

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: P332089-830

Luminaire Tested: **S123DIP-S1165D1195U830-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332089-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D1195U830-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8557.8 lumens
Efficiency: N/A
Efficacy: 119.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

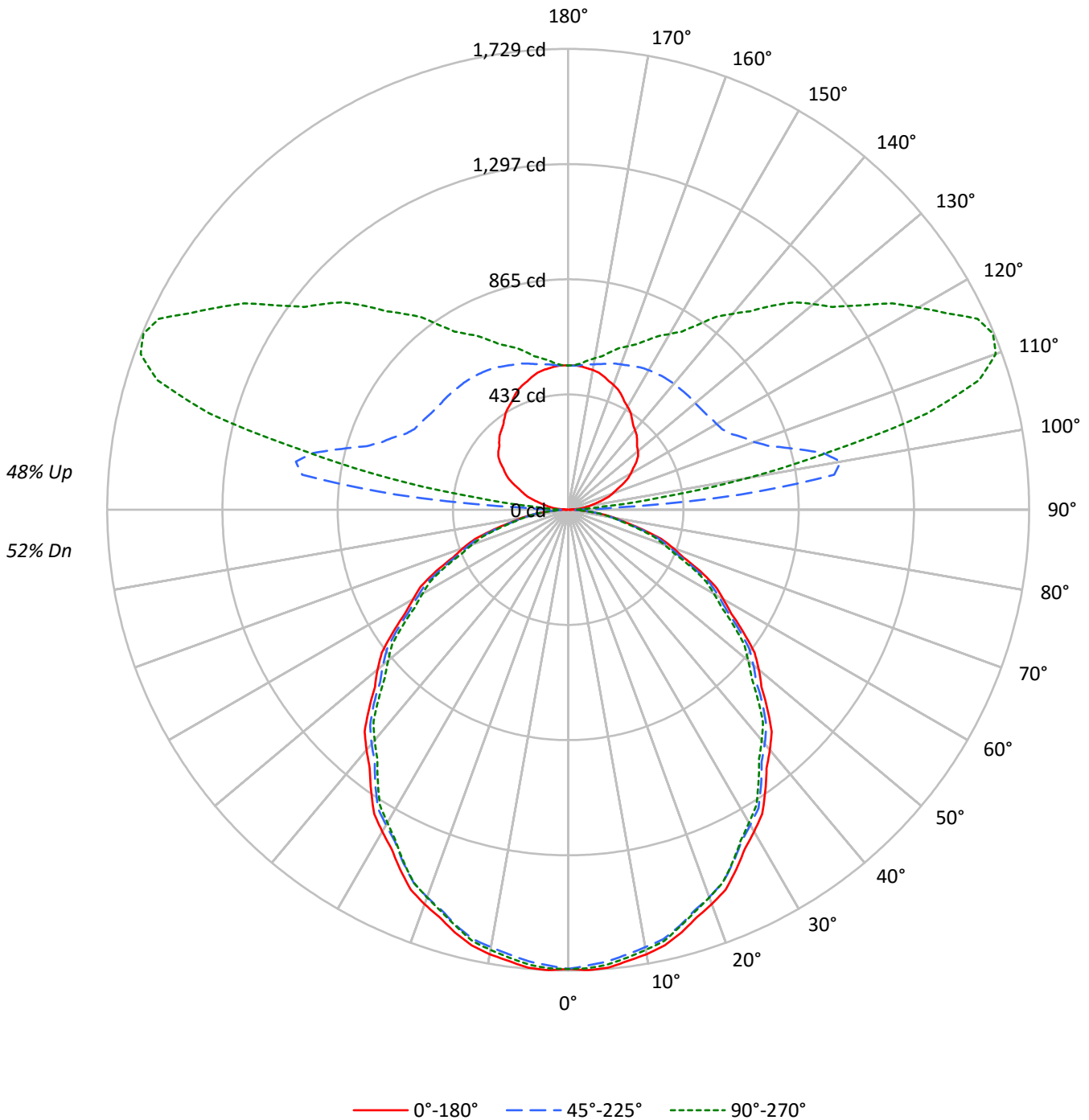
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	85	85	85	71	71	71	58	58	58	52
1	98	94	90	86	91	87	84	81	74	72	69	62	61	59	51	50	49	44
2	89	82	76	71	82	76	71	66	65	61	57	55	52	49	45	43	41	37
3	82	72	65	59	75	67	60	55	57	52	48	48	45	42	40	37	35	31
4	75	64	56	50	69	59	52	47	51	45	41	43	39	36	36	33	30	27
5	68	57	49	43	63	53	46	40	46	40	35	39	34	31	32	29	26	23
6	63	51	43	37	58	48	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	25	21	18	16
9	50	38	31	25	47	36	29	24	31	26	22	27	22	19	23	19	17	15
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°	18547	18547	18547
5°	18634	18377	18506
10°	18510	18218	18332
15°	18293	18013	18046
20°	18040	17718	17734
25°	17701	17368	17332
30°	17329	16978	16850
35°	16938	16567	16353
40°	16530	16114	15864
45°	16081	15696	15314
50°	15630	15183	14763
55°	15041	14653	14208
60°	14449	14034	13586
65°	13924	13359	12944
70°	13149	12589	12032
75°	12015	11582	11088
80°	10835	10377	10290
85°	9510	9152	8793



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.3	1.9
10°-20°	458.3	5.4
20°-30°	677.0	7.9
30°-40°	790.8	9.2
40°-50°	795.1	9.3
50°-60°	698.4	8.2
60°-70°	520.3	6.1
70°-80°	296.4	3.5
80°-90°	89.3	1.0
90°-100°	301.1	3.5
100°-110°	852.5	10.0
110°-120°	838.6	9.8
120°-130°	668.9	7.8
130°-140°	527.4	6.2
140°-150°	393.6	4.6
150°-160°	274.4	3.2
160°-170°	161.2	1.9
170°-180°	52.4	0.6
0°-30°	1297.6	15.2
0°-40°	2088.4	24.4
0°-60°	3581.8	41.9
0°-90°	4487.8	52.4
90°-120°	1992.1	23.3
90°-150°	3582.0	41.9
90°-180°	4070.0	47.6
0°-180°	8557.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1723	1723	1723	1723	1723	
5°	1725	1717	1701	1715	1713	163
15°	1642	1635	1616	1627	1619	463
25°	1490	1481	1462	1464	1459	686
35°	1289	1280	1261	1252	1244	806
45°	1056	1050	1031	1014	1006	815
55°	802	799	781	765	757	718
65°	547	539	524	513	508	539
75°	289	283	278	271	267	309
85°	77	74	74	71	71	85
90°	2	13	27	31	32	7
95°	37	121	649	190	127	40
105°	127	188	880	1540	1393	135
115°	224	280	673	1477	1694	222
125°	312	368	629	1139	1336	277
135°	366	436	620	938	1083	283
145°	417	478	612	769	846	261
155°	474	511	592	673	702	218
165°	518	533	567	602	612	146
175°	540	540	544	552	551	51
180°	541	541	541	541	541	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1
2.5°	1729.0	1728.0	1726.9	1725.9	1724.8	1722.8	1720.0	1717.0	1714.1	1711.2	1713.8
5°	1724.6	1723.0	1721.3	1719.7	1718.0	1715.3	1711.8	1708.1	1704.5	1700.8	1704.1
7.5°	1707.7	1706.0	1704.4	1702.7	1701.1	1698.4	1694.6	1690.9	1687.2	1683.4	1686.3
10°	1693.5	1691.8	1690.2	1688.5	1686.9	1683.9	1679.6	1675.4	1671.0	1666.8	1669.7
12.5°	1674.5	1673.1	1671.7	1670.4	1669.0	1666.2	1662.3	1658.2	1654.2	1650.2	1652.4
15°	1641.6	1640.3	1639.0	1637.7	1636.3	1633.5	1629.3	1624.9	1620.7	1616.4	1619.0
17.5°	1603.4	1601.7	1600.0	1598.3	1596.5	1593.6	1589.2	1585.0	1580.6	1576.4	1578.3
20°	1574.9	1572.9	1570.9	1569.0	1567.1	1563.9	1559.6	1555.4	1551.0	1546.8	1548.1
22.5°	1542.9	1541.0	1539.0	1537.0	1535.0	1531.9	1527.6	1523.3	1519.1	1514.8	1515.8
25°	1490.4	1488.5	1486.5	1484.5	1482.6	1479.4	1475.2	1470.9	1466.6	1462.4	1462.6
27.5°	1434.5	1432.6	1430.7	1428.7	1426.8	1423.6	1419.0	1414.4	1409.8	1405.1	1405.4
30°	1394.2	1392.5	1390.9	1389.2	1387.6	1384.5	1379.9	1375.3	1370.6	1366.0	1366.0
32.5°	1353.9	1351.7	1349.5	1347.4	1345.2	1342.3	1338.8	1335.2	1331.6	1328.1	1326.3
35°	1289.0	1287.0	1285.1	1283.1	1281.1	1278.0	1273.7	1269.4	1265.1	1260.8	1258.9
37.5°	1222.6	1220.1	1217.6	1215.1	1212.6	1209.2	1204.9	1200.5	1196.2	1191.8	1189.4
40°	1176.4	1174.4	1172.4	1170.4	1168.5	1165.2	1160.6	1155.9	1151.3	1146.8	1144.2
42.5°	1130.1	1127.9	1125.7	1123.4	1121.2	1117.8	1113.1	1108.5	1103.9	1099.4	1096.7
45°	1056.4	1055.1	1053.8	1052.4	1051.1	1048.3	1044.1	1039.7	1035.5	1031.1	1027.3
47.5°	983.2	981.3	979.4	977.4	975.5	972.6	968.6	964.5	960.5	956.5	952.6
50°	933.4	931.8	930.1	928.5	926.8	923.9	919.5	915.3	911.0	906.7	903.1
52.5°	881.3	880.1	879.0	877.9	876.8	873.9	869.4	864.9	860.4	855.7	852.6
55°	801.5	801.3	800.9	800.6	800.2	798.0	793.6	789.4	785.0	780.8	777.2
57.5°	725.7	724.5	723.4	722.4	721.2	719.0	715.5	712.1	708.7	705.2	702.0
60°	671.2	670.8	670.5	670.1	669.9	667.7	663.7	659.8	655.8	651.9	648.9
62.5°	622.5	621.7	620.9	620.0	619.2	616.7	612.7	608.8	604.9	601.0	597.9
65°	546.7	545.1	543.4	541.8	540.1	537.6	534.3	531.0	527.7	524.5	521.9
67.5°	466.4	465.0	463.5	462.0	460.6	458.6	456.1	453.6	451.1	448.7	446.3
70°	417.8	415.8	413.9	411.9	409.9	407.9	406.0	404.0	402.0	400.0	397.8
72.5°	366.8	365.4	363.9	362.5	361.1	359.2	356.9	354.7	352.5	350.2	348.2
75°	288.9	287.6	286.3	284.9	283.6	282.5	281.5	280.5	279.6	278.5	276.9
77.5°	219.9	219.1	218.4	217.7	217.0	216.0	214.8	213.7	212.4	211.3	210.2
80°	174.8	173.8	172.9	171.8	170.9	170.0	169.4	168.7	168.1	167.4	167.1
82.5°	131.0	130.7	130.5	130.4	130.2	130.0	129.9	129.8	129.6	129.5	128.9
85°	77.0	76.3	75.7	75.0	74.4	74.1	74.1	74.1	74.1	74.1	73.4
87.5°	31.3	30.9	30.5	30.4	30.1	30.0	30.3	30.7	31.2	31.6	31.1
90°	2.2	4.3	6.6	9.9	12.1	14.2	17.5	20.8	24.1	27.3	26.3
92.5°	13.6	20.2	29.3	37.9	47.1	63.3	92.0	139.1	185.3	168.4	127.1
95°	37.2	40.5	52.6	71.2	99.6	142.3	235.4	398.6	578.2	649.4	526.7
97.5°	63.5	64.6	74.0	90.2	118.3	164.5	253.4	437.3	736.8	1006.4	1076.7
100°	81.1	82.1	89.8	105.1	131.4	174.1	250.8	412.8	700.9	1037.1	1252.8
102.5°	99.4	101.4	108.2	122.6	146.3	185.5	254.3	391.8	648.3	980.1	1261.5
105°	127.1	130.4	136.9	150.1	170.8	204.8	263.9	376.7	583.7	880.4	1194.8
107.5°	156.4	159.7	166.0	178.9	198.4	230.0	281.9	375.6	542.5	792.4	1077.8
110°	177.4	180.7	186.2	198.2	216.8	247.5	296.8	380.0	526.7	742.4	1004.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	196.7	200.0	205.5	217.4	236.1	265.9	311.7	388.8	518.0	709.2	940.3
115°	224.5	228.8	235.4	246.4	265.0	294.5	336.2	403.0	514.7	673.4	862.9
117.5°	252.3	257.3	262.8	272.9	293.7	321.1	362.2	421.8	516.7	652.4	816.2
120°	271.5	274.8	280.3	291.3	312.1	339.5	378.9	435.8	520.2	642.8	791.7
122.5°	288.2	291.5	297.0	308.8	328.8	357.9	396.4	449.0	526.3	636.7	771.6
125°	312.1	314.3	320.8	332.9	353.7	383.2	421.6	469.8	535.5	628.6	745.7
127.5°	330.3	333.6	341.7	353.9	376.9	406.5	443.5	486.9	546.0	624.6	723.0
130°	341.7	345.0	354.8	368.0	391.0	420.5	456.7	498.2	553.0	622.0	710.7
132.5°	350.4	354.6	365.3	381.1	404.1	432.8	468.1	508.8	558.3	621.1	699.4
135°	365.8	370.1	382.2	398.6	421.6	451.2	485.1	522.4	566.2	619.8	684.5
137.5°	380.2	384.8	396.6	414.2	437.0	464.3	496.9	532.4	571.5	617.4	671.5
140°	389.8	395.3	406.2	423.8	445.7	473.1	504.8	537.7	575.0	616.5	663.6
142.5°	400.4	405.0	416.8	432.5	454.5	480.1	511.0	542.9	577.6	614.8	656.6
145°	417.3	420.5	430.4	446.8	465.4	490.6	519.1	548.7	579.3	612.2	647.2
147.5°	434.3	436.3	445.9	460.1	478.2	499.5	525.7	552.1	579.3	608.0	638.0
150°	445.7	446.8	455.5	469.8	485.1	504.8	530.0	553.0	579.3	604.5	631.9
152.5°	457.1	457.3	466.1	478.5	492.1	511.0	532.6	554.8	576.6	600.1	624.9
155°	474.2	474.2	480.8	491.7	503.7	519.1	537.7	555.3	573.8	592.5	614.3
157.5°	487.8	488.6	493.9	503.5	513.8	525.7	540.5	556.3	570.1	585.7	602.5
160°	498.2	498.2	502.7	511.4	519.1	530.0	543.2	556.3	568.4	580.4	594.7
162.5°	506.1	506.1	509.6	516.7	523.5	532.6	544.0	555.4	564.9	575.1	586.7
165°	518.0	516.9	519.1	524.5	529.0	536.6	545.4	553.0	559.6	567.2	576.0
167.5°	527.0	525.7	526.7	530.9	534.0	538.8	545.2	551.3	554.3	559.4	565.7
170°	532.3	530.0	531.1	534.4	536.6	538.8	544.2	548.7	550.8	554.1	559.6
172.5°	535.7	534.4	534.6	537.1	538.4	539.7	544.2	547.8	548.2	549.7	553.5
175°	539.9	538.8	537.7	539.9	539.9	541.0	543.2	545.4	544.2	544.2	546.5
177.5°	541.9	541.0	540.1	541.0	541.0	541.0	541.9	543.6	541.9	541.0	541.9
180°	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1
2.5°	1716.5	1719.1	1721.7	1723.0	1722.7	1722.4	1722.1	1721.9
5°	1707.4	1710.7	1714.0	1715.3	1714.7	1714.0	1713.4	1712.7
7.5°	1689.3	1692.2	1695.3	1696.5	1696.1	1695.7	1695.4	1695.0
10°	1672.7	1675.7	1678.7	1679.8	1679.1	1678.5	1677.8	1677.2
12.5°	1654.5	1656.7	1658.9	1659.8	1659.3	1659.0	1658.6	1658.2
15°	1621.6	1624.3	1626.9	1627.3	1625.3	1623.3	1621.4	1619.4
17.5°	1580.1	1582.0	1583.8	1584.3	1583.7	1582.9	1582.2	1581.5
20°	1549.4	1550.8	1552.1	1552.2	1551.2	1550.2	1549.3	1548.2
22.5°	1516.9	1518.0	1519.0	1518.9	1517.7	1516.4	1515.1	1513.9
25°	1463.0	1463.3	1463.7	1463.3	1462.4	1461.3	1460.4	1459.3
27.5°	1405.7	1405.9	1406.2	1405.7	1404.5	1403.2	1401.9	1400.7
30°	1366.0	1366.0	1366.0	1364.9	1362.5	1360.3	1357.9	1355.7
32.5°	1324.4	1322.6	1320.7	1319.2	1318.0	1316.6	1315.4	1314.2
35°	1256.9	1254.9	1252.9	1251.1	1249.4	1247.8	1246.1	1244.5
37.5°	1187.0	1184.7	1182.3	1180.6	1179.5	1178.5	1177.4	1176.4
40°	1141.5	1138.9	1136.2	1134.3	1132.9	1131.6	1130.3	1129.0
42.5°	1094.1	1091.5	1088.8	1086.8	1085.5	1084.2	1082.9	1081.6
45°	1023.3	1019.4	1015.4	1012.6	1011.0	1009.3	1007.7	1006.0
47.5°	948.8	944.9	940.9	938.3	936.9	935.4	934.0	932.6
50°	899.5	895.9	892.2	889.5	887.5	885.5	883.5	881.6
52.5°	849.6	846.5	843.4	840.8	838.9	836.9	834.9	832.9
55°	773.5	770.0	766.3	763.6	762.0	760.3	758.7	757.1
57.5°	698.8	695.6	692.3	689.8	687.9	686.0	684.0	682.1
60°	646.0	643.0	640.1	637.7	636.1	634.4	632.8	631.1
62.5°	595.0	592.0	589.1	587.0	585.9	584.8	583.7	582.6
65°	519.2	516.6	514.0	512.2	511.1	510.2	509.2	508.2
67.5°	444.0	441.7	439.4	437.5	436.2	434.8	433.4	432.1
70°	395.4	393.1	390.8	388.8	387.2	385.5	383.9	382.3
72.5°	346.2	344.1	342.0	340.6	339.8	338.9	338.1	337.2
75°	275.2	273.6	271.9	270.6	269.7	268.6	267.7	266.6
77.5°	209.1	207.9	206.8	206.2	206.2	206.2	206.2	206.2
80°	166.7	166.5	166.1	166.0	166.0	166.0	166.0	166.0
82.5°	128.3	127.7	127.1	126.7	126.4	126.2	125.9	125.6
85°	72.8	72.1	71.4	71.2	71.2	71.2	71.2	71.2
87.5°	31.0	31.0	30.9	31.2	31.0	31.2	31.5	31.2
90°	27.3	28.5	29.6	31.8	30.6	31.8	32.9	31.8
92.5°	92.2	73.1	64.6	58.9	56.9	53.6	54.8	52.8
95°	394.3	267.2	209.2	169.8	148.9	139.1	131.4	127.1
97.5°	982.7	787.1	645.9	514.9	434.1	384.8	355.2	345.8
100°	1291.1	1202.4	1074.3	918.8	808.1	728.2	685.5	686.6
102.5°	1393.6	1390.7	1316.1	1217.5	1131.4	1068.2	1032.5	1007.3
105°	1423.6	1533.1	1554.0	1525.5	1475.1	1433.5	1398.5	1393.0
107.5°	1337.3	1515.1	1611.1	1650.1	1651.0	1636.9	1625.1	1615.0
110°	1255.0	1456.5	1594.5	1671.1	1701.8	1710.5	1708.4	1706.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1173.5	1379.4	1534.0	1632.6	1688.7	1715.8	1724.1	1724.6
115°	1065.5	1256.0	1417.0	1536.4	1618.5	1666.7	1688.7	1694.1
117.5°	987.3	1151.8	1296.4	1417.5	1503.2	1558.3	1589.9	1597.3
120°	946.1	1094.0	1225.4	1336.1	1422.5	1483.8	1510.1	1516.7
122.5°	913.7	1047.5	1169.3	1272.1	1349.0	1404.1	1433.0	1441.3
125°	870.6	990.0	1095.0	1182.7	1252.8	1301.0	1328.3	1336.1
127.5°	832.9	939.3	1034.2	1113.9	1176.4	1217.5	1242.3	1249.2
130°	809.3	907.9	996.6	1071.0	1129.1	1168.5	1191.5	1200.2
132.5°	787.4	878.1	960.6	1031.6	1086.1	1125.5	1145.9	1152.1
135°	757.8	835.6	906.7	969.1	1022.8	1055.6	1075.3	1083.1
137.5°	730.8	794.6	855.9	910.0	955.2	988.4	1005.0	1010.1
140°	715.1	770.9	823.5	870.6	912.2	942.9	960.4	959.3
142.5°	700.2	748.2	793.7	834.7	870.2	897.3	913.0	912.0
145°	682.2	718.4	753.5	785.1	812.6	835.6	844.3	846.5
147.5°	667.6	696.3	724.5	747.1	767.9	783.4	791.7	792.6
150°	657.0	682.2	705.2	726.0	742.4	754.5	761.1	761.1
152.5°	647.4	669.1	689.5	706.8	719.7	730.8	734.8	734.8
155°	632.9	650.4	666.9	680.0	689.9	698.7	700.9	701.9
157.5°	617.6	632.4	645.0	655.3	663.8	670.4	672.1	671.9
160°	608.9	620.9	631.9	639.5	647.2	653.7	653.7	652.7
162.5°	598.3	608.7	618.7	625.5	630.6	636.2	636.2	635.2
165°	584.8	591.4	599.0	604.5	608.9	613.2	612.2	612.2
167.5°	573.0	578.0	582.4	586.4	588.2	591.4	590.2	590.2
170°	565.1	568.4	572.7	575.0	576.0	578.2	577.1	577.1
172.5°	558.1	560.4	564.0	565.2	565.5	567.7	565.7	564.9
175°	548.7	549.7	552.0	552.0	552.0	553.0	552.0	550.8
177.5°	542.7	543.6	544.5	544.5	543.6	544.5	542.7	542.7
180°	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0

(END OF REPORT)