

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: P332457-840

Luminaire Tested: **S123RDIW-S1000D755U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332457-840
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: S123RDIW-S1000D755U840-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 755 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6475.1 lumens
Efficiency: N/A
Efficacy: 120.8 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

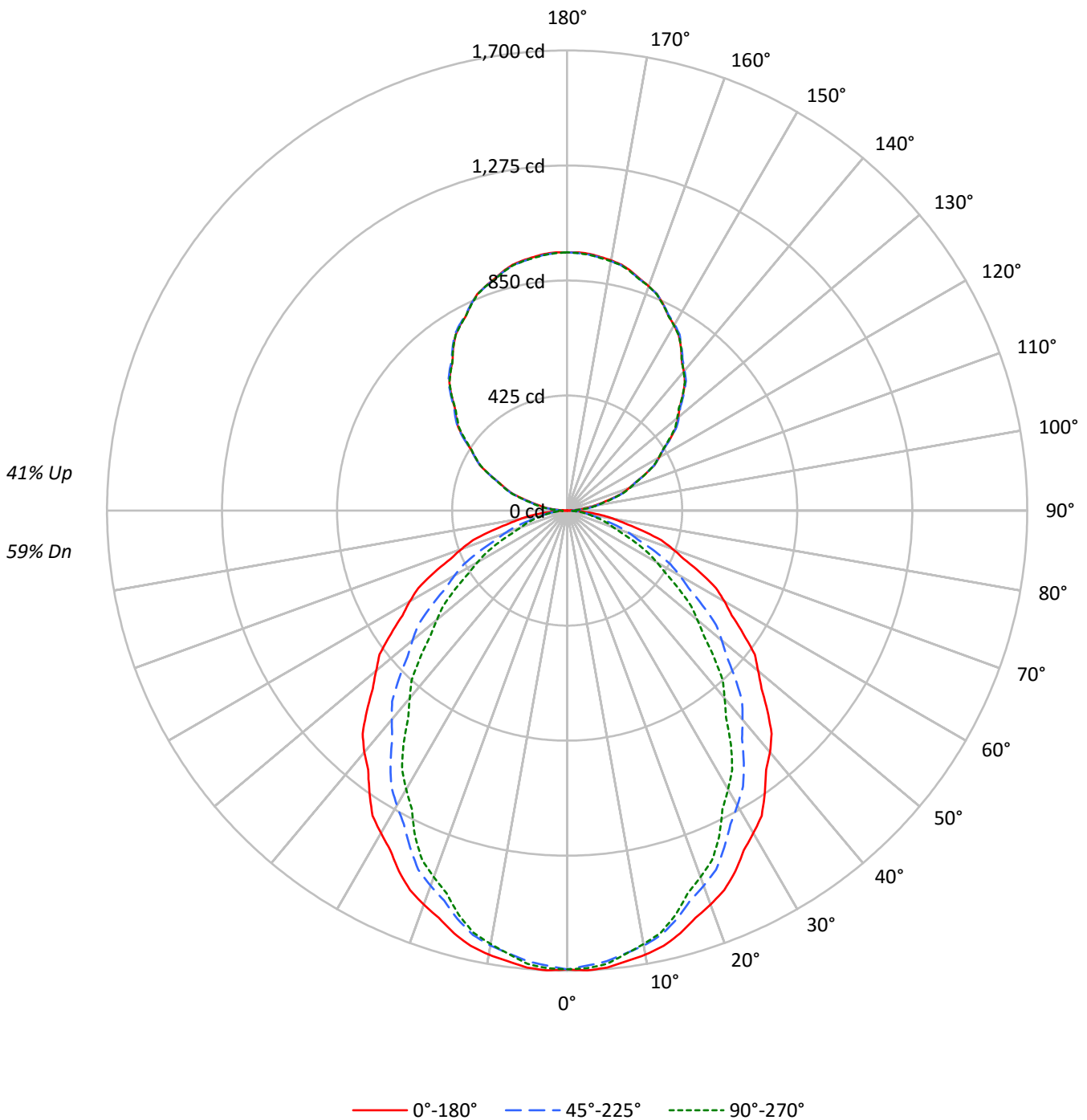
Input Watts (W): 53.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	76	76	76	65	65	65	59
1	100	96	92	89	93	90	86	84	78	76	74	67	66	64	58	56	55	51
2	92	84	78	73	85	79	74	69	69	65	61	60	57	54	51	49	47	43
3	84	74	67	61	78	70	63	58	61	56	52	53	49	46	46	43	41	37
4	77	66	58	52	72	62	55	50	55	49	45	48	43	40	41	38	35	32
5	71	59	51	45	66	56	48	43	49	43	39	43	38	35	37	34	31	28
6	65	53	45	39	61	50	43	38	44	39	34	39	34	31	34	30	27	25
7	60	48	40	35	56	46	38	33	40	35	30	36	31	27	31	27	24	22
8	56	44	36	31	52	42	34	30	37	31	27	33	28	25	29	25	22	20
9	52	40	33	28	49	38	31	27	34	28	24	30	25	22	26	23	20	18
10	49	37	30	25	46	35	28	24	31	26	22	28	23	20	25	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	2.5
10°-20°	442.8	6.8
20°-30°	637.6	9.8
30°-40°	718.2	11.1
40°-50°	687.1	10.6
50°-60°	562.6	8.7
60°-70°	379.6	5.9
70°-80°	191.0	2.9
80°-90°	53.3	0.8
90°-100°	62.2	1.0
100°-110°	186.1	2.9
110°-120°	316.4	4.9
120°-130°	416.2	6.4
130°-140°	467.8	7.2
140°-150°	459.9	7.1
150°-160°	387.1	6.0
160°-170°	257.7	4.0
170°-180°	90.2	1.4
0°-30°	1239.5	19.1
0°-40°	1957.7	30.2
0°-60°	3207.4	49.5
0°-90°	3831.4	59.2
90°-120°	564.7	8.7
90°-150°	1908.6	29.5
90°-180°	2644.0	40.8
0°-180°	6475.1	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	8	18	21	22	6
95°	44	50	55	58	58	50
105°	169	170	177	177	178	181
115°	319	321	319	320	319	315
125°	466	468	467	464	461	416
135°	605	609	609	606	604	466
145°	734	735	738	737	734	458
155°	840	840	841	844	839	387
165°	915	913	913	917	912	258
175°	952	949	949	953	948	90
180°	954	954	954	954	954	



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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	24.1	21.8	19.5	17.2	16.2	16.6	17.1	17.5	17.9	17.8
90°	0.7	2.4	4.0	5.8	7.4	9.3	11.5	13.6	15.9	18.0	18.7
92.5°	18.2	19.3	20.4	21.5	22.6	23.8	25.0	26.4	27.6	28.8	29.3
95°	44.2	45.3	46.6	47.8	48.9	50.1	51.5	52.8	54.1	55.4	56.1
97.5°	78.6	79.4	80.3	81.2	82.0	82.9	83.9	84.8	85.8	86.8	87.6
100°	101.9	102.9	103.9	104.9	105.9	106.8	107.7	108.6	109.4	110.2	110.7
102.5°	129.0	129.6	130.2	130.7	131.3	132.2	133.3	134.4	135.4	136.5	137.0
105°	168.6	169.0	169.4	169.7	170.0	170.9	172.4	173.9	175.4	176.9	176.9
107.5°	214.8	215.0	215.2	215.4	215.6	216.0	216.6	217.2	217.8	218.4	218.9
110°	243.6	244.0	244.3	244.6	244.9	245.3	245.6	245.9	246.3	246.6	247.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	273.6	273.8	274.0	274.2	274.4	274.5	274.6	274.7	274.7	274.8	275.6
115°	318.6	319.0	319.5	320.0	320.5	320.6	320.3	320.0	319.6	319.3	319.5
117.5°	363.9	364.2	364.5	364.9	365.2	365.2	364.7	364.3	363.9	363.3	363.3
120°	392.0	393.0	394.0	395.1	396.1	396.1	395.3	394.5	393.6	392.7	392.6
122.5°	421.4	422.1	422.8	423.6	424.3	424.4	424.0	423.6	423.2	422.7	422.3
125°	466.3	466.8	467.3	467.8	468.3	468.3	468.0	467.7	467.3	467.0	466.4
127.5°	507.6	508.7	509.8	510.8	511.9	512.2	511.9	511.5	511.1	510.8	509.8
130°	535.2	536.5	537.9	539.2	540.5	541.0	540.5	540.0	539.5	539.0	538.3
132.5°	562.8	564.1	565.4	566.7	568.2	568.6	568.3	567.8	567.4	567.1	566.3
135°	604.9	605.9	606.9	607.9	608.8	609.4	609.2	608.9	608.8	608.6	607.9
137.5°	643.9	644.7	645.5	646.4	647.2	647.8	648.2	648.7	649.1	649.5	648.8
140°	670.9	671.7	672.6	673.4	674.2	674.7	674.9	675.0	675.2	675.4	675.2
142.5°	695.5	696.3	697.1	697.9	698.7	699.3	699.6	699.9	700.2	700.5	700.3
145°	733.9	734.2	734.5	734.8	735.2	735.6	736.1	736.6	737.1	737.6	737.4
147.5°	767.4	768.0	768.6	769.2	769.8	770.3	770.8	771.2	771.7	772.2	772.2
150°	790.8	791.1	791.4	791.8	792.1	792.4	792.7	793.1	793.5	793.8	793.8
152.5°	810.0	810.4	810.9	811.4	811.8	812.1	812.3	812.5	812.7	812.9	813.2
155°	840.3	840.3	840.3	840.3	840.3	840.3	840.5	840.7	840.8	841.0	841.7
157.5°	866.1	865.9	865.7	865.5	865.3	865.3	865.4	865.5	865.7	865.8	866.5
160°	882.2	881.9	881.6	881.2	880.9	880.7	880.7	880.7	880.7	880.7	881.6
162.5°	896.7	896.2	895.6	895.2	894.7	894.6	894.7	894.8	895.0	895.1	896.0
165°	915.2	914.7	914.2	913.7	913.2	912.9	912.9	912.9	912.9	912.9	913.9
167.5°	930.1	929.4	928.8	928.1	927.4	927.2	927.3	927.4	927.6	927.7	928.7
170°	938.5	937.8	937.2	936.4	935.7	935.4	935.4	935.4	935.4	935.4	936.6
172.5°	945.0	944.4	943.7	943.0	942.4	942.0	942.0	942.0	942.0	942.0	943.1
175°	951.9	951.3	950.6	950.0	949.3	949.0	949.0	949.0	949.0	949.0	950.0
177.5°	954.8	954.2	953.7	953.2	952.7	952.4	952.4	952.4	952.4	952.4	953.2
180°	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2



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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°	17.7	17.6	17.5	17.3	17.2	17.0	16.8	16.6
90°	19.3	20.0	20.7	21.1	21.5	21.8	22.1	22.5
92.5°	29.9	30.4	30.9	31.1	30.9	30.7	30.5	30.3
95°	56.8	57.5	58.2	58.5	58.5	58.5	58.5	58.5
97.5°	88.4	89.1	89.9	90.2	90.2	90.1	90.0	90.0
100°	111.2	111.7	112.2	112.6	112.9	113.3	113.6	113.9
102.5°	137.5	138.0	138.6	138.8	138.8	138.7	138.6	138.6
105°	176.9	176.9	176.9	177.0	177.4	177.7	178.0	178.4
107.5°	219.4	220.0	220.6	220.8	220.6	220.4	220.2	219.9
110°	247.9	248.6	249.2	249.4	249.1	248.7	248.4	248.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	276.4	277.2	278.0	278.3	278.3	278.2	278.1	278.1
115°	319.6	319.8	320.0	320.0	319.8	319.6	319.5	319.3
117.5°	363.3	363.2	363.2	363.0	362.5	362.0	361.6	361.1
120°	392.4	392.2	392.1	391.8	391.5	391.2	390.8	390.5
122.5°	421.9	421.4	421.0	420.6	420.1	419.6	419.2	418.7
125°	465.6	464.9	464.3	463.6	463.0	462.3	461.6	461.0
127.5°	508.9	508.0	507.1	506.1	505.4	504.6	503.9	503.1
130°	537.7	536.9	536.2	535.3	534.2	533.0	531.9	530.7
132.5°	565.5	564.7	563.9	563.1	562.2	561.3	560.4	559.5
135°	607.3	606.6	606.0	605.5	605.1	604.8	604.5	604.1
137.5°	648.1	647.4	646.8	646.1	645.5	644.8	644.2	643.6
140°	675.0	674.9	674.7	674.0	672.9	671.7	670.6	669.3
142.5°	700.2	700.0	699.8	699.3	698.4	697.5	696.6	695.7
145°	737.2	737.1	736.9	736.5	735.8	735.2	734.5	733.9
147.5°	772.2	772.2	772.2	771.7	770.7	769.7	768.7	767.7
150°	793.8	793.8	793.8	793.2	792.2	791.3	790.3	789.3
152.5°	813.5	813.7	814.1	813.7	812.8	812.0	811.1	810.3
155°	842.3	843.0	843.6	843.4	842.2	841.1	839.9	838.8
157.5°	867.2	867.9	868.6	868.4	867.5	866.6	865.7	864.6
160°	882.4	883.2	884.0	884.1	883.5	882.8	882.1	881.5
162.5°	896.8	897.7	898.5	898.4	897.3	896.3	895.1	894.0
165°	914.9	915.9	917.0	916.9	915.7	914.5	913.4	912.2
167.5°	929.7	930.8	931.8	931.8	930.8	929.7	928.7	927.7
170°	937.8	939.0	940.1	940.1	939.0	937.8	936.6	935.4
172.5°	944.1	945.1	946.1	946.1	944.9	943.8	942.6	941.5
175°	951.0	951.9	952.9	952.9	951.7	950.5	949.4	948.2
177.5°	954.0	954.8	955.6	955.5	954.6	953.6	952.7	951.8
180°	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2

(END OF REPORT)