

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: P331727

Luminaire Tested: **SA2XXRDIP-C865D925U835-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331727
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: SA2XXRDIP-C865D925U835-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 925 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

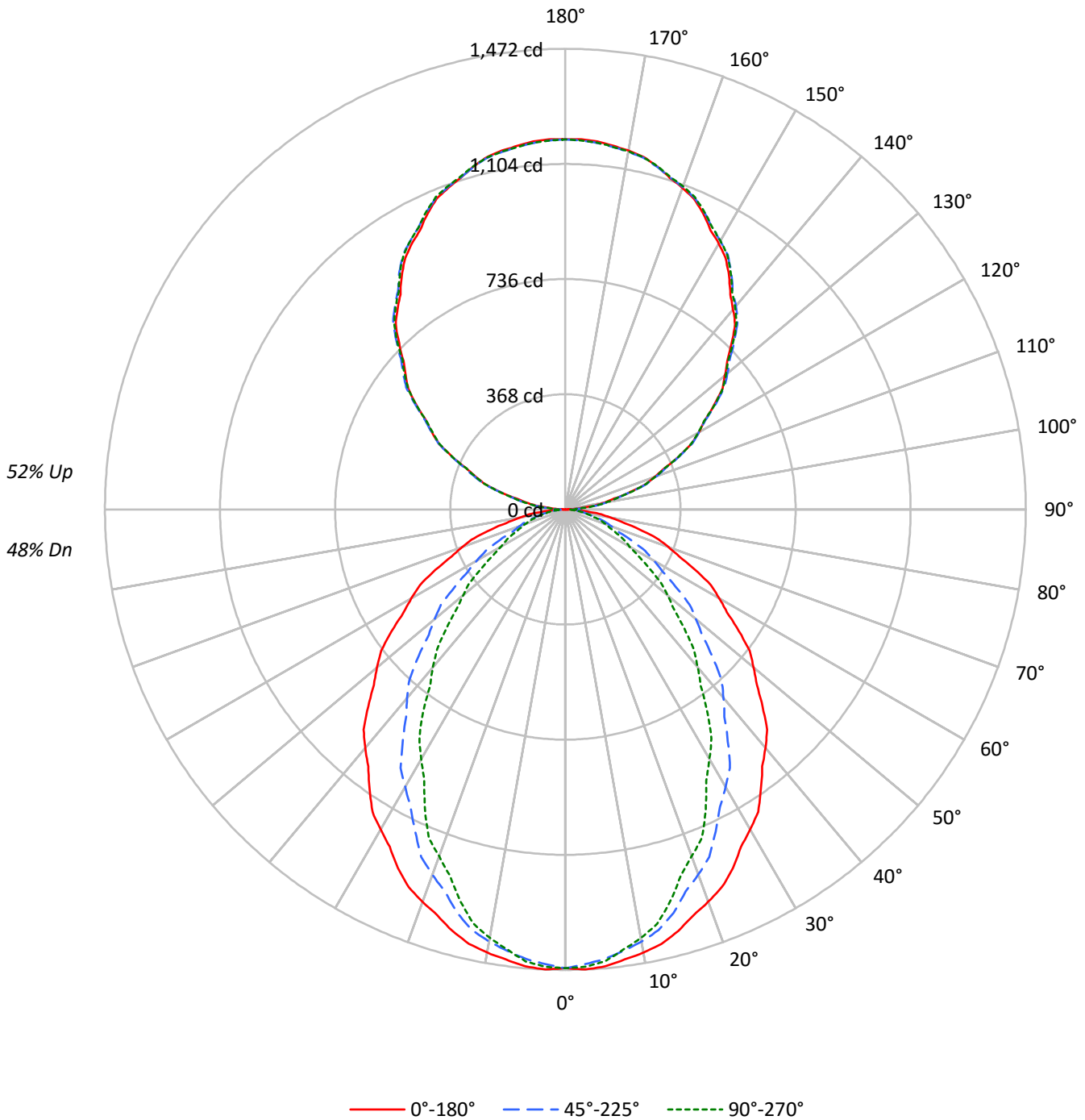
Lumens per Lamp: N/A
Luminaire Lumens: 6327.2 lumens
Efficiency: N/A
Efficacy: 104.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

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									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	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR	0	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	48	48	48	48	48	48	48	48	48	48	48	48																
	1	98	94	90	87	90	86	83	80	73	70	68	60	58	57	48	47	46	41	41	41	41	41	41	41	41	41	41	41	41																
	2	89	82	76	71	82	76	71	67	64	60	57	53	51	48	43	41	40	35	35	35	35	35	35	35	35	35	35	35	35																
	3	82	73	66	60	75	67	61	56	57	52	49	47	44	41	39	36	34	30	30	30	30	30	30	30	30	30	30	30	30																
	4	75	65	57	51	69	60	53	48	51	46	42	43	39	36	35	32	30	26	26	26	26	26	26	26	26	26	26	26	26																
	5	69	58	50	44	63	54	47	42	46	40	36	38	34	31	32	29	26	23	23	23	23	23	23	23	23	23	23	23	23																
	6	64	52	44	38	59	48	41	36	41	36	32	35	31	28	29	26	24	21	21	21	21	21	21	21	21	21	21	21	21																
	7	59	47	39	34	54	44	37	32	38	32	28	32	28	25	26	23	21	18	18	18	18	18	18	18	18	18	18	18	18																
	8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19	17	17	17	17	17	17	17	17	17	17	17	17																
	9	51	39	32	27	47	37	30	26	32	26	23	27	23	20	23	20	17	15	15	15	15	15	15	15	15	15	15	15	15																
	10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	21	18	16	14	14	14	14	14	14	14	14	14	14	14	14																

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	23675	23675	23675
5°	23765	23378	23506
10°	23582	22996	22799
15°	23311	22313	21670
20°	22936	21340	20270
25°	22552	20236	18912
30°	22018	19099	17169
35°	21498	17864	15640
40°	20976	16585	13873
45°	20361	15150	12271
50°	19733	13700	10698
55°	19088	12141	9188
60°	18338	10498	7627
65°	17490	8821	6946
70°	16475	7265	6387
75°	15234	6625	5958
80°	13445	5923	5430
85°	10578	4668	4668



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.2	2.2
10°-20°	376.8	6.0
20°-30°	529.2	8.4
30°-40°	577.1	9.1
40°-50°	530.6	8.4
50°-60°	416.7	6.6
60°-70°	271.7	4.3
70°-80°	140.1	2.2
80°-90°	41.1	0.6
90°-100°	74.9	1.2
100°-110°	232.7	3.7
110°-120°	397.8	6.3
120°-130°	523.2	8.3
130°-140°	587.2	9.3
140°-150°	575.7	9.1
150°-160°	482.9	7.6
160°-170°	320.3	5.1
170°-180°	111.9	1.8
0°-30°	1043.3	16.5
0°-40°	1620.3	25.6
0°-60°	2567.6	40.6
0°-90°	3020.5	47.7
90°-120°	705.5	11.2
90°-150°	2391.6	37.8
90°-180°	3307.0	52.3
0°-180°	6327.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1466	1466	1466	1466	1466	
5°	1466	1459	1442	1453	1450	139
15°	1395	1378	1335	1310	1296	393
25°	1266	1221	1136	1083	1062	582
35°	1091	1020	906	826	794	682
45°	892	800	664	573	537	688
55°	678	572	431	355	326	606
65°	458	350	231	188	182	454
75°	244	154	106	97	96	258
85°	57	31	25	25	25	67
90°	1	14	35	33	34	5
95°	52	61	64	64	62	60
105°	215	218	220	221	222	227
115°	399	405	403	402	399	395
125°	581	589	587	584	583	519
135°	752	762	764	763	760	580
145°	912	919	925	926	922	570
155°	1043	1046	1049	1053	1051	480
165°	1135	1134	1134	1140	1136	320
175°	1181	1178	1176	1182	1177	112
180°	1183	1183	1183	1183	1183	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3
2.5°	1471.6	1470.4	1469.2	1468.0	1466.9	1465.0	1462.4	1459.8	1457.2	1454.6	1457.0
5°	1466.3	1464.8	1463.3	1461.8	1460.4	1457.7	1453.9	1450.1	1446.2	1442.4	1445.0
7.5°	1451.1	1449.3	1447.5	1445.7	1443.8	1440.7	1436.2	1431.7	1427.2	1422.7	1423.5
10°	1438.4	1436.3	1434.3	1432.2	1430.1	1426.2	1420.3	1414.4	1408.5	1402.6	1401.7
12.5°	1422.5	1419.9	1417.4	1414.9	1412.3	1407.3	1399.7	1392.2	1384.6	1377.1	1375.5
15°	1394.6	1391.4	1388.1	1384.9	1381.6	1375.0	1365.0	1355.0	1344.9	1334.9	1329.3
17.5°	1360.4	1355.4	1350.5	1345.5	1340.6	1331.7	1318.8	1305.9	1293.1	1280.2	1273.6
20°	1334.9	1329.0	1323.1	1317.2	1311.3	1301.0	1286.2	1271.5	1256.8	1242.0	1234.6
22.5°	1307.3	1300.7	1294.1	1287.5	1280.9	1269.3	1252.6	1236.0	1219.4	1202.7	1193.2
25°	1265.9	1256.5	1247.0	1237.6	1228.2	1213.7	1194.2	1174.8	1155.3	1135.9	1123.8
27.5°	1216.0	1205.7	1195.5	1185.2	1175.0	1158.9	1136.9	1115.0	1093.0	1071.1	1057.0
30°	1181.0	1169.8	1158.6	1147.4	1136.2	1118.8	1095.2	1071.6	1048.0	1024.4	1009.4
32.5°	1147.0	1133.9	1120.8	1107.7	1094.6	1076.1	1052.0	1027.9	1003.9	979.8	962.7
35°	1090.7	1075.7	1060.7	1045.6	1030.6	1010.1	984.1	958.2	932.3	906.3	887.7
37.5°	1034.5	1018.0	1001.5	984.9	968.4	946.3	918.7	891.0	863.4	835.7	815.2
40°	995.2	977.5	959.8	942.1	924.4	901.3	872.7	844.1	815.5	786.9	765.9
42.5°	954.9	936.2	917.6	899.0	880.3	856.2	826.7	797.1	767.6	738.0	716.4
45°	891.7	871.9	852.2	832.4	812.7	787.3	756.4	725.4	694.4	663.5	642.5
47.5°	830.1	809.2	788.3	767.3	746.4	719.9	688.0	656.0	624.0	592.1	571.3
50°	785.6	764.6	743.7	722.7	701.8	675.1	642.7	610.2	577.8	545.4	525.0
52.5°	742.0	720.1	698.3	676.4	654.5	627.7	596.0	564.2	532.5	500.8	481.1
55°	678.1	655.1	632.1	609.1	586.1	558.6	526.8	494.9	463.1	431.3	413.6
57.5°	612.5	588.9	565.3	541.7	518.2	491.1	460.4	429.8	399.2	368.6	352.4
60°	567.9	544.3	520.8	497.2	473.6	446.6	416.2	385.8	355.5	325.1	310.1
62.5°	524.4	500.8	477.2	453.6	430.0	403.8	374.8	345.9	316.9	287.9	273.6
65°	457.8	433.9	410.0	386.1	362.3	337.0	310.5	284.0	257.4	230.9	220.9
67.5°	393.6	369.9	346.2	322.4	298.7	274.9	251.1	227.2	203.3	179.4	174.8
70°	349.0	326.0	303.0	280.0	257.0	235.3	215.0	194.6	174.3	153.9	151.0
72.5°	306.5	284.5	262.4	240.4	218.3	199.1	182.8	166.4	150.1	133.8	131.3
75°	244.2	223.5	202.9	182.2	161.6	146.3	136.2	126.2	116.2	106.2	104.1
77.5°	182.9	164.7	146.6	128.5	110.4	99.0	94.1	89.3	84.5	79.6	78.4
80°	144.6	129.6	114.6	99.5	84.5	75.5	72.5	69.6	66.6	63.7	62.5
82.5°	109.6	97.9	86.1	74.4	62.7	55.8	53.8	51.8	49.8	47.8	47.1
85°	57.1	50.9	44.7	38.5	32.3	28.8	27.9	27.0	26.1	25.2	25.2
87.5°	17.2	15.8	14.5	13.1	11.8	11.6	12.6	13.5	14.5	15.5	15.2
90°	1.0	3.7	6.3	9.0	11.6	15.4	20.3	25.2	30.0	34.9	34.5
92.5°	17.8	19.7	21.7	23.6	25.6	27.1	28.3	29.4	30.6	31.7	31.8
95°	51.9	54.1	56.3	58.5	60.8	62.1	62.5	63.0	63.4	63.9	63.9
97.5°	94.8	96.8	98.7	100.7	102.6	104.0	104.9	105.7	106.5	107.4	107.4
100°	126.7	128.5	130.3	132.1	133.8	135.1	135.7	136.4	137.1	137.7	137.7
102.5°	160.3	161.7	163.1	164.5	165.9	167.1	167.9	168.8	169.6	170.5	170.6
105°	214.6	215.2	215.9	216.6	217.2	217.8	218.2	218.7	219.1	219.5	220.0
107.5°	269.2	270.2	271.2	272.2	273.2	273.6	273.6	273.6	273.6	273.6	273.8
110°	304.4	305.7	307.0	308.4	309.7	310.4	310.4	310.4	310.4	310.4	310.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	342.7	344.0	345.4	346.7	348.0	348.6	348.4	348.2	348.1	347.9	347.4
115°	399.2	400.5	401.8	403.2	404.5	404.9	404.5	404.1	403.6	403.2	403.0
117.5°	455.5	457.2	459.0	460.8	462.6	462.8	461.6	460.3	459.1	457.9	457.3
120°	493.0	494.8	496.5	498.3	500.1	500.1	498.3	496.5	494.8	493.0	493.0
122.5°	527.3	529.4	531.6	533.7	535.8	536.3	535.0	533.8	532.6	531.3	530.8
125°	580.8	582.8	584.8	586.8	588.8	589.5	588.8	588.1	587.5	586.8	586.1
127.5°	632.9	635.4	638.0	640.5	643.0	643.9	643.1	642.3	641.5	640.7	639.9
130°	665.6	668.5	671.4	674.3	677.2	678.4	677.9	677.5	677.1	676.6	676.2
132.5°	702.4	704.7	707.1	709.4	711.8	713.0	713.1	713.2	713.2	713.3	712.4
135°	751.5	753.9	756.3	758.8	761.2	762.7	763.1	763.5	764.0	764.4	764.2
137.5°	803.2	805.1	807.1	809.1	811.1	812.4	813.0	813.6	814.2	814.7	814.6
140°	834.3	836.3	838.3	840.3	842.3	843.8	844.9	846.0	847.2	848.3	848.3
142.5°	866.2	868.2	870.2	872.2	874.2	875.6	876.3	877.1	877.8	878.6	878.8
145°	912.1	913.7	915.2	916.8	918.3	919.8	921.1	922.4	923.8	925.1	925.3
147.5°	953.0	954.9	956.8	958.6	960.5	961.9	962.8	963.6	964.5	965.4	965.9
150°	981.0	982.3	983.6	985.0	986.3	987.4	988.3	989.2	990.1	991.0	991.6
152.5°	1005.7	1007.1	1008.4	1009.7	1011.1	1012.3	1013.3	1014.4	1015.4	1016.5	1017.4
155°	1042.9	1043.5	1044.2	1044.9	1045.5	1046.2	1046.9	1047.5	1048.2	1048.8	1050.0
157.5°	1074.6	1075.0	1075.5	1075.9	1076.4	1076.8	1077.2	1077.6	1078.0	1078.4	1079.9
160°	1093.8	1094.2	1094.6	1095.1	1095.5	1095.9	1096.1	1096.3	1096.5	1096.7	1098.1
162.5°	1111.3	1111.4	1111.5	1111.6	1111.7	1111.8	1112.1	1112.3	1112.5	1112.7	1114.2
165°	1134.7	1134.5	1134.2	1134.0	1133.8	1133.7	1133.7	1133.7	1133.7	1133.7	1135.2
167.5°	1154.2	1153.6	1152.9	1152.2	1151.6	1151.2	1151.2	1151.1	1151.1	1151.0	1152.6
170°	1164.6	1163.9	1163.3	1162.6	1161.9	1161.5	1161.3	1161.1	1160.8	1160.6	1162.2
172.5°	1171.8	1171.1	1170.5	1169.8	1169.1	1168.7	1168.5	1168.2	1168.0	1167.8	1169.4
175°	1180.6	1179.9	1179.2	1178.6	1177.9	1177.4	1176.9	1176.5	1176.0	1175.6	1177.1
177.5°	1184.2	1183.6	1183.1	1182.6	1182.0	1181.6	1181.2	1180.9	1180.5	1180.2	1181.2
180°	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3
2.5°	1459.3	1461.7	1464.0	1465.0	1464.5	1464.0	1463.6	1463.1
5°	1447.7	1450.3	1453.0	1453.9	1453.0	1452.1	1451.2	1450.3
7.5°	1424.3	1425.0	1425.8	1425.4	1423.9	1422.4	1420.8	1419.3
10°	1400.8	1399.9	1399.0	1397.7	1395.9	1394.2	1392.4	1390.6
12.5°	1373.9	1372.3	1370.7	1368.5	1365.5	1362.6	1359.6	1356.7
15°	1323.7	1318.1	1312.5	1308.2	1305.3	1302.3	1299.4	1296.4
17.5°	1266.9	1260.2	1253.6	1247.7	1242.6	1237.6	1232.5	1227.4
20°	1227.3	1219.9	1212.5	1205.6	1199.1	1192.6	1186.1	1179.7
22.5°	1183.8	1174.3	1164.8	1157.6	1152.8	1147.9	1143.1	1138.3
25°	1111.7	1099.6	1087.5	1079.2	1074.8	1070.4	1066.0	1061.6
27.5°	1042.9	1028.8	1014.7	1004.2	997.2	990.1	983.1	976.1
30°	994.3	979.3	964.2	952.7	944.8	936.8	928.9	920.9
32.5°	945.5	928.3	911.2	898.8	891.4	883.9	876.4	868.9
35°	869.1	850.6	832.0	819.5	813.0	806.5	800.0	793.5
37.5°	794.8	774.3	753.9	739.9	732.5	725.0	717.6	710.2
40°	745.0	724.1	703.1	688.8	681.2	673.5	665.8	658.2
42.5°	694.8	673.1	651.5	636.9	629.5	622.1	614.6	607.2
45°	621.6	600.7	579.7	565.7	558.6	551.6	544.5	537.4
47.5°	550.4	529.6	508.8	495.2	488.8	482.3	475.9	469.5
50°	504.7	484.3	464.0	450.7	444.5	438.3	432.1	425.9
52.5°	461.5	441.9	422.2	409.6	403.8	398.1	392.4	386.7
55°	395.9	378.2	360.5	348.8	343.2	337.6	332.0	326.4
57.5°	336.2	320.0	303.8	293.3	288.6	283.8	279.1	274.4
60°	295.0	280.0	264.9	255.1	250.3	245.6	240.9	236.2
62.5°	259.3	245.0	230.6	222.0	219.2	216.4	213.5	210.7
65°	210.8	200.8	190.8	185.3	184.4	183.6	182.7	181.8
67.5°	170.2	165.6	161.0	158.2	157.3	156.3	155.4	154.5
70°	148.0	145.1	142.1	140.1	138.9	137.7	136.5	135.3
72.5°	128.8	126.3	123.8	122.3	121.5	120.8	120.1	119.4
75°	102.0	100.0	97.9	96.7	96.4	96.1	95.8	95.5
77.5°	77.3	76.1	74.9	74.1	73.6	73.1	72.7	72.2
80°	61.3	60.2	59.0	58.4	58.4	58.4	58.4	58.4
82.5°	46.4	45.6	44.9	44.6	44.6	44.6	44.6	44.6
85°	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2
87.5°	14.8	14.5	14.2	14.0	14.1	14.1	14.2	14.2
90°	34.0	33.6	33.2	33.0	33.3	33.5	33.7	33.9
92.5°	31.9	32.0	32.1	32.2	32.2	32.2	32.3	32.3
95°	63.9	63.9	63.9	63.6	63.2	62.8	62.3	61.9
97.5°	107.4	107.4	107.4	107.4	107.3	107.3	107.2	107.2
100°	137.7	137.7	137.7	137.6	137.4	137.2	136.9	136.7
102.5°	170.8	171.0	171.2	171.1	170.9	170.7	170.5	170.3
105°	220.4	220.9	221.3	221.5	221.5	221.5	221.5	221.5
107.5°	274.0	274.2	274.3	273.9	272.9	271.9	270.9	269.8
110°	310.4	310.4	310.4	310.0	309.4	308.7	308.0	307.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	346.8	346.3	345.8	345.2	344.8	344.3	343.8	343.3
115°	402.7	402.5	402.3	401.8	401.2	400.5	399.8	399.2
117.5°	456.8	456.3	455.7	455.1	454.5	453.8	453.1	452.5
120°	493.0	493.0	493.0	492.7	492.0	491.3	490.7	490.0
122.5°	530.2	529.7	529.2	528.7	528.2	527.7	527.2	526.7
125°	585.5	584.8	584.1	583.7	583.5	583.2	583.0	582.8
127.5°	639.1	638.3	637.5	636.7	636.0	635.3	634.6	633.9
130°	675.7	675.3	674.8	674.2	673.3	672.4	671.5	670.6
132.5°	711.4	710.4	709.4	708.6	707.9	707.2	706.5	705.8
135°	764.0	763.8	763.5	763.1	762.4	761.8	761.1	760.4
137.5°	814.4	814.2	814.0	813.5	812.6	811.7	810.8	809.9
140°	848.3	848.3	848.3	847.8	846.9	846.0	845.2	844.3
142.5°	879.0	879.1	879.3	879.0	878.1	877.2	876.3	875.4
145°	925.5	925.8	926.0	925.7	924.8	923.9	923.0	922.1
147.5°	966.4	966.9	967.4	967.2	966.4	965.5	964.7	963.8
150°	992.3	993.0	993.6	993.6	993.0	992.3	991.6	991.0
152.5°	1018.2	1019.0	1019.9	1019.9	1019.0	1018.2	1017.4	1016.5
155°	1051.1	1052.2	1053.3	1053.5	1052.8	1052.2	1051.5	1050.8
157.5°	1081.4	1082.9	1084.4	1084.6	1083.6	1082.5	1081.4	1080.4
160°	1099.4	1100.7	1102.1	1102.3	1101.4	1100.5	1099.6	1098.7
162.5°	1115.7	1117.2	1118.7	1119.0	1117.9	1116.8	1115.8	1114.7
165°	1136.8	1138.3	1139.9	1140.1	1139.0	1137.9	1136.8	1135.7
167.5°	1154.1	1155.7	1157.2	1157.4	1156.3	1155.1	1154.0	1152.8
170°	1163.7	1165.3	1166.8	1166.9	1165.6	1164.3	1162.9	1161.6
172.5°	1170.9	1172.5	1174.0	1174.1	1172.8	1171.5	1170.1	1168.8
175°	1178.7	1180.2	1181.8	1181.9	1180.6	1179.2	1177.9	1176.6
177.5°	1182.3	1183.4	1184.4	1184.4	1183.4	1182.3	1181.2	1180.2
180°	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6

(END OF REPORT)