

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: P144553

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P144553
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33700)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-RW-F04-E-8030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - RECTANGULAR WIDE
Light Source: (28) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8371.1 lumens
Efficiency: N/A
Efficacy: 81.9 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
IES Classification: Type I - Short - Full Cutoff
BUG Rating: B3 - U0 - G3

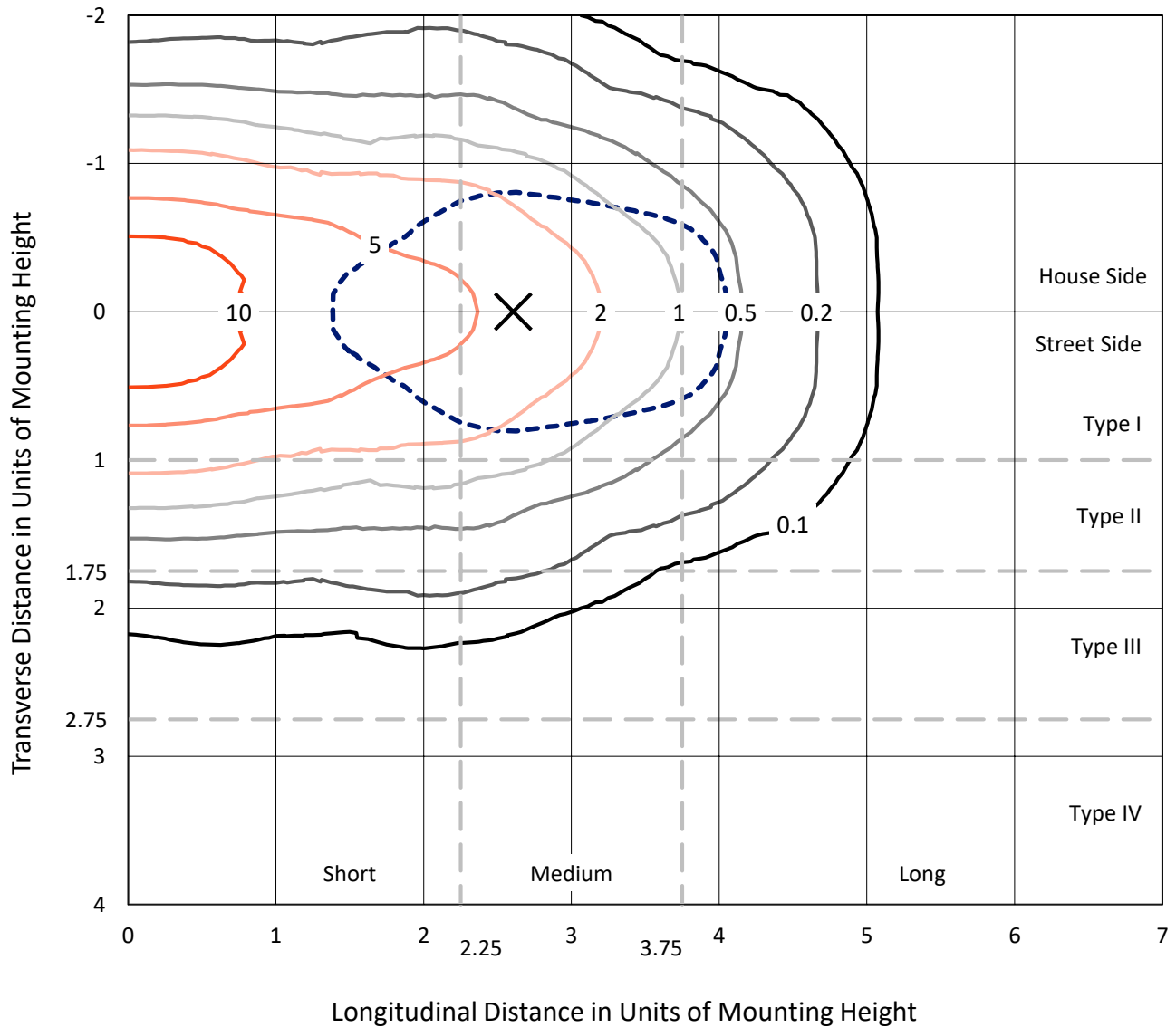
Input Watts (W): 102.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

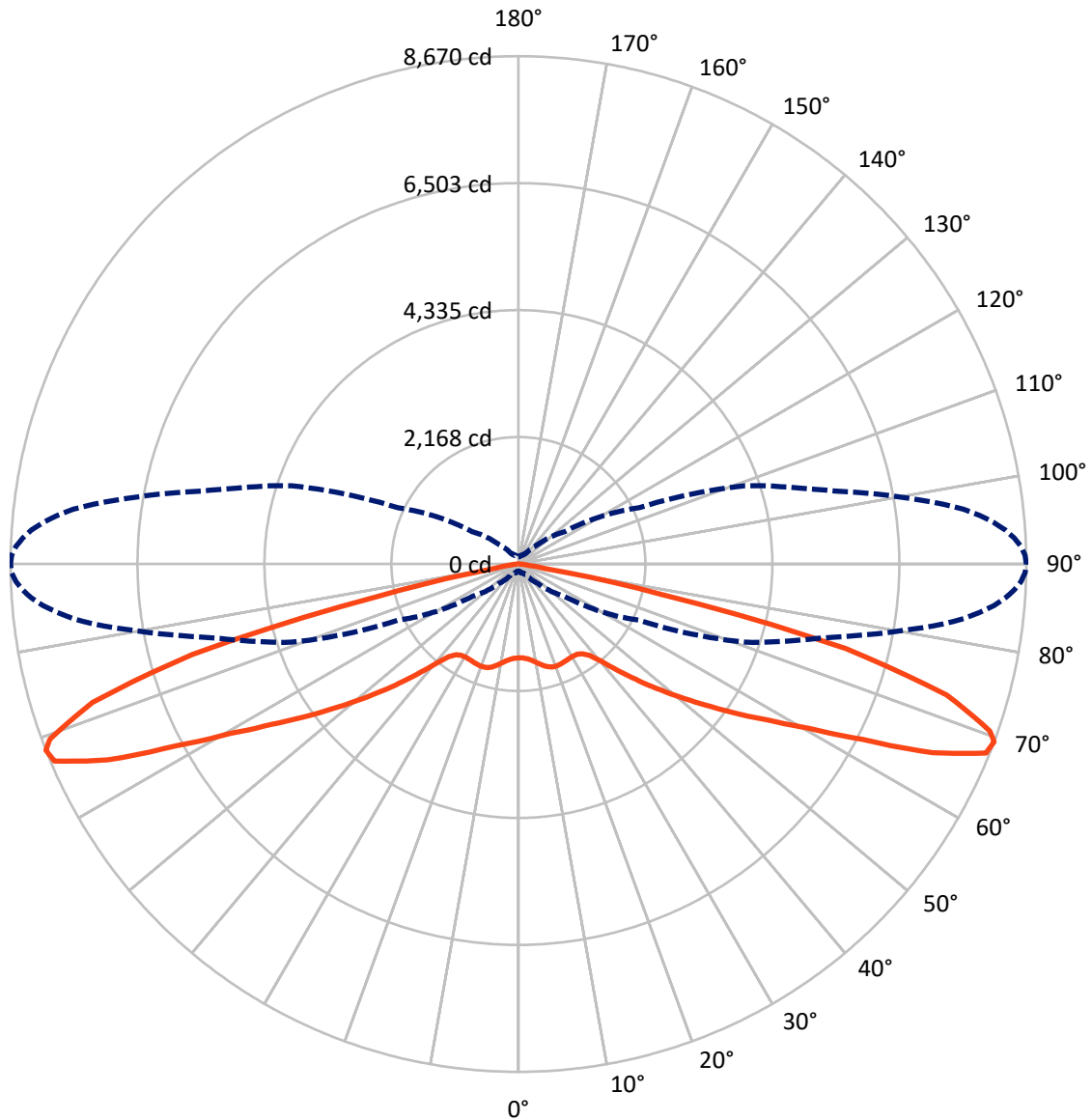
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 16.4 fc
 Type I - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4185.5	0.0	4185.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	4185.5	0.0	4185.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	8371.1	0.0	8371.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.8	1.9
10°-20°	494.0	5.9
20°-30°	800.0	9.6
30°-40°	996.6	11.9
40°-50°	1240.7	14.8
50°-60°	1522.4	18.2
60°-70°	1877.5	22.4
70°-80°	1167.2	13.9
80°-90°	115.9	1.4
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°	8371.1	100.0
0°-180°	8371.1	100.0



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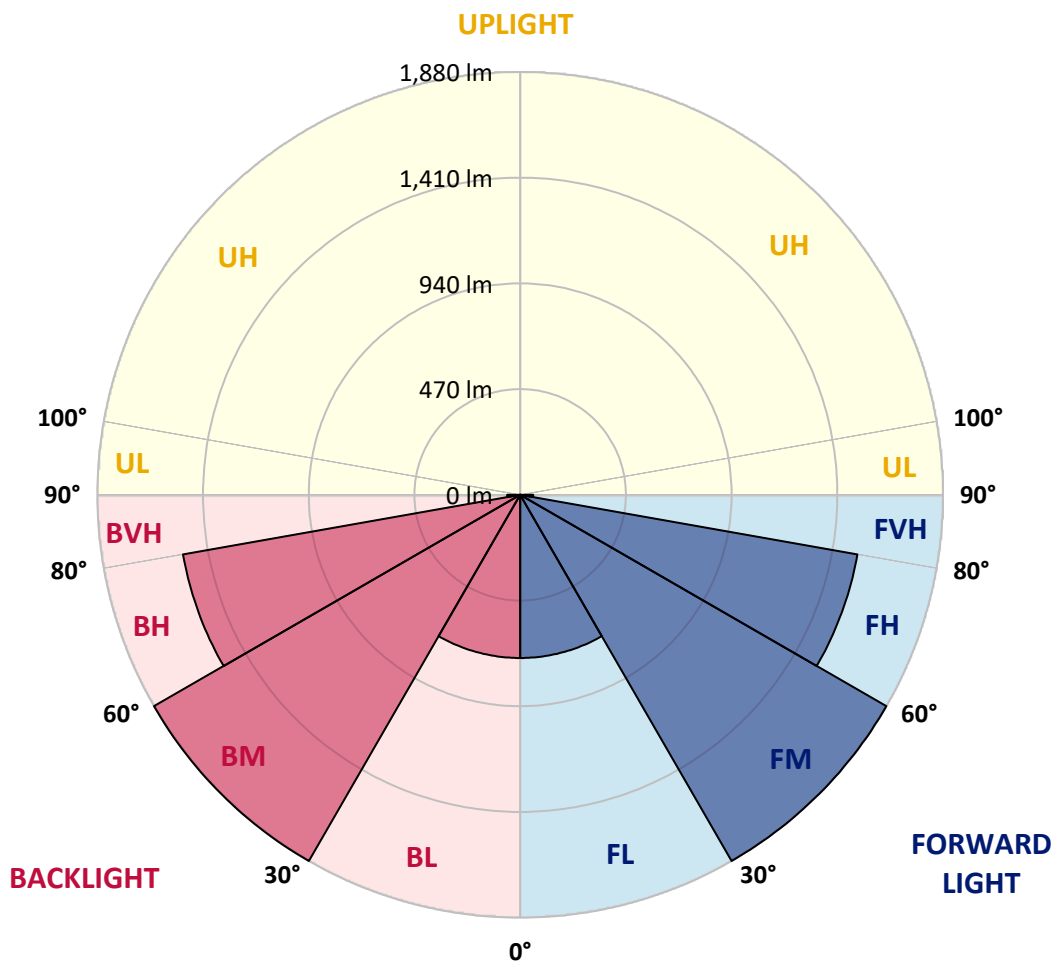
CATALOG NUMBER: LDRL-RW-F04-E-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	725.4	8.7			
FM	(30°-60°)	1879.8	22.5			
FH	(60°-80°)	1522.4	18.2			G1/1800
FVH	(80°-90°)	58.0	0.7			G1/100
BL	(0°-30°)	725.4	8.7	B2/1000		
BM	(30°-60°)	1879.8	22.5	B2/2500		
BH	(60°-80°)	1522.4	18.2	B3/2500		G3/2500
BVH	(80°-90°)	58.0	0.7			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 I Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	67°	68°
0°	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0
2.5°	1607.2	1605.6	1608.6	1611.4	1610.6	1611.2	1610.0	1608.6	1608.8	1608.9	1609.0
5°	1619.8	1618.1	1620.8	1623.4	1624.2	1626.2	1626.8	1625.9	1626.3	1626.7	1627.1
7.5°	1634.9	1633.4	1637.0	1640.4	1646.8	1650.2	1653.5	1656.8	1657.1	1657.4	1657.7
10°	1649.0	1648.2	1654.0	1661.3	1671.6	1679.4	1688.9	1698.1	1698.8	1699.5	1700.3
12.5°	1658.2	1658.2	1667.2	1680.2	1698.1	1714.0	1730.2	1745.7	1747.2	1748.6	1750.1
15°	1657.7	1658.8	1672.4	1696.4	1727.0	1755.2	1775.0	1792.0	1793.4	1794.8	1796.2
17.5°	1646.2	1646.6	1666.0	1704.2	1752.2	1794.0	1819.6	1828.8	1829.3	1829.8	1830.3
20°	1614.2	1616.4	1644.0	1699.5	1771.7	1829.4	1853.6	1849.6	1848.8	1848.0	1847.2
22.5°	1559.3	1562.0	1598.9	1673.3	1775.3	1852.2	1877.3	1859.7	1857.0	1854.4	1851.7
25°	1482.9	1487.7	1527.5	1622.8	1750.8	1858.9	1892.6	1864.4	1860.3	1856.1	1851.9
27.5°	1394.6	1396.8	1443.9	1544.0	1693.6	1836.6	1899.6	1874.2	1869.0	1863.8	1858.5
30°	1292.3	1298.2	1347.2	1451.8	1613.1	1784.8	1896.8	1893.2	1887.3	1881.4	1875.6
32.5°	1190.6	1195.6	1243.8	1356.4	1520.3	1712.6	1882.8	1921.9	1917.0	1912.1	1907.2
35°	1088.0	1094.2	1143.8	1264.7	1428.0	1630.6	1860.8	1962.8	1960.7	1958.6	1956.5
37.5°	998.0	1001.9	1050.6	1176.4	1347.2	1555.6	1832.2	2017.8	2022.5	2027.3	2032.1
40°	906.3	910.2	961.2	1089.9	1272.8	1491.6	1805.6	2086.8	2100.0	2113.0	2126.1
42.5°	818.2	821.6	871.0	999.4	1190.0	1436.1	1789.8	2170.5	2195.6	2220.8	2245.9
45°	728.0	730.2	776.4	901.6	1095.6	1371.4	1785.6	2264.4	2300.7	2337.0	2373.3
47.5°	639.0	644.4	692.0	810.7	987.7	1278.9	1779.5	2368.4	2416.4	2464.6	2512.6
50°	554.0	559.9	609.0	721.6	883.4	1169.1	1748.2	2486.2	2544.8	2603.5	2662.1
52.5°	467.4	473.2	522.2	629.8	786.8	1045.4	1661.3	2610.0	2679.7	2749.4	2819.1
55°	374.8	377.0	427.6	535.4	690.1	941.7	1522.8	2723.4	2807.8	2892.3	2976.8
57.5°	272.6	280.1	330.0	430.3	591.4	850.0	1346.6	2781.4	2886.8	2992.2	3097.6
60°	196.8	201.8	245.5	324.4	479.6	760.0	1190.3	2739.0	2879.7	3020.4	3161.0
62.5°	155.5	161.1	194.8	244.4	371.0	661.0	1088.3	2622.8	2820.2	3017.5	3214.9
65°	137.7	142.7	173.9	198.4	283.7	559.4	1024.2	2507.7	2774.1	3040.5	3306.8
67.5°	125.7	131.0	158.3	175.0	234.4	493.8	993.9	2420.8	2728.4	3036.0	3343.6
69°	120.1	124.8	150.0	165.6	221.0	471.6	961.2	2273.6	2578.6	2883.6	3188.6
70°	117.0	121.2	144.1	159.7	215.7	453.2	913.0	2098.6	2392.8	2687.2	2981.4
72.5°	108.4	111.2	130.4	144.9	197.3	361.8	688.6	1480.7	1730.2	1979.7	2229.2
75°	96.2	99.5	116.5	129.8	150.5	217.4	431.2	859.5	1030.4	1201.4	1372.4
77.5°	82.5	86.4	100.3	121.5	121.2	141.6	261.7	493.6	576.6	659.7	742.7
80°	70.8	74.1	86.6	120.1	101.4	112.0	195.1	368.2	401.6	435.0	468.5
82.5°	55.4	58.2	72.7	99.2	81.1	85.3	148.6	335.3	358.0	380.7	403.3
85°	34.8	36.0	53.0	68.6	57.7	51.6	95.6	258.1	274.6	291.1	307.6
87.5°	14.0	17.0	25.6	24.5	24.8	20.6	30.9	93.1	101.6	110.0	118.5
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):

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0
2.5°	1609.1	1609.2	1608.6	1607.8	1608.6	1607.8	1608.1	1608.9	1608.6	1608.6	1608.1
5°	1627.5	1627.8	1627.8	1626.1	1627.0	1627.3	1627.6	1627.0	1627.3	1627.8	1626.7
7.5°	1658.0	1658.2	1659.1	1659.9	1659.4	1659.6	1660.2	1659.6	1658.8	1660.8	1659.4
10°	1701.0	1701.7	1701.7	1704.2	1703.1	1704.0	1706.4	1706.4	1705.0	1707.0	1706.4
12.5°	1751.5	1753.0	1752.7	1752.4	1753.6	1754.4	1757.2	1757.7	1758.3	1761.4	1760.2
15°	1797.6	1799.0	1800.1	1800.6	1802.6	1803.2	1804.8	1806.0	1806.8	1807.9	1808.4
17.5°	1830.8	1831.3	1833.0	1832.2	1834.9	1834.4	1836.3	1837.2	1838.0	1839.4	1840.2
20°	1846.3	1845.5	1845.8	1845.0	1845.0	1845.6	1845.8	1846.9	1846.4	1847.7	1848.8
22.5°	1849.0	1846.4	1844.6	1842.7	1841.8	1840.2	1840.2	1840.8	1838.8	1840.2	1841.9
25°	1847.7	1843.6	1840.5	1837.2	1834.0	1831.3	1829.6	1829.1	1827.7	1827.7	1829.1
27.5°	1853.2	1848.0	1843.6	1838.0	1834.1	1830.2	1826.6	1823.8	1821.0	1820.4	1820.4
30°	1869.8	1863.9	1858.8	1852.0	1845.8	1840.8	1835.8	1831.8	1826.6	1824.3	1821.8
32.5°	1902.3	1897.4	1890.4	1884.2	1877.0	1870.9	1864.2	1858.0	1851.9	1846.4	1844.1
35°	1954.4	1952.2	1948.4	1944.2	1937.2	1929.4	1923.8	1916.6	1909.6	1901.5	1899.3
37.5°	2036.9	2041.7	2039.5	2036.4	2034.5	2032.0	2024.4	2019.7	2015.0	2008.3	2006.8
40°	2139.2	2152.4	2165.4	2174.1	2171.0	2181.4	2183.0	2183.9	2179.6	2185.2	2186.4
42.5°	2271.0	2296.2	2319.8	2337.1	2357.2	2372.2	2391.8	2400.1	2416.0	2432.4	2442.0
45°	2409.6	2445.8	2479.8	2515.2	2550.0	2588.2	2625.3	2651.5	2689.7	2718.1	2736.0
47.5°	2560.8	2608.9	2649.6	2702.5	2753.0	2798.1	2863.0	2915.1	2961.7	3006.0	3052.5
50°	2720.8	2779.4	2829.6	2894.2	2955.6	3026.4	3102.4	3168.8	3241.8	3312.3	3375.0
52.5°	2888.9	2958.6	3026.4	3092.6	3167.1	3244.0	3326.5	3422.4	3509.9	3616.0	3692.2
55°	3061.2	3145.6	3217.8	3287.2	3366.1	3451.4	3549.4	3662.8	3774.0	3890.2	4005.7
57.5°	3203.0	3308.4	3387.2	3468.4	3553.4	3637.8	3759.6	3875.8	4016.8	4159.5	4303.9
60°	3301.7	3442.4	3538.0	3640.6	3739.0	3841.5	3972.8	4119.6	4296.1	4468.8	4665.0
62.5°	3412.3	3609.6	3743.7	3880.6	4000.1	4123.3	4298.8	4468.0	4694.6	4893.6	5140.6
65°	3573.2	3839.6	4036.9	4221.4	4381.9	4549.7	4757.9	4969.4	5228.5	5503.6	5813.2
67.5°	3651.2	3958.8	4217.2	4444.9	4650.0	4863.8	5078.6	5329.0	5621.0	5952.0	6292.0
69°	3493.6	3798.6	4095.7	4325.9	4541.9	4770.2	5000.0	5252.6	5540.2	5883.8	6244.2
70°	3275.8	3570.0	3885.8	4116.6	4334.5	4571.4	4805.6	5060.5	5335.6	5689.6	6054.0
72.5°	2478.7	2728.2	3034.7	3278.6	3507.6	3747.0	3988.1	4209.4	4488.4	4828.9	5164.8
75°	1543.3	1714.2	1989.9	2234.8	2419.0	2624.2	2850.4	3060.0	3340.2	3581.5	3904.5
77.5°	825.8	908.8	1069.6	1245.2	1347.8	1447.8	1595.2	1709.0	1826.8	1966.4	2100.0
80°	501.9	535.4	590.3	628.2	614.0	573.0	559.9	519.0	533.7	508.6	490.5
82.5°	426.0	448.7	482.2	505.0	488.2	422.8	348.6	293.4	254.4	217.1	184.5
85°	324.1	340.6	357.8	368.2	367.3	334.7	265.9	206.0	160.5	124.3	103.4
87.5°	127.0	135.4	148.0	146.0	152.4	153.6	120.1	92.8	66.0	44.6	39.0
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):

	80°	81°	82°	83°	84°	85°	86°	87°	88°	89°	90°
0°	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0	1603.0
2.5°	1607.0	1606.6	1607.0	1607.8	1607.8	1608.4	1607.8	1608.1	1607.2	1606.4	1607.0
5°	1626.8	1626.2	1626.8	1627.3	1627.3	1626.8	1628.1	1628.2	1627.6	1626.7	1627.0
7.5°	1660.8	1661.0	1660.2	1663.0	1660.4	1660.8	1662.4	1662.2	1661.6	1661.8	1662.1
10°	1708.1	1707.8	1708.4	1710.0	1707.6	1709.2	1711.2	1711.8	1710.4	1710.4	1710.6
12.5°	1760.6	1762.8	1763.0	1764.1	1764.2	1765.5	1765.8	1766.1	1767.2	1767.4	1765.8
15°	1810.6	1812.4	1813.4	1814.6	1813.2	1815.2	1817.4	1817.4	1817.0	1818.2	1816.5
17.5°	1841.6	1843.0	1845.0	1844.6	1845.0	1846.6	1848.0	1848.6	1849.2	1849.2	1849.4
20°	1851.4	1852.2	1853.4	1854.4	1855.0	1856.6	1857.8	1858.6	1859.2	1858.6	1858.9
22.5°	1843.6	1844.7	1846.9	1847.8	1848.0	1850.6	1851.6	1852.4	1853.0	1853.6	1852.8
25°	1830.2	1831.3	1833.6	1834.4	1834.9	1837.2	1838.6	1840.5	1841.0	1841.4	1841.6
27.5°	1821.0	1821.6	1823.2	1824.4	1824.6	1827.2	1829.1	1830.4	1830.8	1831.0	1831.0
30°	1821.2	1821.2	1823.2	1823.4	1823.2	1825.4	1826.6	1827.4	1828.0	1828.0	1828.2
32.5°	1840.5	1839.4	1841.0	1838.6	1838.8	1838.6	1838.3	1839.1	1838.6	1838.8	1837.7
35°	1894.8	1891.8	1889.3	1890.4	1886.5	1880.9	1884.0	1882.6	1879.5	1879.8	1880.6
37.5°	1999.1	1996.0	1998.8	1996.2	1997.1	1989.4	1991.3	1984.3	1982.4	1984.8	1977.6
40°	2184.1	2182.7	2188.0	2185.8	2187.2	2189.4	2191.4	2184.7	2173.5	2183.6	2183.8
42.5°	2440.6	2453.1	2458.0	2465.0	2472.6	2469.2	2475.9	2477.8	2465.6	2474.9	2477.0
45°	2762.1	2775.5	2791.1	2795.8	2808.2	2809.8	2814.8	2816.2	2805.0	2806.2	2808.7
47.5°	3099.1	3123.6	3142.0	3154.8	3167.6	3170.2	3173.0	3167.6	3168.4	3171.0	3171.0
50°	3430.2	3482.6	3515.2	3540.5	3562.6	3551.2	3560.8	3561.7	3565.0	3558.0	3562.3
52.5°	3778.3	3847.6	3902.2	3945.0	3958.3	3999.0	3982.2	3995.1	4003.8	3990.9	3999.3
55°	4118.3	4217.2	4305.0	4366.8	4410.4	4451.5	4458.0	4491.2	4487.2	4499.8	4494.2
57.5°	4441.6	4579.8	4705.2	4796.9	4859.3	4922.2	4964.9	5001.2	5004.8	5040.8	5020.4
60°	4832.5	5025.2	5186.5	5323.1	5415.3	5509.0	5582.8	5642.2	5655.8	5717.4	5697.1
62.5°	5360.1	5595.1	5801.3	5961.5	6167.0	6265.8	6409.7	6499.5	6555.4	6570.8	6599.5
65°	6101.8	6407.8	6679.8	6936.1	7167.2	7327.4	7493.8	7627.6	7734.8	7726.0	7770.0
67.5°	6652.7	7001.6	7329.1	7636.5	7885.1	8091.4	8282.5	8427.2	8523.0	8584.0	8610.0
69°	6595.3	6969.8	7331.0	7659.4	7915.8	8146.2	8332.4	8474.8	8584.7	8651.0	8670.2
70°	6404.4	6789.2	7165.8	7488.0	7749.4	8002.4	8191.9	8350.5	8455.0	8527.5	8538.6
72.5°	5539.6	5956.6	6289.6	6641.0	6892.7	7148.8	7268.0	7464.6	7600.8	7644.8	7644.0
75°	4178.2	4526.0	4818.6	5078.4	5303.6	5477.2	5533.5	5673.4	5786.5	5785.1	5774.5
77.5°	2249.9	2331.9	2441.4	2478.1	2547.6	2546.4	2476.8	2498.8	2562.8	2438.6	2478.7
80°	482.6	475.4	469.3	465.7	463.8	464.6	467.1	451.2	466.8	459.8	430.3
82.5°	168.0	164.2	160.2	163.0	161.1	162.8	162.2	164.2	163.9	163.3	159.4
85°	94.5	91.2	89.2	90.6	87.5	84.8	82.8	81.9	81.6	79.7	78.6
87.5°	36.0	35.6	35.4	34.0	30.6	28.2	26.4	23.2	21.7	19.8	18.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)