

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: P596837

Luminaire Tested: **MSA-SA1A-835-U-SLL-HSS**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596837
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-25)
Test Lab: INNOVATIONS CENTER
Issue Date: 5/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1A-835-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS
EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2430 lumens
Efficiency: N/A
Efficacy: 71.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B0 - U0 - G1

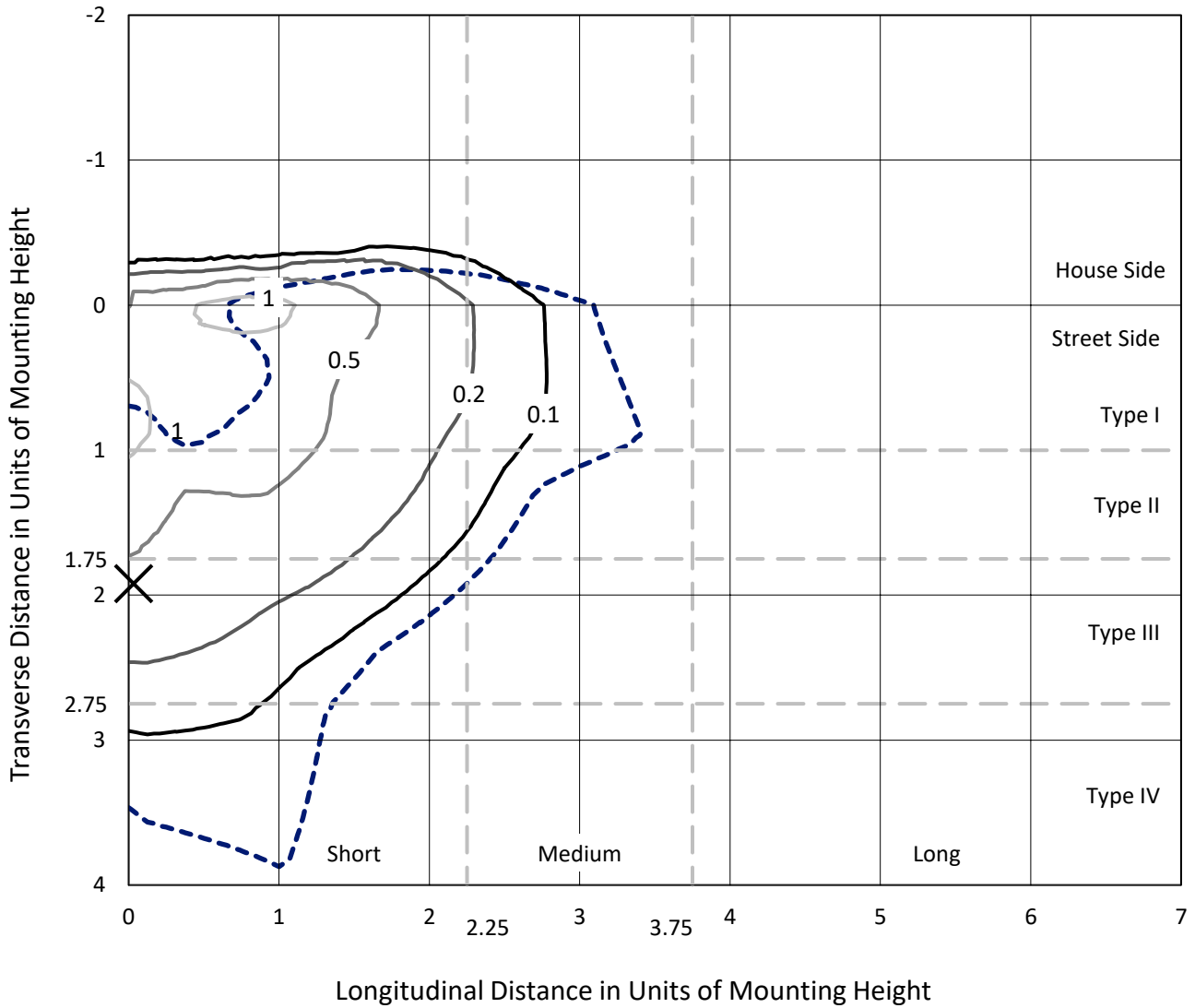
Input Watts (W): 34
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

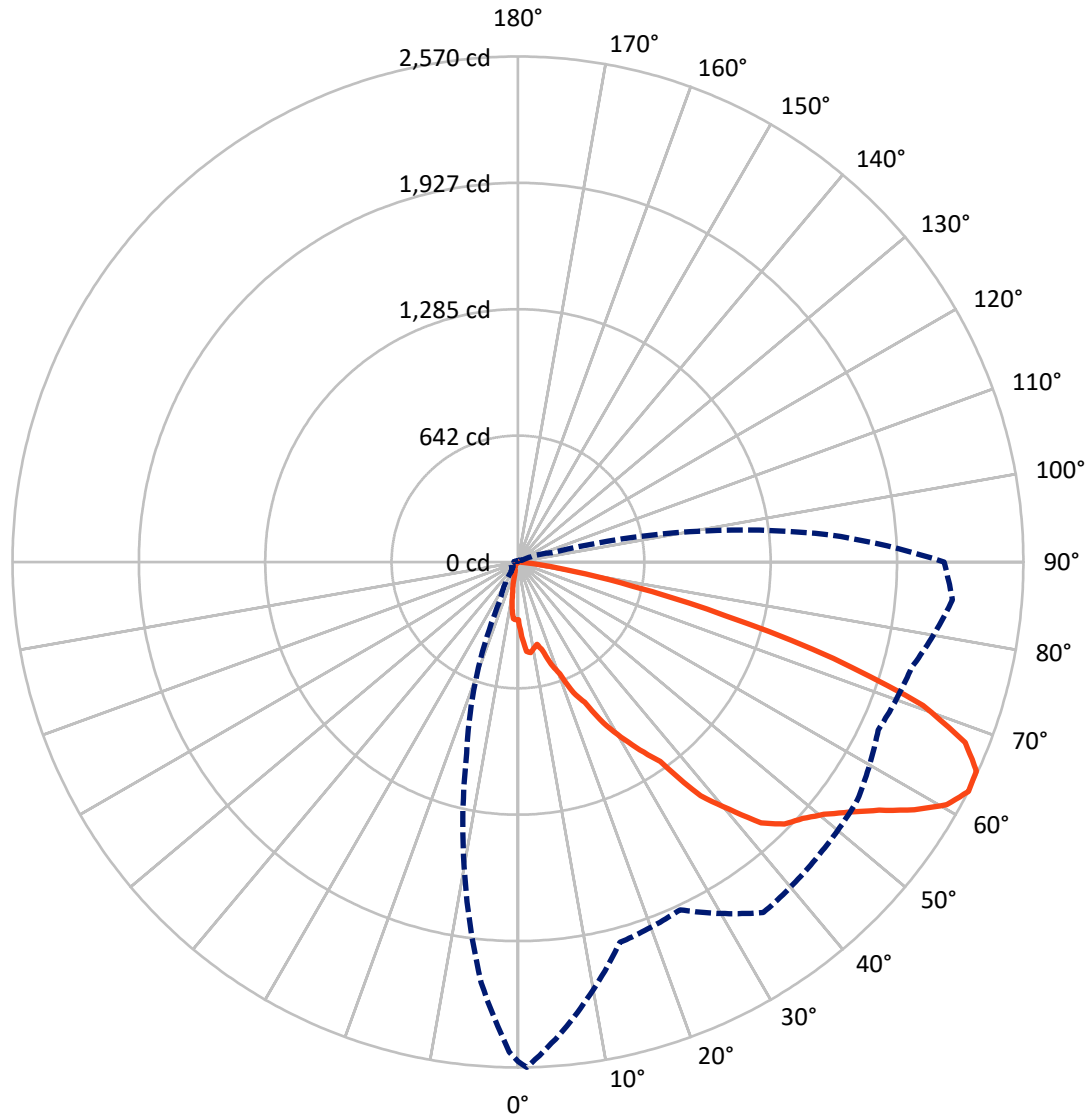
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.2 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 1-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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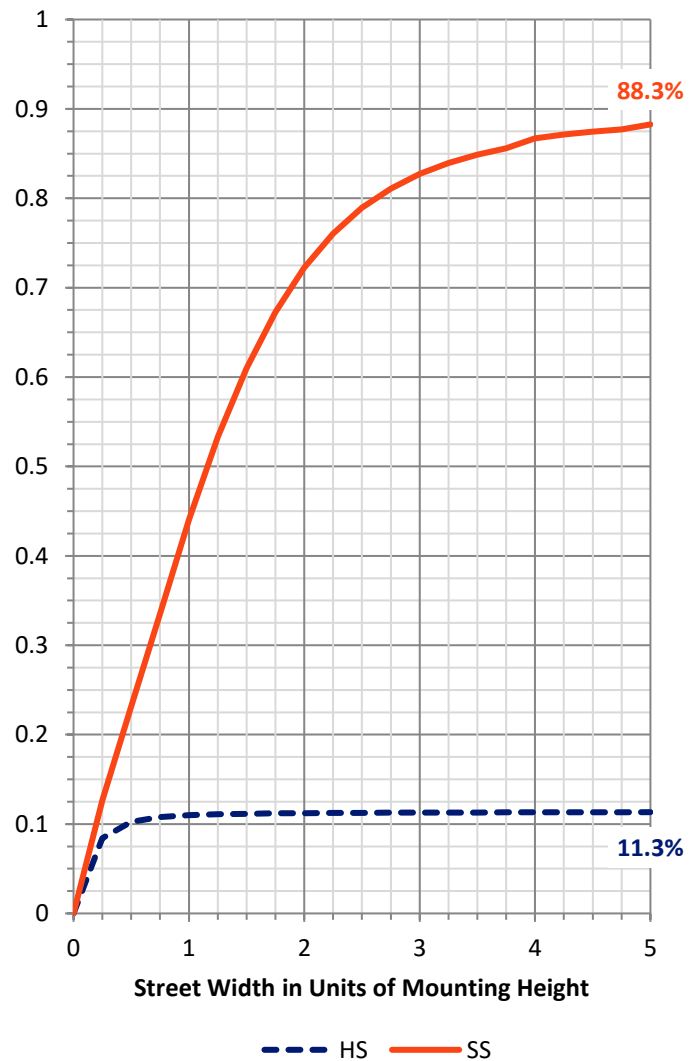
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	277.9	0.0	277.9
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	2152.1	0.0	2152.1
	% Fixture	88.6	0.0	88.6
Total	Lumens	2430.0	0.0	2430.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.7	1.3
10°-20°	85.4	3.5
20°-30°	138.1	5.7
30°-40°	231.3	9.5
40°-50°	378.2	15.6
50°-60°	559.9	23.0
60°-70°	642.8	26.5
70°-80°	317.9	13.1
80°-90°	43.6	1.8
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°	2430.0	100.0
0°-180°	2430.0	100.0



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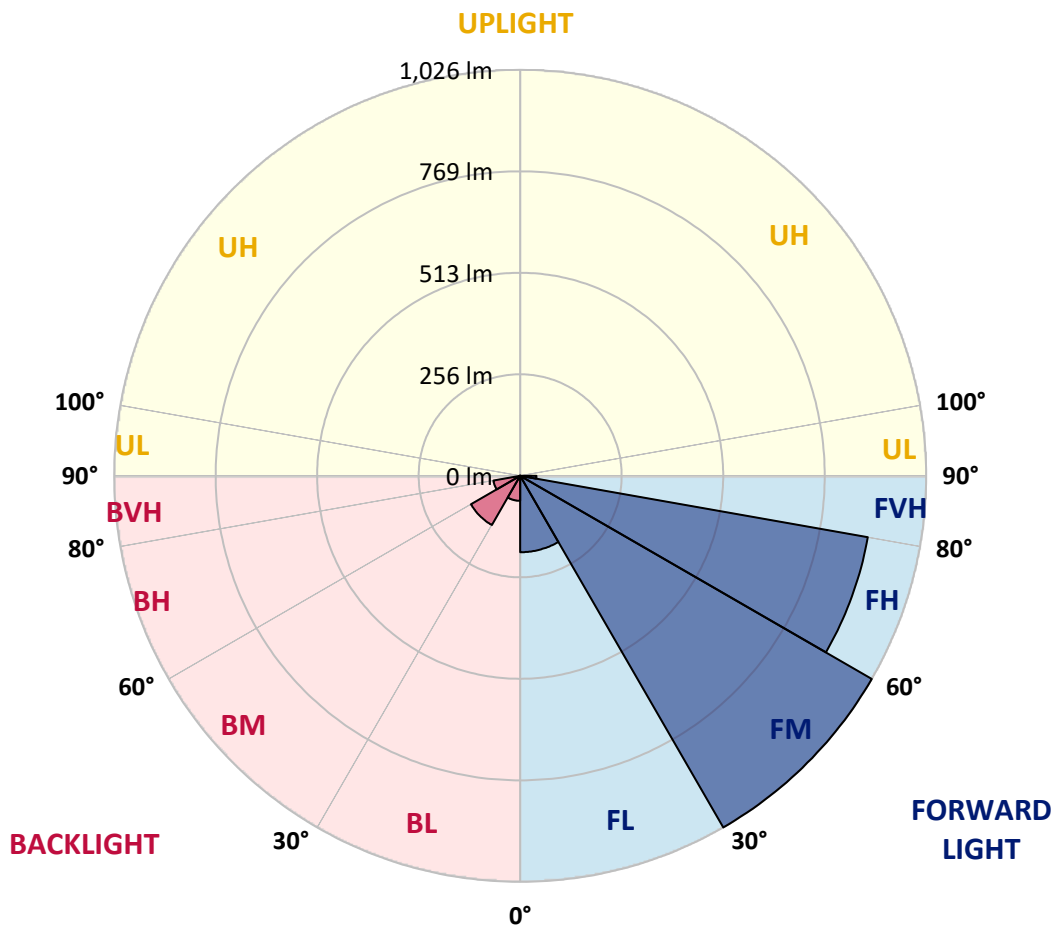
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	193.0	7.9			
FM (30°-60°)	1025.9	42.2			
FH (60°-80°)	892.0	36.7			G1/1800
FVH (80°-90°)	41.2	1.7			G1/100
BL (0°-30°)	63.2	2.6	B0/110		
BM (30°-60°)	143.5	5.9	B0/220		
BH (60°-80°)	68.7	2.8	B0/110		G0/110
BVH (80°-90°)	2.4	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B0-U0-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7
2.5°	377.5	379.3	370.8	369.7	350.1	374.6	375.3	378.2	360.2	325.3	374.0
5°	451.7	456.7	450.2	479.1	487.4	505.3	472.5	501.8	489.4	492.8	499.9
7.5°	460.6	465.7	479.4	527.9	572.6	561.4	557.8	568.8	567.9	542.3	555.0
10°	442.1	446.4	469.3	557.5	577.0	627.4	639.7	614.3	603.9	547.8	523.3
12.5°	422.1	429.3	458.3	564.1	622.7	673.7	714.2	678.0	643.5	583.8	561.4
15°	460.6	464.6	510.3	578.0	629.2	664.4	697.6	685.6	680.3	637.4	561.4
17.5°	536.0	545.4	578.5	611.9	652.3	673.5	665.6	661.9	648.5	715.9	637.3
20°	589.8	607.3	650.7	665.1	633.0	652.8	647.9	644.6	634.1	759.5	724.5
22.5°	706.1	722.3	723.1	728.2	653.5	621.9	613.9	614.8	662.6	772.5	833.1
25°	785.3	790.8	834.6	798.0	709.4	631.3	600.7	614.4	683.2	866.2	935.1
27.5°	914.9	928.0	955.3	831.5	742.9	625.3	576.6	626.5	737.5	897.2	1048.5
30°	1020.5	1033.1	1077.0	877.4	772.0	654.8	587.0	650.7	771.3	961.0	1150.4
32.5°	1106.3	1138.8	1188.7	948.1	770.9	688.8	640.0	642.7	812.8	1043.7	1251.2
35°	1215.8	1246.1	1281.2	996.9	821.3	699.7	655.7	721.6	874.6	1130.1	1386.9
37.5°	1462.7	1508.5	1439.3	1119.7	880.0	798.6	717.4	770.2	939.3	1218.3	1573.5
40°	1613.4	1652.0	1585.1	1182.4	981.6	848.4	827.7	854.7	1002.5	1263.8	1714.0
42.5°	1761.8	1812.8	1701.0	1276.9	1078.2	989.1	932.3	954.1	1094.1	1373.8	1872.2
45°	1869.3	1900.8	1726.1	1326.3	1210.8	1149.5	1111.7	1079.3	1221.7	1444.4	1974.2
47.5°	1923.3	1948.5	1775.5	1341.9	1289.7	1319.1	1401.9	1334.2	1334.7	1495.5	2029.2
50°	1998.0	2015.6	1803.2	1360.6	1375.5	1583.4	1625.3	1481.1	1463.8	1546.7	2038.2
52.5°	2103.1	2111.7	1856.9	1409.9	1503.8	1790.5	1805.6	1747.3	1593.0	1642.0	2058.1
55°	2242.9	2227.8	1952.9	1513.5	1637.7	1942.1	1962.3	1911.5	1755.4	1737.1	2119.9
57.5°	2393.5	2376.2	2095.1	1659.5	1783.0	2058.0	2070.0	2074.1	1863.3	1821.3	2224.8
60°	2501.5	2504.7	2274.1	1826.9	1873.3	2168.9	2144.8	2108.3	1972.1	1944.7	2275.9
62.5°	2539.3	2569.9	2413.6	2002.3	1951.1	2175.8	2138.4	2107.6	2020.9	2072.0	2217.4
65°	2508.4	2561.9	2446.0	2156.4	1998.2	2089.0	2050.1	2030.3	2019.4	2123.9	2087.8
67.5°	2385.8	2452.6	2353.2	2157.8	1827.0	1778.7	1824.7	1887.4	1851.1	2080.8	1906.2
70°	2110.9	2184.1	2137.9	2031.3	1522.0	1399.4	1450.1	1544.9	1519.3	1850.7	1639.1
72.5°	1583.7	1677.9	1687.0	1753.6	1208.2	1053.2	1060.6	1057.9	1102.1	1492.3	1279.1
75°	1017.4	1090.6	1189.6	1415.1	917.8	768.9	698.6	681.4	763.8	1166.1	915.7
77.5°	590.6	599.3	645.0	1067.6	657.3	554.0	506.1	530.6	559.4	813.8	606.9
80°	282.5	286.9	305.7	549.3	456.7	479.5	442.6	470.1	384.1	467.8	344.4
82.5°	89.6	90.6	93.7	269.9	283.6	317.7	203.6	272.9	237.5	282.8	229.3
85°	15.0	25.5	31.4	78.0	160.1	107.2	44.2	97.3	132.5	178.4	104.1
87.5°	0.0	0.0	0.0	1.4	13.0	6.1	1.0	5.5	20.4	39.7	4.7
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7
2.5°	388.1	397.7	361.7	329.4	337.6	331.1	321.3	304.5	265.7	294.3	292.3
5°	499.5	481.7	433.0	410.3	382.6	340.4	335.2	302.8	288.6	290.9	288.9
7.5°	538.2	506.5	463.5	395.1	330.1	269.2	250.5	229.3	225.0	234.2	240.1
10°	507.8	474.1	436.5	351.4	301.5	257.4	211.3	181.7	165.6	163.7	165.3
12.5°	521.8	485.5	407.9	342.9	290.7	250.8	199.3	154.5	119.6	122.3	115.3
15°	531.5	489.8	401.2	324.9	268.4	215.0	153.0	108.3	79.8	71.5	66.5
17.5°	588.4	528.8	392.6	304.1	237.2	167.4	96.1	62.7	53.5	50.5	48.2
20°	661.5	576.9	392.4	282.2	191.2	104.7	60.0	45.4	43.2	44.9	43.1
22.5°	746.5	640.9	413.3	254.9	137.2	66.1	46.7	40.3	38.1	39.5	39.6
25°	832.1	736.8	430.4	229.0	95.5	50.7	41.5	37.1	34.6	35.9	35.2
27.5°	986.6	816.3	426.5	195.9	70.3	44.6	38.6	34.8	31.0	33.0	32.8
30°	1087.7	956.6	441.6	149.6	55.8	39.0	36.0	31.7	27.7	29.9	29.8
32.5°	1208.6	1016.8	457.9	114.8	46.4	37.0	32.4	28.2	25.9	27.3	27.0
35°	1344.4	1135.9	427.9	95.5	40.3	33.4	28.7	25.5	23.4	24.1	24.1
37.5°	1584.4	1235.5	409.9	77.8	37.5	30.2	26.9	23.0	21.7	21.7	22.4
40°	1720.7	1387.5	356.2	61.6	38.4	27.8	25.1	21.0	19.4	19.2	19.9
42.5°	1897.9	1475.2	322.5	49.9	34.8	27.1	23.0	19.1	17.2	17.0	17.7
45°	2003.0	1524.2	275.1	39.2	31.2	31.6	21.3	17.6	14.7	14.1	15.4
47.5°	2069.3	1589.1	248.3	31.2	27.1	31.4	20.8	15.2	12.3	11.6	12.7
50°	2103.0	1621.2	243.0	26.7	23.5	28.1	23.8	12.7	10.5	9.6	10.5
52.5°	2138.0	1673.4	245.0	24.6	20.8	22.6	22.6	10.9	9.3	8.2	8.9
55°	2208.8	1750.6	240.7	23.4	19.1	17.2	14.5	9.7	8.4	7.2	7.9
57.5°	2295.7	1806.0	240.7	22.3	17.7	14.7	11.6	9.0	7.8	6.2	6.8
60°	2279.3	1747.7	228.8	21.2	16.6	13.7	10.5	8.3	7.2	5.7	6.1
62.5°	2166.1	1589.1	185.3	19.5	15.6	13.0	9.6	7.9	6.8	5.0	5.4
65°	2033.2	1420.7	128.8	17.7	14.5	11.8	8.6	7.5	6.2	4.4	4.7
67.5°	1873.1	1220.1	71.5	15.9	13.4	10.2	7.9	7.3	6.0	4.0	4.3
70°	1595.4	921.1	38.4	14.5	12.6	9.4	7.5	7.3	6.0	3.9	4.0
72.5°	1197.7	580.1	22.4	13.3	11.5	8.7	7.1	7.5	5.8	3.7	3.7
75°	814.9	352.1	16.1	11.4	10.2	7.3	6.8	7.2	6.0	3.7	3.5
77.5°	554.0	247.5	13.2	10.2	9.3	6.5	6.9	7.2	6.0	3.0	2.4
80°	345.9	127.7	10.0	8.2	8.0	5.7	6.9	6.2	3.9	0.7	0.0
82.5°	241.9	47.5	5.8	6.2	6.2	4.0	5.4	4.4	2.2	0.0	0.0
85°	101.5	8.2	3.2	4.4	3.9	2.4	4.3	3.3	1.4	0.0	0.0
87.5°	1.8	0.0	1.2	2.6	2.8	1.4	2.2	1.4	0.0	0.0	0.0
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7
2.5°	301.5	288.3	260.6	273.9	272.5	278.6	279.2	265.0	295.5	314.3	317.1
5°	289.1	280.3	278.7	271.1	269.2	280.4	274.3	273.9	288.6	310.0	310.2
7.5°	240.3	233.5	236.7	227.8	204.9	206.3	208.4	217.1	229.7	243.9	249.0
10°	164.9	182.5	169.6	168.5	166.2	158.8	153.0	157.6	173.9	186.9	191.8
12.5°	117.7	120.5	128.4	125.5	129.5	123.2	120.9	135.1	151.1	164.4	173.9
15°	68.8	73.5	78.2	88.2	92.2	91.0	98.2	110.1	123.0	129.1	140.8
17.5°	48.5	48.9	49.9	60.7	67.7	70.5	74.8	83.8	89.0	91.8	96.7
20°	42.4	41.1	39.5	45.6	52.2	55.7	54.4	61.5	65.8	68.5	72.0
22.5°	38.4	36.3	35.3	37.4	42.5	45.6	46.1	50.3	56.8	58.7	59.8
25°	34.6	33.2	32.5	33.6	36.4	39.3	39.9	45.3	51.1	51.9	54.1
27.5°	32.1	29.5	29.8	30.6	31.8	35.4	36.6	39.6	48.1	49.0	49.7
30°	29.5	26.7	27.6	28.4	27.8	32.3	33.9	37.4	45.6	47.1	47.9
32.5°	26.9	24.8	24.6	25.5	26.4	28.8	32.4	36.4	43.9	46.0	48.1
35°	24.0	22.3	22.6	22.7	24.0	27.0	29.6	31.7	36.8	37.9	38.6
37.5°	21.9	20.5	20.2	21.6	22.8	25.2	26.2	27.1	33.9	36.4	36.6
40°	19.4	18.6	18.6	19.5	22.3	22.0	23.3	26.3	32.8	35.4	35.7
42.5°	17.6	16.5	16.8	17.7	19.7	18.3	20.8	25.2	32.4	35.0	34.9
45°	14.8	14.5	15.1	15.9	16.8	15.5	19.4	24.1	31.0	34.5	33.5
47.5°	12.3	12.3	13.0	13.8	13.4	13.8	17.6	22.6	30.2	33.4	32.7
50°	10.1	10.2	10.9	12.3	11.1	12.2	15.8	21.0	28.8	32.3	31.7
52.5°	8.6	8.7	9.1	10.1	9.6	11.1	14.5	19.5	27.4	30.3	30.0
55°	7.5	7.8	7.8	8.3	8.6	10.4	13.2	18.0	25.3	28.5	28.0
57.5°	6.6	6.9	6.8	7.2	7.5	9.1	11.8	16.3	23.3	25.9	25.1
60°	6.0	6.2	6.1	6.6	6.5	7.9	10.2	14.5	21.0	23.1	22.4
62.5°	5.3	5.5	5.5	5.8	6.0	6.6	8.9	12.9	18.8	20.5	19.9
65°	4.7	5.0	5.1	5.0	5.3	5.7	7.5	11.6	16.3	18.0	17.2
67.5°	4.3	4.6	4.8	4.3	4.6	4.7	6.4	10.4	14.4	15.8	15.1
70°	4.2	4.3	4.3	3.7	3.6	3.7	5.5	8.9	12.6	14.0	13.0
72.5°	3.9	4.0	3.9	3.0	2.6	2.9	4.7	7.5	10.7	11.8	10.9
75°	3.6	3.7	3.6	2.5	1.7	2.1	3.9	6.5	9.1	9.7	9.3
77.5°	3.0	3.3	3.3	1.8	0.6	1.2	2.9	5.3	7.6	7.6	7.8
80°	0.3	0.8	1.4	1.0	0.0	0.1	1.0	2.8	4.8	4.7	5.1
82.5°	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.7	1.2	1.4
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7
2.5°	310.6	306.3	311.7	328.2	321.5	322.8	318.3	345.6	376.5	377.5
5°	310.5	306.6	314.6	313.9	332.9	353.5	373.5	405.7	451.4	451.7
7.5°	246.6	269.6	275.6	273.8	298.1	326.5	357.3	419.0	456.5	460.6
10°	222.4	232.4	244.5	249.0	259.1	286.1	320.8	390.8	432.9	442.1
12.5°	192.8	224.6	240.8	272.2	278.1	281.9	336.8	397.6	423.2	422.1
15°	159.7	187.4	213.0	251.3	267.1	307.8	351.0	430.7	445.9	460.6
17.5°	113.0	133.9	173.2	213.5	261.7	306.0	390.4	489.8	518.6	536.0
20°	75.6	85.7	121.3	174.6	235.7	279.7	406.4	543.2	574.7	589.8
22.5°	61.3	66.2	84.6	127.9	201.3	278.5	412.9	601.5	686.0	706.1
25°	54.0	57.3	67.2	94.7	167.1	272.9	448.9	667.2	769.1	785.3
27.5°	47.2	52.2	59.5	78.1	143.3	269.1	467.2	777.4	899.0	914.9
30°	45.1	51.2	58.3	71.2	126.7	254.1	496.3	876.8	992.2	1020.5
32.5°	48.7	50.8	54.3	65.2	113.8	238.3	547.4	995.6	1069.3	1106.3
35°	38.6	42.4	48.5	59.8	108.4	237.5	576.3	1072.1	1192.9	1215.8
37.5°	37.8	41.3	49.2	58.3	114.9	243.9	619.3	1228.7	1415.9	1462.7
40°	36.7	41.1	48.6	57.6	114.9	250.1	646.7	1354.0	1565.9	1613.4
42.5°	36.3	42.0	48.5	60.5	111.3	253.5	688.1	1479.0	1724.3	1761.8
45°	36.0	42.8	48.9	64.0	110.5	264.9	711.5	1539.8	1826.2	1869.3
47.5°	35.3	42.8	54.6	61.9	105.9	263.8	741.8	1630.0	1887.0	1923.3
50°	34.8	43.1	61.8	58.0	106.6	257.0	782.9	1714.6	1972.1	1998.0
52.5°	33.5	44.0	60.7	52.6	104.5	256.3	844.3	1834.9	2084.2	2103.1
55°	30.7	42.8	54.8	46.0	97.2	248.4	925.6	1991.4	2239.5	2242.9
57.5°	28.2	39.7	45.8	42.2	81.4	249.4	995.6	2135.4	2378.0	2393.5
60°	25.8	41.3	35.6	39.3	67.4	231.7	1029.5	2190.5	2478.8	2501.5
62.5°	23.4	38.1	30.3	36.1	60.1	215.2	1006.0	2146.2	2491.7	2539.3
65°	20.8	26.4	25.6	32.4	60.8	192.1	927.4	2016.4	2442.8	2508.4
67.5°	17.9	20.8	22.6	28.0	65.1	172.3	792.5	1808.2	2311.4	2385.8
70°	15.6	18.7	19.7	24.5	67.7	159.2	625.3	1519.2	2042.2	2110.9
72.5°	13.0	17.3	17.6	21.5	65.2	146.4	445.6	1090.6	1550.8	1583.7
75°	11.2	14.4	15.9	18.0	54.8	109.3	245.5	675.1	980.5	1017.4
77.5°	10.1	10.9	12.0	12.5	23.3	56.9	84.5	416.3	549.0	590.6
80°	7.8	8.6	8.3	8.6	12.7	19.7	32.1	195.1	259.4	282.5
82.5°	2.5	4.2	4.6	3.9	8.3	9.7	9.3	67.4	84.3	89.6
85°	0.6	1.5	0.7	0.0	2.8	5.0	0.7	10.2	20.2	15.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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