

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: P332714-935

Luminaire Tested: **SA4XXDIP-C1195D1205U935-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332714-935
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-C1195D1205U935-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

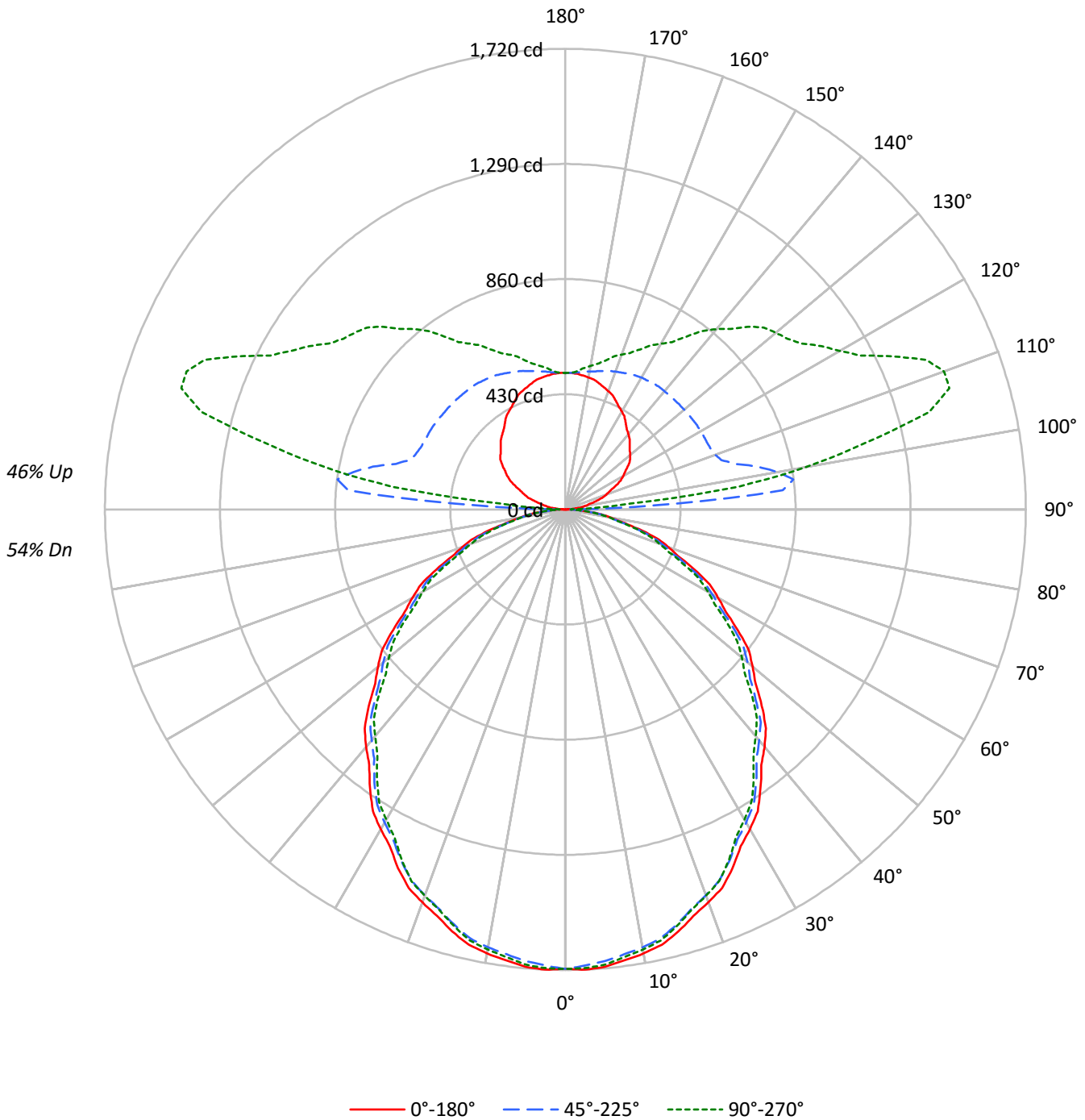
Lumens per Lamp: N/A
Luminaire Lumens: 8109.6 lumens
Efficiency: N/A
Efficacy: 113.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 71.7
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	86	86	86	72	72	72	60	60	60	54
1	99	94	90	87	91	88	84	81	75	73	70	64	62	60	53	52	51	46
2	90	82	76	71	83	77	71	67	66	62	58	56	53	50	47	45	43	38
3	82	72	65	59	76	67	61	56	58	53	49	49	46	43	41	39	36	32
4	75	64	56	50	69	60	53	47	52	46	42	44	40	36	37	34	31	28
5	69	57	49	43	64	53	46	41	46	40	36	40	35	32	33	30	27	24
6	63	51	43	37	59	48	41	35	42	36	31	36	31	28	30	27	24	21
7	59	46	38	33	54	43	36	31	38	32	28	33	28	25	28	24	21	19
8	55	42	34	29	50	39	32	27	34	29	25	30	25	22	25	22	19	17
9	51	38	31	26	47	36	29	25	32	26	22	27	23	20	23	20	17	15
10	47	35	28	23	44	33	27	22	29	24	20	25	21	18	22	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13852	13852	13852
5°	13893	13726	13827
10°	13806	13615	13682
15°	13639	13422	13456
20°	13418	13181	13193
25°	13165	12908	12871
30°	12855	12585	12470
35°	12534	12249	12086
40°	12199	11866	11649
45°	11851	11490	11270
50°	11465	11154	10810
55°	11050	10719	10372
60°	10634	10233	9923
65°	10164	9769	9377
70°	9640	9151	8795
75°	8833	8406	8191
80°	7861	7541	7350
85°	6873	6623	6493



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.6	2.0
10°-20°	455.3	5.6
20°-30°	670.1	8.3
30°-40°	779.0	9.6
40°-50°	779.1	9.6
50°-60°	681.5	8.4
60°-70°	506.1	6.2
70°-80°	287.5	3.5
80°-90°	85.8	1.1
90°-100°	367.8	4.5
100°-110°	765.5	9.4
110°-120°	685.7	8.5
120°-130°	576.8	7.1
130°-140°	480.9	5.9
140°-150°	367.4	4.5
150°-160°	258.2	3.2
160°-170°	151.9	1.9
170°-180°	49.4	0.6
0°-30°	1287.0	15.9
0°-40°	2066.0	25.5
0°-60°	3526.5	43.5
0°-90°	4405.9	54.3
90°-120°	1819.0	22.4
90°-150°	3244.1	40.0
90°-180°	3704.0	45.7
0°-180°	8109.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1716	1716	1716	1716	1716	
5°	1714	1708	1694	1708	1706	163
15°	1632	1626	1606	1613	1610	460
25°	1478	1468	1449	1450	1445	680
35°	1272	1262	1243	1233	1226	795
45°	1038	1028	1006	992	987	800
55°	785	780	762	746	737	703
65°	532	525	511	498	491	527
75°	283	276	270	264	263	301
85°	74	74	72	71	70	82
90°	1	8	18	20	21	6
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°	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8
2.5°	1720.2	1719.5	1718.7	1718.0	1717.3	1715.5	1712.9	1710.2	1707.5	1704.9	1707.3
5°	1714.4	1713.2	1712.0	1710.8	1709.6	1707.3	1703.9	1700.6	1697.2	1693.8	1697.2
7.5°	1698.5	1697.3	1696.1	1694.8	1693.6	1691.2	1687.4	1683.7	1680.0	1676.2	1679.0
10°	1684.2	1683.0	1681.8	1680.5	1679.3	1676.7	1672.8	1668.8	1664.8	1660.9	1663.3
12.5°	1665.5	1664.3	1663.0	1661.8	1660.6	1657.9	1653.7	1649.5	1645.3	1641.1	1643.7
15°	1631.9	1630.7	1629.5	1628.3	1627.0	1624.2	1619.5	1615.0	1610.4	1605.9	1607.7
17.5°	1591.6	1590.0	1588.5	1587.0	1585.4	1582.5	1578.1	1573.8	1569.5	1565.1	1566.3
20°	1561.9	1560.3	1558.8	1557.3	1555.7	1552.6	1548.1	1543.5	1539.0	1534.3	1535.2
22.5°	1529.9	1527.9	1526.0	1523.9	1521.9	1518.5	1514.0	1509.4	1504.9	1500.2	1501.9
25°	1478.0	1475.8	1473.7	1471.5	1469.4	1466.2	1461.9	1457.7	1453.4	1449.1	1449.4
27.5°	1418.6	1416.3	1414.2	1412.0	1409.8	1406.7	1402.7	1398.8	1394.8	1390.8	1390.1
30°	1379.0	1376.6	1374.1	1371.7	1369.2	1366.0	1362.0	1358.1	1354.1	1350.1	1348.9
32.5°	1337.2	1335.0	1332.8	1330.6	1328.4	1325.2	1320.9	1316.7	1312.5	1308.3	1306.8
35°	1271.8	1269.6	1267.5	1265.3	1263.2	1260.0	1255.7	1251.5	1247.2	1242.9	1240.7
37.5°	1202.7	1200.8	1198.9	1196.9	1194.9	1191.6	1187.1	1182.5	1177.8	1173.3	1171.0
40°	1157.6	1155.2	1152.7	1150.3	1147.9	1144.4	1139.8	1135.1	1130.6	1126.0	1122.9
42.5°	1109.2	1107.8	1106.3	1104.8	1103.4	1100.1	1095.0	1089.9	1084.9	1079.8	1076.2
45°	1038.0	1035.9	1033.7	1031.6	1029.5	1026.0	1021.1	1016.2	1011.2	1006.4	1003.1
47.5°	963.5	962.0	960.5	959.1	957.6	954.7	950.1	945.6	941.1	936.6	932.8
50°	912.9	911.7	910.4	909.2	908.0	905.3	901.0	896.7	892.4	888.1	883.9
52.5°	863.4	861.9	860.5	859.0	857.6	854.5	850.1	845.5	841.0	836.5	832.7
55°	785.1	784.1	783.3	782.3	781.4	778.8	774.5	770.3	765.9	761.6	758.0
57.5°	710.2	709.2	708.2	707.1	706.1	703.4	699.2	695.0	690.8	686.6	683.1
60°	658.6	657.0	655.5	654.0	652.5	649.7	645.8	641.8	637.7	633.8	631.0
62.5°	608.0	606.7	605.4	604.1	602.9	600.1	595.9	591.7	587.5	583.2	580.7
65°	532.1	530.5	529.0	527.4	526.0	523.7	520.6	517.5	514.5	511.4	508.4
67.5°	455.6	454.3	452.8	451.4	450.0	447.8	444.9	442.0	439.0	436.1	433.2
70°	408.4	406.2	404.1	401.9	399.8	397.5	395.0	392.6	390.1	387.7	385.3
72.5°	357.7	355.6	353.4	351.3	349.2	347.2	345.2	343.2	341.3	339.3	337.3
75°	283.2	281.7	280.2	278.6	277.1	275.6	274.1	272.5	271.0	269.5	268.3
77.5°	212.0	211.3	210.7	210.0	209.3	208.3	207.0	205.6	204.3	202.9	202.6
80°	169.1	168.2	167.3	166.3	165.5	164.7	164.1	163.4	162.8	162.2	161.6
82.5°	127.3	126.9	126.5	126.1	125.6	125.4	125.2	125.1	124.9	124.8	124.5
85°	74.2	74.2	74.2	74.2	74.2	74.0	73.4	72.8	72.1	71.5	71.5
87.5°	28.8	28.9	29.3	29.3	29.2	29.0	30.0	29.7	29.9	30.0	29.8
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°	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8
2.5°	1709.7	1712.2	1714.6	1715.7	1715.5	1715.2	1714.9	1714.7
5°	1700.6	1703.9	1707.3	1708.7	1708.1	1707.4	1706.8	1706.2
7.5°	1681.6	1684.3	1687.0	1688.2	1687.8	1687.4	1687.0	1686.7
10°	1665.7	1668.2	1670.6	1671.5	1670.9	1670.3	1669.7	1669.0
12.5°	1646.4	1649.1	1651.8	1652.7	1651.8	1651.0	1650.1	1649.2
15°	1609.5	1611.4	1613.2	1613.6	1612.7	1611.8	1610.8	1610.0
17.5°	1567.5	1568.7	1569.8	1570.0	1569.4	1568.8	1568.2	1567.6
20°	1536.2	1537.1	1538.0	1538.2	1537.6	1537.0	1536.4	1535.7
22.5°	1503.6	1505.2	1506.8	1507.1	1506.1	1504.9	1503.8	1502.7
25°	1449.8	1450.0	1450.4	1449.8	1448.6	1447.4	1446.2	1445.0
27.5°	1389.3	1388.6	1387.8	1386.7	1385.2	1383.7	1382.2	1380.6
30°	1347.6	1346.4	1345.2	1343.8	1342.3	1340.8	1339.3	1337.7
32.5°	1305.4	1303.9	1302.4	1301.0	1299.4	1297.9	1296.4	1294.9
35°	1238.6	1236.5	1234.3	1232.5	1231.0	1229.4	1227.9	1226.4
37.5°	1168.6	1166.3	1164.0	1161.8	1159.9	1157.8	1155.8	1153.7
40°	1119.9	1116.8	1113.8	1111.5	1110.0	1108.5	1106.9	1105.4
42.5°	1072.7	1069.2	1065.7	1063.3	1062.3	1061.3	1060.2	1059.2
45°	999.7	996.3	993.0	990.8	989.9	988.9	988.1	987.1
47.5°	929.0	925.2	921.4	918.3	916.0	913.7	911.4	909.0
50°	879.6	875.3	871.1	868.0	866.2	864.4	862.5	860.7
52.5°	828.9	825.1	821.3	818.3	816.0	813.6	811.3	809.0
55°	754.3	750.7	747.0	744.2	742.4	740.6	738.7	736.9
57.5°	679.7	676.1	672.7	670.0	668.3	666.5	664.7	663.0
60°	628.3	625.6	622.8	620.7	619.1	617.6	616.1	614.6
62.5°	578.2	575.7	573.2	571.2	569.6	568.1	566.6	565.1
65°	505.3	502.3	499.2	497.0	495.4	493.9	492.3	490.9
67.5°	430.2	427.3	424.4	422.7	422.2	421.8	421.4	420.9
70°	382.8	380.4	377.9	376.3	375.3	374.4	373.5	372.6
72.5°	335.4	333.5	331.5	330.0	329.2	328.2	327.3	326.4
75°	267.0	265.8	264.6	263.8	263.6	263.2	262.9	262.6
77.5°	202.2	201.8	201.5	200.9	200.1	199.3	198.5	197.7
80°	161.0	160.4	159.8	159.4	159.0	158.7	158.4	158.1
82.5°	124.1	123.7	123.4	123.0	122.7	122.4	122.1	121.8
85°	71.5	71.5	71.5	71.4	71.0	70.7	70.4	70.1
87.5°	30.0	30.2	30.4	30.4	30.6	30.8	30.6	30.6
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



TEST NUMBER: P332714-935

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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)