

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: P142035

Luminaire Tested: **ECM-F02-LED-E1-T4**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P142035
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-F02-LED-E1-T4
Description: EPIC CLASSICAL MEDIUM DECORATIVE LED LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4
Light Source: (14) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4748 lumens
Efficiency: N/A
Efficacy: 86.3 lumens/watt
Luminous Opening: Rectangular (W 0.33' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G2

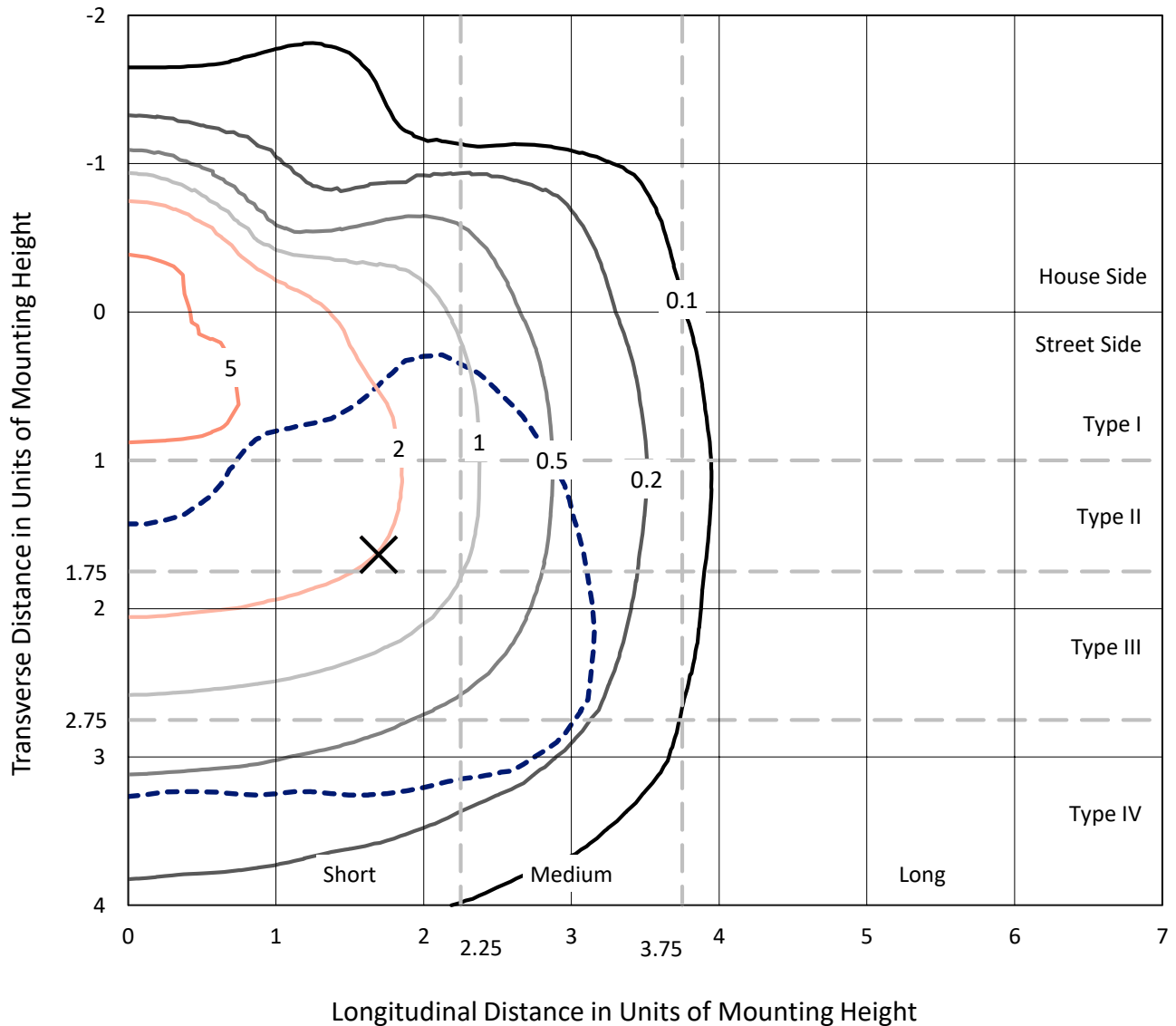
Input Watts (W): 55
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

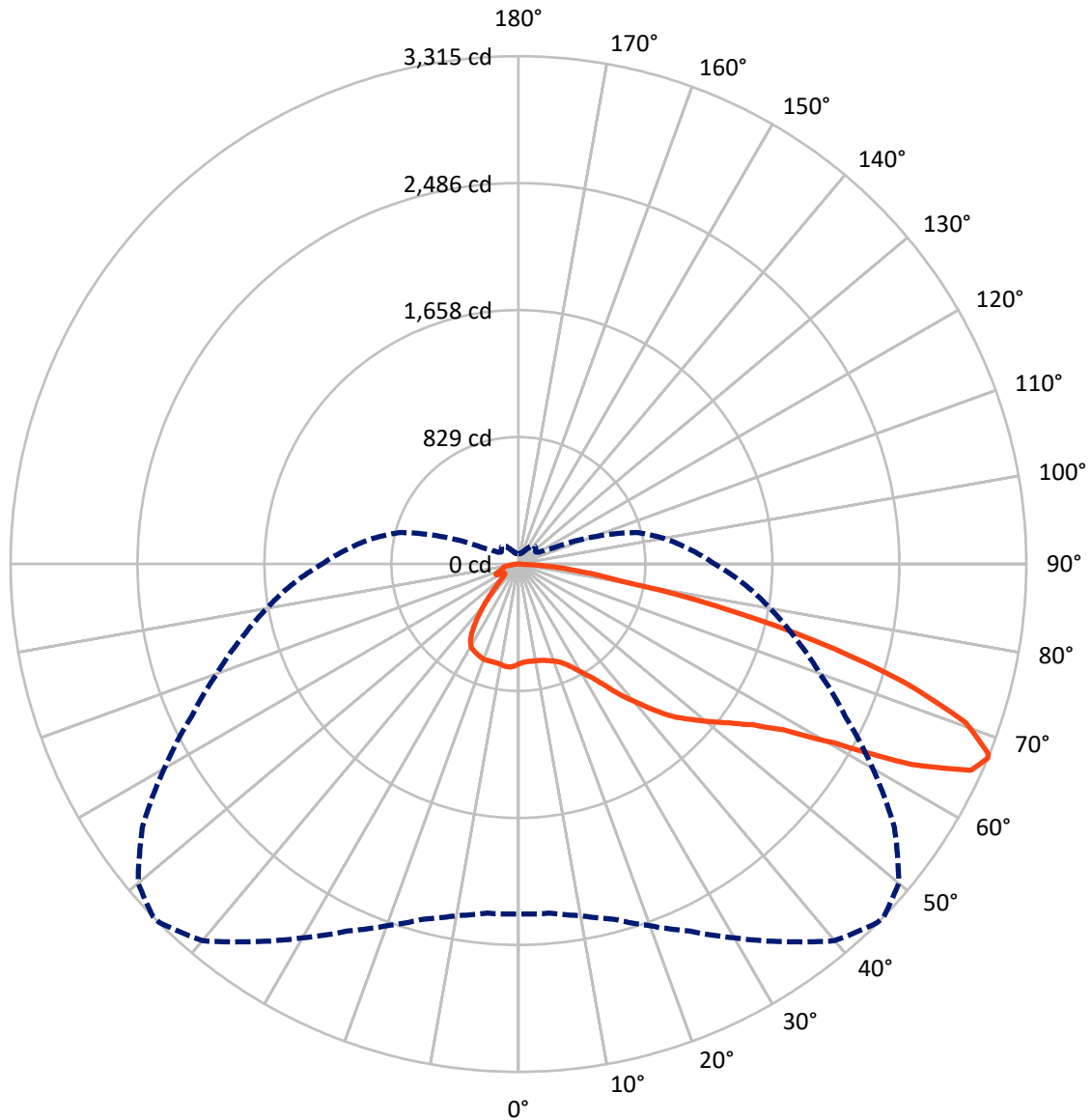
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.6 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	943.5	0.0	943.5
	% Fixture	19.9	0.0	19.9
Street Side	Lumens	3804.5	0.0	3804.5
	% Fixture	80.1	0.0	80.1
Total	Lumens	4748.0	0.0	4748.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.6	1.3
10°-20°	186.9	3.9
20°-30°	314.2	6.6
30°-40°	469.9	9.9
40°-50°	612.0	12.9
50°-60°	838.2	17.7
60°-70°	1325.1	27.9
70°-80°	822.0	17.3
80°-90°	117.1	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°	4748.0	100.0
0°-180°	4748.0	100.0



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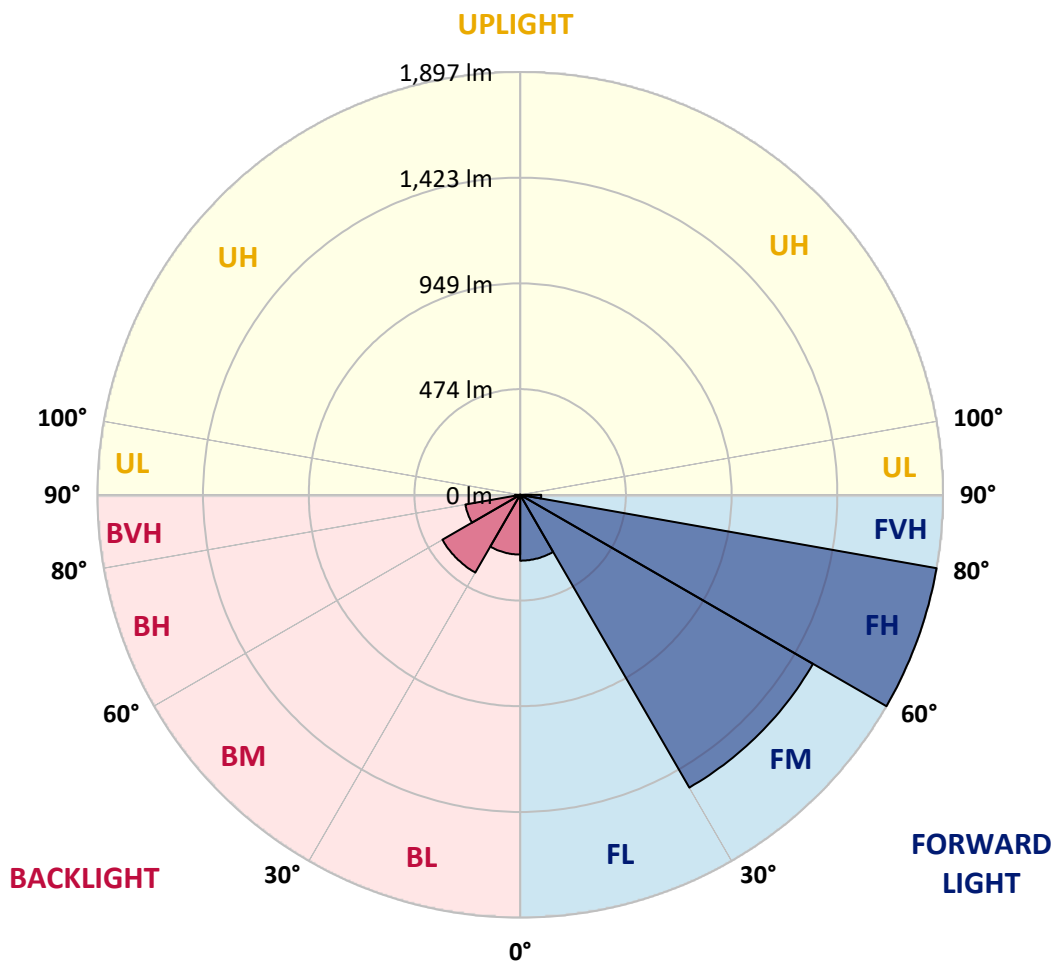
CATALOG NUMBER: ECM-F02-LED-E1-T4

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	295.7	6.2			
FM	(30°-60°)	1517.2	32.0			
FH	(60°-80°)	1897.3	40.0			G2/5000
FVH	(80°-90°)	94.3	2.0			G1/100
BL	(0°-30°)	268.0	5.6	B1/500		
BM	(30°-60°)	403.0	8.5	B1/1000		
BH	(60°-80°)	249.8	5.3	B1/500		G1/500
BVH	(80°-90°)	22.8	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°	650.5	650.5	650.5	650.5	650.5	650.5	650.5	650.5	650.5	650.5	650.5
2.5°	636.2	637.9	637.3	636.8	637.3	637.9	638.4	640.1	640.6	641.2	641.7
5°	624.6	626.3	625.7	626.8	627.4	629.6	631.3	634.0	635.7	637.9	639.0
7.5°	621.3	622.4	622.4	623.5	624.1	626.3	629.0	632.4	635.7	639.0	640.1
10°	630.2	630.7	630.7	630.2	630.7	631.8	632.9	635.7	638.4	641.2	642.3
12.5°	651.1	649.4	648.9	647.2	647.8	645.6	645.6	645.0	645.0	645.6	645.6
15°	673.1	672.0	670.9	668.1	668.1	664.8	663.7	661.5	656.0	653.8	653.3
17.5°	692.9	691.8	689.6	687.4	686.3	681.9	680.8	676.9	670.3	665.4	663.7
20°	716.6	713.8	708.9	707.8	705.0	700.0	698.4	693.4	684.6	677.5	676.9
22.5°	752.9	748.5	743.5	739.7	732.5	727.6	723.2	716.6	706.1	697.8	695.6
25°	789.2	787.6	783.1	777.6	772.7	767.2	761.7	751.8	738.0	727.6	725.4
27.5°	840.4	836.5	831.0	822.2	819.5	810.1	805.7	797.5	783.7	770.5	768.3
30°	893.8	889.9	881.1	873.4	871.8	861.8	859.1	850.3	838.2	825.0	823.3
32.5°	954.9	951.0	944.4	940.0	933.9	928.4	921.8	913.6	898.2	887.2	885.0
35°	1033.0	1029.7	1022.0	1025.3	1019.8	1018.1	1014.3	1000.5	983.5	970.3	972.5
37.5°	1094.6	1094.1	1095.7	1094.1	1101.3	1108.4	1108.4	1109.5	1101.3	1086.9	1084.2
40°	1152.4	1151.9	1156.3	1161.2	1180.5	1192.1	1205.3	1210.2	1201.4	1190.4	1186.6
42.5°	1206.4	1205.3	1211.3	1229.5	1253.1	1274.6	1297.2	1316.4	1320.8	1308.7	1306.0
45°	1259.8	1261.4	1269.1	1289.5	1320.8	1348.9	1387.4	1410.0	1424.3	1417.7	1422.1
47.5°	1324.1	1325.8	1334.0	1358.3	1385.8	1421.0	1466.1	1504.7	1521.7	1521.7	1516.2
50°	1400.6	1408.3	1417.2	1433.7	1465.6	1500.3	1555.3	1593.8	1621.3	1620.2	1615.8
52.5°	1502.5	1504.1	1518.4	1531.6	1559.1	1594.4	1643.9	1696.7	1731.4	1728.1	1723.1
55°	1639.5	1632.9	1642.2	1654.9	1684.6	1715.4	1769.4	1830.5	1865.7	1855.2	1851.9
57.5°	1812.3	1806.8	1813.4	1828.8	1866.2	1891.6	1935.0	1991.2	2040.7	2049.5	2041.8
60°	2061.6	2061.6	2074.8	2107.8	2145.8	2183.8	2239.4	2307.1	2358.2	2370.9	2370.4
62.5°	2357.1	2375.9	2378.6	2421.5	2494.2	2559.7	2646.1	2765.5	2842.0	2896.5	2882.2
65°	2404.5	2410.5	2434.7	2501.3	2599.9	2716.0	2850.3	3007.1	3166.2	3244.9	3247.1
67°	2285.6	2287.8	2330.2	2400.1	2512.9	2643.9	2817.8	3008.8	3210.2	3312.0	3315.3
67.5°	2248.7	2244.3	2282.3	2355.5	2478.8	2626.3	2789.7	2990.6	3198.6	3307.6	3309.3
70°	2001.6	2003.8	2033.5	2115.0	2245.4	2383.6	2566.3	2772.7	2991.7	3091.3	3096.3
72.5°	1725.9	1711.6	1738.6	1825.5	1887.7	2022.5	2190.4	2346.1	2538.8	2632.9	2630.7
75°	1316.4	1276.8	1324.1	1374.8	1409.4	1543.2	1647.7	1755.1	1932.8	2004.4	2000.5
77.5°	709.4	707.8	759.5	799.1	850.8	971.4	1063.3	1131.0	1280.7	1315.9	1320.3
80°	385.2	399.6	430.4	474.4	516.2	574.0	627.4	669.8	718.8	696.2	691.2
82.5°	232.2	255.9	303.2	336.8	353.3	379.2	417.2	441.4	460.6	418.8	410.6
85°	36.9	66.6	171.2	204.7	222.3	234.4	242.7	258.7	236.1	221.2	225.1
87.5°	12.1	13.8	26.4	58.3	51.2	35.2	46.2	67.1	31.9	17.1	16.5
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	650.5	650.5	650.5	650.5	650.5	650.5	650.5	650.5	650.5	650.5	650.5
2.5°	642.3	642.8	644.5	646.7	647.8	650.5	650.5	652.7	652.7	654.4	656.0
5°	640.6	643.4	645.6	648.9	650.5	654.4	656.0	659.3	661.0	663.2	665.4
7.5°	643.4	647.2	650.0	653.8	656.6	660.4	662.1	664.8	666.5	669.2	670.3
10°	645.6	649.4	652.7	657.1	659.3	662.1	663.7	665.9	666.5	668.1	669.2
12.5°	648.3	650.0	652.7	656.6	658.8	660.4	662.1	663.7	665.4	665.4	665.4
15°	652.2	650.5	651.1	654.4	656.6	657.7	659.3	660.4	661.0	661.0	659.9
17.5°	660.4	656.0	653.3	653.3	654.4	655.5	655.5	653.8	652.7	651.1	648.9
20°	672.5	665.4	659.9	657.1	654.9	652.2	647.8	642.3	637.3	632.9	630.2
22.5°	689.6	682.4	675.8	669.8	662.6	653.3	643.9	632.4	623.0	615.8	613.1
25°	721.5	711.1	706.1	696.7	685.7	670.9	656.6	640.6	629.6	619.7	615.3
27.5°	764.4	756.2	745.2	740.2	725.9	708.9	692.9	673.6	658.2	646.1	637.9
30°	818.9	813.4	804.1	795.8	782.0	766.6	743.0	721.5	694.5	673.1	661.0
32.5°	881.7	873.4	865.2	854.7	844.8	824.4	802.4	769.9	732.5	695.6	673.1
35°	960.4	952.1	946.6	930.1	913.6	891.6	861.8	823.3	771.0	721.5	683.0
37.5°	1068.8	1051.2	1024.2	1000.5	970.8	937.2	903.7	857.4	799.1	734.7	681.9
40°	1162.9	1137.0	1106.8	1066.0	1024.2	980.2	940.5	890.5	822.2	745.7	674.2
42.5°	1285.1	1240.5	1189.3	1135.4	1078.1	1025.3	976.3	919.1	839.3	746.3	656.0
45°	1395.1	1340.1	1272.4	1199.2	1129.3	1064.9	1008.8	945.5	853.6	744.1	635.1
47.5°	1493.1	1428.7	1346.2	1258.1	1175.5	1102.9	1041.3	974.7	872.3	751.2	627.4
50°	1587.8	1514.0	1421.0	1314.2	1222.3	1143.1	1078.7	1007.1	903.7	775.4	639.5
52.5°	1689.0	1599.3	1494.2	1373.7	1273.5	1191.5	1119.4	1046.2	941.1	807.9	661.5
55°	1812.9	1711.0	1591.1	1457.9	1342.9	1251.5	1170.0	1093.0	985.7	848.1	687.4
57.5°	1978.0	1875.0	1736.9	1583.4	1462.8	1354.4	1256.4	1169.5	1053.4	903.7	725.9
60°	2296.1	2168.9	1985.1	1818.4	1687.9	1560.2	1441.9	1323.0	1183.3	1015.9	825.0
62.5°	2806.8	2629.6	2401.7	2169.5	1993.4	1824.4	1668.1	1513.5	1339.0	1151.3	942.7
65°	3160.1	2941.1	2654.9	2363.8	2125.5	1919.1	1732.5	1548.7	1354.4	1175.5	993.9
67°	3241.0	2996.1	2670.3	2354.4	2095.2	1871.2	1668.1	1476.6	1281.2	1118.9	963.7
67.5°	3237.7	2993.4	2658.2	2334.6	2074.8	1854.1	1649.4	1448.0	1255.9	1096.8	948.8
70°	3041.8	2796.3	2459.5	2137.6	1887.1	1667.6	1461.2	1285.6	1089.7	960.9	849.7
72.5°	2577.3	2363.8	2091.9	1802.4	1587.8	1391.3	1226.2	1053.9	883.9	798.0	710.5
75°	1959.8	1770.5	1521.2	1309.3	1145.8	1009.3	843.7	730.3	610.9	552.0	520.6
77.5°	1295.0	1077.6	905.3	703.3	583.4	476.1	375.3	297.7	248.8	261.4	285.6
80°	685.2	543.7	402.3	311.5	240.5	187.1	148.6	111.2	80.9	94.7	118.9
82.5°	373.1	318.1	235.0	187.1	153.0	126.6	97.4	68.2	50.6	56.1	80.9
85°	213.0	187.1	145.3	113.4	99.1	80.9	55.6	37.4	36.3	39.1	50.1
87.5°	35.2	47.3	38.5	26.4	29.7	29.2	25.9	19.8	14.9	20.9	27.0
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	650.5	650.5	650.5	650.5	650.5	650.5	650.5	650.5	650.5	650.5	650.5
2.5°	657.1	658.8	661.0	661.5	661.0	662.6	665.4	667.6	665.9	664.8	667.6
5°	667.6	668.7	671.4	671.4	672.0	673.1	674.7	676.4	674.2	674.2	675.3
7.5°	672.0	672.0	674.7	673.6	673.6	673.1	674.7	675.3	672.0	671.4	672.0
10°	669.2	669.2	670.3	668.1	667.6	667.0	667.0	667.6	664.3	663.2	664.8
12.5°	665.4	665.4	664.3	663.2	662.1	661.0	662.1	662.6	660.4	660.4	661.0
15°	658.8	657.1	656.6	656.6	657.1	657.7	659.9	661.5	659.9	658.8	658.8
17.5°	647.8	646.7	648.3	651.6	655.5	658.2	661.5	662.6	658.8	654.4	651.1
20°	631.3	634.0	640.1	649.4	657.7	662.1	662.1	658.2	649.4	640.6	636.2
22.5°	614.2	621.9	635.1	649.4	659.3	661.0	654.9	646.7	634.6	625.2	616.9
25°	616.4	625.7	639.0	651.1	657.7	654.9	643.9	633.5	619.1	609.2	597.1
27.5°	639.5	648.3	654.9	658.8	656.6	647.8	635.1	620.8	604.8	591.1	576.8
30°	658.2	662.1	661.5	658.2	650.0	636.2	621.3	604.3	585.0	570.2	551.5
32.5°	661.5	654.4	643.4	631.3	620.2	604.8	587.8	568.0	546.5	527.2	508.5
35°	655.5	628.5	604.3	580.1	563.6	544.3	529.4	506.3	482.7	466.1	452.4
37.5°	632.9	586.1	547.6	513.5	489.3	467.2	444.7	422.1	402.3	394.6	390.7
40°	604.3	533.8	475.0	427.6	401.8	380.3	357.2	339.0	329.7	322.5	319.8
42.5°	562.5	474.4	401.2	350.6	317.6	297.7	275.2	265.3	260.9	262.5	260.3
45°	523.4	412.2	320.3	264.2	241.6	222.9	211.9	207.5	205.3	204.2	205.8
47.5°	495.9	364.3	258.1	200.9	182.2	169.0	164.6	162.9	162.4	160.2	159.6
50°	489.3	336.3	211.3	156.3	142.0	134.8	132.6	131.0	129.9	128.2	124.4
52.5°	497.0	328.6	188.2	134.3	122.2	116.7	115.0	112.3	111.2	106.8	101.8
55°	510.2	331.3	181.1	128.2	116.1	110.1	107.9	106.8	102.9	98.0	91.9
57.5°	537.7	348.4	184.4	129.9	117.2	111.7	110.6	109.5	104.6	97.4	89.7
60°	617.5	397.9	201.4	141.4	126.0	122.2	122.7	120.5	113.4	104.0	92.5
62.5°	740.8	475.0	232.8	155.7	140.3	140.3	143.6	142.0	131.0	115.6	99.1
65°	804.6	521.2	246.0	160.2	144.7	151.9	162.4	160.7	144.7	121.6	99.6
67°	794.7	512.4	238.3	153.5	136.5	145.8	156.3	156.8	139.2	116.1	95.2
67.5°	785.3	506.3	234.4	150.8	134.3	143.6	153.5	151.9	137.0	113.9	94.1
70°	705.5	444.7	209.1	140.9	124.4	127.1	129.9	127.7	116.1	100.7	87.0
72.5°	609.2	369.3	184.4	134.8	118.9	114.5	114.5	110.6	102.9	92.5	82.6
75°	464.5	287.3	161.8	128.2	112.3	105.7	104.6	101.8	95.2	87.5	78.7
77.5°	283.4	205.8	140.3	118.3	104.0	98.5	99.1	97.4	90.8	83.7	75.4
80°	142.0	133.2	117.8	102.9	94.1	88.6	89.2	85.9	80.4	74.8	68.2
82.5°	87.0	91.9	82.6	78.1	72.6	66.6	51.7	60.5	58.9	53.9	51.2
85°	57.8	57.2	51.7	45.7	41.8	36.3	32.5	33.0	36.3	37.4	37.4
87.5°	28.1	27.0	24.8	23.1	22.0	18.2	17.1	19.3	19.3	20.4	19.8
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°	650.5	650.5	650.5	650.5	650.5
2.5°	668.1	669.2	668.7	670.3	668.7
5°	675.8	675.8	676.4	676.9	676.4
7.5°	672.0	671.4	672.5	673.6	673.1
10°	664.8	665.4	666.5	668.1	668.1
12.5°	662.1	662.6	664.8	666.5	666.5
15°	659.9	660.4	661.5	663.7	662.1
17.5°	650.0	647.8	647.8	649.4	647.8
20°	632.4	629.0	629.0	628.5	627.9
22.5°	611.4	603.2	601.0	598.2	598.8
25°	585.6	574.6	568.5	565.2	564.1
27.5°	564.7	552.0	545.9	541.0	539.3
30°	538.2	523.9	519.0	516.2	515.1
32.5°	499.7	487.1	480.5	478.8	475.5
35°	441.4	435.9	433.1	429.3	429.8
37.5°	383.0	381.4	374.8	377.0	374.8
40°	320.3	319.8	320.9	319.2	323.1
42.5°	261.4	259.8	262.5	260.9	262.5
45°	202.5	205.8	209.7	208.0	210.2
47.5°	155.2	155.7	154.6	155.7	156.8
50°	119.4	118.3	117.2	115.0	116.1
52.5°	98.5	94.7	91.9	90.3	89.7
55°	87.0	83.1	80.9	78.7	78.7
57.5°	83.7	78.7	75.4	73.7	73.2
60°	84.2	77.6	73.2	70.4	69.9
62.5°	86.4	77.6	71.5	68.8	67.7
65°	85.9	76.5	70.4	67.7	66.6
67°	83.1	74.8	69.9	67.1	66.6
67.5°	82.0	74.3	69.9	67.1	66.0
70°	78.1	72.6	68.8	66.0	64.9
72.5°	74.8	70.4	66.0	63.8	62.7
75°	71.5	67.1	63.3	61.1	60.5
77.5°	68.2	63.3	60.5	57.8	55.6
80°	62.2	56.7	52.8	48.4	47.3
82.5°	51.2	46.8	42.9	39.1	38.5
85°	38.0	36.3	33.0	29.7	29.7
87.5°	20.9	23.1	20.4	18.7	17.6
90°	0.0	0.0	0.0	0.0	0.0

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