

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: P146894

Luminaire Tested: **LDRL-T4-F06-E-7030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146894  
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-7030  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(6) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT  
Light Source: (42) 3000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13294.2 lumens  
Efficiency: N/A  
Efficacy: 84.9 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

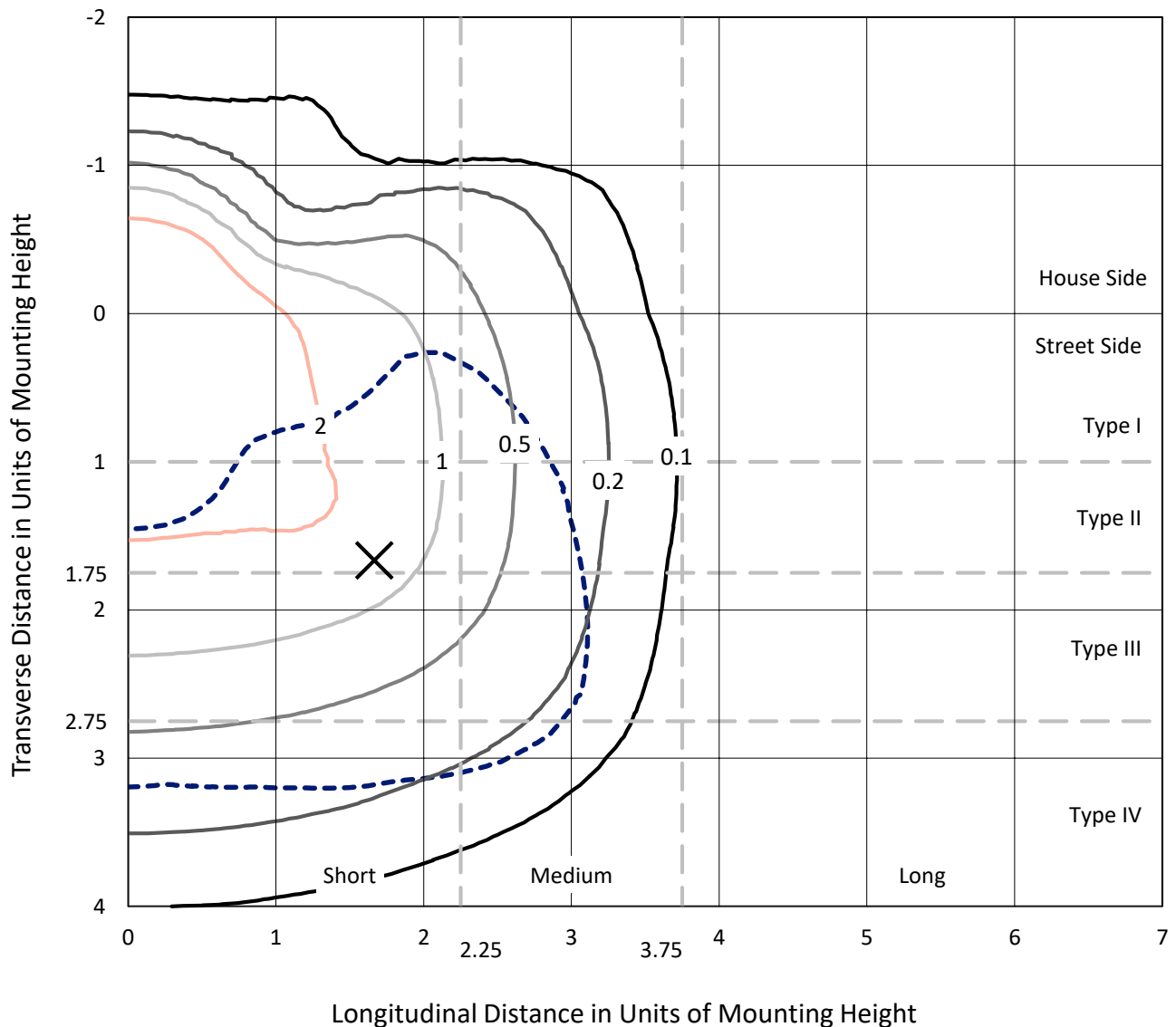
Input Watts (W): 156.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

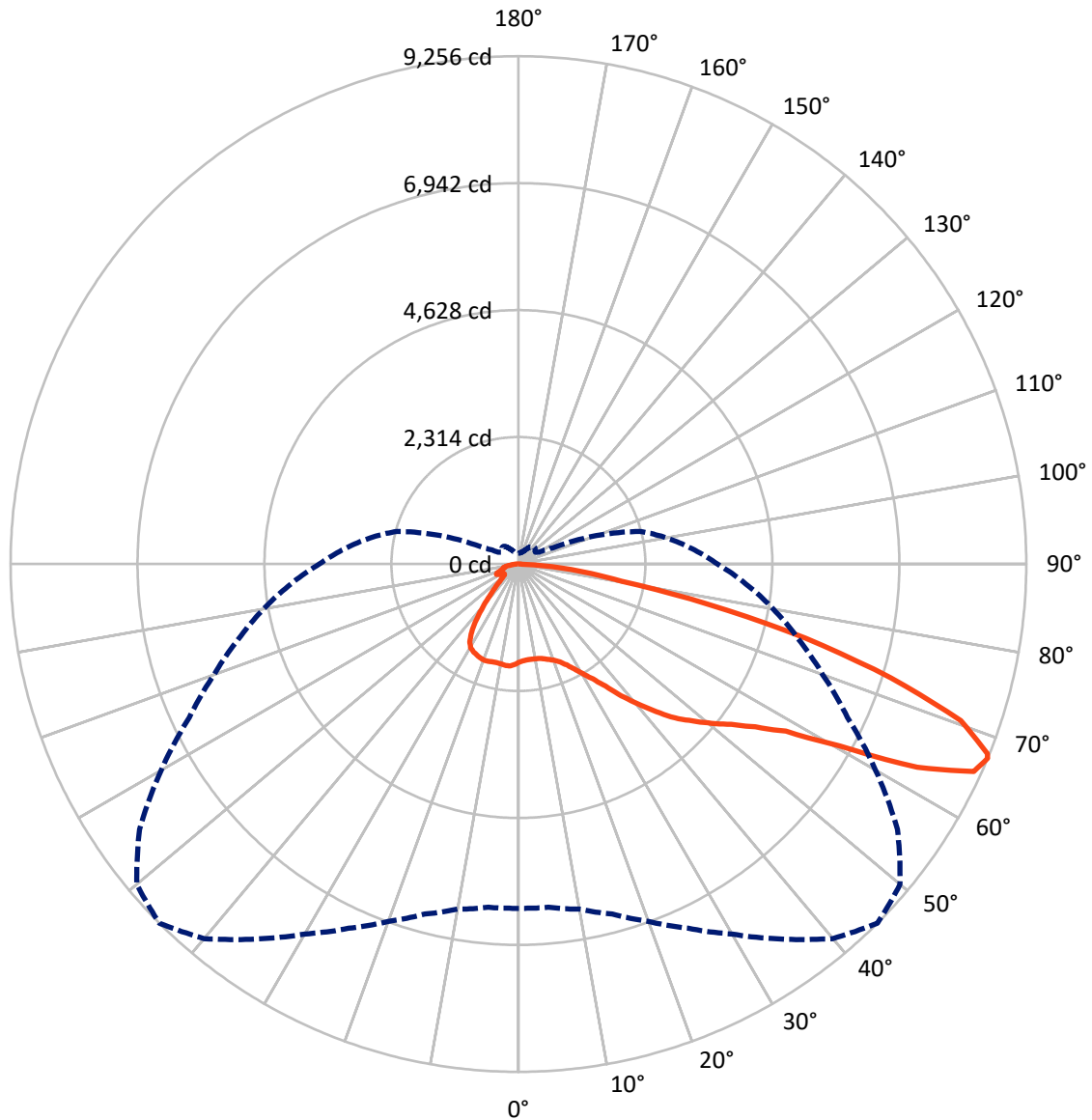
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.6 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	2693.7	0.0	2693.7
	% Fixture	20.3	0.0	20.3
<b>Street Side</b>	Lumens	10600.5	0.0	10600.5
	% Fixture	79.7	0.0	79.7
<b>Total</b>	Lumens	13294.2	0.0	13294.2
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	172.5	1.3
10°-20°	517.9	3.9
20°-30°	880.3	6.6
30°-40°	1323.0	10.0
40°-50°	1720.3	12.9
50°-60°	2361.9	17.8
60°-70°	3725.9	28.0
70°-80°	2251.3	16.9
80°-90°	341.1	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°	13294.2	100.0
0°-180°	13294.2	100.0



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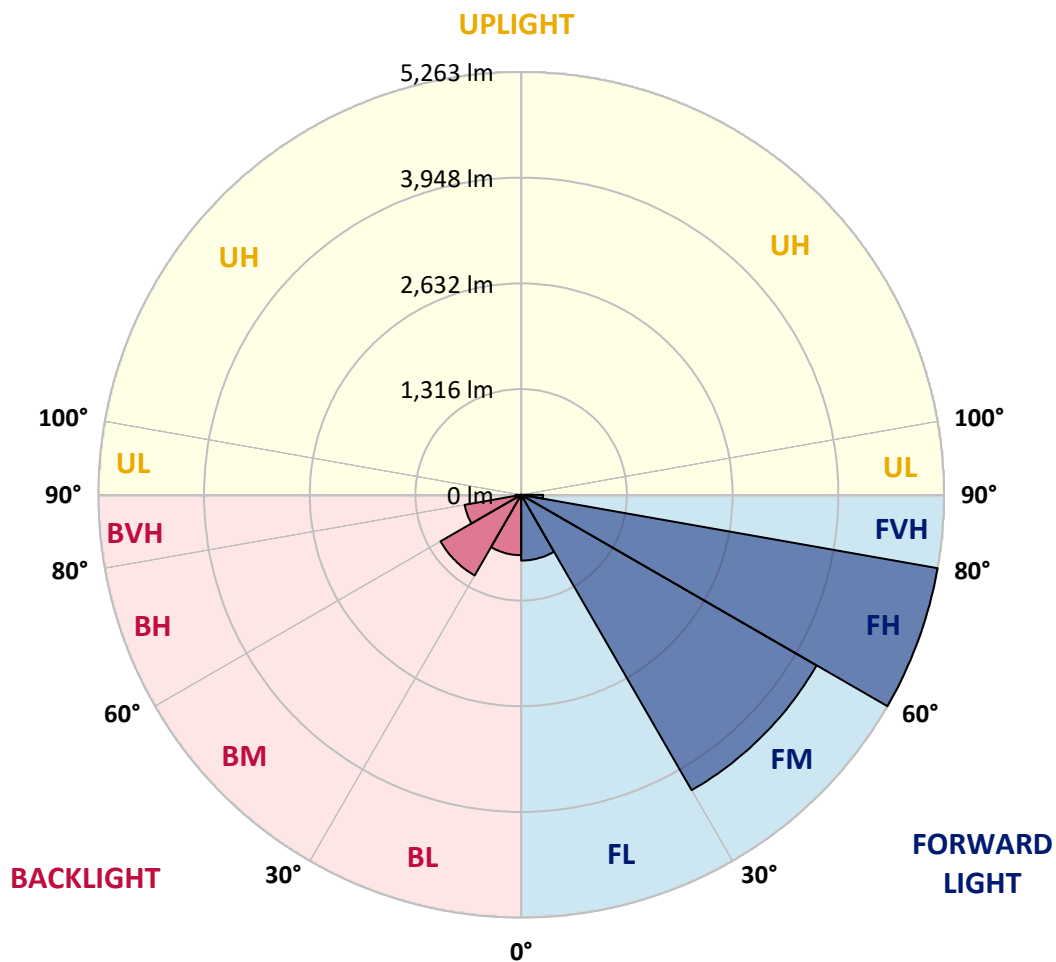
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	818.7	6.2			
FM	(30°-60°)	4246.0	31.9			
FH	(60°-80°)	5263.4	39.6			G3/7500
FVH	(80°-90°)	272.3	2.0			G3/500
BL	(0°-30°)	752.1	5.7	B2/1000		
BM	(30°-60°)	1159.2	8.7	B2/2500		
BH	(60°-80°)	713.8	5.4	B2/1000		G2/1000
BVH	(80°-90°)	68.7	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°	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7
2.5°	1749.9	1753.5	1750.8	1750.8	1751.7	1752.6	1754.4	1758.0	1758.9	1764.3	1765.2
5°	1714.6	1715.5	1715.5	1716.4	1721.8	1726.3	1730.9	1737.2	1742.6	1752.6	1758.9
7.5°	1701.9	1705.5	1704.6	1706.4	1711.9	1716.4	1721.8	1730.9	1744.4	1752.6	1761.6
10°	1722.7	1725.4	1722.7	1723.6	1724.5	1729.1	1730.9	1737.2	1748.1	1755.3	1763.4
12.5°	1770.7	1770.7	1768.0	1766.2	1763.4	1764.3	1760.7	1759.8	1765.2	1766.2	1767.1
15°	1834.0	1841.3	1832.2	1825.0	1821.3	1817.7	1806.0	1801.4	1800.5	1792.4	1784.3
17.5°	1898.3	1900.1	1894.6	1886.5	1881.1	1872.9	1863.0	1853.9	1843.1	1830.4	1814.1
20°	1969.7	1970.6	1963.4	1951.6	1945.3	1935.4	1922.7	1907.3	1893.7	1873.8	1855.7
22.5°	2069.3	2068.4	2053.9	2043.9	2034.9	2023.1	2005.0	1984.2	1962.5	1939.0	1913.6
25°	2183.3	2183.3	2173.3	2157.0	2152.5	2135.3	2115.4	2091.0	2068.4	2034.9	2004.1
27.5°	2313.6	2314.5	2296.4	2287.3	2277.4	2259.3	2245.7	2226.7	2195.9	2162.5	2130.8
30°	2468.3	2463.7	2449.3	2430.3	2426.7	2412.2	2393.2	2379.6	2341.6	2318.1	2282.8
32.5°	2614.8	2622.1	2618.5	2596.8	2600.4	2585.9	2569.6	2559.7	2519.8	2497.2	2464.7
35°	2833.8	2840.1	2845.6	2837.4	2842.0	2833.8	2820.2	2794.0	2761.4	2731.6	2686.3
37.5°	3003.9	3010.2	3013.9	3033.8	3062.7	3090.8	3103.4	3089.9	3091.7	3046.4	2985.8
40°	3143.2	3158.6	3180.3	3218.3	3276.3	3329.6	3358.6	3381.2	3393.0	3350.4	3271.7
42.5°	3282.6	3298.9	3328.7	3389.4	3469.0	3545.9	3606.5	3676.2	3688.8	3678.0	3611.0
45°	3428.3	3447.3	3484.4	3553.1	3646.3	3746.7	3844.5	3943.1	3992.8	4001.0	3919.6
47.5°	3603.8	3630.9	3665.3	3743.1	3833.6	3946.7	4068.9	4195.5	4273.3	4273.3	4179.2
50°	3822.7	3853.5	3882.5	3960.3	4050.8	4167.5	4308.6	4449.8	4555.6	4562.0	4448.0
52.5°	4129.5	4134.0	4151.2	4222.7	4301.4	4431.7	4565.6	4729.3	4851.5	4856.9	4725.7
55°	4502.2	4502.2	4522.2	4581.9	4655.2	4762.8	4901.3	5083.1	5211.6	5239.7	5071.4
57.5°	4992.6	5010.7	5020.7	5090.4	5140.1	5254.1	5369.9	5568.1	5731.9	5750.0	5578.9
60°	5790.7	5756.3	5811.5	5873.0	5989.7	6073.0	6270.2	6469.3	6678.3	6728.0	6544.4
62.5°	6576.9	6614.0	6681.9	6793.2	6993.1	7179.5	7461.8	7764.0	8088.8	8155.8	8015.6
65°	6625.8	6648.4	6742.5	6934.3	7207.6	7539.6	7928.7	8383.8	8867.9	9118.5	8883.2
67°	6274.7	6281.1	6387.8	6605.9	6933.4	7327.0	7787.5	8343.1	8911.3	9256.0	9080.5
67.5°	6163.4	6175.2	6280.2	6502.7	6833.9	7236.5	7706.1	8277.0	8858.8	9218.9	9060.6
70°	5510.2	5510.2	5623.3	5847.7	6158.0	6550.7	7042.0	7618.4	8250.8	8553.9	8419.1
72.5°	4690.4	4660.6	4788.2	4958.3	5211.6	5554.5	5949.9	6405.0	6880.9	7101.7	7048.3
75°	3409.3	3465.4	3531.4	3657.2	3877.0	4147.6	4379.2	4785.4	5159.1	5403.4	5339.2
77.5°	1860.3	1882.0	2064.7	2139.8	2332.6	2533.4	2787.7	3072.7	3366.7	3520.5	3458.1
80°	1105.7	1148.2	1256.8	1346.3	1450.4	1603.3	1787.9	1850.3	1908.2	1904.6	1791.5
82.5°	698.5	750.1	867.7	944.6	998.9	1087.6	1188.0	1266.7	1283.9	1198.8	1067.7
85°	113.1	187.3	489.5	575.4	609.8	657.8	732.0	765.5	714.8	624.3	646.9
87.5°	44.3	53.4	149.3	189.1	200.0	105.0	181.9	213.5	108.6	55.2	124.9
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°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7
2.5°	1770.7	1775.2	1779.7	1785.2	1787.0	1791.5	1799.6	1798.7	1805.1	1807.8	1812.3
5°	1767.1	1777.0	1784.3	1794.2	1797.8	1807.8	1818.6	1822.3	1830.4	1836.7	1842.2
7.5°	1774.3	1785.2	1794.2	1806.0	1814.1	1822.3	1830.4	1840.3	1847.6	1852.1	1855.7
10°	1777.0	1788.8	1799.6	1809.6	1818.6	1825.0	1834.0	1842.2	1849.4	1852.1	1853.0
12.5°	1777.9	1786.1	1796.9	1807.8	1815.9	1824.1	1830.4	1839.4	1844.9	1845.8	1844.0
15°	1785.2	1786.1	1793.3	1806.0	1814.1	1822.3	1826.8	1831.3	1834.9	1832.2	1829.5
17.5°	1806.9	1800.5	1800.5	1806.9	1811.4	1815.0	1815.9	1815.0	1811.4	1806.0	1801.4
20°	1842.2	1829.5	1819.5	1815.9	1808.7	1799.6	1787.9	1777.0	1763.4	1757.1	1756.2
22.5°	1897.3	1878.3	1860.3	1842.2	1818.6	1792.4	1765.2	1741.7	1722.7	1712.8	1713.7
25°	1991.4	1963.4	1942.6	1910.9	1872.9	1835.8	1800.5	1768.9	1746.2	1728.2	1731.8
27.5°	2118.1	2086.5	2068.4	2032.2	1988.7	1941.7	1900.1	1856.6	1824.1	1801.4	1806.0
30°	2266.5	2257.5	2227.6	2191.4	2150.7	2097.3	2034.9	1969.7	1910.9	1873.8	1866.6
32.5°	2445.7	2435.7	2403.1	2372.4	2319.9	2261.1	2179.6	2076.5	1984.2	1913.6	1882.9
35°	2666.4	2642.0	2602.2	2572.3	2513.5	2437.5	2332.6	2193.2	2053.0	1947.1	1870.2
37.5°	2941.5	2880.9	2814.8	2737.0	2650.1	2557.8	2436.6	2273.7	2100.0	1949.8	1813.2
40°	3203.9	3106.2	2996.7	2873.6	2767.8	2656.5	2530.7	2344.3	2131.7	1930.8	1727.2
42.5°	3496.1	3344.1	3195.7	3026.5	2887.2	2755.1	2611.2	2394.1	2138.0	1879.3	1616.0
45°	3777.5	3582.1	3383.0	3174.0	2996.7	2850.1	2686.3	2436.6	2136.2	1825.0	1505.6
47.5°	4028.1	3794.7	3548.6	3313.3	3107.1	2946.0	2766.9	2494.5	2160.6	1809.6	1432.3
50°	4262.5	3992.8	3704.2	3442.7	3218.3	3053.7	2869.1	2585.9	2235.7	1844.9	1421.4
52.5°	4504.1	4210.9	3880.7	3599.3	3364.9	3174.0	2987.6	2702.6	2340.7	1917.3	1445.9
55°	4818.9	4482.3	4130.4	3818.2	3549.5	3344.1	3128.8	2843.8	2453.8	2001.4	1492.0
57.5°	5287.6	4894.0	4494.1	4158.4	3848.1	3592.0	3355.9	3029.2	2641.1	2128.1	1593.3
60°	6129.1	5693.0	5229.7	4790.9	4433.5	4134.0	3833.6	3428.3	2986.7	2415.8	1825.9
62.5°	7503.4	6899.9	6259.4	5682.1	5190.8	4785.4	4362.0	3875.2	3360.4	2765.0	2177.8
65°	8329.5	7497.1	6681.9	6012.3	5431.5	4912.1	4400.0	3877.0	3378.5	2858.2	2336.2
67°	8431.8	7518.8	6616.7	5903.8	5281.3	4715.8	4160.2	3625.5	3179.4	2743.3	2292.7
67.5°	8401.0	7475.4	6555.2	5835.0	5206.2	4658.8	4112.3	3564.9	3130.6	2694.5	2260.2
70°	7794.8	6889.1	5978.9	5278.6	4676.0	4115.9	3599.3	3051.0	2715.3	2403.1	2027.6
72.5°	6469.3	5762.6	4999.9	4416.3	3896.0	3411.1	2956.9	2498.1	2228.5	2007.7	1743.5
75°	4797.2	4149.4	3504.3	3153.2	2749.7	2361.5	2010.4	1671.2	1567.1	1514.6	1359.0
77.5°	2962.3	2380.5	1894.6	1577.1	1254.0	982.6	781.7	636.1	663.2	771.8	821.6
80°	1474.8	1089.4	843.3	670.5	542.0	437.9	321.2	235.2	281.4	333.9	378.2
82.5°	887.6	701.2	554.6	469.6	381.8	295.0	209.0	159.2	176.4	237.1	260.6
85°	551.0	441.5	352.9	295.0	244.3	181.0	118.5	117.6	124.9	157.4	180.1
87.5°	162.0	109.5	86.9	90.5	100.4	83.2	62.4	53.4	66.0	90.5	101.3
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7	1789.7
2.5°	1813.2	1819.5	1822.3	1823.2	1824.1	1829.5	1829.5	1834.9	1836.7	1836.7	1838.5
5°	1847.6	1853.9	1856.6	1857.5	1859.3	1862.1	1861.2	1864.8	1866.6	1865.7	1865.7
7.5°	1860.3	1862.1	1862.1	1864.8	1867.5	1864.8	1863.0	1864.8	1863.9	1864.8	1864.8
10°	1855.7	1853.9	1853.9	1852.1	1854.8	1849.4	1849.4	1851.2	1850.3	1852.1	1854.8
12.5°	1844.9	1844.0	1841.3	1840.3	1844.0	1840.3	1841.3	1844.0	1845.8	1849.4	1853.9
15°	1829.5	1826.8	1826.8	1830.4	1839.4	1842.2	1845.8	1850.3	1851.2	1853.0	1854.8
17.5°	1803.3	1807.8	1818.6	1831.3	1848.5	1854.8	1856.6	1853.9	1844.9	1837.6	1830.4
20°	1767.1	1787.0	1815.0	1842.2	1863.0	1862.1	1850.3	1833.1	1811.4	1796.0	1786.1
22.5°	1736.3	1775.2	1818.6	1851.2	1864.8	1847.6	1820.4	1794.2	1768.9	1746.2	1726.3
25°	1758.0	1795.1	1832.2	1852.1	1851.2	1821.3	1785.2	1756.2	1721.8	1690.2	1656.7
27.5°	1828.6	1851.2	1862.1	1855.7	1836.7	1796.9	1757.1	1716.4	1672.1	1634.1	1595.1
30°	1876.5	1876.5	1865.7	1840.3	1806.9	1762.5	1713.7	1661.2	1608.7	1564.4	1520.1
32.5°	1861.2	1825.9	1794.2	1759.8	1721.8	1673.9	1617.8	1560.8	1501.1	1449.5	1411.5
35°	1794.2	1718.2	1652.2	1603.3	1563.5	1506.5	1441.3	1376.2	1327.3	1292.0	1270.3
37.5°	1674.8	1553.5	1457.6	1397.9	1336.4	1277.6	1202.5	1172.6	1129.2	1107.5	1099.3
40°	1530.0	1352.7	1232.3	1155.4	1090.3	1017.0	966.3	947.3	931.0	926.5	922.9
42.5°	1363.5	1141.8	998.9	919.3	840.6	787.2	764.5	752.8	750.1	750.1	754.6
45°	1190.7	927.4	762.7	698.5	633.4	605.3	599.9	594.4	595.4	592.6	594.4
47.5°	1056.8	744.6	575.4	516.6	483.2	474.1	467.8	466.0	466.0	461.4	456.0
50°	987.1	622.5	451.5	405.3	386.3	380.0	380.0	376.4	369.2	364.6	352.9
52.5°	969.0	559.2	390.9	351.1	334.8	329.3	323.9	318.5	307.6	297.7	284.1
55°	983.5	539.3	371.9	334.8	316.7	310.3	305.8	296.8	281.4	266.9	251.5
57.5°	1044.1	551.9	379.1	339.3	323.0	318.5	314.0	300.4	281.4	260.6	243.4
60°	1209.7	611.6	409.9	363.7	350.2	351.1	344.7	327.5	300.4	270.5	245.2
62.5°	1423.2	694.9	449.7	398.1	396.3	405.3	405.3	375.5	331.2	285.9	251.5
65°	1545.4	721.1	455.1	402.6	418.0	444.3	442.4	402.6	342.0	285.9	248.8
67°	1514.6	693.1	432.5	376.4	394.5	424.3	420.7	382.7	325.7	274.2	241.6
67.5°	1490.2	684.0	427.1	370.1	388.2	412.6	412.6	374.6	318.5	270.5	238.9
70°	1311.9	604.4	399.9	345.6	345.6	352.0	347.4	320.3	282.3	248.8	228.0
72.5°	1093.9	528.4	378.2	328.4	311.2	307.6	301.3	282.3	257.9	234.3	216.2
75°	847.8	467.8	361.0	310.3	287.7	279.6	273.2	258.8	239.8	219.9	204.5
77.5°	593.5	400.8	338.4	295.0	270.5	264.2	254.2	238.0	222.6	205.4	190.9
80°	368.3	331.2	295.0	266.0	240.7	231.6	219.0	204.5	191.8	181.9	171.0
82.5°	262.4	243.4	219.9	204.5	178.2	151.1	162.0	162.9	154.7	148.4	145.7
85°	175.5	158.3	146.6	133.0	117.6	105.9	108.6	116.7	117.6	114.9	114.9
87.5°	95.9	81.4	78.7	81.4	70.6	67.0	67.9	75.1	76.0	76.0	76.9
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):**

	165°	170°	175°	180°
0°	1789.7	1789.7	1789.7	1789.7
2.5°	1839.4	1842.2	1841.3	1843.1
5°	1867.5	1869.3	1868.4	1869.3
7.5°	1863.0	1866.6	1868.4	1865.7
10°	1855.7	1861.2	1864.8	1864.8
12.5°	1857.5	1866.6	1872.0	1872.0
15°	1855.7	1863.0	1864.8	1864.8
17.5°	1827.7	1827.7	1828.6	1825.0
20°	1778.8	1773.4	1771.6	1765.2
22.5°	1709.2	1696.5	1688.3	1683.8
25°	1629.5	1609.6	1597.0	1589.7
27.5°	1563.5	1546.3	1533.6	1526.4
30°	1490.2	1470.3	1463.0	1457.6
32.5°	1384.3	1365.3	1359.9	1355.4
35°	1246.8	1240.5	1226.0	1216.0
37.5°	1087.6	1079.4	1074.0	1070.4
40°	921.1	922.0	917.5	909.3
42.5°	754.6	763.6	754.6	752.8
45°	592.6	602.6	602.6	605.3
47.5°	456.9	455.1	458.7	459.6
50°	345.6	340.2	338.4	335.7
52.5°	274.2	267.8	264.2	259.7
55°	241.6	234.3	230.7	229.8
57.5°	230.7	221.7	216.2	215.3
60°	228.0	215.3	208.1	206.3
62.5°	228.0	212.6	204.5	201.8
65°	225.3	209.9	202.7	200.0
67°	221.7	208.1	200.9	199.1
67.5°	219.9	207.2	200.9	198.1
70°	215.3	204.5	197.2	194.5
72.5°	205.4	196.3	189.1	187.3
75°	194.5	186.4	181.9	180.1
77.5°	181.9	174.6	169.2	164.7
80°	162.9	154.7	146.6	144.8
82.5°	138.4	129.4	123.1	122.1
85°	111.3	104.1	96.8	96.8
87.5°	77.8	73.3	68.8	64.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)