

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: P141896

Luminaire Tested: **ECM-F04-LED-E1-T3-7050**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P141896
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33683)
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-T3-7050
Description: EPIC CLASSICAL MEDIUM DECORATIVE LED LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 3
Light Source: (28) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9948.9 lumens
Efficiency: N/A
Efficacy: 97.3 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G3

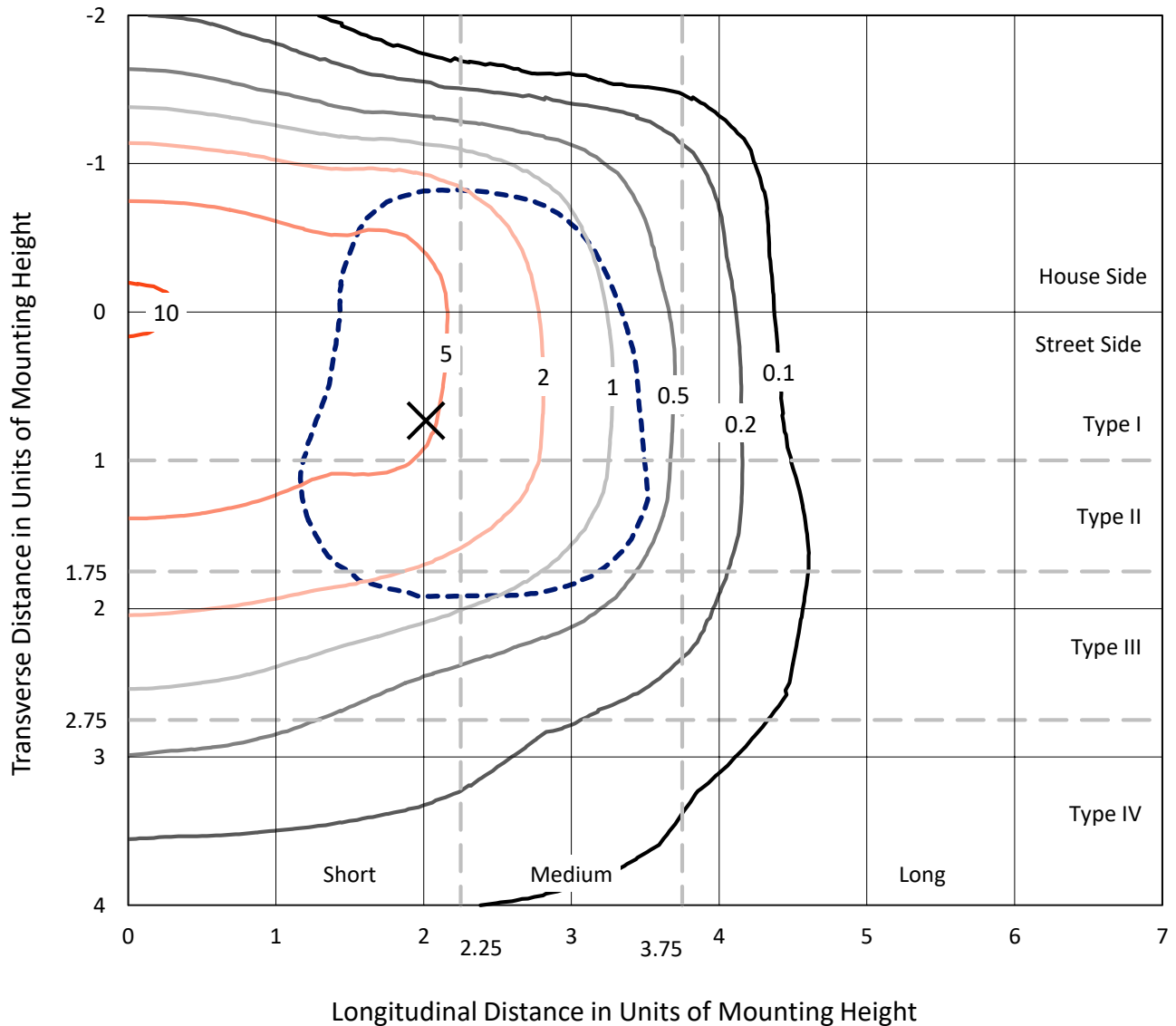
Input Watts (W): 102.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

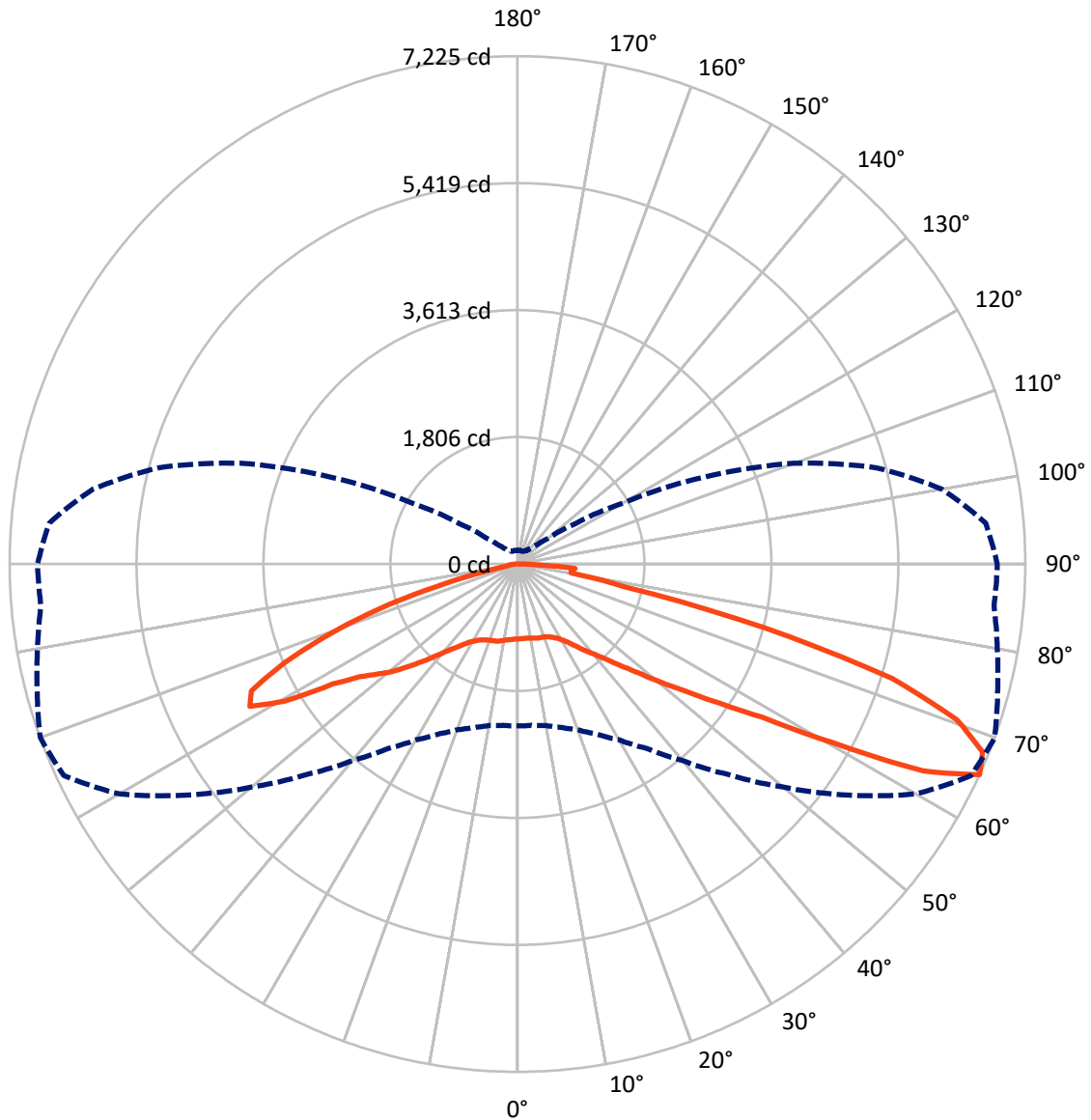
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.7 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 70-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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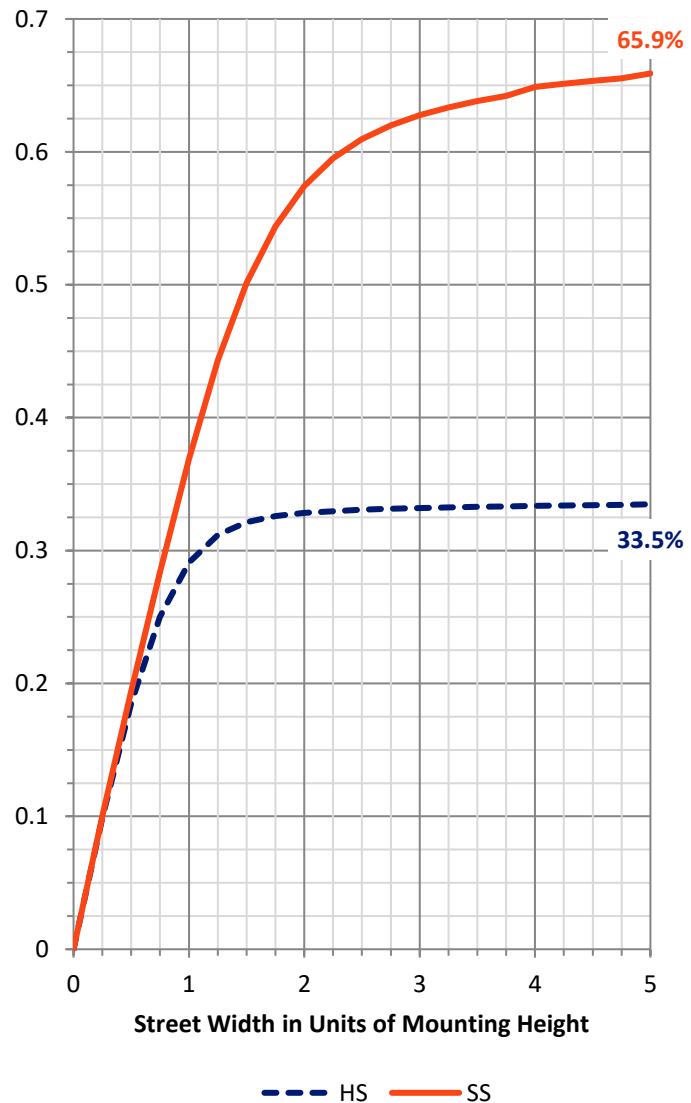
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3358.5	0.0	3358.5
	% Fixture	33.8	0.0	33.8
Street Side	Lumens	6590.4	0.0	6590.4
	% Fixture	66.2	0.0	66.2
Total	Lumens	9948.9	0.0	9948.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.6	1.0
10°-20°	304.0	3.1
20°-30°	522.6	5.3
30°-40°	837.7	8.4
40°-50°	1371.5	13.8
50°-60°	2146.7	21.6
60°-70°	3016.9	30.3
70°-80°	1427.7	14.4
80°-90°	219.3	2.2
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°	9948.9	100.0
0°-180°	9948.9	100.0



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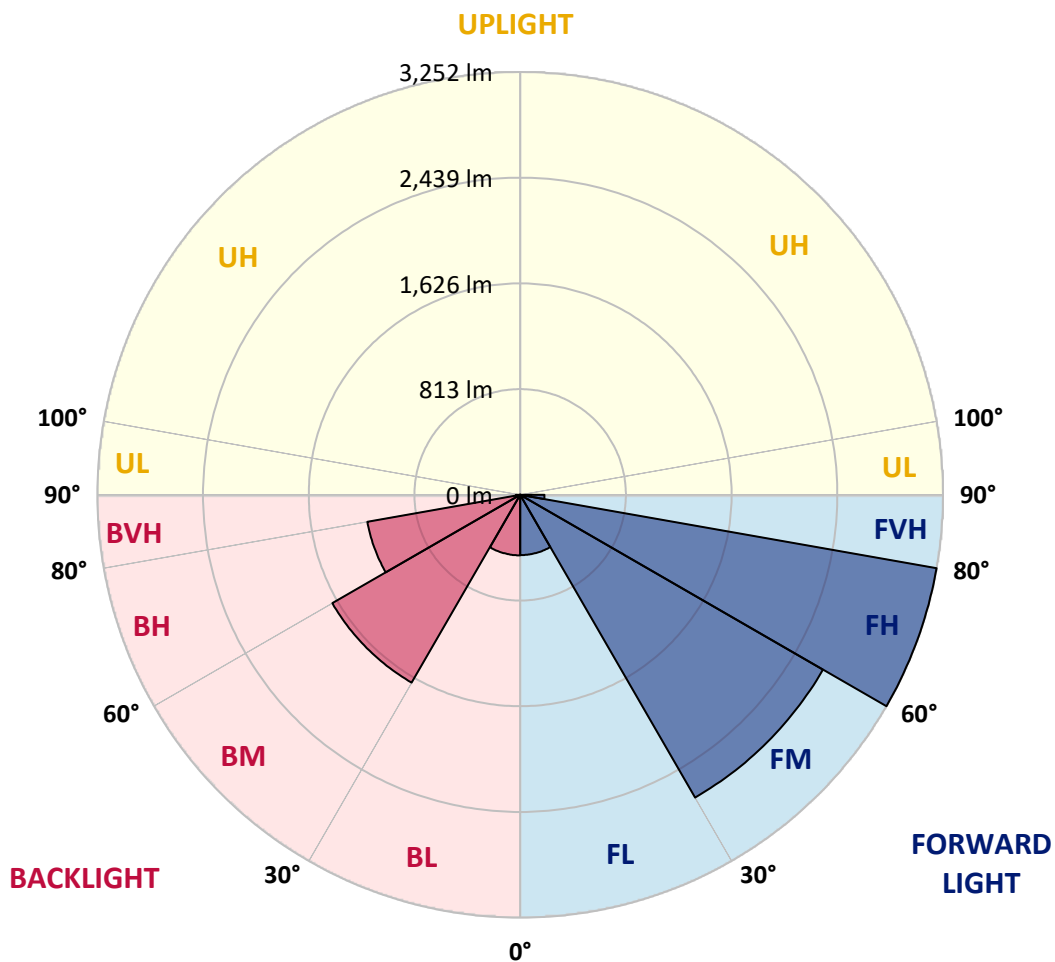
CATALOG NUMBER: ECM-F04-LED-E1-T3-7050

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	463.5	4.7			
FM	(30°-60°)	2688.4	27.0			
FH	(60°-80°)	3251.5	32.7			G2/5000
FVH	(80°-90°)	186.9	1.9			G2/225
BL	(0°-30°)	465.7	4.7	B1/500		
BM	(30°-60°)	1667.4	16.8	B2/2500		
BH	(60°-80°)	1193.0	12.0	B3/2500		G3/2500
BVH	(80°-90°)	32.4	0.3			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 III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2
2.5°	1060.5	1061.7	1061.7	1059.4	1059.4	1060.5	1060.5	1061.7	1061.7	1061.7	1062.8
5°	1060.5	1061.7	1061.7	1060.5	1059.4	1061.7	1060.5	1061.7	1061.7	1061.7	1061.7
7.5°	1058.3	1059.4	1059.4	1058.3	1059.4	1060.5	1060.5	1062.8	1063.9	1063.9	1065.1
10°	1047.0	1048.1	1049.2	1049.2	1051.5	1054.9	1056.0	1060.5	1061.7	1065.1	1067.3
12.5°	1026.7	1026.7	1028.9	1031.2	1034.6	1041.3	1044.7	1051.5	1057.2	1061.7	1069.6
15°	1008.6	1008.6	1010.8	1012.0	1018.7	1023.3	1030.0	1037.9	1048.1	1057.2	1069.6
17.5°	1017.6	1017.6	1016.5	1015.4	1016.5	1016.5	1022.1	1030.0	1039.1	1051.5	1067.3
20°	1052.6	1051.5	1047.0	1044.7	1043.6	1039.1	1035.7	1034.6	1039.1	1048.1	1063.9
22.5°	1083.1	1080.9	1079.7	1077.5	1080.9	1078.6	1074.1	1068.4	1061.7	1058.3	1067.3
25°	1101.2	1102.3	1102.3	1102.3	1109.1	1111.4	1113.6	1106.8	1098.9	1087.6	1088.8
27.5°	1126.0	1127.2	1124.9	1129.4	1137.3	1143.0	1148.6	1153.2	1148.6	1141.9	1134.0
30°	1179.1	1179.1	1175.7	1179.1	1185.9	1191.6	1199.5	1207.4	1207.4	1200.6	1192.7
32.5°	1234.5	1235.6	1235.6	1237.9	1248.0	1252.5	1263.8	1271.7	1277.4	1272.9	1277.4
35°	1301.1	1300.0	1303.4	1304.5	1320.3	1326.0	1348.5	1354.2	1363.2	1365.5	1368.9
37.5°	1411.8	1414.1	1407.3	1402.8	1416.3	1416.3	1445.7	1461.5	1459.2	1475.0	1486.3
40°	1590.2	1580.1	1576.7	1574.4	1582.3	1581.2	1580.1	1601.5	1611.7	1614.0	1619.6
42.5°	1787.9	1791.3	1787.9	1795.8	1795.8	1790.2	1785.6	1782.2	1801.4	1813.9	1816.1
45°	2019.4	2023.9	2017.2	2011.5	2026.2	2034.1	2034.1	2043.1	2059.0	2064.6	2061.2
47.5°	2204.7	2217.1	2211.4	2219.3	2243.1	2270.2	2306.3	2330.0	2347.0	2362.8	2387.6
50°	2371.8	2377.5	2391.0	2417.0	2452.0	2494.9	2553.7	2612.4	2646.3	2685.8	2715.2
52.5°	2473.5	2490.4	2510.7	2553.7	2612.4	2672.2	2762.6	2858.6	2944.4	2988.5	3023.5
55°	2534.5	2546.9	2574.0	2632.7	2715.2	2804.4	2917.3	3049.5	3163.5	3260.7	3336.3
57.5°	2532.2	2542.4	2579.6	2644.0	2742.3	2854.1	2995.3	3160.2	3328.4	3490.0	3632.3
60°	2483.6	2492.7	2529.9	2598.8	2706.1	2839.4	3008.8	3211.0	3439.1	3682.0	3931.6
62.5°	2409.1	2415.9	2448.6	2517.5	2625.9	2768.2	2967.0	3232.4	3556.6	3939.5	4424.0
65°	2304.0	2304.0	2334.5	2405.7	2509.6	2668.9	2888.0	3199.7	3648.1	4230.9	4935.6
67.5°	2149.3	2149.3	2174.2	2232.9	2314.2	2424.9	2644.0	2968.2	3441.4	4139.4	4963.9
70°	1856.8	1861.3	1861.3	1897.4	1933.6	1983.3	2087.2	2335.7	2779.5	3461.7	4272.6
72.5°	1361.0	1278.5	1342.9	1401.6	1442.3	1469.4	1529.3	1607.2	1830.8	2342.4	3076.6
75°	857.2	878.7	927.3	993.9	1094.4	1198.3	1312.4	1361.0	1340.6	1401.6	1895.2
77.5°	519.5	501.5	548.9	648.3	761.2	902.4	1115.9	1301.1	1407.3	1400.5	1341.8
80°	224.8	219.1	250.7	298.2	353.5	481.1	676.5	930.7	1213.0	1376.8	1351.9
82.5°	80.2	81.3	102.8	122.0	146.8	188.6	267.7	428.1	678.8	966.8	1194.9
85°	23.7	26.0	36.1	50.8	57.6	65.5	90.4	134.4	229.3	365.9	650.6
87.5°	6.8	7.9	10.2	18.1	16.9	15.8	18.1	28.2	21.5	18.1	90.4
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2
2.5°	1061.7	1061.7	1061.7	1062.8	1061.7	1061.7	1062.8	1062.8	1063.9	1065.1	1067.3
5°	1060.5	1060.5	1061.7	1061.7	1061.7	1062.8	1063.9	1065.1	1067.3	1070.7	1074.1
7.5°	1063.9	1063.9	1062.8	1063.9	1063.9	1065.1	1067.3	1068.4	1073.0	1076.4	1082.0
10°	1067.3	1067.3	1068.4	1069.6	1069.6	1071.8	1075.2	1076.4	1080.9	1087.6	1093.3
12.5°	1071.8	1075.2	1079.7	1082.0	1084.3	1086.5	1089.9	1092.2	1097.8	1106.8	1113.6
15°	1075.2	1083.1	1087.6	1093.3	1096.7	1097.8	1101.2	1105.7	1111.4	1120.4	1128.3
17.5°	1075.2	1085.4	1092.2	1097.8	1103.5	1106.8	1110.2	1114.8	1122.7	1131.7	1139.6
20°	1074.1	1088.8	1097.8	1106.8	1117.0	1120.4	1126.0	1130.6	1139.6	1150.9	1156.5
22.5°	1079.7	1096.7	1109.1	1124.9	1136.2	1145.2	1152.0	1159.9	1166.7	1174.6	1176.9
25°	1096.7	1113.6	1134.0	1153.2	1169.0	1182.5	1191.6	1198.3	1206.2	1209.6	1205.1
27.5°	1124.9	1137.3	1165.6	1193.8	1218.7	1235.6	1245.8	1254.8	1257.1	1263.8	1246.9
30°	1175.7	1181.4	1210.8	1251.4	1279.6	1307.9	1321.4	1330.5	1331.6	1327.1	1297.7
32.5°	1259.3	1249.2	1275.1	1329.3	1372.3	1396.0	1417.4	1423.1	1419.7	1405.0	1357.6
35°	1361.0	1345.2	1357.6	1436.6	1484.1	1519.1	1539.4	1545.1	1537.2	1511.2	1445.7
37.5°	1486.3	1480.7	1486.3	1562.0	1644.5	1677.2	1686.2	1693.0	1673.8	1626.4	1540.5
40°	1625.3	1626.4	1619.6	1688.5	1792.4	1839.8	1861.3	1846.6	1822.9	1755.1	1660.3
42.5°	1817.3	1810.5	1786.8	1848.9	1982.2	2030.7	2049.9	2038.6	2014.9	1929.1	1818.4
45°	2071.4	2048.8	2026.2	2059.0	2187.7	2251.0	2279.2	2271.3	2229.5	2125.6	2021.7
47.5°	2382.0	2358.3	2316.5	2310.8	2440.7	2515.2	2525.4	2513.0	2481.4	2377.5	2249.8
50°	2708.4	2701.6	2682.4	2637.2	2753.6	2828.1	2821.3	2812.3	2777.3	2645.1	2514.1
52.5°	3046.1	3059.6	3047.2	3015.6	3139.8	3170.3	3172.6	3145.5	3104.8	2982.8	2804.4
55°	3400.7	3451.6	3470.8	3495.6	3593.9	3589.3	3563.4	3499.0	3509.2	3370.2	3122.9
57.5°	3776.8	3932.7	4055.8	4111.1	4204.9	4232.0	4166.5	4187.9	4178.9	4035.5	3645.8
60°	4272.6	4645.4	4966.1	5163.8	5290.3	5241.7	5333.2	5337.7	5492.4	5177.3	4569.7
62.5°	5063.3	5747.7	6316.9	6487.5	6520.2	6508.9	6400.5	6508.9	6479.6	6095.6	5308.3
65°	5728.5	6542.8	7121.1	7225.0	7072.5	6932.5	6806.0	6827.4	6687.4	6131.7	5286.9
67.5°	5818.8	6629.8	7166.3	7136.9	6803.7	6543.9	6333.9	6169.0	5883.2	5380.6	4644.2
70°	5103.9	5963.4	6654.6	6632.0	6169.0	5822.2	5481.1	5232.7	4941.3	4552.7	3855.9
72.5°	3970.0	4735.7	5405.5	5579.4	5123.1	4740.2	4427.4	4111.1	3810.7	3441.4	3002.0
75°	2702.7	3278.7	3590.5	3637.9	3220.0	2933.1	2812.3	2553.7	2235.2	2156.1	1830.8
77.5°	1569.9	1791.3	1696.4	1569.9	1263.8	928.4	709.3	606.5	608.8	699.1	669.8
80°	1276.3	1215.3	958.9	769.1	522.9	266.5	178.5	153.6	154.7	179.6	173.9
82.5°	1315.8	1350.8	1110.2	777.1	535.4	282.4	135.5	100.5	117.5	127.6	125.4
85°	974.7	1277.4	1145.2	824.5	574.9	300.4	88.1	55.3	77.9	94.9	101.6
87.5°	273.3	429.2	333.2	220.2	160.4	54.2	35.0	29.4	36.1	49.7	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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2	1066.2
2.5°	1068.4	1073.0	1071.8	1074.1	1075.2	1078.6	1080.9	1079.7	1079.7	1082.0	1084.3
5°	1077.5	1083.1	1083.1	1086.5	1089.9	1094.4	1097.8	1095.6	1096.7	1098.9	1101.2
7.5°	1086.5	1093.3	1094.4	1097.8	1100.1	1102.3	1104.6	1101.2	1100.1	1100.1	1098.9
10°	1097.8	1104.6	1103.5	1103.5	1102.3	1100.1	1095.6	1087.6	1082.0	1078.6	1076.4
12.5°	1117.0	1121.5	1114.8	1108.0	1096.7	1088.8	1078.6	1069.6	1062.8	1057.2	1054.9
15°	1134.0	1131.7	1123.8	1111.4	1095.6	1083.1	1073.0	1060.5	1052.6	1045.9	1042.5
17.5°	1143.0	1135.1	1123.8	1112.5	1098.9	1087.6	1075.2	1060.5	1048.1	1039.1	1034.6
20°	1152.0	1139.6	1124.9	1113.6	1103.5	1094.4	1085.4	1067.3	1051.5	1037.9	1031.2
22.5°	1165.6	1148.6	1134.0	1123.8	1113.6	1104.6	1095.6	1078.6	1061.7	1043.6	1033.4
25°	1184.8	1162.2	1152.0	1141.9	1130.6	1121.5	1109.1	1093.3	1075.2	1053.8	1039.1
27.5°	1215.3	1194.9	1183.6	1173.5	1159.9	1145.2	1131.7	1110.2	1093.3	1068.4	1049.2
30°	1259.3	1237.9	1227.7	1217.5	1201.7	1182.5	1163.3	1136.2	1112.5	1084.3	1059.4
32.5°	1314.7	1303.4	1290.9	1274.0	1252.5	1228.8	1200.6	1164.4	1130.6	1095.6	1063.9
35°	1400.5	1381.3	1361.0	1344.0	1312.4	1279.6	1236.7	1183.6	1138.5	1095.6	1057.2
37.5°	1498.8	1478.4	1451.3	1420.8	1373.4	1321.4	1261.6	1194.9	1135.1	1083.1	1040.2
40°	1617.3	1591.4	1555.2	1497.6	1427.6	1349.7	1269.5	1185.9	1115.9	1056.0	1006.3
42.5°	1774.3	1721.3	1651.2	1566.5	1467.1	1361.0	1259.3	1162.2	1083.1	1017.6	967.9
45°	1951.7	1867.0	1754.0	1627.5	1489.7	1356.5	1236.7	1123.8	1034.6	962.3	910.3
47.5°	2142.5	2010.4	1844.4	1665.9	1492.0	1331.6	1192.7	1066.2	965.7	888.9	824.5
50°	2358.3	2140.3	1907.6	1685.1	1477.3	1287.6	1129.4	983.7	879.8	788.3	729.6
52.5°	2543.5	2254.4	1951.7	1677.2	1425.3	1210.8	1025.5	884.3	762.4	681.0	623.4
55°	2762.6	2365.0	1975.4	1637.7	1341.8	1091.0	913.7	756.7	641.5	569.2	519.5
57.5°	3131.9	2552.5	1995.7	1557.5	1204.0	940.8	759.0	612.2	521.8	458.6	423.5
60°	3844.6	2916.2	2079.3	1437.8	1028.9	760.1	586.2	478.9	400.9	359.2	334.3
62.5°	4311.1	3163.5	2042.0	1253.7	804.2	569.2	429.2	345.6	300.4	269.9	258.6
65°	4192.5	2913.9	1732.6	993.9	560.2	378.4	288.0	237.2	216.9	201.0	194.3
67.5°	3600.6	2350.4	1255.9	642.6	354.6	230.4	188.6	168.3	159.3	152.5	151.3
70°	2868.8	1656.9	746.6	341.1	196.5	152.5	134.4	126.5	123.1	123.1	123.1
72.5°	2081.5	954.4	367.1	184.1	132.1	116.3	108.4	106.2	105.0	105.0	106.2
75°	1189.3	413.4	188.6	126.5	108.4	100.5	96.0	96.0	96.0	96.0	97.1
77.5°	414.5	188.6	133.3	106.2	93.7	89.2	87.0	89.2	90.4	90.4	90.4
80°	151.3	133.3	114.1	92.6	83.6	79.1	79.1	82.4	84.7	82.4	81.3
82.5°	119.7	105.0	92.6	80.2	73.4	71.2	72.3	74.5	73.4	72.3	68.9
85°	91.5	68.9	64.4	59.9	58.7	58.7	63.2	64.4	59.9	57.6	54.2
87.5°	45.2	36.1	32.8	38.4	37.3	33.9	35.0	35.0	29.4	27.1	28.2
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):

	165°	170°	175°	180°
0°	1066.2	1066.2	1066.2	1066.2
2.5°	1084.3	1085.4	1088.8	1087.6
5°	1100.1	1101.2	1103.5	1103.5
7.5°	1096.7	1097.8	1097.8	1097.8
10°	1070.7	1070.7	1073.0	1073.0
12.5°	1050.4	1049.2	1049.2	1047.0
15°	1037.9	1035.7	1036.8	1033.4
17.5°	1028.9	1027.8	1027.8	1025.5
20°	1025.5	1023.3	1022.1	1019.9
22.5°	1023.3	1022.1	1019.9	1017.6
25°	1028.9	1023.3	1022.1	1019.9
27.5°	1034.6	1028.9	1024.4	1023.3
30°	1040.2	1030.0	1024.4	1022.1
32.5°	1039.1	1025.5	1017.6	1014.2
35°	1026.7	1009.7	999.5	996.2
37.5°	1002.9	983.7	967.9	962.3
40°	969.1	944.2	929.5	921.6
42.5°	928.4	900.2	887.7	881.0
45°	861.8	839.2	824.5	818.8
47.5°	787.2	756.7	743.2	737.5
50°	691.2	666.4	655.1	647.2
52.5°	589.6	567.0	556.8	552.3
55°	491.3	480.0	464.2	460.8
57.5°	398.7	395.3	384.0	382.9
60°	324.1	318.5	310.6	310.6
62.5°	255.3	249.6	246.2	246.2
65°	196.5	195.4	193.1	192.0
67.5°	151.3	154.7	155.9	153.6
70°	126.5	127.6	127.6	127.6
72.5°	109.6	109.6	109.6	108.4
75°	99.4	99.4	97.1	96.0
77.5°	91.5	90.4	91.5	90.4
80°	80.2	79.1	76.8	74.5
82.5°	66.6	65.5	59.9	59.9
85°	52.0	48.6	44.0	39.5
87.5°	29.4	26.0	19.2	13.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)