

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: P331898-830

Luminaire Tested: **S123DIP-S340D1025U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331898-830
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-S340D1025U830-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5194.3 lumens
Efficiency: N/A
Efficacy: 139.3 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

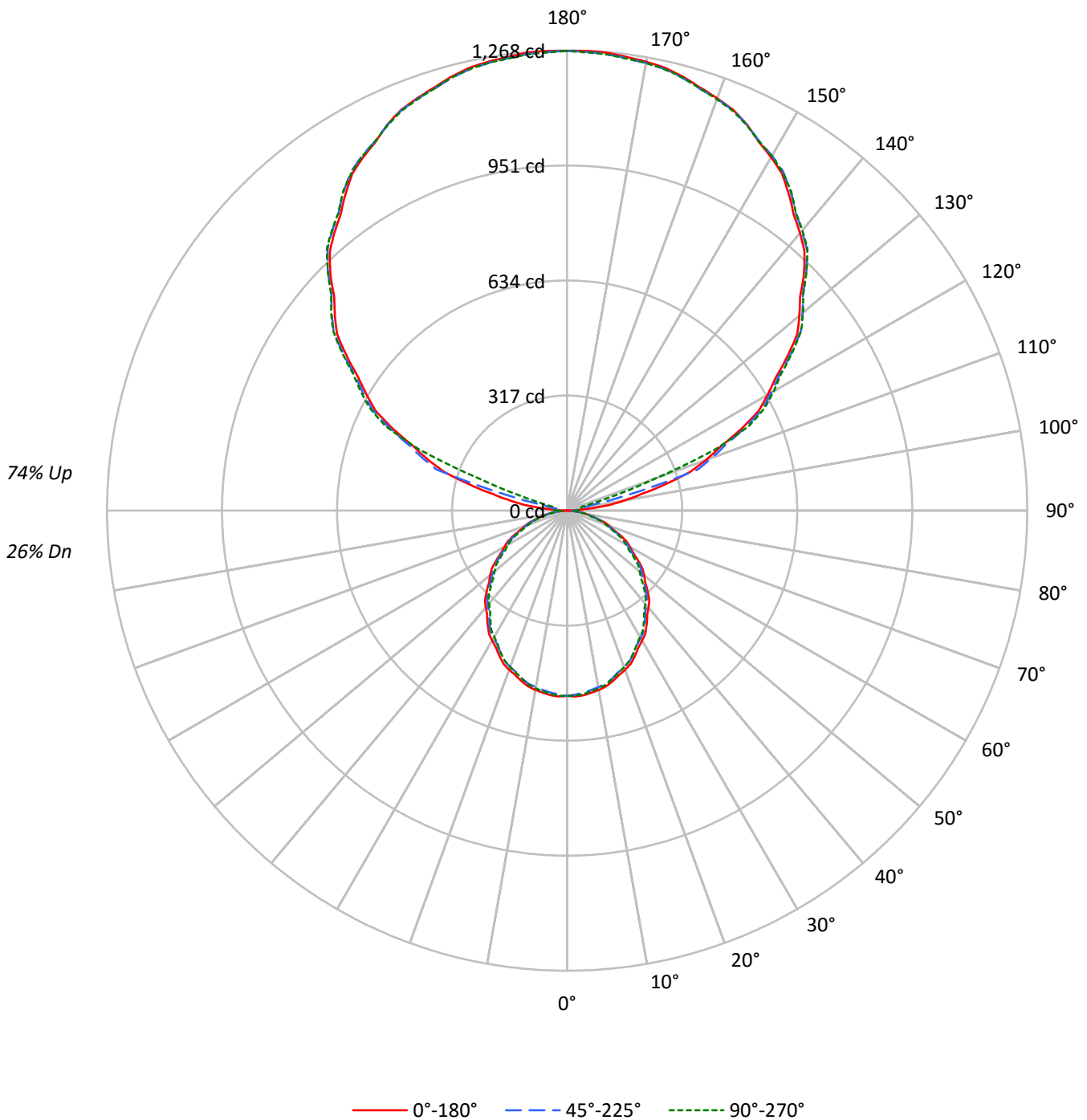
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26
1	92	88	84	81	82	79	76	73	61	59	57	45	43	42	30	29	28	22
2	84	77	71	66	75	69	64	60	53	50	47	39	37	35	26	25	24	18
3	77	67	60	55	68	60	54	50	47	43	39	35	32	30	23	22	20	15
4	70	60	52	46	62	53	47	42	42	37	34	31	28	25	21	19	17	13
5	64	53	45	39	57	47	41	36	37	32	29	28	24	22	19	17	15	11
6	59	47	39	34	52	42	36	31	33	28	25	25	22	19	17	15	13	10
7	54	43	35	30	48	38	32	27	30	25	22	22	19	17	15	13	12	9
8	50	38	31	26	45	35	28	24	27	23	19	20	17	15	14	12	10	8
9	47	35	28	23	42	31	25	21	25	20	17	19	16	13	13	11	9	7
10	43	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	9	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5498	5498	5498
5°	5524	5448	5486
10°	5487	5400	5434
15°	5422	5340	5349
20°	5347	5252	5257
25°	5247	5149	5138
30°	5137	5033	4994
35°	5021	4911	4847
40°	4900	4776	4703
45°	4766	4654	4539
50°	4632	4501	4376
55°	4459	4344	4211
60°	4284	4159	4028
65°	4126	3958	3836
70°	3899	3733	3566
75°	3564	3435	3290
80°	3211	3081	3050
85°	2816	2717	2606



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.1	0.9
10°-20°	135.9	2.6
20°-30°	200.7	3.9
30°-40°	234.4	4.5
40°-50°	235.7	4.5
50°-60°	207.0	4.0
60°-70°	154.2	3.0
70°-80°	87.9	1.7
80°-90°	28.8	0.6
90°-100°	46.0	0.9
100°-110°	219.4	4.2
110°-120°	527.0	10.1
120°-130°	671.1	12.9
130°-140°	717.1	13.8
140°-150°	670.6	12.9
150°-160°	540.9	10.4
160°-170°	349.1	6.7
170°-180°	120.3	2.3
0°-30°	384.6	7.4
0°-40°	619.1	11.9
0°-60°	1061.7	20.4
0°-90°	1332.6	25.7
90°-120°	792.5	15.3
90°-150°	2851.3	54.9
90°-180°	3862.0	74.4
0°-180°	5194.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	511	511	511	511	511	
5°	511	509	504	508	508	48
15°	487	485	479	482	480	137
25°	442	439	434	434	433	203
35°	382	379	374	371	369	239
45°	313	311	306	301	298	242
55°	238	237	232	227	224	213
65°	162	160	155	152	151	160
75°	86	84	83	80	79	92
85°	23	22	22	21	21	25
90°	1	10	23	26	28	4
95°	57	22	29	35	36	71
105°	280	285	206	49	41	297
115°	526	532	540	549	553	519
125°	741	749	753	754	756	662
135°	923	928	932	935	932	710
145°	1065	1071	1074	1075	1075	666
155°	1173	1171	1172	1176	1171	540
165°	1237	1234	1233	1240	1234	349
175°	1266	1262	1262	1268	1262	120
180°	1266	1266	1266	1266	1266	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8
2.5°	512.6	512.2	511.9	511.6	511.2	510.7	509.8	509.0	508.1	507.3	508.0
5°	511.2	510.7	510.2	509.7	509.3	508.5	507.4	506.3	505.2	504.2	505.1
7.5°	506.2	505.7	505.2	504.7	504.3	503.4	502.4	501.2	500.1	499.0	499.8
10°	502.0	501.5	501.0	500.5	500.0	499.2	497.9	496.6	495.3	494.1	494.9
12.5°	496.3	496.0	495.5	495.1	494.7	493.9	492.8	491.5	490.3	489.2	489.8
15°	486.6	486.3	485.8	485.4	485.0	484.2	483.0	481.6	480.4	479.2	479.9
17.5°	475.2	474.8	474.3	473.7	473.3	472.4	471.1	469.9	468.5	467.3	467.8
20°	466.8	466.3	465.7	465.1	464.5	463.5	462.3	461.0	459.8	458.5	458.9
22.5°	457.3	456.8	456.2	455.6	455.1	454.1	452.8	451.6	450.3	449.0	449.3
25°	441.8	441.2	440.6	440.1	439.5	438.6	437.2	436.0	434.7	433.5	433.6
27.5°	425.2	424.6	424.0	423.5	422.9	422.0	420.7	419.2	417.9	416.5	416.6
30°	413.3	412.7	412.3	411.8	411.3	410.4	409.1	407.6	406.3	404.9	404.9
32.5°	401.3	400.7	400.0	399.4	398.8	397.8	396.8	395.8	394.7	393.7	393.1
35°	382.1	381.5	380.9	380.3	379.8	378.8	377.6	376.3	375.0	373.7	373.2
37.5°	362.4	361.7	360.9	360.1	359.5	358.4	357.1	355.8	354.6	353.3	352.6
40°	348.7	348.1	347.5	346.9	346.4	345.3	344.0	342.6	341.3	339.9	339.1
42.5°	335.0	334.3	333.7	333.0	332.3	331.3	330.0	328.6	327.3	325.8	325.1
45°	313.1	312.7	312.4	312.0	311.6	310.8	309.4	308.2	306.9	305.7	304.5
47.5°	291.4	290.9	290.3	289.7	289.2	288.3	287.1	285.9	284.7	283.5	282.4
50°	276.6	276.2	275.7	275.2	274.8	273.8	272.6	271.4	270.0	268.8	267.7
52.5°	261.2	260.9	260.5	260.2	259.9	259.0	257.7	256.4	255.1	253.6	252.8
55°	237.6	237.5	237.4	237.3	237.2	236.5	235.3	233.9	232.7	231.5	230.4
57.5°	215.1	214.8	214.4	214.1	213.8	213.1	212.1	211.0	210.1	209.1	208.1
60°	199.0	198.9	198.8	198.7	198.6	197.9	196.7	195.6	194.4	193.2	192.4
62.5°	184.5	184.3	184.1	183.8	183.5	182.9	181.6	180.5	179.3	178.1	177.3
65°	162.0	161.6	161.1	160.6	160.1	159.4	158.4	157.4	156.5	155.4	154.7
67.5°	138.3	137.8	137.4	137.0	136.6	135.9	135.3	134.5	133.7	133.0	132.3
70°	123.9	123.3	122.7	122.1	121.5	120.9	120.4	119.7	119.1	118.6	117.9
72.5°	108.8	108.3	107.9	107.4	107.0	106.5	105.8	105.2	104.5	103.9	103.2
75°	85.7	85.2	84.8	84.5	84.1	83.7	83.4	83.1	82.8	82.6	82.1
77.5°	65.1	64.9	64.8	64.6	64.3	64.0	63.7	63.3	63.0	62.6	62.3
80°	51.8	51.6	51.3	51.0	50.6	50.4	50.2	50.0	49.9	49.7	49.5
82.5°	38.8	38.7	38.7	38.6	38.5	38.5	38.5	38.5	38.5	38.4	38.2
85°	22.8	22.6	22.4	22.2	22.1	22.0	22.0	22.0	22.0	22.0	21.8
87.5°	9.3	9.5	9.7	9.9	10.1	10.4	10.8	11.3	11.8	12.3	12.3
90°	0.9	3.0	5.1	7.3	9.3	11.7	14.4	17.2	19.9	22.6	23.4
92.5°	17.5	16.9	16.3	15.7	15.2	15.9	17.9	20.0	22.1	24.1	25.4
95°	57.4	48.8	40.2	31.7	23.1	20.0	22.2	24.6	26.9	29.1	30.6
97.5°	115.4	111.5	107.6	103.8	99.9	90.5	75.5	60.4	45.3	30.3	32.0
100°	159.0	163.2	167.4	171.5	175.7	161.5	128.8	96.2	63.6	31.0	32.7
102.5°	208.7	211.7	214.7	217.7	220.7	204.4	168.8	133.2	97.6	61.9	56.7
105°	280.3	282.7	284.9	287.3	289.5	281.3	262.5	243.6	224.9	206.0	169.0
107.5°	356.0	357.9	359.7	361.6	363.4	365.8	368.7	371.7	374.7	377.7	350.5
110°	406.4	408.1	409.7	411.4	413.1	415.1	417.4	419.7	422.0	424.3	417.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	454.6	456.1	457.6	459.1	460.6	462.5	464.9	467.1	469.4	471.7	471.8
115°	525.9	527.2	528.4	529.7	530.9	532.5	534.3	536.2	538.1	540.0	542.2
117.5°	594.9	596.5	598.0	599.6	601.2	602.4	603.3	604.4	605.3	606.2	607.9
120°	637.8	639.7	641.6	643.5	645.4	646.7	647.2	647.9	648.6	649.1	650.8
122.5°	681.6	683.1	684.6	686.2	687.7	688.9	689.7	690.5	691.3	692.0	693.2
125°	741.3	743.0	744.7	746.4	748.0	749.3	750.2	750.9	751.8	752.6	753.1
127.5°	799.3	801.0	802.7	804.3	806.0	807.3	808.3	809.4	810.3	811.3	812.0
130°	835.5	837.1	838.8	840.5	842.2	843.4	844.2	845.1	845.8	846.7	847.5
132.5°	870.1	871.8	873.4	875.1	876.8	877.9	878.5	879.2	880.0	880.6	881.5
135°	922.9	924.2	925.4	926.7	927.9	929.0	929.8	930.7	931.5	932.4	932.9
137.5°	968.1	969.7	971.3	972.9	974.4	975.4	975.9	976.4	976.9	977.3	978.3
140°	998.2	999.5	1000.7	1001.9	1003.2	1004.2	1004.8	1005.4	1006.1	1006.6	1007.5
142.5°	1026.1	1027.3	1028.5	1029.8	1031.0	1032.0	1032.6	1033.2	1033.9	1034.5	1035.2
145°	1065.0	1066.5	1067.9	1069.4	1070.8	1071.8	1072.2	1072.6	1073.0	1073.5	1073.8
147.5°	1101.6	1102.7	1103.6	1104.6	1105.5	1106.2	1106.6	1107.0	1107.5	1107.9	1108.3
150°	1124.3	1124.9	1125.5	1126.1	1126.7	1127.3	1127.7	1128.1	1128.5	1129.0	1129.4
152.5°	1144.5	1144.9	1145.2	1145.5	1145.8	1146.0	1146.2	1146.5	1146.8	1147.0	1147.7
155°	1173.2	1172.7	1172.3	1172.0	1171.5	1171.4	1171.6	1171.8	1172.1	1172.2	1173.3
157.5°	1195.3	1195.3	1195.3	1195.2	1195.2	1195.0	1194.9	1194.7	1194.5	1194.2	1195.5
160°	1208.9	1208.7	1208.5	1208.3	1208.1	1207.9	1207.7	1207.5	1207.2	1207.0	1208.3
162.5°	1221.7	1221.2	1220.6	1220.1	1219.6	1219.2	1219.0	1218.7	1218.5	1218.3	1219.7
165°	1237.2	1236.5	1235.9	1235.3	1234.6	1234.3	1234.0	1233.8	1233.6	1233.4	1235.0
167.5°	1249.2	1248.4	1247.5	1246.7	1245.9	1245.4	1245.4	1245.4	1245.4	1245.4	1247.1
170°	1255.9	1255.1	1254.3	1253.5	1252.6	1252.2	1252.2	1252.2	1252.2	1252.2	1253.9
172.5°	1260.5	1259.5	1258.5	1257.4	1256.5	1256.0	1256.2	1256.4	1256.5	1256.7	1258.4
175°	1266.3	1265.3	1264.2	1263.2	1262.2	1261.7	1261.9	1262.2	1262.3	1262.5	1264.0
177.5°	1267.8	1267.0	1266.1	1265.3	1264.5	1264.1	1264.3	1264.5	1264.6	1264.8	1266.1
180°	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8
2.5°	508.8	509.6	510.4	510.8	510.7	510.6	510.5	510.4
5°	506.1	507.1	508.1	508.5	508.3	508.1	507.8	507.7
7.5°	500.8	501.6	502.5	502.8	502.8	502.7	502.6	502.4
10°	495.9	496.7	497.6	497.9	497.8	497.6	497.4	497.2
12.5°	490.4	491.1	491.7	492.0	491.9	491.7	491.6	491.5
15°	480.7	481.5	482.3	482.4	481.7	481.2	480.6	480.0
17.5°	468.3	468.9	469.5	469.7	469.4	469.2	469.0	468.8
20°	459.3	459.7	460.1	460.1	459.8	459.5	459.2	458.9
22.5°	449.6	450.0	450.3	450.3	449.9	449.5	449.1	448.7
25°	433.7	433.8	433.9	433.8	433.5	433.2	432.9	432.6
27.5°	416.7	416.8	416.8	416.7	416.3	415.9	415.6	415.2
30°	404.9	404.9	404.9	404.5	403.9	403.2	402.6	401.8
32.5°	392.6	392.0	391.5	391.1	390.7	390.3	389.9	389.6
35°	372.6	372.0	371.4	370.9	370.4	369.9	369.4	368.9
37.5°	351.9	351.2	350.4	350.0	349.7	349.3	349.0	348.7
40°	338.4	337.6	336.8	336.2	335.8	335.5	335.1	334.7
42.5°	324.3	323.5	322.7	322.2	321.8	321.4	321.0	320.6
45°	303.3	302.2	301.0	300.2	299.6	299.2	298.7	298.2
47.5°	281.3	280.1	278.9	278.1	277.7	277.3	276.8	276.4
50°	266.6	265.5	264.5	263.6	263.1	262.5	261.9	261.3
52.5°	251.8	250.9	250.0	249.2	248.6	248.1	247.5	246.9
55°	229.3	228.2	227.2	226.4	225.9	225.4	224.9	224.4
57.5°	207.2	206.1	205.2	204.4	203.9	203.3	202.7	202.2
60°	191.5	190.6	189.7	189.1	188.5	188.0	187.6	187.1
62.5°	176.3	175.5	174.7	174.0	173.7	173.3	173.1	172.7
65°	153.9	153.2	152.3	151.8	151.6	151.2	150.9	150.6
67.5°	131.6	130.9	130.3	129.7	129.3	128.8	128.5	128.1
70°	117.3	116.5	115.8	115.3	114.8	114.3	113.8	113.3
72.5°	102.6	102.0	101.4	100.9	100.8	100.5	100.2	99.9
75°	81.6	81.1	80.6	80.2	79.9	79.6	79.4	79.1
77.5°	61.9	61.6	61.3	61.2	61.2	61.2	61.2	61.2
80°	49.4	49.3	49.2	49.2	49.2	49.2	49.2	49.2
82.5°	38.1	37.9	37.7	37.5	37.5	37.4	37.3	37.2
85°	21.6	21.4	21.2	21.1	21.1	21.1	21.1	21.1
87.5°	12.4	12.5	12.6	12.7	12.8	12.8	12.9	13.0
90°	24.2	25.1	25.9	26.6	27.0	27.4	27.8	28.2
92.5°	26.8	28.1	29.4	30.3	30.4	30.7	31.0	31.2
95°	32.0	33.6	35.1	35.7	35.7	35.7	35.7	35.7
97.5°	33.6	35.3	36.9	37.9	38.2	38.4	38.5	38.7
100°	34.4	36.1	37.7	38.6	38.9	39.1	39.3	39.5
102.5°	51.6	46.4	41.2	38.7	39.1	39.5	39.9	40.2
105°	132.1	95.0	58.1	39.7	40.2	40.5	41.0	41.4
107.5°	323.4	296.2	269.1	241.6	213.7	185.8	157.9	130.0
110°	410.5	403.6	396.7	378.3	348.4	318.5	288.6	258.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	471.9	472.1	472.2	469.1	462.8	456.5	450.2	443.8
115°	544.2	546.3	548.4	549.9	550.6	551.5	552.3	553.2
117.5°	609.6	611.2	612.9	613.9	614.1	614.2	614.3	614.5
120°	652.5	654.1	655.8	656.7	656.7	656.7	656.7	656.7
122.5°	694.4	695.6	696.7	697.4	697.6	697.8	697.9	698.0
125°	753.5	753.8	754.3	754.7	755.2	755.5	756.0	756.4
127.5°	812.7	813.3	814.0	814.2	813.7	813.3	812.8	812.5
130°	848.4	849.2	850.1	850.3	849.9	849.4	849.0	848.6
132.5°	882.2	883.1	883.9	884.0	883.4	882.9	882.3	881.7
135°	933.6	934.2	934.8	934.8	934.2	933.6	932.9	932.4
137.5°	979.3	980.3	981.3	981.6	981.2	980.8	980.3	980.0
140°	1008.3	1009.2	1010.0	1010.2	1009.7	1009.4	1009.0	1008.5
142.5°	1035.9	1036.5	1037.2	1037.2	1036.6	1036.0	1035.5	1034.9
145°	1074.3	1074.7	1075.2	1075.3	1075.3	1075.3	1075.3	1075.3
147.5°	1108.7	1109.1	1109.6	1109.3	1108.3	1107.4	1106.4	1105.4
150°	1129.8	1130.2	1130.7	1130.5	1129.9	1129.3	1128.6	1128.0
152.5°	1148.5	1149.2	1150.0	1149.9	1149.0	1148.0	1147.1	1146.0
155°	1174.3	1175.4	1176.4	1176.3	1175.1	1173.8	1172.5	1171.3
157.5°	1196.7	1198.0	1199.3	1199.1	1197.4	1195.8	1194.2	1192.6
160°	1209.6	1210.8	1212.0	1211.9	1210.5	1209.0	1207.6	1206.1
162.5°	1221.2	1222.6	1224.0	1224.1	1222.8	1221.4	1220.2	1218.9
165°	1236.7	1238.4	1240.1	1240.2	1238.7	1237.3	1235.8	1234.4
167.5°	1248.8	1250.5	1252.1	1252.1	1250.5	1248.8	1247.1	1245.4
170°	1255.6	1257.3	1258.9	1258.9	1257.3	1255.6	1253.9	1252.2
172.5°	1260.1	1261.7	1263.4	1263.3	1261.5	1259.6	1257.8	1255.9
175°	1265.5	1267.0	1268.4	1268.3	1266.6	1265.0	1263.3	1261.6
177.5°	1267.4	1268.9	1270.2	1270.0	1268.3	1266.7	1265.0	1263.3
180°	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3

(END OF REPORT)