

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: P158713

Luminaire Tested: **VST-F09-LED-E-U-SL4-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P158713
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33714)
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-SL4-8030
Description: VENTUS LED SITE/ROADWAY LUMINAIRE
(9) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (63) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18190.6 lumens
Efficiency: N/A
Efficacy: 77.5 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Full Cutoff
BUG Rating: B3 - U0 - G3

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

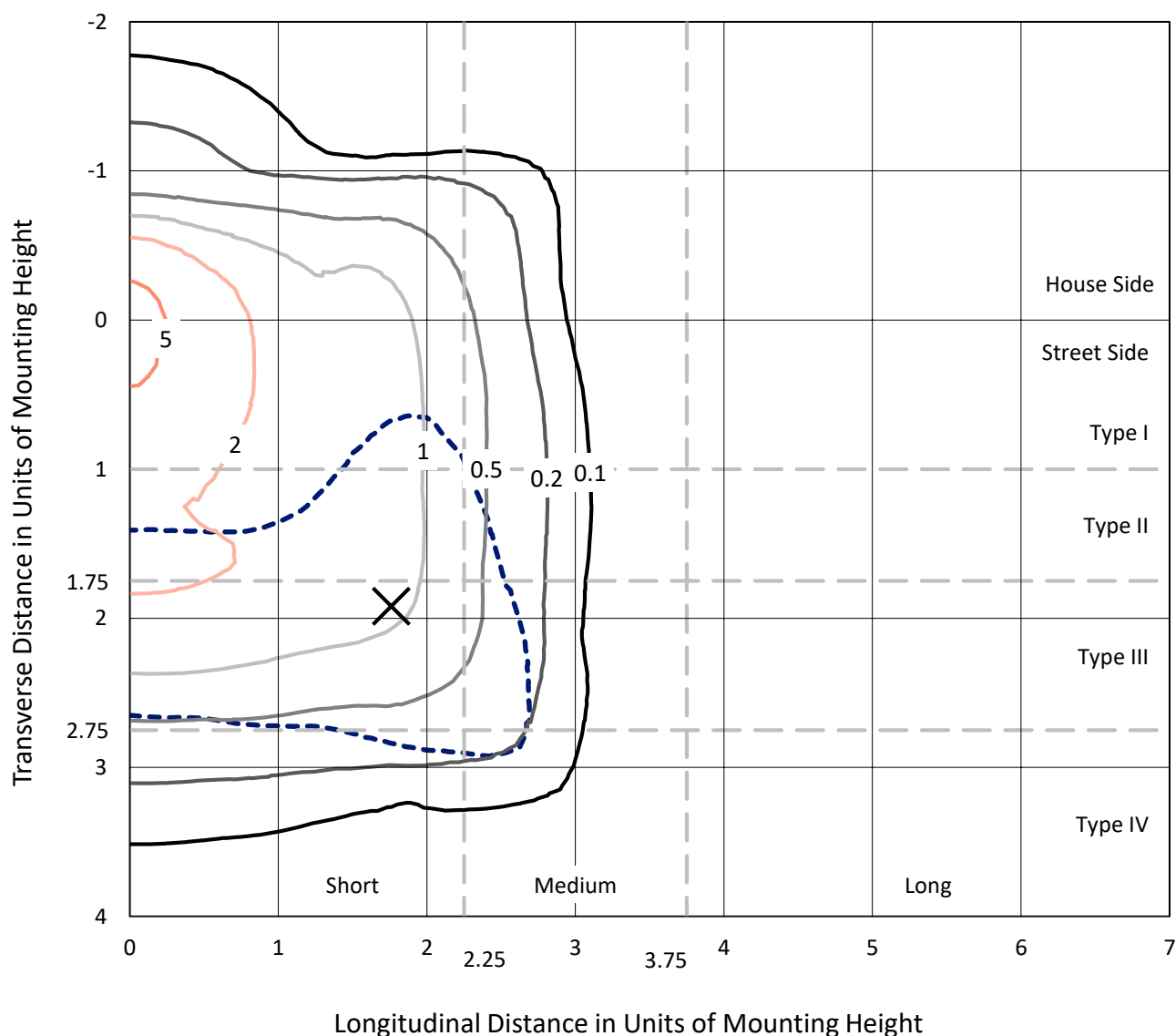


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

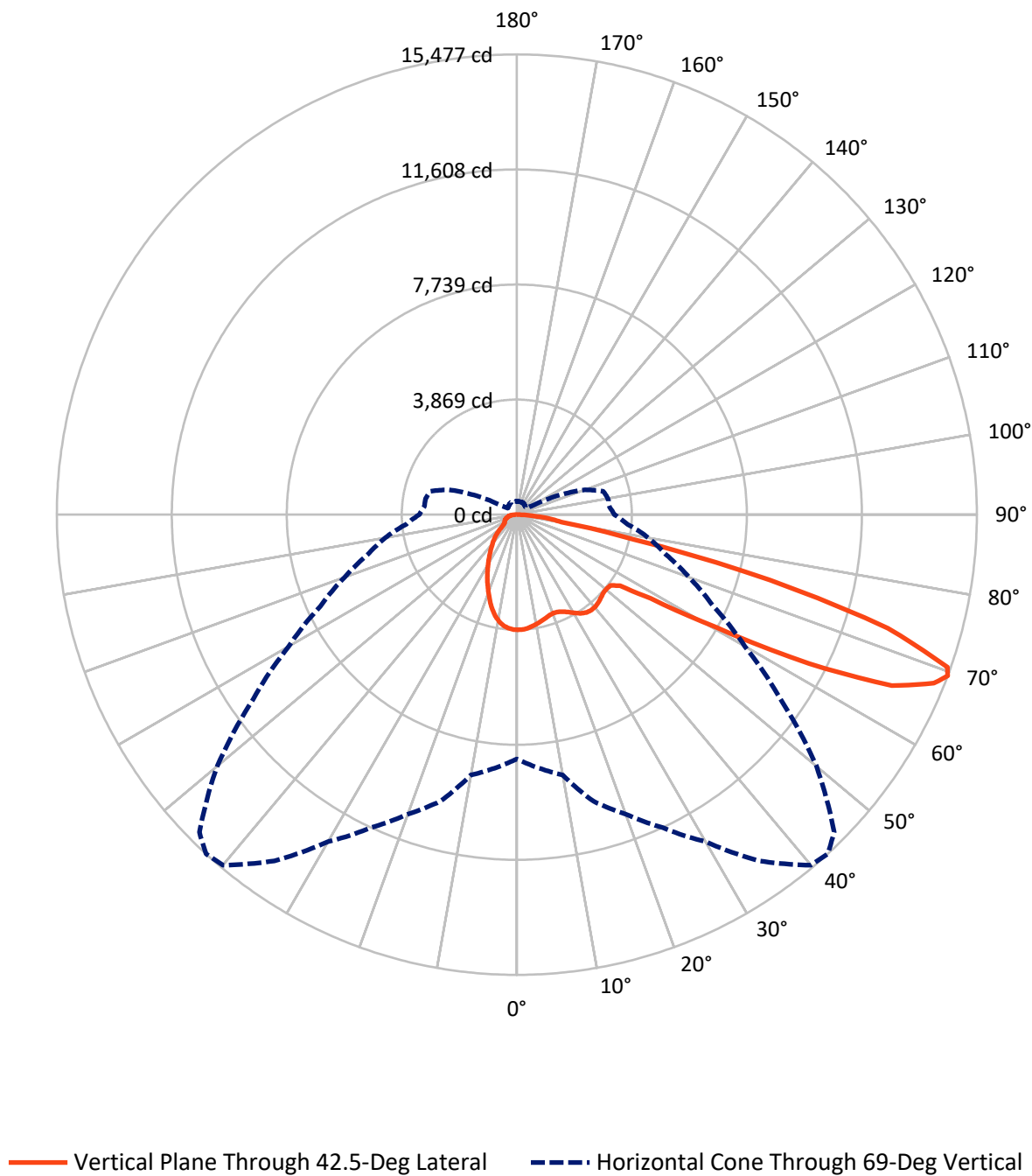


Based on 25 foot mounting height. Maximum calculated value = 6.2 fc
 Type IV - Short - Full Cutoff

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Luminous Intensity Polar Plot



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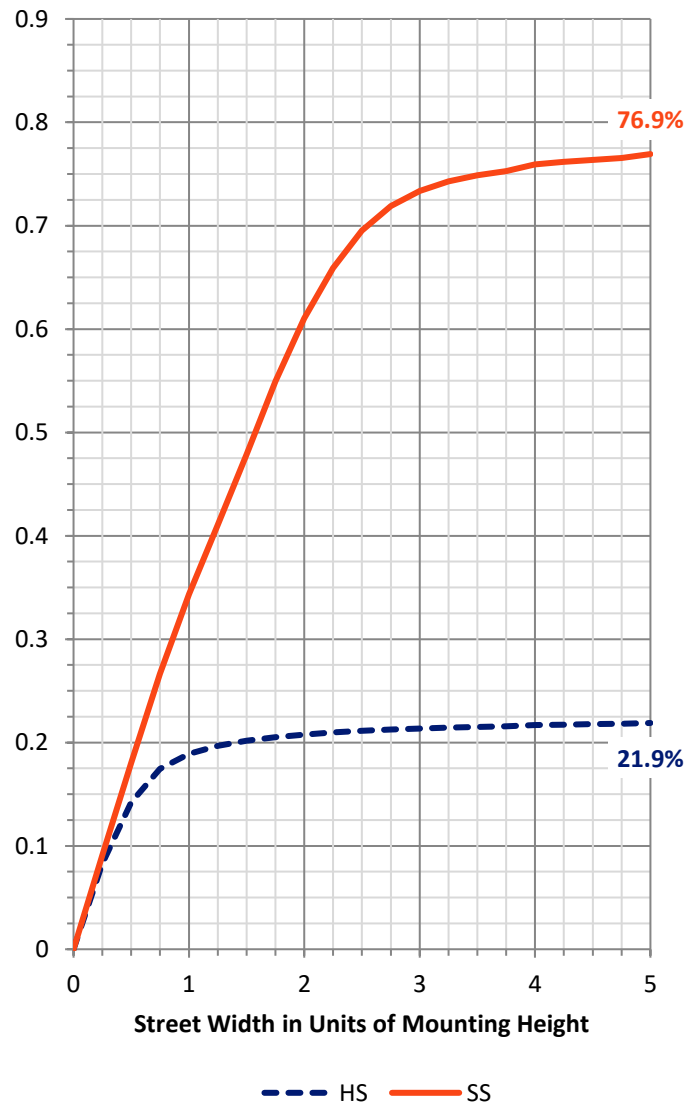
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4044.1	0.0	4044.1
	% Fixture	22.2	0.0	22.2
Street Side	Lumens	14146.6	0.0	14146.6
	% Fixture	77.8	0.0	77.8
Total	Lumens	18190.6	0.0	18190.6
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	360.6	2.0
10°-20°	971.9	5.3
20°-30°	1417.3	7.8
30°-40°	1806.7	9.9
40°-50°	2102.2	11.6
50°-60°	3198.5	17.6
60°-70°	5649.9	31.1
70°-80°	2331.5	12.8
80°-90°	352.0	1.9
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°	18190.6	100.0
0°-180°	18190.6	100.0

Coefficient of Utilization



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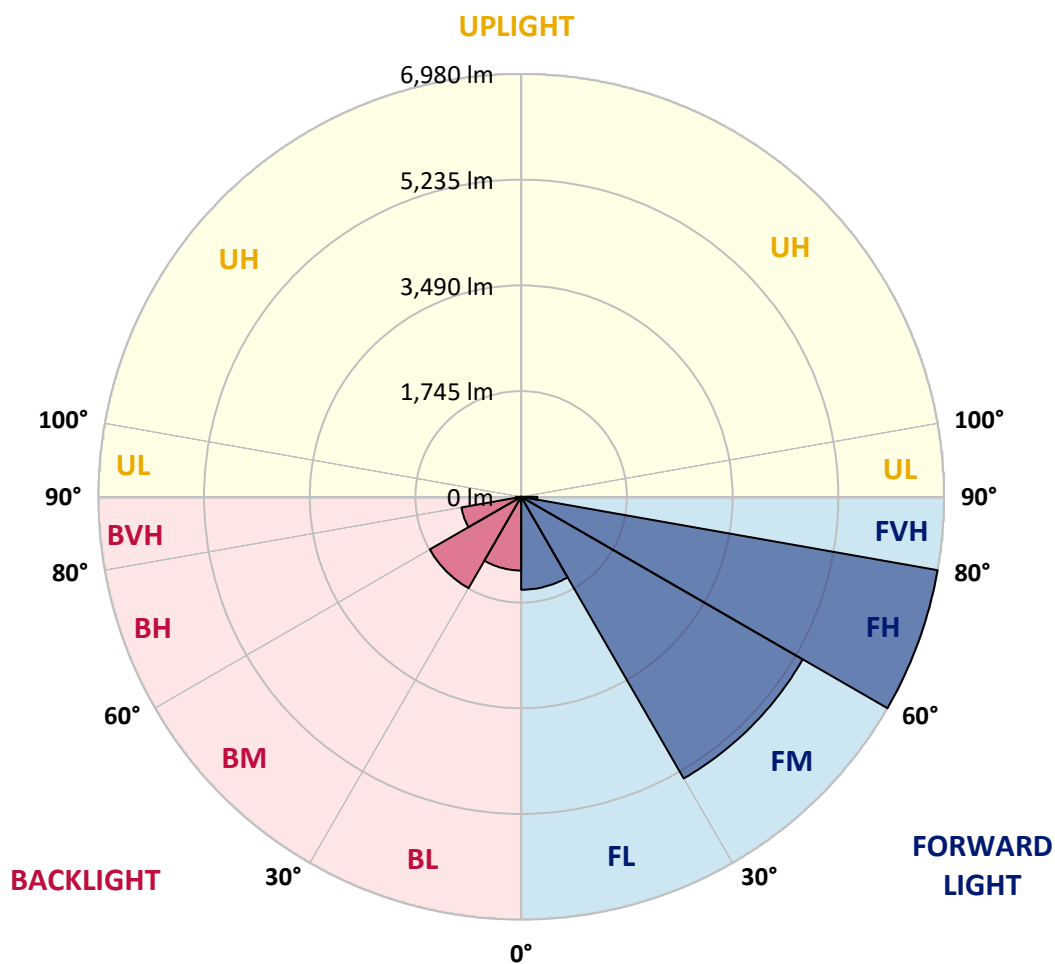
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1533.9	8.4			
FM	(30°-60°)	5366.7	29.5			
FH	(60°-80°)	6979.7	38.4			G3/7500
FVH	(80°-90°)	266.2	1.5			G3/500
BL	(0°-30°)	1215.9	6.7	B3/2500		
BM	(30°-60°)	1740.6	9.6	B2/2500		
BH	(60°-80°)	1001.7	5.5	B3/2500		G3/2500
BVH	(80°-90°)	85.8	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	42.5°	45°
0°	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0
2.5°	3861.4	3875.2	3870.2	3870.2	3874.0	3867.7	3867.7	3870.2	3864.0	3867.7	3866.5
5°	3847.7	3855.2	3852.7	3852.7	3852.7	3847.7	3845.1	3843.9	3835.1	3835.1	3831.3
7.5°	3817.6	3820.1	3823.8	3818.8	3817.6	3816.3	3807.5	3802.5	3792.5	3783.7	3786.2
10°	3777.4	3776.2	3782.4	3778.7	3773.7	3769.9	3762.4	3753.6	3742.3	3731.0	3729.8
12.5°	3732.3	3731.0	3736.0	3733.5	3729.8	3722.2	3716.0	3700.9	3683.4	3669.6	3668.3
15°	3703.4	3699.7	3704.7	3699.7	3693.4	3685.9	3674.6	3655.8	3624.4	3610.6	3599.3
17.5°	3731.0	3724.7	3727.3	3721.0	3712.2	3692.1	3665.8	3625.7	3580.5	3556.7	3539.1
20°	3827.6	3816.3	3818.8	3812.5	3792.5	3766.1	3716.0	3645.7	3569.2	3530.4	3502.8
22.5°	3965.5	3956.8	3960.5	3954.3	3934.2	3894.1	3818.8	3718.5	3609.4	3552.9	3509.0
25°	4175.0	4182.5	4185.0	4156.2	4144.9	4070.9	3966.8	3827.6	3682.1	3615.6	3555.4
27.5°	4410.8	4410.8	4422.0	4410.8	4388.2	4301.6	4154.9	3986.9	3800.0	3709.7	3637.0
30°	4640.3	4637.8	4659.1	4656.6	4620.2	4522.4	4355.6	4151.2	3937.9	3836.4	3743.6
32.5°	4883.6	4891.1	4904.9	4899.9	4852.2	4716.8	4516.1	4294.1	4069.6	3958.0	3853.9
35°	5146.9	5150.7	5155.7	5153.2	5056.6	4886.1	4634.0	4385.7	4152.4	4042.0	3934.2
37.5°	5410.3	5406.5	5400.3	5346.3	5236.0	4998.9	4705.5	4438.3	4193.8	4074.6	3963.0
40°	5646.1	5624.7	5604.7	5520.7	5351.3	5062.9	4733.1	4450.9	4190.0	4067.1	3958.0
42.5°	5775.2	5751.4	5710.0	5604.7	5399.0	5069.2	4714.3	4413.3	4151.2	4029.5	3921.6
45°	5799.1	5781.5	5741.4	5623.5	5387.7	5029.0	4656.6	4351.8	4093.5	3971.8	3870.2
47.5°	5742.6	5728.8	5690.0	5573.3	5338.8	4968.8	4590.1	4286.6	4037.0	3922.9	3825.1
50°	5656.1	5643.6	5613.5	5506.9	5283.6	4927.5	4556.2	4252.7	4018.2	3914.1	3823.8
52.5°	5796.6	5806.6	5718.8	5602.2	5342.6	4963.8	4593.9	4287.8	4052.1	3949.2	3855.2
55°	7980.0	7966.2	7438.2	6995.5	6204.2	5486.8	4951.3	4566.3	4314.2	4211.3	4123.6
57.5°	10369.1	10321.4	10104.5	9690.6	8840.3	7705.3	6673.2	5795.3	5449.2	5301.2	5311.2
60°	11149.2	11166.7	11120.3	10973.6	10668.8	10078.1	9293.1	8633.4	7983.8	7666.5	7702.8
62.5°	11581.8	11613.2	11653.3	11620.7	11521.6	11384.9	11285.9	11346.1	11255.8	11027.5	10845.7
65°	11642.0	11706.0	11838.9	11944.3	11995.7	12124.9	12428.4	13155.8	13820.4	13864.3	13544.5
67.5°	10450.6	10627.4	10915.9	11403.7	11821.4	12280.4	13012.8	14118.9	15099.7	15132.3	14833.8
69°	8217.0	8556.9	8894.2	9984.1	10717.7	11617.0	12700.5	14211.7	15386.8	15477.1	15100.9
70°	6584.2	6786.1	7077.0	8171.9	9268.0	10414.2	11984.4	13905.7	15189.9	15371.8	14956.7
72.5°	3953.0	4030.8	4131.1	4523.6	5088.0	6108.8	8190.7	11337.3	12813.4	13056.7	12528.7
75°	2555.9	2550.9	2559.7	2668.8	2701.4	2897.0	3552.9	5832.9	8358.7	8800.2	8168.1
77.5°	1925.1	1942.6	1915.0	1925.1	1916.3	1969.0	1989.0	2088.1	3299.6	4064.6	3634.5
80°	1699.3	1708.1	1709.4	1704.4	1642.9	1637.9	1670.5	1614.1	1499.9	1522.5	1458.5
82.5°	969.4	968.2	979.5	1064.8	1099.9	1215.2	1262.9	1289.2	1190.2	1116.2	1009.6
85°	628.3	633.3	645.9	672.2	645.9	655.9	644.6	667.2	612.0	568.1	507.9
87.5°	257.1	257.1	273.4	297.2	277.2	272.1	233.3	230.8	195.6	176.8	138.0
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0
2.5°	3858.9	3866.5	3862.7	3867.7	3864.0	3864.0	3858.9	3857.7	3861.4	3856.4	3857.7
5°	3825.1	3826.3	3820.1	3822.6	3815.0	3812.5	3808.8	3798.7	3805.0	3798.7	3801.2
7.5°	3776.2	3772.4	3763.6	3751.1	3742.3	3738.5	3731.0	3717.2	3719.7	3708.4	3714.7
10°	3713.5	3700.9	3685.9	3667.1	3654.5	3643.2	3626.9	3610.6	3601.8	3591.8	3590.6
12.5°	3643.2	3628.2	3608.1	3579.3	3551.7	3532.9	3507.8	3478.9	3470.2	3453.9	3445.1
15°	3566.7	3542.9	3519.1	3486.5	3456.4	3427.5	3393.7	3357.3	3333.5	3308.4	3289.6
17.5°	3497.8	3470.2	3438.8	3407.5	3374.8	3339.7	3297.1	3251.9	3216.8	3170.4	3132.8
20°	3443.8	3408.7	3377.4	3344.7	3308.4	3265.7	3214.3	3156.6	3097.7	3046.3	3002.4
22.5°	3422.5	3367.3	3329.7	3297.1	3260.7	3210.6	3147.9	3080.1	3008.6	2937.2	2879.5
25°	3440.1	3358.5	3299.6	3260.7	3229.4	3178.0	3107.7	3024.9	2942.2	2856.9	2779.1
27.5°	3491.5	3387.4	3302.1	3240.7	3204.3	3152.9	3078.9	2991.1	2893.3	2798.0	2702.6
30°	3571.7	3436.3	3328.4	3241.9	3185.5	3126.5	3048.8	2947.2	2848.1	2739.0	2634.9
32.5°	3649.5	3487.7	3358.5	3246.9	3160.4	3083.9	2997.4	2897.0	2790.4	2676.3	2568.4
35°	3704.7	3521.6	3369.8	3235.6	3121.5	3026.2	2933.4	2833.1	2729.0	2612.3	2502.0
37.5°	3731.0	3540.4	3371.1	3205.5	3070.1	2964.7	2865.7	2766.6	2668.8	2558.4	2454.3
40°	3729.8	3539.1	3353.5	3166.7	3008.6	2897.0	2799.2	2702.6	2611.1	2514.5	2420.5
42.5°	3702.2	3519.1	3328.4	3129.0	2964.7	2840.6	2739.0	2646.2	2568.4	2483.2	2404.2
45°	3659.5	3485.2	3302.1	3111.5	2952.2	2828.0	2720.2	2629.9	2560.9	2483.2	2415.4
47.5°	3626.9	3466.4	3305.9	3142.8	2991.1	2861.9	2747.8	2648.7	2589.8	2527.1	2479.4
50°	3631.9	3475.2	3318.4	3161.6	3018.7	2888.2	2777.9	2687.6	2644.9	2628.6	2617.4
52.5°	3658.3	3489.0	3356.0	3262.0	3213.1	3115.2	3050.0	2993.6	3024.9	2963.5	2890.8
55°	3994.4	3939.2	4068.4	4190.0	4344.3	4402.0	4346.8	4336.8	4386.9	4178.7	3700.9
57.5°	5382.7	5525.7	5725.1	5830.4	5958.3	5924.5	5796.6	5690.0	5564.5	5321.2	4725.5
60°	7744.2	7636.4	7546.1	7291.5	7083.3	6840.0	6569.1	6337.1	6115.1	5765.2	5120.6
62.5°	10177.2	9428.5	8802.7	8198.2	7711.6	7307.8	6915.2	6566.6	6230.5	5742.6	5049.1
65°	12281.6	10705.2	9530.1	8643.4	7932.3	7319.1	6814.9	6333.3	5905.7	5333.8	4647.8
67.5°	13227.2	11252.0	9542.6	8272.2	7287.7	6455.0	5802.8	5075.4	4596.4	4230.2	3843.9
69°	13157.0	10834.4	8861.6	7297.7	6166.5	5195.8	4496.0	3737.3	3278.3	3122.8	3114.0
70°	12823.4	10127.1	8066.5	6506.4	5212.1	4247.7	3576.8	2895.8	2468.1	2361.5	2550.9
72.5°	10469.4	7156.0	5055.4	3860.2	2968.5	2346.5	1913.8	1518.7	1212.7	1051.0	1086.1
75°	5913.2	3313.4	2142.0	1619.1	1368.2	1131.2	970.7	827.7	748.7	608.3	481.6
77.5°	2149.6	1422.2	1131.2	978.2	693.5	477.8	400.1	349.9	317.3	317.3	302.2
80°	1359.5	1071.0	747.5	511.7	378.7	329.8	288.4	253.3	233.3	228.3	233.3
82.5°	849.0	655.9	418.9	321.1	269.6	242.0	210.7	184.4	168.1	164.3	171.8
85°	418.9	324.8	254.6	227.0	213.2	198.2	174.3	149.2	144.2	154.3	180.6
87.5°	125.4	111.6	91.6	95.3	100.3	97.8	77.8	67.7	64.0	84.0	131.7
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0	3874.0
2.5°	3860.2	3858.9	3861.4	3857.7	3860.2	3861.4	3858.9	3870.2	3862.7	3864.0	3869.0
5°	3803.8	3801.2	3811.3	3808.8	3813.8	3818.8	3816.3	3832.6	3826.3	3831.3	3841.4
7.5°	3709.7	3714.7	3716.0	3716.0	3726.0	3742.3	3746.1	3756.1	3756.1	3769.9	3779.9
10°	3584.3	3585.5	3593.1	3591.8	3604.4	3621.9	3624.4	3642.0	3648.2	3670.8	3684.6
12.5°	3438.8	3432.5	3431.3	3430.0	3446.3	3465.1	3467.7	3497.8	3510.3	3530.4	3552.9
15°	3275.8	3259.5	3254.5	3264.5	3260.7	3272.0	3283.3	3299.6	3317.2	3357.3	3377.4
17.5°	3116.5	3083.9	3075.1	3063.8	3052.5	3052.5	3057.6	3077.6	3114.0	3135.3	3180.5
20°	2953.5	2914.6	2883.2	2853.1	2826.8	2816.8	2818.0	2843.1	2869.4	2904.6	2947.2
22.5°	2816.8	2757.8	2703.9	2663.8	2609.8	2608.6	2601.1	2608.6	2637.4	2646.2	2670.0
25°	2698.9	2619.9	2547.1	2481.9	2429.2	2401.6	2394.1	2391.6	2377.8	2374.1	2356.5
27.5°	2607.3	2512.0	2418.0	2338.9	2273.7	2236.1	2188.4	2154.6	2105.7	2093.1	2061.8
30°	2532.1	2429.2	2326.4	2223.6	2149.6	2081.8	2001.6	1942.6	1867.4	1818.5	1775.8
32.5°	2459.3	2355.2	2251.2	2149.6	2035.4	1930.1	1824.8	1733.2	1649.2	1573.9	1511.2
35°	2399.1	2300.1	2194.7	2071.8	1926.3	1774.6	1647.9	1543.8	1428.4	1349.4	1270.4
37.5°	2360.3	2270.0	2164.6	1995.3	1808.4	1645.4	1501.2	1374.5	1256.6	1137.5	1048.4
40°	2342.7	2263.7	2132.0	1925.1	1705.6	1525.0	1365.7	1225.3	1074.8	940.6	845.3
42.5°	2341.4	2261.2	2086.9	1847.3	1620.3	1423.4	1246.6	1078.5	911.7	773.8	679.7
45°	2364.0	2257.4	2039.2	1782.1	1545.1	1339.4	1128.7	924.3	737.4	634.6	584.4
47.5°	2424.2	2263.7	2000.3	1721.9	1473.6	1237.8	993.3	755.0	600.7	553.1	553.1
50°	2532.1	2300.1	1990.3	1679.3	1402.1	1119.9	827.7	609.5	531.7	531.7	546.8
52.5°	2697.6	2376.6	2007.9	1649.2	1313.1	964.4	652.1	525.5	510.4	524.2	544.3
55°	3078.9	2512.0	2031.7	1597.8	1177.6	765.0	538.0	496.6	502.9	519.2	538.0
57.5°	3778.7	2801.7	2056.8	1484.9	959.4	589.4	487.9	485.3	496.6	511.7	528.0
60°	4238.9	3170.4	2120.7	1314.3	726.1	486.6	462.8	477.8	491.6	504.2	516.7
62.5°	4238.9	3274.5	2168.4	1123.7	545.5	442.7	446.5	470.3	486.6	492.9	500.4
65°	3968.0	3083.9	2006.6	915.5	444.0	417.6	431.4	455.2	470.3	475.3	481.6
67.5°	3467.7	2724.0	1690.6	689.8	396.3	396.3	413.9	431.4	444.0	454.0	464.0
69°	3014.9	2444.3	1488.6	584.4	377.5	380.0	397.6	412.6	427.7	440.2	452.7
70°	2688.8	2234.8	1348.2	530.5	366.2	367.5	385.0	401.3	415.1	428.9	444.0
72.5°	1439.7	1543.8	1024.6	435.2	337.4	341.1	357.4	372.5	385.0	398.8	412.6
75°	490.4	663.4	652.1	356.2	304.8	314.8	324.8	338.6	354.9	363.7	371.2
77.5°	287.2	297.2	347.4	289.7	274.7	279.7	291.0	302.2	316.0	324.8	331.1
80°	240.8	239.5	240.8	235.8	239.5	250.8	258.3	273.4	285.9	288.4	287.2
82.5°	195.6	205.7	206.9	204.4	215.7	224.5	230.8	239.5	238.3	240.8	245.8
85°	174.3	173.1	181.8	183.1	183.1	176.8	178.1	178.1	178.1	181.8	183.1
87.5°	174.3	145.5	112.9	101.6	106.6	100.3	95.3	94.1	104.1	114.1	111.6
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):

	160°	165°	170°	175°	180°
0°	3874.0	3874.0	3874.0	3874.0	3874.0
2.5°	3871.5	3875.2	3872.7	3872.7	3875.2
5°	3845.1	3851.4	3848.9	3851.4	3851.4
7.5°	3784.9	3793.7	3800.0	3806.3	3802.5
10°	3698.4	3713.5	3723.5	3731.0	3727.3
12.5°	3569.2	3583.0	3604.4	3616.9	3606.9
15°	3392.4	3431.3	3443.8	3461.4	3451.3
17.5°	3208.0	3231.9	3246.9	3263.2	3273.3
20°	2962.2	2981.1	3001.1	3008.6	2997.4
22.5°	2666.3	2676.3	2672.5	2683.8	2661.3
25°	2341.4	2347.7	2344.0	2354.0	2335.2
27.5°	2034.2	2032.9	2034.2	2021.6	2009.1
30°	1738.2	1726.9	1721.9	1703.1	1699.3
32.5°	1473.6	1434.7	1414.7	1387.1	1380.8
35°	1209.0	1153.8	1117.4	1086.1	1072.3
37.5°	971.9	905.5	862.8	835.2	831.5
40°	768.8	707.3	677.2	662.2	659.7
42.5°	627.1	600.7	593.2	593.2	593.2
45°	571.9	570.6	576.9	581.9	583.2
47.5°	560.6	568.1	576.9	584.4	586.9
50°	560.6	568.1	574.4	581.9	584.4
52.5°	558.1	564.4	566.9	571.9	574.4
55°	550.6	554.3	554.3	556.8	559.3
57.5°	538.0	540.5	536.8	539.3	545.5
60°	525.5	528.0	521.7	528.0	531.7
62.5°	511.7	512.9	510.4	515.4	515.4
65°	489.1	486.6	490.4	494.1	495.4
67.5°	466.5	460.3	464.0	465.3	467.8
69°	449.0	445.2	446.5	449.0	451.5
70°	436.4	433.9	436.4	440.2	444.0
72.5°	405.1	406.3	415.1	422.6	430.2
75°	376.2	385.0	396.3	412.6	421.4
77.5°	341.1	347.4	356.2	373.7	390.0
80°	294.7	298.5	299.7	306.0	304.8
82.5°	239.5	235.8	233.3	230.8	229.5
85°	171.8	170.6	160.5	153.0	153.0
87.5°	102.8	97.8	92.8	86.5	82.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)