

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: STREETWORKS

Report Number: P159595

Luminaire Tested: **VST-F09-LED-E-U-T3**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P159595
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33706)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: VST-F09-LED-E-U-T3
Description: VENTUS LED SITE/ROADWAY LUMINAIRE
(9) LIGHTBARS WITH AccuLED OPTICS - TYPE 3 AREA
Light Source: (63) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 22722.8 lumens
Efficiency: N/A
Efficacy: 96.8 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B4 - U0 - G4

Input Watts (W): 234.8
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



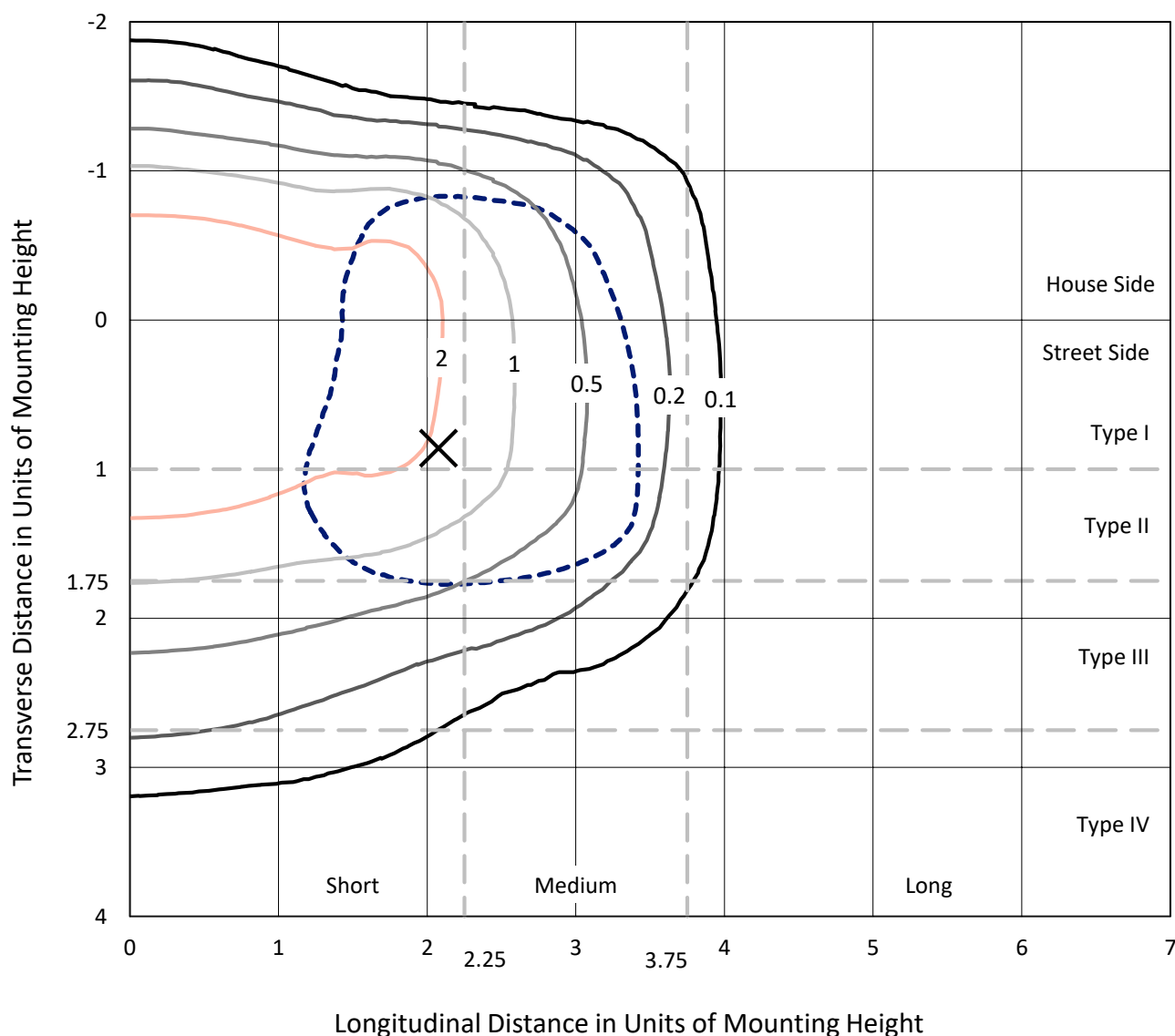
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

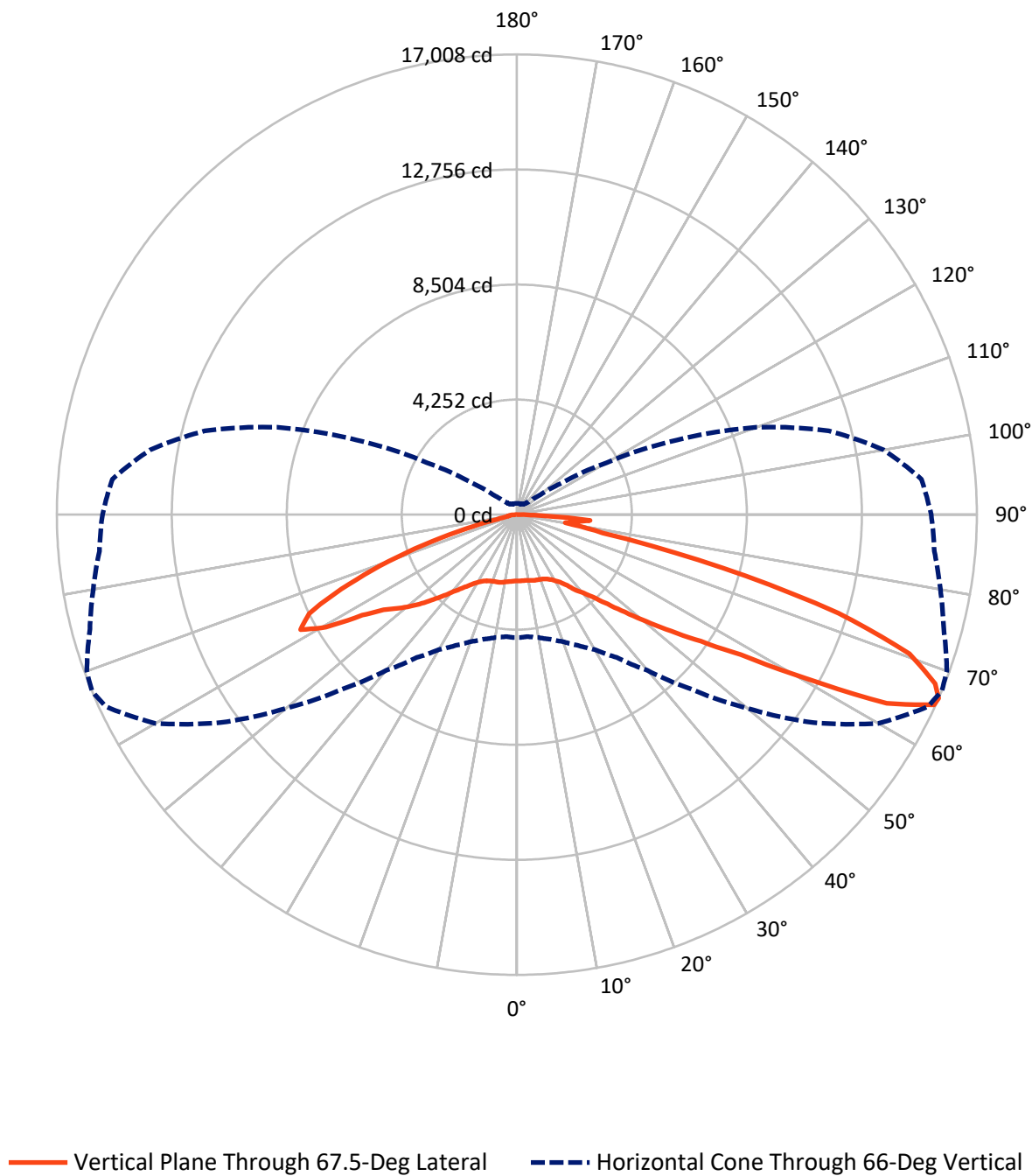


Based on 25 foot mounting height. Maximum calculated value = 3.9 fc
Type II - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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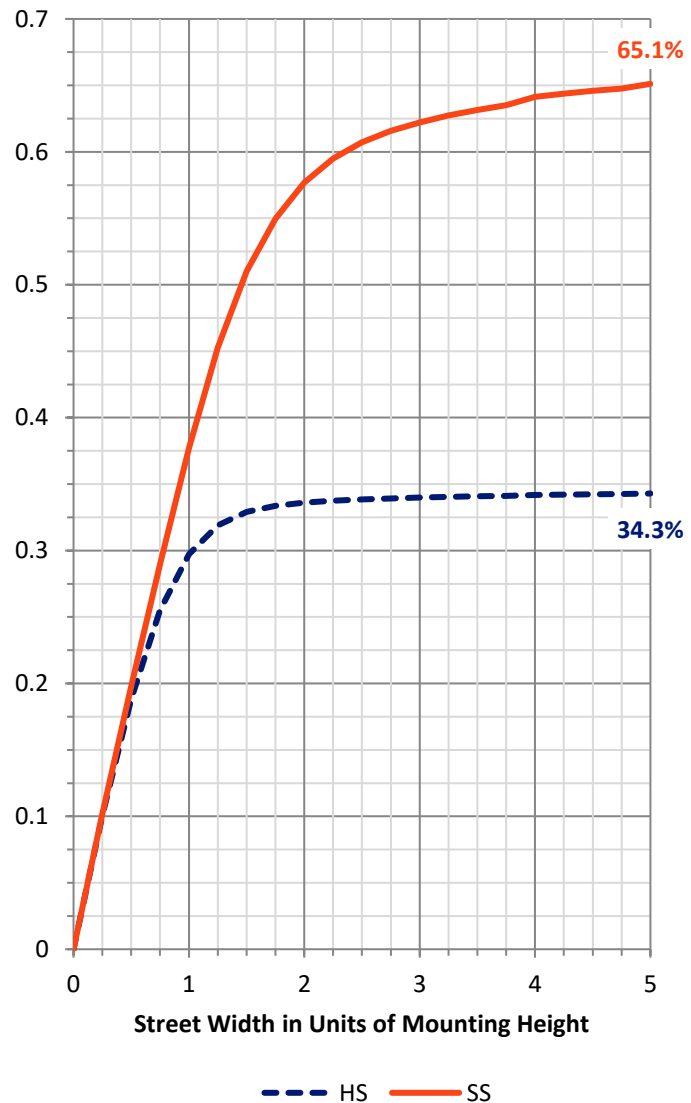
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	7863.1	0.0	7863.1
	% Fixture	34.6	0.0	34.6
Street Side	Lumens	14859.7	0.0	14859.7
	% Fixture	65.4	0.0	65.4
Total	Lumens	22722.8	0.0	22722.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	235.3	1.0
10°-20°	696.7	3.1
20°-30°	1197.6	5.3
30°-40°	1935.5	8.5
40°-50°	3207.7	14.1
50°-60°	5034.1	22.2
60°-70°	6882.6	30.3
70°-80°	3026.7	13.3
80°-90°	506.6	2.2
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°	22722.8	100.0
0°-180°	22722.8	100.0

Coefficient of Utilization



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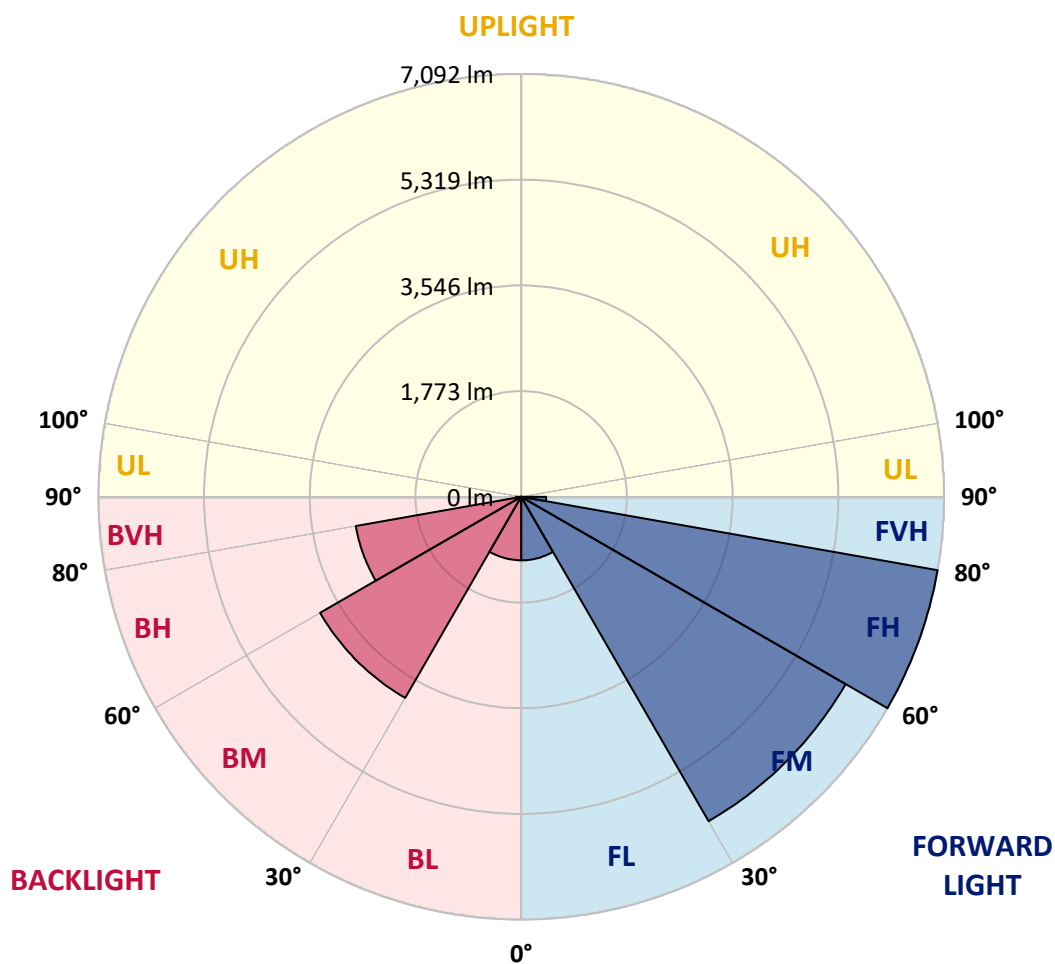
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1065.9	4.7			
FM	(30°-60°)	6283.5	27.7			
FH	(60°-80°)	7092.3	31.2			G3/7500
FVH	(80°-90°)	418.0	1.8			G3/500
BL	(0°-30°)	1063.7	4.7	B3/2500		
BM	(30°-60°)	3893.8	17.1	B3/5000		
BH	(60°-80°)	2817.0	12.4	B4/5000		G4/5000
BVH	(80°-90°)	88.6	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G4

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8
2.5°	2447.4	2447.4	2448.8	2447.4	2447.4	2445.9	2451.8	2451.8	2451.8	2450.3	2454.8
5°	2441.4	2441.4	2442.9	2442.9	2444.4	2442.9	2447.4	2448.8	2448.8	2448.8	2453.3
7.5°	2426.5	2431.0	2428.0	2429.5	2431.0	2435.5	2441.4	2444.4	2447.4	2451.8	2453.3
10°	2395.3	2402.8	2401.3	2405.7	2407.2	2420.6	2425.1	2431.0	2441.4	2447.4	2451.8
12.5°	2352.3	2356.7	2358.2	2364.1	2370.1	2386.4	2398.3	2408.7	2423.6	2438.4	2453.3
15°	2318.1	2321.0	2321.0	2327.0	2335.9	2350.8	2365.6	2383.5	2405.7	2431.0	2454.8
17.5°	2328.5	2335.9	2330.0	2328.5	2331.4	2340.4	2353.7	2368.6	2395.3	2423.6	2451.8
20°	2396.8	2398.3	2395.3	2387.9	2382.0	2383.5	2383.5	2386.4	2402.8	2425.1	2447.4
22.5°	2453.3	2459.2	2457.8	2459.2	2457.8	2463.7	2460.7	2454.8	2448.8	2450.3	2460.7
25°	2502.3	2508.3	2508.3	2512.7	2520.2	2532.1	2541.0	2539.5	2530.6	2518.7	2514.2
27.5°	2582.6	2582.6	2582.6	2587.0	2597.4	2612.3	2627.2	2636.1	2643.5	2631.6	2606.3
30°	2708.9	2710.4	2705.9	2707.4	2714.8	2734.1	2752.0	2765.3	2780.2	2778.7	2746.0
32.5°	2847.1	2853.0	2851.5	2857.5	2867.9	2885.7	2905.0	2925.8	2945.1	2957.0	2936.2
35°	3025.4	3031.3	3032.8	3041.7	3053.6	3080.4	3107.1	3133.9	3154.7	3163.6	3159.1
37.5°	3318.1	3319.6	3313.7	3300.3	3304.7	3325.5	3356.7	3399.8	3413.2	3422.1	3442.9
40°	3756.5	3752.0	3728.2	3716.3	3708.9	3717.8	3711.9	3746.1	3777.3	3778.8	3777.3
42.5°	4288.4	4275.1	4252.8	4249.8	4246.8	4243.9	4227.5	4229.0	4257.2	4264.7	4255.7
45°	4817.4	4801.1	4784.7	4799.6	4781.8	4827.8	4841.2	4876.9	4881.3	4896.2	4873.9
47.5°	5251.3	5252.8	5252.8	5273.6	5309.3	5397.0	5475.7	5544.1	5569.3	5605.0	5609.4
50°	5579.7	5588.6	5616.9	5683.7	5759.5	5906.6	6038.9	6162.2	6273.7	6315.3	6425.2
52.5°	5771.4	5795.2	5854.6	5966.1	6101.3	6291.5	6499.5	6709.0	6902.2	7065.7	7196.4
55°	5737.2	5755.1	5859.1	6032.9	6243.9	6499.5	6790.8	7093.9	7395.5	7671.9	7885.9
57.5°	5517.3	5529.2	5633.2	5829.4	6092.4	6435.6	6847.2	7297.5	7721.0	8166.8	8532.3
60°	5229.0	5246.9	5343.5	5498.0	5772.9	6138.4	6615.4	7226.1	7902.3	8603.6	9287.2
62.5°	5044.8	5040.3	5125.0	5263.2	5469.8	5801.1	6260.3	6983.9	7920.1	9105.9	10456.6
65°	4738.7	4725.3	4813.0	4970.5	5194.9	5515.8	5951.2	6646.6	7732.9	9296.1	11211.5
66°	4548.5	4521.7	4609.4	4768.4	4992.8	5334.5	5752.1	6438.6	7505.5	9110.3	11131.2
67.5°	4215.6	4202.3	4243.9	4368.7	4535.1	4856.1	5291.4	5982.4	6967.6	8551.6	10542.8
70°	3426.6	3396.9	3429.6	3486.0	3549.9	3628.7	3896.1	4444.5	5278.1	6813.1	8493.7
72.5°	2334.4	2319.6	2380.5	2466.7	2637.6	2717.8	2823.3	2912.5	3206.7	4294.4	5924.5
75°	1775.7	1784.6	1861.9	2004.5	2224.5	2462.2	2694.0	2778.7	2680.6	2595.9	3362.7
77.5°	995.6	1047.6	1141.2	1322.5	1555.8	1891.6	2295.8	2741.6	2964.5	2909.5	2720.8
80°	410.1	402.7	448.8	548.3	628.6	903.5	1381.9	1940.6	2567.7	2964.5	2902.1
82.5°	114.4	117.4	151.6	194.7	251.1	319.5	499.3	802.4	1307.6	2034.3	2662.8
85°	35.7	35.7	49.0	72.8	86.2	99.6	126.3	208.0	355.1	708.8	1436.9
87.5°	7.4	7.4	10.4	20.8	22.3	22.3	28.2	38.6	34.2	31.2	139.7
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):

	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°	100°
0°	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8
2.5°	2450.3	2447.4	2448.8	2450.3	2448.8	2448.8	2447.4	2445.9	2447.4	2447.4	2451.8
5°	2448.8	2447.4	2448.8	2448.8	2448.8	2450.3	2450.3	2450.3	2454.8	2454.8	2462.2
7.5°	2451.8	2451.8	2454.8	2454.8	2454.8	2454.8	2456.3	2459.2	2466.7	2465.2	2478.6
10°	2457.8	2460.7	2468.2	2469.6	2469.6	2474.1	2477.1	2483.0	2490.4	2493.4	2505.3
12.5°	2465.2	2480.0	2493.4	2496.4	2500.8	2508.3	2512.7	2515.7	2529.1	2533.5	2548.4
15°	2474.1	2494.9	2511.2	2517.2	2523.1	2532.1	2538.0	2542.5	2554.3	2560.3	2578.1
17.5°	2475.6	2499.4	2518.7	2527.6	2535.0	2545.4	2554.3	2563.3	2576.6	2585.5	2603.4
20°	2474.1	2505.3	2535.0	2546.9	2554.3	2573.7	2587.0	2598.9	2615.3	2624.2	2642.0
22.5°	2490.4	2526.1	2566.2	2581.1	2593.0	2619.7	2637.6	2656.9	2677.7	2683.6	2697.0
25°	2529.1	2566.2	2616.7	2637.6	2658.4	2694.0	2719.3	2747.5	2768.3	2771.3	2775.7
27.5°	2594.5	2628.6	2689.6	2720.8	2754.9	2805.5	2842.6	2870.8	2900.6	2900.6	2897.6
30°	2726.7	2734.1	2798.0	2838.2	2888.7	2963.0	3018.0	3049.2	3071.4	3071.4	3046.2
32.5°	2897.6	2888.7	2946.6	2989.7	3059.6	3163.6	3237.9	3261.6	3285.4	3278.0	3234.9
35°	3144.3	3119.0	3151.7	3217.1	3295.8	3438.5	3515.7	3569.2	3584.1	3563.3	3494.9
37.5°	3454.8	3451.8	3468.2	3541.0	3628.7	3812.9	3891.7	3925.9	3914.0	3876.8	3756.5
40°	3783.2	3774.3	3763.9	3812.9	3911.0	4132.4	4272.1	4289.9	4273.6	4218.6	4067.0
42.5°	4221.6	4221.6	4172.5	4185.9	4267.6	4515.8	4680.7	4737.2	4738.7	4658.4	4456.3
45°	4824.9	4818.9	4732.7	4711.9	4774.3	5018.0	5230.5	5261.7	5261.7	5156.2	4934.8
47.5°	5550.0	5542.6	5457.9	5385.1	5397.0	5660.0	5836.8	5884.3	5842.7	5764.0	5501.0
50°	6367.3	6353.9	6267.7	6199.4	6169.6	6435.6	6585.7	6608.0	6547.1	6453.5	6168.2
52.5°	7196.4	7236.6	7186.0	7148.9	7159.3	7331.7	7486.2	7380.7	7349.5	7248.4	6961.7
55°	8059.8	8183.1	8294.5	8261.9	8300.5	8468.4	8498.1	8358.4	8302.0	8229.2	7909.7
57.5°	8929.0	9288.6	9654.2	9756.7	9851.8	10092.5	10058.4	9829.5	9872.6	9981.1	9621.5
60°	10143.1	11181.7	12109.0	12279.8	12575.6	12780.6	12826.7	12782.1	12982.7	12926.2	12608.2
62.5°	12007.9	13739.0	15028.8	15349.8	15647.0	15636.6	15480.6	15320.1	15517.7	15517.7	14687.1
65°	13339.3	15303.7	16684.2	16950.2	16938.3	16580.2	16211.7	15890.7	15862.5	15642.5	14428.5
66°	13401.7	15424.1	16776.3	17008.1	16919.0	16342.4	15901.1	15493.9	15320.1	15014.0	13770.3
67.5°	12840.0	15083.8	16476.2	16678.2	16443.5	15617.3	15009.5	14464.2	14211.6	13696.0	12525.0
70°	10532.4	12963.4	14988.7	15401.8	15135.8	14089.7	13257.6	12520.6	12037.6	11293.2	10449.2
72.5°	7688.3	9571.0	11764.2	12435.9	12394.3	11431.4	10761.2	10086.6	9452.1	8774.5	8157.8
75°	4997.2	6226.1	7449.0	7841.3	7652.6	7095.4	6615.4	6221.7	5619.8	5148.8	5034.4
77.5°	2853.0	3486.0	3297.3	3248.3	3012.0	2431.0	1616.7	1133.8	1023.8	1277.9	1401.2
80°	2714.8	2460.7	2014.9	1817.3	1670.2	1138.2	597.3	420.5	368.5	377.4	405.7
82.5°	3061.0	3190.3	2609.3	2179.9	1897.6	1384.9	756.3	352.2	257.1	304.6	341.8
85°	2294.3	3230.4	3202.2	2713.3	2225.9	1595.9	894.5	269.0	154.5	214.0	279.4
87.5°	465.1	765.3	737.0	647.9	551.3	384.9	150.1	84.7	77.3	105.5	160.5
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8	2451.8
2.5°	2454.8	2454.8	2457.8	2462.2	2463.7	2463.7	2466.7	2463.7	2469.6	2471.1	2472.6
5°	2468.2	2472.6	2475.6	2483.0	2487.5	2490.4	2494.9	2491.9	2497.9	2499.4	2502.3
7.5°	2483.0	2490.4	2496.4	2499.4	2505.3	2505.3	2506.8	2503.8	2502.3	2497.9	2496.4
10°	2509.8	2514.2	2521.6	2518.7	2515.7	2505.3	2496.4	2483.0	2475.6	2462.2	2454.8
12.5°	2552.9	2555.8	2555.8	2542.5	2523.1	2499.4	2477.1	2454.8	2436.9	2422.1	2413.2
15°	2582.6	2588.5	2581.1	2561.8	2533.5	2500.8	2471.1	2441.4	2417.6	2398.3	2386.4
17.5°	2604.9	2603.4	2590.0	2563.3	2536.5	2508.3	2481.5	2450.3	2420.6	2392.4	2374.5
20°	2639.0	2624.2	2600.4	2572.2	2543.9	2520.2	2499.4	2469.6	2438.4	2399.8	2373.1
22.5°	2685.1	2658.4	2624.2	2594.5	2567.7	2545.4	2521.6	2496.4	2463.7	2420.6	2383.5
25°	2750.5	2704.4	2665.8	2636.1	2612.3	2587.0	2560.3	2527.6	2494.9	2450.3	2405.7
27.5°	2850.0	2781.7	2732.7	2705.9	2683.6	2649.4	2615.3	2576.6	2535.0	2489.0	2438.4
30°	2970.4	2888.7	2832.2	2808.4	2781.7	2743.1	2705.9	2652.4	2594.5	2539.5	2477.1
32.5°	3111.6	3028.4	2971.9	2954.1	2911.0	2866.4	2814.4	2743.1	2667.3	2585.5	2511.2
35°	3325.5	3220.0	3168.0	3126.4	3067.0	3013.5	2925.8	2832.2	2723.7	2615.3	2523.1
37.5°	3545.5	3438.5	3385.0	3327.0	3249.8	3151.7	3034.3	2900.6	2756.4	2622.7	2509.8
40°	3839.7	3723.8	3655.4	3566.3	3441.4	3288.4	3114.5	2931.8	2756.4	2590.0	2453.3
42.5°	4182.9	4075.9	3970.4	3823.3	3622.7	3399.8	3156.1	2921.4	2708.9	2517.2	2373.1
45°	4658.4	4475.7	4307.8	4071.5	3778.8	3465.2	3160.6	2872.3	2627.2	2414.7	2254.2
47.5°	5193.4	4957.1	4659.9	4289.9	3890.2	3490.5	3117.5	2780.2	2497.9	2267.6	2092.2
50°	5810.0	5447.5	4991.3	4463.8	3946.7	3456.3	3015.0	2625.7	2319.6	2055.1	1867.8
52.5°	6515.9	5963.1	5291.4	4587.1	3937.8	3352.3	2845.6	2422.1	2080.3	1799.5	1615.2
55°	7299.0	6524.8	5578.2	4665.9	3857.5	3150.2	2579.6	2135.3	1783.1	1506.7	1344.8
57.5°	8679.4	7510.0	6125.1	4771.4	3689.6	2844.1	2242.3	1772.7	1454.7	1220.0	1065.4
60°	11244.1	9232.2	7160.8	5019.5	3437.0	2460.7	1817.3	1390.8	1124.9	954.0	839.6
62.5°	12831.1	10444.7	7666.0	4983.9	3026.9	1936.2	1349.2	1031.2	821.7	708.8	637.5
65°	12455.2	9969.2	7049.3	4281.0	2355.2	1373.0	893.1	674.6	564.7	506.7	472.5
66°	11944.0	9437.2	6527.8	3833.7	2052.1	1147.1	737.0	566.1	485.9	442.8	425.0
67.5°	10872.7	8465.4	5630.2	3070.0	1538.0	854.4	543.9	444.3	395.3	373.0	361.1
70°	9099.9	6820.5	3982.3	1812.9	833.6	463.6	347.7	309.1	297.2	289.8	285.3
72.5°	7035.9	4937.8	2327.0	891.6	420.5	300.2	264.5	248.2	243.7	243.7	245.2
75°	4432.6	2838.2	1041.6	429.4	285.3	242.2	225.9	218.4	219.9	221.4	219.9
77.5°	1472.6	979.2	433.9	304.6	248.2	219.9	206.5	203.6	206.5	208.0	208.0
80°	423.5	370.0	313.5	269.0	227.3	205.1	193.2	191.7	199.1	200.6	197.6
82.5°	325.4	304.6	283.8	260.0	218.4	193.2	188.7	190.2	194.7	191.7	178.3
85°	298.7	295.7	212.5	211.0	190.2	184.3	179.8	181.3	176.8	160.5	145.6
87.5°	167.9	156.0	120.4	121.8	141.2	145.6	120.4	127.8	118.9	104.0	95.1
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):

	160°	165°	170°	175°	180°
0°	2451.8	2451.8	2451.8	2451.8	2451.8
2.5°	2475.6	2474.1	2474.1	2478.6	2472.6
5°	2503.8	2502.3	2502.3	2506.8	2502.3
7.5°	2490.4	2486.0	2483.0	2481.5	2481.5
10°	2445.9	2441.4	2432.5	2429.5	2426.5
12.5°	2399.8	2395.3	2384.9	2384.9	2382.0
15°	2371.6	2365.6	2358.2	2353.7	2350.8
17.5°	2356.7	2347.8	2338.9	2334.4	2331.4
20°	2350.8	2338.9	2328.5	2321.0	2321.0
22.5°	2352.3	2337.4	2325.5	2316.6	2313.6
25°	2367.1	2344.8	2330.0	2321.0	2318.1
27.5°	2387.9	2361.2	2341.8	2330.0	2325.5
30°	2416.1	2379.0	2352.3	2337.4	2331.4
32.5°	2435.5	2383.5	2349.3	2328.5	2321.0
35°	2434.0	2367.1	2325.5	2298.8	2289.8
37.5°	2407.2	2328.5	2273.5	2240.8	2225.9
40°	2347.8	2257.2	2199.2	2168.0	2150.2
42.5°	2261.6	2163.5	2111.5	2077.4	2058.0
45°	2126.4	2029.8	1965.9	1939.2	1913.9
47.5°	1939.2	1841.1	1786.1	1747.5	1731.1
50°	1719.2	1621.2	1563.2	1532.0	1517.1
52.5°	1478.5	1384.9	1343.3	1313.6	1292.8
55°	1228.9	1142.7	1124.9	1092.2	1072.9
57.5°	994.1	943.6	927.2	894.5	878.2
60°	777.1	760.8	743.0	722.2	713.3
62.5°	601.8	586.9	582.5	569.1	567.6
65°	459.2	460.6	457.7	454.7	451.7
66°	417.6	416.1	417.6	414.6	413.1
67.5°	355.1	361.1	365.5	364.1	364.1
70°	288.3	292.7	298.7	297.2	297.2
72.5°	246.7	254.1	257.1	255.6	255.6
75°	222.9	230.3	230.3	227.3	225.9
77.5°	208.0	211.0	208.0	205.1	202.1
80°	193.2	190.2	185.7	181.3	178.3
82.5°	167.9	160.5	156.0	148.6	148.6
85°	135.2	129.3	118.9	111.4	104.0
87.5°	87.7	84.7	77.3	58.0	46.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)