

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: P146619

Luminaire Tested: **LDRL-T3-E05-E-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146619
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33695)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-T3-E05-E-7030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 3
Light Source: (105) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13635.4 lumens
Efficiency: N/A
Efficacy: 107.1 lumens/watt
Luminous Opening: Rectangular (W 0.83' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G3

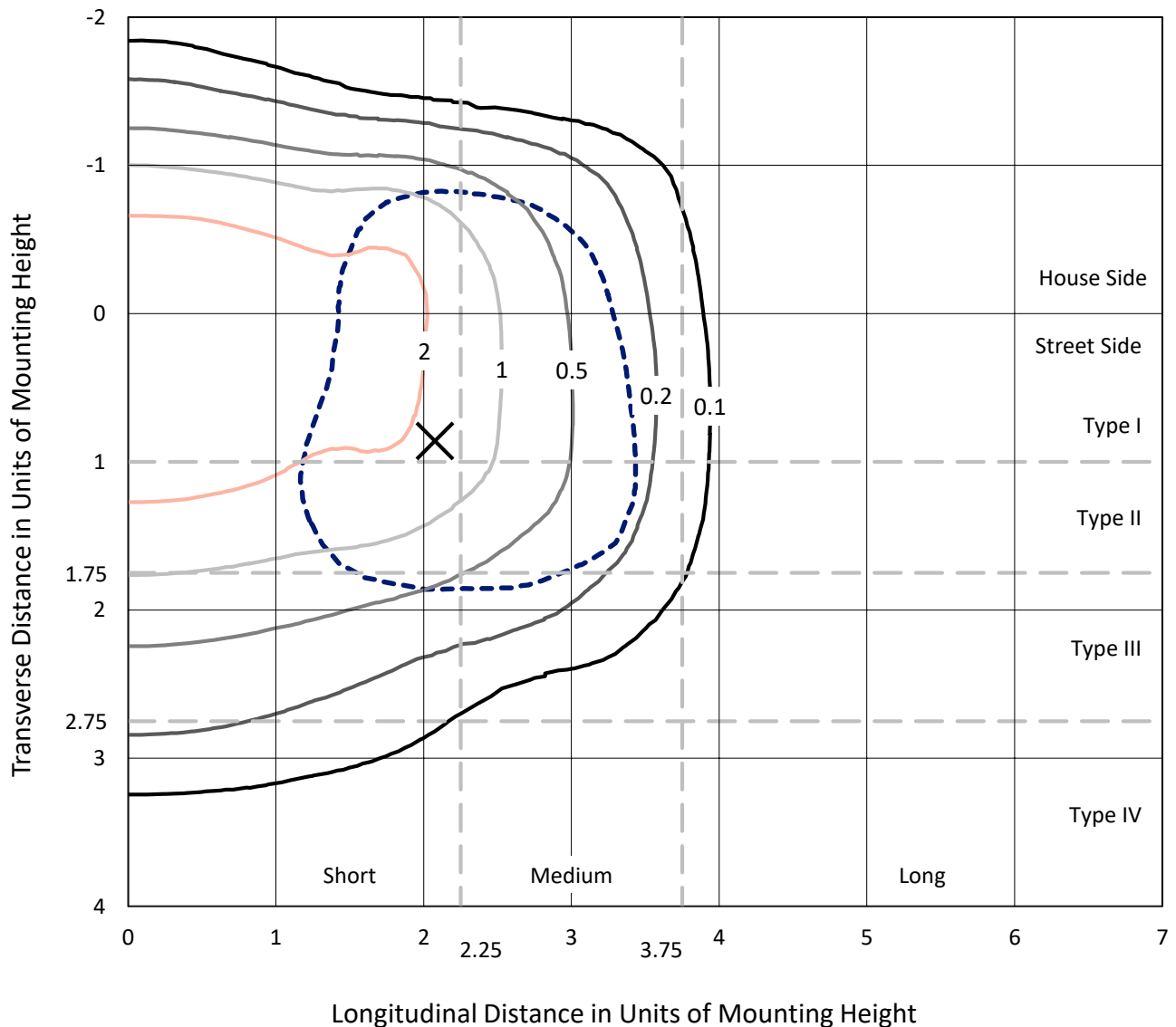
Input Watts (W): 127.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

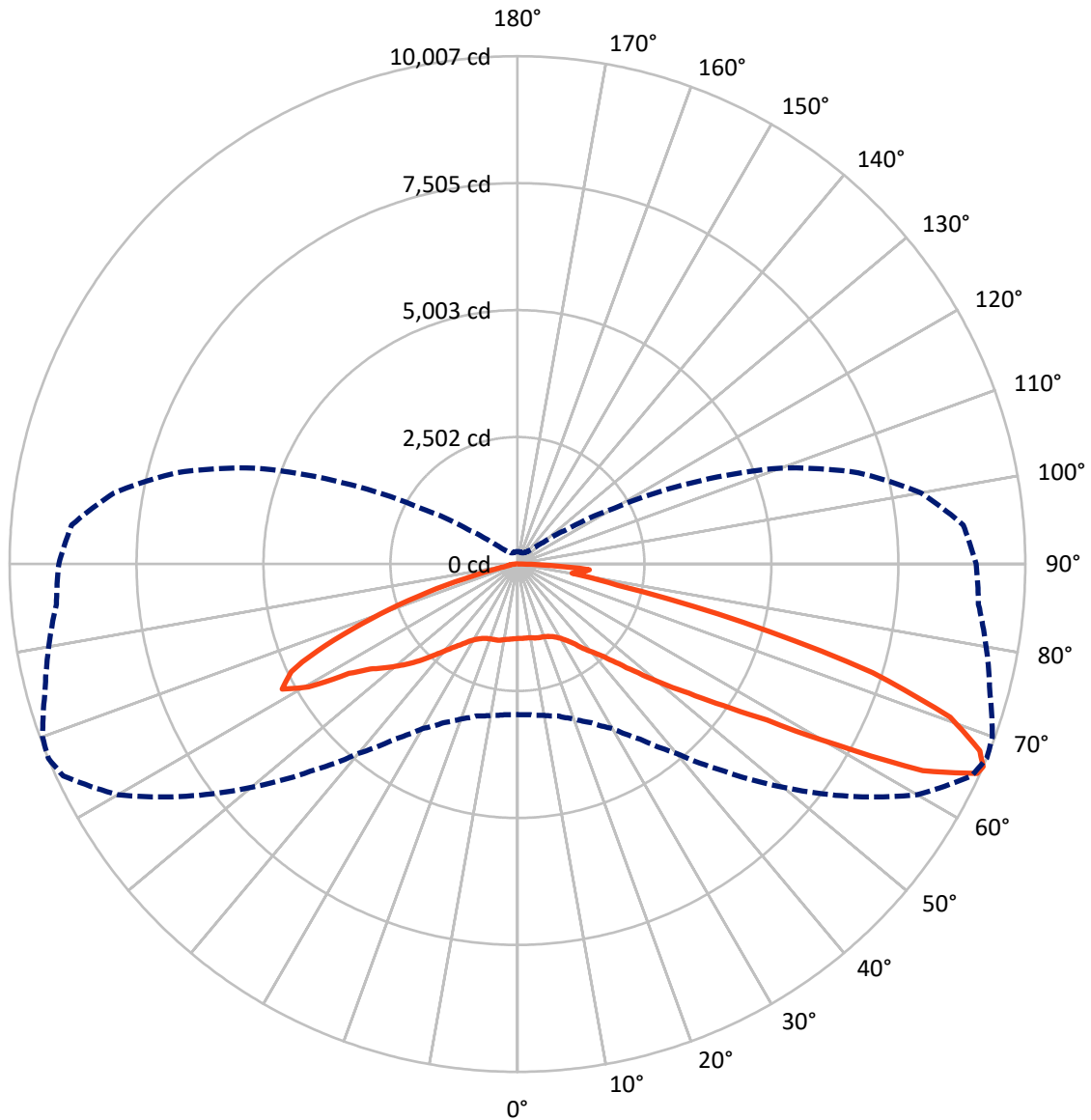
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.7 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 67.5-Deg Lateral - - - Horizontal Cone Through 66-Deg Vertical

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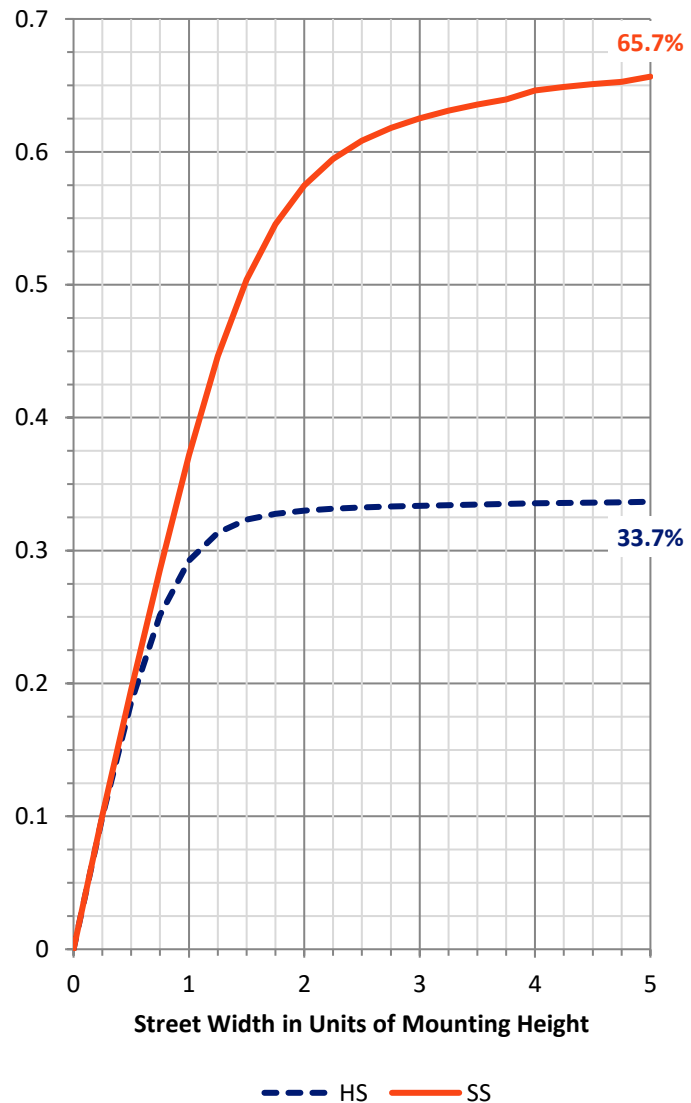
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4632.4	0.0	4632.4
	% Fixture	34.0	0.0	34.0
Street Side	Lumens	9003.0	0.0	9003.0
	% Fixture	66.0	0.0	66.0
Total	Lumens	13635.4	0.0	13635.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.0	1.0
10°-20°	417.8	3.1
20°-30°	718.2	5.3
30°-40°	1155.2	8.5
40°-50°	1904.0	14.0
50°-60°	2984.5	21.9
60°-70°	4130.3	30.3
70°-80°	1869.2	13.7
80°-90°	315.4	2.3
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°	13635.4	100.0
0°-180°	13635.4	100.0



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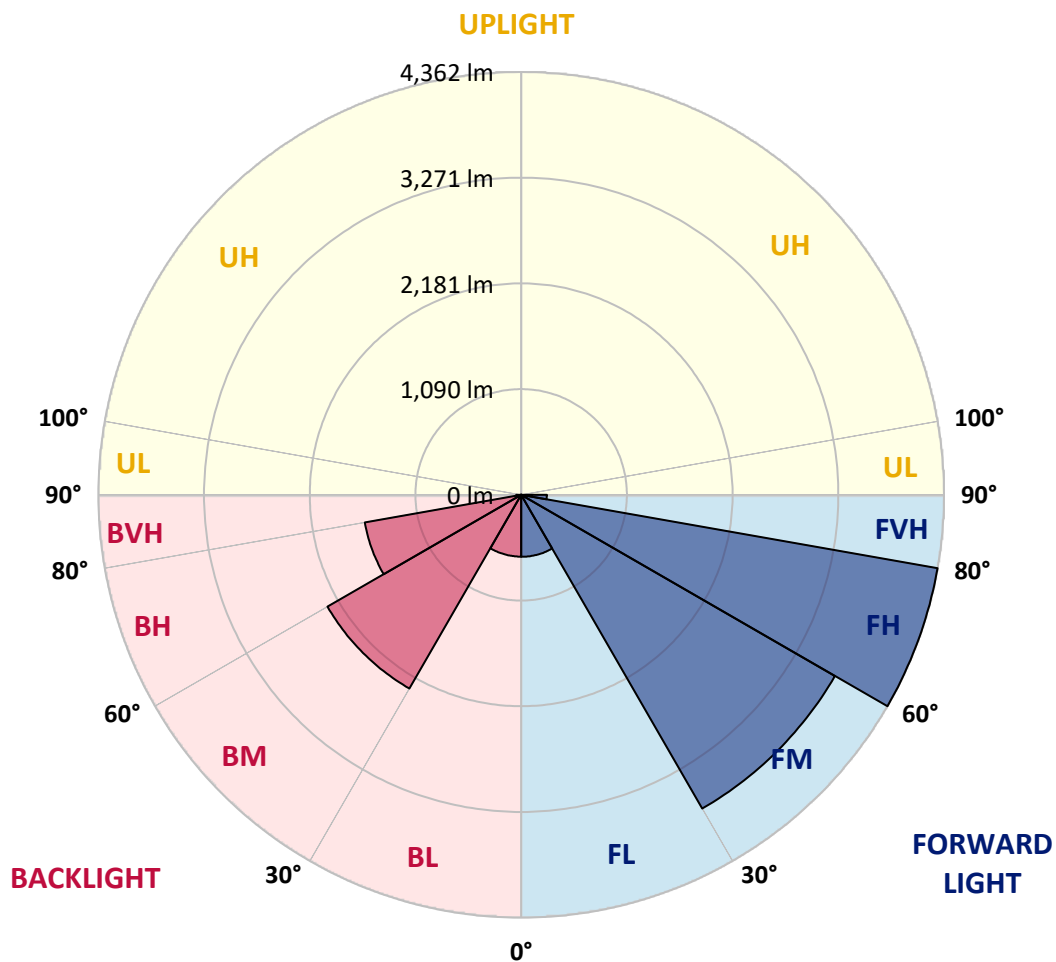
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	639.5	4.7			
FM	(30°-60°)	3736.6	27.4			
FH	(60°-80°)	4361.9	32.0			G2/5000
FVH	(80°-90°)	265.0	1.9			G3/500
BL	(0°-30°)	637.5	4.7	B2/1000		
BM	(30°-60°)	2307.0	16.9	B2/2500		
BH	(60°-80°)	1637.6	12.0	B3/2500		G3/2500
BVH	(80°-90°)	50.3	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8
2.5°	1465.9	1465.0	1464.1	1464.1	1463.2	1464.1	1465.0	1465.9	1465.0	1465.9	1465.0
5°	1463.2	1463.2	1462.3	1462.3	1462.3	1462.3	1463.2	1464.1	1463.2	1465.0	1463.2
7.5°	1451.3	1456.8	1455.0	1456.8	1458.6	1460.4	1461.4	1463.2	1465.9	1467.8	1465.9
10°	1435.8	1438.5	1439.4	1441.3	1444.9	1449.5	1453.1	1457.7	1464.1	1465.9	1467.8
12.5°	1407.5	1411.1	1413.9	1417.5	1423.0	1430.3	1436.7	1444.0	1455.0	1462.3	1468.7
15°	1386.5	1391.0	1391.9	1396.5	1402.0	1410.2	1418.4	1429.4	1444.0	1456.8	1469.6
17.5°	1400.2	1402.0	1400.2	1400.2	1402.0	1405.6	1412.0	1421.2	1436.7	1452.2	1467.8
20°	1441.3	1441.3	1439.4	1438.5	1436.7	1433.0	1432.1	1431.2	1441.3	1453.1	1466.8
22.5°	1480.5	1480.5	1479.6	1483.3	1482.4	1482.4	1479.6	1475.1	1470.5	1468.7	1477.8
25°	1505.2	1508.9	1510.7	1516.2	1519.8	1525.3	1527.1	1526.2	1519.8	1508.9	1506.1
27.5°	1545.4	1548.1	1550.0	1556.3	1563.7	1570.0	1576.4	1584.7	1584.7	1574.6	1560.9
30°	1623.0	1619.4	1621.2	1623.0	1629.4	1638.6	1646.8	1657.7	1663.2	1659.6	1641.3
32.5°	1695.2	1698.8	1700.7	1706.1	1712.5	1726.2	1736.3	1749.1	1760.9	1762.8	1753.6
35°	1801.1	1799.3	1796.6	1815.7	1823.0	1838.6	1850.4	1868.7	1877.8	1886.1	1880.6
37.5°	1968.3	1962.8	1959.1	1964.6	1974.7	1984.7	2002.1	2015.8	2031.3	2050.5	2044.1
40°	2204.8	2215.8	2200.3	2207.6	2215.8	2193.0	2208.5	2221.3	2247.8	2248.7	2247.8
42.5°	2512.6	2520.8	2517.2	2521.8	2507.1	2499.8	2493.4	2499.8	2532.7	2528.2	2506.2
45°	2820.4	2832.3	2829.6	2831.4	2859.7	2847.8	2857.9	2859.7	2893.5	2884.4	2867.9
47.5°	3083.5	3103.6	3108.1	3124.6	3162.9	3194.0	3236.9	3268.9	3285.3	3296.3	3309.1
50°	3291.7	3306.3	3331.9	3373.0	3428.7	3482.6	3579.4	3642.4	3700.0	3740.2	3781.3
52.5°	3429.6	3446.1	3485.3	3547.5	3627.8	3726.5	3839.7	3971.2	4092.7	4164.0	4225.2
55°	3486.3	3502.7	3551.1	3632.4	3739.3	3865.3	4027.9	4213.3	4374.9	4538.4	4632.5
57.5°	3453.4	3471.6	3527.4	3618.7	3747.5	3912.8	4114.6	4342.1	4578.6	4826.1	5015.2
60°	3356.6	3373.0	3436.0	3531.0	3678.1	3864.4	4106.4	4391.4	4723.8	5091.0	5450.0
62.5°	3223.2	3247.9	3303.6	3400.4	3546.5	3750.2	4026.0	4396.9	4873.6	5465.5	6164.2
65°	3053.3	3071.6	3120.9	3197.6	3358.4	3571.2	3862.6	4316.5	4939.4	5778.8	6776.1
66°	2965.6	2983.0	3028.7	3100.8	3247.9	3452.5	3743.8	4208.7	4866.3	5776.9	6841.0
67.5°	2811.3	2819.5	2852.4	2923.6	3019.5	3203.1	3473.5	3909.1	4556.7	5533.1	6660.2
70°	2358.3	2370.1	2402.1	2438.6	2474.3	2540.0	2729.1	3016.8	3534.7	4470.8	5545.9
72.5°	1631.2	1649.5	1684.2	1751.8	1807.5	1890.6	1964.6	2060.5	2232.2	2882.5	3967.6
75°	1179.1	1185.5	1236.7	1355.4	1467.8	1634.0	1781.0	1827.6	1769.2	1759.1	2330.9
77.5°	703.3	712.4	786.4	906.0	1023.0	1248.5	1550.0	1782.9	1911.6	1866.0	1764.6
80°	295.9	308.7	352.6	383.6	480.4	669.5	967.2	1332.6	1672.3	1881.5	1834.0
82.5°	95.0	110.5	130.6	158.0	186.3	249.3	386.3	578.2	913.4	1361.8	1674.2
85°	34.7	35.6	49.3	68.5	75.8	87.7	112.3	173.5	308.7	510.6	949.9
87.5°	13.7	16.4	19.2	26.5	27.4	28.3	32.0	41.1	40.2	34.7	179.9
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):

	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°	100°
0°	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8
2.5°	1465.9	1467.8	1466.8	1467.8	1467.8	1465.9	1465.9	1469.6	1466.8	1468.7	1468.7
5°	1465.0	1466.8	1465.9	1467.8	1467.8	1466.8	1466.8	1472.3	1471.4	1474.1	1476.0
7.5°	1468.7	1469.6	1468.7	1468.7	1471.4	1470.5	1471.4	1473.2	1477.8	1482.4	1486.0
10°	1473.2	1475.1	1477.8	1478.7	1482.4	1481.5	1484.2	1486.9	1491.5	1496.1	1500.6
12.5°	1479.6	1485.1	1493.3	1495.2	1498.8	1501.5	1506.1	1508.9	1512.5	1519.8	1525.3
15°	1485.1	1495.2	1505.2	1508.9	1512.5	1516.2	1520.7	1523.5	1529.9	1536.3	1542.6
17.5°	1486.9	1498.8	1511.6	1516.2	1519.8	1526.2	1531.7	1537.2	1544.5	1552.7	1560.0
20°	1487.8	1504.3	1520.7	1526.2	1534.4	1543.6	1552.7	1557.3	1567.3	1577.4	1583.7
22.5°	1496.1	1516.2	1539.0	1549.0	1557.3	1573.7	1585.6	1592.9	1604.8	1613.0	1615.7
25°	1518.9	1539.9	1567.3	1582.8	1596.5	1620.3	1634.9	1648.6	1655.0	1666.0	1663.2
27.5°	1560.0	1576.4	1612.1	1633.1	1650.4	1681.5	1709.8	1722.6	1732.6	1738.1	1731.7
30°	1630.3	1636.7	1676.0	1701.6	1730.8	1779.2	1810.3	1826.7	1839.5	1840.4	1824.0
32.5°	1735.4	1725.3	1760.0	1796.6	1834.9	1893.4	1935.4	1952.7	1962.8	1963.7	1927.2
35°	1877.8	1860.5	1889.7	1925.3	1972.8	2049.6	2102.5	2122.6	2138.2	2130.8	2077.0
37.5°	2057.8	2056.9	2070.6	2116.2	2170.1	2268.8	2324.5	2335.4	2334.5	2312.6	2231.3
40°	2257.8	2241.4	2243.2	2276.1	2338.2	2467.9	2545.5	2563.8	2557.4	2525.4	2419.5
42.5°	2509.9	2502.6	2477.9	2495.3	2552.8	2710.8	2804.9	2823.2	2828.6	2775.7	2650.5
45°	2863.4	2857.0	2802.2	2805.8	2847.8	3014.1	3111.8	3141.9	3142.8	3092.6	2930.0
47.5°	3291.7	3286.2	3222.3	3204.0	3225.0	3373.0	3494.5	3500.9	3502.7	3433.3	3264.3
50°	3777.6	3762.1	3713.7	3694.5	3669.8	3833.3	3931.1	3930.1	3920.1	3843.4	3653.4
52.5°	4247.1	4281.8	4263.5	4226.1	4227.0	4344.8	4437.1	4385.9	4392.3	4319.2	4100.9
55°	4748.5	4837.1	4903.8	4917.5	4911.1	4971.4	5022.5	4931.2	4897.4	4885.5	4653.5
57.5°	5281.0	5507.5	5713.0	5798.9	5766.0	5876.5	5922.2	5827.2	5829.0	5922.2	5722.1
60°	5992.5	6564.2	7082.1	7242.9	7317.8	7500.4	7419.1	7413.7	7557.1	7677.6	7306.8
62.5°	7072.1	8019.2	8845.8	8965.4	9025.7	9066.8	9030.3	8930.7	9078.7	9093.3	8521.6
65°	7890.4	9002.0	9801.2	9951.0	9940.0	9730.8	9528.1	9329.0	9327.1	9181.0	8444.8
66°	7979.0	9095.1	9874.2	10006.7	9958.3	9635.8	9378.3	9119.8	9036.7	8817.5	8070.4
67.5°	7785.4	8932.6	9706.2	9824.9	9721.7	9231.2	8880.5	8530.7	8405.6	8100.5	7338.8
70°	6655.6	7837.5	8872.3	9044.0	8921.6	8270.4	7750.7	7366.2	7025.5	6725.0	6096.6
72.5°	5160.4	6044.6	7139.7	7318.7	7328.7	6819.1	6233.6	5864.6	5468.2	5166.8	4695.5
75°	3384.9	4053.4	4655.3	4595.1	4612.4	4211.5	3862.6	3555.7	3196.7	2959.3	2734.6
77.5°	1978.3	2217.6	2162.8	2013.0	1887.0	1483.3	1061.3	728.9	635.7	663.1	748.0
80°	1719.8	1585.6	1241.2	1091.5	992.8	674.1	362.6	255.7	224.7	227.4	241.1
82.5°	1851.4	1920.8	1576.4	1297.9	1131.6	793.7	426.5	212.8	153.4	179.0	197.3
85°	1436.7	1828.5	1686.0	1424.8	1198.3	843.9	435.7	135.2	91.3	122.4	154.4
87.5°	409.2	647.6	517.9	457.6	369.0	252.1	104.1	53.9	49.3	63.9	88.6
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8	1467.8
2.5°	1469.6	1469.6	1472.3	1473.2	1474.1	1474.1	1476.0	1476.0	1476.9	1480.5	1479.6
5°	1478.7	1481.5	1485.1	1486.9	1489.7	1490.6	1493.3	1493.3	1496.1	1498.8	1497.9
7.5°	1489.7	1492.4	1495.2	1497.9	1500.6	1504.3	1503.4	1502.5	1501.5	1499.7	1497.9
10°	1505.2	1507.9	1510.7	1509.8	1507.9	1506.1	1498.8	1490.6	1486.9	1479.6	1474.1
12.5°	1530.8	1533.5	1530.8	1523.5	1513.4	1501.5	1486.0	1472.3	1464.1	1453.1	1446.7
15°	1550.0	1552.7	1547.2	1534.4	1518.0	1502.5	1481.5	1464.1	1449.5	1437.6	1428.5
17.5°	1564.6	1562.7	1550.9	1536.3	1518.9	1506.1	1486.9	1467.8	1450.4	1434.0	1421.2
20°	1585.6	1575.5	1558.2	1539.9	1522.6	1511.6	1496.1	1478.7	1460.4	1436.7	1420.3
22.5°	1613.0	1594.7	1571.9	1553.6	1537.2	1526.2	1510.7	1494.2	1476.9	1449.5	1426.7
25°	1652.3	1623.0	1596.5	1577.4	1562.7	1551.8	1532.6	1515.2	1496.1	1468.7	1439.4
27.5°	1707.1	1665.0	1637.6	1618.5	1603.8	1591.1	1566.4	1545.4	1520.7	1493.3	1458.6
30°	1778.3	1727.1	1697.0	1680.6	1665.0	1646.8	1620.3	1589.2	1557.3	1520.7	1483.3
32.5°	1866.9	1809.3	1781.0	1764.6	1744.5	1719.8	1685.1	1644.0	1596.5	1548.1	1501.5
35°	1992.9	1927.2	1896.1	1867.8	1838.6	1802.0	1750.0	1690.6	1627.6	1564.6	1507.0
37.5°	2118.1	2056.9	2018.5	1989.3	1943.6	1884.2	1812.1	1729.9	1645.9	1565.5	1496.1
40°	2295.2	2224.0	2179.3	2127.2	2053.2	1961.0	1855.9	1745.4	1641.3	1544.5	1462.3
42.5°	2512.6	2431.3	2364.7	2270.6	2155.5	2022.2	1876.9	1736.3	1609.3	1497.9	1407.5
45°	2787.5	2681.6	2570.2	2422.2	2245.9	2059.6	1876.0	1704.3	1554.5	1428.5	1339.0
47.5°	3108.1	2959.3	2772.0	2546.4	2305.3	2068.7	1846.8	1646.8	1472.3	1333.5	1230.3
50°	3437.9	3222.3	2956.5	2642.3	2335.4	2045.9	1781.9	1552.7	1364.5	1206.5	1095.1
52.5°	3844.3	3510.0	3123.7	2707.2	2322.6	1978.3	1674.2	1420.3	1219.3	1065.0	937.1
55°	4328.4	3840.6	3282.6	2742.8	2266.0	1856.8	1510.7	1246.7	1035.7	895.1	780.0
57.5°	5129.4	4358.5	3553.8	2795.8	2154.6	1676.0	1311.6	1038.5	840.3	720.6	628.4
60°	6510.4	5420.7	4127.4	2926.4	2000.2	1418.4	1058.6	813.8	650.3	554.4	489.6
62.5°	7473.9	6064.6	4436.1	2881.6	1738.1	1117.0	782.7	581.8	474.0	411.0	367.2
65°	7286.7	5810.7	4064.4	2447.8	1361.8	790.0	520.6	393.7	332.5	293.2	271.3
66°	6950.6	5530.3	3781.3	2197.5	1181.0	658.5	429.3	326.1	285.9	257.6	243.0
67.5°	6337.7	4949.4	3272.5	1763.7	884.1	485.9	326.1	253.9	232.0	217.4	207.3
70°	5247.2	3913.7	2253.2	1042.1	467.6	272.2	207.3	187.2	177.2	170.8	169.9
72.5°	4023.3	2807.6	1303.4	504.2	250.3	180.8	158.9	151.6	148.0	146.1	146.1
75°	2485.2	1583.7	582.7	253.0	172.6	148.0	137.9	134.3	133.3	133.3	133.3
77.5°	874.1	551.7	261.2	185.4	151.6	133.3	125.1	123.3	125.1	125.1	125.1
80°	241.1	212.8	189.1	164.4	137.0	123.3	116.0	115.1	118.7	119.6	116.0
82.5°	188.2	177.2	161.7	147.0	125.1	112.3	108.7	110.5	112.3	109.6	104.1
85°	160.7	153.4	113.3	113.3	101.4	97.7	96.8	98.6	97.7	90.4	83.1
87.5°	91.3	80.4	61.2	66.7	71.2	73.1	61.2	65.8	64.8	57.5	53.9
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°	1467.8	1467.8	1467.8	1467.8	1467.8
2.5°	1481.5	1481.5	1483.3	1483.3	1482.4
5°	1499.7	1499.7	1502.5	1500.6	1501.5
7.5°	1496.1	1492.4	1492.4	1490.6	1489.7
10°	1470.5	1464.1	1460.4	1462.3	1459.5
12.5°	1441.3	1435.8	1432.1	1431.2	1430.3
15°	1423.0	1416.6	1413.9	1412.0	1412.0
17.5°	1413.0	1405.6	1402.0	1399.3	1398.3
20°	1408.4	1399.3	1393.8	1391.0	1389.2
22.5°	1410.2	1399.3	1391.9	1388.3	1386.5
25°	1417.5	1403.8	1394.7	1390.1	1387.4
27.5°	1430.3	1412.0	1402.0	1395.6	1391.9
30°	1445.8	1420.3	1405.6	1396.5	1392.9
32.5°	1455.9	1421.2	1402.9	1389.2	1385.6
35°	1454.1	1411.1	1387.4	1370.0	1367.3
37.5°	1435.8	1384.6	1355.4	1332.6	1329.8
40°	1396.5	1344.5	1310.7	1287.8	1282.3
42.5°	1341.7	1287.8	1251.3	1230.3	1223.0
45°	1261.3	1195.6	1161.8	1144.4	1134.4
47.5°	1148.1	1086.0	1048.5	1033.9	1021.1
50°	1019.3	950.8	923.4	907.0	892.3
52.5°	867.7	809.2	788.2	772.7	760.8
55°	720.6	679.5	654.9	638.4	639.3
57.5°	579.1	554.4	540.7	523.3	525.2
60°	455.8	434.8	434.8	423.8	420.1
62.5°	348.0	339.8	337.0	333.4	327.0
65°	264.0	264.0	264.9	264.9	261.2
66°	237.5	240.2	243.9	243.9	239.3
67.5°	205.5	209.2	212.8	214.6	214.6
70°	169.9	174.4	176.3	178.1	177.2
72.5°	148.9	152.5	152.5	153.4	151.6
75°	135.2	137.0	137.9	136.1	135.2
77.5°	125.1	126.0	125.1	124.2	123.3
80°	113.3	112.3	109.6	105.9	105.0
82.5°	97.7	94.1	92.2	86.8	85.9
85°	78.5	74.0	70.3	63.0	59.4
87.5°	52.1	50.2	47.5	34.7	28.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)