

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: P332941-840

Luminaire Tested: **SA4XXRDIP-C795D810U840-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332941-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C795D810U840-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

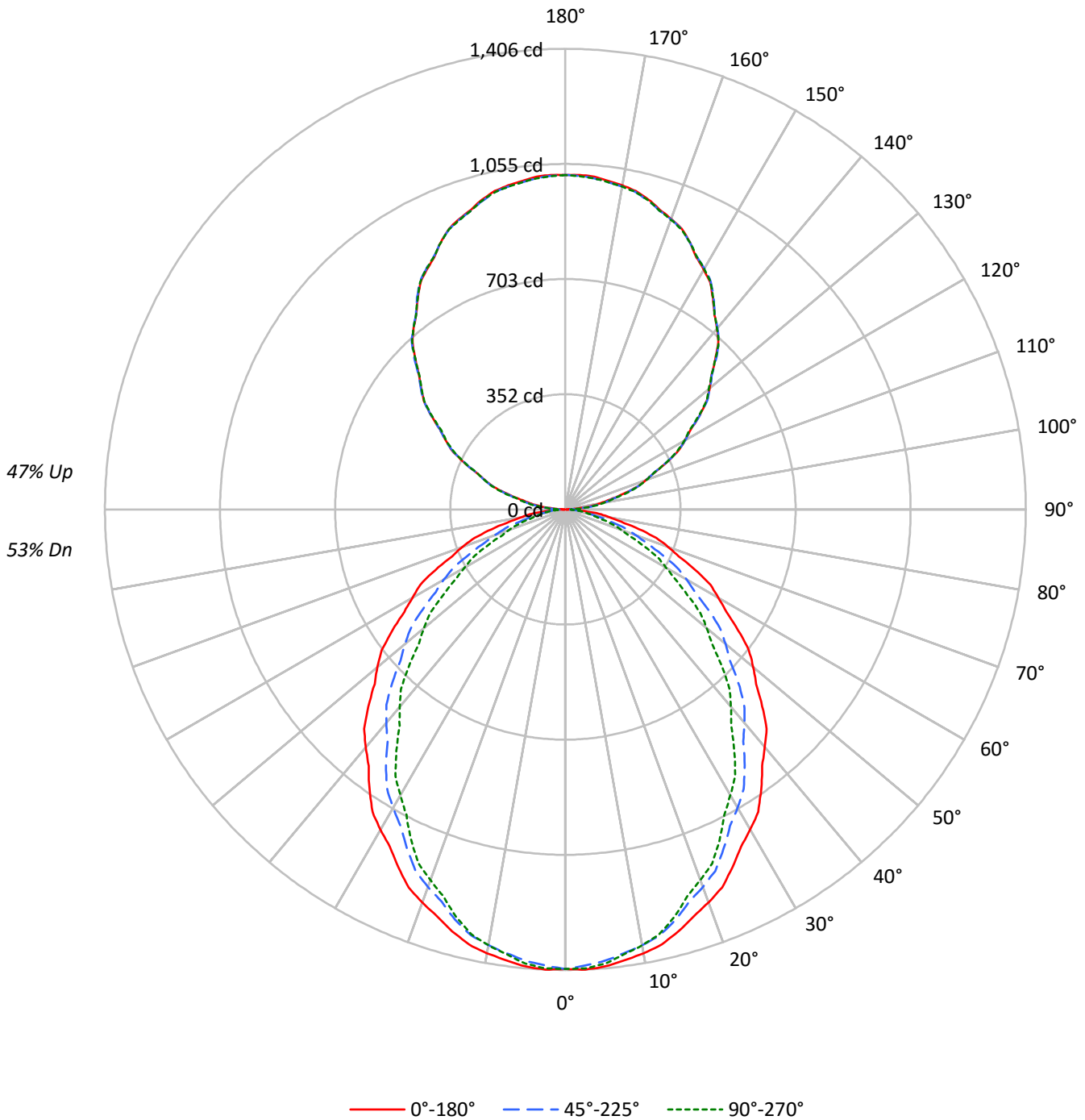
Lumens per Lamp: N/A
Luminaire Lumens: 6076.5 lumens
Efficiency: N/A
Efficacy: 132.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 45.9
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	100	100	100	100	85	85	85	72	72	72	59	59	59	53
1	99	95	91	87	91	88	85	82	75	73	71	64	62	60	53	52	51	46
2	90	83	77	72	83	77	72	67	66	62	59	56	53	51	47	45	43	39
3	82	73	66	60	76	68	62	57	59	54	50	50	46	43	42	39	37	33
4	76	65	57	51	70	61	54	48	52	47	43	45	41	37	37	34	32	29
5	69	58	50	44	64	54	47	42	47	41	37	40	36	32	34	31	28	25
6	64	52	44	38	59	49	42	36	42	37	32	36	32	29	31	27	25	22
7	59	47	39	34	55	44	37	32	38	33	29	33	29	25	28	25	22	20
8	55	43	35	30	51	40	33	28	35	30	26	30	26	23	26	22	20	18
9	51	39	32	27	48	37	30	25	32	27	23	28	24	20	24	21	18	16
10	48	36	29	24	45	34	27	23	30	24	21	26	22	19	22	19	16	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11326	11326	11326
5°	11351	11212	11281
10°	11280	11077	11077
15°	11150	10845	10764
20°	10972	10539	10345
25°	10745	10180	9922
30°	10523	9803	9392
35°	10279	9411	8861
40°	9985	8965	8286
45°	9712	8524	7702
50°	9403	8013	7082
55°	9071	7484	6410
60°	8707	6902	5724
65°	8373	6178	5049
70°	7886	5375	4286
75°	7271	4457	3484
80°	6341	3394	3199
85°	5372	3084	2881



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.8	2.2
10°-20°	367.5	6.0
20°-30°	530.6	8.7
30°-40°	601.5	9.9
40°-50°	580.8	9.6
50°-60°	483.0	7.9
60°-70°	333.5	5.5
70°-80°	169.1	2.8
80°-90°	46.4	0.8
90°-100°	67.3	1.1
100°-110°	199.5	3.3
110°-120°	338.5	5.6
120°-130°	446.4	7.3
130°-140°	501.3	8.3
140°-150°	492.6	8.1
150°-160°	414.3	6.8
160°-170°	275.7	4.5
170°-180°	96.5	1.6
0°-30°	1029.9	16.9
0°-40°	1631.4	26.8
0°-60°	2695.2	44.4
0°-90°	3244.2	53.4
90°-120°	605.4	10.0
90°-150°	2045.7	33.7
90°-180°	2832.0	46.6
0°-180°	6076.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1403	1403	1403	1403	1403	
5°	1401	1396	1384	1394	1392	133
15°	1334	1324	1298	1295	1288	376
25°	1206	1186	1143	1125	1114	556
35°	1043	1008	955	919	899	651
45°	851	810	747	696	675	656
55°	644	600	532	478	455	576
65°	438	391	323	279	264	433
75°	233	193	143	119	112	246
85°	58	38	33	31	31	65
90°	2	11	17	22	24	6
95°	47	54	60	62	62	53
105°	184	185	188	190	193	195
115°	344	344	343	342	341	339
125°	501	501	501	499	497	447
135°	647	651	651	650	647	500
145°	786	789	790	789	786	491
155°	900	900	899	902	899	414
165°	980	977	976	980	977	276
175°	1019	1015	1014	1020	1014	97
180°	1021	1021	1021	1021	1021	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9
2.5°	1406.3	1405.5	1404.7	1404.0	1403.2	1401.8	1399.7	1397.7	1395.5	1393.4	1395.5
5°	1400.7	1399.8	1398.8	1397.9	1396.8	1395.0	1392.1	1389.3	1386.3	1383.5	1385.9
7.5°	1388.1	1387.0	1386.0	1385.0	1384.0	1381.7	1378.0	1374.2	1370.5	1366.8	1368.3
10°	1376.0	1374.8	1373.6	1372.4	1371.2	1368.5	1364.2	1359.9	1355.6	1351.3	1352.2
12.5°	1360.5	1359.2	1357.8	1356.3	1355.0	1351.8	1346.8	1341.6	1336.6	1331.5	1332.1
15°	1334.1	1332.0	1329.8	1327.7	1325.5	1321.5	1315.5	1309.5	1303.5	1297.6	1297.1
17.5°	1302.1	1299.0	1295.9	1292.8	1289.7	1284.5	1277.4	1270.2	1263.0	1255.9	1254.6
20°	1277.2	1274.0	1271.0	1267.9	1264.8	1259.2	1251.0	1242.9	1234.8	1226.7	1224.8
22.5°	1249.7	1246.2	1242.7	1239.2	1235.8	1229.6	1220.9	1212.2	1203.6	1194.9	1192.0
25°	1206.3	1201.9	1197.7	1193.4	1189.1	1182.0	1172.3	1162.5	1152.7	1142.9	1138.8
27.5°	1160.7	1155.4	1149.9	1144.6	1139.1	1131.3	1120.7	1110.3	1099.8	1089.4	1084.4
30°	1128.9	1123.0	1117.0	1111.1	1105.1	1096.5	1085.3	1074.1	1062.8	1051.6	1045.6
32.5°	1095.4	1088.7	1082.0	1075.2	1068.5	1059.3	1047.7	1036.1	1024.5	1012.9	1006.0
35°	1043.0	1035.4	1027.7	1020.1	1012.5	1002.7	990.8	978.8	966.8	954.9	946.8
37.5°	986.9	979.1	971.2	963.3	955.4	944.9	931.7	918.5	905.2	892.0	882.9
40°	947.5	939.6	931.7	923.8	915.9	905.1	891.5	878.0	864.3	850.7	840.7
42.5°	909.6	901.3	893.1	884.8	876.6	865.4	851.2	837.0	822.8	808.6	798.4
45°	850.7	841.9	833.0	824.3	815.4	803.9	789.5	775.2	760.8	746.6	734.9
47.5°	789.9	780.8	771.7	762.5	753.5	741.4	726.6	711.7	696.8	681.9	669.7
50°	748.7	739.4	730.0	720.7	711.4	699.1	683.9	668.6	653.3	638.0	626.1
52.5°	706.6	697.5	688.3	679.2	670.1	657.7	642.1	626.4	610.8	595.1	583.0
55°	644.5	634.9	625.4	615.8	606.3	593.8	578.2	562.7	547.2	531.7	519.3
57.5°	583.1	573.1	563.2	553.3	543.3	530.7	515.4	500.2	484.9	469.6	457.1
60°	539.3	529.7	520.2	510.6	501.0	488.7	473.3	458.1	442.8	427.5	415.1
62.5°	499.7	489.8	479.9	469.9	460.0	447.2	431.5	415.9	400.2	384.6	373.0
65°	438.3	428.0	417.7	407.5	397.2	384.5	369.1	353.9	338.6	323.4	313.1
67.5°	374.5	364.7	354.8	345.0	335.1	323.2	308.9	294.8	280.5	266.4	257.5
70°	334.1	324.1	314.0	304.0	294.0	282.2	268.5	254.9	241.4	227.7	219.8
72.5°	291.1	282.1	273.0	263.9	254.8	243.9	231.1	218.1	205.3	192.5	185.7
75°	233.1	224.3	215.4	206.6	197.7	187.7	176.5	165.3	154.1	142.9	137.3
77.5°	174.2	166.7	159.3	151.8	144.2	135.9	126.9	117.9	108.8	99.7	96.4
80°	136.4	129.5	122.6	115.6	108.8	101.7	94.5	87.4	80.2	73.0	72.3
82.5°	103.8	97.5	91.1	84.7	78.4	73.1	69.1	64.9	60.8	56.8	56.1
85°	58.0	53.2	48.5	43.7	38.9	36.2	35.4	34.7	34.0	33.3	32.8
87.5°	20.2	19.1	18.0	16.8	15.7	15.1	15.2	15.3	15.5	15.6	15.6
90°	2.3	4.3	6.3	8.2	10.1	11.7	13.1	14.5	16.0	17.4	18.4
92.5°	16.9	19.1	21.3	23.5	25.8	27.4	28.3	29.3	30.3	31.3	31.9
95°	47.4	49.0	50.5	52.1	53.7	55.1	56.4	57.6	58.8	60.0	60.5
97.5°	82.7	84.0	85.2	86.5	87.8	89.2	90.6	92.0	93.4	94.9	95.5
100°	110.6	111.2	111.9	112.6	113.3	114.5	116.0	117.6	119.2	120.8	121.2
102.5°	139.6	139.9	140.2	140.5	140.7	141.6	143.0	144.4	145.9	147.3	147.8
105°	184.0	184.1	184.3	184.5	184.7	185.1	185.8	186.5	187.2	187.9	188.4
107.5°	230.6	230.8	231.0	231.2	231.4	231.6	231.7	231.8	231.9	232.0	232.5
110°	262.2	262.5	262.8	263.2	263.5	263.6	263.5	263.3	263.1	262.9	262.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	295.0	295.0	295.1	295.2	295.3	295.1	294.8	294.5	294.2	293.9	293.8
115°	344.3	344.3	344.3	344.3	344.3	344.1	343.7	343.4	343.0	342.6	342.4
117.5°	390.6	390.8	390.9	391.0	391.2	391.1	390.9	390.6	390.4	390.2	389.6
120°	421.6	422.3	423.0	423.7	424.4	424.4	423.9	423.4	422.9	422.4	421.5
122.5°	453.8	454.0	454.3	454.6	454.9	454.9	454.7	454.4	454.2	453.9	453.3
125°	501.3	501.3	501.3	501.3	501.3	501.2	501.1	500.9	500.7	500.6	500.2
127.5°	544.4	544.9	545.5	546.0	546.5	546.6	546.3	546.1	545.8	545.5	545.2
130°	574.7	575.3	575.8	576.3	576.8	577.1	577.1	577.1	577.1	577.1	576.7
132.5°	605.7	606.1	606.5	606.8	607.2	607.3	607.2	607.1	606.9	606.8	606.4
135°	646.6	647.6	648.7	649.7	650.9	651.4	651.4	651.4	651.4	651.4	651.0
137.5°	691.2	691.7	692.1	692.6	693.1	693.5	693.8	694.1	694.3	694.6	694.2
140°	720.8	721.1	721.5	721.9	722.3	722.4	722.4	722.4	722.4	722.4	722.3
142.5°	748.0	748.3	748.7	749.0	749.4	749.5	749.3	749.2	749.0	748.9	748.9
145°	785.6	786.3	787.0	787.7	788.4	788.8	789.0	789.1	789.3	789.5	789.3
147.5°	822.8	823.6	824.5	825.4	826.2	826.6	826.4	826.3	826.1	826.0	825.9
150°	845.6	846.3	847.0	847.7	848.4	848.7	848.7	848.7	848.7	848.7	848.7
152.5°	867.1	867.5	867.9	868.3	868.7	869.0	869.1	869.3	869.4	869.6	870.0
155°	900.0	900.0	900.0	900.0	900.0	899.9	899.8	899.6	899.4	899.3	899.9
157.5°	927.9	927.5	927.2	926.9	926.6	926.3	926.3	926.3	926.2	926.2	926.8
160°	944.2	944.0	943.9	943.7	943.5	943.3	943.2	943.0	942.8	942.7	943.2
162.5°	959.4	959.0	958.5	958.1	957.6	957.3	957.0	956.9	956.7	956.5	957.6
165°	979.8	979.3	978.8	978.2	977.7	977.2	976.8	976.5	976.1	975.8	976.8
167.5°	995.4	994.6	993.9	993.2	992.5	992.1	992.1	992.2	992.2	992.2	993.3
170°	1004.2	1003.4	1002.5	1001.6	1000.8	1000.4	1000.6	1000.8	1000.9	1001.1	1002.1
172.5°	1010.6	1009.9	1009.1	1008.4	1007.6	1007.2	1007.3	1007.3	1007.3	1007.4	1008.6
175°	1019.3	1018.3	1017.4	1016.6	1015.7	1015.2	1015.0	1014.8	1014.7	1014.5	1015.7
177.5°	1022.1	1021.4	1020.7	1020.0	1019.3	1019.0	1019.0	1019.0	1019.0	1019.0	1019.9
180°	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9
2.5°	1397.7	1399.7	1401.8	1402.8	1402.6	1402.4	1402.2	1402.0
5°	1388.3	1390.7	1393.1	1394.0	1393.5	1393.1	1392.6	1392.1
7.5°	1369.8	1371.4	1372.9	1373.2	1372.5	1371.7	1371.0	1370.2
10°	1353.2	1354.1	1355.1	1355.1	1354.1	1353.2	1352.2	1351.3
12.5°	1332.7	1333.2	1333.8	1333.4	1332.1	1330.8	1329.4	1328.1
15°	1296.7	1296.2	1295.7	1294.6	1292.9	1291.2	1289.6	1287.9
17.5°	1253.2	1251.9	1250.5	1248.6	1246.1	1243.5	1241.0	1238.5
20°	1222.8	1220.9	1219.0	1216.6	1213.5	1210.3	1207.2	1204.2
22.5°	1189.2	1186.3	1183.5	1180.7	1178.2	1175.7	1173.2	1170.6
25°	1134.8	1130.7	1126.7	1123.5	1121.1	1118.7	1116.3	1113.9
27.5°	1079.3	1074.4	1069.3	1065.1	1061.7	1058.2	1054.8	1051.4
30°	1039.7	1033.7	1027.7	1022.8	1019.1	1015.2	1011.4	1007.5
32.5°	999.1	992.2	985.2	980.0	976.3	972.7	969.1	965.4
35°	938.7	930.6	922.5	916.3	912.0	907.7	903.3	899.1
37.5°	873.8	864.7	855.7	849.0	844.8	840.4	836.2	831.8
40°	830.7	820.6	810.6	803.4	799.2	794.9	790.6	786.3
42.5°	788.2	778.0	767.8	760.4	755.9	751.4	747.0	742.5
45°	723.2	711.4	699.7	691.8	687.4	683.2	678.8	674.6
47.5°	657.6	645.5	633.4	624.9	620.3	615.5	610.8	606.0
50°	614.2	602.3	590.3	582.1	577.5	573.0	568.5	563.9
52.5°	570.9	558.8	546.5	538.2	533.4	528.7	524.0	519.3
55°	506.9	494.4	482.1	473.6	469.1	464.5	460.0	455.4
57.5°	444.4	431.8	419.2	411.2	407.8	404.3	400.9	397.5
60°	402.7	390.3	377.9	369.7	366.0	362.1	358.3	354.5
62.5°	361.6	350.2	338.7	331.4	328.4	325.4	322.2	319.2
65°	302.8	292.6	282.3	275.7	272.9	269.9	267.1	264.3
67.5°	248.7	239.9	231.1	225.1	222.0	218.7	215.6	212.5
70°	212.0	204.1	196.2	191.1	188.7	186.3	183.9	181.6
72.5°	179.0	172.3	165.5	161.1	159.0	156.7	154.5	152.3
75°	131.9	126.4	120.9	117.4	116.0	114.6	113.1	111.7
77.5°	93.3	90.1	86.8	85.0	84.6	84.2	83.8	83.3
80°	71.6	70.9	70.2	69.7	69.5	69.2	69.0	68.8
82.5°	55.6	55.1	54.6	54.2	54.0	53.7	53.5	53.3
85°	32.3	31.9	31.4	31.1	31.1	31.1	31.1	31.1
87.5°	15.6	15.6	15.6	15.8	16.0	16.3	16.5	16.8
90°	19.5	20.5	21.6	22.3	22.6	23.0	23.3	23.7
92.5°	32.5	33.1	33.8	34.2	34.4	34.6	34.8	35.0
95°	61.1	61.6	62.1	62.4	62.4	62.4	62.4	62.4
97.5°	96.1	96.7	97.5	97.8	97.8	97.8	97.8	97.8
100°	121.5	121.9	122.2	122.4	122.4	122.4	122.4	122.4
102.5°	148.3	148.8	149.3	149.6	149.8	149.9	150.1	150.2
105°	188.9	189.5	190.0	190.6	191.1	191.6	192.1	192.7
107.5°	233.0	233.4	233.9	234.2	234.1	234.1	234.1	234.0
110°	262.2	261.9	261.5	261.6	262.2	262.7	263.2	263.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	293.7	293.7	293.6	293.6	293.7	293.8	293.9	294.0
115°	342.2	342.1	341.9	341.7	341.6	341.4	341.2	341.0
117.5°	389.0	388.4	387.8	387.3	387.0	386.6	386.3	385.9
120°	420.6	419.7	418.9	418.6	419.0	419.3	419.7	420.0
122.5°	452.7	452.2	451.6	451.0	450.3	449.7	449.1	448.5
125°	499.9	499.5	499.2	498.8	498.5	498.1	497.8	497.4
127.5°	544.8	544.5	544.1	543.8	543.5	543.3	543.0	542.7
130°	576.4	576.0	575.7	575.2	574.5	573.8	573.1	572.4
132.5°	606.1	605.7	605.4	605.1	604.8	604.5	604.2	604.0
135°	650.7	650.3	649.9	649.4	648.9	648.4	647.9	647.4
137.5°	693.7	693.3	692.8	692.6	692.7	692.8	692.9	693.1
140°	722.1	721.9	721.6	721.5	721.3	721.1	720.9	720.8
142.5°	748.8	748.8	748.8	748.7	748.7	748.7	748.6	748.6
145°	789.1	789.0	788.8	788.4	787.9	787.4	786.9	786.4
147.5°	825.7	825.6	825.4	825.3	825.1	824.9	824.8	824.6
150°	848.7	848.7	848.7	848.6	848.5	848.3	848.1	847.9
152.5°	870.4	870.8	871.2	871.2	870.8	870.3	869.9	869.4
155°	900.6	901.3	902.0	902.0	901.3	900.6	899.9	899.3
157.5°	927.3	927.9	928.4	928.3	927.8	927.2	926.6	925.9
160°	943.7	944.2	944.7	944.6	943.7	942.8	942.0	941.1
162.5°	958.5	959.4	960.4	960.4	959.5	958.7	957.8	956.8
165°	978.0	979.0	980.1	980.2	979.5	978.8	978.1	977.4
167.5°	994.3	995.4	996.4	996.4	995.3	994.2	993.2	992.1
170°	1003.2	1004.2	1005.3	1005.2	1004.0	1002.8	1001.5	1000.3
172.5°	1009.8	1011.0	1012.2	1012.2	1011.0	1009.7	1008.5	1007.2
175°	1016.9	1018.1	1019.5	1019.5	1018.1	1016.9	1015.7	1014.5
177.5°	1020.9	1021.9	1022.9	1022.8	1021.7	1020.6	1019.5	1018.2
180°	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8

(END OF REPORT)