

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: P368546

Luminaire Tested: **MSA-SA4C-760-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368546
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-SA4C-760-U-SLL
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 20612 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B3 - U0 - G4

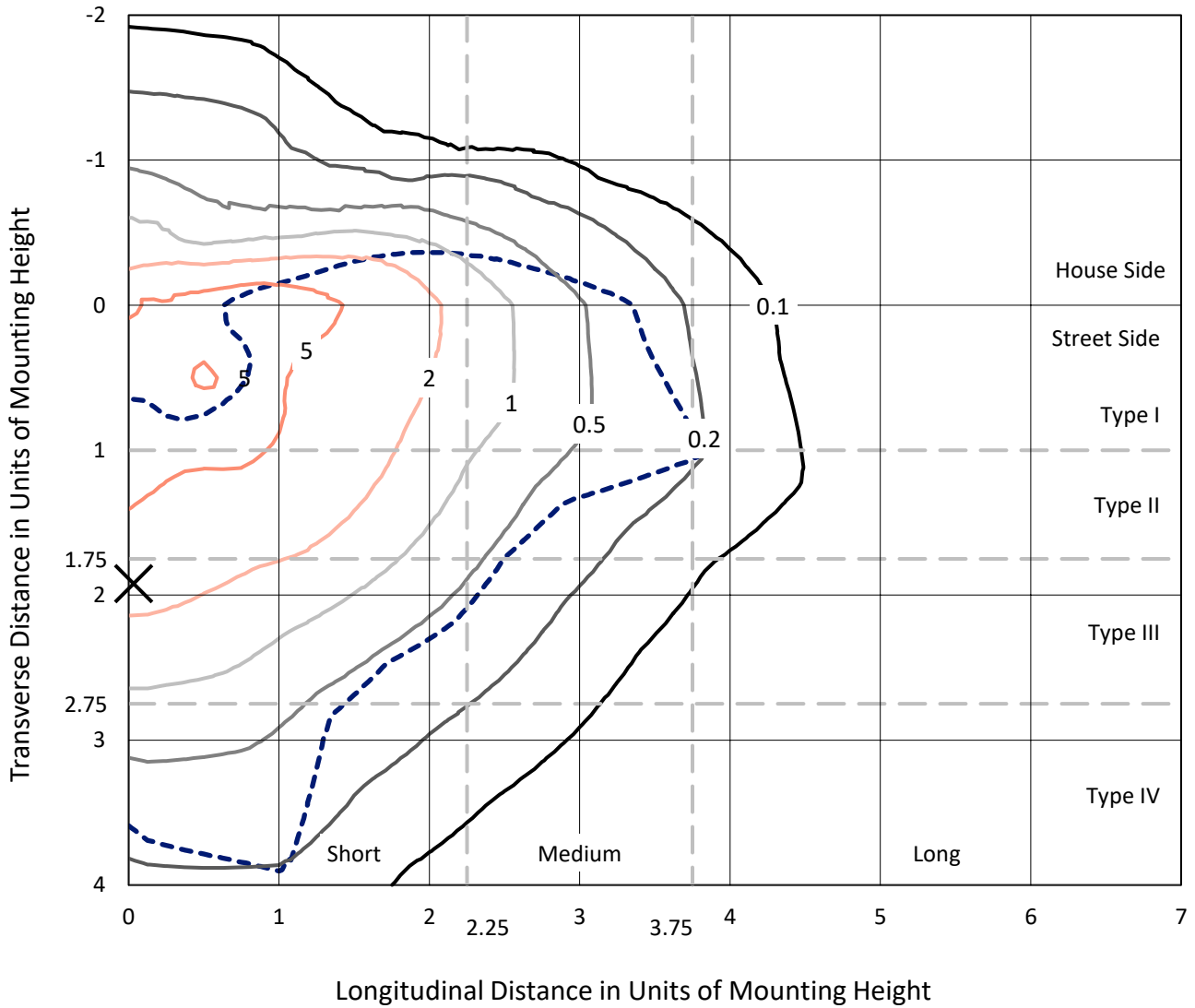
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

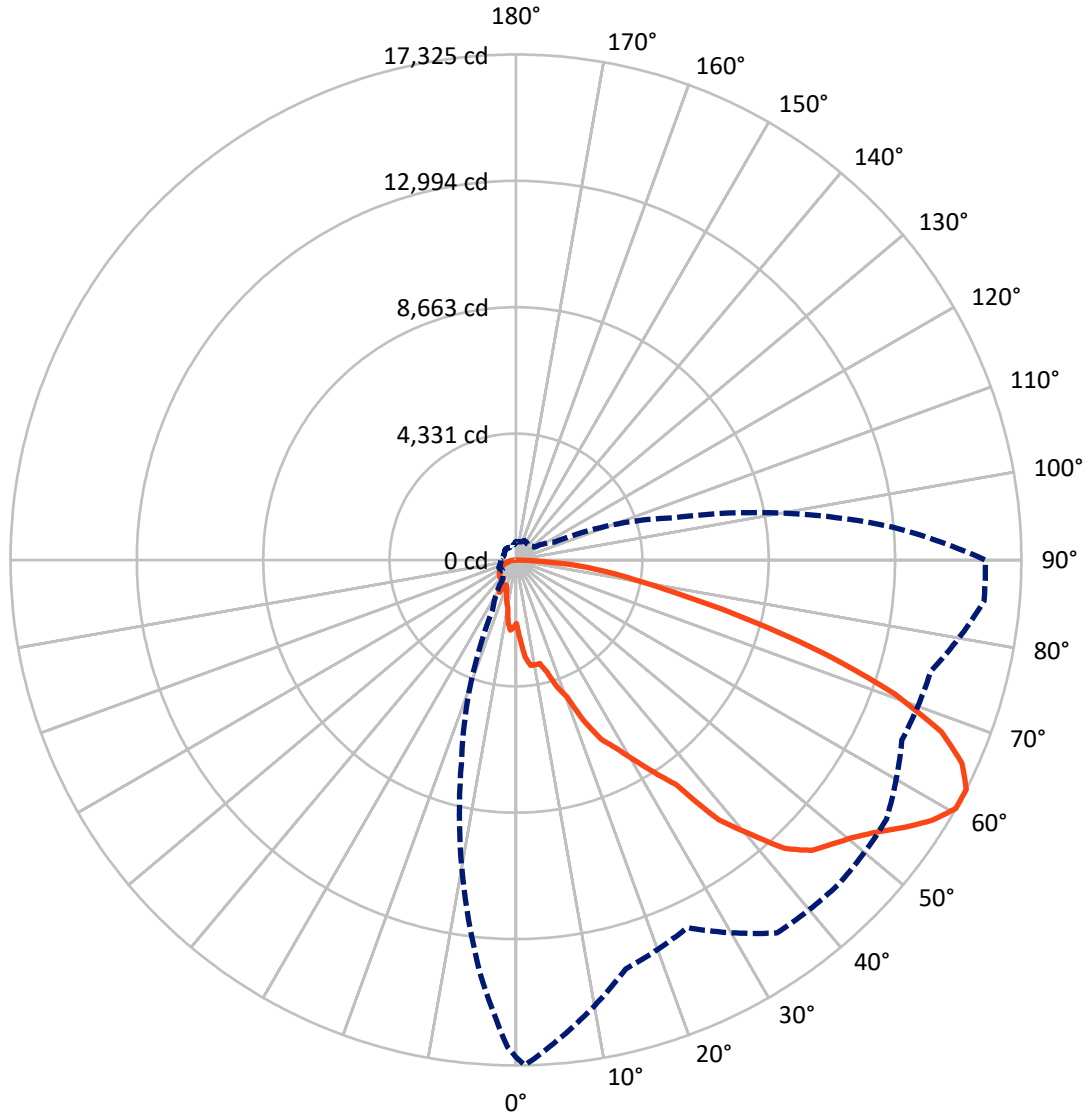
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.8 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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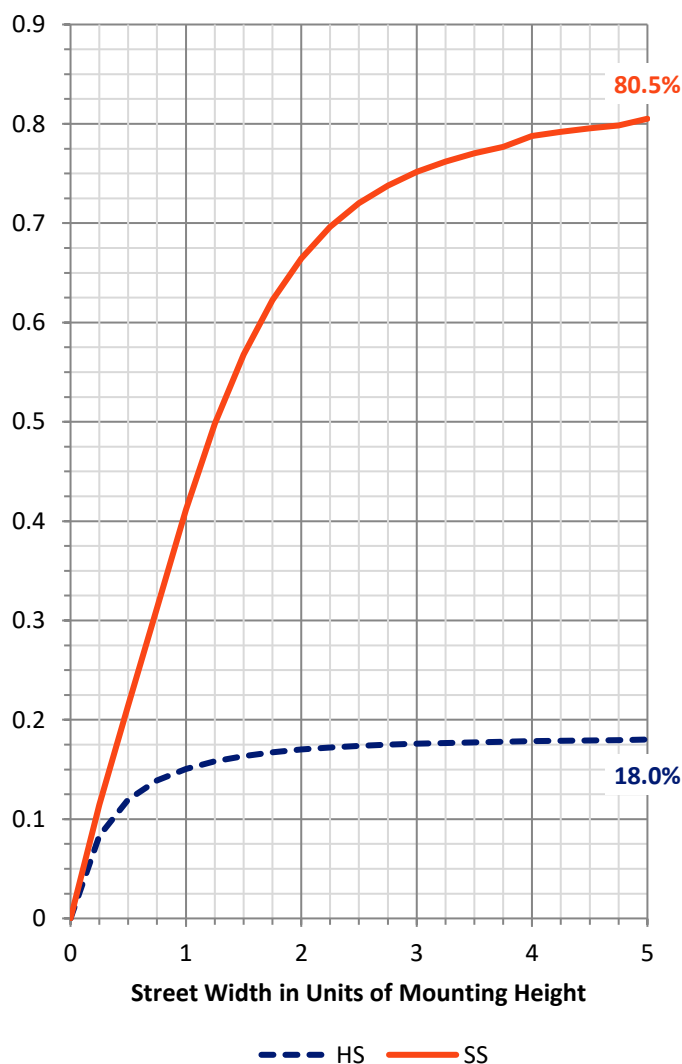
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3753.3	0.0	3753.3
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	16858.7	0.0	16858.7
	% Fixture	81.8	0.0	81.8
Total	Lumens	20612.0	0.0	20612.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	249.2	1.2
10°-20°	724.0	3.5
20°-30°	1278.3	6.2
30°-40°	1991.1	9.7
40°-50°	3278.5	15.9
50°-60°	4679.3	22.7
60°-70°	4961.9	24.1
70°-80°	2740.8	13.3
80°-90°	708.9	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°	20612.0	100.0
0°-180°	20612.0	100.0

Coefficient of Utilization



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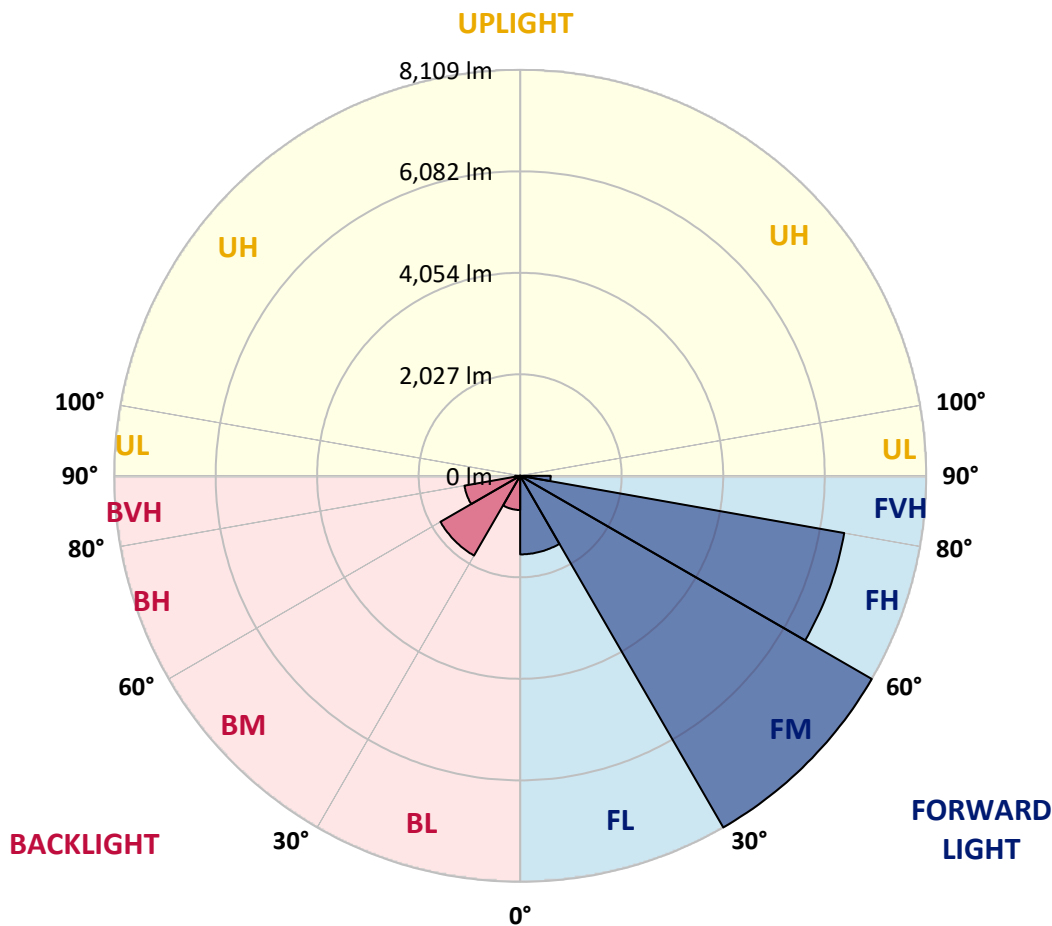
CATALOG NUMBER: MSA-SA4C-760-U-SLL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1568.9	7.6			
FM (30°-60°)	8109.0	39.3			
FH (60°-80°)	6571.9	31.9			G3/7500
FVH (80°-90°)	608.9	3.0			G4/750
BL (0°-30°)	682.6	3.3	B2/1000		
BM (30°-60°)	1840.0	8.9	B2/2500		
BH (60°-80°)	1130.8	5.5	B3/2500		G3/2500
BVH (80°-90°)	100.0	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5
2.5°	2672.6	2695.6	2648.6	2595.6	2376.6	2587.6	2524.6	2641.6	2603.6	2349.6	2814.7
5°	3302.8	3344.8	3298.8	3457.8	3467.8	3508.8	3129.7	3365.8	3283.8	3262.8	3497.8
7.5°	3606.9	3649.9	3766.9	4050.0	4271.0	4071.0	3849.9	3800.9	3736.9	3569.8	3711.9
10°	3625.9	3649.9	3806.9	4407.0	4514.1	4656.1	4513.1	4176.0	4037.0	3673.9	3565.8
12.5°	3568.8	3643.9	3846.9	4578.1	4896.2	5051.2	5086.2	4711.1	4370.0	3955.9	3900.9
15°	3951.9	3978.9	4270.0	4700.1	4919.2	5050.2	5164.2	4933.2	4826.1	4498.1	4057.0
17.5°	4501.1	4576.1	4814.1	4973.2	5121.2	5146.2	5052.2	4962.2	4792.1	5230.2	4761.1
20°	4873.2	5018.2	5310.3	5340.3	5029.2	5084.2	5071.2	5077.2	4980.2	5790.4	5532.3
22.5°	5857.4	6014.4	6054.4	5880.4	5294.3	5043.2	5093.2	5238.2	5620.3	6314.5	6606.6
25°	6748.6	6809.6	7174.7	6726.6	5792.4	5245.2	5163.2	5538.3	6161.5	7196.7	7404.8
27.5°	7213.7	7292.7	7535.8	6560.6	5854.4	4985.2	4793.1	5364.3	5999.4	6781.6	7694.8
30°	7808.8	7934.9	8266.0	6726.6	6041.4	5155.2	4730.1	5276.2	5978.4	7053.7	8309.0
32.5°	8422.0	8667.1	8913.1	7311.7	6015.4	5415.3	5133.2	5177.2	6168.5	7623.8	8945.1
35°	9234.2	9450.2	9662.3	7649.8	6539.5	5632.3	5352.3	5818.4	6656.6	8285.0	9832.3
37.5°	10970.6	11312.7	10753.5	8612.0	7109.7	6610.6	6105.4	6381.5	7172.7	8836.1	11281.7
40°	12076.9	12333.9	11793.8	9267.2	8113.9	7269.7	7186.7	7209.7	7883.9	9308.2	12256.9
42.5°	13176.1	13524.2	12665.0	10166.4	9328.2	8631.0	8202.9	8173.9	8680.1	10156.4	13366.2
45°	13996.3	14201.4	12964.1	10924.6	10630.5	10113.4	9792.3	9283.2	9726.3	10743.5	14052.3
47.5°	14386.4	14553.4	13445.2	11365.7	11474.7	11501.7	12080.9	11212.7	10640.5	11140.6	14412.4
50°	14873.5	14952.5	13728.3	11753.8	12276.9	13463.2	13602.2	12130.9	11530.7	11573.7	14625.5
52.5°	15455.7	15488.7	14141.3	12201.9	13088.1	14753.5	14538.4	13687.2	12377.9	12364.9	15026.6
55°	16187.8	16167.8	14659.5	12805.0	13667.2	15520.7	15357.6	14737.5	13301.1	13020.1	15650.7
57.5°	16839.0	16827.0	15346.6	13360.2	14154.4	15914.8	15962.8	15798.7	13929.3	13489.2	16326.9
60°	17158.1	17311.1	16128.8	13967.3	14185.4	16092.8	16110.8	15849.8	14631.5	14091.3	16506.9
62.5°	17034.0	17325.1	16512.9	14513.4	13900.3	15606.7	15681.7	15501.7	14599.5	14723.5	16104.8
65°	16469.9	16806.0	16179.8	14804.5	13725.2	14792.5	14811.5	14356.4	14142.3	15142.6	15162.6
67.5°	15411.6	15726.7	15119.6	14340.4	12527.0	12598.0	13022.1	13059.1	12747.0	14826.5	13839.3
70°	13559.2	13781.3	13401.2	13194.1	10470.5	10054.4	10514.5	10711.5	10853.6	13685.2	12250.9
72.5°	10734.5	11163.6	11223.7	11358.7	8430.0	7736.8	8077.9	7785.8	8711.1	11647.8	10009.4
75°	7941.9	8304.0	8693.1	9446.2	6644.6	5792.4	5750.4	5601.3	6465.5	9367.2	7423.8
77.5°	5612.3	5843.4	6142.5	7545.8	5014.2	4461.1	4487.1	4336.0	4669.1	7079.7	5128.2
80°	4023.0	4144.0	4283.0	4971.2	3698.9	3848.9	3852.9	3709.9	3471.8	4808.1	3422.8
82.5°	2866.7	2960.7	3119.7	3278.8	2757.7	3154.7	3151.7	3142.7	2752.7	3249.8	2141.5
85°	1596.4	1722.4	1998.5	2568.6	1991.5	2255.5	1983.5	2184.5	2020.5	2163.5	1084.3
87.5°	112.0	100.0	447.1	1488.4	929.2	679.2	356.1	705.2	904.2	1130.3	151.0
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5
2.5°	2910.7	2945.7	2808.7	2602.6	2658.6	2597.6	2520.6	2400.6	2153.5	2306.5	2307.5
5°	3495.8	3362.8	3255.8	3154.7	2984.7	2727.6	2693.6	2487.6	2371.6	2432.6	2423.6
7.5°	3678.9	3489.8	3328.8	2967.7	2652.6	2253.5	2133.5	2011.5	1960.5	2108.5	2167.5
10°	3477.8	3280.8	3122.7	2683.6	2469.6	2220.5	1890.4	1721.4	1621.4	1660.4	1683.4
12.5°	3639.9	3438.8	2941.7	2696.6	2343.6	2191.5	1902.5	1654.4	1506.4	1542.4	1499.4
15°	3795.9	3524.8	3027.7	2539.6	2253.5	2033.5	1799.4	1543.4	1369.3	1307.3	1274.3
17.5°	4366.0	3915.9	3017.7	2451.6	2123.5	1870.4	1588.4	1308.3	1192.3	1128.3	1073.3
20°	5061.2	4434.0	3071.7	2360.6	1985.5	1666.4	1359.3	1099.3	1018.2	976.2	961.2
22.5°	5888.4	5098.2	3380.8	2347.6	1855.4	1517.4	1233.3	1071.3	980.2	934.2	915.2
25°	6545.5	5785.4	3608.9	2435.6	1848.4	1394.3	1157.3	1190.3	1148.3	1162.3	1051.2
27.5°	7183.7	5972.4	3480.8	2396.6	1662.4	1176.3	1139.3	1208.3	1244.3	1255.3	1251.3
30°	7722.8	6762.6	3508.8	2176.5	1404.3	958.2	872.2	906.2	1005.2	1162.3	1192.3
32.5°	8512.0	7140.7	3747.9	2043.5	1255.3	857.2	761.2	748.2	771.2	828.2	877.2
35°	9435.2	8010.9	3814.9	2008.5	1152.3	812.2	745.2	715.2	727.2	770.2	780.2
37.5°	11156.6	8645.0	4063.0	1965.5	1114.3	785.2	733.2	722.2	748.2	783.2	803.2
40°	12105.9	9785.3	4075.0	1928.5	1065.3	774.2	741.2	736.2	752.2	800.2	812.2
42.5°	13371.2	10435.5	4263.0	1885.4	1048.2	789.2	757.2	755.2	769.2	797.2	819.2
45°	14142.3	10870.6	4273.0	1860.4	1044.2	855.2	778.2	771.2	768.2	785.2	805.2
47.5°	14639.5	11497.7	4395.0	1832.4	1068.3	872.2	803.2	773.2	763.2	770.2	785.2
50°	15110.6	11998.8	4626.1	1828.4	1093.3	855.2	847.2	772.2	752.2	749.2	760.2
52.5°	15688.7	12823.0	4911.2	1866.4	1087.3	830.2	880.2	768.2	732.2	725.2	736.2
55°	16529.9	13706.2	5214.2	1834.4	1025.2	782.2	848.2	765.2	711.2	698.2	708.2
57.5°	17075.0	14212.4	5553.3	1807.4	931.2	746.2	819.2	767.2	713.2	684.2	690.2
60°	16894.0	13940.3	5686.3	1642.4	842.2	718.2	750.2	751.2	695.2	668.2	673.2
62.5°	16093.8	12955.1	5562.3	1450.3	776.2	678.2	679.2	721.2	643.2	624.1	632.1
65°	14975.5	11729.8	5060.2	1325.3	745.2	636.2	620.1	633.1	573.1	559.1	575.1
67.5°	13603.2	10219.4	4313.0	1193.3	734.2	579.1	560.1	555.1	517.1	501.1	517.1
70°	11881.8	8557.0	3447.8	1100.3	692.2	517.1	502.1	497.1	465.1	453.1	467.1
72.5°	9550.3	6681.6	2660.6	1029.2	646.2	460.1	447.1	441.1	414.1	397.1	414.1
75°	6792.6	5106.2	1976.5	920.2	581.1	402.1	387.1	379.1	354.1	338.1	353.1
77.5°	4827.1	3832.9	1380.3	761.2	479.1	340.1	331.1	318.1	296.1	277.1	292.1
80°	3568.8	2738.6	890.2	587.1	366.1	272.1	267.1	258.1	237.1	214.1	225.1
82.5°	2349.6	1974.5	510.1	398.1	266.1	196.0	200.0	194.0	174.0	150.0	156.0
85°	1052.2	1169.3	271.1	219.1	173.0	118.0	129.0	125.0	110.0	87.0	89.0
87.5°	101.0	197.0	83.0	80.0	64.0	37.0	46.0	39.0	33.0	21.0	16.0
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°	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5
2.5°	2342.6	2201.5	2060.5	2146.5	2148.5	2171.5	2174.5	2089.5	2157.5	2209.5	2263.5
5°	2379.6	2287.5	2292.5	2209.5	2164.5	2222.5	2210.5	2187.5	2228.5	2285.5	2354.6
7.5°	2111.5	2051.5	2041.5	1961.5	1767.4	1724.4	1760.4	1775.4	1830.4	1918.5	1992.5
10°	1648.4	1767.4	1633.4	1602.4	1551.4	1451.3	1393.3	1386.3	1503.4	1574.4	1636.4
12.5°	1485.4	1455.3	1439.3	1354.3	1354.3	1248.3	1214.3	1245.3	1425.3	1476.3	1556.4
15°	1265.3	1243.3	1169.3	1127.3	1107.3	1064.3	1100.3	1130.3	1298.3	1302.3	1386.3
17.5°	1050.2	1037.2	967.2	959.2	939.2	920.2	953.2	1025.2	1116.3	1100.3	1139.3
20°	939.2	894.2	830.2	853.2	832.2	817.2	803.2	905.2	969.2	990.2	1013.2
22.5°	911.2	829.2	791.2	770.2	771.2	747.2	750.2	835.2	932.2	945.2	931.2
25°	1041.2	895.2	772.2	711.2	688.2	680.2	703.2	778.2	895.2	923.2	934.2
27.5°	1218.3	972.2	795.2	691.2	645.2	649.2	682.2	734.2	872.2	922.2	935.2
30°	1169.3	914.2	796.2	676.2	619.1	640.2	652.2	702.2	854.2	929.2	994.2
32.5°	902.2	822.2	801.2	688.2	665.2	632.1	649.2	697.2	801.2	848.2	851.2
35°	764.2	703.2	689.2	661.2	629.1	615.1	634.2	676.2	744.2	773.2	769.2
37.5°	758.2	691.2	636.2	624.1	611.1	607.1	618.1	657.2	726.2	777.2	766.2
40°	768.2	685.2	629.1	608.1	613.1	595.1	606.1	654.2	729.2	777.2	767.2
42.5°	756.2	678.2	620.1	604.1	609.1	584.1	597.1	647.2	721.2	778.2	759.2
45°	732.2	662.2	615.1	588.1	611.1	574.1	590.1	629.1	697.2	759.2	737.2
47.5°	708.2	643.2	594.1	577.1	600.1	564.1	571.1	605.1	673.2	734.2	715.2
50°	682.2	619.1	577.1	572.1	588.1	562.1	551.1	579.1	644.2	705.2	689.2
52.5°	654.2	599.1	565.1	563.1	578.1	549.1	533.1	555.1	613.1	674.2	661.2
55°	627.1	577.1	550.1	555.1	572.1	538.1	518.1	532.1	580.1	640.2	622.1
57.5°	600.1	552.1	530.1	544.1	557.1	524.1	499.1	507.1	546.1	605.1	584.1
60°	576.1	530.1	508.1	525.1	537.1	503.1	474.1	479.1	514.1	567.1	548.1
62.5°	545.1	506.1	477.1	499.1	508.1	475.1	444.1	450.1	478.1	528.1	514.1
65°	501.1	476.1	449.1	464.1	476.1	442.1	413.1	420.1	441.1	488.1	478.1
67.5°	463.1	439.1	421.1	433.1	435.1	409.1	383.1	387.1	404.1	448.1	437.1
70°	421.1	398.1	384.1	393.1	392.1	370.1	350.1	351.1	365.1	405.1	390.1
72.5°	375.1	353.1	346.1	351.1	347.1	327.1	308.1	315.1	324.1	354.1	342.1
75°	326.1	306.1	302.1	307.1	301.1	282.1	265.1	272.1	280.1	305.1	290.1
77.5°	275.1	257.1	258.1	259.1	251.1	238.1	221.1	228.1	233.1	250.1	235.1
80°	219.1	205.0	209.0	209.0	200.0	191.0	175.0	177.0	180.0	186.0	175.0
82.5°	160.0	160.0	160.0	161.0	142.0	145.0	131.0	130.0	127.0	126.0	119.0
85°	95.0	99.0	101.0	104.0	77.0	90.0	78.0	75.0	69.0	63.0	61.0
87.5°	21.0	27.0	27.0	26.0	0.0	10.0	5.0	8.0	2.0	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°	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5
2.5°	2201.5	2141.5	2253.5	2353.6	2337.6	2395.6	2260.5	2460.6	2672.6	2672.6
5°	2336.6	2285.5	2314.5	2372.6	2416.6	2618.6	2786.7	2953.7	3298.8	3302.8
7.5°	1970.5	2080.5	2106.5	2089.5	2278.5	2538.6	2815.7	3291.8	3583.8	3606.9
10°	1842.4	1892.4	1971.5	2015.5	2092.5	2348.6	2692.6	3257.8	3567.8	3625.9
12.5°	1669.4	1854.4	1974.5	2220.5	2281.5	2332.6	2879.7	3368.8	3582.8	3568.8
15°	1480.4	1620.4	1793.4	2065.5	2220.5	2610.6	2990.7	3724.9	3845.9	3951.9
17.5°	1180.3	1283.3	1513.4	1823.4	2207.5	2566.6	3264.8	4165.0	4391.0	4501.1
20°	971.2	972.2	1202.3	1613.4	2031.5	2382.6	3368.8	4530.1	4817.1	4873.2
22.5°	918.2	872.2	993.2	1327.3	1837.4	2491.6	3578.8	5117.2	5716.4	5857.4
25°	889.2	833.2	909.2	1171.3	1698.4	2548.6	4001.9	5924.4	6693.6	6748.6
27.5°	901.2	927.2	951.2	1044.2	1522.4	2441.6	3903.9	6285.5	7109.7	7213.7
30°	982.2	1024.2	969.2	1001.2	1377.3	2286.5	4079.0	6871.6	7633.8	7808.8
32.5°	817.2	801.2	796.2	866.2	1232.3	2146.5	4446.1	7696.8	8201.9	8422.0
35°	737.2	712.2	722.2	802.2	1161.3	2126.5	4652.1	8380.0	9099.2	9234.2
37.5°	734.2	705.2	718.2	778.2	1186.3	2162.5	4982.2	9476.2	10681.5	10970.6
40°	727.2	711.2	718.2	763.2	1160.3	2182.5	5172.2	10397.5	11783.8	12076.9
42.5°	726.2	718.2	725.2	775.2	1133.3	2191.5	5435.3	11229.7	12945.1	13176.1
45°	723.2	731.2	731.2	785.2	1121.3	2251.5	5590.3	11637.8	13711.2	13996.3
47.5°	709.2	733.2	772.2	782.2	1072.3	2223.5	5809.4	12256.9	14118.3	14386.4
50°	691.2	730.2	824.2	762.2	1064.3	2155.5	6065.4	12748.0	14640.5	14873.5
52.5°	667.2	725.2	812.2	723.2	1050.2	2143.5	6424.5	13386.2	15249.6	15455.7
55°	633.1	707.2	775.2	684.2	1016.2	2105.5	6973.7	14177.4	16046.8	16187.8
57.5°	602.1	680.2	721.2	662.2	935.2	2113.5	7355.7	14822.5	16716.0	16839.0
60°	574.1	677.2	644.2	639.2	852.2	2006.5	7479.8	14815.5	16965.0	17158.1
62.5°	544.1	639.2	590.1	608.1	779.2	1896.4	7216.7	14180.4	16696.0	17034.0
65°	505.1	548.1	545.1	586.1	781.2	1717.4	6613.6	13060.1	16024.8	16469.9
67.5°	459.1	485.1	502.1	550.1	806.2	1578.4	5643.3	11712.8	14882.5	15411.6
70°	412.1	438.1	457.1	503.1	829.2	1514.4	4492.1	9820.3	13022.1	13559.2
72.5°	364.1	391.1	406.1	446.1	798.2	1377.3	3324.8	7640.8	10452.5	10734.5
75°	314.1	340.1	352.1	389.1	693.2	1139.3	2295.5	5787.4	7655.8	7941.9
77.5°	263.1	291.1	295.1	325.1	529.1	871.2	1471.3	4439.1	5421.3	5612.3
80°	210.0	238.1	238.1	254.1	372.1	599.1	881.2	3348.8	3947.9	4023.0
82.5°	151.0	181.0	179.0	180.0	257.1	371.1	510.1	2509.6	2852.7	2866.7
85°	89.0	110.0	109.0	100.0	152.0	200.0	276.1	1558.4	1592.4	1596.4
87.5°	17.0	26.0	23.0	10.0	42.0	59.0	80.0	289.1	115.0	112.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)