

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: P144540

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P144540
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-E03-E
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(3) LIGHTBARS WITH AccuLED OPTICS - RECTANGULAR WIDE
Light Source: (63) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9011 lumens
Efficiency: N/A
Efficacy: 119.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type I - Short - Full Cutoff
BUG Rating: B3 - U0 - G3

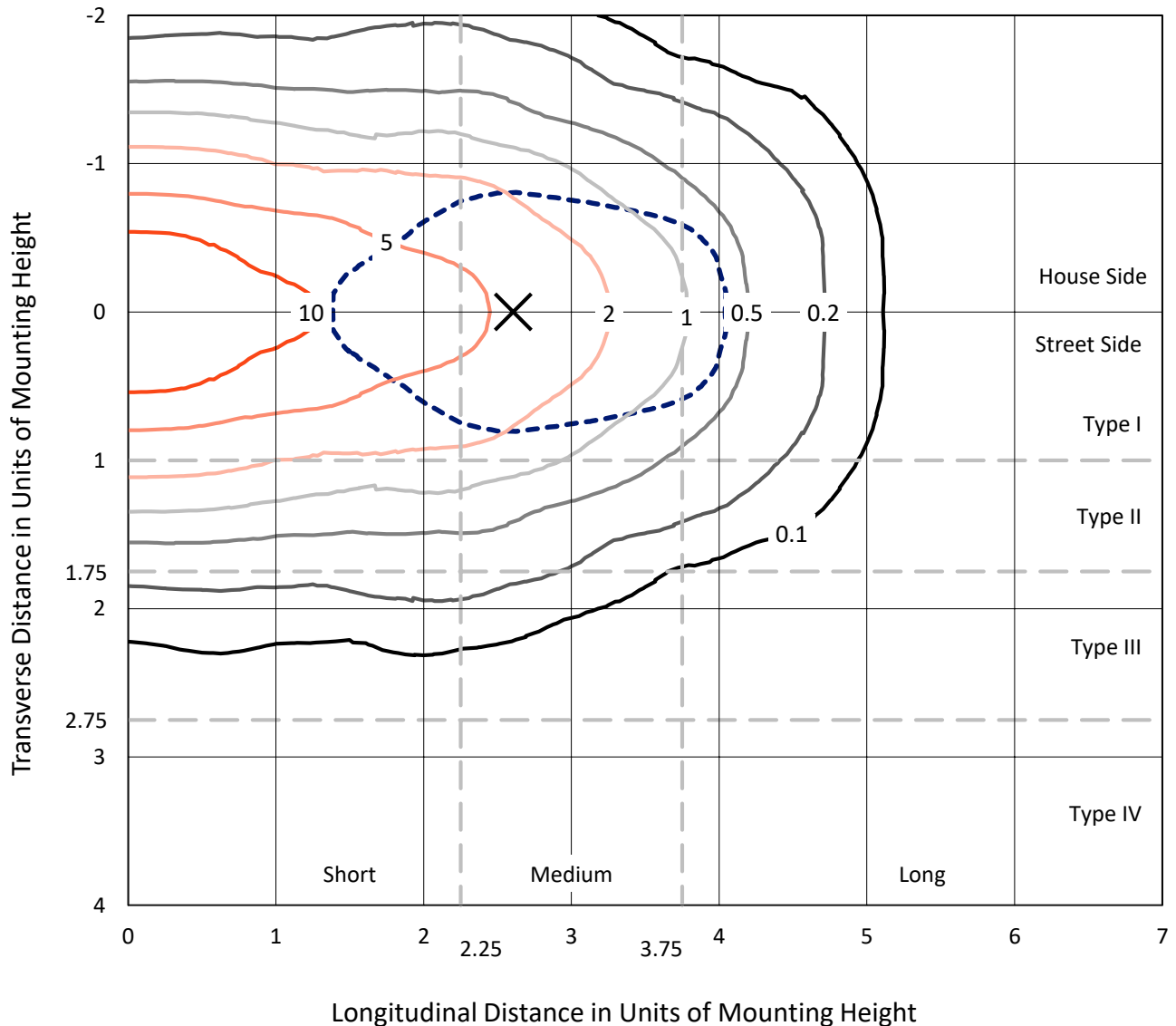
Input Watts (W): 75.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

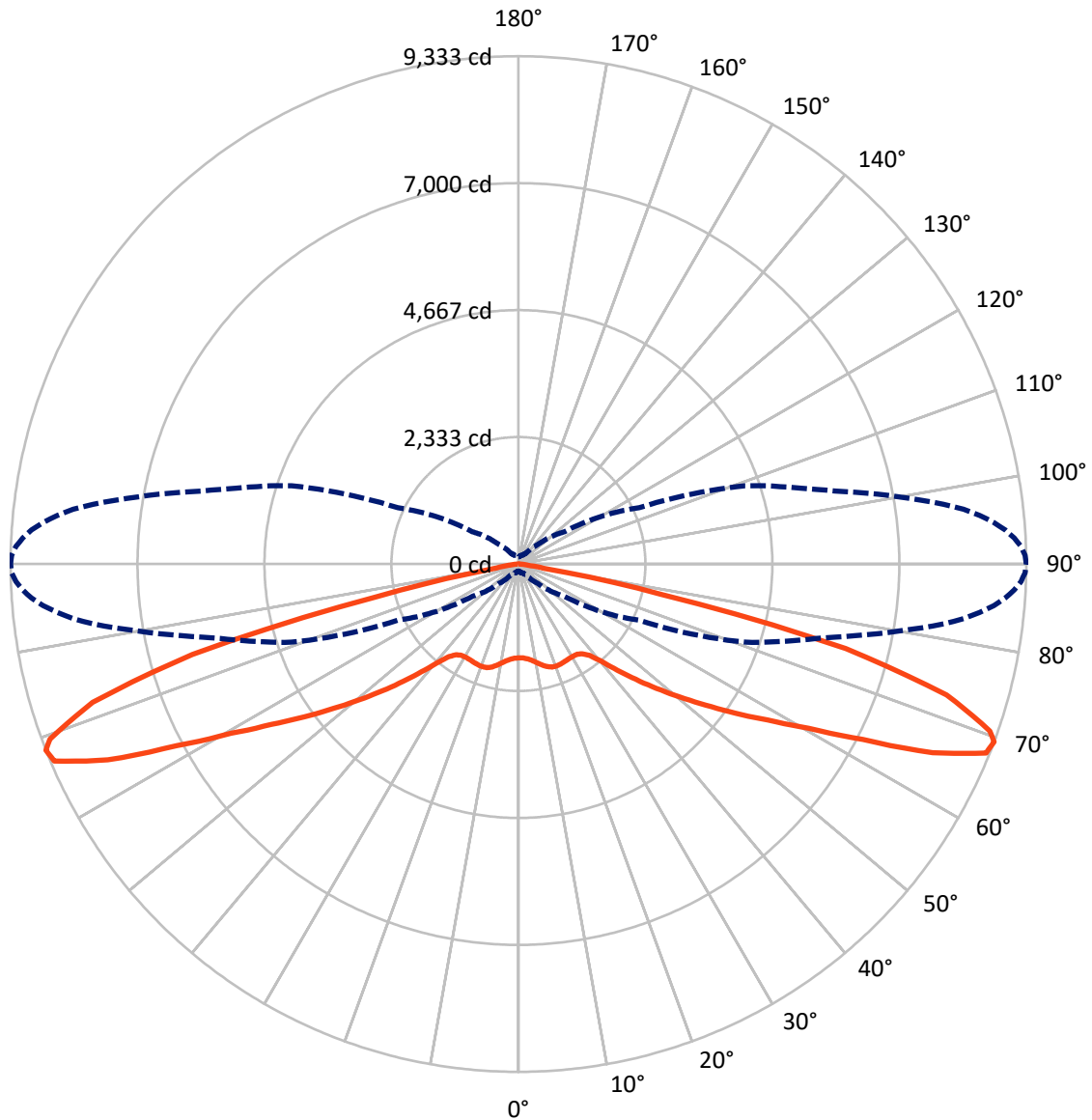
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 17.7 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	4505.5	0.0	4505.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	4505.5	0.0	4505.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	9011.0	0.0	9011.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.8	1.9
10°-20°	531.7	5.9
20°-30°	861.1	9.6
30°-40°	1072.8	11.9
40°-50°	1335.5	14.8
50°-60°	1638.7	18.2
60°-70°	2021.1	22.4
70°-80°	1256.4	13.9
80°-90°	124.8	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°	9011.0	100.0
0°-180°	9011.0	100.0



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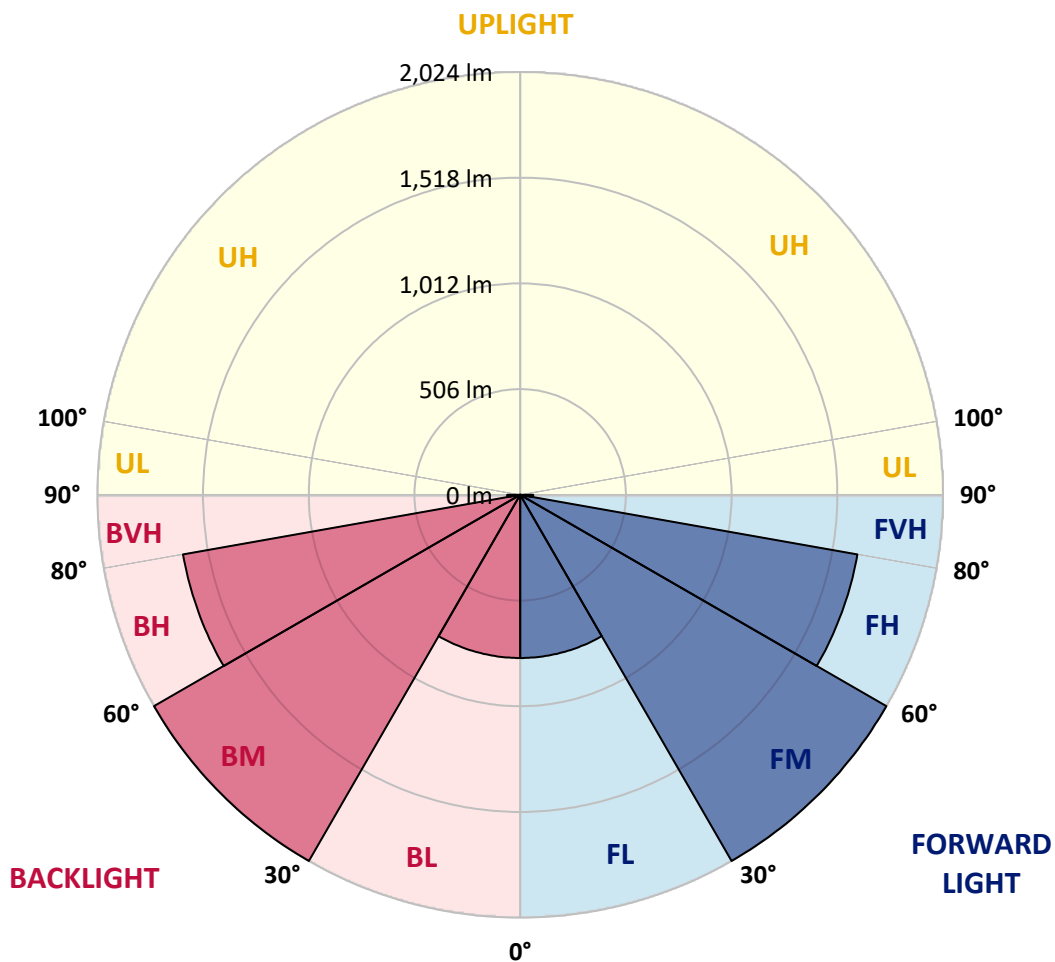
CATALOG NUMBER: LDRL-RW-E03-E

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	780.9	8.7			
FM	(30°-60°)	2023.5	22.5			
FH	(60°-80°)	1638.7	18.2			G1/1800
FVH	(80°-90°)	62.4	0.7			G1/100
BL	(0°-30°)	780.9	8.7	B2/1000		
BM	(30°-60°)	2023.5	22.5	B2/2500		
BH	(60°-80°)	1638.7	18.2	B3/2500		G3/2500
BVH	(80°-90°)	62.4	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°	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6
2.5°	1730.1	1728.3	1731.6	1734.6	1733.7	1734.3	1733.1	1731.6	1731.7	1731.8	1732.0
5°	1743.6	1741.8	1744.8	1747.5	1748.4	1750.5	1751.1	1750.2	1750.6	1751.0	1751.5
7.5°	1759.8	1758.3	1762.2	1765.8	1772.7	1776.3	1779.9	1783.5	1783.8	1784.1	1784.4
10°	1775.1	1774.2	1780.5	1788.3	1799.4	1807.8	1818.0	1827.9	1828.7	1829.5	1830.2
12.5°	1785.0	1785.0	1794.6	1808.7	1827.9	1845.0	1862.4	1879.2	1880.8	1882.3	1883.9
15°	1784.4	1785.6	1800.3	1826.1	1859.1	1889.4	1910.7	1929.0	1930.5	1932.0	1933.5
17.5°	1772.1	1772.4	1793.4	1834.5	1886.1	1931.1	1958.7	1968.6	1969.1	1969.7	1970.2
20°	1737.6	1740.0	1769.7	1829.4	1907.1	1969.2	1995.3	1991.1	1990.2	1989.3	1988.4
22.5°	1678.5	1681.5	1721.1	1801.2	1911.0	1993.8	2020.8	2001.9	1999.0	1996.1	1993.3
25°	1596.3	1601.4	1644.3	1746.9	1884.6	2001.0	2037.3	2007.0	2002.5	1998.0	1993.5
27.5°	1501.2	1503.6	1554.3	1662.0	1823.1	1977.0	2044.8	2017.5	2011.9	2006.2	2000.6
30°	1391.1	1397.4	1450.2	1562.7	1736.4	1921.2	2041.8	2037.9	2031.6	2025.3	2019.0
32.5°	1281.6	1287.0	1338.9	1460.1	1636.5	1843.5	2026.8	2068.8	2063.5	2058.2	2053.0
35°	1171.2	1177.8	1231.2	1361.4	1537.2	1755.3	2003.1	2112.9	2110.6	2108.3	2106.1
37.5°	1074.3	1078.5	1131.0	1266.3	1450.2	1674.6	1972.2	2172.0	2177.2	2182.3	2187.5
40°	975.6	979.8	1034.7	1173.3	1370.1	1605.6	1943.7	2246.4	2260.5	2274.6	2288.7
42.5°	880.8	884.4	937.5	1075.8	1281.0	1545.9	1926.6	2336.4	2363.5	2390.5	2417.6
45°	783.6	786.0	835.8	970.5	1179.3	1476.3	1922.1	2437.5	2476.6	2515.6	2554.7
47.5°	687.9	693.6	744.9	872.7	1063.2	1376.7	1915.5	2549.4	2601.2	2653.0	2704.7
50°	596.4	602.7	655.5	776.7	951.0	1258.5	1881.9	2676.3	2739.4	2802.5	2865.7
52.5°	503.1	509.4	562.2	678.0	846.9	1125.3	1788.3	2809.5	2884.6	2959.6	3034.7
55°	403.5	405.9	460.2	576.3	742.8	1013.7	1639.2	2931.6	3022.5	3113.4	3204.3
57.5°	293.4	301.5	355.2	463.2	636.6	915.0	1449.6	2994.0	3107.5	3220.9	3334.4
60°	211.8	217.2	264.3	349.2	516.3	818.1	1281.3	2948.4	3099.8	3251.3	3402.7
62.5°	167.4	173.4	209.7	263.1	399.3	711.6	1171.5	2823.3	3035.8	3248.2	3460.7
65°	148.2	153.6	187.2	213.6	305.4	602.1	1102.5	2699.4	2986.1	3272.9	3559.6
67.5°	135.3	141.0	170.4	188.4	252.3	531.6	1069.8	2605.8	2936.9	3268.1	3599.2
69°	129.3	134.4	161.4	178.2	237.9	507.6	1034.7	2447.4	2775.7	3104.0	3432.4
70°	126.0	130.5	155.1	171.9	232.2	487.8	982.8	2259.0	2575.8	2892.6	3209.4
72.5°	116.7	119.7	140.4	156.0	212.4	389.4	741.3	1593.9	1862.5	2131.0	2399.6
75°	103.5	107.1	125.4	139.8	162.0	234.0	464.1	925.2	1109.2	1293.2	1477.3
77.5°	88.8	93.0	108.0	130.8	130.5	152.4	281.7	531.3	620.7	710.1	799.5
80°	76.2	79.8	93.3	129.3	109.2	120.6	210.0	396.3	432.3	468.3	504.3
82.5°	59.7	62.7	78.3	106.8	87.3	91.8	159.9	360.9	385.3	409.7	434.2
85°	37.5	38.7	57.0	73.8	62.1	55.5	102.9	277.8	295.6	313.3	331.1
87.5°	15.0	18.3	27.6	26.4	26.7	22.2	33.3	100.2	109.3	118.4	127.6
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):

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6
2.5°	1732.1	1732.2	1731.6	1730.7	1731.6	1730.7	1731.0	1731.9	1731.6	1731.6	1731.0
5°	1751.9	1752.3	1752.3	1750.5	1751.4	1751.7	1752.0	1751.4	1751.7	1752.3	1751.1
7.5°	1784.7	1785.0	1785.9	1786.8	1786.2	1786.5	1787.1	1786.5	1785.6	1787.7	1786.2
10°	1831.0	1831.8	1831.8	1834.5	1833.3	1834.2	1836.9	1836.9	1835.4	1837.5	1836.9
12.5°	1885.4	1887.0	1886.7	1886.4	1887.6	1888.5	1891.5	1892.1	1892.7	1896.0	1894.8
15°	1935.0	1936.5	1937.7	1938.3	1940.4	1941.0	1942.8	1944.0	1944.9	1946.1	1946.7
17.5°	1970.8	1971.3	1973.1	1972.2	1975.2	1974.6	1976.7	1977.6	1978.5	1980.0	1980.9
20°	1987.5	1986.6	1986.9	1986.0	1986.0	1986.6	1986.9	1988.1	1987.5	1989.0	1990.2
22.5°	1990.4	1987.5	1985.7	1983.6	1982.7	1980.9	1980.9	1981.5	1979.4	1980.9	1982.7
25°	1989.0	1984.5	1981.2	1977.6	1974.3	1971.3	1969.5	1968.9	1967.4	1967.4	1968.9
27.5°	1994.9	1989.3	1984.5	1978.5	1974.3	1970.1	1966.2	1963.2	1960.2	1959.6	1959.6
30°	2012.7	2006.4	2001.0	1993.5	1986.9	1981.5	1976.1	1971.9	1966.2	1963.8	1961.1
32.5°	2047.7	2042.4	2034.9	2028.3	2020.5	2013.9	2006.7	2000.1	1993.5	1987.5	1985.1
35°	2103.8	2101.5	2097.3	2092.8	2085.3	2076.9	2070.9	2063.1	2055.6	2046.9	2044.5
37.5°	2192.6	2197.8	2195.4	2192.1	2190.0	2187.3	2179.2	2174.1	2169.0	2161.8	2160.3
40°	2302.8	2316.9	2331.0	2340.3	2337.0	2348.1	2349.9	2350.8	2346.3	2352.3	2353.5
42.5°	2444.6	2471.7	2497.2	2515.8	2537.4	2553.6	2574.6	2583.6	2600.7	2618.4	2628.6
45°	2593.7	2632.8	2669.4	2707.5	2745.0	2786.1	2826.0	2854.2	2895.3	2925.9	2945.1
47.5°	2756.5	2808.3	2852.1	2909.1	2963.4	3012.0	3081.9	3138.0	3188.1	3235.8	3285.9
50°	2928.8	2991.9	3045.9	3115.5	3181.5	3257.7	3339.6	3411.0	3489.6	3565.5	3633.0
52.5°	3109.7	3184.8	3257.7	3329.1	3409.2	3492.0	3580.8	3684.0	3778.2	3892.5	3974.4
55°	3295.2	3386.1	3463.8	3538.5	3623.4	3715.2	3820.8	3942.9	4062.6	4187.7	4311.9
57.5°	3447.8	3561.3	3646.2	3733.5	3825.0	3915.9	4047.0	4172.1	4323.9	4477.5	4632.9
60°	3554.2	3705.6	3808.5	3918.9	4024.8	4135.2	4276.5	4434.6	4624.5	4810.5	5021.7
62.5°	3673.1	3885.6	4029.9	4177.2	4305.9	4438.5	4627.5	4809.6	5053.5	5267.7	5533.5
65°	3846.4	4133.1	4345.5	4544.1	4716.9	4897.5	5121.6	5349.3	5628.3	5924.4	6257.7
67.5°	3930.4	4261.5	4539.6	4784.7	5005.5	5235.6	5466.9	5736.3	6050.7	6407.1	6773.1
69°	3760.7	4089.0	4408.8	4656.6	4889.1	5134.8	5382.3	5654.1	5963.7	6333.6	6721.5
70°	3526.2	3843.0	4182.9	4431.3	4665.9	4920.9	5172.9	5447.4	5743.5	6124.5	6516.9
72.5°	2668.1	2936.7	3266.7	3529.2	3775.8	4033.5	4293.0	4531.2	4831.5	5198.1	5559.6
75°	1661.3	1845.3	2142.0	2405.7	2604.0	2824.8	3068.4	3294.0	3595.5	3855.3	4203.0
77.5°	888.9	978.3	1151.4	1340.4	1450.8	1558.5	1717.2	1839.6	1966.5	2116.8	2260.5
80°	540.3	576.3	635.4	676.2	660.9	616.8	602.7	558.6	574.5	547.5	528.0
82.5°	458.6	483.0	519.0	543.6	525.6	455.1	375.3	315.9	273.9	233.7	198.6
85°	348.8	366.6	385.2	396.3	395.4	360.3	286.2	221.7	172.8	133.8	111.3
87.5°	136.7	145.8	159.3	157.2	164.1	165.3	129.3	99.9	71.1	48.0	42.0
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°	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6	1725.6
2.5°	1729.8	1729.5	1729.8	1730.7	1730.7	1731.3	1730.7	1731.0	1730.1	1729.2	1729.8
5°	1751.1	1750.5	1751.1	1751.7	1751.7	1751.1	1752.6	1752.6	1752.0	1751.1	1751.4
7.5°	1787.7	1788.0	1787.1	1790.1	1787.4	1787.7	1789.5	1789.2	1788.6	1788.9	1789.2
10°	1838.7	1838.4	1839.0	1840.8	1838.1	1839.9	1842.0	1842.6	1841.1	1841.1	1841.4
12.5°	1895.1	1897.5	1897.8	1899.0	1899.0	1900.5	1900.8	1901.1	1902.3	1902.6	1900.8
15°	1949.1	1950.9	1952.1	1953.3	1951.8	1953.9	1956.3	1956.3	1956.0	1957.2	1955.4
17.5°	1982.4	1983.9	1986.0	1985.7	1986.0	1987.8	1989.3	1989.9	1990.5	1990.5	1990.8
20°	1992.9	1993.8	1995.0	1996.2	1996.8	1998.6	1999.8	2000.7	2001.3	2000.7	2001.0
22.5°	1984.5	1985.7	1988.1	1989.0	1989.3	1992.0	1993.2	1994.1	1994.7	1995.3	1994.4
25°	1970.1	1971.3	1973.7	1974.6	1975.2	1977.6	1979.1	1981.2	1981.8	1982.1	1982.4
27.5°	1960.2	1960.8	1962.6	1963.8	1964.1	1966.8	1968.9	1970.4	1970.7	1971.0	1971.0
30°	1960.5	1960.5	1962.6	1962.9	1962.6	1965.0	1966.2	1967.1	1967.7	1967.7	1968.0
32.5°	1981.2	1980.0	1981.8	1979.1	1979.4	1979.1	1978.8	1979.7	1979.1	1979.4	1978.2
35°	2039.7	2036.4	2033.7	2034.9	2030.7	2024.7	2028.0	2026.5	2023.2	2023.5	2024.4
37.5°	2151.9	2148.6	2151.6	2148.9	2149.8	2141.4	2143.5	2136.0	2133.9	2136.6	2128.8
40°	2351.1	2349.6	2355.3	2352.9	2354.4	2356.8	2358.9	2351.7	2339.7	2350.5	2350.8
42.5°	2627.1	2640.6	2646.0	2653.5	2661.6	2658.0	2665.2	2667.3	2654.1	2664.0	2666.4
45°	2973.3	2987.7	3004.5	3009.6	3022.8	3024.6	3030.0	3031.5	3019.5	3020.7	3023.4
47.5°	3336.0	3362.4	3382.2	3396.0	3409.8	3412.5	3415.5	3409.8	3410.7	3413.4	3413.4
50°	3692.4	3748.8	3783.9	3811.2	3834.9	3822.6	3833.1	3834.0	3837.6	3830.1	3834.6
52.5°	4067.1	4141.8	4200.6	4246.5	4260.9	4304.7	4286.7	4300.5	4309.8	4296.0	4305.0
55°	4433.1	4539.6	4634.1	4700.7	4747.5	4791.9	4798.8	4834.5	4830.3	4843.8	4837.8
57.5°	4781.1	4929.9	5064.9	5163.6	5230.8	5298.6	5344.5	5383.5	5387.4	5426.1	5404.2
60°	5202.0	5409.3	5583.0	5730.0	5829.3	5930.1	6009.6	6073.5	6088.2	6154.5	6132.6
62.5°	5769.9	6022.8	6244.8	6417.3	6638.4	6744.9	6899.7	6996.3	7056.6	7073.1	7104.0
65°	6568.2	6897.6	7190.4	7466.4	7715.1	7887.6	8066.7	8210.7	8326.2	8316.6	8364.0
67.5°	7161.3	7536.9	7889.4	8220.3	8487.9	8709.9	8915.7	9071.4	9174.6	9240.3	9268.2
69°	7099.5	7502.7	7891.5	8244.9	8520.9	8769.0	8969.4	9122.7	9240.9	9312.3	9333.0
70°	6894.0	7308.3	7713.6	8060.4	8341.8	8614.2	8818.2	8988.9	9101.4	9179.4	9191.4
72.5°	5963.1	6411.9	6770.4	7148.7	7419.6	7695.3	7823.7	8035.2	8181.9	8229.3	8228.4
75°	4497.6	4872.0	5187.0	5466.6	5709.0	5895.9	5956.5	6107.1	6228.9	6227.4	6216.0
77.5°	2421.9	2510.1	2628.0	2667.6	2742.3	2741.1	2666.1	2689.8	2758.8	2625.0	2668.2
80°	519.6	511.8	505.2	501.3	499.2	500.1	502.8	485.7	502.5	495.0	463.2
82.5°	180.9	176.7	172.5	175.5	173.4	175.2	174.6	176.7	176.4	175.8	171.6
85°	101.7	98.1	96.0	97.5	94.2	91.2	89.1	88.2	87.9	85.8	84.6
87.5°	38.7	38.4	38.1	36.6	33.0	30.3	28.5	24.9	23.4	21.3	19.8
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)