

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: P141297

Luminaire Tested: **EMM-F04-LED-E1-SL4-7060**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P141297
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33692)
Test Lab: INNOVATION CENTER-P3
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: EMM-F04-LED-E1-SL4-7060
Description: EPIC MODERN MEDIUM DECORATIVE LED LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (28) 5700K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9566.8 lumens
Efficiency: N/A
Efficacy: 93.6 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 - G2

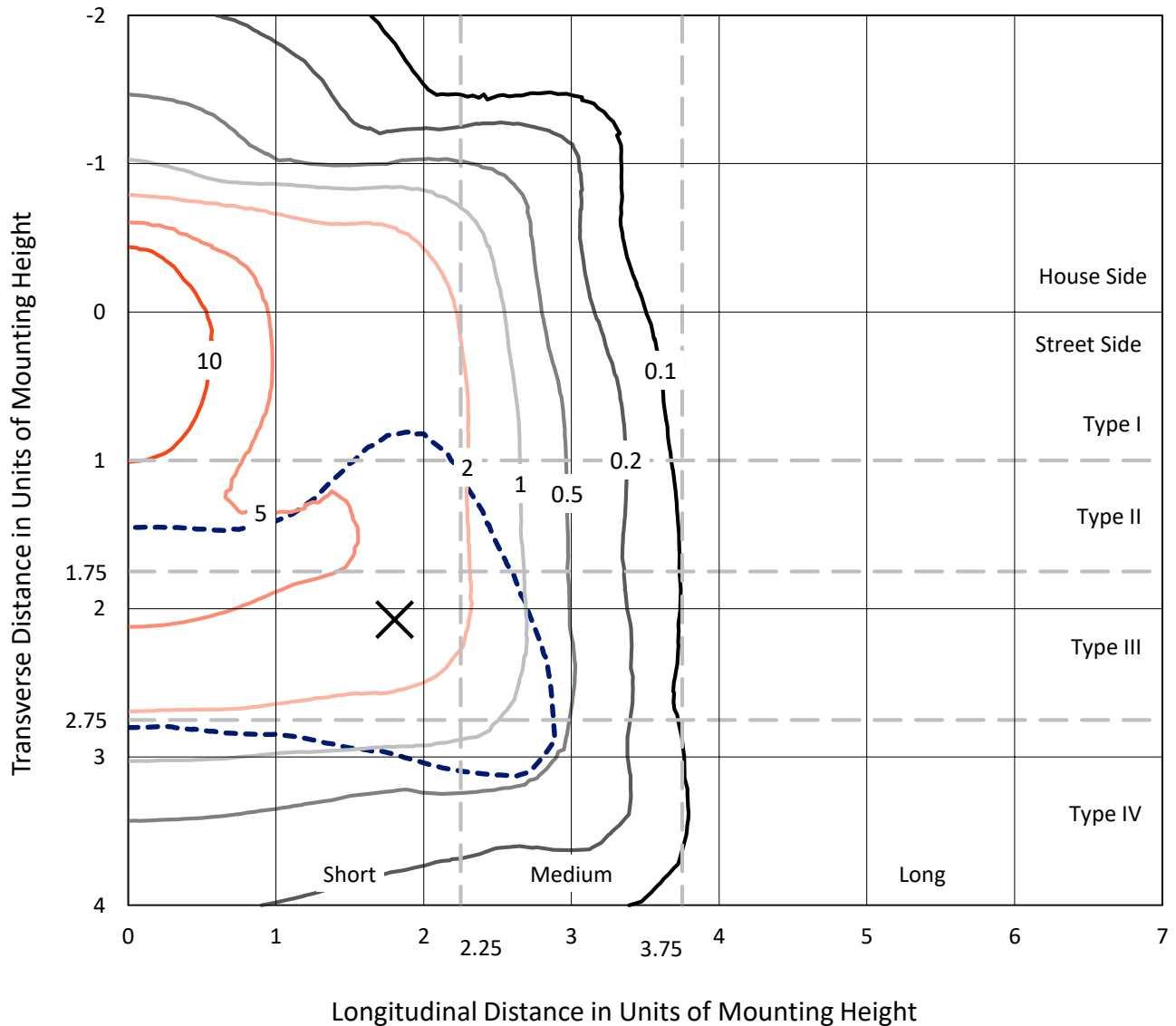
Input Watts (W): 102.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

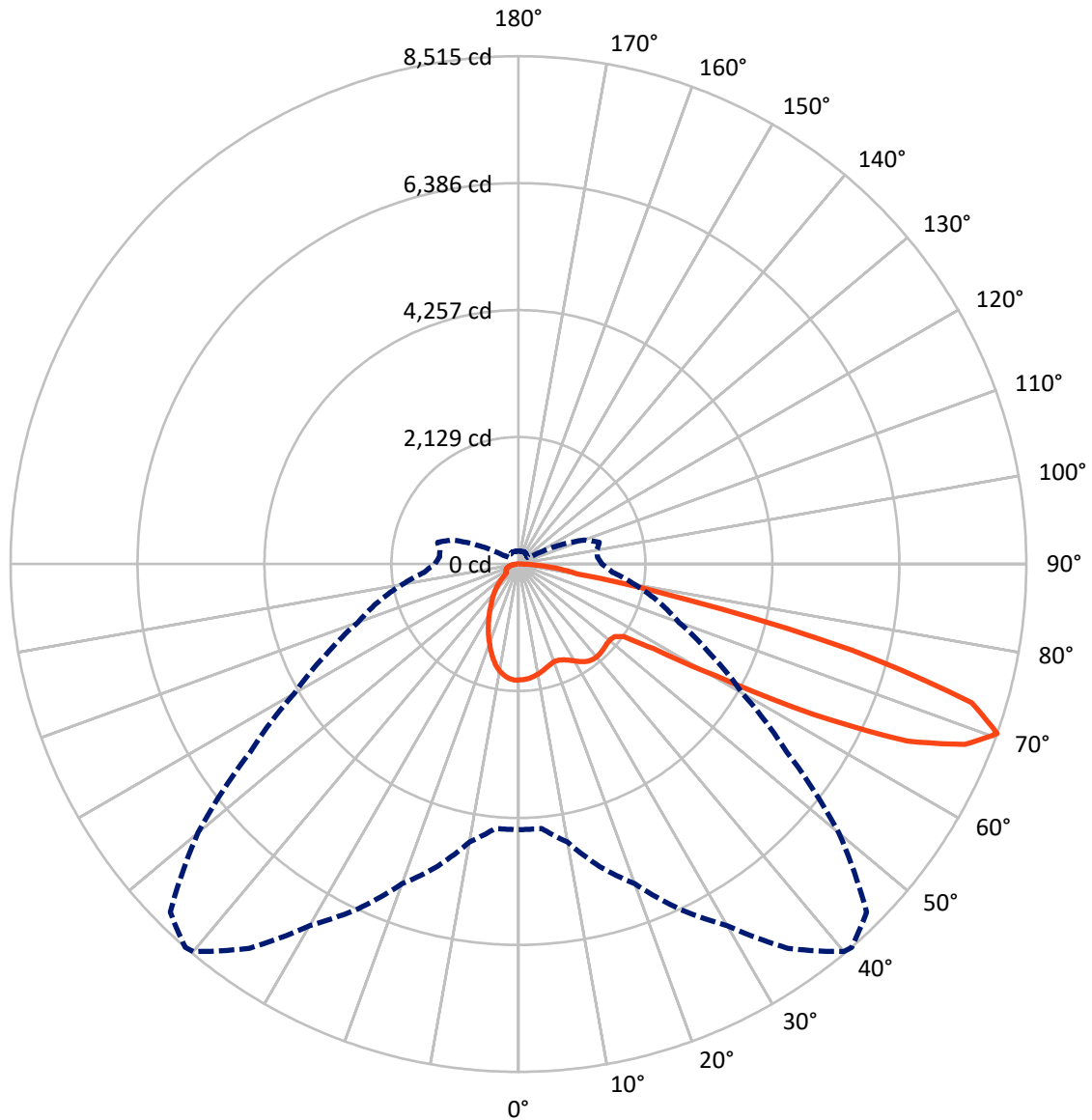
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 19.4 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 41-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2052.6	0.0	2052.6
	% Fixture	21.5	0.0	21.5
Street Side	Lumens	7514.2	0.0	7514.2
	% Fixture	78.5	0.0	78.5
Total	Lumens	9566.8	0.0	9566.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.9	1.9
10°-20°	484.8	5.1
20°-30°	700.9	7.3
30°-40°	892.1	9.3
40°-50°	1051.3	11.0
50°-60°	1608.6	16.8
60°-70°	2989.7	31.3
70°-80°	1443.0	15.1
80°-90°	215.5	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°	9566.8	100.0
0°-180°	9566.8	100.0



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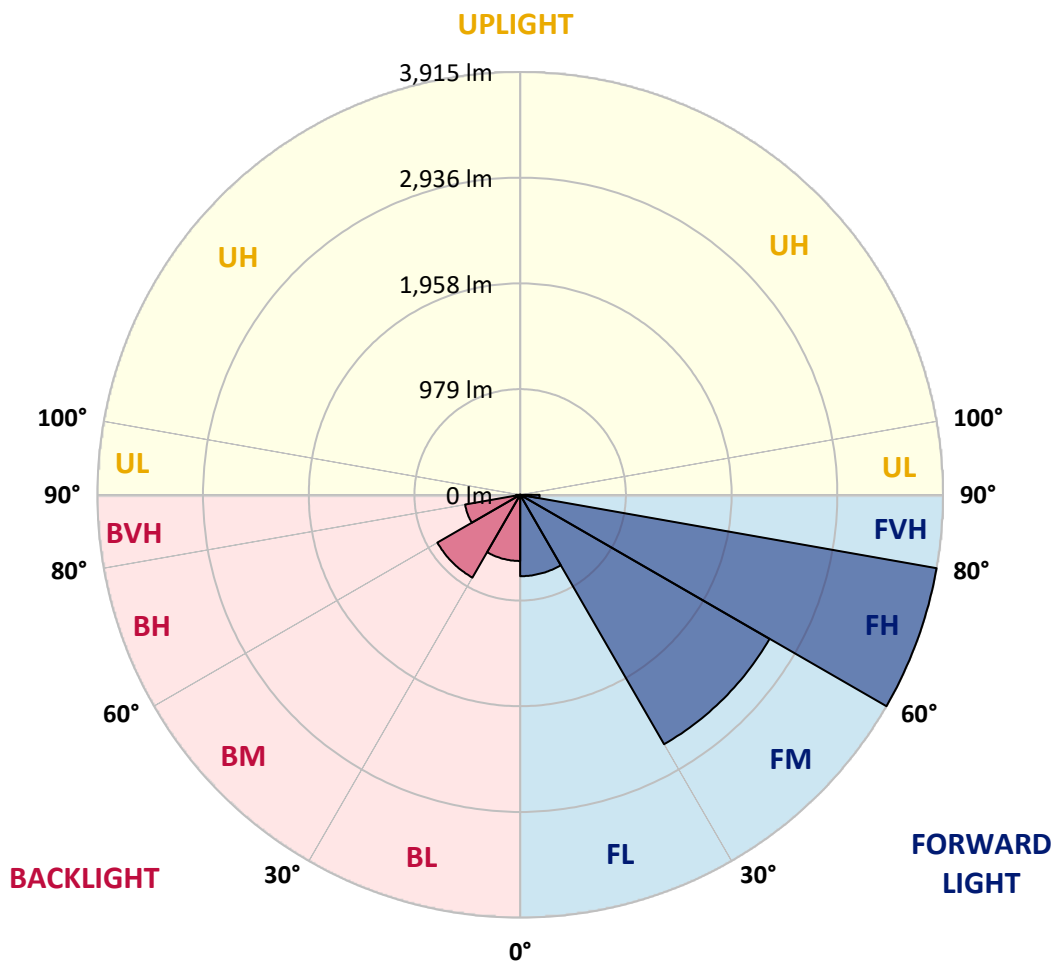
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	753.5	7.9			
FM	(30°-60°)	2666.4	27.9			
FH	(60°-80°)	3915.1	40.9			G2/5000
FVH	(80°-90°)	179.1	1.9			G2/225
BL	(0°-30°)	613.1	6.4	B2/1000		
BM	(30°-60°)	885.5	9.3	B1/1000		
BH	(60°-80°)	517.6	5.4	B2/1000		G2/1000
BVH	(80°-90°)	36.4	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°	41°	45°
0°	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8
2.5°	1943.8	1946.0	1944.9	1942.6	1940.4	1941.5	1940.4	1939.2	1939.2	1938.1	1937.0
5°	1934.7	1939.2	1935.9	1933.6	1930.2	1930.2	1929.1	1926.8	1924.6	1923.4	1921.2
7.5°	1915.5	1920.0	1917.8	1915.5	1912.1	1909.9	1905.4	1903.1	1900.8	1899.7	1896.3
10°	1889.5	1891.8	1889.5	1885.0	1882.8	1881.6	1879.4	1874.9	1870.3	1868.1	1864.7
12.5°	1855.7	1856.8	1854.5	1852.3	1848.9	1848.9	1845.5	1842.1	1835.3	1833.1	1825.2
15°	1826.3	1822.9	1820.6	1819.5	1818.4	1812.7	1813.9	1808.2	1796.9	1793.5	1784.5
17.5°	1818.4	1815.0	1813.9	1810.5	1808.2	1801.4	1794.7	1783.4	1764.2	1760.8	1747.2
20°	1841.0	1841.0	1837.6	1835.3	1831.9	1819.5	1804.8	1783.4	1748.4	1740.5	1723.5
22.5°	1895.2	1889.5	1887.3	1887.3	1886.2	1868.1	1841.0	1807.1	1760.8	1750.6	1721.3
25°	1979.9	1969.7	1973.1	1972.0	1969.7	1943.8	1904.2	1855.7	1792.4	1778.9	1740.5
27.5°	2080.4	2082.7	2081.5	2077.0	2070.3	2042.0	1985.5	1920.0	1841.0	1827.4	1777.7
30°	2185.5	2187.7	2194.5	2191.1	2186.6	2143.7	2073.6	2002.5	1906.5	1888.4	1827.4
32.5°	2307.4	2315.3	2321.0	2322.1	2304.0	2245.3	2162.9	2072.5	1970.9	1952.8	1877.1
35°	2448.6	2444.1	2454.3	2449.7	2418.1	2337.9	2236.3	2129.0	2025.1	2001.4	1920.0
37.5°	2590.9	2596.6	2586.4	2567.2	2517.5	2412.5	2287.1	2166.3	2051.1	2028.5	1943.8
40°	2728.7	2725.3	2701.6	2668.9	2594.3	2459.9	2315.3	2183.2	2060.1	2036.4	1949.4
42.5°	2831.5	2822.5	2786.3	2733.2	2637.2	2482.5	2323.2	2183.2	2054.4	2029.6	1941.5
45°	2876.7	2867.6	2832.6	2764.9	2650.8	2478.0	2309.7	2164.0	2035.2	2013.8	1925.7
47.5°	2876.7	2873.3	2834.9	2769.4	2647.4	2465.6	2289.4	2140.3	2016.0	1994.6	1912.1
50°	2854.1	2851.8	2817.9	2753.6	2636.1	2458.8	2283.7	2135.8	2014.9	1993.5	1917.8
52.5°	2929.8	2915.1	2880.1	2805.5	2677.9	2487.0	2312.0	2158.3	2042.0	2020.6	1942.6
55°	3850.2	3837.8	3660.5	3348.8	3022.4	2724.2	2468.9	2292.8	2175.3	2142.5	2086.1
57.5°	5338.8	5320.8	5138.9	4855.4	4294.1	3656.0	3155.6	2862.0	2697.1	2673.4	2639.5
60°	5943.1	5936.3	5859.5	5744.3	5532.0	5202.2	4736.8	4248.9	3869.4	3808.5	3813.0
62.5°	6289.8	6272.9	6235.6	6207.4	6135.1	6000.7	5913.7	5777.1	5593.0	5551.2	5286.9
65°	6484.1	6481.8	6502.2	6525.9	6521.4	6562.0	6606.1	6867.0	7173.0	7159.5	6880.5
67.5°	6194.9	6214.1	6320.3	6483.0	6653.5	6834.2	7170.8	7693.7	8072.1	8072.1	7827.0
70°	4453.4	4450.0	4732.3	5247.4	5705.9	6381.3	7001.4	7863.1	8482.1	8514.8	8255.0
72.5°	2668.9	2731.0	2904.9	3138.7	3528.4	4346.1	5499.2	7047.7	7911.7	7946.7	7636.1
75°	1874.9	1828.6	1821.8	1835.3	1902.0	2103.0	2737.7	4325.7	5735.3	5789.5	5489.1
77.5°	1199.5	1189.3	1193.8	1208.5	1211.9	1231.1	1261.6	1482.9	2658.7	2918.5	2904.9
80°	1034.6	1031.2	1032.3	1015.4	982.6	970.2	1008.6	978.1	949.9	989.4	935.2
82.5°	693.5	705.9	726.2	753.3	818.8	841.4	829.0	823.4	734.1	713.8	633.6
85°	513.9	507.1	515.0	515.0	498.1	481.1	493.6	481.1	425.8	398.7	352.4
87.5°	277.8	279.0	301.6	310.6	309.5	264.3	218.0	188.6	170.5	158.1	133.3
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8
2.5°	1938.1	1934.7	1935.9	1935.9	1934.7	1937.0	1933.6	1932.5	1933.6	1933.6	1933.6
5°	1918.9	1914.4	1914.4	1913.3	1911.0	1911.0	1906.5	1905.4	1903.1	1906.5	1904.2
7.5°	1891.8	1885.0	1879.4	1874.9	1872.6	1869.2	1863.6	1861.3	1859.0	1857.9	1855.7
10°	1859.0	1851.1	1839.8	1830.8	1826.3	1817.3	1810.5	1801.4	1801.4	1796.9	1792.4
12.5°	1819.5	1808.2	1796.9	1784.5	1776.6	1764.2	1752.9	1742.7	1734.8	1724.6	1717.9
15°	1780.0	1763.0	1750.6	1738.2	1723.5	1706.6	1693.0	1677.2	1662.5	1646.7	1642.2
17.5°	1737.1	1723.5	1712.2	1697.5	1681.7	1661.4	1643.3	1617.3	1599.3	1580.1	1565.4
20°	1708.8	1693.0	1680.6	1667.0	1650.1	1626.4	1602.7	1573.3	1546.2	1518.0	1496.5
22.5°	1694.2	1668.2	1656.9	1644.5	1627.5	1601.5	1574.4	1538.3	1504.4	1467.1	1433.3
25°	1699.8	1664.8	1642.2	1628.6	1614.0	1588.0	1553.0	1512.3	1473.9	1426.5	1388.1
27.5°	1724.6	1677.2	1642.2	1619.6	1603.8	1576.7	1540.5	1494.2	1447.9	1398.2	1351.9
30°	1757.4	1697.5	1652.4	1619.6	1595.9	1566.5	1527.0	1477.3	1426.5	1371.1	1318.0
32.5°	1794.7	1721.3	1667.0	1621.9	1583.5	1546.2	1505.5	1453.6	1400.5	1341.8	1289.8
35°	1824.0	1739.3	1677.2	1617.3	1566.5	1520.2	1472.8	1424.2	1371.1	1315.8	1260.4
37.5°	1841.0	1750.6	1677.2	1601.5	1539.4	1490.9	1441.2	1393.7	1342.9	1288.7	1240.1
40°	1847.8	1755.1	1670.4	1583.5	1511.2	1455.8	1409.5	1361.0	1315.8	1268.4	1225.4
42.5°	1844.4	1751.8	1661.4	1566.5	1488.6	1428.7	1377.9	1332.7	1295.5	1255.9	1219.8
45°	1830.8	1740.5	1652.4	1558.6	1480.7	1419.7	1367.7	1324.8	1289.8	1253.7	1225.4
47.5°	1819.5	1735.9	1658.0	1577.8	1503.3	1441.2	1384.7	1337.3	1307.9	1279.6	1261.6
50°	1828.6	1748.4	1670.4	1594.8	1522.5	1459.2	1401.6	1357.6	1340.6	1336.1	1330.5
52.5°	1853.4	1774.3	1708.8	1655.8	1623.0	1599.3	1540.5	1530.4	1515.7	1507.8	1488.6
55°	2014.9	1982.2	2040.9	2105.3	2116.6	2187.7	2215.9	2218.2	2193.4	2105.3	1899.7
57.5°	2672.2	2753.6	2778.4	2927.5	2968.2	2936.5	2893.6	2891.4	2814.5	2698.2	2398.9
60°	3846.9	3803.9	3750.9	3653.7	3562.2	3464.0	3328.4	3224.5	3126.3	2947.8	2632.7
62.5°	5075.7	4701.8	4429.6	4150.7	3924.8	3727.1	3530.6	3363.5	3204.2	2956.9	2619.2
65°	6141.9	5380.6	4828.3	4409.3	4059.2	3770.1	3509.2	3281.0	3080.0	2770.5	2428.3
67.5°	6835.3	5740.9	4915.3	4289.6	3794.9	3426.7	3042.7	2682.4	2484.8	2235.2	2061.2
70°	7012.7	5486.8	4334.8	3532.9	2866.5	2427.2	1974.3	1581.2	1399.4	1329.3	1335.0
72.5°	6326.0	4337.0	3073.2	2247.6	1759.7	1394.9	1134.0	871.9	681.0	571.5	557.9
75°	4132.6	2413.6	1459.2	1016.5	808.7	643.8	507.1	426.9	368.2	297.0	248.5
77.5°	1562.0	919.4	655.1	534.2	395.3	275.6	214.6	180.7	166.0	161.5	145.7
80°	800.8	638.1	456.3	300.4	210.1	168.3	141.2	119.7	110.7	106.2	108.4
82.5°	539.9	402.1	251.9	180.7	145.7	125.4	99.4	83.6	74.5	73.4	79.1
85°	300.4	201.0	146.8	122.0	107.3	93.7	75.7	62.1	57.6	61.0	71.2
87.5°	93.7	92.6	66.6	54.2	56.5	48.6	36.1	27.1	27.1	35.0	49.7
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°	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8	1943.8
2.5°	1933.6	1935.9	1940.4	1937.0	1938.1	1939.2	1942.6	1947.1	1943.8	1941.5	1948.3
5°	1906.5	1906.5	1912.1	1909.9	1914.4	1918.9	1921.2	1929.1	1926.8	1924.6	1933.6
7.5°	1856.8	1857.9	1865.8	1863.6	1872.6	1873.7	1882.8	1889.5	1889.5	1894.1	1902.0
10°	1793.5	1793.5	1800.3	1801.4	1807.1	1811.6	1821.8	1834.2	1836.5	1844.4	1855.7
12.5°	1722.4	1720.1	1725.8	1725.8	1730.3	1735.9	1747.2	1761.9	1764.2	1776.6	1791.3
15°	1634.3	1630.9	1628.6	1630.9	1633.2	1634.3	1651.2	1665.9	1675.0	1688.5	1703.2
17.5°	1549.6	1537.2	1531.5	1531.5	1532.6	1532.6	1539.4	1556.4	1568.8	1590.2	1611.7
20°	1473.9	1452.5	1444.5	1426.5	1423.1	1415.2	1420.8	1440.0	1462.6	1479.6	1496.5
22.5°	1402.8	1380.2	1357.6	1336.1	1319.2	1309.0	1319.2	1331.6	1339.5	1353.1	1357.6
25°	1348.5	1311.3	1279.6	1245.8	1227.7	1218.7	1217.5	1216.4	1209.6	1207.4	1207.4
27.5°	1305.6	1261.6	1214.1	1176.9	1152.0	1135.1	1115.9	1102.3	1085.4	1062.8	1051.5
30°	1269.5	1222.0	1170.1	1126.0	1094.4	1061.7	1022.1	991.6	961.1	934.0	910.3
32.5°	1236.7	1188.2	1137.3	1091.0	1036.8	980.3	930.7	894.5	841.4	805.3	774.8
35°	1211.9	1163.3	1115.9	1054.9	980.3	908.1	843.7	790.6	736.4	689.0	648.3
37.5°	1193.8	1153.2	1102.3	1019.9	926.1	839.2	771.4	708.2	643.8	579.4	528.6
40°	1188.2	1153.2	1088.8	981.5	874.2	780.4	702.5	624.6	553.4	484.5	432.6
42.5°	1191.6	1154.3	1067.3	947.6	831.3	729.6	641.5	551.2	466.5	393.0	341.1
45°	1204.0	1154.3	1044.7	910.3	791.7	683.3	578.3	471.0	372.7	314.0	291.4
47.5°	1241.2	1162.2	1026.7	883.2	756.7	632.5	507.1	385.1	301.6	276.7	276.7
50°	1298.8	1185.9	1024.4	862.9	717.2	573.8	419.0	303.8	266.5	265.4	272.2
52.5°	1397.1	1227.7	1035.7	849.3	675.4	494.7	326.4	262.0	254.1	260.9	271.1
55°	1588.0	1301.1	1051.5	824.5	605.4	387.4	267.7	248.5	251.9	259.8	268.8
57.5°	1937.0	1449.1	1068.4	771.4	490.2	293.7	242.8	244.0	249.6	257.5	265.4
60°	2177.5	1632.0	1102.3	682.2	364.8	242.8	232.7	241.7	248.5	254.1	260.9
62.5°	2197.9	1698.7	1127.2	581.7	271.1	221.4	223.6	237.2	246.2	248.5	251.9
65°	2075.9	1612.8	1056.0	480.0	224.8	210.1	218.0	230.4	239.4	240.6	244.0
67.5°	1809.4	1433.3	901.3	364.8	205.6	202.2	211.2	219.1	225.9	231.5	236.1
70°	1401.6	1170.1	725.1	283.5	190.9	189.7	197.7	206.7	213.5	219.1	225.9
72.5°	738.6	831.3	539.9	227.0	175.1	176.2	184.1	192.0	196.5	202.2	208.9
75°	229.3	352.4	333.2	181.8	155.9	160.4	164.9	171.7	179.6	183.0	186.4
77.5°	135.5	143.4	173.9	142.3	135.5	138.9	144.6	150.2	155.9	160.4	163.8
80°	109.6	111.8	112.9	112.9	112.9	117.5	122.0	129.9	134.4	136.7	137.8
82.5°	85.8	91.5	92.6	90.4	93.7	98.3	100.5	105.0	106.2	108.4	110.7
85°	71.2	70.0	72.3	73.4	68.9	68.9	66.6	66.6	71.2	79.1	80.2
87.5°	55.3	48.6	39.5	37.3	35.0	32.8	30.5	30.5	31.6	36.1	39.5
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°	1943.8	1943.8	1943.8	1943.8	1943.8
2.5°	1948.3	1947.1	1949.4	1952.8	1950.5
5°	1934.7	1934.7	1939.2	1942.6	1940.4
7.5°	1907.6	1908.7	1915.5	1920.0	1917.8
10°	1864.7	1867.0	1874.9	1881.6	1885.0
12.5°	1800.3	1808.2	1818.4	1825.2	1825.2
15°	1719.0	1731.4	1742.7	1752.9	1747.2
17.5°	1626.4	1641.1	1655.8	1661.4	1655.8
20°	1514.6	1515.7	1524.7	1530.4	1528.1
22.5°	1362.1	1357.6	1362.1	1364.4	1367.7
25°	1206.2	1198.3	1193.8	1200.6	1204.0
27.5°	1047.0	1035.7	1039.1	1031.2	1022.1
30°	892.3	882.1	869.7	866.3	871.9
32.5°	755.6	729.6	719.4	700.2	708.2
35°	611.0	585.0	560.2	553.4	548.9
37.5°	492.4	460.8	430.3	420.1	417.9
40°	385.1	359.2	338.8	333.2	330.9
42.5°	312.9	301.6	298.2	298.2	299.3
45°	285.7	286.9	290.3	292.5	293.7
47.5°	280.1	284.6	289.1	293.7	294.8
50°	280.1	283.5	286.9	291.4	292.5
52.5°	277.8	281.2	282.4	284.6	286.9
55°	275.6	276.7	276.7	277.8	280.1
57.5°	269.9	271.1	268.8	269.9	274.5
60°	264.3	265.4	263.2	265.4	266.5
62.5°	256.4	256.4	255.3	256.4	257.5
65°	247.3	244.0	246.2	245.1	246.2
67.5°	236.1	231.5	230.4	230.4	231.5
70°	220.2	216.9	215.7	218.0	220.2
72.5°	201.0	203.3	206.7	210.1	215.7
75°	187.5	190.9	195.4	206.7	214.6
77.5°	168.3	167.2	171.7	184.1	195.4
80°	140.0	141.2	140.0	143.4	145.7
82.5°	107.3	106.2	102.8	102.8	100.5
85°	75.7	72.3	67.8	66.6	65.5
87.5°	38.4	40.7	37.3	33.9	33.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)