

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: P331907-940

Luminaire Tested: **S123DIP-S340D1195U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331907-940
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-S340D1195U940-4F0-1E-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: 5513.7 lumens
Efficiency: N/A
Efficacy: 130.7 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

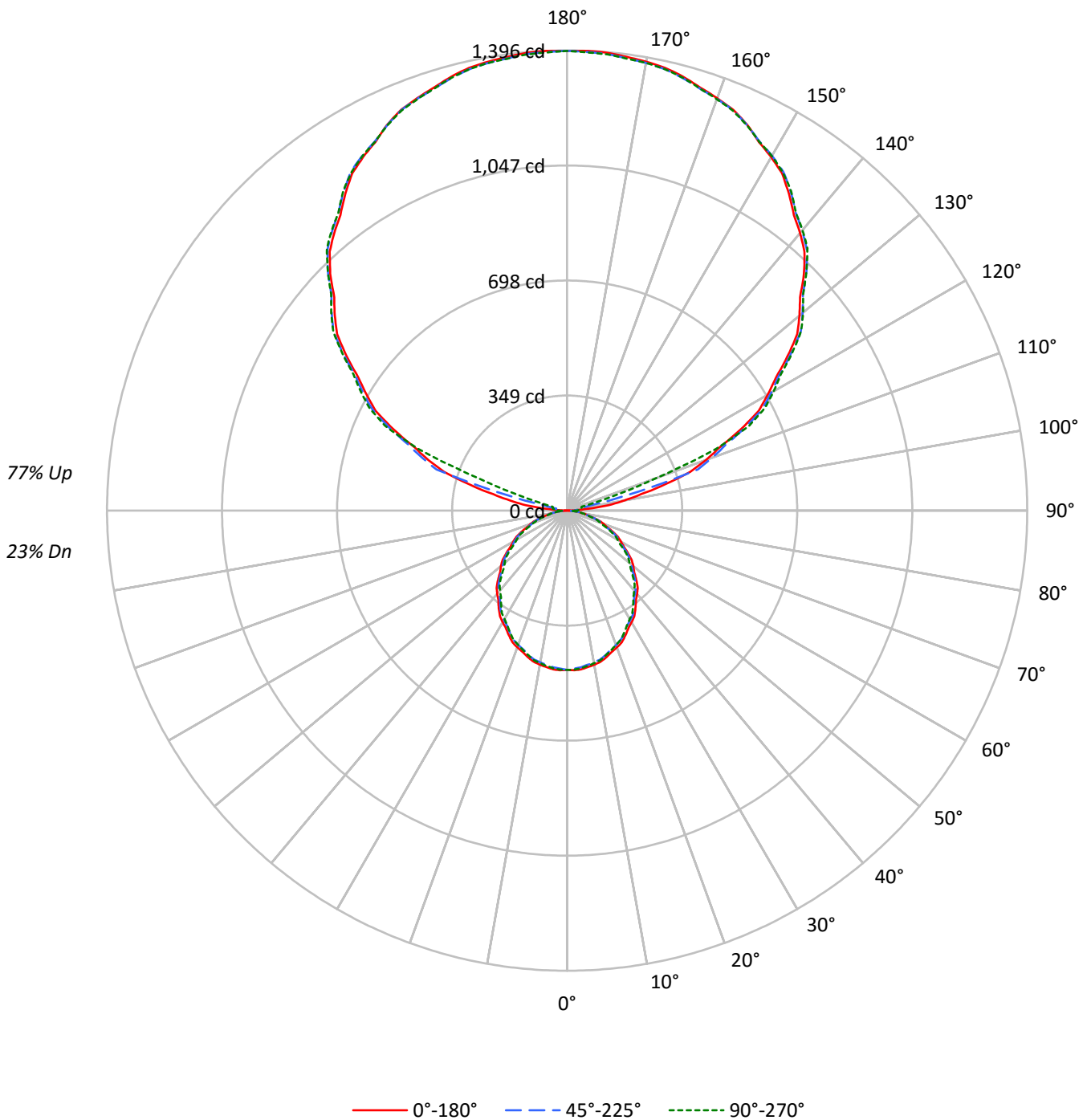
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	5201	5201	5201
5°	5226	5154	5190
10°	5191	5109	5141
15°	5131	5051	5060
20°	5060	4969	4974
25°	4963	4871	4861
30°	4860	4762	4724
35°	4750	4646	4586
40°	4636	4519	4449
45°	4509	4402	4294
50°	4382	4258	4140
55°	4219	4110	3984
60°	4052	3935	3810
65°	3904	3744	3629
70°	3688	3531	3374
75°	3373	3248	3111
80°	3037	2913	2882
85°	2668	2569	2470



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.5	0.8
10°-20°	128.5	2.3
20°-30°	189.9	3.4
30°-40°	221.8	4.0
40°-50°	223.0	4.0
50°-60°	195.8	3.6
60°-70°	145.9	2.6
70°-80°	83.1	1.5
80°-90°	27.8	0.5
90°-100°	50.7	0.9
100°-110°	241.6	4.4
110°-120°	580.4	10.5
120°-130°	739.1	13.4
130°-140°	789.7	14.3
140°-150°	738.4	13.4
150°-160°	595.6	10.8
160°-170°	384.4	7.0
170°-180°	132.5	2.4
0°-30°	363.9	6.6
0°-40°	585.7	10.6
0°-60°	1004.5	18.2
0°-90°	1261.3	22.9
90°-120°	872.7	15.8
90°-150°	3139.9	56.9
90°-180°	4252.0	77.1
0°-180°	5513.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	483	483	483	483	483	
5°	484	481	477	481	480	46
15°	460	458	453	456	454	130
25°	418	415	410	410	409	192
35°	362	359	354	351	349	226
45°	296	294	289	284	282	229
55°	225	224	219	215	212	201
65°	153	151	147	144	142	151
75°	81	79	78	76	75	87
85°	22	21	21	20	20	24
90°	1	12	25	29	31	4
95°	63	24	32	39	39	78
105°	309	314	227	54	46	327
115°	579	586	595	605	609	571
125°	816	824	829	831	833	729
135°	1016	1022	1027	1030	1027	782
145°	1173	1180	1182	1184	1184	734
155°	1292	1290	1291	1295	1290	595
165°	1362	1359	1358	1366	1359	385
175°	1394	1390	1390	1397	1389	133
180°	1394	1394	1394	1394	1394	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2
2.5°	484.9	484.6	484.3	484.0	483.7	483.1	482.3	481.5	480.7	479.9	480.6
5°	483.7	483.1	482.7	482.2	481.8	481.1	480.0	479.0	478.0	477.0	477.9
7.5°	478.9	478.4	478.0	477.5	477.1	476.3	475.3	474.2	473.1	472.1	472.9
10°	474.9	474.5	473.9	473.5	473.1	472.3	471.0	469.8	468.6	467.4	468.2
12.5°	469.6	469.2	468.8	468.4	468.1	467.3	466.2	465.0	463.9	462.8	463.4
15°	460.4	460.0	459.6	459.2	458.9	458.1	456.9	455.7	454.5	453.3	454.1
17.5°	449.6	449.2	448.7	448.2	447.7	446.9	445.7	444.5	443.3	442.1	442.6
20°	441.7	441.1	440.6	440.0	439.4	438.5	437.4	436.1	435.0	433.8	434.2
22.5°	432.7	432.1	431.6	431.1	430.5	429.6	428.4	427.2	426.0	424.8	425.1
25°	417.9	417.4	416.9	416.3	415.8	414.9	413.7	412.5	411.3	410.1	410.2
27.5°	402.3	401.7	401.2	400.6	400.1	399.2	398.0	396.6	395.4	394.0	394.1
30°	391.0	390.5	390.0	389.6	389.1	388.3	387.0	385.7	384.4	383.1	383.1
32.5°	379.7	379.1	378.4	377.8	377.3	376.4	375.4	374.4	373.4	372.5	371.9
35°	361.5	361.0	360.3	359.8	359.3	358.4	357.2	356.0	354.8	353.6	353.0
37.5°	342.9	342.1	341.4	340.7	340.1	339.1	337.9	336.6	335.5	334.2	333.6
40°	329.9	329.3	328.8	328.2	327.7	326.7	325.5	324.1	322.9	321.6	320.8
42.5°	316.9	316.3	315.7	315.0	314.4	313.4	312.2	310.9	309.6	308.3	307.6
45°	296.2	295.9	295.5	295.2	294.8	294.0	292.7	291.6	290.3	289.2	288.1
47.5°	275.7	275.2	274.6	274.1	273.6	272.8	271.6	270.5	269.4	268.2	267.2
50°	261.7	261.3	260.8	260.4	259.9	259.0	257.9	256.7	255.5	254.3	253.2
52.5°	247.1	246.8	246.5	246.2	245.8	245.0	243.8	242.5	241.3	240.0	239.2
55°	224.8	224.7	224.6	224.5	224.4	223.7	222.6	221.3	220.2	219.0	217.9
57.5°	203.5	203.2	202.9	202.6	202.2	201.6	200.6	199.7	198.8	197.8	196.9
60°	188.2	188.2	188.1	188.0	187.9	187.3	186.1	185.0	184.0	182.8	182.0
62.5°	174.6	174.3	174.2	173.9	173.6	173.0	171.8	170.8	169.6	168.5	167.7
65°	153.3	152.8	152.4	151.9	151.5	150.8	149.9	148.9	148.0	147.0	146.3
67.5°	130.8	130.4	130.0	129.6	129.2	128.6	128.0	127.2	126.5	125.8	125.2
70°	117.2	116.6	116.1	115.5	114.9	114.4	113.9	113.2	112.7	112.2	111.6
72.5°	102.9	102.5	102.1	101.7	101.2	100.8	100.1	99.5	98.9	98.3	97.6
75°	81.1	80.6	80.3	79.9	79.5	79.2	78.9	78.6	78.4	78.1	77.7
77.5°	61.6	61.4	61.3	61.1	60.8	60.5	60.3	59.9	59.6	59.2	58.9
80°	49.0	48.8	48.5	48.2	47.9	47.7	47.5	47.3	47.2	47.0	46.8
82.5°	36.7	36.6	36.6	36.6	36.5	36.5	36.4	36.4	36.4	36.3	36.1
85°	21.6	21.4	21.2	21.0	20.9	20.8	20.8	20.8	20.8	20.8	20.6
87.5°	8.8	9.1	9.4	9.5	9.8	10.2	10.7	11.2	11.8	12.3	12.4
90°	1.1	3.3	5.6	7.9	10.3	12.9	15.9	18.9	21.8	24.9	25.8
92.5°	19.3	18.6	18.0	17.3	16.7	17.5	19.8	22.0	24.3	26.5	28.0
95°	63.2	53.8	44.3	34.9	25.4	22.0	24.5	27.0	29.6	32.1	33.7
97.5°	127.0	122.8	118.5	114.3	110.0	99.7	83.1	66.5	49.9	33.3	35.2
100°	175.0	179.7	184.3	188.9	193.5	177.8	142.0	106.0	70.1	34.2	36.0
102.5°	229.8	233.1	236.4	239.7	243.1	225.1	185.8	146.6	107.4	68.1	62.4
105°	308.7	311.3	313.8	316.3	318.9	309.8	289.0	268.3	247.6	226.9	186.1
107.5°	392.0	394.0	396.1	398.1	400.1	402.8	406.1	409.3	412.6	415.9	385.9
110°	447.5	449.4	451.2	453.1	455.0	457.1	459.7	462.2	464.7	467.3	459.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	500.6	502.2	503.9	505.6	507.2	509.3	511.8	514.4	516.9	519.4	519.6
115°	579.2	580.5	581.8	583.3	584.6	586.4	588.4	590.5	592.6	594.7	597.0
117.5°	655.1	656.8	658.5	660.3	662.0	663.3	664.4	665.5	666.6	667.6	669.4
120°	702.4	704.5	706.6	708.6	710.7	712.1	712.7	713.5	714.2	714.8	716.7
122.5°	750.5	752.2	753.9	755.5	757.3	758.6	759.5	760.4	761.2	762.1	763.4
125°	816.4	818.2	820.0	821.9	823.8	825.1	826.0	827.0	827.9	828.8	829.3
127.5°	880.2	882.0	883.9	885.7	887.5	889.0	890.1	891.3	892.3	893.4	894.2
130°	920.0	921.9	923.6	925.5	927.3	928.7	929.6	930.6	931.5	932.4	933.4
132.5°	958.1	959.9	961.8	963.6	965.5	966.7	967.5	968.2	968.9	969.7	970.6
135°	1016.3	1017.7	1019.0	1020.5	1021.8	1023.0	1024.0	1024.8	1025.7	1026.7	1027.3
137.5°	1066.0	1067.8	1069.5	1071.3	1073.1	1074.2	1074.7	1075.2	1075.7	1076.2	1077.3
140°	1099.2	1100.5	1102.0	1103.3	1104.7	1105.7	1106.4	1107.1	1107.9	1108.5	1109.5
142.5°	1129.9	1131.2	1132.7	1134.0	1135.4	1136.4	1137.1	1137.8	1138.5	1139.2	1140.0
145°	1172.8	1174.4	1176.0	1177.6	1179.2	1180.3	1180.7	1181.2	1181.6	1182.1	1182.5
147.5°	1213.2	1214.2	1215.3	1216.3	1217.4	1218.2	1218.6	1219.1	1219.5	1219.9	1220.5
150°	1238.1	1238.7	1239.4	1240.1	1240.8	1241.4	1241.8	1242.2	1242.8	1243.2	1243.7
152.5°	1260.4	1260.7	1261.1	1261.3	1261.7	1261.9	1262.2	1262.6	1262.8	1263.1	1263.9
155°	1291.9	1291.5	1290.9	1290.5	1290.0	1289.9	1290.1	1290.4	1290.7	1290.8	1292.0
157.5°	1316.3	1316.3	1316.3	1316.2	1316.2	1316.0	1315.8	1315.5	1315.4	1315.1	1316.5
160°	1331.2	1331.1	1330.8	1330.6	1330.3	1330.1	1329.9	1329.6	1329.5	1329.2	1330.6
162.5°	1345.3	1344.8	1344.2	1343.5	1342.9	1342.6	1342.3	1342.1	1341.8	1341.6	1343.2
165°	1362.4	1361.6	1360.9	1360.3	1359.6	1359.1	1358.9	1358.6	1358.4	1358.2	1360.0
167.5°	1375.6	1374.7	1373.8	1372.9	1371.9	1371.5	1371.5	1371.5	1371.5	1371.5	1373.3
170°	1383.0	1382.2	1381.3	1380.3	1379.4	1378.9	1378.9	1378.9	1378.9	1378.9	1380.7
172.5°	1388.0	1387.0	1385.8	1384.7	1383.6	1383.1	1383.3	1383.5	1383.7	1383.8	1385.7
175°	1394.5	1393.3	1392.1	1391.0	1389.8	1389.4	1389.6	1389.8	1390.1	1390.3	1392.0
177.5°	1396.2	1395.2	1394.3	1393.4	1392.4	1392.0	1392.2	1392.4	1392.6	1392.8	1394.3
180°	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2
2.5°	481.3	482.1	482.9	483.2	483.1	483.0	483.0	482.9
5°	478.8	479.7	480.7	481.1	480.9	480.7	480.5	480.3
7.5°	473.8	474.6	475.4	475.7	475.6	475.5	475.5	475.3
10°	469.1	469.9	470.7	471.1	470.9	470.7	470.6	470.4
12.5°	464.0	464.6	465.2	465.5	465.4	465.2	465.1	465.0
15°	454.8	455.5	456.3	456.4	455.8	455.2	454.7	454.1
17.5°	443.1	443.6	444.2	444.3	444.1	443.9	443.7	443.5
20°	434.5	434.9	435.2	435.3	435.0	434.7	434.4	434.2
22.5°	425.3	425.7	426.0	426.0	425.6	425.3	424.9	424.5
25°	410.3	410.4	410.5	410.4	410.1	409.8	409.6	409.3
27.5°	394.2	394.3	394.3	394.2	393.9	393.5	393.2	392.8
30°	383.1	383.1	383.1	382.7	382.1	381.5	380.8	380.1
32.5°	371.4	370.9	370.4	370.0	369.6	369.3	368.9	368.5
35°	352.5	352.0	351.3	350.9	350.4	349.9	349.5	349.0
37.5°	332.9	332.3	331.5	331.1	330.8	330.5	330.2	329.9
40°	320.1	319.4	318.6	318.1	317.7	317.4	317.0	316.6
42.5°	306.8	306.0	305.3	304.8	304.4	304.1	303.7	303.3
45°	287.0	285.9	284.7	284.0	283.5	283.0	282.6	282.1
47.5°	266.1	265.0	263.9	263.1	262.7	262.3	261.9	261.5
50°	252.3	251.2	250.2	249.4	248.9	248.3	247.8	247.2
52.5°	238.3	237.4	236.5	235.8	235.2	234.7	234.2	233.6
55°	217.0	215.9	214.9	214.2	213.7	213.2	212.8	212.3
57.5°	196.0	195.0	194.1	193.4	192.9	192.3	191.8	191.3
60°	181.2	180.3	179.5	178.9	178.3	177.9	177.5	177.0
62.5°	166.8	166.0	165.2	164.6	164.3	164.0	163.7	163.4
65°	145.6	144.9	144.1	143.7	143.4	143.0	142.8	142.5
67.5°	124.5	123.9	123.2	122.7	122.3	121.9	121.5	121.2
70°	110.9	110.2	109.6	109.1	108.6	108.2	107.6	107.2
72.5°	97.1	96.5	95.9	95.5	95.3	95.1	94.8	94.5
75°	77.2	76.7	76.2	75.9	75.6	75.3	75.1	74.8
77.5°	58.6	58.3	58.0	57.9	57.9	57.9	57.9	57.9
80°	46.7	46.6	46.5	46.5	46.5	46.5	46.5	46.5
82.5°	36.0	35.8	35.7	35.5	35.5	35.4	35.3	35.2
85°	20.4	20.2	20.1	20.0	20.0	20.0	20.0	20.0
87.5°	12.5	12.6	12.8	12.8	12.9	13.0	13.1	13.2
90°	26.7	27.6	28.5	29.2	29.7	30.1	30.6	31.1
92.5°	29.4	30.9	32.5	33.3	33.5	33.9	34.2	34.4
95°	35.3	36.9	38.5	39.3	39.3	39.3	39.3	39.3
97.5°	37.0	38.9	40.8	41.7	42.0	42.3	42.4	42.7
100°	37.9	39.7	41.6	42.6	42.8	43.1	43.2	43.5
102.5°	56.7	51.0	45.3	42.7	43.1	43.5	44.0	44.3
105°	145.3	104.6	63.8	43.8	44.2	44.7	45.1	45.6
107.5°	356.1	326.2	296.3	266.0	235.3	204.6	173.9	143.2
110°	452.0	444.4	436.8	416.6	383.7	350.7	317.8	284.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	519.7	519.9	520.0	516.6	509.6	502.7	495.7	488.7
115°	599.2	601.5	603.9	605.5	606.4	607.3	608.2	609.1
117.5°	671.3	673.2	674.9	676.0	676.2	676.4	676.5	676.7
120°	718.5	720.3	722.2	723.1	723.1	723.1	723.1	723.1
122.5°	764.6	766.0	767.2	767.9	768.1	768.3	768.6	768.7
125°	829.7	830.2	830.6	831.1	831.5	832.1	832.5	832.9
127.5°	894.9	895.6	896.3	896.5	896.1	895.6	895.2	894.7
130°	934.2	935.1	936.1	936.3	935.9	935.4	935.0	934.5
132.5°	971.5	972.5	973.4	973.5	972.9	972.2	971.6	970.9
135°	1028.1	1028.8	1029.5	1029.5	1028.8	1028.1	1027.3	1026.7
137.5°	1078.4	1079.5	1080.6	1080.9	1080.5	1080.0	1079.6	1079.1
140°	1110.4	1111.3	1112.2	1112.4	1112.0	1111.5	1111.1	1110.6
142.5°	1140.7	1141.4	1142.1	1142.2	1141.6	1140.9	1140.2	1139.6
145°	1183.0	1183.5	1183.9	1184.1	1184.1	1184.1	1184.1	1184.1
147.5°	1220.9	1221.4	1221.8	1221.6	1220.5	1219.4	1218.3	1217.3
150°	1244.1	1244.6	1245.0	1244.9	1244.2	1243.6	1242.9	1242.2
152.5°	1264.7	1265.6	1266.4	1266.3	1265.2	1264.2	1263.1	1262.0
155°	1293.2	1294.3	1295.5	1295.3	1294.0	1292.6	1291.2	1289.9
157.5°	1317.9	1319.2	1320.6	1320.4	1318.7	1316.8	1315.0	1313.2
160°	1331.9	1333.3	1334.7	1334.6	1333.0	1331.4	1329.7	1328.1
162.5°	1344.8	1346.3	1347.9	1347.9	1346.5	1345.1	1343.6	1342.2
165°	1361.9	1363.7	1365.6	1365.7	1364.1	1362.4	1360.8	1359.2
167.5°	1375.1	1377.0	1378.9	1378.9	1377.0	1375.1	1373.3	1371.5
170°	1382.6	1384.5	1386.3	1386.3	1384.5	1382.6	1380.7	1378.9
172.5°	1387.6	1389.4	1391.2	1391.2	1389.1	1387.1	1385.1	1383.0
175°	1393.6	1395.2	1396.8	1396.6	1394.8	1392.9	1391.2	1389.3
177.5°	1395.7	1397.2	1398.6	1398.5	1396.7	1394.8	1392.9	1391.2
180°	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5

(END OF REPORT)