

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: P367027

Luminaire Tested: **MSA-SA1D-730-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367027
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-SA1D-730-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: 4556 lumens
Efficiency: N/A
Efficacy: 68.0 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): 67
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

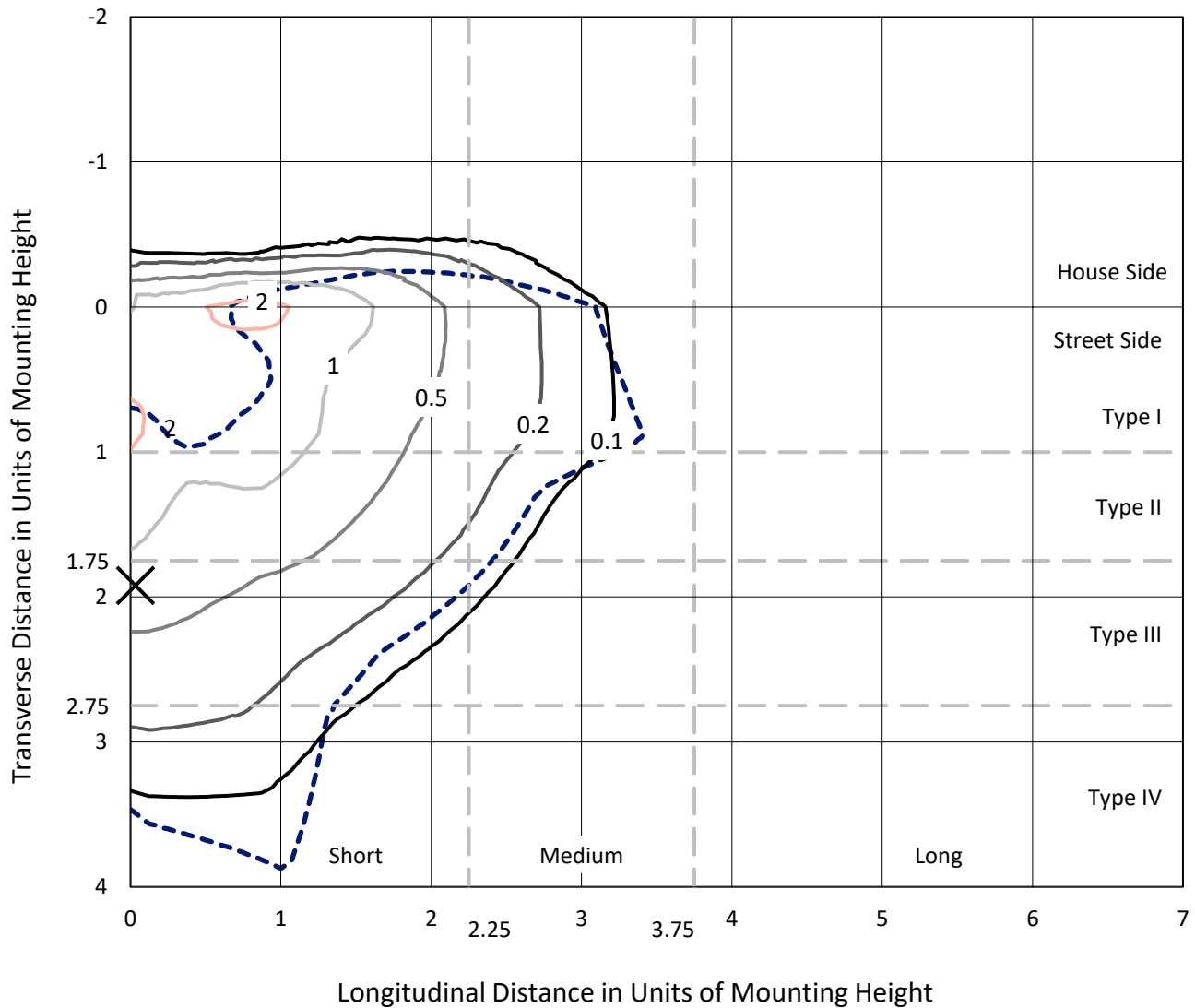


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Iso-Footcandle Lines of Horizontal Illumination

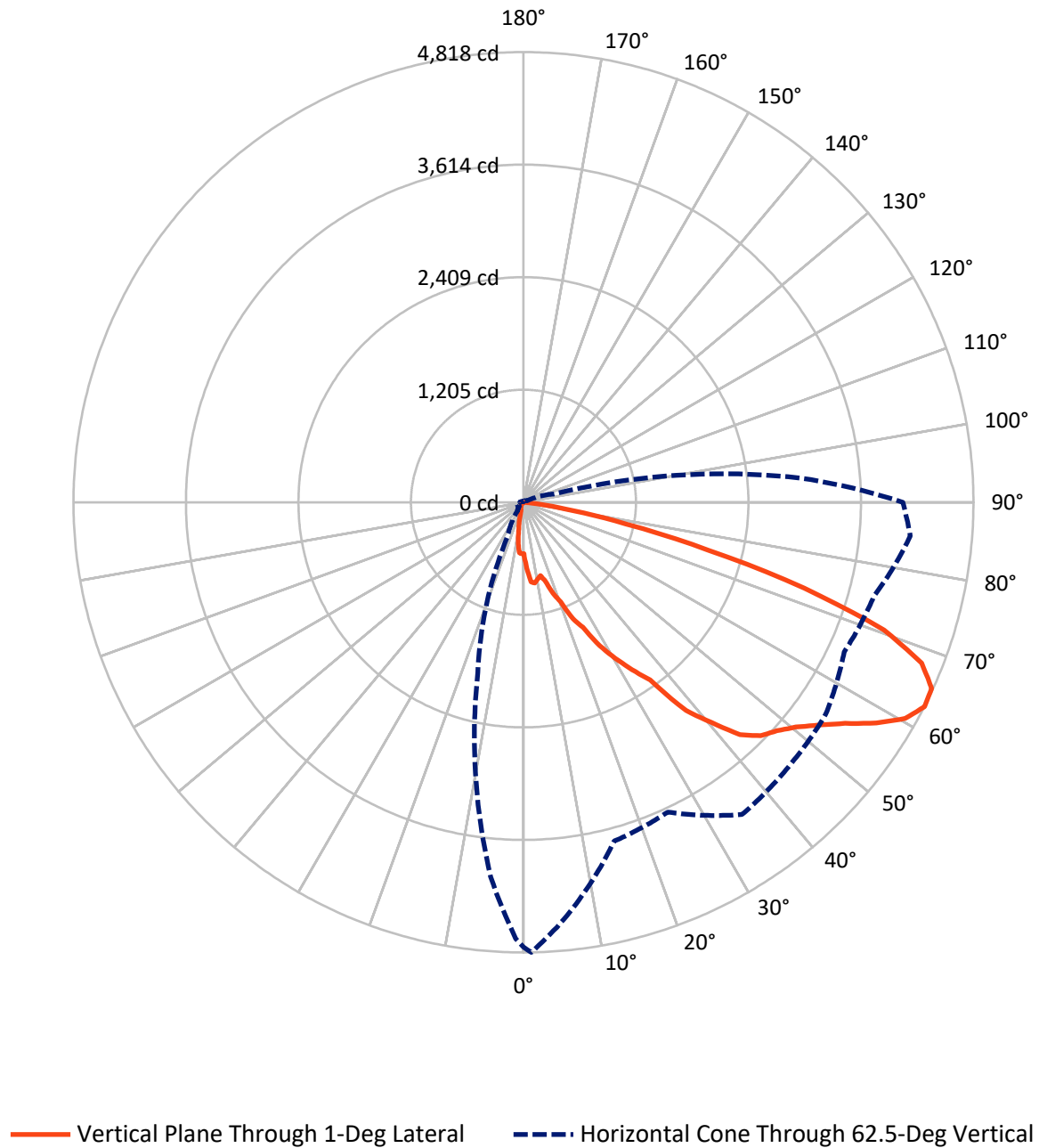
✕ Max cd
--- 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.3 fc
Type IV - Short - N/A

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Luminous Intensity Polar Plot



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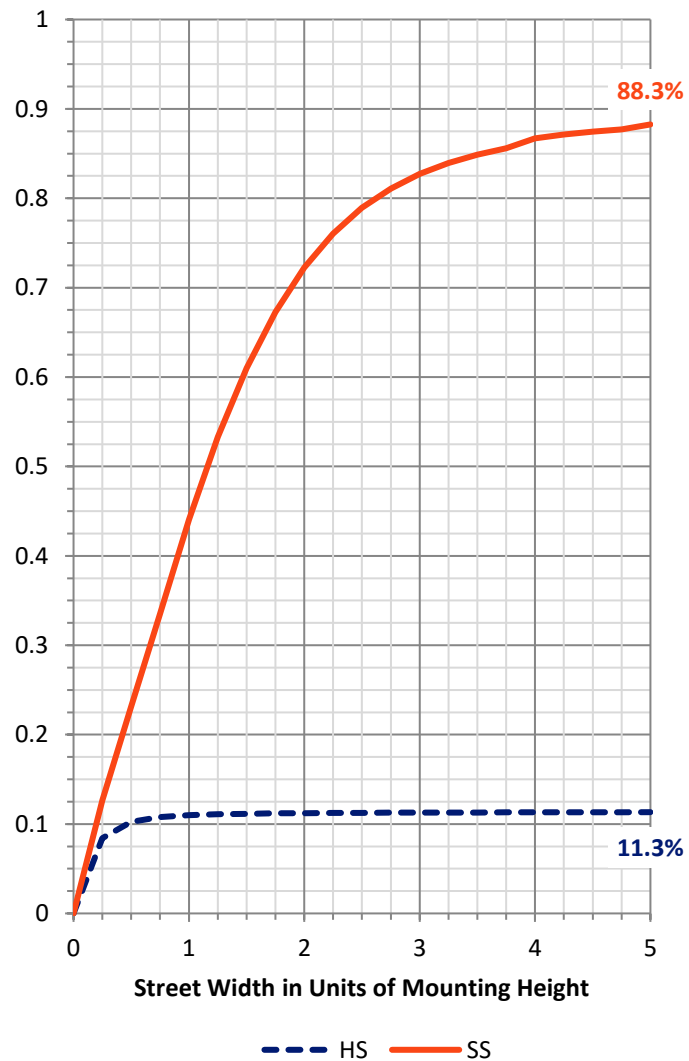
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	521.0	0.0	521.0
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	4035.0	0.0	4035.0
	% Fixture	88.6	0.0	88.6
Total	Lumens	4556.0	0.0	4556.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.3	1.3
10°-20°	160.2	3.5
20°-30°	258.9	5.7
30°-40°	433.7	9.5
40°-50°	709.2	15.6
50°-60°	1049.8	23.0
60°-70°	1205.2	26.5
70°-80°	596.0	13.1
80°-90°	81.8	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°	4556.0	100.0
0°-180°	4556.0	100.0

Coefficient of Utilization



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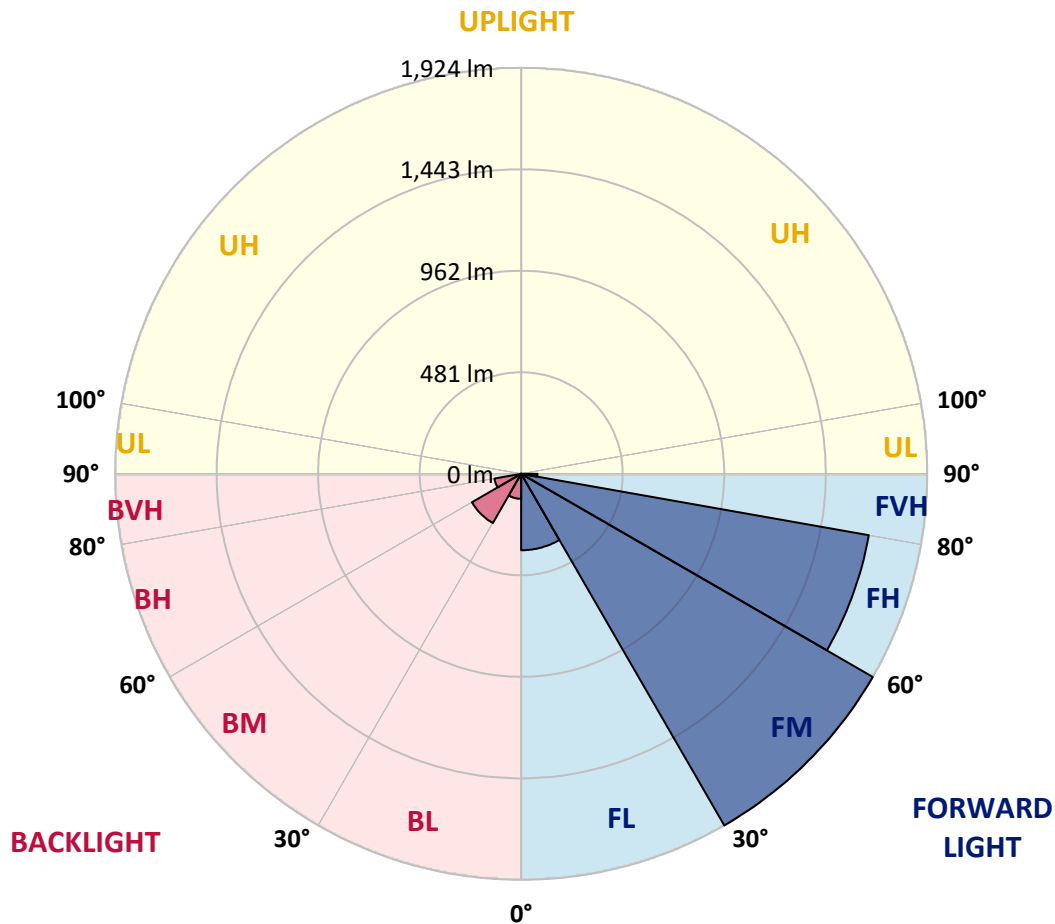
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	361.9	7.9			
FM	(30°-60°)	1923.5	42.2			
FH	(60°-80°)	1672.3	36.7			G1/1800
FVH	(80°-90°)	77.3	1.7			G1/100
BL	(0°-30°)	118.5	2.6	B1/500		
BM	(30°-60°)	269.1	5.9	B1/1000		
BH	(60°-80°)	128.8	2.8	B1/500		G1/500
BVH	(80°-90°)	4.5	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-G1

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	548.8	548.8	548.8	548.8	548.8	548.8	548.8	548.8	548.8	548.8	548.8
2.5°	707.7	711.1	695.3	693.2	656.3	702.3	703.6	709.0	675.3	609.9	701.2
5°	846.9	856.2	844.0	898.3	913.9	947.4	885.8	940.9	917.5	924.0	937.2
7.5°	863.5	873.1	898.8	989.7	1073.5	1052.5	1045.8	1066.5	1064.7	1016.7	1040.6
10°	829.0	837.0	879.9	1045.2	1081.8	1176.4	1199.5	1151.7	1132.2	1027.1	981.1
12.5°	791.3	804.8	859.4	1057.7	1167.5	1263.1	1339.1	1271.1	1206.5	1094.6	1052.5
15°	863.5	871.0	956.7	1083.7	1179.7	1245.7	1308.0	1285.4	1275.5	1195.0	1052.5
17.5°	1005.0	1022.7	1084.7	1147.3	1223.1	1262.8	1248.0	1241.0	1215.8	1342.3	1194.8
20°	1105.7	1138.7	1220.0	1247.0	1186.7	1223.9	1214.8	1208.5	1188.8	1424.0	1358.3
22.5°	1323.8	1354.2	1355.8	1365.4	1225.2	1166.0	1150.9	1152.7	1242.3	1448.4	1561.9
25°	1472.3	1482.7	1564.7	1496.2	1330.0	1183.6	1126.2	1151.9	1281.0	1623.9	1753.2
27.5°	1715.3	1740.0	1791.1	1559.0	1392.9	1172.5	1081.1	1174.5	1382.8	1682.1	1965.9
30°	1913.4	1937.0	2019.3	1645.0	1447.4	1227.8	1100.5	1220.0	1446.1	1801.8	2156.9
32.5°	2074.1	2135.1	2228.6	1777.6	1445.3	1291.4	1200.0	1204.9	1524.0	1956.8	2346.0
35°	2279.5	2336.3	2402.0	1869.0	1539.8	1311.9	1229.3	1352.9	1639.8	2118.8	2600.4
37.5°	2742.4	2828.3	2698.5	2099.3	1649.9	1497.2	1345.1	1444.0	1761.0	2284.2	2950.1
40°	3024.9	3097.3	2971.9	2216.9	1840.5	1590.7	1551.8	1602.4	1879.7	2369.6	3213.6
42.5°	3303.2	3398.7	3189.2	2394.0	2021.4	1854.5	1748.0	1788.8	2051.3	2575.7	3510.1
45°	3504.7	3563.8	3236.2	2486.7	2270.1	2155.1	2084.3	2023.5	2290.7	2708.1	3701.4
47.5°	3605.9	3653.2	3328.9	2516.0	2418.1	2473.2	2628.4	2501.5	2502.5	2803.9	3804.5
50°	3746.1	3779.1	3380.8	2551.1	2578.8	2968.8	3047.2	2776.9	2744.5	2900.0	3821.4
52.5°	3943.2	3959.3	3481.5	2643.5	2819.5	3356.9	3385.2	3275.9	2986.7	3078.6	3858.8
55°	4205.1	4176.8	3661.5	2837.7	3070.6	3641.2	3679.1	3583.8	3291.2	3257.0	3974.6
57.5°	4487.6	4455.1	3928.1	3111.3	3342.9	3858.5	3881.1	3888.6	3493.5	3414.8	4171.4
60°	4690.1	4696.1	4263.8	3425.2	3512.2	4066.5	4021.3	3952.8	3697.6	3646.1	4267.2
62.5°	4761.0	4818.3	4525.2	3754.1	3658.1	4079.5	4009.4	3951.5	3788.9	3884.7	4157.3
65°	4703.1	4803.3	4586.0	4043.1	3746.4	3916.7	3843.7	3806.6	3786.1	3982.1	3914.3
67.5°	4473.0	4598.4	4412.0	4045.7	3425.5	3334.9	3421.1	3538.7	3470.6	3901.4	3574.0
70°	3957.7	4095.0	4008.3	3808.4	2853.5	2623.8	2718.8	2896.6	2848.6	3469.9	3073.2
72.5°	2969.3	3145.9	3163.0	3287.9	2265.2	1974.7	1988.5	1983.5	2066.3	2798.0	2398.1
75°	1907.5	2044.8	2230.4	2653.1	1720.8	1441.7	1309.8	1277.6	1432.1	2186.3	1716.9
77.5°	1107.3	1123.6	1209.3	2001.7	1232.4	1038.8	948.9	994.9	1048.9	1525.8	1137.9
80°	529.6	537.9	573.2	1029.9	856.2	899.1	829.8	881.4	720.2	877.0	645.7
82.5°	168.0	169.8	175.8	506.0	531.7	595.6	381.6	511.7	445.3	530.2	429.9
85°	28.0	47.8	58.9	146.2	300.1	200.9	82.8	182.5	248.5	334.4	195.2
87.5°	0.0	0.0	0.0	2.6	24.4	11.4	1.8	10.4	38.2	74.5	8.8
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°	548.8	548.8	548.8	548.8	548.8	548.8	548.8	548.8	548.8	548.8	548.8
2.5°	727.7	745.6	678.1	617.6	633.0	620.8	602.3	570.9	498.2	551.7	548.1
5°	936.5	903.2	811.8	769.3	717.3	638.2	628.5	567.8	541.1	545.5	541.6
7.5°	1009.2	949.7	869.0	740.7	618.9	504.7	469.7	429.9	421.9	439.0	450.2
10°	952.0	888.9	818.3	658.9	565.2	482.6	396.2	340.6	310.5	306.9	310.0
12.5°	978.3	910.2	764.8	642.8	544.9	470.2	373.6	289.7	224.3	229.2	216.3
15°	996.4	918.3	752.1	609.1	503.1	403.2	286.9	203.0	149.5	134.0	124.6
17.5°	1103.1	991.5	736.0	570.1	444.7	313.9	180.2	117.6	100.2	94.8	90.3
20°	1240.2	1081.6	735.8	529.1	358.5	196.3	112.4	85.2	81.0	84.1	80.7
22.5°	1399.6	1201.5	775.0	478.0	257.3	123.8	87.5	75.6	71.4	74.0	74.3
25°	1560.1	1381.5	806.9	429.4	179.1	95.0	77.9	69.6	64.9	67.2	65.9
27.5°	1849.8	1530.5	799.6	367.4	131.9	83.6	72.4	65.2	58.2	61.8	61.5
30°	2039.3	1793.5	827.9	280.4	104.6	73.2	67.5	59.5	51.9	56.1	55.8
32.5°	2266.0	1906.4	858.6	215.2	87.0	69.3	60.8	53.0	48.5	51.1	50.6
35°	2520.7	2129.7	802.2	179.1	75.6	62.6	53.7	47.8	43.9	45.2	45.2
37.5°	2970.6	2316.4	768.5	145.9	70.4	56.6	50.4	43.1	40.8	40.8	42.1
40°	3226.1	2601.4	667.8	115.5	71.9	52.2	47.0	39.5	36.3	36.1	37.4
42.5°	3558.4	2765.8	604.7	93.5	65.2	50.9	43.1	35.8	32.2	31.9	33.2
45°	3755.4	2857.7	515.9	73.5	58.4	59.2	40.0	33.0	27.5	26.5	28.8
47.5°	3879.8	2979.4	465.5	58.4	50.9	58.9	38.9	28.6	23.1	21.8	23.9
50°	3942.9	3039.7	455.6	50.1	44.1	52.7	44.7	23.9	19.7	17.9	19.7
52.5°	4008.6	3137.5	459.3	46.2	38.9	42.3	42.3	20.5	17.4	15.3	16.6
55°	4141.2	3282.2	451.2	43.9	35.8	32.2	27.3	18.2	15.8	13.5	14.8
57.5°	4304.3	3386.0	451.2	41.8	33.2	27.5	21.8	16.9	14.5	11.7	12.7
60°	4273.4	3276.7	428.9	39.7	31.2	25.7	19.7	15.6	13.5	10.6	11.4
62.5°	4061.3	2979.4	347.4	36.6	29.3	24.4	17.9	14.8	12.7	9.3	10.1
65°	3812.0	2663.7	241.4	33.2	27.3	22.1	16.1	14.0	11.7	8.3	8.8
67.5°	3511.9	2287.5	134.0	29.9	25.2	19.2	14.8	13.8	11.2	7.5	8.0
70°	2991.1	1727.0	71.9	27.3	23.6	17.7	14.0	13.8	11.2	7.3	7.5
72.5°	2245.5	1087.6	42.1	24.9	21.5	16.4	13.2	14.0	10.9	7.0	7.0
75°	1527.9	660.2	30.1	21.3	19.2	13.8	12.7	13.5	11.2	7.0	6.5
77.5°	1038.8	463.9	24.7	19.2	17.4	12.2	13.0	13.5	11.2	5.7	4.4
80°	648.5	239.4	18.7	15.3	15.1	10.6	13.0	11.7	7.3	1.3	0.0
82.5°	453.6	89.1	10.9	11.7	11.7	7.5	10.1	8.3	4.2	0.0	0.0
85°	190.3	15.3	6.0	8.3	7.3	4.4	8.0	6.2	2.6	0.0	0.0
87.5°	3.4	0.0	2.3	4.9	5.2	2.6	4.2	2.6	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°	548.8	548.8	548.8	548.8	548.8	548.8	548.8	548.8	548.8	548.8	548.8
2.5°	565.2	540.5	488.6	513.5	510.9	522.4	523.4	496.9	554.0	589.3	594.5
5°	542.1	525.5	522.6	508.3	504.7	525.7	514.3	513.5	541.1	581.3	581.6
7.5°	450.4	437.7	443.7	427.1	384.2	386.8	390.7	407.1	430.7	457.2	466.8
10°	309.2	342.2	318.0	316.0	311.5	297.8	286.9	295.5	326.1	350.5	359.6
12.5°	220.7	225.9	240.7	235.2	242.7	231.1	226.7	253.4	283.2	308.2	326.1
15°	129.0	137.9	146.7	165.4	172.9	170.6	184.1	206.4	230.5	242.0	264.0
17.5°	90.9	91.6	93.5	113.7	127.0	132.1	140.2	157.1	166.9	172.1	181.2
20°	79.4	77.1	74.0	85.4	97.9	104.4	102.0	115.3	123.3	128.5	135.0
22.5°	71.9	68.0	66.2	70.1	79.7	85.4	86.5	94.2	106.4	110.1	112.2
25°	64.9	62.3	61.0	63.1	68.3	73.7	74.8	84.9	95.8	97.4	101.5
27.5°	60.2	55.3	55.8	57.4	59.7	66.5	68.5	74.3	90.1	91.9	93.2
30°	55.3	50.1	51.7	53.2	52.2	60.5	63.6	70.1	85.4	88.3	89.8
32.5°	50.4	46.5	46.2	47.8	49.6	54.0	60.8	68.3	82.3	86.2	90.1
35°	44.9	41.8	42.3	42.6	44.9	50.6	55.6	59.5	69.1	71.1	72.4
37.5°	41.0	38.4	37.9	40.5	42.8	47.3	49.1	50.9	63.6	68.3	68.5
40°	36.3	34.8	34.8	36.6	41.8	41.3	43.6	49.3	61.5	66.5	67.0
42.5°	33.0	30.9	31.4	33.2	36.9	34.3	38.9	47.3	60.8	65.7	65.4
45°	27.8	27.3	28.3	29.9	31.4	29.1	36.3	45.2	58.2	64.6	62.8
47.5°	23.1	23.1	24.4	26.0	25.2	26.0	33.0	42.3	56.6	62.6	61.3
50°	19.0	19.2	20.5	23.1	20.8	22.8	29.6	39.5	54.0	60.5	59.5
52.5°	16.1	16.4	17.1	19.0	17.9	20.8	27.3	36.6	51.4	56.9	56.3
55°	14.0	14.5	14.5	15.6	16.1	19.5	24.7	33.8	47.5	53.5	52.4
57.5°	12.5	13.0	12.7	13.5	14.0	17.1	22.1	30.6	43.6	48.5	47.0
60°	11.2	11.7	11.4	12.5	12.2	14.8	19.2	27.3	39.5	43.4	42.1
62.5°	9.9	10.4	10.4	10.9	11.2	12.5	16.6	24.1	35.3	38.4	37.4
65°	8.8	9.3	9.6	9.3	9.9	10.6	14.0	21.8	30.6	33.8	32.2
67.5°	8.0	8.6	9.1	8.0	8.6	8.8	11.9	19.5	27.0	29.6	28.3
70°	7.8	8.0	8.0	7.0	6.8	7.0	10.4	16.6	23.6	26.2	24.4
72.5°	7.3	7.5	7.3	5.7	4.9	5.5	8.8	14.0	20.0	22.1	20.5
75°	6.8	7.0	6.8	4.7	3.1	3.9	7.3	12.2	17.1	18.2	17.4
77.5°	5.7	6.2	6.2	3.4	1.0	2.3	5.5	9.9	14.3	14.3	14.5
80°	0.5	1.6	2.6	1.8	0.0	0.3	1.8	5.2	9.1	8.8	9.6
82.5°	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	3.1	2.3	2.6
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°	548.8	548.8	548.8	548.8	548.8	548.8	548.8	548.8	548.8	548.8
2.5°	582.3	574.3	584.4	615.3	602.8	605.2	596.9	648.0	705.9	707.7
5°	582.1	574.8	589.9	588.6	624.1	662.8	700.2	760.7	846.4	846.9
7.5°	462.4	505.5	516.6	513.3	559.0	612.2	669.8	785.6	856.0	863.5
10°	417.0	435.6	458.5	466.8	485.8	536.4	601.5	732.7	811.6	829.0
12.5°	361.4	421.1	451.5	510.4	521.3	528.6	631.4	745.4	793.4	791.3
15°	299.3	351.3	399.3	471.2	500.8	577.1	658.1	807.4	836.0	863.5
17.5°	211.9	251.1	324.8	400.3	490.7	573.8	731.9	918.3	972.3	1005.0
20°	141.8	160.7	227.4	327.4	441.9	524.4	762.0	1018.5	1077.4	1105.7
22.5°	115.0	124.1	158.6	239.9	377.5	522.1	774.2	1127.8	1286.2	1323.8
25°	101.3	107.5	125.9	177.6	313.4	511.7	841.7	1250.9	1441.9	1472.3
27.5°	88.5	97.9	111.6	146.4	268.7	504.4	876.0	1457.5	1685.5	1715.3
30°	84.6	96.1	109.3	133.4	237.6	476.4	930.5	1643.9	1860.2	1913.4
32.5°	91.4	95.3	101.8	122.3	213.4	446.8	1026.3	1866.7	2004.8	2074.1
35°	72.4	79.4	90.9	112.2	203.3	445.3	1080.6	2010.0	2236.7	2279.5
37.5°	70.9	77.4	92.2	109.3	215.5	457.2	1161.0	2303.6	2654.6	2742.4
40°	68.8	77.1	91.1	108.0	215.5	468.9	1212.4	2538.6	2935.8	3024.9
42.5°	68.0	78.7	90.9	113.5	208.7	475.4	1290.1	2773.0	3232.8	3303.2
45°	67.5	80.2	91.6	119.9	207.2	496.7	1333.9	2887.0	3423.9	3504.7
47.5°	66.2	80.2	102.3	116.1	198.6	494.6	1390.8	3056.0	3537.9	3605.9
50°	65.2	80.7	115.8	108.8	199.9	481.9	1467.9	3214.7	3697.6	3746.1
52.5°	62.8	82.6	113.7	98.7	196.0	480.6	1582.9	3440.3	3907.6	3943.2
55°	57.6	80.2	102.8	86.2	182.3	465.8	1735.3	3733.6	4198.9	4205.1
57.5°	53.0	74.5	85.9	79.2	152.7	467.6	1866.7	4003.6	4458.5	4487.6
60°	48.3	77.4	66.7	73.7	126.4	434.3	1930.3	4107.0	4647.5	4690.1
62.5°	43.9	71.4	56.9	67.8	112.7	403.5	1886.2	4023.9	4671.7	4761.0
65°	38.9	49.6	48.0	60.8	114.0	360.1	1738.7	3780.6	4580.0	4703.1
67.5°	33.5	38.9	42.3	52.4	122.0	323.0	1485.8	3390.2	4333.6	4473.0
70°	29.3	35.0	36.9	46.0	127.0	298.6	1172.5	2848.3	3828.9	3957.7
72.5°	24.4	32.5	33.0	40.2	122.3	274.4	835.5	2044.8	2907.5	2969.3
75°	21.0	27.0	29.9	33.8	102.8	204.8	460.3	1265.7	1838.4	1907.5
77.5°	19.0	20.5	22.6	23.4	43.6	106.7	158.4	780.4	1029.4	1107.3
80°	14.5	16.1	15.6	16.1	23.9	36.9	60.2	365.8	486.3	529.6
82.5°	4.7	7.8	8.6	7.3	15.6	18.2	17.4	126.4	158.1	168.0
85°	1.0	2.9	1.3	0.0	5.2	9.3	1.3	19.2	37.9	28.0
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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