

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: LUMARK

Report Number: P145453

Luminaire Tested: **LDRL-SL4-F04-E-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145453
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33703)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-SL4-F04-E-8030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (28) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8032 lumens
Efficiency: N/A
Efficacy: 78.6 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

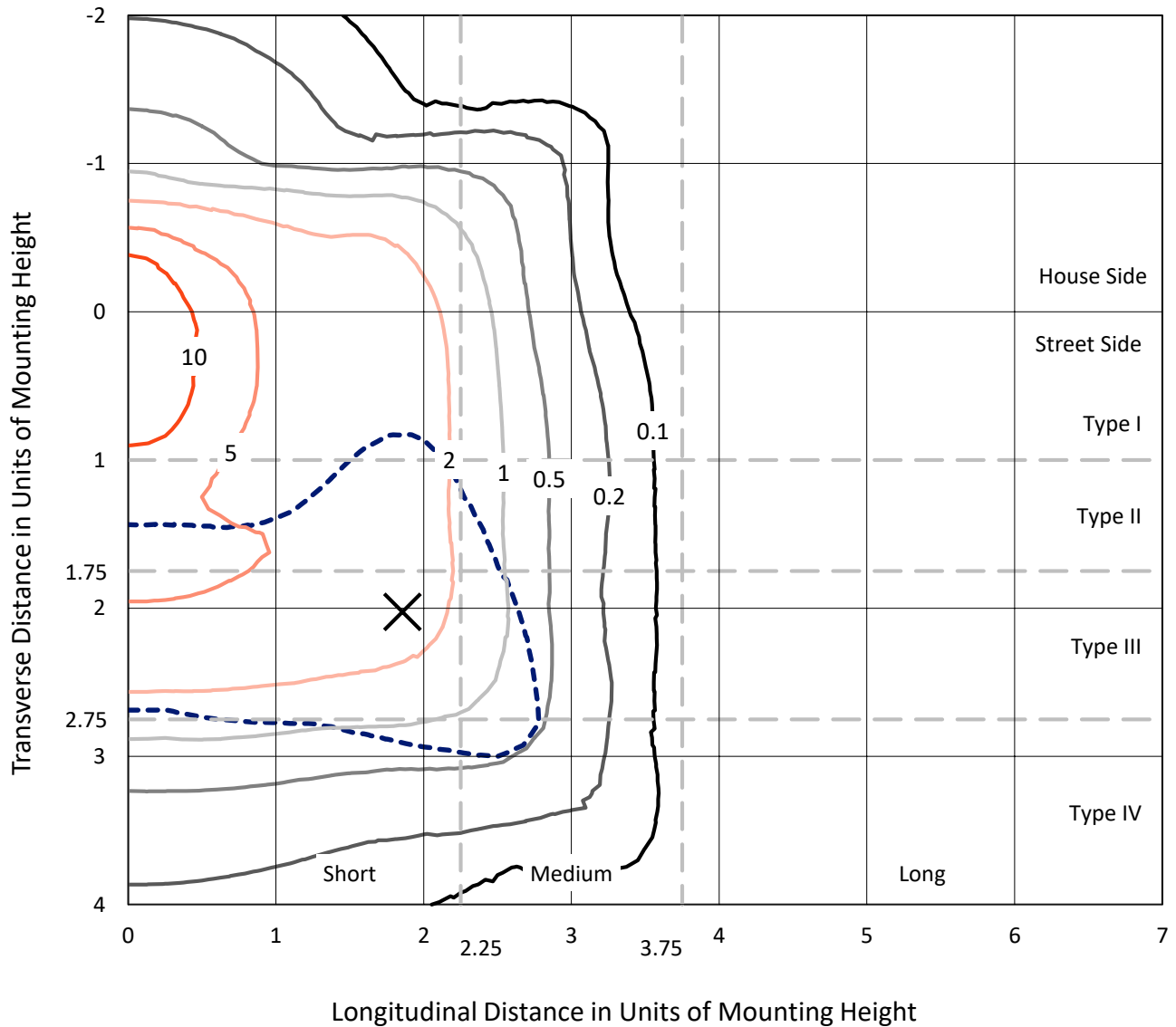
Input Watts (W): 102.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

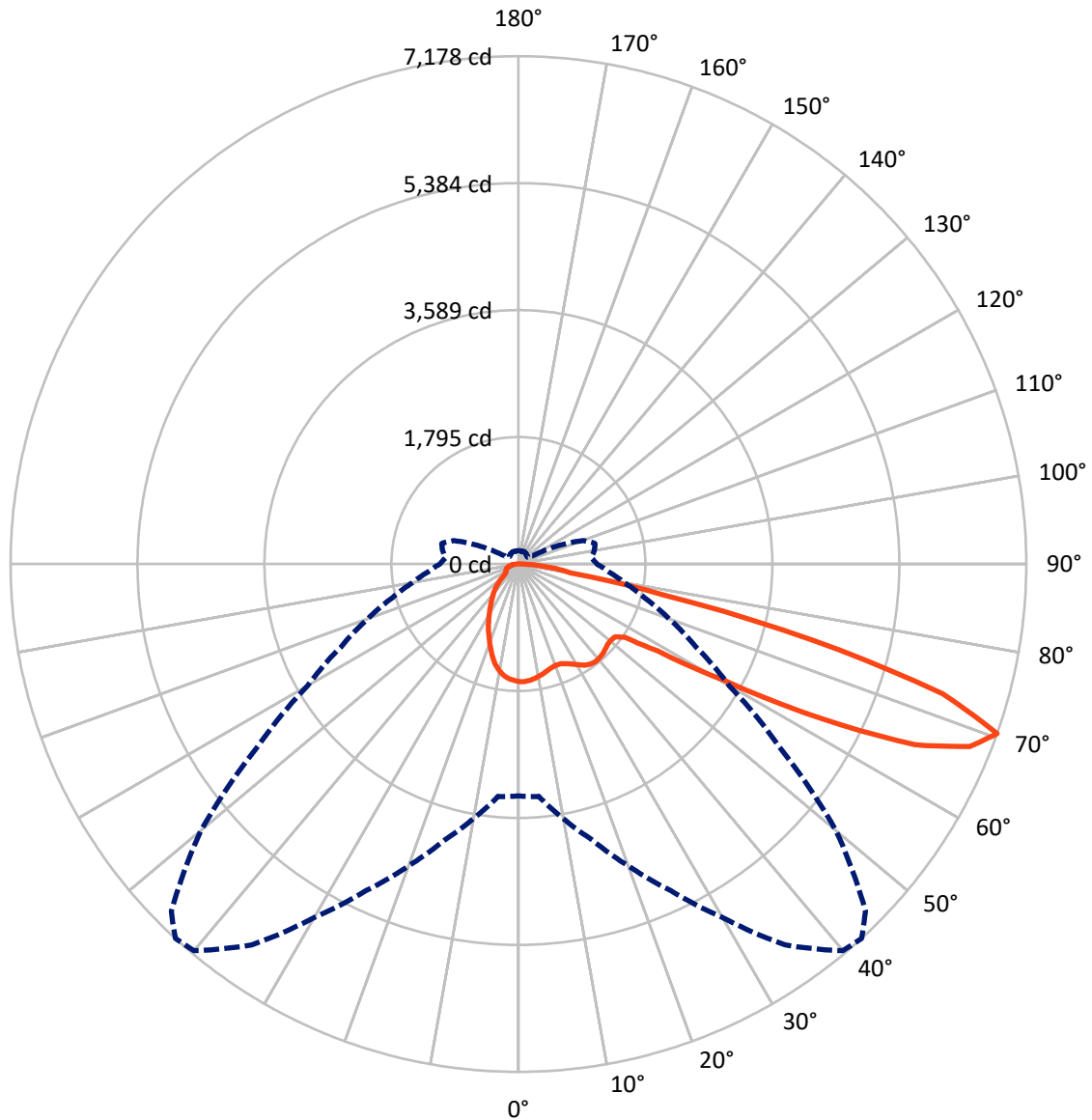
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 16.6 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 42.5-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1735.1	0.0	1735.1
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	6297.0	0.0	6297.0
	% Fixture	78.4	0.0	78.4
Total	Lumens	8032.0	0.0	8032.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.5	1.9
10°-20°	416.3	5.2
20°-30°	607.3	7.6
30°-40°	774.5	9.6
40°-50°	904.0	11.3
50°-60°	1382.5	17.2
60°-70°	2506.1	31.2
70°-80°	1114.3	13.9
80°-90°	172.4	2.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	8032.0	100.0
0°-180°	8032.0	100.0



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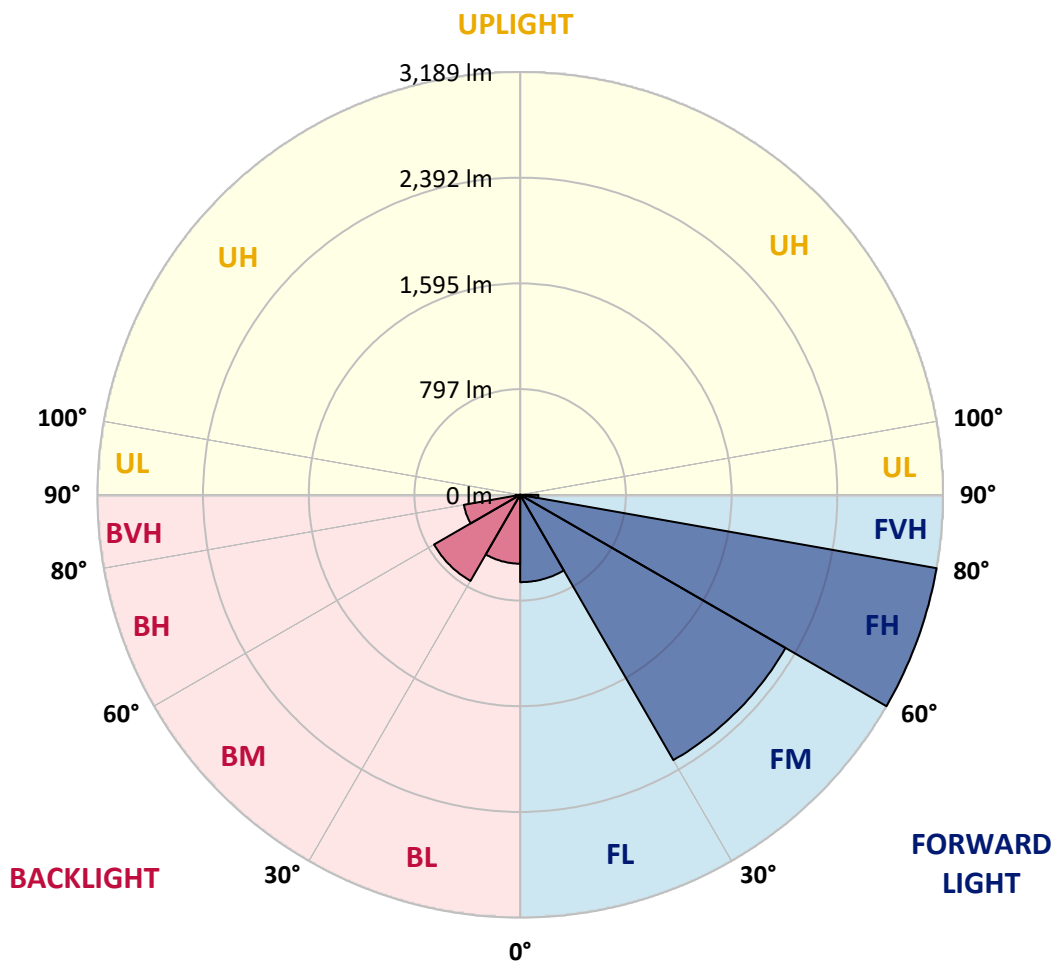
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	658.8	8.2			
FM	(30°-60°)	2311.0	28.8			
FH	(60°-80°)	3189.4	39.7			G2/5000
FVH	(80°-90°)	137.8	1.7			G2/225
BL	(0°-30°)	519.3	6.5	B2/1000		
BM	(30°-60°)	750.0	9.3	B1/1000		
BH	(60°-80°)	431.1	5.4	B1/500		G1/500
BVH	(80°-90°)	34.7	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	42.5°	45°
0°	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0
2.5°	1668.8	1667.1	1668.3	1669.4	1669.4	1669.9	1664.9	1665.5	1663.2	1663.8	1664.4
5°	1662.7	1661.0	1662.1	1662.1	1662.1	1661.6	1654.9	1654.3	1651.5	1651.5	1650.4
7.5°	1651.0	1644.9	1648.2	1648.8	1647.6	1644.9	1641.0	1637.0	1635.4	1635.4	1631.5
10°	1633.1	1626.5	1628.1	1629.2	1628.7	1623.1	1621.4	1617.5	1613.1	1611.4	1607.0
12.5°	1610.3	1605.8	1608.1	1607.5	1607.5	1602.5	1599.7	1594.1	1588.6	1585.8	1580.2
15°	1595.8	1590.2	1592.5	1592.5	1590.2	1585.2	1581.3	1571.3	1561.8	1558.5	1551.2
17.5°	1604.7	1599.1	1601.4	1599.7	1595.8	1585.2	1575.2	1559.0	1544.0	1535.0	1525.6
20°	1640.4	1634.8	1636.5	1635.4	1629.8	1612.5	1594.1	1566.3	1538.4	1525.0	1510.5
22.5°	1697.2	1692.8	1695.6	1693.9	1685.0	1662.7	1635.4	1595.2	1553.4	1533.4	1512.8
25°	1781.4	1780.3	1784.8	1779.7	1766.9	1733.5	1693.9	1639.8	1585.2	1560.1	1531.1
27.5°	1882.9	1873.4	1880.1	1875.6	1866.7	1824.3	1770.8	1702.3	1632.6	1599.7	1565.1
30°	1974.3	1965.9	1978.2	1975.9	1962.6	1919.1	1851.6	1771.4	1692.8	1651.0	1611.4
32.5°	2080.2	2069.6	2079.1	2079.1	2059.0	2000.5	1923.5	1831.6	1749.1	1704.5	1657.1
35°	2191.1	2179.9	2188.9	2186.1	2150.4	2072.9	1976.5	1876.7	1785.9	1740.2	1691.7
37.5°	2294.2	2292.5	2294.8	2276.4	2226.8	2127.6	2012.2	1900.7	1804.3	1756.3	1705.6
40°	2397.3	2393.4	2384.0	2351.6	2279.2	2159.9	2030.6	1909.1	1805.4	1755.2	1703.9
42.5°	2462.0	2454.7	2438.6	2394.5	2303.7	2167.7	2025.0	1896.2	1792.0	1740.7	1690.6
45°	2484.3	2477.0	2457.5	2407.9	2304.2	2155.4	2003.3	1870.6	1766.9	1720.1	1669.4
47.5°	2465.9	2461.4	2443.6	2394.0	2286.4	2132.6	1975.9	1845.0	1743.0	1697.2	1649.9
50°	2434.7	2431.9	2416.3	2370.6	2269.7	2118.6	1963.1	1832.7	1736.3	1693.9	1649.3
52.5°	2512.7	2504.3	2476.5	2422.4	2304.8	2143.7	1983.2	1851.1	1751.9	1709.0	1663.2
55°	3472.0	3410.1	3271.9	3012.7	2649.8	2368.3	2131.5	1972.0	1865.0	1823.2	1779.7
57.5°	4566.1	4501.5	4444.1	4246.2	3815.3	3283.6	2805.3	2525.5	2333.8	2315.4	2298.1
60°	4987.5	5008.1	5003.1	4929.5	4708.8	4456.3	4056.1	3725.6	3359.4	3344.3	3366.1
62.5°	5277.9	5295.2	5297.4	5275.1	5203.2	5119.1	5035.4	4929.5	4859.9	4829.8	4635.2
65°	5397.7	5422.8	5478.0	5519.3	5531.0	5559.9	5635.8	5923.9	6164.2	6162.5	5934.5
67.5°	4940.1	4970.2	5179.3	5384.4	5556.6	5756.2	6063.3	6532.0	6893.8	6882.6	6695.9
70°	3278.6	3297.5	3652.6	4038.8	4539.9	5094.0	5765.1	6573.3	7134.0	7178.0	6937.3
72.5°	2011.1	2054.5	2170.5	2327.1	2594.6	3108.0	4105.7	5486.9	6309.6	6268.4	6076.6
75°	1357.8	1360.0	1356.7	1373.4	1388.5	1492.1	1894.0	3017.1	4274.1	4296.4	4213.9
77.5°	928.1	940.3	947.0	942.5	957.6	953.1	976.5	1034.0	1638.2	2090.8	1921.3
80°	811.0	816.0	823.3	812.7	784.8	769.2	790.9	770.3	725.7	749.7	717.9
82.5°	513.4	528.4	530.1	566.9	621.5	623.7	651.6	631.0	574.1	536.8	491.1
85°	369.0	374.6	384.6	386.8	367.9	351.7	361.7	344.5	310.5	290.4	257.0
87.5°	215.2	220.7	230.8	224.6	205.7	182.3	164.4	141.6	112.0	104.8	92.5
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0
2.5°	1664.9	1662.1	1659.9	1658.8	1661.0	1658.8	1656.6	1655.4	1653.2	1653.8	1651.0
5°	1649.3	1645.4	1642.1	1639.3	1641.5	1637.6	1634.3	1632.0	1629.2	1628.7	1625.9
7.5°	1627.6	1621.4	1617.0	1612.0	1606.4	1603.0	1599.1	1595.2	1589.1	1588.6	1587.4
10°	1599.1	1594.1	1585.2	1577.4	1569.6	1561.2	1552.9	1546.8	1539.5	1536.7	1532.8
12.5°	1570.7	1560.7	1550.1	1537.8	1528.4	1515.0	1503.8	1492.1	1481.5	1474.8	1467.6
15°	1537.3	1526.7	1511.6	1499.9	1486.6	1471.5	1457.0	1439.7	1422.5	1411.9	1401.8
17.5°	1508.3	1494.9	1482.7	1465.9	1452.6	1435.3	1413.5	1395.1	1374.5	1357.2	1338.8
20°	1486.0	1470.9	1456.5	1441.4	1425.2	1405.7	1381.8	1355.6	1329.4	1304.8	1277.5
22.5°	1477.1	1453.1	1436.9	1423.0	1406.3	1384.0	1357.2	1324.9	1292.6	1261.4	1229.6
25°	1484.9	1449.2	1424.1	1408.5	1393.5	1370.6	1340.5	1303.7	1265.8	1226.3	1188.4
27.5°	1506.1	1460.9	1425.2	1400.7	1383.4	1361.1	1327.7	1289.2	1246.3	1201.7	1161.0
30°	1536.7	1480.4	1435.8	1400.7	1375.1	1349.4	1313.2	1269.7	1224.6	1177.8	1132.1
32.5°	1570.2	1502.2	1448.7	1402.4	1362.8	1330.5	1292.6	1250.2	1202.3	1152.7	1103.6
35°	1595.2	1517.8	1454.2	1396.3	1345.5	1304.8	1264.2	1222.9	1176.1	1125.9	1076.9
37.5°	1605.8	1523.9	1453.1	1383.4	1321.6	1277.0	1234.6	1193.4	1148.2	1100.8	1055.7
40°	1606.4	1523.9	1446.4	1366.2	1296.5	1248.0	1203.4	1164.9	1122.6	1081.9	1041.8
42.5°	1595.8	1516.1	1434.2	1350.0	1278.1	1223.5	1177.8	1138.2	1104.2	1068.0	1034.0
45°	1576.9	1500.5	1423.0	1341.1	1271.4	1217.3	1168.3	1130.9	1100.3	1068.0	1038.4
47.5°	1562.4	1491.6	1423.6	1353.9	1287.6	1231.8	1178.9	1139.3	1113.1	1087.5	1066.3
50°	1565.1	1494.9	1430.3	1363.9	1298.7	1242.4	1191.1	1157.1	1141.5	1133.2	1128.2
52.5°	1579.6	1508.3	1459.2	1415.2	1394.0	1359.5	1331.0	1305.4	1309.3	1289.2	1263.6
55°	1729.0	1705.1	1761.3	1802.0	1822.1	1857.2	1907.9	1859.4	1852.8	1790.9	1607.0
57.5°	2321.5	2378.4	2464.8	2526.1	2532.2	2521.6	2479.8	2439.7	2374.5	2281.4	2023.9
60°	3315.3	3302.0	3221.7	3114.1	3030.5	2920.7	2810.4	2717.3	2612.5	2469.8	2195.6
62.5°	4360.4	4038.3	3752.3	3508.8	3302.0	3118.6	2951.9	2812.0	2668.2	2463.1	2171.0
65°	5204.3	4584.5	4080.6	3688.8	3381.1	3121.9	2906.8	2713.9	2521.6	2284.2	2001.0
67.5°	5807.4	4824.2	4063.9	3512.7	3081.2	2724.5	2411.3	2191.7	1994.3	1807.6	1680.0
70°	5855.4	4492.6	3438.0	2763.5	2265.8	1846.6	1521.7	1282.0	1110.3	1032.8	1088.0
72.5°	5003.7	3323.7	2285.8	1691.7	1342.7	1043.4	838.9	670.5	532.3	464.3	473.8
75°	2946.9	1595.8	1029.5	767.0	626.5	500.5	433.1	365.6	322.7	258.6	206.8
77.5°	1122.0	693.9	519.5	431.4	307.7	221.3	174.5	150.5	138.2	136.6	129.3
80°	646.6	508.9	356.2	233.0	170.6	144.4	123.7	105.9	98.7	97.0	99.8
82.5°	408.6	317.2	195.6	149.9	124.3	107.0	89.2	77.5	71.3	69.1	73.0
85°	211.3	158.9	119.3	102.6	95.3	87.0	71.3	59.6	59.1	61.9	71.3
87.5°	78.0	68.0	53.5	46.3	49.6	46.3	33.4	29.0	26.2	34.6	50.2
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0	1661.0
2.5°	1651.0	1649.9	1650.4	1649.3	1649.3	1651.0	1648.8	1647.1	1649.9	1649.9	1651.5
5°	1625.3	1626.5	1626.5	1625.9	1627.0	1629.8	1629.2	1629.2	1633.7	1635.4	1637.6
7.5°	1584.7	1586.3	1586.9	1588.6	1589.1	1593.0	1595.8	1599.1	1605.8	1607.5	1612.5
10°	1529.5	1528.4	1532.3	1531.7	1536.7	1540.1	1542.3	1549.5	1559.6	1565.1	1570.2
12.5°	1464.3	1464.3	1466.5	1467.0	1471.5	1476.0	1478.8	1487.7	1496.0	1503.3	1514.4
15°	1395.1	1392.9	1387.9	1387.3	1389.0	1393.5	1399.6	1406.3	1419.1	1429.7	1439.2
17.5°	1322.7	1316.0	1309.9	1302.1	1301.5	1300.9	1304.3	1309.3	1329.4	1340.0	1353.3
20°	1258.6	1244.1	1229.6	1213.4	1204.0	1199.5	1201.2	1207.9	1226.8	1240.7	1254.7
22.5°	1201.2	1179.4	1156.6	1130.9	1115.3	1105.9	1107.0	1109.8	1123.7	1132.1	1139.3
25°	1152.1	1122.0	1090.3	1057.4	1035.6	1021.1	1020.6	1020.6	1014.4	1015.6	1011.7
27.5°	1118.7	1076.9	1036.2	997.7	969.3	954.8	935.3	921.4	909.1	892.4	885.1
30°	1086.4	1043.4	997.2	954.8	920.8	892.4	856.1	826.0	802.1	779.2	759.7
32.5°	1057.4	1012.8	968.7	922.5	875.7	826.6	779.2	744.7	710.7	675.6	652.1
35°	1031.7	989.9	945.9	893.5	827.7	763.6	710.1	663.3	623.2	580.8	546.8
37.5°	1017.2	979.3	933.6	862.3	779.8	706.8	647.1	594.7	541.2	490.5	448.7
40°	1010.0	976.5	920.8	830.5	736.9	658.8	592.5	529.5	466.5	406.9	363.4
42.5°	1008.9	976.5	901.9	798.2	700.1	616.5	542.3	466.5	390.2	332.2	293.7
45°	1018.9	975.4	881.8	769.2	667.2	578.6	489.4	400.2	321.6	270.9	249.7
47.5°	1047.9	979.3	866.2	744.7	636.0	536.8	429.2	326.6	259.7	236.9	236.3
50°	1094.7	997.2	862.8	726.8	605.3	484.4	358.4	261.4	229.1	228.0	234.1
52.5°	1168.8	1030.6	871.2	714.6	568.5	416.4	283.7	225.7	219.6	225.7	233.5
55°	1332.2	1090.3	882.3	692.8	508.9	330.0	233.5	214.0	216.8	224.1	231.3
57.5°	1629.2	1214.0	894.1	643.8	412.5	253.6	210.1	209.6	214.6	220.7	227.4
60°	1817.6	1366.7	922.5	571.3	311.6	209.6	201.2	206.8	212.9	217.4	223.0
62.5°	1823.8	1406.8	937.5	493.8	231.9	191.7	193.4	204.0	211.3	212.9	215.7
65°	1706.2	1331.0	869.5	401.9	192.3	181.7	187.8	197.3	204.6	205.7	207.9
67.5°	1490.5	1173.9	736.9	303.2	175.0	173.9	180.6	187.8	192.9	197.3	200.7
70°	1122.6	968.7	592.5	235.2	164.4	163.3	170.0	176.1	180.6	186.2	191.7
72.5°	569.1	670.5	449.3	192.3	149.9	151.1	158.3	163.9	167.2	172.2	177.8
75°	194.0	292.6	284.3	155.5	133.8	138.2	141.6	147.7	152.7	156.1	158.9
77.5°	121.5	127.1	146.6	125.4	118.2	119.3	124.9	130.4	136.0	138.2	139.3
80°	101.4	102.0	102.6	100.3	100.9	104.2	107.6	113.7	119.3	120.4	121.0
82.5°	80.3	85.8	85.3	84.7	87.5	90.9	93.1	95.3	97.5	98.7	100.3
85°	70.8	69.7	70.2	71.9	69.7	67.4	66.9	66.9	70.2	74.1	75.8
87.5°	64.7	55.2	41.2	39.0	39.0	37.9	35.7	35.7	39.0	42.4	44.0
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):

	160°	165°	170°	175°	180°
0°	1661.0	1661.0	1661.0	1661.0	1661.0
2.5°	1651.0	1651.5	1651.0	1651.0	1653.8
5°	1638.7	1641.0	1639.8	1641.5	1643.2
7.5°	1613.6	1619.2	1620.3	1624.8	1623.1
10°	1577.4	1581.3	1586.9	1591.3	1589.7
12.5°	1520.0	1529.5	1537.8	1542.9	1541.7
15°	1447.0	1460.4	1471.5	1475.4	1470.9
17.5°	1368.9	1377.3	1390.7	1393.5	1397.9
20°	1270.3	1269.7	1281.4	1281.4	1279.2
22.5°	1141.5	1149.9	1149.9	1142.1	1138.2
25°	1010.0	1012.8	1004.4	1006.1	995.5
27.5°	877.9	870.6	864.0	866.7	858.9
30°	751.9	736.3	729.6	730.7	722.4
32.5°	631.0	612.6	605.9	597.0	589.7
35°	521.2	492.2	474.9	470.4	475.5
37.5°	413.6	393.0	372.3	357.3	359.0
40°	327.2	306.0	292.6	286.5	285.4
42.5°	270.3	258.1	255.3	255.8	255.8
45°	245.3	245.8	248.0	250.3	250.8
47.5°	240.2	243.6	247.5	250.3	250.8
50°	239.7	243.0	245.8	249.2	250.3
52.5°	239.1	241.3	243.0	244.7	246.4
55°	236.9	238.0	237.4	238.6	240.2
57.5°	231.3	231.9	230.8	231.3	234.7
60°	226.3	226.9	224.6	227.4	228.0
62.5°	220.2	219.6	218.5	220.2	220.2
65°	211.3	207.9	209.0	210.7	211.3
67.5°	200.7	197.3	197.3	198.4	200.1
70°	187.3	185.6	185.6	187.8	190.1
72.5°	172.2	173.3	176.7	180.0	183.4
75°	160.0	162.8	166.1	174.5	179.5
77.5°	144.4	144.9	147.7	156.1	165.0
80°	122.6	122.1	122.6	123.7	125.4
82.5°	97.0	95.9	92.5	93.6	91.4
85°	71.3	69.7	65.8	63.0	62.4
87.5°	41.2	41.2	39.6	37.3	35.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)