

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: P368237

Luminaire Tested: **MSA-SA4A-740-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368237
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-SA4A-740-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: 11309 lumens
Efficiency: N/A
Efficacy: 87.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

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: 24 FT



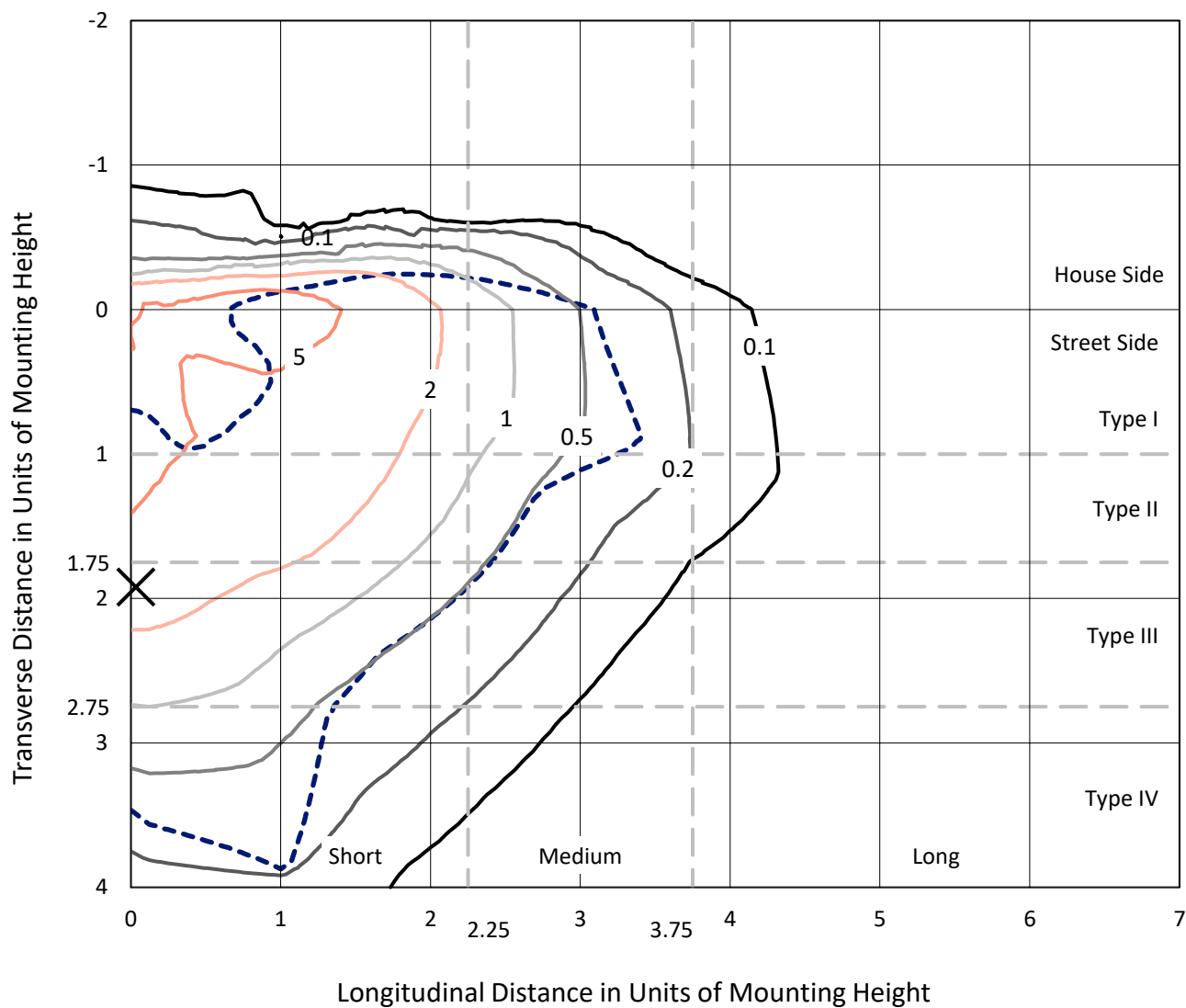
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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

--- 1/2 Max cd



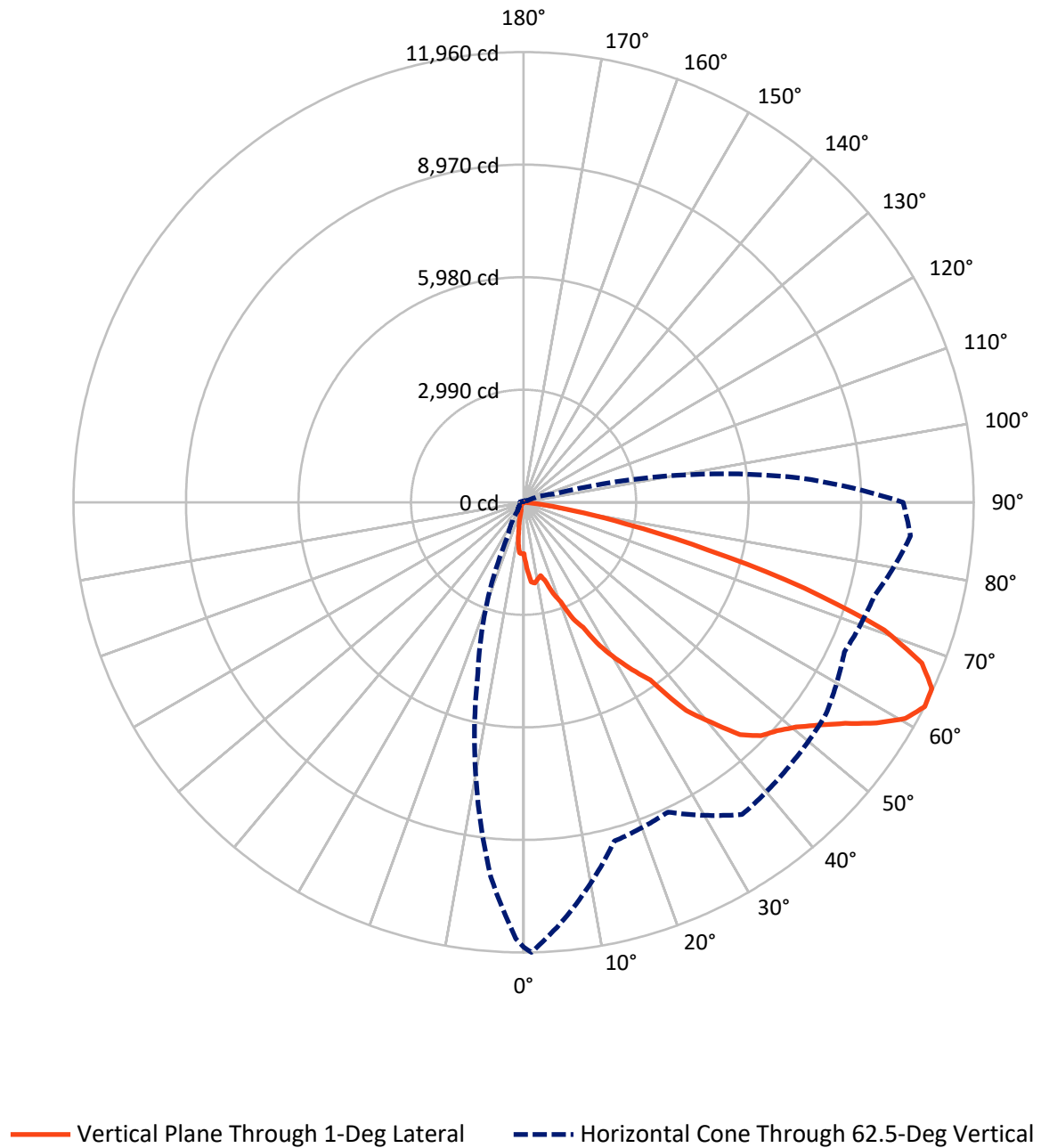
Based on 20 foot mounting height. Maximum calculated value = 9.1 fc

Type IV - Short - N/A

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Luminous Intensity Polar Plot



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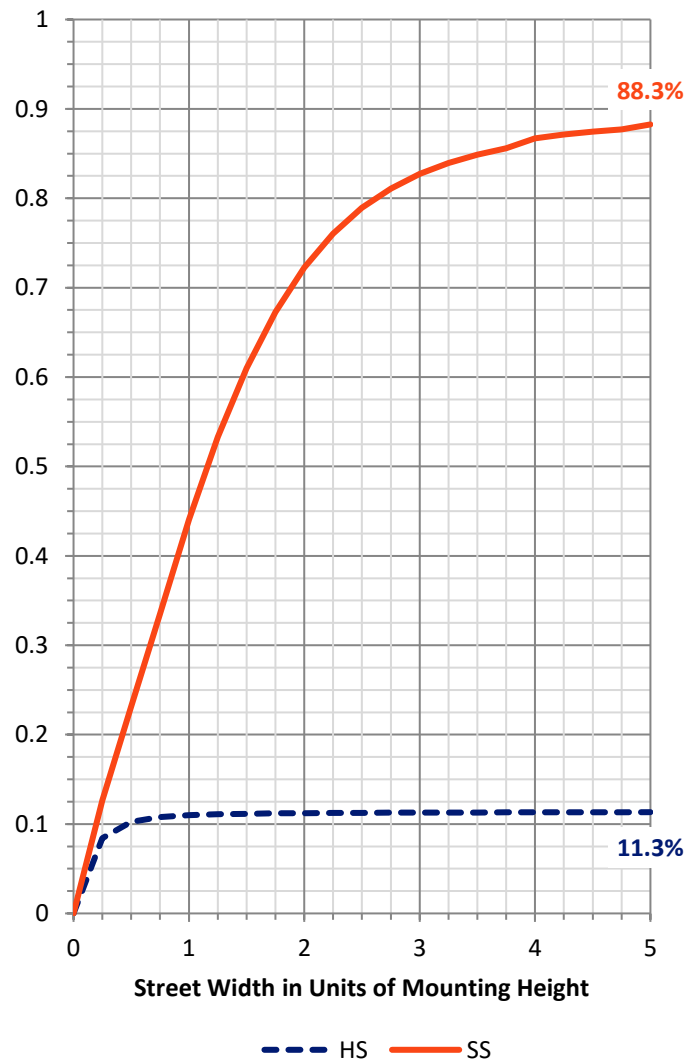
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1293.2	0.0	1293.2
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	10015.8	0.0	10015.8
	% Fixture	88.6	0.0	88.6
Total	Lumens	11309.0	0.0	11309.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.2	1.3
10°-20°	397.6	3.5
20°-30°	642.7	5.7
30°-40°	1076.5	9.5
40°-50°	1760.3	15.6
50°-60°	2605.7	23.0
60°-70°	2991.6	26.5
70°-80°	1479.3	13.1
80°-90°	203.1	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°	11309.0	100.0
0°-180°	11309.0	100.0

Coefficient of Utilization



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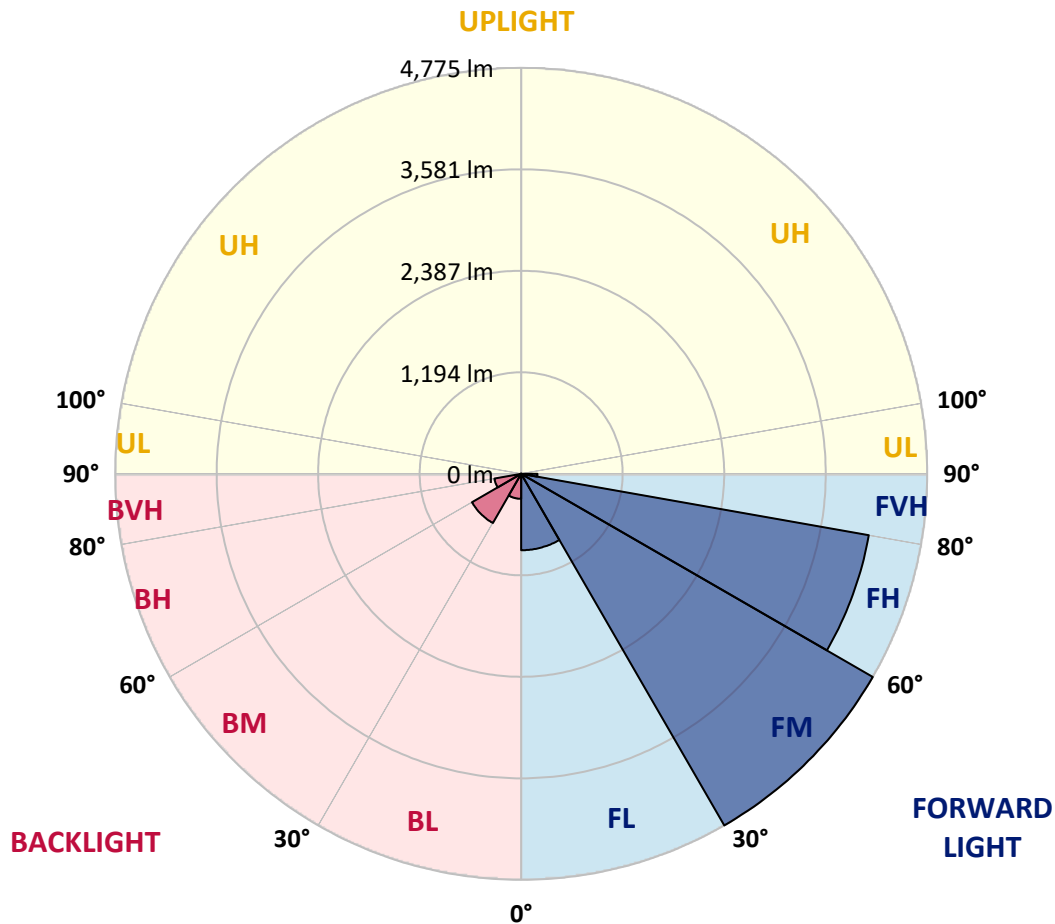
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	898.3	7.9			
FM	(30°-60°)	4774.6	42.2			
FH	(60°-80°)	4151.1	36.7			G2/5000
FVH	(80°-90°)	191.8	1.7			G2/225
BL	(0°-30°)	294.2	2.6	B1/500		
BM	(30°-60°)	668.0	5.9	B1/1000		
BH	(60°-80°)	319.8	2.8	B1/500		G1/500
BVH	(80°-90°)	11.3	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-G2

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4
2.5°	1756.7	1765.1	1725.8	1720.7	1629.1	1743.2	1746.4	1760.0	1676.2	1513.8	1740.6
5°	2102.2	2125.4	2095.1	2229.8	2268.4	2351.6	2198.8	2335.5	2277.5	2293.6	2326.4
7.5°	2143.4	2167.3	2231.1	2456.6	2664.8	2612.6	2595.8	2647.4	2642.9	2523.6	2582.9
10°	2057.7	2077.7	2184.0	2594.5	2685.4	2920.0	2977.3	2858.7	2810.4	2549.4	2435.3
12.5°	1964.3	1997.8	2133.1	2625.5	2898.1	3135.2	3324.0	3155.2	2994.7	2717.0	2612.6
15°	2143.4	2162.1	2374.8	2689.9	2928.3	3092.0	3246.7	3190.6	3166.1	2966.4	2612.6
17.5°	2494.6	2538.5	2692.5	2847.8	3036.0	3134.6	3097.8	3080.4	3017.9	3331.8	2965.7
20°	2744.7	2826.5	3028.2	3095.3	2945.7	3037.9	3015.3	2999.9	2950.9	3534.8	3371.7
22.5°	3286.0	3361.4	3365.3	3389.1	3041.1	2894.2	2856.8	2861.3	3083.7	3595.3	3877.0
25°	3654.6	3680.4	3884.1	3713.9	3301.5	2938.0	2795.6	2859.4	3179.7	4031.0	4351.9
27.5°	4257.8	4319.1	4446.0	3869.9	3457.4	2910.3	2683.5	2915.5	3432.3	4175.3	4879.7
30°	4749.5	4808.2	5012.5	4083.2	3592.8	3047.6	2731.8	3028.2	3589.5	4472.4	5354.0
32.5°	5148.4	5299.9	5531.9	4412.5	3587.6	3205.5	2978.6	2990.9	3782.9	4857.2	5823.2
35°	5658.2	5799.3	5962.4	4639.3	3822.2	3256.4	3051.4	3358.2	4070.3	5259.3	6454.7
37.5°	6807.2	7020.6	6698.3	5211.0	4095.4	3716.5	3338.9	3584.4	4371.2	5669.8	7322.8
40°	7508.4	7688.2	7376.9	5502.9	4568.4	3948.5	3851.8	3977.5	4665.8	5881.8	7976.9
42.5°	8199.2	8436.4	7916.3	5942.4	5017.6	4603.2	4339.0	4440.2	5091.7	6393.5	8712.9
45°	8699.3	8846.3	8033.0	6172.5	5635.0	5349.5	5173.6	5022.8	5685.9	6722.2	9187.8
47.5°	8950.7	9067.9	8263.0	6245.3	6002.3	6139.0	6524.3	6209.2	6211.8	6960.0	9443.7
50°	9298.7	9380.5	8391.9	6332.3	6401.2	7369.2	7563.8	6893.0	6812.4	7198.4	9485.5
52.5°	9787.8	9827.7	8642.0	6561.7	6998.6	8332.6	8402.9	8131.6	7413.7	7641.8	9578.3
55°	10438.0	10367.8	9088.6	7043.8	7621.8	9038.3	9132.4	8895.9	8169.6	8084.5	9865.8
57.5°	11139.2	11058.6	9750.4	7723.0	8297.8	9577.7	9633.8	9652.5	8671.6	8476.3	10354.2
60°	11641.8	11656.7	10583.7	8502.1	8718.0	10093.9	9981.8	9811.6	9178.1	9050.5	10592.0
62.5°	11817.8	11960.2	11232.6	9318.6	9080.2	10126.1	9952.1	9808.4	9405.0	9642.8	10319.4
65°	11674.1	11922.8	11383.4	10035.9	9299.3	9722.1	9541.0	9448.8	9397.9	9884.5	9716.3
67.5°	11103.1	11414.4	10951.6	10042.3	8502.8	8277.9	8491.8	8783.7	8614.9	9684.0	8871.4
70°	9823.9	10164.8	9949.5	9453.3	7083.1	6512.7	6748.6	7190.0	7070.8	8613.0	7628.3
72.5°	7370.5	7808.7	7851.2	8161.2	5622.8	4901.6	4935.8	4923.5	5129.1	6945.2	5952.7
75°	4734.7	5075.6	5536.4	6585.6	4271.4	3578.6	3251.2	3171.3	3554.7	5426.8	4261.7
77.5°	2748.5	2789.1	3001.8	4968.6	3059.2	2578.4	2355.4	2469.5	2603.5	3787.4	2824.6
80°	1314.7	1335.3	1422.9	2556.5	2125.4	2231.7	2059.6	2187.9	1787.7	2176.9	1602.7
82.5°	417.0	421.5	436.3	1256.0	1319.8	1478.3	947.3	1270.2	1105.2	1316.0	1067.2
85°	69.6	118.6	146.3	362.8	745.0	498.8	205.6	453.0	616.7	830.0	484.6
87.5°	0.0	0.0	0.0	6.4	60.6	28.4	4.5	25.8	94.7	185.0	21.9
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°	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4
2.5°	1806.4	1850.8	1683.3	1533.1	1571.1	1540.9	1495.1	1417.1	1236.7	1369.4	1360.4
5°	2324.5	2242.0	2015.2	1909.5	1780.6	1584.0	1560.2	1409.4	1343.0	1354.0	1344.3
7.5°	2504.9	2357.4	2156.9	1838.6	1536.3	1252.8	1165.8	1067.2	1047.2	1089.8	1117.5
10°	2363.2	2206.6	2031.3	1635.6	1403.0	1198.0	983.4	845.5	770.8	761.7	769.5
12.5°	2428.3	2259.4	1898.5	1595.6	1352.7	1167.1	927.4	719.2	556.8	569.0	536.8
15°	2473.4	2279.4	1866.9	1511.9	1248.9	1000.8	712.1	504.0	371.2	332.5	309.3
17.5°	2738.2	2461.1	1827.0	1415.2	1103.9	779.1	447.2	291.9	248.8	235.2	224.3
20°	3078.5	2684.7	1826.3	1313.4	890.0	487.2	279.0	211.4	201.1	208.8	200.4
22.5°	3474.2	2982.5	1923.7	1186.4	638.6	307.4	217.2	187.5	177.2	183.7	184.3
25°	3872.5	3429.1	2002.9	1065.9	444.7	235.9	193.3	172.7	161.1	166.9	163.7
27.5°	4591.6	3799.0	1984.9	911.9	327.4	207.5	179.8	161.8	144.4	153.4	152.7
30°	5062.1	4451.8	2055.1	696.0	259.7	181.7	167.6	147.6	128.9	139.2	138.6
32.5°	5624.7	4732.1	2131.2	534.2	215.9	172.1	150.8	131.5	120.5	127.0	125.7
35°	6256.9	5286.4	1991.3	444.7	187.5	155.3	133.4	118.6	108.9	112.1	112.1
37.5°	7373.7	5749.7	1907.5	362.2	174.6	140.5	125.0	107.0	101.2	101.2	104.4
40°	8007.8	6457.3	1657.5	286.8	178.5	129.5	116.6	98.0	90.2	89.6	92.8
42.5°	8832.7	6865.2	1500.9	232.0	161.8	126.3	107.0	88.9	79.9	79.3	82.5
45°	9321.9	7093.4	1280.5	182.4	145.0	146.9	99.2	81.8	68.3	65.7	71.5
47.5°	9630.5	7395.6	1155.5	145.0	126.3	146.3	96.7	70.9	57.4	54.1	59.3
50°	9787.1	7545.1	1131.0	124.4	109.6	130.8	110.8	59.3	49.0	44.5	49.0
52.5°	9950.2	7788.1	1140.0	114.7	96.7	105.0	105.0	50.9	43.2	38.0	41.2
55°	10279.5	8147.0	1120.0	108.9	88.9	79.9	67.7	45.1	39.3	33.5	36.7
57.5°	10684.2	8404.8	1120.0	103.8	82.5	68.3	54.1	41.9	36.1	29.0	31.6
60°	10607.5	8133.5	1064.6	98.6	77.3	63.8	49.0	38.7	33.5	26.4	28.4
62.5°	10081.0	7395.6	862.3	90.9	72.8	60.6	44.5	36.7	31.6	23.2	25.1
65°	9462.3	6612.0	599.3	82.5	67.7	54.8	40.0	34.8	29.0	20.6	21.9
67.5°	8717.4	5678.2	332.5	74.1	62.5	47.7	36.7	34.2	27.7	18.7	20.0
70°	7424.6	4286.8	178.5	67.7	58.6	43.8	34.8	34.2	27.7	18.0	18.7
72.5°	5573.8	2699.6	104.4	61.9	53.5	40.6	32.9	34.8	27.1	17.4	17.4
75°	3792.5	1638.8	74.8	52.8	47.7	34.2	31.6	33.5	27.7	17.4	16.1
77.5°	2578.4	1151.6	61.2	47.7	43.2	30.3	32.2	33.5	27.7	14.2	11.0
80°	1609.8	594.2	46.4	38.0	37.4	26.4	32.2	29.0	18.0	3.2	0.0
82.5°	1125.8	221.0	27.1	29.0	29.0	18.7	25.1	20.6	10.3	0.0	0.0
85°	472.4	38.0	14.8	20.6	18.0	11.0	20.0	15.5	6.4	0.0	0.0
87.5°	8.4	0.0	5.8	12.2	12.9	6.4	10.3	6.4	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°	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4
2.5°	1403.0	1341.7	1212.8	1274.7	1268.3	1296.6	1299.2	1233.5	1375.2	1462.9	1475.8
5°	1345.6	1304.4	1297.3	1261.8	1252.8	1305.0	1276.6	1274.7	1343.0	1442.9	1443.5
7.5°	1118.1	1086.5	1101.4	1060.1	953.8	960.2	969.9	1010.5	1069.1	1134.9	1158.7
10°	767.5	849.4	789.4	784.3	773.3	739.2	712.1	733.4	809.4	870.0	892.6
12.5°	547.8	560.7	597.4	583.9	602.6	573.6	562.6	629.0	703.1	765.0	809.4
15°	320.3	342.2	364.1	410.5	429.2	423.4	456.9	512.3	572.3	600.6	655.4
17.5°	225.6	227.5	232.0	282.3	315.1	328.0	348.0	389.9	414.4	427.3	449.8
20°	197.2	191.4	183.7	212.0	243.0	259.1	253.3	286.1	306.1	319.0	335.1
22.5°	178.5	168.8	164.3	174.0	197.8	212.0	214.6	233.9	264.2	273.2	278.4
25°	161.1	154.7	151.4	156.6	169.5	183.0	185.6	210.7	237.8	241.7	252.0
27.5°	149.5	137.3	138.6	142.4	148.2	165.0	170.1	184.3	223.6	228.1	231.4
30°	137.3	124.4	128.2	132.1	129.5	150.2	157.9	174.0	212.0	219.1	223.0
32.5°	125.0	115.4	114.7	118.6	123.1	134.0	150.8	169.5	204.3	214.0	223.6
35°	111.5	103.8	105.0	105.7	111.5	125.7	137.9	147.6	171.4	176.6	179.8
37.5°	101.8	95.4	94.1	100.5	106.3	117.3	121.8	126.3	157.9	169.5	170.1
40°	90.2	86.4	86.4	90.9	103.8	102.5	108.3	122.4	152.7	165.0	166.3
42.5°	81.8	76.7	78.0	82.5	91.5	85.1	96.7	117.3	150.8	163.0	162.4
45°	69.0	67.7	70.2	74.1	78.0	72.2	90.2	112.1	144.4	160.5	156.0
47.5°	57.4	57.4	60.6	64.4	62.5	64.4	81.8	105.0	140.5	155.3	152.1
50°	47.0	47.7	50.9	57.4	51.6	56.7	73.5	98.0	134.0	150.2	147.6
52.5°	40.0	40.6	42.5	47.0	44.5	51.6	67.7	90.9	127.6	141.1	139.8
55°	34.8	36.1	36.1	38.7	40.0	48.3	61.2	83.8	117.9	132.8	130.2
57.5°	30.9	32.2	31.6	33.5	34.8	42.5	54.8	76.0	108.3	120.5	116.6
60°	27.7	29.0	28.4	30.9	30.3	36.7	47.7	67.7	98.0	107.6	104.4
62.5°	24.5	25.8	25.8	27.1	27.7	30.9	41.2	59.9	87.6	95.4	92.8
65°	21.9	23.2	23.8	23.2	24.5	26.4	34.8	54.1	76.0	83.8	79.9
67.5°	20.0	21.3	22.6	20.0	21.3	21.9	29.6	48.3	67.0	73.5	70.2
70°	19.3	20.0	20.0	17.4	16.8	17.4	25.8	41.2	58.6	65.1	60.6
72.5°	18.0	18.7	18.0	14.2	12.2	13.5	21.9	34.8	49.6	54.8	50.9
75°	16.8	17.4	16.8	11.6	7.7	9.7	18.0	30.3	42.5	45.1	43.2
77.5°	14.2	15.5	15.5	8.4	2.6	5.8	13.5	24.5	35.4	35.4	36.1
80°	1.3	3.9	6.4	4.5	0.0	0.6	4.5	12.9	22.6	21.9	23.8
82.5°	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	7.7	5.8	6.4
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°	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4	1362.4
2.5°	1445.5	1425.5	1450.6	1527.3	1496.4	1502.2	1481.6	1608.5	1752.2	1756.7
5°	1444.8	1426.8	1464.2	1460.9	1549.2	1645.3	1738.1	1888.2	2100.9	2102.2
7.5°	1147.8	1254.7	1282.4	1274.1	1387.5	1519.6	1662.7	1950.1	2124.7	2143.4
10°	1035.0	1081.4	1138.1	1158.7	1205.8	1331.4	1493.2	1818.6	2014.5	2057.7
12.5°	897.1	1045.3	1120.7	1267.0	1294.0	1312.1	1567.3	1850.2	1969.4	1964.3
15°	743.0	871.9	991.2	1169.7	1243.1	1432.6	1633.7	2004.2	2075.1	2143.4
17.5°	525.9	623.2	806.2	993.7	1218.0	1424.2	1816.7	2279.4	2413.4	2494.6
20°	351.9	398.9	564.5	812.6	1096.8	1301.8	1891.4	2528.1	2674.4	2744.7
22.5°	285.5	308.0	393.8	595.5	937.0	1296.0	1921.7	2799.5	3192.6	3286.0
25°	251.3	266.8	312.6	440.8	777.8	1270.2	2089.3	3104.9	3579.2	3654.6
27.5°	219.8	243.0	277.1	363.5	667.0	1252.2	2174.3	3617.9	4183.7	4257.8
30°	210.1	238.4	271.3	331.2	589.7	1182.6	2309.7	4080.6	4617.4	4749.5
32.5°	226.8	236.5	252.6	303.5	529.7	1109.1	2547.5	4633.5	4976.4	5148.4
35°	179.8	197.2	225.6	278.4	504.6	1105.2	2682.2	4989.3	5551.9	5658.2
37.5°	175.9	192.0	228.8	271.3	534.9	1134.9	2881.9	5718.1	6589.4	6807.2
40°	170.8	191.4	226.2	268.1	534.9	1163.9	3009.5	6301.4	7287.3	7508.4
42.5°	168.8	195.3	225.6	281.6	518.1	1180.0	3202.2	6883.3	8024.6	8199.2
45°	167.6	199.1	227.5	297.7	514.3	1232.8	3311.1	7166.2	8498.9	8699.3
47.5°	164.3	199.1	253.9	288.1	493.0	1227.7	3452.3	7585.7	8781.8	8950.7
50°	161.8	200.4	287.4	270.0	496.2	1196.1	3643.7	7979.5	9178.1	9298.7
52.5°	156.0	204.9	282.3	244.9	486.6	1192.9	3929.2	8539.5	9699.5	9787.8
55°	143.1	199.1	255.2	214.0	452.4	1156.1	4307.5	9267.7	10422.6	10438.0
57.5°	131.5	185.0	213.3	196.6	378.9	1160.6	4633.5	9937.9	11067.0	11139.2
60°	119.9	192.0	165.6	183.0	313.8	1078.2	4791.4	10194.4	11536.2	11641.8
62.5°	108.9	177.2	141.1	168.2	279.7	1001.5	4681.9	9988.2	11596.1	11817.8
65°	96.7	123.1	119.2	150.8	282.9	893.8	4315.8	9384.4	11368.6	11674.1
67.5°	83.1	96.7	105.0	130.2	302.9	801.7	3688.1	8415.1	10757.0	11103.1
70°	72.8	87.0	91.5	114.1	315.1	741.1	2910.3	7070.2	9504.2	9823.9
72.5°	60.6	80.6	81.8	99.9	303.5	681.2	2073.8	5075.6	7217.1	7370.5
75°	52.2	67.0	74.1	83.8	255.2	508.5	1142.6	3141.7	4563.3	4734.7
77.5°	47.0	50.9	56.1	58.0	108.3	264.9	393.1	1937.2	2555.2	2748.5
80°	36.1	40.0	38.7	40.0	59.3	91.5	149.5	908.0	1207.0	1314.7
82.5°	11.6	19.3	21.3	18.0	38.7	45.1	43.2	313.8	392.5	417.0
85°	2.6	7.1	3.2	0.0	12.9	23.2	3.2	47.7	94.1	69.6
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)