

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: P332669-935

Luminaire Tested: **SA4XXDIP-C1020D1205U935-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332669-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-C1020D1205U935-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1020 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

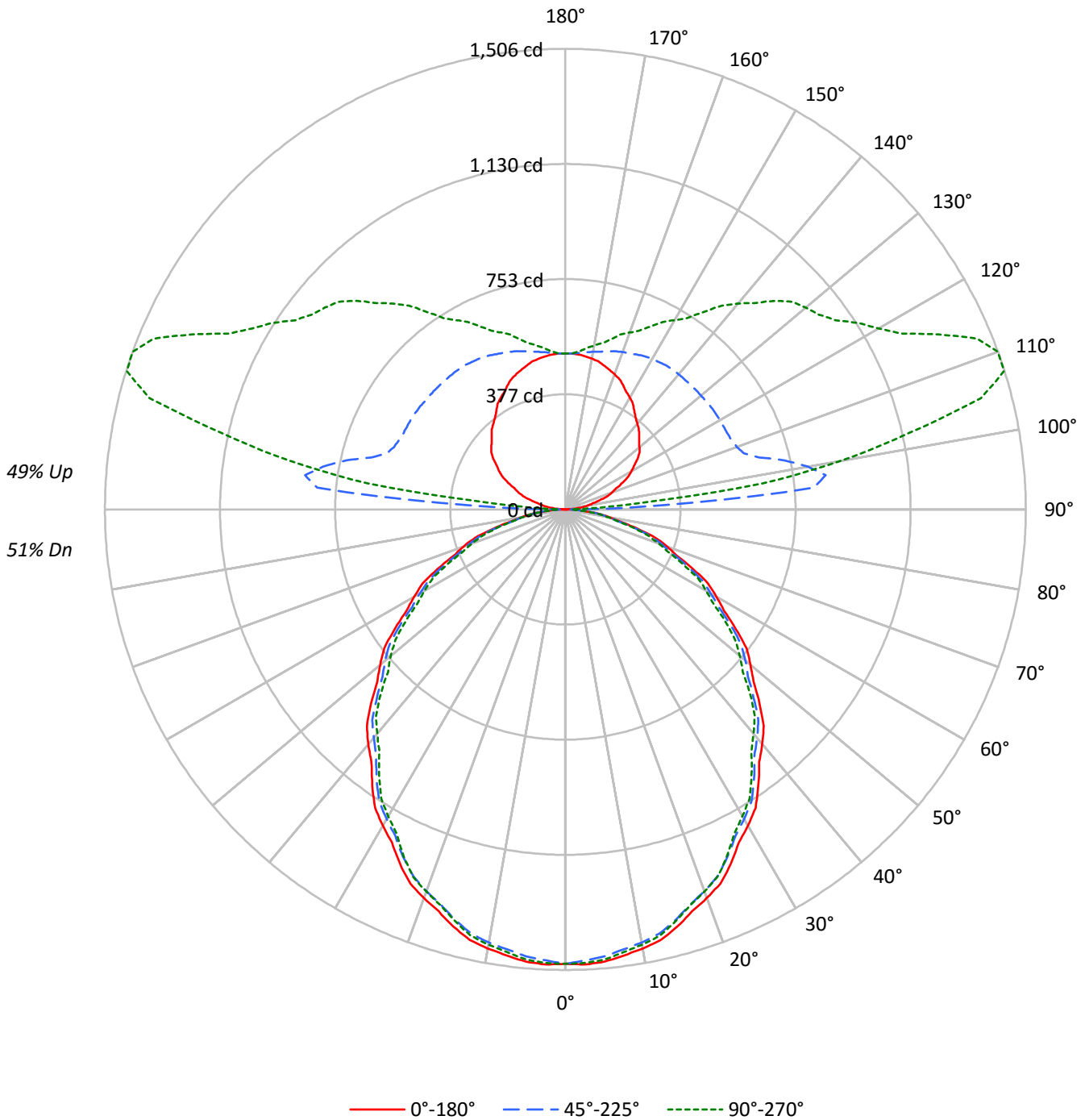
Lumens per Lamp: N/A  
Luminaire Lumens: 7518.9 lumens  
Efficiency: N/A  
Efficacy: 115.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: General Diffuse

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



TEST NUMBER: P332669-935  
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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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51				
1	98	94	90	86	90	87	83	80	73	71	69	61	60	58	50	49	48	43				
2	89	82	76	70	82	76	70	66	64	60	57	54	51	48	44	42	40	36				
3	81	72	64	59	75	67	60	55	57	52	48	48	44	41	39	37	34	30				
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	35	32	30	26				
5	68	57	48	42	63	53	45	40	45	39	35	38	34	30	31	28	26	23				
6	63	51	43	37	58	47	40	35	41	35	31	34	30	27	29	25	23	20				
7	58	46	38	32	54	43	36	31	37	31	27	31	27	24	26	23	20	18				
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16				
9	50	38	31	25	46	36	29	24	31	25	21	26	22	19	22	19	16	14				
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	21	17	15	13				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	11994	11994	11994
5°	12030	11885	11972
10°	11954	11788	11847
15°	11810	11621	11651
20°	11618	11413	11424
25°	11399	11176	11144
30°	11130	10897	10797
35°	10852	10606	10465
40°	10564	10275	10086
45°	10261	9949	9758
50°	9928	9658	9359
55°	9568	9282	8981
60°	9206	8861	8591
65°	8800	8458	8118
70°	8344	7924	7615
75°	7648	7277	7093
80°	6811	6527	6365
85°	5956	5734	5622



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	139.9	1.9
10°-20°	394.2	5.2
20°-30°	580.2	7.7
30°-40°	674.5	9.0
40°-50°	674.5	9.0
50°-60°	590.0	7.8
60°-70°	438.2	5.8
70°-80°	248.9	3.3
80°-90°	74.7	1.0
90°-100°	367.8	4.9
100°-110°	765.5	10.2
110°-120°	685.7	9.1
120°-130°	576.8	7.7
130°-140°	480.9	6.4
140°-150°	367.4	4.9
150°-160°	258.2	3.4
160°-170°	151.9	2.0
170°-180°	49.4	0.7
0°-30°	1114.3	14.8
0°-40°	1788.8	23.8
0°-60°	3053.4	40.6
0°-90°	3815.2	50.7
90°-120°	1819.0	24.2
90°-150°	3244.1	43.1
90°-180°	3704.0	49.3
0°-180°	7518.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1486	1486	1486	1486	1486	
5°	1484	1479	1467	1479	1477	141
15°	1413	1408	1390	1397	1394	398
25°	1280	1271	1255	1256	1251	588
35°	1101	1092	1076	1068	1062	688
45°	899	890	871	859	855	693
55°	680	675	660	646	638	609
65°	461	454	443	431	425	456
75°	245	239	233	229	227	261
85°	64	64	62	62	61	71
90°	1	8	18	20	21	5
95°	33	104	815	404	244	37
105°	117	170	656	1413	1408	125
115°	206	259	585	1125	1352	204
125°	287	341	582	957	1078	256
135°	341	406	577	849	964	264
145°	393	450	574	716	787	247
155°	447	483	558	632	659	206
165°	487	502	535	567	575	138
175°	508	509	513	520	518	48
180°	509	509	509	509	509	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1485.7	1485.7	1485.7	1485.7	1485.7	1485.7	1485.7	1485.7	1485.7	1485.7	1485.7
2.5°	1489.4	1488.8	1488.2	1487.5	1486.9	1485.4	1483.1	1480.7	1478.4	1476.1	1478.3
5°	1484.5	1483.4	1482.4	1481.3	1480.2	1478.3	1475.3	1472.4	1469.6	1466.6	1469.6
7.5°	1470.7	1469.6	1468.5	1467.5	1466.5	1464.3	1461.0	1457.8	1454.6	1451.4	1453.7
10°	1458.3	1457.2	1456.1	1455.1	1454.1	1451.8	1448.4	1444.9	1441.5	1438.0	1440.1
12.5°	1442.1	1441.1	1439.9	1438.9	1437.9	1435.5	1431.8	1428.2	1424.5	1420.9	1423.2
15°	1413.1	1412.0	1410.9	1409.9	1408.8	1406.3	1402.3	1398.4	1394.4	1390.4	1392.0
17.5°	1378.0	1376.7	1375.4	1374.1	1372.8	1370.2	1366.4	1362.7	1358.9	1355.2	1356.2
20°	1352.3	1351.0	1349.7	1348.3	1347.0	1344.4	1340.4	1336.4	1332.5	1328.5	1329.3
22.5°	1324.7	1322.9	1321.2	1319.5	1317.8	1314.8	1310.9	1306.9	1303.0	1299.0	1300.5
25°	1279.7	1277.9	1276.0	1274.1	1272.3	1269.5	1265.8	1262.1	1258.4	1254.7	1255.0
27.5°	1228.3	1226.4	1224.4	1222.5	1220.6	1218.0	1214.5	1211.1	1207.6	1204.2	1203.6
30°	1194.0	1191.9	1189.7	1187.7	1185.5	1182.8	1179.3	1175.9	1172.4	1169.0	1167.9
32.5°	1157.8	1155.9	1154.0	1152.1	1150.2	1147.4	1143.8	1140.1	1136.4	1132.8	1131.5
35°	1101.1	1099.3	1097.4	1095.6	1093.7	1091.0	1087.3	1083.6	1079.9	1076.2	1074.3
37.5°	1041.4	1039.7	1038.0	1036.3	1034.6	1031.8	1027.8	1023.8	1019.9	1015.9	1013.9
40°	1002.4	1000.2	998.1	996.0	993.9	990.8	986.9	982.9	979.0	975.0	972.3
42.5°	960.4	959.2	957.9	956.7	955.4	952.5	948.1	943.7	939.4	935.0	931.9
45°	898.8	896.9	895.1	893.2	891.4	888.3	884.1	879.9	875.6	871.4	868.5
47.5°	834.2	833.0	831.7	830.4	829.1	826.6	822.7	818.7	814.9	810.9	807.6
50°	790.5	789.4	788.3	787.3	786.2	783.9	780.2	776.4	772.7	769.0	765.3
52.5°	747.6	746.3	745.0	743.8	742.5	739.9	736.0	732.1	728.1	724.3	721.0
55°	679.8	678.9	678.1	677.3	676.6	674.3	670.6	666.9	663.2	659.5	656.3
57.5°	615.0	614.1	613.2	612.3	611.4	609.1	605.5	601.8	598.1	594.5	591.5
60°	570.2	568.9	567.6	566.3	564.9	562.6	559.1	555.7	552.2	548.8	546.4
62.5°	526.4	525.3	524.2	523.1	521.9	519.6	515.9	512.3	508.6	505.0	502.8
65°	460.7	459.3	458.1	456.8	455.4	453.4	450.7	448.2	445.5	442.8	440.2
67.5°	394.5	393.3	392.1	390.9	389.6	387.8	385.2	382.7	380.1	377.6	375.1
70°	353.5	351.7	349.8	348.0	346.1	344.1	342.1	339.9	337.9	335.7	333.6
72.5°	309.8	307.9	306.1	304.2	302.4	300.6	298.9	297.2	295.5	293.8	292.1
75°	245.2	243.9	242.5	241.3	240.0	238.6	237.3	236.0	234.6	233.3	232.3
77.5°	183.6	183.0	182.4	181.8	181.2	180.4	179.2	178.1	176.8	175.7	175.4
80°	146.5	145.6	144.8	144.0	143.3	142.6	142.1	141.5	141.0	140.4	139.9
82.5°	110.2	109.9	109.5	109.1	108.7	108.5	108.4	108.3	108.2	108.1	107.8
85°	64.3	64.3	64.3	64.3	64.3	64.1	63.5	62.9	62.4	61.9	61.9
87.5°	25.0	25.1	25.6	25.5	25.5	25.3	26.3	26.1	26.3	26.4	26.3
90°	1.0	3.0	6.0	7.0	8.0	8.0	14.0	14.0	16.0	18.0	17.0
92.5°	11.4	16.6	26.0	38.2	52.9	73.6	124.5	202.1	277.8	317.4	264.3
95°	33.0	36.0	46.1	59.1	83.0	125.1	212.1	376.2	615.3	815.4	838.4
97.5°	59.2	59.2	67.8	79.8	100.5	135.7	202.7	338.2	575.8	858.8	1053.3
100°	76.0	76.0	83.0	95.1	114.1	146.1	205.1	318.1	522.3	804.3	1060.5
102.5°	92.0	93.7	99.9	111.1	129.2	159.7	213.1	312.5	486.2	736.3	1000.5
105°	117.1	120.0	125.1	137.1	155.1	184.1	232.1	315.1	455.2	656.3	891.4
107.5°	144.6	146.6	151.7	164.5	181.7	210.3	254.3	329.9	449.6	611.5	803.4
110°	163.1	165.1	170.0	182.1	200.1	227.1	271.1	341.1	451.3	596.3	759.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	180.7	182.7	188.5	199.7	217.7	244.7	287.1	353.2	456.0	589.1	734.5
115°	206.1	209.1	216.1	226.1	245.1	272.2	312.1	372.2	465.2	585.3	711.4
117.5°	232.5	235.3	241.5	252.5	270.4	298.3	336.4	391.6	475.0	584.3	700.9
120°	250.1	252.1	259.2	270.1	287.1	315.1	353.2	405.2	482.2	584.3	695.3
122.5°	266.1	268.1	275.2	285.3	303.9	331.1	369.2	418.0	489.5	583.5	689.0
125°	287.1	291.1	297.1	308.2	327.2	355.2	391.2	437.2	500.2	582.3	678.3
127.5°	305.7	308.9	316.2	328.7	348.5	376.8	411.6	453.8	508.9	580.1	664.1
130°	316.2	320.1	328.1	343.2	362.1	391.2	425.2	464.3	515.2	579.3	655.3
132.5°	326.6	329.8	340.2	354.4	375.0	402.4	436.4	474.7	520.8	578.5	647.3
135°	341.1	345.2	355.2	372.2	393.2	419.2	452.2	488.3	529.3	577.3	635.3
137.5°	355.8	359.6	370.6	386.8	408.6	433.4	464.3	497.8	534.3	577.0	624.9
140°	366.2	369.2	380.2	397.2	418.2	442.2	472.3	504.2	538.3	576.3	619.3
142.5°	377.4	380.4	390.5	406.8	427.0	450.2	479.4	509.0	541.5	576.3	614.5
145°	393.2	396.2	406.2	420.2	439.2	461.2	487.2	514.3	543.3	574.3	606.3
147.5°	411.0	412.0	420.8	435.2	451.0	470.8	495.2	518.8	544.2	570.7	598.9
150°	422.2	423.2	431.2	443.2	458.2	477.3	499.2	521.2	544.2	568.3	593.3
152.5°	432.6	432.8	440.8	452.0	465.5	482.8	502.5	522.9	542.7	564.3	586.9
155°	447.2	448.2	454.2	464.3	475.3	490.3	507.2	524.3	540.3	558.3	577.3
157.5°	461.4	461.4	467.0	474.8	484.4	496.3	510.7	524.3	537.7	552.1	567.5
160°	470.2	470.2	474.2	481.2	489.2	500.2	512.2	524.3	535.3	547.3	560.3
162.5°	478.2	477.4	480.6	486.8	494.0	502.7	513.8	524.3	532.9	542.4	553.9
165°	487.2	487.2	489.2	494.2	499.2	505.2	514.3	522.3	528.2	535.3	543.3
167.5°	496.3	495.2	496.3	500.1	502.8	507.5	514.0	519.9	523.5	528.1	533.6
170°	500.2	499.2	500.2	503.3	505.2	508.2	513.2	518.2	520.2	523.2	527.3
172.5°	504.2	503.3	503.4	505.7	506.9	509.0	512.5	516.7	517.0	518.4	521.7
175°	508.2	507.2	507.2	508.2	509.3	509.3	511.3	514.3	513.2	513.2	515.2
177.5°	510.1	509.3	508.4	509.3	509.3	509.3	510.1	511.6	510.1	510.1	510.8
180°	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1485.7	1485.7	1485.7	1485.7	1485.7	1485.7	1485.7	1485.7
2.5°	1480.3	1482.5	1484.6	1485.6	1485.3	1485.1	1484.9	1484.7
5°	1472.4	1475.3	1478.3	1479.5	1478.9	1478.3	1477.8	1477.3
7.5°	1456.0	1458.4	1460.7	1461.7	1461.4	1461.0	1460.7	1460.4
10°	1442.3	1444.4	1446.5	1447.3	1446.7	1446.2	1445.7	1445.2
12.5°	1425.6	1427.9	1430.2	1431.0	1430.3	1429.5	1428.7	1428.1
15°	1393.6	1395.2	1396.8	1397.1	1396.4	1395.6	1394.8	1394.0
17.5°	1357.2	1358.2	1359.2	1359.4	1358.9	1358.4	1357.9	1357.3
20°	1330.1	1330.9	1331.7	1331.8	1331.3	1330.8	1330.2	1329.7
22.5°	1301.8	1303.3	1304.7	1304.9	1304.0	1303.0	1302.1	1301.1
25°	1255.3	1255.5	1255.8	1255.3	1254.3	1253.3	1252.2	1251.1
27.5°	1203.0	1202.3	1201.7	1200.8	1199.4	1198.1	1196.7	1195.4
30°	1166.9	1165.8	1164.8	1163.6	1162.3	1160.9	1159.6	1158.3
32.5°	1130.2	1129.0	1127.7	1126.4	1125.1	1123.8	1122.5	1121.1
35°	1072.5	1070.6	1068.8	1067.1	1065.8	1064.5	1063.2	1061.9
37.5°	1011.8	1009.9	1007.9	1006.0	1004.3	1002.5	1000.7	999.0
40°	969.7	967.0	964.4	962.4	961.0	959.8	958.5	957.1
42.5°	928.8	925.7	922.6	920.7	919.8	918.9	918.0	917.1
45°	865.6	862.6	859.7	857.9	857.1	856.4	855.5	854.7
47.5°	804.3	801.1	797.8	795.1	793.2	791.1	789.1	787.1
50°	761.6	757.9	754.2	751.6	749.9	748.4	746.8	745.2
52.5°	717.7	714.4	711.1	708.5	706.5	704.5	702.5	700.4
55°	653.2	650.0	646.8	644.5	642.8	641.3	639.6	638.1
57.5°	588.5	585.5	582.5	580.1	578.6	577.1	575.6	574.0
60°	544.1	541.7	539.2	537.4	536.1	534.8	533.5	532.1
62.5°	500.7	498.4	496.3	494.6	493.3	491.9	490.6	489.3
65°	437.6	434.9	432.2	430.2	429.0	427.7	426.3	425.0
67.5°	372.6	370.0	367.5	366.0	365.6	365.2	364.9	364.5
70°	331.5	329.3	327.3	325.8	325.0	324.2	323.4	322.6
72.5°	290.4	288.7	287.1	285.8	285.0	284.2	283.4	282.6
75°	231.2	230.1	229.1	228.4	228.2	227.9	227.6	227.4
77.5°	175.0	174.8	174.4	173.9	173.2	172.5	171.9	171.2
80°	139.4	138.9	138.4	137.9	137.7	137.4	137.2	136.9
82.5°	107.5	107.1	106.9	106.5	106.2	106.0	105.7	105.5
85°	61.9	61.9	61.9	61.7	61.5	61.2	61.0	60.7
87.5°	26.4	26.7	26.9	26.9	27.0	27.3	27.0	27.0
90°	18.0	19.0	20.0	20.0	21.0	22.0	21.0	21.0
92.5°	196.5	147.8	117.7	97.6	85.8	80.4	77.1	77.1
95°	741.3	586.3	452.2	355.2	306.2	275.2	257.1	244.1
97.5°	1095.4	1037.7	939.9	835.4	763.5	703.4	673.3	652.6
100°	1206.6	1226.6	1177.6	1103.5	1016.5	955.5	925.5	917.5
102.5°	1201.0	1300.2	1314.4	1283.6	1230.2	1185.9	1154.3	1148.0
105°	1120.5	1293.7	1392.7	1433.7	1435.7	1427.7	1413.7	1407.6
107.5°	1006.3	1190.6	1330.1	1419.3	1468.7	1491.5	1501.5	1504.2
110°	937.5	1110.5	1255.6	1365.6	1436.7	1478.7	1496.8	1505.7





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	887.0	1040.1	1177.2	1287.2	1367.9	1418.7	1443.9	1458.5
115°	836.4	959.5	1076.5	1172.6	1251.6	1311.6	1343.7	1351.7
117.5°	811.6	913.4	1005.5	1086.9	1154.3	1204.8	1237.2	1243.4
120°	800.4	893.5	973.4	1044.5	1101.6	1145.6	1171.6	1182.6
122.5°	790.7	880.6	953.5	1015.7	1063.9	1101.6	1123.5	1134.5
125°	774.4	860.4	929.4	984.5	1024.5	1053.5	1072.5	1078.5
127.5°	754.3	836.6	905.4	957.7	997.9	1023.7	1039.7	1045.7
130°	738.4	817.4	885.5	938.5	979.5	1004.4	1020.5	1026.5
132.5°	721.5	795.8	862.2	915.2	955.5	983.7	998.8	1004.9
135°	698.4	763.4	824.4	874.4	914.5	942.5	958.5	964.5
137.5°	677.3	732.4	783.8	829.0	866.4	894.1	907.2	914.5
140°	665.3	712.3	757.3	799.4	834.4	856.4	870.4	878.4
142.5°	654.1	695.5	734.2	770.6	801.6	822.0	834.4	840.0
145°	638.3	672.4	702.3	730.4	755.4	772.4	782.4	787.4
147.5°	625.3	652.3	676.3	698.4	716.8	731.3	739.0	740.7
150°	617.3	640.3	660.3	678.3	694.3	707.3	713.3	714.4
152.5°	608.5	628.3	646.7	661.5	675.1	685.7	689.3	690.3
155°	595.3	611.3	626.3	638.3	648.3	656.3	659.4	659.4
157.5°	581.1	594.5	607.1	616.7	624.3	630.3	632.1	632.1
160°	572.3	583.2	594.3	602.3	608.3	614.3	615.3	615.3
162.5°	563.4	572.9	581.5	588.7	593.1	599.1	600.1	599.3
165°	551.3	557.2	564.3	569.3	573.3	577.3	576.3	575.3
167.5°	539.5	544.1	549.7	552.7	554.7	557.2	557.1	556.3
170°	532.3	535.3	539.2	542.3	544.2	545.3	544.2	544.2
172.5°	525.8	528.1	530.5	532.6	533.8	534.9	533.8	532.3
175°	517.3	518.2	520.2	520.2	520.2	522.3	520.2	518.2
177.5°	511.6	512.5	512.5	513.2	512.5	513.2	511.6	510.1
180°	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3

(END OF REPORT)