

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: P331409-830

Luminaire Tested: **SA2XXDIP-C865D925U830-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331409-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C865D925U830-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 925 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

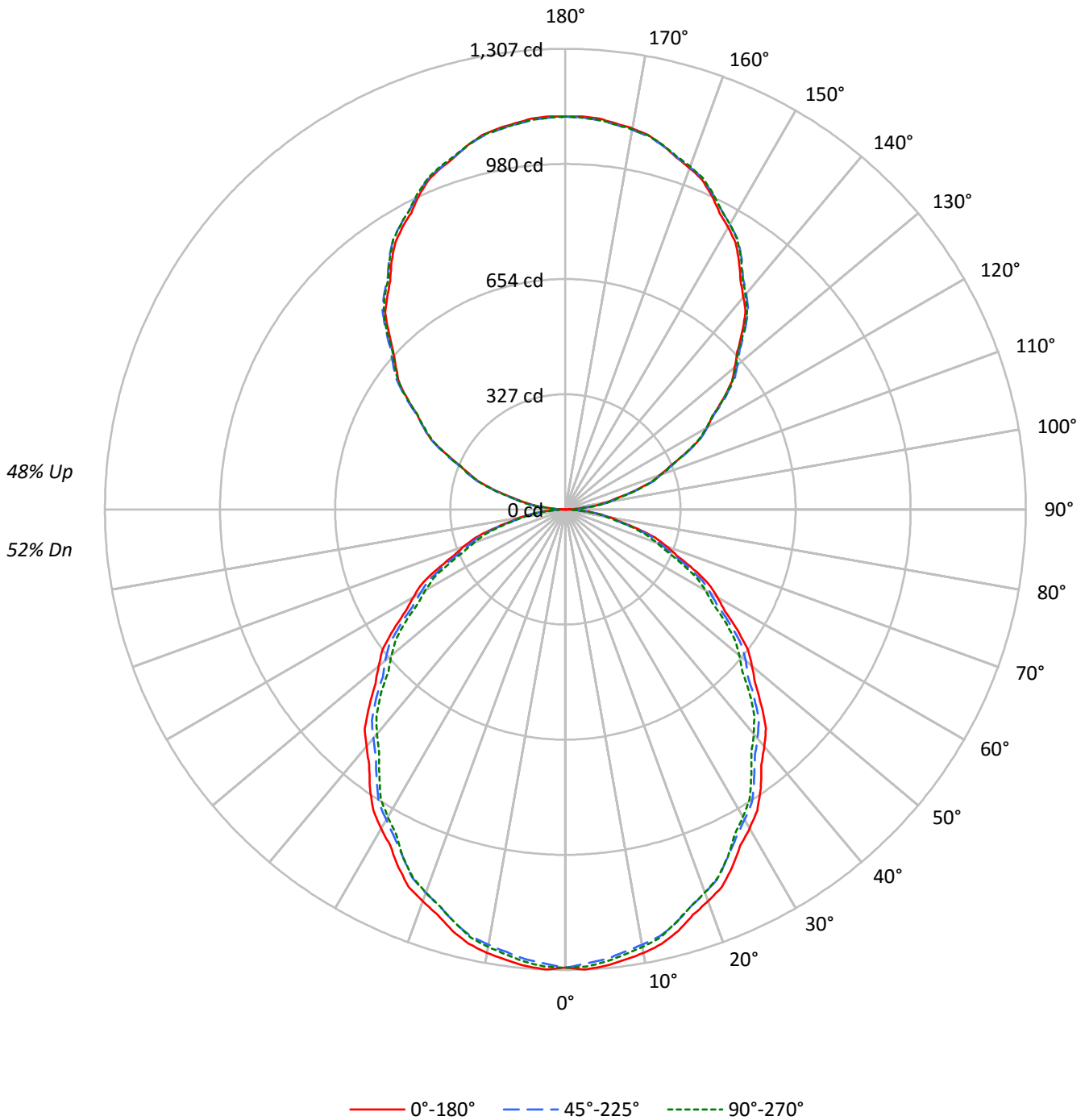
Lumens per Lamp: N/A
Luminaire Lumens: 6430.4 lumens
Efficiency: N/A
Efficacy: 106.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 60.5
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	108	108	108	108	99	99	99	99	84	84	84	70	70	70	58	58	58	52
1	98	94	90	86	91	87	83	80	74	71	69	62	60	59	51	50	49	43
2	89	82	76	71	82	76	71	66	65	61	57	54	51	49	45	43	41	36
3	81	72	65	59	75	67	60	55	57	52	48	48	44	41	40	37	35	31
4	75	64	56	50	69	59	52	47	51	45	41	43	39	35	35	32	30	26
5	68	57	49	43	63	53	46	40	45	40	35	38	34	31	32	29	26	23
6	63	51	43	37	58	47	40	35	41	35	31	35	30	27	29	26	23	20
7	58	46	38	32	54	43	36	31	37	31	27	32	27	24	26	23	20	18
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16
9	50	38	31	26	47	36	29	24	31	26	22	27	22	19	22	19	17	14
10	47	35	28	23	44	33	26	22	29	23	20	25	20	17	21	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	21001	21001	21001
5°	21081	20778	20900
10°	20956	20566	20669
15°	20697	20301	20277
20°	20330	19900	19878
25°	19963	19408	19408
30°	19494	18957	18793
35°	19056	18413	18143
40°	18506	17873	17530
45°	17961	17335	16908
50°	17372	16777	16179
55°	16757	16124	15527
60°	16075	15345	14783
65°	15339	14571	13903
70°	14408	13638	12987
75°	13107	12558	12246
80°	11632	11278	10702
85°	9503	9040	8096



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.3	1.9
10°-20°	344.2	5.4
20°-30°	505.9	7.9
30°-40°	587.6	9.1
40°-50°	587.0	9.1
50°-60°	511.9	8.0
60°-70°	378.5	5.9
70°-80°	214.4	3.3
80°-90°	62.1	1.0
90°-100°	70.6	1.1
100°-110°	219.4	3.4
110°-120°	375.0	5.8
120°-130°	493.1	7.7
130°-140°	553.4	8.6
140°-150°	542.7	8.4
150°-160°	455.2	7.1
160°-170°	301.9	4.7
170°-180°	105.5	1.6
0°-30°	972.3	15.1
0°-40°	1559.9	24.3
0°-60°	2658.7	41.3
0°-90°	3313.7	51.5
90°-120°	665.0	10.3
90°-150°	2254.1	35.1
90°-180°	3117.0	48.5
0°-180°	6430.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1301	1301	1301	1301	1301	
5°	1301	1295	1282	1291	1290	123
15°	1238	1230	1214	1219	1213	348
25°	1121	1110	1089	1092	1089	515
35°	967	954	934	927	920	603
45°	787	777	759	746	740	607
55°	595	587	573	558	552	532
65°	402	394	381	370	364	397
75°	210	207	201	194	196	224
85°	51	50	49	45	44	59
90°	1	13	33	31	32	5
95°	49	58	60	60	58	56
105°	202	205	207	209	209	214
115°	376	381	380	379	376	372
125°	547	555	553	550	549	489
135°	708	718	720	719	717	547
145°	860	866	872	873	869	537
155°	983	986	988	993	990	452
165°	1070	1069	1069	1074	1070	301
175°	1113	1110	1108	1114	1109	106
180°	1115	1115	1115	1115	1115	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7
2.5°	1306.7	1305.6	1304.5	1303.4	1302.3	1300.5	1298.1	1295.6	1293.2	1290.7	1293.0
5°	1300.7	1299.6	1298.5	1297.4	1296.3	1294.2	1291.2	1288.1	1285.1	1282.0	1284.2
7.5°	1289.2	1287.5	1285.8	1284.0	1282.3	1279.9	1276.8	1273.7	1270.5	1267.4	1269.7
10°	1278.2	1276.3	1274.3	1272.3	1270.5	1267.8	1264.4	1261.1	1257.8	1254.4	1256.7
12.5°	1263.2	1261.5	1259.8	1258.0	1256.3	1253.8	1250.5	1247.1	1243.8	1240.5	1242.0
15°	1238.2	1236.5	1234.8	1233.2	1231.5	1228.9	1225.3	1221.6	1218.0	1214.5	1215.5
17.5°	1206.2	1204.5	1202.9	1201.2	1199.5	1196.8	1193.2	1189.5	1185.8	1182.1	1183.5
20°	1183.2	1181.5	1179.9	1178.2	1176.5	1173.7	1169.8	1165.9	1162.1	1158.2	1159.0
22.5°	1160.2	1157.8	1155.5	1153.1	1150.8	1147.8	1144.2	1140.5	1136.8	1133.1	1133.3
25°	1120.6	1118.4	1116.2	1114.0	1111.7	1108.2	1103.5	1098.8	1094.1	1089.4	1090.0
27.5°	1075.6	1073.7	1071.6	1069.6	1067.6	1064.7	1061.0	1057.2	1053.6	1049.8	1049.0
30°	1045.6	1043.4	1041.1	1039.0	1036.7	1033.5	1029.4	1025.2	1021.0	1016.8	1016.0
32.5°	1013.6	1011.8	1010.0	1008.2	1006.4	1003.3	999.0	994.6	990.2	985.8	984.3
35°	966.8	964.0	961.2	958.5	955.6	952.1	947.6	943.2	938.7	934.2	932.6
37.5°	914.0	911.5	909.1	906.6	904.3	900.8	896.4	891.9	887.4	883.0	880.9
40°	878.0	875.8	873.5	871.3	869.1	865.7	861.3	856.9	852.4	848.0	845.5
42.5°	843.0	840.7	838.5	836.3	834.1	830.8	826.3	821.9	817.4	812.9	810.2
45°	786.6	784.8	782.8	780.9	778.9	775.8	771.7	767.5	763.4	759.2	756.1
47.5°	730.7	728.9	727.0	725.2	723.3	720.2	715.9	711.5	707.2	702.9	699.6
50°	691.6	690.2	688.9	687.5	686.1	683.4	679.6	675.6	671.8	667.9	664.0
52.5°	653.7	651.8	650.0	648.1	646.3	643.6	639.9	636.2	632.5	628.9	625.7
55°	595.3	593.7	592.0	590.3	588.6	586.2	582.9	579.5	576.2	572.8	569.5
57.5°	536.8	535.5	534.1	532.8	531.5	529.0	525.3	521.6	517.9	514.3	511.0
60°	497.8	496.6	495.6	494.5	493.3	490.9	486.9	483.1	479.2	475.2	472.2
62.5°	459.8	458.0	456.2	454.4	452.6	450.3	447.2	444.2	441.2	438.3	435.5
65°	401.5	399.8	398.1	396.4	394.8	392.6	389.8	387.0	384.3	381.4	379.0
67.5°	342.2	340.8	339.5	338.2	336.9	335.0	332.4	329.9	327.4	324.9	323.0
70°	305.2	304.1	302.9	301.8	300.8	298.9	296.4	293.9	291.4	288.9	287.0
72.5°	267.1	266.1	264.9	263.8	262.7	261.4	259.8	258.2	256.5	254.9	253.0
75°	210.1	209.5	209.0	208.5	207.9	206.9	205.6	204.2	202.7	201.3	199.7
77.5°	159.1	158.2	157.2	156.3	155.3	154.6	154.0	153.4	152.9	152.3	151.5
80°	125.1	124.8	124.5	124.2	123.9	123.6	123.0	122.4	121.9	121.3	120.5
82.5°	93.0	93.0	92.9	92.8	92.8	92.7	92.3	92.0	91.6	91.3	90.2
85°	51.3	51.0	50.7	50.4	50.1	49.9	49.6	49.3	49.0	48.8	48.0
87.5°	18.2	18.3	18.3	18.4	18.4	18.7	19.1	19.6	20.1	20.5	19.9
90°	0.9	3.5	5.9	8.5	10.9	14.5	19.1	23.8	28.3	32.9	32.5
92.5°	16.8	18.6	20.5	22.2	24.1	25.5	26.7	27.7	28.8	29.9	30.0
95°	48.9	51.0	53.1	55.1	57.3	58.5	58.9	59.4	59.8	60.2	60.2
97.5°	89.4	91.2	93.0	94.9	96.7	98.0	98.9	99.6	100.4	101.2	101.2
100°	119.4	121.1	122.8	124.5	126.1	127.3	127.9	128.6	129.2	129.8	129.8
102.5°	151.1	152.4	153.7	155.0	156.4	157.5	158.3	159.1	159.9	160.7	160.8
105°	202.3	202.8	203.5	204.2	204.7	205.3	205.7	206.1	206.5	206.9	207.4
107.5°	253.7	254.7	255.6	256.6	257.5	257.9	257.9	257.9	257.9	257.9	258.1
110°	286.9	288.1	289.4	290.7	291.9	292.6	292.6	292.6	292.6	292.6	292.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	323.0	324.2	325.6	326.8	328.0	328.6	328.4	328.2	328.1	327.9	327.4
115°	376.3	377.5	378.7	380.0	381.3	381.6	381.3	380.9	380.4	380.0	379.8
117.5°	429.3	430.9	432.6	434.3	436.0	436.2	435.1	433.9	432.7	431.6	431.0
120°	464.7	466.4	468.0	469.7	471.4	471.4	469.7	468.0	466.4	464.7	464.7
122.5°	497.0	499.0	501.1	503.0	505.0	505.5	504.3	503.1	502.0	500.8	500.3
125°	547.4	549.3	551.2	553.1	555.0	555.6	555.0	554.3	553.7	553.1	552.4
127.5°	596.5	598.9	601.3	603.7	606.1	606.9	606.1	605.4	604.6	603.9	603.1
130°	627.4	630.1	632.8	635.6	638.3	639.4	638.9	638.6	638.2	637.7	637.3
132.5°	662.0	664.2	666.5	668.6	670.9	672.0	672.1	672.2	672.2	672.3	671.5
135°	708.3	710.6	712.8	715.2	717.5	718.9	719.3	719.6	720.1	720.5	720.3
137.5°	757.1	758.8	760.7	762.6	764.5	765.7	766.3	766.9	767.4	767.9	767.8
140°	786.4	788.2	790.1	792.0	793.9	795.3	796.4	797.4	798.5	799.6	799.6
142.5°	816.4	818.3	820.2	822.1	824.0	825.3	826.0	826.7	827.4	828.1	828.3
145°	859.7	861.2	862.6	864.1	865.5	867.0	868.2	869.4	870.7	871.9	872.1
147.5°	898.2	900.0	901.8	903.5	905.3	906.6	907.5	908.2	909.1	909.9	910.4
150°	924.6	925.9	927.1	928.4	929.6	930.7	931.5	932.4	933.2	934.1	934.6
152.5°	947.9	949.2	950.5	951.7	953.0	954.1	955.1	956.1	957.1	958.1	958.9
155°	983.0	983.5	984.2	984.9	985.4	986.1	986.7	987.3	988.0	988.5	989.7
157.5°	1012.9	1013.2	1013.7	1014.1	1014.6	1014.9	1015.3	1015.7	1016.1	1016.4	1017.9
160°	1031.0	1031.3	1031.7	1032.2	1032.6	1032.9	1033.1	1033.3	1033.5	1033.7	1035.0
162.5°	1047.4	1047.5	1047.6	1047.7	1047.8	1047.9	1048.2	1048.4	1048.6	1048.8	1050.2
165°	1069.5	1069.3	1069.0	1068.8	1068.7	1068.6	1068.6	1068.6	1068.6	1068.6	1070.0
167.5°	1087.9	1087.3	1086.7	1086.0	1085.4	1085.1	1085.1	1085.0	1085.0	1084.9	1086.4
170°	1097.7	1097.0	1096.5	1095.8	1095.1	1094.8	1094.6	1094.4	1094.1	1093.9	1095.4
172.5°	1104.5	1103.8	1103.2	1102.6	1101.9	1101.5	1101.4	1101.1	1100.9	1100.7	1102.2
175°	1112.8	1112.1	1111.4	1110.9	1110.2	1109.7	1109.3	1108.9	1108.4	1108.1	1109.5
177.5°	1116.2	1115.6	1115.1	1114.7	1114.1	1113.7	1113.3	1113.0	1112.7	1112.4	1113.3
180°	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7
2.5°	1295.1	1297.4	1299.6	1300.5	1300.0	1299.6	1299.2	1298.7
5°	1286.4	1288.6	1290.9	1291.7	1291.2	1290.6	1290.1	1289.5
7.5°	1271.9	1274.1	1276.4	1277.1	1276.6	1275.9	1275.4	1274.7
10°	1258.9	1261.1	1263.4	1264.0	1263.2	1262.3	1261.5	1260.7
12.5°	1243.6	1245.1	1246.7	1247.2	1246.5	1245.9	1245.3	1244.7
15°	1216.6	1217.8	1218.9	1218.7	1217.4	1216.0	1214.6	1213.1
17.5°	1184.7	1186.0	1187.3	1187.2	1185.9	1184.6	1183.3	1181.9
20°	1159.8	1160.6	1161.5	1161.3	1160.3	1159.1	1158.0	1156.9
22.5°	1133.5	1133.6	1133.8	1133.6	1132.8	1132.2	1131.5	1130.9
25°	1090.5	1091.0	1091.6	1091.6	1091.0	1090.5	1090.0	1089.4
27.5°	1048.2	1047.4	1046.5	1045.5	1044.1	1042.7	1041.4	1040.1
30°	1015.1	1014.4	1013.5	1012.5	1011.4	1010.3	1009.2	1008.0
32.5°	982.8	981.3	979.8	978.5	977.4	976.3	975.2	974.0
35°	930.9	929.3	927.7	926.0	924.7	923.3	921.9	920.5
37.5°	878.9	876.8	874.8	873.1	871.8	870.4	869.1	867.7
40°	843.0	840.5	838.0	836.1	835.1	834.0	832.8	831.7
42.5°	807.5	804.7	802.1	799.9	798.3	796.8	795.2	793.7
45°	753.1	750.0	747.0	744.9	743.8	742.6	741.5	740.5
47.5°	696.4	693.2	690.0	687.6	686.0	684.4	682.8	681.2
50°	660.1	656.2	652.3	649.7	648.3	646.9	645.5	644.1
52.5°	622.4	619.2	616.0	613.4	611.6	609.7	607.9	606.1
55°	566.2	562.8	559.5	557.1	555.7	554.3	553.0	551.6
57.5°	507.7	504.4	501.1	499.0	497.9	496.9	495.9	494.7
60°	469.2	466.1	463.1	461.1	460.2	459.4	458.5	457.8
62.5°	432.5	429.7	426.9	425.0	423.9	422.8	421.8	420.8
65°	376.5	374.0	371.5	369.5	368.2	366.7	365.3	363.9
67.5°	321.0	319.1	317.2	315.7	314.5	313.4	312.3	311.1
70°	285.0	283.0	281.2	279.6	278.5	277.4	276.3	275.1
72.5°	251.0	249.0	247.1	245.7	244.8	243.9	243.0	242.1
75°	198.0	196.3	194.7	194.2	194.7	195.3	195.8	196.3
77.5°	150.7	149.9	149.0	148.2	147.4	146.7	145.9	145.1
80°	119.6	118.9	118.0	117.3	116.7	116.2	115.6	115.1
82.5°	89.2	88.1	87.1	86.5	86.3	86.2	86.1	86.1
85°	47.1	46.3	45.4	44.9	44.6	44.3	44.0	43.7
87.5°	19.1	18.4	17.6	17.2	17.0	16.8	16.6	16.4
90°	32.0	31.7	31.3	31.1	31.4	31.6	31.8	32.0
92.5°	30.1	30.2	30.3	30.3	30.3	30.3	30.4	30.4
95°	60.2	60.2	60.2	59.9	59.6	59.2	58.7	58.3
97.5°	101.2	101.2	101.2	101.2	101.1	101.1	101.0	101.0
100°	129.8	129.8	129.8	129.7	129.5	129.3	129.0	128.8
102.5°	161.0	161.2	161.4	161.3	161.1	160.9	160.7	160.5
105°	207.7	208.2	208.6	208.8	208.8	208.8	208.8	208.8
107.5°	258.3	258.4	258.5	258.2	257.2	256.3	255.3	254.3
110°	292.6	292.6	292.6	292.2	291.6	291.0	290.3	289.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	326.9	326.4	325.9	325.4	325.0	324.5	324.0	323.6
115°	379.6	379.4	379.2	378.7	378.1	377.5	376.8	376.3
117.5°	430.6	430.1	429.5	429.0	428.4	427.7	427.1	426.5
120°	464.7	464.7	464.7	464.4	463.7	463.1	462.5	461.8
122.5°	499.7	499.3	498.8	498.3	497.9	497.4	496.9	496.4
125°	551.9	551.2	550.5	550.2	550.0	549.7	549.5	549.3
127.5°	602.4	601.6	600.9	600.1	599.5	598.8	598.1	597.5
130°	636.9	636.5	636.0	635.5	634.6	633.8	632.9	632.1
132.5°	670.5	669.6	668.6	667.9	667.2	666.6	665.9	665.2
135°	720.1	719.9	719.6	719.3	718.6	718.0	717.4	716.7
137.5°	767.6	767.4	767.2	766.8	765.9	765.1	764.2	763.4
140°	799.6	799.6	799.6	799.1	798.2	797.4	796.6	795.8
142.5°	828.5	828.6	828.8	828.5	827.6	826.8	826.0	825.1
145°	872.3	872.6	872.8	872.5	871.7	870.8	870.0	869.1
147.5°	910.9	911.3	911.8	911.6	910.9	910.0	909.3	908.4
150°	935.3	935.9	936.5	936.5	935.9	935.3	934.6	934.1
152.5°	959.7	960.5	961.3	961.3	960.5	959.7	958.9	958.1
155°	990.7	991.7	992.8	993.0	992.3	991.7	991.1	990.4
157.5°	1019.3	1020.7	1022.1	1022.3	1021.3	1020.3	1019.3	1018.3
160°	1036.2	1037.5	1038.8	1039.0	1038.1	1037.3	1036.4	1035.6
162.5°	1051.6	1053.0	1054.4	1054.7	1053.7	1052.6	1051.7	1050.7
165°	1071.5	1072.9	1074.4	1074.6	1073.6	1072.5	1071.5	1070.4
167.5°	1087.8	1089.3	1090.7	1090.9	1089.9	1088.7	1087.7	1086.6
170°	1096.8	1098.3	1099.8	1099.9	1098.6	1097.4	1096.1	1094.9
172.5°	1103.6	1105.1	1106.5	1106.6	1105.4	1104.2	1102.9	1101.6
175°	1111.0	1112.4	1113.9	1114.0	1112.8	1111.4	1110.2	1109.0
177.5°	1114.4	1115.4	1116.3	1116.3	1115.4	1114.4	1113.3	1112.4
180°	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7

(END OF REPORT)