

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: P522136

Luminaire Tested: **CTN-CA10-310-740-U-T5R-HSS-HM-EX180**

Issue Date: 5/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P522136  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-894-7)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: CTN-CA10-310-740-U-T5R-HSS-HM-EX180  
Description: CELESTEON HIGH MAST LUMINAIRE  
Light Source: (10) 4000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 32045 lumens  
Efficiency: N/A  
Efficacy: 102.6 lumens/watt  
Luminous Opening: Circular (Dia: 2.08' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B4 - U2 - G4

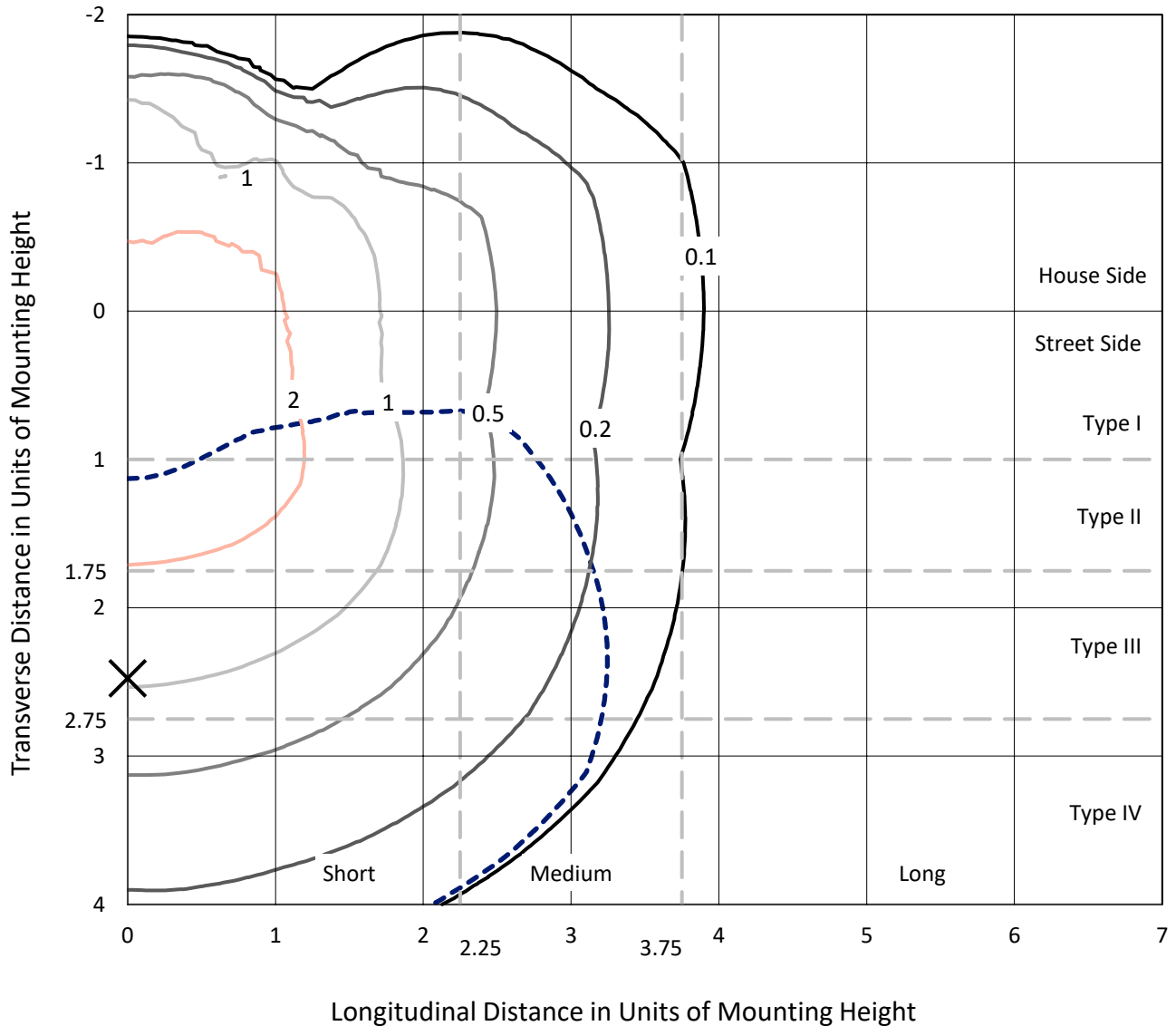
Input Watts (W): 312.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

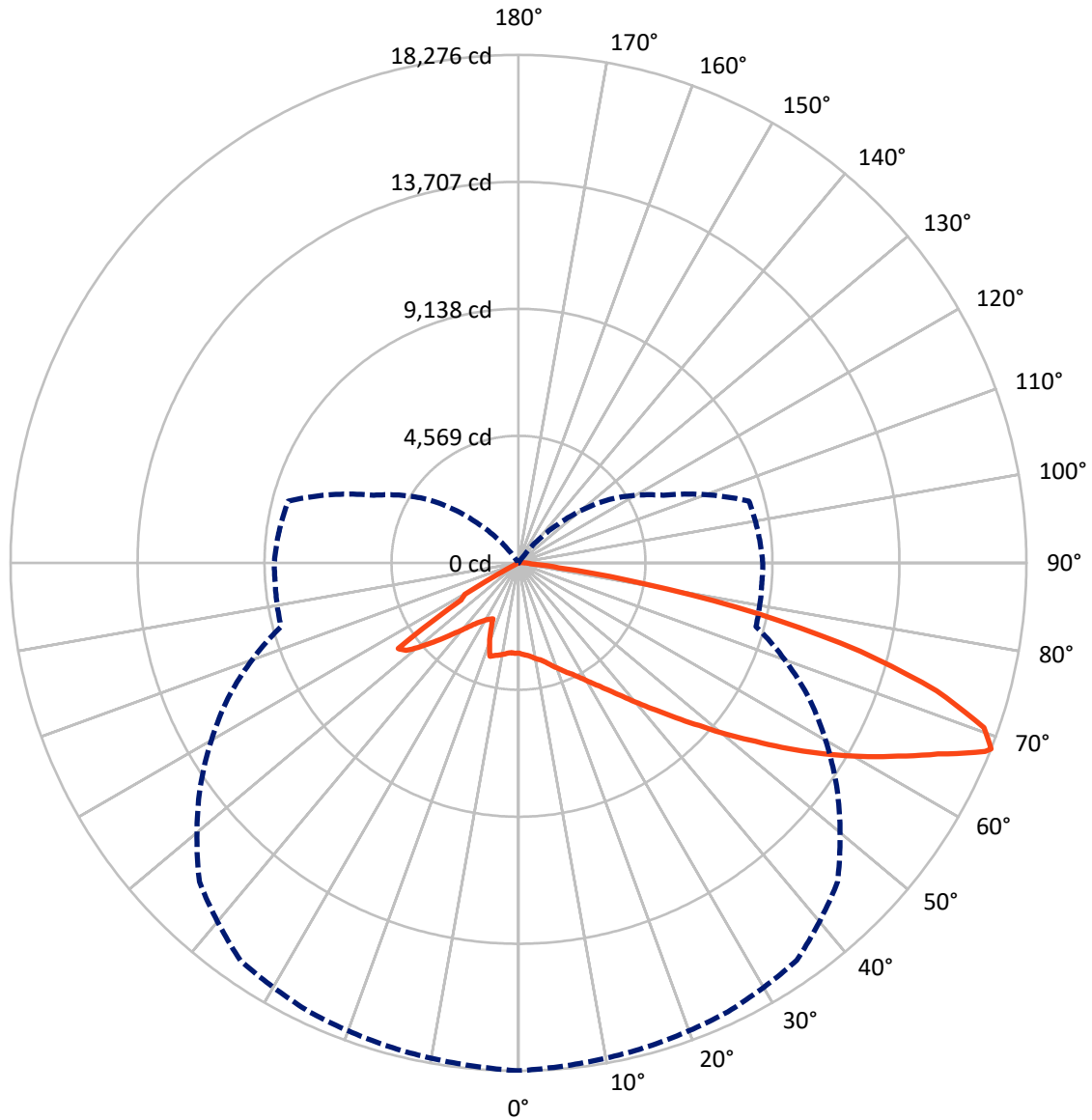
× Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 3.7 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 0-Deg Lateral      - - - Horizontal Cone Through 68-Deg Vertical



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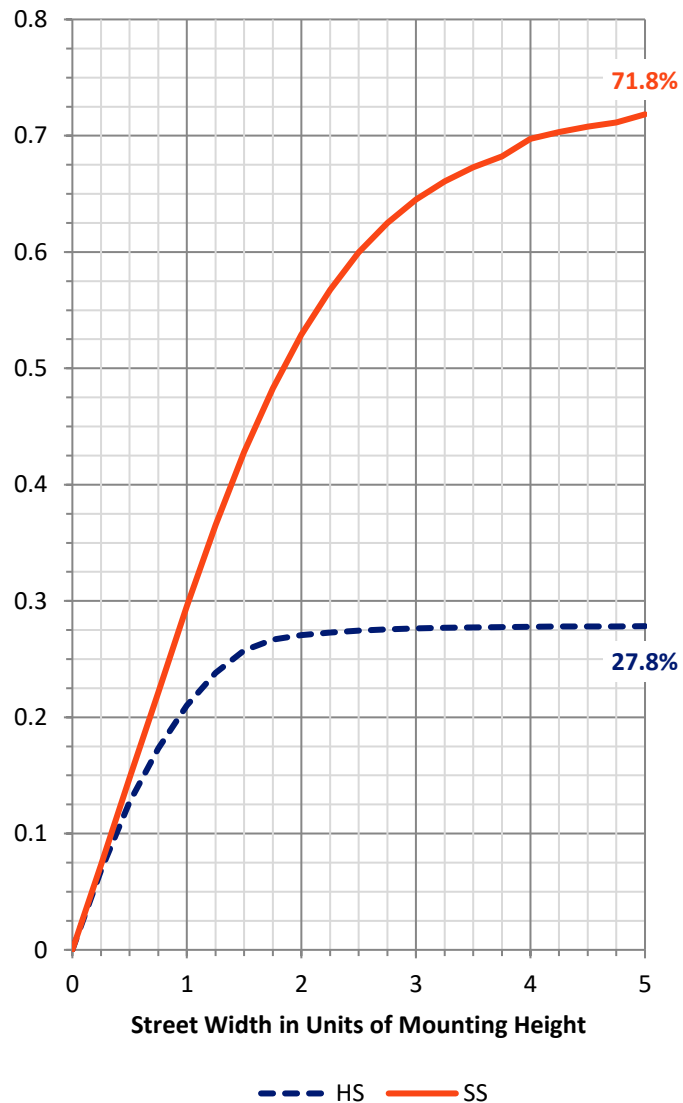
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	8950.2	0.2	8950.4
	% Fixture	27.9	0.0	27.9
<b>Street Side</b>	Lumens	23076.2	18.3	23094.6
	% Fixture	72.0	0.1	72.1
<b>Total</b>	Lumens	32026.4	18.5	32045.0
	% Fixture	99.9	0.1	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	315.1	1.0
10°-20°	998.4	3.1
20°-30°	1690.3	5.3
30°-40°	2677.9	8.4
40°-50°	4378.2	13.7
50°-60°	6706.3	20.9
60°-70°	8245.9	25.7
70°-80°	6371.5	19.9
80°-90°	642.9	2.0
90°-100°	18.3	0.1
100°-110°	0.3	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°	32026.4	99.9
0°-180°	32045.0	100.0

**Coefficient of Utilization**

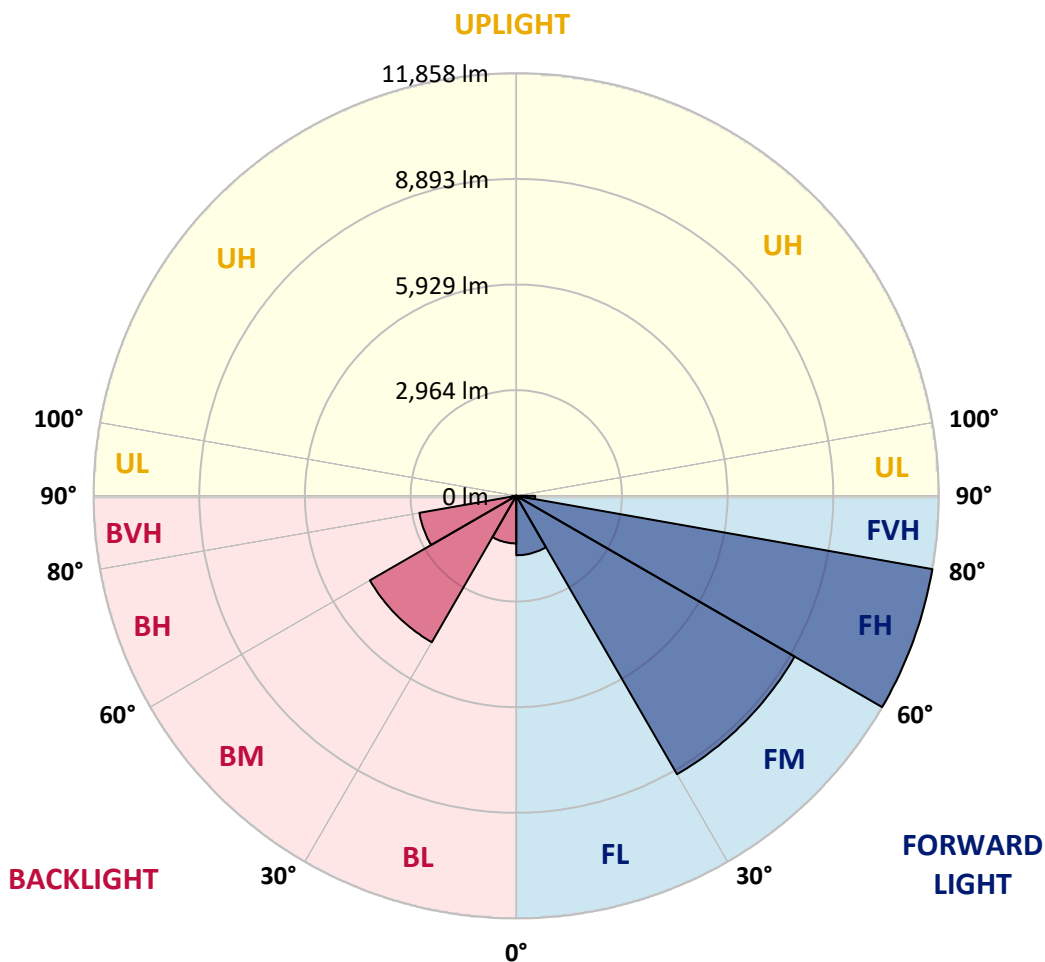


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1668.0	5.2			
FM	(30°-60°)	9020.1	28.1			
FH	(60°-80°)	11858.0	37.0			G4/12000
FVH	(80°-90°)	530.2	1.7			G4/750
BL	(0°-30°)	1335.9	4.2	B3/2500		
BM	(30°-60°)	4742.2	14.8	B3/5000		
BH	(60°-80°)	2759.4	8.6	B4/5000		G4/5000
BVH	(80°-90°)	112.7	0.4			G2/225
UL	(90°-100°)	18.3	0.1		U2/50	
UH	(100°-180°)	0.3	0.0		U1/10	

**BUG Rating: B4-U2-G4**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	3246.5	3246.5	3246.5	3246.5	3246.5	3246.5	3246.5	3246.5	3246.5	3246.5	3246.5
2.5°	3305.2	3299.0	3292.8	3306.7	3252.7	3275.8	3257.3	3274.3	3261.9	3275.8	3271.2
5°	3348.4	3342.2	3323.7	3339.1	3303.6	3312.9	3289.7	3295.9	3254.2	3278.9	3277.4
7.5°	3419.4	3402.4	3390.1	3390.1	3359.2	3357.6	3320.6	3322.1	3289.7	3286.6	3292.8
10°	3515.1	3502.8	3468.8	3471.9	3428.7	3422.5	3376.2	3374.6	3348.4	3332.9	3346.8
12.5°	3586.1	3598.5	3567.6	3567.6	3524.4	3493.5	3461.1	3439.5	3419.4	3396.2	3385.4
15°	3715.8	3728.1	3686.5	3684.9	3667.9	3630.9	3595.4	3549.1	3513.6	3502.8	3485.8
17.5°	3884.1	3876.3	3840.8	3842.4	3845.5	3785.3	3749.8	3689.6	3638.6	3601.6	3592.3
20°	4055.4	4055.4	4016.8	4029.2	4013.7	3958.2	3935.0	3851.6	3780.6	3740.5	3708.1
22.5°	4246.8	4239.1	4212.9	4239.1	4208.3	4152.7	4114.1	4030.7	3939.6	3712.7	3620.1
25°	4429.0	4424.4	4435.2	4442.9	4404.3	4334.8	4308.6	4220.6	3967.4	3669.5	3482.7
27.5°	4659.0	4643.6	4668.3	4683.7	4645.1	4584.9	4529.4	4430.6	3894.9	3660.2	3640.2
30°	4953.9	4919.9	4955.4	4963.1	4923.0	4886.0	4802.6	4308.6	3919.6	3851.6	3845.5
32.5°	5268.8	5228.7	5275.0	5281.2	5228.7	5197.8	4987.8	4245.3	4161.9	4083.2	4090.9
35°	5642.4	5642.4	5665.6	5668.6	5630.0	5577.6	4777.9	4554.1	4480.0	4407.4	4405.9
37.5°	6097.8	6083.9	6145.7	6182.7	6141.0	5991.3	5083.6	4978.6	4864.3	4771.7	4580.3
40°	6647.4	6672.1	6689.1	6726.1	6686.0	6349.4	5529.7	5410.8	5321.3	5011.0	4527.8
42.5°	7240.2	7246.3	7283.4	7329.7	7329.7	6974.6	6051.5	5949.6	5833.8	4899.9	4682.2
45°	7948.8	7934.9	8005.9	8080.0	8059.9	7692.5	6658.2	6582.5	6040.7	5222.5	5224.0
47.5°	8753.0	8736.1	8838.0	8935.2	8834.9	8489.1	7325.1	7266.4	5830.7	5769.0	5756.6
50°	9682.4	9640.7	9758.0	9887.7	9805.9	9378.3	8135.5	7008.6	6415.8	6366.4	6358.7
52.5°	10675.0	10642.6	10713.6	10934.4	10826.3	10309.1	8902.8	7230.9	7093.5	7037.9	7024.0
55°	11795.8	11732.5	11885.3	12053.6	11928.5	11338.8	9659.2	7968.8	7826.8	7731.1	7592.1
57.5°	12973.7	12882.6	12961.3	13172.8	13052.4	12393.2	10634.9	8728.3	8560.1	7084.3	6520.8
60°	14146.9	14105.2	14136.1	14322.9	14174.7	13418.2	11548.8	9489.4	7244.8	7007.1	7034.9
62.5°	15326.3	15235.2	15263.0	15454.5	15264.6	14393.9	12414.8	10181.0	7624.6	7541.2	7570.5
65°	16590.6	16482.6	16507.3	16562.9	16328.2	15269.2	13180.5	10834.0	8195.8	8107.8	8140.2
67.5°	18114.3	18015.5	17881.2	17716.0	17391.9	16198.5	13941.6	11521.0	8838.0	8788.6	8799.4
68°	18276.4	18180.7	18018.6	17822.6	17458.2	16237.1	13974.0	11541.1	8847.2	8785.5	8788.6
70°	17771.6	17828.7	17645.0	17316.2	17012.1	15672.1	13444.5	11096.5	8453.6	8362.5	8339.3
72.5°	15738.5	15863.5	15610.4	15554.8	15181.2	13961.6	11764.9	9628.4	7352.9	7382.2	7298.8
75°	12706.6	12890.3	12583.1	12600.1	12387.0	11646.0	9859.9	8016.7	6037.6	6171.9	6196.6
77.5°	8836.4	9100.4	8966.1	9100.4	8995.4	8728.3	7630.7	6173.4	4606.5	4760.9	4821.1
80°	4608.1	4921.5	5099.0	5154.6	5188.5	5177.7	4646.7	3705.0	2663.0	2720.1	2717.0
82.5°	1457.3	1381.7	1426.4	1414.1	1375.5	1390.9	1253.5	980.3	679.2	748.7	716.3
85°	440.0	443.1	430.7	427.6	395.2	347.3	284.0	163.6	80.3	94.2	88.0
87.5°	324.2	327.3	302.6	287.1	268.6	233.1	180.6	101.9	38.6	37.0	29.3
90°	179.1	172.9	160.5	148.2	140.5	120.4	91.1	38.6	13.9	10.8	9.3
92.5°	97.3	92.6	86.4	81.8	71.0	57.1	37.0	12.3	6.2	1.5	0.0
95°	44.8	41.7	40.1	35.5	30.9	21.6	12.3	7.7	4.6	1.5	0.0
97.5°	20.1	18.5	17.0	13.9	10.8	6.2	6.2	4.6	3.1	1.5	0.0
100°	4.6	4.6	3.1	3.1	3.1	3.1	3.1	3.1	3.1	1.5	0.0
102.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0
107.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	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):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3246.5	3246.5	3246.5	3246.5	3246.5	3246.5	3246.5	3246.5	3246.5	3246.5
2.5°	3266.6	3257.3	3252.7	3223.3	3232.6	3206.4	3257.3	3245.0	3237.2	3258.9
5°	3269.7	3237.2	3257.3	3240.3	3246.5	3209.5	3249.6	3232.6	3231.1	3240.3
7.5°	3277.4	3255.8	3275.8	3241.9	3257.3	3241.9	3271.2	3254.2	3268.1	3277.4
10°	3319.1	3306.7	3297.4	3289.7	3300.5	3269.7	3306.7	3308.2	3312.9	3340.7
12.5°	3377.7	3365.4	3349.9	3329.9	3340.7	3328.3	3356.1	3363.8	3380.8	3394.7
15°	3459.5	3436.4	3430.2	3411.7	3422.5	3416.3	3422.5	3417.9	3450.3	3445.6
17.5°	3572.2	3546.0	3458.0	3368.5	3311.3	3328.3	3399.3	3492.0	3515.1	3518.2
20°	3613.9	3428.7	3419.4	3317.5	3271.2	3268.1	3121.5	2902.2	2968.6	3124.5
22.5°	3564.5	3311.3	3285.1	3265.0	3067.4	2743.2	2712.4	2679.9	2672.2	2695.4
25°	3453.4	3424.0	3400.9	3138.4	2826.6	2828.1	2783.4	2570.3	2238.4	2210.6
27.5°	3623.2	3583.0	3359.2	2954.7	2948.6	2945.5	2879.1	2332.6	2261.6	2278.6
30°	3816.1	3749.8	3164.7	3112.2	3110.7	3082.9	2581.1	2352.7	2352.7	2355.8
32.5°	4038.4	3626.3	3275.8	3300.5	3299.0	3167.8	2493.2	2477.7	2471.5	2487.0
35°	4208.3	3527.5	3515.1	3559.9	3529.0	2687.7	2649.1	2635.2	2629.0	2621.3
37.5°	4155.8	3811.5	3811.5	3839.3	3590.8	2862.1	2843.6	2843.6	2831.2	2825.1
40°	4236.0	4165.0	4129.5	4140.3	2608.9	3073.6	3087.5	3084.4	3082.9	3093.7
42.5°	4659.0	4595.7	4563.3	4180.5	2920.8	3055.1	3394.7	3393.2	3397.8	3393.2
45°	5197.8	5139.1	5054.2	3911.9	3316.0	2678.4	3742.0	3759.0	3760.6	3759.0
47.5°	5762.8	5725.8	4856.6	4330.2	3745.1	2874.5	3576.9	4177.4	4169.7	4178.9
50°	6360.2	6193.5	4831.9	4825.8	4202.1	3198.6	3200.2	4543.2	4622.0	4646.7
52.5°	7025.6	5614.6	5355.3	4886.0	4665.2	3532.1	3498.1	4026.1	5100.5	5125.2
55°	6525.4	5931.1	5926.4	4348.7	4853.5	3853.2	3857.8	3820.8	4677.6	5316.7
57.5°	6493.0	6506.9	6496.1	4852.0	3541.4	3612.4	4203.6	4171.2	3028.8	2454.6
60°	7053.4	7073.4	6310.8	5239.5	3828.5	2221.5	2588.9	2199.8	2229.2	2252.3
62.5°	7589.1	7595.2	5133.0	3434.8	1897.3	89.5	43.2	35.5	34.0	34.0
65°	8181.9	8181.9	5501.9	3746.7	1832.4	34.0	6.2	4.6	17.0	17.0
67.5°	8754.6	8628.0	5772.1	3978.2	1864.8	4.6	0.0	0.0	0.0	0.0
68°	8722.2	8583.2	5747.4	3972.1	1860.2	3.1	0.0	0.0	0.0	0.0
70°	8237.4	8103.1	5452.5	3791.4	1790.7	3.1	0.0	0.0	0.0	0.0
72.5°	7271.0	7147.5	4828.8	3342.2	1614.8	1.5	0.0	0.0	0.0	0.0
75°	6154.9	6137.9	4171.2	2820.4	1384.7	1.5	0.0	0.0	0.0	0.0
77.5°	4952.3	4875.2	3260.4	2210.6	1116.1	0.0	0.0	0.0	0.0	0.0
80°	2758.7	2872.9	1908.1	1299.8	702.4	0.0	0.0	0.0	0.0	0.0
82.5°	745.6	697.8	416.8	282.5	134.3	0.0	0.0	0.0	0.0	0.0
85°	95.7	105.0	47.9	38.6	9.3	0.0	0.0	0.0	0.0	0.0
87.5°	49.4	58.7	15.4	12.3	3.1	0.0	0.0	0.0	0.0	0.0
90°	9.3	10.8	4.6	1.5	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	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):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)