

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: P368479

Luminaire Tested: **MSA-SA4C-730-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368479
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-25)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4C-730-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15985 lumens
Efficiency: N/A
Efficacy: 71.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

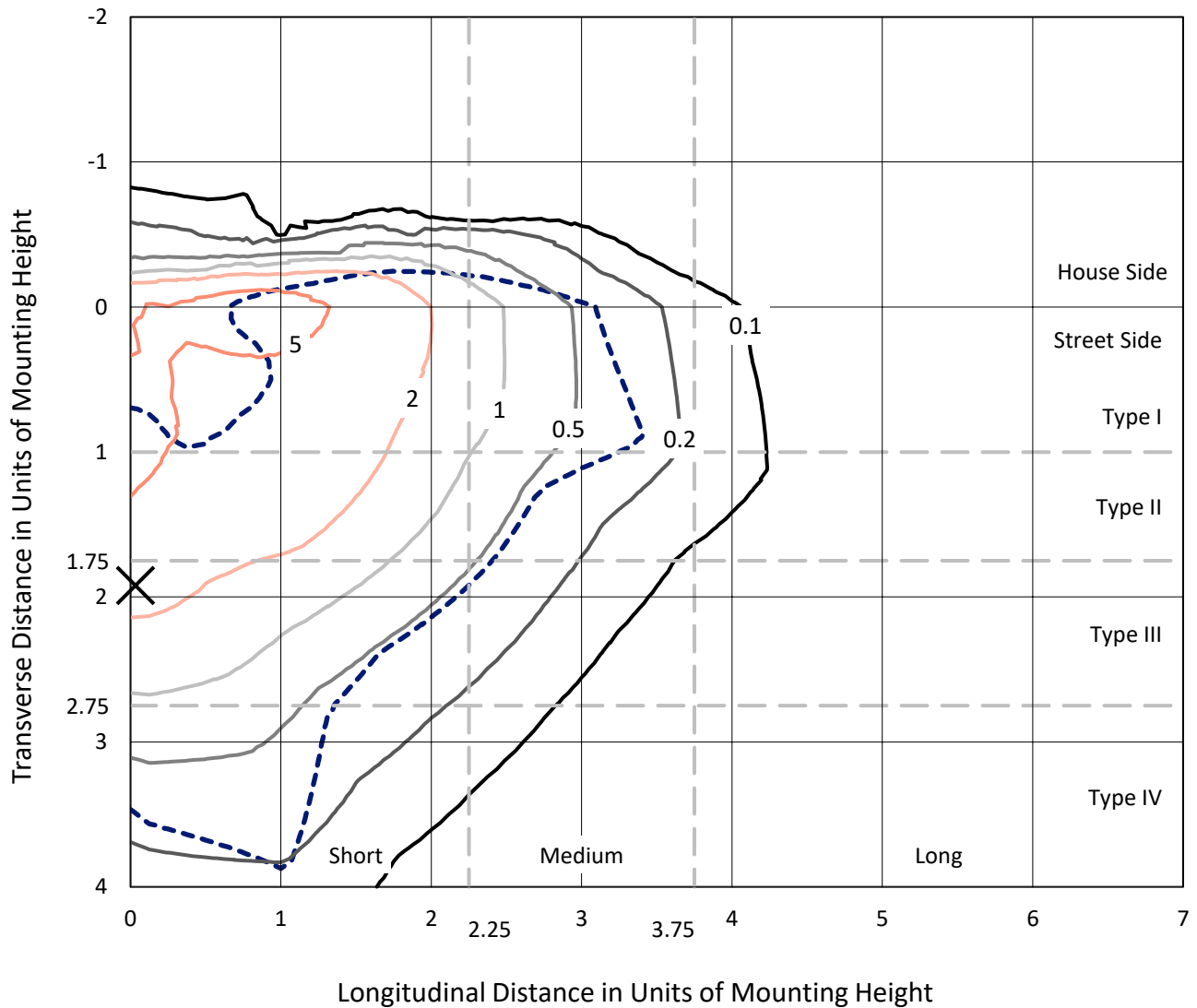
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

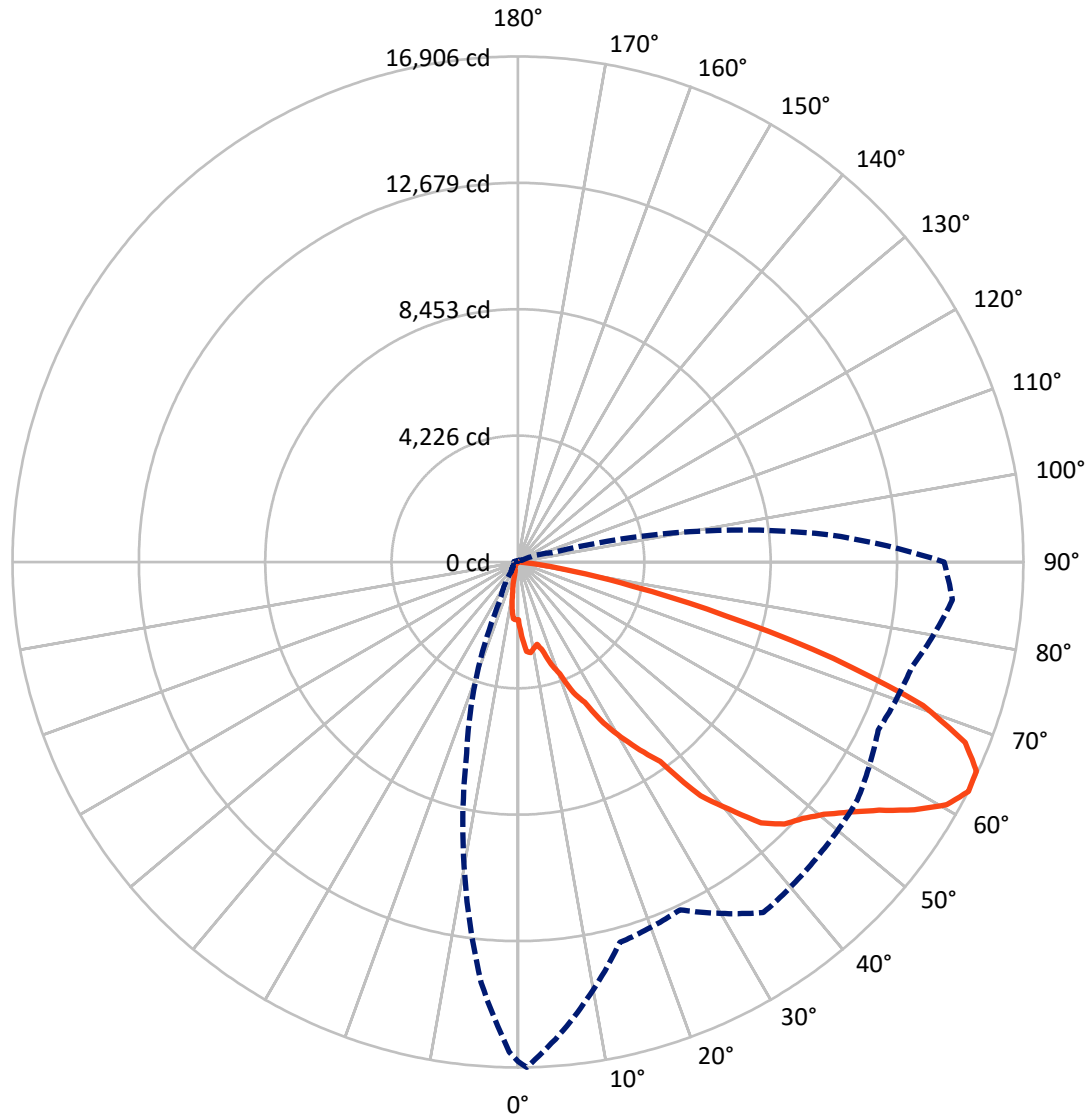
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.2 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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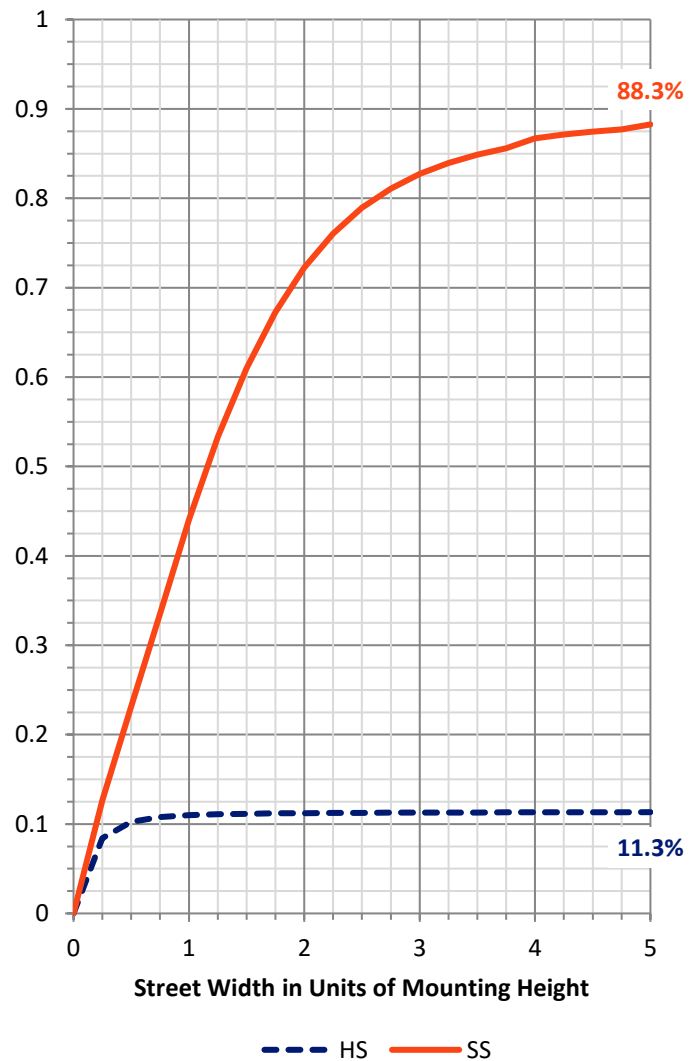
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1827.9	0.0	1827.9
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	14157.0	0.0	14157.0
	% Fixture	88.6	0.0	88.6
Total	Lumens	15985.0	0.0	15985.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	215.2	1.3
10°-20°	562.0	3.5
20°-30°	908.4	5.7
30°-40°	1521.7	9.5
40°-50°	2488.1	15.6
50°-60°	3683.1	23.0
60°-70°	4228.5	26.5
70°-80°	2091.0	13.1
80°-90°	287.0	1.8
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°	15985.0	100.0
0°-180°	15985.0	100.0

Coefficient of Utilization



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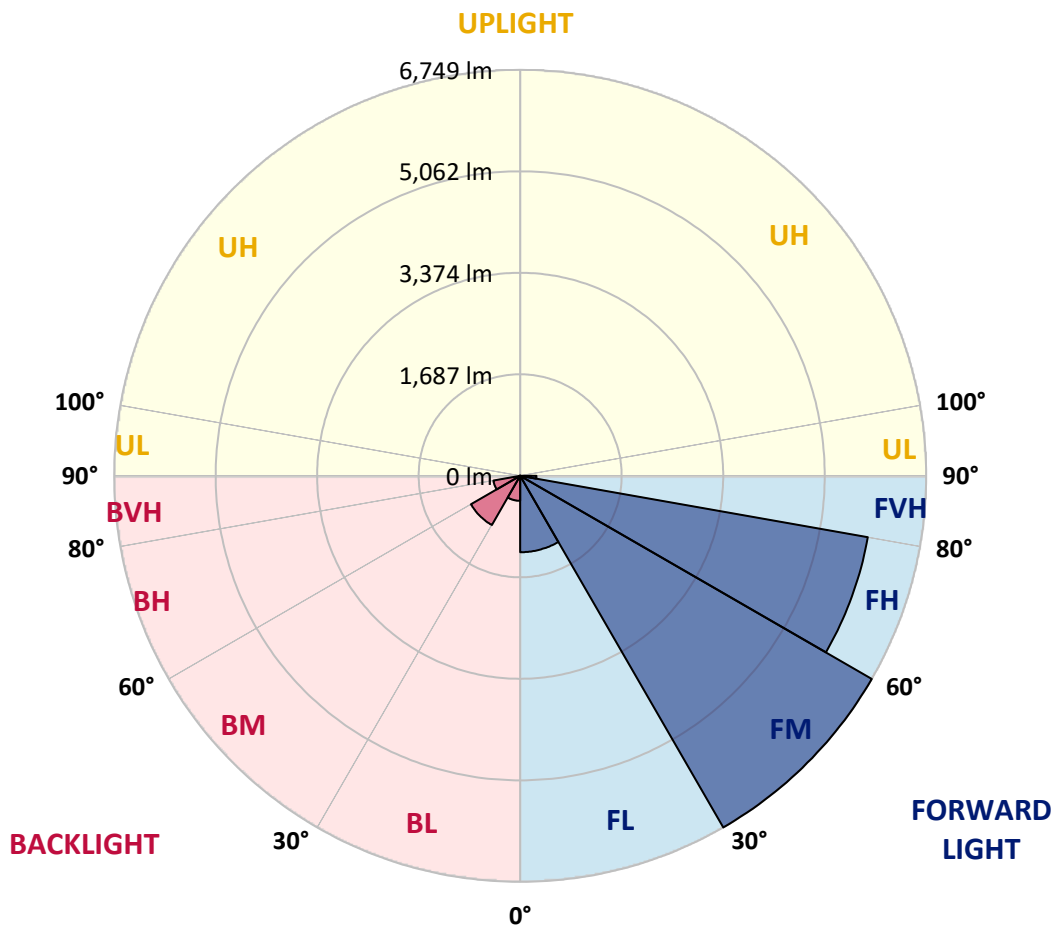
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1269.7	7.9			
FM (30°-60°)	6748.8	42.2			
FH (60°-80°)	5867.5	36.7			G3/7500
FVH (80°-90°)	271.1	1.7			G3/500
BL (0°-30°)	415.9	2.6	B1/500		
BM (30°-60°)	944.2	5.9	B1/1000		
BH (60°-80°)	452.0	2.8	B1/500		G1/500
BVH (80°-90°)	15.9	0.1			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6
2.5°	2483.1	2495.0	2439.4	2432.1	2302.8	2464.0	2468.5	2487.7	2369.3	2139.7	2460.3
5°	2971.4	3004.2	2961.3	3151.7	3206.4	3323.9	3108.0	3301.1	3219.1	3241.9	3288.4
7.5°	3029.7	3063.4	3153.5	3472.4	3766.6	3692.8	3669.1	3742.0	3735.6	3567.1	3650.9
10°	2908.5	2936.8	3087.1	3667.3	3795.7	4127.3	4208.4	4040.8	3972.4	3603.5	3442.3
12.5°	2776.4	2823.8	3015.1	3711.0	4096.3	4431.5	4698.4	4459.8	4233.0	3840.4	3692.8
15°	3029.7	3056.1	3356.7	3802.1	4139.1	4370.5	4589.1	4509.9	4475.3	4192.9	3692.8
17.5°	3526.1	3588.0	3805.8	4025.3	4291.3	4430.6	4378.7	4354.1	4265.8	4709.4	4192.0
20°	3879.5	3995.2	4280.3	4375.1	4163.7	4294.0	4262.1	4240.3	4171.0	4996.3	4765.8
22.5°	4644.7	4751.3	4756.7	4790.4	4298.6	4090.9	4038.0	4044.4	4358.7	5081.9	5480.0
25°	5165.7	5202.2	5490.0	5249.5	4666.6	4152.8	3951.5	4041.7	4494.4	5697.7	6151.3
27.5°	6018.3	6104.9	6284.3	5470.0	4887.0	4113.6	3793.0	4120.9	4851.5	5901.7	6897.4
30°	6713.4	6796.2	7085.0	5771.5	5078.3	4307.7	3861.3	4280.3	5073.7	6321.7	7567.8
32.5°	7277.2	7491.3	7819.2	6237.0	5071.0	4530.8	4210.2	4227.5	5347.0	6865.5	8230.9
35°	7997.7	8197.2	8427.7	6557.6	5402.6	4602.8	4313.1	4746.7	5753.3	7433.9	9123.6
37.5°	9621.9	9923.4	9467.9	7365.6	5788.8	5253.2	4719.4	5066.4	6178.7	8014.1	10350.6
40°	10612.9	10867.1	10427.1	7778.2	6457.4	5581.1	5444.5	5622.1	6594.9	8313.8	11275.2
42.5°	11589.4	11924.6	11189.5	8399.4	7092.3	6506.6	6133.1	6276.1	7197.0	9037.1	12315.4
45°	12296.3	12504.0	11354.4	8724.6	7964.9	7561.4	7312.7	7099.6	8036.9	9501.6	12986.7
47.5°	12651.5	12817.3	11679.6	8827.6	8484.2	8677.3	9222.0	8776.6	8780.2	9837.8	13348.4
50°	13143.4	13259.1	11861.8	8950.5	9048.0	10416.2	10691.3	9743.0	9629.2	10174.8	13407.6
52.5°	13834.8	13891.3	12215.2	9274.8	9892.4	11778.0	11877.3	11493.8	10479.0	10801.5	13538.8
55°	14753.9	14654.6	12846.5	9956.2	10773.3	12775.4	12908.4	12574.1	11547.5	11427.3	13945.0
57.5°	15745.0	15631.1	13782.0	10916.3	11728.8	13537.8	13617.1	13643.5	12257.1	11981.1	14635.5
60°	16455.5	16476.4	14959.8	12017.5	12322.7	14267.5	14109.0	13868.5	12973.1	12792.7	14971.6
62.5°	16704.1	16905.5	15877.0	13171.7	12834.6	14313.0	14067.1	13863.9	13293.7	13629.8	14586.3
65°	16501.0	16852.6	16090.2	14185.5	13144.3	13741.9	13485.9	13355.7	13283.7	13971.4	13733.7
67.5°	15694.0	16133.9	15479.9	14194.6	12018.5	11700.6	12003.0	12415.6	12177.0	13688.1	12539.5
70°	13885.8	14367.7	14063.4	13362.0	10011.7	9205.6	9539.0	10162.9	9994.4	12174.2	10782.4
72.5°	10418.0	11037.4	11097.5	11535.7	7947.6	6928.3	6976.6	6959.3	7249.9	9816.8	8414.0
75°	6692.4	7174.3	7825.6	9308.5	6037.5	5058.2	4595.5	4482.6	5024.5	7670.7	6023.8
77.5°	3885.0	3942.4	4243.0	7023.1	4324.1	3644.5	3329.4	3490.6	3680.0	5353.4	3992.5
80°	1858.2	1887.4	2011.3	3613.6	3004.2	3154.5	2911.2	3092.5	2526.8	3077.0	2265.4
82.5°	589.4	595.7	616.7	1775.4	1865.5	2089.6	1339.0	1795.4	1562.2	1860.1	1508.5
85°	98.4	167.6	206.8	512.8	1053.0	705.0	290.6	640.4	871.7	1173.2	685.0
87.5°	0.0	0.0	0.0	9.1	85.6	40.1	6.4	36.4	133.9	261.4	31.0
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6
2.5°	2553.3	2616.1	2379.3	2167.0	2220.8	2178.0	2113.3	2003.1	1748.0	1935.7	1922.9
5°	3285.6	3169.0	2848.4	2699.0	2516.8	2239.0	2205.3	1992.1	1898.3	1913.8	1900.1
7.5°	3540.7	3332.1	3048.8	2598.8	2171.6	1770.8	1647.8	1508.5	1480.2	1540.3	1579.5
10°	3340.3	3118.9	2871.2	2311.9	1983.0	1693.4	1390.0	1195.1	1089.4	1076.7	1087.6
12.5°	3432.3	3193.6	2683.5	2255.4	1912.0	1649.6	1310.8	1016.6	787.0	804.3	758.8
15°	3496.0	3221.9	2638.9	2137.0	1765.3	1414.6	1006.5	712.3	524.7	470.0	437.2
17.5°	3870.4	3478.7	2582.4	2000.3	1560.4	1101.3	632.2	412.6	351.6	332.5	317.0
20°	4351.4	3794.8	2581.5	1856.4	1258.0	688.6	394.4	298.8	284.2	295.1	283.3
22.5°	4910.7	4215.7	2719.0	1677.0	902.7	434.5	307.0	265.1	250.5	259.6	260.5
25°	5473.6	4846.9	2831.1	1506.6	628.5	333.4	273.3	244.1	227.7	235.9	231.4
27.5°	6490.2	5369.8	2805.6	1288.9	462.7	293.3	254.1	228.6	204.0	216.8	215.9
30°	7155.1	6292.5	2904.9	983.8	367.1	256.9	236.8	208.6	182.2	196.8	195.8
32.5°	7950.4	6688.8	3012.4	755.1	305.2	243.2	213.2	185.8	170.3	179.4	177.6
35°	8844.0	7472.1	2814.7	628.5	265.1	219.5	188.6	167.6	153.9	158.5	158.5
37.5°	10422.6	8127.1	2696.3	511.9	246.9	198.6	176.7	151.2	143.0	143.0	147.6
40°	11318.9	9127.3	2342.8	405.4	252.3	183.1	164.9	138.5	127.5	126.6	131.2
42.5°	12484.8	9703.9	2121.5	327.9	228.6	178.5	151.2	125.7	113.0	112.0	116.6
45°	13176.2	10026.3	1810.0	257.8	205.0	207.7	140.3	115.7	96.6	92.9	101.1
47.5°	13612.5	10453.5	1633.2	205.0	178.5	206.8	136.6	100.2	81.1	76.5	83.8
50°	13833.9	10664.9	1598.6	175.8	154.9	184.9	156.7	83.8	69.2	62.9	69.2
52.5°	14064.3	11008.3	1611.4	162.1	136.6	148.5	148.5	72.0	61.0	53.7	58.3
55°	14529.8	11515.6	1583.1	153.9	125.7	113.0	95.6	63.8	55.6	47.4	51.9
57.5°	15101.9	11880.0	1583.1	146.7	116.6	96.6	76.5	59.2	51.0	41.0	44.6
60°	14993.5	11496.5	1504.8	139.4	109.3	90.2	69.2	54.7	47.4	37.3	40.1
62.5°	14249.3	10453.5	1218.8	128.4	102.9	85.6	62.9	51.9	44.6	32.8	35.5
65°	13374.8	9345.9	847.1	116.6	95.6	77.4	56.5	49.2	41.0	29.1	31.0
67.5°	12321.8	8026.0	470.0	104.8	88.4	67.4	51.9	48.3	39.2	26.4	28.2
70°	10494.5	6059.3	252.3	95.6	82.9	61.9	49.2	48.3	39.2	25.5	26.4
72.5°	7878.4	3815.8	147.6	87.4	75.6	57.4	46.5	49.2	38.3	24.6	24.6
75°	5360.7	2316.4	105.7	74.7	67.4	48.3	44.6	47.4	39.2	24.6	22.8
77.5°	3644.5	1627.8	86.5	67.4	61.0	42.8	45.5	47.4	39.2	20.0	15.5
80°	2275.4	839.9	65.6	53.7	52.8	37.3	45.5	41.0	25.5	4.6	0.0
82.5°	1591.3	312.4	38.3	41.0	41.0	26.4	35.5	29.1	14.6	0.0	0.0
85°	667.7	53.7	21.0	29.1	25.5	15.5	28.2	21.9	9.1	0.0	0.0
87.5°	11.8	0.0	8.2	17.3	18.2	9.1	14.6	9.1	0.0	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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6
2.5°	1983.0	1896.5	1714.3	1801.8	1792.7	1832.7	1836.4	1743.5	1943.9	2067.8	2086.0
5°	1902.0	1843.7	1833.6	1783.5	1770.8	1844.6	1804.5	1801.8	1898.3	2039.5	2040.4
7.5°	1580.4	1535.8	1556.7	1498.4	1348.1	1357.2	1370.9	1428.3	1511.2	1604.1	1637.8
10°	1084.9	1200.6	1115.9	1108.6	1093.1	1044.8	1006.5	1036.6	1144.1	1229.7	1261.6
12.5°	774.3	792.5	844.4	825.3	851.7	810.7	795.2	889.0	993.8	1081.2	1144.1
15°	452.7	483.7	514.7	580.2	606.7	598.5	645.8	724.2	808.9	849.0	926.4
17.5°	318.8	321.5	327.9	399.0	445.4	463.6	491.9	551.1	585.7	603.9	635.8
20°	278.7	270.5	259.6	299.7	343.4	366.2	358.0	404.4	432.7	450.9	473.7
22.5°	252.3	238.7	232.3	245.9	279.6	299.7	303.3	330.7	373.5	386.2	393.5
25°	227.7	218.6	214.1	221.3	239.6	258.7	262.3	297.9	336.1	341.6	356.2
27.5°	211.3	194.0	195.8	201.3	209.5	233.2	240.5	260.5	316.1	322.5	327.0
30°	194.0	175.8	181.3	186.7	183.1	212.2	223.2	245.9	299.7	309.7	315.2
32.5°	176.7	163.1	162.1	167.6	174.0	189.5	213.2	239.6	288.8	302.4	316.1
35°	157.6	146.7	148.5	149.4	157.6	177.6	194.9	208.6	242.3	249.6	254.1
37.5°	143.9	134.8	133.0	142.1	150.3	165.8	172.2	178.5	223.2	239.6	240.5
40°	127.5	122.1	122.1	128.4	146.7	144.8	153.0	173.1	215.9	233.2	235.0
42.5°	115.7	108.4	110.2	116.6	129.3	120.2	136.6	165.8	213.2	230.5	229.5
45°	97.5	95.6	99.3	104.8	110.2	102.0	127.5	158.5	204.0	226.8	220.4
47.5°	81.1	81.1	85.6	91.1	88.4	91.1	115.7	148.5	198.6	219.5	215.0
50°	66.5	67.4	72.0	81.1	72.9	80.2	103.8	138.5	189.5	212.2	208.6
52.5°	56.5	57.4	60.1	66.5	62.9	72.9	95.6	128.4	180.4	199.5	197.7
55°	49.2	51.0	51.0	54.7	56.5	68.3	86.5	118.4	166.7	187.6	184.0
57.5°	43.7	45.5	44.6	47.4	49.2	60.1	77.4	107.5	153.0	170.3	164.9
60°	39.2	41.0	40.1	43.7	42.8	51.9	67.4	95.6	138.5	152.1	147.6
62.5°	34.6	36.4	36.4	38.3	39.2	43.7	58.3	84.7	123.9	134.8	131.2
65°	31.0	32.8	33.7	32.8	34.6	37.3	49.2	76.5	107.5	118.4	113.0
67.5°	28.2	30.1	31.9	28.2	30.1	31.0	41.9	68.3	94.7	103.8	99.3
70°	27.3	28.2	28.2	24.6	23.7	24.6	36.4	58.3	82.9	92.0	85.6
72.5°	25.5	26.4	25.5	20.0	17.3	19.1	31.0	49.2	70.1	77.4	72.0
75°	23.7	24.6	23.7	16.4	10.9	13.7	25.5	42.8	60.1	63.8	61.0
77.5°	20.0	21.9	21.9	11.8	3.6	8.2	19.1	34.6	50.1	50.1	51.0
80°	1.8	5.5	9.1	6.4	0.0	0.9	6.4	18.2	31.9	31.0	33.7
82.5°	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	10.9	8.2	9.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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°	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6	1925.6
2.5°	2043.2	2014.9	2050.4	2158.8	2115.1	2123.3	2094.2	2273.6	2476.7	2483.1
5°	2042.2	2016.7	2069.6	2065.0	2189.8	2325.5	2456.7	2668.9	2969.5	2971.4
7.5°	1622.3	1773.5	1812.7	1800.9	1961.2	2147.9	2350.1	2756.4	3003.2	3029.7
10°	1462.9	1528.5	1608.7	1637.8	1704.3	1881.9	2110.6	2570.6	2847.5	2908.5
12.5°	1268.0	1477.5	1584.1	1790.8	1829.1	1854.6	2215.3	2615.2	2783.7	2776.4
15°	1050.3	1232.5	1401.0	1653.3	1757.1	2024.9	2309.1	2832.9	2933.1	3029.7
17.5°	743.3	880.8	1139.5	1404.6	1721.6	2013.1	2567.8	3221.9	3411.3	3526.1
20°	497.4	563.8	798.0	1148.6	1550.4	1840.0	2673.5	3573.5	3780.2	3879.5
22.5°	403.5	435.4	556.6	841.7	1324.5	1831.8	2716.3	3957.0	4512.6	4644.7
25°	355.3	377.1	441.8	623.1	1099.5	1795.4	2953.1	4388.7	5059.2	5165.7
27.5°	310.6	343.4	391.7	513.7	942.8	1769.9	3073.4	5113.8	5913.6	6018.3
30°	297.0	337.0	383.5	468.2	833.5	1671.5	3264.7	5767.8	6526.6	6713.4
32.5°	320.6	334.3	357.1	429.0	748.8	1567.7	3600.8	6549.4	7034.0	7277.2
35°	254.1	278.7	318.8	393.5	713.2	1562.2	3791.2	7052.2	7847.4	7997.7
37.5°	248.7	271.4	323.4	383.5	756.0	1604.1	4073.6	8082.4	9314.0	9621.9
40°	241.4	270.5	319.7	378.9	756.0	1645.1	4253.9	8906.8	10300.5	10612.9
42.5°	238.7	276.0	318.8	398.1	732.4	1667.9	4526.3	9729.4	11342.6	11589.4
45°	236.8	281.5	321.5	420.8	726.9	1742.6	4680.2	10129.2	12013.0	12296.3
47.5°	232.3	281.5	358.9	407.2	696.8	1735.3	4879.7	10722.2	12412.9	12651.5
50°	228.6	283.3	406.3	381.7	701.4	1690.6	5150.2	11278.8	12973.1	13143.4
52.5°	220.4	289.7	399.0	346.1	687.7	1686.1	5553.8	12070.4	13710.0	13834.8
55°	202.2	281.5	360.7	302.4	639.5	1634.2	6088.5	13099.7	14732.0	14753.9
57.5°	185.8	261.4	301.5	277.8	535.6	1640.5	6549.4	14047.0	15642.9	15745.0
60°	169.4	271.4	234.1	258.7	443.6	1523.9	6772.6	14409.6	16306.1	16455.5
62.5°	153.9	250.5	199.5	237.7	395.3	1415.5	6617.7	14118.1	16390.8	16704.1
65°	136.6	174.0	168.5	213.2	399.9	1263.4	6100.3	13264.6	16069.2	16501.0
67.5°	117.5	136.6	148.5	184.0	428.1	1133.2	5213.1	11894.6	15204.8	15694.0
70°	102.9	123.0	129.3	161.2	445.4	1047.5	4113.6	9993.5	13434.0	13885.8
72.5°	85.6	113.9	115.7	141.2	429.0	962.8	2931.3	7174.3	10201.2	10418.0
75°	73.8	94.7	104.8	118.4	360.7	718.7	1615.0	4440.7	6450.1	6692.4
77.5°	66.5	72.0	79.2	82.0	153.0	374.4	555.7	2738.2	3611.7	3885.0
80°	51.0	56.5	54.7	56.5	83.8	129.3	211.3	1283.5	1706.1	1858.2
82.5°	16.4	27.3	30.1	25.5	54.7	63.8	61.0	443.6	554.7	589.4
85°	3.6	10.0	4.6	0.0	18.2	32.8	4.6	67.4	133.0	98.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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

(END OF REPORT)