

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: P332658-927

Luminaire Tested: **SA4XXDIP-C1020D1035U927-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332658-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-C1020D1035U927-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1020 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1035 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6781.4 lumens  
Efficiency: N/A  
Efficacy: 112.1 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

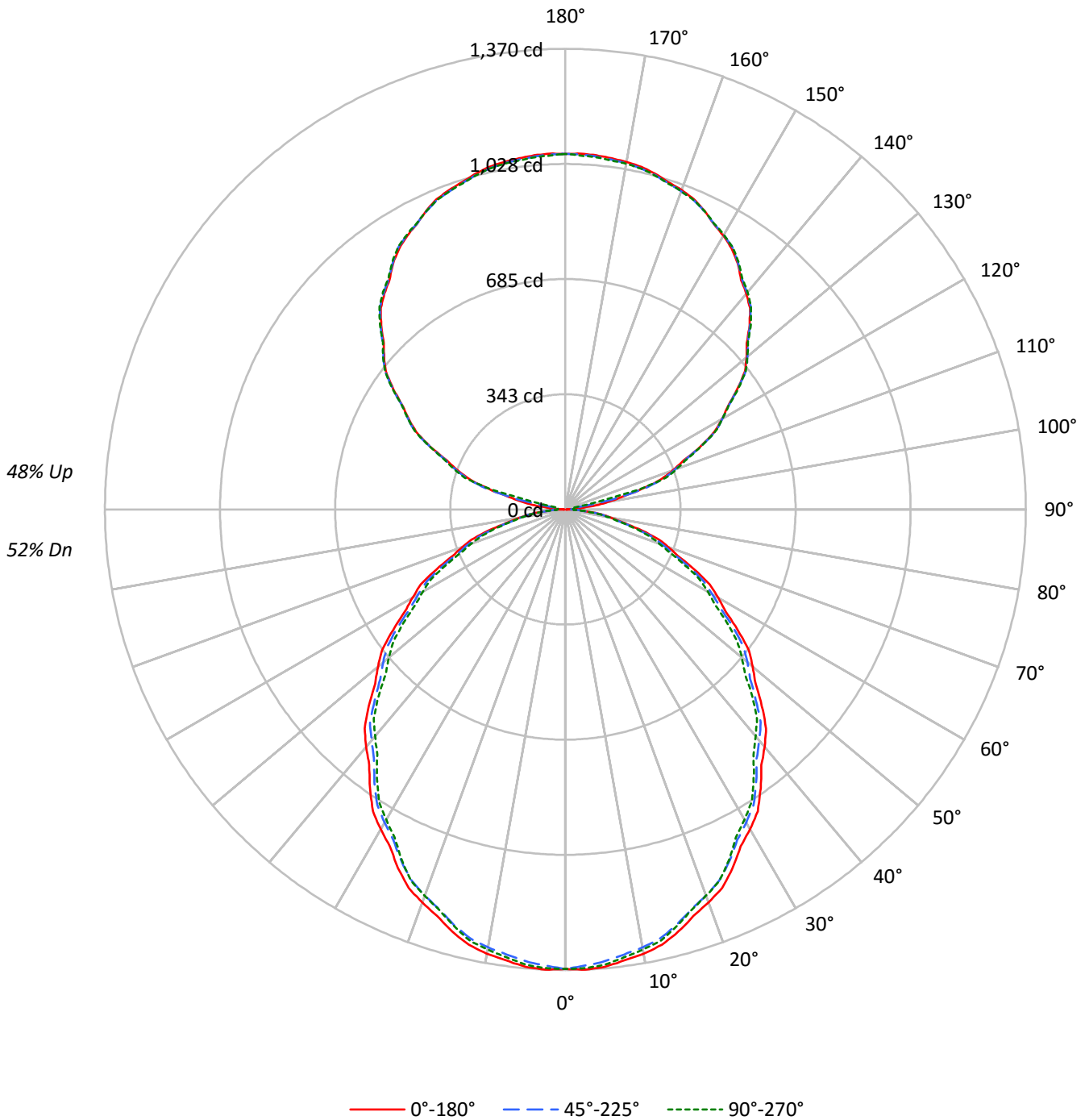
Input Watts (W): 60.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	44				
2	89	82	76	70	82	76	71	66	65	61	57	54	51	49	45	43	41	36				
3	82	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	36	33	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	27	23	21	18				
8	54	42	34	29	50	39	32	27	34	28	24	29	25	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	18	15	13				

**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	7.9
30°-40°	620.6	9.2
40°-50°	620.6	9.2
50°-60°	542.9	8.0
60°-70°	403.2	5.9
70°-80°	229.1	3.4
80°-90°	69.2	1.0
90°-100°	36.2	0.5
100°-110°	230.6	3.4
110°-120°	441.1	6.5
120°-130°	559.9	8.3
130°-140°	599.1	8.8
140°-150°	560.2	8.3
150°-160°	451.8	6.7
160°-170°	291.4	4.3
170°-180°	100.4	1.5
0°-30°	1025.2	15.1
0°-40°	1645.9	24.3
0°-60°	2809.4	41.4
0°-90°	3510.8	51.8
90°-120°	707.8	10.4
90°-150°	2427.0	35.8
90°-180°	3271.0	48.2
0°-180°	6781.4	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°	2	11	17	22	24	5
95°	44	18	17	22	23	56
105°	238	243	247	252	225	249
115°	444	447	446	448	448	437
125°	625	628	626	629	630	558
135°	775	774	777	779	780	597
145°	894	896	896	897	898	558
155°	980	980	978	981	979	452
165°	1034	1030	1030	1035	1029	292
175°	1057	1053	1053	1060	1051	101
180°	1057	1057	1057	1057	1057	



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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°	23.3	23.4	23.6	23.8	24.0	24.2	24.2	24.3	24.4	24.5	24.7
90°	2.4	4.3	6.3	8.2	10.1	11.8	13.2	14.6	16.0	17.4	18.5
92.5°	10.0	10.1	10.1	10.3	10.4	11.2	12.5	13.9	15.4	16.8	17.8
95°	43.5	37.5	31.5	25.6	19.6	16.7	16.9	17.0	17.2	17.4	18.5
97.5°	92.4	96.1	99.8	103.5	107.3	99.3	79.7	60.1	40.5	20.9	21.0
100°	129.7	132.8	136.0	139.2	142.4	131.8	107.6	83.3	59.0	34.8	31.8
102.5°	171.4	173.8	176.1	178.4	180.7	180.3	177.1	174.0	170.8	167.6	135.4
105°	238.1	239.1	240.1	241.2	242.2	243.2	244.1	244.9	245.9	246.8	248.3
107.5°	299.8	300.4	301.0	301.4	302.0	302.9	304.0	305.2	306.4	307.6	308.4
110°	341.7	342.1	342.7	343.2	343.7	344.5	345.5	346.7	347.7	348.7	349.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	382.1	383.1	384.0	385.0	386.0	386.7	387.1	387.6	388.1	388.6	388.6
115°	444.4	445.0	445.5	446.0	446.6	446.7	446.6	446.4	446.2	446.0	446.4
117.5°	500.6	501.3	502.0	502.7	503.4	503.9	504.3	504.7	505.1	505.5	505.4
120°	538.5	539.2	540.0	540.7	541.4	541.6	541.5	541.3	541.1	540.9	541.3
122.5°	573.9	574.4	574.8	575.2	575.7	576.0	576.2	576.5	576.7	576.9	577.2
125°	624.7	625.4	626.1	626.9	627.6	627.7	627.4	627.0	626.7	626.3	626.9
127.5°	672.8	673.0	673.2	673.4	673.5	674.0	674.9	675.7	676.4	677.2	677.2
130°	703.9	704.0	704.2	704.3	704.5	704.9	705.4	705.9	706.5	707.0	707.2
132.5°	732.3	732.6	732.9	733.2	733.6	734.0	734.7	735.4	736.0	736.7	736.9
135°	775.0	774.8	774.7	774.4	774.3	774.5	775.2	775.9	776.7	777.4	777.7
137.5°	812.8	812.9	812.9	813.0	813.1	813.5	814.3	815.1	815.8	816.6	817.0
140°	837.5	837.8	838.2	838.5	838.8	839.2	839.6	840.0	840.3	840.7	841.1
142.5°	859.6	860.2	860.9	861.5	862.1	862.5	862.8	863.0	863.2	863.4	863.8
145°	893.6	894.1	894.7	895.2	895.7	896.0	896.0	896.0	896.0	896.0	896.2
147.5°	920.7	921.6	922.7	923.6	924.6	925.0	924.8	924.6	924.5	924.3	924.5
150°	940.2	941.0	941.7	942.4	943.1	943.3	943.2	943.0	942.9	942.6	942.6
152.5°	956.7	957.3	957.8	958.4	958.9	959.1	958.8	958.5	958.1	957.8	958.1
155°	979.9	980.0	980.2	980.3	980.5	980.3	979.9	979.3	978.7	978.3	978.9
157.5°	999.3	999.2	999.0	998.9	998.9	998.5	997.9	997.3	996.7	996.1	997.0
160°	1010.7	1010.1	1009.6	1009.1	1008.5	1008.2	1008.1	1007.8	1007.7	1007.5	1008.5
162.5°	1020.8	1020.1	1019.5	1018.7	1018.1	1017.7	1017.5	1017.3	1017.2	1017.0	1018.0
165°	1033.6	1032.7	1031.8	1030.9	1030.1	1029.6	1029.6	1029.6	1029.6	1029.6	1031.0
167.5°	1043.7	1042.8	1041.9	1041.0	1040.1	1039.6	1039.4	1039.3	1039.3	1039.1	1040.7
170°	1049.4	1048.4	1047.3	1046.2	1045.2	1044.7	1044.9	1045.1	1045.3	1045.4	1046.9
172.5°	1053.2	1052.2	1051.1	1050.0	1049.0	1048.5	1048.7	1048.9	1049.1	1049.2	1050.7
175°	1057.3	1056.3	1055.2	1054.2	1053.1	1052.7	1052.8	1053.0	1053.2	1053.4	1054.9
177.5°	1059.2	1058.2	1057.2	1056.3	1055.3	1054.9	1055.2	1055.5	1055.7	1056.1	1057.2
180°	1057.3	1057.3	1057.3	1057.3	1057.3	1057.3	1057.3	1057.3	1057.3	1057.3	1057.3



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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°	25.0	25.1	25.3	25.5	25.6	25.7	25.7	25.7
90°	19.5	20.6	21.6	22.3	22.7	23.1	23.4	23.7
92.5°	18.9	20.0	21.0	21.5	21.6	21.7	21.8	21.9
95°	19.5	20.6	21.6	22.3	22.4	22.6	22.7	22.9
97.5°	21.1	21.2	21.3	21.5	21.6	21.8	21.9	22.2
100°	28.8	25.8	22.8	21.5	21.6	21.8	21.9	22.2
102.5°	103.2	71.0	38.7	22.7	22.7	22.7	22.7	22.8
105°	249.9	251.4	253.0	250.7	244.4	238.1	231.7	225.4
107.5°	309.2	310.0	310.7	311.4	312.1	312.8	313.5	314.1
110°	349.4	349.8	350.1	350.6	351.1	351.6	352.2	352.7





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	388.5	388.4	388.3	388.6	389.3	390.0	390.6	391.3
115°	446.7	447.1	447.4	447.6	447.6	447.6	447.6	447.6
117.5°	505.3	505.3	505.2	505.2	505.1	505.0	504.9	504.9
120°	541.6	541.9	542.3	542.3	541.9	541.6	541.3	540.9
122.5°	577.4	577.6	577.8	577.7	577.4	577.0	576.7	576.3
125°	627.4	627.9	628.4	628.8	629.0	629.2	629.3	629.5
127.5°	677.1	676.9	676.8	676.7	676.6	676.4	676.3	676.1
130°	707.3	707.5	707.7	707.8	707.8	707.8	707.8	707.8
132.5°	737.0	737.3	737.4	737.4	737.3	737.1	737.0	736.9
135°	778.1	778.4	778.8	779.1	779.5	779.8	780.1	780.5
137.5°	817.4	817.8	818.2	818.2	818.2	818.1	817.9	817.8
140°	841.7	842.2	842.7	843.1	843.3	843.4	843.6	843.8
142.5°	864.2	864.6	865.0	865.1	865.2	865.2	865.3	865.3
145°	896.4	896.5	896.7	897.0	897.3	897.6	898.0	898.3
147.5°	924.6	924.7	924.9	925.0	925.2	925.3	925.6	925.7
150°	942.6	942.6	942.6	942.7	942.9	943.1	943.3	943.4
152.5°	958.4	958.7	958.9	959.0	958.9	958.9	958.7	958.6
155°	979.6	980.3	981.0	981.1	980.6	980.1	979.5	979.1
157.5°	997.9	998.9	999.7	999.7	998.9	997.9	997.0	996.1
160°	1009.6	1010.7	1011.7	1011.7	1010.7	1009.6	1008.5	1007.5
162.5°	1019.1	1020.2	1021.2	1021.1	1019.9	1018.7	1017.6	1016.4
165°	1032.5	1033.9	1035.2	1035.1	1033.6	1032.0	1030.4	1028.8
167.5°	1042.2	1043.8	1045.3	1045.2	1043.5	1041.7	1039.9	1038.2
170°	1048.3	1049.6	1051.1	1050.9	1049.2	1047.4	1045.6	1043.9
172.5°	1052.1	1053.4	1054.9	1054.6	1052.7	1050.8	1048.9	1047.0
175°	1056.5	1058.1	1059.7	1059.4	1057.3	1055.2	1053.1	1051.0
177.5°	1058.3	1059.4	1060.6	1060.3	1058.6	1056.9	1055.2	1053.5
180°	1057.3	1057.3	1057.3	1057.3	1057.3	1057.3	1057.3	1057.3

(END OF REPORT)