

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: P141735

Luminaire Tested: **ECM-F04-LED-E1-T2**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P141735
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33682)
Test Lab: INNOVATION CENTER-P3
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ECM-F04-LED-E1-T2
Description: EPIC CLASSICAL MEDIUM DECORATIVE LED LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 2
Light Source: (28) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9734.9 lumens
Efficiency: N/A
Efficacy: 95.3 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G3

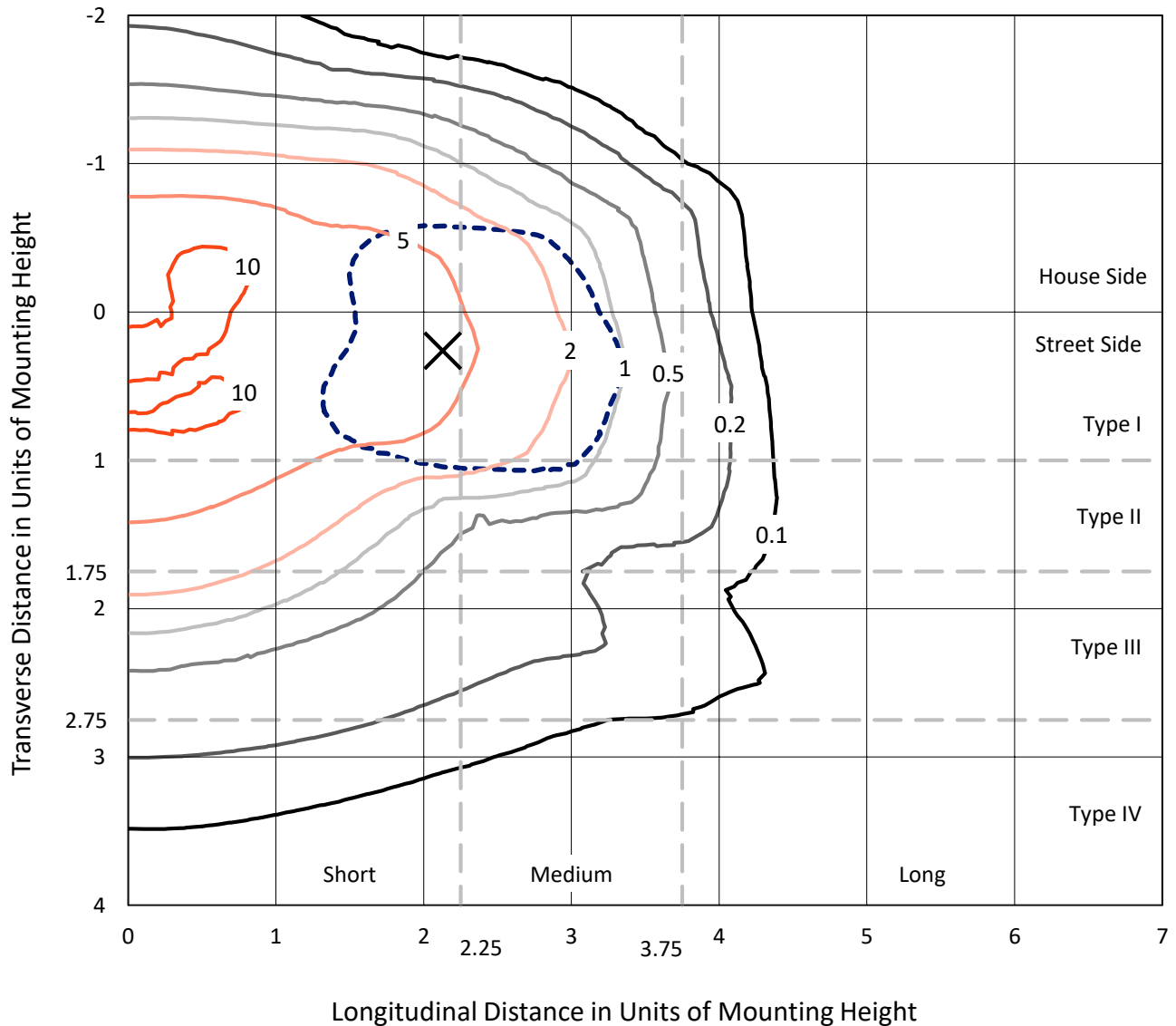
Input Watts (W): 102.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

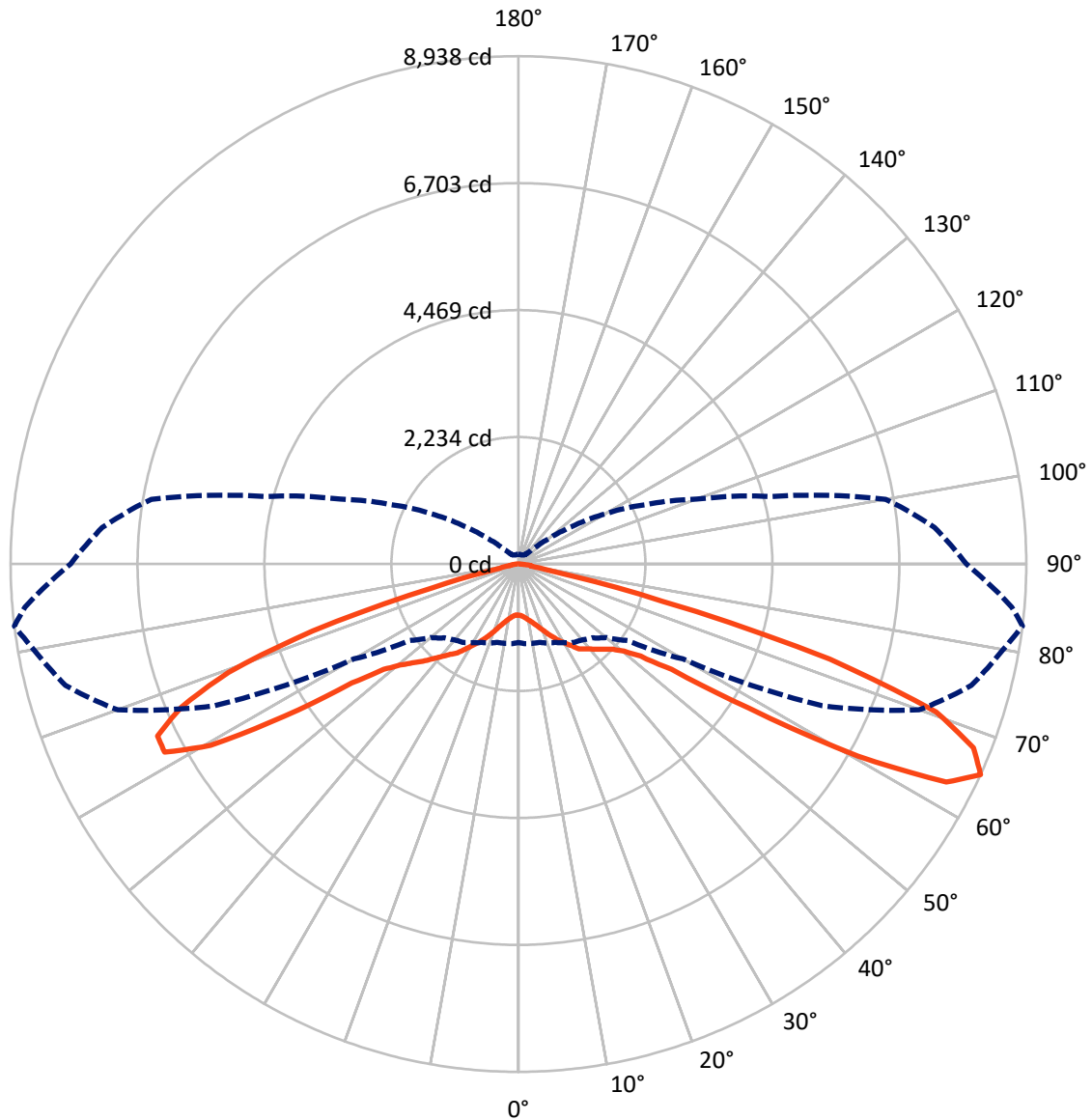
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.4 fc
 Type II - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 83-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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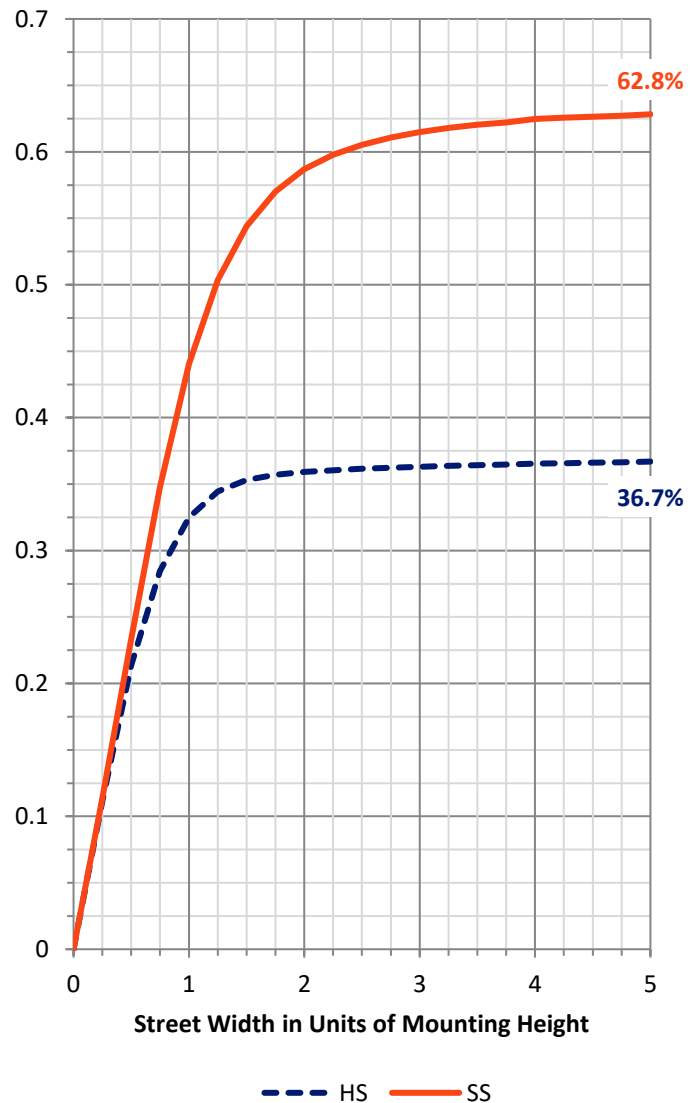
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3611.0	0.0	3611.0
	% Fixture	37.1	0.0	37.1
Street Side	Lumens	6123.9	0.0	6123.9
	% Fixture	62.9	0.0	62.9
Total	Lumens	9734.9	0.0	9734.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.7	0.9
10°-20°	317.7	3.3
20°-30°	627.7	6.4
30°-40°	1080.3	11.1
40°-50°	1629.9	16.7
50°-60°	2268.1	23.3
60°-70°	2617.9	26.9
70°-80°	951.4	9.8
80°-90°	151.1	1.6
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°	9734.9	100.0
0°-180°	9734.9	100.0



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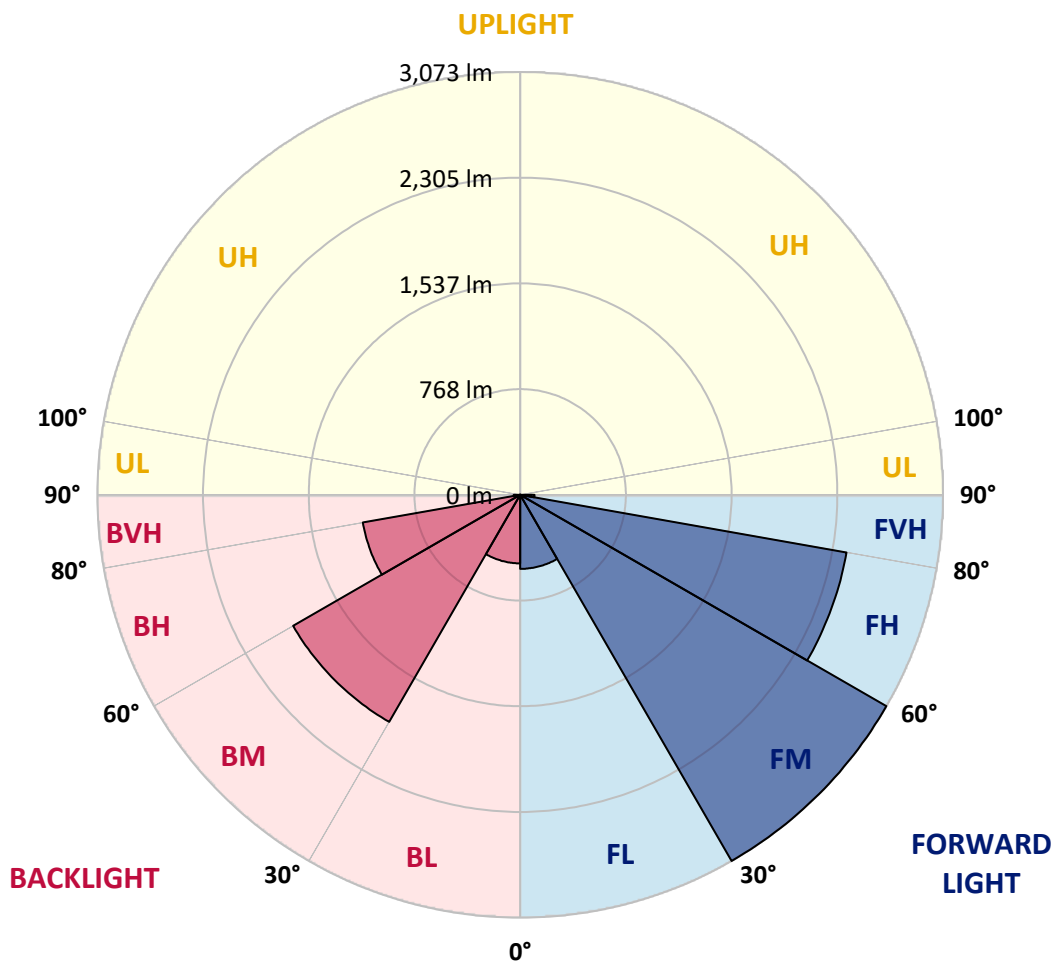
CATALOG NUMBER: ECM-F04-LED-E1-T2

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	538.2	5.5			
FM	(30°-60°)	3073.1	31.6			
FH	(60°-80°)	2408.3	24.7			G2/5000
FVH	(80°-90°)	104.4	1.1			G2/225
BL	(0°-30°)	498.0	5.1	B1/500		
BM	(30°-60°)	1905.2	19.6	B2/2500		
BH	(60°-80°)	1161.0	11.9	B3/2500		G3/2500
BVH	(80°-90°)	46.7	0.5			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 II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	901.5	901.5	901.5	901.5	901.5	901.5	901.5	901.5	901.5	901.5	901.5
2.5°	945.5	947.7	945.5	945.5	944.4	943.3	943.3	942.2	940.0	937.8	936.7
5°	997.2	998.3	995.0	995.0	996.1	995.0	991.7	992.8	984.0	980.7	978.5
7.5°	1054.5	1057.8	1053.4	1051.2	1050.1	1047.9	1044.6	1039.1	1032.5	1027.0	1023.7
10°	1119.4	1122.7	1120.5	1116.1	1109.5	1106.2	1102.9	1094.1	1086.4	1077.6	1071.0
12.5°	1196.5	1197.6	1195.4	1186.6	1182.2	1172.2	1161.2	1151.3	1140.3	1127.1	1116.1
15°	1272.4	1273.5	1270.2	1261.4	1255.9	1243.8	1228.4	1215.2	1196.5	1181.1	1166.7
17.5°	1330.7	1332.9	1326.3	1319.7	1312.0	1296.6	1282.3	1266.9	1247.1	1230.6	1216.3
20°	1350.6	1353.9	1349.5	1346.2	1341.8	1334.0	1319.7	1306.5	1288.9	1276.8	1265.8
22.5°	1341.8	1345.1	1342.9	1342.9	1342.9	1341.8	1335.1	1331.8	1320.8	1315.3	1313.1
25°	1328.5	1331.8	1329.6	1331.8	1336.2	1341.8	1341.8	1348.4	1347.3	1356.1	1361.6
27.5°	1362.7	1364.9	1359.4	1359.4	1363.8	1372.6	1370.4	1383.6	1385.8	1403.4	1419.9
30°	1481.5	1481.5	1472.7	1463.9	1467.2	1465.0	1462.8	1471.6	1471.6	1488.1	1495.9
32.5°	1658.8	1646.6	1645.5	1644.4	1636.7	1642.2	1624.6	1625.7	1618.0	1620.2	1616.9
35°	1853.6	1852.5	1848.1	1845.9	1842.6	1859.1	1845.9	1856.9	1829.4	1819.5	1800.7
37.5°	2024.2	2028.6	2031.9	2048.4	2056.1	2089.1	2096.8	2102.3	2073.7	2074.8	2033.0
40°	2195.9	2201.4	2213.5	2243.2	2265.2	2296.1	2310.4	2333.5	2335.7	2340.1	2309.3
42.5°	2383.0	2374.2	2390.7	2428.1	2455.7	2486.5	2505.2	2548.1	2572.3	2584.4	2588.8
45°	2533.8	2523.9	2531.6	2553.6	2578.9	2618.6	2659.3	2723.1	2774.9	2831.0	2861.8
47.5°	2612.0	2614.2	2619.7	2632.9	2650.5	2689.0	2746.2	2827.7	2911.4	3001.6	3082.0
50°	2637.3	2638.4	2646.1	2659.3	2675.8	2716.5	2776.0	2868.4	2969.7	3096.3	3219.5
52.5°	2645.0	2640.6	2648.3	2654.9	2665.9	2700.0	2756.2	2853.0	2967.5	3120.5	3303.2
55°	2616.4	2610.9	2624.1	2632.9	2641.7	2669.2	2712.1	2801.3	2920.2	3094.1	3332.9
57.5°	2506.3	2507.4	2526.1	2549.2	2572.3	2609.8	2665.9	2750.6	2868.4	3040.1	3307.6
60°	2320.3	2317.0	2340.1	2368.7	2408.3	2467.8	2537.1	2623.0	2720.9	2864.0	3127.1
62.5°	1982.4	1995.6	2003.3	2046.2	2048.4	2133.2	2178.3	2264.1	2347.8	2457.9	2694.5
65°	1380.3	1408.9	1416.6	1427.6	1479.3	1523.4	1596.0	1686.3	1741.3	1838.2	2014.3
67.5°	859.6	880.6	881.7	910.3	955.4	1006.0	1062.2	1153.5	1237.2	1252.6	1340.7
70°	713.3	714.4	729.8	750.7	785.9	837.6	892.7	956.5	1032.5	1080.9	1072.1
72.5°	591.1	597.7	608.7	629.6	668.1	714.4	784.8	866.3	960.9	1057.8	1143.6
75°	396.3	407.3	410.6	420.5	439.2	481.0	533.8	610.9	733.1	877.3	1060.0
77.5°	210.2	212.4	220.1	227.8	237.8	263.1	297.2	336.8	417.2	541.5	756.2
80°	106.8	111.2	116.7	122.2	121.1	127.7	137.6	155.2	182.7	237.8	342.3
82.5°	38.5	49.5	64.9	72.6	72.6	74.8	78.1	81.5	79.3	88.1	110.1
85°	17.6	19.8	25.3	39.6	40.7	40.7	40.7	42.9	40.7	36.3	42.9
87.5°	0.0	3.3	3.3	9.9	11.0	9.9	11.0	14.3	11.0	8.8	7.7
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):

	55°	60°	65°	70°	75°	80°	83°	85°	90°	95°	100°
0°	901.5	901.5	901.5	901.5	901.5	901.5	901.5	901.5	901.5	901.5	901.5
2.5°	931.2	929.0	923.5	921.3	914.7	910.3	908.1	905.9	902.6	898.2	894.9
5°	971.9	965.3	957.6	953.2	944.4	935.6	932.3	927.9	920.2	913.6	905.9
7.5°	1014.8	1007.1	998.3	988.4	979.6	969.7	965.3	960.9	949.9	941.1	930.1
10°	1061.1	1050.1	1040.2	1031.4	1023.7	1012.6	1004.9	1001.6	991.7	978.5	967.5
12.5°	1105.1	1093.0	1083.1	1072.1	1064.4	1055.6	1047.9	1044.6	1036.9	1024.8	1015.9
15°	1151.3	1139.2	1128.2	1120.5	1111.7	1106.2	1101.8	1096.3	1093.0	1083.1	1078.7
17.5°	1200.9	1189.9	1180.0	1173.3	1170.0	1168.9	1167.8	1165.6	1162.3	1155.7	1152.4
20°	1257.0	1247.1	1243.8	1242.7	1243.8	1244.9	1247.1	1247.1	1248.2	1243.8	1242.7
22.5°	1310.9	1310.9	1316.4	1323.0	1329.6	1334.0	1337.4	1332.9	1334.0	1340.7	1346.2
25°	1370.4	1380.3	1394.6	1405.6	1415.5	1423.2	1427.6	1429.8	1432.0	1441.9	1451.8
27.5°	1434.2	1449.6	1470.5	1484.8	1503.6	1515.7	1524.5	1523.4	1526.7	1539.9	1557.5
30°	1513.5	1528.9	1550.9	1570.7	1596.0	1613.6	1616.9	1614.7	1619.1	1631.2	1666.5
32.5°	1624.6	1627.9	1642.2	1662.1	1689.6	1707.2	1710.5	1716.0	1725.9	1747.9	1790.8
35°	1780.9	1766.6	1765.5	1774.3	1800.7	1834.9	1838.2	1841.5	1845.9	1874.5	1931.7
37.5°	1992.3	1933.9	1898.7	1871.2	1874.5	1886.6	1893.2	1895.4	1906.4	1950.4	2047.3
40°	2257.5	2148.6	2070.4	1992.3	1963.6	1965.9	1968.1	1965.9	1987.9	2056.1	2182.7
42.5°	2548.1	2452.4	2315.9	2154.1	2072.6	2046.2	2049.5	2051.7	2085.8	2184.9	2325.8
45°	2856.3	2794.7	2636.2	2383.0	2208.0	2140.9	2138.7	2143.1	2199.2	2339.0	2487.6
47.5°	3127.1	3142.5	3025.8	2728.6	2428.1	2257.5	2243.2	2250.9	2342.3	2492.0	2642.8
50°	3341.7	3443.0	3434.2	3198.6	2784.8	2459.0	2408.3	2419.3	2527.2	2682.4	2817.8
52.5°	3503.5	3709.4	3841.4	3747.9	3388.0	2824.4	2693.4	2674.7	2810.1	2974.1	3057.7
55°	3611.4	3944.9	4291.6	4453.4	4307.0	3613.6	3271.3	3230.6	3376.9	3586.1	3622.4
57.5°	3682.9	4231.1	4977.4	5602.6	5801.8	5207.4	4778.1	4607.5	4714.3	4935.5	4888.2
60°	3564.1	4344.5	5805.1	6925.6	7492.5	7345.0	6867.3	6609.7	6410.5	6394.0	6130.9
62.5°	3108.4	4074.8	6140.8	7555.2	8352.1	8535.9	8451.2	8146.3	7594.8	7288.8	6694.5
65°	2344.5	3338.4	5902.0	7506.8	8254.1	8661.4	8937.7	8718.6	7882.1	7352.7	6562.4
67.5°	1498.1	2155.2	4909.1	6924.5	7626.7	8084.6	8637.2	8537.0	7468.2	6792.4	5932.8
70°	1094.1	1194.3	3330.7	5861.2	6633.9	7036.8	7796.3	7752.2	6549.2	5789.7	4937.7
72.5°	1260.3	890.5	1826.1	4378.6	4976.3	5293.3	5728.0	5621.3	4575.6	4048.4	3445.2
75°	1421.0	996.1	1029.2	2597.7	2780.4	2558.0	2617.5	2272.9	1773.2	1571.8	1548.7
77.5°	1196.5	1249.3	933.4	1116.1	1028.1	740.8	554.8	434.8	340.1	365.4	406.2
80°	695.6	1404.5	1235.0	581.2	651.6	518.4	231.1	191.5	158.5	160.7	162.9
82.5°	214.6	877.3	1738.0	710.0	645.0	730.9	212.4	129.9	104.6	117.8	133.2
85°	71.5	367.6	1393.5	745.2	417.2	389.6	93.6	63.8	52.8	73.7	104.6
87.5°	17.6	89.2	258.7	98.0	61.6	37.4	31.9	23.1	25.3	46.2	64.9
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°	901.5	901.5	901.5	901.5	901.5	901.5	901.5	901.5	901.5	901.5	901.5
2.5°	892.7	889.4	886.1	883.9	880.6	880.6	877.3	877.3	872.9	870.7	870.7
5°	899.3	892.7	887.2	881.7	876.2	874.0	869.6	867.4	862.9	859.6	857.4
7.5°	921.3	912.5	905.9	899.3	892.7	889.4	885.0	880.6	879.5	877.3	875.1
10°	958.7	946.6	941.1	936.7	927.9	925.7	921.3	918.0	914.7	911.4	912.5
12.5°	1007.1	998.3	996.1	987.3	985.1	981.8	975.2	973.0	964.2	957.6	954.3
15°	1068.8	1065.5	1065.5	1061.1	1054.5	1049.0	1039.1	1033.6	1018.1	1008.2	997.2
17.5°	1150.2	1146.9	1148.0	1143.6	1135.9	1126.0	1115.0	1098.5	1075.4	1057.8	1035.8
20°	1244.9	1243.8	1246.0	1242.7	1232.8	1219.6	1193.2	1168.9	1137.0	1105.1	1080.9
22.5°	1350.6	1356.1	1358.3	1349.5	1338.5	1310.9	1282.3	1247.1	1204.2	1162.3	1128.2
25°	1462.8	1476.0	1483.7	1471.6	1458.4	1423.2	1380.3	1332.9	1272.4	1221.8	1176.6
27.5°	1572.9	1600.4	1611.4	1604.8	1583.9	1534.4	1477.1	1414.4	1340.7	1273.5	1215.2
30°	1703.9	1740.2	1760.0	1750.1	1709.4	1644.4	1575.1	1490.3	1396.8	1316.4	1246.0
32.5°	1841.5	1886.6	1900.9	1880.0	1820.6	1739.1	1648.8	1545.4	1439.7	1347.3	1268.0
35°	1994.5	2036.3	2039.6	1998.9	1920.7	1817.3	1705.0	1580.6	1459.5	1356.1	1269.1
37.5°	2127.7	2169.5	2166.2	2105.6	2011.0	1882.2	1739.1	1588.3	1447.4	1329.6	1235.0
40°	2267.4	2313.7	2288.4	2210.2	2088.0	1924.0	1743.5	1561.9	1401.2	1272.4	1168.9
42.5°	2414.9	2434.7	2389.6	2291.7	2134.3	1922.9	1706.1	1499.2	1328.5	1185.5	1076.5
45°	2550.3	2534.9	2470.0	2339.0	2131.0	1875.6	1632.3	1421.0	1231.7	1088.6	981.8
47.5°	2671.4	2623.0	2522.8	2339.0	2079.2	1791.9	1537.7	1319.7	1131.5	987.3	881.7
50°	2802.4	2701.1	2544.8	2298.3	1985.7	1690.7	1437.5	1218.5	1024.8	877.3	761.7
52.5°	2976.3	2794.7	2544.8	2224.5	1888.8	1588.3	1331.8	1100.7	900.4	746.3	631.8
55°	3383.6	2990.6	2588.8	2183.8	1802.9	1480.4	1206.4	948.8	754.0	606.5	511.8
57.5°	4183.8	3419.9	2810.1	2258.6	1771.0	1363.8	1044.6	780.4	595.5	472.2	392.9
60°	4849.7	3766.6	2989.5	2315.9	1719.3	1213.0	846.4	597.7	442.5	348.9	297.2
62.5°	5021.4	3771.0	2915.8	2167.3	1510.2	987.3	624.1	411.7	303.8	253.2	225.6
65°	4592.1	3335.1	2479.9	1767.7	1150.2	685.7	390.7	249.9	202.5	184.9	173.9
67.5°	3860.2	2657.1	1838.2	1232.8	725.4	377.5	219.0	171.7	154.1	148.6	143.1
70°	2960.9	1866.8	1196.5	722.1	379.7	195.9	156.3	140.9	133.2	129.9	125.5
72.5°	1825.0	1102.9	650.5	346.7	189.3	149.7	139.8	134.3	124.4	120.0	115.6
75°	774.9	473.3	269.7	176.1	151.9	143.1	135.4	128.8	121.1	114.5	110.1
77.5°	260.9	180.5	159.6	154.1	151.9	143.1	133.2	124.4	116.7	109.0	104.6
80°	158.5	144.2	147.5	146.4	151.9	142.0	128.8	118.9	110.1	102.4	96.9
82.5°	137.6	136.5	139.8	143.1	150.8	136.5	121.1	106.8	95.8	88.1	82.6
85°	118.9	121.1	123.3	125.5	129.9	115.6	98.0	84.8	75.9	66.0	61.6
87.5°	79.3	85.9	90.3	91.4	88.1	55.0	31.9	37.4	38.5	33.0	29.7
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):

	160°	165°	170°	175°	180°
0°	901.5	901.5	901.5	901.5	901.5
2.5°	867.4	866.3	869.6	866.3	866.3
5°	856.3	855.2	855.2	855.2	853.0
7.5°	874.0	872.9	871.8	871.8	870.7
10°	908.1	907.0	907.0	905.9	905.9
12.5°	948.8	944.4	943.3	941.1	942.2
15°	988.4	976.3	973.0	969.7	966.4
17.5°	1019.2	1004.9	997.2	990.6	990.6
20°	1057.8	1039.1	1029.2	1019.2	1019.2
22.5°	1101.8	1076.5	1063.3	1052.3	1047.9
25°	1138.1	1106.2	1087.5	1074.3	1071.0
27.5°	1165.6	1124.9	1100.7	1085.3	1080.9
30°	1187.7	1141.4	1112.8	1096.3	1089.7
32.5°	1202.0	1151.3	1120.5	1104.0	1097.4
35°	1194.3	1140.3	1102.9	1083.1	1078.7
37.5°	1155.7	1098.5	1054.5	1033.6	1025.9
40°	1085.3	1023.7	977.4	952.1	947.7
42.5°	992.8	931.2	887.2	860.7	848.6
45°	893.8	829.9	788.1	763.9	749.6
47.5°	787.0	724.3	681.3	657.1	647.2
50°	674.7	614.2	577.9	551.5	541.5
52.5°	558.1	504.1	467.8	445.8	434.8
55°	446.9	402.9	372.0	357.7	350.0
57.5°	348.9	320.3	302.7	293.9	288.4
60°	270.8	256.5	249.9	243.3	244.4
62.5°	211.3	208.0	205.8	202.5	203.6
65°	170.6	168.4	169.5	168.4	169.5
67.5°	139.8	140.9	143.1	143.1	144.2
70°	123.3	124.4	126.6	126.6	126.6
72.5°	114.5	116.7	118.9	117.8	117.8
75°	107.9	113.4	117.8	113.4	109.0
77.5°	101.3	114.5	126.6	116.7	104.6
80°	92.5	121.1	135.4	117.8	100.2
82.5°	88.1	116.7	118.9	102.4	88.1
85°	81.5	132.1	137.6	93.6	67.1
87.5°	41.8	79.3	91.4	62.7	34.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)