

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: P331898-940

Luminaire Tested: **S123DIP-S340D1025U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331898-940
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-S340D1025U940-4F0-1E-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: 4914.1 lumens
Efficiency: N/A
Efficacy: 131.7 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

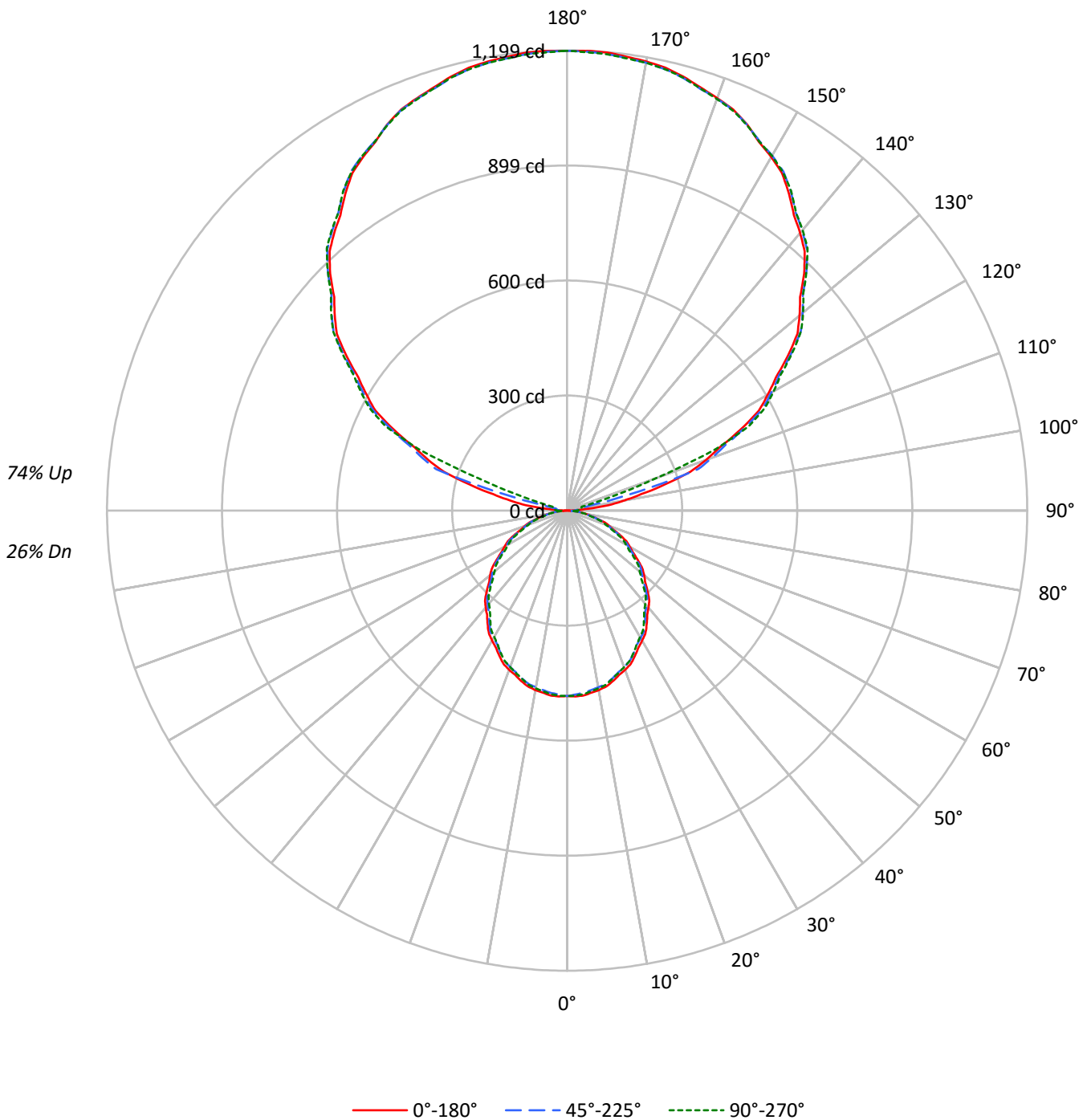
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	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	0.9
10°-20°	128.5	2.6
20°-30°	189.9	3.9
30°-40°	221.8	4.5
40°-50°	223.0	4.5
50°-60°	195.8	4.0
60°-70°	145.9	3.0
70°-80°	83.1	1.7
80°-90°	27.2	0.6
90°-100°	43.6	0.9
100°-110°	207.6	4.2
110°-120°	498.6	10.1
120°-130°	634.9	12.9
130°-140°	678.4	13.8
140°-150°	634.4	12.9
150°-160°	511.7	10.4
160°-170°	330.3	6.7
170°-180°	113.8	2.3
0°-30°	363.9	7.4
0°-40°	585.7	11.9
0°-60°	1004.5	20.4
0°-90°	1260.7	25.7
90°-120°	749.8	15.3
90°-150°	2697.6	54.9
90°-180°	3653.0	74.3
0°-180°	4914.1	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	10	21	25	27	4
95°	54	20	28	34	34	67
105°	265	270	195	46	39	281
115°	498	503	511	520	523	491
125°	701	708	712	714	716	626
135°	873	878	882	884	882	672
145°	1008	1014	1016	1017	1017	630
155°	1110	1108	1109	1113	1108	511
165°	1170	1168	1167	1173	1168	331
175°	1198	1194	1194	1200	1194	114
180°	1198	1198	1198	1198	1198	



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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	9.0	9.2	9.4	9.5	9.8	10.3	10.7	11.1	11.6	11.7
90°	0.9	2.9	4.8	6.9	8.8	11.1	13.6	16.2	18.8	21.4	22.1
92.5°	16.6	16.0	15.4	14.9	14.4	15.1	16.9	18.9	20.9	22.8	24.1
95°	54.3	46.2	38.1	30.0	21.8	18.9	21.0	23.3	25.4	27.6	29.0
97.5°	109.1	105.5	101.8	98.2	94.5	85.6	71.4	57.2	42.9	28.6	30.2
100°	150.4	154.4	158.4	162.3	166.2	152.8	121.9	91.0	60.2	29.3	30.9
102.5°	197.4	200.3	203.1	206.0	208.8	193.4	159.7	126.0	92.3	58.6	53.7
105°	265.2	267.4	269.6	271.8	273.9	266.1	248.3	230.5	212.8	194.9	159.9
107.5°	336.8	338.6	340.3	342.1	343.8	346.1	348.8	351.7	354.5	357.3	331.6
110°	384.5	386.1	387.6	389.2	390.8	392.7	394.8	397.1	399.2	401.4	394.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	430.1	431.5	432.9	434.4	435.8	437.6	439.8	441.9	444.1	446.3	446.4
115°	497.6	498.7	499.9	501.1	502.3	503.8	505.5	507.3	509.1	510.9	512.9
117.5°	562.8	564.4	565.8	567.3	568.7	569.9	570.8	571.8	572.7	573.5	575.2
120°	603.4	605.2	607.0	608.8	610.6	611.8	612.3	613.0	613.6	614.1	615.7
122.5°	644.8	646.2	647.6	649.2	650.6	651.8	652.5	653.3	654.0	654.7	655.9
125°	701.3	702.9	704.5	706.1	707.7	708.9	709.7	710.4	711.2	712.0	712.5
127.5°	756.2	757.8	759.4	760.9	762.5	763.8	764.7	765.7	766.6	767.6	768.2
130°	790.4	791.9	793.5	795.1	796.7	797.9	798.7	799.5	800.2	801.0	801.8
132.5°	823.1	824.7	826.3	827.9	829.5	830.5	831.2	831.8	832.5	833.1	833.9
135°	873.2	874.3	875.5	876.7	877.9	878.9	879.7	880.5	881.3	882.1	882.6
137.5°	915.9	917.4	918.9	920.4	921.9	922.8	923.3	923.7	924.2	924.6	925.5
140°	944.3	945.6	946.7	947.9	949.1	950.0	950.6	951.2	951.8	952.3	953.1
142.5°	970.7	971.9	973.0	974.3	975.4	976.3	977.0	977.5	978.1	978.7	979.4
145°	1007.5	1009.0	1010.3	1011.7	1013.1	1014.0	1014.4	1014.8	1015.1	1015.6	1015.9
147.5°	1042.2	1043.2	1044.1	1045.0	1045.9	1046.5	1047.0	1047.3	1047.8	1048.1	1048.6
150°	1063.6	1064.3	1064.8	1065.4	1066.0	1066.5	1066.8	1067.3	1067.6	1068.1	1068.4
152.5°	1082.8	1083.2	1083.4	1083.7	1084.0	1084.2	1084.4	1084.7	1084.9	1085.1	1085.8
155°	1109.9	1109.5	1109.1	1108.8	1108.3	1108.2	1108.4	1108.6	1108.8	1109.0	1110.0
157.5°	1130.9	1130.9	1130.9	1130.8	1130.8	1130.6	1130.4	1130.2	1130.1	1129.8	1131.0
160°	1143.7	1143.5	1143.4	1143.2	1142.9	1142.7	1142.5	1142.4	1142.1	1141.9	1143.2
162.5°	1155.8	1155.3	1154.8	1154.3	1153.8	1153.4	1153.2	1153.0	1152.8	1152.6	1154.0
165°	1170.5	1169.8	1169.2	1168.7	1168.1	1167.7	1167.4	1167.2	1167.1	1166.9	1168.4
167.5°	1181.8	1181.1	1180.3	1179.5	1178.7	1178.2	1178.2	1178.2	1178.2	1178.2	1179.8
170°	1188.2	1187.4	1186.7	1185.9	1185.1	1184.6	1184.6	1184.6	1184.6	1184.6	1186.2
172.5°	1192.5	1191.6	1190.6	1189.6	1188.7	1188.3	1188.5	1188.7	1188.7	1188.9	1190.5
175°	1198.0	1197.0	1196.1	1195.1	1194.1	1193.6	1193.8	1194.1	1194.3	1194.4	1195.9
177.5°	1199.4	1198.6	1197.8	1197.0	1196.3	1196.0	1196.1	1196.3	1196.4	1196.6	1197.8
180°	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0



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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°	11.8	11.9	11.9	12.0	12.1	12.1	12.2	12.3
90°	22.9	23.7	24.5	25.1	25.5	25.9	26.3	26.7
92.5°	25.3	26.6	27.8	28.6	28.8	29.1	29.3	29.5
95°	30.3	31.7	33.2	33.8	33.8	33.8	33.8	33.8
97.5°	31.8	33.4	35.0	35.8	36.1	36.3	36.5	36.6
100°	32.5	34.2	35.7	36.6	36.8	37.0	37.2	37.4
102.5°	48.8	43.9	39.0	36.6	37.0	37.4	37.7	38.1
105°	124.9	89.9	54.9	37.5	38.0	38.3	38.8	39.1
107.5°	305.9	280.3	254.6	228.5	202.2	175.8	149.4	123.0
110°	388.3	381.8	375.3	357.9	329.6	301.3	273.0	244.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	446.5	446.7	446.7	443.8	437.8	431.9	425.9	419.9
115°	514.9	516.8	518.8	520.2	520.9	521.7	522.5	523.3
117.5°	576.8	578.3	579.9	580.8	580.9	581.0	581.2	581.4
120°	617.3	618.8	620.5	621.3	621.3	621.3	621.3	621.3
122.5°	656.9	658.1	659.2	659.8	660.0	660.1	660.2	660.4
125°	712.8	713.2	713.6	714.0	714.4	714.8	715.2	715.6
127.5°	768.8	769.5	770.1	770.3	769.8	769.5	769.0	768.7
130°	802.6	803.4	804.2	804.4	804.1	803.6	803.3	802.8
132.5°	834.6	835.4	836.2	836.3	835.8	835.3	834.7	834.2
135°	883.2	883.9	884.4	884.4	883.9	883.2	882.6	882.1
137.5°	926.5	927.5	928.4	928.6	928.3	927.9	927.5	927.1
140°	954.0	954.8	955.6	955.7	955.3	954.9	954.6	954.1
142.5°	980.0	980.6	981.2	981.2	980.7	980.2	979.6	979.1
145°	1016.4	1016.7	1017.2	1017.4	1017.4	1017.4	1017.4	1017.4
147.5°	1048.9	1049.3	1049.7	1049.5	1048.6	1047.7	1046.7	1045.8
150°	1068.9	1069.3	1069.7	1069.5	1069.0	1068.4	1067.7	1067.2
152.5°	1086.5	1087.3	1088.0	1087.9	1087.0	1086.1	1085.2	1084.2
155°	1111.0	1112.0	1112.9	1112.9	1111.7	1110.5	1109.3	1108.1
157.5°	1132.2	1133.4	1134.6	1134.4	1132.8	1131.3	1129.8	1128.3
160°	1144.3	1145.5	1146.7	1146.6	1145.2	1143.8	1142.5	1141.0
162.5°	1155.3	1156.6	1158.0	1158.1	1156.8	1155.6	1154.4	1153.2
165°	1170.0	1171.6	1173.2	1173.3	1171.9	1170.5	1169.1	1167.8
167.5°	1181.4	1183.0	1184.5	1184.5	1183.0	1181.4	1179.8	1178.2
170°	1187.8	1189.5	1191.0	1191.0	1189.5	1187.8	1186.2	1184.6
172.5°	1192.1	1193.6	1195.2	1195.2	1193.5	1191.7	1190.0	1188.2
175°	1197.2	1198.6	1200.0	1199.9	1198.3	1196.8	1195.2	1193.6
177.5°	1199.1	1200.4	1201.7	1201.5	1199.9	1198.4	1196.8	1195.2
180°	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0

(END OF REPORT)