

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: P142033

Luminaire Tested: **ECM-F02-LED-E1-T4-8030**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P142033
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-T4-8030
Description: EPIC CLASSICAL MEDIUM DECORATIVE LED LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4
Light Source: (14) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4007.3 lumens
Efficiency: N/A
Efficacy: 72.9 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 - G1

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

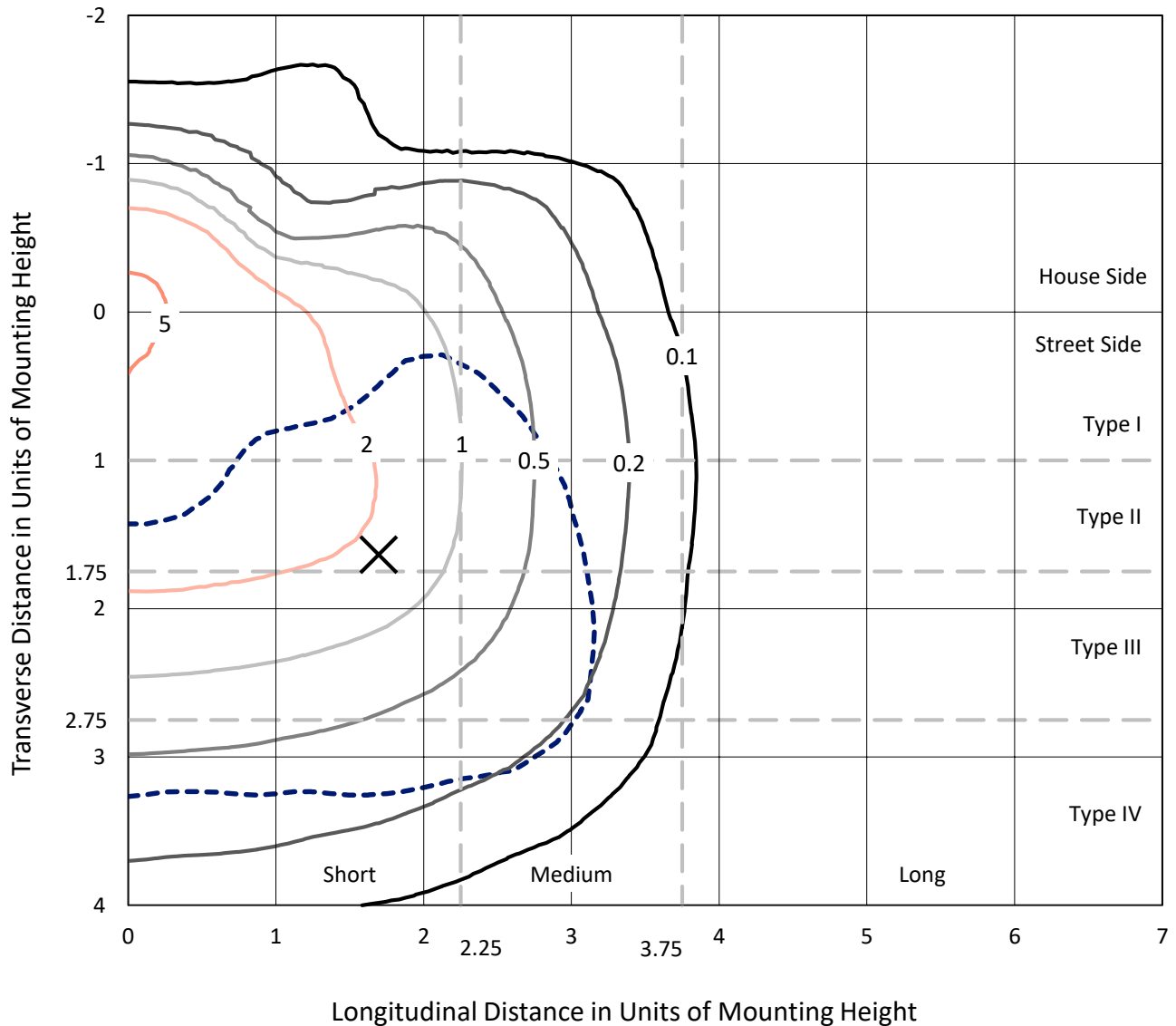


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Iso-Footcandle Lines of Horizontal Illumination

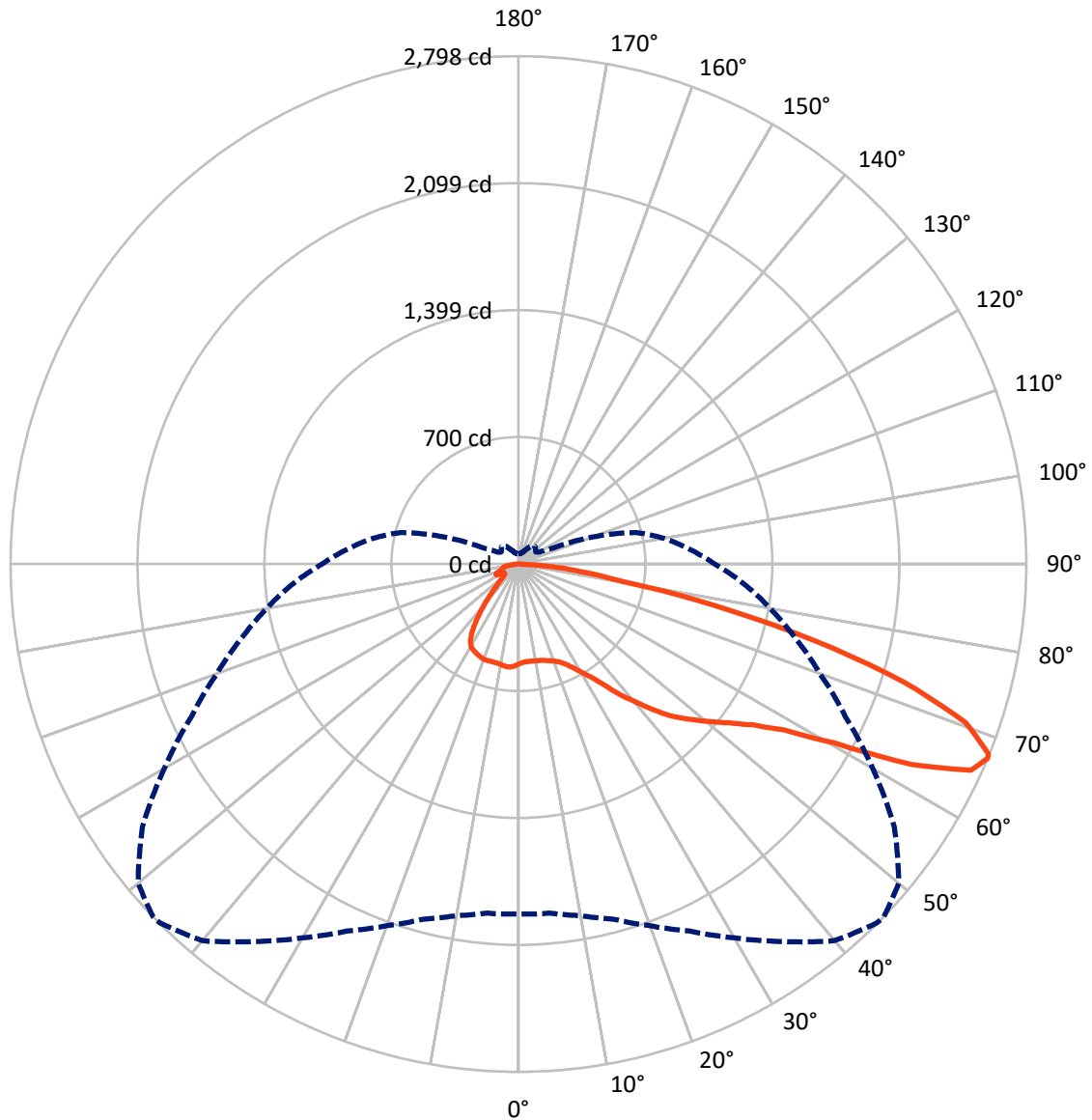
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 5.6 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	796.3	0.0	796.3
	% Fixture	19.9	0.0	19.9
Street Side	Lumens	3211.0	0.0	3211.0
	% Fixture	80.1	0.0	80.1
Total	Lumens	4007.3	0.0	4007.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.8	1.3
10°-20°	157.7	3.9
20°-30°	265.2	6.6
30°-40°	396.6	9.9
40°-50°	516.5	12.9
50°-60°	707.4	17.7
60°-70°	1118.4	27.9
70°-80°	693.7	17.3
80°-90°	98.9	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°	4007.3	100.0
0°-180°	4007.3	100.0



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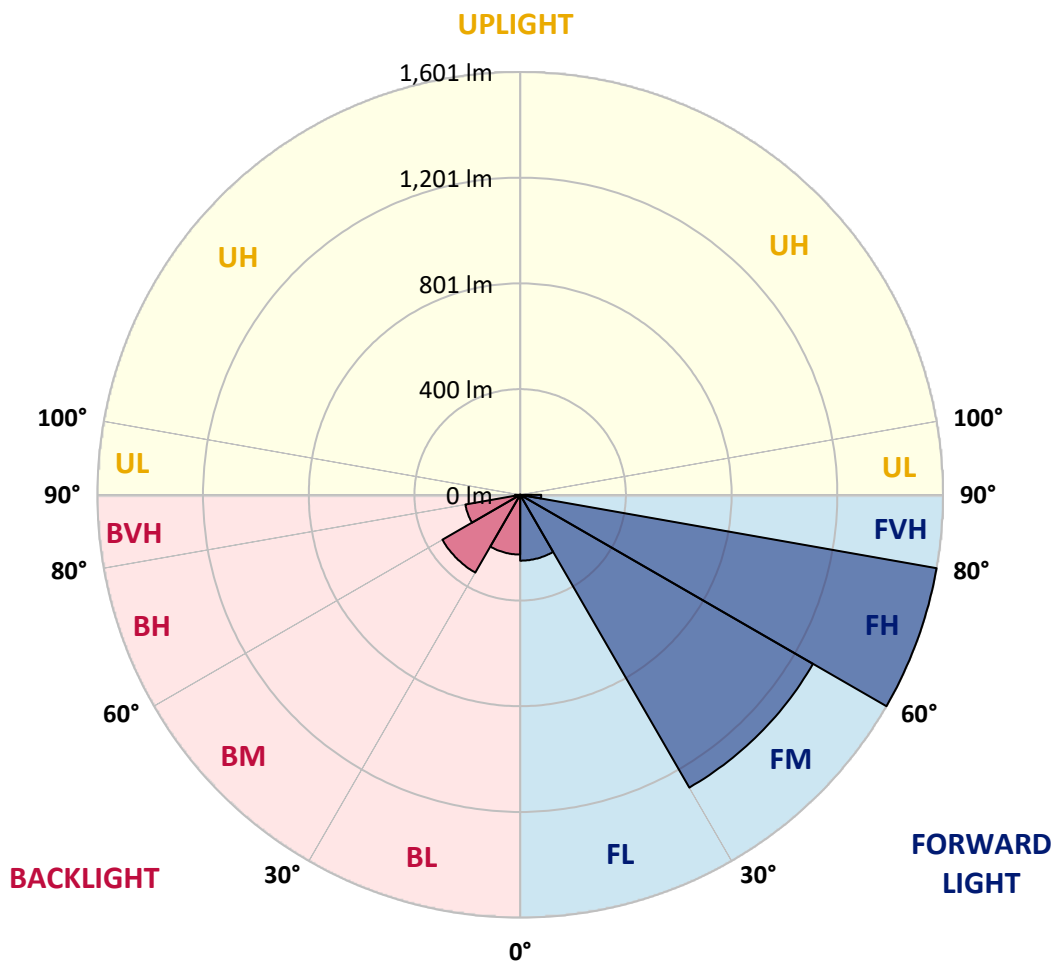
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	249.5	6.2			
FM	(30°-60°)	1280.5	32.0			
FH	(60°-80°)	1601.3	40.0			G1/1800
FVH	(80°-90°)	79.6	2.0			G1/100
BL	(0°-30°)	226.2	5.6	B1/500		
BM	(30°-60°)	340.1	8.5	B1/1000		
BH	(60°-80°)	210.8	5.3	B1/500		G1/500
BVH	(80°-90°)	19.2	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-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	46°
0°	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0
2.5°	537.0	538.3	537.9	537.4	537.9	538.3	538.8	540.2	540.7	541.1	541.6
5°	527.2	528.6	528.1	529.1	529.5	531.4	532.8	535.1	536.5	538.3	539.3
7.5°	524.4	525.3	525.3	526.3	526.7	528.6	530.9	533.7	536.5	539.3	540.2
10°	531.8	532.3	532.3	531.8	532.3	533.2	534.2	536.5	538.8	541.1	542.1
12.5°	549.5	548.1	547.6	546.2	546.7	544.8	544.8	544.4	544.4	544.8	544.8
15°	568.1	567.1	566.2	563.9	563.9	561.1	560.2	558.3	553.7	551.8	551.4
17.5°	584.8	583.9	582.0	580.1	579.2	575.5	574.6	571.3	565.7	561.6	560.2
20°	604.8	602.4	598.3	597.3	595.0	590.8	589.4	585.3	577.8	571.8	571.3
22.5°	635.4	631.7	627.5	624.3	618.2	614.1	610.3	604.8	595.9	589.0	587.1
25°	666.1	664.7	661.0	656.3	652.1	647.5	642.9	634.5	622.9	614.1	612.2
27.5°	709.3	706.0	701.4	693.9	691.6	683.7	680.0	673.0	661.4	650.3	648.4
30°	754.3	751.1	743.6	737.1	735.8	727.4	725.1	717.6	707.4	696.3	694.9
32.5°	805.9	802.6	797.1	793.3	788.2	783.6	778.0	771.1	758.0	748.8	746.9
35°	871.8	869.1	862.6	865.3	860.7	859.3	856.1	844.4	830.0	818.9	820.8
37.5°	923.9	923.4	924.8	923.4	929.4	935.5	935.5	936.4	929.4	917.4	915.0
40°	972.6	972.2	975.9	980.1	996.3	1006.1	1017.2	1021.4	1014.0	1004.7	1001.4
42.5°	1018.2	1017.2	1022.3	1037.7	1057.6	1075.8	1094.8	1111.1	1114.8	1104.6	1102.2
45°	1063.2	1064.6	1071.1	1088.3	1114.8	1138.5	1171.0	1190.0	1202.1	1196.5	1200.2
47.5°	1117.6	1119.0	1125.9	1146.4	1169.6	1199.3	1237.4	1269.9	1284.3	1284.3	1279.7
50°	1182.1	1188.6	1196.1	1210.0	1236.9	1266.2	1312.6	1345.2	1368.4	1367.5	1363.7
52.5°	1268.1	1269.5	1281.5	1292.7	1315.9	1345.6	1387.4	1432.0	1461.3	1458.5	1454.3
55°	1383.7	1378.1	1386.0	1396.7	1421.8	1447.8	1493.3	1544.9	1574.6	1565.8	1563.0
57.5°	1529.6	1524.9	1530.5	1543.5	1575.1	1596.5	1633.1	1680.5	1722.3	1729.8	1723.3
60°	1740.0	1740.0	1751.1	1779.0	1811.0	1843.1	1890.0	1947.1	1990.3	2001.0	2000.6
62.5°	1989.4	2005.2	2007.5	2043.8	2105.1	2160.3	2233.3	2334.1	2398.6	2444.6	2432.5
65°	2029.4	2034.5	2054.9	2111.1	2194.3	2292.3	2405.6	2538.0	2672.2	2738.6	2740.5
67°	1929.0	1930.9	1966.7	2025.6	2120.9	2231.4	2378.2	2539.4	2709.4	2795.3	2798.1
67.5°	1897.9	1894.2	1926.2	1988.0	2092.1	2216.5	2354.5	2524.0	2699.6	2791.6	2793.0
70°	1689.4	1691.2	1716.3	1785.0	1895.1	2011.7	2165.9	2340.1	2525.0	2609.0	2613.2
72.5°	1456.6	1444.6	1467.3	1540.7	1593.2	1707.0	1848.7	1980.1	2142.7	2222.1	2220.3
75°	1111.1	1077.6	1117.6	1160.3	1189.6	1302.4	1390.7	1481.3	1631.3	1691.7	1688.4
77.5°	598.7	597.3	641.0	674.4	718.1	819.8	897.4	954.5	1080.9	1110.6	1114.3
80°	325.1	337.2	363.2	400.4	435.7	484.5	529.5	565.3	606.6	587.6	583.4
82.5°	196.0	216.0	255.9	284.3	298.2	320.0	352.1	372.5	388.8	353.5	346.5
85°	31.1	56.2	144.5	172.8	187.7	197.9	204.8	218.3	199.3	186.7	190.0
87.5°	10.2	11.6	22.3	49.2	43.2	29.7	39.0	56.7	26.9	14.4	13.9
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°	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0
2.5°	542.1	542.5	543.9	545.8	546.7	549.0	549.0	550.9	550.9	552.3	553.7
5°	540.7	543.0	544.8	547.6	549.0	552.3	553.7	556.5	557.9	559.7	561.6
7.5°	543.0	546.2	548.6	551.8	554.1	557.4	558.8	561.1	562.5	564.8	565.7
10°	544.8	548.1	550.9	554.6	556.5	558.8	560.2	562.0	562.5	563.9	564.8
12.5°	547.2	548.6	550.9	554.1	556.0	557.4	558.8	560.2	561.6	561.6	561.6
15°	550.4	549.0	549.5	552.3	554.1	555.1	556.5	557.4	557.9	557.9	556.9
17.5°	557.4	553.7	551.4	551.4	552.3	553.2	553.2	551.8	550.9	549.5	547.6
20°	567.6	561.6	556.9	554.6	552.7	550.4	546.7	542.1	537.9	534.2	531.8
22.5°	582.0	576.0	570.4	565.3	559.2	551.4	543.5	533.7	525.8	519.8	517.4
25°	608.9	600.1	595.9	588.0	578.8	566.2	554.1	540.7	531.4	523.0	519.3
27.5°	645.2	638.2	628.9	624.7	612.7	598.3	584.8	568.5	555.5	545.3	538.3
30°	691.2	686.5	678.6	671.7	660.0	647.0	627.1	608.9	586.2	568.1	557.9
32.5°	744.1	737.1	730.2	721.4	713.0	695.8	677.2	649.8	618.2	587.1	568.1
35°	810.5	803.6	798.9	785.0	771.1	752.5	727.4	694.9	650.8	608.9	576.4
37.5°	902.0	887.2	864.4	844.4	819.4	791.0	762.7	723.7	674.4	620.1	575.5
40°	981.5	959.6	934.1	899.7	864.4	827.3	793.8	751.5	693.9	629.4	569.0
42.5°	1084.6	1047.0	1003.8	958.2	909.9	865.3	824.0	775.7	708.3	629.8	553.7
45°	1177.5	1131.0	1073.9	1012.1	953.1	898.8	851.4	798.0	720.4	628.0	536.0
47.5°	1260.2	1205.8	1136.1	1061.8	992.2	930.8	878.8	822.6	736.2	634.0	529.5
50°	1340.1	1277.8	1199.3	1109.2	1031.6	964.7	910.4	850.0	762.7	654.5	539.7
52.5°	1425.5	1349.8	1261.1	1159.4	1074.8	1005.6	944.8	883.0	794.3	681.9	558.3
55°	1530.0	1444.1	1342.8	1230.4	1133.4	1056.3	987.5	922.5	831.9	715.8	580.1
57.5°	1669.4	1582.5	1465.9	1336.3	1234.6	1143.1	1060.4	987.0	889.0	762.7	612.7
60°	1937.9	1830.6	1675.4	1534.7	1424.6	1316.8	1217.0	1116.6	998.7	857.4	696.3
62.5°	2368.9	2219.3	2027.0	1831.0	1682.4	1539.8	1407.9	1277.3	1130.1	971.7	795.7
65°	2667.1	2482.2	2240.7	1995.0	1793.9	1619.7	1462.2	1307.1	1143.1	992.2	838.9
67°	2735.4	2528.7	2253.7	1987.1	1768.3	1579.3	1407.9	1246.2	1081.3	944.3	813.3
67.5°	2732.6	2526.4	2243.5	1970.4	1751.1	1564.9	1392.1	1222.1	1060.0	925.7	800.8
70°	2567.2	2360.1	2075.8	1804.1	1592.7	1407.4	1233.2	1085.0	919.7	811.0	717.2
72.5°	2175.2	1995.0	1765.5	1521.2	1340.1	1174.2	1034.9	889.5	746.0	673.5	599.7
75°	1654.1	1494.3	1283.9	1105.0	967.1	851.9	712.1	616.4	515.6	465.9	439.4
77.5°	1092.9	909.5	764.1	593.6	492.4	401.8	316.8	251.3	209.9	220.6	241.1
80°	578.3	458.9	339.5	262.9	203.0	157.9	125.4	93.8	68.3	79.9	100.3
82.5°	314.9	268.5	198.3	157.9	129.1	106.8	82.2	57.6	42.7	47.4	68.3
85°	179.8	157.9	122.6	95.7	83.6	68.3	46.9	31.6	30.7	33.0	42.3
87.5°	29.7	39.9	32.5	22.3	25.1	24.6	21.8	16.7	12.5	17.7	22.8
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0
2.5°	554.6	556.0	557.9	558.3	557.9	559.2	561.6	563.4	562.0	561.1	563.4
5°	563.4	564.4	566.7	566.7	567.1	568.1	569.5	570.9	569.0	569.0	569.9
7.5°	567.1	567.1	569.5	568.5	568.5	568.1	569.5	569.9	567.1	566.7	567.1
10°	564.8	564.8	565.7	563.9	563.4	563.0	563.0	563.4	560.6	559.7	561.1
12.5°	561.6	561.6	560.6	559.7	558.8	557.9	558.8	559.2	557.4	557.4	557.9
15°	556.0	554.6	554.1	554.1	554.6	555.1	556.9	558.3	556.9	556.0	556.0
17.5°	546.7	545.8	547.2	550.0	553.2	555.5	558.3	559.2	556.0	552.3	549.5
20°	532.8	535.1	540.2	548.1	555.1	558.8	558.8	555.5	548.1	540.7	537.0
22.5°	518.4	524.9	536.0	548.1	556.5	557.9	552.7	545.8	535.6	527.7	520.7
25°	520.2	528.1	539.3	549.5	555.1	552.7	543.5	534.6	522.6	514.2	504.0
27.5°	539.7	547.2	552.7	556.0	554.1	546.7	536.0	523.9	510.5	498.9	486.8
30°	555.5	558.8	558.3	555.5	548.6	537.0	524.4	510.0	493.8	481.2	465.4
32.5°	558.3	552.3	543.0	532.8	523.5	510.5	496.1	479.4	461.2	445.0	429.2
35°	553.2	530.4	510.0	489.6	475.6	459.4	446.8	427.3	407.4	393.4	381.8
37.5°	534.2	494.7	462.2	433.4	412.9	394.4	375.3	356.3	339.5	333.0	329.8
40°	510.0	450.6	400.9	360.9	339.1	321.0	301.5	286.1	278.2	272.2	269.9
42.5°	474.7	400.4	338.6	295.9	268.0	251.3	232.2	223.9	220.2	221.6	219.7
45°	441.7	347.9	270.3	223.0	203.9	188.1	178.8	175.1	173.3	172.3	173.7
47.5°	418.5	307.5	217.8	169.5	153.7	142.6	138.9	137.5	137.0	135.2	134.7
50°	412.9	283.8	178.4	131.9	119.8	113.8	111.9	110.5	109.6	108.2	105.0
52.5°	419.4	277.3	158.9	113.3	103.1	98.5	97.1	94.8	93.8	90.1	85.9
55°	430.6	279.6	152.8	108.2	98.0	92.9	91.0	90.1	86.9	82.7	77.6
57.5°	453.8	294.0	155.6	109.6	98.9	94.3	93.4	92.4	88.3	82.2	75.7
60°	521.2	335.8	170.0	119.4	106.4	103.1	103.6	101.7	95.7	87.8	78.0
62.5°	625.2	400.9	196.5	131.5	118.4	118.4	121.2	119.8	110.5	97.5	83.6
65°	679.1	439.9	207.6	135.2	122.2	128.2	137.0	135.6	122.2	102.7	84.1
67°	670.7	432.4	201.1	129.6	115.2	123.1	131.9	132.4	117.5	98.0	80.4
67.5°	662.8	427.3	197.9	127.3	113.3	121.2	129.6	128.2	115.7	96.1	79.4
70°	595.5	375.3	176.5	118.9	105.0	107.3	109.6	107.8	98.0	85.0	73.4
72.5°	514.2	311.7	155.6	113.8	100.3	96.6	96.6	93.4	86.9	78.0	69.7
75°	392.0	242.5	136.6	108.2	94.8	89.2	88.3	85.9	80.4	73.9	66.4
77.5°	239.2	173.7	118.4	99.9	87.8	83.1	83.6	82.2	76.6	70.6	63.6
80°	119.8	112.4	99.4	86.9	79.4	74.8	75.2	72.5	67.8	63.2	57.6
82.5°	73.4	77.6	69.7	66.0	61.3	56.2	43.7	51.1	49.7	45.5	43.2
85°	48.8	48.3	43.7	38.6	35.3	30.7	27.4	27.9	30.7	31.6	31.6
87.5°	23.7	22.8	20.9	19.5	18.6	15.3	14.4	16.3	16.3	17.2	16.7
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°	549.0	549.0	549.0	549.0	549.0
2.5°	563.9	564.8	564.4	565.7	564.4
5°	570.4	570.4	570.9	571.3	570.9
7.5°	567.1	566.7	567.6	568.5	568.1
10°	561.1	561.6	562.5	563.9	563.9
12.5°	558.8	559.2	561.1	562.5	562.5
15°	556.9	557.4	558.3	560.2	558.8
17.5°	548.6	546.7	546.7	548.1	546.7
20°	533.7	530.9	530.9	530.4	530.0
22.5°	516.0	509.1	507.2	504.9	505.4
25°	494.2	484.9	479.8	477.0	476.1
27.5°	476.6	465.9	460.8	456.6	455.2
30°	454.3	442.2	438.0	435.7	434.8
32.5°	421.8	411.1	405.5	404.1	401.3
35°	372.5	367.9	365.6	362.3	362.8
37.5°	323.3	321.9	316.3	318.2	316.3
40°	270.3	269.9	270.8	269.4	272.7
42.5°	220.6	219.2	221.6	220.2	221.6
45°	170.9	173.7	177.0	175.6	177.4
47.5°	131.0	131.5	130.5	131.5	132.4
50°	100.8	99.9	98.9	97.1	98.0
52.5°	83.1	79.9	77.6	76.2	75.7
55°	73.4	70.1	68.3	66.4	66.4
57.5°	70.6	66.4	63.6	62.2	61.8
60°	71.1	65.5	61.8	59.5	59.0
62.5°	72.9	65.5	60.4	58.1	57.1
65°	72.5	64.6	59.5	57.1	56.2
67°	70.1	63.2	59.0	56.7	56.2
67.5°	69.2	62.7	59.0	56.7	55.7
70°	66.0	61.3	58.1	55.7	54.8
72.5°	63.2	59.5	55.7	53.9	53.0
75°	60.4	56.7	53.4	51.6	51.1
77.5°	57.6	53.4	51.1	48.8	46.9
80°	52.5	47.8	44.6	40.9	39.9
82.5°	43.2	39.5	36.2	33.0	32.5
85°	32.0	30.7	27.9	25.1	25.1
87.5°	17.7	19.5	17.2	15.8	14.9
90°	0.0	0.0	0.0	0.0	0.0

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