

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: P331907-927

Luminaire Tested: **S123DIP-S340D1195U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331907-927
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-S340D1195U927-4F0-1E-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: 4898.3 lumens
Efficiency: N/A
Efficacy: 116.1 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

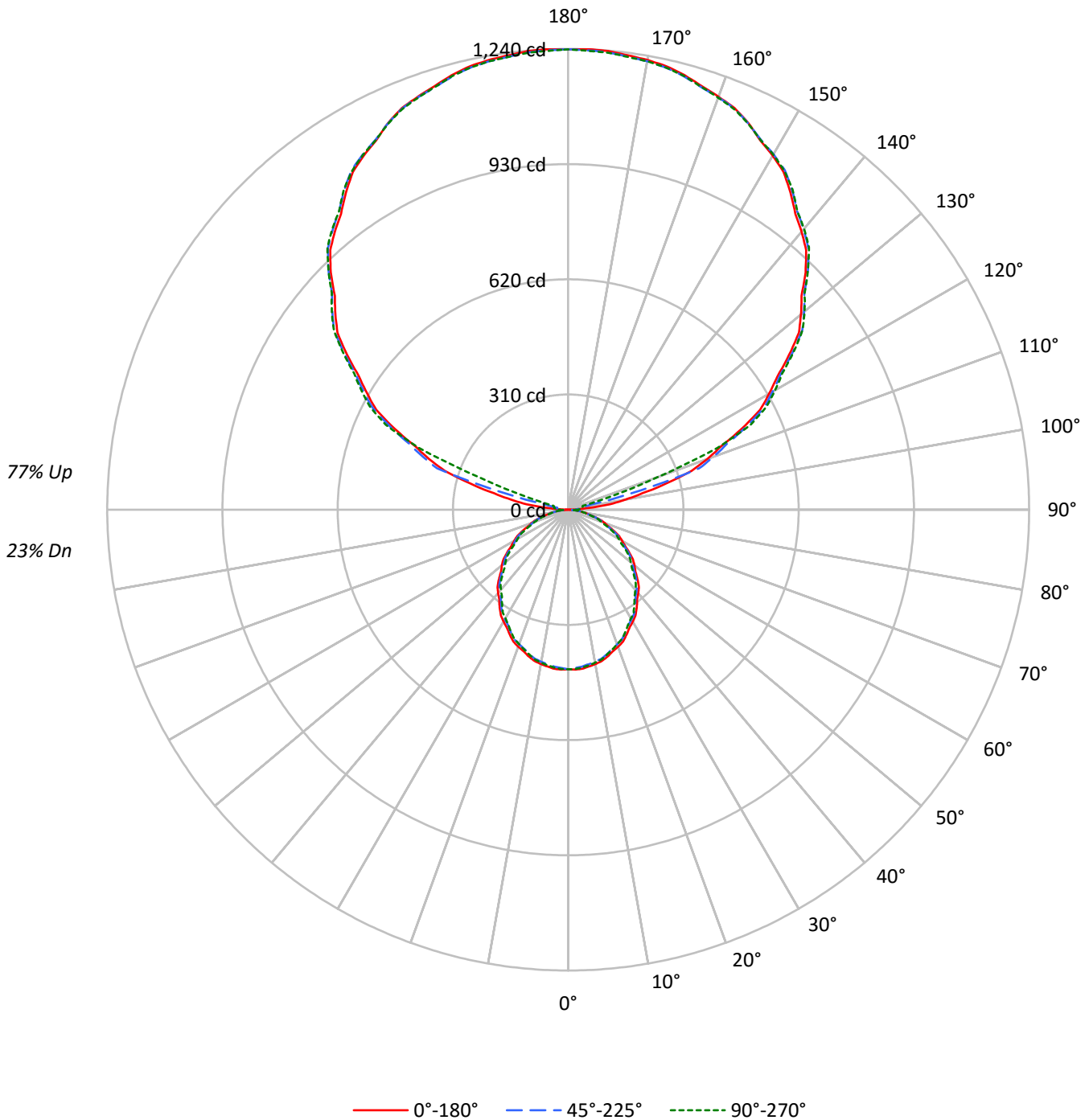
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	4621	4621	4621
5°	4643	4578	4611
10°	4611	4539	4568
15°	4558	4488	4496
20°	4495	4415	4418
25°	4410	4327	4318
30°	4318	4230	4197
35°	4221	4127	4075
40°	4118	4014	3953
45°	4007	3911	3815
50°	3893	3783	3677
55°	3748	3652	3539
60°	3599	3496	3384
65°	3469	3326	3224
70°	3276	3138	2996
75°	2994	2886	2766
80°	2703	2585	2566
85°	2371	2285	2186



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.4	0.8
10°-20°	114.2	2.3
20°-30°	168.7	3.4
30°-40°	197.0	4.0
40°-50°	198.1	4.0
50°-60°	174.0	3.6
60°-70°	129.6	2.6
70°-80°	73.8	1.5
80°-90°	24.7	0.5
90°-100°	45.0	0.9
100°-110°	214.7	4.4
110°-120°	515.6	10.5
120°-130°	656.6	13.4
130°-140°	701.5	14.3
140°-150°	656.0	13.4
150°-160°	529.2	10.8
160°-170°	341.5	7.0
170°-180°	117.7	2.4
0°-30°	323.3	6.6
0°-40°	520.3	10.6
0°-60°	892.4	18.2
0°-90°	1120.5	22.9
90°-120°	775.3	15.8
90°-150°	2789.4	56.9
90°-180°	3778.0	77.1
0°-180°	4898.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	429	429	429	429	429	
5°	430	428	424	427	427	41
15°	409	407	403	405	404	115
25°	371	369	364	365	364	171
35°	321	319	314	312	310	201
45°	263	262	257	253	251	203
55°	200	199	195	191	189	179
65°	136	134	131	128	127	134
75°	72	70	69	68	66	77
85°	19	18	18	18	18	21
90°	1	10	22	26	28	4
95°	56	21	28	35	35	69
105°	274	279	202	48	40	291
115°	514	520	528	537	541	508
125°	725	732	736	738	740	647
135°	903	908	912	915	912	695
145°	1042	1048	1050	1052	1052	652
155°	1148	1146	1147	1151	1146	529
165°	1210	1208	1207	1213	1208	342
175°	1239	1234	1235	1241	1234	118
180°	1239	1239	1239	1239	1239	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3
2.5°	430.8	430.5	430.2	430.0	429.7	429.2	428.5	427.8	427.1	426.4	427.0
5°	429.7	429.2	428.8	428.4	428.0	427.4	426.4	425.6	424.6	423.7	424.5
7.5°	425.5	425.0	424.6	424.2	423.8	423.1	422.2	421.3	420.3	419.4	420.1
10°	421.9	421.5	421.0	420.6	420.3	419.5	418.4	417.4	416.3	415.3	416.0
12.5°	417.2	416.8	416.5	416.1	415.8	415.1	414.2	413.1	412.1	411.1	411.7
15°	409.0	408.7	408.3	408.0	407.7	406.9	405.9	404.8	403.8	402.7	403.4
17.5°	399.4	399.0	398.6	398.2	397.8	397.0	395.9	394.9	393.8	392.8	393.2
20°	392.4	391.9	391.4	390.9	390.4	389.6	388.6	387.5	386.4	385.4	385.7
22.5°	384.4	383.9	383.4	382.9	382.5	381.7	380.6	379.5	378.4	377.4	377.6
25°	371.3	370.8	370.3	369.9	369.4	368.6	367.5	366.5	365.4	364.3	364.4
27.5°	357.4	356.9	356.4	355.9	355.5	354.7	353.6	352.4	351.3	350.1	350.1
30°	347.4	346.9	346.5	346.1	345.7	344.9	343.8	342.6	341.5	340.3	340.3
32.5°	337.3	336.8	336.2	335.6	335.2	334.4	333.5	332.6	331.8	330.9	330.4
35°	321.2	320.7	320.1	319.6	319.2	318.4	317.3	316.2	315.2	314.1	313.6
37.5°	304.6	304.0	303.3	302.7	302.1	301.3	300.2	299.0	298.0	296.9	296.4
40°	293.1	292.6	292.1	291.6	291.1	290.3	289.1	288.0	286.8	285.7	285.0
42.5°	281.5	281.0	280.4	279.9	279.3	278.5	277.3	276.2	275.0	273.9	273.2
45°	263.2	262.8	262.5	262.2	261.9	261.2	260.1	259.0	257.9	256.9	256.0
47.5°	244.9	244.5	244.0	243.5	243.0	242.3	241.3	240.3	239.3	238.3	237.3
50°	232.5	232.1	231.7	231.3	230.9	230.1	229.1	228.1	227.0	225.9	225.0
52.5°	219.5	219.3	219.0	218.7	218.4	217.7	216.6	215.5	214.4	213.2	212.5
55°	199.7	199.6	199.6	199.5	199.4	198.8	197.7	196.6	195.6	194.6	193.6
57.5°	180.8	180.5	180.2	180.0	179.7	179.1	178.2	177.4	176.6	175.7	174.9
60°	167.2	167.2	167.1	167.0	166.9	166.4	165.3	164.4	163.4	162.4	161.7
62.5°	155.1	154.9	154.7	154.5	154.2	153.7	152.7	151.7	150.7	149.7	149.0
65°	136.2	135.8	135.4	135.0	134.6	134.0	133.2	132.3	131.5	130.6	130.0
67.5°	116.2	115.8	115.5	115.1	114.8	114.2	113.7	113.0	112.4	111.8	111.2
70°	104.1	103.6	103.1	102.6	102.1	101.6	101.2	100.6	100.1	99.7	99.1
72.5°	91.4	91.0	90.7	90.3	89.9	89.5	89.0	88.4	87.9	87.3	86.7
75°	72.0	71.6	71.3	71.0	70.7	70.3	70.1	69.9	69.6	69.4	69.0
77.5°	54.7	54.6	54.4	54.3	54.0	53.8	53.6	53.2	52.9	52.6	52.4
80°	43.6	43.3	43.1	42.9	42.5	42.4	42.2	42.1	41.9	41.7	41.6
82.5°	32.6	32.6	32.6	32.5	32.4	32.4	32.3	32.3	32.3	32.2	32.1
85°	19.2	19.0	18.9	18.7	18.5	18.5	18.5	18.5	18.5	18.5	18.3
87.5°	7.8	8.1	8.3	8.5	8.7	9.0	9.5	10.0	10.5	10.9	11.0
90°	1.0	2.9	5.0	7.1	9.1	11.5	14.1	16.8	19.4	22.1	22.9
92.5°	17.1	16.6	16.0	15.4	14.8	15.5	17.6	19.6	21.5	23.5	24.9
95°	56.2	47.8	39.4	31.0	22.6	19.6	21.8	24.0	26.3	28.5	29.9
97.5°	112.8	109.1	105.3	101.6	97.8	88.6	73.8	59.1	44.4	29.6	31.3
100°	155.5	159.6	163.7	167.8	171.9	158.0	126.1	94.2	62.3	30.3	32.0
102.5°	204.1	207.1	210.0	212.9	215.9	199.9	165.1	130.2	95.4	60.5	55.5
105°	274.3	276.6	278.8	281.0	283.3	275.2	256.7	238.4	220.0	201.5	165.3
107.5°	348.2	350.1	351.9	353.6	355.5	357.8	360.8	363.6	366.5	369.5	342.9
110°	397.6	399.3	400.8	402.5	404.2	406.1	408.4	410.6	412.8	415.1	408.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	444.7	446.2	447.7	449.2	450.6	452.5	454.7	457.0	459.2	461.4	461.6
115°	514.5	515.7	516.9	518.2	519.4	520.9	522.8	524.6	526.5	528.3	530.4
117.5°	582.0	583.5	585.0	586.6	588.1	589.3	590.3	591.2	592.2	593.1	594.7
120°	624.0	625.8	627.7	629.5	631.4	632.6	633.2	633.8	634.5	635.0	636.7
122.5°	666.7	668.2	669.7	671.2	672.8	673.9	674.7	675.5	676.2	677.0	678.2
125°	725.2	726.9	728.5	730.2	731.8	733.0	733.8	734.7	735.5	736.3	736.7
127.5°	782.0	783.5	785.2	786.9	788.5	789.8	790.8	791.8	792.7	793.7	794.4
130°	817.3	819.0	820.5	822.2	823.8	825.1	825.9	826.7	827.5	828.3	829.2
132.5°	851.1	852.8	854.4	856.0	857.7	858.8	859.5	860.2	860.8	861.5	862.3
135°	902.9	904.1	905.3	906.6	907.8	908.8	909.7	910.5	911.2	912.1	912.7
137.5°	947.1	948.6	950.1	951.7	953.3	954.3	954.7	955.2	955.6	956.1	957.0
140°	976.5	977.7	979.0	980.2	981.4	982.3	982.9	983.6	984.2	984.8	985.6
142.5°	1003.8	1005.0	1006.2	1007.4	1008.7	1009.6	1010.2	1010.8	1011.5	1012.0	1012.7
145°	1041.9	1043.3	1044.7	1046.2	1047.6	1048.5	1048.9	1049.3	1049.7	1050.1	1050.5
147.5°	1077.8	1078.7	1079.7	1080.5	1081.5	1082.2	1082.6	1083.0	1083.4	1083.8	1084.3
150°	1099.9	1100.4	1101.1	1101.7	1102.3	1102.8	1103.2	1103.6	1104.1	1104.5	1104.9
152.5°	1119.7	1120.0	1120.3	1120.5	1120.9	1121.1	1121.3	1121.7	1121.9	1122.1	1122.8
155°	1147.7	1147.3	1146.8	1146.4	1146.1	1146.0	1146.1	1146.4	1146.6	1146.8	1147.8
157.5°	1169.4	1169.3	1169.3	1169.3	1169.3	1169.1	1168.9	1168.7	1168.5	1168.3	1169.6
160°	1182.6	1182.5	1182.3	1182.1	1181.9	1181.6	1181.5	1181.2	1181.1	1180.8	1182.1
162.5°	1195.2	1194.7	1194.1	1193.6	1193.0	1192.7	1192.5	1192.3	1192.1	1191.8	1193.3
165°	1210.3	1209.7	1209.0	1208.5	1207.8	1207.4	1207.2	1207.0	1206.8	1206.6	1208.2
167.5°	1222.1	1221.2	1220.4	1219.6	1218.8	1218.4	1218.4	1218.4	1218.4	1218.4	1220.0
170°	1228.7	1227.9	1227.1	1226.2	1225.4	1225.0	1225.0	1225.0	1225.0	1225.0	1226.6
172.5°	1233.1	1232.2	1231.1	1230.2	1229.2	1228.8	1228.9	1229.1	1229.2	1229.4	1231.1
175°	1238.8	1237.8	1236.8	1235.7	1234.7	1234.3	1234.5	1234.7	1234.9	1235.1	1236.6
177.5°	1240.3	1239.4	1238.7	1237.9	1237.0	1236.7	1236.8	1237.0	1237.2	1237.3	1238.7
180°	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3
2.5°	427.6	428.3	429.0	429.3	429.2	429.1	429.0	429.0
5°	425.4	426.2	427.1	427.4	427.2	427.1	426.8	426.7
7.5°	420.9	421.6	422.3	422.6	422.6	422.5	422.4	422.2
10°	416.8	417.5	418.2	418.5	418.4	418.2	418.0	417.9
12.5°	412.2	412.7	413.3	413.5	413.4	413.3	413.2	413.1
15°	404.0	404.6	405.4	405.4	404.9	404.4	403.9	403.5
17.5°	393.6	394.1	394.6	394.7	394.5	394.3	394.2	394.0
20°	386.0	386.3	386.7	386.7	386.4	386.2	386.0	385.7
22.5°	377.9	378.2	378.4	378.4	378.1	377.8	377.5	377.2
25°	364.5	364.6	364.6	364.6	364.3	364.1	363.8	363.6
27.5°	350.2	350.3	350.3	350.2	349.9	349.6	349.3	349.0
30°	340.3	340.3	340.3	340.0	339.5	338.9	338.3	337.7
32.5°	329.9	329.5	329.1	328.7	328.4	328.0	327.7	327.4
35°	313.1	312.7	312.1	311.7	311.3	310.9	310.5	310.1
37.5°	295.7	295.2	294.5	294.1	293.9	293.6	293.3	293.1
40°	284.4	283.8	283.0	282.6	282.3	281.9	281.6	281.3
42.5°	272.6	271.9	271.2	270.8	270.5	270.1	269.8	269.4
45°	254.9	254.0	252.9	252.3	251.8	251.4	251.0	250.6
47.5°	236.4	235.4	234.4	233.8	233.4	233.1	232.7	232.3
50°	224.1	223.2	222.3	221.6	221.1	220.6	220.1	219.6
52.5°	211.7	210.9	210.1	209.5	209.0	208.5	208.0	207.6
55°	192.7	191.8	190.9	190.3	189.9	189.4	189.0	188.6
57.5°	174.1	173.3	172.5	171.8	171.3	170.9	170.4	169.9
60°	161.0	160.2	159.5	158.9	158.4	158.0	157.6	157.2
62.5°	148.2	147.5	146.8	146.2	146.0	145.7	145.4	145.1
65°	129.4	128.7	128.0	127.6	127.4	127.1	126.8	126.6
67.5°	110.6	110.0	109.5	109.0	108.7	108.3	108.0	107.7
70°	98.5	97.9	97.4	96.9	96.5	96.1	95.6	95.2
72.5°	86.3	85.7	85.2	84.8	84.7	84.4	84.2	84.0
75°	68.6	68.1	67.7	67.4	67.2	66.9	66.7	66.5
77.5°	52.0	51.8	51.5	51.4	51.4	51.4	51.4	51.4
80°	41.5	41.4	41.4	41.4	41.4	41.4	41.4	41.4
82.5°	32.0	31.8	31.7	31.5	31.5	31.4	31.4	31.3
85°	18.1	18.0	17.8	17.7	17.7	17.7	17.7	17.7
87.5°	11.1	11.2	11.3	11.4	11.5	11.6	11.6	11.7
90°	23.7	24.6	25.3	26.0	26.4	26.8	27.2	27.6
92.5°	26.1	27.5	28.8	29.5	29.8	30.1	30.3	30.6
95°	31.4	32.8	34.2	34.9	34.9	34.9	34.9	34.9
97.5°	32.9	34.5	36.2	37.1	37.3	37.5	37.7	37.9
100°	33.7	35.3	36.9	37.9	38.0	38.3	38.4	38.7
102.5°	50.4	45.3	40.2	37.9	38.3	38.7	39.1	39.4
105°	129.1	92.9	56.7	38.9	39.3	39.7	40.1	40.5
107.5°	316.3	289.8	263.2	236.3	209.1	181.7	154.5	127.2
110°	401.6	394.8	388.1	370.1	340.9	311.6	282.3	253.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	461.7	461.8	462.0	458.9	452.7	446.6	440.4	434.2
115°	532.3	534.4	536.5	537.9	538.7	539.6	540.3	541.1
117.5°	596.4	598.0	599.6	600.6	600.7	600.9	601.0	601.2
120°	638.3	639.9	641.6	642.4	642.4	642.4	642.4	642.4
122.5°	679.3	680.5	681.6	682.2	682.4	682.5	682.8	682.9
125°	737.1	737.5	737.9	738.3	738.7	739.2	739.6	740.0
127.5°	795.0	795.7	796.3	796.5	796.1	795.7	795.3	794.8
130°	830.0	830.8	831.6	831.8	831.4	831.0	830.6	830.2
132.5°	863.1	864.0	864.7	864.8	864.3	863.7	863.2	862.5
135°	913.3	913.9	914.6	914.6	913.9	913.3	912.7	912.1
137.5°	958.1	959.0	960.0	960.3	959.9	959.5	959.1	958.6
140°	986.4	987.2	988.1	988.2	987.9	987.5	987.1	986.7
142.5°	1013.4	1014.0	1014.6	1014.7	1014.2	1013.5	1013.0	1012.4
145°	1051.0	1051.4	1051.8	1051.9	1051.9	1051.9	1051.9	1051.9
147.5°	1084.7	1085.1	1085.4	1085.2	1084.3	1083.3	1082.4	1081.4
150°	1105.3	1105.6	1106.0	1106.0	1105.3	1104.8	1104.1	1103.5
152.5°	1123.6	1124.3	1125.1	1125.0	1124.0	1123.1	1122.1	1121.2
155°	1148.8	1149.9	1150.9	1150.7	1149.5	1148.3	1147.1	1145.9
157.5°	1170.8	1172.0	1173.2	1173.1	1171.5	1169.8	1168.2	1166.6
160°	1183.3	1184.5	1185.7	1185.7	1184.2	1182.8	1181.3	1179.9
162.5°	1194.7	1196.0	1197.5	1197.5	1196.2	1194.9	1193.7	1192.4
165°	1209.9	1211.5	1213.1	1213.2	1211.8	1210.4	1208.9	1207.5
167.5°	1221.6	1223.3	1225.0	1225.0	1223.3	1221.6	1220.0	1218.4
170°	1228.3	1229.9	1231.5	1231.5	1229.9	1228.3	1226.6	1225.0
172.5°	1232.7	1234.3	1236.0	1235.9	1234.1	1232.3	1230.5	1228.7
175°	1238.0	1239.4	1240.9	1240.7	1239.1	1237.5	1235.9	1234.2
177.5°	1239.9	1241.3	1242.5	1242.4	1240.8	1239.1	1237.5	1235.9
180°	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8

(END OF REPORT)