

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: P332477-830

Luminaire Tested: **S123RDIW-S1165D755U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332477-830
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-S1165D755U830-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 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: 6597.0 lumens
Efficiency: N/A
Efficacy: 110.3 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: Semi-Direct

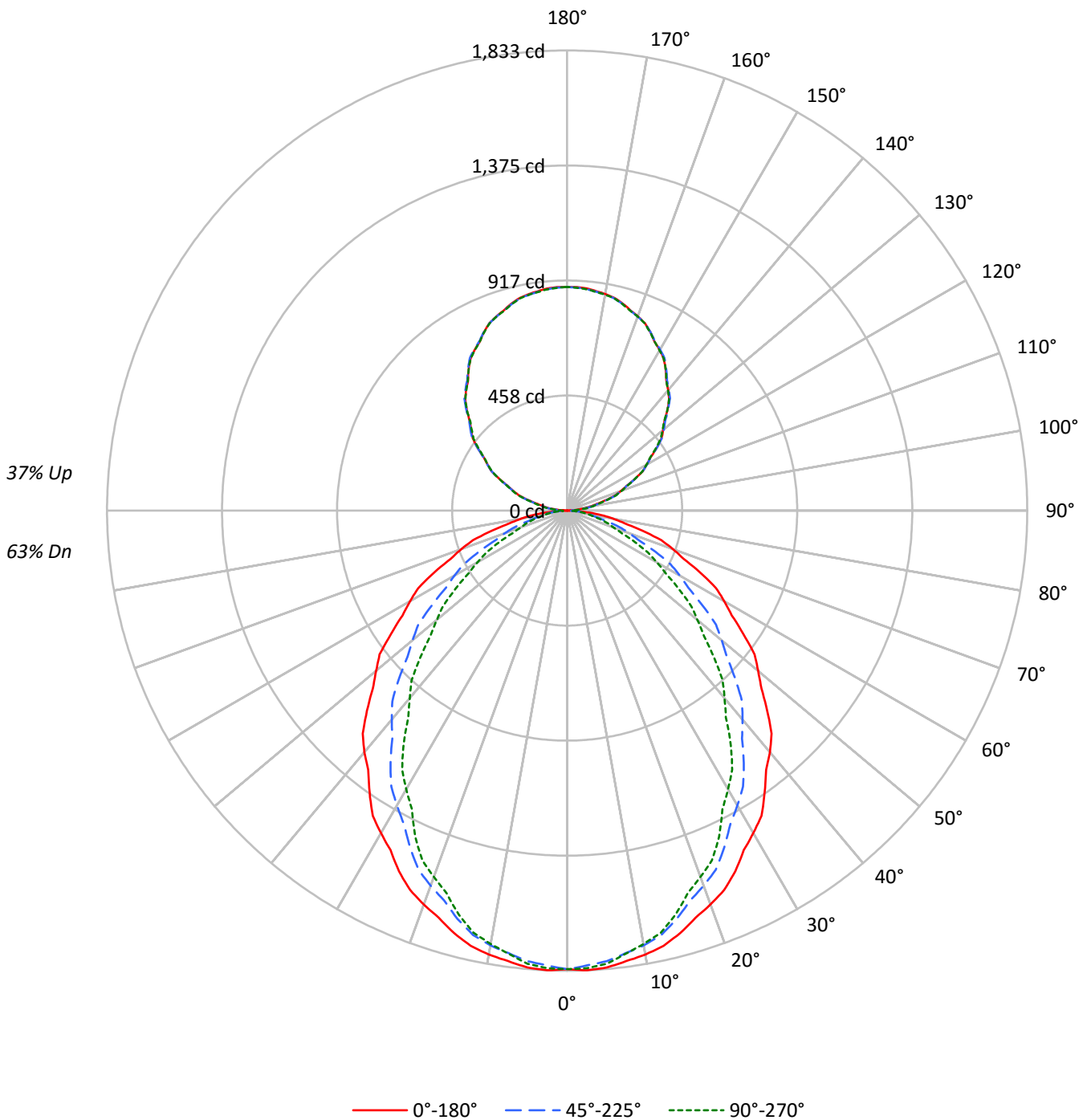
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	79	79	79	68	68	68	63
1	101	97	93	90	95	91	88	85	80	77	75	70	68	66	60	59	58	54
2	92	85	79	74	86	80	75	70	71	66	63	62	59	56	54	51	49	45
3	84	75	68	62	79	71	64	59	63	58	53	55	51	48	48	45	43	39
4	78	67	59	53	72	63	56	50	56	50	46	49	45	41	43	40	37	34
5	71	60	52	46	67	56	49	44	50	44	40	44	40	36	39	35	32	30
6	66	54	46	40	62	51	44	38	45	39	35	40	36	32	36	32	29	26
7	61	49	41	35	57	46	39	34	41	35	31	37	32	28	33	29	26	23
8	57	44	37	31	53	42	35	30	38	32	28	34	29	25	30	26	23	21
9	53	41	33	28	50	39	32	27	35	29	25	31	26	23	28	24	21	19
10	50	37	30	25	47	36	29	24	32	27	23	29	24	21	26	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19664	19664	19664
5°	19739	19466	19578
10°	19627	19223	19158
15°	19417	18773	18574
20°	19126	18211	17786
25°	18828	17579	17016
30°	18434	16850	15929
35°	18029	16119	14933
40°	17654	15260	13699
45°	17163	14411	12584
50°	16623	13447	11338
55°	16071	12344	10175
60°	15565	11164	8900
65°	14905	9885	7623
70°	14080	8299	6156
75°	12876	6529	5793
80°	11480	5783	5331
85°	9695	5125	4755



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.5	2.6
10°-20°	477.3	7.2
20°-30°	687.3	10.4
30°-40°	774.2	11.7
40°-50°	740.6	11.2
50°-60°	606.5	9.2
60°-70°	409.2	6.2
70°-80°	205.9	3.1
80°-90°	57.1	0.9
90°-100°	58.0	0.9
100°-110°	173.6	2.6
110°-120°	295.3	4.5
120°-130°	388.5	5.9
130°-140°	436.7	6.6
140°-150°	429.2	6.5
150°-160°	361.3	5.5
160°-170°	240.5	3.6
170°-180°	84.2	1.3
0°-30°	1336.1	20.3
0°-40°	2110.3	32.0
0°-60°	3457.4	52.4
0°-90°	4129.5	62.6
90°-120°	527.0	8.0
90°-150°	1781.4	27.0
90°-180°	2468.0	37.4
0°-180°	6597.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1827	1827	1827	1827	1827	
5°	1827	1819	1802	1814	1812	173
15°	1742	1725	1685	1677	1667	491
25°	1585	1547	1480	1450	1433	729
35°	1372	1316	1227	1165	1136	858
45°	1128	1058	947	865	827	870
55°	856	781	658	575	542	768
65°	585	502	388	319	299	579
75°	310	238	157	143	139	330
85°	78	48	42	39	38	88
90°	1	8	17	20	21	6
95°	41	46	52	54	55	46
105°	157	159	165	165	166	169
115°	297	299	298	299	298	294
125°	435	437	436	433	430	388
135°	565	568	568	565	564	435
145°	685	686	688	688	685	428
155°	784	784	785	787	783	361
165°	854	852	852	856	851	241
175°	888	886	886	889	885	84
180°	891	891	891	891	891	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8
2.5°	1832.8	1831.6	1830.6	1829.6	1828.5	1826.4	1823.3	1820.0	1816.9	1813.7	1816.7
5°	1826.8	1825.1	1823.5	1821.8	1820.2	1817.4	1813.5	1809.5	1805.5	1801.6	1804.6
7.5°	1809.9	1808.2	1806.4	1804.6	1802.8	1799.3	1794.2	1789.0	1784.0	1778.8	1780.5
10°	1795.7	1793.4	1791.1	1788.8	1786.5	1782.3	1776.4	1770.5	1764.5	1758.7	1759.0
12.5°	1775.6	1773.0	1770.4	1767.8	1765.3	1760.4	1753.1	1745.9	1738.6	1731.4	1731.2
15°	1742.4	1738.7	1735.1	1731.5	1727.9	1721.5	1712.2	1703.0	1693.7	1684.6	1682.9
17.5°	1700.5	1696.4	1692.1	1687.9	1683.8	1675.7	1664.1	1652.3	1640.6	1628.9	1625.4
20°	1669.7	1664.5	1659.3	1654.0	1648.7	1639.8	1627.3	1614.8	1602.2	1589.8	1585.5
22.5°	1635.4	1629.3	1623.2	1617.2	1611.2	1601.5	1588.2	1574.9	1561.6	1548.2	1542.9
25°	1585.3	1577.1	1568.9	1560.6	1552.4	1540.7	1525.5	1510.4	1495.2	1480.1	1473.2
27.5°	1524.6	1515.5	1506.4	1497.3	1488.2	1475.3	1458.4	1441.5	1424.7	1407.8	1398.2
30°	1483.1	1473.2	1463.3	1453.4	1443.6	1429.4	1411.0	1392.5	1374.1	1355.7	1344.4
32.5°	1441.6	1430.4	1419.2	1408.0	1396.8	1381.5	1362.0	1342.5	1323.0	1303.5	1291.3
35°	1372.0	1360.1	1348.2	1336.4	1324.6	1308.4	1288.0	1267.6	1247.2	1226.7	1212.6
37.5°	1301.5	1288.3	1275.1	1261.9	1248.8	1231.2	1209.5	1187.7	1165.9	1144.1	1128.0
40°	1256.4	1241.9	1227.4	1213.0	1198.4	1179.5	1156.1	1132.7	1109.4	1086.0	1068.8
42.5°	1205.4	1190.9	1176.5	1162.0	1147.5	1128.1	1104.0	1079.8	1055.6	1031.5	1012.8
45°	1127.5	1112.7	1097.9	1083.1	1068.2	1048.1	1022.8	997.4	972.0	946.7	927.9
47.5°	1049.5	1033.3	1017.0	1000.8	984.5	963.7	938.3	912.9	887.6	862.3	841.9
50°	992.7	977.2	961.7	946.2	930.8	909.7	883.1	856.4	829.7	803.0	782.6
52.5°	941.7	924.9	908.1	891.4	874.5	852.9	826.5	800.1	773.7	747.3	726.1
55°	856.4	840.2	824.1	807.9	791.8	769.8	741.8	713.8	685.8	657.8	638.8
57.5°	777.5	760.0	742.3	724.8	707.2	684.4	656.3	628.1	600.0	571.9	553.8
60°	723.0	704.9	686.8	668.7	650.5	627.8	600.5	573.3	545.9	518.6	500.8
62.5°	668.5	650.4	632.3	614.2	596.1	573.3	546.0	518.7	491.3	464.0	447.3
65°	585.2	567.1	549.0	530.9	512.8	490.9	465.2	439.5	413.9	388.1	372.0
67.5°	502.0	483.6	465.3	447.0	428.8	407.3	382.7	358.0	333.4	308.8	296.7
70°	447.4	429.7	411.9	394.1	376.4	355.9	332.9	309.8	286.8	263.7	252.2
72.5°	392.9	375.4	357.9	340.4	322.8	303.6	282.7	261.7	240.8	219.9	210.5
75°	309.6	293.9	278.1	262.2	246.5	229.5	211.4	193.2	175.1	157.0	153.7
77.5°	233.8	219.5	205.2	191.0	176.6	163.6	152.0	140.3	128.7	117.1	115.3
80°	185.2	171.7	158.2	144.7	131.2	121.0	114.0	107.2	100.3	93.3	92.4
82.5°	138.9	127.3	115.6	104.0	92.4	84.9	81.7	78.4	75.2	72.0	71.0
85°	78.5	71.3	64.0	56.8	49.6	45.4	44.5	43.5	42.5	41.5	40.8
87.5°	28.6	26.0	23.4	20.8	18.3	17.2	17.5	18.0	18.4	18.8	18.7
90°	0.7	2.3	3.8	5.4	6.9	8.7	10.7	12.7	14.8	16.8	17.4
92.5°	17.0	18.0	19.0	20.1	21.1	22.2	23.4	24.6	25.7	26.9	27.3
95°	41.3	42.3	43.5	44.6	45.6	46.8	48.1	49.3	50.5	51.7	52.4
97.5°	73.3	74.1	74.9	75.8	76.5	77.4	78.3	79.2	80.1	81.1	81.7
100°	95.1	96.0	97.0	97.9	98.9	99.7	100.5	101.3	102.1	102.8	103.3
102.5°	120.4	120.9	121.5	122.0	122.5	123.4	124.4	125.5	126.4	127.4	127.9
105°	157.4	157.7	158.1	158.3	158.6	159.5	160.9	162.3	163.7	165.1	165.1
107.5°	200.5	200.7	200.9	201.0	201.2	201.6	202.2	202.7	203.3	203.9	204.3
110°	227.3	227.7	228.0	228.3	228.6	228.9	229.2	229.5	229.9	230.2	230.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	255.3	255.5	255.7	255.9	256.1	256.2	256.3	256.4	256.4	256.5	257.2
115°	297.4	297.7	298.2	298.7	299.2	299.3	299.0	298.7	298.3	298.0	298.2
117.5°	339.6	339.9	340.2	340.5	340.8	340.8	340.4	340.0	339.6	339.1	339.1
120°	365.9	366.8	367.8	368.7	369.7	369.7	368.9	368.2	367.4	366.6	366.5
122.5°	393.3	394.0	394.6	395.4	396.1	396.2	395.8	395.4	395.0	394.5	394.2
125°	435.2	435.6	436.1	436.6	437.1	437.1	436.8	436.5	436.1	435.8	435.3
127.5°	473.7	474.8	475.8	476.7	477.8	478.1	477.8	477.4	477.0	476.7	475.8
130°	499.5	500.8	502.0	503.2	504.4	504.9	504.4	504.0	503.5	503.0	502.4
132.5°	525.3	526.5	527.7	529.0	530.3	530.7	530.4	530.0	529.6	529.3	528.6
135°	564.6	565.5	566.5	567.4	568.3	568.7	568.5	568.4	568.3	568.1	567.4
137.5°	601.0	601.7	602.5	603.3	604.1	604.6	605.0	605.5	605.9	606.2	605.6
140°	626.1	626.9	627.7	628.5	629.2	629.7	629.9	630.0	630.2	630.4	630.2
142.5°	649.1	649.9	650.6	651.4	652.1	652.7	653.0	653.3	653.6	653.8	653.7
145°	684.9	685.2	685.5	685.8	686.2	686.5	687.0	687.5	688.0	688.4	688.2
147.5°	716.2	716.8	717.4	717.9	718.5	719.0	719.4	719.8	720.3	720.8	720.8
150°	738.1	738.4	738.7	739.0	739.3	739.6	739.9	740.3	740.6	740.8	740.8
152.5°	756.0	756.4	756.9	757.3	757.7	758.0	758.2	758.4	758.6	758.7	759.0
155°	784.3	784.3	784.3	784.3	784.3	784.3	784.5	784.7	784.8	784.9	785.6
157.5°	808.3	808.1	807.9	807.8	807.6	807.6	807.7	807.8	807.9	808.0	808.7
160°	823.4	823.1	822.8	822.5	822.2	822.0	822.0	822.0	822.0	822.0	822.8
162.5°	836.9	836.4	835.9	835.6	835.1	835.0	835.1	835.2	835.4	835.5	836.2
165°	854.2	853.8	853.3	852.8	852.3	852.1	852.1	852.1	852.1	852.1	853.0
167.5°	868.1	867.4	866.9	866.2	865.5	865.3	865.4	865.5	865.7	865.8	866.8
170°	875.9	875.2	874.7	874.0	873.4	873.1	873.1	873.1	873.1	873.1	874.2
172.5°	882.0	881.5	880.8	880.1	879.6	879.2	879.2	879.2	879.2	879.2	880.2
175°	888.4	887.9	887.2	886.6	886.0	885.7	885.7	885.7	885.7	885.7	886.6
177.5°	891.2	890.6	890.1	889.7	889.2	888.9	888.9	888.9	888.9	888.9	889.7
180°	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8
2.5°	1819.6	1822.5	1825.3	1826.6	1826.0	1825.5	1825.0	1824.4
5°	1807.5	1810.5	1813.5	1814.6	1813.9	1813.3	1812.6	1811.9
7.5°	1782.1	1783.8	1785.4	1785.6	1784.5	1783.4	1782.3	1781.1
10°	1759.3	1759.6	1760.0	1759.3	1757.7	1756.1	1754.4	1752.8
12.5°	1731.0	1730.8	1730.6	1729.6	1727.7	1725.7	1723.8	1721.9
15°	1681.3	1679.6	1678.0	1676.0	1673.7	1671.4	1669.1	1666.8
17.5°	1621.9	1618.3	1614.9	1611.5	1608.0	1604.6	1601.2	1597.7
20°	1581.2	1576.9	1572.6	1568.5	1564.5	1560.6	1556.7	1552.7
22.5°	1537.6	1532.3	1526.9	1522.4	1518.7	1515.0	1511.4	1507.7
25°	1466.3	1459.3	1452.5	1447.2	1443.6	1439.9	1436.3	1432.7
27.5°	1388.6	1378.9	1369.3	1361.8	1356.2	1350.8	1345.2	1339.6
30°	1333.2	1322.1	1310.9	1302.7	1297.4	1292.1	1286.9	1281.6
32.5°	1279.0	1266.8	1254.5	1245.7	1240.1	1234.5	1229.1	1223.5
35°	1198.4	1184.3	1170.2	1160.1	1154.1	1148.2	1142.3	1136.4
37.5°	1111.9	1095.9	1079.8	1068.1	1060.8	1053.5	1046.2	1038.9
40°	1051.8	1034.6	1017.6	1005.2	997.6	990.0	982.5	974.9
42.5°	994.1	975.3	956.7	944.0	937.2	930.4	923.6	916.8
45°	909.2	890.4	871.7	858.4	850.5	842.5	834.6	826.7
47.5°	821.4	801.1	780.6	766.9	759.9	752.8	745.7	738.8
50°	762.2	741.8	721.3	707.4	699.8	692.2	684.7	677.1
52.5°	704.9	683.7	662.5	648.5	641.7	635.0	628.2	621.4
55°	619.6	600.5	581.5	568.6	562.0	555.4	548.8	542.2
57.5°	535.8	517.7	499.7	487.9	482.3	476.7	471.1	465.5
60°	483.0	465.2	447.4	435.7	430.2	424.5	419.0	413.4
62.5°	430.6	413.9	397.1	385.9	379.9	374.1	368.3	362.4
65°	355.9	339.8	323.7	313.8	310.2	306.5	302.9	299.3
67.5°	284.6	272.6	260.5	252.6	248.7	244.8	240.9	237.0
70°	240.6	229.1	217.6	210.1	206.4	202.8	199.2	195.6
72.5°	201.0	191.6	182.2	176.7	175.2	173.7	172.2	170.7
75°	150.4	147.1	143.8	141.9	141.3	140.6	140.0	139.3
77.5°	113.5	111.7	109.9	108.7	108.0	107.4	106.7	106.0
80°	91.3	90.4	89.4	88.6	87.9	87.3	86.6	86.0
82.5°	70.0	69.1	68.1	67.5	67.4	67.2	67.1	67.0
85°	40.2	39.5	38.8	38.5	38.5	38.5	38.5	38.5
87.5°	18.5	18.4	18.2	18.0	17.8	17.6	17.4	17.2
90°	18.0	18.7	19.3	19.7	20.1	20.4	20.6	21.0
92.5°	27.9	28.4	28.8	29.0	28.8	28.7	28.5	28.3
95°	53.0	53.6	54.3	54.6	54.6	54.6	54.6	54.6
97.5°	82.5	83.1	83.9	84.2	84.2	84.1	84.0	84.0
100°	103.8	104.2	104.7	105.1	105.4	105.8	106.0	106.3
102.5°	128.4	128.8	129.3	129.5	129.5	129.4	129.3	129.3
105°	165.1	165.1	165.1	165.2	165.6	165.9	166.2	166.5
107.5°	204.8	205.4	205.9	206.0	205.9	205.7	205.5	205.3
110°	231.4	232.1	232.6	232.8	232.5	232.1	231.9	231.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	258.0	258.7	259.5	259.8	259.8	259.7	259.6	259.6
115°	298.3	298.5	298.7	298.7	298.5	298.3	298.2	298.0
117.5°	339.1	339.0	339.0	338.8	338.4	337.9	337.5	337.1
120°	366.3	366.1	366.0	365.7	365.4	365.1	364.8	364.5
122.5°	393.8	393.3	392.9	392.6	392.1	391.6	391.2	390.8
125°	434.6	433.9	433.4	432.7	432.2	431.5	430.8	430.3
127.5°	474.9	474.1	473.3	472.4	471.7	471.0	470.3	469.6
130°	501.8	501.1	500.5	499.6	498.6	497.5	496.4	495.3
132.5°	527.8	527.1	526.3	525.6	524.7	523.9	523.0	522.2
135°	566.8	566.2	565.6	565.1	564.8	564.5	564.2	563.8
137.5°	604.9	604.3	603.7	603.0	602.5	601.8	601.2	600.7
140°	630.0	629.9	629.7	629.1	628.0	626.9	625.8	624.7
142.5°	653.6	653.4	653.2	652.7	651.9	651.0	650.2	649.3
145°	688.1	688.0	687.8	687.4	686.7	686.2	685.5	684.9
147.5°	720.8	720.8	720.8	720.3	719.3	718.4	717.5	716.5
150°	740.8	740.8	740.8	740.4	739.4	738.6	737.6	736.7
152.5°	759.3	759.5	759.8	759.5	758.7	757.9	757.1	756.3
155°	786.2	786.8	787.4	787.2	786.1	785.0	783.9	782.9
157.5°	809.4	810.0	810.7	810.5	809.6	808.8	807.9	807.0
160°	823.6	824.3	825.1	825.2	824.6	824.0	823.3	822.7
162.5°	837.0	837.8	838.6	838.5	837.4	836.5	835.5	834.4
165°	853.9	854.9	855.8	855.7	854.7	853.6	852.5	851.4
167.5°	867.7	868.7	869.7	869.7	868.7	867.7	866.8	865.8
170°	875.2	876.4	877.4	877.4	876.4	875.2	874.2	873.1
172.5°	881.2	882.1	883.1	883.1	881.9	880.9	879.8	878.7
175°	887.6	888.4	889.4	889.4	888.3	887.1	886.1	885.0
177.5°	890.4	891.2	891.9	891.8	891.0	890.0	889.2	888.3
180°	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6

(END OF REPORT)