

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: P368304

Luminaire Tested: **MSA-SA4A-830-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368304
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-830-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: 10553 lumens
Efficiency: N/A
Efficacy: 81.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

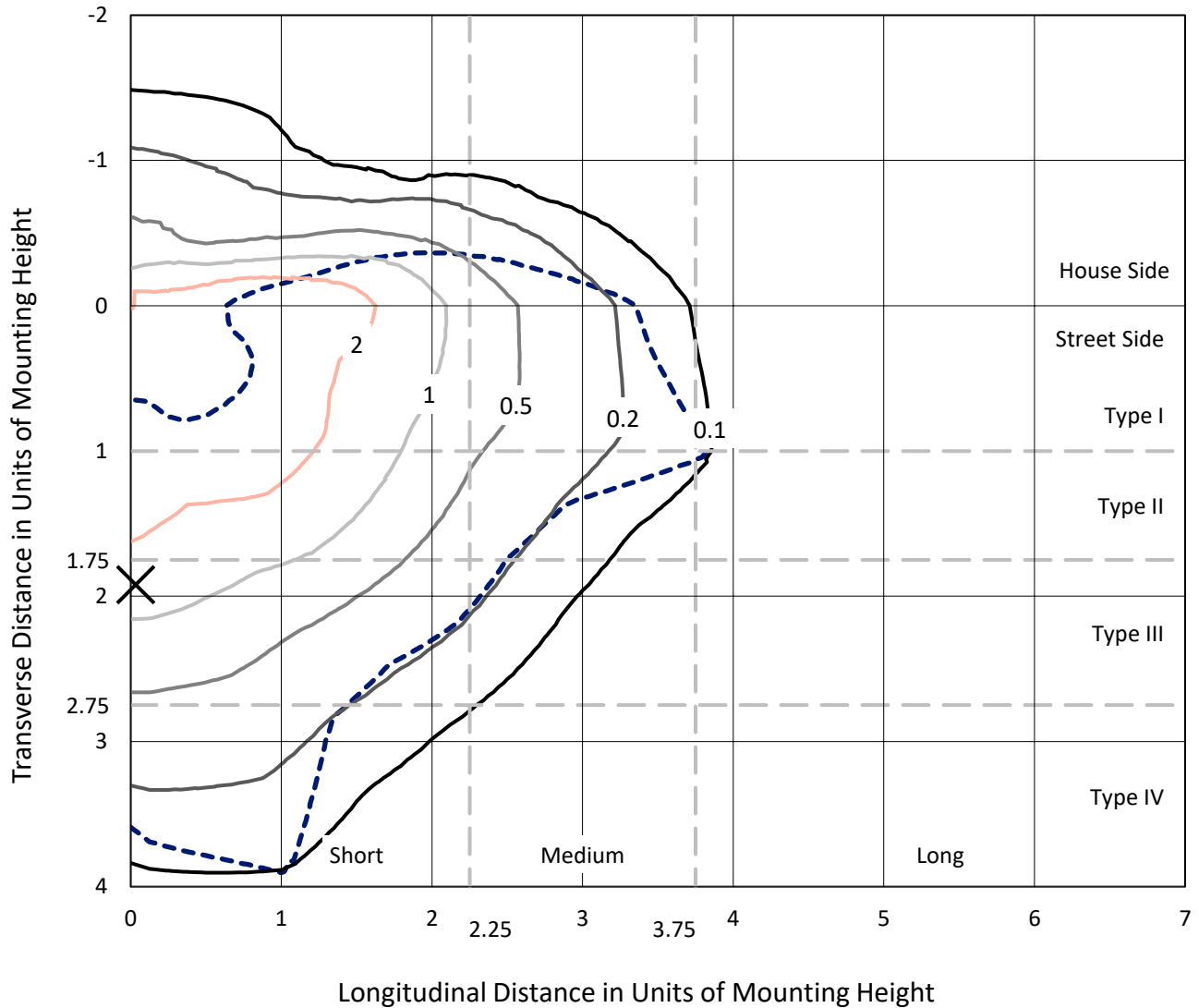
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

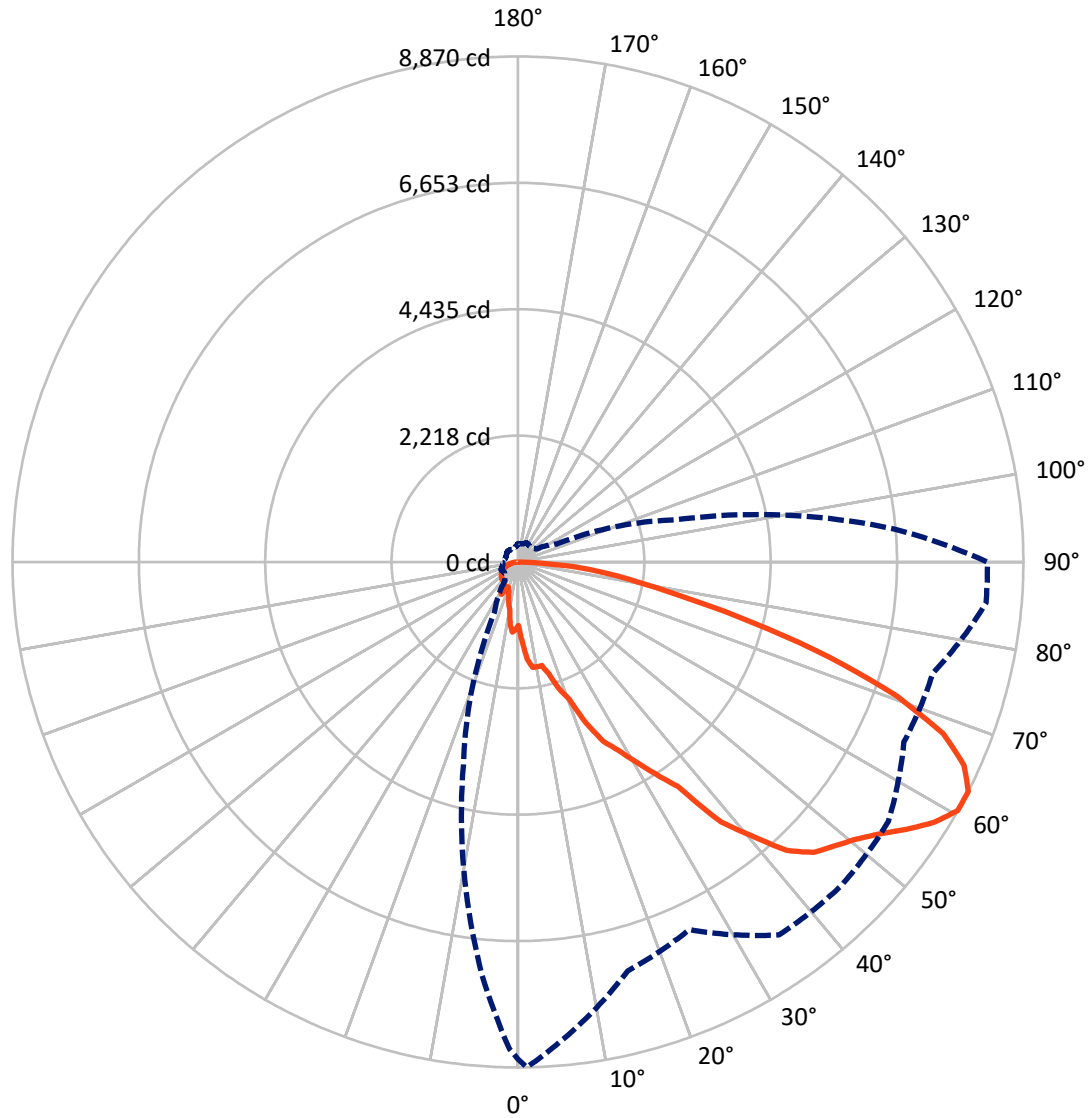
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 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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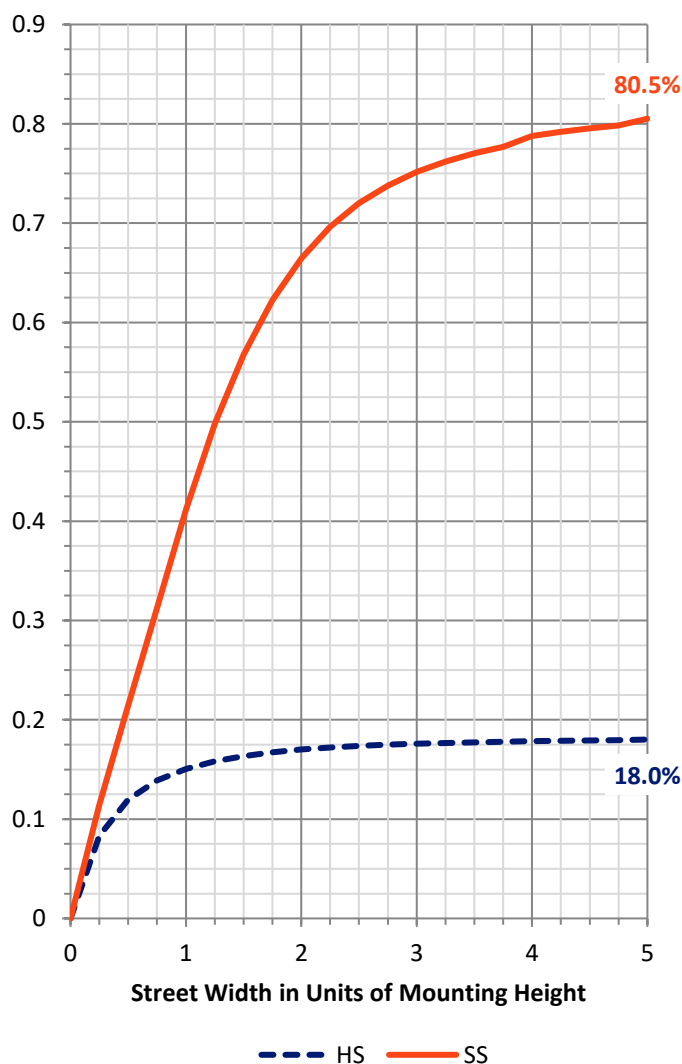
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1921.6	0.0	1921.6
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	8631.4	0.0	8631.4
	% Fixture	81.8	0.0	81.8
Total	Lumens	10553.0	0.0	10553.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.6	1.2
10°-20°	370.7	3.5
20°-30°	654.5	6.2
30°-40°	1019.4	9.7
40°-50°	1678.6	15.9
50°-60°	2395.7	22.7
60°-70°	2540.4	24.1
70°-80°	1403.2	13.3
80°-90°	362.9	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°	10553.0	100.0
0°-180°	10553.0	100.0

Coefficient of Utilization



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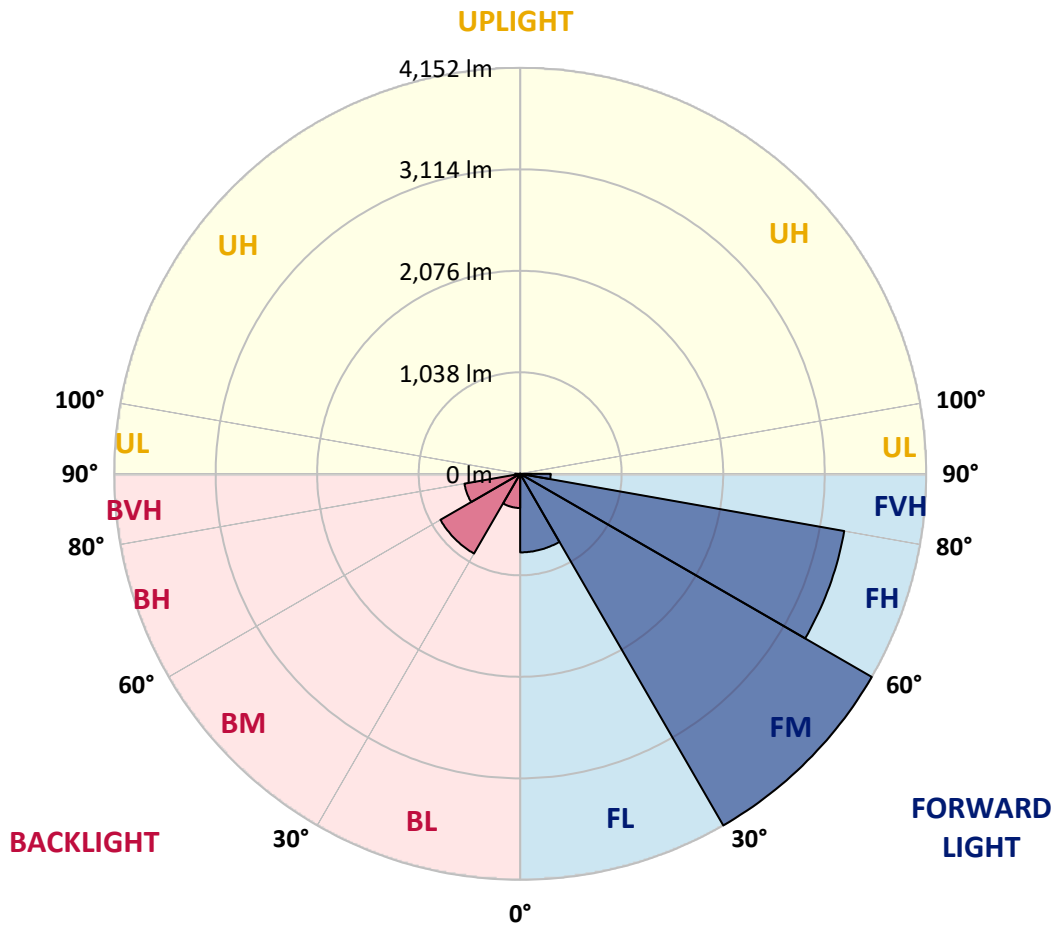
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	803.2	7.6			
FM (30°-60°)	4151.7	39.3			
FH (60°-80°)	3364.7	31.9			G2/5000
FVH (80°-90°)	311.8	3.0			G3/500
BL (0°-30°)	349.5	3.3	B1/500		
BM (30°-60°)	942.0	8.9	B1/1000		
BH (60°-80°)	578.9	5.5	B2/1000		G2/1000
BVH (80°-90°)	51.2	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°	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8
2.5°	1368.3	1380.1	1356.1	1328.9	1216.8	1324.8	1292.6	1352.5	1333.0	1202.9	1441.1
5°	1691.0	1712.5	1688.9	1770.3	1775.5	1796.5	1602.4	1723.2	1681.2	1670.5	1790.8
7.5°	1846.6	1868.7	1928.6	2073.5	2186.7	2084.3	1971.1	1946.0	1913.2	1827.7	1900.4
10°	1856.4	1868.7	1949.1	2256.3	2311.1	2383.8	2310.6	2138.0	2066.9	1881.0	1825.7
12.5°	1827.2	1865.6	1969.6	2343.9	2506.8	2586.1	2604.1	2412.0	2237.4	2025.4	1997.2
15°	2023.3	2037.2	2186.2	2406.4	2518.5	2585.6	2644.0	2525.7	2470.9	2302.9	2077.1
17.5°	2304.5	2342.9	2464.8	2546.2	2622.0	2634.8	2586.6	2540.6	2453.5	2677.8	2437.6
20°	2495.0	2569.2	2718.8	2734.1	2574.9	2603.0	2596.4	2599.4	2549.8	2964.6	2832.5
22.5°	2998.9	3079.3	3099.8	3010.7	2710.6	2582.0	2607.6	2681.9	2877.5	3232.9	3382.5
25°	3455.2	3486.4	3673.3	3443.9	2965.6	2685.5	2643.5	2835.5	3154.6	3684.6	3791.1
27.5°	3693.3	3733.8	3858.2	3358.9	2997.3	2552.3	2454.0	2746.4	3071.6	3472.1	3939.6
30°	3998.0	4062.5	4232.0	3443.9	3093.1	2639.4	2421.7	2701.4	3060.8	3611.4	4254.1
32.5°	4311.9	4437.4	4563.4	3743.5	3079.8	2772.5	2628.1	2650.7	3158.1	3903.3	4579.8
35°	4727.7	4838.4	4946.9	3916.6	3348.1	2883.7	2740.3	2978.9	3408.1	4241.8	5034.0
37.5°	5616.8	5791.9	5505.6	4409.2	3640.0	3384.5	3125.9	3267.2	3672.3	4523.9	5776.0
40°	6183.2	6314.8	6038.2	4744.6	4154.2	3722.0	3679.5	3691.2	4036.4	4765.6	6275.3
42.5°	6746.0	6924.2	6484.3	5205.0	4775.9	4419.0	4199.8	4184.9	4444.0	5199.9	6843.3
45°	7165.9	7270.9	6637.4	5593.2	5442.6	5177.9	5013.5	4752.8	4979.7	5500.5	7194.6
47.5°	7365.6	7451.1	6883.7	5819.0	5874.9	5888.7	6185.2	5740.7	5447.8	5703.8	7378.9
50°	7615.0	7655.5	7028.6	6017.7	6285.6	6892.9	6964.1	6210.8	5903.5	5925.6	7488.0
52.5°	7913.0	7929.9	7240.1	6247.2	6700.9	7553.5	7443.4	7007.6	6337.3	6330.6	7693.3
55°	8287.9	8277.7	7505.4	6556.0	6997.4	7946.3	7862.9	7545.3	6810.0	6666.1	8012.9
57.5°	8621.3	8615.1	7857.2	6840.2	7246.8	8148.1	8172.7	8088.7	7131.6	6906.2	8359.1
60°	8784.6	8863.0	8257.7	7151.0	7262.7	8239.3	8248.5	8114.8	7491.1	7214.5	8451.3
62.5°	8721.1	8870.2	8454.3	7430.6	7116.7	7990.4	8028.8	7936.6	7474.7	7538.2	8245.4
65°	8432.3	8604.4	8283.8	7579.7	7027.1	7573.5	7583.2	7350.2	7240.6	7752.8	7763.0
67.5°	7890.5	8051.8	7741.0	7342.0	6413.6	6450.0	6667.1	6686.0	6526.3	7590.9	7085.5
70°	6942.1	7055.8	6861.2	6755.2	5360.7	5147.7	5383.2	5484.1	5556.8	7006.6	6272.3
72.5°	5495.9	5715.6	5746.3	5815.5	4316.0	3961.1	4135.8	3986.2	4459.9	5963.5	5124.6
75°	4066.1	4251.5	4450.7	4836.3	3401.9	2965.6	2944.1	2867.8	3310.2	4795.9	3800.8
77.5°	2873.4	2991.7	3144.8	3863.3	2567.2	2284.0	2297.3	2220.0	2390.5	3624.7	2625.6
80°	2059.7	2121.6	2192.8	2545.2	1893.8	1970.6	1972.6	1899.4	1777.5	2461.7	1752.4
82.5°	1467.7	1515.8	1597.3	1678.7	1411.9	1615.2	1613.6	1609.0	1409.3	1663.8	1096.4
85°	817.3	881.8	1023.2	1315.1	1019.6	1154.8	1015.5	1118.4	1034.5	1107.7	555.1
87.5°	57.4	51.2	228.9	762.0	475.7	347.7	182.3	361.0	462.9	578.7	77.3
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°	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8
2.5°	1490.2	1508.1	1438.0	1332.5	1361.2	1329.9	1290.5	1229.1	1102.6	1180.9	1181.4
5°	1789.8	1721.7	1666.9	1615.2	1528.1	1396.5	1379.1	1273.6	1214.2	1245.4	1240.8
7.5°	1883.5	1786.7	1704.3	1519.4	1358.1	1153.8	1092.3	1029.8	1003.7	1079.5	1109.7
10°	1780.6	1679.7	1598.8	1374.0	1264.4	1136.9	967.9	881.3	830.1	850.1	861.9
12.5°	1863.5	1760.6	1506.1	1380.6	1199.9	1122.0	974.0	847.0	771.2	789.7	767.6
15°	1943.4	1804.7	1550.1	1300.2	1153.8	1041.1	921.3	790.2	701.1	669.3	652.4
17.5°	2235.3	2004.9	1545.0	1255.2	1087.2	957.6	813.2	669.8	610.4	577.7	549.5
20°	2591.2	2270.2	1572.7	1208.6	1016.5	853.2	696.0	562.8	521.3	499.8	492.1
22.5°	3014.8	2610.2	1730.9	1201.9	950.0	776.9	631.4	548.5	501.9	478.3	468.6
25°	3351.2	2962.0	1847.7	1247.0	946.4	713.9	592.5	609.4	587.9	595.1	538.2
27.5°	3677.9	3057.8	1782.1	1227.0	851.1	602.2	583.3	618.6	637.1	642.7	640.6
30°	3954.0	3462.3	1796.5	1114.3	719.0	490.6	446.6	464.0	514.7	595.1	610.4
32.5°	4358.0	3655.9	1918.9	1046.2	642.7	438.9	389.7	383.1	394.8	424.0	449.1
35°	4830.7	4101.4	1953.2	1028.3	589.9	415.8	381.5	366.2	372.3	394.3	399.4
37.5°	5712.0	4426.1	2080.2	1006.3	570.5	402.0	375.4	369.7	383.1	401.0	411.2
40°	6198.0	5009.9	2086.3	987.3	545.4	396.4	379.5	376.9	385.1	409.7	415.8
42.5°	6845.8	5342.8	2182.6	965.3	536.7	404.1	387.7	386.6	393.8	408.1	419.4
45°	7240.6	5565.6	2187.7	952.5	534.6	437.8	398.4	394.8	393.3	402.0	412.2
47.5°	7495.2	5886.6	2250.2	938.2	546.9	446.6	411.2	395.9	390.7	394.3	402.0
50°	7736.4	6143.2	2368.5	936.1	559.7	437.8	433.8	395.3	385.1	383.6	389.2
52.5°	8032.4	6565.2	2514.4	955.6	556.7	425.0	450.7	393.3	374.9	371.3	376.9
55°	8463.0	7017.4	2669.6	939.2	524.9	400.5	434.3	391.8	364.1	357.4	362.6
57.5°	8742.1	7276.5	2843.2	925.4	476.8	382.0	419.4	392.8	365.1	350.3	353.4
60°	8649.4	7137.2	2911.3	840.9	431.2	367.7	384.1	384.6	355.9	342.1	344.6
62.5°	8239.8	6632.8	2847.8	742.6	397.4	347.2	347.7	369.2	329.3	319.6	323.7
65°	7667.2	6005.5	2590.7	678.5	381.5	325.7	317.5	324.2	293.4	286.3	294.5
67.5°	6964.6	5232.2	2208.2	610.9	375.9	296.5	286.8	284.2	264.8	256.6	264.8
70°	6083.3	4381.1	1765.2	563.3	354.4	264.8	257.1	254.5	238.1	232.0	239.2
72.5°	4889.6	3420.9	1362.2	527.0	330.8	235.6	228.9	225.8	212.0	203.3	212.0
75°	3477.7	2614.3	1011.9	471.1	297.5	205.9	198.2	194.1	181.3	173.1	180.8
77.5°	2471.4	1962.4	706.7	389.7	245.3	174.1	169.5	162.8	151.6	141.9	149.5
80°	1827.2	1402.1	455.8	300.6	187.4	139.3	136.7	132.1	121.4	109.6	115.2
82.5°	1202.9	1010.9	261.2	203.8	136.2	100.4	102.4	99.3	89.1	76.8	79.9
85°	538.7	598.7	138.8	112.2	88.6	60.4	66.1	64.0	56.3	44.6	45.6
87.5°	51.7	100.9	42.5	41.0	32.8	18.9	23.6	20.0	16.9	10.8	8.2
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°	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8
2.5°	1199.3	1127.1	1054.9	1099.0	1100.0	1111.8	1113.3	1069.8	1104.6	1131.2	1158.9
5°	1218.3	1171.2	1173.7	1131.2	1108.2	1137.9	1131.8	1120.0	1141.0	1170.2	1205.5
7.5°	1081.1	1050.3	1045.2	1004.2	904.9	882.9	901.3	909.0	937.2	982.2	1020.1
10°	843.9	904.9	836.3	820.4	794.3	743.1	713.4	709.8	769.7	806.1	837.8
12.5°	760.5	745.1	736.9	693.4	693.4	639.1	621.7	637.6	729.7	755.9	796.8
15°	647.8	636.5	598.7	577.1	566.9	544.9	563.3	578.7	664.7	666.8	709.8
17.5°	537.7	531.1	495.2	491.1	480.9	471.1	488.0	524.9	571.5	563.3	583.3
20°	480.9	457.8	425.0	436.8	426.1	418.4	411.2	463.5	496.2	507.0	518.8
22.5°	466.5	424.5	405.1	394.3	394.8	382.5	384.1	427.6	477.3	483.9	476.8
25°	533.1	458.3	395.3	364.1	352.3	348.2	360.0	398.4	458.3	472.7	478.3
27.5°	623.7	497.8	407.1	353.9	330.3	332.4	349.3	375.9	446.6	472.2	478.8
30°	598.7	468.1	407.6	346.2	317.0	327.7	333.9	359.5	437.3	475.7	509.0
32.5°	461.9	420.9	410.2	352.3	340.5	323.7	332.4	356.9	410.2	434.3	435.8
35°	391.2	360.0	352.8	338.5	322.1	314.9	324.7	346.2	381.0	395.9	393.8
37.5°	388.2	353.9	325.7	319.6	312.9	310.8	316.5	336.5	371.8	397.9	392.3
40°	393.3	350.8	322.1	311.4	313.9	304.7	310.3	334.9	373.3	397.9	392.8
42.5°	387.2	347.2	317.5	309.3	311.9	299.1	305.7	331.3	369.2	398.4	388.7
45°	374.9	339.0	314.9	301.1	312.9	293.9	302.1	322.1	356.9	388.7	377.4
47.5°	362.6	329.3	304.2	295.5	307.3	288.8	292.4	309.8	344.6	375.9	366.2
50°	349.3	317.0	295.5	292.9	301.1	287.8	282.2	296.5	329.8	361.0	352.8
52.5°	334.9	306.8	289.3	288.3	296.0	281.1	273.0	284.2	313.9	345.2	338.5
55°	321.1	295.5	281.7	284.2	292.9	275.5	265.3	272.4	297.0	327.7	318.5
57.5°	307.3	282.7	271.4	278.6	285.2	268.3	255.5	259.6	279.6	309.8	299.1
60°	295.0	271.4	260.1	268.9	275.0	257.6	242.7	245.3	263.2	290.4	280.6
62.5°	279.1	259.1	244.3	255.5	260.1	243.2	227.4	230.4	244.8	270.4	263.2
65°	256.6	243.8	229.9	237.6	243.8	226.4	211.5	215.1	225.8	249.9	244.8
67.5°	237.1	224.8	215.6	221.7	222.8	209.5	196.1	198.2	206.9	229.4	223.8
70°	215.6	203.8	196.6	201.3	200.7	189.5	179.2	179.7	186.9	207.4	199.7
72.5°	192.0	180.8	177.2	179.7	177.7	167.5	157.7	161.3	165.9	181.3	175.1
75°	166.9	156.7	154.7	157.2	154.1	144.4	135.7	139.3	143.4	156.2	148.5
77.5°	140.8	131.6	132.1	132.6	128.5	121.9	113.2	116.8	119.3	128.0	120.3
80°	112.2	105.0	107.0	107.0	102.4	97.8	89.6	90.6	92.2	95.3	89.6
82.5°	81.9	81.9	81.9	82.4	72.7	74.3	67.1	66.6	65.0	64.5	60.9
85°	48.6	50.7	51.7	53.3	39.4	46.1	39.9	38.4	35.3	32.3	31.2
87.5°	10.8	13.8	13.8	13.3	0.0	5.1	2.6	4.1	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°	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8	1112.8
2.5°	1127.1	1096.4	1153.8	1205.0	1196.8	1226.5	1157.4	1259.8	1368.3	1368.3
5°	1196.3	1170.2	1185.0	1214.7	1237.2	1340.7	1426.7	1512.2	1688.9	1691.0
7.5°	1008.8	1065.2	1078.5	1069.8	1166.6	1299.7	1441.6	1685.3	1834.9	1846.6
10°	943.3	968.9	1009.4	1031.9	1071.3	1202.4	1378.6	1667.9	1826.7	1856.4
12.5°	854.7	949.4	1010.9	1136.9	1168.1	1194.2	1474.3	1724.8	1834.4	1827.2
15°	757.9	829.6	918.2	1057.5	1136.9	1336.6	1531.2	1907.1	1969.0	2023.3
17.5°	604.3	657.0	774.8	933.6	1130.2	1314.1	1671.5	2132.4	2248.1	2304.5
20°	497.3	497.8	615.5	826.0	1040.1	1219.8	1724.8	2319.3	2466.3	2495.0
22.5°	470.1	446.6	508.5	679.6	940.7	1275.7	1832.3	2619.9	2926.7	2998.9
25°	455.3	426.6	465.5	599.7	869.6	1304.8	2048.9	3033.2	3427.0	3455.2
27.5°	461.4	474.7	487.0	534.6	779.4	1250.0	1998.7	3218.1	3640.0	3693.3
30°	502.9	524.4	496.2	512.6	705.2	1170.7	2088.4	3518.2	3908.4	3998.0
32.5°	418.4	410.2	407.6	443.5	630.9	1099.0	2276.3	3940.6	4199.3	4311.9
35°	377.4	364.6	369.7	410.7	594.6	1088.7	2381.8	4290.4	4658.6	4727.7
37.5°	375.9	361.0	367.7	398.4	607.4	1107.2	2550.8	4851.7	5468.8	5616.8
40°	372.3	364.1	367.7	390.7	594.0	1117.4	2648.1	5323.3	6033.1	6183.2
42.5°	371.8	367.7	371.3	396.9	580.2	1122.0	2782.8	5749.4	6627.7	6746.0
45°	370.3	374.3	374.3	402.0	574.1	1152.7	2862.2	5958.3	7019.9	7165.9
47.5°	363.1	375.4	395.3	400.5	549.0	1138.4	2974.3	6275.3	7228.4	7365.6
50°	353.9	373.8	422.0	390.2	544.9	1103.6	3105.4	6526.8	7495.7	7615.0
52.5°	341.6	371.3	415.8	370.3	537.7	1097.4	3289.2	6853.5	7807.5	7913.0
55°	324.2	362.1	396.9	350.3	520.3	1078.0	3570.4	7258.6	8215.7	8287.9
57.5°	308.3	348.2	369.2	339.0	478.8	1082.1	3766.0	7588.9	8558.3	8621.3
60°	293.9	346.7	329.8	327.2	436.3	1027.3	3829.5	7585.3	8685.8	8784.6
62.5°	278.6	327.2	302.1	311.4	398.9	971.0	3694.8	7260.1	8548.0	8721.1
65°	258.6	280.6	279.1	300.1	400.0	879.3	3386.0	6686.5	8204.4	8432.3
67.5°	235.1	248.4	257.1	281.7	412.8	808.1	2889.3	5996.7	7619.6	7890.5
70°	211.0	224.3	234.0	257.6	424.5	775.3	2299.9	5027.8	6667.1	6942.1
72.5°	186.4	200.2	207.9	228.4	408.7	705.2	1702.2	3912.0	5351.5	5495.9
75°	160.8	174.1	180.3	199.2	354.9	583.3	1175.3	2963.0	3919.6	4066.1
77.5°	134.7	149.0	151.1	166.4	270.9	446.0	753.3	2272.7	2775.6	2873.4
80°	107.5	121.9	121.9	130.1	190.5	306.8	451.2	1714.5	2021.3	2059.7
82.5°	77.3	92.7	91.7	92.2	131.6	190.0	261.2	1284.9	1460.5	1467.7
85°	45.6	56.3	55.8	51.2	77.8	102.4	141.3	797.9	815.3	817.3
87.5°	8.7	13.3	11.8	5.1	21.5	30.2	41.0	148.0	58.9	57.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)