

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: P333008-840

Luminaire Tested: **SA4XXRDIP-C1195D1035U840-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P333008-840
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: SA4XXRDIP-C1195D1035U840-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1035 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

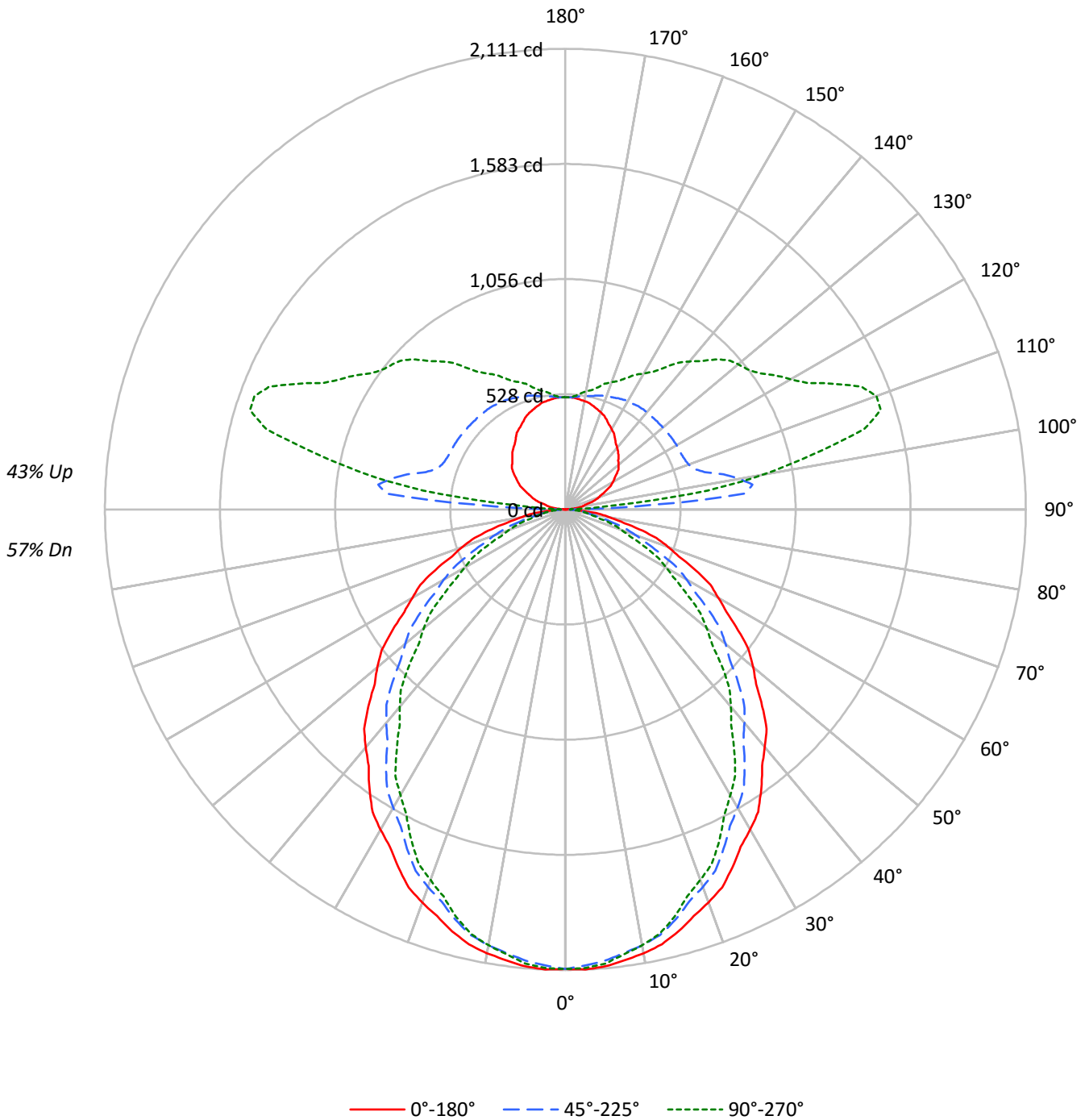
Lumens per Lamp: N/A
Luminaire Lumens: 8600.7 lumens
Efficiency: N/A
Efficacy: 128.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

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	101	101	101	101	87	87	87	74	74	74	62	62	62	57				
1	100	95	92	88	93	89	86	83	77	74	72	66	64	62	55	54	53	48				
2	91	84	78	72	84	78	73	68	68	64	60	58	55	53	49	47	45	41				
3	83	74	66	61	77	69	63	57	60	55	51	52	48	45	44	41	39	35				
4	76	65	58	52	71	61	54	49	53	48	44	46	42	39	39	36	34	30				
5	70	58	50	44	65	55	48	42	48	42	38	42	37	34	36	32	30	26				
6	65	53	45	39	60	49	42	37	43	38	33	38	33	30	32	29	26	23				
7	60	48	40	34	56	45	38	33	39	34	29	34	30	26	30	26	23	21				
8	56	43	36	30	52	41	34	29	36	30	26	32	27	24	27	24	21	19				
9	52	40	32	27	48	37	31	26	33	27	24	29	25	21	25	22	19	17				
10	49	36	29	24	45	34	28	23	31	25	21	27	22	19	23	20	17	15				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17002	17002	17002
5°	17040	16832	16936
10°	16934	16629	16629
15°	16739	16280	16160
20°	16472	15821	15530
25°	16131	15284	14895
30°	15800	14716	14100
35°	15431	14128	13302
40°	14989	13460	12440
45°	14582	12795	11562
50°	14117	12031	10633
55°	13619	11234	9623
60°	13070	10362	8591
65°	12567	9270	7578
70°	11837	8068	6434
75°	10914	6691	5231
80°	9521	5100	4798
85°	8068	4631	4335



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.8	2.3
10°-20°	551.7	6.4
20°-30°	796.6	9.3
30°-40°	903.0	10.5
40°-50°	872.0	10.1
50°-60°	725.1	8.4
60°-70°	500.7	5.8
70°-80°	253.8	3.0
80°-90°	67.9	0.8
90°-100°	370.6	4.3
100°-110°	771.4	9.0
110°-120°	690.9	8.0
120°-130°	581.2	6.8
130°-140°	484.6	5.6
140°-150°	370.2	4.3
150°-160°	260.2	3.0
160°-170°	153.1	1.8
170°-180°	49.8	0.6
0°-30°	1546.1	18.0
0°-40°	2449.1	28.5
0°-60°	4046.2	47.0
0°-90°	4868.6	56.6
90°-120°	1833.0	21.3
90°-150°	3269.0	38.0
90°-180°	3732.0	43.4
0°-180°	8600.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2106	2106	2106	2106	2106	
5°	2103	2096	2077	2092	2090	199
15°	2003	1987	1948	1944	1934	564
25°	1811	1780	1716	1689	1672	834
35°	1566	1513	1434	1380	1350	978
45°	1277	1215	1121	1044	1013	984
55°	968	901	798	717	684	865
65°	658	587	485	419	397	649
75°	350	289	214	179	168	369
85°	87	56	50	47	47	98
90°	1	8	18	20	21	6
95°	33	105	822	407	246	37
105°	118	171	661	1424	1418	126
115°	208	261	590	1133	1362	206
125°	289	344	587	964	1087	258
135°	344	409	582	856	972	266
145°	396	454	579	722	794	249
155°	451	486	563	637	664	208
165°	491	506	539	571	580	139
175°	512	513	517	524	522	49
180°	513	513	513	513	513	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0
2.5°	2111.1	2110.0	2108.9	2107.7	2106.6	2104.5	2101.3	2098.1	2095.0	2091.8	2095.0
5°	2102.7	2101.3	2099.9	2098.5	2097.1	2094.2	2089.9	2085.6	2081.3	2077.0	2080.5
7.5°	2083.8	2082.2	2080.7	2079.2	2077.7	2074.2	2068.6	2063.1	2057.4	2051.8	2054.2
10°	2065.7	2063.9	2062.1	2060.3	2058.5	2054.4	2048.0	2041.5	2035.1	2028.6	2030.0
12.5°	2042.5	2040.4	2038.3	2036.2	2034.2	2029.3	2021.7	2014.2	2006.5	1998.9	1999.8
15°	2002.8	1999.5	1996.4	1993.2	1989.9	1983.8	1974.9	1965.9	1956.9	1947.9	1947.2
17.5°	1954.8	1950.0	1945.4	1940.8	1936.1	1928.4	1917.6	1906.9	1896.1	1885.4	1883.4
20°	1917.3	1912.7	1908.0	1903.4	1898.7	1890.3	1878.1	1865.9	1853.7	1841.6	1838.7
22.5°	1876.0	1870.9	1865.6	1860.4	1855.1	1846.0	1832.9	1819.9	1806.9	1793.8	1789.5
25°	1810.9	1804.4	1798.0	1791.6	1785.1	1774.5	1759.9	1745.1	1730.5	1715.8	1709.7
27.5°	1742.5	1734.4	1726.4	1718.3	1710.1	1698.3	1682.5	1666.9	1651.1	1635.5	1627.9
30°	1694.9	1685.9	1676.9	1667.9	1659.0	1646.1	1629.2	1612.4	1595.6	1578.7	1569.7
32.5°	1644.5	1634.4	1624.3	1614.2	1604.1	1590.3	1572.9	1555.5	1538.0	1520.7	1510.3
35°	1565.8	1554.3	1542.9	1531.4	1519.9	1505.2	1487.3	1469.5	1451.5	1433.6	1421.4
37.5°	1481.7	1469.8	1457.9	1446.1	1434.3	1418.5	1398.7	1378.8	1359.0	1339.1	1325.4
40°	1422.3	1410.5	1398.7	1386.8	1374.9	1358.9	1338.5	1318.0	1297.6	1277.2	1262.1
42.5°	1365.5	1353.1	1340.7	1328.3	1316.0	1299.1	1277.8	1256.5	1235.3	1214.0	1198.6
45°	1277.2	1263.8	1250.6	1237.4	1224.2	1206.7	1185.3	1163.8	1142.3	1120.7	1103.2
47.5°	1185.9	1172.2	1158.5	1144.8	1131.1	1113.1	1090.8	1068.3	1046.0	1023.7	1005.4
50°	1124.0	1109.9	1096.0	1082.1	1068.0	1049.6	1026.6	1003.7	980.8	957.9	940.0
52.5°	1060.8	1047.0	1033.4	1019.7	1006.0	987.3	963.9	940.4	916.9	893.3	875.1
55°	967.6	953.2	938.9	924.5	910.2	891.4	868.1	844.9	821.5	798.2	779.6
57.5°	875.3	860.4	845.5	830.6	815.7	796.8	773.9	750.8	727.9	705.0	686.1
60°	809.5	795.2	780.8	766.5	752.1	733.6	710.6	687.7	664.7	641.8	623.2
62.5°	750.1	735.3	720.3	705.5	690.5	671.4	647.8	624.3	600.8	577.3	560.1
65°	657.9	642.5	627.1	611.7	596.3	577.1	554.2	531.3	508.4	485.3	470.0
67.5°	562.1	547.3	532.6	517.9	503.1	485.0	463.7	442.5	421.2	399.9	386.7
70°	501.5	486.5	471.4	456.4	441.3	423.5	403.1	382.7	362.3	341.8	330.0
72.5°	437.0	423.4	409.8	396.2	382.5	366.1	346.8	327.5	308.2	288.9	278.8
75°	349.9	336.7	323.4	310.1	296.9	281.9	265.0	248.1	231.4	214.5	206.2
77.5°	261.6	250.3	239.0	227.8	216.5	204.1	190.5	176.9	163.3	149.7	144.8
80°	204.8	194.4	184.0	173.6	163.2	152.7	141.9	131.2	120.4	109.7	108.6
82.5°	155.8	146.2	136.7	127.1	117.6	109.8	103.6	97.5	91.3	85.1	84.3
85°	87.1	79.9	72.7	65.5	58.4	54.3	53.2	52.1	51.1	50.0	49.3
87.5°	29.9	28.0	26.3	24.2	22.1	20.8	21.7	21.4	21.6	21.7	21.2
90°	1.0	3.0	6.1	7.1	8.1	8.1	14.1	14.1	16.2	18.2	17.2
92.5°	11.5	16.8	26.3	38.5	53.2	74.2	125.4	203.7	279.8	319.8	266.4
95°	33.2	36.3	46.4	59.5	83.7	126.0	213.7	379.1	620.1	821.6	844.9
97.5°	59.7	59.7	68.4	80.5	101.2	136.7	204.3	340.7	580.3	865.4	1061.4
100°	76.6	76.6	83.7	95.7	114.9	147.2	206.7	320.6	526.2	810.5	1068.6
102.5°	92.7	94.3	100.6	111.9	130.3	160.9	214.7	315.0	490.0	742.0	1008.1
105°	118.0	121.0	126.0	138.1	156.2	185.5	233.9	317.6	458.7	661.4	898.3
107.5°	145.8	147.8	152.8	165.7	183.1	211.9	256.3	332.4	453.0	616.2	809.5
110°	164.3	166.3	171.4	183.5	201.7	228.8	273.2	343.8	454.6	600.9	765.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	182.1	184.1	190.0	201.3	219.3	246.6	289.3	355.9	459.5	593.6	740.2
115°	207.7	210.7	217.7	227.8	247.0	274.2	314.6	375.1	468.8	589.8	716.8
117.5°	234.3	237.1	243.4	254.5	272.4	300.6	338.9	394.6	478.7	588.8	706.3
120°	252.1	254.1	261.2	272.2	289.3	317.6	355.9	408.3	485.9	588.8	700.6
122.5°	268.2	270.1	277.2	287.5	306.3	333.7	372.0	421.2	493.2	587.9	694.2
125°	289.3	293.4	299.4	310.5	329.6	357.9	394.2	440.6	504.1	586.7	683.6
127.5°	308.1	311.3	318.6	331.2	351.2	379.7	414.8	457.3	512.7	584.5	669.2
130°	318.6	322.7	330.6	345.8	365.0	394.2	428.5	467.8	519.2	583.7	660.4
132.5°	329.0	332.2	342.7	357.1	377.9	405.5	439.8	478.3	524.8	582.9	652.3
135°	343.8	347.8	357.9	375.1	396.2	422.4	455.7	492.0	533.3	581.7	640.2
137.5°	358.5	362.3	373.4	389.7	411.7	436.8	467.8	501.7	538.4	581.5	629.7
140°	369.0	372.0	383.1	400.2	421.4	445.7	475.8	508.1	542.4	580.7	624.1
142.5°	380.3	383.3	393.5	409.9	430.3	453.6	483.1	512.9	545.6	580.7	619.2
145°	396.2	399.2	409.3	423.4	442.6	464.7	491.0	518.2	547.4	578.7	611.0
147.5°	414.1	415.2	424.0	438.6	454.4	474.4	499.1	522.8	548.5	575.0	603.5
150°	425.5	426.5	434.5	446.7	461.7	480.9	503.1	525.2	548.5	572.6	597.8
152.5°	436.0	436.2	444.2	455.4	469.0	486.6	506.3	526.8	546.8	568.6	591.4
155°	450.6	451.6	457.7	467.8	478.9	494.0	511.1	528.3	544.4	562.6	581.7
157.5°	464.9	464.9	470.6	478.5	488.2	500.1	514.5	528.3	541.8	556.3	571.8
160°	473.8	473.8	477.9	484.9	493.0	504.1	516.1	528.3	539.4	551.5	564.6
162.5°	481.9	481.1	484.3	490.6	497.9	506.5	517.8	528.3	536.9	546.6	558.2
165°	491.0	491.0	493.0	498.1	503.1	509.1	518.2	526.2	532.3	539.4	547.4
167.5°	500.1	499.1	500.1	503.9	506.8	511.3	518.0	523.8	527.5	532.1	537.8
170°	504.1	503.1	504.1	507.2	509.1	512.1	517.2	522.2	524.2	527.3	531.3
172.5°	508.1	507.2	507.3	509.5	510.7	512.9	516.3	520.6	521.0	522.4	525.6
175°	512.1	511.1	511.1	512.1	513.1	513.1	515.1	518.2	517.2	517.2	519.2
177.5°	513.9	513.1	512.3	513.1	513.1	513.1	513.9	515.5	513.9	513.9	514.7
180°	513.1	513.1	513.1	513.1	513.1	513.1	513.1	513.1	513.1	513.1	513.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0
2.5°	2098.1	2101.3	2104.5	2105.9	2105.6	2105.3	2105.0	2104.8
5°	2084.2	2087.7	2091.3	2092.7	2092.0	2091.3	2090.6	2089.9
7.5°	2056.4	2058.7	2061.0	2061.5	2060.4	2059.3	2058.1	2057.0
10°	2031.4	2032.9	2034.4	2034.4	2032.9	2031.4	2030.0	2028.6
12.5°	2000.6	2001.6	2002.4	2001.8	1999.8	1997.8	1995.8	1993.8
15°	1946.5	1945.8	1945.1	1943.5	1941.0	1938.4	1936.0	1933.5
17.5°	1881.4	1879.4	1877.3	1874.5	1870.7	1866.8	1863.1	1859.3
20°	1835.8	1832.9	1830.1	1826.3	1821.7	1817.1	1812.3	1807.7
22.5°	1785.2	1780.9	1776.7	1772.6	1768.8	1764.9	1761.2	1757.4
25°	1703.5	1697.5	1691.4	1686.6	1682.9	1679.4	1675.8	1672.2
27.5°	1620.4	1612.9	1605.4	1599.0	1593.9	1588.7	1583.6	1578.4
30°	1560.7	1551.9	1542.9	1535.5	1529.7	1524.1	1518.3	1512.6
32.5°	1499.9	1489.4	1479.0	1471.2	1465.7	1460.3	1454.8	1449.4
35°	1409.2	1397.0	1384.8	1375.5	1369.1	1362.6	1356.1	1349.7
37.5°	1311.8	1298.2	1284.6	1274.6	1268.1	1261.6	1255.3	1248.8
40°	1247.1	1232.0	1217.0	1206.2	1199.7	1193.3	1186.9	1180.4
42.5°	1183.3	1167.9	1152.6	1141.6	1134.8	1128.1	1121.4	1114.6
45°	1085.6	1068.0	1050.5	1038.4	1032.1	1025.6	1019.2	1012.7
47.5°	987.2	969.1	950.9	938.2	931.1	924.0	916.9	909.8
50°	922.0	904.1	886.2	873.8	867.1	860.2	853.4	846.6
52.5°	857.0	838.8	820.5	807.9	800.8	793.8	786.6	779.5
55°	760.9	742.4	723.7	710.9	704.2	697.3	690.5	683.7
57.5°	667.2	648.2	629.3	617.3	612.2	606.9	601.8	596.6
60°	604.5	585.9	567.2	555.1	549.4	543.6	537.9	532.1
62.5°	542.9	525.7	508.5	497.6	493.0	488.5	483.8	479.3
65°	454.5	439.2	423.7	413.8	409.6	405.3	401.0	396.7
67.5°	373.4	360.1	346.9	337.9	333.2	328.4	323.7	318.9
70°	318.2	306.4	294.6	286.9	283.3	279.7	276.1	272.6
72.5°	268.7	258.6	248.5	241.9	238.5	235.3	232.0	228.6
75°	198.0	189.8	181.5	176.3	174.2	172.0	169.9	167.7
77.5°	140.1	135.2	130.5	127.7	127.0	126.4	125.8	125.1
80°	107.6	106.4	105.3	104.6	104.3	103.9	103.6	103.2
82.5°	83.6	82.8	82.0	81.4	81.1	80.7	80.4	80.0
85°	48.6	47.9	47.2	46.8	46.8	46.8	46.8	46.8
87.5°	21.1	21.0	20.9	20.9	21.4	21.9	22.0	22.3
90°	18.2	19.2	20.2	20.2	21.2	22.2	21.2	21.2
92.5°	198.0	149.1	118.6	98.4	86.5	81.1	77.7	77.7
95°	747.0	590.8	455.7	357.9	308.5	277.2	259.1	246.0
97.5°	1103.8	1045.6	947.1	841.8	769.4	708.7	678.5	657.5
100°	1215.9	1236.0	1186.6	1112.0	1024.3	962.8	932.5	924.5
102.5°	1210.2	1310.2	1324.5	1293.4	1239.6	1195.1	1163.3	1156.8
105°	1129.1	1303.5	1403.3	1444.7	1446.7	1438.7	1424.5	1418.5
107.5°	1014.0	1199.7	1340.3	1430.2	1480.0	1503.0	1513.1	1515.7
110°	944.6	1119.0	1265.3	1376.1	1447.7	1490.1	1508.2	1517.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	893.8	1048.0	1186.2	1297.1	1378.4	1429.6	1455.0	1469.7
115°	842.8	966.8	1084.8	1181.5	1261.2	1321.7	1353.9	1362.0
117.5°	817.8	920.5	1013.2	1095.3	1163.3	1214.1	1246.7	1252.9
120°	806.5	900.3	981.0	1052.5	1109.9	1154.4	1180.5	1191.6
122.5°	796.9	887.4	960.8	1023.5	1072.1	1109.9	1132.2	1143.3
125°	780.3	867.0	936.5	992.0	1032.4	1061.6	1080.8	1086.8
127.5°	760.1	843.0	912.4	965.0	1005.5	1031.6	1047.6	1053.7
130°	744.1	823.6	892.2	945.6	986.9	1012.2	1028.3	1034.4
132.5°	727.1	801.9	868.8	922.3	962.8	991.2	1006.5	1012.6
135°	703.7	769.2	830.7	881.1	921.5	949.7	965.8	971.9
137.5°	682.6	738.0	789.8	835.4	873.0	900.9	914.2	921.5
140°	670.4	717.8	763.2	805.5	840.8	863.0	877.1	885.1
142.5°	659.1	700.8	739.8	776.5	807.7	828.3	840.8	846.5
145°	643.2	677.5	707.7	736.0	761.1	778.3	788.4	793.5
147.5°	630.1	657.3	681.6	703.7	722.3	737.0	744.7	746.4
150°	622.1	645.2	665.4	683.6	699.6	712.8	718.8	719.8
152.5°	613.2	633.1	651.7	666.6	680.3	690.9	694.6	695.6
155°	599.9	616.0	631.1	643.2	653.3	661.4	664.4	664.4
157.5°	585.5	599.1	611.8	621.5	629.0	635.1	636.9	636.9
160°	576.6	587.7	598.8	606.9	613.0	619.0	620.1	620.1
162.5°	567.7	577.2	585.9	593.2	597.6	603.7	604.7	603.9
165°	555.5	561.6	568.6	573.6	577.6	581.7	580.7	579.7
167.5°	543.6	548.3	553.9	556.9	559.0	561.6	561.4	560.6
170°	536.3	539.4	543.4	546.4	548.5	549.5	548.5	548.5
172.5°	529.9	532.1	534.5	536.7	538.0	539.0	538.0	536.3
175°	521.2	522.2	524.2	524.2	524.2	526.2	524.2	522.2
177.5°	515.5	516.3	516.3	517.2	516.3	517.2	515.5	513.9
180°	513.1	513.1	513.1	513.1	513.1	513.1	513.1	513.1

(END OF REPORT)