

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: P367907

Luminaire Tested: **MSA-SA3B-830-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367907
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-25)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3B-830-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 8521 lumens
Efficiency: N/A
Efficacy: 67.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

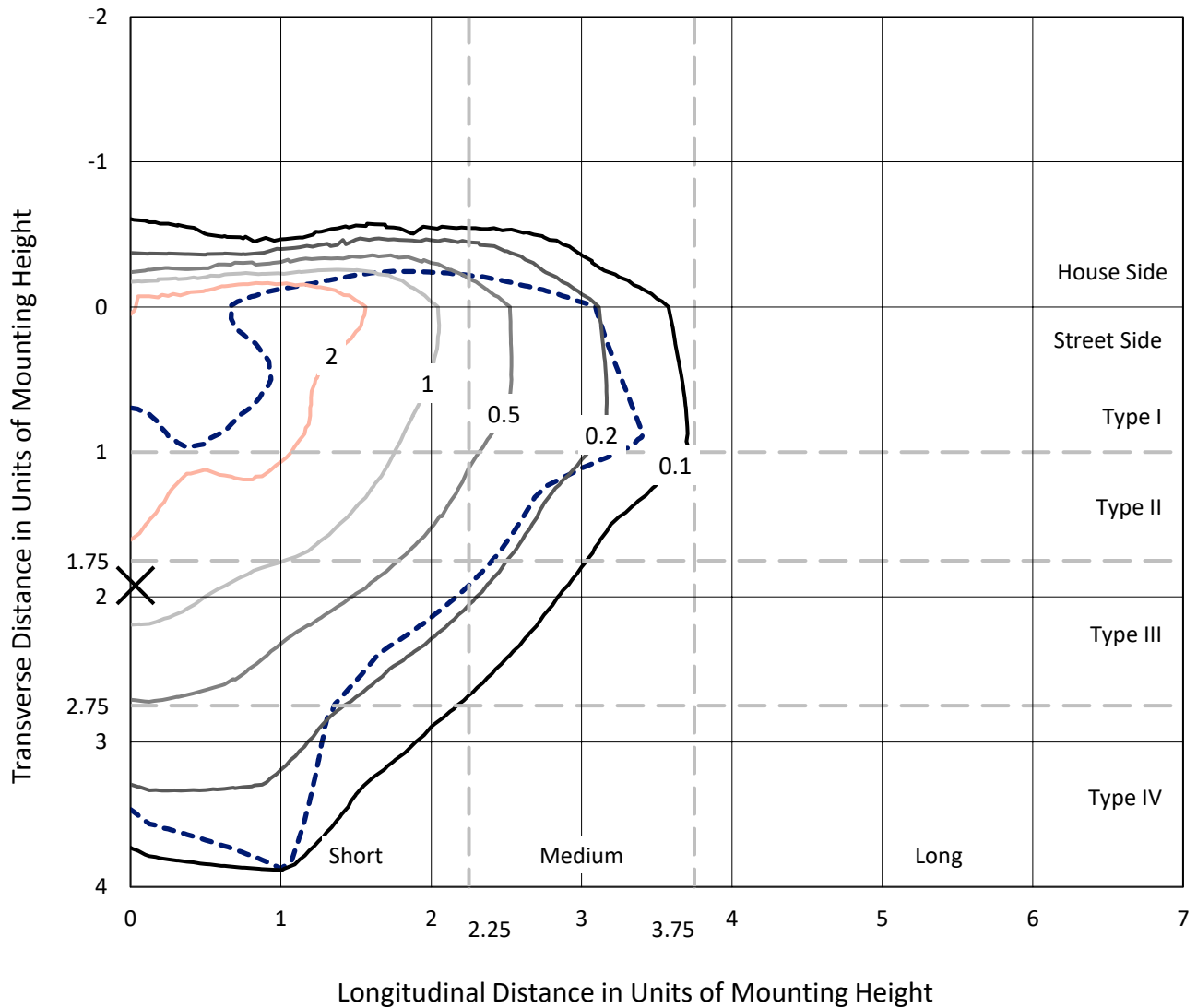
Input Watts (W): 126
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

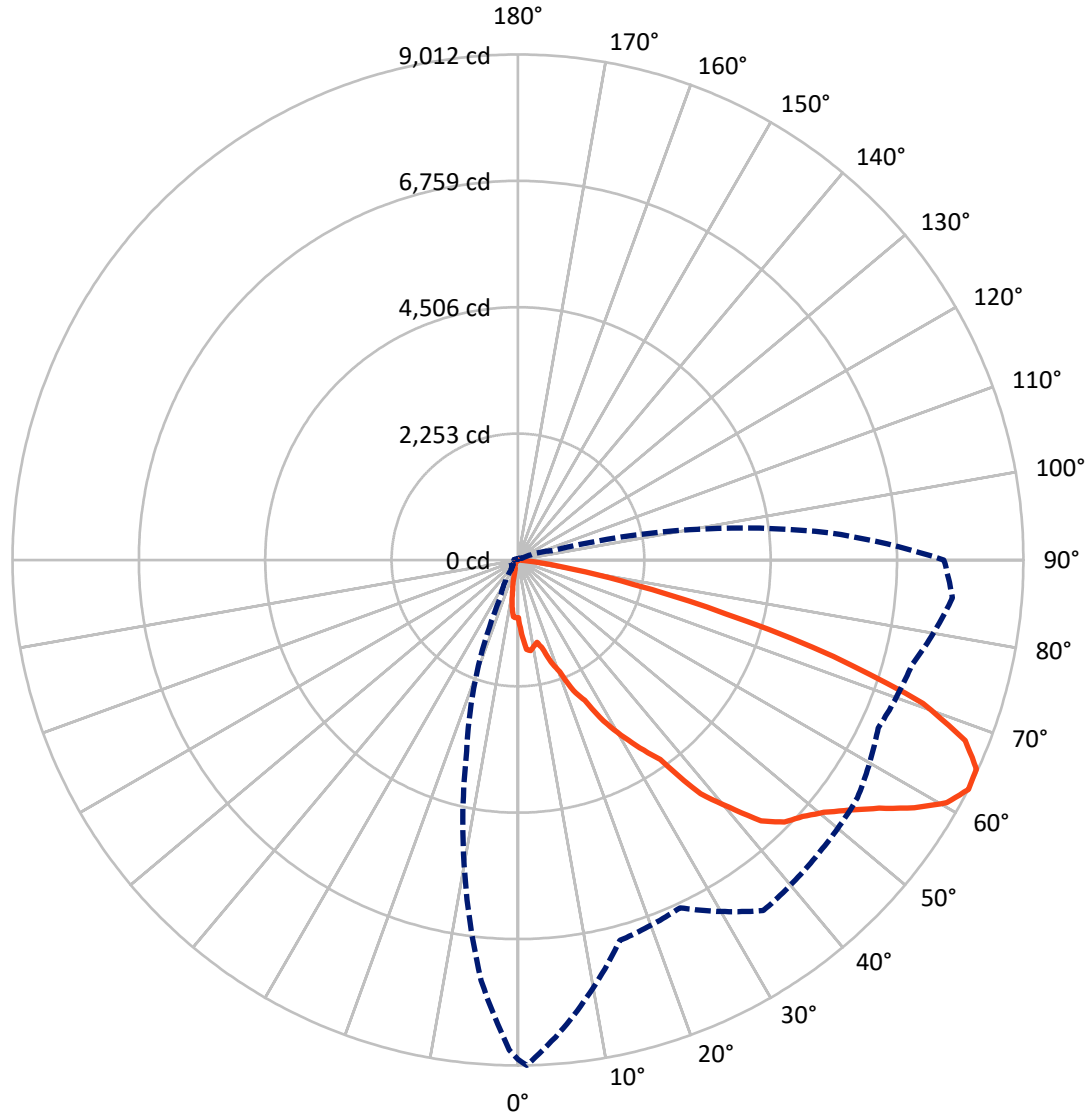
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.4 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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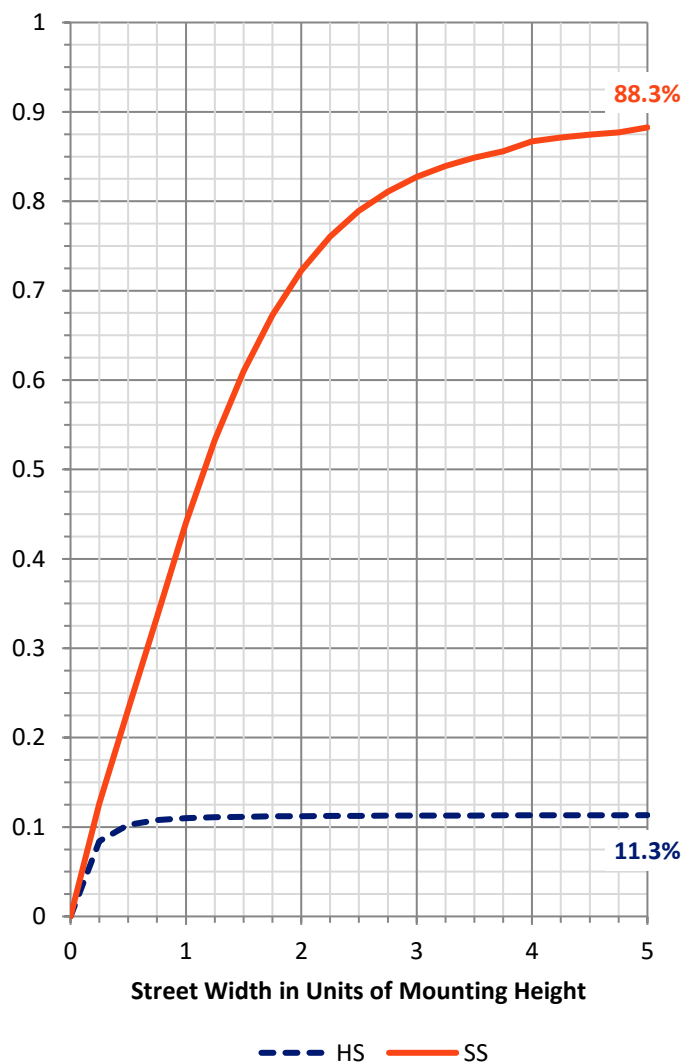
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	974.4	0.0	974.4
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	7546.6	0.0	7546.6
	% Fixture	88.6	0.0	88.6
Total	Lumens	8521.0	0.0	8521.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.7	1.3
10°-20°	299.6	3.5
20°-30°	484.2	5.7
30°-40°	811.1	9.5
40°-50°	1326.3	15.6
50°-60°	1963.3	23.0
60°-70°	2254.0	26.5
70°-80°	1114.6	13.1
80°-90°	153.0	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°	8521.0	100.0
0°-180°	8521.0	100.0

Coefficient of Utilization



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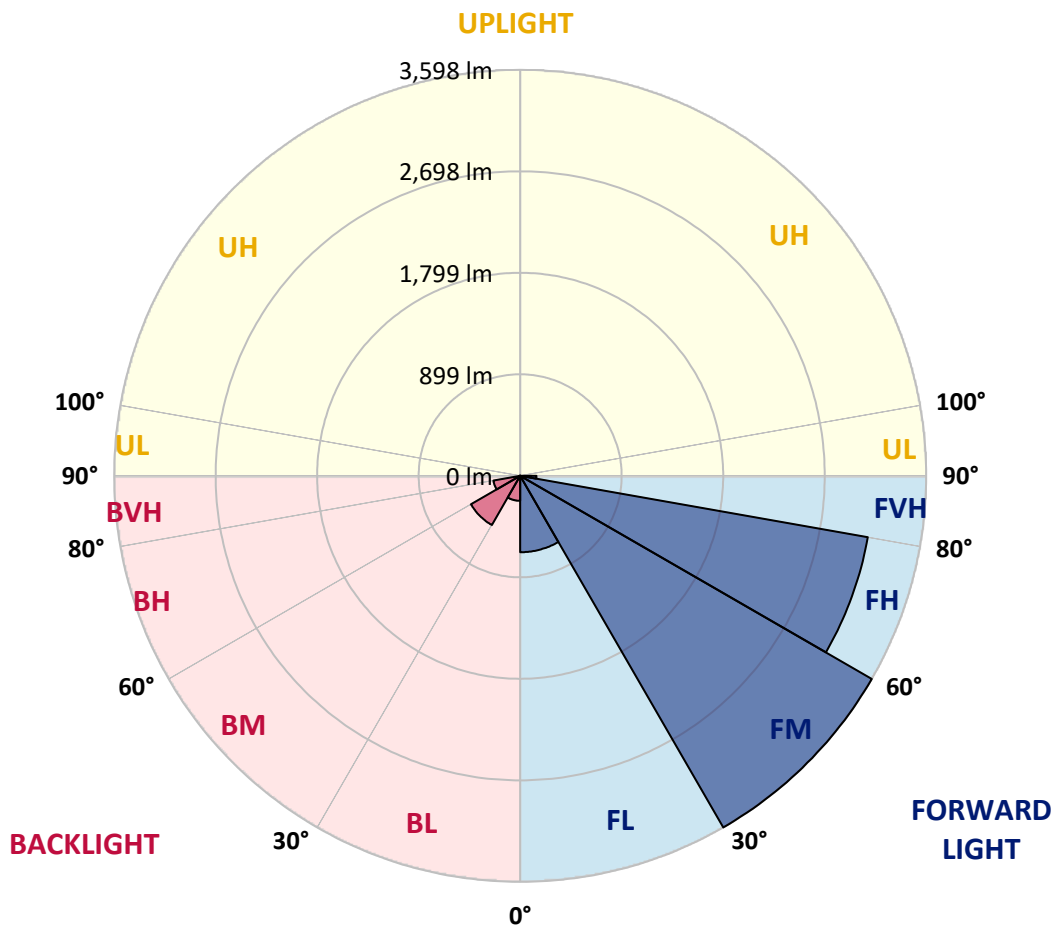
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	676.8	7.9			
FM (30°-60°)	3597.5	42.2			
FH (60°-80°)	3127.7	36.7			G2/5000
FVH (80°-90°)	144.5	1.7			G2/225
BL (0°-30°)	221.7	2.6	B1/500		
BM (30°-60°)	503.3	5.9	B1/1000		
BH (60°-80°)	240.9	2.8	B1/500		G1/500
BVH (80°-90°)	8.5	0.1			G0/10
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°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5
2.5°	1323.7	1330.0	1300.4	1296.5	1227.5	1313.5	1315.9	1326.1	1263.0	1140.6	1311.5
5°	1583.9	1601.4	1578.6	1680.1	1709.2	1771.8	1656.8	1759.7	1716.0	1728.1	1752.9
7.5°	1615.0	1633.0	1681.0	1851.0	2007.8	1968.5	1955.9	1994.7	1991.3	1901.5	1946.2
10°	1550.4	1565.5	1645.6	1954.9	2023.4	2200.1	2243.3	2154.0	2117.6	1920.9	1835.0
12.5°	1480.0	1505.3	1607.2	1978.2	2183.6	2362.3	2504.6	2377.3	2256.4	2047.2	1968.5
15°	1615.0	1629.1	1789.3	2026.8	2206.4	2329.8	2446.3	2404.0	2385.6	2235.1	1968.5
17.5°	1879.6	1912.7	2028.7	2145.7	2287.5	2361.8	2334.1	2321.0	2273.9	2510.4	2234.6
20°	2068.0	2129.7	2281.7	2332.2	2219.5	2289.0	2272.0	2260.3	2223.4	2663.3	2540.5
22.5°	2475.9	2532.7	2535.6	2553.6	2291.4	2180.7	2152.5	2155.9	2323.4	2709.0	2921.2
25°	2753.7	2773.1	2926.5	2798.3	2487.6	2213.7	2106.4	2154.5	2395.8	3037.2	3279.0
27.5°	3208.1	3254.3	3349.9	2915.8	2605.1	2192.8	2021.9	2196.7	2586.1	3146.0	3676.7
30°	3578.6	3622.8	3776.7	3076.6	2707.0	2296.3	2058.3	2281.7	2704.6	3369.8	4034.1
32.5°	3879.2	3993.3	4168.1	3324.7	2703.2	2415.2	2244.3	2253.5	2850.3	3659.7	4387.6
35°	4263.3	4369.6	4492.5	3495.6	2879.9	2453.6	2299.2	2530.3	3066.8	3962.7	4863.5
37.5°	5129.1	5289.8	5047.0	3926.3	3085.8	2800.3	2515.7	2700.7	3293.6	4272.0	5517.5
40°	5657.4	5792.8	5558.3	4146.3	3442.2	2975.1	2902.2	2996.9	3515.5	4431.8	6010.4
42.5°	6177.9	6356.6	5964.7	4477.4	3780.6	3468.4	3269.3	3345.6	3836.5	4817.3	6564.9
45°	6554.7	6665.4	6052.6	4650.8	4245.8	4030.7	3898.1	3784.5	4284.2	5065.0	6922.7
47.5°	6744.1	6832.4	6226.0	4705.6	4522.6	4625.5	4915.9	4678.4	4680.4	5244.1	7115.5
50°	7006.3	7067.9	6323.1	4771.2	4823.1	5552.5	5699.1	5193.6	5132.9	5423.8	7147.1
52.5°	7374.8	7404.9	6511.5	4944.1	5273.3	6278.4	6331.3	6126.9	5586.0	5757.9	7217.0
55°	7864.7	7811.8	6848.0	5307.3	5742.8	6810.1	6881.0	6702.8	6155.5	6091.5	7433.6
57.5°	8393.0	8332.3	7346.6	5819.0	6252.2	7216.5	7258.8	7272.8	6533.8	6386.7	7801.6
60°	8771.8	8783.0	7974.5	6406.1	6568.8	7605.5	7521.0	7392.8	6915.5	6819.3	7980.8
62.5°	8904.3	9011.7	8463.5	7021.3	6841.7	7629.7	7498.6	7390.3	7086.4	7265.6	7775.4
65°	8796.1	8983.5	8577.1	7561.8	7006.7	7325.3	7188.8	7119.4	7081.0	7447.6	7320.9
67.5°	8365.9	8600.4	8251.7	7566.6	6406.6	6237.1	6398.3	6618.3	6491.1	7296.6	6684.3
70°	7402.0	7658.9	7496.7	7122.8	5336.9	4907.2	5084.9	5417.5	5327.7	6489.6	5747.7
72.5°	5553.4	5883.6	5915.7	6149.2	4236.6	3693.2	3719.0	3709.7	3864.6	5233.0	4485.2
75°	3567.5	3824.3	4171.5	4962.0	3218.3	2696.4	2449.7	2389.5	2678.4	4089.0	3211.1
77.5°	2070.9	2101.5	2261.8	3743.7	2305.0	1942.8	1774.8	1860.7	1961.7	2853.7	2128.2
80°	990.6	1006.1	1072.1	1926.2	1601.4	1681.5	1551.9	1648.5	1347.0	1640.2	1207.6
82.5°	314.2	317.6	328.7	946.4	994.4	1113.9	713.8	957.1	832.7	991.5	804.1
85°	52.4	89.3	110.2	273.4	561.3	375.8	154.9	341.4	464.7	625.4	365.1
87.5°	0.0	0.0	0.0	4.9	45.6	21.4	3.4	19.4	71.4	139.4	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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5
2.5°	1361.0	1394.6	1268.3	1155.2	1183.8	1161.0	1126.5	1067.8	931.8	1031.8	1025.0
5°	1751.4	1689.3	1518.4	1438.7	1341.6	1193.5	1175.6	1061.9	1011.9	1020.2	1012.9
7.5°	1887.4	1776.2	1625.2	1385.3	1157.6	943.9	878.4	804.1	789.0	821.1	842.0
10°	1780.6	1662.6	1530.5	1232.4	1057.1	902.7	741.0	637.1	580.7	573.9	579.8
12.5°	1829.6	1702.4	1430.5	1202.3	1019.2	879.4	698.7	541.9	419.5	428.8	404.5
15°	1863.6	1717.5	1406.7	1139.1	941.0	754.1	536.6	379.7	279.7	250.6	233.1
17.5°	2063.2	1854.4	1376.6	1066.3	831.8	587.1	337.0	220.0	187.4	177.2	169.0
20°	2319.6	2022.9	1376.1	989.6	670.6	367.1	210.3	159.3	151.5	157.3	151.0
22.5°	2617.7	2247.2	1449.4	893.9	481.2	231.6	163.6	141.3	133.5	138.4	138.9
25°	2917.8	2583.7	1509.1	803.1	335.0	177.7	145.7	130.1	121.4	125.8	123.3
27.5°	3459.7	2862.4	1495.5	687.1	246.7	156.4	135.5	121.9	108.8	115.6	115.1
30°	3814.1	3354.3	1548.5	524.4	195.7	136.9	126.2	111.2	97.1	104.9	104.4
32.5°	4238.0	3565.5	1605.8	402.5	162.7	129.6	113.6	99.1	90.8	95.7	94.7
35°	4714.4	3983.1	1500.4	335.0	141.3	117.0	100.5	89.3	82.1	84.5	84.5
37.5°	5555.9	4332.2	1437.3	272.9	131.6	105.9	94.2	80.6	76.2	76.2	78.7
40°	6033.7	4865.4	1248.9	216.1	134.5	97.6	87.9	73.8	68.0	67.5	69.9
42.5°	6655.2	5172.8	1130.9	174.8	121.9	95.2	80.6	67.0	60.2	59.7	62.2
45°	7023.7	5344.6	964.8	137.4	109.3	110.7	74.8	61.7	51.5	49.5	53.9
47.5°	7256.3	5572.4	870.6	109.3	95.2	110.2	72.8	53.4	43.2	40.8	44.7
50°	7374.3	5685.0	852.2	93.7	82.5	98.6	83.5	44.7	36.9	33.5	36.9
52.5°	7497.2	5868.1	859.0	86.4	72.8	79.1	79.1	38.4	32.5	28.6	31.1
55°	7745.3	6138.6	843.9	82.1	67.0	60.2	51.0	34.0	29.6	25.2	27.7
57.5°	8050.2	6332.8	843.9	78.2	62.2	51.5	40.8	31.6	27.2	21.9	23.8
60°	7992.5	6128.4	802.2	74.3	58.3	48.1	36.9	29.1	25.2	19.9	21.4
62.5°	7595.7	5572.4	649.7	68.5	54.9	45.6	33.5	27.7	23.8	17.5	18.9
65°	7129.6	4981.9	451.6	62.2	51.0	41.3	30.1	26.2	21.9	15.5	16.5
67.5°	6568.3	4278.3	250.6	55.8	47.1	35.9	27.7	25.7	20.9	14.1	15.1
70°	5594.2	3230.0	134.5	51.0	44.2	33.0	26.2	25.7	20.9	13.6	14.1
72.5°	4199.7	2034.0	78.7	46.6	40.3	30.6	24.8	26.2	20.4	13.1	13.1
75°	2857.6	1234.8	56.3	39.8	35.9	25.7	23.8	25.2	20.9	13.1	12.1
77.5°	1942.8	867.7	46.1	35.9	32.5	22.8	24.3	25.2	20.9	10.7	8.3
80°	1212.9	447.7	35.0	28.6	28.2	19.9	24.3	21.9	13.6	2.4	0.0
82.5°	848.3	166.5	20.4	21.9	21.9	14.1	18.9	15.5	7.8	0.0	0.0
85°	355.9	28.6	11.2	15.5	13.6	8.3	15.1	11.7	4.9	0.0	0.0
87.5°	6.3	0.0	4.4	9.2	9.7	4.9	7.8	4.9	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°	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5
2.5°	1057.1	1011.0	913.8	960.5	955.6	977.0	978.9	929.4	1036.2	1102.2	1112.0
5°	1013.9	982.8	977.4	950.7	943.9	983.3	961.9	960.5	1011.9	1087.2	1087.7
7.5°	842.5	818.7	829.8	798.8	718.6	723.5	730.8	761.4	805.6	855.1	873.1
10°	578.3	640.0	594.8	590.9	582.7	556.9	536.6	552.6	609.9	655.5	672.5
12.5°	412.7	422.4	450.1	439.9	454.0	432.2	423.9	473.9	529.8	576.4	609.9
15°	241.3	257.8	274.3	309.3	323.4	319.0	344.3	386.0	431.2	452.5	493.8
17.5°	169.9	171.4	174.8	212.7	237.4	247.2	262.2	293.8	312.2	321.9	338.9
20°	148.6	144.2	138.4	159.8	183.1	195.2	190.8	215.6	230.6	240.4	252.5
22.5°	134.5	127.2	123.8	131.1	149.1	159.8	161.7	176.3	199.1	205.9	209.8
25°	121.4	116.5	114.1	118.0	127.7	137.9	139.8	158.8	179.2	182.1	189.9
27.5°	112.7	103.4	104.4	107.3	111.7	124.3	128.2	138.9	168.5	171.9	174.3
30°	103.4	93.7	96.6	99.5	97.6	113.1	119.0	131.1	159.8	165.1	168.0
32.5°	94.2	86.9	86.4	89.3	92.7	101.0	113.6	127.7	153.9	161.2	168.5
35°	84.0	78.2	79.1	79.6	84.0	94.7	103.9	111.2	129.2	133.0	135.5
37.5°	76.7	71.9	70.9	75.7	80.1	88.4	91.8	95.2	119.0	127.7	128.2
40°	68.0	65.1	65.1	68.5	78.2	77.2	81.6	92.3	115.1	124.3	125.3
42.5°	61.7	57.8	58.8	62.2	69.0	64.1	72.8	88.4	113.6	122.8	122.4
45°	52.0	51.0	52.9	55.8	58.8	54.4	68.0	84.5	108.8	120.9	117.5
47.5°	43.2	43.2	45.6	48.6	47.1	48.6	61.7	79.1	105.9	117.0	114.6
50°	35.4	35.9	38.4	43.2	38.8	42.7	55.4	73.8	101.0	113.1	111.2
52.5°	30.1	30.6	32.0	35.4	33.5	38.8	51.0	68.5	96.1	106.3	105.4
55°	26.2	27.2	27.2	29.1	30.1	36.4	46.1	63.1	88.9	100.0	98.1
57.5°	23.3	24.3	23.8	25.2	26.2	32.0	41.3	57.3	81.6	90.8	87.9
60°	20.9	21.9	21.4	23.3	22.8	27.7	35.9	51.0	73.8	81.1	78.7
62.5°	18.5	19.4	19.4	20.4	20.9	23.3	31.1	45.2	66.0	71.9	69.9
65°	16.5	17.5	18.0	17.5	18.5	19.9	26.2	40.8	57.3	63.1	60.2
67.5°	15.1	16.0	17.0	15.1	16.0	16.5	22.3	36.4	50.5	55.4	52.9
70°	14.6	15.1	15.1	13.1	12.6	13.1	19.4	31.1	44.2	49.0	45.6
72.5°	13.6	14.1	13.6	10.7	9.2	10.2	16.5	26.2	37.4	41.3	38.4
75°	12.6	13.1	12.6	8.7	5.8	7.3	13.6	22.8	32.0	34.0	32.5
77.5°	10.7	11.7	11.7	6.3	1.9	4.4	10.2	18.5	26.7	26.7	27.2
80°	1.0	2.9	4.9	3.4	0.0	0.5	3.4	9.7	17.0	16.5	18.0
82.5°	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	5.8	4.4	4.9
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°	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5
2.5°	1089.1	1074.1	1093.0	1150.8	1127.5	1131.9	1116.3	1212.0	1320.3	1323.7
5°	1088.6	1075.0	1103.2	1100.8	1167.3	1239.7	1309.6	1422.7	1583.0	1583.9
7.5°	864.8	945.4	966.3	960.0	1045.4	1145.0	1252.8	1469.3	1600.9	1615.0
10°	779.8	814.8	857.5	873.1	908.5	1003.2	1125.1	1370.3	1517.9	1550.4
12.5°	675.9	787.6	844.4	954.6	975.0	988.6	1180.9	1394.1	1483.9	1480.0
15°	559.9	657.0	746.8	881.3	936.7	1079.4	1230.9	1510.1	1563.5	1615.0
17.5°	396.2	469.5	607.4	748.7	917.7	1073.1	1368.8	1717.5	1818.5	1879.6
20°	265.1	300.6	425.4	612.3	826.4	980.8	1425.1	1904.9	2015.1	2068.0
22.5°	215.1	232.1	296.7	448.7	706.0	976.5	1448.0	2109.3	2405.5	2475.9
25°	189.4	201.0	235.5	332.1	586.1	957.1	1574.2	2339.5	2696.8	2753.7
27.5°	165.6	183.1	208.8	273.9	502.6	943.5	1638.3	2726.0	3152.3	3208.1
30°	158.3	179.7	204.4	249.6	444.3	891.0	1740.3	3074.6	3479.1	3578.6
32.5°	170.9	178.2	190.3	228.7	399.1	835.7	1919.5	3491.2	3749.6	3879.2
35°	135.5	148.6	169.9	209.8	380.2	832.7	2020.9	3759.3	4183.2	4263.3
37.5°	132.6	144.7	172.4	204.4	403.0	855.1	2171.5	4308.4	4964.9	5129.1
40°	128.7	144.2	170.4	202.0	403.0	876.9	2267.6	4747.9	5490.8	5657.4
42.5°	127.2	147.1	169.9	212.2	390.4	889.1	2412.8	5186.4	6046.3	6177.9
45°	126.2	150.0	171.4	224.3	387.5	928.9	2494.8	5399.5	6403.7	6554.7
47.5°	123.8	150.0	191.3	217.0	371.5	925.0	2601.2	5715.6	6616.8	6744.1
50°	121.9	151.0	216.6	203.5	373.9	901.2	2745.4	6012.3	6915.5	7006.3
52.5°	117.5	154.4	212.7	184.5	366.6	898.8	2960.5	6434.3	7308.3	7374.8
55°	107.8	150.0	192.3	161.2	340.9	871.1	3245.5	6983.0	7853.1	7864.7
57.5°	99.1	139.4	160.7	148.1	285.5	874.5	3491.2	7487.9	8338.7	8393.0
60°	90.3	144.7	124.8	137.9	236.5	812.4	3610.2	7681.2	8692.2	8771.8
62.5°	82.1	133.5	106.3	126.7	210.7	754.6	3527.7	7525.8	8737.3	8904.3
65°	72.8	92.7	89.8	113.6	213.2	673.5	3251.8	7070.8	8565.9	8796.1
67.5°	62.6	72.8	79.1	98.1	228.2	604.0	2778.9	6340.5	8105.1	8365.9
70°	54.9	65.6	69.0	85.9	237.4	558.4	2192.8	5327.2	7161.2	7402.0
72.5°	45.6	60.7	61.7	75.3	228.7	513.2	1562.6	3824.3	5437.9	5553.4
75°	39.3	50.5	55.8	63.1	192.3	383.1	860.9	2367.1	3438.3	3567.5
77.5°	35.4	38.4	42.2	43.7	81.6	199.6	296.2	1459.6	1925.3	2070.9
80°	27.2	30.1	29.1	30.1	44.7	69.0	112.7	684.2	909.5	990.6
82.5°	8.7	14.6	16.0	13.6	29.1	34.0	32.5	236.5	295.7	314.2
85°	1.9	5.3	2.4	0.0	9.7	17.5	2.4	35.9	70.9	52.4
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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