

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: P367841

Luminaire Tested: **MSA-SA3B-740-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367841
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-740-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: 10723 lumens
Efficiency: N/A
Efficacy: 85.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

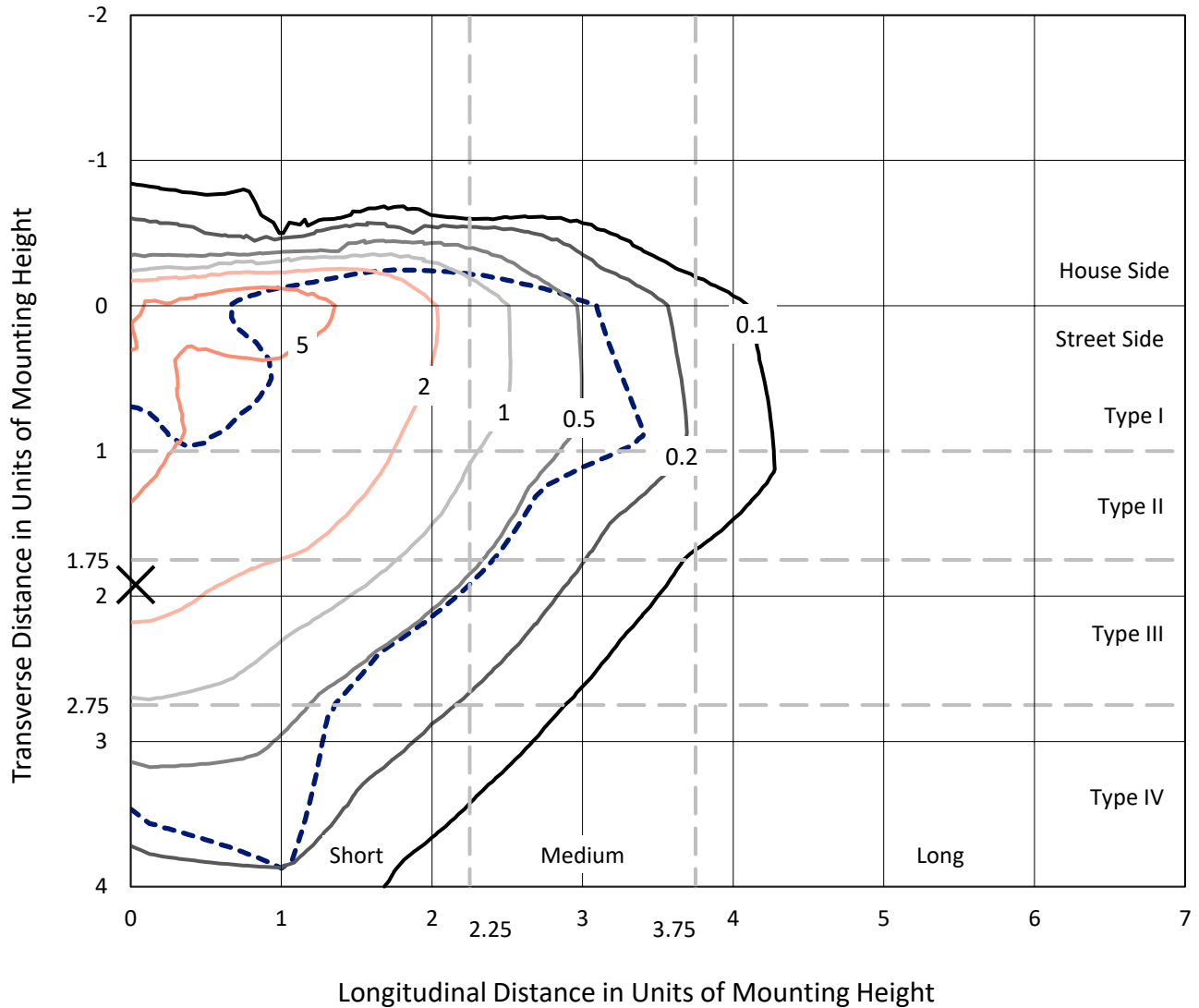
Input Watts (W): 126
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

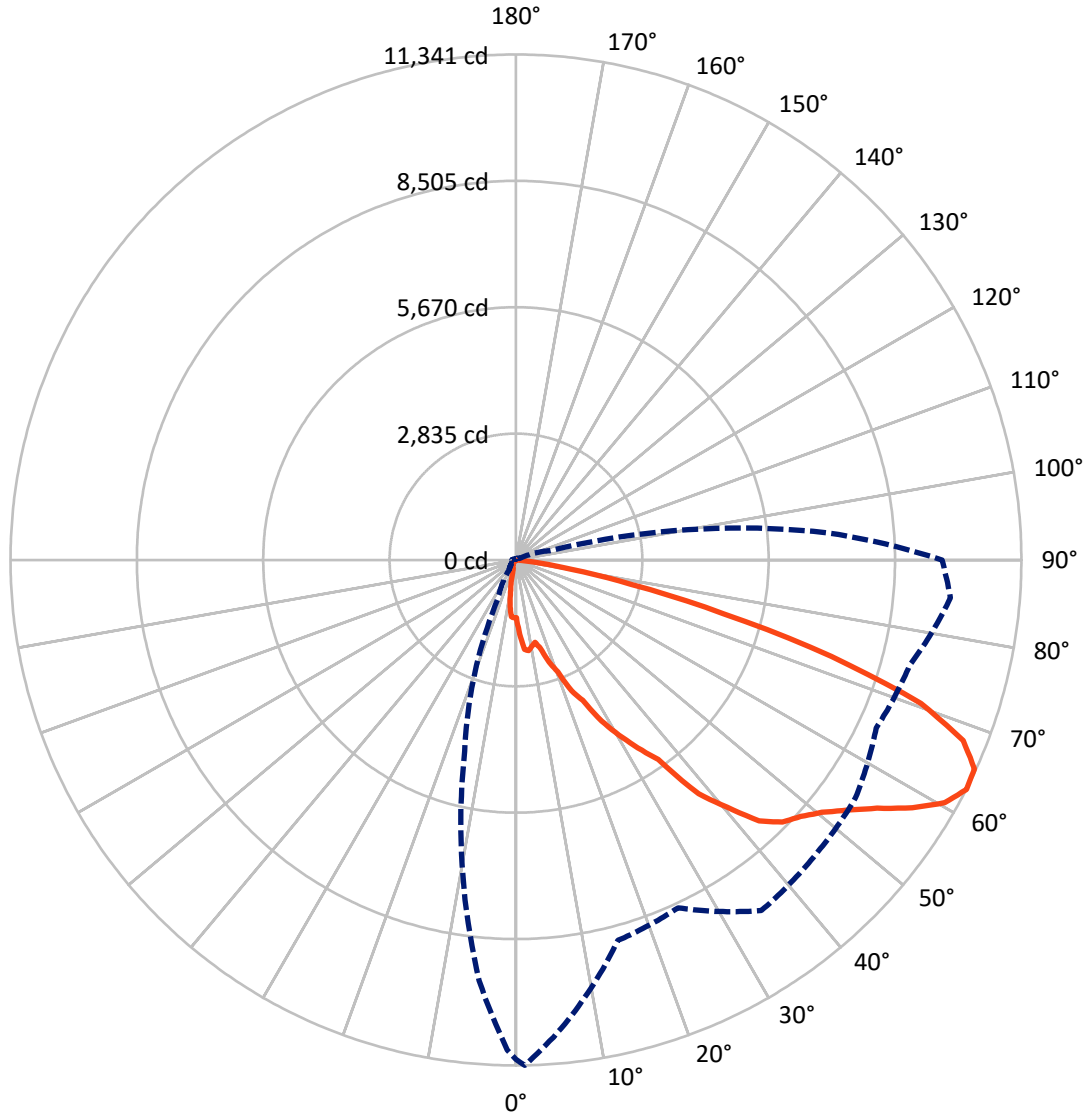
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.6 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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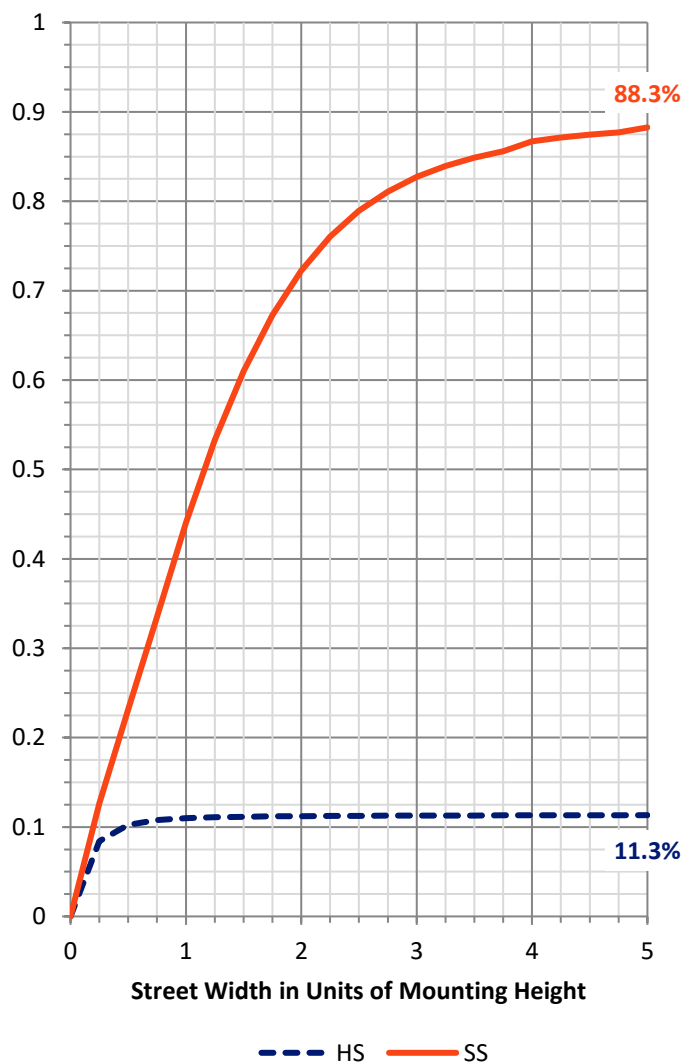
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1226.2	0.0	1226.2
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	9496.8	0.0	9496.8
	% Fixture	88.6	0.0	88.6
Total	Lumens	10723.0	0.0	10723.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.3	1.3
10°-20°	377.0	3.5
20°-30°	609.4	5.7
30°-40°	1020.8	9.5
40°-50°	1669.1	15.6
50°-60°	2470.7	23.0
60°-70°	2836.5	26.5
70°-80°	1402.7	13.1
80°-90°	192.6	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°	10723.0	100.0
0°-180°	10723.0	100.0

Coefficient of Utilization



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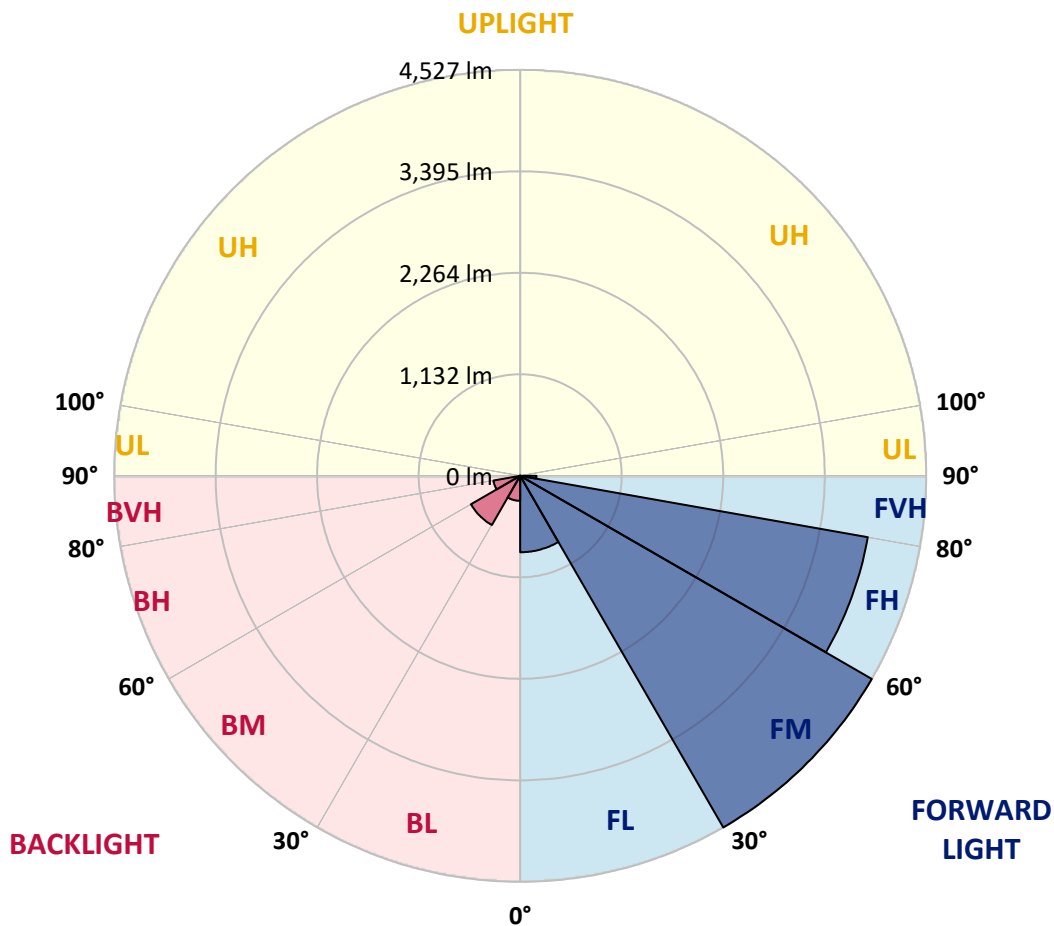
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	851.7	7.9			
FM (30°-60°)	4527.2	42.2			
FH (60°-80°)	3936.0	36.7			G2/5000
FVH (80°-90°)	181.9	1.7			G2/225
BL (0°-30°)	279.0	2.6	B1/500		
BM (30°-60°)	633.4	5.9	B1/1000		
BH (60°-80°)	303.2	2.8	B1/500		G1/500
BVH (80°-90°)	10.7	0.1			G1/100
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°	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8
2.5°	1665.7	1673.7	1636.4	1631.5	1544.7	1652.9	1655.9	1668.8	1589.3	1435.4	1650.4
5°	1993.2	2015.2	1986.5	2114.2	2150.9	2229.7	2084.9	2214.4	2159.4	2174.7	2205.9
7.5°	2032.3	2055.0	2115.5	2329.3	2526.7	2477.2	2461.3	2510.2	2505.9	2392.9	2449.1
10°	1951.1	1970.0	2070.8	2460.1	2546.2	2768.7	2823.0	2710.6	2664.8	2417.3	2309.2
12.5°	1862.5	1894.3	2022.6	2489.4	2747.9	2972.8	3151.8	2991.7	2839.5	2576.2	2477.2
15°	2032.3	2050.1	2251.7	2550.5	2776.6	2931.8	3078.5	3025.3	3002.1	2812.7	2477.2
17.5°	2365.4	2406.9	2553.0	2700.2	2878.7	2972.1	2937.3	2920.8	2861.5	3159.1	2812.0
20°	2602.5	2680.1	2871.3	2934.9	2793.1	2880.5	2859.1	2844.4	2798.0	3351.6	3197.0
22.5°	3115.7	3187.2	3190.9	3213.5	2883.5	2744.2	2708.8	2713.1	2923.9	3409.0	3676.1
25°	3465.3	3489.7	3682.8	3521.5	3130.4	2785.8	2650.7	2711.2	3014.9	3822.1	4126.4
27.5°	4037.2	4095.2	4215.6	3669.3	3278.3	2759.5	2544.4	2764.4	3254.4	3959.0	4626.9
30°	4503.4	4559.0	4752.7	3871.6	3406.6	2889.6	2590.2	2871.3	3403.5	4240.7	5076.6
32.5°	4881.7	5025.3	5245.2	4183.9	3401.7	3039.4	2824.3	2835.9	3586.9	4605.5	5521.4
35°	5365.0	5498.8	5653.4	4398.9	3624.1	3087.6	2893.3	3184.2	3859.4	4986.8	6120.3
37.5°	6454.5	6656.8	6351.2	4940.9	3883.2	3523.9	3165.8	3398.7	4144.7	5376.0	6943.3
40°	7119.3	7289.8	6994.7	5217.7	4331.7	3743.9	3652.2	3771.4	4424.0	5577.0	7563.6
42.5°	7774.4	7999.2	7506.1	5634.5	4757.6	4364.7	4114.2	4210.1	4827.9	6062.2	8261.4
45°	8248.5	8387.9	7616.7	5852.6	5343.0	5072.3	4905.5	4762.5	5391.3	6373.9	8711.7
47.5°	8486.9	8598.1	7834.9	5921.7	5691.3	5820.9	6186.3	5887.5	5889.9	6599.3	8954.3
50°	8816.8	8894.4	7957.1	6004.2	6069.5	6987.3	7171.9	6535.8	6459.4	6825.4	8994.0
52.5°	9280.6	9318.5	8194.2	6221.7	6636.0	7900.9	7967.5	7710.2	7029.5	7245.8	9082.0
55°	9897.2	9830.6	8617.6	6678.8	7226.9	8570.0	8659.2	8434.9	7746.3	7665.6	9354.5
57.5°	10562.0	10485.6	9245.2	7322.8	7867.9	9081.4	9134.6	9152.3	8222.3	8037.1	9817.7
60°	11038.6	11052.7	10035.3	8061.6	8266.3	9570.9	9464.5	9303.2	8702.6	8581.6	10043.2
62.5°	11205.4	11340.5	10650.6	8835.8	8609.7	9601.4	9436.4	9300.2	8917.6	9143.1	9784.7
65°	11069.1	11305.0	10793.6	9515.9	8817.4	9218.3	9046.6	8959.2	8910.9	9372.3	9212.8
67.5°	10527.8	10822.9	10384.2	9522.0	8062.2	7848.9	8051.8	8328.6	8168.5	9182.2	8411.7
70°	9314.8	9638.1	9434.0	8963.5	6716.0	6175.3	6398.9	6817.5	6704.4	8166.7	7233.0
72.5°	6988.6	7404.1	7444.4	7738.3	5331.4	4647.6	4680.0	4668.4	4863.3	6585.3	5644.3
75°	4489.4	4812.6	5249.5	6244.3	4050.0	3393.2	3082.7	3007.0	3370.5	5145.6	4040.9
77.5°	2606.1	2644.6	2846.3	4711.2	2900.6	2444.8	2233.4	2341.5	2468.6	3591.1	2678.2
80°	1246.5	1266.1	1349.2	2424.0	2015.2	2116.1	1952.9	2074.5	1695.0	2064.1	1519.7
82.5°	395.3	399.6	413.7	1190.9	1251.4	1401.7	898.2	1204.4	1047.9	1247.8	1011.9
85°	66.0	112.4	138.7	344.0	706.4	473.0	194.9	429.6	584.8	787.0	459.5
87.5°	0.0	0.0	0.0	6.1	57.4	26.9	4.3	24.4	89.8	175.4	20.8
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°	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8
2.5°	1712.8	1754.9	1596.1	1453.7	1489.7	1461.0	1417.6	1343.7	1172.6	1298.5	1289.9
5°	2204.1	2125.8	1910.7	1810.5	1688.3	1502.0	1479.3	1336.4	1273.4	1283.8	1274.6
7.5°	2375.1	2235.2	2045.2	1743.3	1456.7	1187.9	1105.4	1011.9	993.0	1033.3	1059.6
10°	2240.7	2092.2	1926.0	1550.8	1330.3	1135.9	932.5	801.7	730.8	722.3	729.6
12.5°	2302.4	2142.3	1800.1	1513.0	1282.6	1106.6	879.3	681.9	527.9	539.6	509.0
15°	2345.2	2161.3	1770.2	1433.5	1184.2	949.0	675.2	477.8	352.0	315.3	293.3
17.5°	2596.3	2333.6	1732.3	1341.9	1046.7	738.8	424.1	276.8	235.9	223.0	212.6
20°	2919.0	2545.6	1731.7	1245.3	843.9	462.0	264.6	200.4	190.6	198.0	190.0
22.5°	3294.2	2827.9	1824.0	1124.9	605.5	291.5	205.9	177.8	168.0	174.1	174.8
25°	3671.8	3251.4	1899.1	1010.7	421.6	223.6	183.3	163.8	152.8	158.3	155.2
27.5°	4353.7	3602.1	1882.0	864.6	310.4	196.8	170.5	153.4	136.9	145.4	144.8
30°	4799.8	4221.1	1948.6	659.9	246.3	172.3	158.9	139.9	122.2	132.0	131.4
32.5°	5333.2	4486.9	2020.7	506.6	204.7	163.2	143.0	124.7	114.3	120.4	119.2
35°	5932.7	5012.4	1888.1	421.6	177.8	147.3	126.5	112.4	103.3	106.3	106.3
37.5°	6991.6	5451.8	1808.7	343.4	165.6	133.2	118.5	101.4	95.9	95.9	99.0
40°	7592.9	6122.7	1571.6	271.9	169.3	122.8	110.6	92.9	85.5	84.9	88.0
42.5°	8375.0	6509.5	1423.1	220.0	153.4	119.8	101.4	84.3	75.8	75.2	78.2
45°	8838.8	6725.8	1214.2	172.9	137.5	139.3	94.1	77.6	64.8	62.3	67.8
47.5°	9131.5	7012.4	1095.6	137.5	119.8	138.7	91.7	67.2	54.4	51.3	56.2
50°	9280.0	7154.2	1072.4	117.9	103.9	124.0	105.1	56.2	46.4	42.2	46.4
52.5°	9434.6	7384.5	1080.9	108.8	91.7	99.6	99.6	48.3	40.9	36.1	39.1
55°	9746.8	7724.9	1062.0	103.3	84.3	75.8	64.2	42.8	37.3	31.8	34.8
57.5°	10130.6	7969.3	1062.0	98.4	78.2	64.8	51.3	39.7	34.2	27.5	29.9
60°	10057.9	7712.0	1009.5	93.5	73.3	60.5	46.4	36.7	31.8	25.1	26.9
62.5°	9558.6	7012.4	817.6	86.2	69.0	57.4	42.2	34.8	29.9	22.0	23.8
65°	8972.0	6269.4	568.3	78.2	64.2	51.9	37.9	33.0	27.5	19.6	20.8
67.5°	8265.7	5384.0	315.3	70.3	59.3	45.2	34.8	32.4	26.3	17.7	18.9
70°	7039.9	4064.7	169.3	64.2	55.6	41.6	33.0	32.4	26.3	17.1	17.7
72.5°	5285.0	2559.7	99.0	58.7	50.7	38.5	31.2	33.0	25.7	16.5	16.5
75°	3596.0	1553.9	70.9	50.1	45.2	32.4	29.9	31.8	26.3	16.5	15.3
77.5°	2444.8	1091.9	58.0	45.2	40.9	28.7	30.6	31.8	26.3	13.4	10.4
80°	1526.4	563.4	44.0	36.1	35.4	25.1	30.6	27.5	17.1	3.1	0.0
82.5°	1067.5	209.6	25.7	27.5	27.5	17.7	23.8	19.6	9.8	0.0	0.0
85°	447.9	36.1	14.1	19.6	17.1	10.4	18.9	14.7	6.1	0.0	0.0
87.5°	7.9	0.0	5.5	11.6	12.2	6.1	9.8	6.1	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°	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8
2.5°	1330.3	1272.2	1150.0	1208.7	1202.5	1229.4	1231.9	1169.5	1304.0	1387.1	1399.3
5°	1275.9	1236.8	1230.0	1196.4	1187.9	1237.4	1210.5	1208.7	1273.4	1368.1	1368.7
7.5°	1060.2	1030.2	1044.3	1005.2	904.4	910.5	919.6	958.1	1013.7	1076.1	1098.7
10°	727.8	805.4	748.5	743.6	733.3	700.9	675.2	695.4	767.5	824.9	846.3
12.5°	519.4	531.6	566.4	553.6	571.3	543.8	533.4	596.4	666.7	725.3	767.5
15°	303.7	324.5	345.2	389.2	407.0	401.5	433.2	485.8	542.6	569.5	621.4
17.5°	213.9	215.7	220.0	267.6	298.8	311.0	330.0	369.7	392.9	405.1	426.5
20°	187.0	181.5	174.1	201.0	230.4	245.6	240.1	271.3	290.2	302.5	317.7
22.5°	169.3	160.1	155.8	165.0	187.6	201.0	203.5	221.8	250.5	259.1	264.0
25°	152.8	146.7	143.6	148.5	160.7	173.5	176.0	199.8	225.5	229.1	238.9
27.5°	141.8	130.2	131.4	135.0	140.5	156.4	161.3	174.8	212.0	216.3	219.4
30°	130.2	117.9	121.6	125.3	122.8	142.4	149.7	165.0	201.0	207.8	211.4
32.5°	118.5	109.4	108.8	112.4	116.7	127.1	143.0	160.7	193.7	202.9	212.0
35°	105.7	98.4	99.6	100.2	105.7	119.2	130.8	139.9	162.5	167.4	170.5
37.5°	96.5	90.4	89.2	95.3	100.8	111.2	115.5	119.8	149.7	160.7	161.3
40°	85.5	81.9	81.9	86.2	98.4	97.2	102.7	116.1	144.8	156.4	157.7
42.5°	77.6	72.7	73.9	78.2	86.8	80.7	91.7	111.2	143.0	154.6	154.0
45°	65.4	64.2	66.6	70.3	73.9	68.4	85.5	106.3	136.9	152.2	147.9
47.5°	54.4	54.4	57.4	61.1	59.3	61.1	77.6	99.6	133.2	147.3	144.2
50°	44.6	45.2	48.3	54.4	48.9	53.8	69.7	92.9	127.1	142.4	139.9
52.5°	37.9	38.5	40.3	44.6	42.2	48.9	64.2	86.2	121.0	133.8	132.6
55°	33.0	34.2	34.2	36.7	37.9	45.8	58.0	79.4	111.8	125.9	123.4
57.5°	29.3	30.6	29.9	31.8	33.0	40.3	51.9	72.1	102.7	114.3	110.6
60°	26.3	27.5	26.9	29.3	28.7	34.8	45.2	64.2	92.9	102.0	99.0
62.5°	23.2	24.4	24.4	25.7	26.3	29.3	39.1	56.8	83.1	90.4	88.0
65°	20.8	22.0	22.6	22.0	23.2	25.1	33.0	51.3	72.1	79.4	75.8
67.5°	18.9	20.2	21.4	18.9	20.2	20.8	28.1	45.8	63.5	69.7	66.6
70°	18.3	18.9	18.9	16.5	15.9	16.5	24.4	39.1	55.6	61.7	57.4
72.5°	17.1	17.7	17.1	13.4	11.6	12.8	20.8	33.0	47.1	51.9	48.3
75°	15.9	16.5	15.9	11.0	7.3	9.2	17.1	28.7	40.3	42.8	40.9
77.5°	13.4	14.7	14.7	7.9	2.4	5.5	12.8	23.2	33.6	33.6	34.2
80°	1.2	3.7	6.1	4.3	0.0	0.6	4.3	12.2	21.4	20.8	22.6
82.5°	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	7.3	5.5	6.1
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°	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8	1291.8
2.5°	1370.6	1351.6	1375.5	1448.2	1418.9	1424.4	1404.8	1525.2	1661.4	1665.7
5°	1370.0	1352.9	1388.3	1385.2	1469.0	1560.0	1648.0	1790.4	1992.0	1993.2
7.5°	1088.3	1189.7	1216.0	1208.0	1315.6	1440.9	1576.5	1849.0	2014.6	2032.3
10°	981.3	1025.3	1079.1	1098.7	1143.3	1262.4	1415.8	1724.4	1910.1	1951.1
12.5°	850.6	991.1	1062.6	1201.3	1227.0	1244.1	1486.1	1754.3	1867.4	1862.5
15°	704.5	826.7	939.8	1109.1	1178.7	1358.4	1549.0	1900.4	1967.6	2032.3
17.5°	498.6	590.9	764.4	942.2	1154.9	1350.4	1722.5	2161.3	2288.4	2365.4
20°	333.6	378.2	535.3	770.5	1040.0	1234.3	1793.4	2397.1	2535.9	2602.5
22.5°	270.7	292.1	373.4	564.6	888.5	1228.8	1822.1	2654.4	3027.1	3115.7
25°	238.3	253.0	296.4	418.0	737.5	1204.4	1981.0	2944.0	3393.8	3465.3
27.5°	208.4	230.4	262.8	344.6	632.4	1187.3	2061.7	3430.4	3966.9	4037.2
30°	199.2	226.1	257.3	314.1	559.1	1121.3	2190.0	3869.2	4378.2	4503.4
32.5°	215.1	224.3	239.5	287.8	502.3	1051.6	2415.5	4393.4	4718.5	4881.7
35°	170.5	187.0	213.9	264.0	478.5	1047.9	2543.2	4730.7	5264.2	5365.0
37.5°	166.8	182.1	216.9	257.3	507.2	1076.1	2732.6	5421.8	6248.0	6454.5
40°	161.9	181.5	214.5	254.2	507.2	1103.6	2853.6	5974.8	6909.7	7119.3
42.5°	160.1	185.1	213.9	267.0	491.3	1118.8	3036.3	6526.6	7608.8	7774.4
45°	158.9	188.8	215.7	282.3	487.6	1168.9	3139.6	6794.9	8058.5	8248.5
47.5°	155.8	188.8	240.8	273.1	467.5	1164.0	3273.4	7192.7	8326.8	8486.9
50°	153.4	190.0	272.5	256.0	470.5	1134.1	3454.9	7566.0	8702.6	8816.8
52.5°	147.9	194.3	267.6	232.2	461.3	1131.1	3725.6	8097.0	9196.9	9280.6
55°	135.7	188.8	242.0	202.9	429.0	1096.2	4084.3	8787.5	9882.5	9897.2
57.5°	124.7	175.4	202.3	186.4	359.3	1100.5	4393.4	9423.0	10493.5	10562.0
60°	113.7	182.1	157.0	173.5	297.6	1022.3	4543.1	9666.2	10938.4	11038.6
62.5°	103.3	168.0	133.8	159.5	265.2	949.6	4439.3	9470.6	10995.2	11205.4
65°	91.7	116.7	113.0	143.0	268.3	847.5	4092.2	8898.1	10779.5	11069.1
67.5°	78.8	91.7	99.6	123.4	287.2	760.1	3497.0	7979.1	10199.6	10527.8
70°	69.0	82.5	86.8	108.2	298.8	702.7	2759.5	6703.8	9011.7	9314.8
72.5°	57.4	76.4	77.6	94.7	287.8	645.9	1966.4	4812.6	6843.1	6988.6
75°	49.5	63.5	70.3	79.4	242.0	482.1	1083.4	2978.9	4326.8	4489.4
77.5°	44.6	48.3	53.2	55.0	102.7	251.1	372.7	1836.8	2422.8	2606.1
80°	34.2	37.9	36.7	37.9	56.2	86.8	141.8	861.0	1144.5	1246.5
82.5°	11.0	18.3	20.2	17.1	36.7	42.8	40.9	297.6	372.1	395.3
85°	2.4	6.7	3.1	0.0	12.2	22.0	3.1	45.2	89.2	66.0
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

(END OF REPORT)