

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: P366610

Luminaire Tested: **MSA-SA1A-727-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366610
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-24)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1A-727-U-SLL
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2895 lumens
Efficiency: N/A
Efficacy: 85.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G1

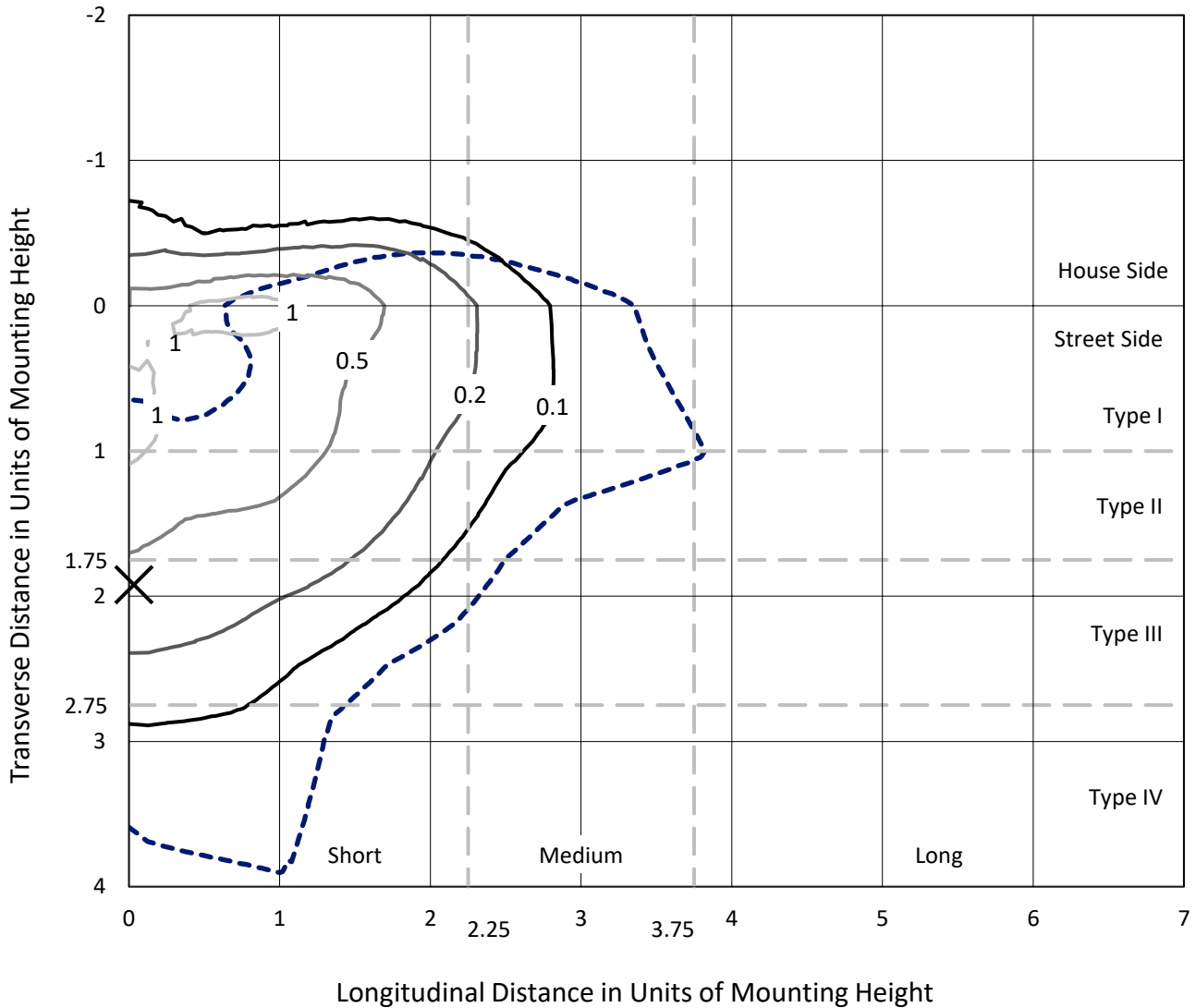
Input Watts (W): 34
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

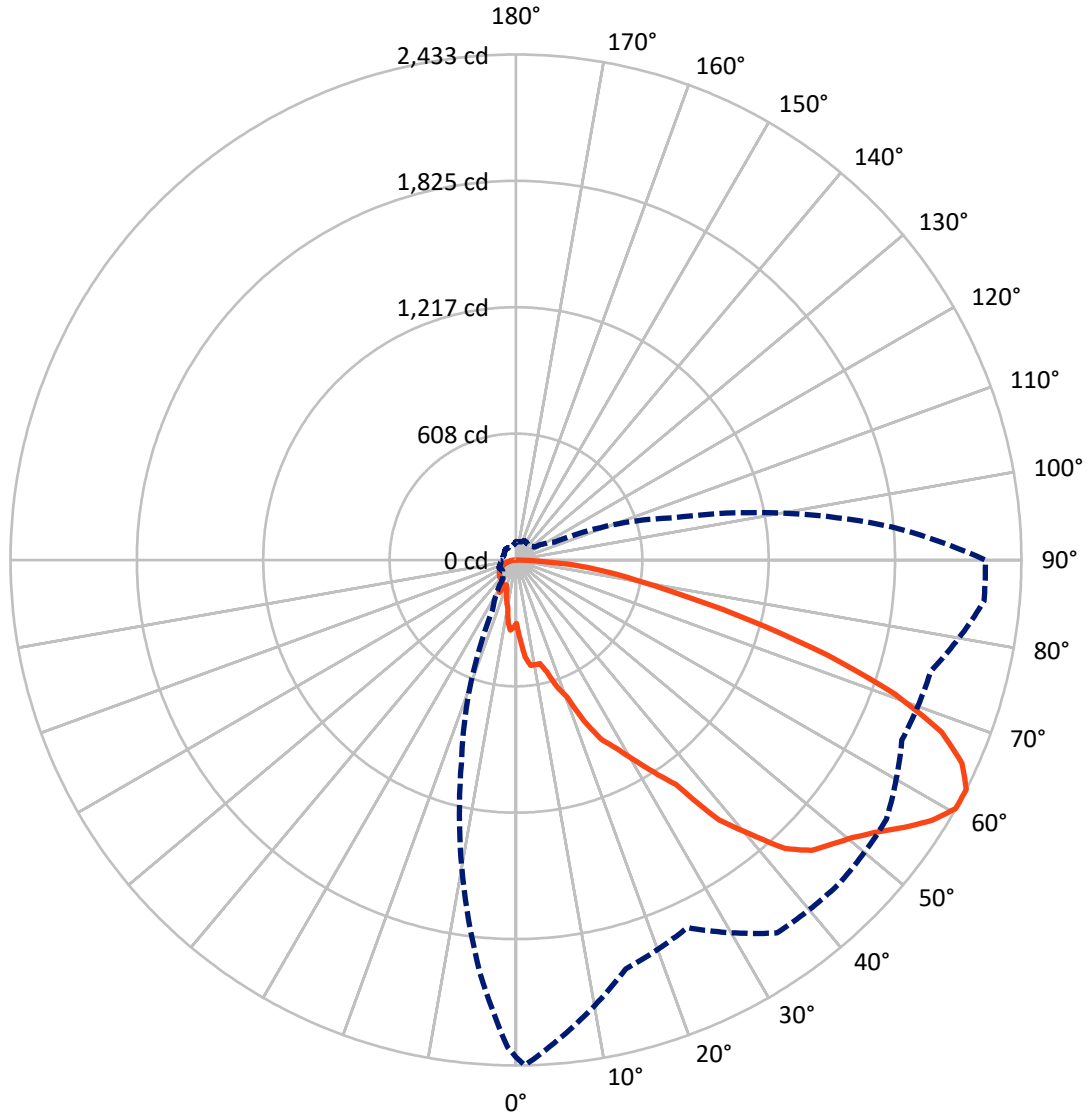
✕ Max cd
 - - - 1/2 Max cd



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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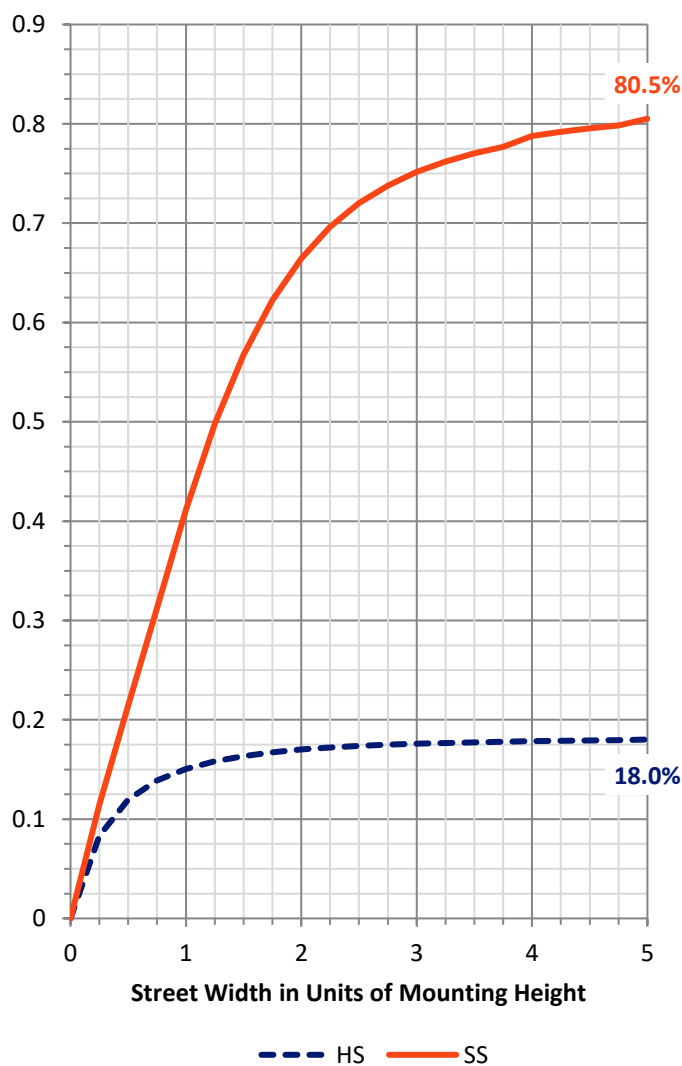
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	527.2	0.0	527.2
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	2367.8	0.0	2367.8
	% Fixture	81.8	0.0	81.8
Total	Lumens	2895.0	0.0	2895.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.0	1.2
10°-20°	101.7	3.5
20°-30°	179.5	6.2
30°-40°	279.7	9.7
40°-50°	460.5	15.9
50°-60°	657.2	22.7
60°-70°	696.9	24.1
70°-80°	384.9	13.3
80°-90°	99.6	3.4
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°	2895.0	100.0
0°-180°	2895.0	100.0

Coefficient of Utilization

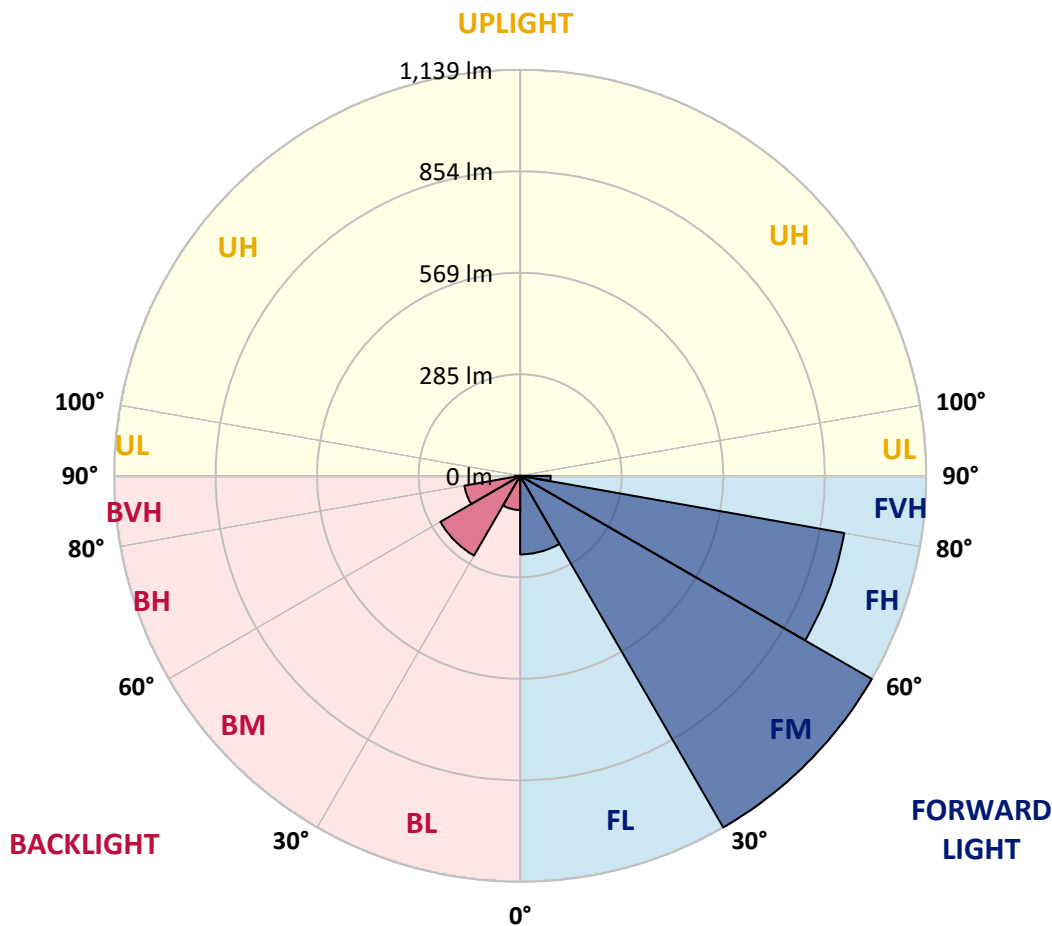


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	220.4	7.6			
FM (30°-60°)	1138.9	39.3			
FH (60°-80°)	923.0	31.9			G1/1800
FVH (80°-90°)	85.5	3.0			G1/100
BL (0°-30°)	95.9	3.3	B0/110		
BM (30°-60°)	258.4	8.9	B1/1000		
BH (60°-80°)	158.8	5.5	B1/500		G1/500
BVH (80°-90°)	14.0	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°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3
2.5°	375.4	378.6	372.0	364.6	333.8	363.4	354.6	371.0	365.7	330.0	395.3
5°	463.9	469.8	463.3	485.7	487.1	492.8	439.6	472.7	461.2	458.3	491.3
7.5°	506.6	512.6	529.1	568.8	599.9	571.8	540.7	533.8	524.9	501.4	521.3
10°	509.3	512.6	534.7	619.0	634.0	654.0	633.9	586.5	567.0	516.0	500.8
12.5°	501.3	511.8	540.3	643.0	687.7	709.5	714.4	661.7	613.8	555.6	547.9
15°	555.1	558.9	599.7	660.1	690.9	709.3	725.3	692.9	677.8	631.8	569.8
17.5°	632.2	642.7	676.2	698.5	719.3	722.8	709.6	696.9	673.1	734.6	668.7
20°	684.4	704.8	745.8	750.1	706.4	714.1	712.3	713.1	699.5	813.3	777.0
22.5°	822.7	844.7	850.4	825.9	743.6	708.3	715.4	735.7	789.4	886.9	927.9
25°	947.9	956.4	1007.7	944.8	813.6	736.7	725.2	777.9	865.4	1010.8	1040.0
27.5°	1013.2	1024.3	1058.4	921.4	822.3	700.2	673.2	753.4	842.6	952.5	1080.8
30°	1096.8	1114.5	1161.0	944.8	848.5	724.1	664.4	741.1	839.7	990.7	1167.0
32.5°	1182.9	1217.3	1251.9	1026.9	844.9	760.6	721.0	727.2	866.4	1070.8	1256.4
35°	1297.0	1327.3	1357.1	1074.4	918.5	791.1	751.7	817.2	934.9	1163.6	1381.0
37.5°	1540.8	1588.9	1510.4	1209.6	998.6	928.5	857.5	896.3	1007.4	1241.0	1584.5
40°	1696.2	1732.3	1656.5	1301.6	1139.6	1021.0	1009.4	1012.6	1107.3	1307.4	1721.5
42.5°	1850.6	1899.5	1778.8	1427.9	1310.2	1212.2	1152.1	1148.0	1219.1	1426.5	1877.3
45°	1965.8	1994.6	1820.8	1534.4	1493.1	1420.4	1375.4	1303.8	1366.1	1509.0	1973.7
47.5°	2020.6	2044.1	1888.4	1596.3	1611.6	1615.4	1696.8	1574.8	1494.5	1564.7	2024.3
50°	2089.0	2100.1	1928.2	1650.8	1724.3	1890.9	1910.5	1703.8	1619.5	1625.6	2054.2
52.5°	2170.8	2175.4	1986.2	1713.8	1838.3	2072.2	2042.0	1922.4	1738.5	1736.7	2110.5
55°	2273.6	2270.8	2059.0	1798.5	1919.6	2179.9	2157.0	2069.9	1868.2	1828.7	2198.2
57.5°	2365.1	2363.4	2155.5	1876.5	1988.0	2235.3	2242.0	2219.0	1956.4	1894.6	2293.1
60°	2409.9	2431.4	2265.3	1961.7	1992.4	2260.3	2262.8	2226.1	2055.0	1979.2	2318.4
62.5°	2392.5	2433.3	2319.3	2038.4	1952.3	2192.0	2202.5	2177.2	2050.5	2067.9	2262.0
65°	2313.2	2360.4	2272.5	2079.3	1927.7	2077.6	2080.3	2016.4	1986.3	2126.8	2129.6
67.5°	2164.6	2208.9	2123.6	2014.1	1759.4	1769.4	1829.0	1834.2	1790.3	2082.4	1943.8
70°	1904.4	1935.6	1882.2	1853.1	1470.6	1412.2	1476.8	1504.5	1524.4	1922.1	1720.7
72.5°	1507.7	1568.0	1576.4	1595.4	1184.0	1086.7	1134.6	1093.5	1223.5	1636.0	1405.8
75°	1115.5	1166.3	1221.0	1326.7	933.2	813.6	807.7	786.7	908.1	1315.6	1042.7
77.5°	788.3	820.7	862.7	1059.8	704.3	626.6	630.2	609.0	655.8	994.4	720.3
80°	565.0	582.0	601.6	698.2	519.5	540.6	541.1	521.1	487.6	675.3	480.7
82.5°	402.6	415.8	438.2	460.5	387.3	443.1	442.7	441.4	386.6	456.4	300.8
85°	224.2	241.9	280.7	360.8	279.7	316.8	278.6	306.8	283.8	303.9	152.3
87.5°	15.7	14.0	62.8	209.0	130.5	95.4	50.0	99.0	127.0	158.7	21.2
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3
2.5°	408.8	413.7	394.5	365.5	373.4	364.8	354.0	337.2	302.5	324.0	324.1
5°	491.0	472.3	457.3	443.1	419.2	383.1	378.3	349.4	333.1	341.7	340.4
7.5°	516.7	490.2	467.5	416.8	372.6	316.5	299.7	282.5	275.4	296.1	304.4
10°	488.5	460.8	438.6	376.9	346.9	311.9	265.5	241.8	227.7	233.2	236.4
12.5°	511.2	483.0	413.2	378.7	329.2	307.8	267.2	232.4	211.6	216.6	210.6
15°	533.1	495.1	425.2	356.7	316.5	285.6	252.7	216.8	192.3	183.6	179.0
17.5°	613.2	550.0	423.8	344.3	298.3	262.7	223.1	183.8	167.5	158.5	150.7
20°	710.9	622.8	431.4	331.5	278.9	234.0	190.9	154.4	143.0	137.1	135.0
22.5°	827.0	716.1	474.8	329.7	260.6	213.1	173.2	150.5	137.7	131.2	128.5
25°	919.3	812.6	506.9	342.1	259.6	195.8	162.5	167.2	161.3	163.2	147.7
27.5°	1009.0	838.8	488.9	336.6	233.5	165.2	160.0	169.7	174.8	176.3	175.7
30°	1084.7	949.8	492.8	305.7	197.2	134.6	122.5	127.3	141.2	163.2	167.5
32.5°	1195.5	1002.9	526.4	287.0	176.3	120.4	106.9	105.1	108.3	116.3	123.2
35°	1325.2	1125.1	535.8	282.1	161.8	114.1	104.7	100.4	102.1	108.2	109.6
37.5°	1567.0	1214.2	570.7	276.1	156.5	110.3	103.0	101.4	105.1	110.0	112.8
40°	1700.3	1374.4	572.3	270.9	149.6	108.7	104.1	103.4	105.6	112.4	114.1
42.5°	1878.0	1465.7	598.7	264.8	147.2	110.8	106.3	106.1	108.0	112.0	115.1
45°	1986.3	1526.8	600.2	261.3	146.7	120.1	109.3	108.3	107.9	110.3	113.1
47.5°	2056.1	1614.9	617.3	257.4	150.0	122.5	112.8	108.6	107.2	108.2	110.3
50°	2122.3	1685.3	649.7	256.8	153.6	120.1	119.0	108.5	105.6	105.2	106.8
52.5°	2203.5	1801.0	689.8	262.1	152.7	116.6	123.6	107.9	102.8	101.9	103.4
55°	2321.7	1925.1	732.4	257.7	144.0	109.9	119.1	107.5	99.9	98.1	99.5
57.5°	2398.2	1996.2	780.0	253.9	130.8	104.8	115.1	107.8	100.2	96.1	96.9
60°	2372.8	1957.9	798.7	230.7	118.3	100.9	105.4	105.5	97.6	93.8	94.5
62.5°	2260.4	1819.6	781.2	203.7	109.0	95.2	95.4	101.3	90.3	87.7	88.8
65°	2103.3	1647.5	710.7	186.1	104.7	89.3	87.1	88.9	80.5	78.5	80.8
67.5°	1910.6	1435.3	605.8	167.6	103.1	81.3	78.7	78.0	72.6	70.4	72.6
70°	1668.8	1201.9	484.3	154.5	97.2	72.6	70.5	69.8	65.3	63.6	65.6
72.5°	1341.4	938.4	373.7	144.6	90.8	64.6	62.8	62.0	58.2	55.8	58.2
75°	954.0	717.2	277.6	129.2	81.6	56.5	54.4	53.2	49.7	47.5	49.6
77.5°	678.0	538.3	193.9	106.9	67.3	47.8	46.5	44.7	41.6	38.9	41.0
80°	501.3	384.6	125.0	82.5	51.4	38.2	37.5	36.2	33.3	30.1	31.6
82.5°	330.0	277.3	71.6	55.9	37.4	27.5	28.1	27.3	24.4	21.1	21.9
85°	147.8	164.2	38.1	30.8	24.3	16.6	18.1	17.6	15.5	12.2	12.5
87.5°	14.2	27.7	11.7	11.2	9.0	5.2	6.5	5.5	4.6	3.0	2.2
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3
2.5°	329.0	309.2	289.4	301.5	301.8	305.0	305.4	293.5	303.0	310.3	317.9
5°	334.2	321.3	322.0	310.3	304.0	312.2	310.5	307.2	313.0	321.0	330.7
7.5°	296.6	288.1	286.7	275.5	248.2	242.2	247.3	249.4	257.1	269.5	279.8
10°	231.5	248.2	229.4	225.1	217.9	203.8	195.7	194.7	211.1	221.1	229.8
12.5°	208.6	204.4	202.2	190.2	190.2	175.3	170.5	174.9	200.2	207.4	218.6
15°	177.7	174.6	164.2	158.3	155.5	149.5	154.5	158.7	182.4	182.9	194.7
17.5°	147.5	145.7	135.8	134.7	131.9	129.2	133.9	144.0	156.8	154.5	160.0
20°	131.9	125.6	116.6	119.8	116.9	114.8	112.8	127.1	136.1	139.1	142.3
22.5°	128.0	116.5	111.1	108.2	108.3	104.9	105.4	117.3	130.9	132.8	130.8
25°	146.2	125.7	108.5	99.9	96.7	95.5	98.8	109.3	125.7	129.7	131.2
27.5°	171.1	136.6	111.7	97.1	90.6	91.2	95.8	103.1	122.5	129.5	131.4
30°	164.2	128.4	111.8	95.0	87.0	89.9	91.6	98.6	120.0	130.5	139.6
32.5°	126.7	115.5	112.5	96.7	93.4	88.8	91.2	97.9	112.5	119.1	119.6
35°	107.3	98.8	96.8	92.9	88.4	86.4	89.1	95.0	104.5	108.6	108.0
37.5°	106.5	97.1	89.3	87.7	85.8	85.3	86.8	92.3	102.0	109.2	107.6
40°	107.9	96.2	88.4	85.4	86.1	83.6	85.1	91.9	102.4	109.2	107.8
42.5°	106.2	95.2	87.1	84.9	85.6	82.0	83.9	90.9	101.3	109.3	106.6
45°	102.8	93.0	86.4	82.6	85.8	80.6	82.9	88.4	97.9	106.6	103.5
47.5°	99.5	90.3	83.4	81.1	84.3	79.2	80.2	85.0	94.5	103.1	100.4
50°	95.8	87.0	81.1	80.4	82.6	79.0	77.4	81.3	90.5	99.0	96.8
52.5°	91.9	84.2	79.4	79.1	81.2	77.1	74.9	78.0	86.1	94.7	92.9
55°	88.1	81.1	77.3	78.0	80.4	75.6	72.8	74.7	81.5	89.9	87.4
57.5°	84.3	77.5	74.5	76.4	78.3	73.6	70.1	71.2	76.7	85.0	82.0
60°	80.9	74.5	71.4	73.8	75.4	70.7	66.6	67.3	72.2	79.7	77.0
62.5°	76.6	71.1	67.0	70.1	71.4	66.7	62.4	63.2	67.2	74.2	72.2
65°	70.4	66.9	63.1	65.2	66.9	62.1	58.0	59.0	62.0	68.6	67.2
67.5°	65.0	61.7	59.1	60.8	61.1	57.5	53.8	54.4	56.8	62.9	61.4
70°	59.1	55.9	53.9	55.2	55.1	52.0	49.2	49.3	51.3	56.9	54.8
72.5°	52.7	49.6	48.6	49.3	48.7	45.9	43.3	44.3	45.5	49.7	48.0
75°	45.8	43.0	42.4	43.1	42.3	39.6	37.2	38.2	39.3	42.8	40.7
77.5°	38.6	36.1	36.2	36.4	35.3	33.4	31.0	32.0	32.7	35.1	33.0
80°	30.8	28.8	29.4	29.4	28.1	26.8	24.6	24.9	25.3	26.1	24.6
82.5°	22.5	22.5	22.5	22.6	19.9	20.4	18.4	18.3	17.8	17.7	16.7
85°	13.3	13.9	14.2	14.6	10.8	12.6	11.0	10.5	9.7	8.9	8.6
87.5°	3.0	3.8	3.8	3.7	0.0	1.4	0.7	1.1	0.3	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°	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3
2.5°	309.2	300.8	316.5	330.6	328.3	336.5	317.5	345.6	375.4	375.4
5°	328.2	321.0	325.1	333.2	339.4	367.8	391.4	414.9	463.3	463.9
7.5°	276.8	292.2	295.9	293.5	320.0	356.6	395.5	462.3	503.4	506.6
10°	258.8	265.8	276.9	283.1	293.9	329.9	378.2	457.6	501.1	509.3
12.5°	234.5	260.5	277.3	311.9	320.4	327.6	404.5	473.2	503.2	501.3
15°	207.9	227.6	251.9	290.1	311.9	366.7	420.1	523.2	540.2	555.1
17.5°	165.8	180.2	212.6	256.1	310.1	360.5	458.5	585.0	616.7	632.2
20°	136.4	136.6	168.9	226.6	285.3	334.6	473.2	636.3	676.6	684.4
22.5°	129.0	122.5	139.5	186.4	258.1	349.9	502.7	718.7	802.9	822.7
25°	124.9	117.0	127.7	164.5	238.5	358.0	562.1	832.1	940.1	947.9
27.5°	126.6	130.2	133.6	146.7	213.8	342.9	548.3	882.8	998.6	1013.2
30°	138.0	143.9	136.1	140.6	193.4	321.1	572.9	965.1	1072.2	1096.8
32.5°	114.8	112.5	111.8	121.7	173.1	301.5	624.5	1081.0	1152.0	1182.9
35°	103.5	100.0	101.4	112.7	163.1	298.7	653.4	1177.0	1278.0	1297.0
37.5°	103.1	99.0	100.9	109.3	166.6	303.7	699.8	1331.0	1500.2	1540.8
40°	102.1	99.9	100.9	107.2	163.0	306.5	726.5	1460.3	1655.1	1696.2
42.5°	102.0	100.9	101.9	108.9	159.2	307.8	763.4	1577.2	1818.2	1850.6
45°	101.6	102.7	102.7	110.3	157.5	316.2	785.2	1634.5	1925.8	1965.8
47.5°	99.6	103.0	108.5	109.9	150.6	312.3	815.9	1721.5	1983.0	2020.6
50°	97.1	102.6	115.8	107.0	149.5	302.7	851.9	1790.5	2056.3	2089.0
52.5°	93.7	101.9	114.1	101.6	147.5	301.1	902.3	1880.1	2141.8	2170.8
55°	88.9	99.3	108.9	96.1	142.7	295.7	979.5	1991.2	2253.8	2273.6
57.5°	84.6	95.5	101.3	93.0	131.4	296.8	1033.1	2081.9	2347.8	2365.1
60°	80.6	95.1	90.5	89.8	119.7	281.8	1050.6	2080.9	2382.8	2409.9
62.5°	76.4	89.8	82.9	85.4	109.4	266.4	1013.6	1991.7	2345.0	2392.5
65°	70.9	77.0	76.6	82.3	109.7	241.2	928.9	1834.3	2250.7	2313.2
67.5°	64.5	68.1	70.5	77.3	113.2	221.7	792.6	1645.1	2090.3	2164.6
70°	57.9	61.5	64.2	70.7	116.5	212.7	630.9	1379.3	1829.0	1904.4
72.5°	51.1	54.9	57.0	62.7	112.1	193.4	467.0	1073.2	1468.1	1507.7
75°	44.1	47.8	49.5	54.6	97.4	160.0	322.4	812.8	1075.3	1115.5
77.5°	36.9	40.9	41.4	45.7	74.3	122.4	206.7	623.5	761.4	788.3
80°	29.5	33.4	33.4	35.7	52.3	84.2	123.8	470.3	554.5	565.0
82.5°	21.2	25.4	25.1	25.3	36.1	52.1	71.6	352.5	400.7	402.6
85°	12.5	15.5	15.3	14.0	21.4	28.1	38.8	218.9	223.7	224.2
87.5°	2.4	3.7	3.2	1.4	5.9	8.3	11.2	40.6	16.2	15.7
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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