

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: P158711

Luminaire Tested: **VST-E09-LED-E-U-SL4-7050**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P158711  
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-E09-LED-E-U-SL4-7050  
Description: VENTUS LED SITE/ROADWAY LUMINAIRE  
(9) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL  
Light Source: (189) 5000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

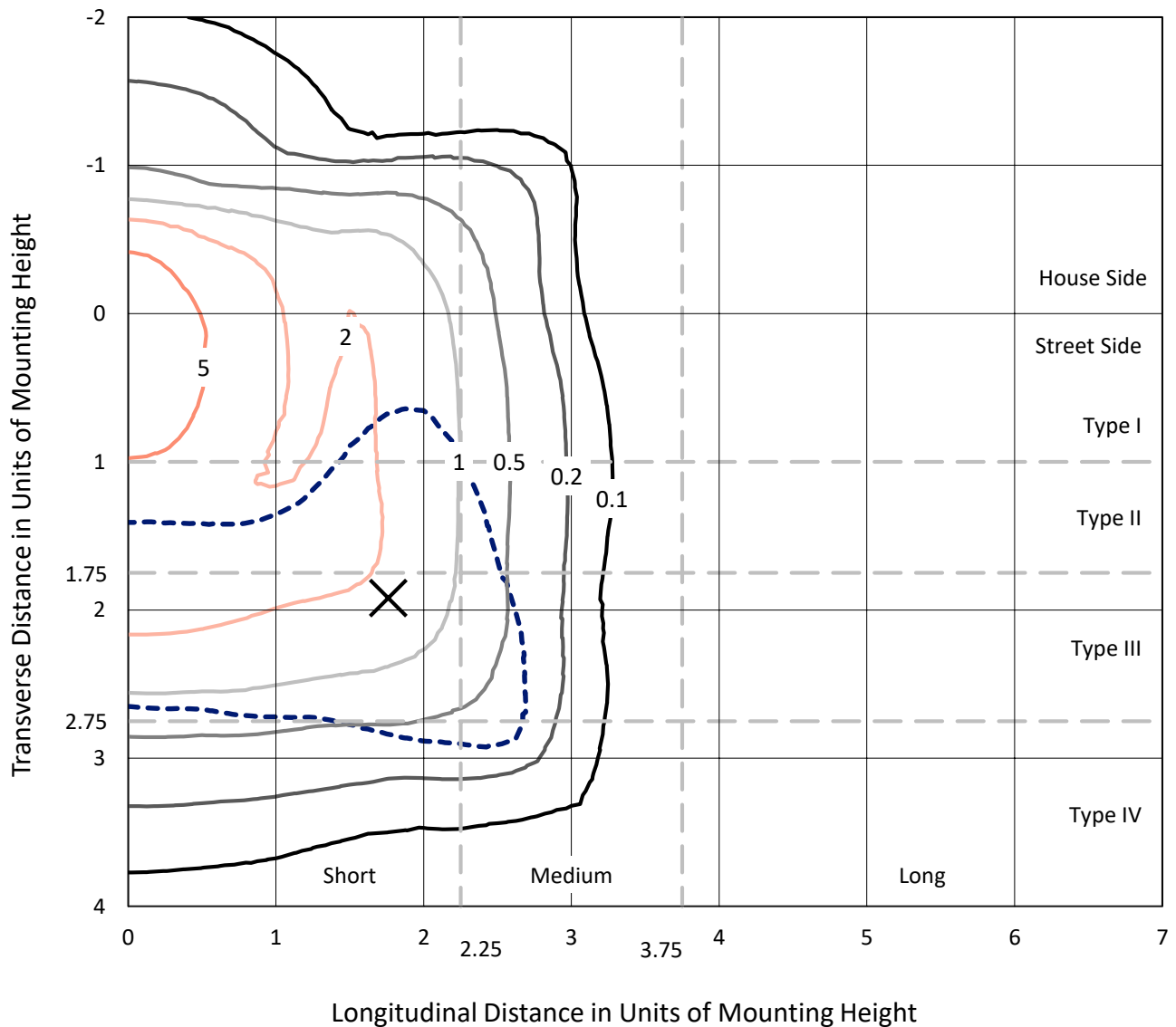
Lumens per Lamp: N/A  
Luminaire Lumens: 26790 lumens  
Efficiency: N/A  
Efficacy: 118.7 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Full Cutoff  
BUG Rating: B3 - U0 - G4  
  
Input Watts (W): 225.7  
Input Voltage (V): NR  
Input Current (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

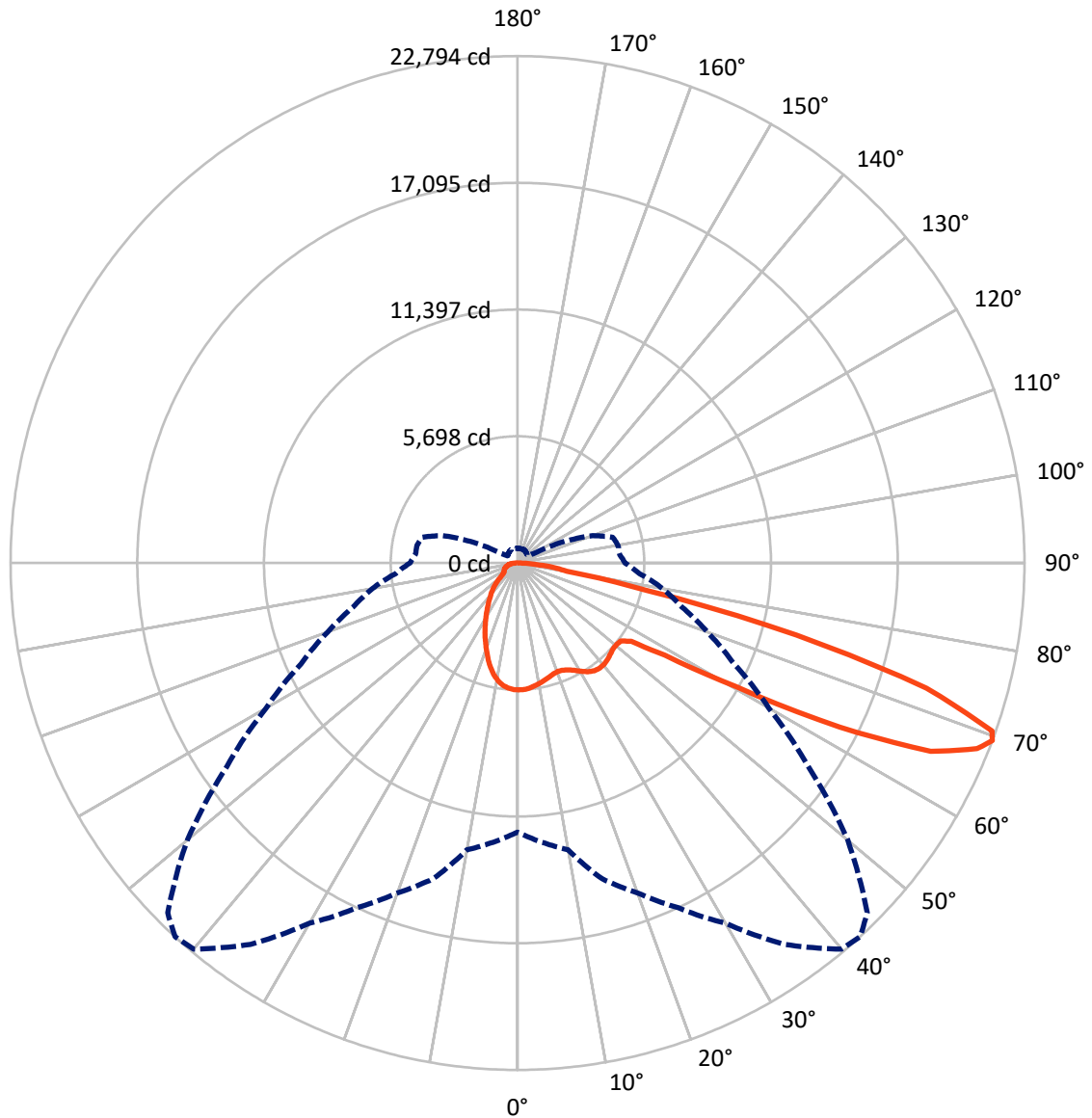
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.1 fc  
 Type IV - Short - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 42.5-Deg Lateral    - - - Horizontal Cone Through 69-Deg Vertical



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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	5955.8	0.0	5955.8
	% Fixture	22.2	0.0	22.2
<b>Street Side</b>	Lumens	20834.1	0.0	20834.1
	% Fixture	77.8	0.0	77.8
<b>Total</b>	Lumens	26790.0	0.0	26790.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	531.1	2.0
10°-20°	1431.4	5.3
20°-30°	2087.2	7.8
30°-40°	2660.8	9.9
40°-50°	3095.9	11.6
50°-60°	4710.5	17.6
60°-70°	8320.9	31.1
70°-80°	3433.7	12.8
80°-90°	518.5	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°	26790.0	100.0
0°-180°	26790.0	100.0

**Coefficient of Utilization**



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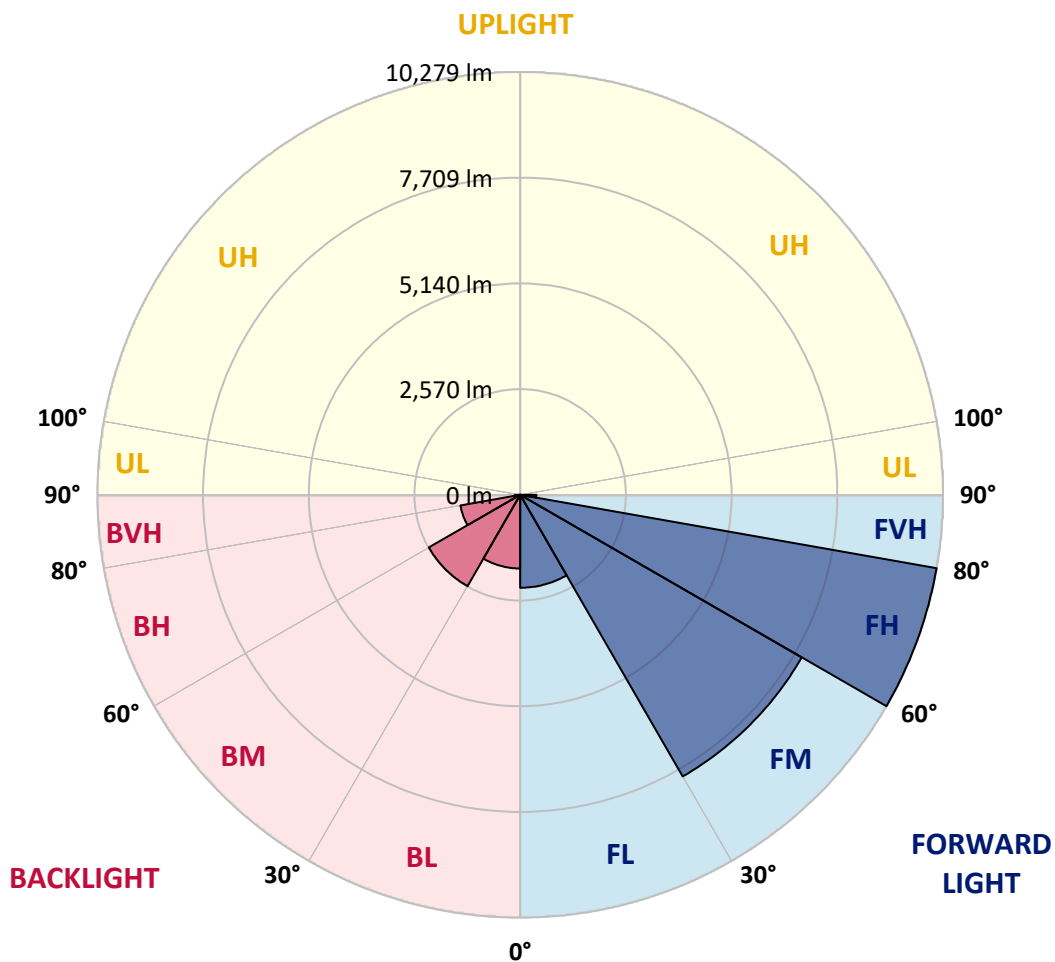
CATALOG NUMBER: VST-E09-LED-E-U-SL4-7050

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2259.0	8.4			
FM	(30°-60°)	7903.7	29.5			
FH	(60°-80°)	10279.3	38.4			G4/12000
FVH	(80°-90°)	392.1	1.5			G3/500
BL	(0°-30°)	1790.7	6.7	B3/2500		
BM	(30°-60°)	2563.5	9.6	B3/5000		
BH	(60°-80°)	1475.2	5.5	B3/2500		G3/2500
BVH	(80°-90°)	126.4	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°	42.5°	45°
0°	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4
2.5°	5686.9	5707.2	5699.8	5699.8	5705.4	5696.1	5696.1	5699.8	5690.6	5696.1	5694.3
5°	5666.6	5677.6	5674.0	5674.0	5674.0	5666.6	5662.9	5661.0	5648.1	5648.1	5642.6
7.5°	5622.2	5625.9	5631.5	5624.1	5622.2	5620.4	5607.5	5600.1	5585.3	5572.4	5576.1
10°	5563.1	5561.3	5570.5	5565.0	5557.6	5552.1	5541.0	5528.0	5511.4	5494.8	5492.9
12.5°	5496.6	5494.8	5502.2	5498.5	5492.9	5481.9	5472.6	5450.5	5424.6	5404.3	5402.4
15°	5454.2	5448.6	5456.0	5448.6	5439.4	5428.3	5411.7	5384.0	5337.8	5317.5	5300.9
17.5°	5494.8	5485.6	5489.3	5480.0	5467.1	5437.5	5398.8	5339.6	5273.2	5238.1	5212.2
20°	5637.0	5620.4	5624.1	5614.8	5585.3	5546.5	5472.6	5369.2	5256.5	5199.3	5158.6
22.5°	5840.2	5827.3	5832.8	5823.6	5794.0	5734.9	5624.1	5476.3	5315.6	5232.5	5167.9
25°	6148.6	6159.7	6163.4	6120.9	6104.3	5995.3	5842.0	5637.0	5422.8	5324.9	5236.2
27.5°	6495.9	6495.9	6512.5	6495.9	6462.6	6335.2	6119.1	5871.6	5596.4	5463.4	5356.3
30°	6833.9	6830.2	6861.6	6857.9	6804.3	6660.2	6414.6	6113.5	5799.5	5649.9	5513.3
32.5°	7192.2	7203.3	7223.6	7216.2	7146.0	6946.5	6651.0	6324.1	5993.5	5829.1	5675.8
35°	7580.0	7585.6	7593.0	7589.3	7447.1	7195.9	6824.6	6458.9	6115.4	5952.8	5794.0
37.5°	7967.9	7962.4	7953.1	7873.7	7711.2	7362.1	6929.9	6536.5	6176.3	6000.9	5836.5
40°	8315.1	8283.7	8254.2	8130.4	7881.1	7456.3	6970.5	6555.0	6170.8	5989.8	5829.1
42.5°	8505.4	8470.3	8409.3	8254.2	7951.3	7465.5	6942.8	6499.6	6113.5	5934.4	5775.5
45°	8540.5	8514.6	8455.5	8281.9	7934.7	7406.4	6857.9	6409.1	6028.6	5849.4	5699.8
47.5°	8457.4	8437.0	8379.8	8208.0	7862.6	7317.8	6760.0	6313.0	5945.5	5777.4	5633.3
50°	8329.9	8311.5	8267.1	8110.1	7781.4	7256.8	6710.1	6263.1	5917.8	5764.5	5631.5
52.5°	8536.8	8551.6	8422.3	8250.5	7868.2	7310.4	6765.5	6314.9	5967.6	5816.2	5677.6
55°	11752.4	11732.1	10954.5	10302.5	9137.1	8080.6	7291.9	6724.9	6353.6	6202.2	6072.9
57.5°	15270.9	15200.7	14881.2	14271.7	13019.4	11347.9	9827.8	8534.9	8025.2	7807.2	7822.0
60°	16419.7	16445.6	16377.3	16161.2	15712.3	14842.4	13686.2	12714.7	11757.9	11290.6	11344.2
62.5°	17057.0	17103.1	17162.2	17114.2	16968.3	16767.0	16621.1	16709.7	16576.7	16240.6	15972.8
65°	17145.6	17239.8	17435.6	17590.7	17666.5	17856.7	18303.7	19374.9	20353.8	20418.5	19947.5
67.5°	15391.0	15651.4	16076.2	16794.7	17409.7	18085.7	19164.4	20793.4	22237.8	22285.8	21846.2
69°	12101.5	12602.0	13098.9	14703.9	15784.4	17108.7	18704.5	20930.1	22660.7	22793.7	22239.6
70°	9696.7	9994.1	10422.6	12035.0	13649.3	15337.4	17649.8	20479.4	22370.7	22638.6	22027.2
72.5°	5821.7	5936.2	6084.0	6662.1	7493.2	8996.7	12062.7	16696.8	18870.7	19229.0	18451.4
75°	3764.2	3756.8	3769.7	3930.4	3978.4	4266.5	5232.5	8590.3	12310.2	12960.3	12029.4
77.5°	2835.1	2861.0	2820.4	2835.1	2822.2	2899.8	2929.3	3075.2	4859.4	5986.1	5352.6
80°	2502.7	2515.6	2517.4	2510.1	2419.6	2412.2	2460.2	2377.1	2209.0	2242.2	2148.0
82.5°	1427.7	1425.9	1442.5	1568.1	1619.8	1789.7	1859.9	1898.7	1752.8	1643.8	1486.8
85°	925.3	932.7	951.2	990.0	951.2	966.0	949.4	982.6	901.3	836.7	748.0
87.5°	378.6	378.6	402.6	437.7	408.2	400.8	343.5	339.8	288.1	260.4	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):**

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4
2.5°	5683.2	5694.3	5688.7	5696.1	5690.6	5690.6	5683.2	5681.3	5686.9	5679.5	5681.3
5°	5633.3	5635.2	5625.9	5629.6	5618.5	5614.8	5609.3	5594.5	5603.8	5594.5	5598.2
7.5°	5561.3	5555.7	5542.8	5524.3	5511.4	5505.9	5494.8	5474.5	5478.2	5461.5	5470.8
10°	5468.9	5450.5	5428.3	5400.6	5382.1	5365.5	5341.5	5317.5	5304.6	5289.8	5287.9
12.5°	5365.5	5343.3	5313.8	5271.3	5230.7	5203.0	5166.0	5123.5	5110.6	5086.6	5073.7
15°	5252.8	5217.7	5182.7	5134.6	5090.3	5047.8	4998.0	4944.4	4909.3	4872.4	4844.7
17.5°	5151.3	5110.6	5064.4	5018.3	4970.2	4918.5	4855.7	4789.2	4737.5	4669.2	4613.8
20°	5071.8	5020.1	4973.9	4925.9	4872.4	4809.6	4733.8	4648.9	4562.1	4486.3	4421.7
22.5°	5040.4	4959.2	4903.8	4855.7	4802.2	4728.3	4635.9	4536.2	4430.9	4325.7	4240.7
25°	5066.3	4946.2	4859.4	4802.2	4756.0	4680.3	4576.8	4454.9	4333.0	4207.4	4092.9
27.5°	5142.0	4988.7	4863.1	4772.6	4719.1	4643.3	4534.4	4405.1	4261.0	4120.6	3980.3
30°	5260.2	5060.8	4901.9	4774.5	4691.4	4604.5	4490.0	4340.4	4194.5	4033.8	3880.5
32.5°	5374.7	5136.5	4946.2	4781.9	4654.4	4541.7	4414.3	4266.5	4109.6	3941.5	3782.6
35°	5456.0	5186.3	4962.9	4765.2	4597.2	4456.8	4320.1	4172.3	4019.0	3847.3	3684.7
37.5°	5494.8	5214.1	4964.7	4720.9	4521.4	4366.3	4220.4	4074.5	3930.4	3767.9	3614.6
40°	5492.9	5212.2	4938.9	4663.6	4430.9	4266.5	4122.5	3980.3	3845.4	3703.2	3564.7
42.5°	5452.3	5182.7	4901.9	4608.2	4366.3	4183.4	4033.8	3897.1	3782.6	3657.0	3540.7
45°	5389.5	5132.8	4863.1	4582.4	4347.8	4165.0	4006.1	3873.1	3771.6	3657.0	3557.3
47.5°	5341.5	5105.1	4868.7	4628.6	4405.1	4214.8	4046.8	3900.8	3814.0	3721.7	3651.5
50°	5348.9	5118.0	4887.1	4656.3	4445.7	4253.6	4091.1	3958.1	3895.3	3871.3	3854.7
52.5°	5387.7	5138.3	4942.5	4804.0	4732.0	4587.9	4491.9	4408.8	4454.9	4364.4	4257.3
55°	5882.7	5801.4	5991.6	6170.8	6398.0	6482.9	6401.7	6386.9	6460.8	6154.2	5450.5
57.5°	7927.3	8137.8	8431.5	8586.7	8775.0	8725.2	8536.8	8379.8	8195.1	7836.8	6959.5
60°	11405.2	11246.3	11113.3	10738.4	10431.8	10073.5	9674.5	9332.8	9005.9	8490.6	7541.3
62.5°	14988.3	13885.7	12964.0	12073.8	11357.1	10762.4	10184.3	9670.8	9175.8	8457.4	7436.0
65°	18087.6	15765.9	14035.3	12729.5	11682.2	10779.0	10036.5	9327.3	8697.5	7855.2	6844.9
67.5°	19480.2	16571.2	14053.7	12182.7	10732.9	9506.5	8546.0	7474.8	6769.2	6229.9	5661.0
69°	19376.8	15956.1	13050.8	10747.6	9081.6	7652.1	6621.5	5504.0	4828.0	4599.0	4586.1
70°	18885.5	14914.4	11879.8	9582.2	7676.1	6255.8	5267.6	4264.7	3634.9	3477.9	3756.8
72.5°	15418.7	10538.9	7445.2	5685.0	4371.8	3455.7	2818.5	2236.7	1786.0	1547.8	1599.5
75°	8708.6	4879.7	3154.7	2384.5	2015.1	1666.0	1429.6	1219.0	1102.7	895.8	709.2
77.5°	3165.7	2094.5	1666.0	1440.7	1021.4	703.7	589.2	515.3	467.3	467.3	445.1
80°	2002.1	1577.3	1100.8	753.6	557.8	485.8	424.8	373.1	343.5	336.2	343.5
82.5°	1250.4	966.0	616.9	472.8	397.1	356.5	310.3	271.5	247.5	242.0	253.0
85°	616.9	478.4	374.9	334.3	314.0	291.8	256.7	219.8	212.4	227.2	266.0
87.5°	184.7	164.4	134.8	140.4	147.8	144.1	114.5	99.7	94.2	123.7	193.9
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°	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4	5705.4
2.5°	5685.0	5683.2	5686.9	5681.3	5685.0	5686.9	5683.2	5699.8	5688.7	5690.6	5698.0
5°	5601.9	5598.2	5613.0	5609.3	5616.7	5624.1	5620.4	5644.4	5635.2	5642.6	5657.3
7.5°	5463.4	5470.8	5472.6	5472.6	5487.4	5511.4	5517.0	5531.7	5531.7	5552.1	5566.8
10°	5278.7	5280.5	5291.6	5289.8	5308.2	5334.1	5337.8	5363.7	5372.9	5406.1	5426.5
12.5°	5064.4	5055.2	5053.4	5051.5	5075.5	5103.2	5106.9	5151.3	5169.7	5199.3	5232.5
15°	4824.3	4800.3	4792.9	4807.7	4802.2	4818.8	4835.4	4859.4	4885.3	4944.4	4973.9
17.5°	4589.8	4541.7	4528.8	4512.2	4495.6	4495.6	4503.0	4532.5	4586.1	4617.5	4684.0
20°	4349.7	4292.4	4246.2	4201.9	4163.1	4148.3	4150.2	4187.1	4225.9	4277.6	4340.4
22.5°	4148.3	4061.5	3982.1	3923.0	3843.6	3841.7	3830.7	3841.7	3884.2	3897.1	3932.2
25°	3974.7	3858.4	3751.2	3655.2	3577.6	3537.0	3525.9	3522.2	3501.9	3496.4	3470.5
27.5°	3839.9	3699.5	3561.0	3444.6	3348.6	3293.2	3223.0	3173.1	3101.1	3082.6	3036.5
30°	3729.1	3577.6	3426.2	3274.7	3165.7	3066.0	2947.8	2861.0	2750.2	2678.1	2615.3
32.5°	3621.9	3468.6	3315.3	3165.7	2997.7	2842.5	2687.4	2552.5	2428.8	2318.0	2225.6
35°	3533.3	3387.4	3232.2	3051.2	2837.0	2613.5	2426.9	2273.6	2103.7	1987.4	1871.0
37.5°	3476.0	3343.1	3187.9	2938.6	2663.4	2423.3	2210.8	2024.3	1850.7	1675.2	1544.1
40°	3450.2	3333.8	3139.9	2835.1	2511.9	2245.9	2011.4	1804.5	1582.9	1385.2	1244.9
42.5°	3448.3	3330.1	3073.4	2720.6	2386.3	2096.3	1835.9	1588.4	1342.8	1139.6	1001.1
45°	3481.6	3324.6	3003.2	2624.6	2275.5	1972.6	1662.3	1361.2	1086.0	934.6	860.7
47.5°	3570.2	3333.8	2945.9	2535.9	2170.2	1823.0	1462.8	1111.9	884.7	814.5	814.5
50°	3729.1	3387.4	2931.2	2473.1	2064.9	1649.4	1219.0	897.6	783.1	783.1	805.3
52.5°	3972.9	3500.0	2957.0	2428.8	1933.8	1420.3	960.4	773.9	751.7	772.0	801.6
55°	4534.4	3699.5	2992.1	2353.1	1734.3	1126.7	792.4	731.4	740.6	764.7	792.4
57.5°	5565.0	4126.2	3029.1	2186.8	1412.9	868.1	718.5	714.8	731.4	753.6	777.6
60°	6242.8	4669.2	3123.3	1935.6	1069.4	716.6	681.5	703.7	724.0	742.5	761.0
62.5°	6242.8	4822.5	3193.4	1654.9	803.4	652.0	657.5	692.6	716.6	725.9	736.9
65°	5843.9	4541.7	2955.2	1348.3	653.8	615.0	635.4	670.5	692.6	700.0	709.2
67.5°	5106.9	4011.7	2489.7	1015.8	583.6	583.6	609.5	635.4	653.8	668.6	683.4
69°	4440.2	3599.8	2192.4	860.7	555.9	559.6	585.5	607.7	629.8	648.3	666.8
70°	3959.9	3291.3	1985.5	781.3	539.3	541.2	567.0	591.0	611.4	631.7	653.8
72.5°	2120.3	2273.6	1509.0	640.9	496.8	502.4	526.4	548.6	567.0	587.3	607.7
75°	722.2	977.1	960.4	524.5	448.8	463.6	478.4	498.7	522.7	535.6	546.7
77.5°	423.0	437.7	511.6	426.7	404.5	411.9	428.5	445.1	465.4	478.4	487.6
80°	354.6	352.8	354.6	347.2	352.8	369.4	380.5	402.6	421.1	424.8	423.0
82.5°	288.1	302.9	304.8	301.1	317.7	330.6	339.8	352.8	350.9	354.6	362.0
85°	256.7	254.9	267.8	269.7	269.7	260.4	262.3	262.3	262.3	267.8	269.7
87.5°	256.7	214.3	166.2	149.6	157.0	147.8	140.4	138.5	153.3	168.1	164.4
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°	5705.4	5705.4	5705.4	5705.4	5705.4
2.5°	5701.7	5707.2	5703.5	5703.5	5707.2
5°	5662.9	5672.1	5668.4	5672.1	5672.1
7.5°	5574.2	5587.1	5596.4	5605.6	5600.1
10°	5446.8	5468.9	5483.7	5494.8	5489.3
12.5°	5256.5	5276.8	5308.2	5326.7	5311.9
15°	4996.1	5053.4	5071.8	5097.7	5082.9
17.5°	4724.6	4759.7	4781.9	4805.9	4820.6
20°	4362.6	4390.3	4419.8	4430.9	4414.3
22.5°	3926.7	3941.5	3935.9	3952.6	3919.3
25°	3448.3	3457.6	3452.0	3466.8	3439.1
27.5°	2995.8	2994.0	2995.8	2977.3	2958.9
30°	2559.9	2543.3	2535.9	2508.2	2502.7
32.5°	2170.2	2113.0	2083.4	2042.8	2033.5
35°	1780.5	1699.2	1645.7	1599.5	1579.2
37.5°	1431.4	1333.5	1270.7	1230.1	1224.6
40°	1132.2	1041.7	997.4	975.2	971.5
42.5°	923.5	884.7	873.6	873.6	873.6
45°	842.2	840.4	849.6	857.0	858.9
47.5°	825.6	836.7	849.6	860.7	864.4
50°	825.6	836.7	845.9	857.0	860.7
52.5°	821.9	831.1	834.8	842.2	845.9
55°	810.8	816.4	816.4	820.1	823.8
57.5°	792.4	796.1	790.5	794.2	803.4
60°	773.9	777.6	768.3	777.6	783.1
62.5°	753.6	755.4	751.7	759.1	759.1
65°	720.3	716.6	722.2	727.7	729.6
67.5°	687.1	677.8	683.4	685.2	688.9
69°	661.2	655.7	657.5	661.2	664.9
70°	642.8	639.1	642.8	648.3	653.8
72.5°	596.6	598.4	611.4	622.4	633.5
75°	554.1	567.0	583.6	607.7	620.6
77.5°	502.4	511.6	524.5	550.4	574.4
80°	434.0	439.6	441.4	450.7	448.8
82.5°	352.8	347.2	343.5	339.8	338.0
85°	253.0	251.2	236.4	225.3	225.3
87.5°	151.5	144.1	136.7	127.4	121.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)