

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: P145463

Luminaire Tested: **LDRL-SL4-F05-E-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145463
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33703)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-SL4-F05-E-8030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (35) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10040.1 lumens
Efficiency: N/A
Efficacy: 75.3 lumens/watt
Luminous Opening: Rectangular (W 0.83' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

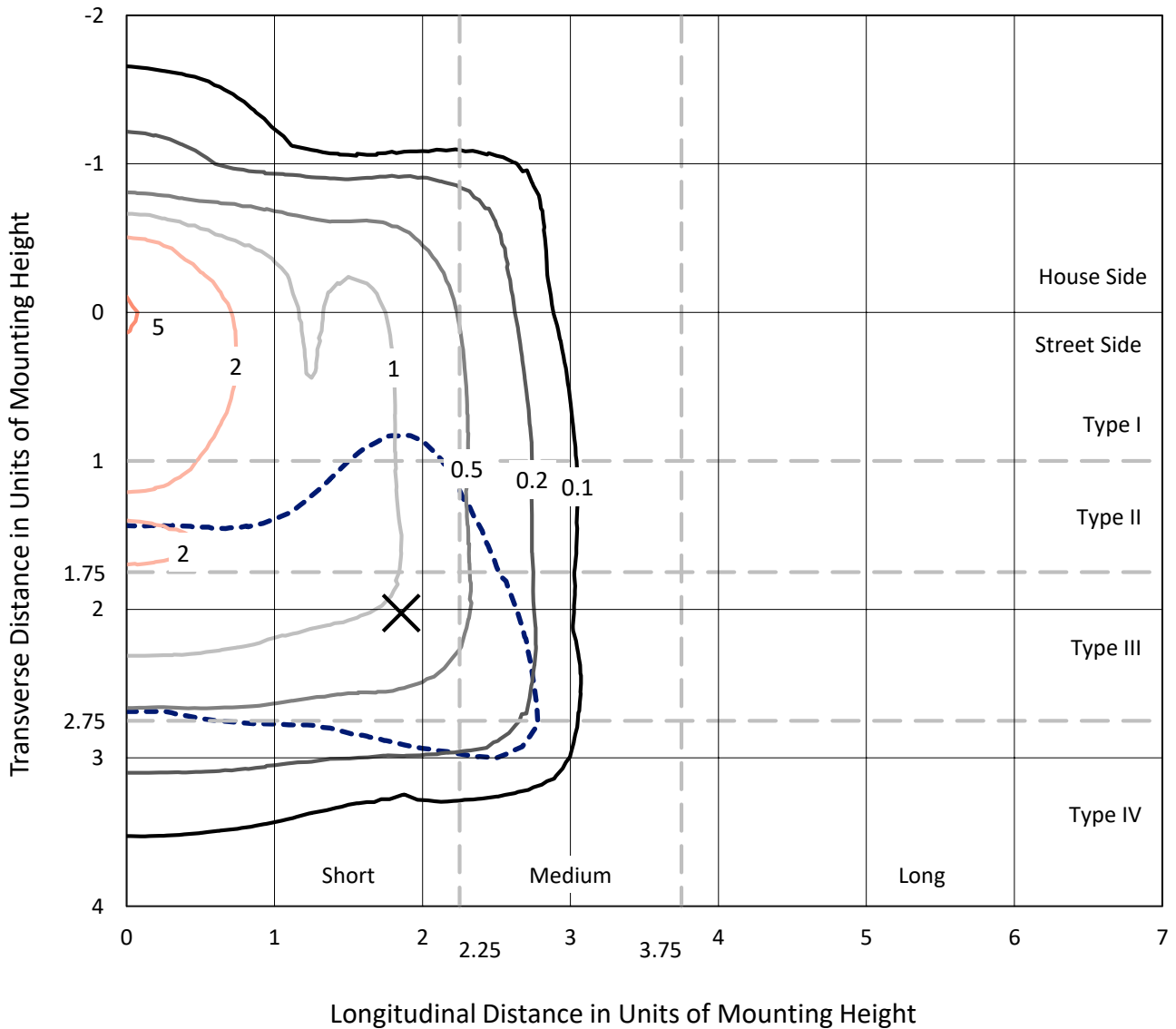
Input Watts (W): 133.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

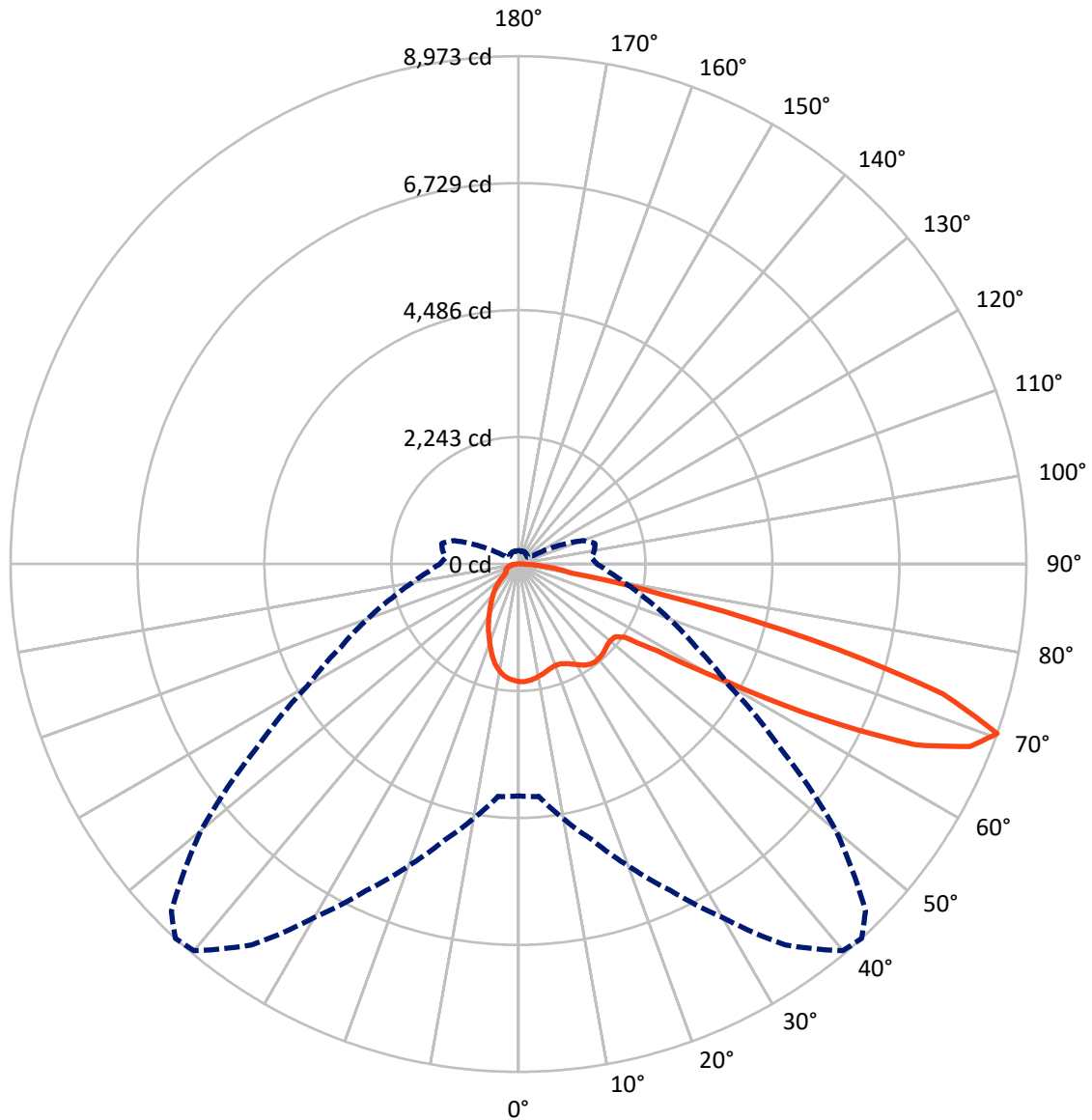
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.2 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 42.5-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2168.8	0.0	2168.8
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	7871.2	0.0	7871.2
	% Fixture	78.4	0.0	78.4
Total	Lumens	10040.1	0.0	10040.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.2	1.9
10°-20°	520.4	5.2
20°-30°	759.1	7.6
30°-40°	968.2	9.6
40°-50°	1130.0	11.3
50°-60°	1728.1	17.2
60°-70°	3132.6	31.2
70°-80°	1392.9	13.9
80°-90°	215.5	2.1
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°	10040.1	100.0
0°-180°	10040.1	100.0



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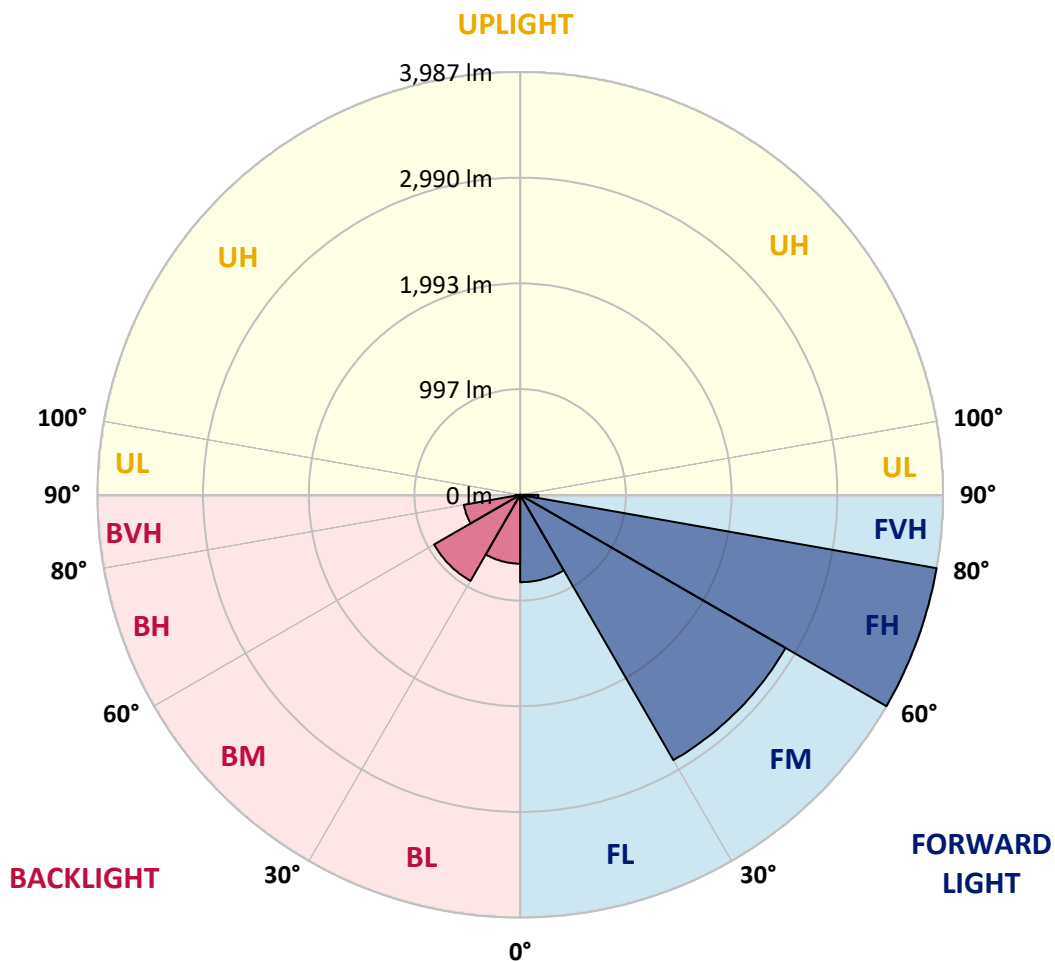
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	823.5	8.2			
FM (30°-60°)	2888.8	28.8			
FH (60°-80°)	3986.7	39.7			G2/5000
FVH (80°-90°)	172.2	1.7			G2/225
BL (0°-30°)	649.1	6.5	B2/1000		
BM (30°-60°)	937.5	9.3	B1/1000		
BH (60°-80°)	538.8	5.4	B2/1000		G2/1000
BVH (80°-90°)	43.3	0.4			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	42.5°	45°
0°	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3
2.5°	2086.0	2083.9	2085.3	2086.7	2086.7	2087.4	2081.1	2081.8	2079.1	2079.8	2080.5
5°	2078.4	2076.3	2077.7	2077.7	2077.7	2077.0	2068.6	2067.9	2064.4	2064.4	2063.0
7.5°	2063.7	2056.1	2060.2	2060.9	2059.6	2056.1	2051.2	2046.3	2044.2	2044.2	2039.3
10°	2041.4	2033.1	2035.2	2036.6	2035.9	2028.9	2026.8	2021.9	2016.4	2014.3	2008.7
12.5°	2012.9	2007.3	2010.1	2009.4	2009.4	2003.1	1999.6	1992.7	1985.7	1982.2	1975.2
15°	1994.8	1987.8	1990.6	1990.6	1987.8	1981.5	1976.6	1964.1	1952.3	1948.1	1939.0
17.5°	2005.9	1998.9	2001.7	1999.6	1994.8	1981.5	1969.0	1948.8	1930.0	1918.8	1907.0
20°	2050.5	2043.5	2045.6	2044.2	2037.3	2015.7	1992.7	1957.8	1923.0	1906.3	1888.2
22.5°	2121.6	2116.0	2119.5	2117.4	2106.2	2078.4	2044.2	1994.1	1941.8	1916.7	1890.9
25°	2226.8	2225.4	2230.9	2224.7	2208.7	2166.8	2117.4	2049.8	1981.5	1950.2	1913.9
27.5°	2353.6	2341.7	2350.1	2344.5	2333.4	2280.4	2213.5	2127.8	2040.7	1999.6	1956.4
30°	2467.8	2457.4	2472.7	2469.9	2453.2	2398.9	2314.6	2214.2	2116.0	2063.7	2014.3
32.5°	2600.2	2587.0	2598.8	2598.8	2573.7	2500.6	2404.4	2289.5	2186.4	2130.6	2071.4
35°	2738.9	2724.9	2736.1	2732.6	2688.0	2591.2	2470.6	2345.9	2232.3	2175.2	2114.6
37.5°	2867.8	2865.7	2868.5	2845.5	2783.5	2659.4	2515.2	2375.9	2255.3	2195.4	2132.0
40°	2996.7	2991.8	2979.9	2939.5	2849.0	2699.9	2538.2	2386.3	2256.7	2194.0	2129.9
42.5°	3077.5	3068.4	3048.2	2993.2	2879.6	2709.6	2531.2	2370.3	2240.0	2175.9	2113.2
45°	3105.4	3096.3	3071.9	3009.9	2880.3	2694.3	2504.1	2338.2	2208.7	2150.1	2086.7
47.5°	3082.4	3076.8	3054.5	2992.5	2858.0	2665.7	2469.9	2306.2	2178.7	2121.6	2062.3
50°	3043.3	3039.9	3020.3	2963.2	2837.1	2648.3	2453.9	2290.9	2170.3	2117.4	2061.6
52.5°	3140.9	3130.4	3095.6	3028.0	2881.0	2679.6	2479.0	2313.9	2189.8	2136.2	2079.1
55°	4340.0	4262.6	4089.8	3765.9	3312.3	2960.4	2664.3	2465.1	2331.3	2279.0	2224.7
57.5°	5707.7	5626.8	5555.1	5307.7	4769.2	4104.5	3506.7	3156.9	2917.2	2894.2	2872.6
60°	6234.4	6260.2	6253.9	6161.9	5886.0	5570.4	5070.1	4657.0	4199.2	4180.4	4207.6
62.5°	6597.4	6619.0	6621.8	6593.9	6504.0	6398.8	6294.3	6161.9	6074.8	6037.2	5794.1
65°	6747.2	6778.5	6847.5	6899.1	6913.7	6949.9	7044.7	7404.9	7705.2	7703.1	7418.1
67.5°	6175.2	6212.8	6474.1	6730.5	6945.8	7195.2	7579.1	8165.0	8617.2	8603.3	8369.9
70°	4098.2	4121.9	4565.7	5048.5	5674.9	6367.5	7206.3	8216.6	8917.5	8972.6	8671.6
72.5°	2513.8	2568.2	2713.1	2908.9	3243.3	3885.0	5132.2	6858.7	7887.0	7835.5	7595.8
75°	1697.2	1700.0	1695.9	1716.8	1735.6	1865.2	2367.5	3771.4	5342.6	5370.4	5267.3
77.5°	1160.1	1175.4	1183.8	1178.2	1197.0	1191.4	1220.7	1292.4	2047.7	2613.5	2401.6
80°	1013.8	1020.0	1029.1	1015.8	981.0	961.5	988.7	962.9	907.1	937.1	897.4
82.5°	641.7	660.5	662.6	708.6	776.9	779.6	814.5	788.7	717.6	671.0	613.8
85°	461.2	468.2	480.7	483.5	459.8	439.6	452.2	430.6	388.1	363.0	321.2
87.5°	268.9	275.9	288.4	280.8	257.1	227.8	205.5	177.0	140.0	131.0	115.7
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3
2.5°	2081.1	2077.7	2074.9	2073.5	2076.3	2073.5	2070.7	2069.3	2066.5	2067.2	2063.7
5°	2061.6	2056.8	2052.6	2049.1	2051.9	2047.0	2042.8	2040.0	2036.6	2035.9	2032.4
7.5°	2034.5	2026.8	2021.2	2015.0	2008.0	2003.8	1998.9	1994.1	1986.4	1985.7	1984.3
10°	1998.9	1992.7	1981.5	1971.8	1962.0	1951.6	1941.1	1933.4	1924.4	1920.9	1916.0
12.5°	1963.4	1950.9	1937.6	1922.3	1910.4	1893.7	1879.8	1865.2	1851.9	1843.6	1834.5
15°	1921.6	1908.4	1889.5	1874.9	1858.2	1839.4	1821.3	1799.7	1778.1	1764.8	1752.3
17.5°	1885.4	1868.6	1853.3	1832.4	1815.7	1794.1	1766.9	1743.9	1718.1	1696.6	1673.6
20°	1857.5	1838.7	1820.6	1801.8	1781.6	1757.2	1727.2	1694.5	1661.7	1631.1	1596.9
22.5°	1846.3	1816.4	1796.2	1778.8	1757.9	1730.0	1696.6	1656.1	1615.7	1576.7	1537.0
25°	1856.1	1811.5	1780.2	1760.7	1741.8	1713.3	1675.6	1629.7	1582.3	1532.8	1485.4
27.5°	1882.6	1826.1	1781.6	1750.9	1729.3	1701.4	1659.6	1611.5	1557.9	1502.2	1451.3
30°	1920.9	1850.5	1794.8	1750.9	1718.8	1686.8	1641.5	1587.2	1530.7	1472.2	1415.1
32.5°	1962.7	1877.7	1810.8	1753.0	1703.5	1663.1	1615.7	1562.8	1502.9	1440.8	1379.5
35°	1994.1	1897.2	1817.8	1745.3	1681.9	1631.1	1580.2	1528.6	1470.1	1407.4	1346.1
37.5°	2007.3	1904.9	1816.4	1729.3	1652.0	1596.2	1543.3	1491.7	1435.3	1376.1	1319.6
40°	2008.0	1904.9	1808.0	1707.7	1620.6	1560.0	1504.3	1456.2	1403.2	1352.4	1302.2
42.5°	1994.8	1895.1	1792.7	1687.5	1597.6	1529.3	1472.2	1422.7	1380.2	1334.9	1292.4
45°	1971.1	1875.6	1778.8	1676.3	1589.3	1521.7	1460.4	1413.7	1375.4	1334.9	1298.0
47.5°	1952.9	1864.5	1779.5	1692.4	1609.5	1539.8	1473.6	1424.1	1391.4	1359.3	1332.9
50°	1956.4	1868.6	1787.8	1704.9	1623.4	1553.0	1488.9	1446.4	1426.9	1416.5	1410.2
52.5°	1974.5	1885.4	1824.1	1769.0	1742.5	1699.3	1663.8	1631.8	1636.6	1611.5	1579.5
55°	2161.3	2131.3	2201.7	2252.5	2277.6	2321.5	2384.9	2324.3	2315.9	2238.6	2008.7
57.5°	2901.9	2973.0	3081.0	3157.6	3165.3	3152.0	3099.8	3049.6	2968.1	2851.7	2529.8
60°	4144.2	4127.5	4027.1	3892.7	3788.2	3650.9	3512.9	3396.6	3265.6	3087.2	2744.4
62.5°	5450.6	5047.8	4690.4	4386.0	4127.5	3898.2	3689.9	3515.0	3335.3	3078.9	2713.8
65°	6505.4	5730.6	5100.8	4611.0	4226.4	3902.4	3633.5	3392.4	3152.0	2855.2	2501.3
67.5°	7259.3	6030.2	5079.9	4390.8	3851.6	3405.6	3014.1	2739.6	2492.9	2259.5	2100.0
70°	7319.2	5615.7	4297.5	3454.4	2832.2	2308.3	1902.1	1602.5	1387.9	1291.1	1360.0
72.5°	6254.6	4154.6	2857.3	2114.6	1678.4	1304.3	1048.6	838.2	665.4	580.4	592.2
75°	3683.6	1994.8	1286.9	958.7	783.1	625.7	541.4	457.1	403.4	323.3	258.5
77.5°	1402.5	867.4	649.4	539.3	384.6	276.6	218.1	188.1	172.8	170.7	161.6
80°	808.2	636.1	445.2	291.2	213.2	180.5	154.7	132.4	123.3	121.2	124.7
82.5°	510.7	396.4	244.6	187.4	155.4	133.8	111.5	96.8	89.2	86.4	91.3
85°	264.1	198.6	149.1	128.2	119.1	108.7	89.2	74.6	73.9	77.3	89.2
87.5°	97.5	85.0	66.9	57.8	62.0	57.8	41.8	36.2	32.7	43.2	62.7
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°	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3	2076.3
2.5°	2063.7	2062.3	2063.0	2061.6	2061.6	2063.7	2060.9	2058.9	2062.3	2062.3	2064.4
5°	2031.7	2033.1	2033.1	2032.4	2033.8	2037.3	2036.6	2036.6	2042.1	2044.2	2047.0
7.5°	1980.8	1982.9	1983.6	1985.7	1986.4	1991.3	1994.8	1998.9	2007.3	2009.4	2015.7
10°	1911.8	1910.4	1915.3	1914.6	1920.9	1925.1	1927.9	1936.9	1949.5	1956.4	1962.7
12.5°	1830.3	1830.3	1833.1	1833.8	1839.4	1845.0	1848.4	1859.6	1870.0	1879.1	1893.0
15°	1743.9	1741.1	1734.9	1734.2	1736.3	1741.8	1749.5	1757.9	1773.9	1787.1	1799.0
17.5°	1653.4	1645.0	1637.3	1627.6	1626.9	1626.2	1630.4	1636.6	1661.7	1675.0	1691.7
20°	1573.2	1555.1	1537.0	1516.8	1504.9	1499.4	1501.5	1509.8	1533.5	1550.9	1568.4
22.5°	1501.5	1474.3	1445.7	1413.7	1394.2	1382.3	1383.7	1387.2	1404.6	1415.1	1424.1
25°	1440.2	1402.5	1362.8	1321.7	1294.5	1276.4	1275.7	1275.7	1268.1	1269.5	1264.6
27.5°	1398.3	1346.1	1295.2	1247.2	1211.6	1193.5	1169.1	1151.7	1136.4	1115.5	1106.4
30°	1357.9	1304.3	1246.5	1193.5	1151.0	1115.5	1070.2	1032.6	1002.6	974.0	949.7
32.5°	1321.7	1266.0	1210.9	1153.1	1094.6	1033.3	974.0	930.8	888.3	844.4	815.2
35°	1289.7	1237.4	1182.4	1116.9	1034.7	954.5	887.6	829.1	779.0	726.0	683.5
37.5°	1271.5	1224.2	1167.0	1077.8	974.7	883.5	808.9	743.4	676.5	613.1	560.9
40°	1262.5	1220.7	1151.0	1038.1	921.1	823.5	740.6	661.9	583.2	508.6	454.3
42.5°	1261.1	1220.7	1127.3	997.7	875.1	770.6	677.9	583.2	487.7	415.3	367.2
45°	1273.6	1219.3	1102.2	961.5	834.0	723.2	611.7	500.3	402.0	338.6	312.1
47.5°	1309.9	1224.2	1082.7	930.8	795.0	671.0	536.5	408.3	324.7	296.1	295.4
50°	1368.4	1246.5	1078.5	908.5	756.7	605.5	448.0	326.8	286.4	285.0	292.6
52.5°	1461.1	1288.3	1089.0	893.2	710.7	520.5	354.6	282.2	274.5	282.2	291.9
55°	1665.2	1362.8	1102.9	866.0	636.1	412.5	291.9	267.5	271.0	280.1	289.1
57.5°	2036.6	1517.5	1117.6	804.7	515.6	317.0	262.7	262.0	268.2	275.9	284.3
60°	2272.1	1708.4	1153.1	714.2	389.5	262.0	251.5	258.5	266.2	271.7	278.7
62.5°	2279.7	1758.6	1171.9	617.3	289.8	239.7	241.8	255.0	264.1	266.2	269.6
65°	2132.7	1663.8	1086.9	502.3	240.4	227.1	234.8	246.6	255.7	257.1	259.9
67.5°	1863.1	1467.3	921.1	379.0	218.8	217.4	225.7	234.8	241.1	246.6	250.8
70°	1403.2	1210.9	740.6	294.0	205.5	204.1	212.5	220.2	225.7	232.7	239.7
72.5°	711.4	838.2	561.6	240.4	187.4	188.8	197.9	204.8	209.0	215.3	222.3
75°	242.5	365.8	355.3	194.4	167.2	172.8	177.0	184.6	190.9	195.1	198.6
77.5°	151.9	158.9	183.2	156.8	147.7	149.1	156.1	163.0	170.0	172.8	174.2
80°	126.8	127.5	128.2	125.4	126.1	130.3	134.5	142.1	149.1	150.5	151.2
82.5°	100.3	107.3	106.6	105.9	109.4	113.6	116.4	119.1	121.9	123.3	125.4
85°	88.5	87.1	87.8	89.9	87.1	84.3	83.6	83.6	87.8	92.7	94.8
87.5°	80.8	69.0	51.6	48.8	48.8	47.4	44.6	44.6	48.8	53.0	55.0
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):

	160°	165°	170°	175°	180°
0°	2076.3	2076.3	2076.3	2076.3	2076.3
2.5°	2063.7	2064.4	2063.7	2063.7	2067.2
5°	2048.4	2051.2	2049.8	2051.9	2054.0
7.5°	2017.0	2024.0	2025.4	2031.0	2028.9
10°	1971.8	1976.6	1983.6	1989.2	1987.1
12.5°	1900.0	1911.8	1922.3	1928.6	1927.2
15°	1808.7	1825.4	1839.4	1844.3	1838.7
17.5°	1711.2	1721.6	1738.4	1741.8	1747.4
20°	1587.9	1587.2	1601.8	1601.8	1599.0
22.5°	1426.9	1437.4	1437.4	1427.6	1422.7
25°	1262.5	1266.0	1255.5	1257.6	1244.4
27.5°	1097.4	1088.3	1079.9	1083.4	1073.7
30°	939.9	920.4	912.0	913.4	903.0
32.5°	788.7	765.7	757.4	746.2	737.1
35°	651.4	615.2	593.6	588.0	594.3
37.5°	517.0	491.2	465.4	446.6	448.7
40°	409.0	382.5	365.8	358.1	356.7
42.5°	337.9	322.6	319.1	319.8	319.8
45°	306.6	307.3	310.0	312.8	313.5
47.5°	300.3	304.5	309.4	312.8	313.5
50°	299.6	303.8	307.3	311.4	312.8
52.5°	298.9	301.7	303.8	305.9	308.0
55°	296.1	297.5	296.8	298.2	300.3
57.5°	289.1	289.8	288.4	289.1	293.3
60°	282.9	283.6	280.8	284.3	285.0
62.5°	275.2	274.5	273.1	275.2	275.2
65°	264.1	259.9	261.3	263.4	264.1
67.5°	250.8	246.6	246.6	248.0	250.1
70°	234.1	232.0	232.0	234.8	237.6
72.5°	215.3	216.7	220.9	225.0	229.2
75°	200.0	203.4	207.6	218.1	224.3
77.5°	180.5	181.2	184.6	195.1	206.2
80°	153.3	152.6	153.3	154.7	156.8
82.5°	121.2	119.8	115.7	117.1	114.3
85°	89.2	87.1	82.2	78.7	78.0
87.5°	51.6	51.6	49.5	46.7	43.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)