

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: P145440

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145440
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
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (63) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8646.1 lumens
Efficiency: N/A
Efficacy: 115.0 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

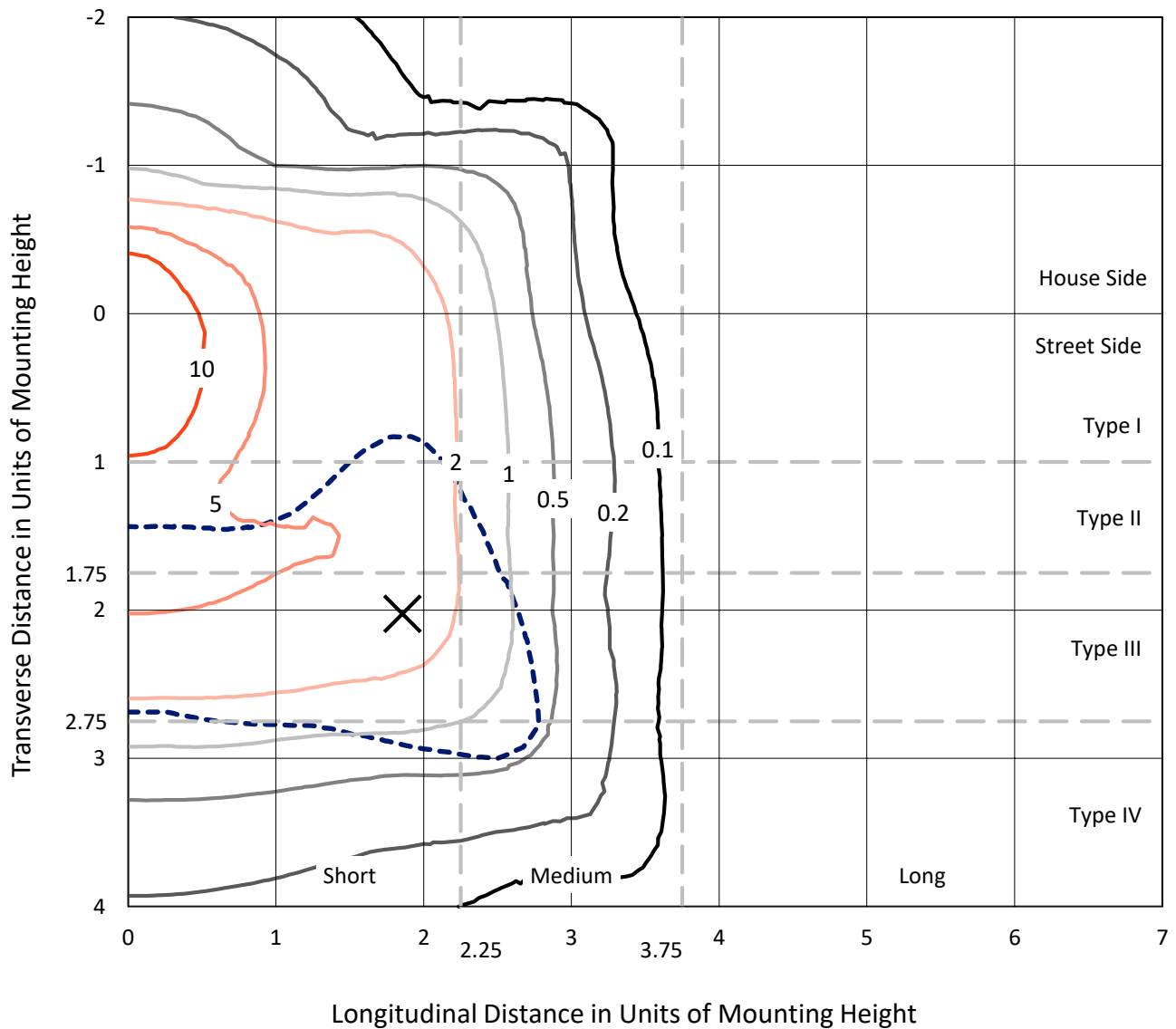
Input Watts (W): 75.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

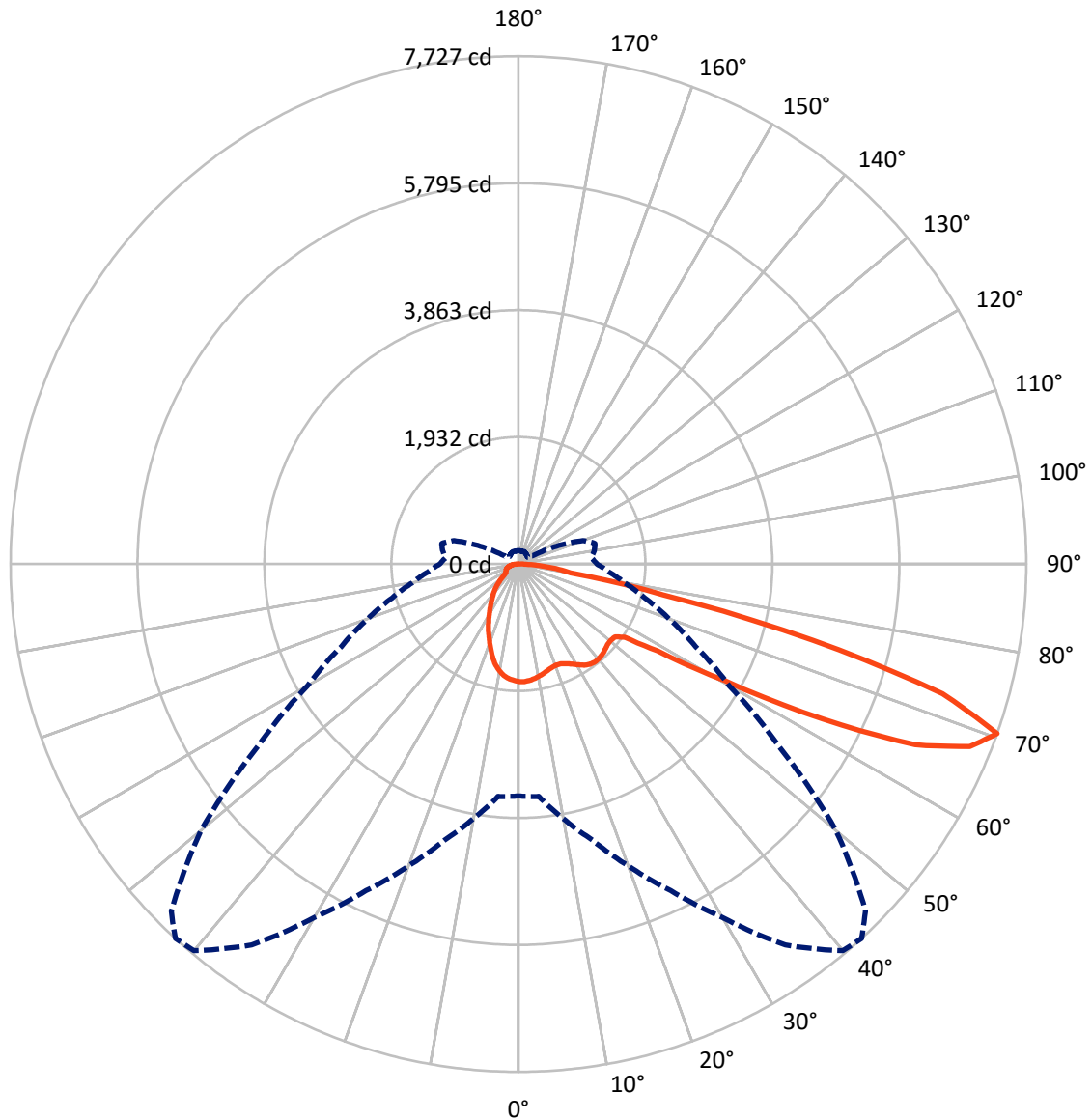
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 17.9 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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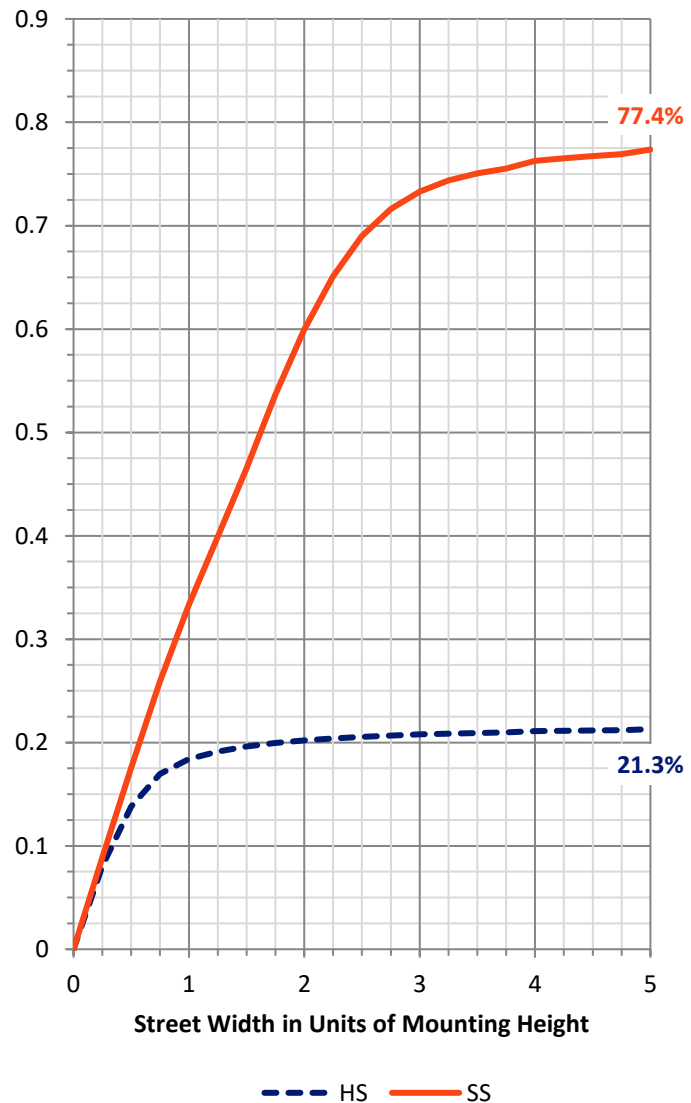
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1867.7	0.0	1867.7
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	6778.4	0.0	6778.4
	% Fixture	78.4	0.0	78.4
Total	Lumens	8646.1	0.0	8646.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.4	1.9
10°-20°	448.2	5.2
20°-30°	653.7	7.6
30°-40°	833.7	9.6
40°-50°	973.1	11.3
50°-60°	1488.2	17.2
60°-70°	2697.7	31.2
70°-80°	1199.5	13.9
80°-90°	185.6	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°	8646.1	100.0
0°-180°	8646.1	100.0

Coefficient of Utilization

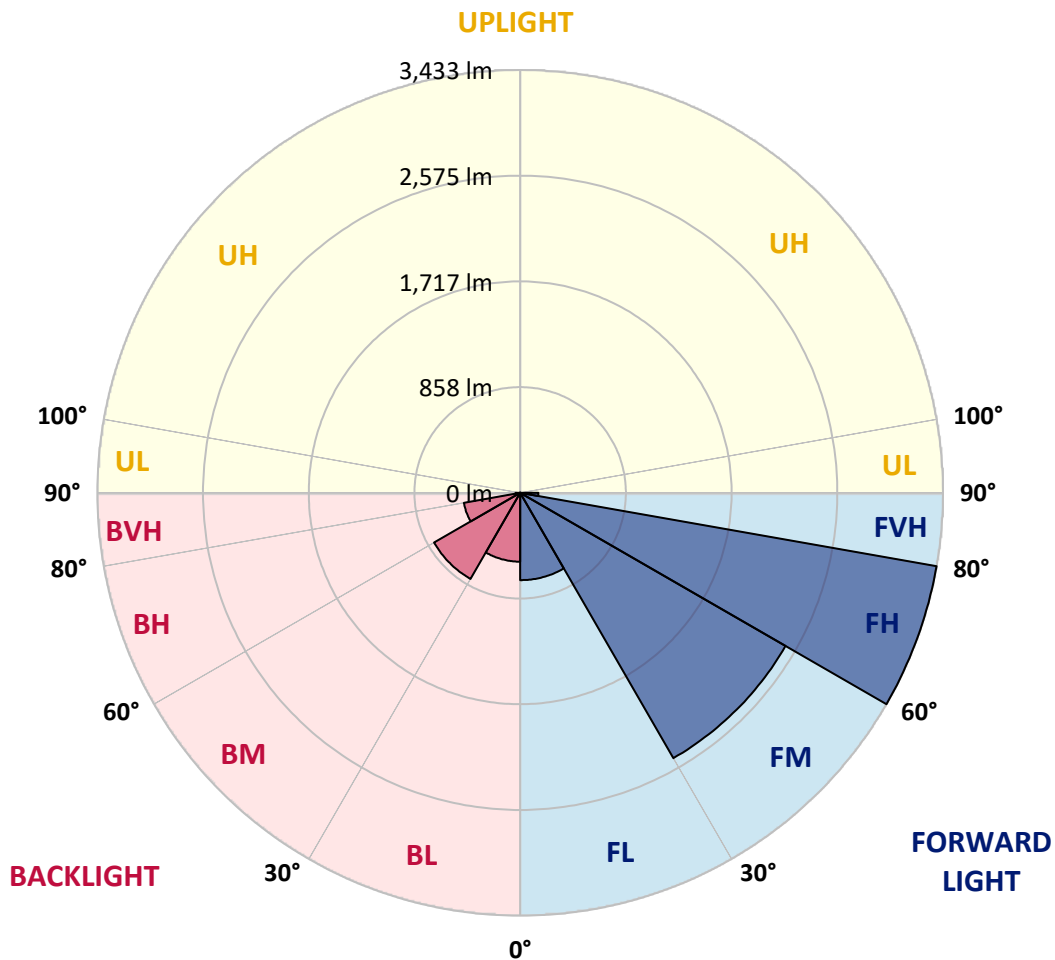


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	709.2	8.2			
FM (30°-60°)	2487.7	28.8			
FH (60°-80°)	3433.2	39.7			G2/5000
FVH (80°-90°)	148.3	1.7			G2/225
BL (0°-30°)	559.0	6.5	B2/1000		
BM (30°-60°)	807.4	9.3	B1/1000		
BH (60°-80°)	464.0	5.4	B1/500		G1/500
BVH (80°-90°)	37.3	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°	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0
2.5°	1796.4	1794.6	1795.8	1797.0	1797.0	1797.6	1792.2	1792.8	1790.4	1791.0	1791.6
5°	1789.8	1788.0	1789.2	1789.2	1789.2	1788.6	1781.4	1780.8	1777.8	1777.8	1776.6
7.5°	1777.2	1770.6	1774.2	1774.8	1773.6	1770.6	1766.4	1762.2	1760.4	1760.4	1756.2
10°	1758.0	1750.8	1752.6	1753.8	1753.2	1747.2	1745.4	1741.2	1736.4	1734.6	1729.8
12.5°	1733.4	1728.6	1731.0	1730.4	1730.4	1725.0	1722.0	1716.0	1710.0	1707.0	1701.0
15°	1717.8	1711.8	1714.2	1714.2	1711.8	1706.4	1702.2	1691.4	1681.2	1677.6	1669.8
17.5°	1727.4	1721.4	1723.8	1722.0	1717.8	1706.4	1695.6	1678.2	1662.0	1652.4	1642.2
20°	1765.8	1759.8	1761.6	1760.4	1754.4	1735.8	1716.0	1686.0	1656.0	1641.6	1626.0
22.5°	1827.0	1822.2	1825.2	1823.4	1813.8	1789.8	1760.4	1717.2	1672.2	1650.6	1628.4
25°	1917.6	1916.4	1921.2	1915.8	1902.0	1866.0	1823.4	1765.2	1706.4	1679.4	1648.2
27.5°	2026.8	2016.6	2023.8	2019.0	2009.4	1963.8	1906.2	1832.4	1757.4	1722.0	1684.8
30°	2125.2	2116.2	2129.4	2127.0	2112.6	2065.8	1993.2	1906.8	1822.2	1777.2	1734.6
32.5°	2239.2	2227.8	2238.0	2238.0	2216.4	2153.4	2070.6	1971.6	1882.8	1834.8	1783.8
35°	2358.6	2346.6	2356.2	2353.2	2314.8	2231.4	2127.6	2020.2	1922.4	1873.2	1821.0
37.5°	2469.6	2467.8	2470.2	2450.4	2397.0	2290.2	2166.0	2046.0	1942.2	1890.6	1836.0
40°	2580.6	2576.4	2566.2	2531.4	2453.4	2325.0	2185.8	2055.0	1943.4	1889.4	1834.2
42.5°	2650.2	2642.4	2625.0	2577.6	2479.8	2333.4	2179.8	2041.2	1929.0	1873.8	1819.8
45°	2674.2	2666.4	2645.4	2592.0	2480.4	2320.2	2156.4	2013.6	1902.0	1851.6	1797.0
47.5°	2654.4	2649.6	2630.4	2577.0	2461.2	2295.6	2127.0	1986.0	1876.2	1827.0	1776.0
50°	2620.8	2617.8	2601.0	2551.8	2443.2	2280.6	2113.2	1972.8	1869.0	1823.4	1775.4
52.5°	2704.8	2695.8	2665.8	2607.6	2481.0	2307.6	2134.8	1992.6	1885.8	1839.6	1790.4
55°	3737.4	3670.8	3522.0	3243.0	2852.4	2549.4	2294.4	2122.8	2007.6	1962.6	1915.8
57.5°	4915.2	4845.6	4783.8	4570.8	4107.0	3534.6	3019.8	2718.6	2512.2	2492.4	2473.8
60°	5368.8	5391.0	5385.6	5306.4	5068.8	4797.0	4366.2	4010.4	3616.2	3600.0	3623.4
62.5°	5681.4	5700.0	5702.4	5678.4	5601.0	5510.4	5420.4	5306.4	5231.4	5199.0	4989.6
65°	5810.4	5837.4	5896.8	5941.2	5953.8	5985.0	6066.6	6376.8	6635.4	6633.6	6388.2
67.5°	5317.8	5350.2	5575.2	5796.0	5981.4	6196.2	6526.8	7031.4	7420.8	7408.8	7207.8
70°	3529.2	3549.6	3931.8	4347.6	4887.0	5483.4	6205.8	7075.8	7679.4	7726.8	7467.6
72.5°	2164.8	2211.6	2336.4	2505.0	2793.0	3345.6	4419.6	5906.4	6792.0	6747.6	6541.2
75°	1461.6	1464.0	1460.4	1478.4	1494.6	1606.2	2038.8	3247.8	4600.8	4624.8	4536.0
77.5°	999.0	1012.2	1019.4	1014.6	1030.8	1026.0	1051.2	1113.0	1763.4	2250.6	2068.2
80°	873.0	878.4	886.2	874.8	844.8	828.0	851.4	829.2	781.2	807.0	772.8
82.5°	552.6	568.8	570.6	610.2	669.0	671.4	701.4	679.2	618.0	577.8	528.6
85°	397.2	403.2	414.0	416.4	396.0	378.6	389.4	370.8	334.2	312.6	276.6
87.5°	231.6	237.6	248.4	241.8	221.4	196.2	177.0	152.4	120.6	112.8	99.6
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0
2.5°	1792.2	1789.2	1786.8	1785.6	1788.0	1785.6	1783.2	1782.0	1779.6	1780.2	1777.2
5°	1775.4	1771.2	1767.6	1764.6	1767.0	1762.8	1759.2	1756.8	1753.8	1753.2	1750.2
7.5°	1752.0	1745.4	1740.6	1735.2	1729.2	1725.6	1721.4	1717.2	1710.6	1710.0	1708.8
10°	1721.4	1716.0	1706.4	1698.0	1689.6	1680.6	1671.6	1665.0	1657.2	1654.2	1650.0
12.5°	1690.8	1680.0	1668.6	1655.4	1645.2	1630.8	1618.8	1606.2	1594.8	1587.6	1579.8
15°	1654.8	1643.4	1627.2	1614.6	1600.2	1584.0	1568.4	1549.8	1531.2	1519.8	1509.0
17.5°	1623.6	1609.2	1596.0	1578.0	1563.6	1545.0	1521.6	1501.8	1479.6	1461.0	1441.2
20°	1599.6	1583.4	1567.8	1551.6	1534.2	1513.2	1487.4	1459.2	1431.0	1404.6	1375.2
22.5°	1590.0	1564.2	1546.8	1531.8	1513.8	1489.8	1461.0	1426.2	1391.4	1357.8	1323.6
25°	1598.4	1560.0	1533.0	1516.2	1500.0	1475.4	1443.0	1403.4	1362.6	1320.0	1279.2
27.5°	1621.2	1572.6	1534.2	1507.8	1489.2	1465.2	1429.2	1387.8	1341.6	1293.6	1249.8
30°	1654.2	1593.6	1545.6	1507.8	1480.2	1452.6	1413.6	1366.8	1318.2	1267.8	1218.6
32.5°	1690.2	1617.0	1559.4	1509.6	1467.0	1432.2	1391.4	1345.8	1294.2	1240.8	1188.0
35°	1717.2	1633.8	1565.4	1503.0	1448.4	1404.6	1360.8	1316.4	1266.0	1212.0	1159.2
37.5°	1728.6	1640.4	1564.2	1489.2	1422.6	1374.6	1329.0	1284.6	1236.0	1185.0	1136.4
40°	1729.2	1640.4	1557.0	1470.6	1395.6	1343.4	1295.4	1254.0	1208.4	1164.6	1121.4
42.5°	1717.8	1632.0	1543.8	1453.2	1375.8	1317.0	1267.8	1225.2	1188.6	1149.6	1113.0
45°	1697.4	1615.2	1531.8	1443.6	1368.6	1310.4	1257.6	1217.4	1184.4	1149.6	1117.8
47.5°	1681.8	1605.6	1532.4	1457.4	1386.0	1326.0	1269.0	1226.4	1198.2	1170.6	1147.8
50°	1684.8	1609.2	1539.6	1468.2	1398.0	1337.4	1282.2	1245.6	1228.8	1219.8	1214.4
52.5°	1700.4	1623.6	1570.8	1523.4	1500.6	1463.4	1432.8	1405.2	1409.4	1387.8	1360.2
55°	1861.2	1835.4	1896.0	1939.8	1961.4	1999.2	2053.8	2001.6	1994.4	1927.8	1729.8
57.5°	2499.0	2560.2	2653.2	2719.2	2725.8	2714.4	2669.4	2626.2	2556.0	2455.8	2178.6
60°	3568.8	3554.4	3468.0	3352.2	3262.2	3144.0	3025.2	2925.0	2812.2	2658.6	2363.4
62.5°	4693.8	4347.0	4039.2	3777.0	3554.4	3357.0	3177.6	3027.0	2872.2	2651.4	2337.0
65°	5602.2	4935.0	4392.6	3970.8	3639.6	3360.6	3129.0	2921.4	2714.4	2458.8	2154.0
67.5°	6251.4	5193.0	4374.6	3781.2	3316.8	2932.8	2595.6	2359.2	2146.8	1945.8	1808.4
70°	6303.0	4836.0	3700.8	2974.8	2439.0	1987.8	1638.0	1380.0	1195.2	1111.8	1171.2
72.5°	5386.2	3577.8	2460.6	1821.0	1445.4	1123.2	903.0	721.8	573.0	499.8	510.0
75°	3172.2	1717.8	1108.2	825.6	674.4	538.8	466.2	393.6	347.4	278.4	222.6
77.5°	1207.8	747.0	559.2	464.4	331.2	238.2	187.8	162.0	148.8	147.0	139.2
80°	696.0	547.8	383.4	250.8	183.6	155.4	133.2	114.0	106.2	104.4	107.4
82.5°	439.8	341.4	210.6	161.4	133.8	115.2	96.0	83.4	76.8	74.4	78.6
85°	227.4	171.0	128.4	110.4	102.6	93.6	76.8	64.2	63.6	66.6	76.8
87.5°	84.0	73.2	57.6	49.8	53.4	49.8	36.0	31.2	28.2	37.2	54.0
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0
2.5°	1777.2	1776.0	1776.6	1775.4	1775.4	1777.2	1774.8	1773.0	1776.0	1776.0	1777.8
5°	1749.6	1750.8	1750.8	1750.2	1751.4	1754.4	1753.8	1753.8	1758.6	1760.4	1762.8
7.5°	1705.8	1707.6	1708.2	1710.0	1710.6	1714.8	1717.8	1721.4	1728.6	1730.4	1735.8
10°	1646.4	1645.2	1649.4	1648.8	1654.2	1657.8	1660.2	1668.0	1678.8	1684.8	1690.2
12.5°	1576.2	1576.2	1578.6	1579.2	1584.0	1588.8	1591.8	1601.4	1610.4	1618.2	1630.2
15°	1501.8	1499.4	1494.0	1493.4	1495.2	1500.0	1506.6	1513.8	1527.6	1539.0	1549.2
17.5°	1423.8	1416.6	1410.0	1401.6	1401.0	1400.4	1404.0	1409.4	1431.0	1442.4	1456.8
20°	1354.8	1339.2	1323.6	1306.2	1296.0	1291.2	1293.0	1300.2	1320.6	1335.6	1350.6
22.5°	1293.0	1269.6	1245.0	1217.4	1200.6	1190.4	1191.6	1194.6	1209.6	1218.6	1226.4
25°	1240.2	1207.8	1173.6	1138.2	1114.8	1099.2	1098.6	1098.6	1092.0	1093.2	1089.0
27.5°	1204.2	1159.2	1115.4	1074.0	1043.4	1027.8	1006.8	991.8	978.6	960.6	952.8
30°	1169.4	1123.2	1073.4	1027.8	991.2	960.6	921.6	889.2	863.4	838.8	817.8
32.5°	1138.2	1090.2	1042.8	993.0	942.6	889.8	838.8	801.6	765.0	727.2	702.0
35°	1110.6	1065.6	1018.2	961.8	891.0	822.0	764.4	714.0	670.8	625.2	588.6
37.5°	1095.0	1054.2	1005.0	928.2	839.4	760.8	696.6	640.2	582.6	528.0	483.0
40°	1087.2	1051.2	991.2	894.0	793.2	709.2	637.8	570.0	502.2	438.0	391.2
42.5°	1086.0	1051.2	970.8	859.2	753.6	663.6	583.8	502.2	420.0	357.6	316.2
45°	1096.8	1050.0	949.2	828.0	718.2	622.8	526.8	430.8	346.2	291.6	268.8
47.5°	1128.0	1054.2	932.4	801.6	684.6	577.8	462.0	351.6	279.6	255.0	254.4
50°	1178.4	1073.4	928.8	782.4	651.6	521.4	385.8	281.4	246.6	245.4	252.0
52.5°	1258.2	1109.4	937.8	769.2	612.0	448.2	305.4	243.0	236.4	243.0	251.4
55°	1434.0	1173.6	949.8	745.8	547.8	355.2	251.4	230.4	233.4	241.2	249.0
57.5°	1753.8	1306.8	962.4	693.0	444.0	273.0	226.2	225.6	231.0	237.6	244.8
60°	1956.6	1471.2	993.0	615.0	335.4	225.6	216.6	222.6	229.2	234.0	240.0
62.5°	1963.2	1514.4	1009.2	531.6	249.6	206.4	208.2	219.6	227.4	229.2	232.2
65°	1836.6	1432.8	936.0	432.6	207.0	195.6	202.2	212.4	220.2	221.4	223.8
67.5°	1604.4	1263.6	793.2	326.4	188.4	187.2	194.4	202.2	207.6	212.4	216.0
70°	1208.4	1042.8	637.8	253.2	177.0	175.8	183.0	189.6	194.4	200.4	206.4
72.5°	612.6	721.8	483.6	207.0	161.4	162.6	170.4	176.4	180.0	185.4	191.4
75°	208.8	315.0	306.0	167.4	144.0	148.8	152.4	159.0	164.4	168.0	171.0
77.5°	130.8	136.8	157.8	135.0	127.2	128.4	134.4	140.4	146.4	148.8	150.0
80°	109.2	109.8	110.4	108.0	108.6	112.2	115.8	122.4	128.4	129.6	130.2
82.5°	86.4	92.4	91.8	91.2	94.2	97.8	100.2	102.6	105.0	106.2	108.0
85°	76.2	75.0	75.6	77.4	75.0	72.6	72.0	72.0	75.6	79.8	81.6
87.5°	69.6	59.4	44.4	42.0	42.0	40.8	38.4	38.4	42.0	45.6	47.4
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):

	160°	165°	170°	175°	180°
0°	1788.0	1788.0	1788.0	1788.0	1788.0
2.5°	1777.2	1777.8	1777.2	1777.2	1780.2
5°	1764.0	1766.4	1765.2	1767.0	1768.8
7.5°	1737.0	1743.0	1744.2	1749.0	1747.2
10°	1698.0	1702.2	1708.2	1713.0	1711.2
12.5°	1636.2	1646.4	1655.4	1660.8	1659.6
15°	1557.6	1572.0	1584.0	1588.2	1583.4
17.5°	1473.6	1482.6	1497.0	1500.0	1504.8
20°	1367.4	1366.8	1379.4	1379.4	1377.0
22.5°	1228.8	1237.8	1237.8	1229.4	1225.2
25°	1087.2	1090.2	1081.2	1083.0	1071.6
27.5°	945.0	937.2	930.0	933.0	924.6
30°	809.4	792.6	785.4	786.6	777.6
32.5°	679.2	659.4	652.2	642.6	634.8
35°	561.0	529.8	511.2	506.4	511.8
37.5°	445.2	423.0	400.8	384.6	386.4
40°	352.2	329.4	315.0	308.4	307.2
42.5°	291.0	277.8	274.8	275.4	275.4
45°	264.0	264.6	267.0	269.4	270.0
47.5°	258.6	262.2	266.4	269.4	270.0
50°	258.0	261.6	264.6	268.2	269.4
52.5°	257.4	259.8	261.6	263.4	265.2
55°	255.0	256.2	255.6	256.8	258.6
57.5°	249.0	249.6	248.4	249.0	252.6
60°	243.6	244.2	241.8	244.8	245.4
62.5°	237.0	236.4	235.2	237.0	237.0
65°	227.4	223.8	225.0	226.8	227.4
67.5°	216.0	212.4	212.4	213.6	215.4
70°	201.6	199.8	199.8	202.2	204.6
72.5°	185.4	186.6	190.2	193.8	197.4
75°	172.2	175.2	178.8	187.8	193.2
77.5°	155.4	156.0	159.0	168.0	177.6
80°	132.0	131.4	132.0	133.2	135.0
82.5°	104.4	103.2	99.6	100.8	98.4
85°	76.8	75.0	70.8	67.8	67.2
87.5°	44.4	44.4	42.6	40.2	37.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)