

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: P368457

Luminaire Tested: **MSA-SA4C-727-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368457
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-SA4C-727-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 14679 lumens
Efficiency: N/A
Efficacy: 65.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

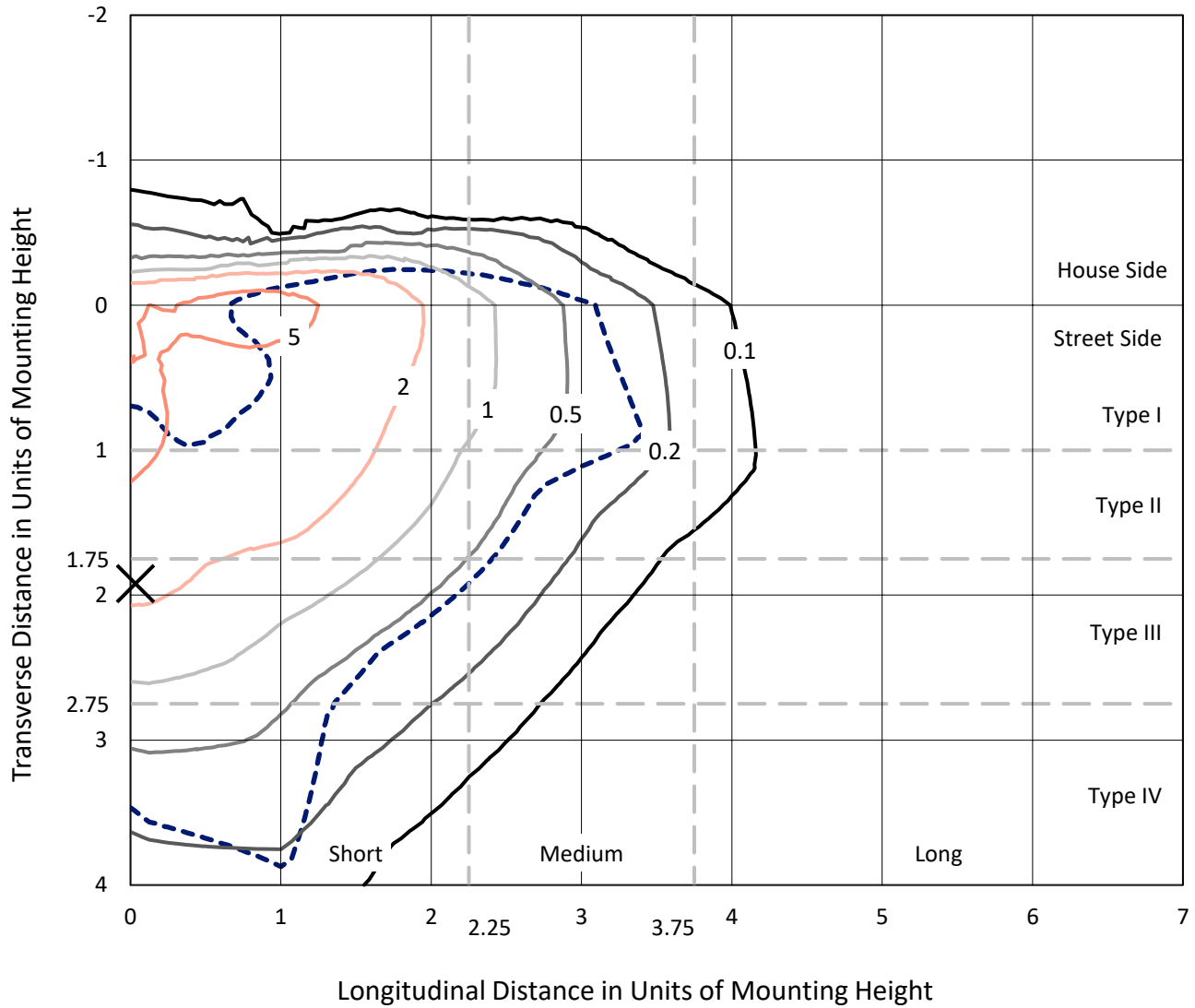
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

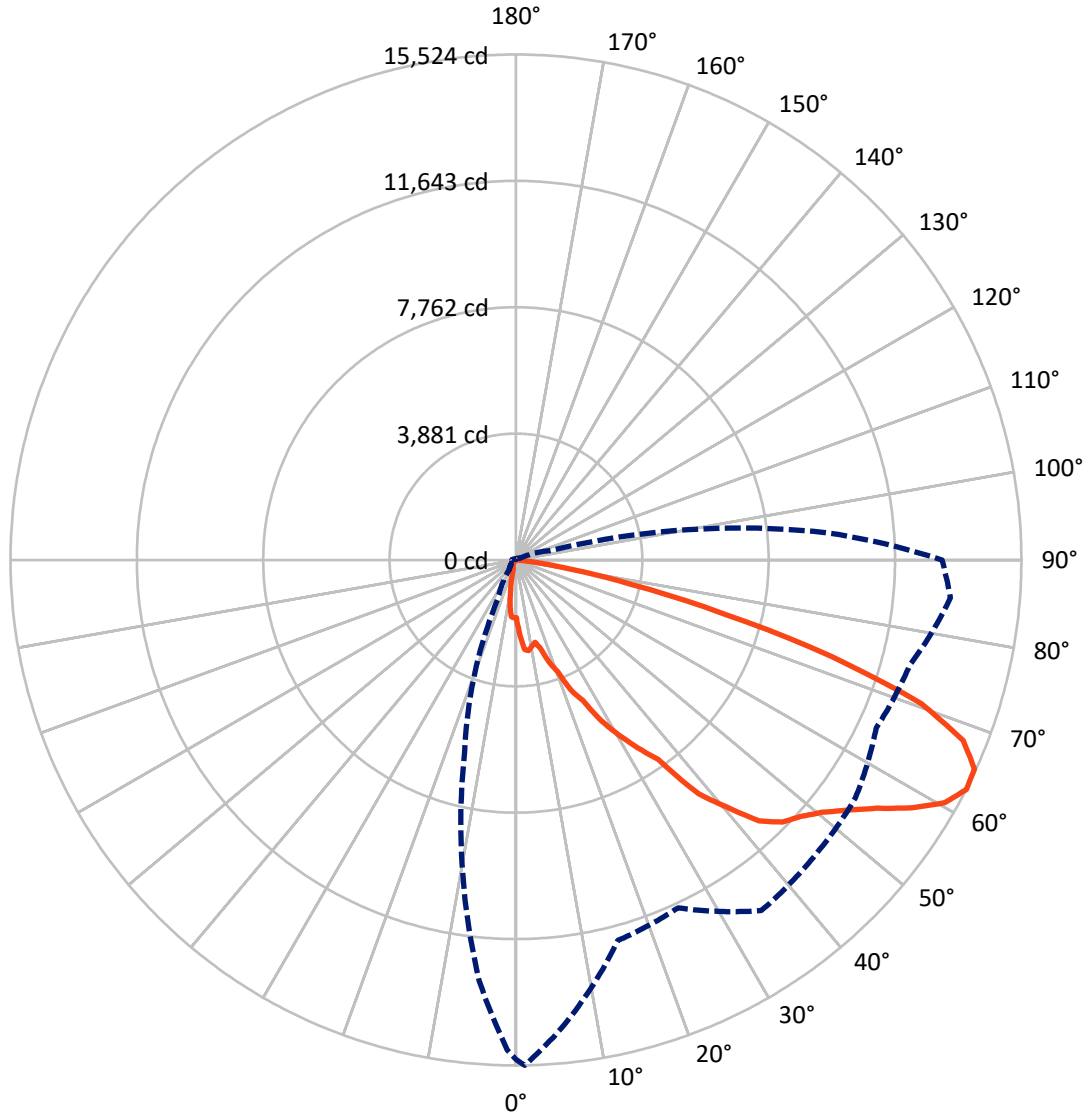
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.5 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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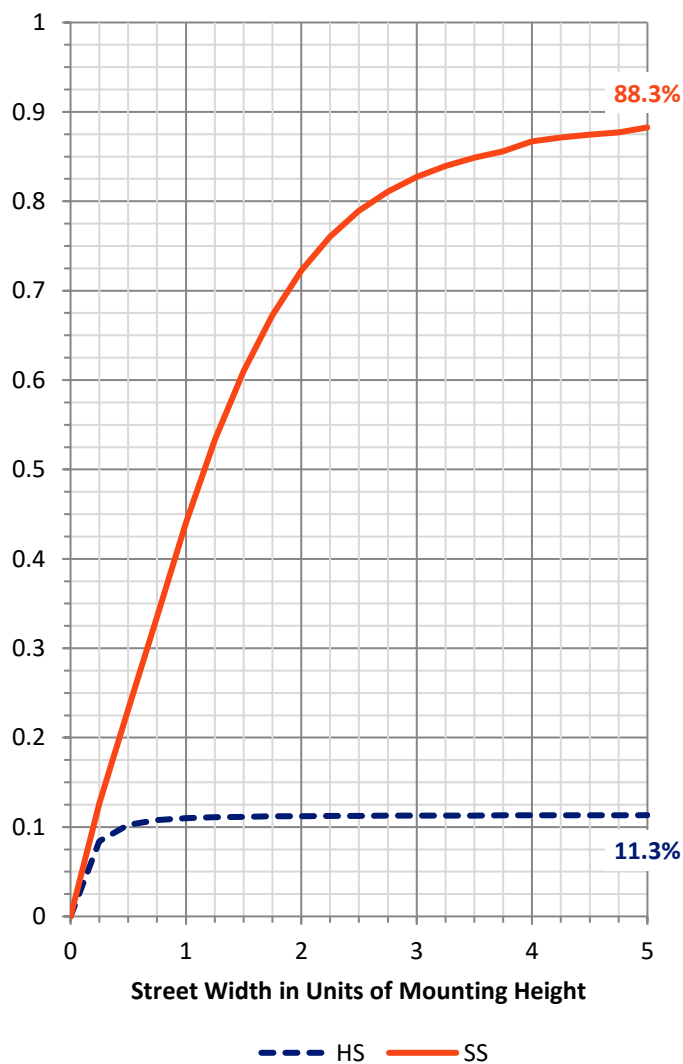
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1678.6	0.0	1678.6
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	13000.4	0.0	13000.4
	% Fixture	88.6	0.0	88.6
Total	Lumens	14679.0	0.0	14679.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.6	1.3
10°-20°	516.1	3.5
20°-30°	834.2	5.7
30°-40°	1397.3	9.5
40°-50°	2284.8	15.6
50°-60°	3382.2	23.0
60°-70°	3883.0	26.5
70°-80°	1920.1	13.1
80°-90°	263.6	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°	14679.0	100.0
0°-180°	14679.0	100.0

Coefficient of Utilization

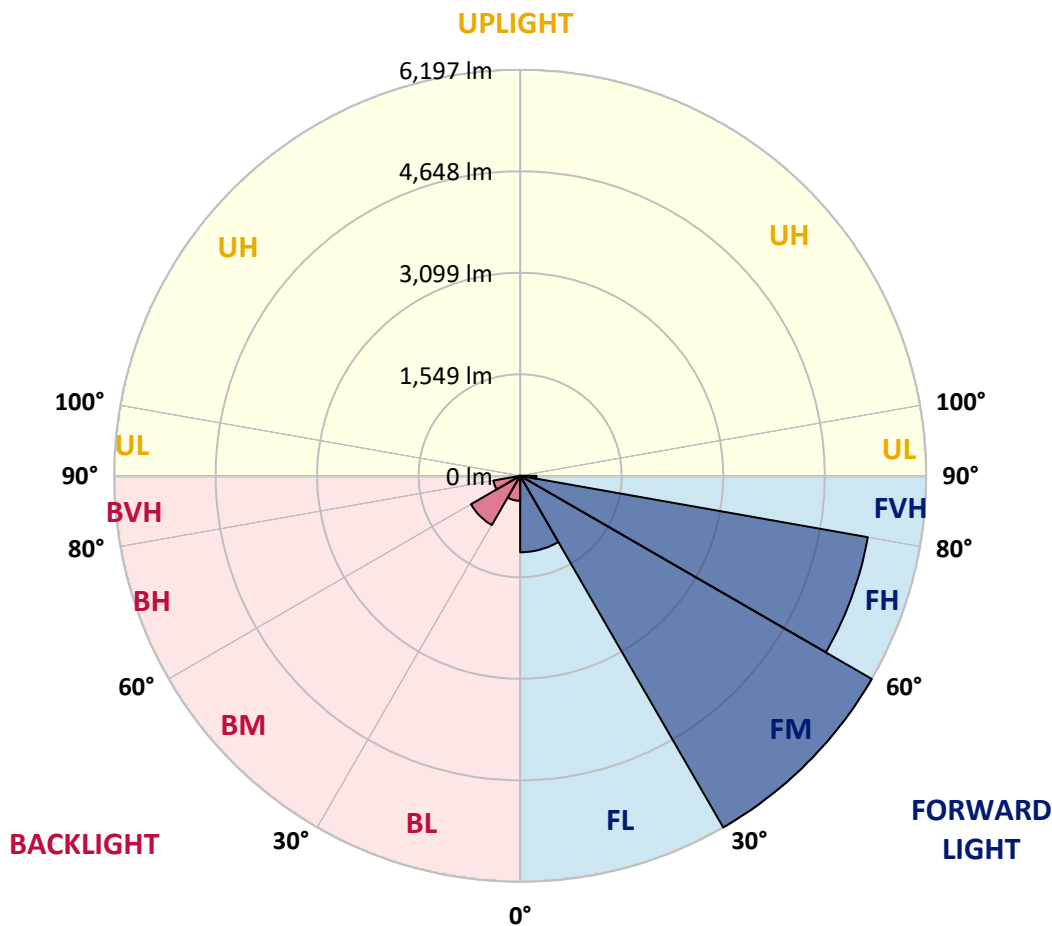


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1165.9	7.9			
FM (30°-60°)	6197.4	42.2			
FH (60°-80°)	5388.1	36.7			G3/7500
FVH (80°-90°)	249.0	1.7			G3/500
BL (0°-30°)	381.9	2.6	B1/500		
BM (30°-60°)	867.0	5.9	B1/1000		
BH (60°-80°)	415.1	2.8	B1/500		G1/500
BVH (80°-90°)	14.6	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-G3
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3
2.5°	2280.2	2291.1	2240.1	2233.4	2114.6	2262.7	2266.9	2284.4	2175.7	1964.9	2259.3
5°	2728.6	2758.7	2719.4	2894.2	2944.4	3052.3	2854.1	3031.4	2956.1	2977.0	3019.7
7.5°	2782.1	2813.1	2895.9	3188.7	3458.8	3391.1	3369.3	3436.3	3430.4	3275.7	3352.6
10°	2670.9	2696.8	2834.8	3367.7	3485.6	3790.1	3864.5	3710.6	3647.9	3309.1	3161.1
12.5°	2549.6	2593.1	2768.8	3407.8	3761.7	4069.5	4314.6	4095.4	3887.1	3526.6	3391.1
15°	2782.1	2806.4	3082.4	3491.5	3801.0	4013.4	4214.2	4141.4	4109.6	3850.3	3391.1
17.5°	3238.0	3294.9	3494.8	3696.4	3940.7	4068.6	4021.0	3998.4	3917.2	4324.6	3849.5
20°	3562.6	3668.8	3930.6	4017.6	3823.6	3943.2	3913.9	3893.8	3830.2	4588.1	4376.5
22.5°	4265.2	4363.1	4368.1	4399.1	3947.4	3756.6	3708.1	3714.0	4002.6	4666.7	5032.3
25°	4743.7	4777.1	5041.5	4820.6	4285.3	3813.5	3628.7	3711.5	4127.2	5232.2	5648.8
27.5°	5526.6	5606.1	5770.9	5023.1	4487.7	3777.5	3483.1	3784.2	4455.1	5419.6	6333.8
30°	6164.9	6241.0	6506.1	5299.9	4663.4	3955.7	3545.8	3930.6	4659.2	5805.2	6949.5
32.5°	6682.6	6879.2	7180.4	5727.4	4656.7	4160.7	3866.2	3882.1	4910.1	6304.6	7558.4
35°	7344.3	7527.5	7739.1	6021.8	4961.2	4226.7	3960.7	4358.9	5283.2	6826.5	8378.2
37.5°	8835.7	9112.6	8694.4	6763.8	5315.8	4824.0	4333.8	4652.5	5673.9	7359.4	9504.9
40°	9745.8	9979.2	9575.2	7142.7	5929.8	5125.1	4999.6	5162.8	6056.1	7634.6	10354.0
42.5°	10642.5	10950.4	10275.3	7713.2	6512.8	5975.0	5632.0	5763.4	6609.0	8298.7	11309.2
45°	11291.7	11482.4	10426.7	8011.8	7314.2	6943.6	6715.3	6519.5	7380.3	8725.3	11925.7
47.5°	11617.9	11770.1	10725.4	8106.3	7791.0	7968.3	8468.5	8059.5	8062.8	9034.0	12257.8
50°	12069.6	12175.8	10892.7	8219.3	8308.8	9565.2	9817.8	8947.0	8842.4	9343.5	12312.2
52.5°	12704.5	12756.3	11217.2	8517.0	9084.2	10815.7	10906.9	10554.7	9622.9	9919.0	12432.6
55°	13548.5	13457.3	11796.9	9142.7	9893.1	11731.6	11853.8	11546.8	10604.1	10493.7	12805.7
57.5°	14458.6	14354.0	12656.0	10024.4	10770.5	12431.8	12504.6	12528.8	11255.7	11002.2	13439.7
60°	15111.0	15130.3	13737.5	11035.7	11315.9	13101.8	12956.3	12735.4	11913.2	11747.5	13748.4
62.5°	15339.4	15524.3	14579.9	12095.5	11786.0	13143.6	12917.8	12731.2	12207.6	12516.3	13394.6
65°	15152.9	15475.7	14775.6	13026.5	12070.4	12619.2	12384.1	12264.5	12198.4	12829.9	12611.6
67.5°	14411.7	14815.8	14215.2	13034.9	11036.5	10744.6	11022.3	11401.2	11182.1	12569.8	11515.0
70°	12751.3	13193.8	12914.4	12270.3	9193.8	8453.5	8759.6	9332.6	9177.9	11179.6	9901.4
72.5°	9566.8	10135.6	10190.8	10593.2	7298.3	6362.3	6406.6	6390.7	6657.6	9014.8	7726.6
75°	6145.6	6588.1	7186.2	8548.0	5544.2	4645.0	4220.0	4116.3	4614.0	7044.0	5531.6
77.5°	3567.6	3620.3	3896.3	6449.3	3970.8	3346.8	3057.3	3205.4	3379.4	4916.0	3666.3
80°	1706.4	1733.2	1847.0	3318.3	2758.7	2896.7	2673.4	2839.9	2320.4	2825.6	2080.3
82.5°	541.2	547.1	566.3	1630.3	1713.1	1918.9	1229.6	1648.7	1434.6	1708.1	1385.2
85°	90.3	153.9	189.9	470.9	967.0	647.4	266.8	588.0	800.5	1077.4	629.0
87.5°	0.0	0.0	0.0	8.4	78.6	36.8	5.9	33.5	123.0	240.1	28.4
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°	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3
2.5°	2344.7	2402.4	2184.9	1990.0	2039.3	2000.0	1940.6	1839.4	1605.2	1777.5	1765.8
5°	3017.2	2910.1	2615.7	2478.5	2311.2	2056.1	2025.1	1829.4	1743.2	1757.4	1744.9
7.5°	3251.4	3059.8	2799.7	2386.5	1994.2	1626.1	1513.2	1385.2	1359.3	1414.5	1450.5
10°	3067.4	2864.1	2636.6	2123.0	1821.0	1555.0	1276.5	1097.5	1000.4	988.7	998.8
12.5°	3151.9	2932.7	2464.3	2071.1	1755.8	1514.9	1203.7	933.5	722.7	738.6	696.8
15°	3210.4	2958.6	2423.3	1962.4	1621.1	1299.1	924.3	654.1	481.8	431.6	401.5
17.5°	3554.2	3194.5	2371.4	1836.9	1432.9	1011.3	580.5	378.9	322.9	305.3	291.1
20°	3995.9	3484.8	2370.6	1704.7	1155.2	632.4	362.2	274.4	261.0	271.0	260.1
22.5°	4509.5	3871.2	2496.9	1540.0	829.0	399.0	281.9	243.4	230.0	238.4	239.2
25°	5026.4	4450.9	2599.8	1383.5	577.2	306.2	250.9	224.2	209.1	216.6	212.5
27.5°	5959.9	4931.1	2576.4	1183.6	424.9	269.3	233.4	210.0	187.4	199.1	198.2
30°	6570.6	5778.4	2667.5	903.4	337.1	235.9	217.5	191.6	167.3	180.7	179.8
32.5°	7300.8	6142.3	2766.2	693.4	280.2	223.3	195.7	170.6	156.4	164.8	163.1
35°	8121.4	6861.7	2584.7	577.2	243.4	201.6	173.2	153.9	141.4	145.5	145.5
37.5°	9571.0	7463.1	2476.0	470.1	226.7	182.4	162.3	138.9	131.3	131.3	135.5
40°	10394.1	8381.5	2151.4	372.2	231.7	168.1	151.4	127.1	117.1	116.3	120.5
42.5°	11464.8	8911.0	1948.2	301.1	210.0	164.0	138.9	115.4	103.7	102.9	107.1
45°	12099.7	9207.1	1662.1	236.7	188.2	190.7	128.8	106.2	88.7	85.3	92.8
47.5°	12500.4	9599.5	1499.8	188.2	164.0	189.9	125.5	92.0	74.4	70.3	77.0
50°	12703.6	9793.5	1468.0	161.4	142.2	169.8	143.9	77.0	63.6	57.7	63.6
52.5°	12915.3	10108.9	1479.7	148.9	125.5	136.3	136.3	66.1	56.0	49.4	53.5
55°	13342.7	10574.8	1453.8	141.4	115.4	103.7	87.8	58.6	51.0	43.5	47.7
57.5°	13868.0	10909.4	1453.8	134.7	107.1	88.7	70.3	54.4	46.8	37.6	41.0
60°	13768.5	10557.2	1381.9	128.0	100.4	82.8	63.6	50.2	43.5	34.3	36.8
62.5°	13085.1	9599.5	1119.2	117.9	94.5	78.6	57.7	47.7	41.0	30.1	32.6
65°	12282.1	8582.3	777.9	107.1	87.8	71.1	51.9	45.2	37.6	26.8	28.4
67.5°	11315.1	7370.2	431.6	96.2	81.1	61.9	47.7	44.3	36.0	24.3	25.9
70°	9637.1	5564.3	231.7	87.8	76.1	56.9	45.2	44.3	36.0	23.4	24.3
72.5°	7234.7	3504.0	135.5	80.3	69.4	52.7	42.7	45.2	35.1	22.6	22.6
75°	4922.7	2127.2	97.0	68.6	61.9	44.3	41.0	43.5	36.0	22.6	20.9
77.5°	3346.8	1494.8	79.5	61.9	56.0	39.3	41.8	43.5	36.0	18.4	14.2
80°	2089.5	771.2	60.2	49.4	48.5	34.3	41.8	37.6	23.4	4.2	0.0
82.5°	1461.3	286.9	35.1	37.6	37.6	24.3	32.6	26.8	13.4	0.0	0.0
85°	613.1	49.4	19.2	26.8	23.4	14.2	25.9	20.1	8.4	0.0	0.0
87.5°	10.9	0.0	7.5	15.9	16.7	8.4	13.4	8.4	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°	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3
2.5°	1821.0	1741.6	1574.3	1654.6	1646.2	1683.0	1686.3	1601.0	1785.1	1898.8	1915.5
5°	1746.6	1693.0	1683.8	1637.8	1626.1	1693.9	1657.1	1654.6	1743.2	1872.9	1873.7
7.5°	1451.3	1410.3	1429.5	1376.0	1238.0	1246.4	1258.9	1311.6	1387.7	1473.0	1504.0
10°	996.2	1102.5	1024.7	1018.0	1003.8	959.4	924.3	951.9	1050.6	1129.2	1158.5
12.5°	711.0	727.7	775.4	757.9	782.1	744.5	730.2	816.4	912.6	992.9	1050.6
15°	415.7	444.2	472.6	532.8	557.1	549.6	593.1	665.0	742.8	779.6	850.7
17.5°	292.8	295.3	301.1	366.4	409.0	425.8	451.7	506.1	537.9	554.6	583.9
20°	256.0	248.4	238.4	275.2	315.4	336.3	328.7	371.4	397.3	414.1	435.0
22.5°	231.7	219.2	213.3	225.8	256.8	275.2	278.5	303.6	343.0	354.7	361.4
25°	209.1	200.8	196.6	203.3	220.0	237.6	240.9	273.5	308.7	313.7	327.1
27.5°	194.1	178.2	179.8	184.9	192.4	214.1	220.8	239.2	290.3	296.1	300.3
30°	178.2	161.4	166.5	171.5	168.1	194.9	204.9	225.8	275.2	284.4	289.4
32.5°	162.3	149.7	148.9	153.9	159.8	174.0	195.7	220.0	265.2	277.7	290.3
35°	144.7	134.7	136.3	137.2	144.7	163.1	179.0	191.6	222.5	229.2	233.4
37.5°	132.2	123.8	122.1	130.5	138.0	152.2	158.1	164.0	204.9	220.0	220.8
40°	117.1	112.1	112.1	117.9	134.7	133.0	140.5	158.9	198.2	214.1	215.8
42.5°	106.2	99.5	101.2	107.1	118.8	110.4	125.5	152.2	195.7	211.6	210.8
45°	89.5	87.8	91.2	96.2	101.2	93.7	117.1	145.5	187.4	208.3	202.4
47.5°	74.4	74.4	78.6	83.6	81.1	83.6	106.2	136.3	182.4	201.6	197.4
50°	61.1	61.9	66.1	74.4	66.9	73.6	95.4	127.1	174.0	194.9	191.6
52.5°	51.9	52.7	55.2	61.1	57.7	66.9	87.8	117.9	165.6	183.2	181.5
55°	45.2	46.8	46.8	50.2	51.9	62.7	79.5	108.7	153.1	172.3	169.0
57.5°	40.2	41.8	41.0	43.5	45.2	55.2	71.1	98.7	140.5	156.4	151.4
60°	36.0	37.6	36.8	40.2	39.3	47.7	61.9	87.8	127.1	139.7	135.5
62.5°	31.8	33.5	33.5	35.1	36.0	40.2	53.5	77.8	113.8	123.8	120.5
65°	28.4	30.1	30.9	30.1	31.8	34.3	45.2	70.3	98.7	108.7	103.7
67.5°	25.9	27.6	29.3	25.9	27.6	28.4	38.5	62.7	87.0	95.4	91.2
70°	25.1	25.9	25.9	22.6	21.7	22.6	33.5	53.5	76.1	84.5	78.6
72.5°	23.4	24.3	23.4	18.4	15.9	17.6	28.4	45.2	64.4	71.1	66.1
75°	21.7	22.6	21.7	15.1	10.0	12.5	23.4	39.3	55.2	58.6	56.0
77.5°	18.4	20.1	20.1	10.9	3.3	7.5	17.6	31.8	46.0	46.0	46.8
80°	1.7	5.0	8.4	5.9	0.0	0.8	5.9	16.7	29.3	28.4	30.9
82.5°	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	10.0	7.5	8.4
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°	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3	1768.3
2.5°	1876.2	1850.3	1882.9	1982.5	1942.3	1949.8	1923.1	2087.9	2274.4	2280.2
5°	1875.4	1852.0	1900.5	1896.3	2010.9	2135.5	2256.0	2450.9	2726.9	2728.6
7.5°	1489.8	1628.6	1664.6	1653.7	1800.9	1972.4	2158.1	2531.2	2757.9	2782.1
10°	1343.4	1403.6	1477.2	1504.0	1565.1	1728.2	1938.1	2360.5	2614.8	2670.9
12.5°	1164.4	1356.8	1454.6	1644.5	1679.7	1703.1	2034.3	2401.5	2556.3	2549.6
15°	964.5	1131.8	1286.5	1518.2	1613.6	1859.5	2120.5	2601.5	2693.5	2782.1
17.5°	682.6	808.9	1046.4	1289.9	1580.9	1848.6	2358.0	2958.6	3132.6	3238.0
20°	456.7	517.8	732.8	1054.8	1423.7	1689.7	2455.1	3281.5	3471.4	3562.6
22.5°	370.6	399.8	511.1	772.9	1216.2	1682.2	2494.4	3633.7	4143.9	4265.2
25°	326.2	346.3	405.7	572.2	1009.6	1648.7	2711.9	4030.2	4645.8	4743.7
27.5°	285.2	315.4	359.7	471.8	865.8	1625.3	2822.3	4696.0	5430.4	5526.6
30°	272.7	309.5	352.2	430.0	765.4	1534.9	2997.9	5296.6	5993.4	6164.9
32.5°	294.4	307.0	327.9	394.0	687.6	1439.6	3306.6	6014.3	6459.3	6682.6
35°	233.4	256.0	292.8	361.4	655.0	1434.6	3481.4	6476.0	7206.3	7344.3
37.5°	228.4	249.3	297.0	352.2	694.3	1473.0	3740.7	7422.1	8553.0	8835.7
40°	221.7	248.4	293.6	348.0	694.3	1510.7	3906.4	8179.1	9458.9	9745.8
42.5°	219.2	253.5	292.8	365.5	672.5	1531.6	4156.5	8934.5	10415.9	10642.5
45°	217.5	258.5	295.3	386.5	667.5	1600.2	4297.8	9301.7	11031.5	11291.7
47.5°	213.3	258.5	329.6	373.9	639.9	1593.5	4481.0	9846.2	11398.7	11617.9
50°	210.0	260.1	373.1	350.5	644.1	1552.5	4729.5	10357.3	11913.2	12069.6
52.5°	202.4	266.0	366.4	317.9	631.5	1548.3	5100.0	11084.2	12589.9	12704.5
55°	185.7	258.5	331.2	277.7	587.2	1500.6	5591.0	12029.4	13528.4	13548.5
57.5°	170.6	240.1	276.9	255.1	491.9	1506.5	6014.3	12899.4	14364.9	14458.6
60°	155.6	249.3	215.0	237.6	407.4	1399.4	6219.2	13232.3	14973.8	15111.0
62.5°	141.4	230.0	183.2	218.3	363.0	1299.9	6077.0	12964.6	15051.6	15339.4
65°	125.5	159.8	154.7	195.7	367.2	1160.2	5601.9	12180.8	14756.4	15152.9
67.5°	107.9	125.5	136.3	169.0	393.1	1040.6	4787.2	10922.8	13962.5	14411.7
70°	94.5	112.9	118.8	148.1	409.0	962.0	3777.5	9177.0	12336.4	12751.3
72.5°	78.6	104.6	106.2	129.7	394.0	884.2	2691.8	6588.1	9367.8	9566.8
75°	67.8	87.0	96.2	108.7	331.2	660.0	1483.1	4077.8	5923.1	6145.6
77.5°	61.1	66.1	72.8	75.3	140.5	343.8	510.3	2514.5	3316.6	3567.6
80°	46.8	51.9	50.2	51.9	77.0	118.8	194.1	1178.6	1566.7	1706.4
82.5°	15.1	25.1	27.6	23.4	50.2	58.6	56.0	407.4	509.4	541.2
85°	3.3	9.2	4.2	0.0	16.7	30.1	4.2	61.9	122.1	90.3
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)