

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: P144554

Luminaire Tested: **LDRL-RW-F04-E-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P144554
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-7030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - RECTANGULAR WIDE
Light Source: (28) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9059 lumens
Efficiency: N/A
Efficacy: 88.6 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

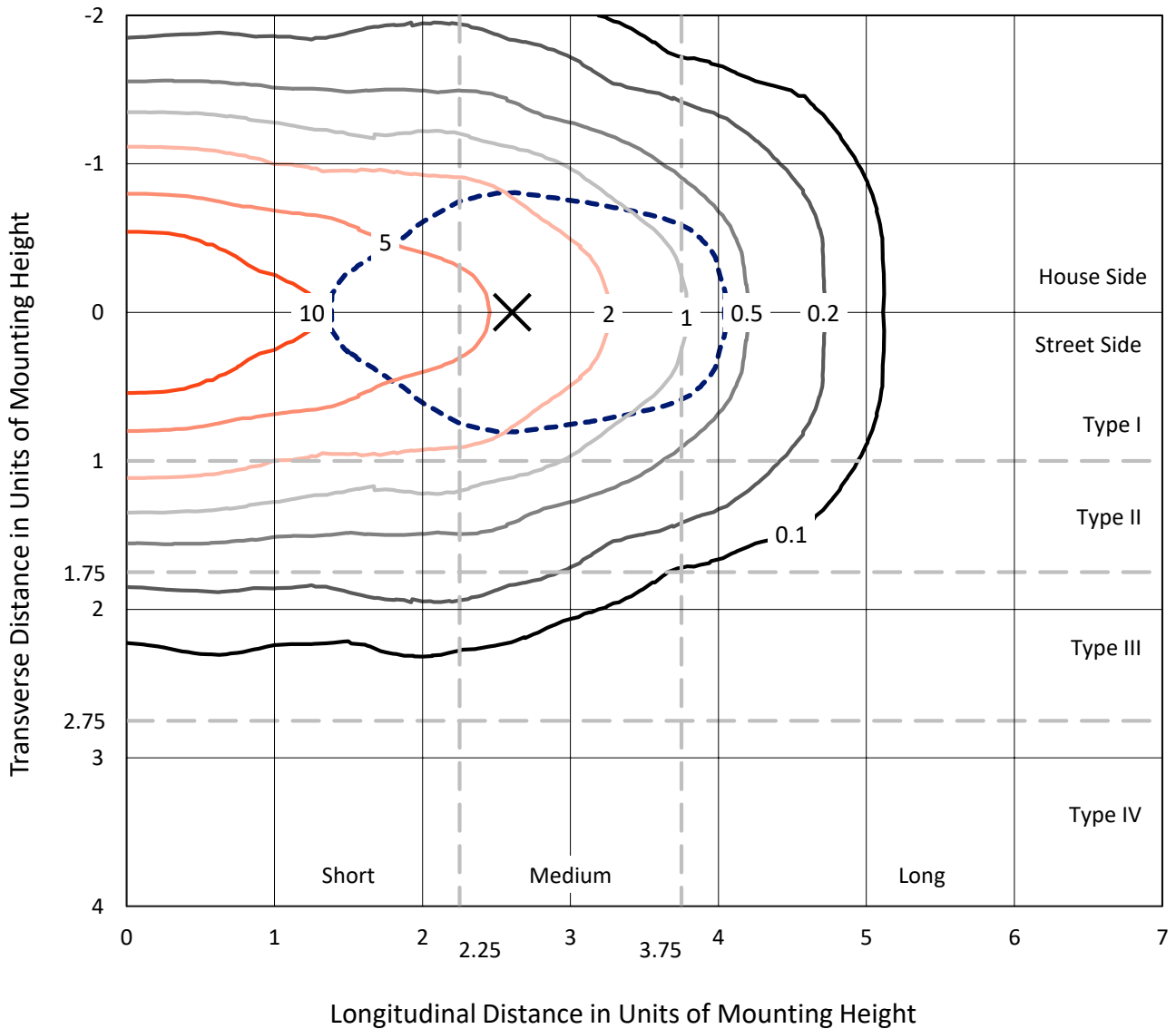


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Iso-Footcandle Lines of Horizontal Illumination

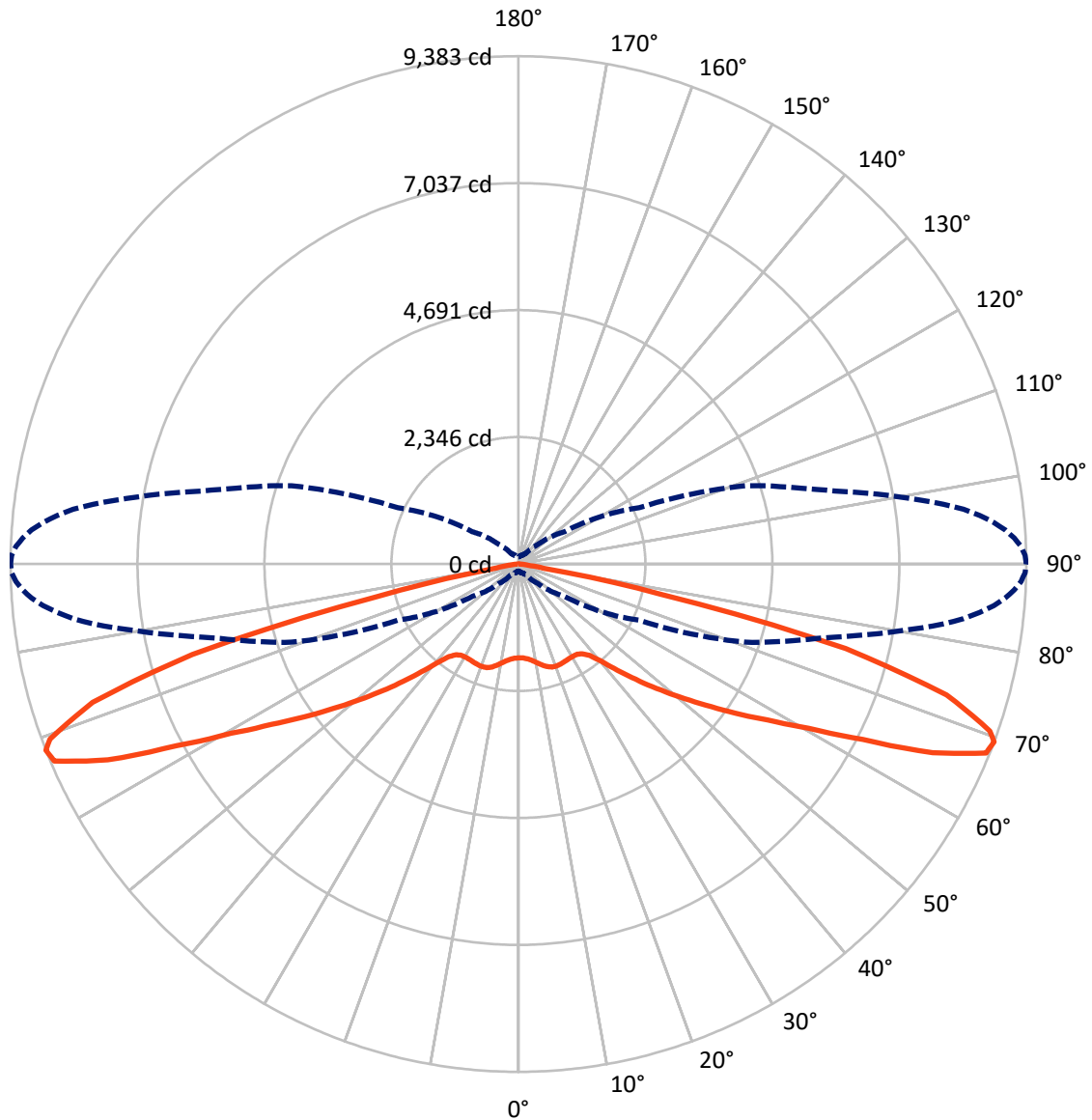
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 17.8 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	4529.5	0.0	4529.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	4529.5	0.0	4529.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	9059.0	0.0	9059.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	169.7	1.9
10°-20°	534.6	5.9
20°-30°	865.7	9.6
30°-40°	1078.5	11.9
40°-50°	1342.6	14.8
50°-60°	1647.5	18.2
60°-70°	2031.8	22.4
70°-80°	1263.1	13.9
80°-90°	125.5	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°	9059.0	100.0
0°-180°	9059.0	100.0



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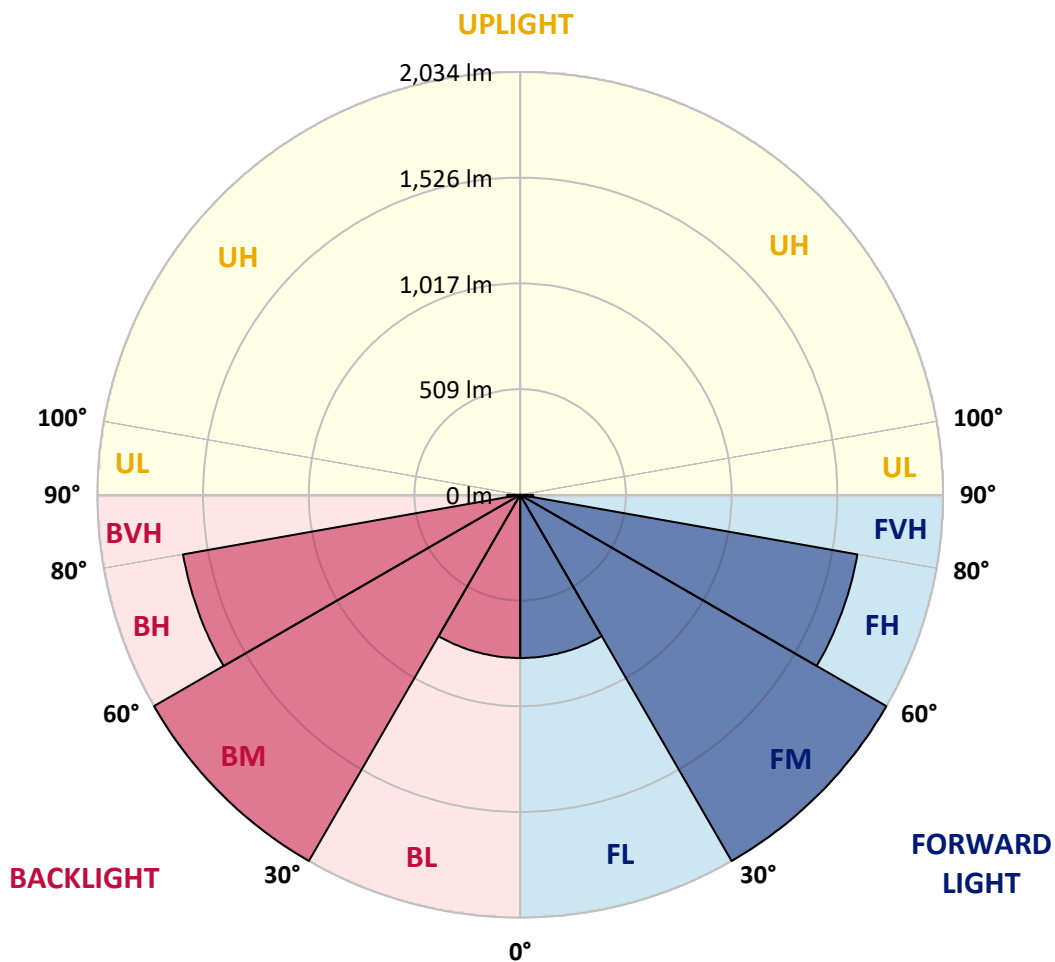
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	785.0	8.7			
FM	(30°-60°)	2034.3	22.5			
FH	(60°-80°)	1647.5	18.2			G1/1800
FVH	(80°-90°)	62.7	0.7			G1/100
BL	(0°-30°)	785.0	8.7	B2/1000		
BM	(30°-60°)	2034.3	22.5	B2/2500		
BH	(60°-80°)	1647.5	18.2	B3/2500		G3/2500
BVH	(80°-90°)	62.7	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°	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8
2.5°	1739.3	1737.5	1740.8	1743.8	1743.0	1743.5	1742.3	1740.8	1741.0	1741.1	1741.2
5°	1752.9	1751.1	1754.1	1756.8	1757.7	1759.8	1760.4	1759.5	1759.9	1760.3	1760.8
7.5°	1769.2	1767.7	1771.6	1775.2	1782.1	1785.8	1789.4	1793.0	1793.3	1793.6	1793.9
10°	1784.6	1783.6	1790.0	1797.8	1809.0	1817.4	1827.6	1837.6	1838.4	1839.2	1840.0
12.5°	1794.5	1794.5	1804.2	1818.3	1837.6	1854.8	1872.4	1889.2	1890.8	1892.3	1893.9
15°	1793.9	1795.2	1809.9	1835.8	1869.0	1899.4	1920.8	1939.3	1940.8	1942.3	1943.8
17.5°	1781.5	1781.8	1803.0	1844.2	1896.2	1941.4	1969.2	1979.1	1979.6	1980.2	1980.7
20°	1746.8	1749.2	1779.1	1839.2	1917.2	1979.6	2005.9	2001.7	2000.8	1999.9	1999.0
22.5°	1687.4	1690.4	1730.2	1810.8	1921.2	2004.4	2031.6	2012.6	2009.7	2006.8	2003.9
25°	1604.8	1609.9	1653.0	1756.2	1894.6	2011.6	2048.2	2017.7	2013.2	2008.7	2004.1
27.5°	1509.2	1511.6	1562.6	1670.8	1832.8	1987.6	2055.7	2028.2	2022.6	2016.9	2011.2
30°	1398.5	1404.8	1457.9	1571.0	1745.6	1931.4	2052.7	2048.8	2042.4	2036.1	2029.7
32.5°	1288.4	1293.8	1346.0	1467.9	1645.2	1853.3	2037.6	2079.9	2074.5	2069.2	2063.9
35°	1177.4	1184.1	1237.8	1368.6	1545.4	1764.6	2013.8	2124.1	2121.9	2119.6	2117.3
37.5°	1080.0	1084.2	1137.1	1273.0	1457.9	1683.6	1982.7	2183.6	2188.8	2194.0	2199.1
40°	980.8	985.0	1040.2	1179.6	1377.4	1614.2	1954.0	2258.4	2272.6	2286.7	2300.9
42.5°	885.5	889.1	942.5	1081.5	1287.8	1554.1	1936.8	2348.8	2376.0	2403.2	2430.4
45°	787.8	790.2	840.2	975.7	1185.6	1484.2	1932.4	2450.5	2489.8	2529.0	2568.3
47.5°	691.6	697.3	748.9	877.4	1068.8	1384.0	1925.7	2563.0	2615.0	2667.1	2719.2
50°	599.6	605.9	659.0	780.8	956.0	1265.2	1891.9	2690.6	2754.0	2817.5	2880.9
52.5°	505.8	512.1	565.2	681.6	851.4	1131.3	1797.8	2824.5	2900.0	2975.4	3050.8
55°	405.6	408.1	462.6	579.3	746.8	1019.1	1648.0	2947.2	3038.6	3130.0	3221.4
57.5°	295.0	303.1	357.1	465.6	640.0	919.8	1457.3	3009.9	3124.0	3238.1	3352.1
60°	212.9	218.4	265.7	351.0	519.0	822.4	1288.1	2964.1	3116.3	3268.6	3420.8
62.5°	168.3	174.3	210.8	264.5	401.5	715.4	1177.8	2838.4	3051.9	3265.5	3479.1
65°	149.0	154.4	188.2	214.8	307.0	605.3	1108.4	2713.8	3002.1	3290.3	3578.6
67.5°	136.0	141.8	171.3	189.4	253.6	534.4	1075.4	2619.6	2952.6	3285.5	3618.4
69°	130.0	135.1	162.2	179.2	239.2	510.3	1040.2	2460.4	2790.5	3120.6	3450.6
70°	126.7	131.2	155.9	172.8	233.4	490.4	988.0	2271.0	2589.5	2908.0	3226.5
72.5°	117.3	120.3	141.2	156.8	213.6	391.4	745.2	1602.4	1872.4	2142.4	2412.4
75°	104.0	107.7	126.1	140.6	162.8	235.2	466.6	930.2	1115.2	1300.2	1485.2
77.5°	89.3	93.5	108.6	131.5	131.2	153.2	283.2	534.1	624.0	713.9	803.7
80°	76.6	80.2	93.8	130.0	109.8	121.2	211.1	398.4	434.6	470.8	507.0
82.5°	60.0	63.0	78.7	107.4	87.8	92.3	160.8	362.8	387.4	412.0	436.5
85°	37.7	38.9	57.3	74.2	62.4	55.8	103.4	279.3	297.2	315.0	332.8
87.5°	15.1	18.4	27.8	26.6	26.8	22.3	33.4	100.8	109.9	119.1	128.2
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):

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8
2.5°	1741.3	1741.4	1740.8	1740.0	1740.8	1740.0	1740.2	1741.2	1740.8	1740.8	1740.2
5°	1761.2	1761.6	1761.6	1759.8	1760.8	1761.0	1761.4	1760.8	1761.0	1761.6	1760.4
7.5°	1794.2	1794.5	1795.4	1796.3	1795.7	1796.0	1796.6	1796.0	1795.1	1797.2	1795.8
10°	1840.8	1841.6	1841.6	1844.3	1843.0	1844.0	1846.7	1846.7	1845.2	1847.2	1846.6
12.5°	1895.5	1897.0	1896.8	1896.4	1897.6	1898.6	1901.6	1902.2	1902.8	1906.1	1904.8
15°	1945.3	1946.8	1948.0	1948.6	1950.8	1951.4	1953.2	1954.4	1955.2	1956.4	1957.0
17.5°	1981.3	1981.8	1983.6	1982.7	1985.8	1985.2	1987.2	1988.2	1989.0	1990.6	1991.4
20°	1998.1	1997.2	1997.5	1996.6	1996.6	1997.2	1997.4	1998.7	1998.1	1999.6	2000.8
22.5°	2001.0	1998.1	1996.3	1994.2	1993.2	1991.4	1991.4	1992.0	1989.9	1991.4	1993.2
25°	1999.6	1995.1	1991.8	1988.2	1984.8	1981.8	1980.0	1979.4	1977.8	1977.9	1979.4
27.5°	2005.6	1999.9	1995.0	1989.0	1984.8	1980.6	1976.6	1973.6	1970.6	1970.0	1970.0
30°	2023.4	2017.0	2011.6	2004.2	1997.4	1992.0	1986.6	1982.4	1976.7	1974.2	1971.6
32.5°	2058.6	2053.3	2045.8	2039.1	2031.2	2024.6	2017.4	2010.8	2004.2	1998.1	1995.6
35°	2115.0	2112.7	2108.5	2104.0	2096.4	2088.0	2081.9	2074.1	2066.6	2057.8	2055.4
37.5°	2204.3	2209.5	2207.1	2203.8	2201.6	2199.0	2190.8	2185.7	2180.6	2173.3	2171.8
40°	2315.0	2329.2	2343.4	2352.8	2349.4	2360.6	2362.4	2363.4	2358.8	2364.8	2366.0
42.5°	2457.6	2484.9	2510.5	2529.2	2550.9	2567.2	2588.3	2597.4	2614.6	2632.4	2642.6
45°	2607.5	2646.8	2683.6	2722.0	2759.6	2801.0	2841.0	2869.4	2910.7	2941.5	2960.8
47.5°	2771.2	2823.2	2867.3	2924.6	2979.2	3028.0	3098.4	3154.7	3205.1	3253.0	3303.4
50°	2944.4	3007.8	3062.1	3132.1	3198.4	3275.0	3357.4	3429.2	3508.2	3584.5	3652.4
52.5°	3126.3	3201.8	3275.0	3346.8	3427.4	3510.6	3599.8	3703.6	3798.3	3913.2	3995.6
55°	3312.8	3404.2	3482.2	3557.4	3642.7	3735.0	3841.1	3963.9	4084.2	4210.0	4334.8
57.5°	3466.2	3580.3	3665.6	3753.4	3845.4	3936.8	4068.6	4194.4	4346.9	4501.4	4657.6
60°	3573.1	3725.3	3828.8	3939.8	4046.2	4157.2	4299.2	4458.2	4649.1	4836.1	5048.4
62.5°	3692.7	3906.3	4051.4	4199.4	4328.8	4462.1	4652.2	4835.2	5080.4	5295.7	5563.0
65°	3866.8	4155.1	4368.6	4568.3	4742.0	4923.5	5148.8	5377.8	5658.3	5956.0	6291.0
67.5°	3951.3	4284.2	4563.8	4810.2	5032.2	5263.5	5496.0	5766.8	6082.9	6441.2	6809.2
69°	3780.7	4110.8	4432.2	4681.4	4915.2	5162.2	5411.0	5684.2	5995.4	6367.4	6757.3
70°	3545.0	3863.4	4205.2	4454.9	4690.8	4947.1	5200.5	5476.4	5774.1	6157.1	6551.6
72.5°	2682.4	2952.4	3284.1	3548.0	3795.9	4055.0	4315.8	4555.4	4857.2	5225.8	5589.2
75°	1670.2	1855.2	2153.4	2418.5	2617.9	2839.9	3084.8	3311.6	3614.6	3875.8	4225.4
77.5°	893.6	983.5	1157.5	1347.6	1458.5	1566.8	1726.4	1849.4	1977.0	2128.0	2272.6
80°	543.2	579.4	638.8	679.8	664.4	620.1	605.9	561.6	577.6	550.4	530.8
82.5°	461.0	485.6	521.8	546.5	528.4	457.5	377.3	317.6	275.4	235.0	199.6
85°	350.7	368.5	387.2	398.4	397.5	362.2	287.7	222.9	173.8	134.5	111.9
87.5°	137.4	146.6	160.1	158.0	165.0	166.2	130.0	100.4	71.4	48.2	42.2
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):

	80°	81°	82°	83°	84°	85°	86°	87°	88°	89°	90°
0°	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8	1734.8
2.5°	1739.0	1738.7	1739.0	1739.9	1739.9	1740.5	1739.9	1740.2	1739.3	1738.4	1739.0
5°	1760.4	1759.8	1760.4	1761.0	1761.0	1760.4	1761.9	1761.9	1761.3	1760.4	1760.7
7.5°	1797.2	1797.6	1796.6	1799.6	1797.0	1797.2	1799.0	1798.7	1798.1	1798.4	1798.7
10°	1848.4	1848.2	1848.8	1850.6	1847.8	1849.7	1851.8	1852.4	1850.9	1850.9	1851.2
12.5°	1905.2	1907.6	1907.9	1909.1	1909.2	1910.6	1910.9	1911.2	1912.4	1912.7	1910.9
15°	1959.4	1961.3	1962.5	1963.7	1962.2	1964.3	1966.7	1966.7	1966.4	1967.6	1965.8
17.5°	1993.0	1994.5	1996.6	1996.3	1996.6	1998.4	1999.9	2000.5	2001.1	2001.1	2001.4
20°	2003.5	2004.4	2005.6	2006.8	2007.4	2009.2	2010.4	2011.4	2012.0	2011.4	2011.7
22.5°	1995.0	1996.2	1998.6	1999.6	1999.8	2002.6	2003.8	2004.8	2005.3	2005.9	2005.0
25°	1980.6	1981.8	1984.2	1985.1	1985.7	1988.2	1989.6	1991.8	1992.4	1992.6	1993.0
27.5°	1970.6	1971.2	1973.0	1974.2	1974.6	1977.3	1979.4	1980.9	1981.2	1981.5	1981.5
30°	1971.0	1971.0	1973.1	1973.4	1973.0	1975.4	1976.6	1977.6	1978.2	1978.2	1978.5
32.5°	1991.8	1990.6	1992.4	1989.6	1990.0	1989.6	1989.4	1990.2	1989.6	1990.0	1988.7
35°	2050.6	2047.2	2044.6	2045.7	2041.5	2035.5	2038.8	2037.3	2034.0	2034.3	2035.2
37.5°	2163.4	2160.0	2163.0	2160.4	2161.2	2152.8	2154.9	2147.4	2145.2	2148.0	2140.1
40°	2363.6	2362.2	2367.8	2365.4	2367.0	2369.4	2371.5	2364.2	2352.1	2363.0	2363.3
42.5°	2641.1	2654.6	2660.1	2667.6	2675.8	2672.2	2679.4	2681.5	2668.2	2678.2	2680.6
45°	2989.2	3003.6	3020.5	3025.6	3038.9	3040.8	3046.1	3047.6	3035.6	3036.8	3039.5
47.5°	3353.8	3380.3	3400.2	3414.1	3428.0	3430.6	3433.7	3428.0	3428.8	3431.6	3431.6
50°	3712.0	3768.8	3804.0	3831.5	3855.3	3843.0	3853.5	3854.4	3858.0	3850.5	3855.0
52.5°	4088.8	4163.8	4223.0	4269.2	4283.6	4327.6	4309.5	4323.4	4332.8	4318.9	4327.9
55°	4456.7	4563.8	4658.8	4725.7	4772.8	4817.5	4824.4	4860.2	4856.0	4869.6	4863.6
57.5°	4806.6	4956.2	5091.8	5191.0	5258.6	5326.8	5373.0	5412.2	5416.1	5455.0	5433.0
60°	5229.7	5438.1	5612.7	5760.6	5860.4	5961.7	6041.6	6105.8	6120.6	6187.3	6165.3
62.5°	5800.6	6054.8	6278.0	6451.4	6673.8	6780.8	6936.4	7033.6	7094.2	7110.8	7141.8
65°	6603.2	6934.4	7228.6	7506.2	7756.2	7929.6	8109.6	8254.4	8370.6	8360.9	8408.5
67.5°	7199.4	7577.0	7931.4	8264.1	8533.1	8756.2	8963.2	9119.7	9223.4	9289.5	9317.5
69°	7137.3	7542.6	7933.5	8288.8	8566.2	8815.7	9017.2	9171.2	9290.1	9361.9	9382.7
70°	6930.7	7347.2	7754.7	8103.3	8386.2	8660.0	8865.2	9036.8	9149.8	9228.2	9240.3
72.5°	5994.8	6446.0	6806.4	7186.8	7459.1	7736.3	7865.4	8078.0	8225.4	8273.1	8272.2
75°	4521.6	4898.0	5214.6	5495.7	5739.4	5927.2	5988.2	6139.7	6262.0	6260.6	6249.1
77.5°	2434.8	2523.5	2642.0	2681.8	2756.9	2755.7	2680.3	2704.1	2773.5	2639.0	2682.4
80°	522.4	514.5	507.9	504.0	501.9	502.8	505.5	488.3	505.2	497.6	465.7
82.5°	181.8	177.6	173.4	176.4	174.4	176.1	175.5	177.6	177.3	176.7	172.5
85°	102.2	98.6	96.5	98.0	94.7	91.7	89.6	88.7	88.4	86.3	85.1
87.5°	38.9	38.6	38.3	36.8	33.2	30.5	28.6	25.0	23.5	21.4	19.9
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)