

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: P159815

Luminaire Tested: **VST-F09-LED-E-U-T4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P159815
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33707)
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-T4
Description: VENTUS LED SITE/ROADWAY LUMINAIRE
(9) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (63) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 22113.5 lumens
Efficiency: N/A
Efficacy: 94.2 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - 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



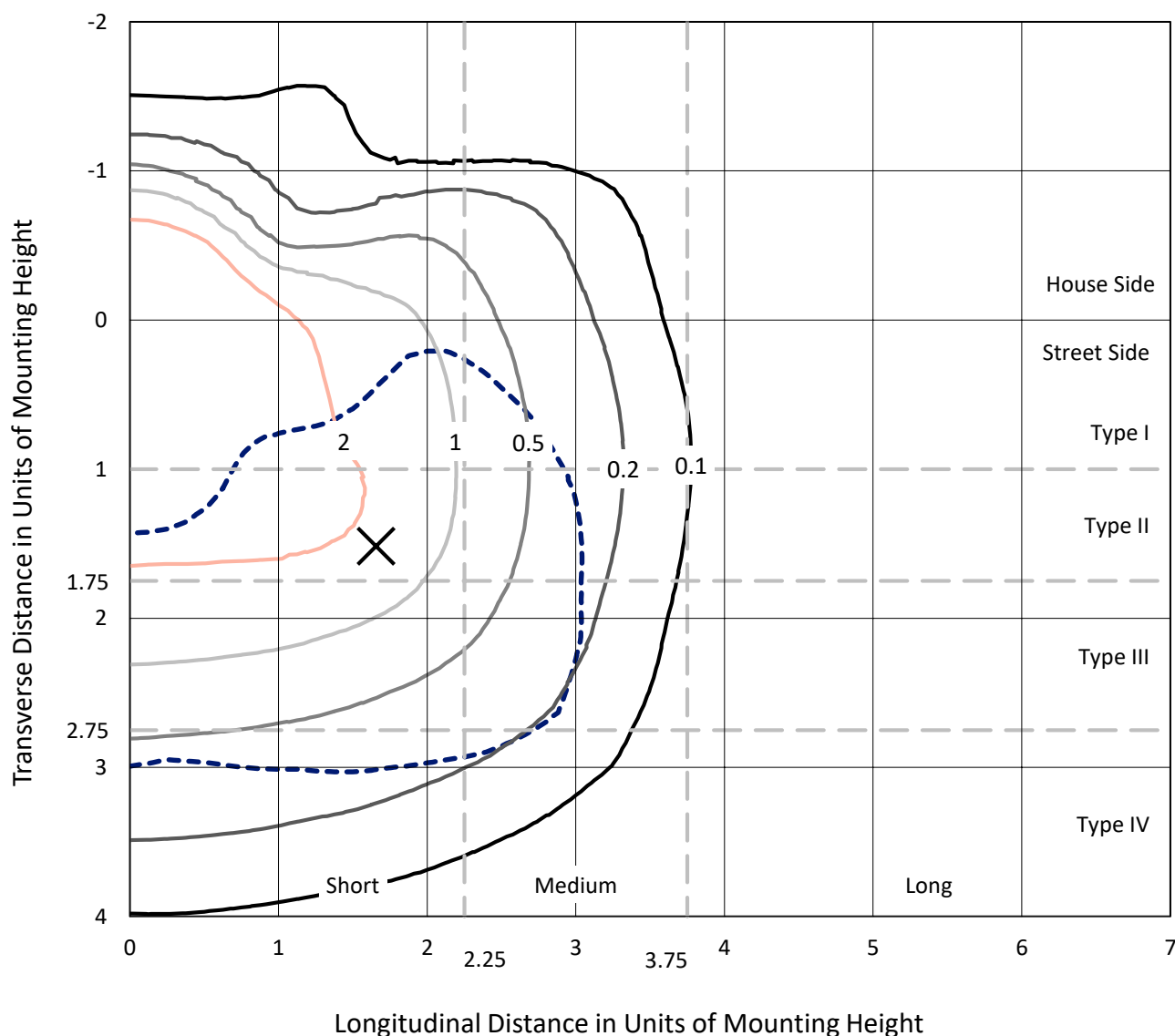
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

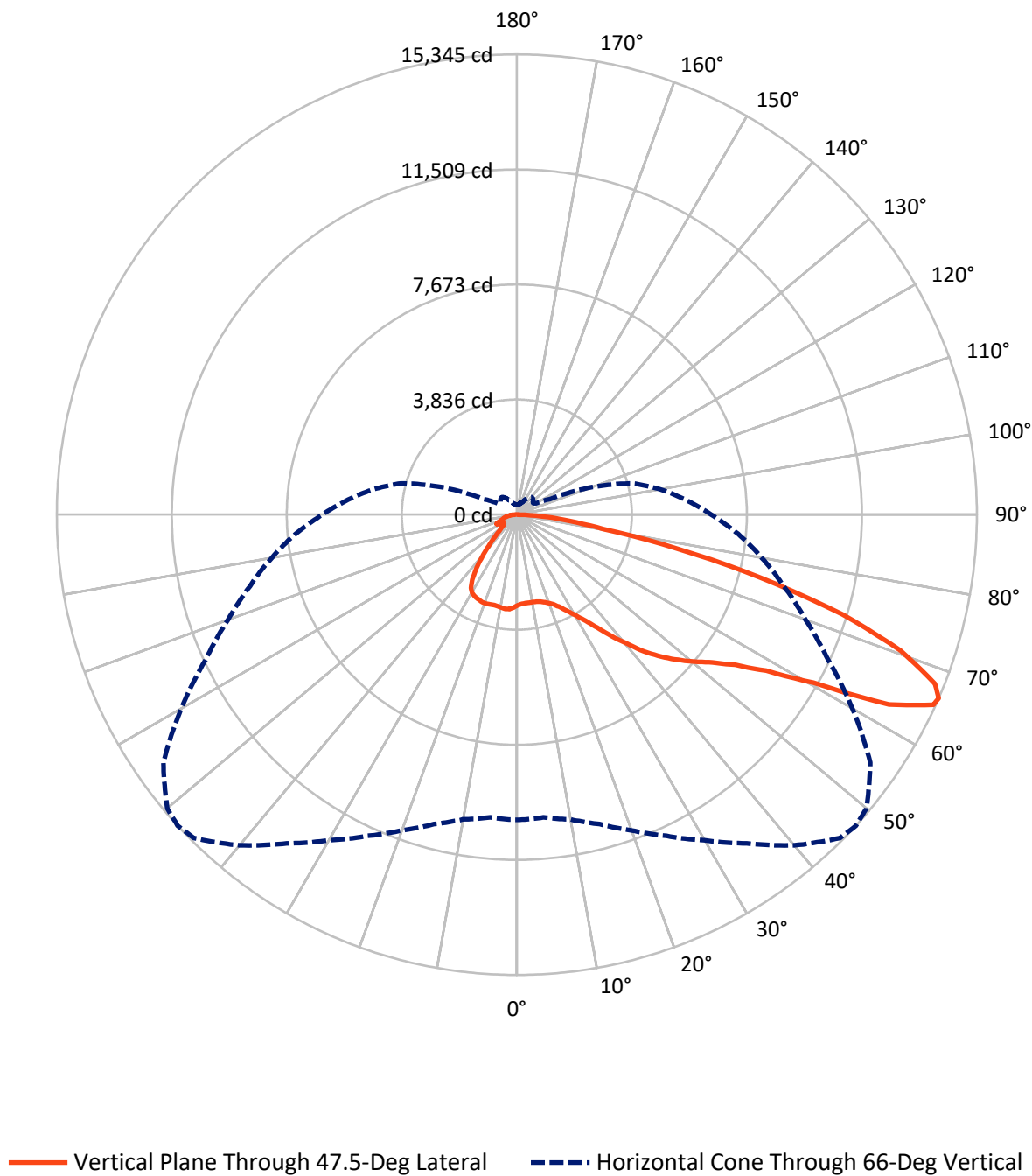


Based on 25 foot mounting height. Maximum calculated value = 4.9 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4578.5	0.0	4578.5
	% Fixture	20.7	0.0	20.7
Street Side	Lumens	17535.0	0.0	17535.0
	% Fixture	79.3	0.0	79.3
Total	Lumens	22113.5	0.0	22113.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	291.6	1.3
10°-20°	874.4	4.0
20°-30°	1492.0	6.7
30°-40°	2251.9	10.2
40°-50°	2927.0	13.2
50°-60°	4015.6	18.2
60°-70°	6177.2	27.9
70°-80°	3570.8	16.1
80°-90°	513.0	2.3
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°	22113.5	100.0
0°-180°	22113.5	100.0

Coefficient of Utilization



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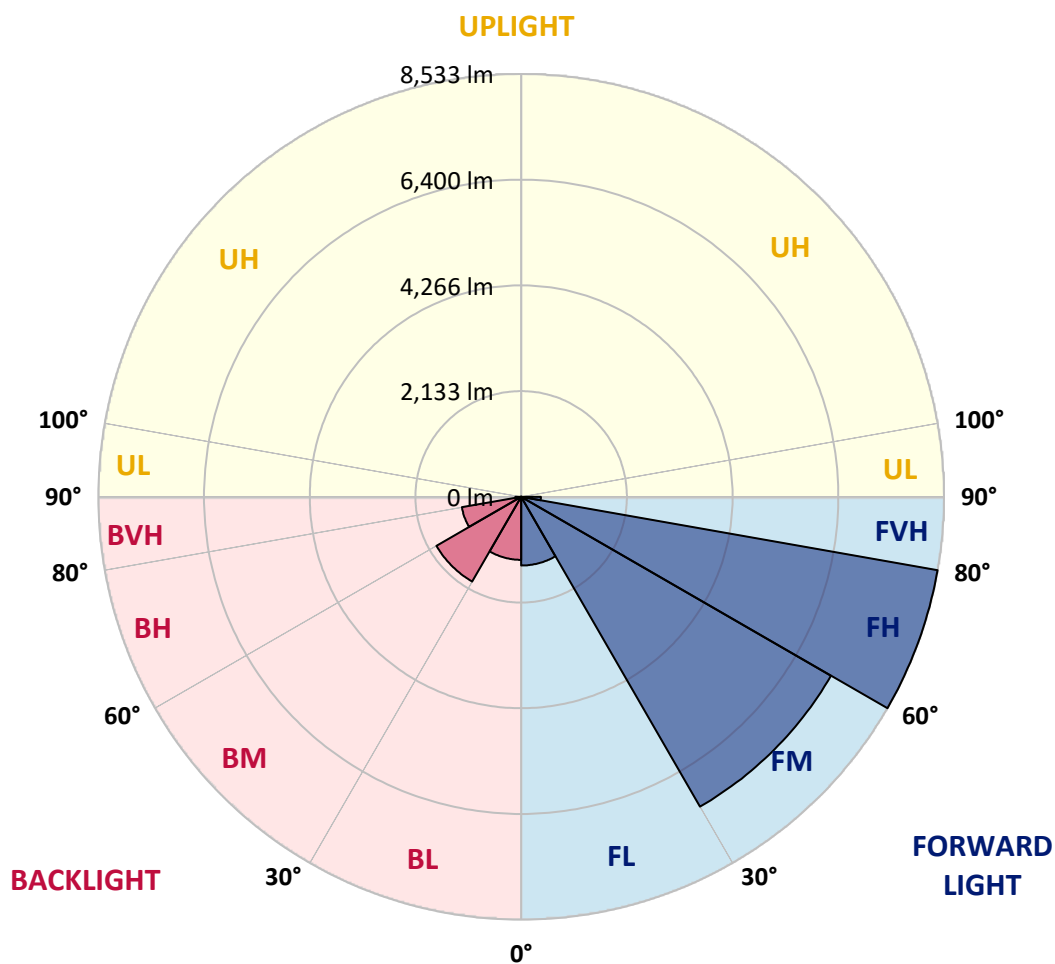
CATALOG NUMBER: VST-F09-LED-E-U-T4

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1386.1	6.3			
FM	(30°-60°)	7219.1	32.6			
FH	(60°-80°)	8532.9	38.6			G4/12000
FVH	(80°-90°)	397.0	1.8			G3/500
BL	(0°-30°)	1271.9	5.8	B3/2500		
BM	(30°-60°)	1975.4	8.9	B2/2500		
BH	(60°-80°)	1215.2	5.5	B3/2500		G3/2500
BVH	(80°-90°)	116.0	0.5			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	47.5°
0°	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4
2.5°	2948.1	2949.6	2951.1	2951.1	2955.5	2955.5	2963.0	2967.4	2968.9	2977.8	2983.8
5°	2893.1	2891.6	2893.1	2896.1	2903.5	2909.5	2924.3	2934.7	2943.7	2958.5	2965.9
7.5°	2869.4	2872.3	2875.3	2876.8	2882.7	2897.6	2911.0	2921.4	2939.2	2957.0	2964.5
10°	2900.6	2905.0	2900.6	2903.5	2903.5	2916.9	2922.9	2930.3	2943.7	2960.0	2964.5
12.5°	2973.4	2982.3	2973.4	2965.9	2960.0	2971.9	2968.9	2963.0	2970.4	2974.9	2974.9
15°	3093.7	3093.7	3087.8	3077.4	3062.5	3064.0	3050.6	3037.3	3031.3	3020.9	3013.5
17.5°	3211.1	3208.2	3194.8	3181.4	3171.0	3166.5	3147.2	3129.4	3108.6	3092.3	3074.4
20°	3325.5	3337.4	3321.1	3301.8	3285.4	3275.0	3260.2	3224.5	3199.2	3172.5	3154.7
22.5°	3523.2	3512.8	3494.9	3466.7	3450.4	3432.5	3401.3	3362.7	3324.1	3291.4	3269.1
25°	3726.7	3716.3	3691.1	3670.3	3646.5	3631.6	3597.5	3549.9	3512.8	3462.3	3432.5
27.5°	3945.2	3936.3	3906.5	3890.2	3873.9	3856.0	3826.3	3777.3	3743.1	3685.1	3653.9
30°	4191.9	4190.4	4150.2	4147.3	4123.5	4104.2	4083.4	4041.8	4007.6	3949.6	3912.5
32.5°	4454.9	4448.9	4420.7	4411.8	4428.1	4414.7	4385.0	4341.9	4297.4	4263.2	4221.6
35°	4829.3	4818.9	4802.6	4810.0	4820.4	4857.6	4811.5	4774.3	4720.8	4676.3	4618.3
37.5°	5102.7	5087.9	5107.2	5148.8	5208.2	5236.5	5276.6	5278.1	5252.8	5193.4	5142.9
40°	5353.9	5347.9	5392.5	5450.4	5560.4	5640.6	5716.4	5753.6	5762.5	5723.9	5648.1
42.5°	5566.3	5584.2	5643.6	5732.8	5887.3	6009.2	6150.3	6238.0	6293.0	6272.2	6238.0
45°	5819.0	5827.9	5900.7	6013.6	6160.7	6362.8	6548.6	6697.2	6793.7	6792.3	6753.6
47.5°	6135.5	6137.0	6199.4	6331.6	6489.1	6694.2	6929.0	7126.6	7254.4	7260.3	7230.6
50°	6511.4	6508.4	6576.8	6701.6	6869.5	7067.2	7316.8	7563.5	7741.8	7741.8	7698.7
52.5°	6995.8	6989.9	7027.0	7137.0	7299.0	7507.0	7755.1	8040.4	8233.6	8275.2	8181.6
55°	7642.2	7651.1	7660.0	7756.6	7894.8	8059.8	8345.1	8608.1	8866.6	8890.4	8835.4
57.5°	8389.6	8359.9	8423.8	8581.3	8738.8	8945.4	9147.5	9458.0	9764.1	9816.2	9808.7
60°	9557.6	9519.0	9584.3	9784.9	9958.8	10284.2	10630.4	11031.7	11394.2	11501.2	11371.9
62.5°	10631.9	10679.5	10768.6	11001.9	11254.5	11688.4	12208.5	12896.5	13584.5	13959.0	13932.2
65°	10535.3	10490.8	10661.7	10979.6	11437.3	11990.1	12636.5	13465.6	14456.8	15208.6	15275.5
66°	10177.2	10131.2	10315.4	10679.5	11202.5	11817.7	12535.4	13379.4	14392.9	15242.8	15345.4
67.5°	9585.8	9539.8	9747.8	10079.2	10618.6	11392.7	12168.4	13091.2	14144.7	14959.0	15042.2
70°	8444.6	8382.2	8544.2	8918.6	9355.5	10104.4	10842.9	11820.7	12902.5	13553.3	13584.5
72.5°	7153.3	7007.7	7180.1	7468.4	7780.4	8400.0	9043.5	9712.1	10574.0	11175.8	11348.2
75°	5190.4	5266.2	5316.7	5506.9	5713.5	6226.1	6603.5	7163.7	7830.9	8266.3	8404.5
77.5°	2753.5	2867.9	2939.2	3129.4	3471.2	3862.0	4270.6	4616.8	5055.2	5298.9	5468.3
80°	1545.4	1625.6	1741.5	1891.6	2058.0	2358.2	2600.4	2778.7	2841.1	2884.2	2922.9
82.5°	850.0	1053.5	1225.9	1329.9	1428.0	1548.4	1692.5	1841.1	1888.6	1817.3	1780.2
85°	132.2	194.7	592.9	723.7	787.6	879.7	983.7	1093.7	1095.1	942.1	1028.3
87.5°	37.1	41.6	84.7	127.8	124.8	101.0	124.8	227.3	133.7	66.9	77.3
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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CATALOG NUMBER: VST-F09-LED-E-U-T4

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4
2.5°	2986.7	2989.7	2997.2	3004.6	3012.0	3019.4	3023.9	3031.3	3037.3	3046.2	3056.6
5°	2974.9	2982.3	2995.7	3012.0	3026.9	3040.2	3050.6	3065.5	3078.9	3090.8	3108.6
7.5°	2974.9	2989.7	3012.0	3029.8	3043.2	3059.6	3075.9	3090.8	3105.6	3117.5	3129.4
10°	2976.3	2991.2	3013.5	3034.3	3049.2	3067.0	3080.4	3093.7	3110.1	3117.5	3132.4
12.5°	2982.3	2988.2	3004.6	3025.4	3043.2	3061.0	3074.4	3087.8	3105.6	3108.6	3119.0
15°	3012.0	3003.1	3007.6	3022.4	3041.7	3056.6	3071.4	3081.8	3093.7	3090.8	3099.7
17.5°	3067.0	3044.7	3035.8	3037.3	3046.2	3056.6	3062.5	3064.0	3065.5	3052.1	3053.6
20°	3141.3	3110.1	3089.3	3078.9	3067.0	3056.6	3040.2	3020.9	3003.1	2976.3	2973.4
22.5°	3252.7	3206.7	3184.4	3156.1	3120.5	3075.9	3035.8	2988.2	2949.6	2909.5	2894.6
25°	3414.7	3367.2	3343.4	3298.8	3234.9	3171.0	3113.1	3049.2	2992.7	2945.1	2922.9
27.5°	3631.6	3584.1	3558.8	3512.8	3434.0	3370.1	3289.9	3221.5	3153.2	3083.3	3055.1
30°	3894.7	3853.1	3824.8	3787.7	3719.3	3649.5	3555.9	3450.4	3341.9	3230.4	3175.5
32.5°	4205.2	4159.2	4138.4	4095.3	4023.9	3951.1	3847.1	3711.9	3530.6	3355.3	3245.3
35°	4593.1	4541.0	4517.3	4460.8	4377.6	4270.6	4159.2	3977.9	3732.7	3489.0	3309.2
37.5°	5111.7	4995.7	4917.0	4787.7	4654.0	4503.9	4344.9	4159.2	3869.4	3567.8	3318.1
40°	5570.8	5453.4	5301.9	5116.1	4908.1	4701.5	4520.2	4309.2	3994.2	3624.2	3289.9
42.5°	6141.4	5933.4	5691.2	5440.0	5163.7	4909.6	4694.1	4445.9	4078.9	3639.1	3211.1
45°	6663.0	6414.8	6090.9	5756.6	5413.3	5093.8	4851.6	4575.2	4151.7	3639.1	3116.0
47.5°	7138.5	6841.3	6453.5	6037.4	5637.7	5288.5	5013.6	4707.5	4254.3	3685.1	3087.8
50°	7578.3	7236.6	6795.2	6312.3	5863.5	5490.6	5194.9	4876.9	4410.3	3804.0	3156.1
52.5°	8041.9	7679.4	7141.5	6628.8	6134.0	5734.3	5419.2	5086.4	4612.4	3991.2	3276.5
55°	8649.7	8224.7	7614.0	7049.3	6505.5	6064.1	5706.0	5337.5	4833.8	4202.3	3423.6
57.5°	9608.1	8991.5	8380.7	7646.7	7134.0	6553.0	6160.7	5737.2	5193.4	4477.2	3645.0
60°	11285.8	10527.9	9793.9	8949.8	8316.8	7709.1	7116.2	6563.4	5908.1	5098.3	4130.9
62.5°	13681.1	12911.4	11758.3	10725.6	9770.1	8964.7	8192.0	7489.2	6648.1	5762.5	4729.8
65°	15112.1	14230.9	12856.4	11468.5	10308.0	9309.4	8425.3	7564.9	6657.0	5793.7	4911.0
66°	15226.5	14392.9	12924.7	11458.1	10253.0	9217.3	8297.5	7407.4	6477.2	5651.0	4851.6
67.5°	15014.0	14296.3	12785.1	11256.0	10024.2	8905.3	7960.2	7027.0	6092.4	5327.1	4654.0
70°	13514.7	12996.1	11700.3	10267.9	9039.0	8052.3	7055.3	6157.8	5272.1	4628.7	4129.4
72.5°	11079.2	10422.4	9516.0	8553.1	7585.7	6710.5	5804.1	5040.3	4297.4	3829.3	3475.6
75°	8138.5	7547.1	6548.6	5948.2	5309.3	4759.5	4148.8	3425.1	2897.6	2662.8	2576.6
77.5°	5159.2	4517.3	3674.7	3012.0	2590.0	2225.9	1754.9	1395.3	1117.4	1163.5	1288.3
80°	2606.3	2245.3	1680.6	1326.9	1147.1	954.0	754.9	572.1	417.6	477.0	539.4
82.5°	1673.2	1396.8	1113.0	876.7	740.0	652.3	521.6	378.9	282.3	318.0	389.3
85°	1007.5	851.4	679.1	555.7	482.9	402.7	295.7	209.5	208.0	222.9	274.9
87.5°	153.1	218.4	126.3	135.2	142.7	153.1	135.2	114.4	99.6	129.3	163.5
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°	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4	3025.4
2.5°	3067.0	3070.0	3075.9	3083.3	3081.8	3092.3	3098.2	3092.3	3105.6	3105.6	3113.1
5°	3123.5	3127.9	3138.3	3145.7	3148.7	3157.6	3160.6	3159.1	3162.1	3163.6	3166.5
7.5°	3139.8	3151.7	3156.1	3160.6	3162.1	3165.1	3165.1	3162.1	3162.1	3160.6	3163.6
10°	3135.3	3139.8	3142.8	3141.3	3141.3	3138.3	3136.8	3135.3	3135.3	3132.4	3136.8
12.5°	3120.5	3120.5	3120.5	3117.5	3117.5	3116.0	3116.0	3116.0	3119.0	3120.5	3127.9
15°	3090.8	3090.8	3093.7	3092.3	3096.7	3104.1	3113.1	3119.0	3126.4	3127.9	3132.4
17.5°	3044.7	3046.2	3055.1	3074.4	3093.7	3116.0	3132.4	3136.8	3130.9	3116.0	3105.6
20°	2964.5	2983.8	3019.4	3065.5	3108.6	3136.8	3144.3	3126.4	3098.2	3059.6	3038.8
22.5°	2893.1	2931.8	2995.7	3071.4	3124.9	3144.3	3122.0	3080.4	3029.8	2985.3	2954.1
25°	2921.4	2965.9	3032.8	3098.2	3132.4	3122.0	3077.4	3018.0	2964.5	2912.5	2861.9
27.5°	3040.2	3084.8	3132.4	3151.7	3139.8	3101.2	3038.8	2974.9	2903.5	2829.2	2766.8
30°	3153.2	3178.4	3181.4	3162.1	3119.0	3056.6	2983.8	2909.5	2818.8	2729.7	2650.9
32.5°	3188.8	3159.1	3105.6	3050.6	2991.2	2927.3	2842.6	2744.5	2648.0	2546.9	2459.2
35°	3178.4	3058.1	2925.8	2808.4	2737.1	2664.3	2587.0	2456.3	2347.8	2261.6	2205.1
37.5°	3084.8	2864.9	2661.3	2490.4	2379.0	2292.8	2178.4	2069.9	1976.3	1937.7	1891.6
40°	2954.1	2618.2	2335.9	2096.7	1980.8	1870.8	1743.0	1659.8	1633.1	1597.4	1598.9
42.5°	2766.8	2330.0	1965.9	1691.0	1564.7	1444.3	1353.7	1304.7	1306.1	1276.4	1282.4
45°	2569.2	2040.2	1582.5	1309.1	1184.3	1081.8	1031.2	1016.4	1017.9	1019.4	1010.4
47.5°	2448.8	1814.3	1269.0	992.6	882.7	824.7	798.0	790.5	792.0	793.5	783.1
50°	2431.0	1696.9	1059.5	759.3	688.0	655.3	641.9	634.5	634.5	628.6	619.6
52.5°	2481.5	1667.2	956.9	658.3	589.9	560.2	549.8	543.9	534.9	523.1	506.7
55°	2561.8	1694.0	925.7	624.1	557.2	527.5	514.1	511.2	496.3	474.0	447.3
57.5°	2710.4	1790.6	946.5	633.0	563.2	536.4	527.5	524.5	503.7	469.6	435.4
60°	3136.8	2071.4	1050.6	683.5	606.3	584.0	584.0	579.5	551.3	502.2	453.2
62.5°	3725.3	2483.0	1191.7	753.4	665.7	662.7	688.0	689.5	639.0	560.2	482.9
65°	4009.1	2676.2	1240.8	768.2	682.0	716.2	766.7	766.7	695.4	586.9	487.4
66°	4010.6	2671.7	1225.9	750.4	664.2	708.8	760.8	760.8	686.5	579.5	480.0
67.5°	3908.0	2588.5	1176.9	717.7	624.1	665.7	711.8	710.3	643.4	549.8	459.2
70°	3505.3	2289.8	1037.2	664.2	576.5	578.0	594.4	584.0	539.4	475.5	417.6
72.5°	3022.4	1915.4	899.0	630.0	539.4	511.2	497.8	488.9	460.6	422.0	386.3
75°	2318.1	1487.4	783.1	598.8	506.7	457.7	439.8	432.4	413.1	390.8	362.6
77.5°	1420.6	1019.4	664.2	548.3	469.6	425.0	405.7	390.8	371.5	350.7	331.4
80°	612.2	615.2	532.0	465.1	408.6	356.6	331.4	313.5	303.1	295.7	285.3
82.5°	428.0	441.3	405.7	361.1	312.0	274.9	252.6	248.2	249.6	249.6	246.7
85°	321.0	315.0	283.8	258.6	236.3	212.5	194.7	193.2	199.1	199.1	194.7
87.5°	185.7	187.2	160.5	150.1	156.0	133.7	121.8	123.3	138.2	136.7	133.7
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):

	160°	165°	170°	175°	180°
0°	3025.4	3025.4	3025.4	3025.4	3025.4
2.5°	3113.1	3117.5	3116.0	3120.5	3116.0
5°	3171.0	3169.5	3168.0	3174.0	3166.5
7.5°	3162.1	3163.6	3163.6	3163.6	3162.1
10°	3139.8	3145.7	3148.7	3154.7	3153.2
12.5°	3132.4	3141.3	3150.2	3159.1	3160.6
15°	3133.9	3139.8	3144.3	3148.7	3150.2
17.5°	3095.2	3093.7	3089.3	3086.3	3083.3
20°	3016.5	3009.0	3001.6	2989.7	2995.7
22.5°	2918.4	2897.6	2873.8	2854.5	2853.0
25°	2804.0	2765.3	2726.7	2701.4	2692.5
27.5°	2702.9	2656.9	2616.7	2594.5	2588.5
30°	2582.6	2541.0	2505.3	2486.0	2474.1
32.5°	2404.3	2371.6	2327.0	2312.1	2310.6
35°	2156.1	2130.8	2099.6	2093.7	2086.3
37.5°	1875.3	1866.3	1851.5	1833.7	1830.7
40°	1575.1	1581.0	1576.6	1566.2	1549.8
42.5°	1285.3	1295.7	1297.2	1304.7	1312.1
45°	1023.8	1032.7	1032.7	1040.2	1049.1
47.5°	786.1	780.1	784.6	792.0	796.5
50°	594.4	589.9	582.5	576.5	570.6
52.5°	478.5	469.6	448.8	442.8	436.9
55°	422.0	405.7	390.8	384.9	384.9
57.5°	405.7	384.9	368.5	361.1	358.1
60°	408.6	378.9	358.1	346.2	341.8
62.5°	422.0	380.4	352.2	338.8	334.3
65°	420.5	377.4	350.7	335.8	331.4
66°	413.1	373.0	347.7	334.3	331.4
67.5°	401.2	367.0	344.7	332.9	328.4
70°	377.4	355.1	338.8	328.4	323.9
72.5°	358.1	343.3	328.4	316.5	313.5
75°	340.3	325.4	312.0	306.1	301.6
77.5°	313.5	300.2	292.7	286.8	283.8
80°	277.9	269.0	260.0	254.1	249.6
82.5°	242.2	230.3	221.4	216.9	214.0
85°	197.6	190.2	176.8	167.9	166.4
87.5°	132.2	124.8	120.4	112.9	105.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)