

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: P367402

Luminaire Tested: **MSA-SA2C-727-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367402
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-SA2C-727-U-SLL
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 8838 lumens
Efficiency: N/A
Efficacy: 78.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

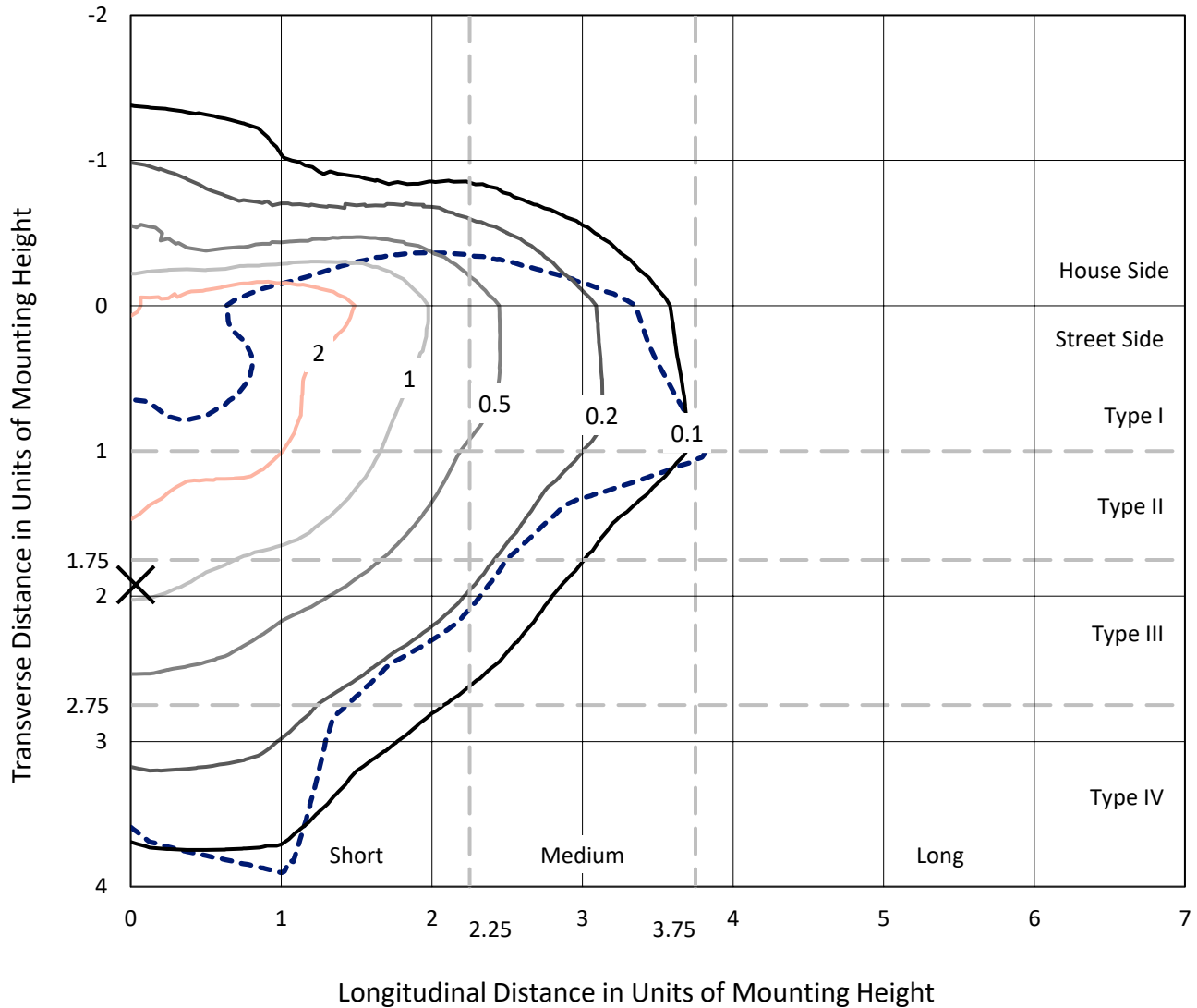
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

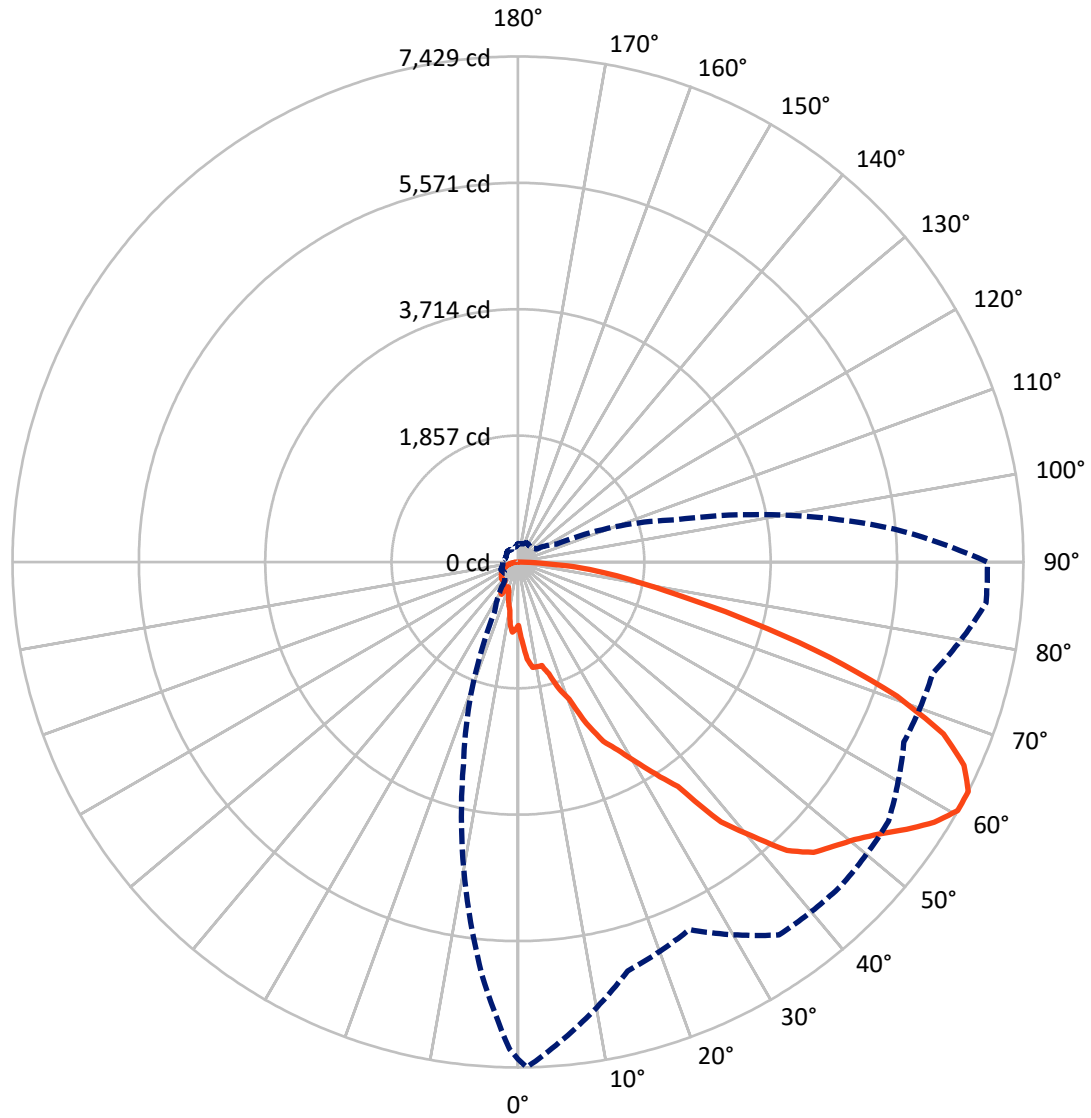
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.8 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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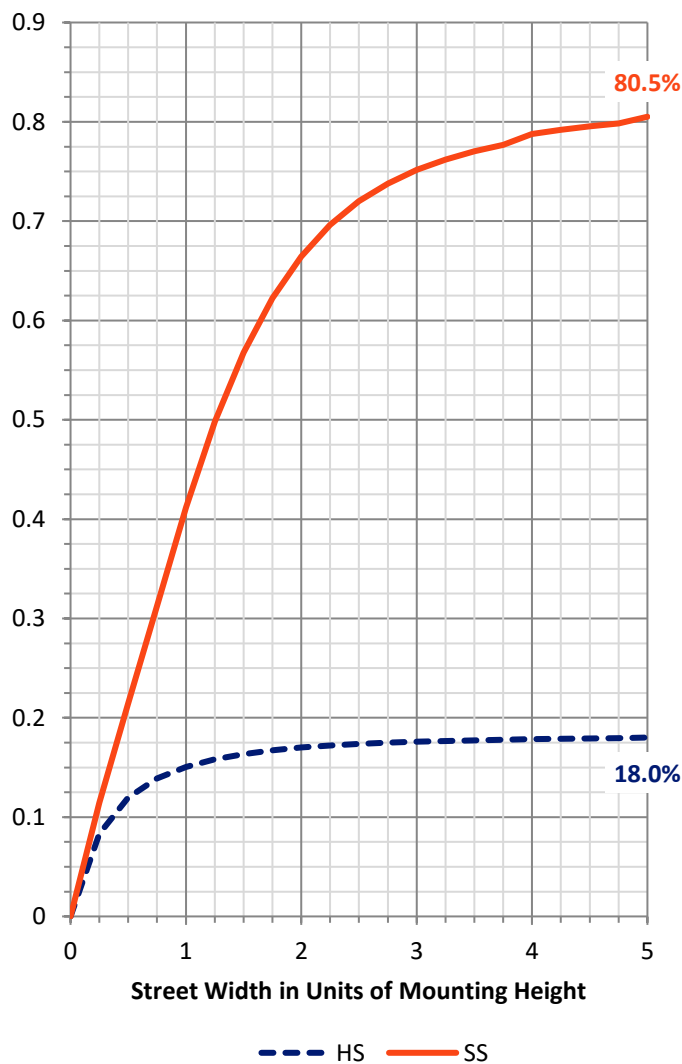
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1609.4	0.0	1609.4
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	7228.7	0.0	7228.7
	% Fixture	81.8	0.0	81.8
Total	Lumens	8838.0	0.0	8838.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.8	1.2
10°-20°	310.5	3.5
20°-30°	548.1	6.2
30°-40°	853.7	9.7
40°-50°	1405.8	15.9
50°-60°	2006.4	22.7
60°-70°	2127.6	24.1
70°-80°	1175.2	13.3
80°-90°	304.0	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°	8838.0	100.0
0°-180°	8838.0	100.0

Coefficient of Utilization



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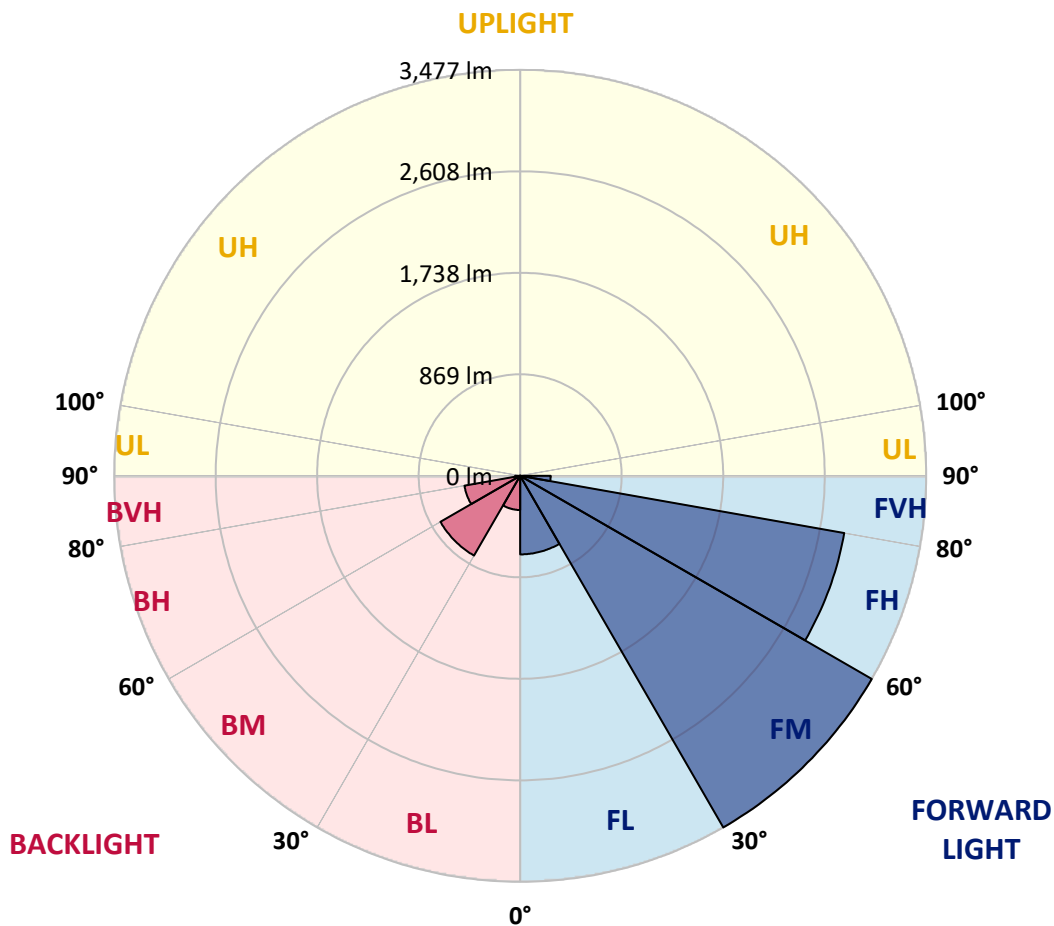
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	672.7	7.6			
FM (30°-60°)	3477.0	39.3			
FH (60°-80°)	2817.9	31.9			G2/5000
FVH (80°-90°)	261.1	3.0			G3/500
BL (0°-30°)	292.7	3.3	B1/500		
BM (30°-60°)	788.9	8.9	B1/1000		
BH (60°-80°)	484.9	5.5	B1/500		G1/500
BVH (80°-90°)	42.9	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-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0
2.5°	1146.0	1155.8	1135.7	1112.9	1019.0	1109.5	1082.5	1132.7	1116.4	1007.4	1206.9
5°	1416.2	1434.2	1414.4	1482.6	1486.9	1504.5	1342.0	1443.2	1408.0	1399.0	1499.8
7.5°	1546.5	1565.0	1615.2	1736.5	1831.3	1745.5	1650.8	1629.7	1602.3	1530.7	1591.6
10°	1554.7	1565.0	1632.3	1889.6	1935.5	1996.4	1935.1	1790.6	1731.0	1575.3	1529.0
12.5°	1530.2	1562.4	1649.5	1963.0	2099.4	2165.8	2180.9	2020.0	1873.8	1696.2	1672.6
15°	1694.5	1706.1	1830.9	2015.3	2109.2	2165.4	2214.3	2115.2	2069.4	1928.7	1739.5
17.5°	1930.0	1962.1	2064.2	2132.4	2195.9	2206.6	2166.3	2127.7	2054.8	2242.6	2041.5
20°	2089.5	2151.7	2276.9	2289.8	2156.4	2180.0	2174.4	2177.0	2135.4	2482.8	2372.1
22.5°	2511.5	2578.9	2596.0	2521.4	2270.1	2162.4	2183.9	2246.0	2409.9	2707.5	2832.8
25°	2893.7	2919.8	3076.4	2884.2	2483.6	2249.1	2213.9	2374.7	2641.9	3085.8	3175.0
27.5°	3093.1	3127.0	3231.2	2813.0	2510.2	2137.5	2055.2	2300.1	2572.4	2907.8	3299.4
30°	3348.3	3402.3	3544.3	2884.2	2590.4	2210.5	2028.2	2262.3	2563.4	3024.5	3562.7
32.5°	3611.2	3716.3	3821.8	3135.1	2579.3	2322.0	2201.0	2219.9	2644.9	3268.9	3835.5
35°	3959.4	4052.1	4143.0	3280.1	2804.0	2415.0	2294.9	2494.8	2854.2	3552.4	4215.9
37.5°	4704.0	4850.6	4610.9	3692.7	3048.5	2834.5	2617.9	2736.3	3075.5	3788.7	4837.3
40°	5178.3	5288.5	5056.9	3973.6	3479.1	3117.1	3081.5	3091.4	3380.4	3991.2	5255.5
42.5°	5649.6	5798.9	5430.5	4359.1	3999.7	3700.8	3517.3	3504.8	3721.8	4354.9	5731.1
45°	6001.3	6089.3	5558.7	4684.2	4558.1	4336.4	4198.7	3980.4	4170.4	4606.6	6025.3
47.5°	6168.6	6240.2	5765.0	4873.4	4920.1	4931.7	5180.0	4807.8	4562.4	4776.9	6179.7
50°	6377.5	6411.3	5886.4	5039.8	5264.1	5772.7	5832.4	5201.5	4944.1	4962.6	6271.1
52.5°	6627.1	6641.2	6063.5	5231.9	5611.9	6326.0	6233.8	5868.8	5307.4	5301.8	6443.1
55°	6941.0	6932.4	6285.7	5490.5	5860.2	6654.9	6585.0	6319.1	5703.3	5582.7	6710.7
57.5°	7220.2	7215.1	6580.3	5728.6	6069.1	6823.9	6844.5	6774.2	5972.6	5783.9	7000.6
60°	7357.0	7422.6	6915.7	5988.9	6082.4	6900.3	6908.0	6796.0	6273.7	6042.1	7077.8
62.5°	7303.8	7428.6	7080.4	6223.1	5960.2	6691.8	6724.0	6646.8	6259.9	6313.1	6905.4
65°	7062.0	7206.1	6937.6	6347.9	5885.1	6342.7	6350.9	6155.7	6063.9	6492.8	6501.4
67.5°	6608.2	6743.3	6483.0	6148.9	5371.3	5401.8	5583.6	5599.5	5465.7	6357.3	5934.0
70°	5813.9	5909.1	5746.1	5657.4	4489.5	4311.1	4508.4	4592.9	4653.8	5867.9	5252.9
72.5°	4602.7	4786.7	4812.5	4870.4	3614.6	3317.4	3463.6	3338.4	3735.1	4994.3	4291.8
75°	3405.3	3560.6	3727.4	4050.4	2849.1	2483.6	2465.6	2401.7	2772.3	4016.5	3183.2
77.5°	2406.5	2505.5	2633.8	3235.5	2150.0	1912.8	1924.0	1859.2	2002.0	3035.6	2198.9
80°	1725.0	1776.9	1836.5	2131.5	1586.0	1650.3	1652.0	1590.7	1488.6	2061.6	1467.6
82.5°	1229.2	1269.5	1337.7	1405.9	1182.4	1352.7	1351.4	1347.5	1180.3	1393.4	918.2
85°	684.5	738.5	856.9	1101.4	853.9	967.1	850.5	936.7	866.3	927.7	464.9
87.5°	48.0	42.9	191.7	638.2	398.4	291.2	152.7	302.4	387.7	484.6	64.8
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0
2.5°	1248.0	1263.1	1204.3	1115.9	1140.0	1113.8	1080.8	1029.3	923.4	989.0	989.4
5°	1498.9	1441.9	1396.0	1352.7	1279.8	1169.6	1155.0	1066.6	1016.9	1043.0	1039.2
7.5°	1577.4	1496.4	1427.3	1272.5	1137.4	966.3	914.8	862.5	840.6	904.1	929.4
10°	1491.2	1406.7	1339.0	1150.7	1058.9	952.1	810.6	738.1	695.2	711.9	721.8
12.5°	1560.7	1474.5	1261.3	1156.3	1004.9	939.7	815.7	709.4	645.9	661.3	642.9
15°	1627.6	1511.4	1298.2	1088.9	966.3	871.9	771.6	661.8	587.1	560.5	546.4
17.5°	1872.1	1679.1	1293.9	1051.2	910.5	802.0	681.1	561.0	511.2	483.8	460.2
20°	2170.1	1901.2	1317.1	1012.2	851.3	714.5	582.8	471.3	436.6	418.6	412.2
22.5°	2524.8	2186.0	1449.6	1006.6	795.6	650.6	528.8	459.3	420.3	400.6	392.4
25°	2806.6	2480.6	1547.4	1044.3	792.6	597.9	496.2	510.4	492.4	498.4	450.8
27.5°	3080.2	2560.8	1492.5	1027.6	712.8	504.4	488.5	518.1	533.5	538.2	536.5
30°	3311.4	2899.7	1504.5	933.2	602.1	410.9	374.0	388.6	431.0	498.4	511.2
32.5°	3649.8	3061.8	1607.0	876.2	538.2	367.6	326.4	320.8	330.7	355.1	376.1
35°	4045.6	3434.9	1635.8	861.2	494.1	348.3	319.5	306.6	311.8	330.2	334.5
37.5°	4783.7	3706.8	1742.1	842.8	477.8	336.7	314.4	309.7	320.8	335.8	344.4
40°	5190.7	4195.7	1747.3	826.9	456.8	332.0	317.8	315.7	322.5	343.1	348.3
42.5°	5733.3	4474.5	1827.9	808.4	449.5	338.4	324.7	323.8	329.8	341.8	351.3
45°	6063.9	4661.1	1832.2	797.7	447.8	366.7	333.7	330.7	329.4	336.7	345.2
47.5°	6277.1	4930.0	1884.5	785.7	458.0	374.0	344.4	331.5	327.2	330.2	336.7
50°	6479.1	5144.9	1983.6	784.0	468.8	366.7	363.3	331.1	322.5	321.2	325.9
52.5°	6727.0	5498.3	2105.8	800.3	466.2	356.0	377.4	329.4	313.9	310.9	315.7
55°	7087.7	5877.0	2235.8	786.6	439.6	335.4	363.7	328.1	304.9	299.4	303.6
57.5°	7321.4	6094.0	2381.1	775.0	399.3	319.9	351.3	329.0	305.8	293.4	295.9
60°	7243.8	5977.3	2438.2	704.2	361.1	307.9	321.7	322.1	298.1	286.5	288.6
62.5°	6900.7	5554.9	2385.0	621.9	332.8	290.8	291.2	309.2	275.8	267.6	271.1
65°	6421.2	5029.5	2169.7	568.3	319.5	272.8	265.9	271.5	245.7	239.7	246.6
67.5°	5832.8	4381.9	1849.3	511.7	314.8	248.3	240.2	238.0	221.7	214.9	221.7
70°	5094.7	3669.1	1478.4	471.8	296.8	221.7	215.3	213.2	199.4	194.3	200.3
72.5°	4095.0	2864.9	1140.8	441.3	277.1	197.3	191.7	189.1	177.6	170.3	177.6
75°	2912.5	2189.4	847.5	394.6	249.2	172.4	166.0	162.5	151.8	145.0	151.4
77.5°	2069.8	1643.5	591.9	326.4	205.4	145.8	142.0	136.4	126.9	118.8	125.2
80°	1530.2	1174.3	381.7	251.8	157.0	116.7	114.5	110.7	101.6	91.8	96.5
82.5°	1007.4	846.6	218.7	170.7	114.1	84.1	85.8	83.2	74.6	64.3	66.9
85°	451.2	501.4	116.2	93.9	74.2	50.6	55.3	53.6	47.2	37.3	38.2
87.5°	43.3	84.5	35.6	34.3	27.4	15.9	19.7	16.7	14.2	9.0	6.9
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0
2.5°	1004.4	944.0	883.5	920.4	921.2	931.1	932.4	895.9	925.1	947.4	970.6
5°	1020.3	980.9	983.0	947.4	928.1	953.0	947.8	938.0	955.5	980.0	1009.6
7.5°	905.4	879.6	875.3	841.0	757.8	739.4	754.8	761.3	784.9	822.6	854.3
10°	706.8	757.8	700.4	687.1	665.2	622.3	597.4	594.4	644.6	675.1	701.6
12.5°	636.9	624.0	617.2	580.7	580.7	535.2	520.7	534.0	611.2	633.0	667.3
15°	542.5	533.1	501.4	483.3	474.8	456.3	471.8	484.6	556.7	558.4	594.4
17.5°	450.3	444.7	414.7	411.3	402.7	394.6	408.7	439.6	478.6	471.8	488.5
20°	402.7	383.4	356.0	365.8	356.8	350.4	344.4	388.1	415.6	424.6	434.5
22.5°	390.7	355.5	339.2	330.2	330.7	320.4	321.7	358.1	399.7	405.3	399.3
25°	446.5	383.8	331.1	304.9	295.1	291.6	301.5	333.7	383.8	395.9	400.6
27.5°	522.4	416.9	341.0	296.4	276.6	278.3	292.5	314.8	374.0	395.4	401.0
30°	501.4	392.0	341.4	289.9	265.5	274.5	279.6	301.1	366.3	398.4	426.3
32.5°	386.9	352.5	343.5	295.1	285.2	271.1	278.3	298.9	343.5	363.7	365.0
35°	327.7	301.5	295.5	283.5	269.8	263.8	271.9	289.9	319.1	331.5	329.8
37.5°	325.1	296.4	272.8	267.6	262.0	260.3	265.0	281.8	311.4	333.2	328.5
40°	329.4	293.8	269.8	260.8	262.9	255.2	259.9	280.5	312.7	333.2	329.0
42.5°	324.2	290.8	265.9	259.0	261.2	250.5	256.0	277.5	309.2	333.7	325.5
45°	313.9	283.9	263.8	252.2	262.0	246.2	253.0	269.8	298.9	325.5	316.1
47.5°	303.6	275.8	254.8	247.5	257.3	241.9	244.9	259.5	288.6	314.8	306.6
50°	292.5	265.5	247.5	245.3	252.2	241.0	236.3	248.3	276.2	302.4	295.5
52.5°	280.5	256.9	242.3	241.5	247.9	235.5	228.6	238.0	262.9	289.1	283.5
55°	268.9	247.5	235.9	238.0	245.3	230.7	222.2	228.2	248.8	274.5	266.8
57.5°	257.3	236.7	227.3	233.3	238.9	224.7	214.0	217.4	234.2	259.5	250.5
60°	247.0	227.3	217.9	225.2	230.3	215.7	203.3	205.4	220.4	243.2	235.0
62.5°	233.7	217.0	204.6	214.0	217.9	203.7	190.4	193.0	205.0	226.4	220.4
65°	214.9	204.1	192.6	199.0	204.1	189.6	177.1	180.1	189.1	209.3	205.0
67.5°	198.6	188.3	180.6	185.7	186.6	175.4	164.3	166.0	173.3	192.1	187.4
70°	180.6	170.7	164.7	168.6	168.1	158.7	150.1	150.5	156.5	173.7	167.3
72.5°	160.8	151.4	148.4	150.5	148.8	140.2	132.1	135.1	139.0	151.8	146.7
75°	139.8	131.2	129.5	131.7	129.1	120.9	113.7	116.7	120.1	130.8	124.4
77.5°	117.9	110.2	110.7	111.1	107.6	102.1	94.8	97.8	99.9	107.2	100.8
80°	93.9	87.9	89.6	89.6	85.8	81.9	75.1	75.9	77.2	79.8	75.1
82.5°	68.6	68.6	68.6	69.0	60.9	62.2	56.2	55.8	54.5	54.0	51.0
85°	40.7	42.5	43.3	44.6	33.0	38.6	33.5	32.2	29.6	27.0	26.2
87.5°	9.0	11.6	11.6	11.2	0.0	4.3	2.1	3.4	0.9	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°	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0
2.5°	944.0	918.2	966.3	1009.2	1002.3	1027.2	969.3	1055.0	1146.0	1146.0
5°	1001.9	980.0	992.4	1017.3	1036.2	1122.8	1194.9	1266.5	1414.4	1416.2
7.5°	844.9	892.1	903.2	895.9	977.0	1088.5	1207.3	1411.4	1536.7	1546.5
10°	790.0	811.4	845.3	864.2	897.2	1007.0	1154.5	1396.9	1529.8	1554.7
12.5°	715.8	795.1	846.6	952.1	978.3	1000.2	1234.7	1444.5	1536.3	1530.2
15°	634.7	694.8	769.0	885.6	952.1	1119.4	1282.4	1597.2	1649.0	1694.5
17.5°	506.1	550.3	648.9	781.8	946.5	1100.5	1399.9	1785.9	1882.8	1930.0
20°	416.4	416.9	515.5	691.8	871.1	1021.6	1444.5	1942.4	2065.5	2089.5
22.5°	393.7	374.0	425.9	569.1	787.9	1068.3	1534.5	2194.2	2451.1	2511.5
25°	381.3	357.3	389.9	502.2	728.2	1092.8	1716.0	2540.3	2870.1	2893.7
27.5°	386.4	397.6	407.9	447.8	652.8	1046.9	1673.9	2695.1	3048.5	3093.1
30°	421.2	439.2	415.6	429.3	590.6	980.4	1749.0	2946.4	3273.2	3348.3
32.5°	350.4	343.5	341.4	371.4	528.4	920.4	1906.4	3300.2	3516.8	3611.2
35°	316.1	305.4	309.7	344.0	497.9	911.8	1994.7	3593.2	3901.5	3959.4
37.5°	314.8	302.4	307.9	333.7	508.7	927.2	2136.3	4063.2	4580.0	4704.0
40°	311.8	304.9	307.9	327.2	497.5	935.8	2217.7	4458.2	5052.6	5178.3
42.5°	311.4	307.9	310.9	332.4	485.9	939.7	2330.5	4815.0	5550.6	5649.6
45°	310.1	313.5	313.5	336.7	480.8	965.4	2397.0	4990.0	5879.1	6001.3
47.5°	304.1	314.4	331.1	335.4	459.8	953.4	2490.9	5255.5	6053.7	6168.6
50°	296.4	313.1	353.4	326.8	456.3	924.2	2600.7	5466.1	6277.5	6377.5
52.5°	286.1	310.9	348.3	310.1	450.3	919.1	2754.7	5739.7	6538.7	6627.1
55°	271.5	303.2	332.4	293.4	435.7	902.8	2990.2	6079.0	6880.5	6941.0
57.5°	258.2	291.6	309.2	283.9	401.0	906.2	3154.0	6355.6	7167.5	7220.2
60°	246.2	290.4	276.2	274.1	365.4	860.3	3207.2	6352.6	7274.2	7357.0
62.5°	233.3	274.1	253.0	260.8	334.1	813.2	3094.4	6080.2	7158.9	7303.8
65°	216.6	235.0	233.7	251.3	335.0	736.4	2835.8	5599.9	6871.1	7062.0
67.5°	196.9	208.0	215.3	235.9	345.7	676.8	2419.7	5022.2	6381.3	6608.2
70°	176.7	187.8	196.0	215.7	355.5	649.3	1926.1	4210.8	5583.6	5813.9
72.5°	156.1	167.7	174.1	191.3	342.2	590.6	1425.6	3276.2	4481.8	4602.7
75°	134.7	145.8	151.0	166.8	297.2	488.5	984.3	2481.5	3282.7	3405.3
77.5°	112.8	124.8	126.5	139.4	226.9	373.6	630.9	1903.4	2324.5	2406.5
80°	90.1	102.1	102.1	108.9	159.5	256.9	377.8	1435.9	1692.8	1725.0
82.5°	64.8	77.6	76.8	77.2	110.2	159.1	218.7	1076.1	1223.2	1229.2
85°	38.2	47.2	46.7	42.9	65.2	85.8	118.4	668.2	682.8	684.5
87.5°	7.3	11.2	9.9	4.3	18.0	25.3	34.3	123.9	49.3	48.0
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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