

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: INVUE

Report Number: P142050

Luminaire Tested: **ECM-E04-LED-E1-T4**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P142050
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33685)
Test Lab: INNOVATION CENTER-P3
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ECM-E04-LED-E1-T4
Description: EPIC CLASSICAL MEDIUM DECORATIVE LED LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 4
Light Source: (84) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11503.1 lumens
Efficiency: N/A
Efficacy: 118.3 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G3

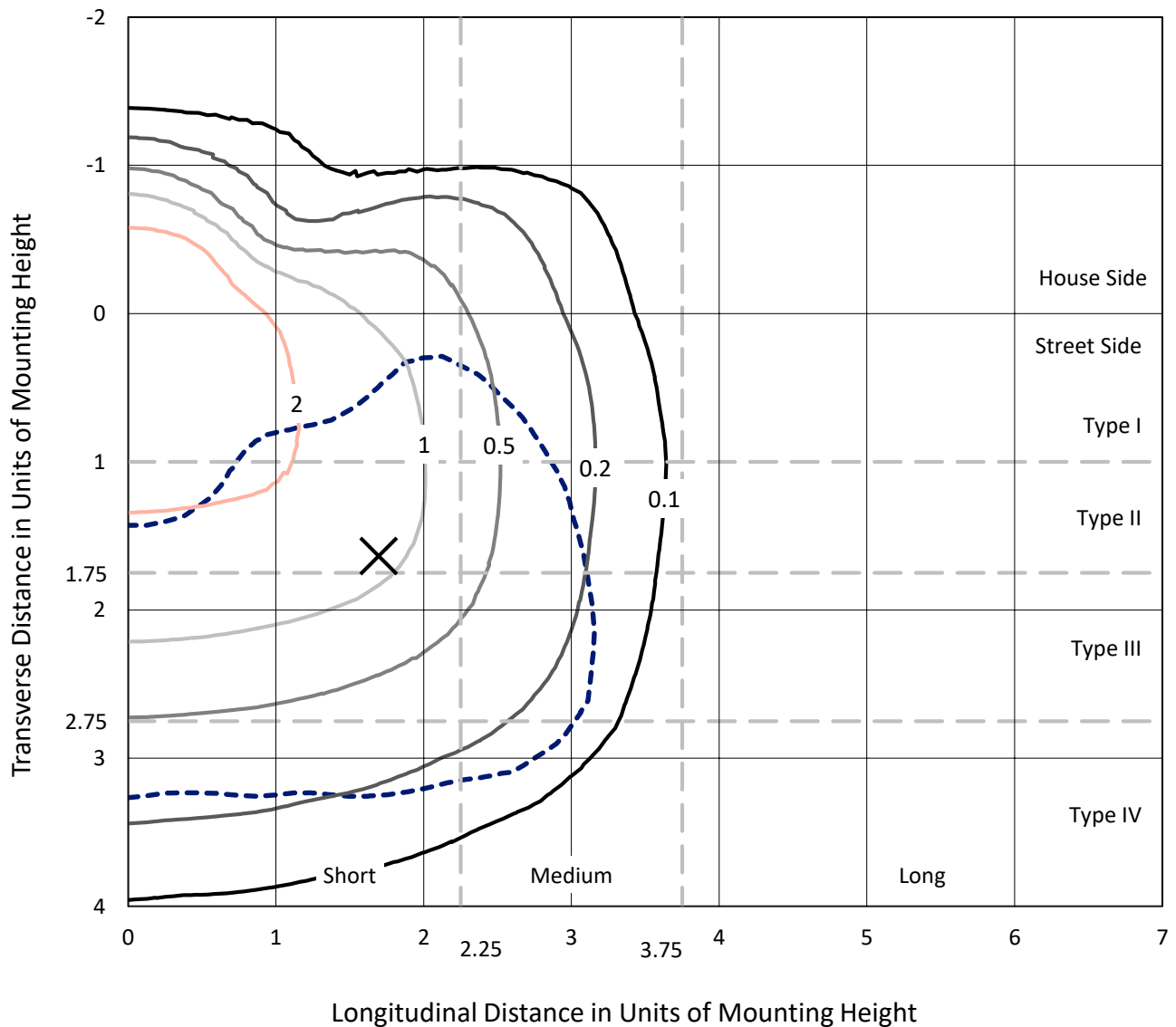
Input Watts (W): 97.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

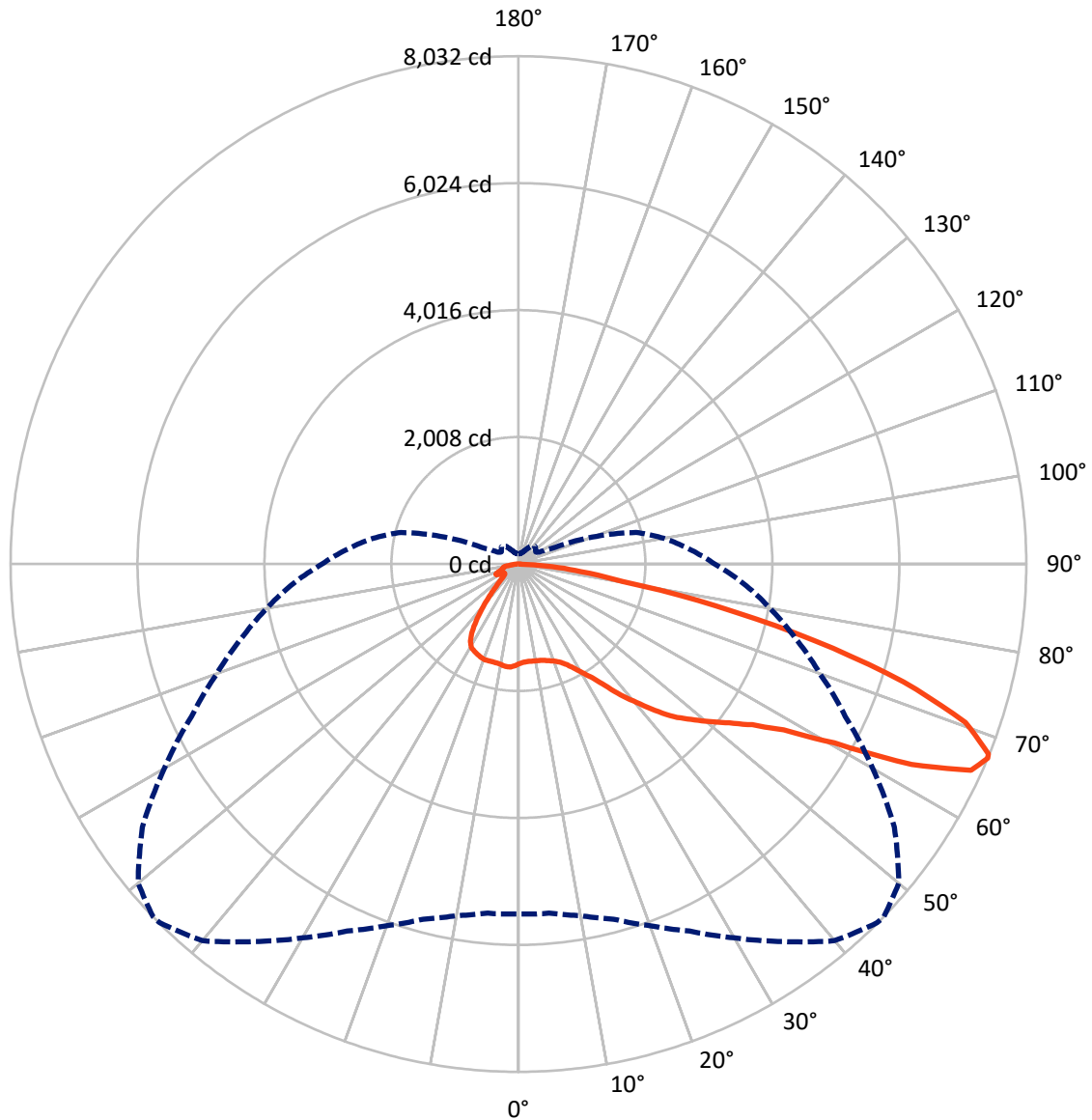
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 46-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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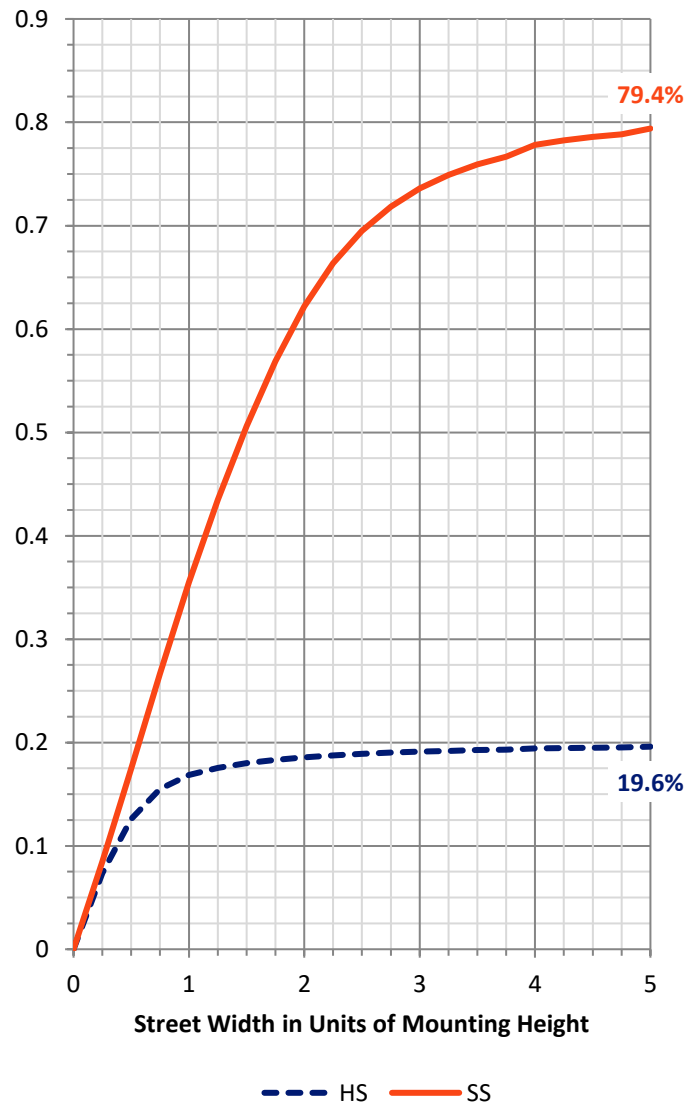
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2285.9	0.0	2285.9
	% Fixture	19.9	0.0	19.9
Street Side	Lumens	9217.2	0.0	9217.2
	% Fixture	80.1	0.0	80.1
Total	Lumens	11503.1	0.0	11503.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.6	1.3
10°-20°	452.8	3.9
20°-30°	761.2	6.6
30°-40°	1138.4	9.9
40°-50°	1482.8	12.9
50°-60°	2030.7	17.7
60°-70°	3210.4	27.9
70°-80°	1991.4	17.3
80°-90°	283.8	2.5
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°	11503.1	100.0
0°-180°	11503.1	100.0



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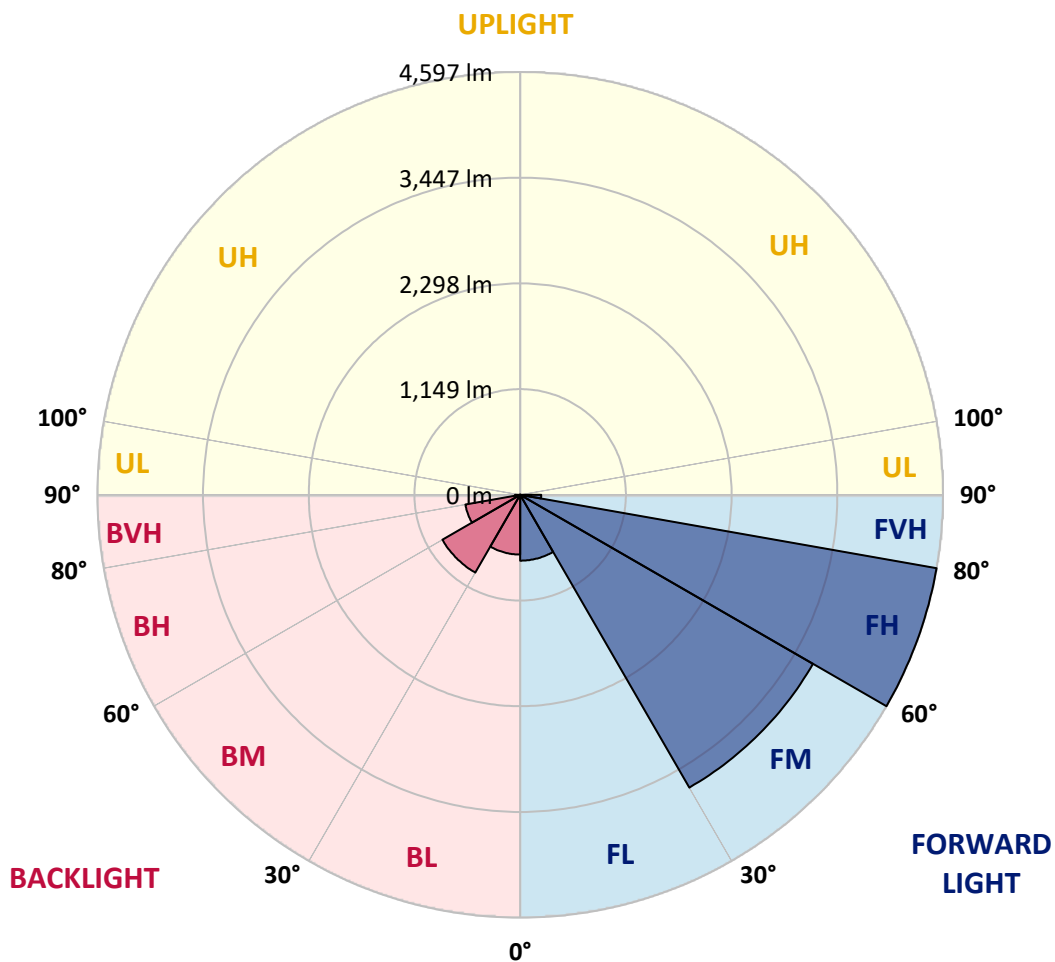
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	716.3	6.2			
FM	(30°-60°)	3675.7	32.0			
FH	(60°-80°)	4596.6	40.0			G2/5000
FVH	(80°-90°)	228.5	2.0			G3/500
BL	(0°-30°)	649.3	5.6	B2/1000		
BM	(30°-60°)	976.2	8.5	B1/1000		
BH	(60°-80°)	605.1	5.3	B2/1000		G2/1000
BVH	(80°-90°)	55.2	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°	46°
0°	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0
2.5°	1541.3	1545.3	1544.0	1542.7	1544.0	1545.3	1546.7	1550.7	1552.0	1553.3	1554.7
5°	1513.3	1517.3	1516.0	1518.7	1520.0	1525.3	1529.3	1536.0	1540.0	1545.3	1548.0
7.5°	1505.3	1508.0	1508.0	1510.7	1512.0	1517.3	1524.0	1532.0	1540.0	1548.0	1550.7
10°	1526.7	1528.0	1528.0	1526.7	1528.0	1530.7	1533.3	1540.0	1546.7	1553.3	1556.0
12.5°	1577.3	1573.3	1572.0	1568.0	1569.3	1564.0	1564.0	1562.7	1562.7	1564.0	1564.0
15°	1630.7	1628.0	1625.3	1618.7	1618.7	1610.7	1608.0	1602.7	1589.3	1584.0	1582.7
17.5°	1678.7	1676.0	1670.7	1665.3	1662.7	1652.0	1649.3	1640.0	1624.0	1612.0	1608.0
20°	1736.0	1729.3	1717.3	1714.7	1708.0	1696.0	1692.0	1680.0	1658.7	1641.3	1640.0
22.5°	1824.0	1813.3	1801.3	1792.0	1774.7	1762.7	1752.0	1736.0	1710.7	1690.7	1685.3
25°	1912.0	1908.0	1897.3	1884.0	1872.0	1858.7	1845.3	1821.3	1788.0	1762.7	1757.3
27.5°	2036.0	2026.7	2013.3	1992.0	1985.3	1962.7	1952.0	1932.0	1898.7	1866.7	1861.3
30°	2165.3	2156.0	2134.7	2116.0	2112.0	2088.0	2081.3	2060.0	2030.7	1998.7	1994.7
32.5°	2313.3	2304.0	2288.0	2277.3	2262.7	2249.3	2233.3	2213.3	2176.0	2149.3	2144.0
35°	2502.7	2494.7	2476.0	2484.0	2470.7	2466.7	2457.3	2424.0	2382.7	2350.7	2356.0
37.5°	2652.0	2650.7	2654.7	2650.7	2668.0	2685.3	2685.3	2688.0	2668.0	2633.3	2626.7
40°	2792.0	2790.7	2801.3	2813.3	2860.0	2888.0	2920.0	2932.0	2910.7	2884.0	2874.7
42.5°	2922.7	2920.0	2934.7	2978.7	3036.0	3088.0	3142.7	3189.3	3200.0	3170.7	3164.0
45°	3052.0	3056.0	3074.7	3124.0	3200.0	3268.0	3361.3	3416.0	3450.7	3434.7	3445.3
47.5°	3208.0	3212.0	3232.0	3290.7	3357.3	3442.7	3552.0	3645.3	3686.7	3686.7	3673.3
50°	3393.3	3412.0	3433.3	3473.3	3550.7	3634.7	3768.0	3861.3	3928.0	3925.3	3914.7
52.5°	3640.0	3644.0	3678.7	3710.7	3777.3	3862.7	3982.7	4110.7	4194.7	4186.7	4174.7
55°	3972.0	3956.0	3978.7	4009.3	4081.3	4156.0	4286.7	4434.7	4520.0	4494.7	4486.7
57.5°	4390.7	4377.3	4393.3	4430.7	4521.3	4582.7	4688.0	4824.0	4944.0	4965.3	4946.7
60°	4994.7	4994.7	5026.7	5106.7	5198.7	5290.7	5425.3	5589.3	5713.3	5744.0	5742.7
62.5°	5710.7	5756.0	5762.7	5866.7	6042.7	6201.3	6410.7	6700.0	6885.3	7017.3	6982.7
65°	5825.3	5840.0	5898.7	6060.0	6298.7	6580.0	6905.3	7285.3	7670.7	7861.3	7866.7
67°	5537.3	5542.7	5645.3	5814.7	6088.0	6405.3	6826.7	7289.3	7777.3	8024.0	8032.0
67.5°	5448.0	5437.3	5529.3	5706.7	6005.3	6362.7	6758.7	7245.3	7749.3	8013.3	8017.3
70°	4849.3	4854.7	4926.7	5124.0	5440.0	5774.7	6217.3	6717.3	7248.0	7489.3	7501.3
72.5°	4181.3	4146.7	4212.0	4422.7	4573.3	4900.0	5306.7	5684.0	6150.7	6378.7	6373.3
75°	3189.3	3093.3	3208.0	3330.7	3414.7	3738.7	3992.0	4252.0	4682.7	4856.0	4846.7
77.5°	1718.7	1714.7	1840.0	1936.0	2061.3	2353.3	2576.0	2740.0	3102.7	3188.0	3198.7
80°	933.3	968.0	1042.7	1149.3	1250.7	1390.7	1520.0	1622.7	1741.3	1686.7	1674.7
82.5°	562.7	620.0	734.7	816.0	856.0	918.7	1010.7	1069.3	1116.0	1014.7	994.7
85°	89.3	161.3	414.7	496.0	538.7	568.0	588.0	626.7	572.0	536.0	545.3
87.5°	29.3	33.3	64.0	141.3	124.0	85.3	112.0	162.7	77.3	41.3	40.0
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0
2.5°	1556.0	1557.3	1561.3	1566.7	1569.3	1576.0	1576.0	1581.3	1581.3	1585.3	1589.3
5°	1552.0	1558.7	1564.0	1572.0	1576.0	1585.3	1589.3	1597.3	1601.3	1606.7	1612.0
7.5°	1558.7	1568.0	1574.7	1584.0	1590.7	1600.0	1604.0	1610.7	1614.7	1621.3	1624.0
10°	1564.0	1573.3	1581.3	1592.0	1597.3	1604.0	1608.0	1613.3	1614.7	1618.7	1621.3
12.5°	1570.7	1574.7	1581.3	1590.7	1596.0	1600.0	1604.0	1608.0	1612.0	1612.0	1612.0
15°	1580.0	1576.0	1577.3	1585.3	1590.7	1593.3	1597.3	1600.0	1601.3	1601.3	1598.7
17.5°	1600.0	1589.3	1582.7	1582.7	1585.3	1588.0	1588.0	1584.0	1581.3	1577.3	1572.0
20°	1629.3	1612.0	1598.7	1592.0	1586.7	1580.0	1569.3	1556.0	1544.0	1533.3	1526.7
22.5°	1670.7	1653.3	1637.3	1622.7	1605.3	1582.7	1560.0	1532.0	1509.3	1492.0	1485.3
25°	1748.0	1722.7	1710.7	1688.0	1661.3	1625.3	1590.7	1552.0	1525.3	1501.3	1490.7
27.5°	1852.0	1832.0	1805.3	1793.3	1758.7	1717.3	1678.7	1632.0	1594.7	1565.3	1545.3
30°	1984.0	1970.7	1948.0	1928.0	1894.7	1857.3	1800.0	1748.0	1682.7	1630.7	1601.3
32.5°	2136.0	2116.0	2096.0	2070.7	2046.7	1997.3	1944.0	1865.3	1774.7	1685.3	1630.7
35°	2326.7	2306.7	2293.3	2253.3	2213.3	2160.0	2088.0	1994.7	1868.0	1748.0	1654.7
37.5°	2589.3	2546.7	2481.3	2424.0	2352.0	2270.7	2189.3	2077.3	1936.0	1780.0	1652.0
40°	2817.3	2754.7	2681.3	2582.7	2481.3	2374.7	2278.7	2157.3	1992.0	1806.7	1633.3
42.5°	3113.3	3005.3	2881.3	2750.7	2612.0	2484.0	2365.3	2226.7	2033.3	1808.0	1589.3
45°	3380.0	3246.7	3082.7	2905.3	2736.0	2580.0	2444.0	2290.7	2068.0	1802.7	1538.7
47.5°	3617.3	3461.3	3261.3	3048.0	2848.0	2672.0	2522.7	2361.3	2113.3	1820.0	1520.0
50°	3846.7	3668.0	3442.7	3184.0	2961.3	2769.3	2613.3	2440.0	2189.3	1878.7	1549.3
52.5°	4092.0	3874.7	3620.0	3328.0	3085.3	2886.7	2712.0	2534.7	2280.0	1957.3	1602.7
55°	4392.0	4145.3	3854.7	3532.0	3253.3	3032.0	2834.7	2648.0	2388.0	2054.7	1665.3
57.5°	4792.0	4542.7	4208.0	3836.0	3544.0	3281.3	3044.0	2833.3	2552.0	2189.3	1758.7
60°	5562.7	5254.7	4809.3	4405.3	4089.3	3780.0	3493.3	3205.3	2866.7	2461.3	1998.7
62.5°	6800.0	6370.7	5818.7	5256.0	4829.3	4420.0	4041.3	3666.7	3244.0	2789.3	2284.0
65°	7656.0	7125.3	6432.0	5726.7	5149.3	4649.3	4197.3	3752.0	3281.3	2848.0	2408.0
67°	7852.0	7258.7	6469.3	5704.0	5076.0	4533.3	4041.3	3577.3	3104.0	2710.7	2334.7
67.5°	7844.0	7252.0	6440.0	5656.0	5026.7	4492.0	3996.0	3508.0	3042.7	2657.3	2298.7
70°	7369.3	6774.7	5958.7	5178.7	4572.0	4040.0	3540.0	3114.7	2640.0	2328.0	2058.7
72.5°	6244.0	5726.7	5068.0	4366.7	3846.7	3370.7	2970.7	2553.3	2141.3	1933.3	1721.3
75°	4748.0	4289.3	3685.3	3172.0	2776.0	2445.3	2044.0	1769.3	1480.0	1337.3	1261.3
77.5°	3137.3	2610.7	2193.3	1704.0	1413.3	1153.3	909.3	721.3	602.7	633.3	692.0
80°	1660.0	1317.3	974.7	754.7	582.7	453.3	360.0	269.3	196.0	229.3	288.0
82.5°	904.0	770.7	569.3	453.3	370.7	306.7	236.0	165.3	122.7	136.0	196.0
85°	516.0	453.3	352.0	274.7	240.0	196.0	134.7	90.7	88.0	94.7	121.3
87.5°	85.3	114.7	93.3	64.0	72.0	70.7	62.7	48.0	36.0	50.7	65.3
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0	1576.0
2.5°	1592.0	1596.0	1601.3	1602.7	1601.3	1605.3	1612.0	1617.3	1613.3	1610.7	1617.3
5°	1617.3	1620.0	1626.7	1626.7	1628.0	1630.7	1634.7	1638.7	1633.3	1633.3	1636.0
7.5°	1628.0	1628.0	1634.7	1632.0	1632.0	1630.7	1634.7	1636.0	1628.0	1626.7	1628.0
10°	1621.3	1621.3	1624.0	1618.7	1617.3	1616.0	1616.0	1617.3	1609.3	1606.7	1610.7
12.5°	1612.0	1612.0	1609.3	1606.7	1604.0	1601.3	1604.0	1605.3	1600.0	1600.0	1601.3
15°	1596.0	1592.0	1590.7	1590.7	1592.0	1593.3	1598.7	1602.7	1598.7	1596.0	1596.0
17.5°	1569.3	1566.7	1570.7	1578.7	1588.0	1594.7	1602.7	1605.3	1596.0	1585.3	1577.3
20°	1529.3	1536.0	1550.7	1573.3	1593.3	1604.0	1604.0	1594.7	1573.3	1552.0	1541.3
22.5°	1488.0	1506.7	1538.7	1573.3	1597.3	1601.3	1586.7	1566.7	1537.3	1514.7	1494.7
25°	1493.3	1516.0	1548.0	1577.3	1593.3	1586.7	1560.0	1534.7	1500.0	1476.0	1446.7
27.5°	1549.3	1570.7	1586.7	1596.0	1590.7	1569.3	1538.7	1504.0	1465.3	1432.0	1397.3
30°	1594.7	1604.0	1602.7	1594.7	1574.7	1541.3	1505.3	1464.0	1417.3	1381.3	1336.0
32.5°	1602.7	1585.3	1558.7	1529.3	1502.7	1465.3	1424.0	1376.0	1324.0	1277.3	1232.0
35°	1588.0	1522.7	1464.0	1405.3	1365.3	1318.7	1282.7	1226.7	1169.3	1129.3	1096.0
37.5°	1533.3	1420.0	1326.7	1244.0	1185.3	1132.0	1077.3	1022.7	974.7	956.0	946.7
40°	1464.0	1293.3	1150.7	1036.0	973.3	921.3	865.3	821.3	798.7	781.3	774.7
42.5°	1362.7	1149.3	972.0	849.3	769.3	721.3	666.7	642.7	632.0	636.0	630.7
45°	1268.0	998.7	776.0	640.0	585.3	540.0	513.3	502.7	497.3	494.7	498.7
47.5°	1201.3	882.7	625.3	486.7	441.3	409.3	398.7	394.7	393.3	388.0	386.7
50°	1185.3	814.7	512.0	378.7	344.0	326.7	321.3	317.3	314.7	310.7	301.3
52.5°	1204.0	796.0	456.0	325.3	296.0	282.7	278.7	272.0	269.3	258.7	246.7
55°	1236.0	802.7	438.7	310.7	281.3	266.7	261.3	258.7	249.3	237.3	222.7
57.5°	1302.7	844.0	446.7	314.7	284.0	270.7	268.0	265.3	253.3	236.0	217.3
60°	1496.0	964.0	488.0	342.7	305.3	296.0	297.3	292.0	274.7	252.0	224.0
62.5°	1794.7	1150.7	564.0	377.3	340.0	340.0	348.0	344.0	317.3	280.0	240.0
65°	1949.3	1262.7	596.0	388.0	350.7	368.0	393.3	389.3	350.7	294.7	241.3
67°	1925.3	1241.3	577.3	372.0	330.7	353.3	378.7	380.0	337.3	281.3	230.7
67.5°	1902.7	1226.7	568.0	365.3	325.3	348.0	372.0	368.0	332.0	276.0	228.0
70°	1709.3	1077.3	506.7	341.3	301.3	308.0	314.7	309.3	281.3	244.0	210.7
72.5°	1476.0	894.7	446.7	326.7	288.0	277.3	277.3	268.0	249.3	224.0	200.0
75°	1125.3	696.0	392.0	310.7	272.0	256.0	253.3	246.7	230.7	212.0	190.7
77.5°	686.7	498.7	340.0	286.7	252.0	238.7	240.0	236.0	220.0	202.7	182.7
80°	344.0	322.7	285.3	249.3	228.0	214.7	216.0	208.0	194.7	181.3	165.3
82.5°	210.7	222.7	200.0	189.3	176.0	161.3	125.3	146.7	142.7	130.7	124.0
85°	140.0	138.7	125.3	110.7	101.3	88.0	78.7	80.0	88.0	90.7	90.7
87.5°	68.0	65.3	60.0	56.0	53.3	44.0	41.3	46.7	46.7	49.3	48.0
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°	1576.0	1576.0	1576.0	1576.0	1576.0
2.5°	1618.7	1621.3	1620.0	1624.0	1620.0
5°	1637.3	1637.3	1638.7	1640.0	1638.7
7.5°	1628.0	1626.7	1629.3	1632.0	1630.7
10°	1610.7	1612.0	1614.7	1618.7	1618.7
12.5°	1604.0	1605.3	1610.7	1614.7	1614.7
15°	1598.7	1600.0	1602.7	1608.0	1604.0
17.5°	1574.7	1569.3	1569.3	1573.3	1569.3
20°	1532.0	1524.0	1524.0	1522.7	1521.3
22.5°	1481.3	1461.3	1456.0	1449.3	1450.7
25°	1418.7	1392.0	1377.3	1369.3	1366.7
27.5°	1368.0	1337.3	1322.7	1310.7	1306.7
30°	1304.0	1269.3	1257.3	1250.7	1248.0
32.5°	1210.7	1180.0	1164.0	1160.0	1152.0
35°	1069.3	1056.0	1049.3	1040.0	1041.3
37.5°	928.0	924.0	908.0	913.3	908.0
40°	776.0	774.7	777.3	773.3	782.7
42.5°	633.3	629.3	636.0	632.0	636.0
45°	490.7	498.7	508.0	504.0	509.3
47.5°	376.0	377.3	374.7	377.3	380.0
50°	289.3	286.7	284.0	278.7	281.3
52.5°	238.7	229.3	222.7	218.7	217.3
55°	210.7	201.3	196.0	190.7	190.7
57.5°	202.7	190.7	182.7	178.7	177.3
60°	204.0	188.0	177.3	170.7	169.3
62.5°	209.3	188.0	173.3	166.7	164.0
65°	208.0	185.3	170.7	164.0	161.3
67°	201.3	181.3	169.3	162.7	161.3
67.5°	198.7	180.0	169.3	162.7	160.0
70°	189.3	176.0	166.7	160.0	157.3
72.5°	181.3	170.7	160.0	154.7	152.0
75°	173.3	162.7	153.3	148.0	146.7
77.5°	165.3	153.3	146.7	140.0	134.7
80°	150.7	137.3	128.0	117.3	114.7
82.5°	124.0	113.3	104.0	94.7	93.3
85°	92.0	88.0	80.0	72.0	72.0
87.5°	50.7	56.0	49.3	45.3	42.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)