

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: P159811

Luminaire Tested: **VST-E09-LED-E-U-T4-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P159811
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-E09-LED-E-U-T4-7050
Description: VENTUS LED SITE/ROADWAY LUMINAIRE
(9) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (189) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 27486.5 lumens
Efficiency: N/A
Efficacy: 121.8 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): 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



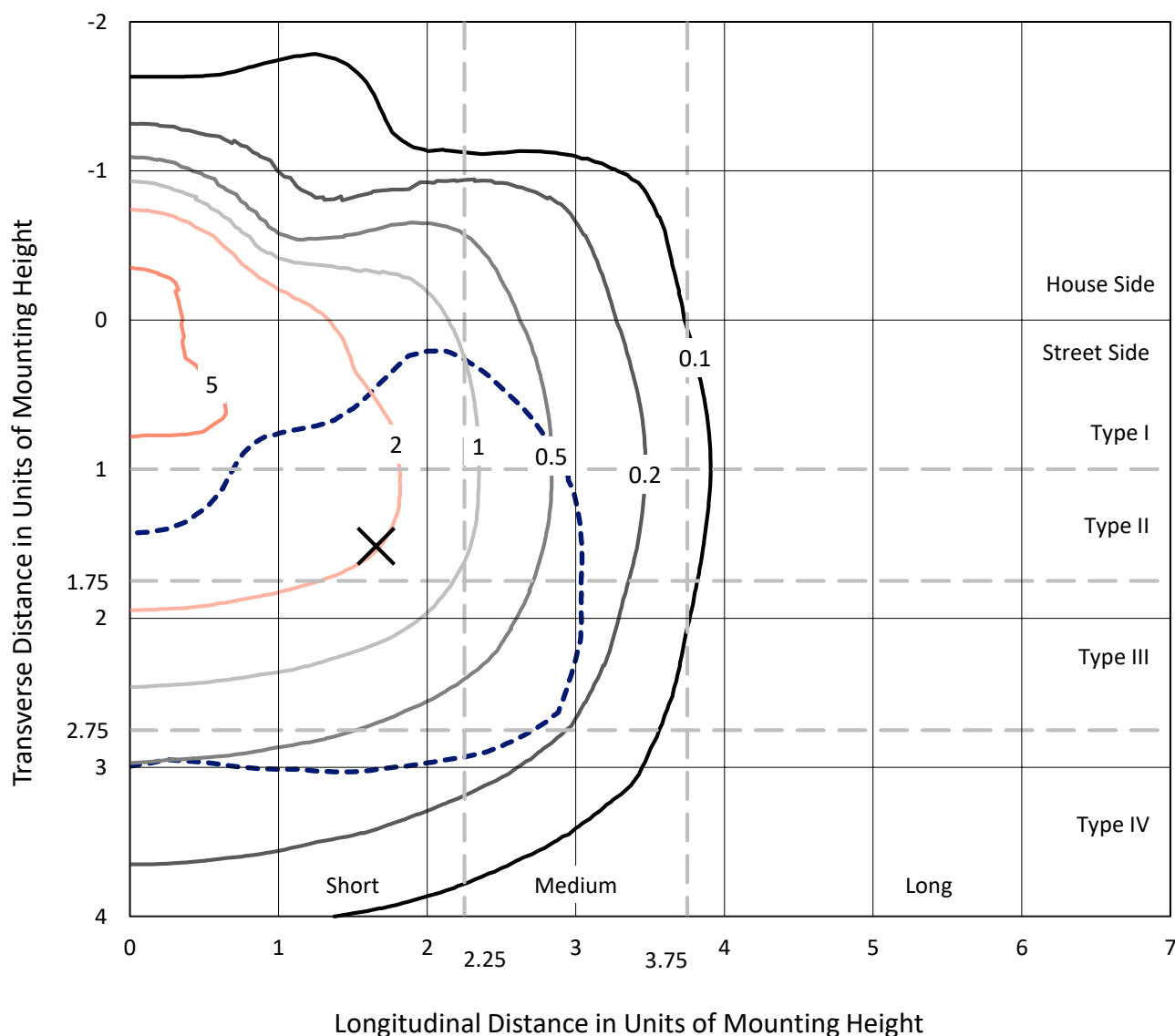
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

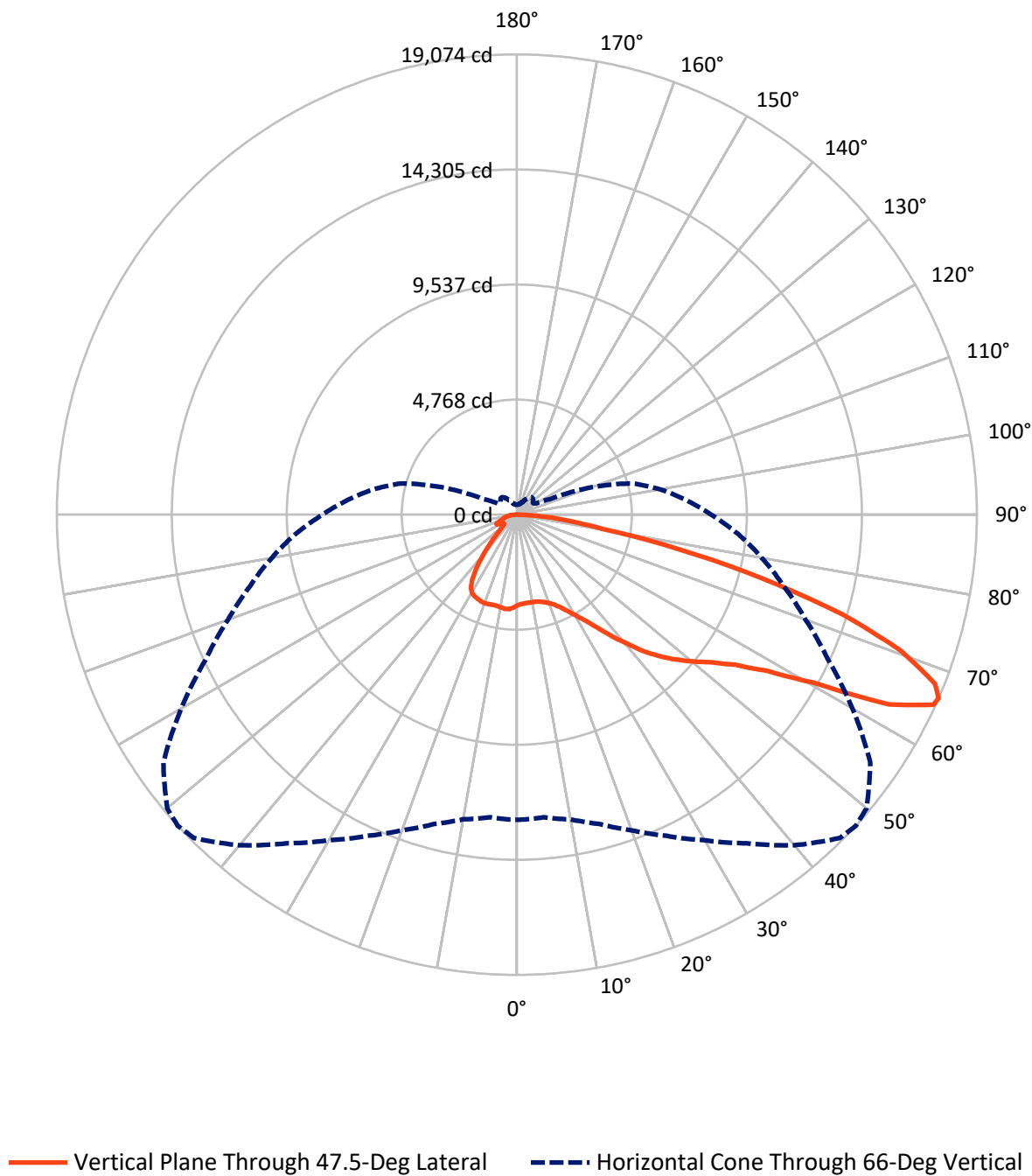


Based on 25 foot mounting height. Maximum calculated value = 6.1 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5690.9	0.0	5690.9
	% Fixture	20.7	0.0	20.7
Street Side	Lumens	21795.6	0.0	21795.6
	% Fixture	79.3	0.0	79.3
Total	Lumens	27486.5	0.0	27486.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	362.5	1.3
10°-20°	1086.9	4.0
20°-30°	1854.5	6.7
30°-40°	2799.1	10.2
40°-50°	3638.2	13.2
50°-60°	4991.2	18.2
60°-70°	7678.1	27.9
70°-80°	4438.4	16.1
80°-90°	637.6	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°	27486.5	100.0
0°-180°	27486.5	100.0

Coefficient of Utilization



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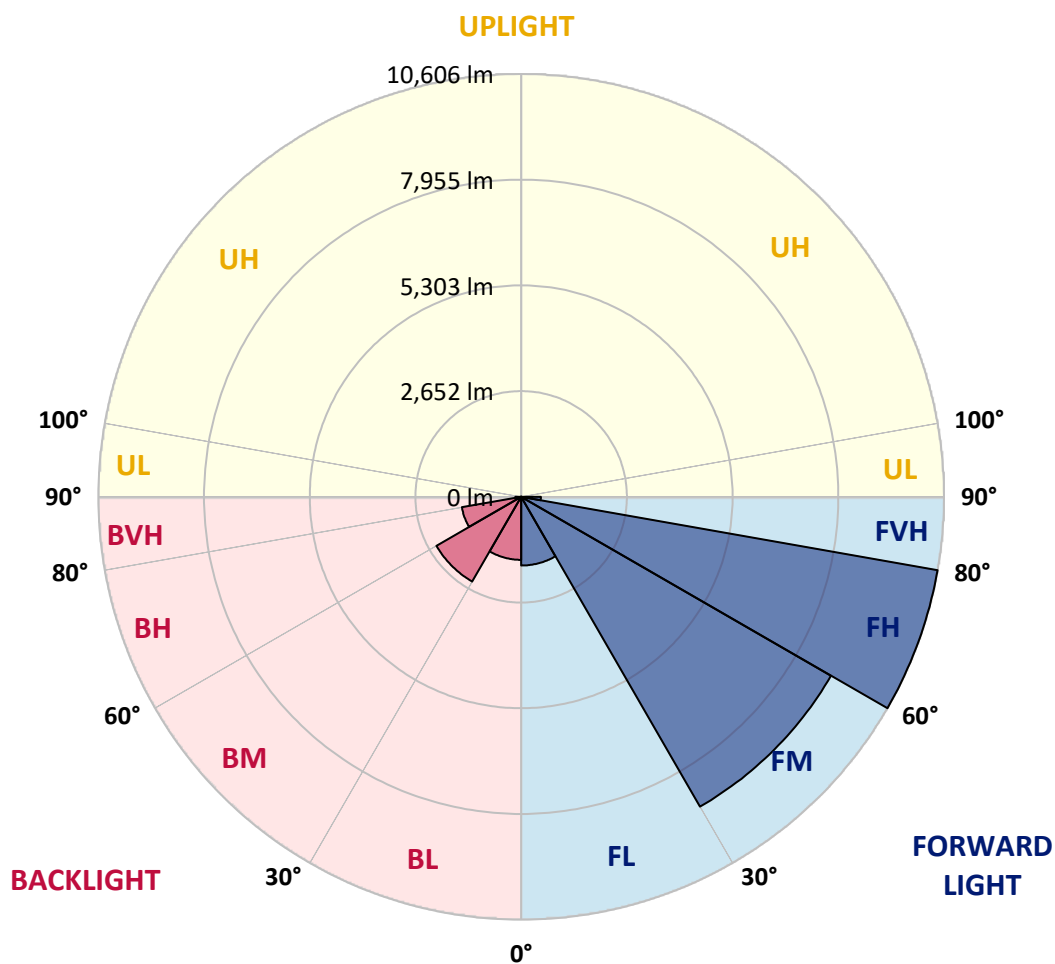
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1722.9	6.3			
FM	(30°-60°)	8973.2	32.6			
FH	(60°-80°)	10606.1	38.6			G4/12000
FVH	(80°-90°)	493.4	1.8			G3/500
BL	(0°-30°)	1581.0	5.8	B3/2500		
BM	(30°-60°)	2455.3	8.9	B2/2500		
BH	(60°-80°)	1510.4	5.5	B3/2500		G3/2500
BVH	(80°-90°)	144.2	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°	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5
2.5°	3664.4	3666.3	3668.1	3668.1	3673.7	3673.7	3682.9	3688.4	3690.3	3701.4	3708.8
5°	3596.1	3594.2	3596.1	3599.8	3609.0	3616.4	3634.9	3647.8	3658.9	3677.4	3686.6
7.5°	3566.5	3570.2	3573.9	3575.8	3583.2	3601.6	3618.3	3631.2	3653.3	3675.5	3684.7
10°	3605.3	3610.9	3605.3	3609.0	3609.0	3625.6	3633.0	3642.3	3658.9	3679.2	3684.7
12.5°	3695.8	3706.9	3695.8	3686.6	3679.2	3694.0	3690.3	3682.9	3692.1	3697.7	3697.7
15°	3845.4	3845.4	3838.0	3825.1	3806.6	3808.5	3791.9	3775.2	3767.9	3754.9	3745.7
17.5°	3991.3	3987.7	3971.0	3954.4	3941.5	3935.9	3911.9	3889.8	3863.9	3843.6	3821.4
20°	4133.6	4148.3	4128.0	4104.0	4083.7	4070.8	4052.3	4008.0	3976.6	3943.3	3921.2
22.5°	4379.2	4366.3	4344.1	4309.0	4288.7	4266.5	4227.8	4179.7	4131.7	4091.1	4063.4
25°	4632.3	4619.3	4587.9	4562.1	4532.5	4514.0	4471.6	4412.5	4366.3	4303.5	4266.5
27.5°	4903.8	4892.7	4855.7	4835.4	4815.1	4792.9	4756.0	4695.0	4652.6	4580.5	4541.7
30°	5210.4	5208.5	5158.6	5154.9	5125.4	5101.4	5075.5	5023.8	4981.3	4909.3	4863.1
32.5°	5537.3	5529.9	5494.8	5483.7	5504.0	5487.4	5450.5	5396.9	5341.5	5299.0	5247.3
35°	6002.7	5989.8	5969.5	5978.7	5991.6	6037.8	5980.6	5934.4	5867.9	5812.5	5740.4
37.5°	6342.6	6324.1	6348.1	6399.8	6473.7	6508.8	6558.7	6560.5	6529.1	6455.2	6392.4
40°	6654.7	6647.3	6702.7	6774.8	6911.4	7011.2	7105.4	7151.5	7162.6	7114.6	7020.4
42.5°	6918.8	6941.0	7014.9	7125.7	7317.8	7469.2	7644.7	7753.7	7822.0	7796.1	7753.7
45°	7232.8	7243.9	7334.4	7474.8	7657.6	7908.8	8139.7	8324.4	8444.4	8442.6	8394.6
47.5°	7626.2	7628.1	7705.6	7870.0	8065.8	8320.7	8612.5	8858.2	9017.0	9024.4	8987.5
50°	8093.5	8089.8	8174.8	8329.9	8538.6	8784.3	9094.6	9401.2	9622.8	9622.8	9569.3
52.5°	8695.6	8688.2	8734.4	8871.1	9072.4	9331.0	9639.4	9994.1	10234.2	10285.9	10169.5
55°	9499.1	9510.2	9521.2	9641.3	9813.1	10018.1	10372.7	10699.6	11021.0	11050.5	10982.2
57.5°	10428.1	10391.2	10470.6	10666.4	10862.1	11118.9	11370.1	11756.1	12136.6	12201.2	12192.0
60°	11879.8	11831.8	11913.1	12162.4	12378.5	12783.0	13213.4	13712.1	14162.7	14295.7	14135.0
62.5°	13215.2	13274.3	13385.1	13675.1	13989.1	14528.4	15174.9	16030.0	16885.2	17350.6	17317.4
65°	13095.2	13039.7	13252.2	13647.4	14216.3	14903.4	15706.8	16737.4	17969.4	18903.9	18987.1
66°	12650.0	12592.8	12821.8	13274.3	13924.5	14689.1	15581.2	16630.3	17889.9	18946.4	19073.9
67.5°	11914.9	11857.7	12116.3	12528.1	13198.6	14160.9	15125.0	16272.0	17581.5	18593.6	18697.1
70°	10496.4	10418.9	10620.2	11085.6	11628.6	12559.5	13477.5	14692.8	16037.4	16846.4	16885.2
72.5°	8891.4	8710.4	8924.7	9283.0	9670.8	10441.0	11240.8	12071.9	13143.2	13891.2	14105.5
75°	6451.5	6545.7	6608.5	6844.9	7101.7	7738.9	8208.0	8904.3	9733.6	10274.8	10446.6
77.5°	3422.5	3564.7	3653.3	3889.8	4314.6	4800.3	5308.2	5738.6	6283.5	6586.4	6796.9
80°	1920.9	2020.6	2164.7	2351.2	2558.1	2931.2	3232.2	3453.9	3531.4	3585.0	3633.0
82.5°	1056.5	1309.5	1523.8	1653.1	1775.0	1924.6	2103.7	2288.4	2347.5	2258.9	2212.7
85°	164.4	242.0	736.9	899.5	978.9	1093.4	1222.7	1359.4	1361.2	1171.0	1278.1
87.5°	46.2	51.7	105.3	158.8	155.1	125.6	155.1	282.6	166.2	83.1	96.0
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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CATALOG NUMBER: VST-E09-LED-E-U-T4-7050

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5
2.5°	3712.4	3716.1	3725.4	3734.6	3743.8	3753.1	3758.6	3767.9	3775.2	3786.3	3799.3
5°	3697.7	3706.9	3723.5	3743.8	3762.3	3778.9	3791.9	3810.3	3827.0	3841.7	3863.9
7.5°	3697.7	3716.1	3743.8	3766.0	3782.6	3803.0	3823.3	3841.7	3860.2	3875.0	3889.8
10°	3699.5	3718.0	3745.7	3771.6	3790.0	3812.2	3828.8	3845.4	3865.7	3875.0	3893.5
12.5°	3706.9	3714.3	3734.6	3760.5	3782.6	3804.8	3821.4	3838.0	3860.2	3863.9	3876.8
15°	3743.8	3732.8	3738.3	3756.8	3780.8	3799.3	3817.7	3830.7	3845.4	3841.7	3852.8
17.5°	3812.2	3784.5	3773.4	3775.2	3786.3	3799.3	3806.6	3808.5	3810.3	3793.7	3795.6
20°	3904.5	3865.7	3839.9	3827.0	3812.2	3799.3	3778.9	3754.9	3732.8	3699.5	3695.8
22.5°	4043.1	3985.8	3958.1	3923.0	3878.7	3823.3	3773.4	3714.3	3666.3	3616.4	3597.9
25°	4244.4	4185.3	4155.7	4100.3	4020.9	3941.5	3869.4	3790.0	3719.8	3660.7	3633.0
27.5°	4514.0	4454.9	4423.5	4366.3	4268.4	4189.0	4089.2	4004.3	3919.3	3832.5	3797.4
30°	4841.0	4789.2	4754.2	4708.0	4623.0	4536.2	4419.8	4288.7	4153.9	4015.4	3947.0
32.5°	5227.0	5169.7	5143.9	5090.3	5001.6	4911.1	4781.9	4613.8	4388.4	4170.5	4033.8
35°	5709.0	5644.4	5614.8	5544.7	5441.2	5308.2	5169.7	4944.4	4639.6	4336.7	4113.2
37.5°	6353.6	6209.6	6111.7	5951.0	5784.8	5598.2	5400.6	5169.7	4809.6	4434.6	4124.3
40°	6924.4	6778.5	6590.1	6359.2	6100.6	5843.9	5618.5	5356.3	4964.7	4504.8	4089.2
42.5°	7633.6	7375.0	7074.0	6761.8	6418.3	6102.5	5834.6	5526.2	5070.0	4523.3	3991.3
45°	8281.9	7973.5	7570.8	7155.2	6728.6	6331.5	6030.4	5686.9	5160.5	4523.3	3873.1
47.5°	8872.9	8503.5	8021.5	7504.3	7007.5	6573.4	6231.7	5851.3	5287.9	4580.5	3838.0
50°	9419.6	8994.8	8446.3	7846.0	7288.2	6824.6	6457.1	6061.8	5481.9	4728.3	3923.0
52.5°	9995.9	9545.2	8876.6	8239.4	7624.4	7127.5	6736.0	6322.2	5733.1	4961.0	4072.6
55°	10751.3	10223.1	9464.0	8762.1	8086.1	7537.6	7092.4	6634.4	6008.3	5223.3	4255.5
57.5°	11942.6	11176.1	10417.0	9504.6	8867.4	8145.2	7657.6	7131.2	6455.2	5565.0	4530.7
60°	14027.9	13085.9	12173.5	11124.4	10337.6	9582.2	8845.2	8158.2	7343.6	6337.0	5134.6
62.5°	17005.2	16048.5	14615.2	13331.6	12144.0	11142.9	10182.5	9308.8	8263.4	7162.6	5879.0
65°	18783.9	17688.6	15980.2	14255.1	12812.6	11571.4	10472.4	9403.0	8274.5	7201.4	6104.3
66°	18926.1	17889.9	16065.1	14242.1	12744.2	11456.9	10313.6	9207.2	8051.0	7024.1	6030.4
67.5°	18662.0	17769.9	15891.5	13990.9	12459.8	11069.0	9894.3	8734.4	7572.7	6621.5	5784.8
70°	16798.4	16153.8	14543.2	12762.7	11235.2	10008.8	8769.5	7653.9	6553.1	5753.4	5132.8
72.5°	13771.2	12954.8	11828.1	10631.3	9428.9	8341.0	7214.3	6265.0	5341.5	4759.7	4320.1
75°	10116.0	9380.9	8139.7	7393.5	6599.3	5915.9	5156.8	4257.3	3601.6	3309.8	3202.7
77.5°	6412.7	5614.8	4567.6	3743.8	3219.3	2766.8	2181.3	1734.3	1388.9	1446.2	1601.3
80°	3239.6	2790.8	2088.9	1649.4	1425.9	1185.8	938.3	711.1	519.0	592.9	670.5
82.5°	2079.7	1736.2	1383.4	1089.7	919.8	810.8	648.3	471.0	350.9	395.3	483.9
85°	1252.3	1058.3	844.1	690.8	600.3	500.5	367.6	260.4	258.6	277.0	341.7
87.5°	190.2	271.5	157.0	168.1	177.3	190.2	168.1	142.2	123.7	160.7	203.2
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5	3760.5
2.5°	3812.2	3815.9	3823.3	3832.5	3830.7	3843.6	3851.0	3843.6	3860.2	3860.2	3869.4
5°	3882.4	3887.9	3900.8	3910.1	3913.8	3924.9	3928.5	3926.7	3930.4	3932.2	3935.9
7.5°	3902.7	3917.5	3923.0	3928.5	3930.4	3934.1	3934.1	3930.4	3930.4	3928.5	3932.2
10°	3897.1	3902.7	3906.4	3904.5	3904.5	3900.8	3899.0	3897.1	3897.1	3893.5	3899.0
12.5°	3878.7	3878.7	3878.7	3875.0	3875.0	3873.1	3873.1	3873.1	3876.8	3878.7	3887.9
15°	3841.7	3841.7	3845.4	3843.6	3849.1	3858.4	3869.4	3876.8	3886.1	3887.9	3893.5
17.5°	3784.5	3786.3	3797.4	3821.4	3845.4	3873.1	3893.5	3899.0	3891.6	3873.1	3860.2
20°	3684.7	3708.8	3753.1	3810.3	3863.9	3899.0	3908.2	3886.1	3851.0	3803.0	3777.1
22.5°	3596.1	3644.1	3723.5	3817.7	3884.2	3908.2	3880.5	3828.8	3766.0	3710.6	3671.8
25°	3631.2	3686.6	3769.7	3851.0	3893.5	3880.5	3825.1	3751.2	3684.7	3620.1	3557.3
27.5°	3778.9	3834.4	3893.5	3917.5	3902.7	3854.7	3777.1	3697.7	3609.0	3516.7	3439.1
30°	3919.3	3950.7	3954.4	3930.4	3876.8	3799.3	3708.8	3616.4	3503.7	3392.9	3295.0
32.5°	3963.6	3926.7	3860.2	3791.9	3718.0	3638.6	3533.3	3411.4	3291.3	3165.7	3056.8
35°	3950.7	3801.1	3636.7	3490.8	3402.2	3311.7	3215.6	3053.1	2918.2	2811.1	2740.9
37.5°	3834.4	3561.0	3308.0	3095.6	2957.0	2849.9	2707.7	2572.9	2456.5	2408.5	2351.2
40°	3671.8	3254.4	2903.5	2606.1	2462.0	2325.4	2166.5	2063.1	2029.8	1985.5	1987.4
42.5°	3439.1	2896.1	2443.6	2101.9	1944.9	1795.3	1682.6	1621.7	1623.5	1586.6	1594.0
45°	3193.4	2535.9	1967.0	1627.2	1472.1	1344.6	1281.8	1263.3	1265.2	1267.0	1256.0
47.5°	3043.8	2255.2	1577.3	1233.8	1097.1	1025.1	991.8	982.6	984.4	986.3	973.4
50°	3021.7	2109.3	1316.9	943.8	855.2	814.5	797.9	788.7	788.7	781.3	770.2
52.5°	3084.5	2072.3	1189.5	818.2	733.3	696.3	683.4	676.0	664.9	650.1	629.8
55°	3184.2	2105.6	1150.7	775.7	692.6	655.7	639.1	635.4	616.9	589.2	555.9
57.5°	3368.9	2225.6	1176.5	786.8	700.0	666.8	655.7	652.0	626.1	583.6	541.2
60°	3899.0	2574.7	1305.8	849.6	753.6	725.9	725.9	720.3	685.2	624.3	563.3
62.5°	4630.4	3086.3	1481.3	936.4	827.5	823.8	855.2	857.0	794.2	696.3	600.3
65°	4983.2	3326.4	1542.2	954.9	847.8	890.2	953.0	953.0	864.4	729.6	605.8
66°	4985.0	3320.9	1523.8	932.7	825.6	881.0	945.7	945.7	853.3	720.3	596.6
67.5°	4857.6	3217.5	1462.8	892.1	775.7	827.5	884.7	882.9	799.7	683.4	570.7
70°	4357.0	2846.2	1289.2	825.6	716.6	718.5	738.8	725.9	670.5	591.0	519.0
72.5°	3756.8	2380.8	1117.4	783.1	670.5	635.4	618.7	607.7	572.6	524.5	480.2
75°	2881.3	1848.8	973.4	744.3	629.8	568.9	546.7	537.5	513.5	485.8	450.7
77.5°	1765.7	1267.0	825.6	681.5	583.6	528.2	504.2	485.8	461.7	435.9	411.9
80°	761.0	764.7	661.2	578.1	507.9	443.3	411.9	389.7	376.8	367.6	354.6
82.5°	531.9	548.6	504.2	448.8	387.9	341.7	314.0	308.4	310.3	310.3	306.6
85°	398.9	391.6	352.8	321.4	293.7	264.1	242.0	240.1	247.5	247.5	242.0
87.5°	230.9	232.7	199.5	186.5	193.9	166.2	151.5	153.3	171.8	169.9	166.2
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°	3760.5	3760.5	3760.5	3760.5	3760.5
2.5°	3869.4	3875.0	3873.1	3878.7	3873.1
5°	3941.5	3939.6	3937.8	3945.2	3935.9
7.5°	3930.4	3932.2	3932.2	3932.2	3930.4
10°	3902.7	3910.1	3913.8	3921.2	3919.3
12.5°	3893.5	3904.5	3915.6	3926.7	3928.5
15°	3895.3	3902.7	3908.2	3913.8	3915.6
17.5°	3847.3	3845.4	3839.9	3836.2	3832.5
20°	3749.4	3740.2	3730.9	3716.1	3723.5
22.5°	3627.5	3601.6	3572.1	3548.1	3546.2
25°	3485.3	3437.2	3389.2	3357.8	3346.7
27.5°	3359.7	3302.4	3252.5	3224.8	3217.5
30°	3210.1	3158.4	3114.0	3090.0	3075.2
32.5°	2988.4	2947.8	2892.4	2873.9	2872.1
35°	2680.0	2648.6	2609.8	2602.4	2593.2
37.5°	2330.9	2319.8	2301.3	2279.2	2275.5
40°	1957.8	1965.2	1959.7	1946.7	1926.4
42.5°	1597.6	1610.6	1612.4	1621.7	1630.9
45°	1272.6	1283.7	1283.7	1292.9	1304.0
47.5°	977.1	969.7	975.2	984.4	990.0
50°	738.8	733.3	724.0	716.6	709.2
52.5°	594.7	583.6	557.8	550.4	543.0
55°	524.5	504.2	485.8	478.4	478.4
57.5°	504.2	478.4	458.1	448.8	445.1
60°	507.9	471.0	445.1	430.3	424.8
62.5°	524.5	472.8	437.7	421.1	415.6
65°	522.7	469.1	435.9	417.4	411.9
66°	513.5	463.6	432.2	415.6	411.9
67.5°	498.7	456.2	428.5	413.7	408.2
70°	469.1	441.4	421.1	408.2	402.6
72.5°	445.1	426.7	408.2	393.4	389.7
75°	423.0	404.5	387.9	380.5	374.9
77.5°	389.7	373.1	363.9	356.5	352.8
80°	345.4	334.3	323.2	315.8	310.3
82.5°	301.1	286.3	275.2	269.7	266.0
85°	245.6	236.4	219.8	208.7	206.9
87.5°	164.4	155.1	149.6	140.4	131.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)