

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: P368216

Luminaire Tested: **MSA-SA4A-730-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368216
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-SA4A-730-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: 12095 lumens
Efficiency: N/A
Efficacy: 93.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

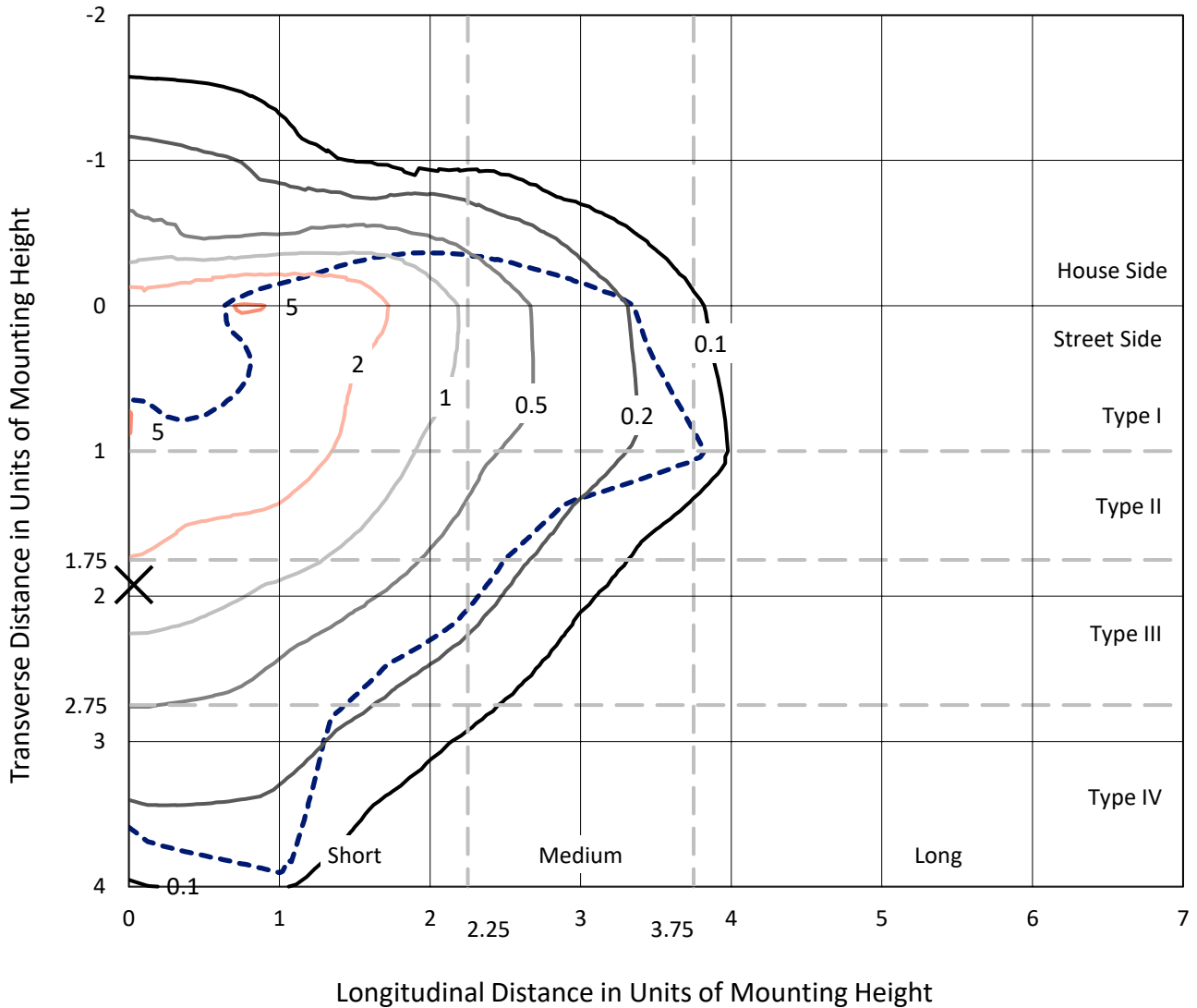
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

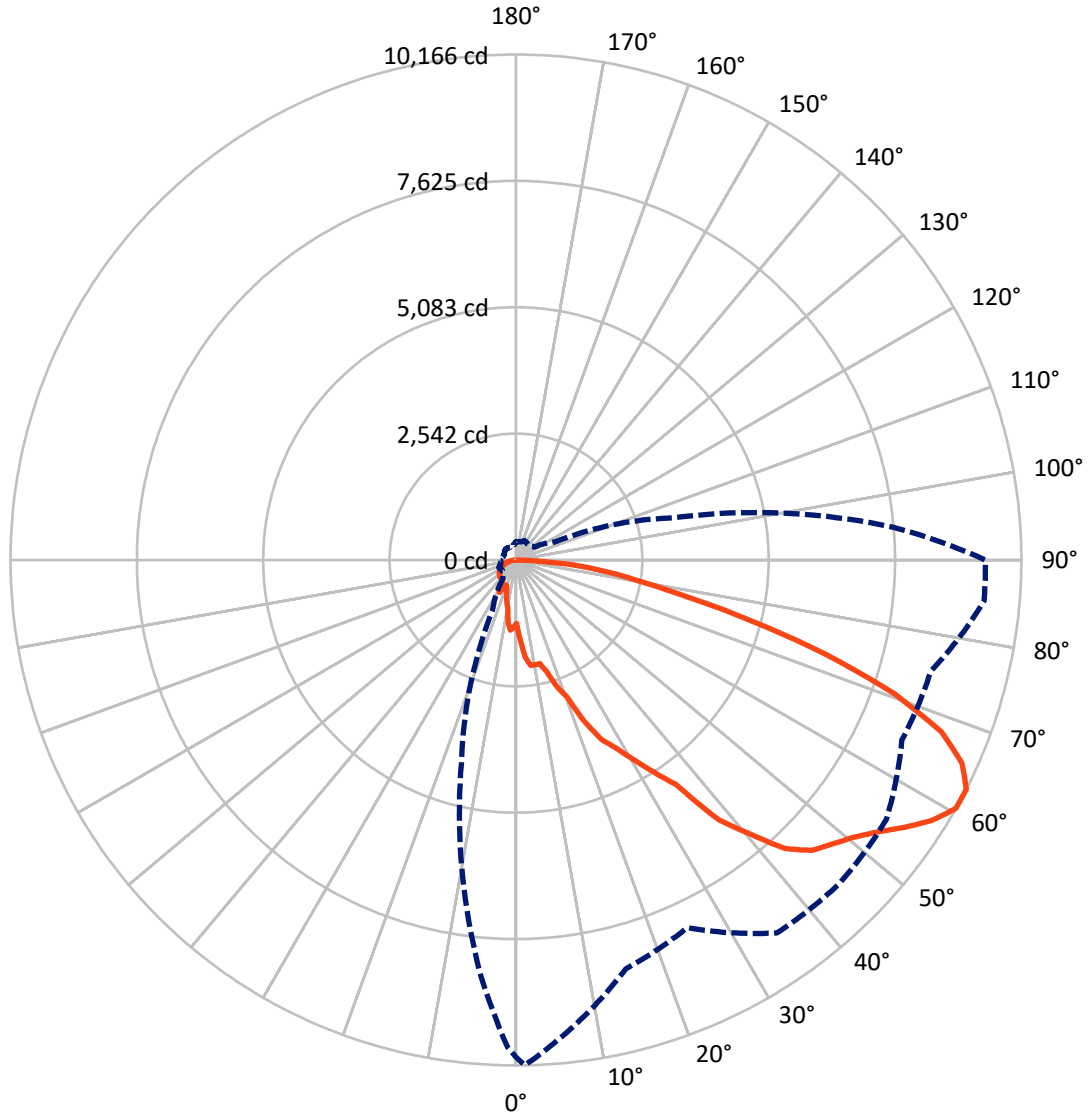
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.2 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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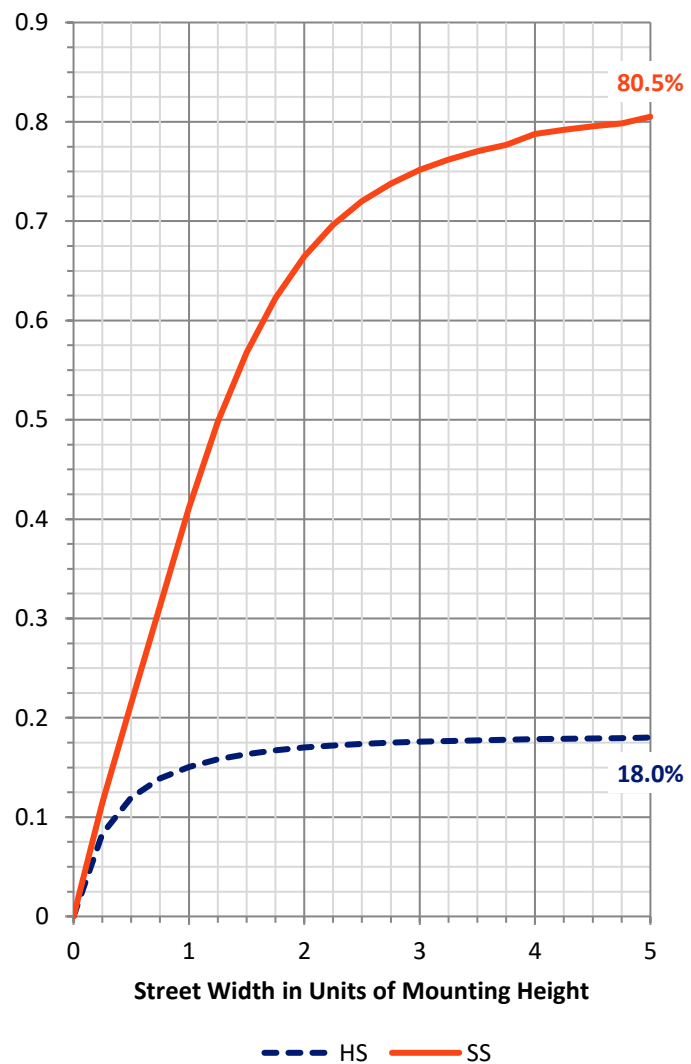
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2202.4	0.0	2202.4
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	9892.6	0.0	9892.6
	% Fixture	81.8	0.0	81.8
Total	Lumens	12095.0	0.0	12095.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.2	1.2
10°-20°	424.9	3.5
20°-30°	750.1	6.2
30°-40°	1168.3	9.7
40°-50°	1923.8	15.9
50°-60°	2745.8	22.7
60°-70°	2911.6	24.1
70°-80°	1608.3	13.3
80°-90°	416.0	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°	12095.0	100.0
0°-180°	12095.0	100.0

Coefficient of Utilization



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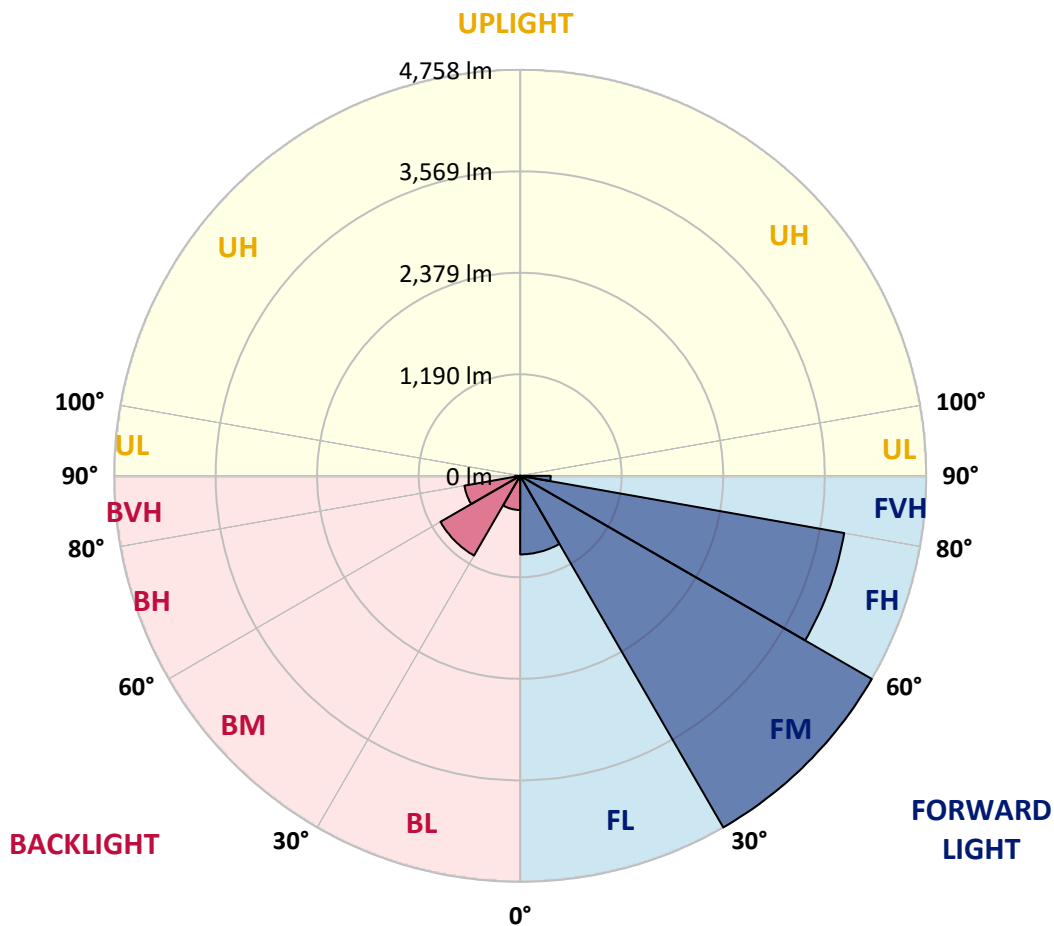
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	920.6	7.6			
FM (30°-60°)	4758.3	39.3			
FH (60°-80°)	3856.4	31.9			G2/5000
FVH (80°-90°)	357.3	3.0			G3/500
BL (0°-30°)	400.6	3.3	B1/500		
BM (30°-60°)	1079.7	8.9	B2/2500		
BH (60°-80°)	663.5	5.5	B2/1000		G2/1000
BVH (80°-90°)	58.7	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°	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4
2.5°	1568.3	1581.8	1554.2	1523.1	1394.6	1518.4	1481.4	1550.1	1527.8	1378.7	1651.6
5°	1938.1	1962.7	1935.7	2029.0	2034.9	2059.0	1836.5	1975.0	1926.9	1914.6	2052.5
7.5°	2116.5	2141.7	2210.4	2376.5	2506.2	2388.8	2259.1	2230.3	2192.8	2094.8	2178.1
10°	2127.6	2141.7	2233.9	2586.0	2648.8	2732.2	2648.2	2450.4	2368.9	2155.8	2092.4
12.5°	2094.2	2138.2	2257.3	2686.4	2873.0	2964.0	2984.6	2764.5	2564.3	2321.3	2289.0
15°	2319.0	2334.8	2505.6	2758.0	2886.5	2963.4	3030.3	2894.8	2832.0	2639.4	2380.6
17.5°	2641.2	2685.2	2824.9	2918.2	3005.1	3019.8	2964.6	2911.8	2812.0	3069.1	2793.8
20°	2859.5	2944.6	3116.0	3133.6	2951.1	2983.4	2975.8	2979.3	2922.3	3397.8	3246.3
22.5°	3437.1	3529.2	3552.7	3450.6	3106.6	2959.3	2988.7	3073.8	3298.0	3705.3	3876.7
25°	3960.0	3995.8	4210.1	3947.1	3398.9	3077.9	3029.7	3249.8	3615.5	4223.0	4345.1
27.5°	4233.0	4279.3	4422.0	3849.7	3435.3	2925.3	2812.6	3147.7	3520.4	3979.4	4515.3
30°	4582.2	4656.1	4850.4	3947.1	3545.1	3025.1	2775.6	3096.1	3508.1	4139.1	4875.7
32.5°	4942.0	5085.8	5230.2	4290.5	3529.8	3177.7	3012.1	3038.0	3619.6	4473.6	5248.9
35°	5418.6	5545.3	5669.8	4488.9	3837.4	3305.0	3140.7	3414.2	3906.0	4861.6	5769.6
37.5°	6437.5	6638.2	6310.1	5053.5	4171.9	3879.0	3582.6	3744.6	4208.9	5185.0	6620.0
40°	7086.6	7237.5	6920.5	5437.9	4761.2	4265.8	4217.1	4230.6	4626.2	5462.0	7192.3
42.5°	7731.7	7935.9	7431.7	5965.6	5473.7	5064.6	4813.4	4796.4	5093.4	5959.7	7843.2
45°	8213.0	8333.3	7607.2	6410.5	6237.9	5934.5	5746.1	5447.3	5707.3	6304.2	8245.8
47.5°	8441.9	8539.9	7889.6	6669.3	6733.3	6749.1	7089.0	6579.5	6243.8	6537.3	8457.1
50°	8727.7	8774.1	8055.7	6897.1	7204.0	7900.1	7981.7	7118.3	6766.2	6791.4	8582.1
52.5°	9069.3	9088.7	8298.1	7160.0	7680.0	8657.3	8531.1	8031.6	7263.3	7255.7	8817.5
55°	9498.9	9487.2	8602.1	7513.9	8019.9	9107.4	9011.8	8647.9	7805.0	7640.1	9183.7
57.5°	9881.0	9874.0	9005.3	7839.7	8305.7	9338.7	9366.9	9270.6	8173.6	7915.4	9580.5
60°	10068.3	10158.1	9464.3	8195.9	8323.9	9443.2	9453.7	9300.5	8585.7	8268.7	9686.2
62.5°	9995.5	10166.3	9689.7	8516.4	8156.6	9157.9	9201.9	9096.3	8566.9	8639.7	9450.2
65°	9664.4	9861.6	9494.2	8687.2	8053.9	8680.2	8691.3	8424.3	8298.6	8885.6	8897.3
67.5°	9043.5	9228.3	8872.1	8414.9	7350.7	7392.4	7641.3	7663.0	7479.9	8700.1	8120.8
70°	7956.5	8086.8	7863.7	7742.2	6144.0	5899.9	6169.8	6285.5	6368.8	8030.4	7188.8
72.5°	6299.0	6550.8	6586.0	6665.2	4946.7	4539.9	4740.1	4568.7	5111.6	6834.8	5873.4
75°	4660.2	4872.7	5101.0	5543.0	3899.0	3398.9	3374.3	3286.8	3793.9	5496.6	4356.2
77.5°	3293.3	3428.9	3604.4	4427.8	2942.3	2617.7	2633.0	2544.4	2739.8	4154.3	3009.2
80°	2360.6	2431.7	2513.2	2917.1	2170.5	2258.5	2260.9	2176.9	2037.2	2821.4	2008.5
82.5°	1682.2	1737.3	1830.6	1924.0	1618.2	1851.2	1849.4	1844.1	1615.2	1906.9	1256.6
85°	936.7	1010.7	1172.7	1507.2	1168.6	1323.5	1163.9	1281.9	1185.6	1269.5	636.2
87.5°	65.7	58.7	262.4	873.4	545.3	398.5	208.9	413.8	530.6	663.2	88.6
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°	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4
2.5°	1708.0	1728.5	1648.1	1527.2	1560.1	1524.3	1479.1	1408.6	1263.7	1353.5	1354.1
5°	2051.3	1973.3	1910.5	1851.2	1751.4	1600.6	1580.6	1459.7	1391.6	1427.4	1422.1
7.5°	2158.7	2047.8	1953.3	1741.4	1556.5	1322.4	1251.9	1180.3	1150.4	1237.3	1271.9
10°	2040.8	1925.1	1832.4	1574.7	1449.1	1303.0	1109.3	1010.1	951.4	974.3	987.8
12.5°	2135.8	2017.9	1726.2	1582.4	1375.2	1286.0	1116.3	970.8	883.9	905.1	879.8
15°	2227.4	2068.4	1776.6	1490.2	1322.4	1193.2	1055.9	905.6	803.5	767.1	747.8
17.5°	2562.0	2297.8	1770.8	1438.6	1246.1	1097.6	932.0	767.7	699.6	662.1	629.8
20°	2969.9	2601.9	1802.5	1385.2	1165.1	977.8	797.6	645.0	597.5	572.8	564.0
22.5°	3455.3	2991.6	1983.8	1377.5	1088.8	890.4	723.7	628.6	575.2	548.2	537.0
25°	3840.9	3394.8	2117.7	1429.2	1084.7	818.2	679.1	698.5	673.8	682.0	616.9
27.5°	4215.4	3504.6	2042.5	1406.3	975.5	690.2	668.5	709.0	730.1	736.6	734.3
30°	4531.7	3968.3	2059.0	1277.2	824.1	562.3	511.8	531.8	589.9	682.0	699.6
32.5°	4994.8	4190.1	2199.2	1199.1	736.6	503.0	446.7	439.0	452.5	486.0	514.7
35°	5536.5	4700.7	2238.6	1178.6	676.1	476.6	437.3	419.7	426.7	451.9	457.8
37.5°	6546.7	5072.9	2384.1	1153.3	653.8	460.7	430.2	423.8	439.0	459.6	471.3
40°	7103.7	5742.0	2391.2	1131.6	625.1	454.3	434.9	432.0	441.4	469.5	476.6
42.5°	7846.1	6123.5	2501.5	1106.4	615.1	463.1	444.3	443.1	451.4	467.8	480.7
45°	8298.6	6378.8	2507.4	1091.7	612.8	501.8	456.6	452.5	450.8	460.7	472.5
47.5°	8590.4	6746.8	2579.0	1075.3	626.8	511.8	471.3	453.7	447.8	451.9	460.7
50°	8866.8	7040.8	2714.6	1072.9	641.5	501.8	497.1	453.1	441.4	439.6	446.1
52.5°	9206.0	7524.5	2881.8	1095.2	638.0	487.2	516.5	450.8	429.6	425.5	432.0
55°	9699.7	8042.7	3059.7	1076.4	601.6	459.0	497.7	449.0	417.3	409.7	415.5
57.5°	10019.5	8339.7	3258.7	1060.6	546.4	437.9	480.7	450.2	418.5	401.5	405.0
60°	9913.3	8180.1	3336.7	963.7	494.2	421.4	440.2	440.8	407.9	392.1	395.0
62.5°	9443.8	7602.0	3263.9	851.1	455.5	397.9	398.5	423.2	377.4	366.2	370.9
65°	8787.6	6883.0	2969.3	777.7	437.3	373.3	363.9	371.5	336.3	328.1	337.5
67.5°	7982.3	5996.7	2530.9	700.2	430.8	339.8	328.7	325.7	303.4	294.1	303.4
70°	6972.2	5021.2	2023.2	645.6	406.2	303.4	294.6	291.7	272.9	265.9	274.1
72.5°	5604.0	3920.7	1561.2	604.0	379.2	270.0	262.4	258.8	243.0	233.0	243.0
75°	3985.9	2996.3	1159.8	540.0	341.0	235.9	227.1	222.4	207.8	198.4	207.2
77.5°	2832.5	2249.1	810.0	446.7	281.1	199.6	194.3	186.6	173.7	162.6	171.4
80°	2094.2	1607.0	522.4	344.5	214.8	159.6	156.7	151.4	139.1	125.6	132.1
82.5°	1378.7	1158.6	299.3	233.6	156.1	115.0	117.4	113.9	102.1	88.0	91.6
85°	617.5	686.1	159.1	128.5	101.5	69.3	75.7	73.4	64.6	51.1	52.2
87.5°	59.3	115.6	48.7	47.0	37.6	21.7	27.0	22.9	19.4	12.3	9.4
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4
2.5°	1374.6	1291.8	1209.1	1259.6	1260.7	1274.2	1276.0	1226.1	1266.0	1296.5	1328.2
5°	1396.3	1342.3	1345.3	1296.5	1270.1	1304.2	1297.1	1283.6	1307.7	1341.1	1381.6
7.5°	1239.0	1203.8	1197.9	1151.0	1037.1	1011.9	1033.0	1041.8	1074.1	1125.7	1169.2
10°	967.3	1037.1	958.5	940.3	910.3	851.6	817.6	813.5	882.2	923.8	960.2
12.5°	871.6	854.0	844.6	794.7	794.7	732.5	712.5	730.7	836.4	866.3	913.3
15°	742.5	729.6	686.1	661.5	649.7	624.5	645.6	663.2	761.8	764.2	813.5
17.5°	616.3	608.6	567.6	562.9	551.1	540.0	559.3	601.6	655.0	645.6	668.5
20°	551.1	524.7	487.2	500.7	488.3	479.5	471.3	531.2	568.7	581.1	594.6
22.5°	534.7	486.6	464.3	451.9	452.5	438.4	440.2	490.1	547.0	554.7	546.4
25°	611.0	525.3	453.1	417.3	403.8	399.1	412.6	456.6	525.3	541.7	548.2
27.5°	714.9	570.5	466.6	405.6	378.6	380.9	400.3	430.8	511.8	541.2	548.8
30°	686.1	536.5	467.2	396.8	363.3	375.6	382.7	412.0	501.2	545.3	583.4
32.5°	529.4	482.5	470.1	403.8	390.3	370.9	380.9	409.1	470.1	497.7	499.5
35°	448.4	412.6	404.4	388.0	369.2	361.0	372.1	396.8	436.7	453.7	451.4
37.5°	444.9	405.6	373.3	366.2	358.6	356.3	362.7	385.6	426.1	456.0	449.6
40°	450.8	402.0	369.2	356.9	359.8	349.2	355.7	383.9	427.9	456.0	450.2
42.5°	443.7	397.9	363.9	354.5	357.4	342.8	350.4	379.7	423.2	456.6	445.5
45°	429.6	388.5	361.0	345.1	358.6	336.9	346.3	369.2	409.1	445.5	432.6
47.5°	415.5	377.4	348.6	338.7	352.2	331.0	335.1	355.1	395.0	430.8	419.7
50°	400.3	363.3	338.7	335.7	345.1	329.9	323.4	339.8	378.0	413.8	404.4
52.5°	383.9	351.6	331.6	330.4	339.2	322.2	312.8	325.7	359.8	395.6	388.0
55°	368.0	338.7	322.8	325.7	335.7	315.8	304.0	312.2	340.4	375.6	365.1
57.5°	352.2	324.0	311.1	319.3	326.9	307.6	292.9	297.6	320.5	355.1	342.8
60°	338.1	311.1	298.2	308.1	315.2	295.2	278.2	281.1	301.7	332.8	321.6
62.5°	319.9	297.0	280.0	292.9	298.2	278.8	260.6	264.1	280.6	309.9	301.7
65°	294.1	279.4	263.5	272.3	279.4	259.4	242.4	246.5	258.8	286.4	280.6
67.5°	271.8	257.7	247.1	254.1	255.3	240.1	224.8	227.1	237.1	262.9	256.5
70°	247.1	233.6	225.4	230.7	230.1	217.2	205.4	206.0	214.2	237.7	228.9
72.5°	220.1	207.2	203.1	206.0	203.7	191.9	180.8	184.9	190.2	207.8	200.7
75°	191.3	179.6	177.3	180.2	176.7	165.5	155.5	159.6	164.3	179.0	170.2
77.5°	161.4	150.8	151.4	152.0	147.3	139.7	129.7	133.8	136.8	146.7	137.9
80°	128.5	120.3	122.7	122.7	117.4	112.1	102.7	103.9	105.6	109.2	102.7
82.5°	93.9	93.9	93.9	94.5	83.3	85.1	76.9	76.3	74.5	74.0	69.8
85°	55.8	58.1	59.3	61.0	45.2	52.8	45.8	44.0	40.5	37.0	35.8
87.5°	12.3	15.8	15.8	15.3	0.0	5.9	2.9	4.7	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°	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4	1275.4
2.5°	1291.8	1256.6	1322.4	1381.1	1371.7	1405.7	1326.5	1443.9	1568.3	1568.3
5°	1371.1	1341.1	1358.2	1392.2	1418.0	1536.6	1635.2	1733.2	1935.7	1938.1
7.5°	1156.3	1220.8	1236.1	1226.1	1337.0	1489.6	1652.2	1931.6	2103.0	2116.5
10°	1081.1	1110.5	1156.8	1182.7	1227.9	1378.1	1580.0	1911.6	2093.6	2127.6
12.5°	979.6	1088.2	1158.6	1303.0	1338.8	1368.7	1689.8	1976.8	2102.4	2094.2
15°	868.7	950.8	1052.4	1212.0	1303.0	1531.9	1754.9	2185.7	2256.8	2319.0
17.5°	692.6	753.0	888.0	1070.0	1295.4	1506.1	1915.7	2444.0	2576.6	2641.2
20°	569.9	570.5	705.5	946.7	1192.1	1398.1	1976.8	2658.2	2826.7	2859.5
22.5°	538.8	511.8	582.8	778.9	1078.2	1462.1	2100.0	3002.7	3354.3	3437.1
25°	521.8	488.9	533.5	687.3	996.6	1495.5	2348.3	3476.4	3927.8	3960.0
27.5°	528.8	544.1	558.2	612.8	893.3	1432.7	2290.8	3688.3	4171.9	4233.0
30°	576.4	601.0	568.7	587.5	808.2	1341.7	2393.5	4032.2	4479.5	4582.2
32.5°	479.5	470.1	467.2	508.3	723.1	1259.6	2608.9	4516.5	4812.9	4942.0
35°	432.6	417.9	423.8	470.7	681.4	1247.8	2729.8	4917.3	5339.3	5418.6
37.5°	430.8	413.8	421.4	456.6	696.1	1268.9	2923.5	5560.6	6267.9	6437.5
40°	426.7	417.3	421.4	447.8	680.8	1280.7	3035.0	6101.2	6914.7	7086.6
42.5°	426.1	421.4	425.5	454.9	665.0	1286.0	3189.4	6589.5	7596.1	7731.7
45°	424.4	429.0	429.0	460.7	658.0	1321.2	3280.4	6829.0	8045.7	8213.0
47.5°	416.1	430.2	453.1	459.0	629.2	1304.8	3408.9	7192.3	8284.6	8441.9
50°	405.6	428.5	483.6	447.2	624.5	1264.8	3559.2	7480.5	8590.9	8727.7
52.5°	391.5	425.5	476.6	424.4	616.3	1257.8	3769.9	7854.9	8948.4	9069.3
55°	371.5	415.0	454.9	401.5	596.3	1235.5	4092.1	8319.2	9416.2	9498.9
57.5°	353.3	399.1	423.2	388.5	548.8	1240.2	4316.3	8697.8	9808.8	9881.0
60°	336.9	397.4	378.0	375.1	500.1	1177.4	4389.1	8693.7	9955.0	10068.3
62.5°	319.3	375.1	346.3	356.9	457.2	1112.8	4234.7	8321.0	9797.1	9995.5
65°	296.4	321.6	319.9	343.9	458.4	1007.8	3880.8	7663.6	9403.3	9664.4
67.5°	269.4	284.7	294.6	322.8	473.1	926.2	3311.5	6873.0	8733.0	9043.5
70°	241.8	257.1	268.2	295.2	486.6	888.6	2635.9	5762.5	7641.3	7956.5
72.5°	213.6	229.5	238.3	261.8	468.4	808.2	1951.0	4483.6	6133.5	6299.0
75°	184.3	199.6	206.6	228.3	406.7	668.5	1347.0	3396.0	4492.4	4660.2
77.5°	154.4	170.8	173.1	190.8	310.5	511.2	863.4	2604.8	3181.2	3293.3
80°	123.3	139.7	139.7	149.1	218.3	351.6	517.1	1965.1	2316.6	2360.6
82.5°	88.6	106.2	105.1	105.6	150.8	217.8	299.3	1472.6	1673.9	1682.2
85°	52.2	64.6	64.0	58.7	89.2	117.4	162.0	914.4	934.4	936.7
87.5°	10.0	15.3	13.5	5.9	24.7	34.6	47.0	169.6	67.5	65.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)