

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: P142053

Luminaire Tested: **ECM-F04-LED-E1-T4-8030**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P142053
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-F04-LED-E1-T4-8030
Description: EPIC CLASSICAL MEDIUM DECORATIVE LED LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 4
Light Source: (28) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8014.6 lumens
Efficiency: N/A
Efficacy: 78.4 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G2

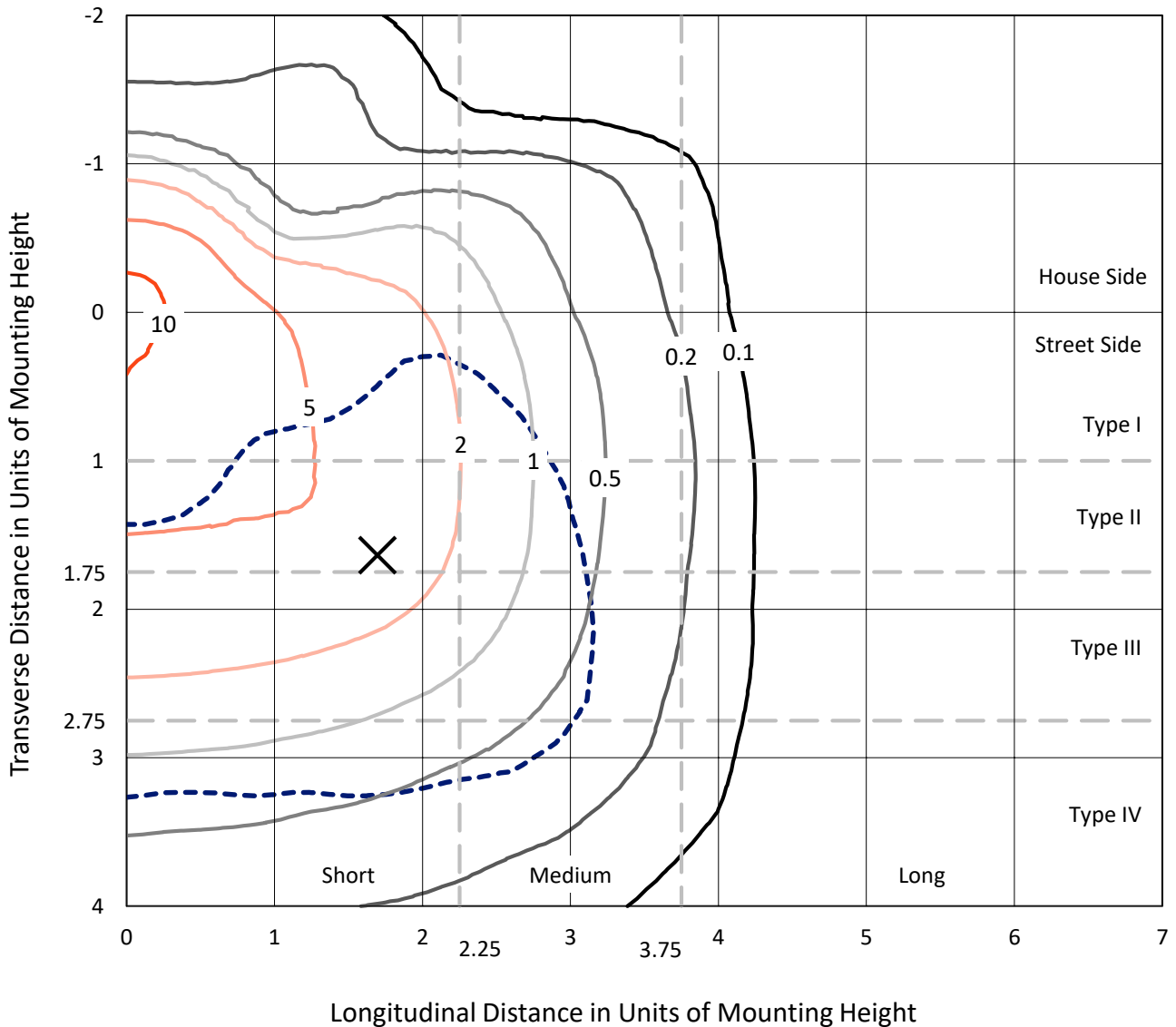
Input Watts (W): 102.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

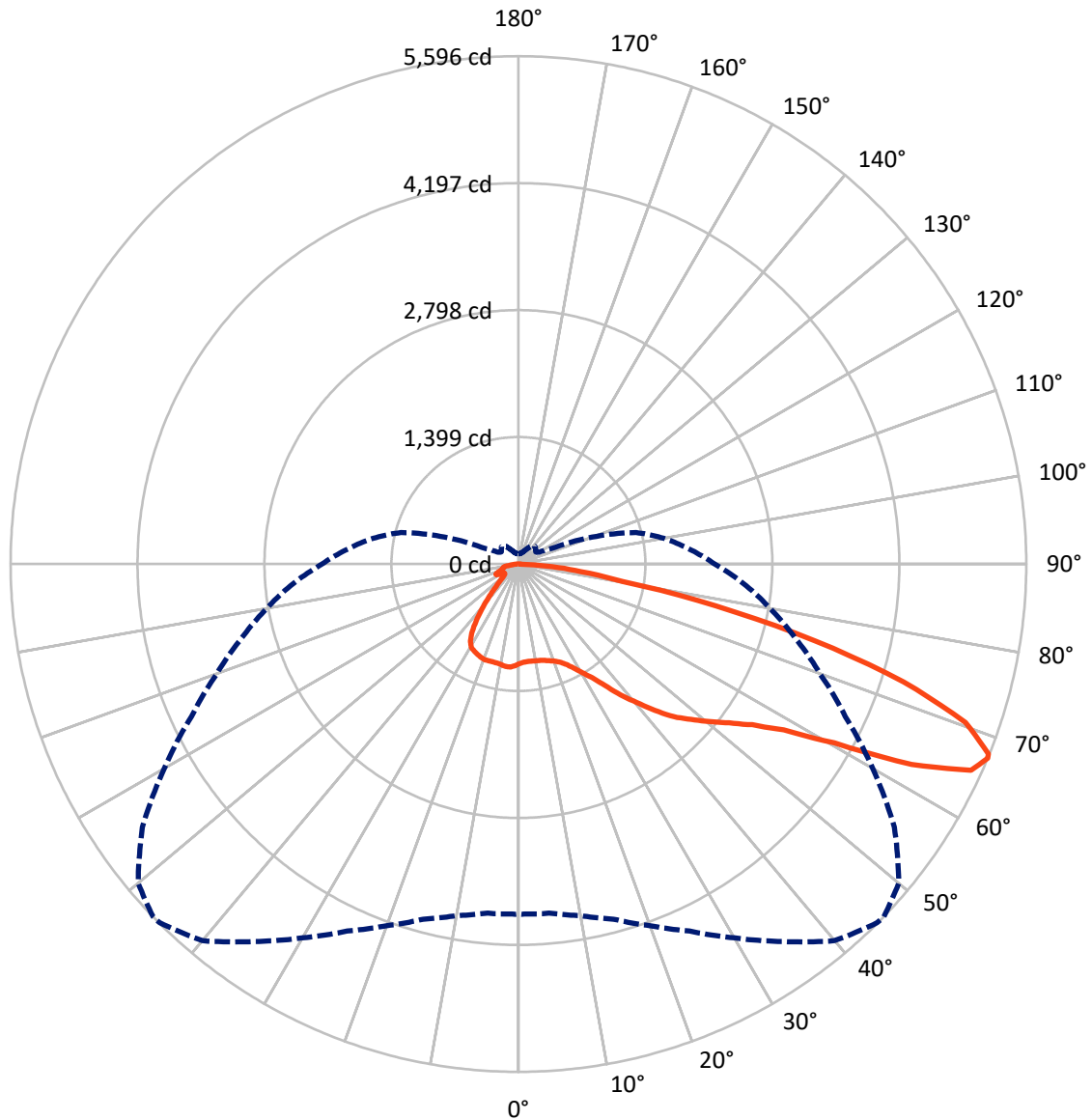
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.1 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	1592.7	0.0	1592.7
	% Fixture	19.9	0.0	19.9
Street Side	Lumens	6421.9	0.0	6421.9
	% Fixture	80.1	0.0	80.1
Total	Lumens	8014.6	0.0	8014.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.7	1.3
10°-20°	315.5	3.9
20°-30°	530.4	6.6
30°-40°	793.1	9.9
40°-50°	1033.1	12.9
50°-60°	1414.9	17.7
60°-70°	2236.8	27.9
70°-80°	1387.5	17.3
80°-90°	197.7	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°	8014.6	100.0
0°-180°	8014.6	100.0



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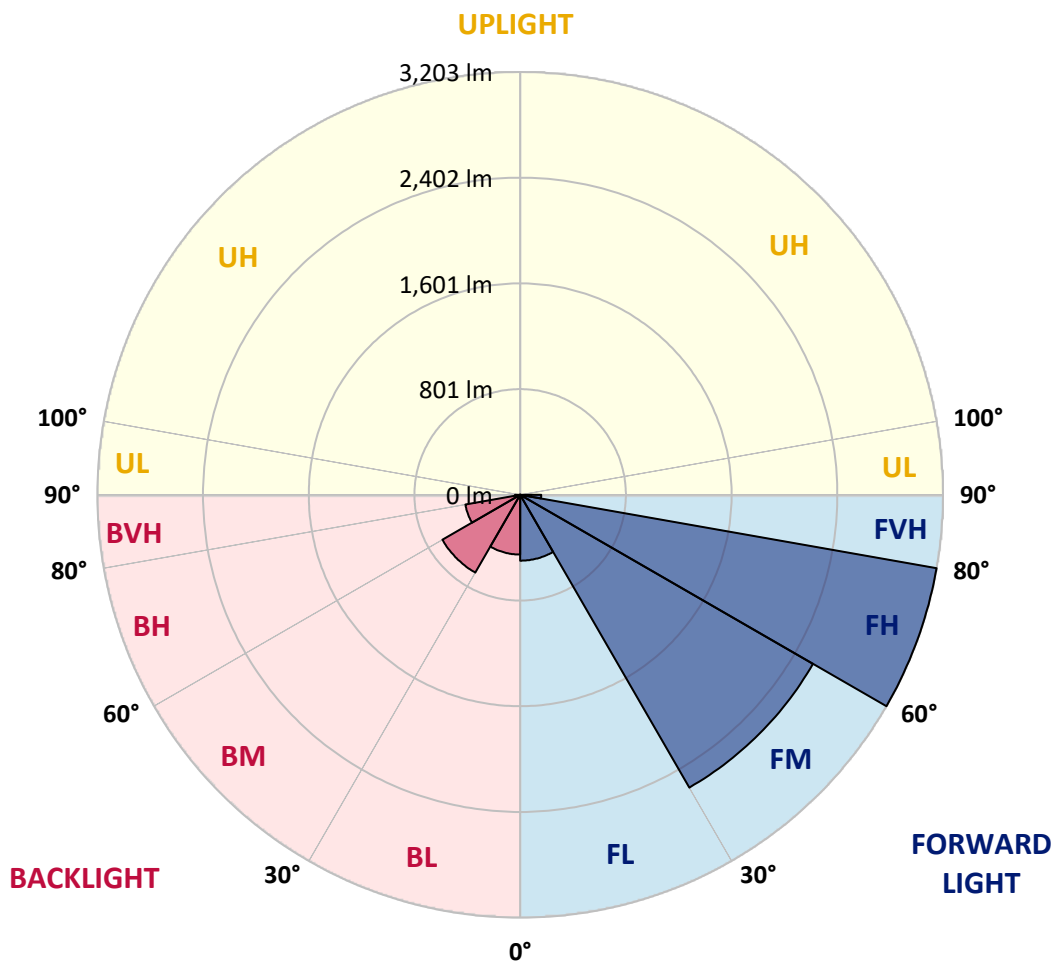
CATALOG NUMBER: ECM-F04-LED-E1-T4-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	499.1	6.2			
FM	(30°-60°)	2561.0	32.0			
FH	(60°-80°)	3202.6	40.0			G2/5000
FVH	(80°-90°)	159.2	2.0			G2/225
BL	(0°-30°)	452.4	5.6	B1/500		
BM	(30°-60°)	680.2	8.5	B1/1000		
BH	(60°-80°)	421.6	5.3	B1/500		G1/500
BVH	(80°-90°)	38.5	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	46°
0°	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1
2.5°	1073.9	1076.7	1075.8	1074.8	1075.8	1076.7	1077.6	1080.4	1081.3	1082.3	1083.2
5°	1054.4	1057.2	1056.3	1058.1	1059.0	1062.8	1065.5	1070.2	1073.0	1076.7	1078.5
7.5°	1048.8	1050.7	1050.7	1052.5	1053.5	1057.2	1061.8	1067.4	1073.0	1078.5	1080.4
10°	1063.7	1064.6	1064.6	1063.7	1064.6	1066.5	1068.3	1073.0	1077.6	1082.3	1084.1
12.5°	1099.0	1096.2	1095.3	1092.5	1093.4	1089.7	1089.7	1088.8	1088.8	1089.7	1089.7
15°	1136.1	1134.3	1132.4	1127.8	1127.8	1122.2	1120.4	1116.6	1107.3	1103.6	1102.7
17.5°	1169.6	1167.7	1164.0	1160.3	1158.4	1151.0	1149.1	1142.6	1131.5	1123.1	1120.4
20°	1209.5	1204.9	1196.5	1194.7	1190.0	1181.7	1178.9	1170.5	1155.7	1143.6	1142.6
22.5°	1270.8	1263.4	1255.1	1248.6	1236.5	1228.1	1220.7	1209.5	1191.9	1177.9	1174.2
25°	1332.2	1329.4	1321.9	1312.6	1304.3	1295.0	1285.7	1269.0	1245.8	1228.1	1224.4
27.5°	1418.6	1412.1	1402.8	1387.9	1383.3	1367.5	1360.0	1346.1	1322.9	1300.6	1296.9
30°	1508.7	1502.2	1487.3	1474.3	1471.5	1454.8	1450.1	1435.3	1414.8	1392.5	1389.8
32.5°	1611.8	1605.3	1594.1	1586.7	1576.5	1567.2	1556.0	1542.1	1516.1	1497.5	1493.8
35°	1743.7	1738.1	1725.1	1730.7	1721.4	1718.6	1712.1	1688.9	1660.1	1637.8	1641.5
37.5°	1847.7	1846.8	1849.6	1846.8	1858.9	1871.0	1871.0	1872.8	1858.9	1834.7	1830.1
40°	1945.3	1944.4	1951.8	1960.1	1992.7	2012.2	2034.5	2042.8	2028.0	2009.4	2002.9
42.5°	2036.3	2034.5	2044.7	2075.3	2115.3	2151.5	2189.6	2222.1	2229.6	2209.1	2204.5
45°	2126.4	2129.2	2142.2	2176.6	2229.6	2276.9	2342.0	2380.0	2404.2	2393.1	2400.5
47.5°	2235.1	2237.9	2251.8	2292.7	2339.2	2398.6	2474.8	2539.8	2568.6	2568.6	2559.3
50°	2364.3	2377.3	2392.1	2420.0	2473.9	2532.4	2625.3	2690.3	2736.8	2734.9	2727.5
52.5°	2536.1	2538.9	2563.1	2585.4	2631.8	2691.3	2774.9	2864.0	2922.6	2917.0	2908.6
55°	2767.4	2756.3	2772.1	2793.4	2843.6	2895.6	2986.7	3089.8	3149.2	3131.6	3126.0
57.5°	3059.1	3049.8	3061.0	3087.0	3150.2	3192.9	3266.3	3361.1	3444.7	3459.5	3446.5
60°	3480.0	3480.0	3502.3	3558.0	3622.1	3686.2	3780.0	3894.3	3980.7	4002.0	4001.1
62.5°	3978.8	4010.4	4015.1	4087.5	4210.1	4320.7	4466.5	4668.1	4797.3	4889.2	4865.1
65°	4058.7	4068.9	4109.8	4222.2	4388.5	4584.5	4811.2	5076.0	5344.4	5477.3	5481.0
67°	3858.1	3861.8	3933.3	4051.3	4241.7	4462.8	4756.4	5078.7	5418.7	5590.6	5596.2
67.5°	3795.8	3788.4	3852.5	3976.0	4184.1	4433.1	4709.0	5048.1	5399.2	5583.2	5586.0
70°	3378.7	3382.4	3432.6	3570.1	3790.2	4023.4	4331.8	4680.2	5049.9	5218.1	5226.4
72.5°	2913.3	2889.1	2934.7	3081.4	3186.4	3414.0	3697.3	3960.2	4285.4	4444.2	4440.5
75°	2222.1	2155.2	2235.1	2320.6	2379.1	2604.9	2781.4	2962.5	3262.6	3383.3	3376.8
77.5°	1197.5	1194.7	1282.0	1348.9	1436.2	1639.7	1794.8	1909.1	2161.7	2221.2	2228.6
80°	650.3	674.4	726.5	800.8	871.4	968.9	1059.0	1130.6	1213.2	1175.2	1166.8
82.5°	392.0	432.0	511.9	568.5	596.4	640.1	704.2	745.0	777.6	707.0	693.0
85°	62.2	112.4	288.9	345.6	375.3	395.7	409.7	436.6	398.5	373.5	380.0
87.5°	20.4	23.2	44.6	98.5	86.4	59.5	78.0	113.3	53.9	28.8	27.9
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1
2.5°	1084.1	1085.0	1087.8	1091.6	1093.4	1098.1	1098.1	1101.8	1101.8	1104.6	1107.3
5°	1081.3	1086.0	1089.7	1095.3	1098.1	1104.6	1107.3	1112.9	1115.7	1119.4	1123.1
7.5°	1086.0	1092.5	1097.1	1103.6	1108.3	1114.8	1117.6	1122.2	1125.0	1129.6	1131.5
10°	1089.7	1096.2	1101.8	1109.2	1112.9	1117.6	1120.4	1124.1	1125.0	1127.8	1129.6
12.5°	1094.3	1097.1	1101.8	1108.3	1112.0	1114.8	1117.6	1120.4	1123.1	1123.1	1123.1
15°	1100.8	1098.1	1099.0	1104.6	1108.3	1110.1	1112.9	1114.8	1115.7	1115.7	1113.8
17.5°	1114.8	1107.3	1102.7	1102.7	1104.6	1106.4	1106.4	1103.6	1101.8	1099.0	1095.3
20°	1135.2	1123.1	1113.8	1109.2	1105.5	1100.8	1093.4	1084.1	1075.8	1068.3	1063.7
22.5°	1164.0	1151.9	1140.8	1130.6	1118.5	1102.7	1086.9	1067.4	1051.6	1039.5	1034.9
25°	1217.9	1200.2	1191.9	1176.1	1157.5	1132.4	1108.3	1081.3	1062.8	1046.0	1038.6
27.5°	1290.4	1276.4	1257.8	1249.5	1225.3	1196.5	1169.6	1137.1	1111.1	1090.6	1076.7
30°	1382.3	1373.0	1357.2	1343.3	1320.1	1294.1	1254.1	1217.9	1172.4	1136.1	1115.7
32.5°	1488.2	1474.3	1460.4	1442.7	1426.0	1391.6	1354.5	1299.6	1236.5	1174.2	1136.1
35°	1621.1	1607.1	1597.8	1570.0	1542.1	1504.9	1454.8	1389.8	1301.5	1217.9	1152.9
37.5°	1804.1	1774.4	1728.8	1688.9	1638.7	1582.1	1525.4	1447.4	1348.9	1240.2	1151.0
40°	1962.9	1919.3	1868.2	1799.4	1728.8	1654.5	1587.6	1503.1	1387.9	1258.8	1138.0
42.5°	2169.2	2093.9	2007.5	1916.5	1819.9	1730.7	1648.0	1551.4	1416.7	1259.7	1107.3
45°	2355.0	2262.1	2147.8	2024.2	1906.3	1797.6	1702.8	1596.0	1440.8	1256.0	1072.0
47.5°	2520.3	2411.6	2272.3	2123.6	1984.3	1861.7	1757.6	1645.2	1472.4	1268.1	1059.0
50°	2680.1	2555.6	2398.6	2218.4	2063.3	1929.5	1820.8	1700.0	1525.4	1308.9	1079.5
52.5°	2851.0	2699.6	2522.2	2318.7	2149.7	2011.2	1889.5	1766.0	1588.6	1363.7	1116.6
55°	3060.1	2888.2	2685.7	2460.9	2266.7	2112.5	1975.0	1845.0	1663.8	1431.6	1160.3
57.5°	3338.8	3165.0	2931.9	2672.7	2469.2	2286.2	2120.9	1974.1	1778.1	1525.4	1225.3
60°	3875.7	3661.1	3350.8	3069.4	2849.2	2633.7	2433.9	2233.3	1997.3	1714.9	1392.5
62.5°	4737.8	4438.7	4054.1	3662.0	3364.8	3079.6	2815.7	2554.7	2260.2	1943.4	1591.3
65°	5334.2	4964.5	4481.4	3990.0	3587.7	3239.4	2924.4	2614.2	2286.2	1984.3	1677.7
67°	5470.8	5057.4	4507.4	3974.2	3536.6	3158.5	2815.7	2492.5	2162.7	1888.6	1626.6
67.5°	5465.2	5052.7	4487.0	3940.7	3502.3	3129.7	2784.2	2444.1	2119.9	1851.5	1601.6
70°	5134.5	4720.2	4151.6	3608.2	3185.5	2814.8	2466.4	2170.1	1839.4	1622.0	1434.3
72.5°	4350.4	3990.0	3531.1	3042.4	2680.1	2348.5	2069.8	1779.0	1491.9	1347.0	1199.3
75°	3308.1	2988.5	2567.7	2210.0	1934.1	1703.8	1424.1	1232.8	1031.2	931.8	878.8
77.5°	2185.9	1818.9	1528.2	1187.2	984.7	803.6	633.6	502.6	419.9	441.3	482.1
80°	1156.6	917.8	679.1	525.8	406.0	315.9	250.8	187.7	136.6	159.8	200.7
82.5°	629.8	537.0	396.7	315.9	258.3	213.7	164.4	115.2	85.5	94.8	136.6
85°	359.5	315.9	245.3	191.4	167.2	136.6	93.8	63.2	61.3	66.0	84.5
87.5°	59.5	79.9	65.0	44.6	50.2	49.2	43.7	33.4	25.1	35.3	45.5
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1	1098.1
2.5°	1109.2	1112.0	1115.7	1116.6	1115.7	1118.5	1123.1	1126.9	1124.1	1122.2	1126.9
5°	1126.9	1128.7	1133.4	1133.4	1134.3	1136.1	1138.9	1141.7	1138.0	1138.0	1139.9
7.5°	1134.3	1134.3	1138.9	1137.1	1137.1	1136.1	1138.9	1139.9	1134.3	1133.4	1134.3
10°	1129.6	1129.6	1131.5	1127.8	1126.9	1125.9	1125.9	1126.9	1121.3	1119.4	1122.2
12.5°	1123.1	1123.1	1121.3	1119.4	1117.6	1115.7	1117.6	1118.5	1114.8	1114.8	1115.7
15°	1112.0	1109.2	1108.3	1108.3	1109.2	1110.1	1113.8	1116.6	1113.8	1112.0	1112.0
17.5°	1093.4	1091.6	1094.3	1099.9	1106.4	1111.1	1116.6	1118.5	1112.0	1104.6	1099.0
20°	1065.5	1070.2	1080.4	1096.2	1110.1	1117.6	1117.6	1111.1	1096.2	1081.3	1073.9
22.5°	1036.7	1049.7	1072.0	1096.2	1112.9	1115.7	1105.5	1091.6	1071.1	1055.3	1041.4
25°	1040.5	1056.3	1078.5	1099.0	1110.1	1105.5	1086.9	1069.3	1045.1	1028.4	1007.9
27.5°	1079.5	1094.3	1105.5	1112.0	1108.3	1093.4	1072.0	1047.9	1020.9	997.7	973.6
30°	1111.1	1117.6	1116.6	1111.1	1097.1	1073.9	1048.8	1020.0	987.5	962.4	930.8
32.5°	1116.6	1104.6	1086.0	1065.5	1047.0	1020.9	992.2	958.7	922.5	890.0	858.4
35°	1106.4	1060.9	1020.0	979.1	951.3	918.8	893.7	854.7	814.7	786.8	763.6
37.5°	1068.3	989.4	924.3	866.7	825.9	788.7	750.6	712.5	679.1	666.1	659.6
40°	1020.0	901.1	801.7	721.8	678.2	641.9	602.9	572.3	556.5	544.4	539.7
42.5°	949.4	800.8	677.2	591.8	536.0	502.6	464.5	447.8	440.3	443.1	439.4
45°	883.5	695.8	540.7	445.9	407.8	376.2	357.7	350.2	346.5	344.7	347.4
47.5°	837.0	615.0	435.7	339.1	307.5	285.2	277.8	275.0	274.0	270.3	269.4
50°	825.9	567.6	356.7	263.8	239.7	227.6	223.9	221.1	219.2	216.5	209.9
52.5°	838.9	554.6	317.7	226.7	206.2	196.9	194.2	189.5	187.7	180.2	171.9
55°	861.2	559.2	305.6	216.5	196.0	185.8	182.1	180.2	173.7	165.4	155.1
57.5°	907.6	588.0	311.2	219.2	197.9	188.6	186.7	184.9	176.5	164.4	151.4
60°	1042.3	671.7	340.0	238.7	212.7	206.2	207.2	203.4	191.4	175.6	156.1
62.5°	1250.4	801.7	393.0	262.9	236.9	236.9	242.5	239.7	221.1	195.1	167.2
65°	1358.2	879.7	415.3	270.3	244.3	256.4	274.0	271.3	244.3	205.3	168.1
67°	1341.4	864.9	402.2	259.2	230.4	246.2	263.8	264.8	235.0	196.0	160.7
67.5°	1325.7	854.7	395.7	254.5	226.7	242.5	259.2	256.4	231.3	192.3	158.9
70°	1191.0	750.6	353.0	237.8	209.9	214.6	219.2	215.5	196.0	170.0	146.8
72.5°	1028.4	623.3	311.2	227.6	200.7	193.2	193.2	186.7	173.7	156.1	139.3
75°	784.1	484.9	273.1	216.5	189.5	178.4	176.5	171.9	160.7	147.7	132.8
77.5°	478.4	347.4	236.9	199.7	175.6	166.3	167.2	164.4	153.3	141.2	127.3
80°	239.7	224.8	198.8	173.7	158.9	149.6	150.5	144.9	135.6	126.3	115.2
82.5°	146.8	155.1	139.3	131.9	122.6	112.4	87.3	102.2	99.4	91.0	86.4
85°	97.5	96.6	87.3	77.1	70.6	61.3	54.8	55.7	61.3	63.2	63.2
87.5°	47.4	45.5	41.8	39.0	37.2	30.7	28.8	32.5	32.5	34.4	33.4
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°	1098.1	1098.1	1098.1	1098.1	1098.1
2.5°	1127.8	1129.6	1128.7	1131.5	1128.7
5°	1140.8	1140.8	1141.7	1142.6	1141.7
7.5°	1134.3	1133.4	1135.2	1137.1	1136.1
10°	1122.2	1123.1	1125.0	1127.8	1127.8
12.5°	1117.6	1118.5	1122.2	1125.0	1125.0
15°	1113.8	1114.8	1116.6	1120.4	1117.6
17.5°	1097.1	1093.4	1093.4	1096.2	1093.4
20°	1067.4	1061.8	1061.8	1060.9	1060.0
22.5°	1032.1	1018.2	1014.4	1009.8	1010.7
25°	988.4	969.9	959.6	954.1	952.2
27.5°	953.1	931.8	921.5	913.2	910.4
30°	908.5	884.4	876.0	871.4	869.5
32.5°	843.5	822.1	811.0	808.2	802.6
35°	745.0	735.8	731.1	724.6	725.5
37.5°	646.6	643.8	632.6	636.4	632.6
40°	540.7	539.7	541.6	538.8	545.3
42.5°	441.3	438.5	443.1	440.3	443.1
45°	341.9	347.4	353.9	351.2	354.9
47.5°	262.0	262.9	261.0	262.9	264.8
50°	201.6	199.7	197.9	194.2	196.0
52.5°	166.3	159.8	155.1	152.4	151.4
55°	146.8	140.3	136.6	132.8	132.8
57.5°	141.2	132.8	127.3	124.5	123.6
60°	142.1	131.0	123.6	118.9	118.0
62.5°	145.8	131.0	120.8	116.1	114.3
65°	144.9	129.1	118.9	114.3	112.4
67°	140.3	126.3	118.0	113.3	112.4
67.5°	138.4	125.4	118.0	113.3	111.5
70°	131.9	122.6	116.1	111.5	109.6
72.5°	126.3	118.9	111.5	107.8	105.9
75°	120.8	113.3	106.8	103.1	102.2
77.5°	115.2	106.8	102.2	97.5	93.8
80°	105.0	95.7	89.2	81.8	79.9
82.5°	86.4	79.0	72.5	66.0	65.0
85°	64.1	61.3	55.7	50.2	50.2
87.5°	35.3	39.0	34.4	31.6	29.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)