

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: P146621

Luminaire Tested: **LDRL-T3-E05-E-7050**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146621  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33695)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: LDRL-T3-E05-E-7050  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 3  
Light Source: (105) 5000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 15318.8 lumens  
Efficiency: N/A  
Efficacy: 120.3 lumens/watt  
Luminous Opening: Rectangular (W 0.83' x L: 1' x H: 0')  
IES Classification: Type III - Short - Semi-Cutoff  
BUG Rating: B3 - U0 - G3

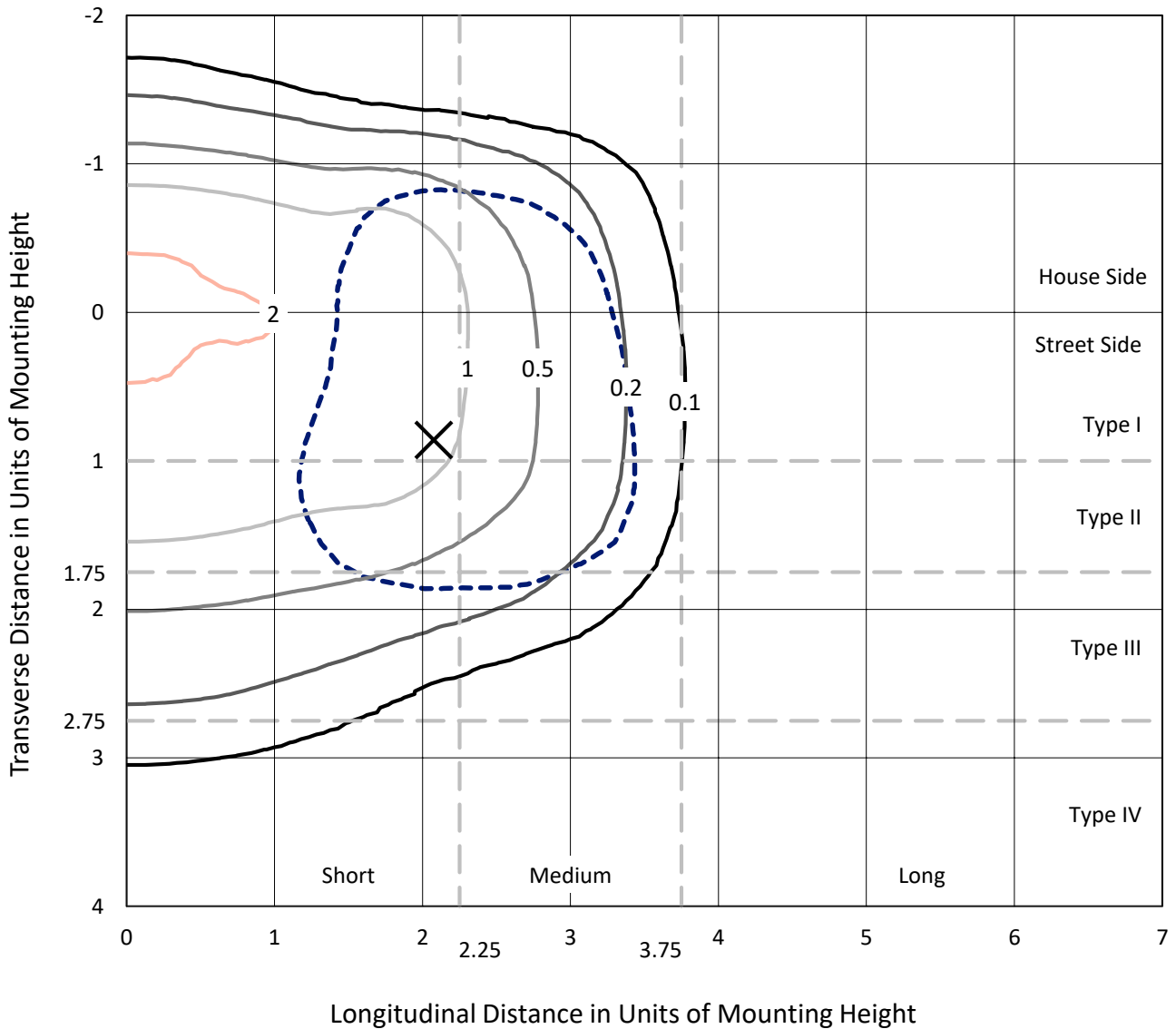
Input Watts (W): 127.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

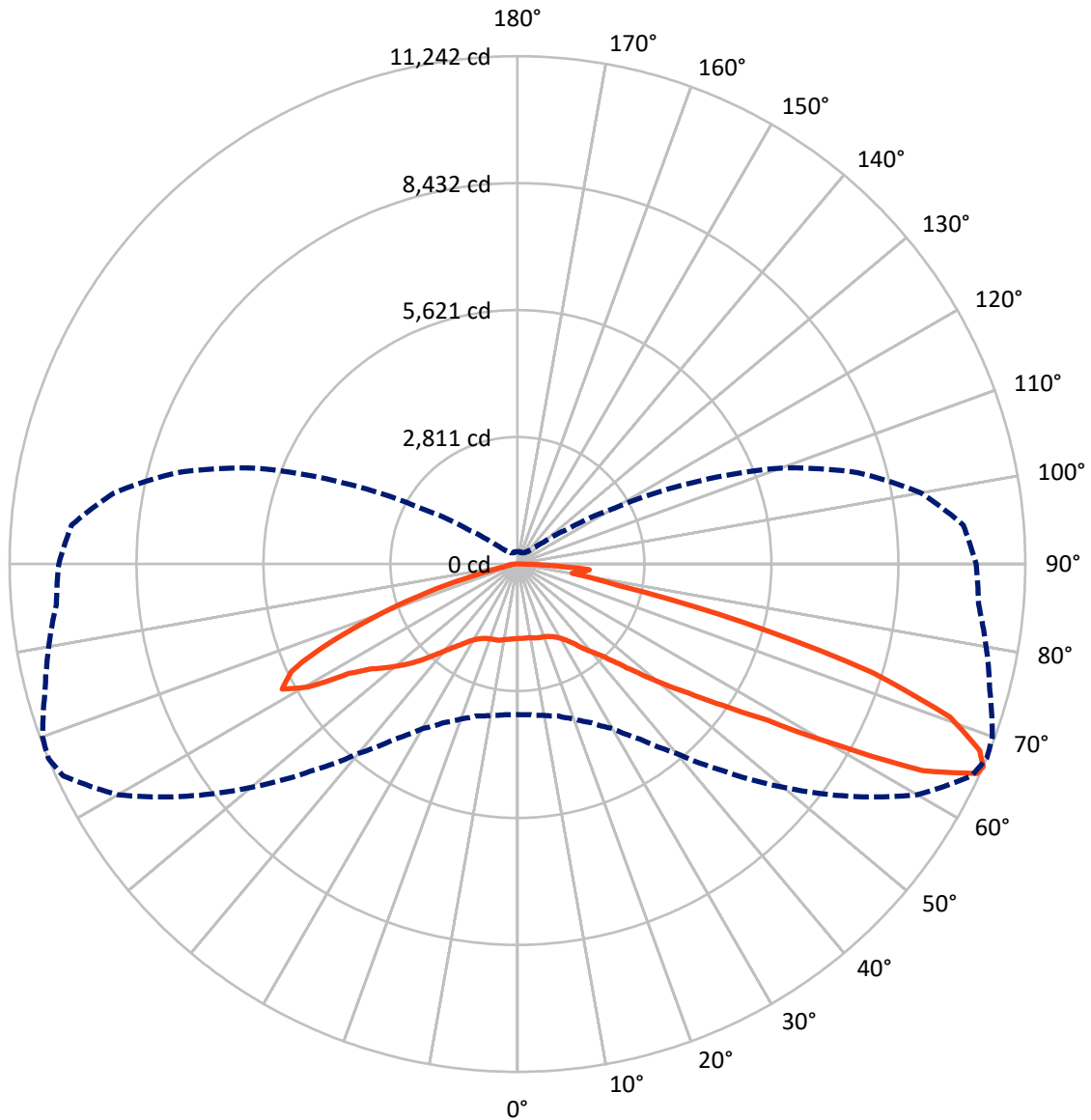
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.6 fc  
 Type III - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 67.5-Deg Lateral    - - - Horizontal Cone Through 66-Deg Vertical

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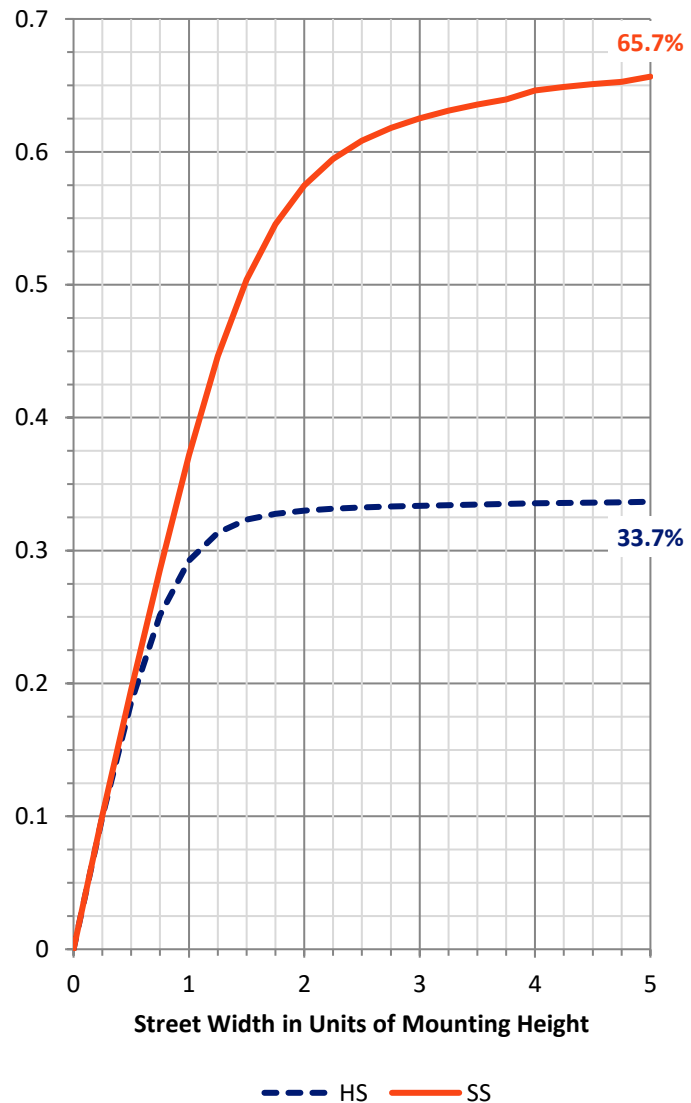
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	5204.3	0.0	5204.3
	% Fixture	34.0	0.0	34.0
<b>Street Side</b>	Lumens	10114.5	0.0	10114.5
	% Fixture	66.0	0.0	66.0
<b>Total</b>	Lumens	15318.8	0.0	15318.8
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	158.4	1.0
10°-20°	469.4	3.1
20°-30°	806.9	5.3
30°-40°	1297.8	8.5
40°-50°	2139.0	14.0
50°-60°	3352.9	21.9
60°-70°	4640.2	30.3
70°-80°	2099.9	13.7
80°-90°	354.3	2.3
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°	15318.8	100.0
0°-180°	15318.8	100.0



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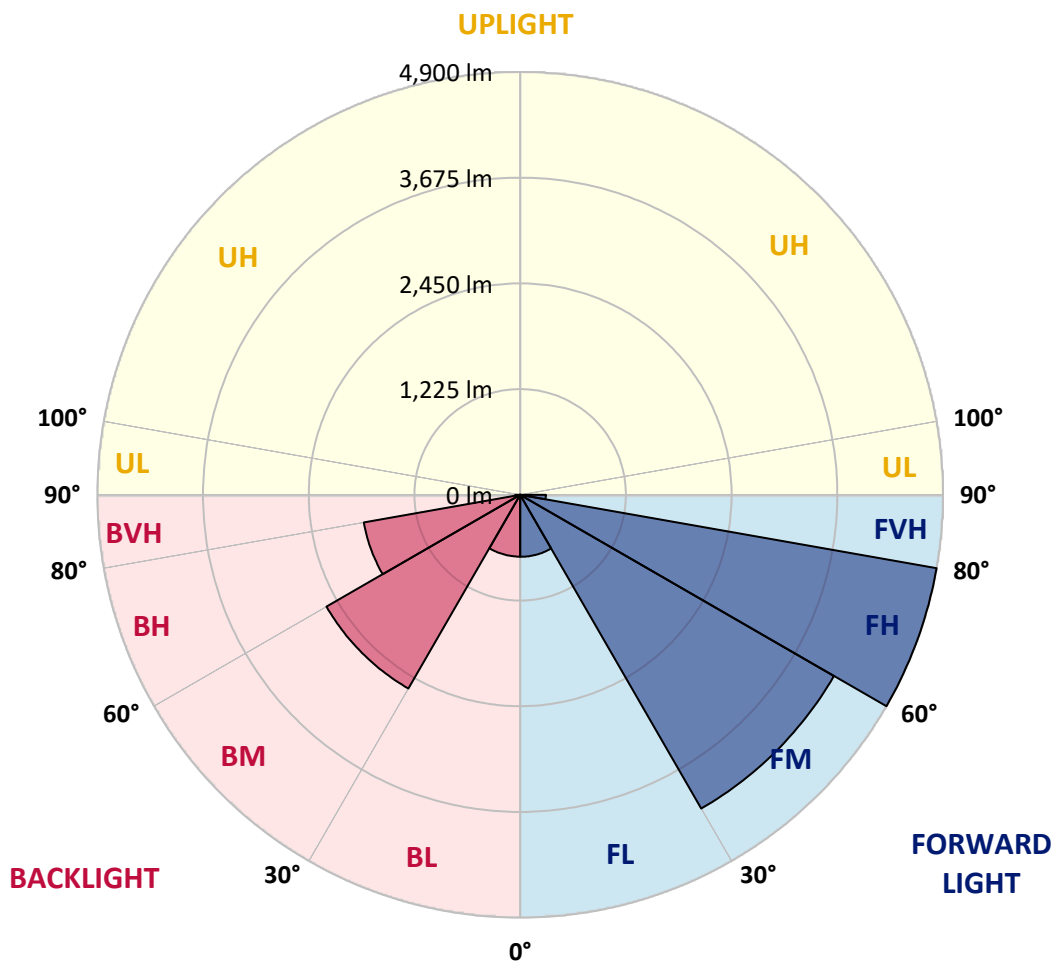
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	718.5	4.7			
FM	(30°-60°)	4197.9	27.4			
FH	(60°-80°)	4900.3	32.0			G2/5000
FVH	(80°-90°)	297.7	1.9			G3/500
BL	(0°-30°)	716.2	4.7	B2/1000		
BM	(30°-60°)	2591.8	16.9	B3/5000		
BH	(60°-80°)	1839.8	12.0	B3/2500		G3/2500
BVH	(80°-90°)	56.5	0.4			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 III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0
2.5°	1646.9	1645.9	1644.8	1644.8	1643.8	1644.8	1645.9	1646.9	1645.9	1646.9	1645.9
5°	1643.8	1643.8	1642.8	1642.8	1642.8	1642.8	1643.8	1644.8	1643.8	1645.9	1643.8
7.5°	1630.5	1636.6	1634.6	1636.6	1638.7	1640.7	1641.8	1643.8	1646.9	1649.0	1646.9
10°	1613.0	1616.1	1617.1	1619.2	1623.3	1628.4	1632.5	1637.7	1644.8	1646.9	1649.0
12.5°	1581.2	1585.3	1588.4	1592.5	1598.7	1606.9	1614.1	1622.3	1634.6	1642.8	1650.0
15°	1557.6	1562.8	1563.8	1568.9	1575.1	1584.3	1593.5	1605.9	1622.3	1636.6	1651.0
17.5°	1573.0	1575.1	1573.0	1573.0	1575.1	1579.2	1586.4	1596.6	1614.1	1631.5	1649.0
20°	1619.2	1619.2	1617.1	1616.1	1614.1	1610.0	1608.9	1607.9	1619.2	1632.5	1647.9
22.5°	1663.3	1663.3	1662.3	1666.4	1665.4	1665.4	1662.3	1657.2	1652.0	1650.0	1660.2
25°	1691.0	1695.1	1697.2	1703.3	1707.4	1713.6	1715.6	1714.6	1707.4	1695.1	1692.0
27.5°	1736.2	1739.2	1741.3	1748.5	1756.7	1763.9	1771.1	1780.3	1780.3	1769.0	1753.6
30°	1823.4	1819.3	1821.3	1823.4	1830.6	1840.8	1850.1	1862.4	1868.5	1864.4	1843.9
32.5°	1904.5	1908.6	1910.6	1916.8	1923.9	1939.3	1950.6	1965.0	1978.3	1980.4	1970.1
35°	2023.5	2021.4	2018.3	2039.9	2048.1	2065.6	2078.9	2099.4	2109.7	2118.9	2112.8
37.5°	2211.3	2205.1	2201.0	2207.2	2218.4	2229.7	2249.2	2264.6	2282.1	2303.6	2296.4
40°	2477.0	2489.3	2471.9	2480.1	2489.3	2463.7	2481.1	2495.5	2525.2	2526.3	2525.2
42.5°	2822.8	2832.1	2827.9	2833.1	2816.7	2808.5	2801.3	2808.5	2845.4	2840.3	2815.6
45°	3168.6	3182.0	3178.9	3180.9	3212.7	3199.4	3210.7	3212.7	3250.7	3240.4	3222.0
47.5°	3464.1	3486.7	3491.8	3510.3	3553.4	3588.3	3636.5	3672.4	3690.9	3703.2	3717.6
50°	3698.1	3714.5	3743.2	3789.4	3852.0	3912.5	4021.3	4092.1	4156.8	4201.9	4248.1
52.5°	3853.0	3871.5	3915.6	3985.4	4075.7	4186.5	4313.7	4461.5	4598.0	4678.0	4746.8
55°	3916.6	3935.1	3989.5	4080.8	4200.9	4342.5	4525.1	4733.4	4915.0	5098.7	5204.4
57.5°	3879.7	3900.2	3962.8	4065.4	4210.1	4395.8	4622.6	4878.1	5143.9	5421.9	5634.3
60°	3770.9	3789.4	3860.2	3966.9	4132.1	4341.5	4613.4	4933.5	5307.0	5719.5	6122.8
62.5°	3621.1	3648.8	3711.4	3820.2	3984.4	4213.2	4523.1	4939.7	5475.3	6140.2	6925.2
65°	3430.3	3450.8	3506.2	3592.4	3773.0	4012.1	4339.4	4849.4	5549.2	6492.2	7612.7
66°	3331.8	3351.3	3402.6	3483.6	3648.8	3878.7	4206.0	4728.3	5467.1	6490.1	7685.5
67.5°	3158.4	3167.6	3204.5	3284.6	3392.3	3598.6	3902.3	4391.7	5119.2	6216.1	7482.4
70°	2649.4	2662.7	2698.7	2739.7	2779.7	2853.6	3066.0	3389.2	3971.0	5022.8	6230.5
72.5°	1832.6	1853.1	1892.1	1968.1	2030.7	2124.0	2207.2	2314.9	2507.8	3238.4	4457.4
75°	1324.7	1331.9	1389.3	1522.7	1649.0	1835.7	2000.9	2053.2	1987.6	1976.3	2618.6
77.5°	790.1	800.4	883.5	1017.9	1149.2	1402.7	1741.3	2003.0	2147.6	2096.3	1982.4
80°	332.5	346.8	396.1	431.0	539.7	752.1	1086.6	1497.1	1878.8	2113.8	2060.4
82.5°	106.7	124.2	146.7	177.5	209.3	280.1	434.0	649.5	1026.1	1529.9	1880.9
85°	39.0	40.0	55.4	77.0	85.2	98.5	126.2	195.0	346.8	573.6	1067.1
87.5°	15.4	18.5	21.5	29.8	30.8	31.8	35.9	46.2	45.1	39.0	202.1
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°	67.5°	70°	75°	80°	85°	90°	95°	100°
0°	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0
2.5°	1646.9	1649.0	1647.9	1649.0	1649.0	1646.9	1646.9	1651.0	1647.9	1650.0	1650.0
5°	1645.9	1647.9	1646.9	1649.0	1649.0	1647.9	1647.9	1654.1	1653.1	1656.1	1658.2
7.5°	1650.0	1651.0	1650.0	1650.0	1653.1	1652.0	1653.1	1655.1	1660.2	1665.4	1669.5
10°	1655.1	1657.2	1660.2	1661.3	1665.4	1664.3	1667.4	1670.5	1675.6	1680.8	1685.9
12.5°	1662.3	1668.4	1677.7	1679.7	1683.8	1686.9	1692.0	1695.1	1699.2	1707.4	1713.6
15°	1668.4	1679.7	1691.0	1695.1	1699.2	1703.3	1708.5	1711.5	1718.7	1725.9	1733.1
17.5°	1670.5	1683.8	1698.2	1703.3	1707.4	1714.6	1720.8	1726.9	1735.1	1744.4	1752.6
20°	1671.5	1690.0	1708.5	1714.6	1723.9	1734.1	1744.4	1749.5	1760.8	1772.1	1779.3
22.5°	1680.8	1703.3	1729.0	1740.3	1749.5	1768.0	1781.3	1789.5	1802.9	1812.1	1815.2
25°	1706.4	1730.0	1760.8	1778.2	1793.6	1820.3	1836.7	1852.1	1859.3	1871.6	1868.5
27.5°	1752.6	1771.1	1811.1	1834.7	1854.2	1889.1	1920.9	1935.2	1946.5	1952.7	1945.5
30°	1831.6	1838.8	1882.9	1911.6	1944.5	1998.9	2033.7	2052.2	2066.6	2067.6	2049.1
32.5°	1949.6	1938.3	1977.3	2018.3	2061.4	2127.1	2174.3	2193.8	2205.1	2206.1	2165.1
35°	2109.7	2090.2	2123.0	2163.0	2216.4	2302.6	2362.1	2384.7	2402.1	2393.9	2333.4
37.5°	2311.8	2310.8	2326.2	2377.5	2438.0	2548.8	2611.4	2623.8	2622.7	2598.1	2506.8
40°	2536.5	2518.1	2520.1	2557.1	2626.8	2772.5	2859.8	2880.3	2873.1	2837.2	2718.2
42.5°	2819.7	2811.5	2783.8	2803.3	2868.0	3045.5	3151.2	3171.7	3177.8	3118.3	2977.8
45°	3216.8	3209.7	3148.1	3152.2	3199.4	3386.1	3495.9	3529.8	3530.8	3474.4	3291.7
47.5°	3698.1	3691.9	3620.1	3599.6	3623.2	3789.4	3925.9	3933.1	3935.1	3857.1	3667.3
50°	4244.0	4226.5	4172.1	4150.6	4122.9	4306.6	4416.4	4415.3	4404.0	4317.9	4104.4
52.5°	4771.4	4810.4	4789.9	4747.8	4748.8	4881.2	4984.8	4927.4	4934.5	4852.5	4607.2
55°	5334.7	5434.3	5509.2	5524.6	5517.4	5585.1	5642.6	5539.9	5502.0	5488.6	5228.0
57.5°	5932.9	6187.4	6418.3	6514.7	6477.8	6602.0	6653.3	6546.6	6548.6	6653.3	6428.6
60°	6732.3	7374.6	7956.4	8137.0	8221.2	8426.4	8335.1	8328.9	8490.0	8625.4	8208.8
62.5°	7945.1	9009.2	9937.8	10072.3	10140.0	10186.1	10145.1	10033.3	10199.5	10215.9	9573.6
65°	8864.5	10113.3	11011.1	11179.4	11167.1	10932.1	10704.3	10480.6	10478.6	10314.4	9487.4
66°	8964.1	10218.0	11093.2	11242.0	11187.6	10825.4	10536.1	10245.7	10152.3	9906.0	9066.7
67.5°	8746.5	10035.3	10904.4	11037.8	10921.9	10370.8	9976.8	9583.8	9443.2	9100.5	8244.8
70°	7477.2	8805.0	9967.6	10160.5	10023.0	9291.4	8707.5	8275.5	7892.8	7555.2	6849.3
72.5°	5797.5	6790.8	8021.1	8222.2	8233.5	7660.9	7003.2	6588.6	6143.3	5804.7	5275.2
75°	3802.7	4553.9	5230.1	5162.3	5181.8	4731.4	4339.4	3994.6	3591.4	3324.6	3072.2
77.5°	2222.5	2491.4	2429.8	2261.5	2119.9	1666.4	1192.3	818.8	714.2	745.0	840.4
80°	1932.2	1781.3	1394.5	1226.2	1115.4	757.3	407.4	287.3	252.4	255.5	270.9
82.5°	2079.9	2157.9	1771.1	1458.1	1271.3	891.7	479.2	239.1	172.4	201.1	221.6
85°	1614.1	2054.3	1894.2	1600.7	1346.3	948.1	489.5	151.9	102.6	137.5	173.4
87.5°	459.7	727.5	581.8	514.1	414.5	283.2	117.0	60.5	55.4	71.8	99.5
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):**

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0	1649.0
2.5°	1651.0	1651.0	1654.1	1655.1	1656.1	1656.1	1658.2	1658.2	1659.2	1663.3	1662.3
5°	1661.3	1664.3	1668.4	1670.5	1673.6	1674.6	1677.7	1677.7	1680.8	1683.8	1682.8
7.5°	1673.6	1676.7	1679.7	1682.8	1685.9	1690.0	1689.0	1687.9	1686.9	1684.9	1682.8
10°	1691.0	1694.1	1697.2	1696.2	1694.1	1692.0	1683.8	1674.6	1670.5	1662.3	1656.1
12.5°	1719.8	1722.8	1719.8	1711.5	1700.3	1686.9	1669.5	1654.1	1644.8	1632.5	1625.4
15°	1741.3	1744.4	1738.2	1723.9	1705.4	1687.9	1664.3	1644.8	1628.4	1615.1	1604.8
17.5°	1757.7	1755.7	1742.3	1725.9	1706.4	1692.0	1670.5	1649.0	1629.5	1611.0	1596.6
20°	1781.3	1770.0	1750.5	1730.0	1710.5	1698.2	1680.8	1661.3	1640.7	1614.1	1595.6
22.5°	1812.1	1791.6	1765.9	1745.4	1726.9	1714.6	1697.2	1678.7	1659.2	1628.4	1602.8
25°	1856.2	1823.4	1793.6	1772.1	1755.7	1743.4	1721.8	1702.3	1680.8	1650.0	1617.1
27.5°	1917.8	1870.6	1839.8	1818.3	1801.8	1787.5	1759.8	1736.2	1708.5	1677.7	1638.7
30°	1997.8	1940.4	1906.5	1888.0	1870.6	1850.1	1820.3	1785.4	1749.5	1708.5	1666.4
32.5°	2097.4	2032.7	2000.9	1982.4	1959.9	1932.2	1893.2	1847.0	1793.6	1739.2	1686.9
35°	2239.0	2165.1	2130.2	2098.4	2065.6	2024.5	1966.0	1899.3	1828.5	1757.7	1693.1
37.5°	2379.5	2310.8	2267.7	2234.9	2183.6	2116.9	2035.8	1943.4	1849.0	1758.7	1680.8
40°	2578.6	2498.6	2448.3	2389.8	2306.7	2203.0	2085.0	1960.9	1843.9	1735.1	1642.8
42.5°	2822.8	2731.5	2656.6	2550.9	2421.6	2271.8	2108.6	1950.6	1808.0	1682.8	1581.2
45°	3131.7	3012.6	2887.5	2721.2	2523.2	2313.9	2107.6	1914.7	1746.4	1604.8	1504.3
47.5°	3491.8	3324.6	3114.2	2860.8	2589.9	2324.1	2074.8	1850.1	1654.1	1498.1	1382.2
50°	3862.3	3620.1	3321.5	2968.5	2623.8	2298.5	2001.9	1744.4	1533.0	1355.5	1230.3
52.5°	4318.9	3943.3	3509.3	3041.4	2609.4	2222.5	1880.9	1595.6	1369.9	1196.4	1052.8
55°	4862.7	4314.8	3687.8	3081.4	2545.8	2086.1	1697.2	1400.6	1163.6	1005.6	876.3
57.5°	5762.6	4896.6	3992.6	3140.9	2420.6	1882.9	1473.5	1166.7	944.0	809.6	706.0
60°	7314.1	6089.9	4637.0	3287.6	2247.2	1593.5	1189.3	914.3	730.6	622.8	550.0
62.5°	8396.6	6813.3	4983.8	3237.4	1952.7	1254.9	879.4	653.6	532.5	461.7	412.5
65°	8186.3	6528.1	4566.2	2750.0	1529.9	887.6	584.9	442.3	373.5	329.4	304.8
66°	7808.7	6213.1	4248.1	2468.8	1326.8	739.8	482.3	366.3	321.2	289.4	272.9
67.5°	7120.1	5560.5	3676.5	1981.4	993.3	545.9	366.3	285.3	260.6	244.2	232.9
70°	5895.0	4396.9	2531.4	1170.8	525.4	305.8	232.9	210.4	199.1	191.9	190.9
72.5°	4520.0	3154.2	1464.3	566.4	281.2	203.2	178.5	170.3	166.2	164.2	164.2
75°	2792.0	1779.3	654.7	284.2	193.9	166.2	154.9	150.8	149.8	149.8	149.8
77.5°	982.0	619.8	293.5	208.3	170.3	149.8	140.6	138.5	140.6	140.6	140.6
80°	270.9	239.1	212.4	184.7	153.9	138.5	130.3	129.3	133.4	134.4	130.3
82.5°	211.4	199.1	181.6	165.2	140.6	126.2	122.1	124.2	126.2	123.1	117.0
85°	180.6	172.4	127.2	127.2	113.9	109.8	108.8	110.8	109.8	101.6	93.4
87.5°	102.6	90.3	68.7	74.9	80.0	82.1	68.7	73.9	72.9	64.6	60.5
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):**

	160°	165°	170°	175°	180°
0°	1649.0	1649.0	1649.0	1649.0	1649.0
2.5°	1664.3	1664.3	1666.4	1666.4	1665.4
5°	1684.9	1684.9	1687.9	1685.9	1686.9
7.5°	1680.8	1676.7	1676.7	1674.6	1673.6
10°	1652.0	1644.8	1640.7	1642.8	1639.7
12.5°	1619.2	1613.0	1608.9	1607.9	1606.9
15°	1598.7	1591.5	1588.4	1586.4	1586.4
17.5°	1587.4	1579.2	1575.1	1572.0	1571.0
20°	1582.3	1572.0	1565.8	1562.8	1560.7
22.5°	1584.3	1572.0	1563.8	1559.7	1557.6
25°	1592.5	1577.1	1566.9	1561.7	1558.7
27.5°	1606.9	1586.4	1575.1	1567.9	1563.8
30°	1624.3	1595.6	1579.2	1568.9	1564.8
32.5°	1635.6	1596.6	1576.1	1560.7	1556.6
35°	1633.6	1585.3	1558.7	1539.2	1536.1
37.5°	1613.0	1555.6	1522.7	1497.1	1494.0
40°	1568.9	1510.4	1472.5	1446.8	1440.7
42.5°	1507.3	1446.8	1405.8	1382.2	1374.0
45°	1417.1	1343.2	1305.2	1285.7	1274.4
47.5°	1289.8	1220.0	1178.0	1161.6	1147.2
50°	1145.1	1068.2	1037.4	1018.9	1002.5
52.5°	974.8	909.1	885.5	868.1	854.7
55°	809.6	763.4	735.7	717.2	718.3
57.5°	650.6	622.8	607.5	588.0	590.0
60°	512.0	488.4	488.4	476.1	472.0
62.5°	390.9	381.7	378.6	374.5	367.3
65°	296.5	296.5	297.6	297.6	293.5
66°	266.8	269.9	274.0	274.0	268.8
67.5°	230.9	235.0	239.1	241.1	241.1
70°	190.9	196.0	198.0	200.1	199.1
72.5°	167.3	171.4	171.4	172.4	170.3
75°	151.9	153.9	154.9	152.9	151.9
77.5°	140.6	141.6	140.6	139.6	138.5
80°	127.2	126.2	123.1	119.0	118.0
82.5°	109.8	105.7	103.6	97.5	96.5
85°	88.2	83.1	79.0	70.8	66.7
87.5°	58.5	56.4	53.4	39.0	31.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)