

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: P332107

Luminaire Tested: **S123DIW-S340D1030U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332107
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S340D1030U835-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4987.2 lumens
Efficiency: N/A
Efficacy: 131.2 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

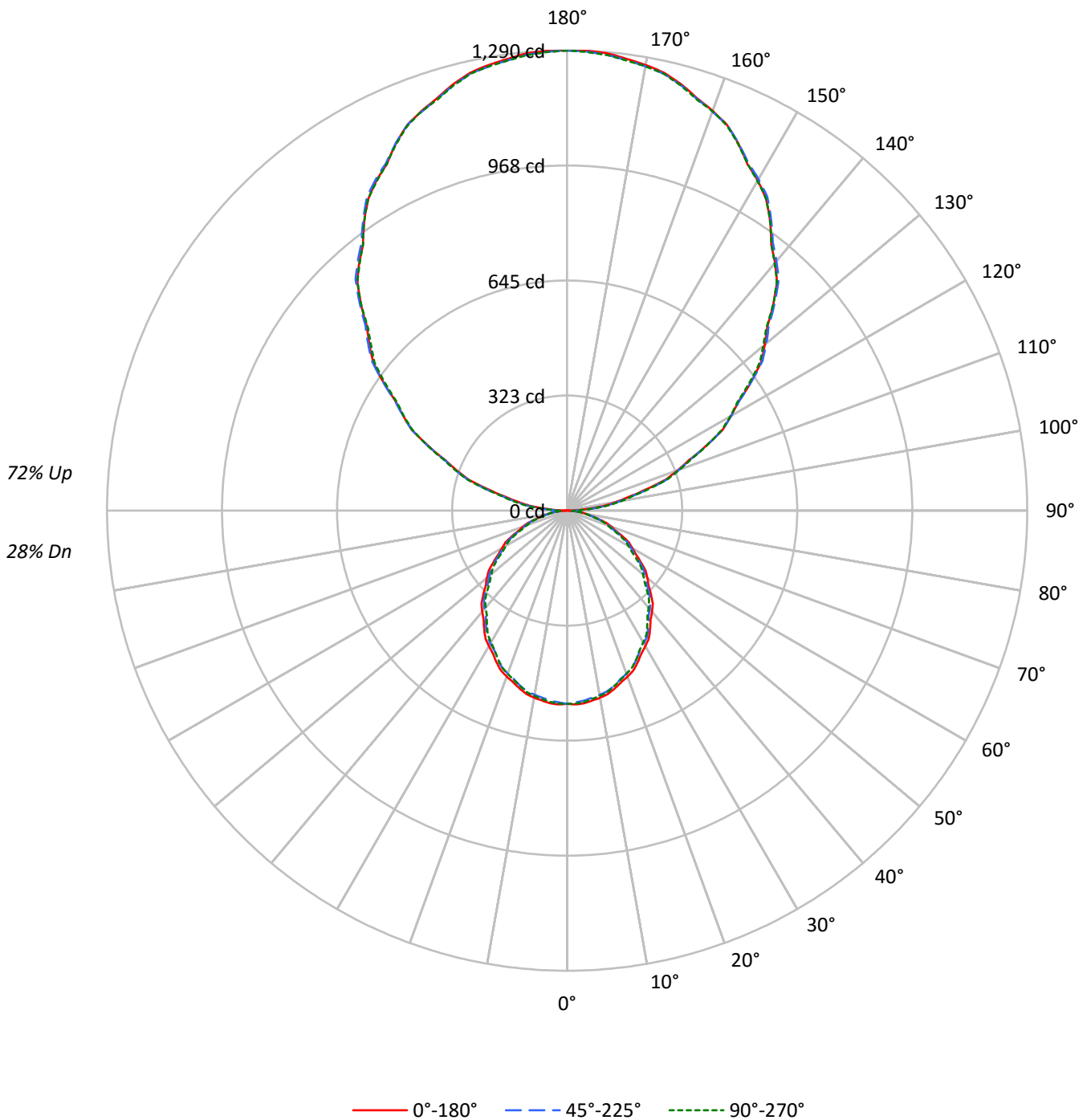
Input Watts (W): 38
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	93	89	85	81	83	79	76	73	62	60	58	46	45	44	32	31	30	24
2	85	77	71	66	75	69	64	60	55	51	48	41	39	37	28	27	26	20
3	77	68	61	55	69	61	55	50	48	44	40	36	33	31	25	23	22	17
4	70	60	52	47	63	54	47	42	43	38	34	32	29	26	22	20	19	14
5	64	53	45	40	57	48	41	36	38	33	29	29	25	23	20	18	16	13
6	59	48	40	34	53	43	36	31	34	29	25	26	22	20	18	16	14	11
7	55	43	35	30	49	39	32	27	31	26	22	23	20	17	16	14	13	10
8	51	39	31	26	45	35	29	24	28	23	20	21	18	15	15	13	11	9
9	47	35	28	23	42	32	26	21	26	21	18	20	16	14	14	12	10	8
10	44	32	25	21	39	29	23	19	23	19	16	18	15	12	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5833	5833	5833
5°	5861	5780	5820
10°	5821	5729	5766
15°	5753	5665	5675
20°	5674	5573	5577
25°	5567	5462	5451
30°	5450	5340	5299
35°	5327	5210	5143
40°	5199	5067	4990
45°	5057	4937	4816
50°	4915	4776	4642
55°	4731	4609	4468
60°	4545	4413	4273
65°	4378	4200	4070
70°	4135	3959	3783
75°	3780	3643	3489
80°	3409	3267	3236
85°	2989	2878	2766



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.0	1.0
10°-20°	144.1	2.9
20°-30°	212.9	4.3
30°-40°	248.7	5.0
40°-50°	250.0	5.0
50°-60°	219.6	4.4
60°-70°	163.6	3.3
70°-80°	93.2	1.9
80°-90°	30.6	0.6
90°-100°	84.0	1.7
100°-110°	251.5	5.0
110°-120°	427.7	8.6
120°-130°	562.6	11.3
130°-140°	632.3	12.7
140°-150°	621.6	12.5
150°-160°	523.3	10.5
160°-170°	348.3	7.0
170°-180°	122.0	2.4
0°-30°	408.1	8.2
0°-40°	656.8	13.2
0°-60°	1126.5	22.6
0°-90°	1413.9	28.4
90°-120°	763.2	15.3
90°-150°	2579.7	51.7
90°-180°	3573.0	71.6
0°-180°	4987.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	542	542	542	542	542	
5°	542	540	535	539	539	51
15°	516	514	508	512	509	145
25°	469	466	460	460	459	216
35°	405	402	396	394	391	254
45°	332	330	324	319	316	256
55°	252	251	246	241	238	226
65°	172	170	165	161	160	170
75°	91	89	88	85	84	97
85°	24	23	23	22	22	27
90°	1	11	24	28	30	5
95°	60	67	75	79	79	67
105°	228	230	239	239	241	244
115°	431	433	432	432	432	426
125°	630	633	631	627	623	562
135°	818	823	823	819	817	630
145°	992	994	997	996	992	619
155°	1136	1136	1137	1140	1134	523
165°	1237	1234	1234	1239	1233	349
175°	1287	1283	1283	1288	1282	122
180°	1290	1290	1290	1290	1290	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9
2.5°	543.8	543.4	543.1	542.8	542.4	541.8	540.9	540.0	539.1	538.2	539.0
5°	542.4	541.8	541.3	540.8	540.3	539.5	538.3	537.2	536.0	534.9	535.9
7.5°	537.1	536.5	536.0	535.5	535.0	534.1	533.0	531.8	530.6	529.4	530.3
10°	532.6	532.1	531.5	531.0	530.5	529.6	528.2	526.9	525.5	524.2	525.1
12.5°	526.6	526.2	525.7	525.3	524.9	524.0	522.8	521.5	520.2	519.0	519.7
15°	516.3	515.9	515.4	515.0	514.6	513.7	512.4	511.0	509.7	508.4	509.2
17.5°	504.2	503.7	503.2	502.6	502.1	501.2	499.8	498.5	497.1	495.8	496.3
20°	495.3	494.7	494.1	493.4	492.8	491.8	490.5	489.1	487.8	486.5	486.9
22.5°	485.2	484.6	484.0	483.4	482.8	481.8	480.4	479.1	477.7	476.4	476.7
25°	468.7	468.1	467.5	466.9	466.3	465.3	463.9	462.6	461.2	459.9	460.0
27.5°	451.1	450.5	449.9	449.3	448.7	447.7	446.3	444.8	443.4	441.9	442.0
30°	438.5	437.9	437.4	436.9	436.4	435.4	434.0	432.5	431.1	429.6	429.6
32.5°	425.8	425.1	424.4	423.7	423.1	422.1	421.0	419.9	418.8	417.7	417.1
35°	405.4	404.8	404.1	403.5	402.9	401.9	400.6	399.2	397.9	396.5	395.9
37.5°	384.5	383.7	382.9	382.1	381.4	380.3	378.9	377.5	376.2	374.8	374.1
40°	370.0	369.3	368.7	368.1	367.5	366.4	365.0	363.5	362.1	360.6	359.8
42.5°	355.4	354.7	354.0	353.3	352.6	351.5	350.1	348.6	347.2	345.7	344.9
45°	332.2	331.8	331.4	331.0	330.6	329.7	328.3	327.0	325.6	324.3	323.1
47.5°	309.2	308.6	308.0	307.4	306.8	305.9	304.6	303.3	302.1	300.8	299.6
50°	293.5	293.0	292.5	292.0	291.5	290.5	289.2	287.9	286.5	285.2	284.0
52.5°	277.1	276.8	276.4	276.1	275.7	274.8	273.4	272.0	270.6	269.1	268.2
55°	252.1	252.0	251.9	251.8	251.7	250.9	249.6	248.2	246.9	245.6	244.4
57.5°	228.2	227.9	227.5	227.2	226.8	226.1	225.0	223.9	222.9	221.8	220.8
60°	211.1	211.0	210.9	210.8	210.7	210.0	208.7	207.5	206.3	205.0	204.1
62.5°	195.8	195.5	195.3	195.0	194.7	194.0	192.7	191.5	190.2	189.0	188.1
65°	171.9	171.4	170.9	170.4	169.9	169.1	168.1	167.0	166.0	164.9	164.1
67.5°	146.7	146.2	145.8	145.3	144.9	144.2	143.5	142.7	141.9	141.1	140.4
70°	131.4	130.8	130.2	129.5	128.9	128.3	127.7	127.0	126.4	125.8	125.1
72.5°	115.4	114.9	114.5	114.0	113.5	113.0	112.3	111.6	110.9	110.2	109.5
75°	90.9	90.4	90.0	89.6	89.2	88.8	88.5	88.2	87.9	87.6	87.1
77.5°	69.1	68.9	68.7	68.5	68.2	67.9	67.6	67.2	66.8	66.4	66.1
80°	55.0	54.7	54.4	54.1	53.7	53.5	53.3	53.1	52.9	52.7	52.5
82.5°	41.2	41.1	41.1	41.0	40.9	40.9	40.8	40.8	40.8	40.7	40.5
85°	24.2	24.0	23.8	23.6	23.4	23.3	23.3	23.3	23.3	23.3	23.1
87.5°	9.9	10.1	10.3	10.5	10.7	11.1	11.6	12.1	12.6	13.1	13.2
90°	1.0	3.3	5.5	7.8	10.0	12.6	15.5	18.5	21.4	24.3	25.2
92.5°	24.5	26.0	27.6	29.1	30.6	32.2	33.9	35.6	37.2	38.9	39.6
95°	59.8	61.3	62.9	64.5	66.1	67.8	69.6	71.4	73.2	75.0	75.9
97.5°	106.2	107.3	108.5	109.7	110.9	112.1	113.4	114.7	116.0	117.3	118.4
100°	137.8	139.1	140.5	141.8	143.2	144.4	145.6	146.7	147.8	148.9	149.6
102.5°	174.3	175.1	175.9	176.7	177.5	178.6	180.1	181.6	183.1	184.6	185.3
105°	228.0	228.4	228.9	229.3	229.8	231.0	233.0	235.0	237.1	239.1	239.1
107.5°	290.4	290.6	290.9	291.2	291.4	292.0	292.8	293.6	294.4	295.2	295.9
110°	329.3	329.7	330.2	330.6	331.1	331.5	332.0	332.4	332.9	333.3	334.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	369.8	370.1	370.3	370.6	370.9	371.0	371.1	371.2	371.3	371.4	372.5
115°	430.6	431.2	431.9	432.6	433.3	433.4	432.9	432.5	432.0	431.6	431.8
117.5°	491.8	492.2	492.7	493.1	493.6	493.5	492.9	492.3	491.7	491.2	491.1
120°	529.9	531.2	532.6	533.9	535.3	535.4	534.2	533.1	532.0	530.9	530.6
122.5°	569.6	570.6	571.6	572.5	573.5	573.7	573.2	572.6	572.0	571.4	570.8
125°	630.2	630.8	631.5	632.2	632.9	633.0	632.5	632.1	631.6	631.2	630.3
127.5°	686.1	687.5	689.0	690.4	691.8	692.3	691.8	691.3	690.8	690.3	689.1
130°	723.4	725.2	727.0	728.8	730.6	731.1	730.5	729.8	729.1	728.4	727.5
132.5°	760.6	762.4	764.2	766.1	767.9	768.5	768.0	767.5	767.0	766.5	765.4
135°	817.6	818.9	820.3	821.6	823.0	823.5	823.3	823.1	822.9	822.6	821.7
137.5°	870.3	871.4	872.5	873.6	874.8	875.6	876.2	876.8	877.4	878.0	877.0
140°	906.7	907.9	909.0	910.1	911.2	911.9	912.1	912.4	912.6	912.8	912.6
142.5°	940.0	941.1	942.2	943.3	944.5	945.2	945.6	946.0	946.5	946.9	946.6
145°	991.8	992.3	992.7	993.2	993.6	994.2	994.9	995.6	996.2	996.9	996.7
147.5°	1037.2	1038.0	1038.8	1039.7	1040.5	1041.2	1041.8	1042.5	1043.1	1043.7	1043.7
150°	1068.8	1069.3	1069.7	1070.2	1070.6	1071.1	1071.5	1072.0	1072.4	1072.9	1072.9
152.5°	1094.8	1095.4	1096.0	1096.7	1097.3	1097.7	1098.0	1098.3	1098.6	1098.8	1099.2
155°	1135.7	1135.7	1135.7	1135.7	1135.7	1135.8	1136.0	1136.3	1136.5	1136.7	1137.6
157.5°	1170.6	1170.3	1170.0	1169.7	1169.5	1169.4	1169.6	1169.8	1170.0	1170.1	1171.1
160°	1192.4	1192.0	1191.5	1191.1	1190.6	1190.4	1190.4	1190.4	1190.4	1190.4	1191.5
162.5°	1211.9	1211.3	1210.6	1210.0	1209.4	1209.1	1209.3	1209.5	1209.7	1209.9	1211.0
165°	1237.0	1236.3	1235.7	1235.0	1234.3	1234.0	1234.0	1234.0	1234.0	1234.0	1235.3
167.5°	1257.1	1256.2	1255.3	1254.4	1253.5	1253.1	1253.3	1253.5	1253.7	1253.8	1255.2
170°	1268.4	1267.5	1266.6	1265.7	1264.8	1264.4	1264.4	1264.4	1264.4	1264.4	1265.9
172.5°	1277.3	1276.4	1275.5	1274.6	1273.7	1273.3	1273.3	1273.3	1273.3	1273.3	1274.7
175°	1286.7	1285.8	1284.9	1284.0	1283.1	1282.6	1282.6	1282.6	1282.6	1282.6	1284.0
177.5°	1290.5	1289.8	1289.1	1288.3	1287.6	1287.3	1287.3	1287.3	1287.3	1287.3	1288.3
180°	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9
2.5°	539.8	540.7	541.5	541.9	541.8	541.7	541.6	541.5
5°	537.0	538.0	539.1	539.5	539.3	539.1	538.8	538.6
7.5°	531.3	532.2	533.1	533.5	533.4	533.3	533.2	533.0
10°	526.1	527.0	527.9	528.3	528.1	527.9	527.7	527.5
12.5°	520.3	521.0	521.7	522.0	521.9	521.7	521.6	521.5
15°	510.0	510.8	511.7	511.8	511.1	510.5	509.9	509.3
17.5°	496.9	497.5	498.1	498.3	498.0	497.8	497.6	497.4
20°	487.3	487.7	488.1	488.2	487.8	487.5	487.2	486.9
22.5°	477.0	477.4	477.7	477.7	477.3	476.9	476.5	476.1
25°	460.1	460.2	460.3	460.2	459.9	459.6	459.3	459.0
27.5°	442.1	442.2	442.2	442.1	441.7	441.3	440.9	440.5
30°	429.6	429.6	429.6	429.2	428.5	427.8	427.1	426.3
32.5°	416.5	415.9	415.4	414.9	414.5	414.1	413.7	413.3
35°	395.3	394.7	394.0	393.5	393.0	392.4	391.9	391.4
37.5°	373.3	372.6	371.8	371.3	371.0	370.6	370.3	370.0
40°	359.0	358.2	357.3	356.7	356.3	355.9	355.5	355.1
42.5°	344.1	343.2	342.4	341.8	341.4	341.0	340.6	340.1
45°	321.8	320.6	319.3	318.5	317.9	317.4	316.9	316.4
47.5°	298.4	297.2	295.9	295.1	294.6	294.2	293.7	293.3
50°	282.9	281.7	280.6	279.7	279.1	278.5	277.9	277.2
52.5°	267.2	266.2	265.2	264.4	263.8	263.2	262.6	262.0
55°	243.3	242.1	241.0	240.2	239.7	239.1	238.6	238.1
57.5°	219.8	218.7	217.7	216.9	216.3	215.7	215.1	214.5
60°	203.2	202.2	201.3	200.6	200.0	199.5	199.0	198.5
62.5°	187.1	186.2	185.3	184.6	184.3	183.9	183.6	183.2
65°	163.3	162.5	161.6	161.1	160.8	160.4	160.1	159.8
67.5°	139.6	138.9	138.2	137.6	137.2	136.7	136.3	135.9
70°	124.4	123.6	122.9	122.3	121.8	121.3	120.7	120.2
72.5°	108.9	108.2	107.6	107.1	106.9	106.6	106.3	106.0
75°	86.6	86.0	85.5	85.1	84.8	84.5	84.2	83.9
77.5°	65.7	65.4	65.0	64.9	64.9	64.9	64.9	64.9
80°	52.4	52.3	52.2	52.2	52.2	52.2	52.2	52.2
82.5°	40.4	40.2	40.0	39.8	39.8	39.7	39.6	39.5
85°	22.9	22.7	22.5	22.4	22.4	22.4	22.4	22.4
87.5°	13.3	13.4	13.5	13.5	13.6	13.7	13.8	13.9
90°	26.1	27.0	27.9	28.6	29.0	29.5	29.9	30.4
92.5°	40.3	41.1	41.8	42.0	41.7	41.5	41.2	40.9
95°	76.8	77.7	78.6	79.0	79.0	79.0	79.0	79.0
97.5°	119.4	120.4	121.5	121.9	121.8	121.8	121.7	121.6
100°	150.3	151.0	151.6	152.2	152.6	153.1	153.5	154.0
102.5°	185.9	186.6	187.3	187.6	187.5	187.4	187.3	187.2
105°	239.1	239.1	239.1	239.3	239.8	240.2	240.7	241.1
107.5°	296.7	297.4	298.1	298.3	298.1	297.8	297.5	297.2
110°	335.1	336.0	336.9	337.1	336.7	336.2	335.8	335.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	373.6	374.6	375.7	376.2	376.1	376.0	376.0	375.9
115°	432.0	432.3	432.5	432.5	432.3	432.0	431.8	431.6
117.5°	491.1	491.0	491.0	490.6	490.0	489.4	488.7	488.1
120°	530.4	530.2	530.0	529.6	529.2	528.7	528.3	527.8
122.5°	570.2	569.6	569.1	568.4	567.8	567.2	566.6	565.9
125°	629.4	628.5	627.6	626.7	625.8	624.9	624.0	623.1
127.5°	687.8	686.6	685.3	684.1	683.1	682.1	681.0	680.0
130°	726.6	725.7	724.8	723.6	722.0	720.4	718.9	717.3
132.5°	764.4	763.3	762.2	761.1	759.8	758.6	757.4	756.2
135°	820.8	819.9	819.0	818.4	817.9	817.5	817.0	816.6
137.5°	876.1	875.1	874.2	873.3	872.4	871.6	870.7	869.9
140°	912.4	912.1	911.9	911.0	909.4	907.9	906.3	904.7
142.5°	946.4	946.2	946.0	945.2	944.0	942.8	941.6	940.4
145°	996.5	996.2	996.0	995.4	994.5	993.6	992.7	991.8
147.5°	1043.7	1043.7	1043.7	1043.0	1041.7	1040.3	1039.0	1037.6
150°	1072.9	1072.9	1072.9	1072.2	1070.9	1069.5	1068.2	1066.8
152.5°	1099.5	1099.9	1100.3	1099.9	1098.7	1097.5	1096.3	1095.2
155°	1138.5	1139.4	1140.3	1140.0	1138.4	1136.8	1135.3	1133.7
157.5°	1172.0	1173.0	1173.9	1173.8	1172.5	1171.3	1170.0	1168.7
160°	1192.7	1193.8	1194.9	1195.0	1194.1	1193.2	1192.3	1191.4
162.5°	1212.1	1213.2	1214.4	1214.2	1212.8	1211.3	1209.9	1208.4
165°	1236.7	1238.0	1239.4	1239.3	1237.7	1236.1	1234.5	1233.0
167.5°	1256.6	1258.0	1259.4	1259.4	1258.0	1256.6	1255.2	1253.8
170°	1267.5	1269.1	1270.7	1270.7	1269.1	1267.5	1265.9	1264.4
172.5°	1276.1	1277.5	1278.9	1278.8	1277.2	1275.6	1274.0	1272.5
175°	1285.3	1286.7	1288.0	1287.9	1286.3	1284.7	1283.2	1281.6
177.5°	1289.4	1290.5	1291.6	1291.5	1290.2	1289.0	1287.7	1286.5
180°	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7

(END OF REPORT)