

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: P141096

Luminaire Tested: **ECM-F04-LED-E1-SL3-7050**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P141096
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33691)
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-SL3-7050
Description: EPIC CLASSICAL MEDIUM DECORATIVE LED LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 3 W/ SPILL LIGHT CONTROL
Light Source: (28) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9805.3 lumens
Efficiency: N/A
Efficacy: 95.9 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

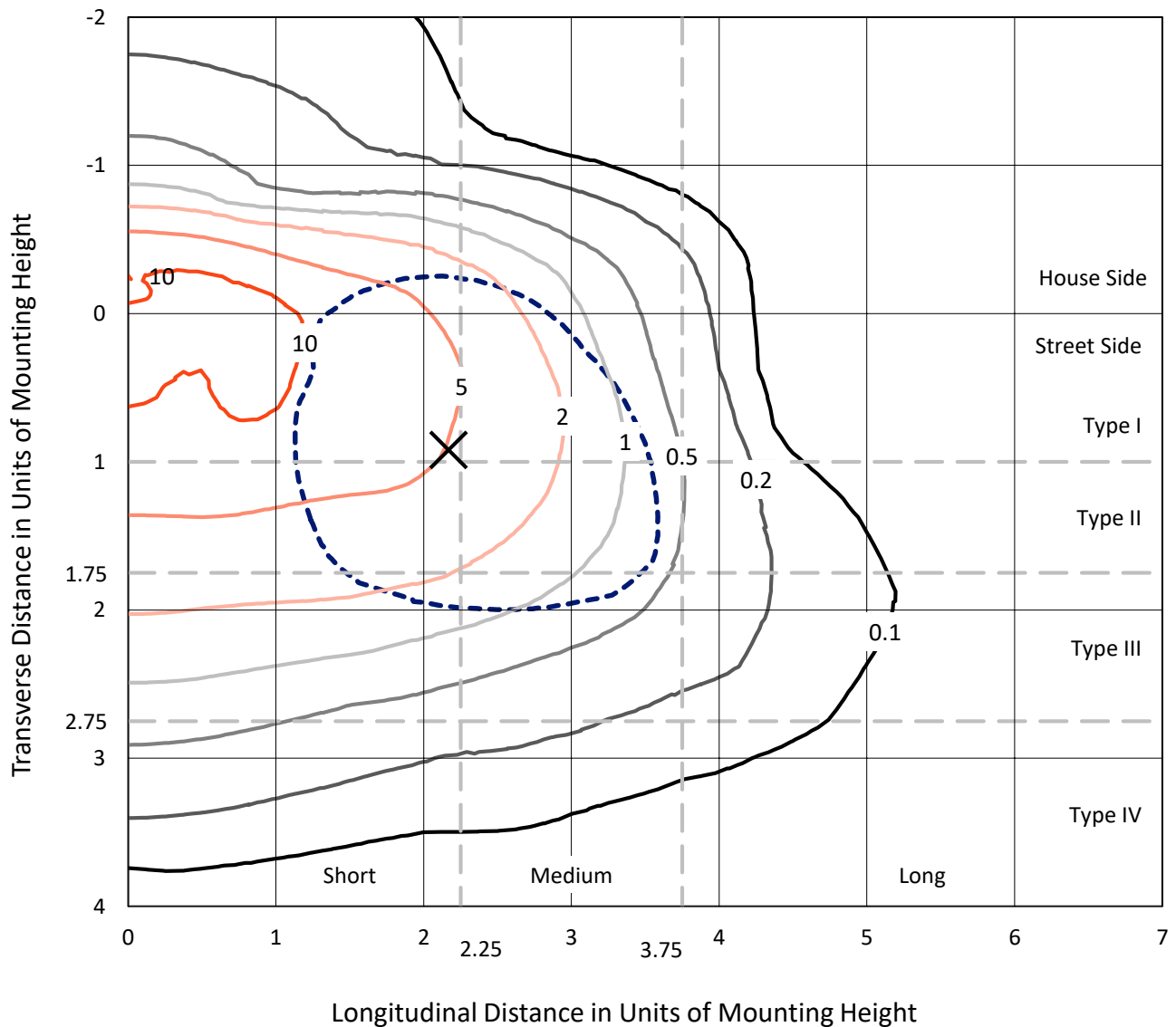
Input Watts (W): 102.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

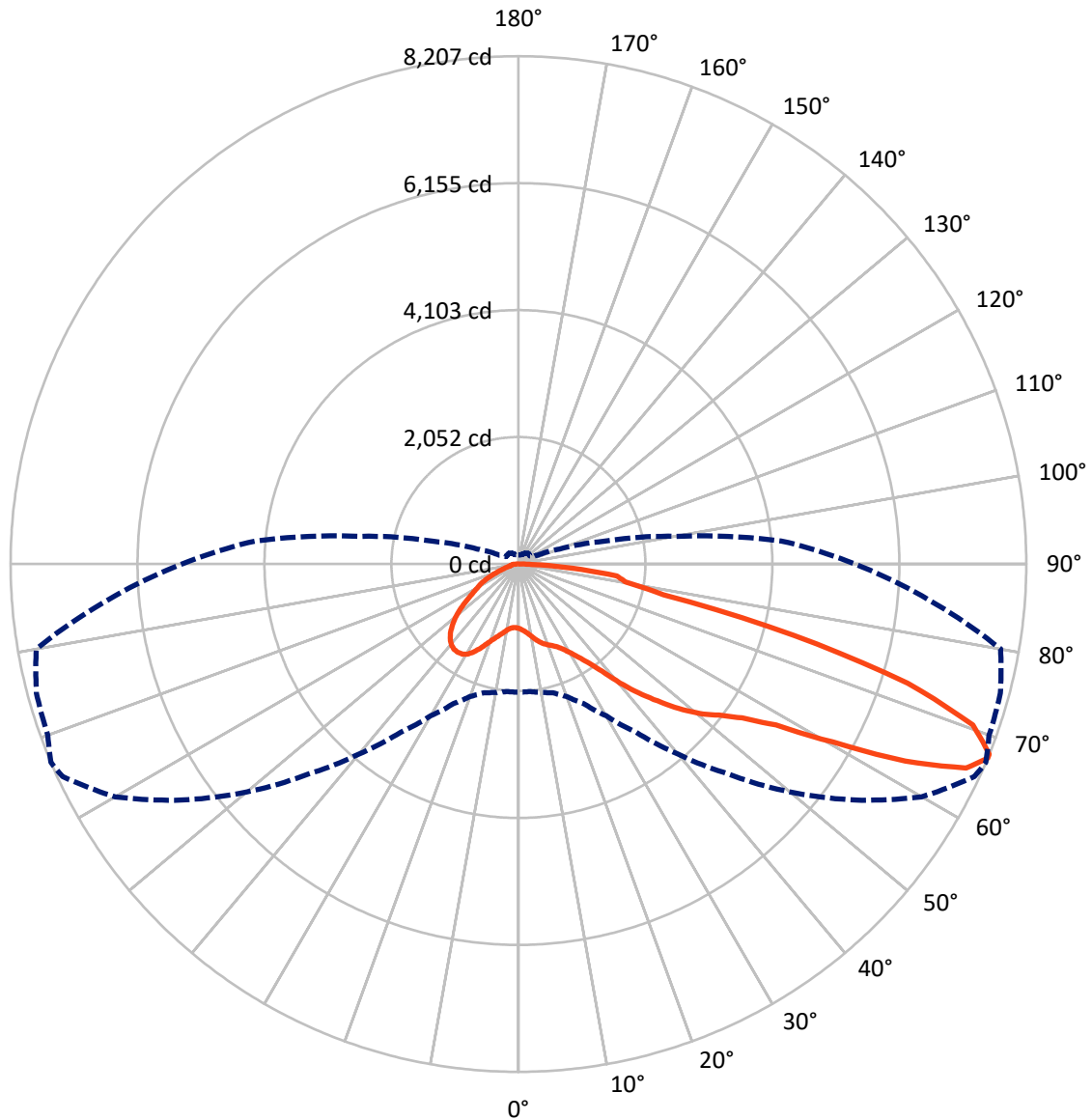
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13.6 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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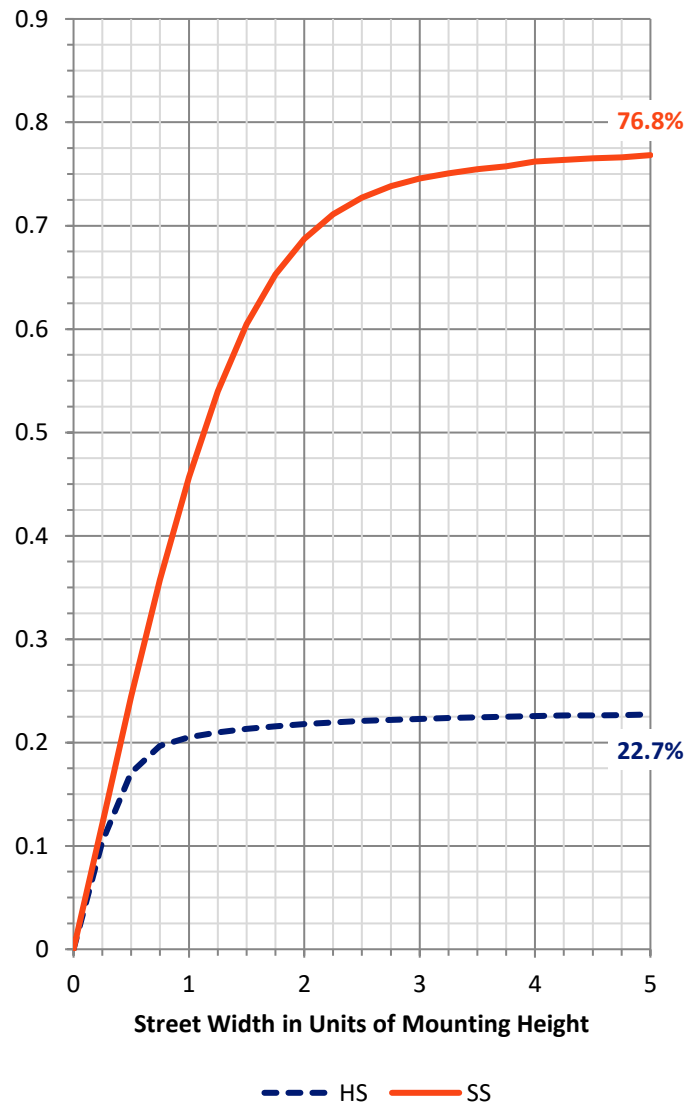
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2255.7	0.0	2255.7
	% Fixture	23.0	0.0	23.0
Street Side	Lumens	7549.6	0.0	7549.6
	% Fixture	77.0	0.0	77.0
Total	Lumens	9805.3	0.0	9805.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.3	1.1
10°-20°	360.5	3.7
20°-30°	641.8	6.5
30°-40°	922.7	9.4
40°-50°	1406.2	14.3
50°-60°	2054.2	20.9
60°-70°	2767.8	28.2
70°-80°	1358.9	13.9
80°-90°	189.0	1.9
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°	9805.3	100.0
0°-180°	9805.3	100.0



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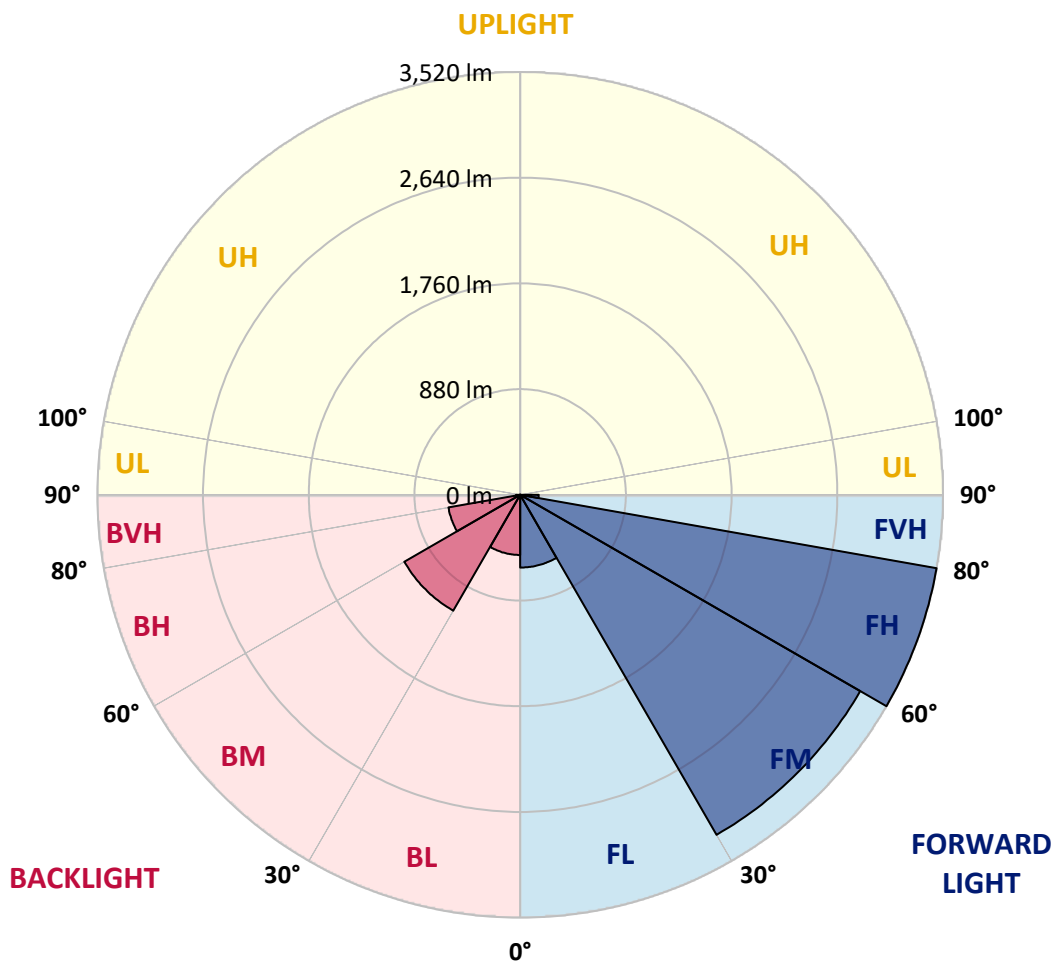
CATALOG NUMBER: ECM-F04-LED-E1-SL3-7050

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	605.7	6.2			
FM (30°-60°)	3268.9	33.3			
FH (60°-80°)	3520.1	35.9			G2/5000
FVH (80°-90°)	154.9	1.6			G2/225
BL (0°-30°)	500.9	5.1	B2/1000		
BM (30°-60°)	1114.2	11.4	B2/2500		
BH (60°-80°)	606.6	6.2	B2/1000		G2/1000
BVH (80°-90°)	34.0	0.3			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 III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2
2.5°	1094.4	1088.8	1093.3	1092.2	1088.8	1084.3	1086.5	1083.1	1080.9	1077.5	1074.1
5°	1165.6	1162.2	1159.9	1156.5	1154.3	1150.9	1148.6	1143.0	1135.1	1129.4	1124.9
7.5°	1235.6	1234.5	1231.1	1226.6	1217.5	1215.3	1207.4	1201.7	1194.9	1183.6	1174.6
10°	1318.0	1316.9	1311.3	1304.5	1294.3	1284.2	1275.1	1261.6	1248.0	1237.9	1230.0
12.5°	1417.4	1411.8	1400.5	1391.5	1380.2	1364.4	1349.7	1333.9	1314.7	1298.8	1289.8
15°	1516.8	1510.1	1501.0	1488.6	1471.7	1450.2	1428.7	1405.0	1375.7	1355.3	1342.9
17.5°	1598.1	1593.6	1583.5	1566.5	1549.6	1523.6	1495.4	1462.6	1426.5	1396.0	1376.8
20°	1656.9	1652.4	1636.6	1616.2	1593.6	1564.3	1533.8	1497.6	1454.7	1417.4	1396.0
22.5°	1681.7	1675.0	1656.9	1629.8	1599.3	1563.1	1530.4	1499.9	1460.4	1432.1	1409.5
25°	1689.6	1681.7	1658.0	1624.1	1584.6	1538.3	1501.0	1477.3	1453.6	1443.4	1435.5
27.5°	1685.1	1678.3	1652.4	1610.6	1557.5	1503.3	1463.7	1446.8	1447.9	1467.1	1476.2
30°	1669.3	1661.4	1637.7	1591.4	1534.9	1476.2	1441.2	1435.5	1461.5	1510.1	1546.2
32.5°	1643.3	1637.7	1618.5	1578.9	1528.1	1477.3	1452.5	1464.9	1510.1	1585.7	1647.8
35°	1636.6	1635.4	1626.4	1604.9	1567.7	1534.9	1524.7	1559.7	1634.3	1738.2	1817.3
37.5°	1635.4	1641.1	1645.6	1645.6	1637.7	1635.4	1665.9	1714.5	1825.2	1955.1	2083.8
40°	1658.0	1668.2	1690.8	1720.1	1748.4	1789.0	1851.1	1942.6	2057.8	2215.9	2376.3
42.5°	1728.0	1750.6	1789.0	1839.8	1913.3	1988.9	2089.5	2203.5	2351.5	2510.7	2670.0
45°	1864.7	1897.4	1925.7	2005.9	2103.0	2192.2	2323.2	2473.5	2636.1	2836.0	3007.7
47.5°	2045.4	2069.1	2127.9	2212.6	2331.2	2458.8	2585.3	2716.3	2911.7	3120.6	3328.4
50°	2226.1	2244.2	2306.3	2405.7	2561.6	2701.6	2846.2	2976.1	3144.3	3365.7	3569.0
52.5°	2360.5	2385.4	2439.6	2536.7	2711.8	2871.0	3035.9	3179.4	3369.1	3567.9	3780.2
55°	2453.1	2468.9	2518.6	2613.5	2778.4	2960.2	3146.6	3322.8	3548.7	3773.4	3984.6
57.5°	2467.8	2483.6	2528.8	2612.4	2772.8	2963.6	3177.1	3392.8	3666.1	3963.2	4239.9
60°	2450.9	2463.3	2502.8	2571.7	2723.1	2932.0	3186.1	3457.2	3793.8	4176.6	4571.9
62.5°	2375.2	2387.6	2423.8	2480.2	2614.6	2840.5	3159.0	3552.1	3975.6	4456.7	5036.1
65°	2232.9	2240.8	2274.7	2319.9	2455.4	2684.7	3035.9	3532.9	4119.0	4774.1	5524.1
67°	2071.4	2068.0	2106.4	2151.6	2275.8	2487.0	2830.4	3319.4	4005.0	4799.0	5728.5
67.5°	2021.7	2030.7	2068.0	2099.6	2220.5	2424.9	2753.6	3237.0	3907.8	4742.5	5725.1
70°	1669.3	1686.2	1706.6	1726.9	1833.1	1983.3	2225.0	2692.6	3234.7	4025.3	5197.7
72.5°	1145.2	1111.4	1126.0	1119.3	1152.0	1246.9	1415.2	1826.3	2256.6	2936.5	3858.1
75°	580.5	617.8	613.3	641.5	687.8	747.7	825.6	979.2	1316.9	1716.7	2387.6
77.5°	325.3	316.2	347.9	354.6	381.7	445.0	582.8	785.0	939.7	1103.5	1349.7
80°	148.0	163.8	173.9	158.1	163.8	177.3	230.4	361.4	607.6	925.0	1063.9
82.5°	82.4	88.1	102.8	103.9	108.4	111.8	120.8	140.0	188.6	381.7	751.1
85°	52.0	54.2	68.9	75.7	79.1	79.1	79.1	83.6	96.0	112.9	194.3
87.5°	19.2	20.3	31.6	41.8	42.9	40.7	38.4	44.0	40.7	41.8	63.2
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):

	55°	60°	65°	67°	70°	75°	80°	85°	90°	95°	100°
0°	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2
2.5°	1071.8	1067.3	1062.8	1061.7	1058.3	1056.0	1050.4	1045.9	1041.3	1037.9	1034.6
5°	1114.8	1105.7	1097.8	1094.4	1089.9	1084.3	1073.0	1065.1	1058.3	1051.5	1044.7
7.5°	1163.3	1152.0	1140.7	1136.2	1129.4	1119.3	1106.8	1097.8	1086.5	1076.4	1067.3
10°	1217.5	1205.1	1196.1	1191.6	1185.9	1171.2	1163.3	1147.5	1135.1	1121.5	1110.2
12.5°	1276.3	1270.6	1258.2	1253.7	1248.0	1237.9	1226.6	1213.0	1197.2	1182.5	1169.0
15°	1329.3	1320.3	1312.4	1311.3	1307.9	1302.2	1287.6	1272.9	1259.3	1240.1	1228.8
17.5°	1362.1	1358.7	1357.6	1356.5	1354.2	1350.8	1344.0	1328.2	1315.8	1300.0	1284.2
20°	1382.4	1385.8	1391.5	1396.0	1398.2	1400.5	1397.1	1381.3	1368.9	1355.3	1341.8
22.5°	1403.9	1412.9	1427.6	1434.4	1442.3	1453.6	1451.3	1441.2	1434.4	1418.6	1408.4
25°	1434.4	1452.5	1477.3	1486.3	1501.0	1515.7	1519.1	1513.4	1506.7	1495.4	1495.4
27.5°	1486.3	1512.3	1545.1	1564.3	1578.9	1599.3	1606.1	1602.7	1603.8	1597.0	1612.8
30°	1567.7	1603.8	1647.8	1668.2	1686.2	1710.0	1714.5	1721.3	1716.7	1729.2	1748.4
32.5°	1690.8	1735.9	1781.1	1800.3	1816.1	1841.0	1855.7	1851.1	1867.0	1874.9	1902.0
35°	1880.5	1925.7	1960.7	1964.1	1982.2	1995.7	2009.3	2004.7	2047.7	2064.6	2079.3
37.5°	2142.5	2180.9	2202.4	2194.5	2173.0	2199.0	2217.1	2244.2	2271.3	2301.8	2247.6
40°	2482.5	2543.5	2534.5	2523.2	2482.5	2488.1	2496.0	2510.7	2555.9	2545.7	2391.0
42.5°	2805.5	2867.6	2857.5	2845.0	2790.8	2762.6	2784.1	2810.0	2834.9	2738.9	2508.5
45°	3131.9	3188.4	3139.8	3156.8	3108.2	3095.8	3137.6	3152.3	3124.0	2947.8	2607.9
47.5°	3470.8	3531.7	3508.0	3491.1	3456.1	3452.7	3476.4	3499.0	3387.2	3099.2	2682.4
50°	3730.5	3820.9	3808.5	3798.3	3759.9	3755.4	3811.8	3827.7	3626.6	3259.5	2756.9
52.5°	3930.4	4047.9	4070.5	4056.9	4047.9	4050.2	4212.8	4189.1	3911.2	3453.8	2843.9
55°	4166.5	4288.5	4370.9	4387.9	4410.4	4443.2	4765.1	4730.1	4304.3	3733.9	2935.4
57.5°	4479.3	4705.2	4829.5	4906.3	4968.4	5180.7	5589.6	5455.2	4848.7	4095.3	3043.8
60°	4940.1	5388.5	5646.0	5841.4	5964.5	6335.0	6830.8	6336.1	5481.1	4529.0	3186.1
62.5°	5679.9	6411.8	6904.2	7014.9	7066.9	7419.3	7773.9	7010.4	5937.4	4815.9	3208.7
65°	6397.1	7312.0	7886.8	7951.2	7912.8	8007.7	8107.1	7030.7	5831.3	4680.4	2944.4
67°	6650.1	7524.3	8128.5	8206.5	8093.5	8063.0	7911.7	6660.3	5434.8	4264.7	2576.2
67.5°	6636.6	7499.4	8126.3	8205.3	8093.5	8045.0	7822.5	6511.2	5279.0	4163.1	2505.1
70°	6117.0	6946.0	7644.0	7792.0	7729.8	7601.1	7009.3	5515.0	4374.3	3415.4	1931.3
72.5°	4966.1	5861.8	6415.2	6579.0	6623.0	6292.1	5220.2	3860.4	3153.4	2440.7	1400.5
75°	3334.1	4224.1	4677.0	4594.5	4326.9	3763.3	2755.8	2036.4	1728.0	1419.7	866.3
77.5°	1890.7	2577.4	2542.4	2400.0	2174.2	1609.4	781.6	423.5	404.3	472.1	367.1
80°	1262.7	1589.1	1697.5	1752.9	1740.5	1190.4	323.0	163.8	141.2	141.2	138.9
82.5°	1053.8	1373.4	1555.2	1603.8	1494.2	904.7	193.1	107.3	85.8	96.0	107.3
85°	443.9	692.3	916.0	881.0	700.2	352.4	98.3	56.5	56.5	74.5	93.7
87.5°	107.3	159.3	224.8	218.0	175.1	81.3	49.7	35.0	35.0	57.6	81.3
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°	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2	1040.2
2.5°	1033.4	1028.9	1028.9	1024.4	1022.1	1019.9	1018.7	1019.9	1016.5	1013.1	1014.2
5°	1039.1	1032.3	1028.9	1021.0	1016.5	1012.0	1008.6	1007.5	1001.8	998.4	998.4
7.5°	1058.3	1049.2	1042.5	1033.4	1024.4	1017.6	1012.0	1008.6	1000.7	995.0	993.9
10°	1097.8	1085.4	1075.2	1061.7	1049.2	1040.2	1030.0	1024.4	1015.4	1009.7	1007.5
12.5°	1156.5	1138.5	1122.7	1102.3	1087.6	1074.1	1068.4	1059.4	1056.0	1052.6	1053.8
15°	1211.9	1190.4	1175.7	1159.9	1143.0	1135.1	1123.8	1122.7	1123.8	1118.1	1118.1
17.5°	1268.4	1251.4	1234.5	1228.8	1213.0	1207.4	1199.5	1194.9	1184.8	1174.6	1162.2
20°	1327.1	1318.0	1311.3	1304.5	1301.1	1287.6	1267.2	1243.5	1210.8	1181.4	1156.5
22.5°	1402.8	1397.1	1398.2	1392.6	1374.5	1340.6	1294.3	1244.6	1191.6	1144.1	1106.8
25°	1498.8	1504.4	1497.6	1469.4	1417.4	1348.5	1277.4	1207.4	1137.3	1080.9	1030.0
27.5°	1620.7	1616.2	1584.6	1512.3	1423.1	1324.8	1233.3	1149.8	1066.2	1000.7	937.4
30°	1754.0	1721.3	1638.8	1525.9	1400.5	1281.9	1169.0	1071.8	974.7	897.9	826.7
32.5°	1888.4	1794.7	1661.4	1510.1	1361.0	1220.9	1094.4	980.3	868.5	782.7	700.2
35°	1990.1	1839.8	1658.0	1476.2	1301.1	1140.7	993.9	852.7	722.8	620.1	536.5
37.5°	2083.8	1864.7	1635.4	1424.2	1218.7	1034.6	851.6	699.1	568.1	465.3	393.0
40°	2141.4	1862.4	1591.4	1338.4	1104.6	878.7	679.9	522.9	407.7	332.1	292.5
42.5°	2175.3	1838.7	1515.7	1224.3	947.6	703.6	501.5	360.3	290.3	257.5	239.4
45°	2192.2	1787.9	1422.0	1071.8	757.9	502.6	345.6	259.8	231.5	222.5	218.0
47.5°	2182.1	1716.7	1287.6	900.2	564.7	344.5	247.3	219.1	210.1	205.6	204.4
50°	2158.3	1624.1	1146.4	713.8	400.9	247.3	207.8	199.9	196.5	195.4	193.1
52.5°	2124.5	1514.6	984.9	553.4	284.6	205.6	194.3	190.9	188.6	185.2	184.1
55°	2068.0	1379.0	820.0	407.7	228.1	194.3	188.6	187.5	183.0	179.6	177.3
57.5°	2000.2	1234.5	664.1	319.6	210.1	189.7	186.4	185.2	180.7	176.2	171.7
60°	1966.3	1132.8	546.6	276.7	206.7	192.0	189.7	187.5	181.8	175.1	169.4
62.5°	1882.8	1023.3	471.0	263.2	211.2	199.9	198.8	194.3	186.4	179.6	170.5
65°	1667.0	868.5	400.9	249.6	218.0	212.3	214.6	208.9	199.9	188.6	173.9
67°	1408.4	705.9	338.8	239.4	225.9	229.3	232.7	229.3	214.6	197.7	178.5
67.5°	1338.4	657.3	321.9	236.1	228.1	232.7	238.3	234.9	219.1	199.9	180.7
70°	1006.3	471.0	255.3	223.6	236.1	248.5	259.8	258.6	242.8	219.1	188.6
72.5°	695.7	321.9	206.7	208.9	229.3	251.9	266.5	273.3	257.5	229.3	193.1
75°	419.0	205.6	173.9	188.6	208.9	231.5	255.3	257.5	239.4	211.2	180.7
77.5°	205.6	148.0	143.4	149.1	168.3	187.5	197.7	185.2	173.9	154.7	143.4
80°	124.2	116.3	114.1	126.5	137.8	134.4	126.5	116.3	110.7	106.2	101.6
82.5°	103.9	105.0	107.3	109.6	107.3	94.9	81.3	74.5	70.0	70.0	71.2
85°	106.2	108.4	99.4	91.5	81.3	67.8	55.3	47.4	48.6	49.7	49.7
87.5°	82.4	79.1	70.0	57.6	46.3	33.9	27.1	22.6	24.8	23.7	26.0
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°	1040.2	1040.2	1040.2	1040.2	1040.2
2.5°	1014.2	1013.1	1014.2	1014.2	1015.4
5°	996.2	993.9	993.9	995.0	995.0
7.5°	991.6	989.4	989.4	990.5	989.4
10°	1007.5	1006.3	1008.6	1007.5	1007.5
12.5°	1054.9	1054.9	1059.4	1061.7	1059.4
15°	1119.3	1117.0	1120.4	1121.5	1122.7
17.5°	1155.4	1145.2	1141.9	1144.1	1139.6
20°	1135.1	1118.1	1111.4	1110.2	1102.3
22.5°	1077.5	1052.6	1042.5	1037.9	1028.9
25°	996.2	966.8	953.2	941.9	936.3
27.5°	899.0	862.9	843.7	834.7	831.3
30°	777.1	742.0	713.8	699.1	694.6
32.5°	641.5	590.7	561.3	543.3	530.8
35°	478.9	430.3	408.9	395.3	379.5
37.5°	347.9	318.5	300.4	291.4	288.0
40°	268.8	254.1	245.1	244.0	242.8
42.5°	232.7	225.9	224.8	222.5	220.2
45°	214.6	212.3	213.5	210.1	207.8
47.5°	202.2	201.0	201.0	198.8	197.7
50°	192.0	192.0	190.9	189.7	189.7
52.5°	183.0	184.1	184.1	181.8	181.8
55°	175.1	175.1	176.2	175.1	175.1
57.5°	169.4	168.3	169.4	169.4	169.4
60°	166.0	163.8	162.6	163.8	163.8
62.5°	162.6	159.3	158.1	158.1	159.3
65°	162.6	157.0	154.7	154.7	153.6
67°	163.8	154.7	150.2	148.0	146.8
67.5°	163.8	153.6	148.0	146.8	145.7
70°	163.8	149.1	141.2	135.5	135.5
72.5°	162.6	144.6	132.1	126.5	124.2
75°	154.7	136.7	125.4	118.6	116.3
77.5°	129.9	118.6	112.9	107.3	106.2
80°	98.3	92.6	88.1	75.7	70.0
82.5°	70.0	66.6	58.7	54.2	50.8
85°	49.7	46.3	42.9	38.4	38.4
87.5°	27.1	26.0	24.8	22.6	20.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)