

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: P159591

Luminaire Tested: **VST-E09-LED-E-U-T3-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P159591
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-E09-LED-E-U-T3-7050
Description: VENTUS LED SITE/ROADWAY LUMINAIRE
(9) LIGHTBARS WITH AccuLED OPTICS - TYPE 3 AREA
Light Source: (189) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 28243.8 lumens
Efficiency: N/A
Efficacy: 125.1 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): 225.7
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



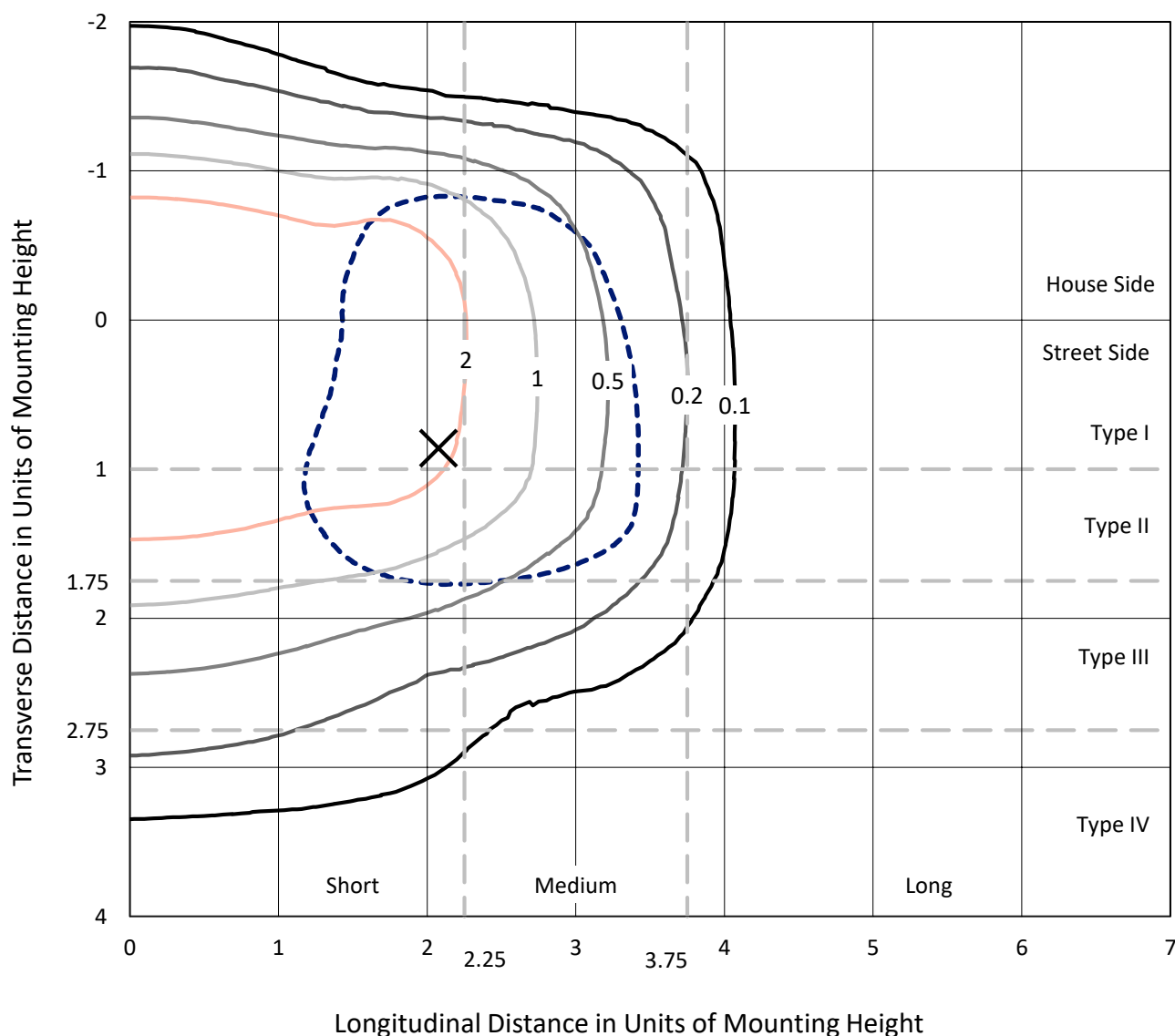
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

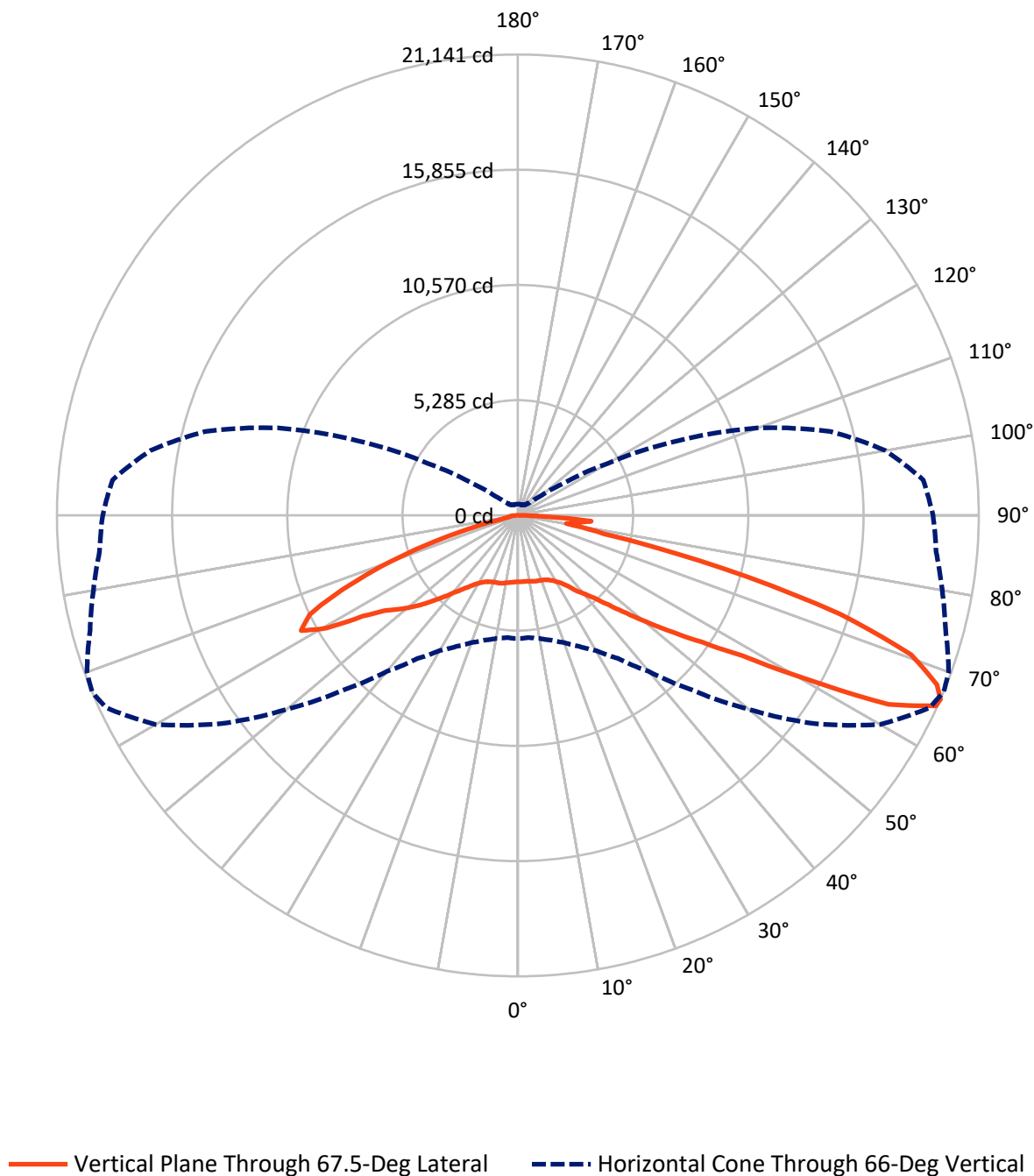


Based on 25 foot mounting height. Maximum calculated value = 4.9 fc
 Type II - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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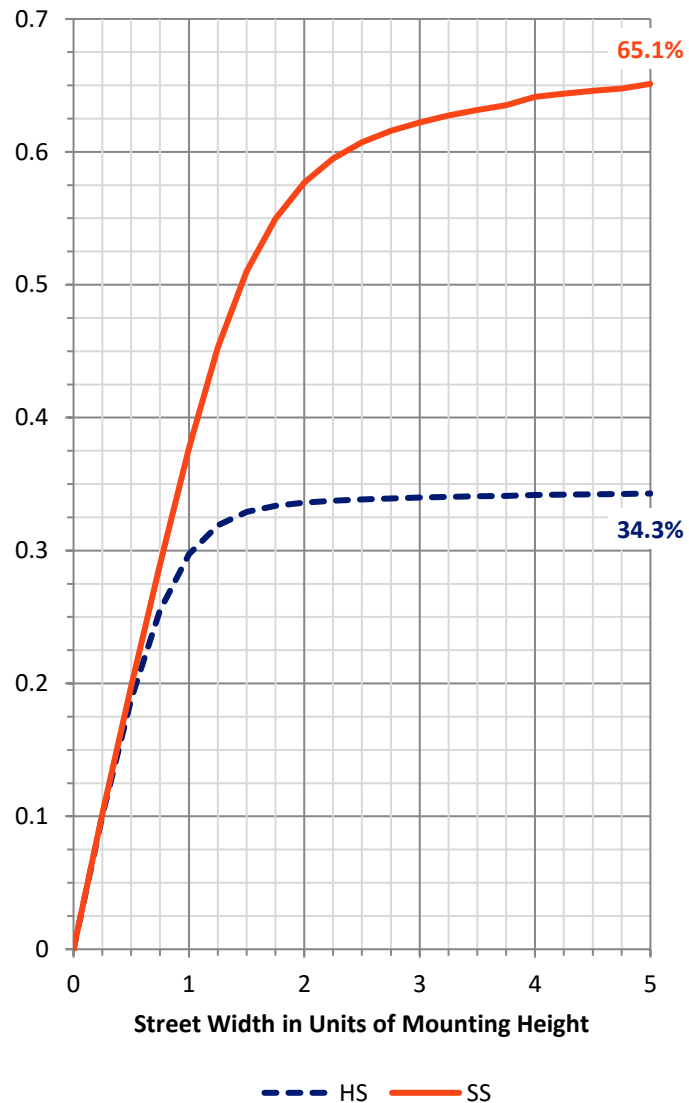
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	9773.6	0.0	9773.6
	% Fixture	34.6	0.0	34.6
Street Side	Lumens	18470.2	0.0	18470.2
	% Fixture	65.4	0.0	65.4
Total	Lumens	28243.8	0.0	28243.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	292.5	1.0
10°-20°	866.0	3.1
20°-30°	1488.6	5.3
30°-40°	2405.8	8.5
40°-50°	3987.0	14.1
50°-60°	6257.3	22.2
60°-70°	8554.9	30.3
70°-80°	3762.1	13.3
80°-90°	629.7	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°	28243.8	100.0
0°-180°	28243.8	100.0

Coefficient of Utilization



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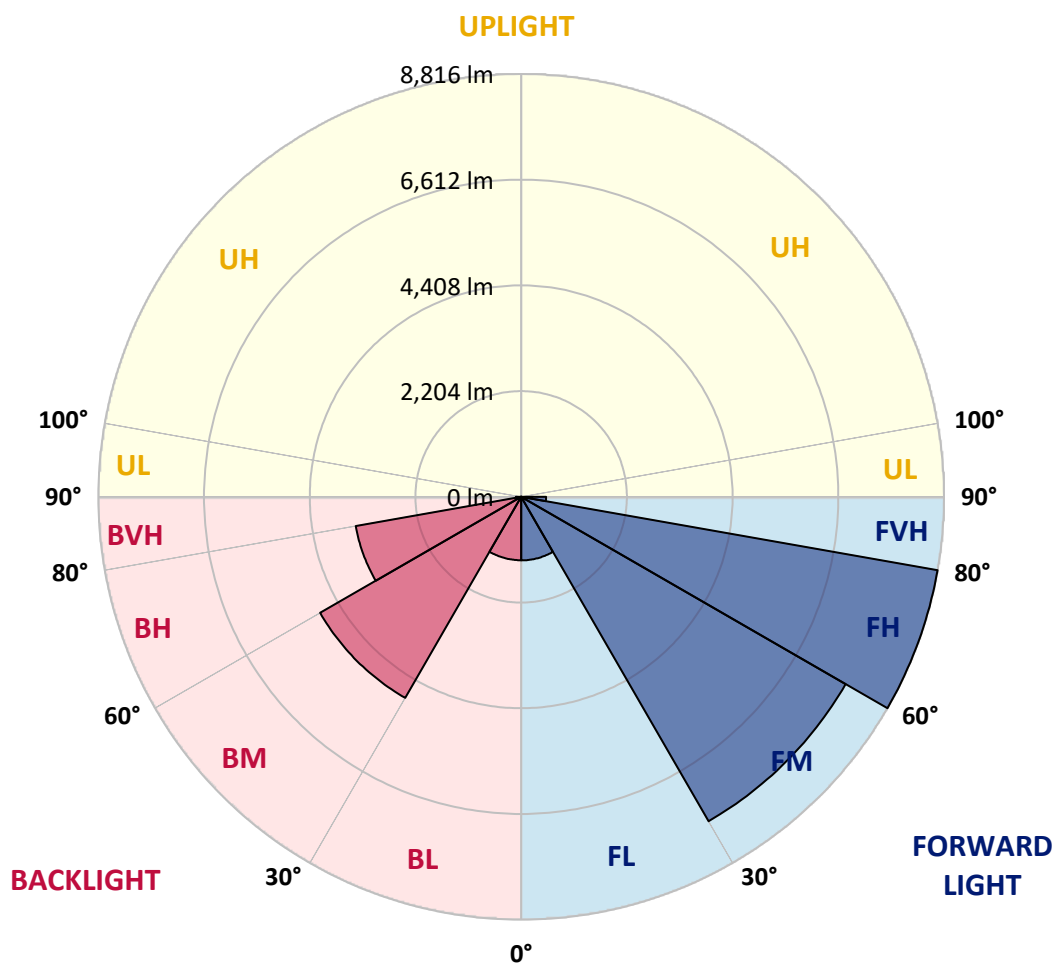
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1324.9	4.7			
FM	(30°-60°)	7810.3	27.7			
FH	(60°-80°)	8815.5	31.2			G4/12000
FVH	(80°-90°)	519.5	1.8			G4/750
BL	(0°-30°)	1322.1	4.7	B3/2500		
BM	(30°-60°)	4839.9	17.1	B3/5000		
BH	(60°-80°)	3501.5	12.4	B4/5000		G4/5000
BVH	(80°-90°)	110.2	0.4			G2/225
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°	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5
2.5°	3042.0	3042.0	3043.8	3042.0	3042.0	3040.1	3047.5	3047.5	3047.5	3045.7	3051.2
5°	3034.6	3034.6	3036.5	3036.5	3038.3	3036.5	3042.0	3043.8	3043.8	3043.8	3049.4
7.5°	3016.1	3021.7	3018.0	3019.8	3021.7	3027.2	3034.6	3038.3	3042.0	3047.5	3049.4
10°	2977.3	2986.6	2984.7	2990.3	2992.1	3008.7	3014.3	3021.7	3034.6	3042.0	3047.5
12.5°	2923.8	2929.3	2931.2	2938.6	2945.9	2966.3	2981.0	2994.0	3012.4	3030.9	3049.4
15°	2881.3	2885.0	2885.0	2892.4	2903.5	2921.9	2940.4	2962.6	2990.3	3021.7	3051.2
17.5°	2894.2	2903.5	2896.1	2894.2	2897.9	2909.0	2925.6	2944.1	2977.3	3012.4	3047.5
20°	2979.2	2981.0	2977.3	2968.1	2960.7	2962.6	2962.6	2966.3	2986.6	3014.3	3042.0
22.5°	3049.4	3056.8	3054.9	3056.8	3054.9	3062.3	3058.6	3051.2	3043.8	3045.7	3058.6
25°	3110.3	3117.7	3117.7	3123.3	3132.5	3147.3	3158.4	3156.5	3145.4	3130.6	3125.1
27.5°	3210.1	3210.1	3210.1	3215.6	3228.5	3247.0	3265.5	3276.6	3285.8	3271.0	3239.6
30°	3367.1	3368.9	3363.4	3365.2	3374.5	3398.5	3420.6	3437.2	3455.7	3453.9	3413.2
32.5°	3538.8	3546.2	3544.4	3551.8	3564.7	3586.9	3610.9	3636.7	3660.7	3675.5	3649.7
35°	3760.5	3767.9	3769.7	3780.8	3795.6	3828.8	3862.1	3895.3	3921.2	3932.2	3926.7
37.5°	4124.3	4126.2	4118.8	4102.2	4107.7	4133.6	4172.3	4225.9	4242.5	4253.6	4279.5
40°	4669.2	4663.6	4634.1	4619.3	4610.1	4621.2	4613.8	4656.3	4695.0	4696.9	4695.0
42.5°	5330.4	5313.8	5286.1	5282.4	5278.7	5275.0	5254.7	5256.5	5291.6	5300.9	5289.8
45°	5987.9	5967.6	5947.3	5965.8	5943.6	6000.9	6017.5	6061.8	6067.4	6085.8	6058.1
47.5°	6527.3	6529.1	6529.1	6555.0	6599.3	6708.3	6806.2	6891.1	6922.5	6966.8	6972.4
50°	6935.4	6946.5	6981.6	7064.7	7158.9	7341.8	7506.2	7659.5	7798.0	7849.7	7986.4
52.5°	7173.7	7203.3	7277.1	7415.7	7583.7	7820.2	8078.7	8339.2	8579.3	8782.4	8945.0
55°	7131.2	7153.4	7282.7	7498.8	7761.1	8078.7	8440.7	8817.5	9192.5	9536.0	9802.0
57.5°	6857.9	6872.6	7001.9	7245.7	7572.7	7999.3	8510.9	9070.6	9597.0	10151.1	10605.4
60°	6499.6	6521.7	6641.8	6833.9	7175.6	7629.9	8222.8	8981.9	9822.3	10694.1	11543.7
62.5°	6270.5	6265.0	6370.3	6542.0	6798.8	7210.6	7781.4	8680.9	9844.5	11318.4	12997.3
65°	5890.1	5873.4	5982.4	6178.2	6457.1	6856.0	7397.2	8261.6	9611.7	11554.8	13935.5
66°	5653.6	5620.4	5729.4	5927.0	6205.9	6630.7	7149.7	8003.0	9329.1	11323.9	13835.8
67.5°	5239.9	5223.3	5275.0	5430.2	5637.0	6036.0	6577.1	7436.0	8660.5	10629.4	13104.4
70°	4259.2	4222.2	4262.9	4333.0	4412.5	4510.3	4842.8	5524.3	6560.5	8468.4	10557.4
72.5°	2901.6	2883.2	2958.9	3066.0	3278.4	3378.1	3509.3	3620.1	3985.8	5337.8	7363.9
75°	2207.2	2218.2	2314.3	2491.6	2764.9	3060.5	3348.6	3453.9	3332.0	3226.7	4179.7
77.5°	1237.5	1302.1	1418.5	1643.8	1933.8	2351.2	2853.6	3407.7	3684.7	3616.4	3381.8
80°	509.8	500.5	557.8	681.5	781.3	1123.0	1717.7	2412.2	3191.6	3684.7	3607.2
82.5°	142.2	145.9	188.4	242.0	312.1	397.1	620.6	997.4	1625.4	2528.5	3309.8
85°	44.3	44.3	61.0	90.5	107.1	123.7	157.0	258.6	441.4	881.0	1786.0
87.5°	9.2	9.2	12.9	25.9	27.7	27.7	35.1	48.0	42.5	38.8	173.6
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°	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5
2.5°	3045.7	3042.0	3043.8	3045.7	3043.8	3043.8	3042.0	3040.1	3042.0	3042.0	3047.5
5°	3043.8	3042.0	3043.8	3043.8	3043.8	3045.7	3045.7	3045.7	3051.2	3051.2	3060.5
7.5°	3047.5	3047.5	3051.2	3051.2	3051.2	3051.2	3053.1	3056.8	3066.0	3064.2	3080.8
10°	3054.9	3058.6	3067.9	3069.7	3069.7	3075.2	3078.9	3086.3	3095.6	3099.2	3114.0
12.5°	3064.2	3082.6	3099.2	3102.9	3108.5	3117.7	3123.3	3127.0	3143.6	3149.1	3167.6
15°	3075.2	3101.1	3121.4	3128.8	3136.2	3147.3	3154.7	3160.2	3175.0	3182.4	3204.5
17.5°	3077.1	3106.6	3130.6	3141.7	3151.0	3163.9	3175.0	3186.1	3202.7	3213.8	3235.9
20°	3075.2	3114.0	3151.0	3165.7	3175.0	3199.0	3215.6	3230.4	3250.7	3261.8	3283.9
22.5°	3095.6	3139.9	3189.8	3208.2	3223.0	3256.2	3278.4	3302.4	3328.3	3335.7	3352.3
25°	3143.6	3189.8	3252.5	3278.4	3304.3	3348.6	3380.0	3415.1	3440.9	3444.6	3450.2
27.5°	3224.8	3267.3	3343.1	3381.8	3424.3	3487.1	3533.3	3568.4	3605.3	3605.3	3601.6
30°	3389.2	3398.5	3477.9	3527.8	3590.5	3682.9	3751.2	3790.0	3817.7	3817.7	3786.3
32.5°	3601.6	3590.5	3662.6	3716.1	3803.0	3932.2	4024.6	4054.1	4083.7	4074.5	4020.9
35°	3908.2	3876.8	3917.5	3998.7	4096.6	4273.9	4370.0	4436.5	4454.9	4429.1	4344.1
37.5°	4294.3	4290.6	4310.9	4401.4	4510.3	4739.4	4837.3	4879.7	4865.0	4818.8	4669.2
40°	4702.4	4691.4	4678.4	4739.4	4861.3	5136.5	5310.1	5332.3	5311.9	5243.6	5055.2
42.5°	5247.3	5247.3	5186.3	5203.0	5304.6	5613.0	5818.0	5888.2	5890.1	5790.3	5539.1
45°	5997.2	5989.8	5882.7	5856.8	5934.4	6237.3	6501.4	6540.2	6540.2	6409.1	6133.9
47.5°	6898.5	6889.3	6784.0	6693.5	6708.3	7035.2	7255.0	7314.1	7262.4	7164.5	6837.6
50°	7914.4	7897.7	7790.6	7705.6	7668.7	7999.3	8185.9	8213.6	8137.8	8021.5	7666.9
52.5°	8945.0	8994.8	8932.0	8885.9	8898.8	9113.0	9305.1	9174.0	9135.2	9009.6	8653.1
55°	10018.1	10171.4	10309.9	10269.3	10317.3	10526.0	10562.9	10389.3	10319.1	10228.6	9831.5
57.5°	11098.6	11545.5	11999.9	12127.3	12245.5	12544.8	12502.3	12217.8	12271.4	12406.2	11959.3
60°	12607.6	13898.6	15051.1	15263.5	15631.1	15886.0	15943.2	15887.8	16137.1	16067.0	15671.7
62.5°	14925.5	17077.3	18680.5	19079.4	19448.8	19435.9	19241.9	19042.5	19288.1	19288.1	18255.6
65°	16580.4	19022.1	20738.0	21068.6	21053.8	20608.7	20150.7	19751.7	19716.6	19443.3	17934.3
66°	16658.0	19171.8	20852.5	21140.6	21029.8	20313.2	19764.6	19258.6	19042.5	18662.0	17116.1
67.5°	15959.8	18748.8	20479.4	20730.6	20438.8	19411.9	18656.4	17978.6	17664.6	17023.7	15568.3
70°	13091.5	16113.1	18630.6	19144.0	18813.4	17513.2	16478.8	15562.7	14962.5	14037.1	12988.0
72.5°	9556.3	11896.5	14622.6	15457.5	15405.7	14208.9	13375.9	12537.4	11748.7	10906.5	10140.0
75°	6211.4	7738.9	9259.0	9746.6	9512.0	8819.4	8222.8	7733.3	6985.3	6399.8	6257.6
77.5°	3546.2	4333.0	4098.5	4037.5	3743.8	3021.7	2009.5	1409.3	1272.6	1588.4	1741.7
80°	3374.5	3058.6	2504.5	2258.9	2076.0	1414.8	742.5	522.7	458.1	469.1	504.2
82.5°	3804.8	3965.5	3243.3	2709.5	2358.6	1721.4	940.1	437.7	319.5	378.6	424.8
85°	2851.8	4015.4	3980.3	3372.6	2766.8	1983.7	1111.9	334.3	192.1	266.0	347.2
87.5°	578.1	951.2	916.1	805.3	685.2	478.4	186.5	105.3	96.0	131.1	199.5
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°	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5	3047.5
2.5°	3051.2	3051.2	3054.9	3060.5	3062.3	3062.3	3066.0	3062.3	3069.7	3071.5	3073.4
5°	3067.9	3073.4	3077.1	3086.3	3091.9	3095.6	3101.1	3097.4	3104.8	3106.6	3110.3
7.5°	3086.3	3095.6	3102.9	3106.6	3114.0	3114.0	3115.9	3112.2	3110.3	3104.8	3102.9
10°	3119.6	3125.1	3134.3	3130.6	3127.0	3114.0	3102.9	3086.3	3077.1	3060.5	3051.2
12.5°	3173.1	3176.8	3176.8	3160.2	3136.2	3106.6	3078.9	3051.2	3029.1	3010.6	2999.5
15°	3210.1	3217.5	3208.2	3184.2	3149.1	3108.5	3071.5	3034.6	3005.1	2981.0	2966.3
17.5°	3237.8	3235.9	3219.3	3186.1	3152.8	3117.7	3084.5	3045.7	3008.7	2973.7	2951.5
20°	3280.3	3261.8	3232.2	3197.1	3162.0	3132.5	3106.6	3069.7	3030.9	2982.9	2949.6
22.5°	3337.5	3304.3	3261.8	3224.8	3191.6	3163.9	3134.3	3102.9	3062.3	3008.7	2962.6
25°	3418.8	3361.5	3313.5	3276.6	3247.0	3215.6	3182.4	3141.7	3101.1	3045.7	2990.3
27.5°	3542.5	3457.6	3396.6	3363.4	3335.7	3293.2	3250.7	3202.7	3151.0	3093.7	3030.9
30°	3692.1	3590.5	3520.4	3490.8	3457.6	3409.5	3363.4	3296.9	3224.8	3156.5	3078.9
32.5°	3867.6	3764.2	3694.0	3671.8	3618.3	3562.8	3498.2	3409.5	3315.3	3213.8	3121.4
35°	4133.6	4002.4	3937.8	3886.1	3812.2	3745.7	3636.7	3520.4	3385.5	3250.7	3136.2
37.5°	4406.9	4273.9	4207.4	4135.4	4039.4	3917.5	3771.6	3605.3	3426.2	3259.9	3119.6
40°	4772.6	4628.6	4543.6	4432.8	4277.6	4087.4	3871.3	3644.1	3426.2	3219.3	3049.4
42.5°	5199.3	5066.3	4935.2	4752.3	4503.0	4225.9	3923.0	3631.2	3367.1	3128.8	2949.6
45°	5790.3	5563.1	5354.4	5060.8	4696.9	4307.2	3928.5	3570.2	3265.5	3001.4	2801.9
47.5°	6455.2	6161.6	5792.2	5332.3	4835.4	4338.6	3875.0	3455.7	3104.8	2818.5	2600.6
50°	7221.7	6771.1	6204.0	5548.4	4905.6	4296.1	3747.5	3263.6	2883.2	2554.4	2321.7
52.5°	8099.1	7412.0	6577.1	5701.7	4894.5	4166.8	3537.0	3010.6	2585.8	2236.7	2007.7
55°	9072.4	8110.1	6933.6	5799.5	4794.8	3915.6	3206.4	2654.1	2216.4	1872.8	1671.5
57.5°	10788.3	9334.7	7613.3	5930.7	4586.1	3535.1	2787.1	2203.5	1808.2	1516.4	1324.3
60°	13976.2	11475.3	8900.6	6239.1	4272.1	3058.6	2258.9	1728.8	1398.2	1185.8	1043.5
62.5°	15948.8	12982.5	9528.6	6194.8	3762.3	2406.6	1677.1	1281.8	1021.4	881.0	792.4
65°	15481.5	12391.5	8762.1	5321.2	2927.5	1706.6	1110.0	838.5	701.9	629.8	587.3
66°	14846.1	11730.2	8113.8	4765.2	2550.7	1425.9	916.1	703.7	604.0	550.4	528.2
67.5°	13514.4	10522.3	6998.2	3815.9	1911.6	1062.0	676.0	552.2	491.3	463.6	448.8
70°	11311.0	8477.7	4949.9	2253.3	1036.2	576.3	432.2	384.2	369.4	360.2	354.6
72.5°	8745.5	6137.5	2892.4	1108.2	522.7	373.1	328.8	308.4	302.9	302.9	304.8
75°	5509.6	3527.8	1294.7	533.8	354.6	301.1	280.7	271.5	273.4	275.2	273.4
77.5°	1830.4	1217.2	539.3	378.6	308.4	273.4	256.7	253.0	256.7	258.6	258.6
80°	526.4	459.9	389.7	334.3	282.6	254.9	240.1	238.3	247.5	249.3	245.6
82.5°	404.5	378.6	352.8	323.2	271.5	240.1	234.6	236.4	242.0	238.3	221.6
85°	371.2	367.6	264.1	262.3	236.4	229.0	223.5	225.3	219.8	199.5	181.0
87.5°	208.7	193.9	149.6	151.5	175.5	181.0	149.6	158.8	147.8	129.3	118.2
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°	3047.5	3047.5	3047.5	3047.5	3047.5
2.5°	3077.1	3075.2	3075.2	3080.8	3073.4
5°	3112.2	3110.3	3110.3	3115.9	3110.3
7.5°	3095.6	3090.0	3086.3	3084.5	3084.5
10°	3040.1	3034.6	3023.5	3019.8	3016.1
12.5°	2982.9	2977.3	2964.4	2964.4	2960.7
15°	2947.8	2940.4	2931.2	2925.6	2921.9
17.5°	2929.3	2918.2	2907.2	2901.6	2897.9
20°	2921.9	2907.2	2894.2	2885.0	2885.0
22.5°	2923.8	2905.3	2890.5	2879.5	2875.8
25°	2942.3	2914.5	2896.1	2885.0	2881.3
27.5°	2968.1	2934.9	2910.9	2896.1	2890.5
30°	3003.2	2957.0	2923.8	2905.3	2897.9
32.5°	3027.2	2962.6	2920.1	2894.2	2885.0
35°	3025.4	2942.3	2890.5	2857.3	2846.2
37.5°	2992.1	2894.2	2825.9	2785.3	2766.8
40°	2918.2	2805.6	2733.5	2694.8	2672.6
42.5°	2811.1	2689.2	2624.6	2582.1	2558.1
45°	2643.0	2523.0	2443.6	2410.3	2378.9
47.5°	2410.3	2288.4	2220.1	2172.1	2151.7
50°	2137.0	2015.1	1943.0	1904.2	1885.8
52.5°	1837.8	1721.4	1669.7	1632.7	1606.9
55°	1527.5	1420.3	1398.2	1357.5	1333.5
57.5°	1235.6	1172.8	1152.5	1111.9	1091.6
60°	966.0	945.7	923.5	897.6	886.6
62.5°	748.0	729.6	724.0	707.4	705.6
65°	570.7	572.6	568.9	565.2	561.5
66°	519.0	517.2	519.0	515.3	513.5
67.5°	441.4	448.8	454.4	452.5	452.5
70°	358.3	363.9	371.2	369.4	369.4
72.5°	306.6	315.8	319.5	317.7	317.7
75°	277.0	286.3	286.3	282.6	280.7
77.5°	258.6	262.3	258.6	254.9	251.2
80°	240.1	236.4	230.9	225.3	221.6
82.5°	208.7	199.5	193.9	184.7	184.7
85°	168.1	160.7	147.8	138.5	129.3
87.5°	109.0	105.3	96.0	72.0	57.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)