

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: P145441

Luminaire Tested: **LDRL-SL4-E03-E-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145441
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-E03-E-7050
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (63) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8871.8 lumens
Efficiency: N/A
Efficacy: 118.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

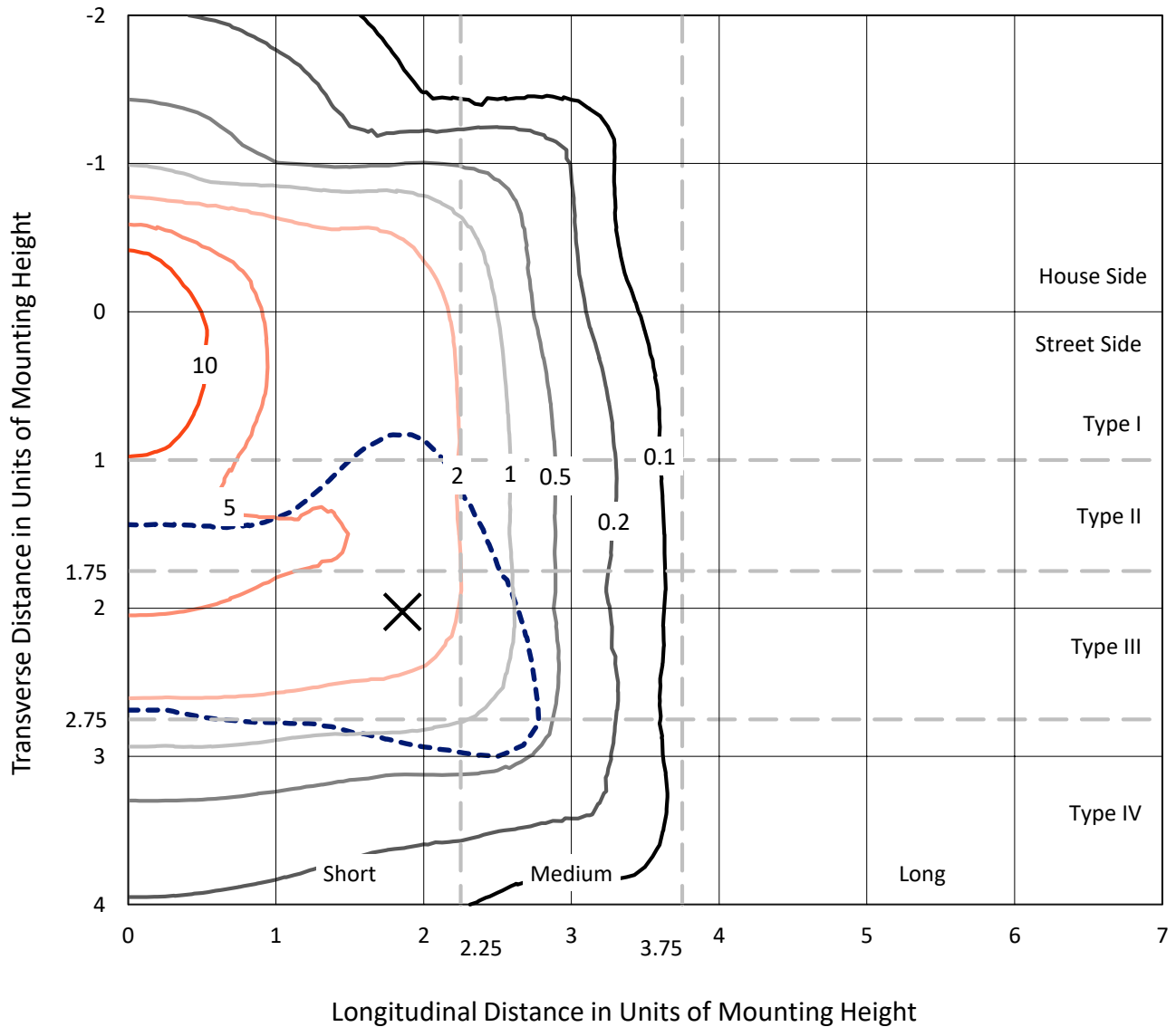
Input Watts (W): 75.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

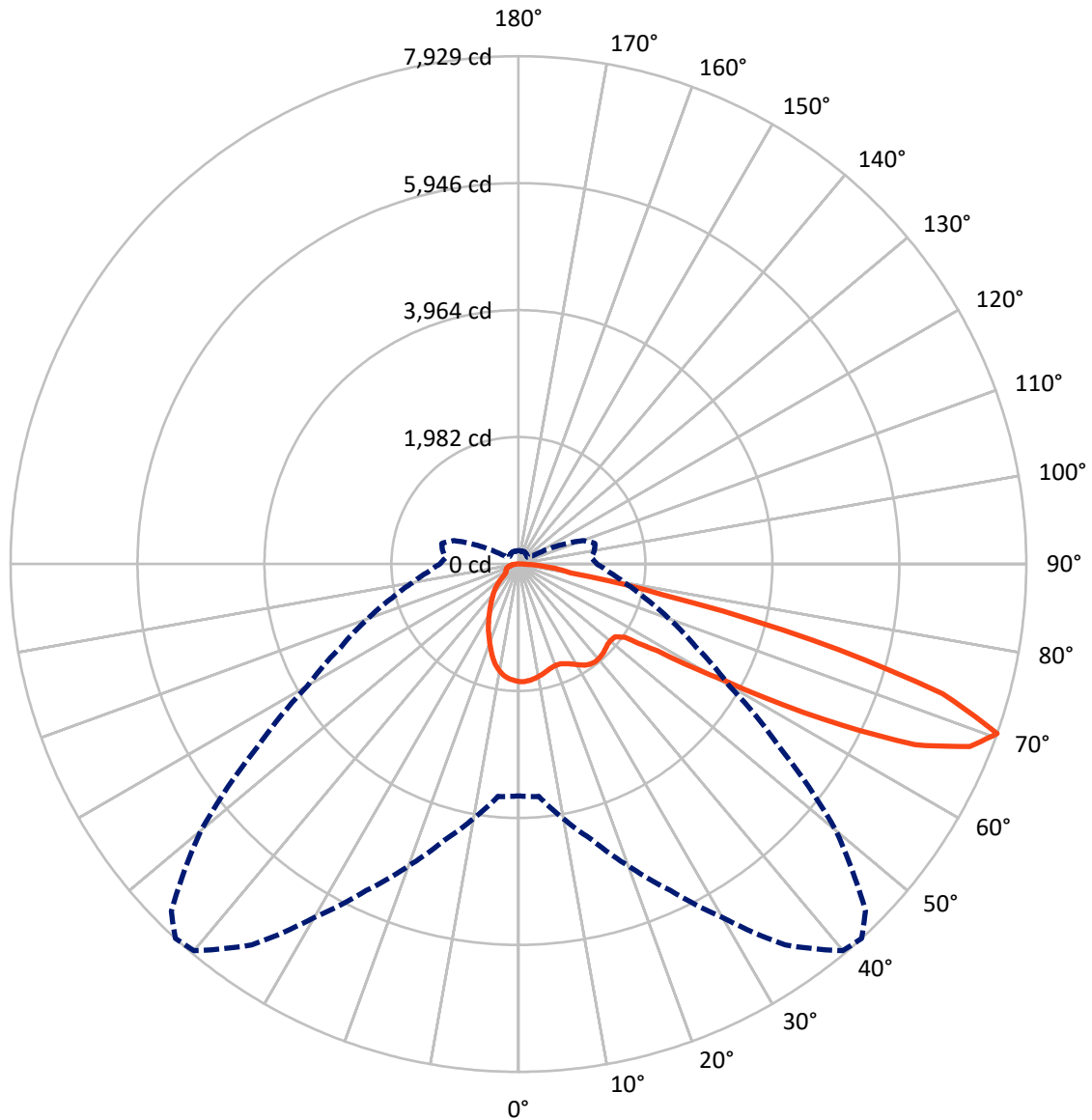
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 18.3 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	1916.5	0.0	1916.5
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	6955.3	0.0	6955.3
	% Fixture	78.4	0.0	78.4
Total	Lumens	8871.8	0.0	8871.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.7	1.9
10°-20°	459.9	5.2
20°-30°	670.8	7.6
30°-40°	855.5	9.6
40°-50°	998.5	11.3
50°-60°	1527.1	17.2
60°-70°	2768.1	31.2
70°-80°	1230.8	13.9
80°-90°	190.5	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°	8871.8	100.0
0°-180°	8871.8	100.0

Coefficient of Utilization



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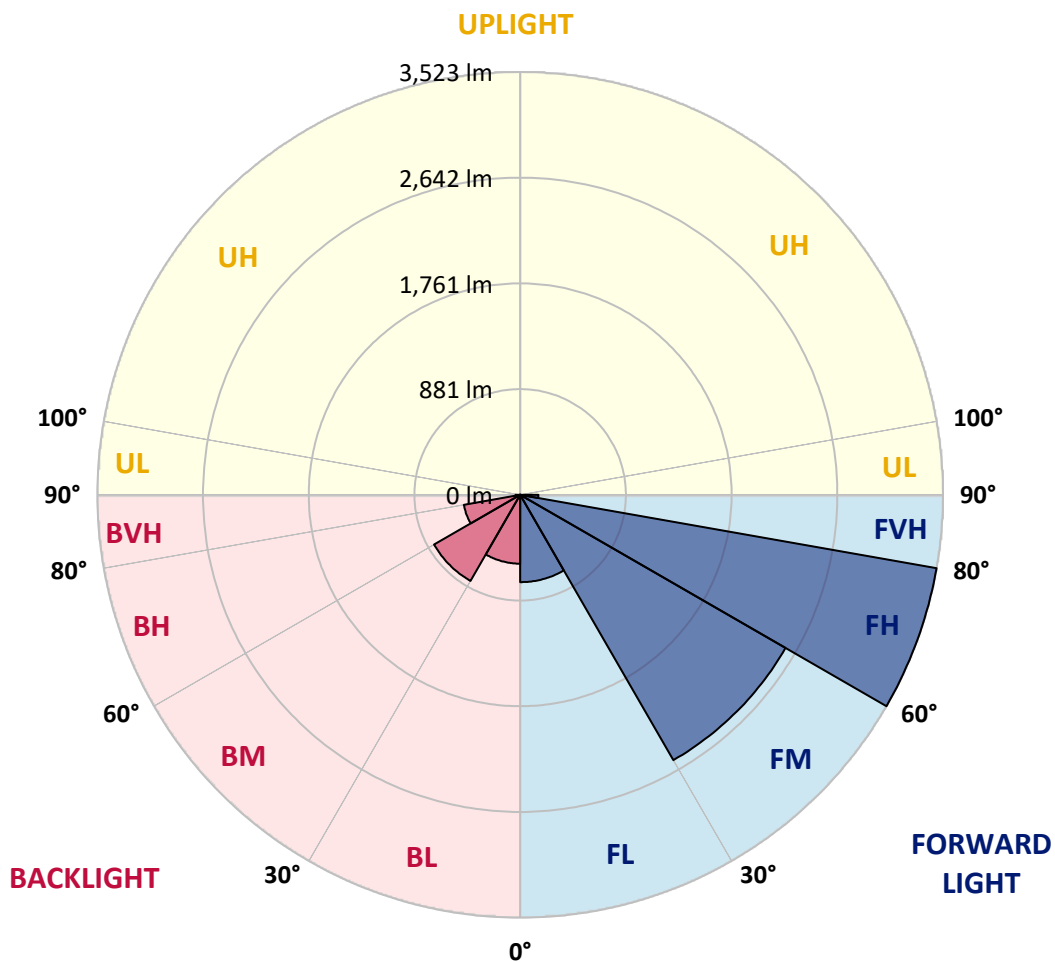
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	727.7	8.2			
FM (30°-60°)	2552.6	28.8			
FH (60°-80°)	3522.8	39.7			G2/5000
FVH (80°-90°)	152.2	1.7			G2/225
BL (0°-30°)	573.6	6.5	B2/1000		
BM (30°-60°)	828.5	9.3	B1/1000		
BH (60°-80°)	476.1	5.4	B1/500		G1/500
BVH (80°-90°)	38.3	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°	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7
2.5°	1843.3	1841.4	1842.7	1843.9	1843.9	1844.5	1839.0	1839.6	1837.1	1837.8	1838.4
5°	1836.5	1834.7	1835.9	1835.9	1835.9	1835.3	1827.9	1827.3	1824.2	1824.2	1823.0
7.5°	1823.6	1816.8	1820.5	1821.1	1819.9	1816.8	1812.5	1808.2	1806.4	1806.4	1802.0
10°	1803.9	1796.5	1798.4	1799.6	1799.0	1792.8	1791.0	1786.7	1781.7	1779.9	1775.0
12.5°	1778.7	1773.7	1776.2	1775.6	1775.6	1770.0	1767.0	1760.8	1754.6	1751.6	1745.4
15°	1762.6	1756.5	1758.9	1758.9	1756.5	1750.9	1746.6	1735.6	1725.1	1721.4	1713.4
17.5°	1772.5	1766.3	1768.8	1767.0	1762.6	1750.9	1739.9	1722.0	1705.4	1695.5	1685.1
20°	1811.9	1805.7	1807.6	1806.4	1800.2	1781.1	1760.8	1730.0	1699.2	1684.5	1668.4
22.5°	1874.7	1869.8	1872.8	1871.0	1861.2	1836.5	1806.4	1762.0	1715.9	1693.7	1670.9
25°	1967.7	1966.4	1971.4	1965.8	1951.7	1914.7	1871.0	1811.3	1750.9	1723.2	1691.2
27.5°	2079.7	2069.2	2076.6	2071.7	2061.9	2015.1	1956.0	1880.2	1803.3	1767.0	1728.8
30°	2180.7	2171.4	2185.0	2182.5	2167.8	2119.7	2045.2	1956.6	1869.8	1823.6	1779.9
32.5°	2297.7	2286.0	2296.4	2296.4	2274.3	2209.6	2124.7	2023.1	1932.0	1882.7	1830.4
35°	2420.2	2407.9	2417.7	2414.6	2375.2	2289.7	2183.1	2072.9	1972.6	1922.1	1868.5
37.5°	2534.1	2532.2	2534.7	2514.4	2459.6	2350.0	2222.5	2099.4	1992.9	1940.0	1883.9
40°	2648.0	2643.7	2633.2	2597.5	2517.4	2385.7	2242.9	2108.6	1994.1	1938.7	1882.1
42.5°	2719.4	2711.4	2693.5	2644.9	2544.5	2394.3	2236.7	2094.5	1979.4	1922.7	1867.3
45°	2744.0	2736.0	2714.5	2659.7	2545.2	2380.8	2212.7	2066.2	1951.7	1899.9	1843.9
47.5°	2723.7	2718.8	2699.1	2644.3	2525.5	2355.5	2182.5	2037.8	1925.2	1874.7	1822.4
50°	2689.2	2686.1	2668.9	2618.4	2507.0	2340.1	2168.4	2024.3	1917.8	1871.0	1821.7
52.5°	2775.4	2766.2	2735.4	2675.7	2545.8	2367.8	2190.5	2044.6	1935.0	1887.6	1837.1
55°	3835.0	3766.6	3613.9	3327.7	2926.9	2616.0	2354.3	2178.2	2060.0	2013.8	1965.8
57.5°	5043.5	4972.1	4908.7	4690.1	4214.2	3626.9	3098.6	2789.6	2577.8	2557.5	2538.4
60°	5509.0	5531.7	5526.2	5444.9	5201.1	4922.2	4480.2	4115.1	3710.6	3694.0	3718.0
62.5°	5829.7	5848.8	5851.3	5826.6	5747.2	5654.3	5561.9	5444.9	5368.0	5334.7	5119.9
65°	5962.1	5989.8	6050.7	6096.3	6109.2	6141.2	6225.0	6543.3	6808.6	6806.8	6555.0
67.5°	5456.6	5489.9	5720.7	5947.3	6137.5	6358.0	6697.2	7215.0	7614.5	7602.2	7396.0
70°	3621.3	3642.3	4034.4	4461.1	5014.6	5626.5	6367.8	7260.5	7879.9	7928.5	7662.5
72.5°	2221.3	2269.3	2397.4	2570.4	2865.9	3432.9	4535.0	6060.6	6969.3	6923.7	6712.0
75°	1499.8	1502.2	1498.5	1517.0	1533.6	1648.1	2092.0	3332.6	4720.9	4745.5	4654.4
77.5°	1025.1	1038.6	1046.0	1041.1	1057.7	1052.8	1078.6	1142.1	1809.4	2309.4	2122.2
80°	895.8	901.3	909.3	897.6	866.9	849.6	873.6	850.8	801.6	828.1	793.0
82.5°	567.0	583.6	585.5	626.1	686.5	688.9	719.7	696.9	634.1	592.9	542.4
85°	407.6	413.7	424.8	427.3	406.3	388.5	399.6	380.5	342.9	320.8	283.8
87.5°	237.6	243.8	254.9	248.1	227.2	201.3	181.6	156.4	123.7	115.7	102.2
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7
2.5°	1839.0	1835.9	1833.4	1832.2	1834.7	1832.2	1829.8	1828.5	1826.1	1826.7	1823.6
5°	1821.7	1817.4	1813.7	1810.7	1813.1	1808.8	1805.1	1802.7	1799.6	1799.0	1795.9
7.5°	1797.7	1791.0	1786.0	1780.5	1774.3	1770.6	1766.3	1762.0	1755.3	1754.6	1753.4
10°	1766.3	1760.8	1750.9	1742.3	1733.7	1724.5	1715.2	1708.5	1700.5	1697.4	1693.1
12.5°	1734.9	1723.9	1712.2	1698.6	1688.1	1673.4	1661.1	1648.1	1636.4	1629.0	1621.0
15°	1698.0	1686.3	1669.7	1656.7	1642.0	1625.4	1609.3	1590.3	1571.2	1559.5	1548.4
17.5°	1666.0	1651.2	1637.7	1619.2	1604.4	1585.3	1561.3	1541.0	1518.2	1499.1	1478.8
20°	1641.4	1624.7	1608.7	1592.1	1574.3	1552.7	1526.2	1497.3	1468.4	1441.3	1411.1
22.5°	1631.5	1605.0	1587.2	1571.8	1553.3	1528.7	1499.1	1463.4	1427.7	1393.2	1358.2
25°	1640.1	1600.7	1573.0	1555.8	1539.2	1513.9	1480.7	1440.0	1398.2	1354.5	1312.6
27.5°	1663.5	1613.7	1574.3	1547.2	1528.1	1503.4	1466.5	1424.0	1376.6	1327.4	1282.4
30°	1697.4	1635.2	1585.9	1547.2	1518.8	1490.5	1450.5	1402.5	1352.6	1300.9	1250.4
32.5°	1734.3	1659.2	1600.1	1549.0	1505.3	1469.6	1427.7	1380.9	1328.0	1273.2	1219.0
35°	1762.0	1676.5	1606.3	1542.2	1486.2	1441.3	1396.3	1350.8	1299.0	1243.6	1189.5
37.5°	1773.7	1683.2	1605.0	1528.1	1459.7	1410.5	1363.7	1318.1	1268.3	1215.9	1166.1
40°	1774.3	1683.2	1597.6	1509.0	1432.0	1378.5	1329.2	1286.7	1239.9	1195.0	1150.7
42.5°	1762.6	1674.6	1584.1	1491.1	1411.7	1351.4	1300.9	1257.2	1219.6	1179.6	1142.1
45°	1741.7	1657.4	1571.8	1481.3	1404.3	1344.6	1290.4	1249.2	1215.3	1179.6	1147.0
47.5°	1725.7	1647.5	1572.4	1495.4	1422.2	1360.6	1302.1	1258.4	1229.5	1201.2	1177.8
50°	1728.8	1651.2	1579.8	1506.5	1434.5	1372.3	1315.7	1278.1	1260.9	1251.6	1246.1
52.5°	1744.8	1666.0	1611.8	1563.2	1539.8	1501.6	1470.2	1441.9	1446.2	1424.0	1395.7
55°	1909.8	1883.3	1945.5	1990.4	2012.6	2051.4	2107.4	2053.9	2046.5	1978.1	1775.0
57.5°	2564.2	2627.0	2722.5	2790.2	2797.0	2785.3	2739.1	2694.8	2622.7	2519.9	2235.5
60°	3662.0	3647.2	3558.5	3439.7	3347.4	3226.1	3104.2	3001.4	2885.6	2728.0	2425.1
62.5°	4816.3	4460.5	4144.6	3875.6	3647.2	3444.6	3260.6	3106.0	2947.2	2720.6	2398.0
65°	5748.4	5063.8	4507.3	4074.5	3734.6	3448.3	3210.7	2997.7	2785.3	2523.0	2210.2
67.5°	6414.6	5328.6	4488.8	3879.9	3403.4	3009.4	2663.4	2420.8	2202.8	1996.6	1855.6
70°	6467.5	4962.2	3797.4	3052.5	2502.7	2039.7	1680.8	1416.0	1226.4	1140.8	1201.8
72.5°	5526.8	3671.2	2524.8	1868.5	1483.1	1152.5	926.6	740.6	588.0	512.8	523.3
75°	3255.0	1762.6	1137.1	847.2	692.0	552.9	478.4	403.9	356.5	285.7	228.4
77.5°	1239.3	766.5	573.8	476.5	339.8	244.4	192.7	166.2	152.7	150.8	142.8
80°	714.2	562.1	393.4	257.3	188.4	159.5	136.7	117.0	109.0	107.1	110.2
82.5°	451.3	350.3	216.1	165.6	137.3	118.2	98.5	85.6	78.8	76.3	80.7
85°	233.3	175.5	131.8	113.3	105.3	96.0	78.8	65.9	65.3	68.3	78.8
87.5°	86.2	75.1	59.1	51.1	54.8	51.1	36.9	32.0	28.9	38.2	55.4
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°	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7	1834.7
2.5°	1823.6	1822.4	1823.0	1821.7	1821.7	1823.6	1821.1	1819.3	1822.4	1822.4	1824.2
5°	1795.3	1796.5	1796.5	1795.9	1797.1	1800.2	1799.6	1799.6	1804.5	1806.4	1808.8
7.5°	1750.3	1752.2	1752.8	1754.6	1755.3	1759.6	1762.6	1766.3	1773.7	1775.6	1781.1
10°	1689.4	1688.1	1692.5	1691.8	1697.4	1701.1	1703.5	1711.5	1722.6	1728.8	1734.3
12.5°	1617.3	1617.3	1619.8	1620.4	1625.4	1630.3	1633.4	1643.2	1652.4	1660.4	1672.8
15°	1541.0	1538.5	1533.0	1532.4	1534.2	1539.2	1545.9	1553.3	1567.5	1579.2	1589.6
17.5°	1461.0	1453.6	1446.8	1438.2	1437.6	1437.0	1440.7	1446.2	1468.4	1480.1	1494.8
20°	1390.2	1374.2	1358.2	1340.3	1329.8	1324.9	1326.8	1334.1	1355.1	1370.5	1385.9
22.5°	1326.8	1302.7	1277.5	1249.2	1231.9	1221.5	1222.7	1225.8	1241.2	1250.4	1258.4
25°	1272.6	1239.3	1204.2	1167.9	1143.9	1127.9	1127.3	1127.3	1120.5	1121.7	1117.4
27.5°	1235.6	1189.5	1144.5	1102.0	1070.6	1054.6	1033.1	1017.7	1004.1	985.7	977.7
30°	1199.9	1152.5	1101.4	1054.6	1017.1	985.7	945.7	912.4	885.9	860.7	839.1
32.5°	1167.9	1118.7	1070.0	1018.9	967.2	913.0	860.7	822.5	785.0	746.2	720.3
35°	1139.6	1093.4	1044.8	986.9	914.3	843.5	784.4	732.6	688.3	641.5	604.0
37.5°	1123.6	1081.7	1031.2	952.4	861.3	780.7	714.8	656.9	597.8	541.8	495.6
40°	1115.6	1078.6	1017.1	917.3	813.9	727.7	654.5	584.9	515.3	449.4	401.4
42.5°	1114.4	1078.6	996.1	881.6	773.3	680.9	599.0	515.3	431.0	366.9	324.5
45°	1125.4	1077.4	974.0	849.6	736.9	639.1	540.6	442.0	355.2	299.2	275.8
47.5°	1157.4	1081.7	956.7	822.5	702.5	592.9	474.1	360.8	286.9	261.7	261.0
50°	1209.2	1101.4	953.0	802.8	668.6	535.0	395.9	288.7	253.0	251.8	258.6
52.5°	1291.0	1138.4	962.3	789.3	628.0	459.9	313.4	249.3	242.6	249.3	258.0
55°	1471.4	1204.2	974.6	765.3	562.1	364.5	258.0	236.4	239.5	247.5	255.5
57.5°	1799.6	1340.9	987.5	711.1	455.6	280.1	232.1	231.5	237.0	243.8	251.2
60°	2007.7	1509.6	1018.9	631.1	344.2	231.5	222.3	228.4	235.2	240.1	246.3
62.5°	2014.5	1553.9	1035.5	545.5	256.1	211.8	213.6	225.3	233.3	235.2	238.3
65°	1884.5	1470.2	960.4	443.9	212.4	200.7	207.5	217.9	225.9	227.2	229.6
67.5°	1646.3	1296.6	813.9	334.9	193.3	192.1	199.5	207.5	213.0	217.9	221.6
70°	1239.9	1070.0	654.5	259.8	181.6	180.4	187.8	194.5	199.5	205.6	211.8
72.5°	628.6	740.6	496.2	212.4	165.6	166.8	174.8	181.0	184.7	190.2	196.4
75°	214.3	323.2	314.0	171.8	147.8	152.7	156.4	163.2	168.7	172.4	175.5
77.5°	134.2	140.4	161.9	138.5	130.5	131.8	137.9	144.1	150.2	152.7	153.9
80°	112.1	112.7	113.3	110.8	111.4	115.1	118.8	125.6	131.8	133.0	133.6
82.5°	88.7	94.8	94.2	93.6	96.7	100.4	102.8	105.3	107.7	109.0	110.8
85°	78.2	77.0	77.6	79.4	77.0	74.5	73.9	73.9	77.6	81.9	83.7
87.5°	71.4	61.0	45.6	43.1	43.1	41.9	39.4	39.4	43.1	46.8	48.6
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°	1834.7	1834.7	1834.7	1834.7	1834.7
2.5°	1823.6	1824.2	1823.6	1823.6	1826.7
5°	1810.0	1812.5	1811.3	1813.1	1815.0
7.5°	1782.3	1788.5	1789.7	1794.7	1792.8
10°	1742.3	1746.6	1752.8	1757.7	1755.9
12.5°	1678.9	1689.4	1698.6	1704.2	1702.9
15°	1598.3	1613.0	1625.4	1629.7	1624.7
17.5°	1512.1	1521.3	1536.1	1539.2	1544.1
20°	1403.1	1402.5	1415.4	1415.4	1412.9
22.5°	1260.9	1270.1	1270.1	1261.5	1257.2
25°	1115.6	1118.7	1109.4	1111.3	1099.6
27.5°	969.7	961.7	954.3	957.4	948.7
30°	830.5	813.3	805.9	807.1	797.9
32.5°	696.9	676.6	669.2	659.4	651.4
35°	575.6	543.6	524.5	519.6	525.2
37.5°	456.8	434.0	411.3	394.6	396.5
40°	361.4	338.0	323.2	316.5	315.2
42.5°	298.6	285.1	282.0	282.6	282.6
45°	270.9	271.5	274.0	276.4	277.0
47.5°	265.4	269.0	273.4	276.4	277.0
50°	264.7	268.4	271.5	275.2	276.4
52.5°	264.1	266.6	268.4	270.3	272.1
55°	261.7	262.9	262.3	263.5	265.4
57.5°	255.5	256.1	254.9	255.5	259.2
60°	250.0	250.6	248.1	251.2	251.8
62.5°	243.2	242.6	241.3	243.2	243.2
65°	233.3	229.6	230.9	232.7	233.3
67.5°	221.6	217.9	217.9	219.2	221.0
70°	206.9	205.0	205.0	207.5	209.9
72.5°	190.2	191.5	195.2	198.9	202.6
75°	176.7	179.8	183.5	192.7	198.2
77.5°	159.5	160.1	163.2	172.4	182.2
80°	135.4	134.8	135.4	136.7	138.5
82.5°	107.1	105.9	102.2	103.4	101.0
85°	78.8	77.0	72.6	69.6	69.0
87.5°	45.6	45.6	43.7	41.2	38.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)