

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: McGRAW-EDISON

Report Number: E434-34

Luminaire Tested: **GSM-XX-400-HPS-XX-2F-SG-XX-X**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: E434-34
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: GSM-XX-400-HPS-XX-2F-SG-XX-X
Description: MEDIUM ARCHITECTURAL AREA LUMINAIRE-HORIZONTAL LAMP-TYPE 2
DISTRIBUTION
Light Source: 400 WATT HPS CLEAR E-18
Ballast/Driver: -

Summary

Lumens per Lamp: 50000 (1 lamp)
Luminaire Lumens: 35218.2 lumens
Efficiency: 70.4%
Efficacy: 75.7 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 1.81' x L: 1.81' x H: 0.83')
IES Classification: Type II - Medium - Cutoff
BUG Rating: B4 - U0 - G4

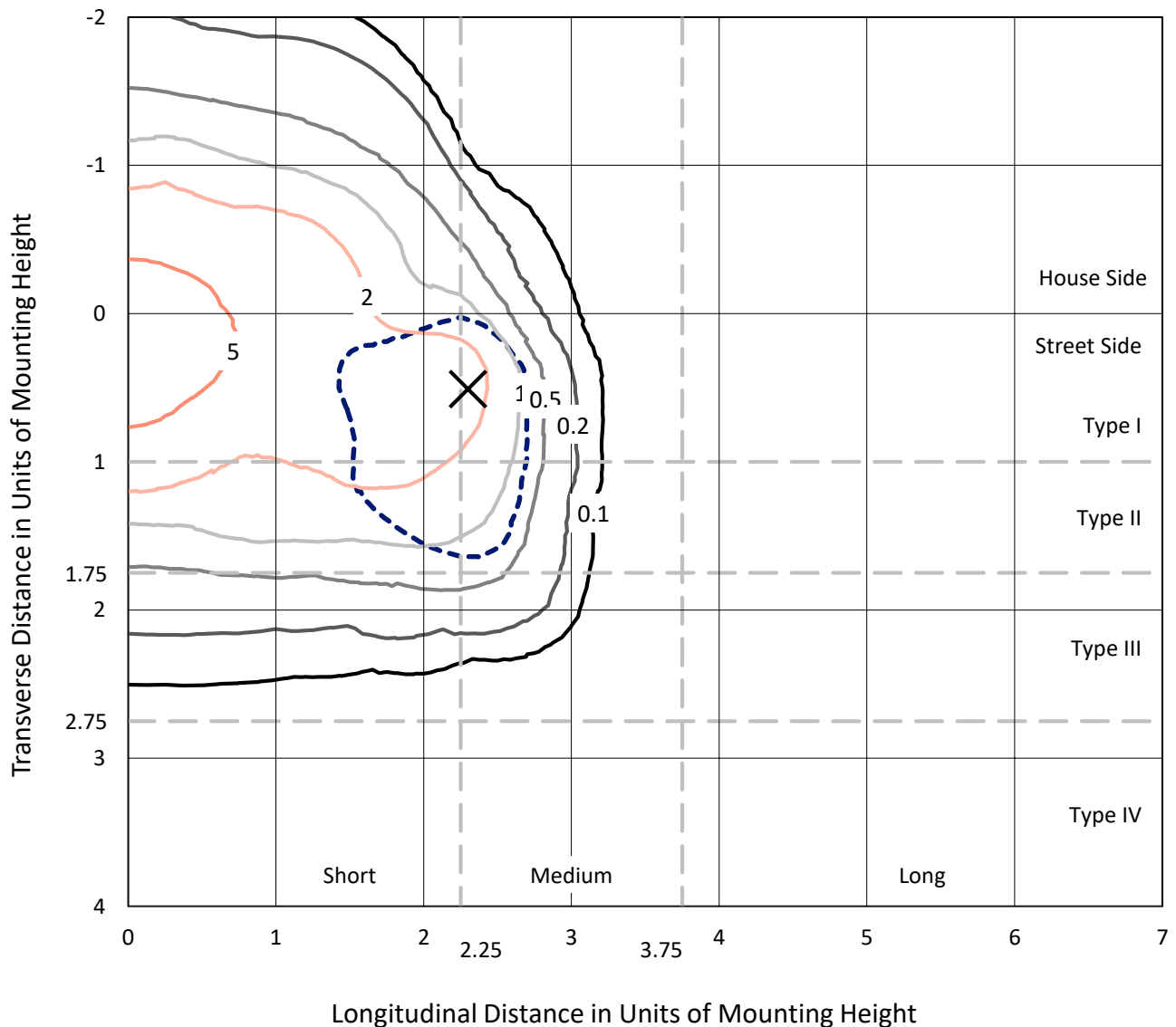
Input Watts (W): 465
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

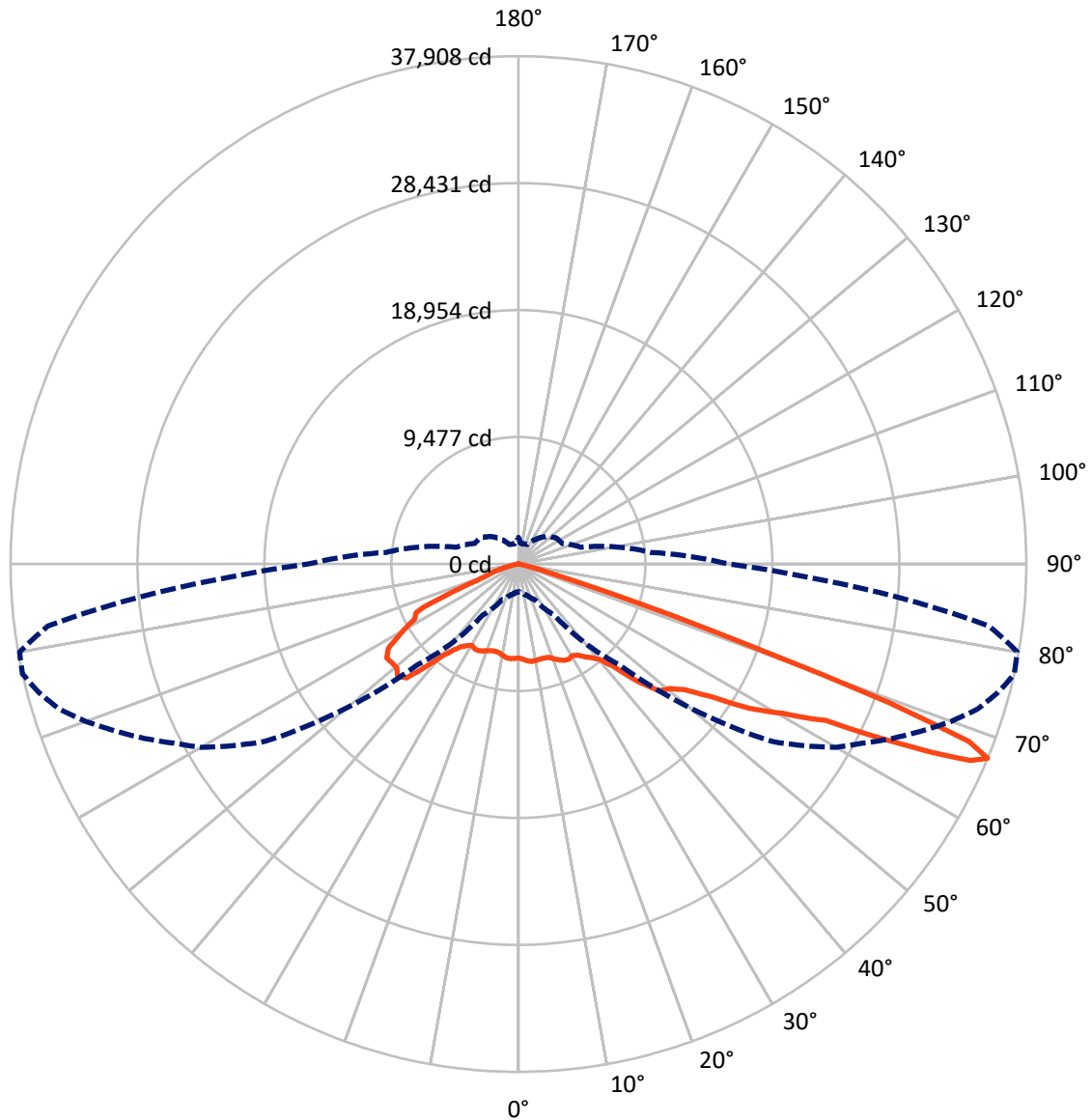
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 8.8 fc
 Type II - Medium - Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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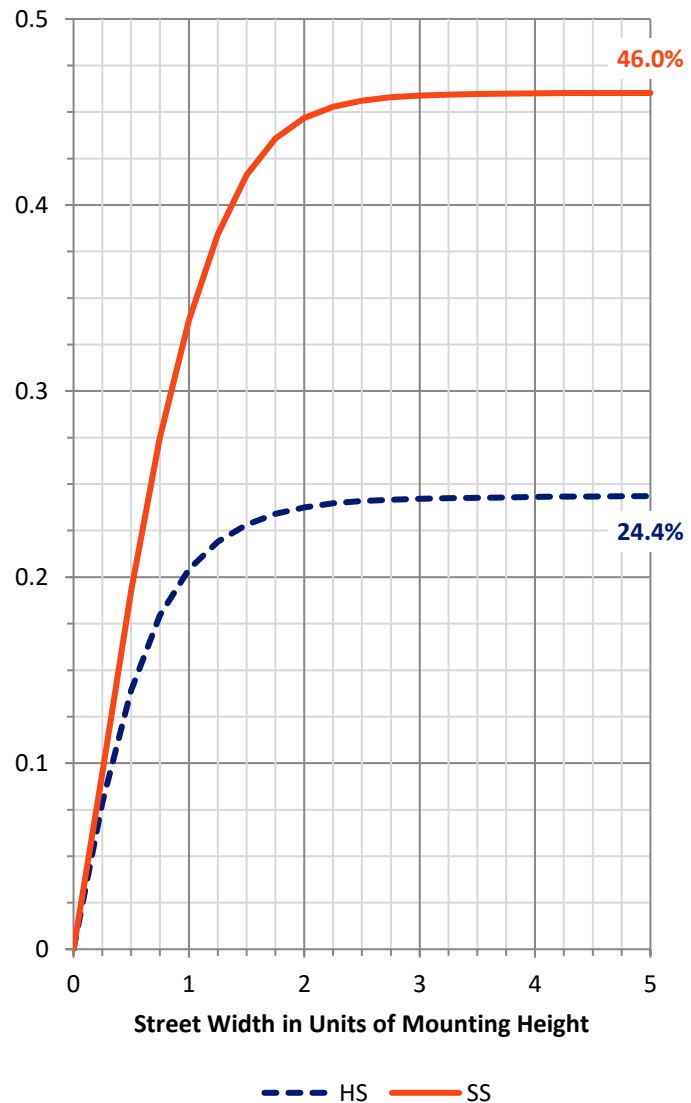
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	12234.5	0.0	12234.5
	% Lamp	24.5	0.0	24.5
Street Side	Lumens	22983.8	0.0	22983.8
	% Lamp	46.0	0.0	46.0
Total	Lumens	35218.2	0.0	35218.2
	% Lamp	70.4	0.0	70.4

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	687.5	2.0	1.4
10°-20°	2026.4	5.8	4.1
20°-30°	3283.1	9.3	6.6
30°-40°	4532.5	12.9	9.1
40°-50°	6220.7	17.7	12.4
50°-60°	7594.7	21.6	15.2
60°-70°	9037.8	25.7	18.1
70°-80°	1811.8	5.1	3.6
80°-90°	23.7	0.1	0.0
90°-100°	0.0	0.0	0.0
100°-110°	0.0	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-90°	35218.2	100.0	70.4
0°-180°	35218.2	100.0	70.4



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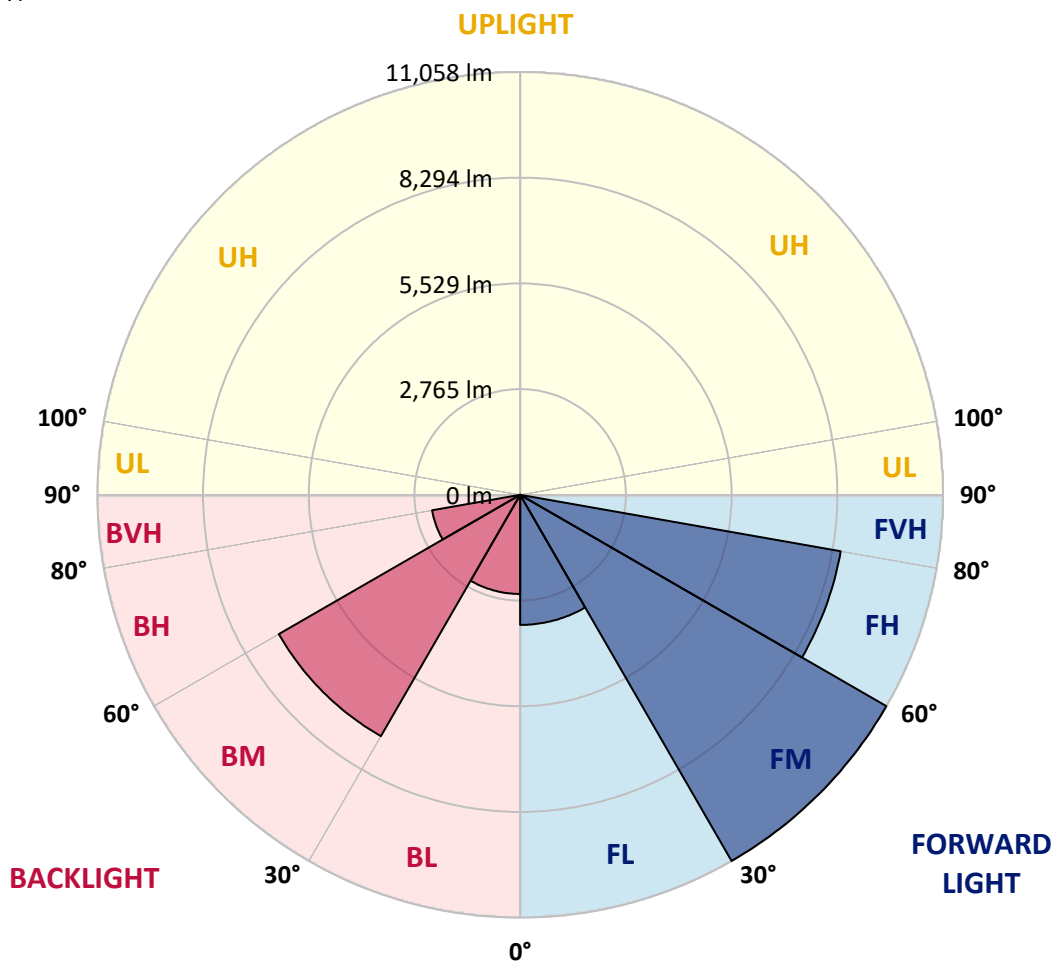
CATALOG NUMBER: GSM-XX-400-HPS-XX-2F-SG-XX-X

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Lamp	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	3403.2	6.8			
FM (30°-60°)	11058.2	22.1			
FH (60°-80°)	8511.0	17.0			G4/12000
FVH (80°-90°)	11.3	0.0			G1/100
BL (0°-30°)	2593.9	5.2	B4/5000		
BM (30°-60°)	7289.5	14.6	B4/8500		
BH (60°-80°)	2338.6	4.7	B3/2500		G3/2500
BVH (80°-90°)	12.4	0.0			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	
Trapped Light	14781.8	29.6			

BUG Rating: B4-U0-G4

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	50°	55°	60°	62.5°	65°
0°	7017.2	7017.2	7017.2	7017.2	7017.2	7017.2	7017.2	7017.2	7017.2	7017.2	7017.2
2.5°	7343.6	7309.6	7326.6	7275.6	7258.6	7217.8	7241.6	7204.2	7190.6	7173.6	7180.4
5°	7717.5	7693.7	7649.6	7639.4	7561.2	7513.6	7476.2	7445.6	7438.8	7394.6	7394.6
7.5°	8193.5	8125.5	8040.5	7989.5	7931.7	7802.5	7751.5	7683.5	7585.0	7564.6	7547.6
10°	8499.5	8431.5	8380.5	8305.7	8193.5	8023.5	7887.5	7778.7	7666.5	7598.6	7564.6
12.5°	8601.5	8567.5	8533.5	8482.5	8329.5	8091.5	7975.9	7853.5	7717.5	7666.5	7598.6
15°	8601.5	8550.5	8584.5	8516.5	8329.5	8142.5	8023.5	7921.5	7795.7	7717.5	7632.6
17.5°	8499.5	8479.1	8516.5	8479.1	8329.5	8193.5	8108.5	8006.5	7887.5	7802.5	7717.5
20°	8329.5	8312.5	8363.5	8380.5	8319.3	8261.5	8227.5	8108.5	7989.5	7955.5	7887.5
22.5°	8023.5	8057.5	8261.5	8329.5	8377.1	8346.5	8295.5	8278.5	8227.5	8193.5	8142.5
25°	8091.5	8091.5	8261.5	8397.5	8448.5	8397.5	8380.5	8363.5	8346.5	8329.5	8278.5
27.5°	8601.5	8380.5	8380.5	8465.5	8414.5	8414.5	8414.5	8448.5	8448.5	8414.5	8380.5
30°	9179.5	8975.5	8567.5	8397.5	8312.5	8414.5	8465.5	8533.5	8482.5	8448.5	8397.5
32.5°	9869.6	9723.4	8805.5	8329.5	8244.5	8431.5	8509.7	8601.5	8451.9	8346.5	8254.7
35°	9835.6	9706.4	9033.3	8397.5	8230.9	8465.5	8516.5	8516.5	8465.5	8489.3	8550.5
37.5°	8873.5	8907.5	8737.5	8604.9	8329.5	8431.5	8499.5	8686.5	8839.5	8856.5	8907.5
40°	7955.5	7904.5	8159.5	8635.5	8431.5	8431.5	8635.5	8805.5	8873.5	8941.5	9009.5
42.5°	7907.9	7836.5	7938.5	8737.5	8380.5	8431.5	8431.5	8438.3	8666.1	8856.5	9060.5
45°	8533.5	8261.5	8040.5	8652.5	8295.5	7884.1	7921.5	8295.5	8907.5	9451.4	9757.4
47.5°	8261.5	8023.5	7829.7	8057.5	7884.1	7377.6	7918.1	8907.5	10019.2	10641.4	11440.3
50°	6928.8	7047.8	6843.8	6877.8	7037.6	7659.7	8737.5	10182.4	11637.5	12375.3	13021.2
52.5°	5473.7	5694.7	5864.7	6180.8	6527.6	8407.7	10080.4	11610.3	13055.2	13548.2	14119.4
55°	4521.7	4640.7	5303.7	6238.6	6588.8	9162.5	10957.6	12660.9	13990.2	14693.9	15418.1
57.5°	3845.2	3892.8	4725.7	7122.6	7785.5	10267.4	11882.3	13412.2	14989.7	16115.1	17407.0
60°	3430.4	3416.8	4011.8	6384.8	9638.4	12205.3	14007.2	15598.3	17764.0	18906.3	19735.8
62.5°	2879.6	2893.2	3321.6	4797.1	8074.5	13582.2	16795.0	20310.4	22863.7	23754.4	24835.5
65°	2447.9	2502.3	2767.4	3484.8	5956.4	12127.1	17067.0	22343.5	26858.4	28381.5	29646.3
66°	2267.7	2339.1	2577.0	3236.6	5256.1	11409.7	16863.0	22894.3	27419.4	28905.1	30394.2
67°	2060.3	2121.5	2417.3	2961.2	4630.5	10624.4	16625.0	23084.6	27368.4	28956.1	30802.2
68°	1818.9	1859.7	2155.5	2672.2	4062.8	9961.4	16288.4	22639.3	26943.4	28932.3	30911.0
69°	1574.1	1577.5	1863.1	2345.9	3569.8	9288.3	15775.1	21656.7	26263.5	28286.3	29544.3
70°	1339.5	1268.1	1584.3	2022.9	3216.2	8244.5	14636.1	20347.8	24529.6	25478.1	25600.5
71°	1016.5	1036.9	1322.5	1699.9	2709.6	6612.6	13038.2	18399.7	21119.6	20364.8	19684.8
72°	782.0	853.3	1057.3	1373.5	2169.1	5273.1	10845.4	15877.1	16115.1	13837.2	12902.2
73°	584.8	635.8	819.4	1101.5	1669.3	3722.8	8159.5	12137.3	10743.4	8227.5	7224.6
74°	401.2	431.8	601.8	850.0	1230.7	2427.5	5303.7	7751.5	5851.1	5160.9	3930.2
75°	255.0	248.2	391.0	571.2	850.0	1189.9	3352.2	4079.8	3189.0	2369.7	1846.1
77.5°	64.6	57.8	78.2	88.4	136.0	193.8	465.8	445.4	438.6	394.4	377.4
80°	23.8	23.8	23.8	17.0	37.4	54.4	85.0	108.8	125.8	125.8	136.0
82.5°	3.4	3.4	0.0	0.0	0.0	6.8	23.8	30.6	37.4	44.2	37.4
85°	0.0	0.0	0.0	0.0	10.2	0.0	6.8	3.4	3.4	0.0	3.4
87.5°	3.4	0.0	6.8	10.2	23.8	23.8	23.8	20.4	20.4	17.0	17.0
90°	6.8	6.8	10.2	20.4	27.2	27.2	27.2	27.2	27.2	27.2	27.2



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CANDELA DISTRIBUTION (continued):

	67.5°	70°	72.5°	75°	77.5°	80°	82.5°	85°	87.5°	90°	95°
0°	7017.2	7017.2	7017.2	7017.2	7017.2	7017.2	7017.2	7017.2	7017.2	7017.2	7017.2
2.5°	7146.4	7156.6	7146.4	7139.6	7122.6	7105.6	7105.6	7071.6	7088.6	7071.6	7071.6
5°	7360.6	7343.6	7306.2	7292.6	7272.2	7258.6	7251.8	7224.6	7190.6	7190.6	7139.6
7.5°	7496.6	7445.6	7411.6	7377.6	7343.6	7309.6	7275.6	7258.6	7207.6	7200.8	7149.8
10°	7496.6	7445.6	7377.6	7343.6	7309.6	7258.6	7217.8	7190.6	7139.6	7109.0	7037.6
12.5°	7530.6	7445.6	7394.6	7326.6	7275.6	7224.6	7207.6	7122.6	7088.6	7020.6	6918.6
15°	7568.0	7493.2	7428.6	7343.6	7275.6	7207.6	7122.6	7088.6	7020.6	6952.6	6867.6
17.5°	7649.6	7564.6	7469.4	7411.6	7326.6	7258.6	7207.6	7139.6	7088.6	7020.6	6918.6
20°	7853.5	7785.5	7717.5	7632.6	7547.6	7479.6	7428.6	7326.6	7248.4	7173.6	7088.6
22.5°	8125.5	8023.5	7972.5	7870.5	7785.5	7700.5	7598.6	7513.6	7462.6	7377.6	7241.6
25°	8261.5	8227.5	8142.5	8057.5	7955.5	7853.5	7751.5	7666.5	7568.0	7513.6	7360.6
27.5°	8346.5	8295.5	8227.5	8159.5	8040.5	7904.5	7785.5	7683.5	7598.6	7513.6	7360.6
30°	8356.7	8295.5	8179.9	8074.5	7931.7	7778.7	7659.7	7530.6	7438.8	7360.6	7241.6
32.5°	8210.5	8193.5	8159.5	8159.5	8115.3	7989.5	7887.5	7836.5	7710.7	7649.6	7462.6
35°	8601.5	8618.5	8618.5	8547.1	8499.5	8363.5	8244.5	8125.5	8006.5	7938.5	7802.5
37.5°	8910.9	8917.7	8968.7	8958.5	8873.5	8859.9	8791.9	8747.7	8737.5	8635.5	8417.9
40°	9094.5	9179.5	9264.5	9349.4	9352.8	9502.4	9502.4	9570.4	9536.4	9380.0	9230.5
42.5°	9288.3	9468.4	9832.2	10012.4	10488.4	10709.4	10576.8	10522.4	10685.6	10760.4	10743.4
45°	10267.4	10896.4	11406.3	12035.3	12528.3	12392.3	12494.3	12222.3	12358.3	12341.3	12358.3
47.5°	12120.3	12698.3	13568.6	14364.2	14143.2	13820.2	13497.2	13208.2	12970.2	12888.6	12749.2
50°	13653.6	14197.6	14993.1	14925.1	14619.1	14245.2	13769.2	13344.2	13038.2	12817.2	12494.3
52.5°	14585.1	15139.3	15571.1	15673.1	15571.1	15173.3	14574.9	14027.6	13548.2	13123.2	12674.5
55°	16251.0	16982.0	17590.6	17672.2	17441.0	17169.0	16268.0	15282.1	14585.1	14075.2	13480.2
57.5°	18426.9	19552.2	20279.8	20687.8	20296.8	19548.8	18205.9	16397.2	14857.1	13888.2	12936.2
60°	20857.8	21707.7	22697.1	22931.7	22625.7	21564.9	19888.8	16863.0	14024.2	12256.3	10998.4
62.5°	25685.5	25821.5	25994.9	26654.4	25712.7	24896.7	24138.6	20296.8	15329.7	11712.3	9264.5
65°	30703.6	31319.0	32723.1	33199.0	33828.0	33250.0	31533.1	27079.4	20711.6	15894.1	11049.4
66°	31743.9	32927.1	34678.0	35932.5	36768.8	36564.8	34803.8	28830.3	22098.7	17447.8	11443.7
67°	32559.9	34355.0	35952.9	37057.8	37907.8	37805.8	35425.9	28439.3	21248.8	15690.1	9937.6
68°	32641.5	34185.0	35408.9	35555.1	36156.9	34708.6	31220.4	23849.6	17594.0	13004.2	7047.8
69°	30992.6	31057.2	31414.2	29289.3	29544.3	27701.6	24325.6	16455.0	11644.3	8227.5	4691.7
70°	24682.5	24733.5	23387.2	21476.5	18868.9	18375.9	14908.1	9927.4	7054.6	5228.9	3365.8
71°	17815.0	17186.0	14891.1	12365.1	12052.3	9492.2	8431.5	6034.6	4606.7	3750.0	2937.4
72°	10913.4	10284.4	9390.2	6629.6	6680.6	5885.1	4963.7	3943.8	3182.2	2791.2	2532.9
73°	5830.7	5742.3	4834.5	4076.4	3634.4	3206.0	3114.2	2709.6	2311.9	2165.7	2196.3
74°	2787.8	2998.6	2556.6	2039.9	2135.1	2121.5	1982.1	1798.5	1774.7	1737.3	1805.3
75°	1383.7	1523.1	1268.1	1332.7	1281.7	1353.1	1237.5	1264.7	1220.5	1281.7	1421.1
77.5°	346.8	367.2	367.2	428.4	438.6	438.6	438.6	425.0	438.6	489.6	622.2
80°	136.0	146.2	159.8	159.8	149.6	136.0	129.2	115.6	115.6	112.2	142.8
82.5°	40.8	37.4	37.4	40.8	34.0	34.0	30.6	27.2	23.8	27.2	30.6
85°	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	3.4	3.4	3.4
87.5°	17.0	10.2	13.6	13.6	17.0	13.6	20.4	20.4	20.4	23.8	23.8
90°	27.2	27.2	27.2	27.2	27.2	27.2	27.2	30.6	30.6	30.6	34.0



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CANDELA DISTRIBUTION (continued):

	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	7017.2	7017.2	7017.2	7017.2	7017.2	7017.2	7017.2	7017.2	7017.2
2.5°	7037.6	7003.6	6969.6	6918.6	6850.6	6816.6	6782.6	6765.6	6765.6
5°	7071.6	7003.6	6935.6	6823.4	6765.6	6687.4	6612.6	6595.6	6561.6
7.5°	7037.6	6918.6	6867.6	6748.6	6663.6	6544.6	6476.6	6408.6	6357.6
10°	6888.0	6799.6	6680.6	6565.0	6544.6	6408.6	6323.6	6238.6	6221.6
12.5°	6748.6	6578.6	6469.8	6374.6	6306.6	6238.6	6146.8	6051.6	6051.6
15°	6697.6	6493.6	6340.6	6187.6	6119.6	6068.6	5966.6	5881.7	5847.7
17.5°	6714.6	6476.6	6269.2	6051.6	5898.7	5830.7	5762.7	5677.7	5609.7
20°	6782.6	6500.4	6187.6	5932.7	5745.7	5596.1	5541.7	5439.7	5439.7
22.5°	6918.6	6544.6	6153.6	5844.3	5623.3	5453.3	5337.7	5249.3	5235.7
25°	7027.4	6612.6	6136.6	5755.9	5480.5	5269.7	5140.5	5048.7	5014.7
27.5°	7054.6	6629.6	6119.6	5660.7	5388.7	5116.7	4963.7	4844.7	4861.7
30°	6918.6	6520.8	6068.6	5585.9	5252.7	4997.7	4776.7	4644.1	4623.7
32.5°	7088.6	6459.6	6034.6	5558.7	5150.7	4861.7	4572.7	4470.7	4419.7
35°	7353.8	6663.6	6000.6	5551.9	5041.9	4708.7	4402.7	4283.7	4273.5
37.5°	7870.5	6952.6	6085.6	5456.7	4946.7	4674.7	4334.7	4147.8	4147.8
40°	8754.5	7632.6	6208.0	5303.7	4810.7	4650.9	4402.7	4035.6	4045.8
42.5°	10097.4	8737.5	6646.6	5235.7	4664.5	4436.7	4555.7	3892.8	3869.0
45°	11763.3	10318.4	7207.6	5201.7	4518.3	4178.4	4538.7	3637.8	3634.4
47.5°	12171.3	10600.6	7360.6	5099.7	4266.7	3933.6	4317.7	3437.2	3399.8
50°	11746.3	9859.4	6969.6	4861.7	4028.8	3773.8	3688.8	3263.8	3189.0
52.5°	11729.3	9740.4	6527.6	4725.7	3773.8	3501.8	3301.2	3032.6	3066.6
55°	11610.3	9519.4	6527.6	4521.7	3525.6	3155.0	2896.6	2767.4	2808.2
57.5°	11120.7	8710.3	5898.7	4249.8	3369.2	2818.4	2566.8	2682.4	2658.6
60°	9859.4	7836.5	5269.7	3954.0	3206.0	2607.6	2291.5	2580.4	2583.8
62.5°	8635.5	6578.6	4691.7	3790.8	3066.6	2403.7	2070.5	2325.5	2468.3
65°	7598.6	5174.5	4300.7	3552.8	2828.6	2033.1	1774.7	1937.9	2366.3
66°	6578.6	4426.5	3896.2	3318.2	2600.8	1832.5	1659.1	1747.5	2175.9
67°	4810.7	3620.8	3410.0	2900.0	2250.7	1614.9	1546.9	1567.3	1992.3
68°	3811.2	2175.9	2281.3	2247.3	1890.3	1383.7	1427.9	1407.5	1682.9
69°	2753.8	1149.1	1383.7	1574.1	1509.5	1149.1	1281.7	1244.3	1366.7
70°	2444.5	958.7	816.0	877.1	1013.1	914.5	1091.3	1030.1	1094.7
71°	2192.9	1067.5	714.0	612.0	615.4	601.8	924.7	829.6	850.0
72°	1934.5	1172.9	639.2	479.4	394.4	384.2	866.9	697.0	646.0
73°	1645.5	1108.3	557.6	387.6	316.2	275.4	880.5	625.6	533.8
74°	1353.1	873.7	465.8	333.2	258.4	221.0	900.9	564.4	465.8
75°	1111.7	673.2	401.2	285.6	200.6	166.6	877.1	506.6	404.6
77.5°	629.0	248.2	190.4	180.2	122.4	88.4	438.6	306.0	217.6
80°	156.4	68.0	64.6	61.2	44.2	27.2	64.6	88.4	47.6
82.5°	23.8	20.4	17.0	17.0	10.2	3.4	3.4	3.4	3.4
85°	6.8	10.2	10.2	10.2	10.2	3.4	0.0	3.4	3.4
87.5°	23.8	20.4	17.0	17.0	17.0	13.6	17.0	17.0	17.0
90°	30.6	27.2	23.8	20.4	27.2	23.8	27.2	27.2	27.2

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