

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: P368018

Luminaire Tested: **MSA-SA3C-760-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368018
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-SA3C-760-U-SLL
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 15595 lumens
Efficiency: N/A
Efficacy: 93.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

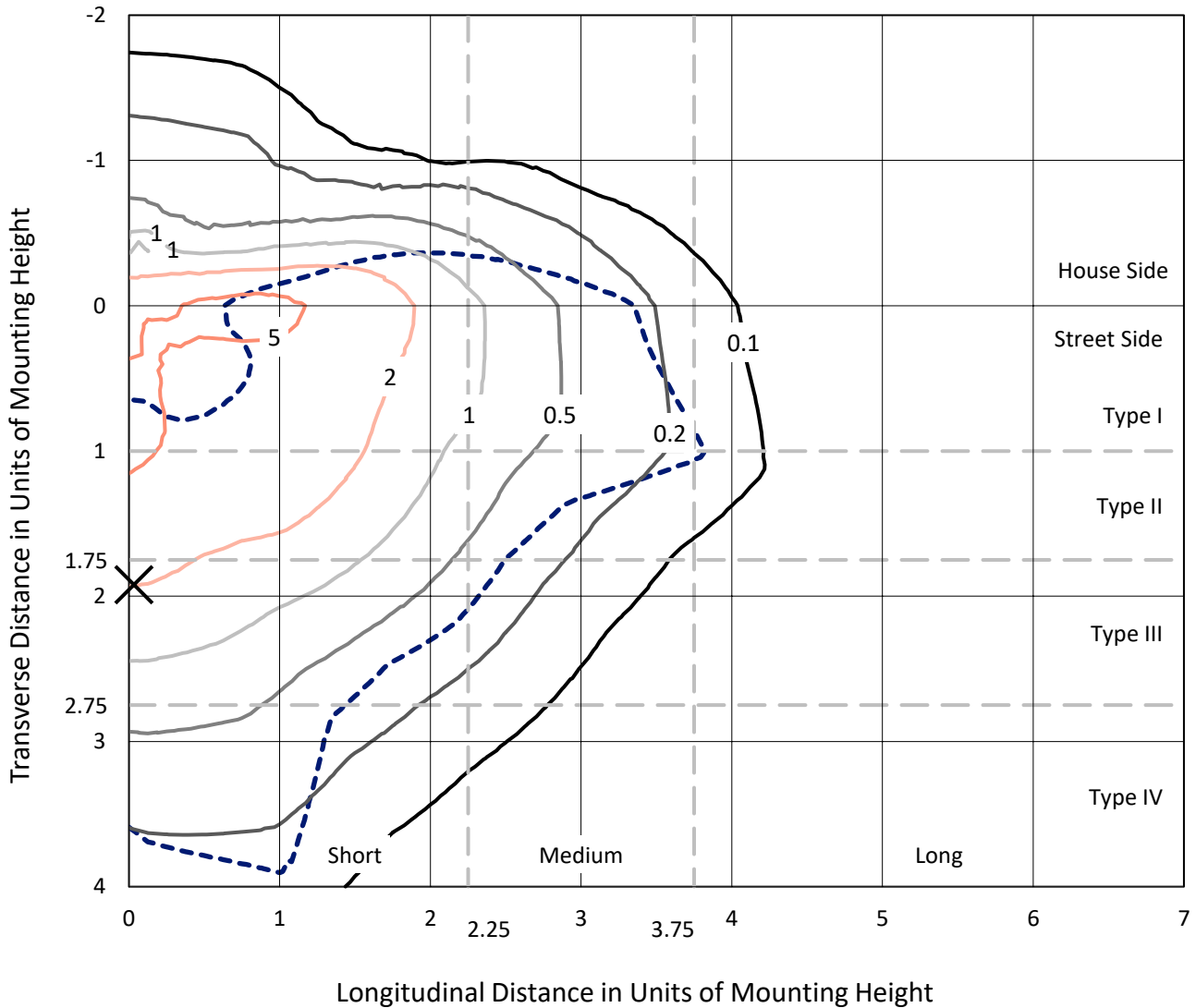
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

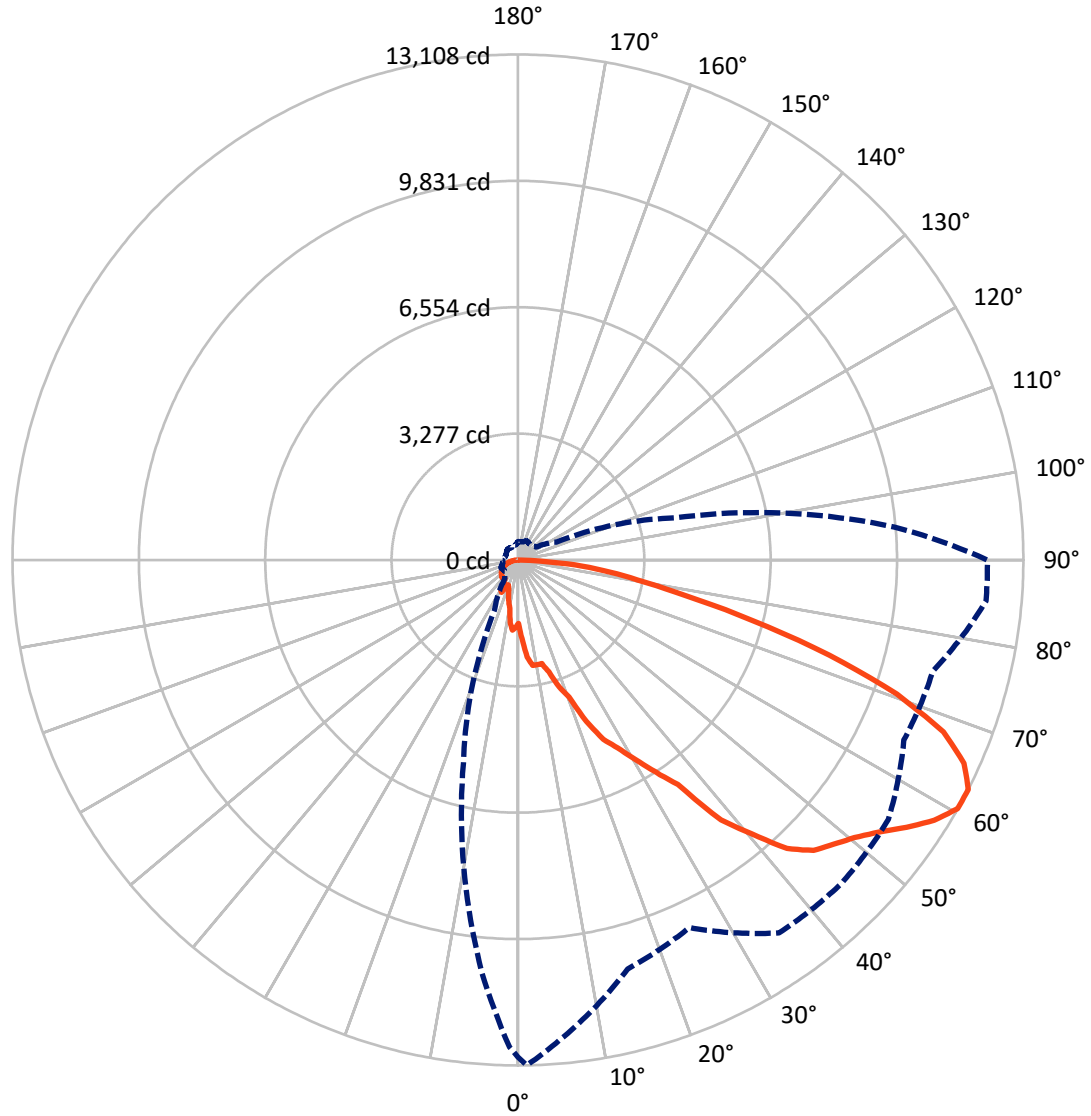
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.6 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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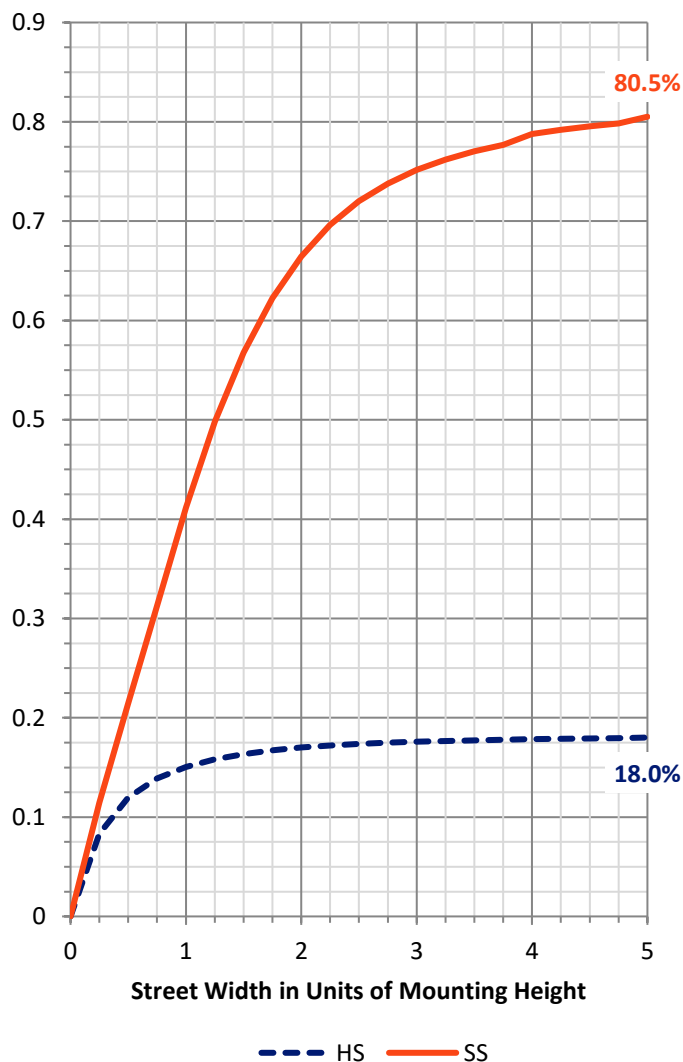
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2839.7	0.0	2839.7
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	12755.2	0.0	12755.2
	% Fixture	81.8	0.0	81.8
Total	Lumens	15595.0	0.0	15595.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	188.5	1.2
10°-20°	547.8	3.5
20°-30°	967.2	6.2
30°-40°	1506.4	9.7
40°-50°	2480.5	15.9
50°-60°	3540.4	22.7
60°-70°	3754.2	24.1
70°-80°	2073.7	13.3
80°-90°	536.3	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°	15595.0	100.0
0°-180°	15595.0	100.0

Coefficient of Utilization



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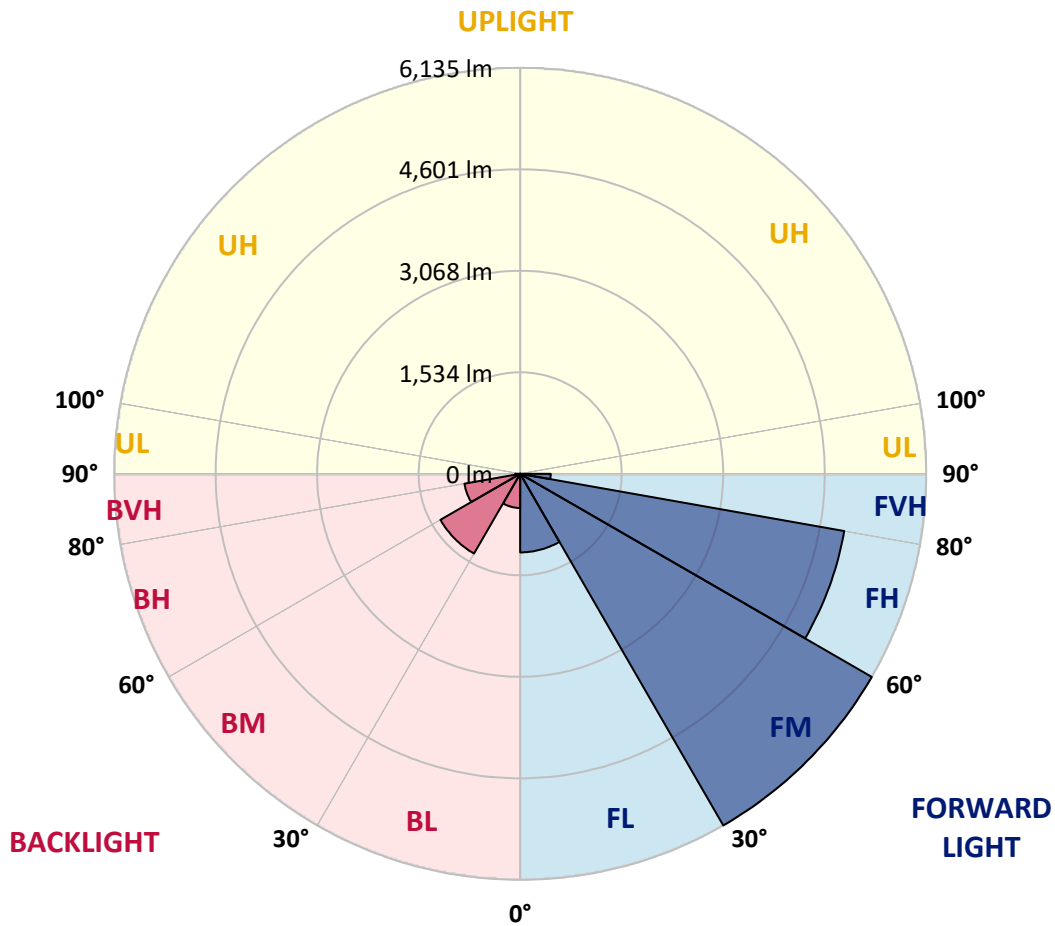
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1187.0	7.6			
FM (30°-60°)	6135.2	39.3			
FH (60°-80°)	4972.3	31.9			G2/5000
FVH (80°-90°)	460.7	3.0			G3/500
BL (0°-30°)	516.5	3.3	B2/1000		
BM (30°-60°)	1392.1	8.9	B2/2500		
BH (60°-80°)	855.5	5.5	B2/1000		G2/1000
BVH (80°-90°)	75.6	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5
2.5°	2022.1	2039.5	2003.9	1963.8	1798.1	1957.8	1910.1	1998.6	1969.9	1777.7	2129.6
5°	2498.9	2530.7	2495.9	2616.2	2623.7	2654.8	2368.0	2546.6	2484.5	2468.6	2646.5
7.5°	2728.9	2761.5	2850.0	3064.2	3231.4	3080.1	2912.8	2875.8	2827.3	2700.9	2808.4
10°	2743.3	2761.5	2880.3	3334.4	3415.3	3522.8	3414.6	3159.5	3054.4	2779.6	2697.9
12.5°	2700.2	2756.9	2910.6	3463.8	3704.4	3821.7	3848.2	3564.4	3306.4	2993.1	2951.4
15°	2990.0	3010.5	3230.7	3556.1	3721.8	3821.0	3907.2	3732.4	3651.5	3403.2	3069.5
17.5°	3405.5	3462.3	3642.4	3762.7	3874.7	3893.6	3822.5	3754.4	3625.7	3957.2	3602.3
20°	3687.0	3796.8	4017.7	4040.4	3805.1	3846.7	3836.9	3841.4	3768.0	4381.0	4185.7
22.5°	4431.7	4550.5	4580.8	4449.1	4005.6	3815.7	3853.5	3963.2	4252.3	4777.5	4998.5
25°	5106.0	5152.1	5428.4	5089.3	4382.5	3968.5	3906.5	4190.3	4661.7	5445.0	5602.4
27.5°	5457.9	5517.7	5701.6	4963.7	4429.4	3771.8	3626.5	4058.6	4539.2	5131.0	5821.9
30°	5908.2	6003.5	6254.0	5089.3	4570.9	3900.4	3578.8	3992.0	4523.3	5336.8	6286.5
32.5°	6372.1	6557.5	6743.6	5532.0	4551.3	4097.2	3883.8	3917.1	4667.0	5768.2	6767.9
35°	6986.6	7150.0	7310.5	5787.8	4947.8	4261.4	4049.5	4402.2	5036.4	6268.4	7439.1
37.5°	8300.3	8559.2	8136.1	6515.9	5379.2	5001.5	4619.4	4828.2	5426.8	6685.4	8535.7
40°	9137.3	9331.8	8923.2	7011.5	6139.0	5500.3	5437.4	5454.9	5964.9	7042.6	9273.5
42.5°	9969.0	10232.4	9582.3	7691.9	7057.7	6530.2	6206.3	6184.4	6567.3	7684.3	10112.8
45°	10589.6	10744.7	9808.6	8265.5	8043.0	7651.8	7408.8	7023.7	7358.9	8128.5	10632.0
47.5°	10884.7	11011.1	10172.6	8599.3	8681.7	8702.2	9140.4	8483.5	8050.6	8429.0	10904.4
50°	11253.3	11313.1	10386.8	8892.9	9288.7	10186.2	10291.4	9178.2	8724.1	8756.7	11065.6
52.5°	11693.7	11718.7	10699.3	9231.9	9902.4	11162.5	10999.8	10355.7	9365.1	9355.3	11369.1
55°	12247.7	12232.5	11091.3	9688.3	10340.6	11742.9	11619.6	11150.4	10063.6	9851.0	11841.3
57.5°	12740.3	12731.3	11611.2	10108.3	10709.2	12041.1	12077.4	11953.3	10538.9	10205.9	12352.9
60°	12981.8	13097.5	12203.0	10567.6	10732.6	12175.8	12189.4	11991.9	11070.1	10661.5	12489.1
62.5°	12887.9	13108.1	12493.6	10980.8	10516.9	11808.0	11864.8	11728.5	11045.9	11139.8	12184.9
65°	12461.1	12715.4	12241.6	11201.1	10384.5	11192.0	11206.4	10862.0	10700.1	11456.9	11472.0
67.5°	11660.4	11898.8	11439.4	10849.9	9477.9	9531.6	9852.5	9880.5	9644.4	11217.7	10470.8
70°	10258.9	10426.9	10139.3	9982.6	7921.9	7607.1	7955.2	8104.3	8211.8	10354.2	9269.0
72.5°	8121.7	8446.4	8491.8	8594.0	6378.1	5853.7	6111.7	5890.8	6590.8	8812.7	7573.1
75°	6008.8	6282.8	6577.2	7147.0	5027.3	4382.5	4350.7	4238.0	4891.8	7087.2	5616.8
77.5°	4246.3	4421.1	4647.4	5709.1	3793.7	3375.2	3394.9	3280.6	3532.6	5356.5	3880.0
80°	3043.8	3135.3	3240.5	3761.2	2798.6	2912.1	2915.1	2806.9	2626.8	3637.8	2589.7
82.5°	2168.9	2240.1	2360.4	2480.7	2086.4	2386.9	2384.6	2377.8	2082.7	2458.8	1620.3
85°	1207.8	1303.2	1512.0	1943.4	1506.7	1706.5	1500.7	1652.8	1528.7	1636.9	820.3
87.5°	84.8	75.7	338.3	1126.1	703.0	513.9	269.4	533.5	684.1	855.2	114.3
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°	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5
2.5°	2202.2	2228.7	2125.0	1969.1	2011.5	1965.4	1907.1	1816.3	1629.3	1745.1	1745.9
5°	2644.9	2544.3	2463.3	2386.9	2258.2	2063.7	2038.0	1882.1	1794.3	1840.5	1833.7
7.5°	2783.4	2640.4	2518.6	2245.4	2007.0	1705.0	1614.2	1521.9	1483.3	1595.3	1639.9
10°	2631.3	2482.2	2362.7	2030.4	1868.5	1680.0	1430.3	1302.4	1226.7	1256.3	1273.7
12.5°	2753.9	2601.8	2225.7	2040.3	1773.1	1658.1	1439.4	1251.7	1139.7	1167.0	1134.4
15°	2872.0	2666.9	2290.8	1921.5	1705.0	1538.5	1361.4	1167.7	1036.0	989.1	964.1
17.5°	3303.3	2962.8	2283.2	1854.9	1606.6	1415.2	1201.8	989.9	902.1	853.6	812.0
20°	3829.3	3354.8	2324.1	1786.0	1502.2	1260.8	1028.5	831.7	770.4	738.6	727.3
22.5°	4455.1	3857.3	2557.9	1776.2	1403.8	1148.0	933.1	810.5	741.6	706.8	692.5
25°	4952.4	4377.2	2730.5	1842.8	1398.5	1054.9	875.6	900.6	868.8	879.4	795.4
27.5°	5435.2	4518.7	2633.6	1813.2	1257.8	890.0	862.0	914.2	941.4	949.8	946.7
30°	5843.1	5116.6	2654.8	1646.7	1062.5	725.0	659.9	685.6	760.6	879.4	902.1
32.5°	6440.2	5402.6	2835.6	1546.1	949.8	648.6	575.9	566.1	583.5	626.6	663.7
35°	7138.7	6061.0	2886.3	1519.6	871.8	614.5	563.8	541.1	550.2	582.7	590.3
37.5°	8441.1	6540.8	3074.0	1487.1	843.0	594.1	554.7	546.4	566.1	592.6	607.7
40°	9159.3	7403.6	3083.1	1459.1	806.0	585.7	560.8	557.0	569.1	605.4	614.5
42.5°	10116.6	7895.5	3225.4	1426.5	793.1	597.1	572.9	571.4	582.0	603.2	619.8
45°	10700.1	8224.7	3233.0	1407.6	790.1	647.0	588.8	583.5	581.2	594.1	609.2
47.5°	11076.2	8699.2	3325.3	1386.4	808.2	659.9	607.7	585.0	577.4	582.7	594.1
50°	11432.6	9078.3	3500.1	1383.4	827.2	647.0	641.0	584.2	569.1	566.8	575.2
52.5°	11870.1	9701.9	3715.8	1412.1	822.6	628.1	666.0	581.2	554.0	548.7	557.0
55°	12506.5	10370.1	3945.1	1387.9	775.7	591.8	641.7	578.9	538.1	528.2	535.8
57.5°	12918.9	10753.0	4201.6	1367.5	704.6	564.6	619.8	580.4	539.6	517.6	522.2
60°	12782.0	10547.2	4302.3	1242.6	637.2	543.4	567.6	568.3	526.0	505.5	509.3
62.5°	12176.5	9801.8	4208.4	1097.3	587.3	513.1	513.9	545.6	486.6	472.2	478.3
65°	11330.5	8874.7	3828.5	1002.7	563.8	481.3	469.2	479.0	433.6	423.0	435.1
67.5°	10292.2	7732.0	3263.2	902.8	555.5	438.2	423.8	420.0	391.3	379.1	391.3
70°	8989.8	6474.2	2608.6	832.5	523.7	391.3	379.9	376.1	351.9	342.8	353.4
72.5°	7225.7	5055.3	2013.0	778.7	488.9	348.1	338.3	333.7	313.3	300.4	313.3
75°	5139.3	3863.3	1495.4	696.2	439.7	304.2	292.9	286.8	267.9	255.8	267.1
77.5°	3652.2	2900.0	1044.4	575.9	362.5	257.3	250.5	240.7	224.0	209.6	221.0
80°	2700.2	2072.1	673.5	444.2	277.0	205.8	202.1	195.2	179.4	162.0	170.3
82.5°	1777.7	1493.9	386.0	301.2	201.3	148.3	151.4	146.8	131.7	113.5	118.1
85°	796.1	884.7	205.1	165.7	130.9	89.3	97.6	94.6	83.2	65.8	67.4
87.5°	76.4	149.1	62.8	60.5	48.4	28.0	34.8	29.5	25.0	15.9	12.1
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°	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5
2.5°	1772.4	1665.7	1559.0	1624.0	1625.6	1643.0	1645.2	1580.9	1632.4	1671.7	1712.6
5°	1800.4	1730.7	1734.5	1671.7	1637.7	1681.6	1672.5	1655.1	1686.1	1729.2	1781.5
7.5°	1597.6	1552.2	1544.6	1484.0	1337.2	1304.7	1331.9	1343.3	1384.9	1451.5	1507.5
10°	1247.2	1337.2	1235.8	1212.4	1173.8	1098.1	1054.2	1048.9	1137.4	1191.2	1238.1
12.5°	1123.8	1101.1	1089.0	1024.7	1024.7	944.5	918.7	942.2	1078.4	1117.0	1177.5
15°	957.3	940.7	884.7	852.9	837.8	805.2	832.5	855.2	982.3	985.3	1048.9
17.5°	794.6	784.8	731.8	725.7	710.6	696.2	721.2	775.7	844.6	832.5	862.0
20°	710.6	676.6	628.1	645.5	629.6	618.3	607.7	684.9	733.3	749.2	766.6
22.5°	689.4	627.4	598.6	582.7	583.5	565.3	567.6	631.9	705.3	715.2	704.6
25°	787.8	677.3	584.2	538.1	520.7	514.6	532.0	588.8	677.3	698.5	706.8
27.5°	921.8	735.6	601.6	522.9	488.1	491.1	516.1	555.5	659.9	697.7	707.6
30°	884.7	691.7	602.4	511.6	468.4	484.3	493.4	531.3	646.3	703.0	752.2
32.5°	682.6	622.1	606.2	520.7	503.3	478.3	491.1	527.5	606.2	641.7	644.0
35°	578.2	532.0	521.4	500.2	476.0	465.4	479.8	511.6	563.0	585.0	582.0
37.5°	573.6	522.9	481.3	472.2	462.4	459.4	467.7	497.2	549.4	588.0	579.7
40°	581.2	518.4	476.0	460.1	463.9	450.3	458.6	494.9	551.7	588.0	580.4
42.5°	572.1	513.1	469.2	457.1	460.9	442.0	451.8	489.6	545.6	588.8	574.4
45°	554.0	501.0	465.4	445.0	462.4	434.4	446.5	476.0	527.5	574.4	557.7
47.5°	535.8	486.6	449.5	436.7	454.1	426.8	432.1	457.9	509.3	555.5	541.1
50°	516.1	468.4	436.7	432.9	445.0	425.3	417.0	438.2	487.4	533.5	521.4
52.5°	494.9	453.3	427.6	426.1	437.4	415.5	403.4	420.0	463.9	510.1	500.2
55°	474.5	436.7	416.2	420.0	432.9	407.1	392.0	402.6	438.9	484.3	470.7
57.5°	454.1	417.7	401.1	411.7	421.5	396.6	377.6	383.7	413.2	457.9	442.0
60°	435.9	401.1	384.4	397.3	406.4	380.7	358.7	362.5	389.0	429.1	414.7
62.5°	412.4	382.9	361.0	377.6	384.4	359.5	336.0	340.5	361.7	399.6	389.0
65°	379.1	360.2	339.8	351.1	360.2	334.5	312.5	317.8	333.7	369.3	361.7
67.5°	350.4	332.2	318.6	327.7	329.2	309.5	289.8	292.9	305.7	339.0	330.7
70°	318.6	301.2	290.6	297.4	296.7	280.0	264.9	265.6	276.2	306.5	295.1
72.5°	283.8	267.1	261.8	265.6	262.6	247.5	233.1	238.4	245.2	267.9	258.8
75°	246.7	231.6	228.5	232.3	227.8	213.4	200.5	205.8	211.9	230.8	219.5
77.5°	208.1	194.5	195.2	196.0	190.0	180.1	167.2	172.5	176.3	189.2	177.8
80°	165.7	155.1	158.2	158.2	151.4	144.5	132.4	133.9	136.2	140.8	132.4
82.5°	121.1	121.1	121.1	121.8	107.5	109.7	99.1	98.4	96.1	95.4	90.1
85°	71.9	74.9	76.4	78.7	58.3	68.1	59.0	56.8	52.2	47.7	46.2
87.5°	15.9	20.4	20.4	19.7	0.0	7.6	3.8	6.1	1.5	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°	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5	1644.5
2.5°	1665.7	1620.3	1705.0	1780.7	1768.6	1812.5	1710.3	1861.7	2022.1	2022.1
5°	1767.8	1729.2	1751.2	1795.1	1828.4	1981.2	2108.4	2234.8	2495.9	2498.9
7.5°	1490.9	1574.1	1593.8	1580.9	1723.9	1920.7	2130.3	2490.6	2711.5	2728.9
10°	1394.0	1431.8	1491.6	1524.9	1583.2	1776.9	2037.2	2464.8	2699.4	2743.3
12.5°	1263.1	1403.1	1493.9	1680.0	1726.2	1764.8	2178.8	2548.8	2710.8	2700.2
15°	1120.0	1226.0	1356.9	1562.7	1680.0	1975.2	2262.8	2818.2	2909.8	2990.0
17.5°	893.0	970.9	1145.0	1379.6	1670.2	1941.9	2470.1	3151.2	3322.3	3405.5
20°	734.8	735.6	909.6	1220.7	1537.0	1802.6	2548.8	3427.4	3644.6	3687.0
22.5°	694.7	659.9	751.5	1004.2	1390.2	1885.1	2707.7	3871.7	4325.0	4431.7
25°	672.8	630.4	687.9	886.2	1285.0	1928.3	3027.9	4482.4	5064.4	5106.0
27.5°	681.9	701.5	719.7	790.1	1151.8	1847.3	2953.7	4755.6	5379.2	5457.9
30°	743.2	774.9	733.3	757.5	1042.1	1730.0	3086.1	5199.1	5775.7	5908.2
32.5°	618.3	606.2	602.4	655.4	932.3	1624.0	3363.9	5823.4	6205.6	6372.1
35°	557.7	538.8	546.4	606.9	878.6	1608.9	3519.8	6340.3	6884.4	6986.6
37.5°	555.5	533.5	543.4	588.8	897.5	1636.2	3769.5	7169.7	8081.6	8300.3
40°	550.2	538.1	543.4	577.4	877.9	1651.3	3913.3	7866.7	8915.6	9137.3
42.5°	549.4	543.4	548.7	586.5	857.4	1658.1	4112.3	8496.3	9794.2	9969.0
45°	547.1	553.2	553.2	594.1	848.3	1703.5	4229.6	8805.1	10373.9	10589.6
47.5°	536.6	554.7	584.2	591.8	811.3	1682.3	4395.4	9273.5	10681.9	10884.7
50°	522.9	552.4	623.6	576.7	805.2	1630.9	4589.1	9645.1	11076.9	11253.3
52.5°	504.8	548.7	614.5	547.1	794.6	1621.8	4860.8	10128.0	11537.8	11693.7
55°	479.0	535.0	586.5	517.6	768.9	1593.0	5276.3	10726.6	12141.0	12247.7
57.5°	455.6	514.6	545.6	501.0	707.6	1599.1	5565.3	11214.7	12647.3	12740.3
60°	434.4	512.3	487.4	483.6	644.8	1518.1	5659.2	11209.4	12835.7	12981.8
62.5°	411.7	483.6	446.5	460.1	589.5	1434.8	5460.1	10728.8	12632.1	12887.9
65°	382.2	414.7	412.4	443.5	591.0	1299.4	5003.8	9881.2	12124.3	12461.1
67.5°	347.4	367.0	379.9	416.2	610.0	1194.2	4269.7	8861.9	11260.1	11660.4
70°	311.8	331.5	345.8	380.7	627.4	1145.8	3398.7	7430.0	9852.5	10258.9
72.5°	275.5	295.9	307.3	337.5	603.9	1042.1	2515.5	5781.0	7908.3	8121.7
75°	237.6	257.3	266.4	294.4	524.4	862.0	1736.8	4378.7	5792.4	6008.8
77.5°	199.0	220.2	223.2	246.0	400.3	659.2	1113.2	3358.6	4101.7	4246.3
80°	158.9	180.1	180.1	192.2	281.5	453.3	666.7	2533.7	2987.0	3043.8
82.5°	114.3	137.0	135.5	136.2	194.5	280.8	386.0	1898.8	2158.3	2168.9
85°	67.4	83.2	82.5	75.7	115.0	151.4	208.9	1179.1	1204.8	1207.8
87.5°	12.9	19.7	17.4	7.6	31.8	44.6	60.5	218.7	87.0	84.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)