

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: P332705-935

Luminaire Tested: **SA4XXDIP-C1195D1035U935-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332705-935
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-C1195D1035U935-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

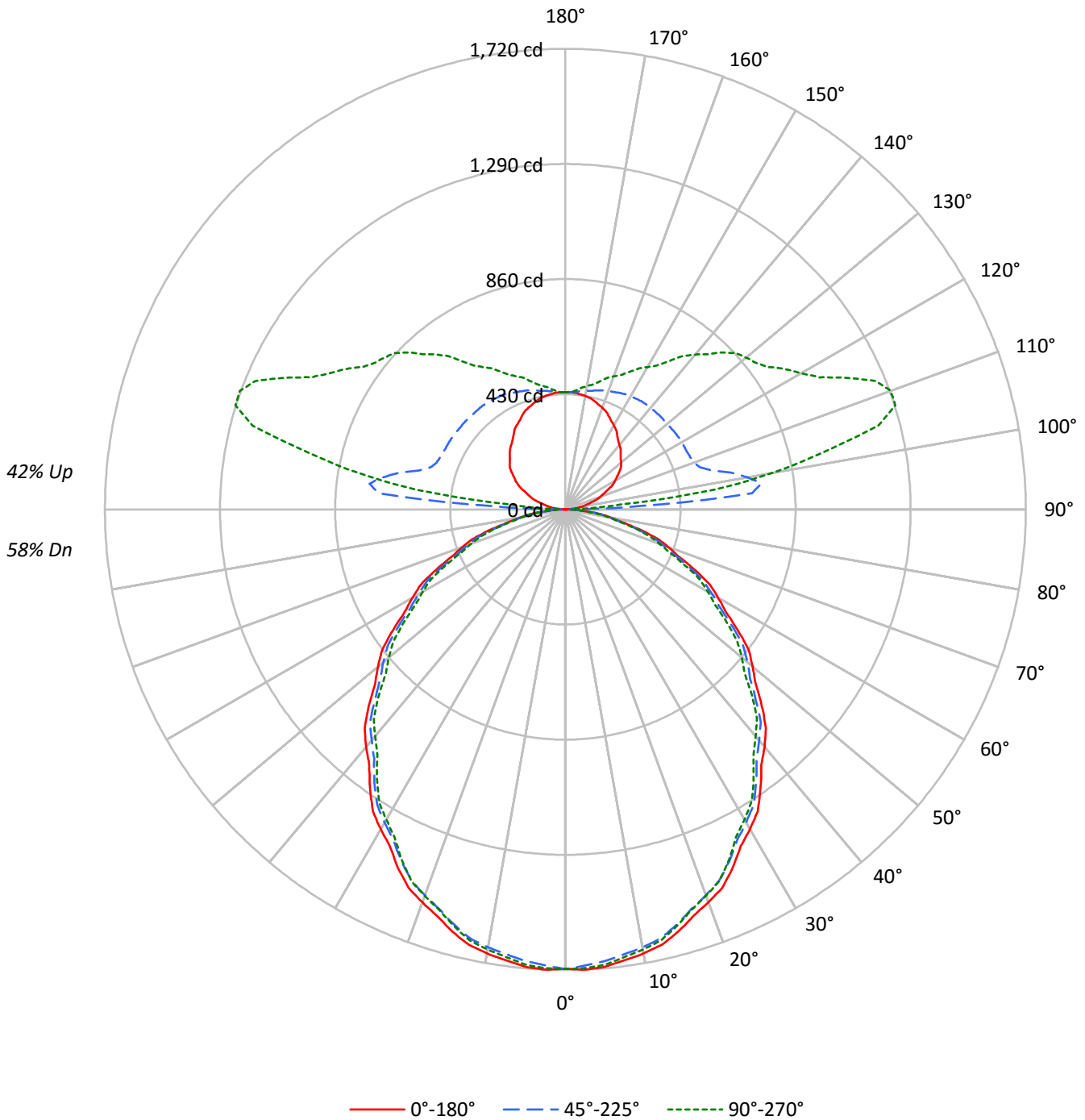
Lumens per Lamp: N/A
Luminaire Lumens: 7587.4 lumens
Efficiency: N/A
Efficacy: 113.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 66.8
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	109	109	109	109	102	102	102	102	88	88	88	75	75	75	64	64	64	58				58
1	100	95	91	88	93	89	85	82	77	74	72	66	64	63	56	55	54	49				49
2	91	83	77	72	84	78	72	68	67	63	60	58	55	52	49	47	45	41				41
3	83	73	66	60	77	68	62	56	60	54	50	51	47	44	44	41	38	35				35
4	76	65	57	50	70	61	53	48	53	47	43	46	41	38	39	36	33	30				30
5	70	58	49	43	65	54	47	41	47	41	37	41	36	33	35	32	29	26				26
6	64	52	44	38	60	49	41	36	43	37	32	37	32	29	32	28	25	23				23
7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	29	25	23	20				20
8	55	43	35	29	51	40	33	28	35	30	25	31	26	23	27	23	20	18				18
9	51	39	31	26	48	37	30	25	32	27	23	29	24	21	25	21	18	16				16
10	48	36	28	24	45	34	27	23	30	24	21	26	22	19	23	19	17	15				15

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	2.1
10°-20°	455.3	6.0
20°-30°	670.1	8.8
30°-40°	779.0	10.3
40°-50°	779.1	10.3
50°-60°	681.5	9.0
60°-70°	506.1	6.7
70°-80°	287.5	3.8
80°-90°	85.4	1.1
90°-100°	316.0	4.2
100°-110°	657.7	8.7
110°-120°	589.1	7.8
120°-130°	495.5	6.5
130°-140°	413.2	5.4
140°-150°	315.7	4.2
150°-160°	221.9	2.9
160°-170°	130.5	1.7
170°-180°	42.5	0.6
0°-30°	1287.0	17.0
0°-40°	2066.0	27.2
0°-60°	3526.5	46.5
0°-90°	4405.5	58.1
90°-120°	1562.8	20.6
90°-150°	2787.1	36.7
90°-180°	3182.0	41.9
0°-180°	7587.4	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	7	16	17	18	6
95°	28	89	700	347	210	32
105°	101	146	564	1214	1209	107
115°	177	222	503	966	1161	176
125°	247	293	500	822	927	220
135°	293	349	496	730	829	227
145°	338	387	493	615	676	212
155°	384	415	480	543	566	177
165°	419	432	460	487	494	118
175°	437	438	441	447	445	41
180°	438	438	438	438	438	



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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	28.8	29.1	29.1	29.0	28.8	29.5	29.3	29.4	29.5	29.4
90°	0.9	2.6	5.2	6.0	6.9	6.9	12.1	12.1	13.8	15.5	14.6
92.5°	9.8	14.3	22.4	32.8	45.4	63.3	106.9	173.7	238.6	272.7	227.1
95°	28.3	30.9	39.5	50.7	71.4	107.5	182.2	323.2	528.7	700.5	720.3
97.5°	50.9	50.9	58.3	68.6	86.3	116.6	174.2	290.5	494.7	737.8	904.9
100°	65.3	65.3	71.4	81.6	98.0	125.5	176.2	273.4	448.7	691.0	911.1
102.5°	79.0	80.4	85.8	95.4	111.1	137.2	183.0	268.5	417.8	632.7	859.5
105°	100.6	103.1	107.5	117.8	133.2	158.2	199.4	270.8	391.1	563.9	765.9
107.5°	124.3	126.1	130.3	141.3	156.1	180.6	218.5	283.4	386.2	525.4	690.2
110°	140.1	141.8	146.1	156.4	171.9	195.1	232.9	293.1	387.6	512.3	652.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	155.2	157.0	162.0	171.6	187.0	210.3	246.7	303.4	391.8	506.1	631.1
115°	177.1	179.6	185.6	194.2	210.6	233.8	268.2	319.8	399.7	502.8	611.1
117.5°	199.8	202.2	207.5	217.0	232.2	256.3	289.0	336.4	408.1	502.0	602.2
120°	214.9	216.6	222.7	232.0	246.7	270.8	303.4	348.1	414.3	502.0	597.4
122.5°	228.7	230.3	236.3	245.1	261.1	284.5	317.2	359.1	420.5	501.3	591.9
125°	246.7	250.1	255.3	264.8	281.0	305.1	336.0	375.7	429.8	500.2	582.8
127.5°	262.7	265.4	271.6	282.4	299.5	323.7	353.6	389.9	437.1	498.3	570.6
130°	271.6	275.1	281.9	294.8	311.2	336.0	365.3	398.8	442.6	497.7	563.0
132.5°	280.5	283.3	292.2	304.4	322.2	345.7	375.0	407.8	447.5	497.0	556.1
135°	293.1	296.5	305.1	319.8	337.8	360.2	388.5	419.5	454.7	495.9	545.8
137.5°	305.7	308.9	318.4	332.3	351.0	372.4	398.8	427.7	459.0	495.8	536.8
140°	314.6	317.2	326.7	341.2	359.3	380.0	405.7	433.2	462.4	495.1	532.1
142.5°	324.3	326.8	335.5	349.5	366.9	386.8	411.9	437.3	465.2	495.1	528.0
145°	337.8	340.4	349.0	361.0	377.4	396.2	418.6	441.8	466.7	493.4	520.9
147.5°	353.1	354.0	361.5	373.9	387.4	404.5	425.5	445.7	467.6	490.3	514.5
150°	362.7	363.6	370.5	380.8	393.6	410.0	429.0	447.8	467.6	488.2	509.7
152.5°	371.7	371.9	378.8	388.3	399.8	414.8	431.7	449.2	466.2	484.7	504.2
155°	384.2	385.0	390.2	398.8	408.3	421.2	435.8	450.4	464.2	479.7	495.9
157.5°	396.4	396.4	401.2	407.9	416.2	426.4	438.7	450.4	461.9	474.3	487.5
160°	404.0	404.0	407.4	413.5	420.3	429.8	440.1	450.4	459.9	470.2	481.4
162.5°	410.9	410.2	412.9	418.3	424.5	431.9	441.4	450.4	457.8	466.1	475.9
165°	418.6	418.6	420.3	424.6	429.0	434.0	441.8	448.7	453.8	459.9	466.7
167.5°	426.4	425.5	426.4	429.6	432.0	435.9	441.6	446.6	449.7	453.7	458.5
170°	429.8	429.0	429.8	432.4	434.0	436.6	440.9	445.2	446.9	449.5	453.0
172.5°	433.2	432.4	432.5	434.4	435.4	437.3	440.2	443.8	444.2	445.4	448.2
175°	436.6	435.8	435.8	436.6	437.5	437.5	439.2	441.8	440.9	440.9	442.6
177.5°	438.2	437.5	436.8	437.5	437.5	437.5	438.2	439.5	438.2	438.2	438.9
180°	437.5	437.5	437.5	437.5	437.5	437.5	437.5	437.5	437.5	437.5	437.5



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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°	29.5	29.7	29.9	29.9	30.0	30.2	30.0	30.0
90°	15.5	16.4	17.2	17.2	18.1	18.9	18.1	18.1
92.5°	168.8	127.1	101.1	83.9	73.8	69.1	66.2	66.2
95°	636.9	503.7	388.5	305.1	263.0	236.3	220.9	209.7
97.5°	941.1	891.5	807.4	717.7	656.0	604.2	578.5	560.6
100°	1036.6	1053.8	1011.7	948.0	873.3	820.9	795.0	788.2
102.5°	1031.8	1117.1	1129.3	1102.8	1056.9	1018.9	991.8	986.3
105°	962.7	1111.4	1196.4	1231.7	1233.5	1226.6	1214.5	1209.4
107.5°	864.5	1022.9	1142.7	1219.3	1261.8	1281.4	1290.0	1292.3
110°	805.4	954.1	1078.7	1173.3	1234.3	1270.4	1285.9	1293.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	762.1	893.5	1011.3	1105.9	1175.2	1218.8	1240.5	1253.0
115°	718.6	824.3	924.9	1007.4	1075.3	1126.9	1154.3	1161.2
117.5°	697.2	784.8	863.8	933.8	991.8	1035.1	1062.9	1068.2
120°	687.6	767.6	836.4	897.3	946.3	984.2	1006.5	1016.0
122.5°	679.4	756.6	819.2	872.6	914.0	946.3	965.3	974.7
125°	665.3	739.2	798.5	845.8	880.2	905.1	921.4	926.6
127.5°	648.1	718.8	777.9	822.8	857.3	879.5	893.2	898.4
130°	634.4	702.2	760.7	806.2	841.5	863.0	876.8	881.9
132.5°	619.9	683.7	740.7	786.4	820.9	845.1	858.2	863.3
135°	599.9	655.8	708.3	751.2	785.7	809.7	823.5	828.6
137.5°	581.9	629.2	673.4	712.2	744.3	768.1	779.5	785.7
140°	571.6	612.0	650.7	686.7	716.9	735.8	747.8	754.7
142.5°	562.0	597.5	630.8	662.0	688.6	706.2	716.9	721.7
145°	548.4	577.6	603.4	627.5	648.9	663.6	672.2	676.5
147.5°	537.2	560.4	581.1	599.9	615.8	628.4	634.9	636.4
150°	530.4	550.1	567.3	582.8	596.5	607.7	612.9	613.7
152.5°	522.8	539.8	555.6	568.3	580.1	589.1	592.2	593.1
155°	511.4	525.2	538.0	548.4	557.0	563.9	566.5	566.5
157.5°	499.2	510.7	521.6	529.9	536.3	541.5	543.0	543.0
160°	491.6	501.1	510.6	517.5	522.6	527.8	528.7	528.7
162.5°	484.1	492.1	499.6	505.8	509.5	514.7	515.6	514.9
165°	473.6	478.8	484.7	489.0	492.5	495.9	495.1	494.2
167.5°	463.5	467.4	472.3	474.8	476.6	478.8	478.6	477.9
170°	457.3	459.9	463.3	465.9	467.6	468.5	467.6	467.6
172.5°	451.8	453.7	455.7	457.6	458.7	459.5	458.7	457.3
175°	444.4	445.2	446.9	446.9	446.9	448.7	446.9	445.2
177.5°	439.5	440.2	440.2	440.9	440.2	440.9	439.5	438.2
180°	437.5	437.5	437.5	437.5	437.5	437.5	437.5	437.5

(END OF REPORT)