

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: INVUE

Report Number: P95376

Luminaire Tested: **VFS-K-B20-3-LED-E1-MST**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P95376
REPORT SCALED FROM IESNA LM79-08 TEST DATA (P22791)
Test Lab: INNOVATION CENTER
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: VFS-K-B20-3-LED-E1-MST
Description: ARCHITECTURAL FLOOD LUMINAIRE
MEDIUM SYMMETRIC RECTANGULAR DISTRIBUTION
WITH 20 LED'S, 350mA DRIVE CURRENT
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp:	N/A	NEMA Type:	6H x 5V
Luminaire Lumens:	2260.7 lumens	Max Intensity:	2009.1 candela
Efficiency:	N/A	Max Intensity Angle:	0°H x 0°V
Efficacy:	94.6 lumens/watt		
Luminous Opening:	(L: 0.83 ' x W: 0 ' x H: 0.5 ')		
Beam Angle (50%):	85.3°H x 47.1°V	Field Angle (10%):	109°H x 79.9°V
Beam Lumens:	1498 lumens	Field Lumens:	2158.6 lumens
Beam Efficiency:	66.3%	Field Efficiency:	95.5%

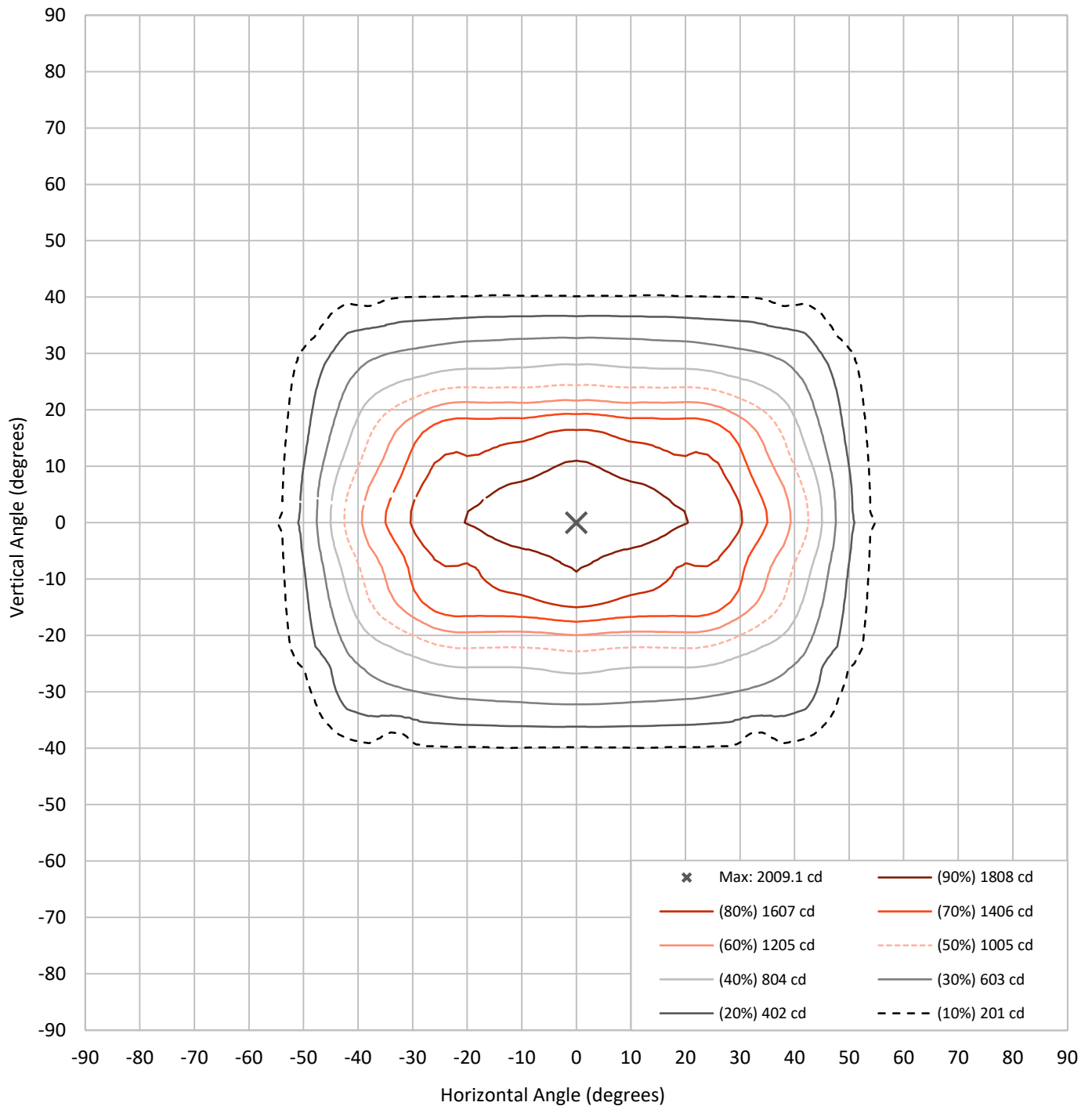
Input Watts (W): 23.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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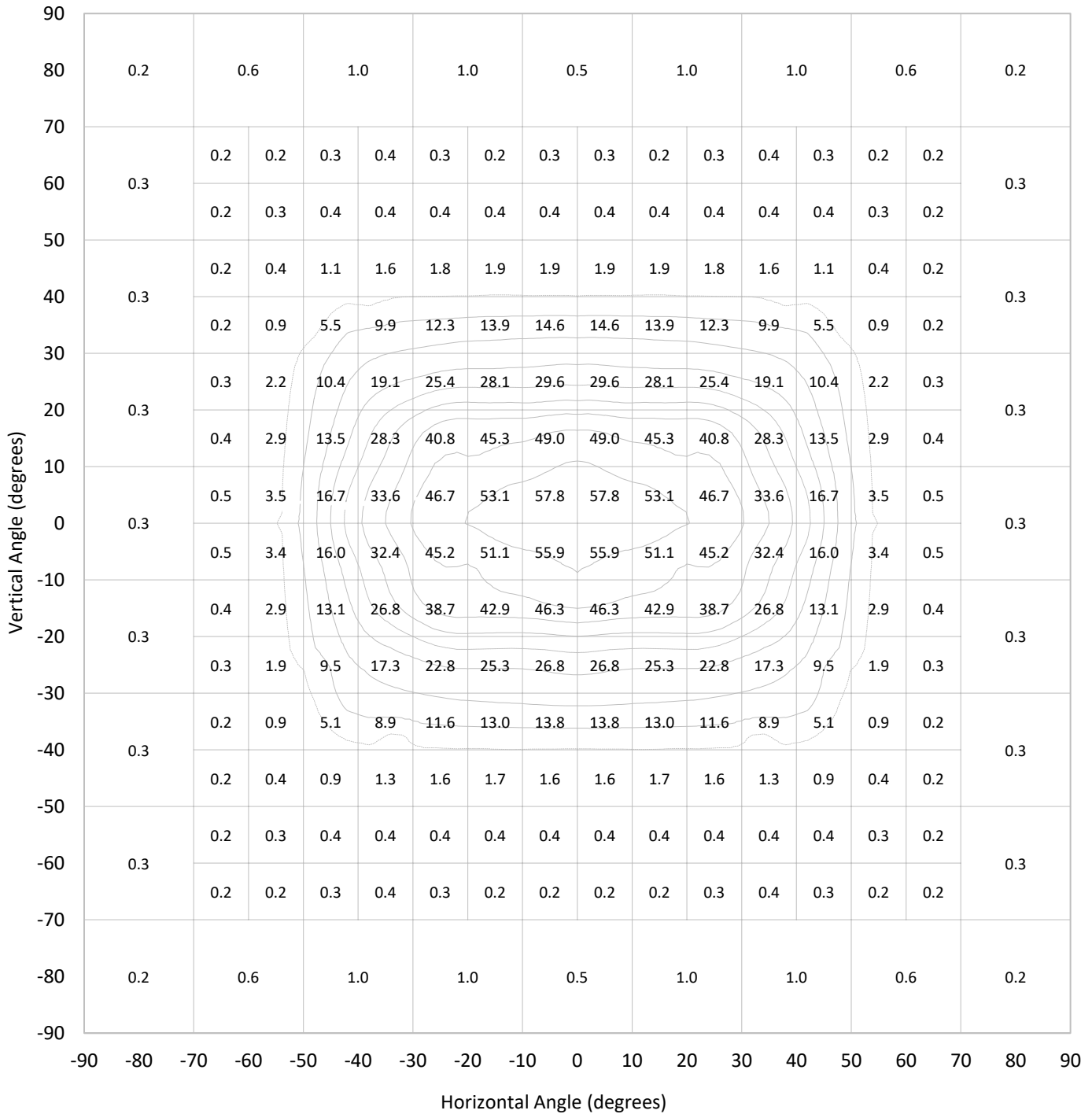
Iso-Candela Plot





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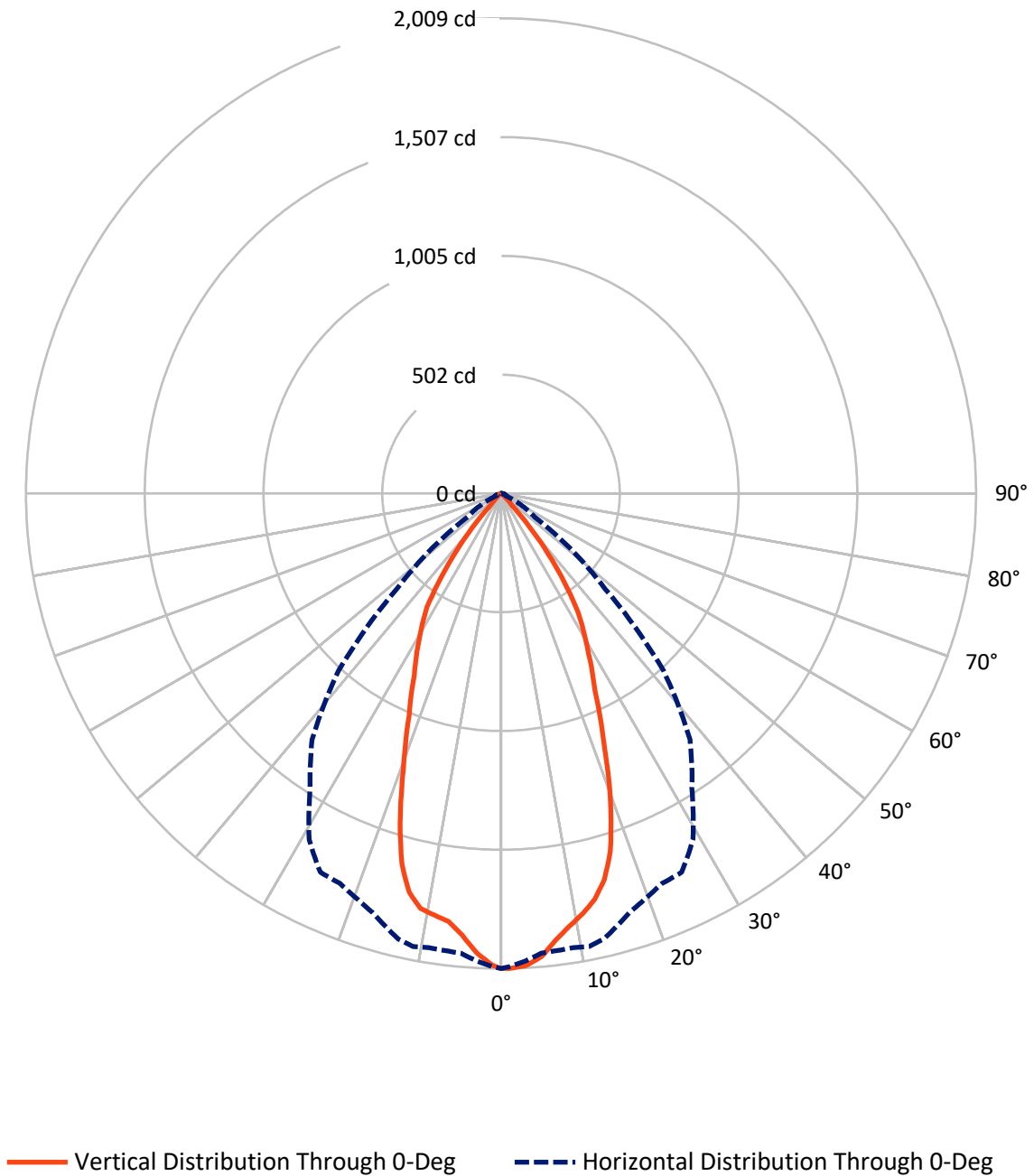
Lumen Table



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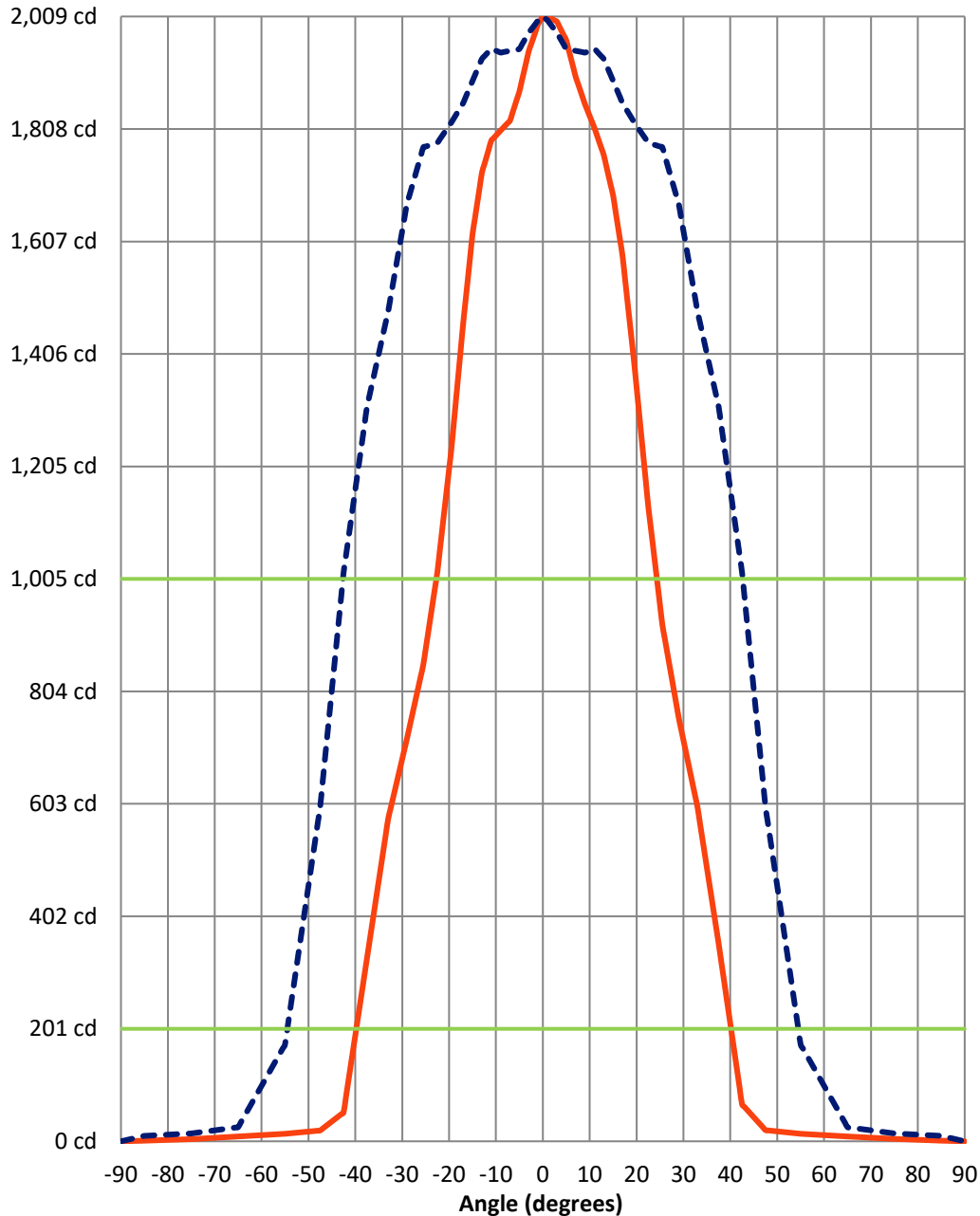
Luminous Intensity Polar Plot



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Luminous Intensity Plot



Beam:
 H Angle: 85.3°
 V Angle: 47.1°
 Lumens: 1498
 Efficiency: 66.3%

Field:
 H Angle: 109°
 V Angle: 79.9°
 Lumens: 2158.6
 Efficiency: 95.5%

Spill:
 Lumens: 102.1
 Efficiency: 4.5%

— Vertical Distribution through 0-Deg
 - - Horizontal Distribution through 0-Deg



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FIELD
BEAM

CANDELA DISTRIBUTION:

	0°	1°	3°	5°	7°	9°	11°	13°	15°	17°	19.5°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	1.1	1.6	2.7	5.4	8.6	10.2	10.7	10.7	10.7	10.7	11.3
75°	4.3	4.3	4.3	3.8	3.8	4.3	4.8	6.4	8.1	9.7	10.7
65°	8.6	8.6	8.6	8.1	8.1	8.1	7.5	7.5	7.0	8.1	9.1
55°	13.4	13.4	13.4	12.9	12.9	12.9	12.9	12.4	12.4	11.8	11.8
47.5°	19.9	19.9	19.9	19.9	19.3	19.3	19.3	19.3	18.8	18.8	18.8
42.5°	66.1	70.9	66.6	70.4	68.7	72.0	78.9	83.2	86.5	80.0	70.4
37.5°	353.4	362.0	356.6	362.0	356.6	352.8	356.6	350.7	351.8	351.8	345.3
33°	596.6	603.1	599.9	601.5	596.1	592.9	594.5	588.1	580.5	580.5	574.6
29°	756.1	762.1	759.4	752.9	744.9	738.4	736.3	731.4	721.2	721.2	719.6
25.5°	922.6	925.3	926.4	915.1	904.4	894.2	895.8	896.3	887.2	892.6	895.2
22.5°	1133.7	1144.4	1141.2	1123.5	1116.5	1103.6	1111.1	1115.4	1109.0	1111.1	1119.2
19.5°	1389.3	1399.5	1393.1	1375.9	1361.4	1340.4	1347.4	1354.4	1346.9	1342.6	1352.3
17°	1581.6	1589.1	1583.2	1560.1	1535.4	1511.8	1506.9	1506.9	1497.8	1487.1	1492.4
15°	1689.0	1693.8	1682.5	1649.8	1627.2	1594.5	1587.5	1581.6	1569.2	1553.6	1553.1
13°	1761.5	1762.0	1747.5	1716.9	1688.4	1653.0	1643.3	1633.1	1615.9	1595.0	1587.5
11°	1810.3	1810.3	1796.9	1766.8	1738.4	1705.1	1692.2	1679.8	1658.4	1630.4	1615.9
9°	1852.2	1852.2	1841.0	1814.6	1791.6	1756.1	1744.8	1728.7	1704.0	1670.2	1647.1
7°	1901.6	1903.3	1893.1	1870.5	1856.5	1823.2	1812.5	1790.5	1758.3	1719.1	1689.0
5°	1966.6	1966.6	1952.7	1930.1	1921.0	1896.3	1889.3	1865.7	1827.5	1781.3	1745.4
3°	1999.9	1996.2	1976.3	1950.0	1945.1	1934.4	1937.1	1917.2	1878.0	1830.2	1793.2
1°	2009.1	2005.3	1982.2	1950.0	1949.4	1945.1	1953.7	1936.6	1899.0	1858.1	1830.2
0°	2009.1	2002.1	1980.1	1951.1	1947.8	1944.6	1951.6	1933.3	1894.1	1854.4	1820.0
-1°	1995.6	1989.7	1969.3	1943.5	1936.0	1932.3	1936.6	1914.5	1875.9	1831.8	1787.3
-3°	1947.3	1939.8	1923.7	1907.0	1888.2	1872.6	1871.6	1842.6	1805.5	1769.0	1723.9
-5°	1875.3	1868.9	1854.9	1837.7	1813.6	1791.6	1780.8	1750.7	1721.2	1690.1	1649.8
-7°	1823.2	1818.4	1800.7	1779.2	1752.9	1726.6	1708.3	1685.8	1661.6	1632.1	1599.3
-9°	1805.5	1801.8	1781.3	1755.6	1725.0	1691.7	1676.1	1658.4	1638.0	1611.1	1586.9
-11°	1787.3	1781.9	1761.5	1731.9	1699.7	1668.6	1652.5	1637.4	1620.2	1598.8	1581.6
-13°	1729.8	1720.1	1704.0	1672.9	1642.3	1617.6	1602.5	1590.7	1580.5	1566.0	1556.9
-15°	1620.2	1617.0	1607.3	1575.7	1549.9	1530.6	1518.2	1510.7	1510.1	1499.9	1498.3
-17°	1460.2	1445.2	1444.1	1423.1	1399.5	1394.7	1387.7	1382.3	1382.9	1382.9	1385.0
-19.5°	1237.3	1233.6	1222.3	1205.1	1193.8	1190.1	1186.8	1187.9	1193.8	1194.4	1199.2
-22.5°	1016.6	1013.9	1010.2	990.3	985.5	978.5	973.1	974.2	978.5	978.5	984.4
-25.5°	851.2	849.1	843.7	827.6	818.4	808.2	799.1	799.6	800.7	800.7	803.4
-29°	718.6	717.5	716.9	710.0	702.4	697.6	691.7	689.6	684.7	681.5	677.7
-33°	575.7	574.6	576.8	572.5	570.3	568.2	561.2	563.9	558.0	553.1	548.9
-37.5°	327.6	327.1	333.0	332.4	328.1	323.3	326.0	324.9	322.8	320.6	318.5
-42.5°	51.6	51.0	51.0	55.9	55.9	62.8	68.7	69.3	66.1	58.5	59.1
-47.5°	19.3	19.3	19.3	19.3	18.8	18.8	18.3	18.3	18.3	17.7	17.7
-55°	13.4	13.4	13.4	12.9	12.9	12.9	12.4	12.4	12.4	11.8	11.8
-65°	8.6	8.6	8.6	8.1	8.1	7.5	7.5	7.0	7.0	7.5	9.1
-75°	3.8	3.8	3.8	3.8	3.8	3.8	4.3	5.9	8.1	9.7	10.7
-85°	1.1	1.6	2.7	5.4	9.1	10.7	11.3	10.7	11.3	11.3	11.3
-90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	22.5°	25.5°	29°	33°	37.5°	42.5°	47.5°	55°	65°	75°	85°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.8	11.8	11.8
75°	11.8	12.4	12.4	12.4	12.4	12.4	12.4	11.8	11.8	11.8	11.8
65°	10.7	12.4	13.4	14.0	14.5	15.0	14.0	13.4	12.4	12.4	11.8
55°	12.4	13.4	14.5	16.6	17.2	17.7	17.2	15.6	13.4	12.9	11.8
47.5°	18.3	18.8	19.3	20.9	22.0	22.6	22.0	18.3	14.5	13.4	11.8
42.5°	83.2	75.7	83.2	81.1	77.3	72.5	55.3	20.4	15.0	13.4	11.8
37.5°	336.7	330.8	323.3	313.6	226.1	248.1	111.7	22.6	15.6	13.4	11.8
33°	562.8	549.4	534.4	517.2	489.8	421.0	203.5	33.3	16.1	13.4	11.8
29°	711.0	694.4	670.2	646.6	603.6	515.0	343.2	56.9	16.6	13.4	11.3
25.5°	889.3	863.6	813.6	766.4	697.1	571.9	389.9	74.6	17.2	13.4	11.3
22.5°	1116.0	1077.8	996.7	906.0	795.9	617.6	421.6	88.1	17.7	13.4	10.7
19.5°	1351.2	1302.8	1197.1	1065.5	905.4	663.2	446.8	99.4	18.3	13.4	10.7
17°	1497.8	1455.9	1344.7	1185.8	983.8	707.8	467.2	107.4	18.3	13.4	10.7
15°	1566.0	1530.6	1414.6	1246.5	1033.8	744.3	484.9	113.3	18.3	13.4	10.2
13°	1605.2	1578.9	1456.4	1285.1	1076.8	784.6	503.7	118.1	18.8	13.4	10.2
11°	1633.1	1618.6	1494.0	1315.7	1120.8	828.1	526.8	122.4	19.3	13.4	10.2
9°	1659.4	1653.0	1534.8	1352.3	1174.5	882.9	549.9	125.7	20.4	13.4	10.2
7°	1691.7	1687.4	1576.7	1389.3	1221.8	934.4	570.9	128.4	21.5	13.4	9.7
5°	1738.4	1730.9	1624.5	1432.3	1262.6	973.1	585.9	130.5	23.6	14.0	9.7
3°	1772.2	1763.6	1660.5	1468.8	1297.5	1003.7	594.0	131.6	24.7	14.0	9.7
1°	1786.2	1778.1	1676.6	1486.0	1314.7	1017.7	598.3	132.6	25.2	14.0	9.7
0°	1783.5	1775.4	1673.9	1482.2	1312.5	1016.1	597.7	172.9	25.2	14.0	9.7
-1°	1770.1	1762.6	1661.1	1468.8	1301.8	1005.9	594.0	132.6	24.7	14.0	9.7
-3°	1720.1	1714.2	1612.2	1422.6	1263.1	971.0	581.6	131.6	23.1	13.4	9.7
-5°	1654.1	1653.0	1549.3	1365.1	1208.3	917.8	561.7	130.5	21.5	13.4	9.7
-7°	1609.5	1609.5	1500.5	1320.0	1148.7	862.5	537.6	128.4	20.4	13.4	9.7
-9°	1599.8	1593.9	1475.8	1299.1	1110.6	824.9	518.2	125.7	19.3	12.9	9.7
-11°	1597.7	1583.7	1459.1	1283.5	1082.7	795.4	503.7	121.9	18.8	12.9	9.7
-13°	1571.9	1545.6	1419.9	1246.5	1046.1	762.6	489.8	118.1	18.3	12.9	10.2
-15°	1509.6	1470.4	1346.3	1183.1	998.9	727.1	475.8	112.8	17.7	12.4	10.2
-17°	1389.8	1344.7	1225.0	1081.1	928.5	690.1	460.2	106.9	17.7	12.9	10.2
-19.5°	1201.9	1160.5	1061.7	947.3	829.7	646.6	438.8	98.8	17.2	12.9	10.2
-22.5°	984.4	947.9	872.7	796.4	724.5	597.7	410.8	87.5	17.2	12.9	10.2
-25.5°	800.2	774.9	732.0	687.9	634.8	547.2	263.1	74.1	16.6	12.9	10.7
-29°	670.2	655.2	633.7	607.4	569.8	497.3	239.5	56.4	16.6	13.4	11.3
-33°	542.4	526.8	510.7	492.5	464.5	406.5	191.7	32.8	16.1	13.4	11.3
-37.5°	313.1	306.6	297.0	133.7	268.0	223.9	103.6	22.6	15.6	13.4	11.8
-42.5°	71.4	58.5	69.3	65.0	66.1	61.2	46.2	19.9	15.0	13.4	11.8
-47.5°	17.7	17.7	18.3	19.9	20.9	21.5	20.9	18.3	14.5	13.4	11.8
-55°	12.4	12.9	14.5	16.6	17.2	17.7	17.2	15.6	13.4	12.9	11.8
-65°	10.7	12.4	13.4	14.0	14.5	15.0	14.5	13.4	12.4	12.4	11.8
-75°	11.8	12.4	12.4	12.4	12.4	12.4	12.4	12.4	11.8	11.8	11.8
-85°	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
-90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	90°
90°	0.0
85°	0.0
75°	0.0
65°	0.0
55°	0.0
47.5°	0.0
42.5°	0.0
37.5°	0.0
33°	0.0
29°	0.0
25.5°	0.0
22.5°	0.0
19.5°	0.0
17°	0.0
15°	0.0
13°	0.0
11°	0.0
9°	0.0
7°	0.0
5°	0.0
3°	0.0
1°	0.0
0°	0.0
-1°	0.0
-3°	0.0
-5°	0.0
-7°	0.0
-9°	0.0
-11°	0.0
-13°	0.0
-15°	0.0
-17°	0.0
-19.5°	0.0
-22.5°	0.0
-25.5°	0.0
-29°	0.0
-33°	0.0
-37.5°	0.0
-42.5°	0.0
-47.5°	0.0
-55°	0.0
-65°	0.0
-75°	0.0
-85°	0.0
-90°	0.0

(END OF REPORT)