

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: P367556

Luminaire Tested: **MSA-SA2D-730-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367556
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-SA2D-730-U-SLL
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 10522 lumens
Efficiency: N/A
Efficacy: 81.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

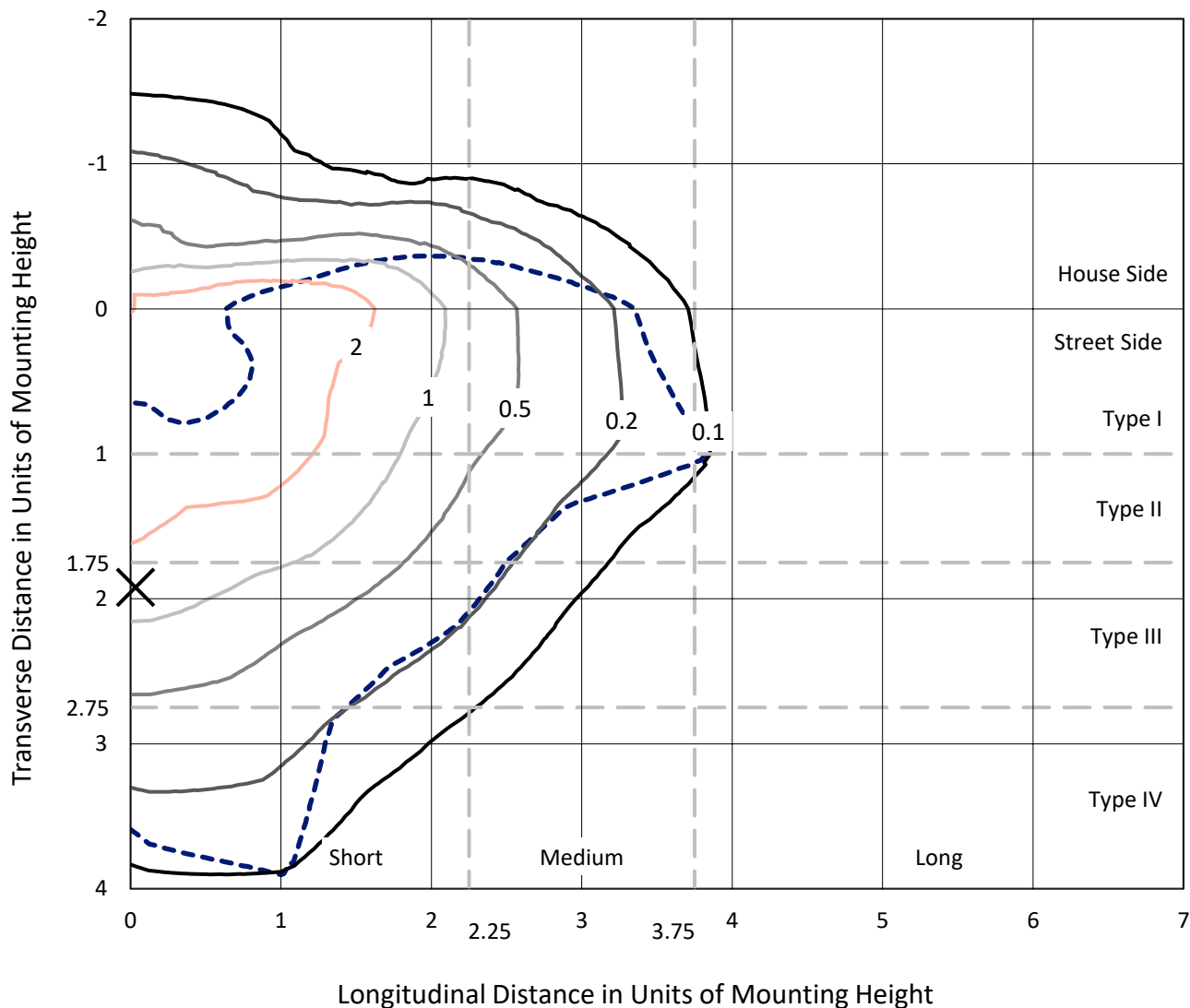
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

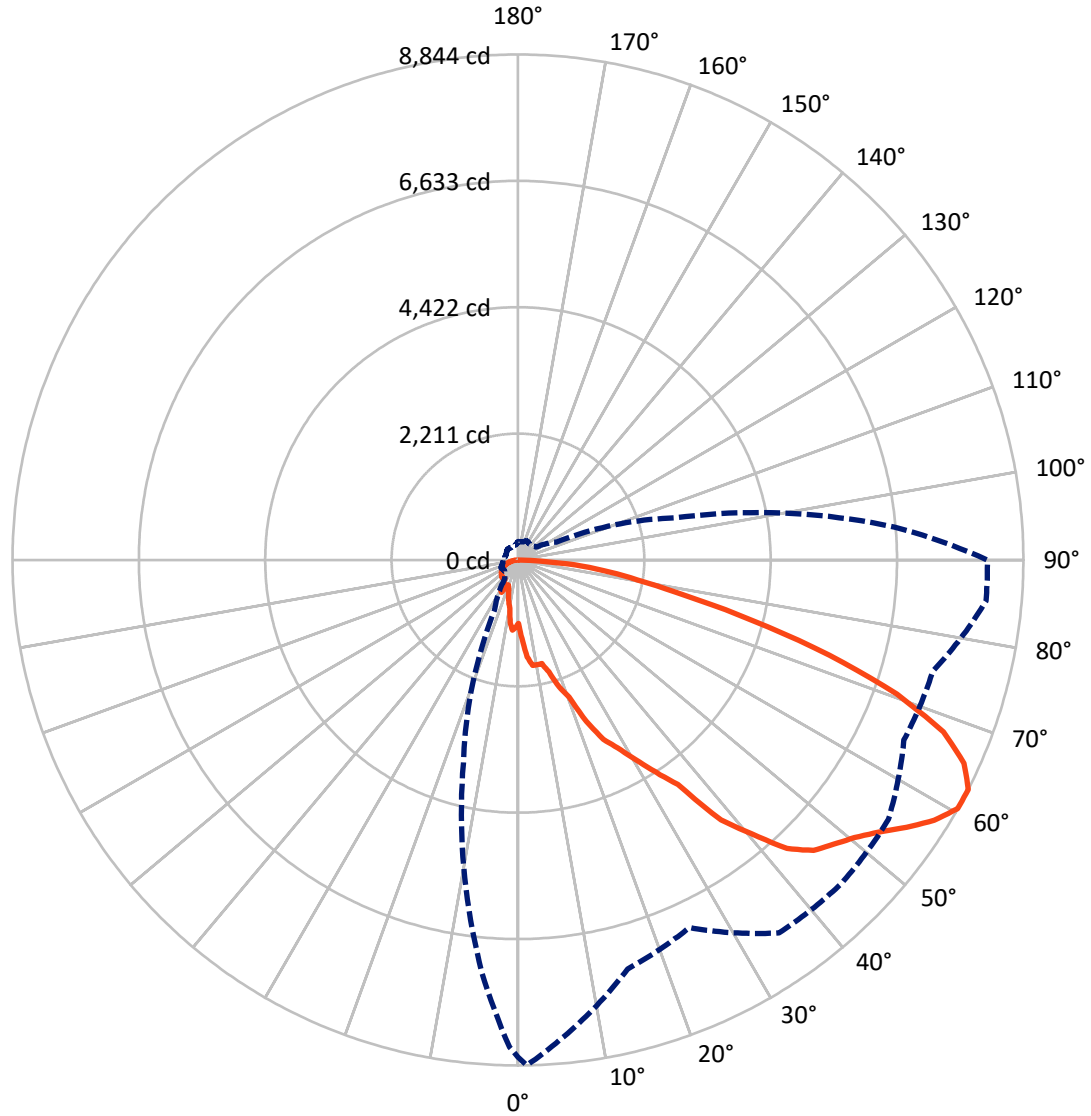
✕ Max cd
 - - - 1/2 Max cd



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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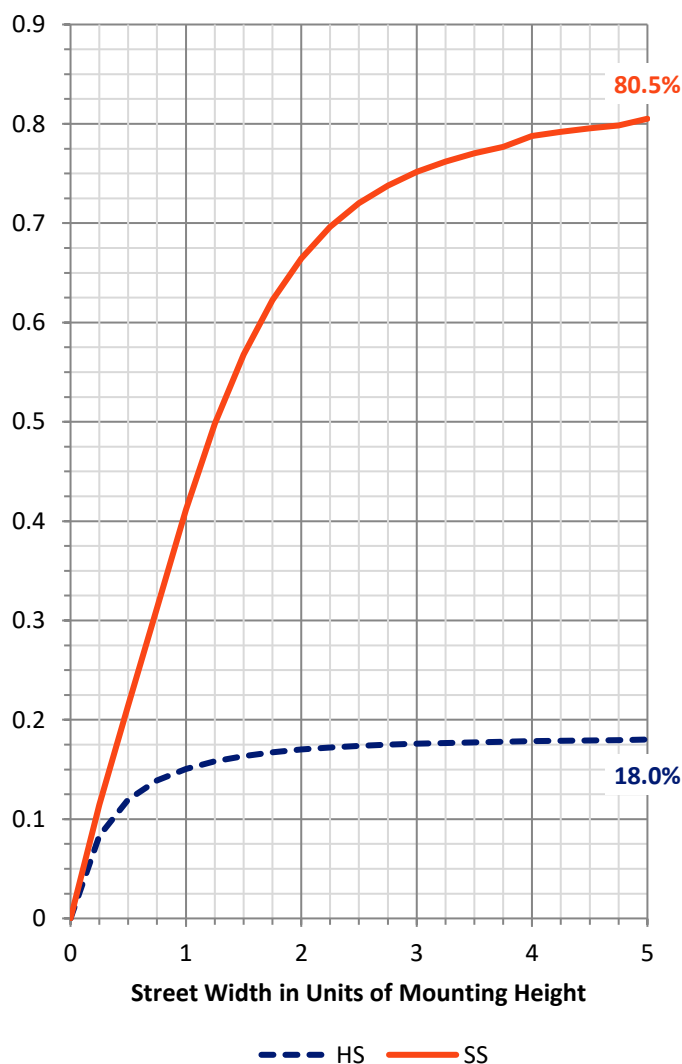
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1916.0	0.0	1916.0
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	8606.0	0.0	8606.0
	% Fixture	81.8	0.0	81.8
Total	Lumens	10522.0	0.0	10522.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.2	1.2
10°-20°	369.6	3.5
20°-30°	652.5	6.2
30°-40°	1016.4	9.7
40°-50°	1673.6	15.9
50°-60°	2388.7	22.7
60°-70°	2533.0	24.1
70°-80°	1399.1	13.3
80°-90°	361.9	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°	10522.0	100.0
0°-180°	10522.0	100.0

Coefficient of Utilization

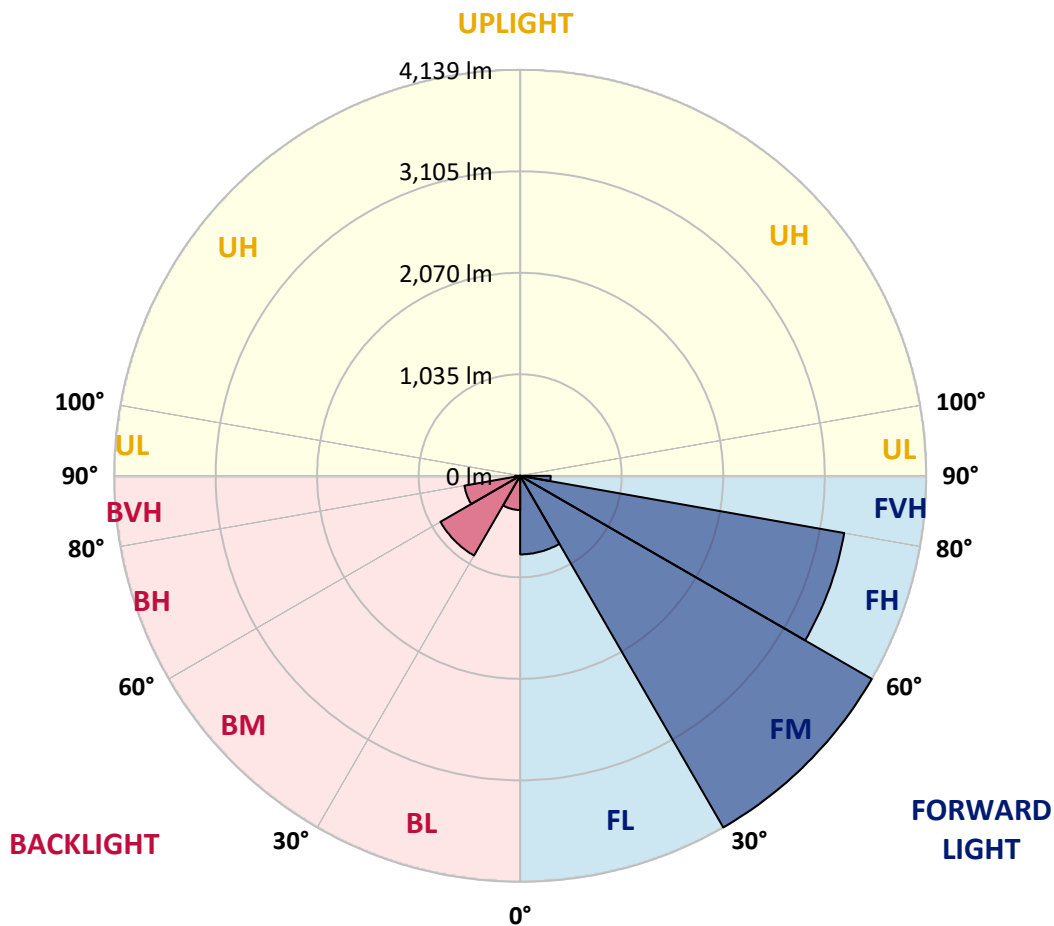


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	800.9	7.6			
FM (30°-60°)	4139.5	39.3			
FH (60°-80°)	3354.8	31.9			G2/5000
FVH (80°-90°)	310.8	3.0			G3/500
BL (0°-30°)	348.5	3.3	B1/500		
BM (30°-60°)	939.3	8.9	B1/1000		
BH (60°-80°)	577.2	5.5	B2/1000		G2/1000
BVH (80°-90°)	51.0	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°	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5
2.5°	1364.3	1376.1	1352.1	1325.0	1213.2	1320.9	1288.8	1348.5	1329.1	1199.4	1436.8
5°	1686.0	1707.4	1684.0	1765.1	1770.3	1791.2	1597.7	1718.2	1676.3	1665.6	1785.6
7.5°	1841.2	1863.2	1922.9	2067.4	2180.3	2078.1	1965.3	1940.3	1907.6	1822.3	1894.8
10°	1850.9	1863.2	1943.3	2249.7	2304.3	2376.8	2303.8	2131.8	2060.8	1875.4	1820.3
12.5°	1821.8	1860.1	1963.8	2337.0	2499.4	2578.5	2596.4	2404.9	2230.8	2019.4	1991.3
15°	2017.4	2031.2	2179.8	2399.3	2511.1	2578.0	2636.2	2518.3	2463.6	2296.2	2071.0
17.5°	2297.7	2336.0	2457.5	2538.7	2614.3	2627.0	2579.0	2533.1	2446.3	2669.9	2430.5
20°	2487.6	2561.7	2710.8	2726.1	2567.3	2595.4	2588.7	2591.8	2542.3	2955.9	2824.1
22.5°	2990.1	3070.2	3090.7	3001.8	2702.6	2574.4	2600.0	2674.0	2869.1	3223.4	3372.5
25°	3445.0	3476.2	3662.5	3433.8	2956.9	2677.6	2635.7	2827.2	3145.3	3673.8	3780.0
27.5°	3682.4	3722.8	3846.9	3349.0	2988.5	2544.8	2446.8	2738.3	3062.6	3461.9	3928.0
30°	3986.3	4050.6	4219.6	3433.8	3084.0	2631.6	2414.6	2693.4	3051.9	3600.8	4241.6
32.5°	4299.3	4424.4	4550.0	3732.5	3070.7	2764.4	2620.4	2642.9	3148.9	3891.8	4566.3
35°	4713.9	4824.2	4932.4	3905.1	3338.3	2875.2	2732.2	2970.2	3398.0	4229.3	5019.2
37.5°	5600.3	5774.9	5489.5	4396.3	3629.3	3374.6	3116.7	3257.6	3661.5	4510.6	5759.1
40°	6165.0	6296.2	6020.5	4730.7	4142.0	3711.0	3668.7	3680.4	4024.6	4751.6	6256.9
42.5°	6726.1	6903.8	6465.2	5189.7	4761.9	4406.0	4187.4	4172.6	4431.0	5184.6	6823.2
45°	7144.8	7249.5	6617.9	5576.8	5426.7	5162.7	4998.8	4738.9	4965.1	5484.4	7173.4
47.5°	7344.0	7429.2	6863.5	5802.0	5857.6	5871.4	6167.0	5723.8	5431.8	5687.1	7357.2
50°	7592.6	7633.0	7008.0	6000.1	6267.1	6872.7	6943.7	6192.6	5886.2	5908.2	7466.0
52.5°	7889.8	7906.6	7218.9	6228.8	6681.2	7531.4	7421.6	6987.1	6318.7	6312.0	7670.7
55°	8263.6	8253.3	7483.4	6536.7	6976.8	7923.0	7839.8	7523.2	6790.0	6646.5	7989.4
57.5°	8596.0	8589.8	7834.1	6820.1	7225.5	8124.2	8148.7	8064.9	7110.6	6886.0	8334.5
60°	8758.8	8837.0	8233.4	7130.0	7241.3	8215.0	8224.2	8091.0	7469.1	7193.3	8426.4
62.5°	8695.5	8844.1	8429.5	7408.8	7095.8	7966.9	8005.2	7913.3	7452.7	7516.0	8221.2
65°	8407.5	8579.1	8259.5	7557.4	7006.5	7551.3	7561.0	7328.6	7219.4	7730.0	7740.2
67.5°	7867.3	8028.2	7718.2	7320.5	6394.8	6431.0	6647.5	6666.4	6507.1	7568.6	7064.7
70°	6921.7	7035.1	6841.0	6735.3	5345.0	5132.6	5367.4	5468.0	5540.5	6986.0	6253.8
72.5°	5479.8	5698.8	5729.4	5798.4	4303.3	3949.5	4123.6	3974.5	4446.8	5945.9	5109.6
75°	4054.2	4239.0	4437.6	4822.1	3391.9	2956.9	2935.4	2859.4	3300.5	4781.8	3789.7
77.5°	2865.0	2982.9	3135.6	3852.0	2559.6	2277.3	2290.6	2213.5	2383.5	3614.0	2617.8
80°	2053.6	2115.4	2186.4	2537.7	1888.2	1964.8	1966.8	1893.8	1772.3	2454.5	1747.3
82.5°	1463.4	1511.4	1592.6	1673.7	1407.7	1610.4	1608.9	1604.3	1405.2	1658.9	1093.2
85°	814.9	879.3	1020.2	1311.2	1016.6	1151.4	1012.5	1115.2	1031.4	1104.4	553.5
87.5°	57.2	51.1	228.2	759.8	474.3	346.7	181.8	360.0	461.6	577.0	77.1
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5
2.5°	1485.8	1503.7	1433.8	1328.6	1357.2	1326.0	1286.7	1225.4	1099.3	1177.4	1178.0
5°	1784.5	1716.6	1662.0	1610.4	1523.6	1392.4	1375.0	1269.9	1210.6	1241.8	1237.2
7.5°	1878.0	1781.5	1699.3	1515.0	1354.1	1150.4	1089.1	1026.8	1000.8	1076.3	1106.5
10°	1775.4	1674.8	1594.1	1369.9	1260.7	1133.5	965.0	878.7	827.7	847.6	859.3
12.5°	1858.1	1755.4	1501.7	1376.6	1196.3	1118.7	971.2	844.5	769.0	787.3	765.4
15°	1937.7	1799.4	1545.6	1296.4	1150.4	1038.1	918.6	787.9	699.0	667.4	650.5
17.5°	2228.8	1999.0	1540.5	1251.5	1084.0	954.8	810.8	667.9	608.6	576.0	547.9
20°	2583.6	2263.5	1568.1	1205.0	1013.5	850.7	693.9	561.1	519.8	498.3	490.7
22.5°	3005.9	2602.5	1725.8	1198.4	947.2	774.6	629.6	546.9	500.4	476.9	467.2
25°	3341.4	2953.3	1842.2	1243.3	943.6	711.8	590.8	607.6	586.2	593.3	536.6
27.5°	3667.1	3048.8	1776.9	1223.4	848.6	600.5	581.6	616.8	635.2	640.8	638.8
30°	3942.3	3452.2	1791.2	1111.1	716.9	489.2	445.2	462.6	513.2	593.3	608.6
32.5°	4345.2	3645.2	1913.2	1043.2	640.8	437.6	388.6	381.9	393.7	422.8	447.8
35°	4816.5	4089.4	1947.4	1025.3	588.2	414.6	380.4	365.1	371.2	393.2	398.3
37.5°	5695.2	4413.1	2074.1	1003.3	568.8	400.8	374.3	368.7	381.9	399.8	410.0
40°	6179.8	4995.2	2080.2	984.4	543.8	395.2	378.4	375.8	384.0	408.5	414.6
42.5°	6825.7	5327.1	2176.2	962.5	535.1	402.9	386.5	385.5	392.7	406.9	418.2
45°	7219.4	5549.2	2181.3	949.7	533.1	436.6	397.2	393.7	392.1	400.8	411.0
47.5°	7473.1	5869.3	2243.6	935.4	545.3	445.2	410.0	394.7	389.6	393.2	400.8
50°	7713.6	6125.2	2361.5	933.4	558.1	436.6	432.5	394.2	384.0	382.4	388.1
52.5°	8008.8	6545.9	2507.0	952.8	555.0	423.8	449.3	392.1	373.8	370.2	375.8
55°	8438.2	6996.8	2661.8	936.4	523.4	399.3	433.0	390.6	363.0	356.4	361.5
57.5°	8716.5	7255.1	2834.9	922.7	475.4	380.9	418.2	391.6	364.1	349.3	352.3
60°	8624.0	7116.2	2902.8	838.4	429.9	366.6	383.0	383.5	354.9	341.1	343.6
62.5°	8215.6	6613.3	2839.4	740.4	396.2	346.2	346.7	368.1	328.3	318.6	322.7
65°	7644.7	5987.8	2583.1	676.5	380.4	324.7	316.6	323.2	292.6	285.4	293.6
67.5°	6944.2	5216.8	2201.7	609.1	374.8	295.6	285.9	283.4	264.0	255.8	264.0
70°	6065.4	4368.2	1760.0	561.7	353.3	264.0	256.3	253.8	237.4	231.3	238.5
72.5°	4875.2	3410.8	1358.2	525.4	329.8	234.9	228.2	225.2	211.4	202.7	211.4
75°	3467.5	2606.6	1008.9	469.8	296.7	205.3	197.6	193.5	180.8	172.6	180.2
77.5°	2464.2	1956.6	704.6	388.6	244.6	173.6	169.0	162.4	151.1	141.4	149.1
80°	1821.8	1398.0	454.4	299.7	186.9	138.9	136.3	131.7	121.0	109.3	114.9
82.5°	1199.4	1007.9	260.4	203.2	135.8	100.1	102.1	99.1	88.8	76.6	79.7
85°	537.2	596.9	138.4	111.8	88.3	60.3	65.9	63.8	56.2	44.4	45.4
87.5°	51.6	100.6	42.4	40.8	32.7	18.9	23.5	19.9	16.8	10.7	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°	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5
2.5°	1195.8	1123.8	1051.8	1095.7	1096.8	1108.5	1110.0	1066.6	1101.4	1127.9	1155.5
5°	1214.7	1167.7	1170.3	1127.9	1104.9	1134.6	1128.4	1116.7	1137.6	1166.7	1202.0
7.5°	1077.9	1047.2	1042.1	1001.3	902.2	880.3	898.7	906.3	934.4	979.3	1017.1
10°	841.5	902.2	833.8	818.0	791.9	740.9	711.3	707.7	767.4	803.7	835.3
12.5°	758.2	742.9	734.8	691.4	691.4	637.2	619.9	635.7	727.6	753.6	794.5
15°	645.9	634.7	596.9	575.4	565.2	543.3	561.7	577.0	662.8	664.8	707.7
17.5°	536.1	529.5	493.8	489.7	479.5	469.8	486.6	523.4	569.8	561.7	581.6
20°	479.5	456.5	423.8	435.5	424.8	417.2	410.0	462.1	494.8	505.5	517.2
22.5°	465.2	423.3	403.9	393.2	393.7	381.4	383.0	426.4	475.9	482.5	475.4
25°	531.5	457.0	394.2	363.0	351.3	347.2	359.0	397.2	457.0	471.3	476.9
27.5°	621.9	496.3	405.9	352.8	329.3	331.4	348.2	374.8	445.2	470.8	477.4
30°	596.9	466.7	406.4	345.2	316.1	326.8	332.9	358.4	436.1	474.3	507.5
32.5°	460.6	419.7	409.0	351.3	339.5	322.7	331.4	355.9	409.0	433.0	434.5
35°	390.1	359.0	351.8	337.5	321.2	314.0	323.7	345.2	379.9	394.7	392.7
37.5°	387.0	352.8	324.7	318.6	312.0	309.9	315.6	335.5	370.7	396.7	391.1
40°	392.1	349.8	321.2	310.4	313.0	303.8	309.4	333.9	372.2	396.7	391.6
42.5°	386.0	346.2	316.6	308.4	311.0	298.2	304.8	330.4	368.1	397.2	387.5
45°	373.8	338.0	314.0	300.2	312.0	293.1	301.3	321.2	355.9	387.5	376.3
47.5°	361.5	328.3	303.3	294.6	306.4	288.0	291.6	308.9	343.6	374.8	365.1
50°	348.2	316.1	294.6	292.1	300.2	287.0	281.3	295.6	328.8	360.0	351.8
52.5°	333.9	305.8	288.5	287.5	295.1	280.3	272.1	283.4	313.0	344.1	337.5
55°	320.1	294.6	280.8	283.4	292.1	274.7	264.5	271.6	296.1	326.8	317.6
57.5°	306.4	281.9	270.6	277.8	284.4	267.6	254.8	258.9	278.8	308.9	298.2
60°	294.1	270.6	259.4	268.1	274.2	256.8	242.0	244.6	262.4	289.5	279.8
62.5°	278.3	258.4	243.6	254.8	259.4	242.5	226.7	229.8	244.1	269.6	262.4
65°	255.8	243.0	229.3	236.9	243.0	225.7	210.9	214.5	225.2	249.2	244.1
67.5°	236.4	224.2	215.0	221.1	222.1	208.8	195.6	197.6	206.3	228.7	223.1
70°	215.0	203.2	196.1	200.7	200.2	188.9	178.7	179.2	186.4	206.8	199.1
72.5°	191.5	180.2	176.7	179.2	177.2	167.0	157.3	160.8	165.4	180.8	174.6
75°	166.5	156.2	154.2	156.8	153.7	144.0	135.3	138.9	143.0	155.7	148.1
77.5°	140.4	131.2	131.7	132.2	128.2	121.5	112.8	116.4	119.0	127.7	120.0
80°	111.8	104.7	106.7	106.7	102.1	97.5	89.4	90.4	91.9	95.0	89.4
82.5°	81.7	81.7	81.7	82.2	72.5	74.0	66.9	66.4	64.8	64.3	60.8
85°	48.5	50.5	51.6	53.1	39.3	46.0	39.8	38.3	35.2	32.2	31.1
87.5°	10.7	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°	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5
2.5°	1123.8	1093.2	1150.4	1201.4	1193.3	1222.9	1154.0	1256.1	1364.3	1364.3
5°	1192.8	1166.7	1181.5	1211.1	1233.6	1336.8	1422.5	1507.8	1684.0	1686.0
7.5°	1005.9	1062.0	1075.3	1066.6	1163.1	1295.9	1437.3	1680.4	1829.5	1841.2
10°	940.5	966.1	1006.4	1028.9	1068.2	1198.9	1374.5	1663.0	1821.3	1850.9
12.5°	852.2	946.7	1007.9	1133.5	1164.7	1190.7	1470.0	1719.7	1829.0	1821.8
15°	755.7	827.2	915.5	1054.4	1133.5	1332.7	1526.7	1901.5	1963.3	2017.4
17.5°	602.5	655.1	772.5	930.8	1126.9	1310.2	1666.6	2126.1	2241.5	2297.7
20°	495.8	496.3	613.7	823.6	1037.0	1216.2	1719.7	2312.5	2459.1	2487.6
22.5°	468.7	445.2	507.0	677.6	938.0	1271.9	1826.9	2612.2	2918.1	2990.1
25°	453.9	425.3	464.1	597.9	867.0	1301.0	2042.9	3024.3	3416.9	3445.0
27.5°	460.1	473.3	485.6	533.1	777.1	1246.4	1992.9	3208.6	3629.3	3682.4
30°	501.4	522.9	494.8	511.1	703.1	1167.2	2082.2	3507.8	3896.9	3986.3
32.5°	417.2	409.0	406.4	442.2	629.1	1095.7	2269.6	3929.1	4186.9	4299.3
35°	376.3	363.5	368.7	409.5	592.8	1085.5	2374.8	4277.8	4644.9	4713.9
37.5°	374.8	360.0	366.6	397.2	605.6	1103.9	2543.3	4837.4	5452.7	5600.3
40°	371.2	363.0	366.6	389.6	592.3	1114.1	2640.3	5307.7	6015.4	6165.0
42.5°	370.7	366.6	370.2	395.7	578.5	1118.7	2774.6	5732.5	6608.2	6726.1
45°	369.2	373.2	373.2	400.8	572.4	1149.4	2853.7	5940.8	6999.3	7144.8
47.5°	362.0	374.3	394.2	399.3	547.4	1135.1	2965.6	6256.9	7207.1	7344.0
50°	352.8	372.7	420.7	389.1	543.3	1100.3	3096.3	6507.6	7473.7	7592.6
52.5°	340.6	370.2	414.6	369.2	536.1	1094.2	3279.6	6833.4	7784.6	7889.8
55°	323.2	361.0	395.7	349.3	518.8	1074.8	3559.9	7237.2	8191.6	8263.6
57.5°	307.4	347.2	368.1	338.0	477.4	1078.9	3755.0	7566.6	8533.2	8596.0
60°	293.1	345.7	328.8	326.3	435.0	1024.3	3818.3	7563.0	8660.3	8758.8
62.5°	277.8	326.3	301.3	310.4	397.8	968.1	3684.0	7238.8	8522.9	8695.5
65°	257.9	279.8	278.3	299.2	398.8	876.7	3376.1	6666.9	8180.3	8407.5
67.5°	234.4	247.6	256.3	280.8	411.5	805.7	2880.8	5979.1	7597.2	7867.3
70°	210.4	223.6	233.3	256.8	423.3	773.0	2293.1	5013.1	6647.5	6921.7
72.5°	185.9	199.6	207.3	227.7	407.5	703.1	1697.2	3900.5	5335.8	5479.8
75°	160.3	173.6	179.7	198.6	353.8	581.6	1171.8	2954.3	3908.1	4054.2
77.5°	134.3	148.6	150.6	165.9	270.1	444.7	751.1	2266.0	2767.5	2865.0
80°	107.2	121.5	121.5	129.7	189.9	305.8	449.8	1709.5	2015.3	2053.6
82.5°	77.1	92.4	91.4	91.9	131.2	189.4	260.4	1281.1	1456.2	1463.4
85°	45.4	56.2	55.7	51.1	77.6	102.1	140.9	795.5	812.9	814.9
87.5°	8.7	13.3	11.7	5.1	21.4	30.1	40.8	147.6	58.7	57.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)