

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: P159403

Luminaire Tested: **VST-F12-LED-E-U-T2-8030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P159403  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33705)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: VST-F12-LED-E-U-T2-8030  
Description: VENTUS LED SITE/ROADWAY LUMINAIRE  
(12) LIGHTBARS WITH AccuLED OPTICS - TYPE 2 AREA  
Light Source: (84) 3000K CCT, 80 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 25807.5 lumens  
Efficiency: N/A  
Efficacy: 84.2 lumens/watt  
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')  
IES Classification: Type II - Short - Semi-Cutoff  
BUG Rating: B4 - U0 - G4

Input Watts (W): 306.6  
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



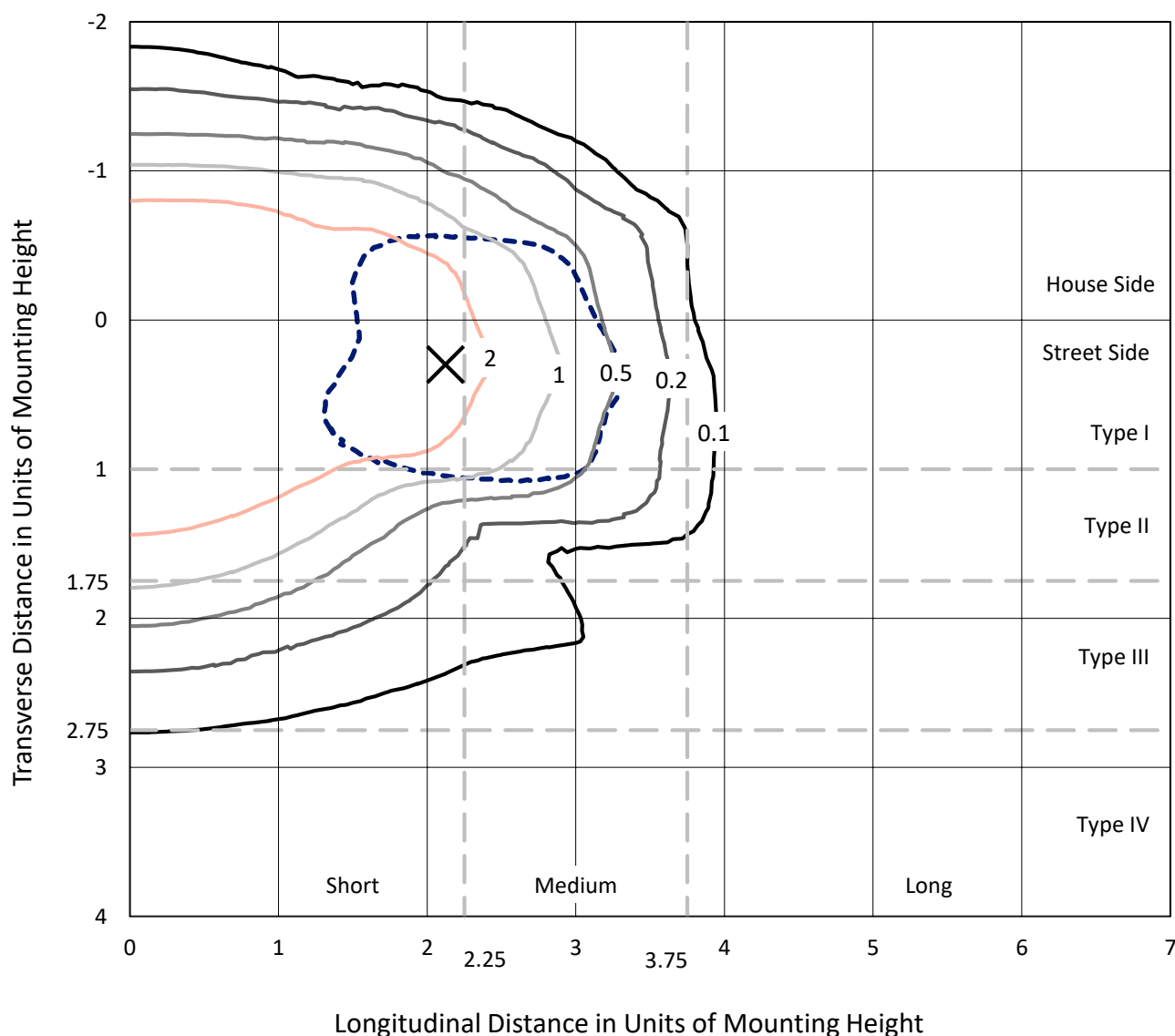
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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

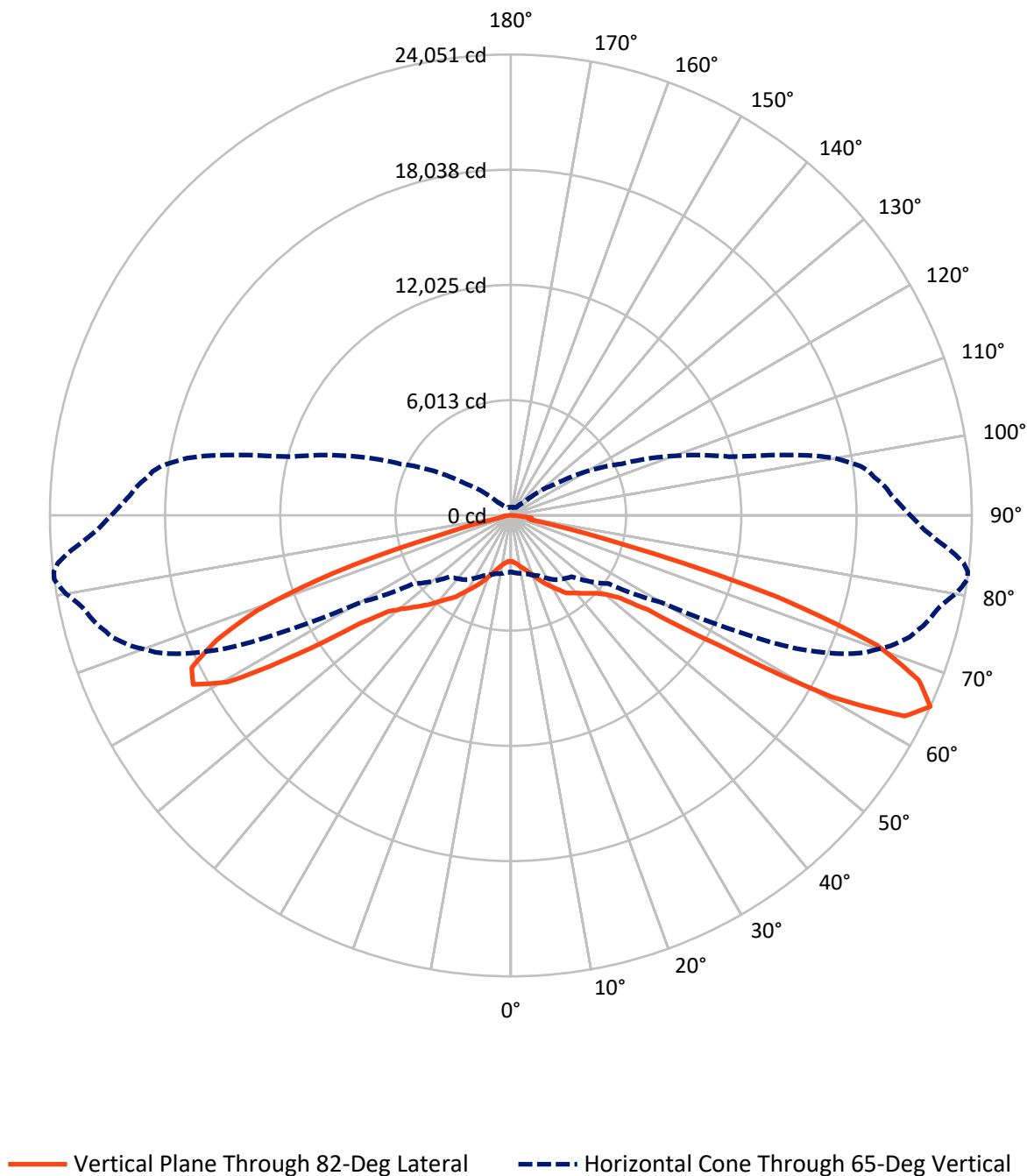


Based on 25 foot mounting height. Maximum calculated value = 4.9 fc  
 Type II - Short - Semi-Cutoff

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## Luminous Intensity Polar Plot



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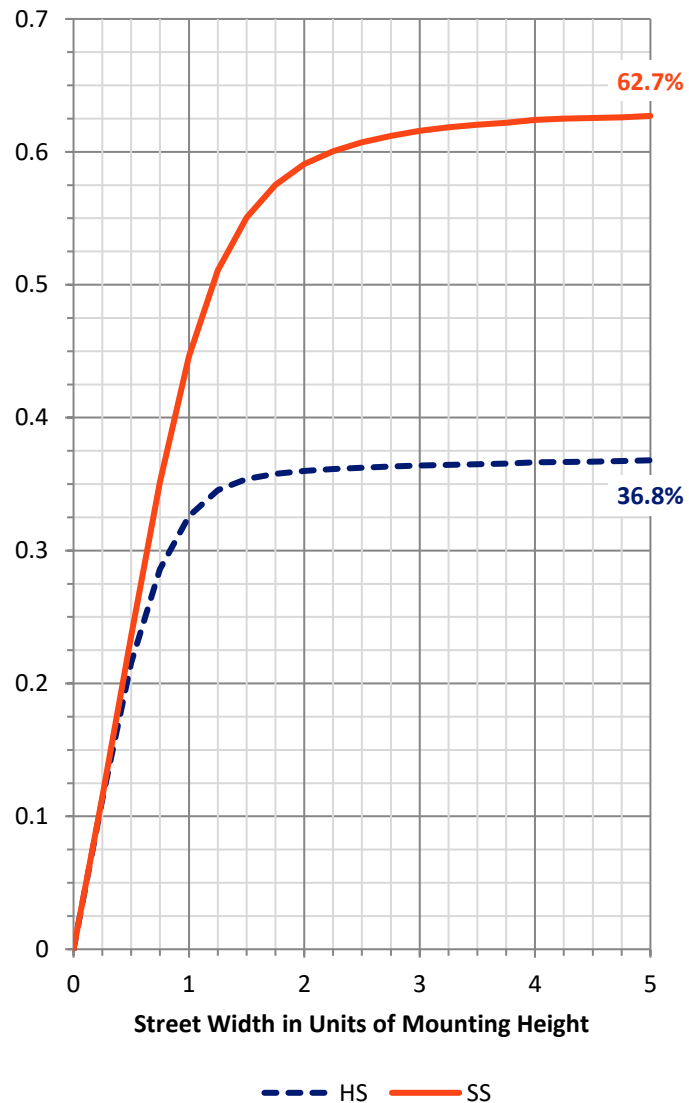
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 9609.0   | 0.0    | 9609.0  |
|                    | % Fixture | 37.2     | 0.0    | 37.2    |
| <b>Street Side</b> | Lumens    | 16198.5  | 0.0    | 16198.5 |
|                    | % Fixture | 62.8     | 0.0    | 62.8    |
| <b>Total</b>       | Lumens    | 25807.5  | 0.0    | 25807.5 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 243.1   | 0.9       |
| 10°-20°   | 854.2   | 3.3       |
| 20°-30°   | 1692.5  | 6.6       |
| 30°-40°   | 2901.3  | 11.2      |
| 40°-50°   | 4358.5  | 16.9      |
| 50°-60°   | 6055.3  | 23.5      |
| 60°-70°   | 6908.2  | 26.8      |
| 70°-80°   | 2379.8  | 9.2       |
| 80°-90°   | 414.8   | 1.6       |
| 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°    | 25807.5 | 100.0     |
| 0°-180°   | 25807.5 | 100.0     |

**Coefficient of Utilization**



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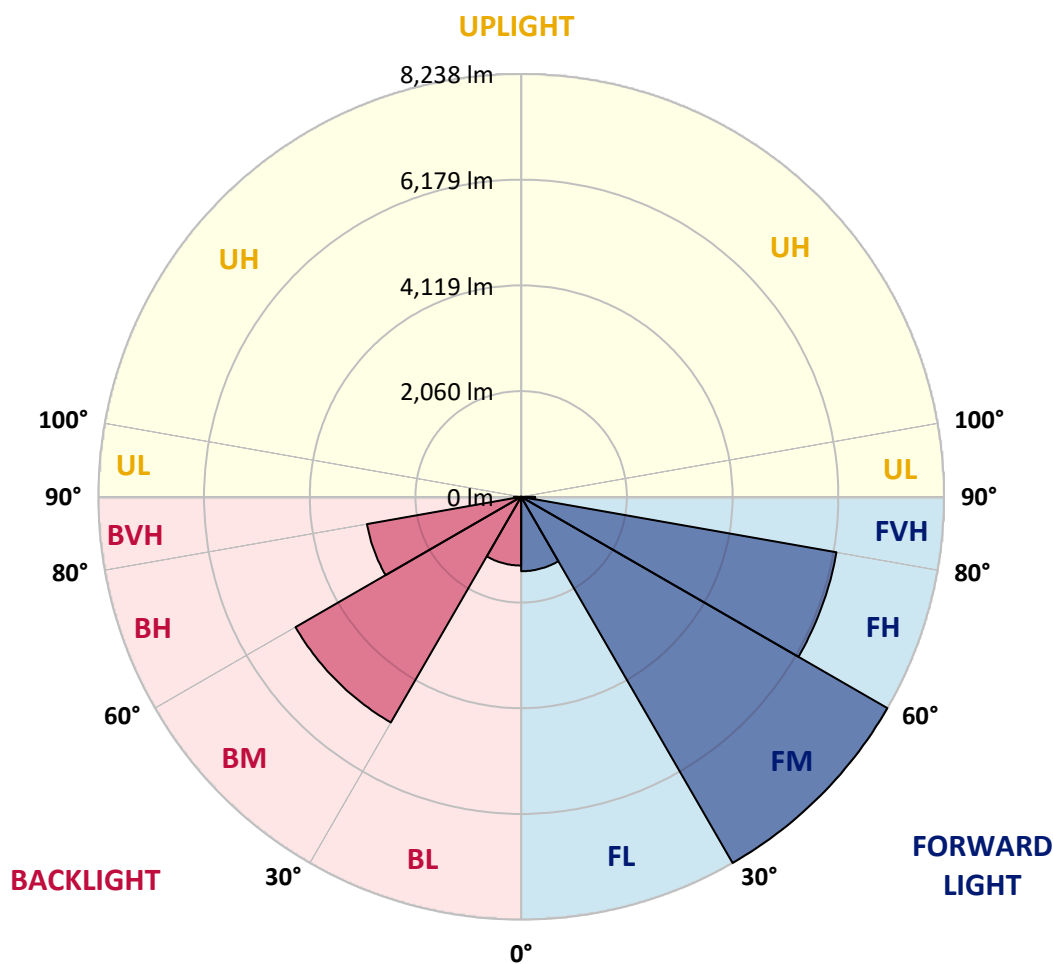
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 1449.8 | 5.6       |                         |      |         |
| FM   | (30°-60°)   | 8238.3 | 31.9      |                         |      |         |
| FH   | (60°-80°)   | 6237.4 | 24.2      |                         |      | G3/7500 |
| FVH  | (80°-90°)   | 273.0  | 1.1       |                         |      | G3/500  |
| BL   | (0°-30°)    | 1339.9 | 5.2       | B3/2500                 |      |         |
| BM   | (30°-60°)   | 5076.8 | 19.7      | B4/8500                 |      |         |
| BH   | (60°-80°)   | 3050.6 | 11.8      | B4/5000                 |      | G4/5000 |
| BVH  | (80°-90°)   | 141.7  | 0.5       |                         |      | 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°     | 15°    | 25°    | 35°    | 45°    | 55°     | 60°     | 61°     | 62°     | 64°     |
|-------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| 0°    | 2401.2 | 2401.2 | 2401.2 | 2401.2 | 2401.2 | 2401.2 | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  |
| 2.5°  | 2531.7 | 2533.3 | 2531.7 | 2526.6 | 2525.0 | 2509.9 | 2493.2  | 2484.8  | 2483.2  | 2476.5  | 2478.1  |
| 5°    | 2688.8 | 2683.8 | 2677.1 | 2668.8 | 2660.4 | 2635.3 | 2606.9  | 2591.9  | 2586.8  | 2581.8  | 2575.1  |
| 7.5°  | 2829.3 | 2832.6 | 2829.3 | 2817.6 | 2795.9 | 2764.1 | 2727.3  | 2703.9  | 2702.2  | 2697.2  | 2692.2  |
| 10°   | 3009.9 | 3018.3 | 2998.2 | 2978.1 | 2948.0 | 2899.5 | 2857.7  | 2827.6  | 2822.6  | 2815.9  | 2812.6  |
| 12.5° | 3205.5 | 3207.2 | 3200.5 | 3155.4 | 3105.2 | 3038.3 | 2978.1  | 2948.0  | 2941.3  | 2933.0  | 2929.6  |
| 15°   | 3414.6 | 3416.2 | 3379.4 | 3336.0 | 3259.1 | 3178.8 | 3095.2  | 3061.7  | 3053.4  | 3055.0  | 3041.7  |
| 17.5° | 3580.1 | 3583.5 | 3548.3 | 3493.2 | 3401.2 | 3305.9 | 3215.6  | 3188.8  | 3183.8  | 3185.5  | 3178.8  |
| 20°   | 3652.0 | 3657.0 | 3635.3 | 3593.5 | 3506.5 | 3422.9 | 3357.7  | 3341.0  | 3339.3  | 3336.0  | 3349.3  |
| 22.5° | 3648.7 | 3650.3 | 3642.0 | 3625.3 | 3573.4 | 3524.9 | 3516.6  | 3526.6  | 3524.9  | 3528.3  | 3540.0  |
| 25°   | 3618.6 | 3623.6 | 3621.9 | 3628.6 | 3620.2 | 3638.6 | 3677.1  | 3712.2  | 3717.2  | 3723.9  | 3745.7  |
| 27.5° | 3695.5 | 3705.5 | 3693.8 | 3700.5 | 3713.9 | 3775.7 | 3854.3  | 3907.9  | 3917.9  | 3936.3  | 3954.7  |
| 30°   | 3996.5 | 3983.1 | 3968.0 | 3951.3 | 3959.7 | 3998.1 | 4086.8  | 4133.6  | 4138.6  | 4152.0  | 4177.1  |
| 32.5° | 4442.9 | 4427.9 | 4414.5 | 4387.8 | 4381.1 | 4364.4 | 4394.5  | 4406.2  | 4404.5  | 4417.9  | 4424.5  |
| 35°   | 4946.3 | 4947.9 | 4944.6 | 4964.7 | 4981.4 | 4896.1 | 4790.8  | 4762.3  | 4774.0  | 4759.0  | 4762.3  |
| 37.5° | 5376.0 | 5381.0 | 5469.7 | 5580.0 | 5611.8 | 5558.3 | 5327.5  | 5213.8  | 5175.4  | 5170.3  | 5131.9  |
| 40°   | 5852.6 | 5852.6 | 5986.4 | 6121.8 | 6210.4 | 6277.3 | 6003.1  | 5802.4  | 5720.5  | 5697.1  | 5601.8  |
| 42.5° | 6376.0 | 6349.2 | 6471.3 | 6620.1 | 6784.0 | 6936.1 | 6794.0  | 6568.3  | 6451.2  | 6409.4  | 6242.2  |
| 45°   | 6805.7 | 6789.0 | 6849.2 | 6988.0 | 7253.9 | 7551.5 | 7571.6  | 7456.2  | 7386.0  | 7299.0  | 7145.2  |
| 47.5° | 7069.9 | 7061.6 | 7096.7 | 7247.2 | 7579.9 | 8061.5 | 8330.7  | 8389.3  | 8347.4  | 8280.6  | 8131.7  |
| 50°   | 7173.6 | 7161.9 | 7187.0 | 7354.2 | 7727.1 | 8362.5 | 8957.8  | 9233.7  | 9253.8  | 9268.8  | 9222.0  |
| 52.5° | 7136.8 | 7121.8 | 7173.6 | 7314.1 | 7702.0 | 8467.8 | 9447.7  | 9977.8  | 10066.4 | 10141.7 | 10295.5 |
| 55°   | 6784.0 | 6760.6 | 6901.0 | 7165.2 | 7593.3 | 8429.4 | 9805.6  | 10693.5 | 10880.8 | 11081.4 | 11422.6 |
| 57.5° | 6243.9 | 6223.8 | 6426.1 | 6789.0 | 7401.0 | 8324.0 | 10046.4 | 11598.1 | 12019.5 | 12380.7 | 13348.9 |
| 60°   | 5723.8 | 5707.1 | 5825.8 | 6177.0 | 6777.3 | 7810.7 | 9748.7  | 11902.5 | 12609.8 | 13389.0 | 15156.5 |
| 62.5° | 4794.1 | 4748.9 | 4907.8 | 5203.8 | 5583.4 | 6461.2 | 8449.5  | 11225.2 | 12315.5 | 13460.9 | 15857.1 |
| 65°   | 2946.4 | 3011.6 | 3148.7 | 3476.4 | 4098.5 | 4516.5 | 6205.4  | 9081.5  | 10519.6 | 11956.0 | 15064.5 |
| 67.5° | 1871.2 | 1889.5 | 1991.5 | 2219.0 | 2700.5 | 3120.3 | 3760.7  | 5698.7  | 6807.4  | 8220.4  | 11827.2 |
| 70°   | 1603.6 | 1615.3 | 1702.3 | 1939.7 | 2272.5 | 2789.2 | 2846.0  | 2976.5  | 3374.4  | 4274.1  | 6952.9  |
| 72.5° | 1264.2 | 1284.2 | 1352.8 | 1558.5 | 1959.8 | 2514.9 | 3513.2  | 2352.7  | 2272.5  | 2347.7  | 3392.8  |
| 75°   | 752.5  | 775.9  | 832.7  | 944.8  | 1259.1 | 1923.0 | 3680.4  | 2737.3  | 2551.7  | 2406.2  | 2341.0  |
| 77.5° | 398.0  | 381.3  | 419.7  | 484.9  | 647.1  | 1025.0 | 2765.8  | 3354.4  | 3223.9  | 3050.0  | 2680.5  |
| 80°   | 197.3  | 204.0  | 215.7  | 229.1  | 289.3  | 416.4  | 1382.9  | 3469.7  | 3846.0  | 4013.2  | 3685.5  |
| 82.5° | 78.6   | 88.6   | 125.4  | 133.8  | 158.9  | 177.2  | 444.8   | 1923.0  | 2754.1  | 3735.6  | 4877.7  |
| 85°   | 40.1   | 38.5   | 66.9   | 80.3   | 93.6   | 83.6   | 157.2   | 717.4   | 1290.9  | 2011.6  | 3259.1  |
| 87.5° | 5.0    | 6.7    | 15.0   | 20.1   | 28.4   | 26.8   | 45.1    | 155.5   | 247.5   | 351.2   | 493.3   |
| 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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**CANDELA DISTRIBUTION (continued):**

|       | 65°     | 66°     | 67°     | 68°     | 69°     | 70°     | 71°     | 72°     | 73°     | 74°     | 75°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  |
| 2.5°  | 2469.8  | 2468.1  | 2468.1  | 2461.4  | 2461.4  | 2463.1  | 2458.1  | 2454.7  | 2454.7  | 2456.4  | 2449.7  |
| 5°    | 2570.1  | 2565.1  | 2565.1  | 2558.4  | 2550.1  | 2550.1  | 2543.4  | 2541.7  | 2538.3  | 2531.7  | 2526.6  |
| 7.5°  | 2687.2  | 2682.2  | 2673.8  | 2668.8  | 2665.4  | 2660.4  | 2652.1  | 2648.7  | 2642.0  | 2635.3  | 2628.6  |
| 10°   | 2807.6  | 2800.9  | 2797.5  | 2789.2  | 2785.8  | 2775.8  | 2770.8  | 2772.5  | 2759.1  | 2754.1  | 2755.7  |
| 12.5° | 2928.0  | 2921.3  | 2909.6  | 2906.2  | 2904.6  | 2894.5  | 2889.5  | 2886.2  | 2876.1  | 2874.5  | 2869.4  |
| 15°   | 3035.0  | 3038.3  | 3033.3  | 3024.9  | 3018.3  | 3016.6  | 3011.6  | 3008.2  | 3001.5  | 2994.8  | 2988.2  |
| 17.5° | 3173.8  | 3178.8  | 3172.1  | 3160.4  | 3160.4  | 3158.7  | 3160.4  | 3158.7  | 3147.0  | 3152.0  | 3148.7  |
| 20°   | 3351.0  | 3354.4  | 3337.6  | 3342.7  | 3346.0  | 3344.3  | 3349.3  | 3354.4  | 3351.0  | 3351.0  | 3356.0  |
| 22.5° | 3555.0  | 3560.0  | 3550.0  | 3556.7  | 3566.7  | 3558.4  | 3573.4  | 3571.7  | 3575.1  | 3580.1  | 3581.8  |
| 25°   | 3764.0  | 3774.1  | 3765.7  | 3784.1  | 3777.4  | 3784.1  | 3802.5  | 3797.5  | 3805.8  | 3819.2  | 3824.2  |
| 27.5° | 3973.1  | 3979.8  | 3981.4  | 3993.1  | 4004.8  | 4014.9  | 4038.3  | 4038.3  | 4045.0  | 4068.4  | 4068.4  |
| 30°   | 4192.1  | 4198.8  | 4205.5  | 4222.2  | 4228.9  | 4247.3  | 4270.7  | 4277.4  | 4274.1  | 4307.5  | 4317.5  |
| 32.5° | 4444.6  | 4451.3  | 4463.0  | 4483.1  | 4491.4  | 4509.8  | 4509.8  | 4528.2  | 4541.6  | 4570.0  | 4571.7  |
| 35°   | 4780.7  | 4785.7  | 4780.7  | 4779.0  | 4790.8  | 4815.8  | 4817.5  | 4844.3  | 4856.0  | 4884.4  | 4892.8  |
| 37.5° | 5116.8  | 5115.2  | 5093.4  | 5070.0  | 5071.7  | 5061.6  | 5055.0  | 5066.7  | 5071.7  | 5073.3  | 5091.7  |
| 40°   | 5570.0  | 5526.5  | 5493.1  | 5434.5  | 5407.8  | 5366.0  | 5340.9  | 5339.2  | 5312.5  | 5309.1  | 5314.1  |
| 42.5° | 6163.6  | 6113.4  | 6034.8  | 5936.2  | 5860.9  | 5784.0  | 5727.2  | 5693.7  | 5635.2  | 5605.1  | 5580.0  |
| 45°   | 6993.0  | 6869.3  | 6775.6  | 6658.6  | 6513.1  | 6379.3  | 6238.8  | 6175.3  | 6063.3  | 5994.7  | 5917.8  |
| 47.5° | 8006.3  | 7884.3  | 7740.5  | 7620.1  | 7429.4  | 7243.8  | 7051.5  | 6882.6  | 6687.0  | 6531.5  | 6404.4  |
| 50°   | 9106.6  | 9034.7  | 8931.0  | 8819.0  | 8573.2  | 8451.1  | 8208.7  | 7979.6  | 7768.9  | 7491.3  | 7248.8  |
| 52.5° | 10235.3 | 10277.1 | 10253.7 | 10213.6 | 10058.1 | 10011.3 | 9802.2  | 9523.0  | 9310.6  | 9120.0  | 8698.6  |
| 55°   | 11626.6 | 11676.7 | 11777.1 | 11835.6 | 11817.2 | 11935.9 | 11884.1 | 11666.7 | 11581.4 | 11492.8 | 11193.5 |
| 57.5° | 13755.2 | 14113.1 | 14496.0 | 14832.1 | 14910.7 | 15332.1 | 15241.8 | 15459.2 | 15613.0 | 15502.6 | 15405.7 |
| 60°   | 16024.4 | 16746.7 | 17397.2 | 18077.8 | 18631.3 | 19046.0 | 19594.4 | 19964.0 | 20196.4 | 20614.5 | 20647.9 |
| 62.5° | 16939.0 | 17920.6 | 18746.6 | 19535.9 | 20193.1 | 20768.3 | 21263.3 | 21773.3 | 22191.3 | 22569.2 | 22841.8 |
| 65°   | 16437.4 | 17462.4 | 18464.0 | 19265.0 | 19897.1 | 20392.1 | 20930.5 | 21335.2 | 21746.5 | 21989.0 | 22274.9 |
| 67.5° | 13664.9 | 15022.7 | 16255.1 | 17158.1 | 18022.6 | 18525.9 | 19163.0 | 19561.0 | 19997.4 | 20253.3 | 20437.2 |
| 70°   | 8909.3  | 10676.8 | 12360.6 | 13730.1 | 14897.3 | 15484.3 | 16253.4 | 16796.9 | 17322.0 | 17335.3 | 17641.3 |
| 72.5° | 4807.5  | 6285.7  | 7695.3  | 9094.9  | 10426.0 | 11206.9 | 11966.0 | 12626.5 | 13148.2 | 12925.8 | 13230.2 |
| 75°   | 2677.1  | 3369.4  | 4140.3  | 4981.4  | 5792.4  | 6238.8  | 6805.7  | 6809.1  | 7078.3  | 6655.2  | 6762.2  |
| 77.5° | 2575.1  | 2543.4  | 2555.1  | 2578.5  | 2618.6  | 2533.3  | 2531.7  | 2479.8  | 2399.6  | 2254.1  | 2279.2  |
| 80°   | 3382.8  | 2978.1  | 2687.2  | 2230.7  | 1795.9  | 1464.8  | 1372.8  | 1394.6  | 1459.8  | 1590.2  | 1755.8  |
| 82.5° | 4891.1  | 4550.0  | 4061.7  | 3342.7  | 2623.6  | 2023.3  | 1662.1  | 1474.8  | 1466.5  | 1596.9  | 1847.7  |
| 85°   | 3561.7  | 3767.4  | 3735.6  | 3118.6  | 2571.8  | 2088.5  | 1520.0  | 1284.2  | 1063.5  | 1011.7  | 1100.3  |
| 87.5° | 525.1   | 434.8   | 489.9   | 409.7   | 297.6   | 230.8   | 202.3   | 162.2   | 155.5   | 158.9   | 173.9   |
| 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):**

|       | 76°     | 77°     | 78°     | 79°     | 80°     | 81°     | 82°     | 83°     | 84°     | 85°     | 86°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  |
| 2.5°  | 2451.4  | 2444.7  | 2438.0  | 2443.0  | 2438.0  | 2436.3  | 2431.3  | 2428.0  | 2426.3  | 2426.3  | 2426.3  |
| 5°    | 2526.6  | 2518.3  | 2513.3  | 2511.6  | 2506.6  | 2501.6  | 2499.9  | 2491.5  | 2489.9  | 2489.9  | 2484.8  |
| 7.5°  | 2628.6  | 2622.0  | 2613.6  | 2608.6  | 2605.2  | 2596.9  | 2588.5  | 2586.8  | 2585.2  | 2578.5  | 2573.5  |
| 10°   | 2747.4  | 2737.3  | 2727.3  | 2727.3  | 2720.6  | 2718.9  | 2710.6  | 2698.9  | 2697.2  | 2687.2  | 2683.8  |
| 12.5° | 2859.4  | 2856.1  | 2844.4  | 2841.0  | 2836.0  | 2831.0  | 2826.0  | 2820.9  | 2815.9  | 2807.6  | 2810.9  |
| 15°   | 2993.2  | 2984.8  | 2974.8  | 2976.5  | 2974.8  | 2968.1  | 2961.4  | 2956.4  | 2953.0  | 2949.7  | 2949.7  |
| 17.5° | 3153.7  | 3150.4  | 3148.7  | 3140.3  | 3133.6  | 3138.7  | 3138.7  | 3138.7  | 3130.3  | 3132.0  | 3133.6  |
| 20°   | 3357.7  | 3361.1  | 3357.7  | 3351.0  | 3349.3  | 3354.4  | 3342.7  | 3361.1  | 3351.0  | 3344.3  | 3347.7  |
| 22.5° | 3583.5  | 3595.2  | 3581.8  | 3583.5  | 3591.8  | 3595.2  | 3583.5  | 3598.5  | 3593.5  | 3583.5  | 3591.8  |
| 25°   | 3829.3  | 3837.6  | 3830.9  | 3829.3  | 3834.3  | 3846.0  | 3844.3  | 3842.6  | 3854.3  | 3844.3  | 3849.3  |
| 27.5° | 4081.8  | 4086.8  | 4090.1  | 4095.1  | 4098.5  | 4096.8  | 4103.5  | 4103.5  | 4110.2  | 4098.5  | 4103.5  |
| 30°   | 4332.6  | 4332.6  | 4339.3  | 4346.0  | 4346.0  | 4346.0  | 4359.3  | 4361.0  | 4351.0  | 4354.3  | 4342.6  |
| 32.5° | 4600.1  | 4601.8  | 4608.5  | 4608.5  | 4621.9  | 4623.5  | 4638.6  | 4618.5  | 4638.6  | 4621.9  | 4625.2  |
| 35°   | 4914.5  | 4936.2  | 4939.6  | 4956.3  | 4969.7  | 4974.7  | 4974.7  | 4976.4  | 4994.8  | 4981.4  | 4986.4  |
| 37.5° | 5098.4  | 5103.4  | 5116.8  | 5125.2  | 5125.2  | 5131.9  | 5136.9  | 5131.9  | 5136.9  | 5135.2  | 5140.2  |
| 40°   | 5315.8  | 5310.8  | 5325.8  | 5329.2  | 5322.5  | 5330.9  | 5329.2  | 5324.2  | 5337.6  | 5327.5  | 5334.2  |
| 42.5° | 5580.0  | 5551.6  | 5549.9  | 5563.3  | 5549.9  | 5556.6  | 5554.9  | 5543.2  | 5559.9  | 5565.0  | 5559.9  |
| 45°   | 5862.6  | 5847.6  | 5817.5  | 5817.5  | 5804.1  | 5799.1  | 5800.7  | 5799.1  | 5800.7  | 5820.8  | 5827.5  |
| 47.5° | 6322.5  | 6230.5  | 6178.7  | 6130.2  | 6090.0  | 6088.4  | 6070.0  | 6080.0  | 6093.4  | 6126.8  | 6156.9  |
| 50°   | 7093.3  | 6881.0  | 6750.5  | 6630.1  | 6543.2  | 6513.1  | 6478.0  | 6474.6  | 6486.3  | 6524.8  | 6576.6  |
| 52.5° | 8467.8  | 8173.5  | 7896.0  | 7638.5  | 7414.4  | 7242.1  | 7156.9  | 7111.7  | 7095.0  | 7133.5  | 7183.6  |
| 55°   | 10982.8 | 10427.6 | 10036.3 | 9775.5  | 9218.6  | 8982.9  | 8680.2  | 8541.4  | 8406.0  | 8419.4  | 8504.6  |
| 57.5° | 15280.2 | 14980.9 | 14653.2 | 14196.7 | 13855.6 | 13444.2 | 12688.4 | 12267.0 | 12285.4 | 12384.1 | 12076.4 |
| 60°   | 20912.1 | 20609.4 | 20474.0 | 20059.3 | 19821.8 | 19656.3 | 19255.0 | 18556.0 | 18308.5 | 18261.7 | 17696.5 |
| 62.5° | 23050.8 | 23122.7 | 23229.7 | 23346.8 | 23340.1 | 23412.0 | 23060.8 | 22833.4 | 22547.5 | 22176.3 | 21617.8 |
| 65°   | 22492.3 | 22674.6 | 22891.9 | 23206.3 | 23564.2 | 23828.4 | 24050.8 | 24024.0 | 23756.5 | 23261.5 | 22671.2 |
| 67.5° | 20601.1 | 20781.7 | 20940.5 | 21361.9 | 21948.8 | 22485.6 | 22960.5 | 23283.2 | 23104.3 | 22694.6 | 22005.7 |
| 70°   | 17758.4 | 17888.8 | 17989.2 | 18355.4 | 18999.1 | 19654.6 | 20275.0 | 20816.8 | 20761.6 | 20265.0 | 19714.8 |
| 72.5° | 12867.3 | 13183.4 | 13353.9 | 13328.8 | 13726.8 | 14460.9 | 14547.8 | 15011.0 | 15139.8 | 14604.7 | 13728.5 |
| 75°   | 6268.9  | 6274.0  | 6076.6  | 6011.4  | 6031.5  | 6158.6  | 5916.1  | 5931.2  | 5847.6  | 5468.0  | 5155.3  |
| 77.5° | 2190.5  | 2130.3  | 1986.5  | 1816.0  | 1571.8  | 1342.7  | 1110.3  | 1010.0  | 976.5   | 877.9   | 809.3   |
| 80°   | 1887.9  | 1976.5  | 1948.1  | 1807.6  | 1550.1  | 1235.7  | 923.0   | 683.9   | 583.6   | 548.5   | 515.0   |
| 82.5° | 2143.7  | 2484.8  | 2702.2  | 2690.5  | 2337.7  | 1755.8  | 1095.3  | 628.7   | 448.1   | 393.0   | 361.2   |
| 85°   | 1195.6  | 1285.9  | 1311.0  | 1193.9  | 991.6   | 677.2   | 377.9   | 265.9   | 225.7   | 205.7   | 185.6   |
| 87.5° | 190.6   | 173.9   | 170.6   | 148.8   | 140.5   | 128.8   | 113.7   | 107.0   | 98.7    | 93.6    | 93.6    |
| 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):**

|       | 87°     | 88°     | 89°     | 90°     | 91°     | 92°     | 93°     | 94°     | 95°     | 96°     | 97°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  |
| 2.5°  | 2424.6  | 2423.0  | 2418.0  | 2412.9  | 2409.6  | 2407.9  | 2406.2  | 2402.9  | 2401.2  | 2399.6  | 2396.2  |
| 5°    | 2481.5  | 2478.1  | 2469.8  | 2461.4  | 2458.1  | 2453.1  | 2448.1  | 2444.7  | 2441.4  | 2439.7  | 2433.0  |
| 7.5°  | 2570.1  | 2566.8  | 2556.7  | 2550.1  | 2548.4  | 2535.0  | 2533.3  | 2528.3  | 2520.0  | 2518.3  | 2508.2  |
| 10°   | 2677.1  | 2675.5  | 2667.1  | 2662.1  | 2658.7  | 2652.1  | 2642.0  | 2633.7  | 2625.3  | 2625.3  | 2618.6  |
| 12.5° | 2800.9  | 2794.2  | 2799.2  | 2787.5  | 2784.2  | 2777.5  | 2772.5  | 2770.8  | 2760.7  | 2752.4  | 2750.7  |
| 15°   | 2946.4  | 2938.0  | 2938.0  | 2934.7  | 2931.3  | 2924.6  | 2922.9  | 2924.6  | 2914.6  | 2917.9  | 2907.9  |
| 17.5° | 3126.9  | 3130.3  | 3128.6  | 3128.6  | 3120.3  | 3120.3  | 3106.9  | 3123.6  | 3111.9  | 3120.3  | 3116.9  |
| 20°   | 3352.7  | 3354.4  | 3351.0  | 3356.0  | 3359.4  | 3357.7  | 3356.0  | 3354.4  | 3359.4  | 3366.1  | 3361.1  |
| 22.5° | 3593.5  | 3593.5  | 3591.8  | 3610.2  | 3590.1  | 3605.2  | 3610.2  | 3600.2  | 3626.9  | 3623.6  | 3628.6  |
| 25°   | 3854.3  | 3854.3  | 3867.7  | 3882.8  | 3886.1  | 3874.4  | 3881.1  | 3872.7  | 3889.5  | 3902.8  | 3906.2  |
| 27.5° | 4096.8  | 4118.5  | 4128.6  | 4118.5  | 4126.9  | 4145.3  | 4143.6  | 4143.6  | 4155.3  | 4152.0  | 4183.8  |
| 30°   | 4346.0  | 4359.3  | 4372.7  | 4366.0  | 4369.4  | 4392.8  | 4394.5  | 4396.1  | 4411.2  | 4432.9  | 4456.3  |
| 32.5° | 4630.2  | 4643.6  | 4636.9  | 4658.7  | 4657.0  | 4685.4  | 4690.4  | 4695.4  | 4742.3  | 4733.9  | 4782.4  |
| 35°   | 4979.7  | 4993.1  | 4986.4  | 5009.8  | 5006.5  | 5016.5  | 5034.9  | 5055.0  | 5063.3  | 5111.8  | 5150.3  |
| 37.5° | 5143.6  | 5143.6  | 5158.6  | 5185.4  | 5195.4  | 5212.1  | 5240.6  | 5265.6  | 5307.5  | 5359.3  | 5419.5  |
| 40°   | 5340.9  | 5345.9  | 5366.0  | 5394.4  | 5412.8  | 5451.3  | 5503.1  | 5538.2  | 5601.8  | 5658.6  | 5728.8  |
| 42.5° | 5580.0  | 5601.8  | 5625.2  | 5663.6  | 5703.8  | 5764.0  | 5837.5  | 5882.7  | 5966.3  | 6039.9  | 6126.8  |
| 45°   | 5859.3  | 5881.0  | 5936.2  | 6006.4  | 6064.9  | 6131.8  | 6192.0  | 6299.0  | 6374.3  | 6451.2  | 6526.5  |
| 47.5° | 6197.0  | 6260.6  | 6305.7  | 6389.3  | 6461.2  | 6549.9  | 6625.1  | 6725.4  | 6807.4  | 6901.0  | 6964.6  |
| 50°   | 6630.1  | 6708.7  | 6767.3  | 6875.9  | 6946.2  | 7044.8  | 7140.1  | 7215.4  | 7299.0  | 7391.0  | 7442.8  |
| 52.5° | 7252.2  | 7332.4  | 7406.0  | 7541.5  | 7628.4  | 7695.3  | 7822.4  | 7916.0  | 7993.0  | 8059.8  | 8116.7  |
| 55°   | 8599.9  | 8576.5  | 8780.5  | 9043.1  | 9073.2  | 9315.6  | 9360.8  | 9439.4  | 9581.5  | 9601.6  | 9760.4  |
| 57.5° | 12450.9 | 12330.5 | 12626.5 | 13011.1 | 12944.2 | 12822.2 | 13332.2 | 13363.9 | 13292.0 | 13484.3 | 13267.0 |
| 60°   | 17780.1 | 17569.4 | 17649.7 | 17755.1 | 17602.9 | 17531.0 | 17556.1 | 17628.0 | 17557.7 | 17480.8 | 17270.1 |
| 62.5° | 21338.5 | 21014.1 | 20781.7 | 20586.0 | 20338.5 | 20159.6 | 19959.0 | 19711.5 | 19644.6 | 19363.7 | 19127.9 |
| 65°   | 22097.7 | 21592.7 | 21224.8 | 20855.2 | 20514.1 | 20198.1 | 19895.4 | 19683.1 | 19402.1 | 19069.4 | 18823.6 |
| 67.5° | 21263.3 | 20637.9 | 20099.4 | 19562.7 | 19176.4 | 18711.5 | 18484.1 | 18138.0 | 17791.8 | 17410.6 | 17184.8 |
| 70°   | 18838.6 | 18186.5 | 17509.2 | 16984.2 | 16459.1 | 15883.9 | 15771.9 | 15362.2 | 15163.2 | 14643.2 | 14552.9 |
| 72.5° | 13002.8 | 12568.0 | 12265.3 | 11616.5 | 11297.1 | 11002.8 | 10909.2 | 10529.6 | 10569.8 | 9999.5  | 10206.9 |
| 75°   | 4623.5  | 4561.7  | 4473.0  | 4106.8  | 4041.6  | 3927.9  | 3897.8  | 3871.1  | 4142.0  | 3765.7  | 4038.3  |
| 77.5° | 794.3   | 789.3   | 744.1   | 722.4   | 764.2   | 737.4   | 744.1   | 730.7   | 809.3   | 821.0   | 802.6   |
| 80°   | 493.3   | 479.9   | 464.9   | 454.8   | 456.5   | 446.5   | 448.1   | 451.5   | 456.5   | 454.8   | 459.8   |
| 82.5° | 337.8   | 326.1   | 319.4   | 312.7   | 322.7   | 326.1   | 334.4   | 342.8   | 356.2   | 364.5   | 374.6   |
| 85°   | 183.9   | 168.9   | 168.9   | 167.2   | 180.6   | 190.6   | 204.0   | 220.7   | 244.1   | 264.2   | 285.9   |
| 87.5° | 93.6    | 90.3    | 92.0    | 95.3    | 107.0   | 115.4   | 132.1   | 147.2   | 167.2   | 189.0   | 209.0   |
| 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):**

|       | 98°     | 99°     | 100°    | 101°    | 102°    | 103°    | 104°    | 105°    | 115°   | 125°   | 135°   |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|
| 0°    | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2  | 2401.2 | 2401.2 | 2401.2 |
| 2.5°  | 2394.5  | 2394.5  | 2392.9  | 2392.9  | 2391.2  | 2389.5  | 2387.9  | 2382.8  | 2364.4 | 2347.7 | 2336.0 |
| 5°    | 2431.3  | 2426.3  | 2424.6  | 2419.6  | 2418.0  | 2414.6  | 2409.6  | 2404.6  | 2371.1 | 2341.0 | 2319.3 |
| 7.5°  | 2506.6  | 2499.9  | 2496.5  | 2491.5  | 2486.5  | 2479.8  | 2473.1  | 2468.1  | 2428.0 | 2392.9 | 2366.1 |
| 10°   | 2605.2  | 2601.9  | 2600.2  | 2593.5  | 2593.5  | 2583.5  | 2581.8  | 2570.1  | 2526.6 | 2494.9 | 2471.5 |
| 12.5° | 2742.4  | 2735.7  | 2734.0  | 2725.6  | 2729.0  | 2725.6  | 2722.3  | 2715.6  | 2683.8 | 2647.0 | 2615.3 |
| 15°   | 2912.9  | 2912.9  | 2904.6  | 2897.9  | 2899.5  | 2896.2  | 2902.9  | 2894.5  | 2874.5 | 2841.0 | 2789.2 |
| 17.5° | 3118.6  | 3115.2  | 3118.6  | 3113.6  | 3116.9  | 3120.3  | 3111.9  | 3113.6  | 3103.5 | 3061.7 | 2984.8 |
| 20°   | 3357.7  | 3352.7  | 3372.8  | 3364.4  | 3382.8  | 3366.1  | 3369.4  | 3374.4  | 3374.4 | 3319.2 | 3215.6 |
| 22.5° | 3631.9  | 3628.6  | 3628.6  | 3645.3  | 3652.0  | 3653.7  | 3660.4  | 3665.4  | 3678.8 | 3608.5 | 3443.0 |
| 25°   | 3906.2  | 3917.9  | 3919.6  | 3941.3  | 3951.3  | 3951.3  | 3956.3  | 3974.7  | 4014.9 | 3917.9 | 3703.8 |
| 27.5° | 4185.4  | 4213.9  | 4220.5  | 4235.6  | 4250.6  | 4265.7  | 4277.4  | 4290.8  | 4356.0 | 4250.6 | 3971.4 |
| 30°   | 4464.7  | 4496.5  | 4519.9  | 4536.6  | 4555.0  | 4591.8  | 4598.5  | 4625.2  | 4733.9 | 4605.1 | 4225.6 |
| 32.5° | 4792.4  | 4837.6  | 4867.7  | 4889.4  | 4917.8  | 4953.0  | 4973.0  | 5006.5  | 5111.8 | 4901.1 | 4411.2 |
| 35°   | 5183.7  | 5210.5  | 5253.9  | 5290.7  | 5307.5  | 5367.7  | 5399.4  | 5407.8  | 5488.0 | 5157.0 | 4548.3 |
| 37.5° | 5454.6  | 5499.8  | 5575.0  | 5626.8  | 5656.9  | 5690.4  | 5743.9  | 5779.0  | 5855.9 | 5389.4 | 4616.8 |
| 40°   | 5799.1  | 5867.6  | 5927.8  | 6004.7  | 6053.2  | 6078.3  | 6131.8  | 6160.3  | 6170.3 | 5588.4 | 4595.1 |
| 42.5° | 6218.8  | 6280.7  | 6360.9  | 6422.8  | 6459.6  | 6488.0  | 6531.5  | 6543.2  | 6412.8 | 5682.0 | 4478.1 |
| 45°   | 6613.4  | 6708.7  | 6777.3  | 6822.4  | 6849.2  | 6864.2  | 6891.0  | 6892.7  | 6613.4 | 5635.2 | 4277.4 |
| 47.5° | 7038.1  | 7106.7  | 7170.2  | 7202.0  | 7198.7  | 7202.0  | 7192.0  | 7185.3  | 6713.7 | 5473.0 | 4019.9 |
| 50°   | 7508.0  | 7553.2  | 7579.9  | 7595.0  | 7603.3  | 7571.6  | 7526.4  | 7496.3  | 6722.1 | 5242.2 | 3759.0 |
| 52.5° | 8138.4  | 8195.3  | 8190.3  | 8188.6  | 8121.7  | 8091.6  | 7971.2  | 7909.3  | 6673.6 | 4971.3 | 3464.7 |
| 55°   | 9735.3  | 9680.2  | 9571.5  | 9625.0  | 9352.4  | 9210.3  | 9023.0  | 8849.1  | 6737.2 | 4713.8 | 3123.6 |
| 57.5° | 13353.9 | 13375.7 | 13066.3 | 12900.8 | 12440.9 | 11865.7 | 11402.5 | 10952.7 | 7309.0 | 4556.7 | 2678.8 |
| 60°   | 17129.7 | 16845.4 | 16452.4 | 15853.8 | 15261.9 | 14407.4 | 13583.0 | 12803.8 | 7879.2 | 4392.8 | 2152.1 |
| 62.5° | 18778.4 | 18373.8 | 17780.1 | 17005.9 | 16076.2 | 15031.1 | 14004.4 | 13054.6 | 7603.3 | 3862.7 | 1565.1 |
| 65°   | 18444.0 | 17825.3 | 17169.8 | 16263.5 | 15133.1 | 13987.7 | 12788.7 | 11818.9 | 6360.9 | 2881.1 | 964.8  |
| 67.5° | 16694.9 | 16169.8 | 15477.6 | 14402.4 | 13193.4 | 12001.1 | 10902.5 | 9815.6  | 4725.5 | 1795.9 | 540.1  |
| 70°   | 14091.3 | 13578.0 | 12875.7 | 11775.4 | 10568.1 | 9427.7  | 8263.8  | 7377.6  | 3011.6 | 866.2  | 389.6  |
| 72.5° | 9775.5  | 9359.1  | 8862.5  | 8078.2  | 7019.8  | 5983.0  | 5195.4  | 4514.8  | 1668.8 | 459.8  | 356.2  |
| 75°   | 3969.7  | 3971.4  | 3881.1  | 3550.0  | 2999.9  | 2586.8  | 2205.6  | 1871.2  | 697.3  | 391.3  | 351.2  |
| 77.5° | 899.6   | 914.7   | 1000.0  | 948.1   | 854.5   | 799.3   | 715.7   | 632.1   | 424.7  | 403.0  | 354.5  |
| 80°   | 454.8   | 456.5   | 451.5   | 453.2   | 448.1   | 449.8   | 443.1   | 438.1   | 398.0  | 414.7  | 354.5  |
| 82.5° | 379.6   | 387.9   | 386.3   | 386.3   | 387.9   | 387.9   | 387.9   | 386.3   | 413.0  | 436.4  | 342.8  |
| 85°   | 301.0   | 317.7   | 331.1   | 344.5   | 359.5   | 369.5   | 374.6   | 379.6   | 401.3  | 429.7  | 311.0  |
| 87.5° | 227.4   | 247.5   | 264.2   | 277.6   | 301.0   | 301.0   | 317.7   | 329.4   | 329.4  | 336.1  | 163.9  |
| 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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CATALOG NUMBER: VST-F12-LED-E-U-T2-8030

**CANDELA DISTRIBUTION (continued):**

|       | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2401.2 | 2401.2 | 2401.2 | 2401.2 | 2401.2 |
| 2.5°  | 2319.3 | 2312.6 | 2305.9 | 2302.6 | 2295.9 |
| 5°    | 2302.6 | 2289.2 | 2280.8 | 2280.8 | 2274.1 |
| 7.5°  | 2351.1 | 2346.0 | 2334.3 | 2327.7 | 2334.3 |
| 10°   | 2454.7 | 2446.4 | 2433.0 | 2423.0 | 2428.0 |
| 12.5° | 2593.5 | 2560.1 | 2533.3 | 2521.6 | 2513.3 |
| 15°   | 2737.3 | 2670.4 | 2616.9 | 2586.8 | 2578.5 |
| 17.5° | 2891.2 | 2774.1 | 2693.9 | 2648.7 | 2640.3 |
| 20°   | 3048.4 | 2902.9 | 2789.2 | 2730.6 | 2729.0 |
| 22.5° | 3237.3 | 3043.3 | 2897.9 | 2820.9 | 2815.9 |
| 25°   | 3436.3 | 3168.8 | 2976.5 | 2877.8 | 2867.8 |
| 27.5° | 3608.5 | 3269.1 | 3024.9 | 2907.9 | 2897.9 |
| 30°   | 3752.3 | 3344.3 | 3065.1 | 2929.6 | 2916.3 |
| 32.5° | 3856.0 | 3387.8 | 3081.8 | 2936.3 | 2921.3 |
| 35°   | 3889.5 | 3371.1 | 3035.0 | 2876.1 | 2859.4 |
| 37.5° | 3844.3 | 3262.4 | 2904.6 | 2729.0 | 2708.9 |
| 40°   | 3708.9 | 3071.8 | 2692.2 | 2511.6 | 2486.5 |
| 42.5° | 3501.5 | 2837.7 | 2436.3 | 2264.1 | 2232.3 |
| 45°   | 3245.7 | 2573.5 | 2182.2 | 1989.9 | 1974.8 |
| 47.5° | 2978.1 | 2295.9 | 1896.2 | 1722.3 | 1703.9 |
| 50°   | 2688.8 | 1974.8 | 1617.0 | 1428.0 | 1428.0 |
| 52.5° | 2344.4 | 1662.1 | 1292.6 | 1150.4 | 1138.7 |
| 55°   | 1948.1 | 1309.3 | 1030.1 | 921.4  | 906.3  |
| 57.5° | 1521.7 | 1006.6 | 822.7  | 759.2  | 742.4  |
| 60°   | 1118.7 | 755.8  | 662.2  | 627.1  | 620.4  |
| 62.5° | 759.2  | 575.2  | 533.4  | 518.4  | 516.7  |
| 65°   | 513.4  | 448.1  | 436.4  | 431.4  | 433.1  |
| 67.5° | 394.6  | 372.9  | 367.9  | 366.2  | 366.2  |
| 70°   | 342.8  | 329.4  | 324.4  | 326.1  | 324.4  |
| 72.5° | 322.7  | 304.3  | 306.0  | 309.4  | 307.7  |
| 75°   | 316.0  | 292.6  | 299.3  | 301.0  | 294.3  |
| 77.5° | 311.0  | 279.3  | 296.0  | 301.0  | 282.6  |
| 80°   | 301.0  | 267.5  | 307.7  | 309.4  | 277.6  |
| 82.5° | 275.9  | 237.4  | 307.7  | 284.3  | 250.8  |
| 85°   | 234.1  | 180.6  | 347.8  | 247.5  | 185.6  |
| 87.5° | 148.8  | 107.0  | 235.8  | 168.9  | 112.0  |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)