

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: P146896

Luminaire Tested: **LDRL-T4-F06-E-7050**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146896  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33696)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: LDRL-T4-F06-E-7050  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(6) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT  
Light Source: (42) 5000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14935.3 lumens  
Efficiency: N/A  
Efficacy: 95.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B2 - U0 - G3

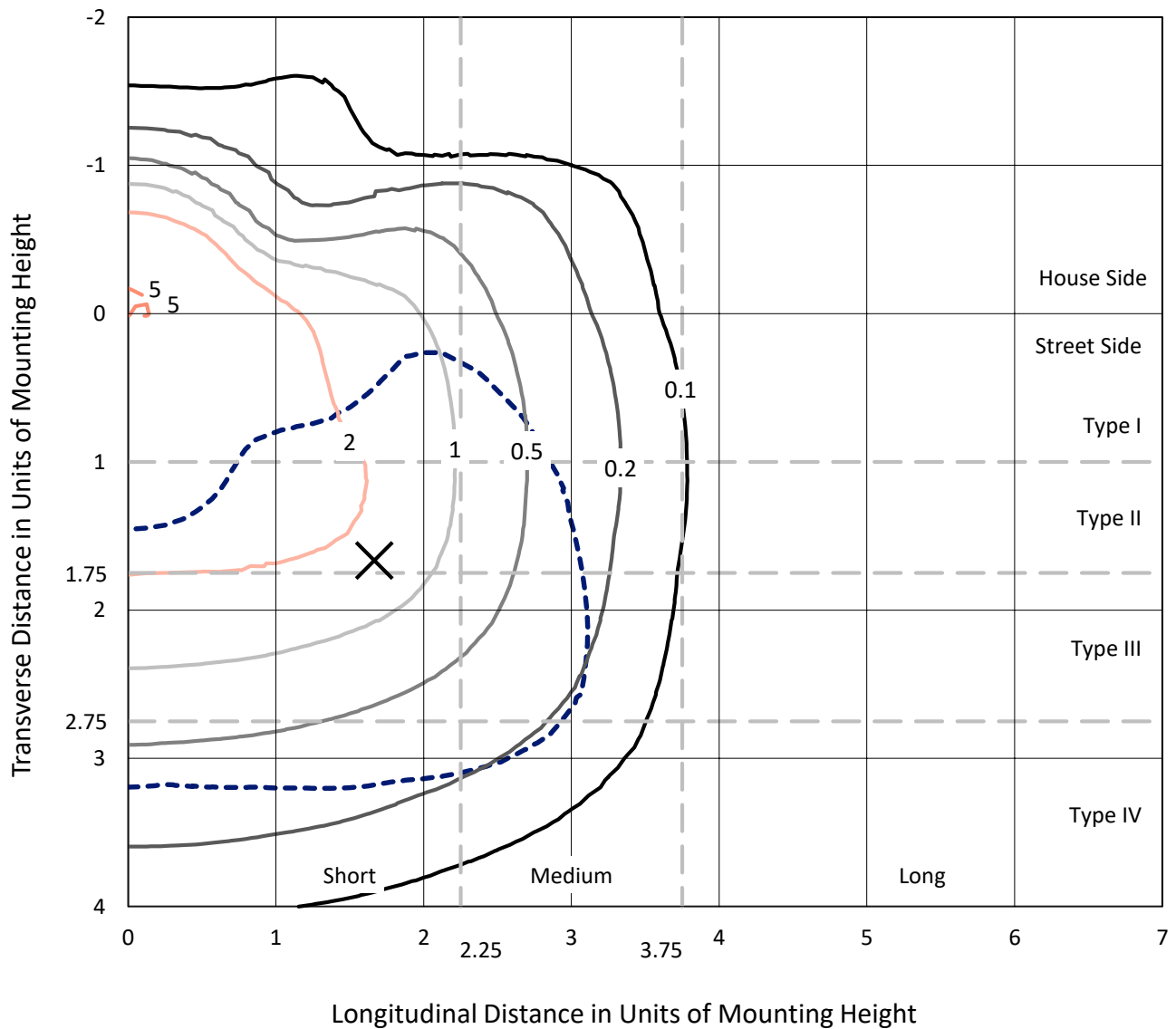
Input Watts (W): 156.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

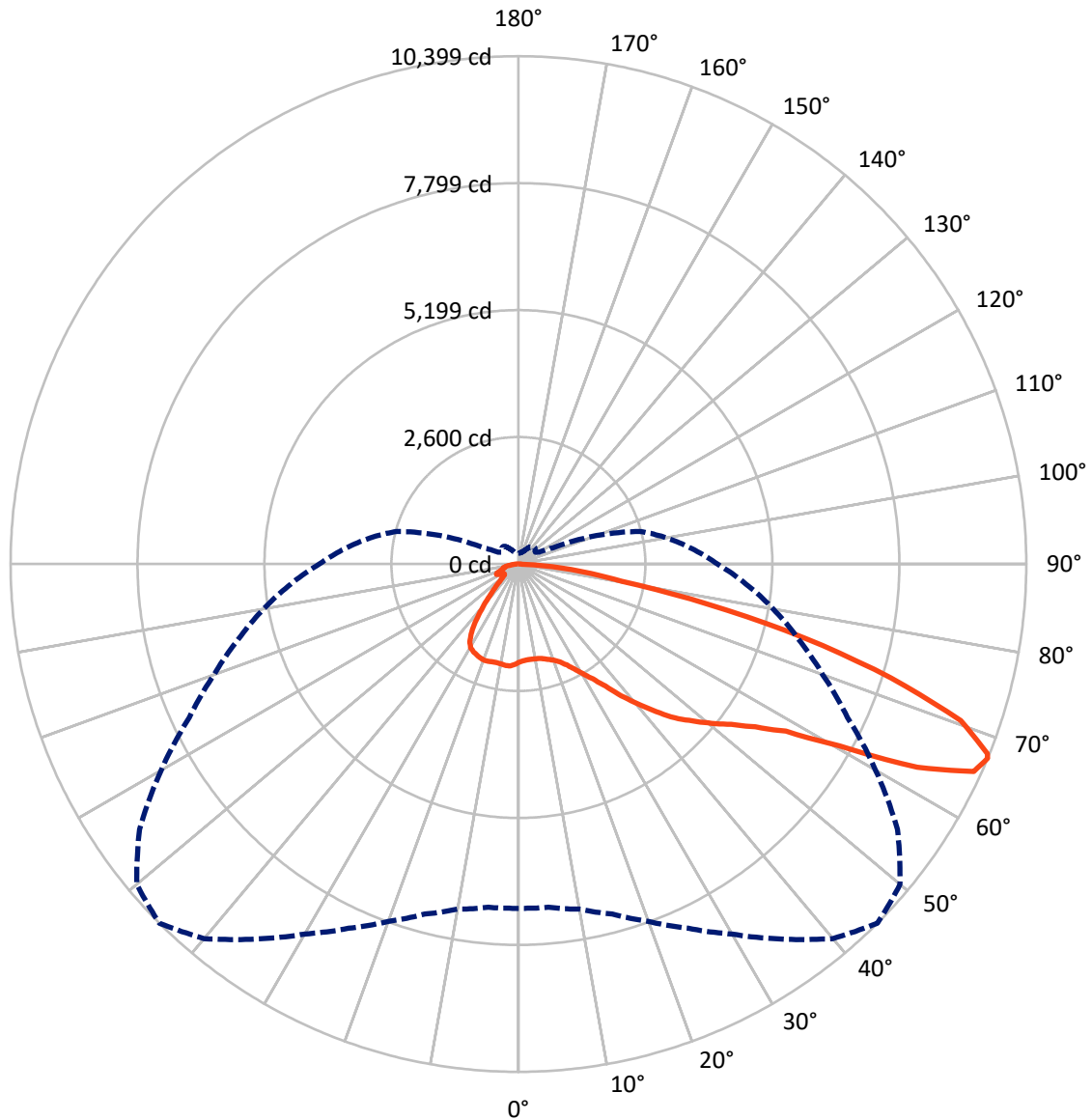
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.1 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral      - - - Horizontal Cone Through 67-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3026.2	0.0	3026.2
	% Fixture	20.3	0.0	20.3
<b>Street Side</b>	Lumens	11909.1	0.0	11909.1
	% Fixture	79.7	0.0	79.7
<b>Total</b>	Lumens	14935.3	0.0	14935.3
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	193.8	1.3
10°-20°	581.9	3.9
20°-30°	989.0	6.6
30°-40°	1486.3	10.0
40°-50°	1932.7	12.9
50°-60°	2653.5	17.8
60°-70°	4185.9	28.0
70°-80°	2529.2	16.9
80°-90°	383.2	2.6
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°	14935.3	100.0
0°-180°	14935.3	100.0



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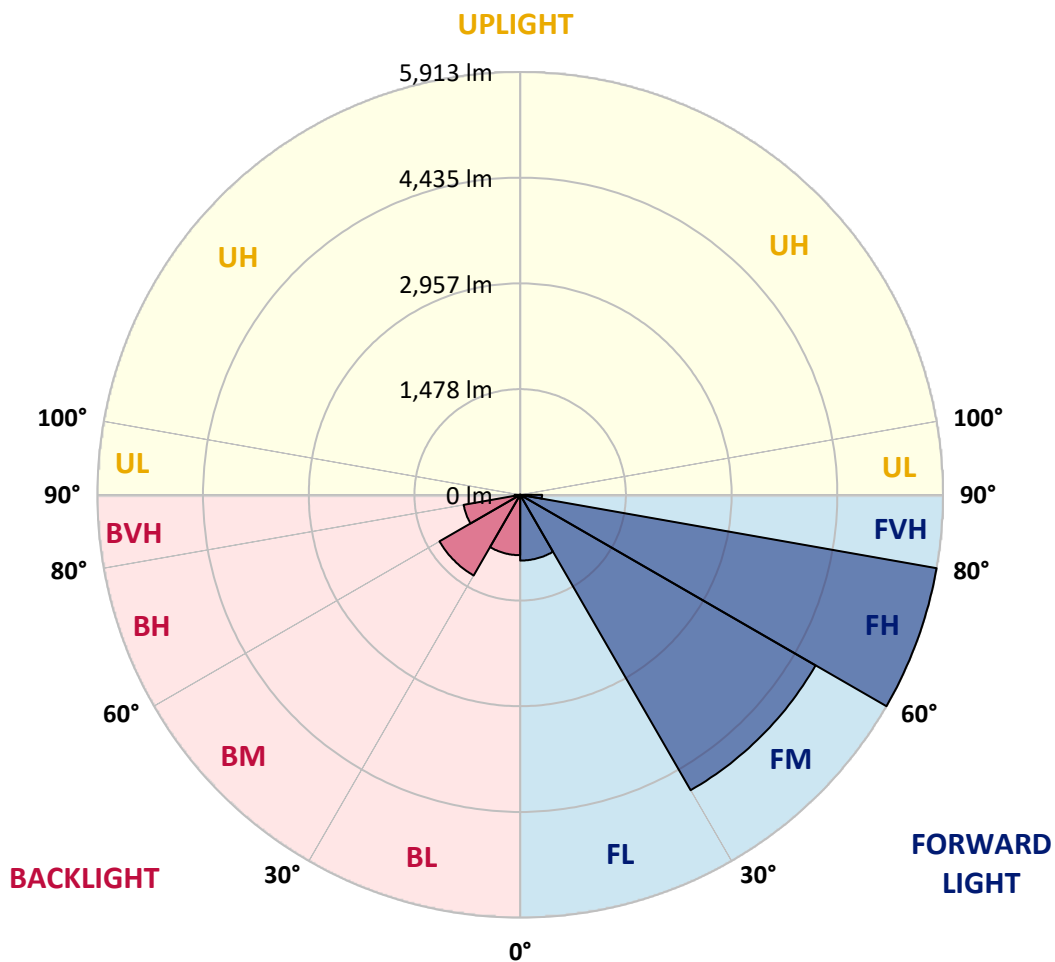
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	919.7	6.2			
FM	(30°-60°)	4770.2	31.9			
FH	(60°-80°)	5913.2	39.6			G3/7500
FVH	(80°-90°)	306.0	2.0			G3/500
BL	(0°-30°)	844.9	5.7	B2/1000		
BM	(30°-60°)	1302.3	8.7	B2/2500		
BH	(60°-80°)	801.9	5.4	B2/1000		G2/1000
BVH	(80°-90°)	77.2	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6
2.5°	1965.9	1970.0	1966.9	1966.9	1967.9	1968.9	1971.0	1975.0	1976.1	1982.2	1983.2
5°	1926.2	1927.3	1927.3	1928.3	1934.4	1939.5	1944.5	1951.7	1957.8	1968.9	1976.1
7.5°	1912.0	1916.1	1915.1	1917.1	1923.2	1928.3	1934.4	1944.5	1959.8	1968.9	1979.1
10°	1935.4	1938.4	1935.4	1936.4	1937.4	1942.5	1944.5	1951.7	1963.9	1972.0	1981.1
12.5°	1989.3	1989.3	1986.2	1984.2	1981.1	1982.2	1978.1	1977.1	1983.2	1984.2	1985.2
15°	2060.4	2068.6	2058.4	2050.3	2046.2	2042.1	2028.9	2023.8	2022.8	2013.7	2004.5
17.5°	2132.6	2134.6	2128.5	2119.4	2113.3	2104.1	2093.0	2082.8	2070.6	2056.4	2038.1
20°	2212.9	2213.9	2205.8	2192.6	2185.5	2174.3	2160.0	2142.8	2127.5	2105.2	2084.8
22.5°	2324.7	2323.7	2307.4	2296.3	2286.1	2272.9	2252.5	2229.2	2204.8	2178.3	2149.9
25°	2452.8	2452.8	2441.6	2423.3	2418.2	2398.9	2376.6	2349.1	2323.7	2286.1	2251.5
27.5°	2599.2	2600.2	2579.9	2569.7	2558.5	2538.2	2522.9	2501.6	2467.0	2429.4	2393.8
30°	2773.0	2767.9	2751.6	2730.3	2726.2	2710.0	2688.6	2673.4	2630.7	2604.2	2564.6
32.5°	2937.7	2945.8	2941.7	2917.3	2921.4	2905.1	2886.8	2875.7	2830.9	2805.5	2768.9
35°	3183.6	3190.8	3196.9	3187.7	3192.8	3183.6	3168.4	3138.9	3102.3	3068.8	3018.0
37.5°	3374.7	3381.9	3385.9	3408.3	3440.8	3472.3	3486.6	3471.3	3473.3	3422.5	3354.4
40°	3531.3	3548.6	3573.0	3615.7	3680.7	3740.7	3773.2	3798.6	3811.8	3764.1	3675.6
42.5°	3687.8	3706.1	3739.7	3807.8	3897.2	3983.6	4051.7	4130.0	4144.2	4132.0	4056.8
45°	3851.5	3872.8	3914.5	3991.8	4096.5	4209.3	4319.1	4429.9	4485.8	4494.9	4403.4
47.5°	4048.7	4079.2	4117.8	4205.2	4306.9	4433.9	4571.2	4713.5	4800.9	4800.9	4695.2
50°	4294.7	4329.2	4361.8	4449.2	4550.8	4682.0	4840.5	4999.1	5118.0	5125.1	4997.1
52.5°	4639.3	4644.3	4663.7	4744.0	4832.4	4978.8	5129.2	5313.2	5450.4	5456.5	5309.1
55°	5058.1	5058.1	5080.4	5147.5	5229.8	5350.8	5506.3	5710.6	5855.0	5886.5	5697.4
57.5°	5609.0	5629.3	5640.5	5718.8	5774.7	5902.8	6032.9	6255.5	6439.5	6459.8	6267.7
60°	6505.5	6466.9	6528.9	6598.0	6729.2	6822.7	7044.3	7267.9	7502.7	7558.6	7352.3
62.5°	7388.9	7430.5	7506.8	7631.8	7856.5	8065.9	8383.0	8722.5	9087.4	9162.6	9005.1
65°	7443.8	7469.2	7574.9	7790.4	8097.4	8470.4	8907.5	9418.8	9962.6	10244.2	9979.9
67°	7049.4	7056.5	7176.4	7421.4	7789.4	8231.5	8748.9	9373.1	10011.4	10398.7	10201.5
67.5°	6924.3	6937.5	7055.5	7305.5	7677.6	8129.9	8657.5	9298.9	9952.5	10357.0	10179.1
70°	6190.4	6190.4	6317.5	6569.6	6918.2	7359.4	7911.3	8558.9	9269.4	9609.9	9458.4
72.5°	5269.5	5235.9	5379.3	5570.4	5855.0	6240.2	6684.4	7195.7	7730.4	7978.4	7918.5
75°	3830.1	3893.2	3967.4	4108.7	4355.7	4659.6	4919.8	5376.2	5796.0	6070.5	5998.3
77.5°	2089.9	2114.3	2319.6	2404.0	2620.5	2846.2	3131.8	3452.0	3782.4	3955.2	3885.0
80°	1242.2	1289.9	1411.9	1512.5	1629.4	1801.2	2008.6	2078.7	2143.8	2139.7	2012.7
82.5°	784.7	842.7	974.8	1061.2	1122.2	1221.8	1334.7	1423.1	1442.4	1346.9	1199.5
85°	127.1	210.4	549.9	646.5	685.1	739.0	822.3	860.0	803.0	701.4	726.8
87.5°	49.8	60.0	167.7	212.4	224.6	117.9	204.3	239.9	122.0	62.0	140.3
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°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6
2.5°	1989.3	1994.4	1999.4	2005.5	2007.6	2012.7	2021.8	2020.8	2027.9	2030.9	2036.0
5°	1985.2	1996.4	2004.5	2015.7	2019.8	2030.9	2043.1	2047.2	2056.4	2063.5	2069.6
7.5°	1993.3	2005.5	2015.7	2028.9	2038.1	2047.2	2056.4	2067.5	2075.7	2080.8	2084.8
10°	1996.4	2009.6	2021.8	2033.0	2043.1	2050.3	2060.4	2069.6	2077.7	2080.8	2081.8
12.5°	1997.4	2006.6	2018.8	2030.9	2040.1	2049.2	2056.4	2066.5	2072.6	2073.6	2071.6
15°	2005.5	2006.6	2014.7	2028.9	2038.1	2047.2	2052.3	2057.4	2061.4	2058.4	2055.3
17.5°	2029.9	2022.8	2022.8	2029.9	2035.0	2039.1	2040.1	2039.1	2035.0	2028.9	2023.8
20°	2069.6	2055.3	2044.2	2040.1	2032.0	2021.8	2008.6	1996.4	1981.1	1974.0	1973.0
22.5°	2131.6	2110.2	2089.9	2069.6	2043.1	2013.7	1983.2	1956.7	1935.4	1924.2	1925.2
25°	2237.3	2205.8	2182.4	2146.8	2104.1	2062.5	2022.8	1987.2	1961.8	1941.5	1945.6
27.5°	2379.6	2344.0	2323.7	2283.0	2234.2	2181.4	2134.6	2085.8	2049.2	2023.8	2028.9
30°	2546.3	2536.1	2502.6	2461.9	2416.2	2356.2	2286.1	2212.9	2146.8	2105.2	2097.0
32.5°	2747.6	2736.4	2699.8	2665.2	2606.3	2540.2	2448.7	2332.8	2229.2	2149.9	2115.3
35°	2995.6	2968.2	2923.4	2889.9	2823.8	2738.4	2620.5	2464.0	2306.4	2187.5	2101.1
37.5°	3304.6	3236.5	3162.3	3074.9	2977.3	2873.6	2737.4	2554.4	2359.3	2190.5	2037.0
40°	3599.4	3489.6	3366.6	3228.4	3109.4	2984.4	2843.1	2633.7	2394.9	2169.2	1940.5
42.5°	3927.7	3756.9	3590.2	3400.2	3243.6	3095.2	2933.6	2689.6	2402.0	2111.3	1815.5
45°	4243.8	4024.3	3800.7	3565.8	3366.6	3201.9	3018.0	2737.4	2399.9	2050.3	1691.4
47.5°	4525.4	4263.2	3986.7	3722.4	3490.6	3309.7	3108.4	2802.5	2427.4	2033.0	1609.1
50°	4788.7	4485.8	4161.5	3867.7	3615.7	3430.7	3223.3	2905.1	2511.7	2072.6	1596.9
52.5°	5060.1	4730.7	4359.7	4043.6	3780.3	3565.8	3356.5	3036.3	2629.7	2153.9	1624.4
55°	5413.8	5035.7	4640.3	4289.6	3987.7	3756.9	3515.0	3194.8	2756.7	2248.5	1676.2
57.5°	5940.4	5498.2	5048.9	4671.8	4323.1	4035.5	3770.2	3403.2	2967.1	2390.8	1790.0
60°	6885.7	6395.8	5875.3	5382.3	4980.8	4644.3	4306.9	3851.5	3355.4	2714.0	2051.3
62.5°	8429.8	7751.8	7032.1	6383.6	5831.6	5376.2	4900.5	4353.6	3775.2	3106.4	2446.7
65°	9357.8	8422.6	7506.8	6754.6	6102.0	5518.5	4943.2	4355.7	3795.6	3211.1	2624.6
67°	9472.7	8447.0	7433.6	6632.6	5933.3	5297.9	4673.8	4073.1	3571.9	3082.0	2575.8
67.5°	9438.1	8398.2	7364.5	6555.3	5848.9	5233.9	4620.0	4005.0	3517.1	3027.1	2539.2
70°	8757.1	7739.6	6717.0	5930.2	5253.2	4624.0	4043.6	3427.6	3050.5	2699.8	2278.0
72.5°	7267.9	6474.0	5617.1	4961.5	4377.0	3832.2	3321.9	2806.5	2503.6	2255.6	1958.8
75°	5389.4	4661.6	3936.9	3542.5	3089.1	2653.0	2258.6	1877.5	1760.6	1701.6	1526.8
77.5°	3328.0	2674.4	2128.5	1771.7	1408.9	1103.9	878.2	714.6	745.1	867.1	923.0
80°	1656.9	1223.9	947.4	753.2	608.9	492.0	360.9	264.3	316.1	375.1	424.9
82.5°	997.2	787.8	623.1	527.6	429.0	331.4	234.8	178.9	198.2	266.3	292.7
85°	619.0	496.0	396.4	331.4	274.5	203.3	133.2	132.1	140.3	176.9	202.3
87.5°	182.0	123.0	97.6	101.6	112.8	93.5	70.1	60.0	74.2	101.6	113.8
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6	2010.6
2.5°	2037.0	2044.2	2047.2	2048.2	2049.2	2055.3	2055.3	2061.4	2063.5	2063.5	2065.5
5°	2075.7	2082.8	2085.8	2086.9	2088.9	2091.9	2090.9	2095.0	2097.0	2096.0	2096.0
7.5°	2089.9	2091.9	2091.9	2095.0	2098.0	2095.0	2093.0	2095.0	2094.0	2095.0	2095.0
10°	2084.8	2082.8	2082.8	2080.8	2083.8	2077.7	2077.7	2079.7	2078.7	2080.8	2083.8
12.5°	2072.6	2071.6	2068.6	2067.5	2071.6	2067.5	2068.6	2071.6	2073.6	2077.7	2082.8
15°	2055.3	2052.3	2052.3	2056.4	2066.5	2069.6	2073.6	2078.7	2079.7	2081.8	2083.8
17.5°	2025.9	2030.9	2043.1	2057.4	2076.7	2083.8	2085.8	2082.8	2072.6	2064.5	2056.4
20°	1985.2	2007.6	2039.1	2069.6	2093.0	2091.9	2078.7	2059.4	2035.0	2017.7	2006.6
22.5°	1950.6	1994.4	2043.1	2079.7	2095.0	2075.7	2045.2	2015.7	1987.2	1961.8	1939.5
25°	1975.0	2016.7	2058.4	2080.8	2079.7	2046.2	2005.5	1973.0	1934.4	1898.8	1861.2
27.5°	2054.3	2079.7	2091.9	2084.8	2063.5	2018.8	1974.0	1928.3	1878.5	1835.8	1792.1
30°	2108.2	2108.2	2096.0	2067.5	2029.9	1980.1	1925.2	1866.3	1807.3	1757.5	1707.7
32.5°	2090.9	2051.3	2015.7	1977.1	1934.4	1880.5	1817.5	1753.4	1686.4	1628.4	1585.7
35°	2015.7	1930.3	1856.1	1801.2	1756.5	1692.5	1619.3	1546.1	1491.2	1451.5	1427.2
37.5°	1881.5	1745.3	1637.6	1570.5	1501.4	1435.3	1350.9	1317.4	1268.6	1244.2	1235.0
40°	1718.9	1519.7	1384.5	1298.1	1224.9	1142.5	1085.6	1064.3	1046.0	1040.9	1036.8
42.5°	1531.9	1282.8	1122.2	1032.8	944.3	884.3	858.9	845.7	842.7	842.7	847.8
45°	1337.7	1041.9	856.9	784.7	711.5	680.0	673.9	667.8	668.9	665.8	667.8
47.5°	1187.3	836.6	646.5	580.4	542.8	532.6	525.5	523.5	523.5	518.4	512.3
50°	1109.0	699.3	507.2	455.4	434.0	426.9	426.9	422.9	414.7	409.6	396.4
52.5°	1088.7	628.2	439.1	394.4	376.1	370.0	363.9	357.8	345.6	334.4	319.2
55°	1104.9	605.8	417.8	376.1	355.8	348.7	343.6	333.4	316.1	299.9	282.6
57.5°	1173.0	620.1	425.9	381.2	362.9	357.8	352.7	337.5	316.1	292.7	273.4
60°	1359.0	687.1	460.5	408.6	393.4	394.4	387.3	368.0	337.5	303.9	275.5
62.5°	1598.9	780.7	505.2	447.3	445.2	455.4	455.4	421.8	372.0	321.2	282.6
65°	1736.2	810.1	511.3	452.3	469.6	499.1	497.1	452.3	384.2	321.2	279.5
67°	1701.6	778.6	485.9	422.9	443.2	476.7	472.7	430.0	365.9	308.0	271.4
67.5°	1674.2	768.5	479.8	415.7	436.1	463.5	463.5	420.8	357.8	303.9	268.4
70°	1473.9	679.0	449.3	388.3	388.3	395.4	390.3	359.8	317.1	279.5	256.2
72.5°	1228.9	593.6	424.9	369.0	349.7	345.6	338.5	317.1	289.7	263.3	242.9
75°	952.5	525.5	405.6	348.7	323.2	314.1	307.0	290.7	269.4	247.0	229.7
77.5°	666.8	450.3	380.2	331.4	303.9	296.8	285.6	267.3	250.1	230.7	214.5
80°	413.7	372.0	331.4	298.8	270.4	260.2	246.0	229.7	215.5	204.3	192.1
82.5°	294.8	273.4	247.0	229.7	200.2	169.8	182.0	183.0	173.8	166.7	163.7
85°	197.2	177.9	164.7	149.4	132.1	118.9	122.0	131.1	132.1	129.1	129.1
87.5°	107.7	91.5	88.4	91.5	79.3	75.2	76.2	84.4	85.4	85.4	86.4
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):**

	165°	170°	175°	180°
0°	2010.6	2010.6	2010.6	2010.6
2.5°	2066.5	2069.6	2068.6	2070.6
5°	2098.0	2100.1	2099.1	2100.1
7.5°	2093.0	2097.0	2099.1	2096.0
10°	2084.8	2090.9	2095.0	2095.0
12.5°	2086.9	2097.0	2103.1	2103.1
15°	2084.8	2093.0	2095.0	2095.0
17.5°	2053.3	2053.3	2054.3	2050.3
20°	1998.4	1992.3	1990.3	1983.2
22.5°	1920.2	1905.9	1896.8	1891.7
25°	1830.7	1808.3	1794.1	1786.0
27.5°	1756.5	1737.2	1723.0	1714.8
30°	1674.2	1651.8	1643.7	1637.6
32.5°	1555.2	1533.9	1527.8	1522.7
35°	1400.7	1393.6	1377.3	1366.2
37.5°	1221.8	1212.7	1206.6	1202.5
40°	1034.8	1035.8	1030.7	1021.6
42.5°	847.8	857.9	847.8	845.7
45°	665.8	677.0	677.0	680.0
47.5°	513.3	511.3	515.4	516.4
50°	388.3	382.2	380.2	377.1
52.5°	308.0	300.9	296.8	291.7
55°	271.4	263.3	259.2	258.2
57.5°	259.2	249.0	242.9	241.9
60°	256.2	241.9	233.8	231.8
62.5°	256.2	238.9	229.7	226.7
65°	253.1	235.8	227.7	224.6
67°	249.0	233.8	225.7	223.6
67.5°	247.0	232.8	225.7	222.6
70°	241.9	229.7	221.6	218.5
72.5°	230.7	220.6	212.4	210.4
75°	218.5	209.4	204.3	202.3
77.5°	204.3	196.2	190.1	185.0
80°	183.0	173.8	164.7	162.6
82.5°	155.5	145.4	138.2	137.2
85°	125.0	116.9	108.8	108.8
87.5°	87.4	82.3	77.3	72.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)