

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: P301596

Luminaire Tested: **GLNA-AF-07-LED-E1-T2R-7027**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P301596  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P194759)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: GLNA-AF-07-LED-E1-T2R-7027  
Description: GALLEONAIRE AREA AND ROADWAY LUMINAIRE  
(7) 70 CRI, 2700K CCT 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND Type II  
Roadway OPTICS  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 37974.1 lumens  
Efficiency: N/A  
Efficacy: 97.1 lumens/watt  
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B3 - U0 - G4

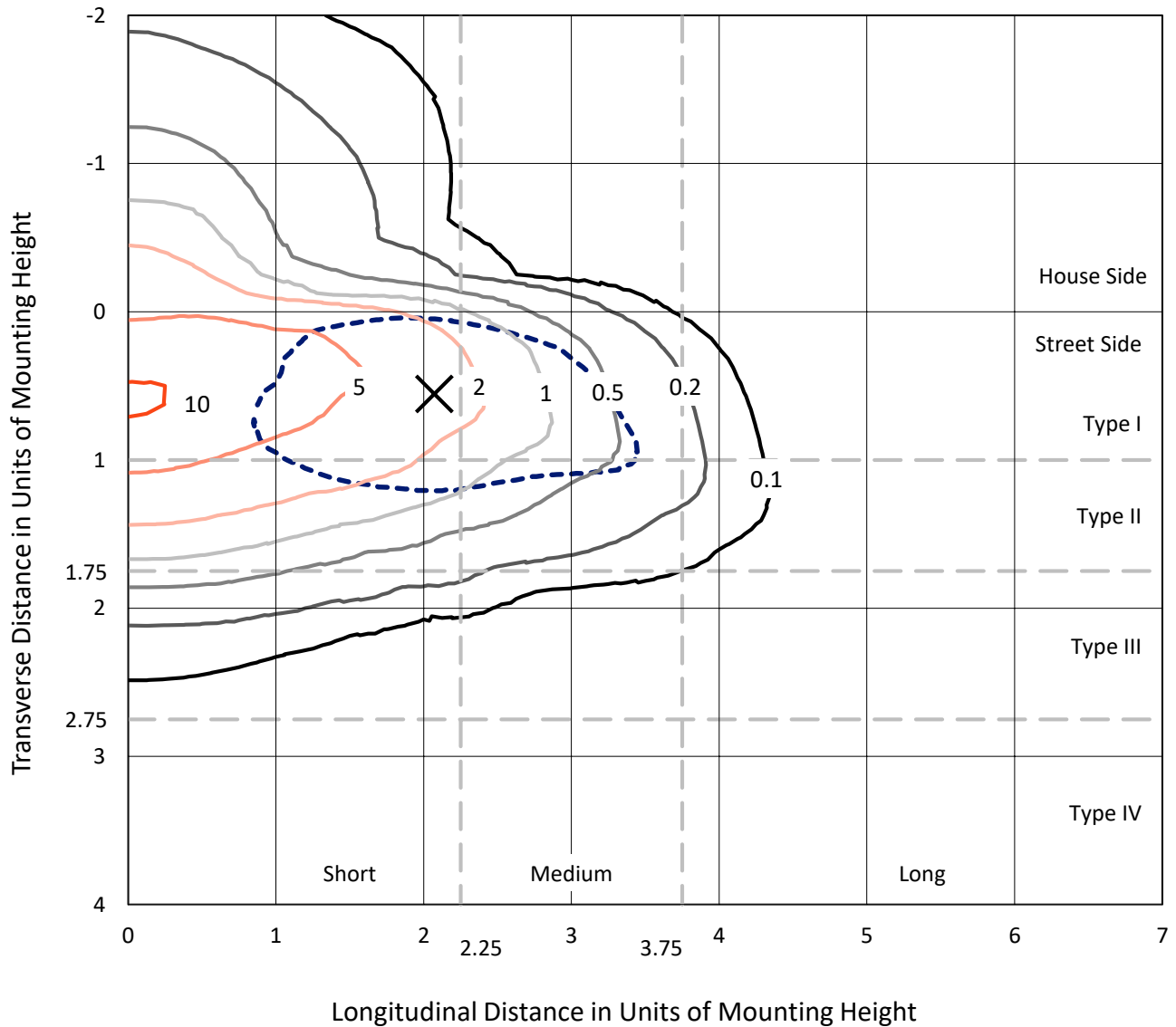
Input Watts (W): 391  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

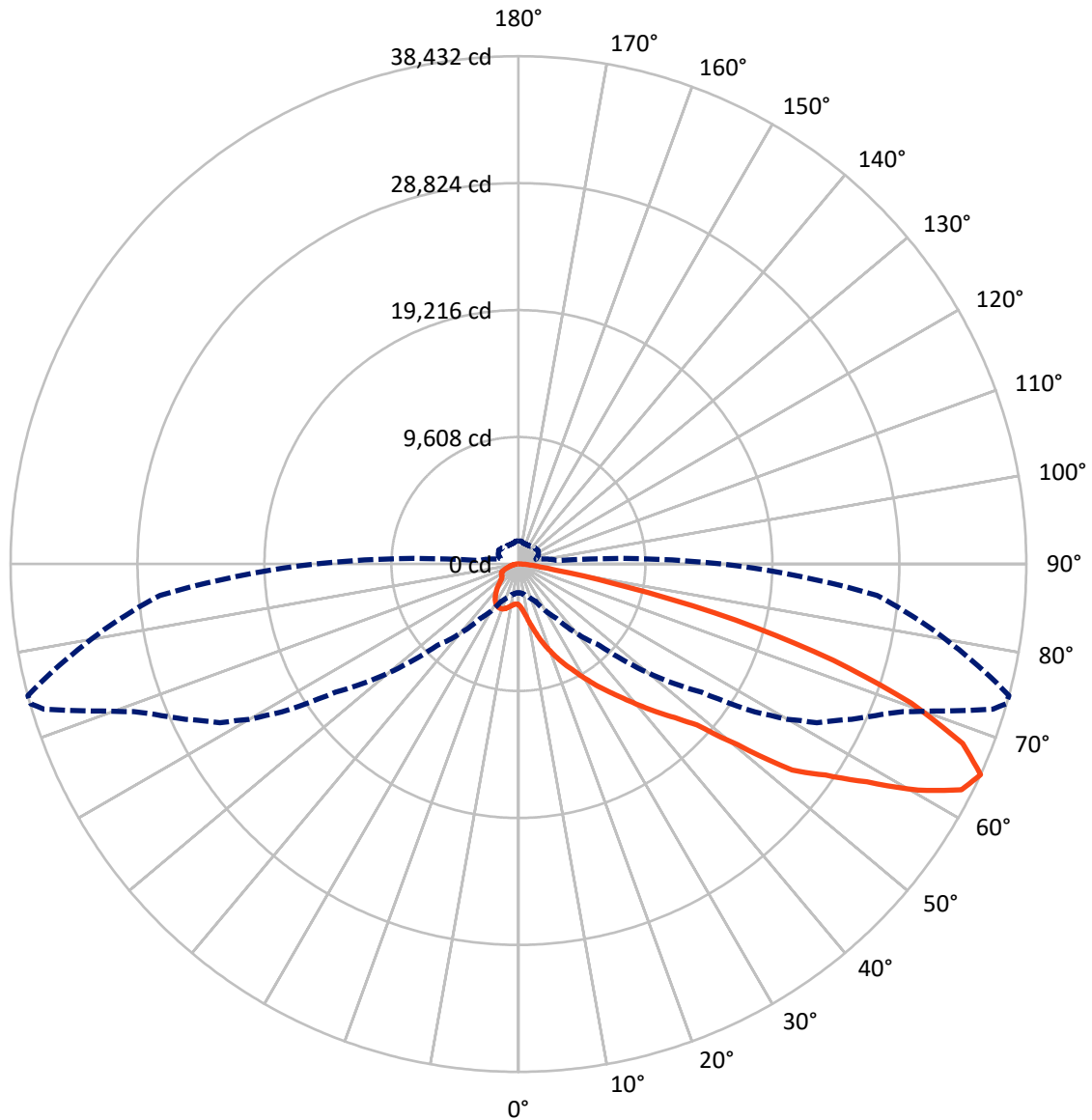
× Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 10.6 fc  
 Type II - Short - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral    - - - Horizontal Cone Through 65-Deg Vertical

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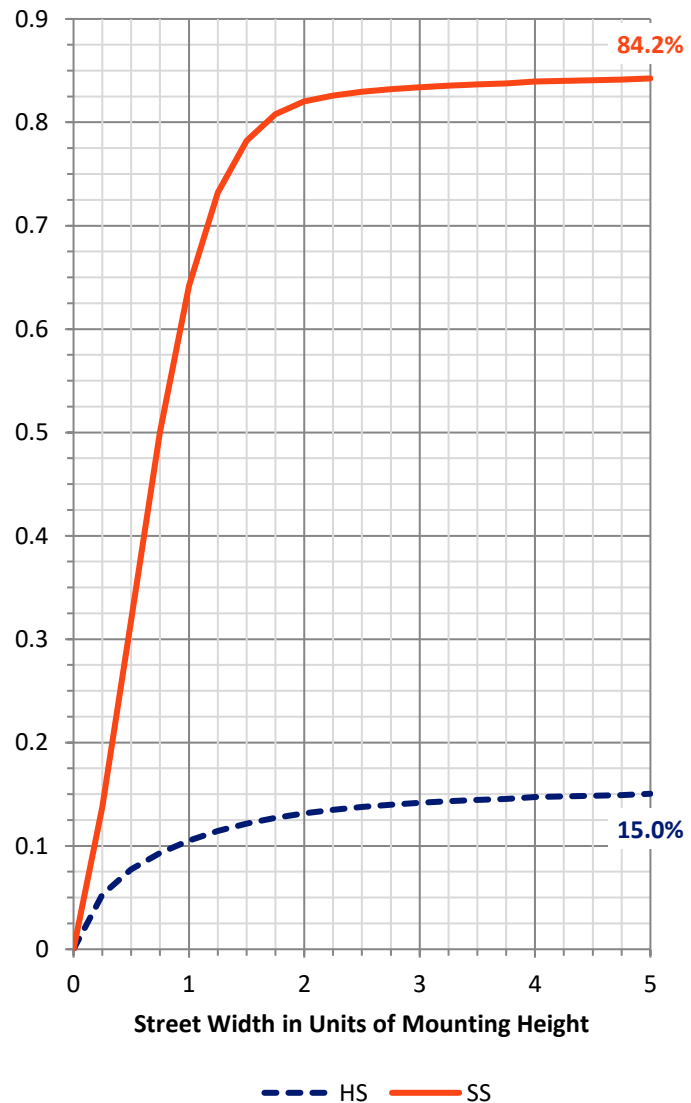
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	5854.7	0.0	5854.7
	% Fixture	15.4	0.0	15.4
<b>Street Side</b>	Lumens	32119.4	0.0	32119.4
	% Fixture	84.6	0.0	84.6
<b>Total</b>	Lumens	37974.1	0.0	37974.1
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	381.5	1.0
10°-20°	1490.4	3.9
20°-30°	3057.9	8.1
30°-40°	5144.7	13.5
40°-50°	7108.6	18.7
50°-60°	8873.6	23.4
60°-70°	7985.3	21.0
70°-80°	3347.4	8.8
80°-90°	584.8	1.5
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°	37974.1	100.0
0°-180°	37974.1	100.0



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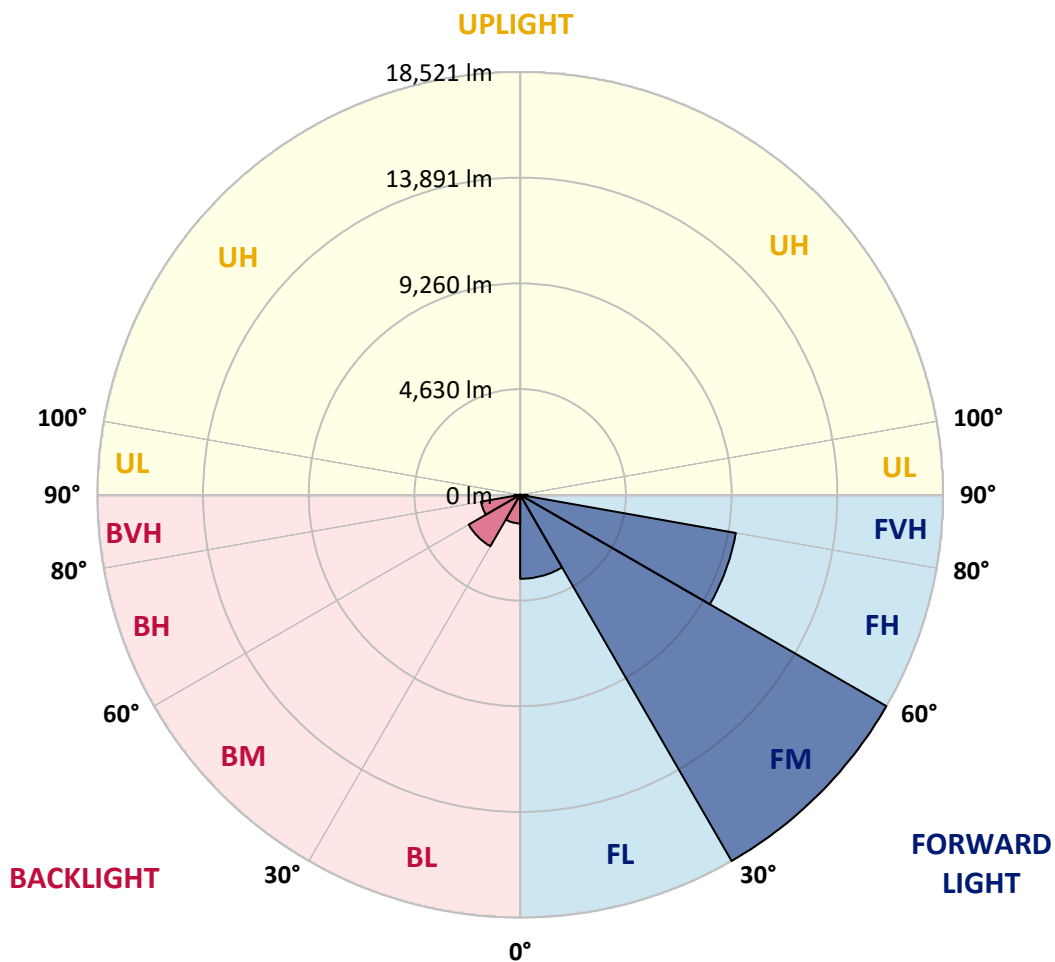
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3677.7	9.7			
FM	(30°-60°)	18520.9	48.8			
FH	(60°-80°)	9592.1	25.3			G4/12000
FVH	(80°-90°)	328.7	0.9			G3/500
BL	(0°-30°)	1252.1	3.3	B3/2500		
BM	(30°-60°)	2606.0	6.9	B3/5000		
BH	(60°-80°)	1740.5	4.6	B3/2500		G3/2500
BVH	(80°-90°)	256.1	0.7			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G4**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	56°	57°	58°	59°
0°	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1
2.5°	3918.4	3875.3	3885.9	3813.9	3726.0	3610.8	3483.4	3481.8	3483.4	3470.6	3424.2
5°	5433.3	5381.5	5361.8	5199.7	4962.4	4624.9	4258.1	4218.6	4202.1	4161.0	4065.6
7.5°	6539.1	6510.3	6479.4	6357.3	6141.9	5764.4	5271.7	5187.4	5106.4	5086.7	4979.0
10°	7252.5	7245.0	7180.5	7148.0	7013.6	6686.3	6206.4	6125.3	6037.4	6007.0	5893.4
12.5°	7816.6	7815.0	7784.6	7793.7	7676.4	7439.7	7025.9	6952.3	6887.8	6794.0	6713.4
15°	8206.9	8208.5	8253.8	8304.0	8285.8	8125.9	7737.7	7705.2	7649.7	7585.2	7489.8
17.5°	8526.8	8535.9	8582.3	8674.0	8773.2	8760.4	8453.3	8426.1	8377.5	8289.6	8239.5
20°	9249.3	9283.4	9193.9	9193.9	9204.5	9253.1	9105.4	9084.0	9015.8	8968.9	8929.4
22.5°	10469.8	10509.3	10306.1	10099.8	9896.6	9748.9	9601.8	9628.4	9582.0	9549.5	9526.0
25°	12055.0	12085.9	11756.9	11408.2	10994.5	10455.4	10090.7	10074.2	10049.1	10029.4	10018.7
27.5°	13546.9	13559.7	13248.8	12738.0	12258.1	11483.4	10586.6	10566.8	10536.5	10498.6	10466.1
30°	14823.3	14819.6	14499.7	14012.3	13498.3	12641.0	11340.0	11278.7	11188.5	11086.2	11007.3
32.5°	15928.6	15923.3	15572.5	15067.5	14528.5	13787.9	12371.7	12245.9	12105.6	11905.7	11785.7
35°	16798.3	16795.1	16464.0	15937.7	15319.2	14868.1	13554.3	13399.7	13221.6	12954.0	12768.9
37.5°	17127.3	17127.3	16942.2	16582.9	16036.4	15727.1	14868.1	14681.0	14490.6	14186.7	13978.2
40°	16934.8	16938.5	16978.0	16911.9	16645.8	16408.5	16093.9	15982.5	15818.8	15545.8	15328.3
42.5°	16289.6	16309.3	16572.2	16893.7	17026.5	16989.2	17181.1	17131.0	17015.8	16805.8	16633.0
45°	15471.7	15533.0	15820.4	16428.2	17132.6	17490.4	18092.3	18097.7	18076.4	17963.3	17830.0
47.5°	14348.8	14434.6	14814.3	15635.4	16884.7	17977.7	19018.0	19066.5	19111.8	19038.2	18976.9
50°	12856.9	12959.3	13527.1	14616.5	16379.7	18482.6	20766.9	20986.5	21191.3	21166.2	21207.3
52.5°	11258.9	11379.4	12074.7	13288.3	15511.7	18599.4	21885.0	22242.7	22600.5	22893.2	23204.1
55°	9817.2	9752.7	10448.5	11726.0	14084.3	18072.6	22890.0	23321.4	23720.2	24079.6	24450.2
57.5°	7863.5	7969.7	8667.1	9930.7	12195.2	16586.1	23581.6	24212.9	24786.1	25381.1	25905.8
60°	5747.8	5853.9	6610.5	7893.9	10144.6	14332.3	23053.2	24009.7	24927.9	25839.1	26550.9
62.5°	3470.6	3550.0	4216.5	5439.1	7822.5	11659.9	20698.6	21953.2	23304.9	24394.2	25485.1
65°	2160.5	2205.3	2451.6	3124.0	5023.8	8704.9	16911.9	18279.5	19735.1	21117.7	22251.8
67.5°	1768.6	1784.6	1829.9	1973.4	2758.7	5676.4	12587.1	13798.5	15112.3	16449.6	17711.6
70°	1590.5	1579.9	1579.9	1588.9	1768.6	3052.0	8241.1	9030.2	10124.8	11287.7	12441.6
72.5°	1435.9	1425.2	1405.5	1378.8	1443.4	1861.9	4259.7	4854.7	5643.9	6677.2	7782.5
75°	1290.3	1275.9	1253.0	1218.9	1263.7	1405.5	2045.3	2295.4	2679.8	3230.1	3846.5
77.5°	1139.4	1121.3	1100.0	1074.9	1132.5	1093.0	1198.6	1288.7	1435.9	1612.4	1844.3
80°	968.8	952.8	945.4	933.1	1001.3	832.3	846.7	902.2	988.5	1084.0	1191.7
82.5°	758.7	758.7	787.0	792.9	868.0	598.8	632.9	681.4	726.2	776.3	827.0
85°	499.6	503.3	600.4	638.2	684.6	402.6	474.5	490.5	526.8	555.6	576.9
87.5°	156.2	169.0	366.8	406.3	393.5	228.2	291.1	298.6	323.6	343.4	361.5
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):**

	60°	61°	62°	63°	64°	65°	66°	67°	68°	69°	70°
0°	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1
2.5°	3424.2	3402.3	3382.6	3381.0	3366.6	3346.9	3353.8	3323.4	3325.0	3309.0	3290.9
5°	4026.2	4011.8	3939.8	3920.0	3866.2	3832.1	3826.7	3754.8	3745.7	3704.6	3659.3
7.5°	4892.6	4845.7	4744.9	4696.4	4604.7	4536.4	4504.4	4409.0	4362.1	4254.4	4205.8
10°	5800.1	5740.9	5616.7	5548.4	5460.4	5350.6	5291.4	5153.3	5098.9	5000.3	4881.9
12.5°	6641.5	6582.3	6454.3	6402.1	6285.3	6168.5	6104.0	5947.8	5877.4	5719.0	5625.7
15°	7419.4	7360.2	7248.8	7194.9	7078.2	6982.7	6896.3	6742.2	6659.6	6511.9	6389.8
17.5°	8174.4	8111.5	8014.4	7965.9	7852.9	7755.8	7662.5	7516.4	7432.2	7285.0	7175.2
20°	8875.6	8828.6	8758.8	8693.7	8580.7	8492.7	8381.3	8255.4	8133.3	8025.1	7921.1
22.5°	9486.6	9468.5	9393.3	9364.5	9267.5	9191.7	9094.7	8971.0	8882.5	8746.0	8648.9
25°	10013.4	10008.1	9971.8	9962.7	9894.5	9822.5	9801.2	9698.8	9617.8	9497.3	9397.0
27.5°	10466.1	10471.4	10462.9	10487.9	10469.8	10437.3	10439.4	10405.3	10358.4	10257.6	10169.6
30°	10969.4	10940.6	10957.1	10992.9	11003.5	11007.3	11066.4	11086.2	11083.0	11016.3	10973.1
32.5°	11681.2	11613.0	11550.1	11544.7	11580.4	11594.8	11695.6	11747.9	11792.7	11808.7	11816.1
35°	12588.7	12452.2	12321.1	12251.2	12189.9	12205.9	12277.9	12362.6	12461.3	12529.5	12610.6
37.5°	13731.9	13565.0	13333.1	13167.8	13126.2	13036.6	13083.0	13149.6	13246.7	13352.8	13493.0
40°	15117.7	14864.4	14603.7	14384.5	14266.1	14100.3	14098.7	14085.9	14145.6	14244.3	14442.1
42.5°	16451.7	16226.7	15950.0	15720.2	15565.5	15344.3	15299.5	15182.7	15209.4	15295.7	15488.2
45°	17700.5	17515.4	17346.4	17080.9	16949.2	16710.3	16634.6	16496.5	16419.2	16458.6	16651.1
47.5°	18910.3	18791.9	18615.4	18443.2	18342.4	18128.6	18031.6	17932.4	17833.8	17830.0	18031.6
50°	21268.6	21205.7	20997.2	20817.5	20866.0	20603.7	20619.7	20353.6	20474.1	20488.5	20910.8
52.5°	23484.5	23704.2	23858.8	24047.1	24169.7	24193.2	24273.7	24394.2	24539.7	24827.1	25219.0
55°	24753.5	25028.7	25188.6	25332.6	25569.9	25620.0	25754.9	25914.8	26042.3	26365.9	26698.6
57.5°	26262.0	26772.2	27020.2	27248.4	27568.3	27690.4	27915.4	28089.7	28255.0	28637.9	29040.4
60°	27190.8	27813.0	28317.9	28678.9	29079.9	29367.8	29707.5	29980.4	30368.6	30827.2	31427.5
62.5°	26452.3	27365.1	28035.9	28656.0	29200.4	29750.6	30237.4	30748.2	31337.4	32031.1	32962.6
65°	23510.1	24439.0	25587.5	26231.0	26951.9	27800.2	28540.8	29367.8	30170.8	31181.2	32557.9
67.5°	18926.8	20006.5	21297.4	21946.3	22774.9	23721.8	24552.5	25562.4	26500.8	27724.5	29427.0
70°	13642.3	15038.7	16124.3	16802.0	17769.2	18745.0	19546.9	20722.1	21498.4	22753.0	24513.1
72.5°	8638.3	9739.9	11070.2	11923.8	12782.8	13771.9	14591.4	15605.0	16329.1	17472.2	19066.5
75°	4644.7	5456.7	6624.9	7435.9	8356.2	9200.8	10160.6	10839.8	11375.7	12280.0	13574.1
77.5°	2176.5	2670.8	3262.1	3885.9	4509.8	5160.3	5793.2	6342.9	6573.2	7091.0	7854.5
80°	1321.3	1481.2	1653.4	1845.9	2106.7	2316.7	2595.6	2796.6	2811.0	2974.7	3208.2
82.5°	882.4	941.6	993.9	1042.4	1109.0	1161.3	1220.5	1290.3	1319.1	1357.0	1432.7
85°	602.0	630.8	641.4	672.4	664.9	683.0	706.5	729.9	742.2	740.6	774.7
87.5°	370.0	384.4	391.9	398.8	393.5	386.6	397.2	410.0	413.2	402.6	406.3
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):**

	71°	72°	73°	74°	75°	85°	90°	95°	105°	115°	125°
0°	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1
2.5°	3294.6	3278.6	3262.1	3251.4	3247.7	3152.8	3111.2	3084.5	3026.9	2980.0	2942.2
5°	3634.3	3600.1	3573.5	3540.9	3522.8	3281.8	3193.8	3133.0	3032.3	2973.1	2918.7
7.5°	4180.8	4085.3	4029.9	3967.0	3913.1	3478.0	3332.5	3237.0	3096.8	3017.9	2956.6
10°	4800.9	4702.2	4613.7	4516.7	4432.4	3738.8	3526.5	3378.9	3193.8	3091.5	3010.4
12.5°	5493.0	5395.9	5284.5	5160.3	5052.5	4069.3	3774.5	3564.4	3310.6	3174.1	3061.1
15°	6310.9	6139.7	6004.8	5861.4	5735.6	4465.0	4064.0	3772.9	3434.8	3249.8	3098.9
17.5°	7070.7	6891.0	6708.1	6582.3	6436.7	4908.6	4355.1	3984.6	3537.2	3298.3	3105.9
20°	7813.4	7617.2	7459.4	7290.4	7137.3	5368.7	4666.0	4171.7	3603.9	3299.9	3061.1
22.5°	8467.7	8345.0	8169.1	7985.7	7831.0	5828.9	4957.1	4330.1	3628.9	3258.9	2981.6
25°	9211.5	9082.4	8866.5	8711.9	8539.6	6298.1	5242.9	4452.2	3614.5	3181.6	2859.5
27.5°	10005.9	9862.5	9641.2	9479.7	9271.2	6784.9	5505.2	4540.1	3560.7	3055.7	2695.8
30°	10834.5	10703.3	10485.8	10322.6	10112.0	7301.0	5798.5	4599.3	3453.0	2881.4	2505.5
32.5°	11724.4	11614.6	11399.2	11228.5	11003.5	7859.8	6071.5	4617.5	3289.3	2674.5	2304.5
35°	12569.0	12493.8	12312.0	12152.0	11918.5	8388.2	6361.0	4608.4	3095.2	2447.9	2121.0
37.5°	13520.2	13474.9	13385.3	13182.2	12896.4	9105.4	6708.1	4570.5	2857.9	2223.4	1980.8
40°	14533.8	14537.5	14440.5	14301.9	14035.8	9975.5	7121.3	4497.0	2598.8	2025.6	1852.9
42.5°	15606.6	15662.6	15615.7	15517.0	15261.6	10852.6	7615.6	4407.4	2347.7	1833.1	1727.5
45°	16836.1	16904.4	16976.4	16830.8	16582.9	12010.2	8266.1	4290.6	2075.7	1673.2	1641.2
47.5°	18254.4	18362.1	18426.7	18428.8	18180.9	13444.5	9322.9	4220.2	1835.3	1565.5	1599.6
50°	21246.7	21281.4	21433.9	21699.9	21509.6	16764.2	11168.8	4177.0	1671.6	1498.8	1569.2
52.5°	25558.7	25934.6	26199.0	26180.9	25921.8	18872.4	12186.2	3954.2	1574.5	1473.7	1554.8
55°	27315.0	27784.2	28273.2	28402.2	28201.2	20671.9	13148.0	3731.3	1527.6	1491.9	1560.1
57.5°	29655.2	30445.9	31116.7	31398.7	31107.6	22974.3	14413.3	3614.5	1513.2	1540.4	1594.3
60°	32388.9	33366.8	34247.6	34754.1	34754.1	25620.0	15725.5	3566.0	1493.5	1612.4	1651.8
62.5°	34145.2	35581.1	36911.4	37653.6	37631.8	27462.2	16307.7	3400.7	1448.7	1662.5	1730.7
65°	34152.2	35860.0	37554.5	38388.9	38431.6	27236.1	15346.4	3003.5	1366.0	1670.0	1810.2
67.5°	31305.4	33125.8	35101.2	36034.3	36249.7	25071.9	13284.5	2469.8	1231.1	1598.0	1839.0
70°	26439.5	28217.2	30233.7	31150.8	31533.6	21372.6	10699.6	1903.5	1058.9	1439.6	1779.3
72.5°	20829.8	22573.3	23977.2	24647.4	24946.0	16336.5	7791.6	1438.0	868.0	1213.0	1619.3
75°	14747.6	16056.1	16802.0	16951.3	16997.7	9848.1	4734.2	1069.6	715.5	943.8	1367.6
77.5°	8323.7	8884.6	8823.3	8889.9	8336.5	3801.7	2061.9	765.7	589.7	717.1	1060.5
80°	3249.8	3350.6	3147.4	3084.5	2829.1	1414.6	909.6	533.7	470.8	542.8	742.2
82.5°	1432.7	1479.1	1435.9	1447.1	1384.2	729.9	544.4	386.6	359.4	397.2	492.7
85°	789.1	803.5	799.8	823.3	789.1	291.1	258.6	237.3	251.7	269.8	316.2
87.5°	384.4	388.2	375.9	395.6	382.8	147.2	127.4	134.9	147.2	150.9	150.9
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):**

	135°	145°	155°	165°	175°	180°
0°	3086.1	3086.1	3086.1	3086.1	3086.1	3086.1
2.5°	2915.5	2901.1	2902.7	2899.0	2892.0	2892.0
5°	2890.4	2876.1	2876.1	2872.3	2863.3	2864.9
7.5°	2915.5	2892.0	2883.0	2870.2	2857.9	2857.9
10°	2944.3	2902.7	2877.6	2856.3	2839.8	2839.8
12.5°	2965.6	2901.1	2859.5	2830.7	2814.7	2814.7
15°	2973.1	2888.3	2830.7	2796.6	2782.2	2780.6
17.5°	2949.6	2839.8	2769.9	2730.5	2712.4	2707.0
20°	2877.6	2751.8	2667.6	2622.2	2597.2	2588.1
22.5°	2769.9	2626.0	2527.3	2480.4	2447.9	2442.6
25°	2619.1	2464.4	2367.4	2322.1	2304.5	2298.6
27.5°	2442.6	2298.6	2216.0	2187.2	2171.2	2169.6
30°	2275.7	2153.0	2092.3	2070.4	2050.7	2047.5
32.5°	2118.9	2041.6	2018.7	1987.7	1941.4	1936.0
35°	2007.5	2000.5	1984.5	1915.8	1858.7	1842.2
37.5°	1939.2	2005.9	1923.2	1788.3	1747.3	1743.5
40°	1899.8	1950.4	1808.1	1761.7	1764.9	1761.7
42.5°	1810.2	1861.9	1811.8	1790.5	1804.3	1808.1
45°	1720.1	1777.7	1839.0	1824.6	1858.7	1858.7
47.5°	1670.0	1755.8	1836.9	1836.9	1887.5	1905.1
50°	1612.4	1738.2	1808.1	1833.1	1873.1	1858.7
52.5°	1608.6	1707.3	1767.0	1811.8	1829.9	1813.4
55°	1614.0	1682.2	1725.4	1776.1	1797.4	1799.0
57.5°	1621.4	1667.8	1696.6	1720.1	1784.6	1784.6
60°	1639.0	1655.6	1671.6	1684.4	1768.6	1770.2
62.5°	1667.8	1642.8	1639.0	1651.8	1759.5	1752.6
65°	1713.2	1624.6	1598.0	1610.2	1750.5	1729.1
67.5°	1773.9	1598.0	1545.7	1554.8	1743.5	1696.6
70°	1829.9	1554.8	1481.2	1472.1	1675.3	1592.7
72.5°	1835.3	1504.7	1391.1	1364.4	1456.2	1376.7
75°	1745.1	1470.0	1292.5	1213.0	1202.4	1191.7
77.5°	1572.9	1450.3	1177.3	1053.1	1031.7	1038.7
80°	1315.9	1376.7	1038.7	891.5	1008.3	996.0
82.5°	983.2	1215.1	882.4	789.1	787.0	695.8
85°	546.5	947.5	718.7	591.3	411.6	398.8
87.5°	153.0	526.8	503.3	334.3	228.2	237.3
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)