

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: P331720

Luminaire Tested: **SA2XXRDIP-C865D725U835-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331720
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C865D725U835-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 725 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

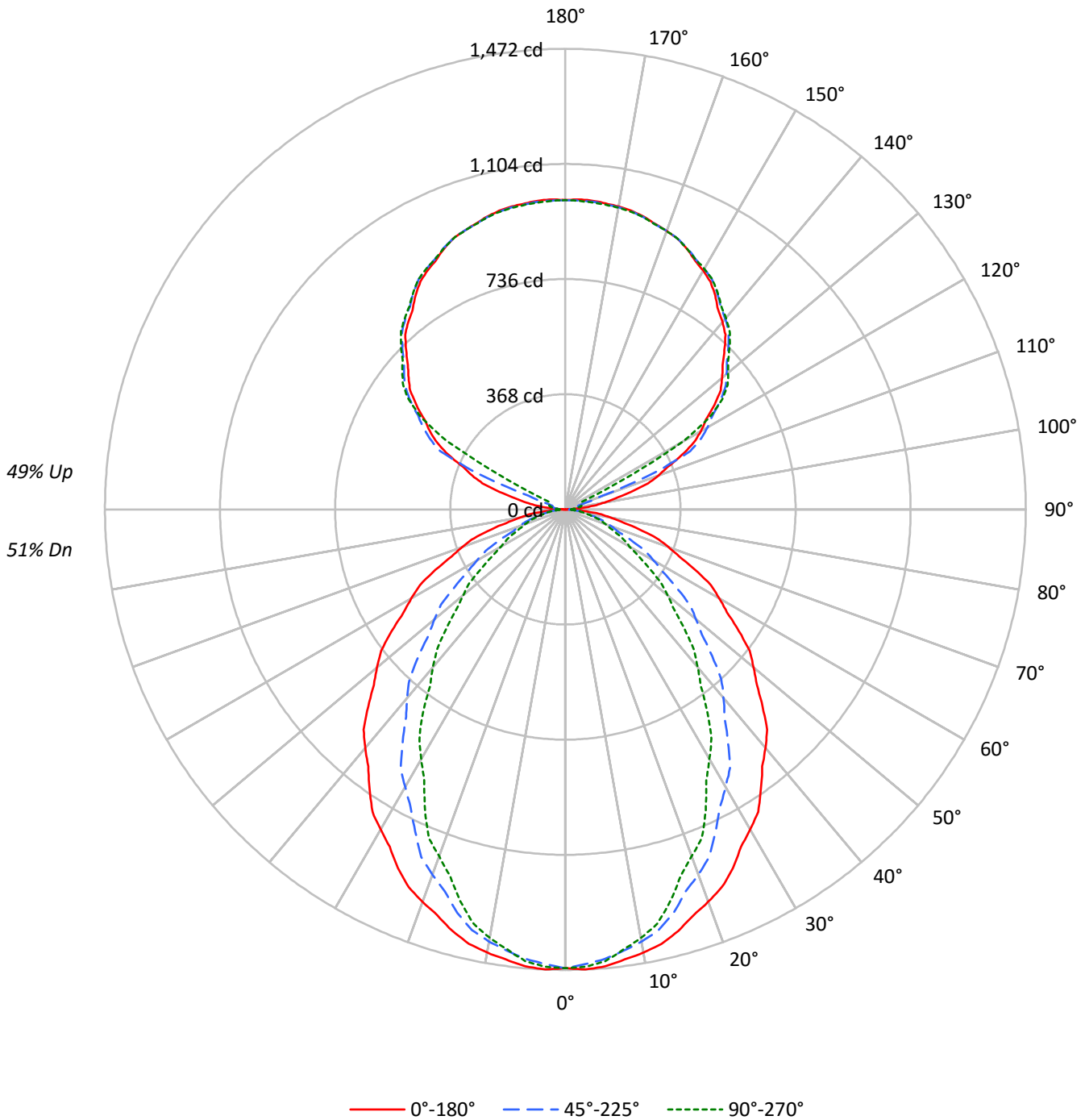
Lumens per Lamp: N/A
Luminaire Lumens: 5915.3 lumens
Efficiency: N/A
Efficacy: 108.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 54.4
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	99	99	99	99	84	84	84	70	70	70	57	57	57	51	51	51	51	51	51	51	51	51	51	51	51	51																
1	98	94	91	87	91	87	84	81	74	72	70	62	61	59	51	50	49	44	44	44	44	44	44	44	44	44	44	44	44	44																
2	90	83	77	72	83	77	72	68	66	62	59	55	53	50	46	44	42	38	38	38	38	38	38	38	38	38	38	38	38	38																
3	82	73	66	61	76	68	62	57	58	54	50	49	46	43	41	38	36	32	32	32	32	32	32	32	32	32	32	32	32	32																
4	76	65	58	52	70	61	54	49	52	47	43	44	40	37	37	34	32	28	28	28	28	28	28	28	28	28	28	28	28	28																
5	70	58	50	45	64	54	47	42	47	42	37	40	36	33	33	30	28	25	25	25	25	25	25	25	25	25	25	25	25	25																
6	64	53	45	39	59	49	42	37	42	37	33	36	32	29	31	27	25	22	22	22	22	22	22	22	22	22	22	22	22	22																
7	60	48	40	34	55	45	38	33	39	33	29	33	29	26	28	25	22	20	20	20	20	20	20	20	20	20	20	20	20	20																
8	55	43	36	31	51	41	34	29	35	30	26	30	26	23	26	23	20	18	18	18	18	18	18	18	18	18	18	18	18	18																
9	52	40	32	27	48	37	31	26	33	27	23	28	24	21	24	21	18	16	16	16	16	16	16	16	16	16	16	16	16	16																
10	48	37	29	25	45	34	28	24	30	25	21	26	22	19	22	19	17	15	15	15	15	15	15	15	15	15	15	15	15	15																

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	2.3
10°-20°	376.8	6.4
20°-30°	529.2	8.9
30°-40°	577.1	9.8
40°-50°	530.6	9.0
50°-60°	416.7	7.0
60°-70°	271.7	4.6
70°-80°	140.1	2.4
80°-90°	38.8	0.7
90°-100°	33.0	0.6
100°-110°	120.9	2.0
110°-120°	323.3	5.5
120°-130°	533.6	9.0
130°-140°	567.5	9.6
140°-150°	527.5	8.9
150°-160°	424.1	7.2
160°-170°	273.3	4.6
170°-180°	94.1	1.6
0°-30°	1043.3	17.6
0°-40°	1620.3	27.4
0°-60°	2567.6	43.4
0°-90°	3018.2	51.0
90°-120°	477.2	8.1
90°-150°	2105.7	35.6
90°-180°	2897.0	49.0
0°-180°	5915.3	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	8	14	18	19	5
95°	46	24	28	31	31	57
105°	218	227	44	51	54	232
115°	411	424	441	126	59	405
125°	582	591	604	609	612	518
135°	720	731	738	744	743	556
145°	835	835	846	851	848	522
155°	919	914	921	925	920	423
165°	969	965	966	971	966	274
175°	991	986	987	992	985	94
180°	989	989	989	989	989	



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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°	17.1	15.6	14.1	12.5	11.0	10.3	10.6	10.8	11.1	11.4	11.3
90°	0.7	2.5	4.2	6.0	7.7	9.2	10.5	11.8	13.0	14.3	15.1
92.5°	14.4	14.3	14.1	14.0	13.8	14.1	14.7	15.3	16.0	16.6	17.0
95°	46.5	41.3	36.0	30.8	25.5	23.4	24.6	25.7	26.8	27.9	28.7
97.5°	92.3	77.5	62.7	47.9	33.1	27.0	29.6	32.2	34.8	37.3	38.0
100°	126.6	104.8	83.1	61.3	39.5	30.0	32.7	35.4	38.1	40.8	42.0
102.5°	164.4	159.8	155.2	150.6	145.9	132.3	109.7	87.1	64.5	41.9	43.6
105°	217.5	222.2	227.0	231.8	236.5	217.2	173.8	130.4	87.0	43.6	45.4
107.5°	278.0	281.8	285.7	289.5	293.4	269.3	217.2	165.2	113.1	61.1	59.3
110°	316.9	320.2	323.6	326.9	330.2	308.9	263.0	217.1	171.1	125.2	109.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	353.5	356.5	359.4	362.4	365.3	361.1	349.8	338.4	327.1	315.7	257.8
115°	411.3	414.0	416.7	419.4	422.1	425.5	429.4	433.4	437.4	441.4	367.8
117.5°	463.0	466.0	469.0	472.0	475.0	477.9	480.7	483.4	486.1	488.9	471.1
120°	500.7	503.1	505.5	507.9	510.3	512.9	515.8	518.6	521.5	524.3	526.2
122.5°	532.8	535.3	537.8	540.3	542.8	545.6	548.8	551.9	555.0	558.1	559.2
125°	581.6	583.6	585.7	587.8	589.8	592.4	595.4	598.4	601.4	604.5	605.6
127.5°	625.8	628.1	630.4	632.6	634.9	637.2	639.5	641.7	644.0	646.2	647.9
130°	653.8	656.4	658.9	661.4	664.0	666.1	667.9	669.6	671.4	673.1	674.9
132.5°	682.4	684.6	686.8	688.9	691.1	693.0	694.8	696.5	698.3	700.0	701.5
135°	719.6	722.2	724.7	727.3	729.8	731.8	733.2	734.6	736.1	737.5	739.1
137.5°	757.3	759.0	760.8	762.6	764.4	766.1	767.7	769.3	770.9	772.6	774.1
140°	781.9	783.1	784.4	785.7	786.9	788.5	790.2	792.0	793.7	795.5	796.9
142.5°	802.5	803.6	804.8	805.9	807.0	808.6	810.6	812.6	814.6	816.6	817.9
145°	834.8	834.6	834.5	834.3	834.2	835.4	838.1	840.8	843.5	846.2	847.4
147.5°	863.0	862.4	861.8	861.2	860.6	861.6	864.3	866.9	869.6	872.3	873.1
150°	881.3	880.2	879.1	878.0	876.8	877.6	880.1	882.6	885.2	887.7	888.7
152.5°	896.7	895.5	894.3	893.0	891.8	892.4	894.8	897.2	899.6	902.0	903.0
155°	919.2	917.8	916.3	914.9	913.5	913.7	915.6	917.5	919.4	921.3	922.3
157.5°	936.8	935.6	934.4	933.2	932.0	932.0	933.4	934.7	936.0	937.4	938.5
160°	947.1	946.1	945.2	944.2	943.3	943.3	944.2	945.2	946.1	947.1	948.1
162.5°	956.3	955.3	954.4	953.4	952.4	952.4	953.2	954.0	954.9	955.7	956.8
165°	968.6	967.6	966.7	965.7	964.7	964.5	965.0	965.5	965.9	966.4	967.5
167.5°	977.7	976.8	975.8	974.9	973.9	973.6	974.1	974.5	975.0	975.4	976.5
170°	982.9	981.9	981.0	980.0	979.1	978.7	979.1	979.4	979.7	980.0	981.1
172.5°	986.3	985.3	984.4	983.4	982.5	982.2	982.5	982.8	983.1	983.4	984.6
175°	990.7	989.6	988.5	987.4	986.3	985.9	986.2	986.5	986.8	987.2	988.3
177.5°	991.5	990.6	989.7	988.8	987.9	987.5	987.6	987.8	987.9	988.0	988.9
180°	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6



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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°	11.2	11.1	11.0	11.0	11.1	11.2	11.2	11.3
90°	15.9	16.7	17.5	18.0	18.4	18.7	19.0	19.3
92.5°	17.4	17.8	18.2	18.6	18.7	18.9	19.1	19.3
95°	29.5	30.3	31.1	31.4	31.2	31.1	30.9	30.8
97.5°	38.6	39.2	39.9	40.3	40.5	40.7	40.9	41.1
100°	43.3	44.6	45.9	46.7	47.0	47.3	47.6	47.9
102.5°	45.2	46.9	48.5	49.6	50.0	50.5	50.9	51.4
105°	47.1	48.9	50.6	51.8	52.5	53.1	53.7	54.4
107.5°	57.5	55.7	54.0	53.4	54.0	54.7	55.3	55.9
110°	93.4	77.5	61.6	54.0	54.6	55.2	55.9	56.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	199.8	141.8	83.8	55.0	55.6	56.1	56.6	57.1
115°	294.2	220.6	147.0	104.4	93.0	81.5	70.1	58.7
117.5°	453.3	435.4	417.6	389.9	352.3	314.7	277.1	239.5
120°	528.2	530.1	532.0	522.2	500.7	479.3	457.8	436.4
122.5°	560.4	561.5	562.7	561.2	557.0	552.8	548.7	544.5
125°	606.7	607.8	608.9	609.7	610.2	610.7	611.1	611.6
127.5°	649.5	651.1	652.7	653.6	653.7	653.8	653.9	654.0
130°	676.6	678.4	680.1	680.9	680.8	680.6	680.4	680.3
132.5°	703.0	704.5	706.0	706.7	706.5	706.4	706.2	706.0
135°	740.7	742.3	743.9	744.5	744.2	743.9	743.5	743.2
137.5°	775.7	777.2	778.8	779.3	778.8	778.2	777.7	777.1
140°	798.3	799.7	801.2	801.5	800.7	799.9	799.1	798.3
142.5°	819.2	820.5	821.8	822.1	821.3	820.5	819.7	818.9
145°	848.5	849.6	850.7	850.8	850.1	849.3	848.5	847.7
147.5°	873.9	874.8	875.6	875.7	875.0	874.3	873.7	873.0
150°	889.6	890.6	891.5	891.6	890.8	890.0	889.2	888.4
152.5°	903.9	904.9	905.9	905.8	904.8	903.7	902.7	901.6
155°	923.3	924.2	925.2	925.0	923.7	922.5	921.2	919.9
157.5°	939.5	940.6	941.7	941.6	940.4	939.1	937.9	936.7
160°	949.0	950.0	950.9	950.8	949.7	948.6	947.5	946.4
162.5°	957.8	958.9	960.0	959.9	958.5	957.1	955.8	954.4
165°	968.6	969.8	970.9	970.9	969.8	968.6	967.5	966.4
167.5°	977.7	978.8	979.9	979.7	978.3	976.9	975.4	974.0
170°	982.2	983.3	984.5	984.3	982.9	981.4	980.0	978.6
172.5°	985.7	986.8	987.9	987.7	986.3	984.9	983.4	982.0
175°	989.4	990.5	991.6	991.4	989.8	988.2	986.6	985.0
177.5°	989.8	990.7	991.6	991.5	990.3	989.2	988.0	986.9
180°	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6

(END OF REPORT)