

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: P332346-840

Luminaire Tested: **S123RDIP-S1000D805U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332346-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S1000D805U840-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 805 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6616.3 lumens
Efficiency: N/A
Efficacy: 121.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

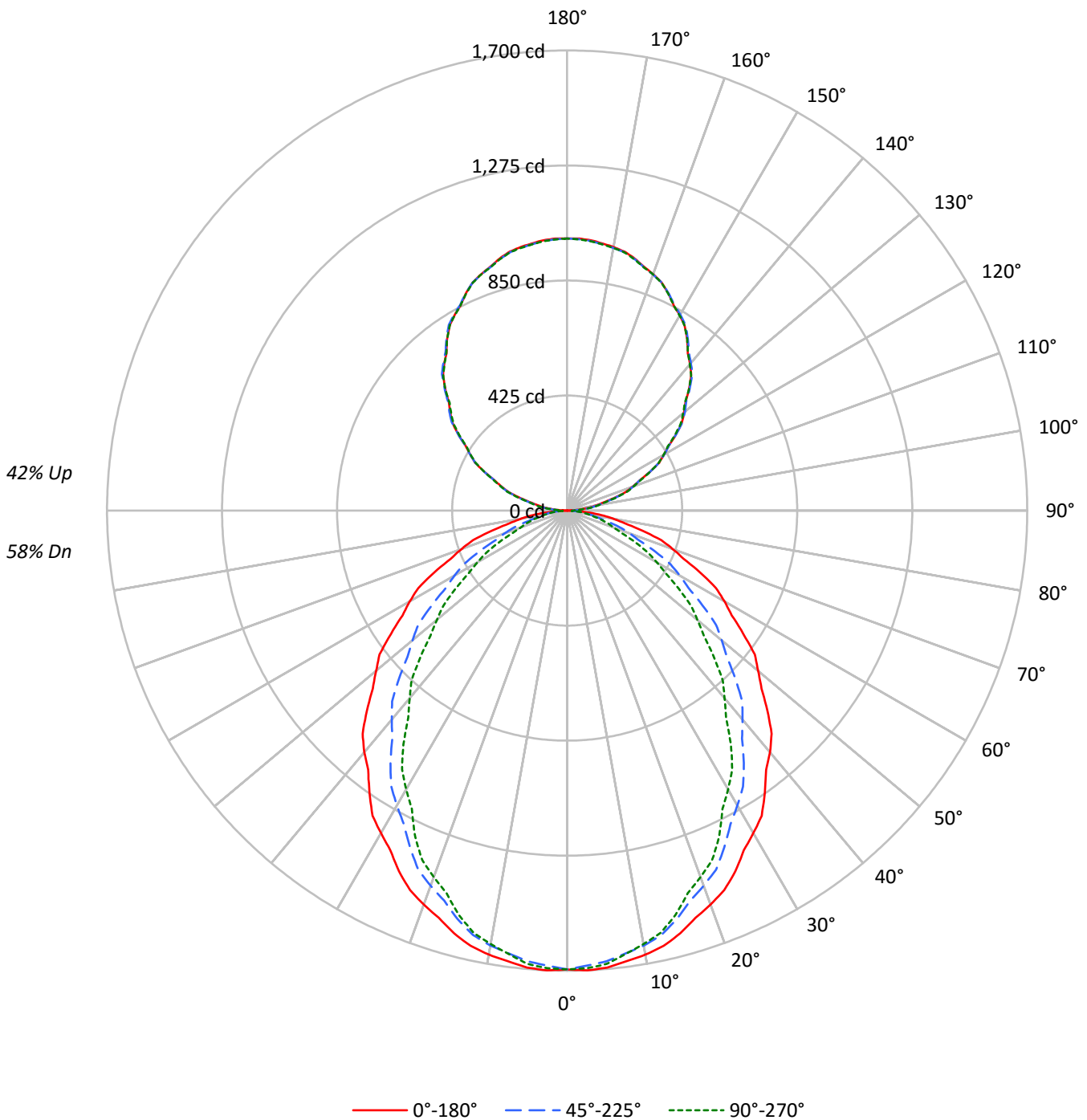
Input Watts (W): 54.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	109	109	109	102	102	102	102	88	88	88	75	75	75	63	63	63	58
1	100	96	92	88	93	89	86	83	78	75	73	67	65	63	57	55	54	50
2	91	84	78	73	85	79	73	69	68	64	61	59	56	53	50	48	46	42
3	84	74	67	61	78	69	63	58	61	56	52	52	49	46	45	42	40	36
4	77	66	58	52	71	62	55	49	54	49	44	47	43	39	40	37	35	31
5	70	59	51	45	66	55	48	43	49	43	39	42	38	34	36	33	30	27
6	65	53	45	39	61	50	43	37	44	38	34	38	34	30	33	30	27	24
7	60	48	40	35	56	45	38	33	40	34	30	35	30	27	30	27	24	22
8	56	44	36	31	52	41	34	29	37	31	27	32	28	24	28	24	22	19
9	52	40	33	27	49	38	31	26	34	28	24	30	25	22	26	22	20	18
10	49	37	30	25	46	35	28	24	31	26	22	27	23	20	24	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18243	18243	18243
5°	18312	18058	18163
10°	18208	17832	17772
15°	18013	17415	17231
20°	17743	16893	16501
25°	17467	16308	15785
30°	17100	15632	14777
35°	16724	14954	13853
40°	16378	14155	12708
45°	15923	13370	11676
50°	15421	12476	10518
55°	14910	11453	9439
60°	14441	10357	8254
65°	13827	9172	7070
70°	13064	7701	5712
75°	11948	6059	5373
80°	10649	5362	4940
85°	8991	4755	4409



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.1	2.4
10°-20°	442.8	6.7
20°-30°	637.6	9.6
30°-40°	718.2	10.9
40°-50°	687.1	10.4
50°-60°	562.6	8.5
60°-70°	379.6	5.7
70°-80°	191.0	2.9
80°-90°	53.5	0.8
90°-100°	65.5	1.0
100°-110°	196.0	3.0
110°-120°	333.3	5.0
120°-130°	438.5	6.6
130°-140°	492.8	7.4
140°-150°	484.4	7.3
150°-160°	407.8	6.2
160°-170°	271.5	4.1
170°-180°	95.1	1.4
0°-30°	1239.5	18.7
0°-40°	1957.7	29.6
0°-60°	3207.4	48.5
0°-90°	3831.5	57.9
90°-120°	594.8	9.0
90°-150°	2010.5	30.4
90°-180°	2785.0	42.1
0°-180°	6616.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1695	1695	1695	1695	1695	
5°	1695	1687	1671	1683	1681	161
15°	1616	1600	1563	1556	1546	455
25°	1471	1435	1373	1345	1329	676
35°	1273	1221	1138	1081	1054	796
45°	1046	982	878	802	767	807
55°	794	724	610	533	503	712
65°	543	466	360	296	278	537
75°	287	221	146	133	129	306
85°	73	44	38	36	36	82
90°	1	9	19	22	24	6
95°	47	52	58	61	62	52
105°	178	180	186	186	188	190
115°	336	338	336	337	336	332
125°	491	493	492	489	486	438
135°	637	642	641	638	636	491
145°	773	775	777	776	773	483
155°	885	885	886	889	884	407
165°	964	962	962	966	961	272
175°	1003	1000	1000	1004	999	95
180°	1005	1005	1005	1005	1005	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8
2.5°	1700.2	1699.2	1698.3	1697.3	1696.3	1694.4	1691.4	1688.5	1685.6	1682.6	1685.3
5°	1694.8	1693.1	1691.6	1690.1	1688.6	1686.0	1682.3	1678.7	1675.1	1671.3	1674.1
7.5°	1679.0	1677.4	1675.8	1674.1	1672.4	1669.2	1664.5	1659.7	1655.0	1650.2	1651.7
10°	1665.9	1663.8	1661.5	1659.4	1657.3	1653.5	1648.0	1642.4	1637.0	1631.5	1631.8
12.5°	1647.2	1644.8	1642.4	1640.0	1637.6	1633.1	1626.4	1619.6	1613.0	1606.2	1606.0
15°	1616.4	1613.1	1609.6	1606.3	1603.0	1597.0	1588.4	1579.8	1571.3	1562.8	1561.3
17.5°	1577.6	1573.7	1569.8	1565.9	1562.0	1554.6	1543.7	1532.9	1522.0	1511.1	1507.8
20°	1549.0	1544.2	1539.2	1534.4	1529.4	1521.3	1509.6	1498.0	1486.4	1474.8	1470.9
22.5°	1517.1	1511.6	1505.9	1500.3	1494.7	1485.7	1473.3	1461.0	1448.7	1436.3	1431.4
25°	1470.7	1463.1	1455.4	1447.7	1440.2	1429.3	1415.2	1401.2	1387.2	1373.1	1366.7
27.5°	1414.3	1405.9	1397.5	1389.1	1380.6	1368.6	1352.9	1337.3	1321.6	1306.1	1297.1
30°	1375.8	1366.7	1357.6	1348.4	1339.2	1326.1	1309.0	1291.8	1274.8	1257.7	1247.3
32.5°	1337.4	1327.0	1316.6	1306.2	1295.9	1281.6	1263.5	1245.5	1227.3	1209.2	1197.9
35°	1272.7	1261.7	1250.7	1239.8	1228.8	1213.8	1194.9	1175.9	1157.0	1138.0	1124.9
37.5°	1207.3	1195.1	1182.9	1170.6	1158.4	1142.3	1122.1	1101.8	1081.6	1061.4	1046.4
40°	1165.6	1152.2	1138.6	1125.2	1111.8	1094.2	1072.6	1050.9	1029.2	1007.4	991.6
42.5°	1118.2	1104.8	1091.4	1077.9	1064.5	1046.6	1024.2	1001.8	979.4	956.9	939.6
45°	1046.0	1032.2	1018.4	1004.7	991.0	972.4	948.9	925.3	901.8	878.3	860.9
47.5°	973.7	958.6	943.5	928.4	913.3	894.0	870.5	847.0	823.4	799.9	781.0
50°	920.9	906.6	892.2	877.9	863.4	843.9	819.2	794.5	769.7	745.0	726.0
52.5°	873.6	858.1	842.4	826.9	811.3	791.2	766.8	742.3	717.8	693.3	673.6
55°	794.5	779.5	764.5	749.5	734.6	714.1	688.1	662.2	636.2	610.3	592.6
57.5°	721.3	705.0	688.7	672.4	656.1	634.9	608.7	582.7	556.6	530.6	513.8
60°	670.8	654.0	637.1	620.4	603.5	582.5	557.1	531.8	506.4	481.1	464.5
62.5°	620.2	603.4	586.5	569.8	553.0	531.9	506.5	481.2	455.9	430.5	415.0
65°	542.9	526.1	509.3	492.5	475.7	455.4	431.6	407.8	384.0	360.1	345.2
67.5°	465.6	448.7	431.7	414.8	397.8	377.8	355.0	332.1	309.3	286.4	275.3
70°	415.1	398.6	382.1	365.6	349.1	330.2	308.8	287.4	266.0	244.7	234.0
72.5°	364.5	348.3	332.0	315.8	299.5	281.7	262.3	242.9	223.4	204.0	195.2
75°	287.3	272.6	257.9	243.3	228.6	212.9	196.1	179.3	162.5	145.7	142.6
77.5°	216.9	203.6	190.4	177.1	163.9	151.8	141.0	130.2	119.4	108.6	106.9
80°	171.8	159.3	146.7	134.2	121.7	112.3	105.8	99.4	93.0	86.5	85.6
82.5°	129.0	118.2	107.3	96.4	85.6	78.8	75.7	72.8	69.8	66.8	65.8
85°	72.8	66.1	59.4	52.7	45.9	42.1	41.2	40.3	39.4	38.5	37.9
87.5°	26.6	24.2	21.9	19.5	17.2	16.3	16.8	17.2	17.7	18.1	18.0
90°	0.8	2.5	4.3	6.1	7.8	9.8	12.1	14.3	16.7	19.0	19.7
92.5°	19.1	20.3	21.5	22.7	23.8	25.1	26.5	27.8	29.0	30.3	30.9
95°	46.6	47.8	49.1	50.3	51.5	52.8	54.2	55.6	57.1	58.5	59.2
97.5°	82.7	83.6	84.5	85.4	86.4	87.4	88.4	89.4	90.4	91.4	92.2
100°	107.3	108.5	109.5	110.6	111.6	112.6	113.4	114.3	115.2	116.0	116.6
102.5°	135.8	136.4	137.0	137.7	138.4	139.3	140.4	141.6	142.7	143.9	144.4
105°	177.6	178.0	178.3	178.7	179.0	180.1	181.6	183.2	184.8	186.3	186.3
107.5°	226.3	226.5	226.7	226.9	227.1	227.5	228.2	228.8	229.4	230.0	230.7
110°	256.6	256.9	257.3	257.6	258.0	258.3	258.7	259.0	259.4	259.7	260.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	288.2	288.4	288.6	288.8	289.0	289.1	289.2	289.3	289.4	289.4	290.3
115°	335.6	336.1	336.6	337.1	337.7	337.8	337.4	337.1	336.7	336.4	336.5
117.5°	383.2	383.6	384.0	384.3	384.7	384.6	384.2	383.6	383.2	382.7	382.7
120°	412.9	413.9	415.1	416.1	417.2	417.3	416.4	415.5	414.7	413.7	413.5
122.5°	443.9	444.6	445.5	446.2	447.0	447.2	446.7	446.3	445.8	445.4	444.8
125°	491.1	491.6	492.1	492.7	493.2	493.3	492.9	492.6	492.2	491.9	491.2
127.5°	534.7	535.8	536.9	538.1	539.2	539.6	539.2	538.8	538.4	538.0	537.0
130°	563.7	565.1	566.5	567.9	569.4	569.8	569.3	568.8	568.3	567.6	566.9
132.5°	592.8	594.2	595.6	597.0	598.4	599.0	598.5	598.1	597.7	597.3	596.5
135°	637.1	638.2	639.2	640.4	641.4	641.9	641.7	641.5	641.3	641.2	640.5
137.5°	678.2	679.1	679.9	680.9	681.8	682.4	682.9	683.3	683.8	684.2	683.5
140°	706.6	707.5	708.4	709.3	710.1	710.6	710.8	711.0	711.2	711.3	711.2
142.5°	732.6	733.5	734.3	735.2	736.1	736.7	737.0	737.3	737.6	737.9	737.7
145°	773.0	773.4	773.7	774.1	774.4	774.8	775.4	775.9	776.4	776.9	776.8
147.5°	808.4	809.0	809.6	810.2	810.9	811.4	811.9	812.4	812.9	813.4	813.4
150°	832.9	833.3	833.6	834.0	834.4	834.8	835.1	835.5	835.8	836.2	836.2
152.5°	853.2	853.6	854.1	854.6	855.2	855.6	855.8	856.0	856.2	856.4	856.7
155°	885.0	885.0	885.0	885.0	885.0	885.1	885.3	885.6	885.8	885.9	886.6
157.5°	912.2	912.0	911.8	911.6	911.4	911.4	911.5	911.7	911.8	911.9	912.7
160°	929.3	929.0	928.6	928.3	927.9	927.8	927.8	927.8	927.8	927.8	928.6
162.5°	944.4	944.0	943.5	943.0	942.5	942.3	942.5	942.6	942.7	942.9	943.7
165°	964.0	963.5	963.0	962.5	961.9	961.7	961.7	961.7	961.7	961.7	962.7
167.5°	979.7	979.0	978.3	977.5	976.8	976.6	976.7	976.8	977.0	977.1	978.3
170°	988.6	987.8	987.1	986.4	985.7	985.3	985.3	985.3	985.3	985.3	986.6
172.5°	995.4	994.8	994.1	993.4	992.7	992.3	992.3	992.3	992.3	992.3	993.4
175°	1002.7	1002.0	1001.4	1000.7	1000.0	999.6	999.6	999.6	999.6	999.6	1000.7
177.5°	1005.7	1005.2	1004.6	1004.0	1003.5	1003.2	1003.2	1003.2	1003.2	1003.2	1004.0
180°	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8
2.5°	1688.0	1690.7	1693.3	1694.5	1693.9	1693.5	1693.0	1692.5
5°	1676.9	1679.6	1682.3	1683.4	1682.8	1682.2	1681.6	1681.0
7.5°	1653.3	1654.8	1656.3	1656.6	1655.5	1654.5	1653.5	1652.3
10°	1632.1	1632.4	1632.7	1632.1	1630.5	1629.0	1627.5	1626.0
12.5°	1605.8	1605.7	1605.5	1604.5	1602.8	1600.9	1599.2	1597.4
15°	1559.7	1558.2	1556.7	1554.8	1552.7	1550.5	1548.4	1546.3
17.5°	1504.6	1501.4	1498.1	1494.9	1491.8	1488.5	1485.4	1482.2
20°	1466.8	1462.9	1459.0	1455.1	1451.5	1447.7	1444.1	1440.5
22.5°	1426.4	1421.5	1416.5	1412.3	1409.0	1405.5	1402.1	1398.7
25°	1360.3	1353.8	1347.5	1342.5	1339.2	1335.8	1332.5	1329.1
27.5°	1288.2	1279.3	1270.3	1263.3	1258.2	1253.0	1247.9	1242.8
30°	1236.9	1226.5	1216.1	1208.5	1203.6	1198.7	1193.8	1188.9
32.5°	1186.5	1175.2	1163.8	1155.6	1150.4	1145.3	1140.1	1135.0
35°	1111.8	1098.6	1085.5	1076.2	1070.8	1065.2	1059.8	1054.2
37.5°	1031.6	1016.6	1001.8	990.9	984.1	977.3	970.6	963.8
40°	975.7	959.9	943.9	932.5	925.4	918.5	911.4	904.4
42.5°	922.2	904.8	887.5	875.7	869.4	863.1	856.8	850.5
45°	843.4	826.1	808.6	796.3	788.9	781.6	774.3	767.0
47.5°	762.0	743.2	724.2	711.4	704.9	698.4	691.9	685.3
50°	707.1	688.1	669.2	656.2	649.2	642.2	635.2	628.1
52.5°	654.0	634.3	614.6	601.6	595.3	589.1	582.8	576.4
55°	574.8	557.1	539.4	527.5	521.4	515.2	509.2	503.0
57.5°	497.1	480.3	463.6	452.6	447.5	442.2	437.1	431.8
60°	448.1	431.6	415.1	404.2	399.1	393.8	388.7	383.4
62.5°	399.4	384.0	368.4	357.9	352.5	347.1	341.6	336.2
65°	330.2	315.2	300.2	291.0	287.7	284.4	281.0	277.6
67.5°	264.1	252.9	241.8	234.3	230.8	227.1	223.5	219.9
70°	223.3	212.6	201.9	194.9	191.5	188.1	184.8	181.5
72.5°	186.5	177.7	169.1	164.0	162.6	161.2	159.8	158.3
75°	139.6	136.5	133.5	131.7	131.1	130.4	129.8	129.2
77.5°	105.3	103.6	102.0	100.9	100.3	99.7	99.1	98.5
80°	84.7	83.8	82.9	82.2	81.6	81.0	80.3	79.7
82.5°	64.9	64.0	63.1	62.6	62.5	62.4	62.2	62.1
85°	37.3	36.7	36.1	35.7	35.7	35.7	35.7	35.7
87.5°	17.9	17.8	17.7	17.6	17.4	17.2	17.0	16.9
90°	20.4	21.0	21.7	22.3	22.6	23.0	23.3	23.7
92.5°	31.4	32.0	32.5	32.7	32.5	32.3	32.1	31.9
95°	59.8	60.5	61.2	61.6	61.6	61.6	61.6	61.6
97.5°	93.0	93.8	94.6	95.0	94.9	94.9	94.8	94.7
100°	117.1	117.6	118.2	118.7	119.0	119.3	119.7	120.0
102.5°	144.9	145.4	145.9	146.2	146.1	146.0	146.0	145.9
105°	186.3	186.3	186.3	186.5	186.8	187.2	187.5	187.9
107.5°	231.2	231.8	232.4	232.5	232.3	232.1	231.9	231.7
110°	261.2	261.9	262.6	262.8	262.4	262.1	261.7	261.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	291.1	292.0	292.9	293.2	293.2	293.1	293.0	293.0
115°	336.7	336.9	337.1	337.1	336.9	336.7	336.5	336.4
117.5°	382.7	382.6	382.6	382.3	381.9	381.4	380.9	380.4
120°	413.3	413.2	413.0	412.7	412.4	412.0	411.7	411.3
122.5°	444.4	443.9	443.5	443.0	442.5	442.0	441.5	441.0
125°	490.5	489.8	489.1	488.4	487.7	487.0	486.3	485.5
127.5°	536.0	535.0	534.1	533.2	532.4	531.6	530.8	530.0
130°	566.3	565.6	564.9	563.9	562.7	561.5	560.3	559.0
132.5°	595.7	594.8	594.0	593.1	592.2	591.2	590.3	589.4
135°	639.7	639.0	638.3	637.8	637.4	637.1	636.7	636.4
137.5°	682.8	682.1	681.3	680.5	679.9	679.2	678.6	677.9
140°	711.0	710.8	710.6	710.0	708.7	707.5	706.3	705.1
142.5°	737.6	737.4	737.2	736.7	735.7	734.8	733.8	732.9
145°	776.6	776.4	776.2	775.8	775.1	774.4	773.7	773.0
147.5°	813.4	813.4	813.4	812.8	811.8	810.7	809.7	808.7
150°	836.2	836.2	836.2	835.7	834.6	833.5	832.4	831.4
152.5°	856.9	857.2	857.5	857.2	856.3	855.4	854.4	853.5
155°	887.3	888.0	888.7	888.4	887.2	886.0	884.7	883.5
157.5°	913.4	914.1	914.8	914.7	913.8	912.8	911.8	910.8
160°	929.5	930.4	931.2	931.3	930.6	929.9	929.2	928.5
162.5°	944.6	945.5	946.4	946.2	945.1	944.0	942.9	941.8
165°	963.8	964.8	965.9	965.8	964.6	963.3	962.1	960.9
167.5°	979.4	980.4	981.5	981.5	980.4	979.4	978.3	977.1
170°	987.8	989.1	990.3	990.3	989.1	987.8	986.6	985.3
172.5°	994.5	995.6	996.6	996.6	995.3	994.1	992.9	991.7
175°	1001.7	1002.7	1003.8	1003.7	1002.5	1001.3	1000.0	998.8
177.5°	1004.9	1005.7	1006.5	1006.5	1005.5	1004.5	1003.6	1002.6
180°	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1

(END OF REPORT)