33.0	34.8
102.5°	221.9	225.1	228.3	231.4	234.7	217.3	179.4	141.5	103.7	65.8	60.3
105°	298.1	300.6	303.0	305.4	307.9	299.1	279.1	259.1	239.1	219.0	179.7
107.5°	378.5	380.5	382.5	384.4	386.3	388.9	392.1	395.2	398.4	401.6	372.6
110°	432.1	433.9	435.7	437.5	439.3	441.3	443.8	446.3	448.7	451.2	443.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	483.4	484.9	486.6	488.2	489.7	491.8	494.2	496.7	499.1	501.5	501.7
115°	559.2	560.5	561.8	563.2	564.5	566.2	568.2	570.2	572.2	574.2	576.4
117.5°	632.6	634.2	635.8	637.6	639.2	640.5	641.5	642.6	643.6	644.6	646.4
120°	678.2	680.2	682.3	684.2	686.2	687.6	688.2	688.9	689.6	690.2	692.0
122.5°	724.6	726.3	727.9	729.5	731.2	732.5	733.3	734.2	734.9	735.8	737.1
125°	788.2	790.1	791.8	793.6	795.4	796.7	797.5	798.5	799.4	800.2	800.7
127.5°	849.9	851.6	853.4	855.2	857.0	858.4	859.5	860.6	861.6	862.6	863.4
130°	888.3	890.1	891.8	893.6	895.4	896.7	897.6	898.5	899.4	900.3	901.2
132.5°	925.1	926.9	928.7	930.4	932.2	933.4	934.2	934.9	935.6	936.3	937.2
135°	981.3	982.7	984.0	985.3	986.6	987.7	988.7	989.5	990.4	991.4	992.0
137.5°	1029.3	1031.0	1032.7	1034.4	1036.1	1037.2	1037.7	1038.2	1038.6	1039.1	1040.2
140°	1061.4	1062.6	1064.0	1065.3	1066.7	1067.6	1068.3	1069.0	1069.7	1070.3	1071.3
142.5°	1091.0	1092.3	1093.6	1094.9	1096.3	1097.3	1097.9	1098.6	1099.3	1099.9	1100.7
145°	1132.4	1133.9	1135.5	1137.0	1138.6	1139.6	1140.1	1140.5	1140.9	1141.3	1141.8
147.5°	1171.4	1172.4	1173.5	1174.4	1175.4	1176.2	1176.6	1177.1	1177.5	1177.9	1178.5
150°	1195.4	1196.0	1196.7	1197.4	1198.1	1198.6	1199.0	1199.5	1200.0	1200.4	1200.8
152.5°	1217.0	1217.3	1217.6	1217.9	1218.2	1218.5	1218.7	1219.1	1219.3	1219.6	1220.4
155°	1247.4	1247.0	1246.5	1246.0	1245.6	1245.5	1245.7	1246.0	1246.2	1246.4	1247.5
157.5°	1271.0	1270.9	1270.9	1270.8	1270.8	1270.7	1270.5	1270.2	1270.1	1269.8	1271.2
160°	1285.4	1285.2	1285.0	1284.8	1284.5	1284.3	1284.1	1283.8	1283.7	1283.4	1284.8
162.5°	1299.0	1298.5	1297.9	1297.3	1296.7	1296.3	1296.1	1295.9	1295.6	1295.4	1296.9
165°	1315.4	1314.7	1314.1	1313.5	1312.8	1312.3	1312.1	1311.8	1311.6	1311.4	1313.2
167.5°	1328.3	1327.3	1326.5	1325.6	1324.6	1324.2	1324.2	1324.2	1324.2	1324.2	1326.0
170°	1335.4	1334.6	1333.7	1332.7	1331.9	1331.5	1331.5	1331.5	1331.5	1331.5	1333.2
172.5°	1340.2	1339.2	1338.1	1337.0	1335.9	1335.5	1335.7	1335.8	1336.0	1336.2	1338.0
175°	1346.4	1345.3	1344.2	1343.1	1342.0	1341.5	1341.8	1342.0	1342.2	1342.4	1344.0
177.5°	1348.1	1347.1	1346.3	1345.4	1344.5	1344.1	1344.3	1344.5	1344.6	1344.8	1346.3
180°	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6
2.5°	464.8	465.5	466.2	466.6	466.5	466.4	466.3	466.2
5°	462.4	463.2	464.2	464.5	464.3	464.2	463.9	463.7
7.5°	457.4	458.2	459.0	459.3	459.3	459.2	459.1	458.9
10°	453.0	453.7	454.5	454.9	454.7	454.5	454.3	454.2
12.5°	448.0	448.6	449.2	449.4	449.4	449.2	449.1	449.0
15°	439.1	439.8	440.6	440.7	440.1	439.5	439.0	438.5
17.5°	427.8	428.3	428.9	429.0	428.8	428.6	428.4	428.3
20°	419.6	419.9	420.3	420.3	420.0	419.7	419.5	419.2
22.5°	410.7	411.0	411.3	411.3	411.0	410.6	410.3	409.9
25°	396.1	396.2	396.3	396.2	396.0	395.7	395.5	395.2
27.5°	380.6	380.7	380.7	380.6	380.3	380.0	379.6	379.3
30°	369.9	369.9	369.9	369.5	368.9	368.3	367.7	367.0
32.5°	358.6	358.1	357.7	357.2	356.9	356.5	356.2	355.9
35°	340.4	339.8	339.2	338.8	338.4	337.9	337.4	337.0
37.5°	321.4	320.8	320.1	319.7	319.4	319.1	318.8	318.6
40°	309.1	308.4	307.6	307.1	306.8	306.4	306.1	305.7
42.5°	296.3	295.5	294.8	294.3	293.9	293.6	293.3	292.8
45°	277.1	276.0	274.9	274.2	273.7	273.3	272.9	272.4
47.5°	256.9	255.9	254.8	254.1	253.7	253.3	252.9	252.5
50°	243.6	242.5	241.6	240.8	240.3	239.8	239.3	238.7
52.5°	230.1	229.2	228.3	227.6	227.1	226.6	226.1	225.6
55°	209.5	208.4	207.5	206.8	206.4	205.9	205.4	205.0
57.5°	189.2	188.3	187.4	186.8	186.2	185.7	185.2	184.7
60°	175.0	174.1	173.3	172.7	172.2	171.8	171.3	170.9
62.5°	161.1	160.3	159.5	158.9	158.7	158.3	158.1	157.7
65°	140.6	139.9	139.1	138.7	138.4	138.1	137.8	137.6
67.5°	120.2	119.6	119.0	118.5	118.1	117.7	117.4	117.0
70°	107.1	106.4	105.8	105.3	104.9	104.4	103.9	103.5
72.5°	93.8	93.2	92.6	92.2	92.0	91.8	91.5	91.3
75°	74.6	74.0	73.6	73.3	73.0	72.8	72.5	72.2
77.5°	56.6	56.3	56.0	55.9	55.9	55.9	55.9	55.9
80°	45.1	45.0	44.9	44.9	44.9	44.9	44.9	44.9
82.5°	34.8	34.6	34.4	34.3	34.3	34.2	34.1	34.0
85°	19.7	19.5	19.4	19.3	19.3	19.3	19.3	19.3
87.5°	12.1	12.1	12.3	12.4	12.5	12.6	12.7	12.7
90°	25.7	26.7	27.6	28.2	28.7	29.1	29.5	30.0
92.5°	28.4	29.9	31.3	32.1	32.4	32.7	33.0	33.2
95°	34.1	35.6	37.2	38.0	38.0	38.0	38.0	38.0
97.5°	35.7	37.5	39.3	40.3	40.6	40.8	41.0	41.2
100°	36.6	38.3	40.1	41.2	41.3	41.6	41.8	42.0
102.5°	54.8	49.2	43.7	41.2	41.6	42.0	42.4	42.8
105°	140.3	101.0	61.6	42.3	42.7	43.1	43.6	44.0
107.5°	343.8	315.0	286.1	256.8	227.2	197.5	167.9	138.3
110°	436.4	429.1	421.8	402.3	370.5	338.6	306.9	275.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	501.8	502.0	502.1	498.8	492.1	485.3	478.6	471.9
115°	578.6	580.8	583.1	584.6	585.5	586.4	587.3	588.1
117.5°	648.2	650.0	651.7	652.7	652.9	653.1	653.2	653.4
120°	693.8	695.5	697.3	698.2	698.2	698.2	698.2	698.2
122.5°	738.3	739.6	740.8	741.5	741.7	741.8	742.1	742.3
125°	801.2	801.6	802.0	802.5	802.9	803.4	803.8	804.3
127.5°	864.1	864.8	865.5	865.6	865.2	864.8	864.4	863.8
130°	902.1	902.9	903.9	904.0	903.6	903.2	902.8	902.3
132.5°	938.1	939.0	939.9	940.0	939.4	938.7	938.1	937.5
135°	992.6	993.3	994.0	994.0	993.3	992.6	992.0	991.4
137.5°	1041.3	1042.3	1043.4	1043.7	1043.3	1042.8	1042.4	1041.9
140°	1072.1	1073.0	1073.9	1074.1	1073.7	1073.2	1072.8	1072.4
142.5°	1101.4	1102.1	1102.8	1102.9	1102.3	1101.6	1101.0	1100.4
145°	1142.3	1142.7	1143.1	1143.3	1143.3	1143.3	1143.3	1143.3
147.5°	1178.9	1179.3	1179.7	1179.5	1178.5	1177.4	1176.4	1175.4
150°	1201.3	1201.7	1202.1	1202.0	1201.4	1200.8	1200.1	1199.4
152.5°	1221.2	1222.0	1222.8	1222.7	1221.7	1220.6	1219.6	1218.6
155°	1248.6	1249.7	1250.9	1250.7	1249.4	1248.1	1246.7	1245.4
157.5°	1272.5	1273.8	1275.1	1275.0	1273.2	1271.4	1269.7	1268.0
160°	1286.1	1287.4	1288.7	1288.7	1287.1	1285.6	1283.9	1282.4
162.5°	1298.5	1299.9	1301.5	1301.5	1300.1	1298.7	1297.4	1296.0
165°	1315.0	1316.7	1318.5	1318.6	1317.1	1315.5	1314.0	1312.4
167.5°	1327.7	1329.6	1331.4	1331.4	1329.6	1327.7	1326.0	1324.2
170°	1335.0	1336.8	1338.5	1338.5	1336.8	1335.0	1333.2	1331.5
172.5°	1339.8	1341.5	1343.3	1343.2	1341.3	1339.4	1337.4	1335.4
175°	1345.6	1347.1	1348.7	1348.5	1346.8	1345.0	1343.2	1341.4
177.5°	1347.6	1349.1	1350.5	1350.3	1348.6	1346.8	1345.0	1343.2
180°	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4

(END OF REPORT)