

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: P144546

Luminaire Tested: **LDRL-RW-F03-E-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P144546
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-F03-E-7050
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(3) LIGHTBARS WITH AccuLED OPTICS - RECTANGULAR WIDE
Light Source: (21) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7633 lumens
Efficiency: N/A
Efficacy: 97.5 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

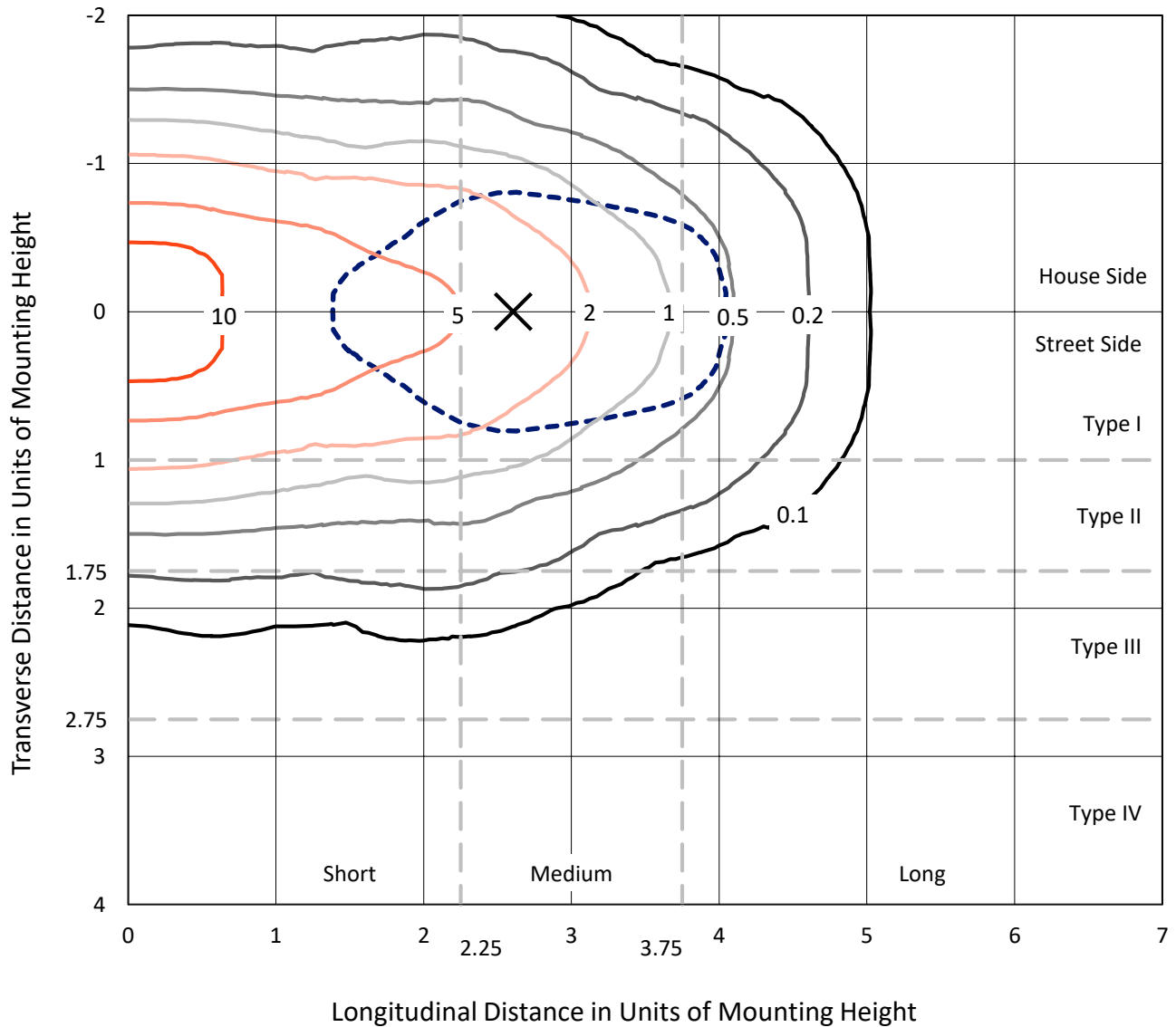
Input Watts (W): 78.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

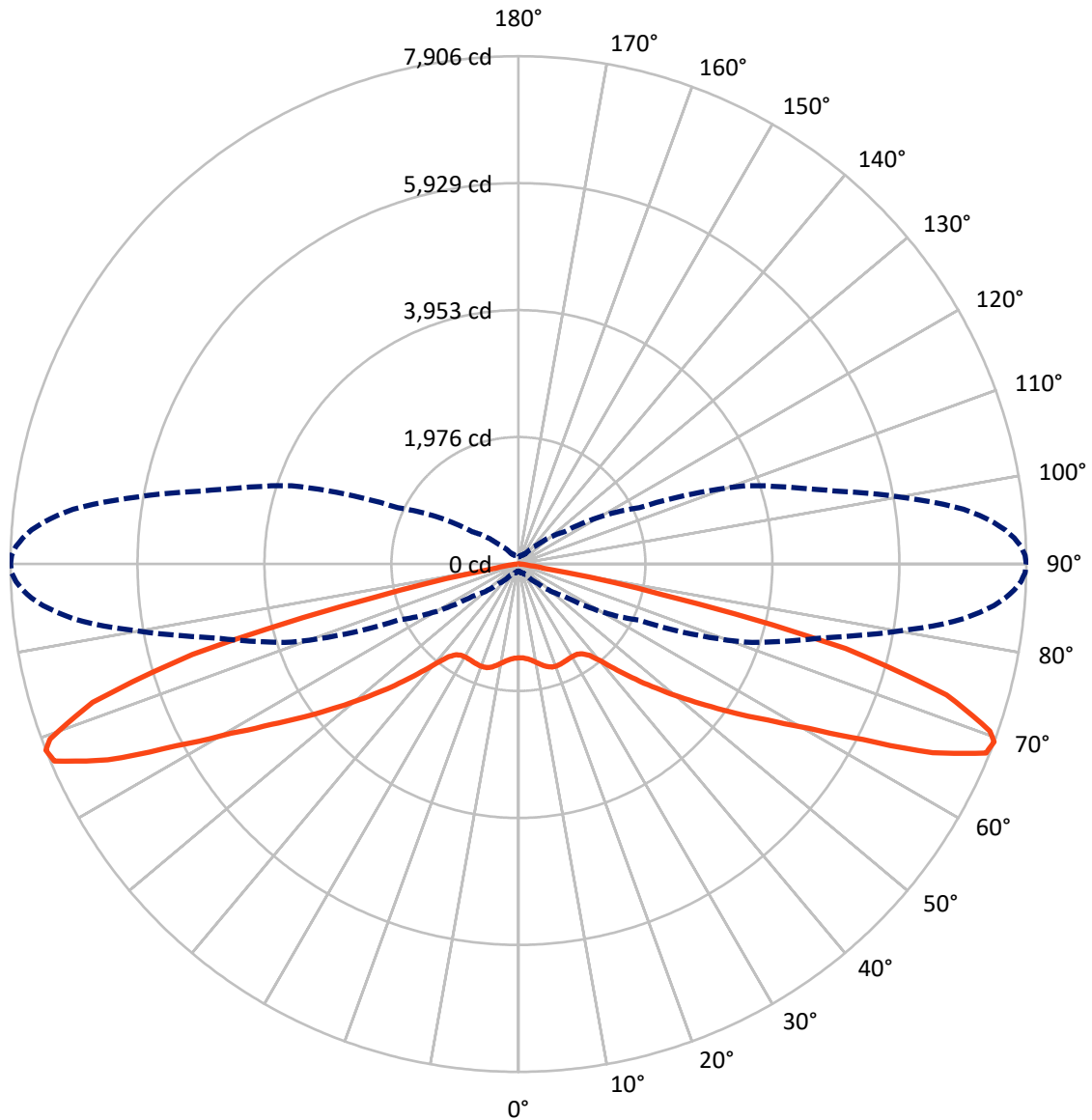
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 15 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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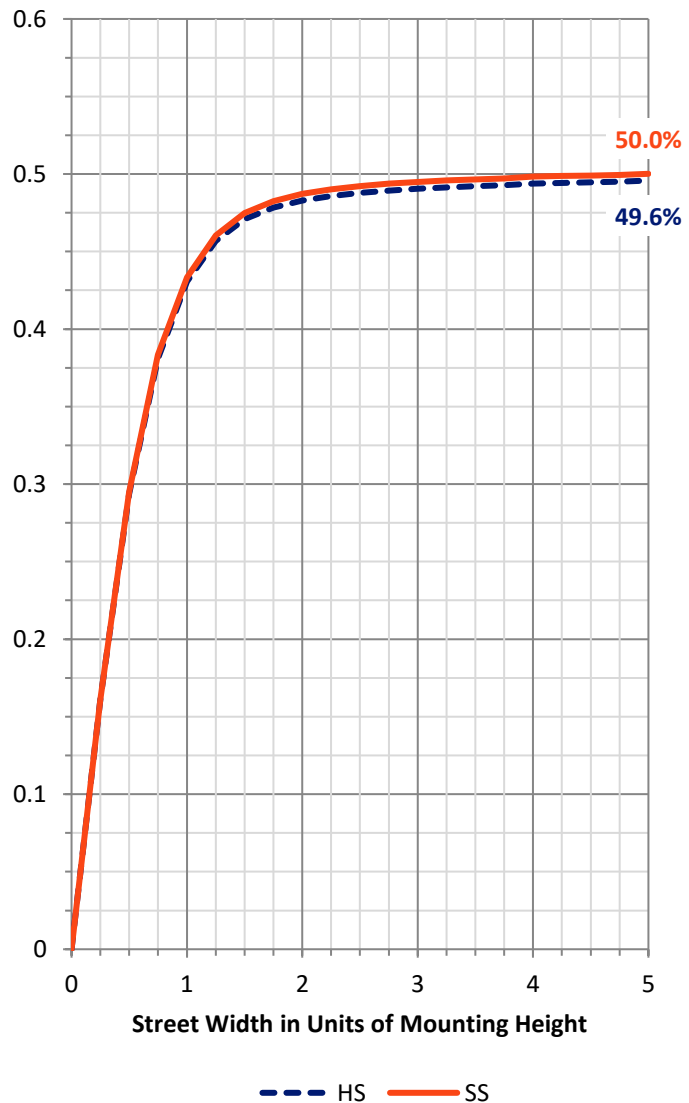
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3816.5	0.0	3816.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	3816.5	0.0	3816.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	7633.0	0.0	7633.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.0	1.9
10°-20°	450.4	5.9
20°-30°	729.5	9.6
30°-40°	908.7	11.9
40°-50°	1131.3	14.8
50°-60°	1388.1	18.2
60°-70°	1712.0	22.4
70°-80°	1064.3	13.9
80°-90°	105.7	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°	7633.0	100.0
0°-180°	7633.0	100.0



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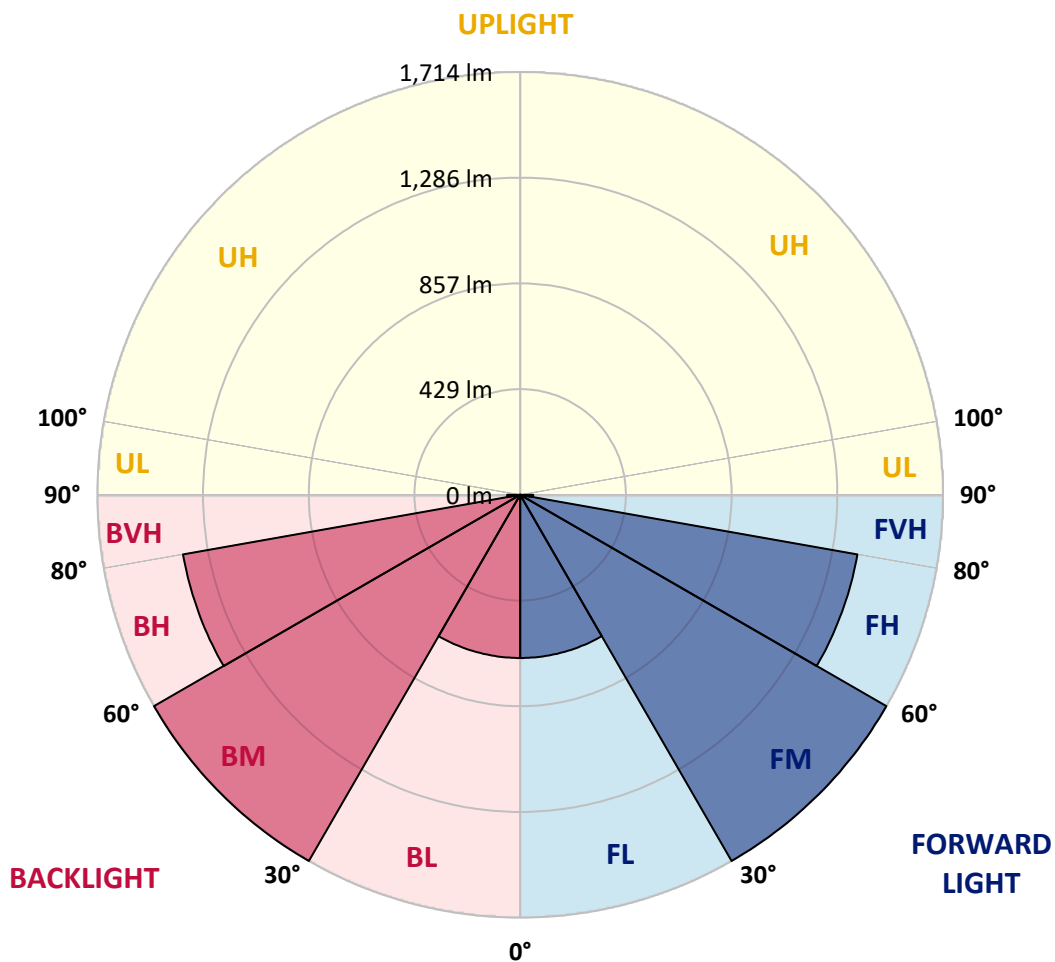
CATALOG NUMBER: LDRL-RW-F03-E-7050

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	661.4	8.7			
FM	(30°-60°)	1714.1	22.5			
FH	(60°-80°)	1388.1	18.2			G1/1800
FVH	(80°-90°)	52.9	0.7			G1/100
BL	(0°-30°)	661.4	8.7	B2/1000		
BM	(30°-60°)	1714.1	22.5	B2/2500		
BH	(60°-80°)	1388.1	18.2	B3/2500		G3/2500
BVH	(80°-90°)	52.9	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°	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7
2.5°	1465.5	1464.0	1466.8	1469.4	1468.6	1469.1	1468.0	1466.8	1466.9	1467.0	1467.1
5°	1477.0	1475.4	1478.0	1480.2	1481.0	1482.8	1483.3	1482.6	1482.9	1483.2	1483.6
7.5°	1490.7	1489.4	1492.8	1495.8	1501.6	1504.6	1507.8	1510.8	1511.0	1511.3	1511.5
10°	1503.6	1502.8	1508.2	1514.8	1524.2	1531.4	1540.0	1548.4	1549.0	1549.7	1550.3
12.5°	1512.1	1512.0	1520.1	1532.1	1548.4	1562.9	1577.6	1591.8	1593.1	1594.5	1595.8
15°	1511.6	1512.5	1525.0	1546.8	1574.8	1600.4	1618.5	1634.0	1635.3	1636.5	1637.8
17.5°	1501.1	1501.4	1519.2	1554.0	1597.6	1635.8	1659.2	1667.6	1668.0	1668.5	1668.9
20°	1471.9	1473.9	1499.0	1549.6	1615.4	1668.0	1690.2	1686.6	1685.8	1685.1	1684.3
22.5°	1421.8	1424.4	1457.9	1525.8	1618.8	1688.9	1711.8	1695.8	1693.3	1690.9	1688.4
25°	1352.2	1356.5	1392.8	1479.8	1596.4	1695.0	1725.8	1700.1	1696.3	1692.5	1688.7
27.5°	1271.6	1273.6	1316.6	1407.8	1544.3	1674.7	1732.1	1709.0	1704.2	1699.4	1694.6
30°	1178.4	1183.7	1228.4	1323.7	1470.8	1627.4	1729.6	1726.2	1720.9	1715.6	1710.2
32.5°	1085.6	1090.2	1134.2	1236.8	1386.2	1561.6	1716.8	1752.4	1748.0	1743.5	1739.0
35°	992.1	997.6	1042.9	1153.2	1302.1	1486.8	1696.8	1789.8	1787.9	1785.9	1784.0
37.5°	910.0	913.6	958.0	1072.6	1228.4	1418.5	1670.6	1839.8	1844.2	1848.6	1853.0
40°	826.4	830.0	876.4	993.9	1160.6	1360.0	1646.4	1902.8	1914.8	1926.8	1938.7
42.5°	746.1	749.2	794.2	911.3	1085.1	1309.5	1632.0	1979.1	2002.0	2024.9	2047.9
45°	663.8	665.8	708.0	822.0	999.0	1250.6	1628.2	2064.8	2097.8	2130.9	2164.0
47.5°	582.7	587.6	631.0	739.2	900.6	1166.2	1622.6	2159.6	2203.4	2247.3	2291.1
50°	505.2	510.6	555.2	657.9	805.6	1066.0	1594.2	2267.0	2320.5	2374.0	2427.5
52.5°	426.2	431.5	476.2	574.3	717.4	953.2	1514.8	2379.9	2443.4	2507.0	2570.6
55°	341.8	343.8	389.8	488.2	629.2	858.6	1388.5	2483.3	2560.3	2637.3	2714.3
57.5°	248.6	255.4	300.9	392.4	539.2	775.1	1227.9	2536.2	2632.3	2728.4	2824.5
60°	179.4	184.0	223.9	295.8	437.4	693.0	1085.4	2497.5	2625.8	2754.1	2882.4
62.5°	141.8	146.9	177.6	222.9	338.2	602.8	992.4	2391.6	2571.5	2751.5	2931.4
65°	125.6	130.1	158.6	181.0	258.7	510.0	933.9	2286.6	2529.5	2772.4	3015.3
67.5°	114.6	119.4	144.4	159.6	213.8	450.3	906.2	2207.3	2487.8	2768.3	3048.8
69°	109.5	113.8	136.8	151.0	201.6	430.0	876.5	2073.2	2351.3	2629.4	2907.5
70°	106.8	110.6	131.4	145.6	196.7	413.2	832.5	1913.6	2181.9	2450.2	2718.6
72.5°	98.8	101.4	119.0	132.1	179.9	329.8	628.0	1350.2	1577.6	1805.1	2032.6
75°	87.6	90.8	106.2	118.4	137.2	198.2	393.1	783.7	939.6	1095.5	1251.4
77.5°	75.2	78.8	91.5	110.8	110.6	129.1	238.6	450.0	525.8	601.5	677.2
80°	64.5	67.6	79.0	109.5	92.5	102.2	177.9	335.7	366.2	396.7	427.2
82.5°	50.6	53.2	66.4	90.4	74.0	77.8	135.4	305.8	326.4	347.1	367.8
85°	31.8	32.8	48.3	62.5	52.6	47.0	87.2	235.3	250.3	265.4	280.4
87.5°	12.7	15.5	23.3	22.4	22.6	18.8	28.2	84.8	92.6	100.3	108.0
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):

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7
2.5°	1467.2	1467.3	1466.8	1466.1	1466.8	1466.1	1466.3	1467.1	1466.8	1466.8	1466.3
5°	1483.9	1484.3	1484.4	1482.8	1483.6	1483.8	1484.0	1483.6	1483.8	1484.3	1483.3
7.5°	1511.8	1512.0	1512.8	1513.6	1513.0	1513.3	1513.9	1513.3	1512.5	1514.3	1513.0
10°	1551.0	1551.6	1551.6	1554.0	1552.9	1553.7	1556.0	1556.0	1554.7	1556.5	1556.0
12.5°	1597.1	1598.4	1598.2	1598.0	1598.9	1599.7	1602.2	1602.8	1603.2	1606.0	1605.0
15°	1639.1	1640.4	1641.4	1641.8	1643.7	1644.2	1645.7	1646.8	1647.5	1648.5	1649.0
17.5°	1669.4	1669.8	1671.4	1670.6	1673.2	1672.6	1674.4	1675.2	1676.0	1677.2	1678.0
20°	1683.6	1682.8	1683.0	1682.3	1682.3	1682.8	1683.0	1684.1	1683.6	1684.8	1685.8
22.5°	1686.0	1683.6	1682.0	1680.2	1679.4	1678.0	1678.0	1678.5	1676.7	1678.0	1679.5
25°	1684.9	1681.0	1678.2	1675.2	1672.4	1669.8	1668.3	1667.8	1666.6	1666.6	1667.8
27.5°	1689.9	1685.1	1681.0	1676.0	1672.4	1668.8	1665.6	1663.0	1660.4	1659.9	1659.9
30°	1704.9	1699.6	1695.0	1688.6	1683.0	1678.5	1673.9	1670.4	1665.6	1663.4	1661.2
32.5°	1734.5	1730.0	1723.7	1718.2	1711.6	1706.0	1699.8	1694.2	1688.6	1683.6	1681.6
35°	1782.1	1780.2	1776.6	1772.8	1766.4	1759.3	1754.2	1747.6	1741.2	1733.9	1731.8
37.5°	1857.3	1861.7	1859.6	1856.8	1855.1	1852.8	1846.0	1841.6	1837.3	1831.2	1830.0
40°	1950.6	1962.6	1974.6	1982.4	1979.6	1989.0	1990.6	1991.3	1987.5	1992.6	1993.6
42.5°	2070.8	2093.7	2115.3	2131.1	2149.4	2163.1	2180.9	2188.5	2203.0	2218.0	2226.6
45°	2197.1	2230.2	2261.2	2293.5	2325.2	2360.0	2393.8	2417.8	2452.5	2478.4	2494.7
47.5°	2335.0	2378.8	2416.0	2464.2	2510.2	2551.4	2610.6	2658.2	2700.6	2741.0	2783.4
50°	2480.9	2534.4	2580.1	2639.0	2695.0	2759.6	2828.9	2889.4	2956.0	3020.2	3077.4
52.5°	2634.2	2697.8	2759.5	2820.0	2887.9	2958.0	3033.2	3120.6	3200.4	3297.2	3366.6
55°	2791.3	2868.3	2934.1	2997.4	3069.3	3147.0	3236.5	3340.0	3441.3	3547.2	3652.5
57.5°	2920.6	3016.7	3088.6	3162.6	3240.0	3317.0	3428.1	3534.0	3662.6	3792.8	3924.4
60°	3010.7	3139.0	3226.0	3319.6	3409.3	3502.8	3622.5	3756.4	3917.3	4074.9	4253.8
62.5°	3111.4	3291.4	3413.6	3538.4	3647.4	3759.8	3919.8	4074.1	4280.7	4462.2	4687.2
65°	3258.2	3501.0	3681.0	3849.2	3995.6	4148.6	4338.4	4531.2	4767.6	5018.4	5300.7
67.5°	3329.3	3609.8	3845.3	4053.0	4240.0	4435.0	4630.9	4859.1	5125.4	5427.3	5737.3
69°	3185.6	3463.7	3734.6	3944.5	4141.4	4349.6	4559.2	4789.5	5051.7	5365.0	5693.7
70°	2987.0	3255.3	3543.2	3753.6	3952.4	4168.4	4381.8	4614.4	4865.2	5187.9	5520.3
72.5°	2260.1	2487.6	2767.1	2989.5	3198.4	3416.6	3636.4	3838.2	4092.6	4403.2	4709.4
75°	1407.3	1563.2	1814.4	2037.8	2205.8	2392.8	2599.1	2790.2	3045.7	3265.7	3560.2
77.5°	753.0	828.7	975.3	1135.4	1229.0	1320.2	1454.6	1558.2	1665.8	1793.1	1914.8
80°	457.7	488.2	538.2	572.8	559.8	522.5	510.5	473.2	486.6	463.8	447.2
82.5°	388.5	409.2	439.6	460.4	445.2	385.5	317.9	267.6	232.0	198.0	168.2
85°	295.5	310.5	326.3	335.7	335.0	305.2	242.4	187.8	146.4	113.4	94.2
87.5°	115.8	123.5	135.0	133.2	139.0	140.0	109.5	84.6	60.2	40.7	35.6
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):

	80°	81°	82°	83°	84°	85°	86°	87°	88°	89°	90°
0°	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7	1461.7
2.5°	1465.3	1465.0	1465.2	1466.0	1466.0	1466.6	1466.0	1466.3	1465.6	1464.8	1465.3
5°	1483.3	1482.8	1483.4	1483.8	1483.8	1483.3	1484.6	1484.6	1484.1	1483.3	1483.6
7.5°	1514.3	1514.6	1513.8	1516.4	1514.1	1514.3	1515.8	1515.6	1515.1	1515.4	1515.6
10°	1557.5	1557.2	1557.8	1559.3	1557.1	1558.6	1560.4	1560.8	1559.6	1559.6	1559.8
12.5°	1605.3	1607.4	1607.6	1608.6	1608.6	1609.9	1610.1	1610.4	1611.4	1611.6	1610.1
15°	1651.0	1652.6	1653.6	1654.6	1653.4	1655.1	1657.2	1657.2	1656.9	1657.9	1656.4
17.5°	1679.2	1680.5	1682.3	1682.0	1682.3	1683.8	1685.0	1685.6	1686.1	1686.1	1686.4
20°	1688.1	1688.8	1689.9	1691.0	1691.4	1693.0	1694.0	1694.7	1695.2	1694.8	1695.0
22.5°	1681.0	1682.0	1684.1	1684.8	1685.1	1687.4	1688.4	1689.2	1689.6	1690.2	1689.4
25°	1668.8	1669.8	1671.9	1672.6	1673.2	1675.2	1676.4	1678.2	1678.7	1679.0	1679.2
27.5°	1660.4	1661.0	1662.4	1663.5	1663.8	1666.0	1667.8	1669.0	1669.4	1669.6	1669.6
30°	1660.6	1660.6	1662.5	1662.8	1662.4	1664.5	1665.5	1666.3	1666.8	1666.8	1667.0
32.5°	1678.2	1677.2	1678.8	1676.4	1676.8	1676.4	1676.2	1677.0	1676.4	1676.7	1675.7
35°	1727.8	1725.0	1722.7	1723.7	1720.2	1715.0	1717.8	1716.6	1713.8	1714.0	1714.8
37.5°	1822.8	1820.0	1822.6	1820.2	1821.0	1814.0	1815.7	1809.4	1807.6	1809.8	1803.3
40°	1991.6	1990.3	1995.2	1993.1	1994.4	1996.4	1998.2	1992.0	1981.9	1991.0	1991.3
42.5°	2225.4	2236.8	2241.4	2247.7	2254.6	2251.6	2257.6	2259.4	2248.2	2256.6	2258.6
45°	2518.6	2530.8	2545.0	2549.4	2560.6	2562.0	2566.6	2567.9	2557.8	2558.8	2561.0
47.5°	2825.8	2848.2	2865.0	2876.6	2888.4	2890.6	2893.2	2888.4	2889.1	2891.4	2891.4
50°	3127.8	3175.5	3205.2	3228.4	3248.4	3238.0	3246.9	3247.6	3250.8	3244.4	3248.2
52.5°	3445.2	3508.4	3558.2	3597.1	3609.3	3646.4	3631.2	3642.8	3650.7	3639.0	3646.7
55°	3755.2	3845.4	3925.4	3981.8	4021.5	4059.1	4064.9	4095.2	4091.6	4103.0	4098.0
57.5°	4050.0	4176.0	4290.4	4374.0	4430.9	4488.3	4527.2	4560.2	4563.5	4596.3	4577.8
60°	4406.4	4582.0	4729.2	4853.8	4937.8	5023.2	5090.6	5144.7	5157.2	5213.3	5194.8
62.5°	4887.5	5101.8	5289.8	5436.0	5623.2	5713.4	5844.6	5926.4	5977.5	5991.5	6017.6
65°	5563.8	5842.8	6090.8	6324.6	6535.2	6681.4	6833.1	6955.0	7053.0	7044.8	7084.9
67.5°	6066.2	6384.3	6683.0	6963.2	7189.9	7378.0	7552.3	7684.2	7771.6	7827.2	7850.9
69°	6013.8	6355.3	6684.7	6984.0	7217.8	7428.0	7597.8	7727.6	7827.7	7888.2	7905.8
70°	5839.8	6190.7	6534.0	6827.8	7066.2	7296.8	7469.7	7614.2	7709.6	7775.6	7785.8
72.5°	5051.2	5431.4	5735.0	6055.5	6285.0	6518.5	6627.3	6806.4	6930.7	6970.8	6970.1
75°	3809.8	4127.0	4393.8	4630.6	4836.0	4994.2	5045.6	5173.2	5276.4	5275.1	5265.4
77.5°	2051.6	2126.2	2226.1	2259.6	2323.0	2321.9	2258.4	2278.4	2336.9	2223.6	2260.2
80°	440.2	433.5	428.0	424.6	422.8	423.6	425.9	411.4	425.6	419.3	392.4
82.5°	153.2	149.7	146.1	148.6	146.9	148.4	147.9	149.6	149.4	148.9	145.4
85°	86.2	83.1	81.3	82.6	79.8	77.2	75.4	74.7	74.4	72.7	71.7
87.5°	32.8	32.6	32.3	31.0	28.0	25.6	24.2	21.0	19.8	18.0	16.8
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)