

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: P367710

Luminaire Tested: **MSA-SA3A-740-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367710
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-SA3A-740-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: 10048 lumens
Efficiency: N/A
Efficacy: 104.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

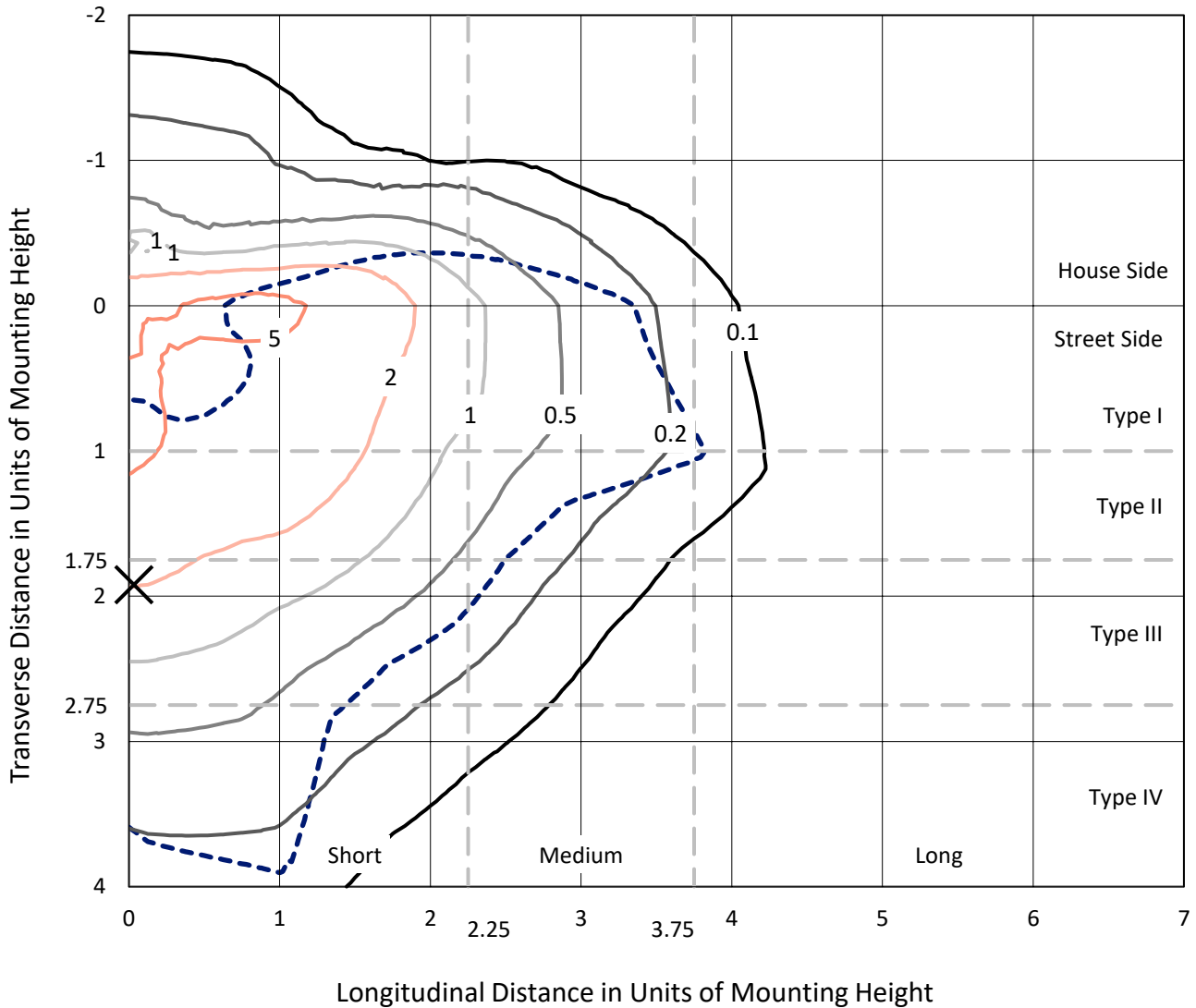
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

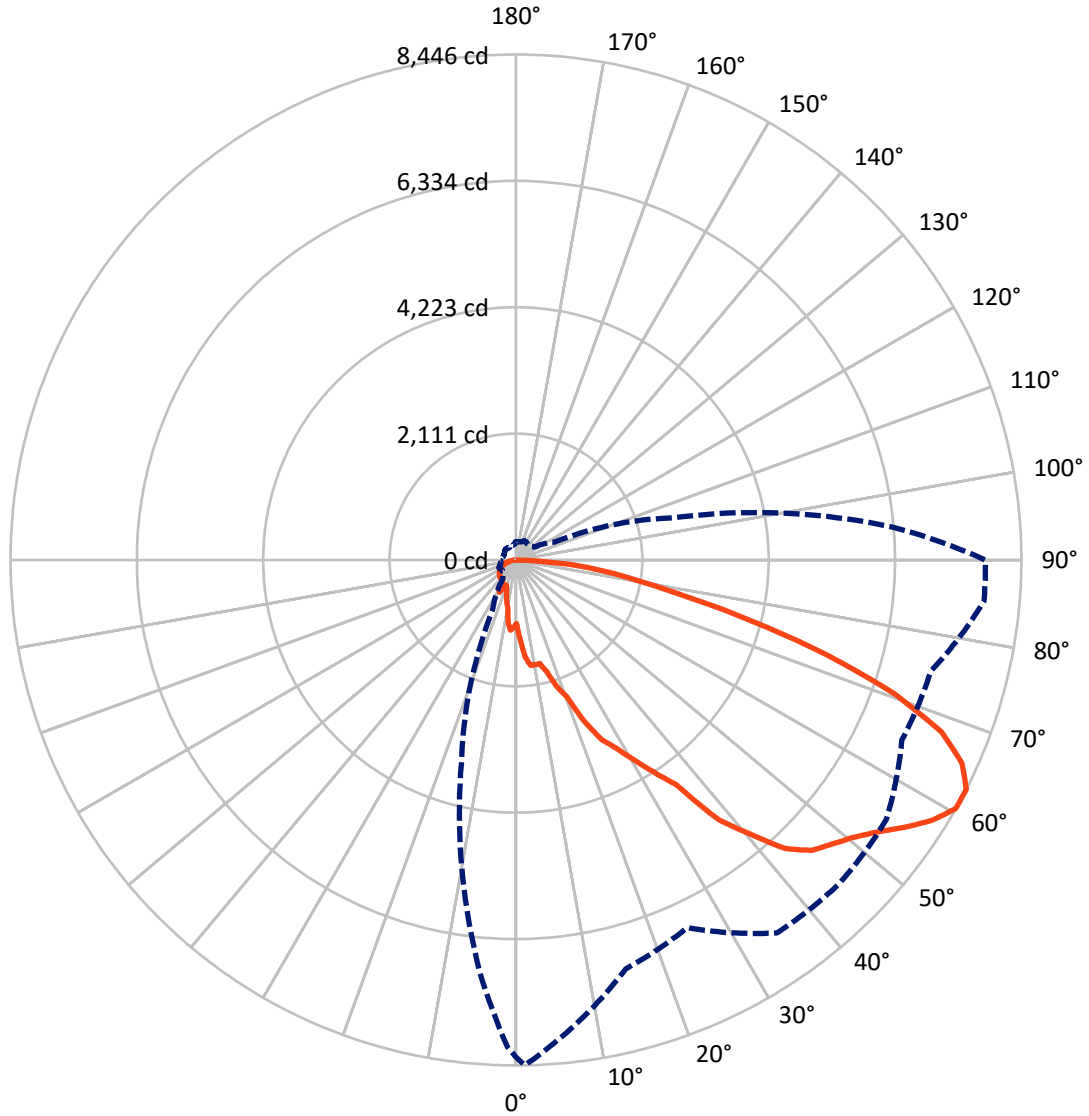
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.7 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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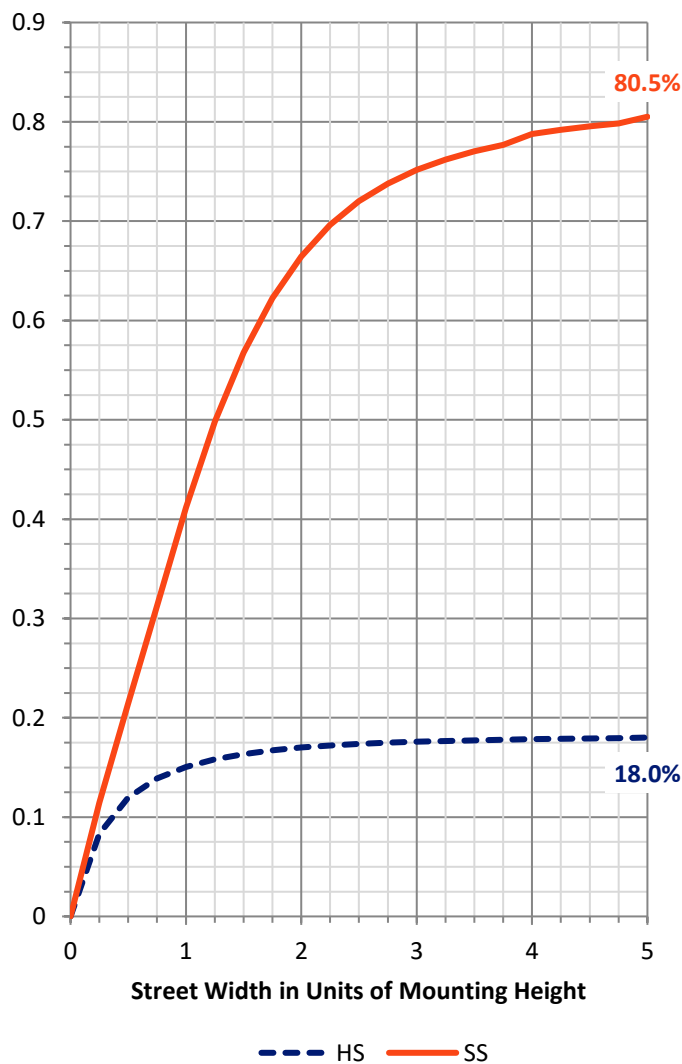
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1829.7	0.0	1829.7
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	8218.3	0.0	8218.3
	% Fixture	81.8	0.0	81.8
Total	Lumens	10048.0	0.0	10048.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.5	1.2
10°-20°	353.0	3.5
20°-30°	623.1	6.2
30°-40°	970.6	9.7
40°-50°	1598.2	15.9
50°-60°	2281.1	22.7
60°-70°	2418.9	24.1
70°-80°	1336.1	13.3
80°-90°	345.6	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°	10048.0	100.0
0°-180°	10048.0	100.0

Coefficient of Utilization



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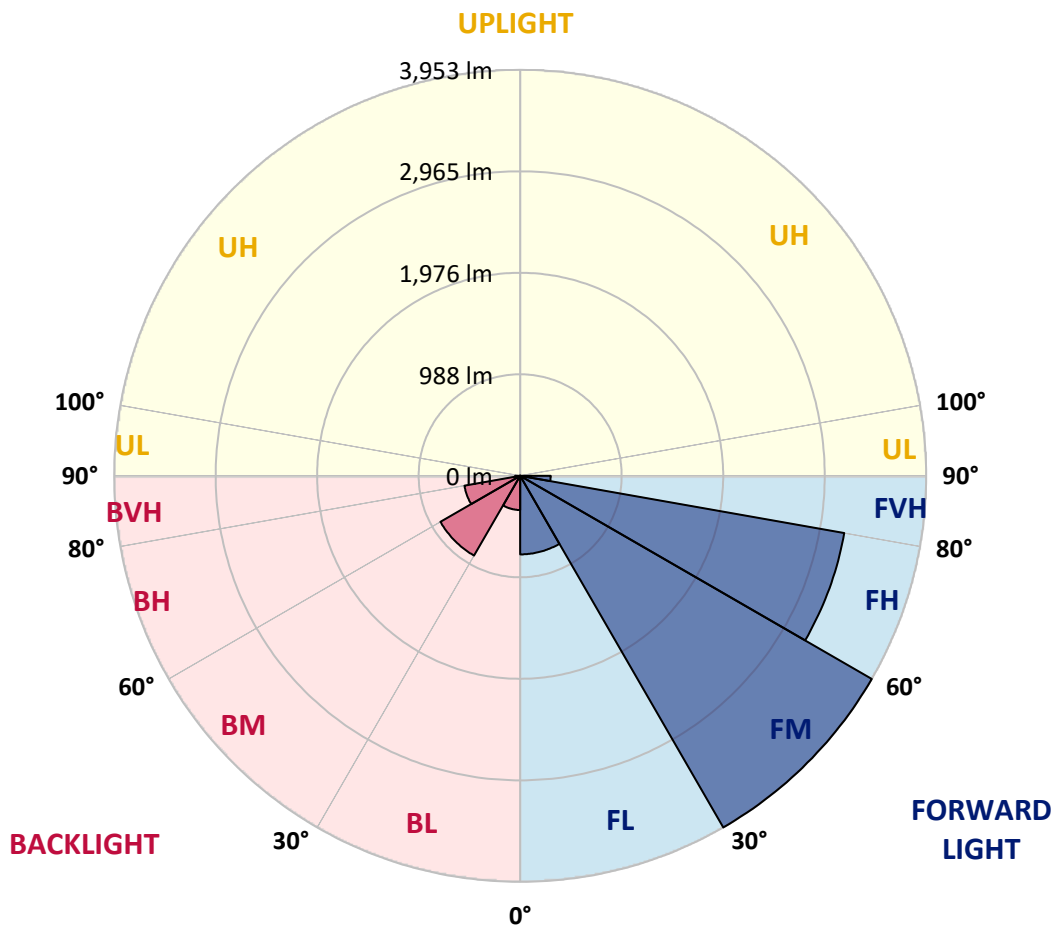
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	764.8	7.6			
FM (30°-60°)	3953.0	39.3			
FH (60°-80°)	3203.7	31.9			G2/5000
FVH (80°-90°)	296.8	3.0			G3/500
BL (0°-30°)	332.8	3.3	B1/500		
BM (30°-60°)	896.9	8.9	B1/1000		
BH (60°-80°)	551.2	5.5	B2/1000		G2/1000
BVH (80°-90°)	48.7	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°	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6
2.5°	1302.9	1314.1	1291.2	1265.3	1158.5	1261.4	1230.7	1287.7	1269.2	1145.4	1372.1
5°	1610.1	1630.5	1608.1	1685.6	1690.5	1710.5	1525.7	1640.8	1600.8	1590.5	1705.1
7.5°	1758.3	1779.2	1836.3	1974.3	2082.0	1984.5	1876.8	1852.9	1821.7	1740.2	1809.5
10°	1767.5	1779.2	1855.8	2148.4	2200.5	2269.8	2200.0	2035.7	1967.9	1790.9	1738.3
12.5°	1739.8	1776.3	1875.3	2231.7	2386.8	2462.4	2479.4	2296.6	2130.3	1928.5	1901.6
15°	1926.5	1939.7	2081.6	2291.2	2398.0	2461.9	2517.5	2404.8	2352.7	2192.7	1977.7
17.5°	2194.2	2230.8	2346.8	2424.3	2496.5	2508.7	2462.9	2419.0	2336.1	2549.7	2321.0
20°	2375.6	2446.3	2588.7	2603.3	2451.6	2478.5	2472.1	2475.0	2427.8	2822.7	2696.9
22.5°	2855.4	2931.9	2951.4	2866.6	2580.9	2458.5	2482.9	2553.6	2739.8	3078.2	3220.6
25°	3289.8	3319.6	3497.5	3279.1	2823.7	2557.0	2517.0	2699.8	3003.6	3508.3	3609.7
27.5°	3516.6	3555.1	3673.6	3198.2	2853.9	2430.2	2336.6	2615.0	2924.6	3305.9	3751.1
30°	3806.7	3868.1	4029.5	3279.1	2945.1	2513.1	2305.9	2572.1	2914.4	3438.5	4050.5
32.5°	4105.6	4225.0	4345.0	3564.3	2932.4	2639.9	2502.4	2523.8	3007.0	3716.5	4360.6
35°	4501.5	4606.8	4710.2	3729.2	3187.9	2745.7	2609.1	2836.4	3245.0	4038.8	4793.1
37.5°	5348.0	5514.7	5242.2	4198.2	3465.8	3222.5	2976.3	3110.9	3496.6	4307.4	5499.6
40°	5887.3	6012.6	5749.3	4517.6	3955.4	3543.9	3503.4	3514.6	3843.3	4537.6	5975.0
42.5°	6423.1	6592.8	6174.0	4956.0	4547.3	4207.5	3998.8	3984.7	4231.4	4951.1	6515.8
45°	6823.0	6922.9	6319.8	5325.6	5182.2	4930.1	4773.6	4525.4	4741.4	5237.3	6850.3
47.5°	7013.1	7094.6	6554.3	5540.6	5593.7	5606.9	5889.2	5466.0	5187.1	5430.9	7025.8
50°	7250.6	7289.1	6692.3	5729.8	5984.8	6563.1	6630.9	5913.6	5621.0	5642.0	7129.7
52.5°	7534.4	7550.5	6893.7	5948.2	6380.2	7192.1	7087.2	6672.3	6034.0	6027.7	7325.2
55°	7891.3	7881.5	7146.2	6242.2	6662.5	7566.1	7486.6	7184.3	6484.1	6347.1	7629.5
57.5°	8208.7	8202.9	7481.2	6512.9	6900.0	7758.2	7781.6	7701.6	6790.3	6575.8	7959.1
60°	8364.3	8438.9	7862.5	6808.8	6915.1	7845.0	7853.7	7726.5	7132.6	6869.3	8046.8
62.5°	8303.8	8445.7	8049.8	7075.1	6776.2	7608.0	7644.6	7556.8	7117.0	7177.4	7850.8
65°	8028.8	8192.6	7887.4	7216.9	6690.8	7211.1	7220.4	6998.5	6894.2	7381.8	7391.5
67.5°	7512.9	7666.5	7370.5	6990.7	6106.7	6141.3	6348.0	6366.1	6214.0	7227.7	6746.4
70°	6609.9	6718.1	6532.8	6431.9	5104.2	4901.3	5125.6	5221.7	5290.9	6671.3	5972.1
72.5°	5232.9	5442.1	5471.3	5537.2	4109.5	3771.6	3937.8	3795.5	4246.5	5678.1	4879.4
75°	3871.5	4048.0	4237.7	4604.9	3239.1	2823.7	2803.2	2730.6	3151.8	4566.4	3619.0
77.5°	2735.9	2848.6	2994.3	3678.4	2444.3	2174.7	2187.4	2113.7	2276.1	3451.2	2499.9
80°	1961.1	2020.1	2087.9	2423.4	1803.1	1876.3	1878.2	1808.5	1692.5	2343.9	1668.6
82.5°	1397.5	1443.3	1520.8	1598.3	1344.3	1537.9	1536.4	1532.0	1341.9	1584.2	1043.9
85°	778.2	839.6	974.2	1252.2	970.8	1099.5	966.9	1064.9	984.9	1054.7	528.6
87.5°	54.6	48.8	218.0	725.5	453.0	331.1	173.6	343.8	440.8	551.0	73.6
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°	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6
2.5°	1418.9	1436.0	1369.2	1268.7	1296.0	1266.3	1228.7	1170.2	1049.8	1124.4	1124.9
5°	1704.2	1639.3	1587.1	1537.9	1455.0	1329.7	1313.1	1212.7	1156.1	1185.8	1181.5
7.5°	1793.4	1701.2	1622.7	1446.7	1293.1	1098.6	1040.0	980.6	955.7	1027.9	1056.6
10°	1695.4	1599.3	1522.3	1308.2	1203.9	1082.5	921.6	839.2	790.4	809.4	820.6
12.5°	1774.4	1676.4	1434.0	1314.6	1142.4	1068.3	927.4	806.5	734.3	751.9	730.9
15°	1850.4	1718.3	1476.0	1238.0	1098.6	991.3	877.2	752.4	667.5	637.3	621.2
17.5°	2128.4	1908.9	1471.1	1195.1	1035.2	911.8	774.3	637.8	581.2	550.0	523.2
20°	2467.2	2161.5	1497.4	1150.7	967.9	812.3	662.6	535.9	496.4	475.9	468.6
22.5°	2870.5	2485.3	1648.1	1144.4	904.5	739.7	601.2	522.2	477.8	455.4	446.2
25°	3190.8	2820.3	1759.3	1187.3	901.1	679.7	564.2	580.2	559.8	566.6	512.5
27.5°	3501.9	2911.5	1696.8	1168.3	810.4	573.4	555.4	589.0	606.6	611.9	610.0
30°	3764.7	3296.7	1710.5	1061.0	684.6	467.1	425.2	441.8	490.0	566.6	581.2
32.5°	4149.5	3481.0	1827.0	996.2	611.9	417.9	371.1	364.7	375.9	403.7	427.6
35°	4599.5	3905.2	1859.7	979.1	561.7	395.9	363.3	348.6	354.5	375.5	380.3
37.5°	5438.7	4214.3	1980.6	958.1	543.2	382.8	357.4	352.0	364.7	381.8	391.5
40°	5901.4	4770.2	1986.5	940.1	519.3	377.4	361.3	358.9	366.7	390.1	395.9
42.5°	6518.2	5087.1	2078.1	919.1	511.0	384.7	369.1	368.1	375.0	388.6	399.3
45°	6894.2	5299.2	2083.0	906.9	509.1	416.9	379.4	375.9	374.5	382.8	392.5
47.5°	7136.5	5604.9	2142.5	893.3	520.8	425.2	391.5	376.9	372.0	375.5	382.8
50°	7366.2	5849.2	2255.1	891.3	532.9	416.9	413.0	376.4	366.7	365.2	370.6
52.5°	7648.0	6251.0	2394.1	909.9	530.0	404.7	429.1	374.5	356.9	353.5	358.9
55°	8058.1	6681.6	2541.9	894.3	499.8	381.3	413.5	373.0	346.7	340.3	345.2
57.5°	8323.8	6928.3	2707.1	881.1	454.0	363.7	399.3	374.0	347.7	333.5	336.4
60°	8235.5	6795.7	2772.0	800.6	410.6	350.1	365.7	366.2	338.9	325.7	328.2
62.5°	7845.5	6315.4	2711.5	707.0	378.4	330.6	331.1	351.6	313.5	304.3	308.2
65°	7300.3	5718.1	2466.8	646.1	363.3	310.1	302.3	308.6	279.4	272.6	280.4
67.5°	6631.3	4981.8	2102.5	581.7	357.9	282.3	273.1	270.6	252.1	244.3	252.1
70°	5792.2	4171.4	1680.8	536.4	337.4	252.1	244.8	242.3	226.7	220.9	227.7
72.5°	4655.6	3257.2	1297.0	501.7	315.0	224.3	218.0	215.0	201.9	193.6	201.9
75°	3311.3	2489.2	963.5	448.6	283.3	196.0	188.7	184.8	172.6	164.8	172.1
77.5°	2353.2	1868.5	672.9	371.1	233.6	165.8	161.4	155.1	144.3	135.1	142.4
80°	1739.8	1335.0	434.0	286.2	178.5	132.6	130.2	125.8	115.6	104.3	109.7
82.5°	1145.4	962.5	248.7	194.1	129.7	95.6	97.5	94.6	84.8	73.1	76.1
85°	513.0	570.0	132.1	106.8	84.4	57.5	62.9	60.9	53.6	42.4	43.4
87.5°	49.2	96.1	40.5	39.0	31.2	18.0	22.4	19.0	16.1	10.2	7.8
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6
2.5°	1142.0	1073.2	1004.5	1046.4	1047.4	1058.6	1060.0	1018.6	1051.7	1077.1	1103.4
5°	1160.0	1115.1	1117.6	1077.1	1055.2	1083.4	1077.6	1066.4	1086.4	1114.2	1147.8
7.5°	1029.3	1000.1	995.2	956.2	861.6	840.6	858.2	865.5	892.3	935.2	971.3
10°	803.6	861.6	796.2	781.1	756.3	707.5	679.2	675.8	732.9	767.5	797.7
12.5°	724.1	709.5	701.7	660.2	660.2	608.5	591.9	607.1	694.8	719.7	758.7
15°	616.8	606.1	570.0	549.5	539.8	518.8	536.4	551.0	632.9	634.9	675.8
17.5°	512.0	505.6	471.5	467.6	457.9	448.6	464.7	499.8	544.2	536.4	555.4
20°	457.9	435.9	404.7	415.9	405.7	398.4	391.5	441.3	472.5	482.7	493.9
22.5°	444.2	404.2	385.7	375.5	375.9	364.2	365.7	407.1	454.4	460.8	454.0
25°	507.6	436.4	376.4	346.7	335.5	331.6	342.8	379.4	436.4	450.1	455.4
27.5°	593.9	473.9	387.6	336.9	314.5	316.5	332.5	357.9	425.2	449.6	455.9
30°	570.0	445.7	388.1	329.6	301.8	312.1	317.9	342.3	416.4	453.0	484.7
32.5°	439.8	400.8	390.6	335.5	324.3	308.2	316.5	339.9	390.6	413.5	414.9
35°	372.5	342.8	336.0	322.3	306.7	299.9	309.1	329.6	362.8	376.9	375.0
37.5°	369.6	336.9	310.1	304.3	297.9	296.0	301.3	320.4	354.0	378.9	373.5
40°	374.5	334.0	306.7	296.5	298.9	290.1	295.5	318.9	355.5	378.9	374.0
42.5°	368.6	330.6	302.3	294.5	296.9	284.8	291.1	315.5	351.6	379.4	370.1
45°	356.9	322.8	299.9	286.7	297.9	279.9	287.7	306.7	339.9	370.1	359.4
47.5°	345.2	313.5	289.6	281.3	292.6	275.0	278.4	295.0	328.2	357.9	348.6
50°	332.5	301.8	281.3	278.9	286.7	274.0	268.7	282.3	314.0	343.8	336.0
52.5°	318.9	292.1	275.5	274.5	281.8	267.7	259.9	270.6	298.9	328.6	322.3
55°	305.7	281.3	268.2	270.6	278.9	262.3	252.6	259.4	282.8	312.1	303.3
57.5°	292.6	269.2	258.4	265.3	271.6	255.5	243.3	247.2	266.2	295.0	284.8
60°	280.9	258.4	247.7	256.0	261.8	245.3	231.1	233.6	250.6	276.5	267.2
62.5°	265.7	246.7	232.6	243.3	247.7	231.6	216.5	219.4	233.1	257.5	250.6
65°	244.3	232.1	218.9	226.2	232.1	215.5	201.4	204.8	215.0	237.9	233.1
67.5°	225.8	214.1	205.3	211.1	212.1	199.4	186.8	188.7	197.0	218.4	213.1
70°	205.3	194.1	187.2	191.6	191.1	180.4	170.7	171.1	178.0	197.5	190.2
72.5°	182.8	172.1	168.7	171.1	169.2	159.4	150.2	153.6	158.0	172.6	166.8
75°	159.0	149.2	147.3	149.7	146.8	137.5	129.2	132.6	136.5	148.7	141.4
77.5°	134.1	125.3	125.8	126.3	122.4	116.0	107.8	111.2	113.6	121.9	114.6
80°	106.8	100.0	101.9	101.9	97.5	93.1	85.3	86.3	87.8	90.7	85.3
82.5°	78.0	78.0	78.0	78.5	69.2	70.7	63.9	63.4	61.9	61.4	58.0
85°	46.3	48.3	49.2	50.7	37.5	43.9	38.0	36.6	33.6	30.7	29.7
87.5°	10.2	13.2	13.2	12.7	0.0	4.9	2.4	3.9	1.0	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°	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6	1059.6
2.5°	1073.2	1043.9	1098.6	1147.3	1139.5	1167.8	1102.0	1199.5	1302.9	1302.9
5°	1139.0	1114.2	1128.3	1156.6	1178.0	1276.5	1358.4	1439.9	1608.1	1610.1
7.5°	960.6	1014.2	1026.9	1018.6	1110.7	1237.5	1372.6	1604.7	1747.1	1758.3
10°	898.2	922.5	961.1	982.5	1020.1	1144.9	1312.6	1588.1	1739.3	1767.5
12.5°	813.8	904.0	962.5	1082.5	1112.2	1137.1	1403.8	1642.2	1746.6	1739.8
15°	721.6	789.9	874.3	1006.9	1082.5	1272.6	1457.9	1815.8	1874.8	1926.5
17.5°	575.4	625.6	737.7	888.9	1076.1	1251.2	1591.5	2030.4	2140.6	2194.2
20°	473.5	473.9	586.1	786.5	990.3	1161.5	1642.2	2208.3	2348.3	2375.6
22.5°	447.6	425.2	484.2	647.0	895.7	1214.6	1744.6	2494.6	2786.6	2855.4
25°	433.5	406.2	443.2	571.0	827.9	1242.4	1950.9	2888.0	3263.0	3289.8
27.5°	439.3	452.0	463.7	509.1	742.1	1190.2	1903.1	3064.1	3465.8	3516.6
30°	478.8	499.3	472.5	488.1	671.4	1114.7	1988.4	3349.8	3721.4	3806.7
32.5°	398.4	390.6	388.1	422.3	600.7	1046.4	2167.4	3752.1	3998.3	4105.6
35°	359.4	347.2	352.0	391.1	566.1	1036.6	2267.8	4085.1	4435.7	4501.5
37.5°	357.9	343.8	350.1	379.4	578.3	1054.2	2428.7	4619.5	5207.1	5348.0
40°	354.5	346.7	350.1	372.0	565.6	1063.9	2521.4	5068.6	5744.4	5887.3
42.5°	354.0	350.1	353.5	377.9	552.4	1068.3	2649.6	5474.3	6310.5	6423.1
45°	352.5	356.4	356.4	382.8	546.6	1097.6	2725.2	5673.2	6684.0	6823.0
47.5°	345.7	357.4	376.4	381.3	522.7	1083.9	2832.0	5975.0	6882.5	7013.1
50°	336.9	355.9	401.8	371.6	518.8	1050.8	2956.8	6214.4	7137.0	7250.6
52.5°	325.2	353.5	395.9	352.5	512.0	1044.9	3131.8	6525.5	7433.9	7534.4
55°	308.6	344.7	377.9	333.5	495.4	1026.4	3399.5	6911.2	7822.5	7891.3
57.5°	293.5	331.6	351.6	322.8	455.9	1030.3	3585.8	7225.7	8148.7	8208.7
60°	279.9	330.1	314.0	311.6	415.4	978.1	3646.3	7222.3	8270.2	8364.3
62.5°	265.3	311.6	287.7	296.5	379.8	924.5	3518.0	6912.7	8139.0	8303.8
65°	246.2	267.2	265.7	285.7	380.8	837.2	3224.0	6366.6	7811.8	8028.8
67.5°	223.8	236.5	244.8	268.2	393.0	769.4	2751.0	5709.8	7255.0	7512.9
70°	200.9	213.6	222.8	245.3	404.2	738.2	2189.8	4787.2	6348.0	6609.9
72.5°	177.5	190.7	198.0	217.5	389.1	671.4	1620.8	3724.8	5095.4	5232.9
75°	153.1	165.8	171.6	189.7	337.9	555.4	1119.0	2821.2	3732.1	3871.5
77.5°	128.2	141.9	143.8	158.5	257.9	424.7	717.3	2164.0	2642.8	2735.9
80°	102.4	116.0	116.0	123.9	181.4	292.1	429.6	1632.5	1924.6	1961.1
82.5°	73.6	88.3	87.3	87.8	125.3	180.9	248.7	1223.4	1390.6	1397.5
85°	43.4	53.6	53.1	48.8	74.1	97.5	134.6	759.7	776.3	778.2
87.5°	8.3	12.7	11.2	4.9	20.5	28.8	39.0	140.9	56.1	54.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)