

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: P367842

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

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367842
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-SA3B-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: 12593 lumens
Efficiency: N/A
Efficacy: 99.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

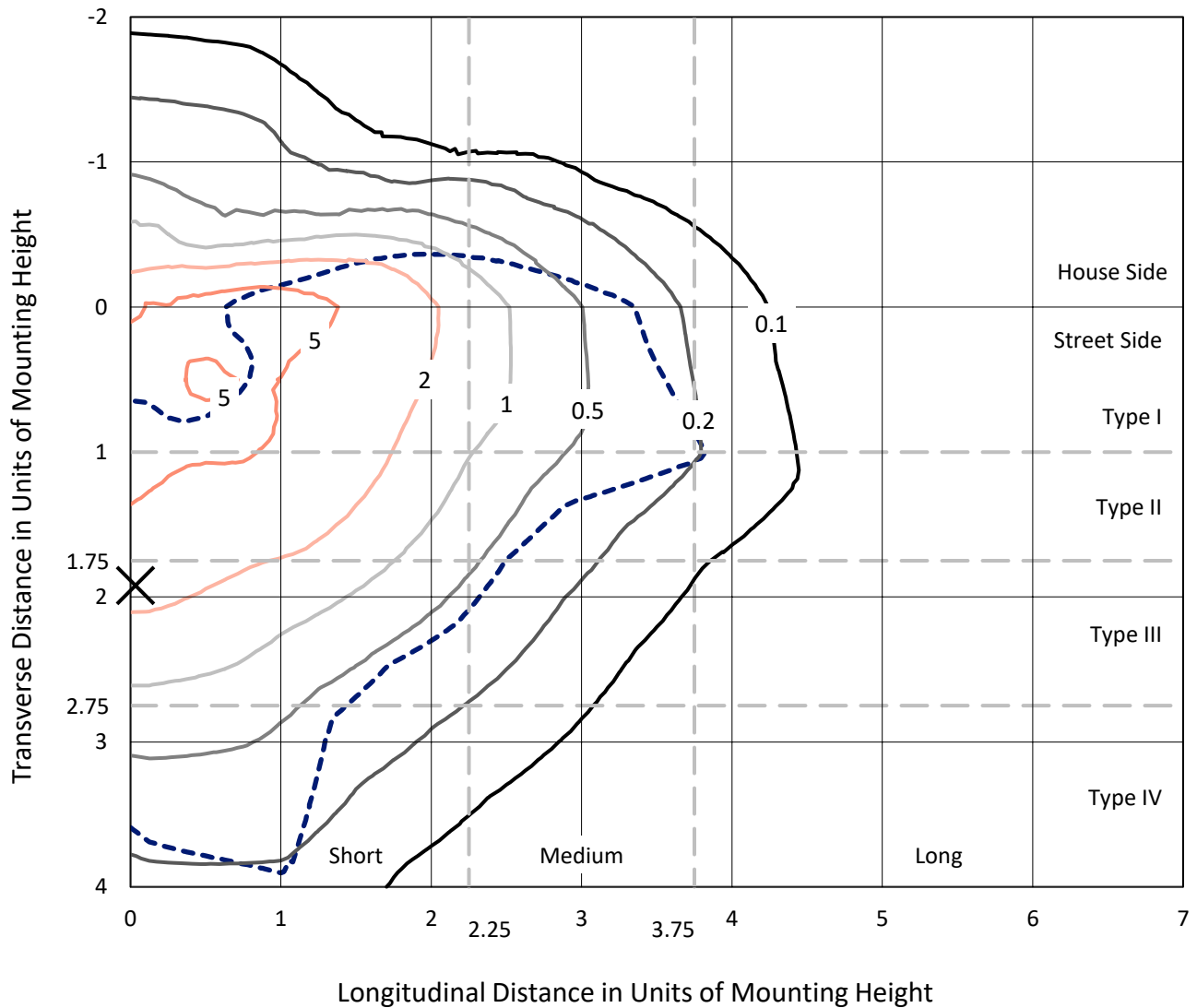
Input Watts (W): 126
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

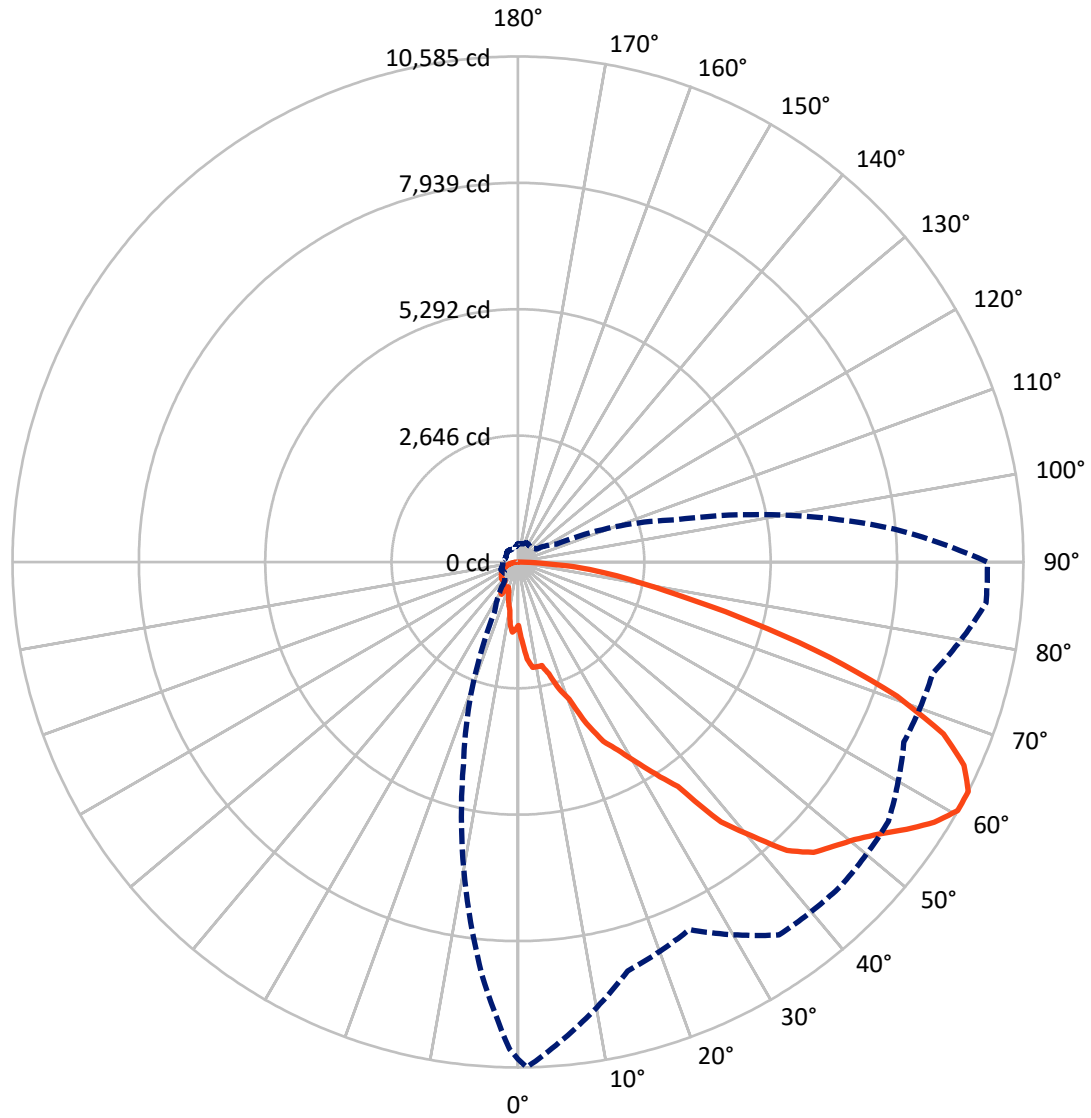
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.4 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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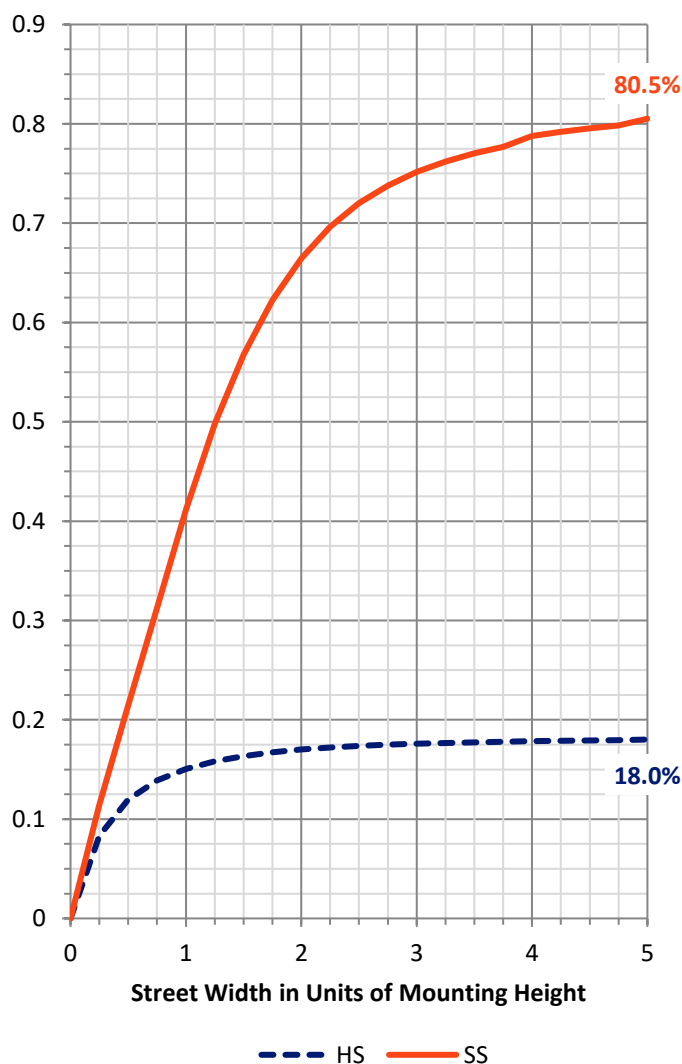
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2293.1	0.0	2293.1
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	10299.9	0.0	10299.9
	% Fixture	81.8	0.0	81.8
Total	Lumens	12593.0	0.0	12593.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.2	1.2
10°-20°	442.4	3.5
20°-30°	781.0	6.2
30°-40°	1216.5	9.7
40°-50°	2003.0	15.9
50°-60°	2858.8	22.7
60°-70°	3031.5	24.1
70°-80°	1674.5	13.3
80°-90°	433.1	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°	12593.0	100.0
0°-180°	12593.0	100.0

Coefficient of Utilization



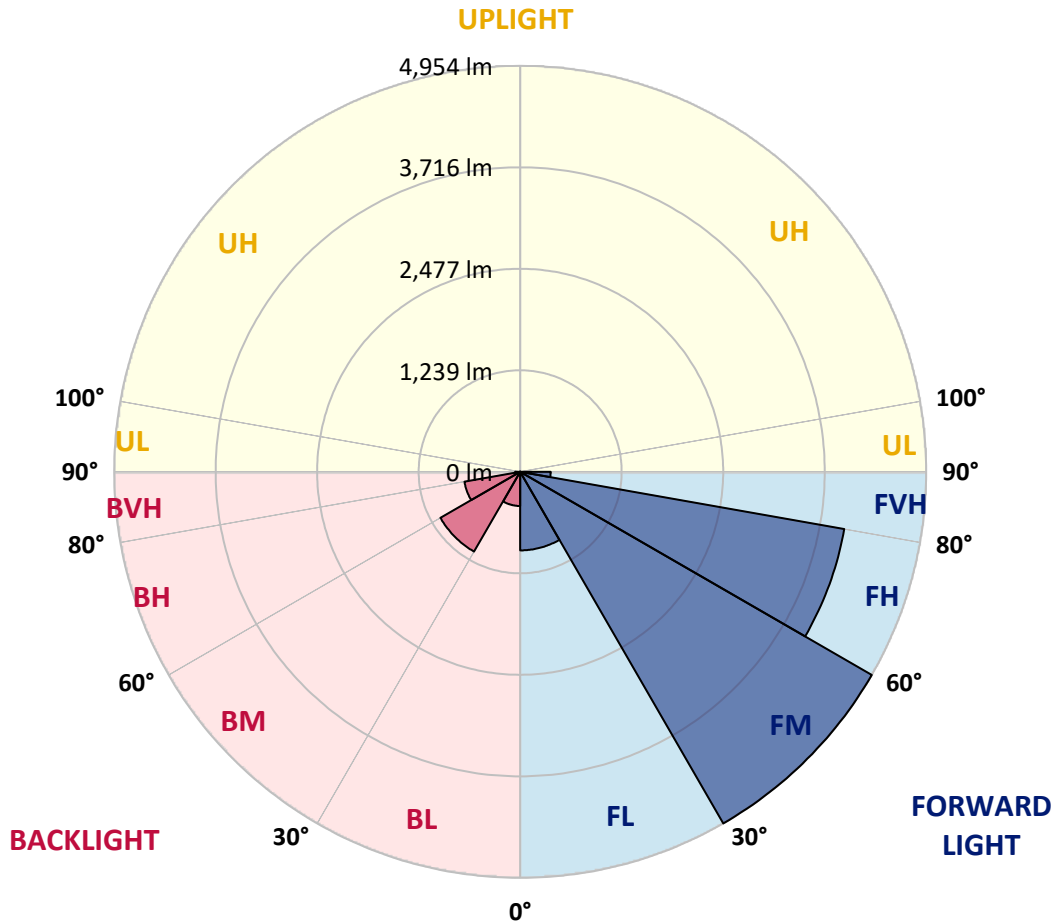
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	958.5	7.6			
FM (30°-60°)	4954.2	39.3			
FH (60°-80°)	4015.2	31.9			G2/5000
FVH (80°-90°)	372.0	3.0			G3/500
BL (0°-30°)	417.1	3.3	B1/500		
BM (30°-60°)	1124.1	8.9	B2/2500		
BH (60°-80°)	690.9	5.5	B2/1000		G2/1000
BVH (80°-90°)	61.1	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°	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9
2.5°	1632.9	1646.9	1618.2	1585.8	1452.0	1580.9	1542.4	1613.9	1590.7	1435.5	1719.6
5°	2017.9	2043.5	2015.4	2112.6	2118.7	2143.7	1912.1	2056.3	2006.2	1993.4	2137.0
7.5°	2203.6	2229.9	2301.4	2474.3	2609.4	2487.2	2352.1	2322.2	2283.1	2181.0	2267.8
10°	2215.2	2229.9	2325.8	2692.5	2757.9	2844.7	2757.3	2551.3	2466.4	2244.6	2178.6
12.5°	2180.4	2226.2	2350.3	2797.0	2991.3	3086.1	3107.4	2878.3	2669.9	2416.9	2383.3
15°	2414.5	2431.0	2608.8	2871.6	3005.4	3085.4	3155.1	3013.9	2948.6	2748.1	2478.6
17.5°	2749.9	2795.8	2941.2	3038.4	3128.8	3144.1	3086.7	3031.7	2927.8	3195.4	2908.8
20°	2977.3	3065.9	3244.3	3262.7	3072.6	3106.2	3098.3	3101.9	3042.7	3537.7	3380.0
22.5°	3578.6	3674.5	3699.0	3592.7	3234.5	3081.2	3111.7	3200.3	3433.8	3857.9	4036.3
25°	4123.1	4160.4	4383.4	4109.6	3538.9	3204.6	3154.5	3383.7	3764.4	4396.9	4524.0
27.5°	4407.2	4455.5	4604.0	4008.2	3576.8	3045.7	2928.4	3277.3	3665.4	4143.3	4701.2
30°	4770.9	4847.9	5050.1	4109.6	3691.0	3149.6	2889.9	3223.5	3652.5	4309.5	5076.4
32.5°	5145.5	5295.2	5445.5	4467.1	3675.2	3308.5	3136.2	3163.1	3768.7	4657.8	5465.1
35°	5641.7	5773.7	5903.2	4673.7	3995.4	3441.1	3270.0	3554.8	4066.9	5061.7	6007.1
37.5°	6702.5	6911.5	6569.9	5261.6	4343.7	4038.8	3730.2	3898.8	4382.2	5398.5	6892.6
40°	7378.4	7535.5	7205.5	5661.8	4957.2	4441.5	4390.7	4404.8	4816.7	5686.9	7488.4
42.5°	8050.0	8262.7	7737.7	6211.2	5699.1	5273.2	5011.6	4993.9	5303.1	6205.1	8166.1
45°	8551.1	8676.4	7920.5	6674.4	6494.8	6178.8	5982.7	5671.6	5942.3	6563.8	8585.3
47.5°	8789.4	8891.5	8214.4	6943.9	7010.5	7027.0	7380.9	6850.4	6500.9	6806.4	8805.3
50°	9087.0	9135.3	8387.3	7181.0	7500.6	8225.4	8310.3	7411.4	7044.8	7071.0	8935.5
52.5°	9442.7	9462.9	8639.7	7454.8	7996.2	9013.7	8882.3	8362.3	7562.4	7554.4	9180.5
55°	9890.0	9877.8	8956.3	7823.3	8350.1	9482.4	9382.8	9003.9	8126.4	7954.7	9561.9
57.5°	10287.9	10280.5	9376.1	8162.5	8647.7	9723.2	9752.5	9652.3	8510.2	8241.3	9975.0
60°	10482.8	10576.3	9854.0	8533.4	8666.6	9832.0	9843.0	9683.5	8939.2	8609.2	10085.0
62.5°	10407.0	10584.9	10088.6	8867.1	8492.4	9535.0	9580.8	9470.8	8919.6	8995.4	9839.3
65°	10062.4	10267.7	9885.1	9044.9	8385.5	9037.6	9049.2	8771.1	8640.3	9251.4	9263.7
67.5°	9415.8	9608.3	9237.4	8761.3	7653.4	7696.8	7955.9	7978.5	7787.9	9058.3	8455.2
70°	8284.1	8419.7	8187.5	8061.0	6397.0	6142.8	6423.9	6544.3	6631.0	8361.1	7484.7
72.5°	6558.3	6820.5	6857.1	6939.6	5150.3	4726.9	4935.2	4756.8	5322.1	7116.3	6115.3
75°	4852.1	5073.3	5311.1	5771.2	4059.5	3538.9	3513.2	3422.2	3950.1	5722.9	4535.6
77.5°	3428.9	3570.0	3752.8	4610.1	3063.4	2725.5	2741.4	2649.1	2852.6	4325.4	3133.1
80°	2457.8	2531.8	2616.7	3037.2	2259.8	2351.5	2354.0	2266.6	2121.1	2937.6	2091.2
82.5°	1751.4	1808.9	1906.0	2003.2	1684.8	1927.4	1925.6	1920.1	1681.7	1985.5	1308.4
85°	975.3	1052.3	1221.0	1569.3	1216.7	1378.0	1211.8	1334.6	1234.4	1321.8	662.4
87.5°	68.4	61.1	273.2	909.3	567.7	414.9	217.6	430.8	552.4	690.5	92.3
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°	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9
2.5°	1778.3	1799.7	1716.0	1590.1	1624.3	1587.0	1540.0	1466.6	1315.7	1409.2	1409.8
5°	2135.8	2054.5	1989.1	1927.4	1823.5	1666.5	1645.7	1519.8	1448.9	1486.2	1480.7
7.5°	2247.6	2132.1	2033.7	1813.1	1620.6	1376.8	1303.5	1228.9	1197.8	1288.2	1324.3
10°	2124.8	2004.4	1907.9	1639.6	1508.8	1356.6	1155.0	1051.7	990.6	1014.4	1028.5
12.5°	2223.8	2101.0	1797.2	1647.5	1431.8	1338.9	1162.3	1010.8	920.3	942.3	916.0
15°	2319.1	2153.5	1849.8	1551.6	1376.8	1242.4	1099.4	942.9	836.6	798.7	778.5
17.5°	2667.4	2392.5	1843.7	1497.8	1297.4	1142.8	970.4	799.3	728.4	689.3	655.7
20°	3092.2	2709.0	1876.7	1442.2	1213.0	1018.1	830.5	671.6	622.1	596.4	587.3
22.5°	3597.5	3114.8	2065.5	1434.3	1133.6	927.0	753.5	654.5	598.9	570.8	559.2
25°	3999.0	3534.6	2204.8	1488.0	1129.3	851.9	707.0	727.2	701.5	710.1	642.3
27.5°	4388.9	3648.9	2126.6	1464.2	1015.6	718.7	696.0	738.2	760.2	766.9	764.5
30°	4718.3	4131.6	2143.7	1329.8	858.0	585.4	532.9	553.7	614.2	710.1	728.4
32.5°	5200.5	4362.6	2289.8	1248.5	766.9	523.7	465.0	457.1	471.2	506.0	535.9
35°	5764.5	4894.3	2330.7	1227.1	704.0	496.2	455.3	436.9	444.3	470.5	476.7
37.5°	6816.2	5281.7	2482.3	1200.8	680.8	479.7	447.9	441.2	457.1	478.5	490.7
40°	7396.1	5978.4	2489.6	1178.2	650.8	473.0	452.8	449.8	459.5	488.9	496.2
42.5°	8169.2	6375.6	2604.5	1151.9	640.4	482.2	462.6	461.4	469.9	487.0	500.5
45°	8640.3	6641.4	2610.6	1136.6	638.0	522.5	475.4	471.2	469.3	479.7	491.9
47.5°	8944.1	7024.6	2685.2	1119.5	652.7	532.9	490.7	472.4	466.3	470.5	479.7
50°	9231.9	7330.7	2826.3	1117.1	667.9	522.5	517.6	471.8	459.5	457.7	464.4
52.5°	9585.1	7834.3	3000.5	1140.3	664.3	507.2	537.8	469.3	447.3	443.0	449.8
55°	10099.0	8373.9	3185.7	1120.8	626.4	477.9	518.2	467.5	434.5	426.5	432.7
57.5°	10432.1	8683.1	3392.8	1104.3	568.9	455.9	500.5	468.7	435.7	418.0	421.7
60°	10321.5	8516.9	3474.1	1003.4	514.5	438.8	458.3	458.9	424.7	408.2	411.3
62.5°	9832.6	7915.0	3398.3	886.1	474.2	414.3	414.9	440.6	392.9	381.3	386.2
65°	9149.4	7166.4	3091.6	809.7	455.3	388.7	378.9	386.8	350.2	341.6	351.4
67.5°	8311.0	6243.6	2635.1	729.0	448.5	353.8	342.2	339.2	315.9	306.2	315.9
70°	7259.3	5228.0	2106.5	672.2	422.9	315.9	306.8	303.7	284.2	276.8	285.4
72.5°	5834.8	4082.1	1625.5	628.8	394.8	281.1	273.2	269.5	253.0	242.6	253.0
75°	4150.0	3119.7	1207.5	562.2	355.0	245.7	236.5	231.6	216.3	206.6	215.7
77.5°	2949.2	2341.7	843.3	465.0	292.7	207.8	202.3	194.3	180.9	169.3	178.4
80°	2180.4	1673.2	543.9	358.7	223.7	166.2	163.2	157.7	144.8	130.8	137.5
82.5°	1435.5	1206.3	311.7	243.2	162.6	119.8	122.2	118.6	106.3	91.7	95.3
85°	642.9	714.4	165.6	133.8	105.7	72.1	78.8	76.4	67.2	53.2	54.4
87.5°	61.7	120.4	50.7	48.9	39.1	22.6	28.1	23.8	20.2	12.8	9.8
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°	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9
2.5°	1431.2	1345.0	1258.9	1311.4	1312.6	1326.7	1328.5	1276.6	1318.1	1349.9	1382.9
5°	1453.8	1397.6	1400.6	1349.9	1322.4	1357.9	1350.5	1336.5	1361.5	1396.4	1438.5
7.5°	1290.0	1253.4	1247.3	1198.4	1079.8	1053.5	1075.5	1084.7	1118.3	1172.1	1217.3
10°	1007.1	1079.8	997.9	979.0	947.8	886.7	851.3	847.0	918.5	961.9	999.8
12.5°	907.5	889.1	879.4	827.4	827.4	762.7	741.9	760.8	870.8	902.0	950.9
15°	773.0	759.6	714.4	688.7	676.5	650.2	672.2	690.5	793.2	795.7	847.0
17.5°	641.7	633.7	590.9	586.0	573.8	562.2	582.4	626.4	682.0	672.2	696.0
20°	573.8	546.3	507.2	521.3	508.4	499.3	490.7	553.0	592.2	605.0	619.0
22.5°	556.7	506.6	483.4	470.5	471.2	456.5	458.3	510.3	569.5	577.5	568.9
25°	636.2	546.9	471.8	434.5	420.4	415.5	429.6	475.4	546.9	564.0	570.8
27.5°	744.3	594.0	485.8	422.3	394.2	396.6	416.8	448.5	532.9	563.4	571.4
30°	714.4	558.5	486.4	413.1	378.3	391.1	398.4	429.0	521.9	567.7	607.4
32.5°	551.2	502.3	489.5	420.4	406.4	386.2	396.6	425.9	489.5	518.2	520.0
35°	466.9	429.6	421.0	403.9	384.4	375.8	387.4	413.1	454.7	472.4	469.9
37.5°	463.2	422.3	388.7	381.3	373.4	370.9	377.7	401.5	443.7	474.8	468.1
40°	469.3	418.6	384.4	371.5	374.6	363.6	370.3	399.7	445.5	474.8	468.7
42.5°	462.0	414.3	378.9	369.1	372.2	356.9	364.8	395.4	440.6	475.4	463.8
45°	447.3	404.5	375.8	359.3	373.4	350.8	360.5	384.4	425.9	463.8	450.4
47.5°	432.7	392.9	363.0	352.6	366.7	344.7	348.9	369.7	411.3	448.5	436.9
50°	416.8	378.3	352.6	349.5	359.3	343.4	336.7	353.8	393.5	430.8	421.0
52.5°	399.7	366.0	345.3	344.0	353.2	335.5	325.7	339.2	374.6	411.9	403.9
55°	383.2	352.6	336.1	339.2	349.5	328.8	316.5	325.1	354.4	391.1	380.1
57.5°	366.7	337.3	323.9	332.4	340.4	320.2	304.9	309.8	333.7	369.7	356.9
60°	352.0	323.9	310.4	320.8	328.2	307.4	289.7	292.7	314.1	346.5	334.9
62.5°	333.0	309.2	291.5	304.9	310.4	290.3	271.3	275.0	292.1	322.7	314.1
65°	306.2	290.9	274.4	283.6	290.9	270.1	252.4	256.7	269.5	298.2	292.1
67.5°	282.9	268.3	257.3	264.6	265.8	249.9	234.1	236.5	246.9	273.8	267.1
70°	257.3	243.2	234.7	240.2	239.6	226.1	213.9	214.5	223.1	247.5	238.3
72.5°	229.2	215.7	211.4	214.5	212.1	199.8	188.2	192.5	198.0	216.3	209.0
75°	199.2	187.0	184.6	187.6	183.9	172.3	161.9	166.2	171.1	186.4	177.2
77.5°	168.1	157.1	157.7	158.3	153.4	145.4	135.1	139.3	142.4	152.8	143.6
80°	133.8	125.3	127.7	127.7	122.2	116.7	106.9	108.2	110.0	113.7	106.9
82.5°	97.8	97.8	97.8	98.4	86.8	88.6	80.1	79.4	77.6	77.0	72.7
85°	58.1	60.5	61.7	63.6	47.1	55.0	47.7	45.8	42.2	38.5	37.3
87.5°	12.8	16.5	16.5	15.9	0.0	6.1	3.1	4.9	1.2	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°	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9	1327.9
2.5°	1345.0	1308.4	1376.8	1437.9	1428.1	1463.6	1381.1	1503.3	1632.9	1632.9
5°	1427.5	1396.4	1414.1	1449.5	1476.4	1599.9	1702.5	1804.6	2015.4	2017.9
7.5°	1203.9	1271.1	1287.0	1276.6	1392.1	1551.0	1720.2	2011.1	2189.6	2203.6
10°	1125.6	1156.2	1204.5	1231.4	1278.4	1434.9	1645.1	1990.4	2179.8	2215.2
12.5°	1019.9	1133.0	1206.3	1356.6	1393.9	1425.1	1759.4	2058.2	2189.0	2180.4
15°	904.4	990.0	1095.7	1261.9	1356.6	1595.0	1827.2	2275.7	2349.7	2414.5
17.5°	721.1	784.0	924.6	1114.0	1348.7	1568.1	1994.6	2544.6	2682.7	2749.9
20°	593.4	594.0	734.5	985.7	1241.1	1455.6	2058.2	2767.7	2943.1	2977.3
22.5°	561.0	532.9	606.8	810.9	1122.6	1522.2	2186.5	3126.4	3492.4	3578.6
25°	543.3	509.0	555.5	715.6	1037.6	1557.1	2445.0	3619.5	4089.5	4123.1
27.5°	550.6	566.5	581.2	638.0	930.1	1491.7	2385.1	3840.1	4343.7	4407.2
30°	600.1	625.8	592.2	611.7	841.5	1397.0	2492.1	4198.3	4663.9	4770.9
32.5°	499.3	489.5	486.4	529.2	752.9	1311.4	2716.3	4702.4	5011.0	5145.5
35°	450.4	435.1	441.2	490.1	709.5	1299.2	2842.2	5119.8	5559.2	5641.7
37.5°	448.5	430.8	438.8	475.4	724.8	1321.2	3043.9	5789.6	6525.9	6702.5
40°	444.3	434.5	438.8	466.3	708.9	1333.4	3160.0	6352.4	7199.4	7378.4
42.5°	443.7	438.8	443.0	473.6	692.4	1338.9	3320.7	6860.8	7908.8	8050.0
45°	441.8	446.7	446.7	479.7	685.0	1375.6	3415.4	7110.1	8377.0	8551.1
47.5°	433.3	447.9	471.8	477.9	655.1	1358.5	3549.3	7488.4	8625.7	8789.4
50°	422.3	446.1	503.5	465.7	650.2	1316.9	3705.7	7788.5	8944.7	9087.0
52.5°	407.6	443.0	496.2	441.8	641.7	1309.6	3925.1	8178.3	9316.8	9442.7
55°	386.8	432.0	473.6	418.0	620.9	1286.4	4260.6	8661.7	9803.9	9890.0
57.5°	367.9	415.5	440.6	404.5	571.4	1291.3	4494.0	9055.9	10212.7	10287.9
60°	350.8	413.7	393.5	390.5	520.7	1225.9	4569.8	9051.6	10364.9	10482.8
62.5°	332.4	390.5	360.5	371.5	476.0	1158.6	4409.1	8663.6	10200.5	10407.0
65°	308.6	334.9	333.0	358.1	477.3	1049.3	4040.6	7979.1	9790.4	10062.4
67.5°	280.5	296.4	306.8	336.1	492.5	964.3	3447.8	7156.0	9092.5	9415.8
70°	251.8	267.7	279.3	307.4	506.6	925.2	2744.4	5999.8	7955.9	8284.1
72.5°	222.4	238.9	248.1	272.6	487.7	841.5	2031.3	4668.2	6386.0	6558.3
75°	191.9	207.8	215.1	237.7	423.5	696.0	1402.5	3535.8	4677.4	4852.1
77.5°	160.7	177.8	180.3	198.6	323.3	532.3	898.9	2712.1	3312.2	3428.9
80°	128.3	145.4	145.4	155.2	227.3	366.0	538.4	2046.0	2412.0	2457.8
82.5°	92.3	110.6	109.4	110.0	157.1	226.7	311.7	1533.2	1742.9	1751.4
85°	54.4	67.2	66.6	61.1	92.9	122.2	168.7	952.1	972.9	975.3
87.5°	10.4	15.9	14.1	6.1	25.7	36.1	48.9	176.6	70.3	68.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)