

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: P332668-927

Luminaire Tested: **SA4XXDIP-C1020D1205U927-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332668-927
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: SA4XXDIP-C1020D1205U927-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1205 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6812.9 lumens
Efficiency: N/A
Efficacy: 104.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

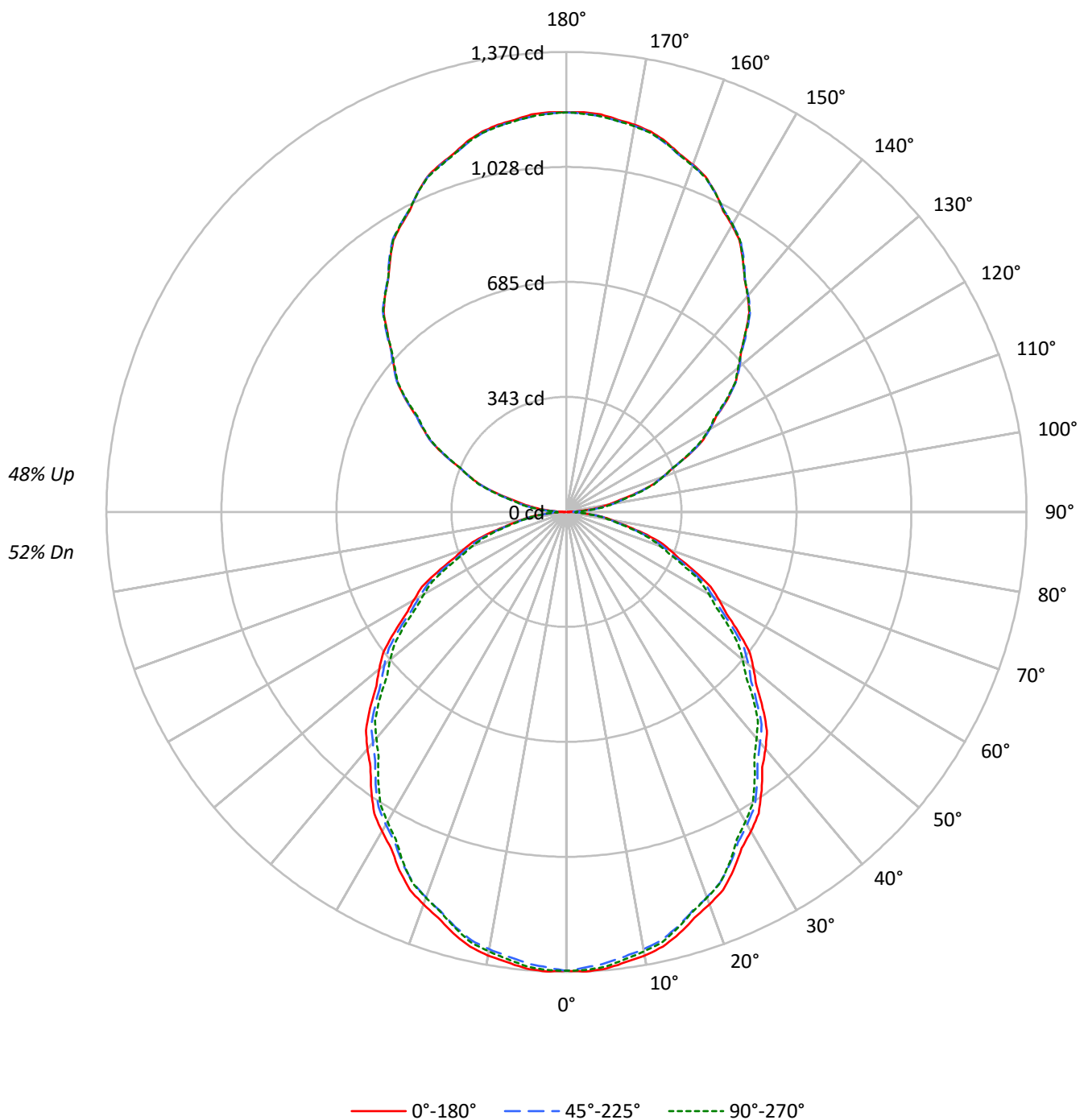
Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	108	108	108	108	99	99	99	99	84	84	84	70	70	70	58	58	58
1	98	94	90	86	91	87	83	80	74	71	69	62	60	58	51	50	48
2	89	82	76	70	82	76	70	66	65	61	57	54	51	49	45	43	41
3	81	72	65	59	75	67	60	55	57	52	48	48	44	41	40	37	35
4	75	64	56	50	69	59	52	47	51	45	41	43	39	35	35	32	30
5	68	57	49	43	63	53	46	40	45	40	35	38	34	31	32	29	26
6	63	51	43	37	58	47	40	35	41	35	31	35	30	27	29	26	23
7	58	46	38	32	54	43	36	31	37	31	27	32	27	24	26	23	20
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18
9	50	38	31	26	47	36	29	24	31	25	22	27	22	19	22	19	17
10	47	35	28	23	44	33	26	22	29	23	19	25	20	17	21	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11035	11035	11035
5°	11068	10935	11015
10°	10999	10846	10900
15°	10866	10692	10719
20°	10689	10501	10510
25°	10488	10283	10253
30°	10241	10026	9934
35°	9984	9758	9629
40°	9720	9454	9280
45°	9442	9154	8978
50°	9134	8887	8611
55°	8802	8541	8263
60°	8472	8152	7905
65°	8097	7782	7469
70°	7678	7291	7006
75°	7037	6697	6525
80°	6267	6007	5858
85°	5483	5280	5169

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.7	1.9
10°-20°	362.7	5.3
20°-30°	533.8	7.8
30°-40°	620.6	9.1
40°-50°	620.6	9.1
50°-60°	542.9	8.0
60°-70°	403.2	5.9
70°-80°	229.1	3.4
80°-90°	69.7	1.0
90°-100°	78.5	1.2
100°-110°	232.5	3.4
110°-120°	394.6	5.8
120°-130°	520.4	7.6
130°-140°	584.4	8.6
140°-150°	574.3	8.4
150°-160°	483.0	7.1
160°-170°	321.4	4.7
170°-180°	112.5	1.7
0°-30°	1025.2	15.0
0°-40°	1645.9	24.2
0°-60°	2809.4	41.2
0°-90°	3511.3	51.5
90°-120°	705.6	10.4
90°-150°	2384.7	35.0
90°-180°	3302.0	48.5
0°-180°	6812.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1367	1367	1367	1367	1367	
5°	1366	1361	1349	1361	1359	129
15°	1300	1295	1279	1285	1282	366
25°	1177	1169	1154	1155	1151	541
35°	1013	1005	990	983	977	633
45°	827	819	802	790	786	637
55°	625	621	607	594	587	560
65°	424	418	407	397	391	420
75°	226	220	215	210	209	240
85°	59	59	57	57	56	65
90°	3	13	20	26	28	7
95°	55	63	70	73	73	61
105°	214	216	219	222	225	228
115°	401	401	399	398	398	396
125°	584	584	584	582	580	521
135°	754	759	759	757	755	583
145°	916	919	920	919	917	573
155°	1049	1049	1048	1052	1048	483
165°	1142	1139	1138	1143	1139	322
175°	1188	1184	1183	1188	1183	113
180°	1190	1190	1190	1190	1190	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9
2.5°	1370.4	1369.8	1369.2	1368.7	1368.1	1366.7	1364.5	1362.4	1360.3	1358.1	1360.1
5°	1365.8	1364.9	1363.9	1362.9	1361.9	1360.1	1357.4	1354.7	1352.1	1349.4	1352.1
7.5°	1353.1	1352.1	1351.1	1350.2	1349.2	1347.3	1344.3	1341.3	1338.3	1335.4	1337.5
10°	1341.7	1340.8	1339.7	1338.8	1337.8	1335.8	1332.6	1329.4	1326.3	1323.1	1325.0
12.5°	1326.8	1325.9	1324.8	1323.9	1322.9	1320.7	1317.4	1314.1	1310.7	1307.3	1309.5
15°	1300.1	1299.1	1298.1	1297.2	1296.2	1293.9	1290.2	1286.6	1282.9	1279.3	1280.7
17.5°	1267.9	1266.7	1265.4	1264.2	1263.1	1260.7	1257.2	1253.8	1250.3	1246.9	1247.8
20°	1244.2	1243.0	1241.8	1240.6	1239.4	1236.9	1233.3	1229.6	1226.0	1222.3	1223.1
22.5°	1218.9	1217.2	1215.6	1214.0	1212.4	1209.7	1206.1	1202.5	1198.8	1195.2	1196.5
25°	1177.4	1175.8	1174.0	1172.3	1170.6	1168.1	1164.7	1161.3	1157.9	1154.4	1154.7
27.5°	1130.1	1128.4	1126.6	1124.8	1123.1	1120.6	1117.5	1114.3	1111.1	1107.9	1107.4
30°	1098.6	1096.6	1094.6	1092.7	1090.8	1088.2	1085.1	1081.9	1078.7	1075.5	1074.6
32.5°	1065.2	1063.5	1061.8	1060.0	1058.3	1055.7	1052.3	1049.0	1045.6	1042.3	1041.1
35°	1013.1	1011.5	1009.7	1008.1	1006.3	1003.8	1000.4	997.0	993.6	990.1	988.4
37.5°	958.1	956.6	955.1	953.5	951.9	949.4	945.6	942.0	938.3	934.7	932.9
40°	922.3	920.3	918.3	916.4	914.4	911.6	908.0	904.4	900.7	897.1	894.6
42.5°	883.7	882.5	881.3	880.2	879.0	876.4	872.4	868.3	864.3	860.2	857.4
45°	827.0	825.2	823.6	821.8	820.1	817.3	813.4	809.5	805.6	801.8	799.1
47.5°	767.5	766.4	765.2	764.1	762.9	760.5	756.9	753.3	749.7	746.1	743.1
50°	727.3	726.3	725.3	724.4	723.3	721.2	717.8	714.4	711.0	707.6	704.2
52.5°	687.9	686.7	685.5	684.4	683.2	680.8	677.2	673.6	669.9	666.4	663.4
55°	625.4	624.6	623.9	623.2	622.5	620.4	617.0	613.6	610.2	606.8	603.9
57.5°	565.9	565.0	564.2	563.3	562.5	560.4	557.1	553.7	550.3	547.0	544.2
60°	524.7	523.4	522.2	521.0	519.8	517.6	514.4	511.3	508.1	504.9	502.7
62.5°	484.3	483.3	482.3	481.3	480.2	478.1	474.7	471.3	467.9	464.6	462.6
65°	423.9	422.6	421.4	420.3	419.0	417.2	414.7	412.3	409.9	407.4	405.0
67.5°	363.0	361.9	360.8	359.7	358.5	356.8	354.4	352.1	349.7	347.5	345.1
70°	325.3	323.6	321.9	320.2	318.5	316.6	314.7	312.8	310.9	308.9	306.9
72.5°	285.0	283.3	281.6	279.9	278.2	276.6	275.0	273.5	271.9	270.3	268.8
75°	225.6	224.4	223.2	222.0	220.8	219.5	218.3	217.1	215.9	214.7	213.7
77.5°	168.9	168.3	167.8	167.3	166.8	166.0	164.9	163.8	162.7	161.7	161.4
80°	134.8	134.0	133.2	132.5	131.8	131.2	130.7	130.2	129.8	129.2	128.7
82.5°	101.4	101.1	100.8	100.4	100.1	99.8	99.7	99.7	99.6	99.4	99.2
85°	59.2	59.2	59.2	59.2	59.2	58.9	58.4	57.9	57.4	57.0	57.0
87.5°	23.4	23.6	23.8	24.1	24.3	24.6	24.7	24.8	25.0	25.1	25.3
90°	2.8	5.0	7.3	9.5	11.7	13.7	15.4	17.0	18.6	20.3	21.5
92.5°	19.7	22.3	24.9	27.4	30.0	31.8	33.0	34.1	35.3	36.4	37.2
95°	55.2	57.0	58.9	60.8	62.6	64.2	65.7	67.1	68.5	69.9	70.6
97.5°	96.5	97.9	99.4	100.8	102.3	103.9	105.6	107.3	108.9	110.6	111.4
100°	128.9	129.7	130.5	131.3	132.1	133.5	135.3	137.1	138.9	140.9	141.2
102.5°	162.7	163.0	163.3	163.7	164.1	165.0	166.7	168.4	170.1	171.7	172.3
105°	214.4	214.7	214.8	215.1	215.2	215.8	216.6	217.4	218.2	219.0	219.7
107.5°	268.7	269.0	269.3	269.5	269.7	269.9	270.1	270.1	270.3	270.4	271.0
110°	305.5	305.9	306.3	306.8	307.2	307.3	307.1	306.9	306.7	306.5	306.1

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	343.8	344.0	344.0	344.1	344.2	344.0	343.6	343.3	342.9	342.5	342.5
115°	401.2	401.2	401.2	401.2	401.2	401.1	400.7	400.3	399.8	399.4	399.3
117.5°	455.4	455.6	455.7	455.9	456.1	456.0	455.7	455.4	455.1	454.9	454.2
120°	491.5	492.3	493.1	493.9	494.7	494.9	494.2	493.6	493.0	492.4	491.4
122.5°	529.0	529.3	529.7	530.0	530.4	530.4	530.0	529.8	529.5	529.2	528.5
125°	584.4	584.4	584.4	584.4	584.4	584.3	584.2	583.9	583.7	583.5	583.1
127.5°	634.7	635.3	635.9	636.5	637.2	637.3	636.9	636.6	636.3	636.0	635.6
130°	670.0	670.7	671.2	671.8	672.5	672.8	672.8	672.8	672.8	672.8	672.4
132.5°	706.1	706.5	707.0	707.4	707.9	708.1	707.9	707.7	707.6	707.4	706.9
135°	753.8	755.0	756.2	757.5	758.7	759.3	759.3	759.3	759.3	759.3	758.9
137.5°	805.6	806.3	806.8	807.4	807.9	808.4	808.7	809.1	809.4	809.7	809.2
140°	840.3	840.7	841.1	841.5	841.9	842.1	842.1	842.1	842.1	842.1	841.9
142.5°	872.0	872.4	872.7	873.1	873.6	873.7	873.5	873.4	873.2	873.1	873.0
145°	915.8	916.6	917.4	918.2	919.0	919.6	919.7	920.0	920.1	920.4	920.1
147.5°	959.2	960.2	961.2	962.1	963.1	963.5	963.4	963.2	963.1	962.9	962.7
150°	985.7	986.5	987.4	988.2	989.0	989.4	989.4	989.4	989.4	989.4	989.4
152.5°	1010.7	1011.2	1011.7	1012.2	1012.7	1013.0	1013.2	1013.4	1013.5	1013.7	1014.2
155°	1049.2	1049.2	1049.2	1049.2	1049.2	1049.1	1048.9	1048.7	1048.5	1048.3	1049.1
157.5°	1081.6	1081.2	1080.9	1080.5	1080.1	1079.9	1079.9	1079.8	1079.8	1079.7	1080.4
160°	1100.7	1100.6	1100.3	1100.1	1099.9	1099.7	1099.5	1099.3	1099.1	1098.9	1099.5
162.5°	1118.4	1117.8	1117.4	1116.8	1116.3	1115.9	1115.7	1115.6	1115.3	1115.1	1116.2
165°	1142.2	1141.5	1140.9	1140.3	1139.7	1139.2	1138.8	1138.4	1138.0	1137.6	1138.8
167.5°	1160.4	1159.5	1158.6	1157.8	1157.0	1156.5	1156.6	1156.6	1156.7	1156.7	1157.9
170°	1170.7	1169.7	1168.6	1167.6	1166.6	1166.2	1166.4	1166.6	1166.8	1167.0	1168.2
172.5°	1178.1	1177.2	1176.3	1175.4	1174.6	1174.2	1174.3	1174.3	1174.3	1174.4	1175.8
175°	1188.2	1187.2	1186.1	1185.1	1184.1	1183.4	1183.3	1183.0	1182.9	1182.6	1184.1
177.5°	1191.5	1190.6	1189.9	1189.1	1188.2	1187.8	1187.8	1187.8	1187.8	1187.8	1189.0
180°	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9
2.5°	1362.0	1364.0	1366.0	1366.8	1366.6	1366.4	1366.2	1366.0
5°	1354.7	1357.4	1360.1	1361.2	1360.7	1360.2	1359.7	1359.2
7.5°	1339.7	1341.8	1343.9	1344.9	1344.6	1344.3	1343.9	1343.7
10°	1327.0	1329.0	1330.9	1331.6	1331.1	1330.6	1330.2	1329.7
12.5°	1311.6	1313.8	1315.9	1316.6	1316.0	1315.3	1314.5	1313.9
15°	1282.2	1283.7	1285.2	1285.5	1284.8	1284.0	1283.3	1282.5
17.5°	1248.7	1249.7	1250.5	1250.8	1250.3	1249.8	1249.4	1248.8
20°	1223.8	1224.6	1225.3	1225.3	1224.9	1224.4	1223.9	1223.4
22.5°	1197.8	1199.1	1200.4	1200.6	1199.8	1198.9	1198.0	1197.1
25°	1154.9	1155.2	1155.4	1155.0	1154.1	1153.1	1152.1	1151.1
27.5°	1106.8	1106.2	1105.6	1104.8	1103.5	1102.3	1101.1	1099.9
30°	1073.6	1072.6	1071.7	1070.6	1069.4	1068.1	1066.9	1065.7
32.5°	1039.9	1038.8	1037.6	1036.4	1035.1	1034.0	1032.8	1031.5
35°	986.7	985.0	983.3	981.8	980.6	979.5	978.2	977.0
37.5°	931.0	929.2	927.3	925.6	924.0	922.3	920.8	919.2
40°	892.2	889.7	887.3	885.5	884.2	883.0	881.9	880.6
42.5°	854.6	851.8	848.9	847.1	846.3	845.4	844.6	843.8
45°	796.4	793.7	791.0	789.3	788.6	787.9	787.1	786.4
47.5°	740.1	737.0	734.0	731.6	729.8	727.9	726.0	724.2
50°	700.8	697.4	694.0	691.5	690.0	688.6	687.1	685.6
52.5°	660.4	657.3	654.3	651.9	650.0	648.2	646.3	644.4
55°	600.9	598.0	595.1	592.9	591.4	590.0	588.5	587.1
57.5°	541.5	538.7	535.9	533.8	532.3	531.0	529.6	528.1
60°	500.6	498.4	496.1	494.5	493.2	492.0	490.8	489.6
62.5°	460.7	458.6	456.6	455.0	453.8	452.6	451.4	450.2
65°	402.6	400.1	397.7	395.9	394.7	393.5	392.2	391.0
67.5°	342.8	340.4	338.1	336.8	336.4	336.0	335.7	335.4
70°	305.0	303.0	301.1	299.8	299.0	298.3	297.5	296.8
72.5°	267.2	265.6	264.1	262.9	262.2	261.5	260.8	260.0
75°	212.7	211.8	210.8	210.2	209.9	209.7	209.5	209.2
77.5°	161.1	160.8	160.5	160.0	159.4	158.8	158.1	157.5
80°	128.3	127.8	127.3	126.9	126.7	126.4	126.2	126.0
82.5°	98.9	98.5	98.3	98.0	97.8	97.5	97.3	97.0
85°	57.0	57.0	57.0	56.8	56.6	56.3	56.1	55.8
87.5°	25.6	25.8	26.1	26.2	26.3	26.4	26.5	26.5
90°	22.7	23.9	25.2	26.0	26.4	26.8	27.2	27.6
92.5°	37.9	38.7	39.4	39.8	40.2	40.4	40.6	40.9
95°	71.1	71.8	72.4	72.7	72.7	72.7	72.7	72.7
97.5°	112.1	112.8	113.6	113.9	113.9	113.9	113.9	113.9
100°	141.6	142.0	142.4	142.7	142.7	142.7	142.7	142.7
102.5°	172.9	173.5	174.0	174.4	174.6	174.8	174.9	175.1
105°	220.3	220.9	221.5	222.1	222.8	223.3	223.9	224.6
107.5°	271.6	272.1	272.7	273.0	272.9	272.9	272.8	272.8
110°	305.6	305.2	304.8	304.9	305.5	306.2	306.8	307.4

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	342.4	342.3	342.2	342.2	342.4	342.5	342.6	342.8
115°	399.0	398.8	398.6	398.4	398.2	398.0	397.8	397.6
117.5°	453.4	452.7	452.0	451.5	451.1	450.7	450.3	449.9
120°	490.4	489.3	488.3	488.0	488.4	488.8	489.3	489.6
122.5°	527.8	527.1	526.4	525.7	525.0	524.3	523.5	522.8
125°	582.7	582.3	581.9	581.5	581.1	580.7	580.2	579.8
127.5°	635.2	634.8	634.3	634.0	633.7	633.3	633.0	632.6
130°	671.9	671.5	671.1	670.5	669.7	668.9	668.0	667.3
132.5°	706.5	706.2	705.8	705.4	705.0	704.7	704.4	704.1
135°	758.5	758.0	757.6	757.2	756.5	755.9	755.3	754.7
137.5°	808.7	808.1	807.6	807.4	807.6	807.6	807.8	807.9
140°	841.7	841.5	841.3	841.1	840.9	840.7	840.5	840.3
142.5°	873.0	872.9	872.9	872.8	872.8	872.7	872.7	872.7
145°	920.0	919.7	919.6	919.1	918.5	917.9	917.3	916.7
147.5°	962.6	962.4	962.2	962.0	961.9	961.6	961.4	961.2
150°	989.4	989.4	989.4	989.3	989.0	988.9	988.6	988.5
152.5°	1014.6	1015.2	1015.7	1015.7	1015.1	1014.5	1014.0	1013.5
155°	1050.0	1050.8	1051.5	1051.5	1050.8	1050.0	1049.1	1048.3
157.5°	1081.0	1081.6	1082.2	1082.2	1081.5	1080.8	1080.1	1079.4
160°	1100.1	1100.7	1101.4	1101.1	1100.1	1099.1	1098.1	1097.1
162.5°	1117.3	1118.4	1119.5	1119.6	1118.6	1117.5	1116.5	1115.5
165°	1140.0	1141.2	1142.5	1142.6	1141.9	1141.1	1140.2	1139.4
167.5°	1159.1	1160.4	1161.6	1161.6	1160.3	1159.0	1157.8	1156.5
170°	1169.5	1170.7	1172.0	1171.8	1170.4	1168.9	1167.5	1166.1
172.5°	1177.2	1178.5	1180.0	1180.0	1178.5	1177.0	1175.6	1174.2
175°	1185.5	1186.9	1188.4	1188.4	1186.9	1185.5	1184.1	1182.6
177.5°	1190.1	1191.3	1192.4	1192.3	1191.0	1189.7	1188.4	1187.1
180°	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0

(END OF REPORT)