

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: P159396

Luminaire Tested: **VST-F11-LED-E-U-T2-7050**

Issue Date: 3/3/2020

### Test Information

Test Method: LM-79-08  
Report Number: P159396  
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-F11-LED-E-U-T2-7050  
Description: VENTUS LED SITE/ROADWAY LUMINAIRE  
(11) LIGHTBARS WITH AccuLED OPTICS - TYPE 2 AREA  
Light Source: (77) 5000K CCT, 70 CRI LEDs  
Ballast/Driver: -

### Summary

Lumens per Lamp: N/A  
Luminaire Lumens: 28761.5 lumens  
Efficiency: N/A  
Efficacy: 101.7 lumens/watt  
Luminous Opening: Rectangular (W 1.83' x L: 1' x H: 0')  
IES Classification: Type II - Short - Semi-Cutoff  
BUG Rating: B4 - U0 - G4

Input Watts (W): 282.7  
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

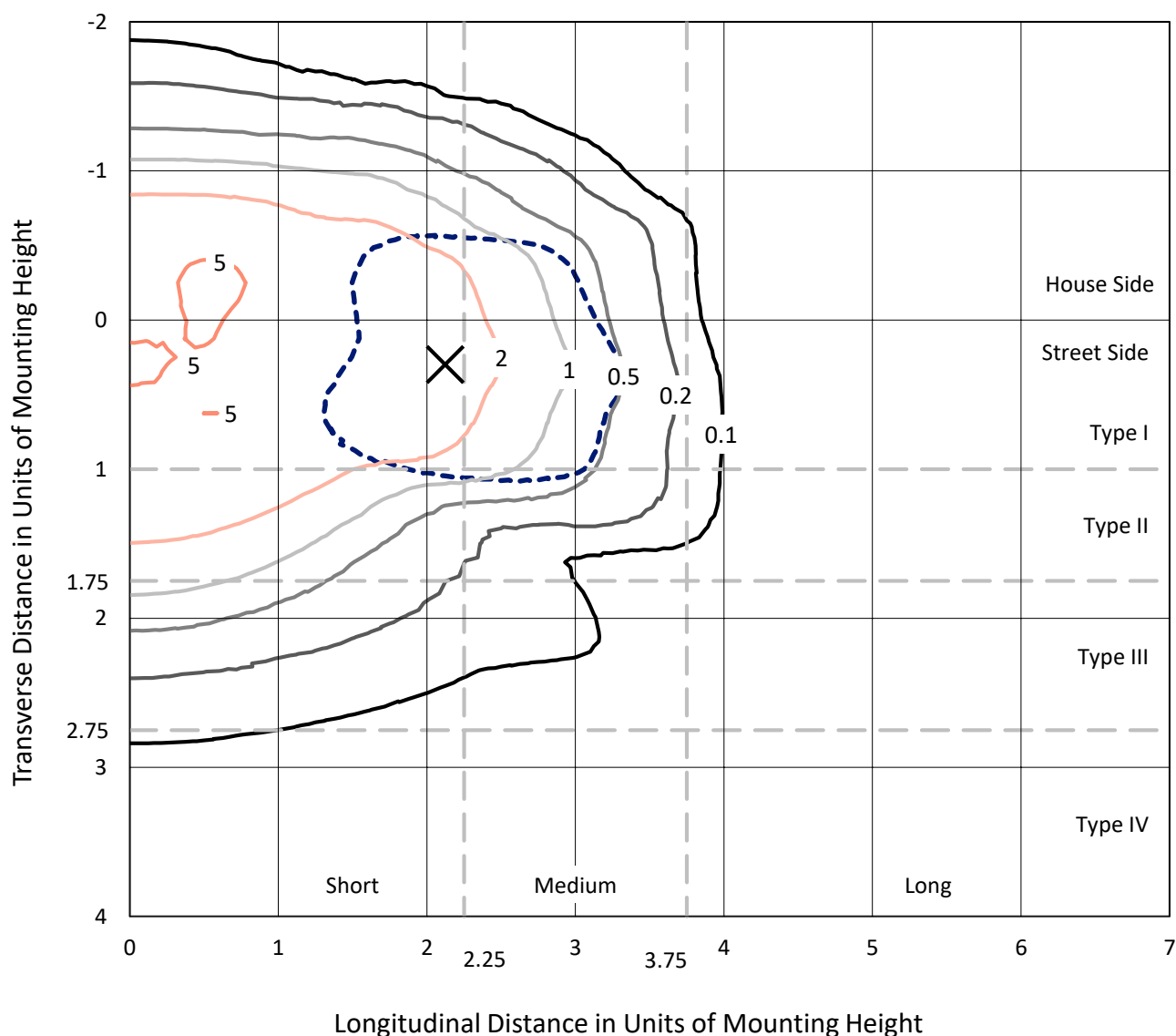


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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 --- 1/2 Max cd

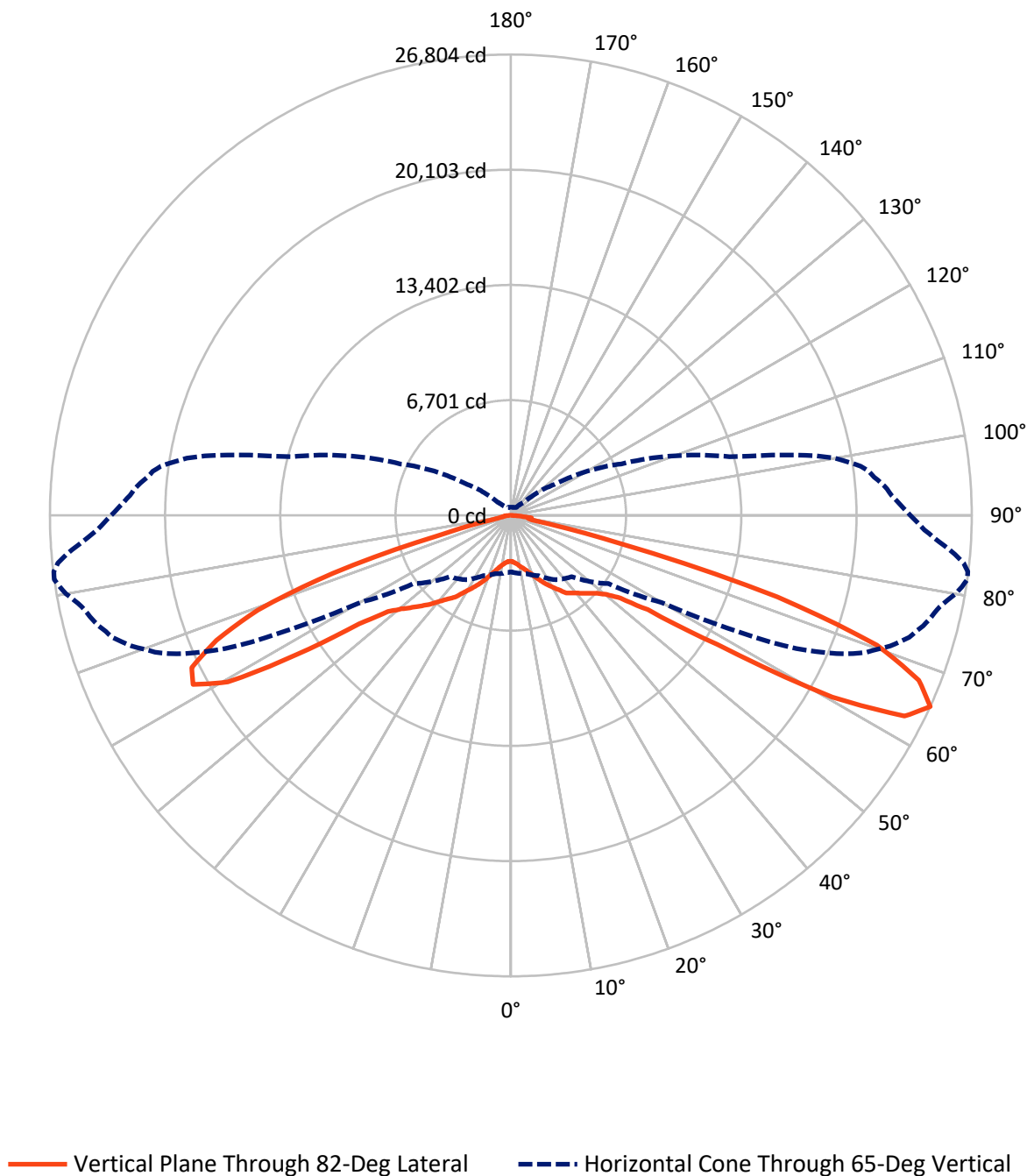


Based on 25 foot mounting height. Maximum calculated value = 5.4 fc  
 Type II - Short - Semi-Cutoff

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## Luminous Intensity Polar Plot



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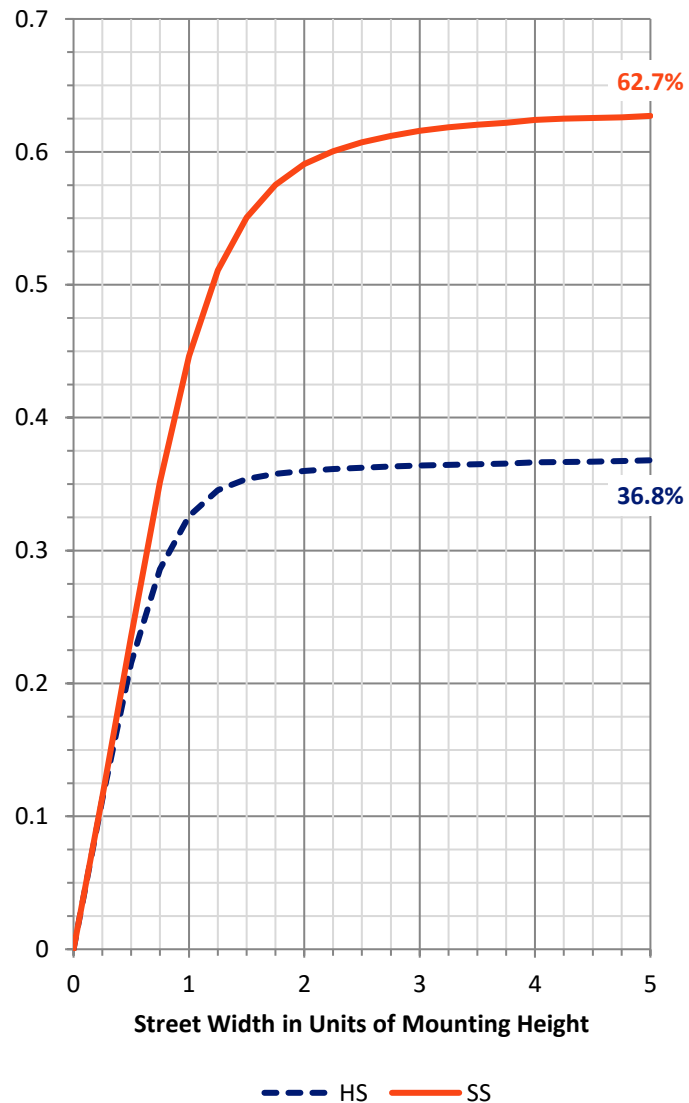
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 10708.8  | 0.0    | 10708.8 |
|                    | % Fixture | 37.2     | 0.0    | 37.2    |
| <b>Street Side</b> | Lumens    | 18052.7  | 0.0    | 18052.7 |
|                    | % Fixture | 62.8     | 0.0    | 62.8    |
| <b>Total</b>       | Lumens    | 28761.5  | 0.0    | 28761.5 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 270.9   | 0.9       |
| 10°-20°   | 951.9   | 3.3       |
| 20°-30°   | 1886.2  | 6.6       |
| 30°-40°   | 3233.4  | 11.2      |
| 40°-50°   | 4857.3  | 16.9      |
| 50°-60°   | 6748.4  | 23.5      |
| 60°-70°   | 7698.9  | 26.8      |
| 70°-80°   | 2652.2  | 9.2       |
| 80°-90°   | 462.3   | 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°    | 28761.5 | 100.0     |
| 0°-180°   | 28761.5 | 100.0     |

**Coefficient of Utilization**



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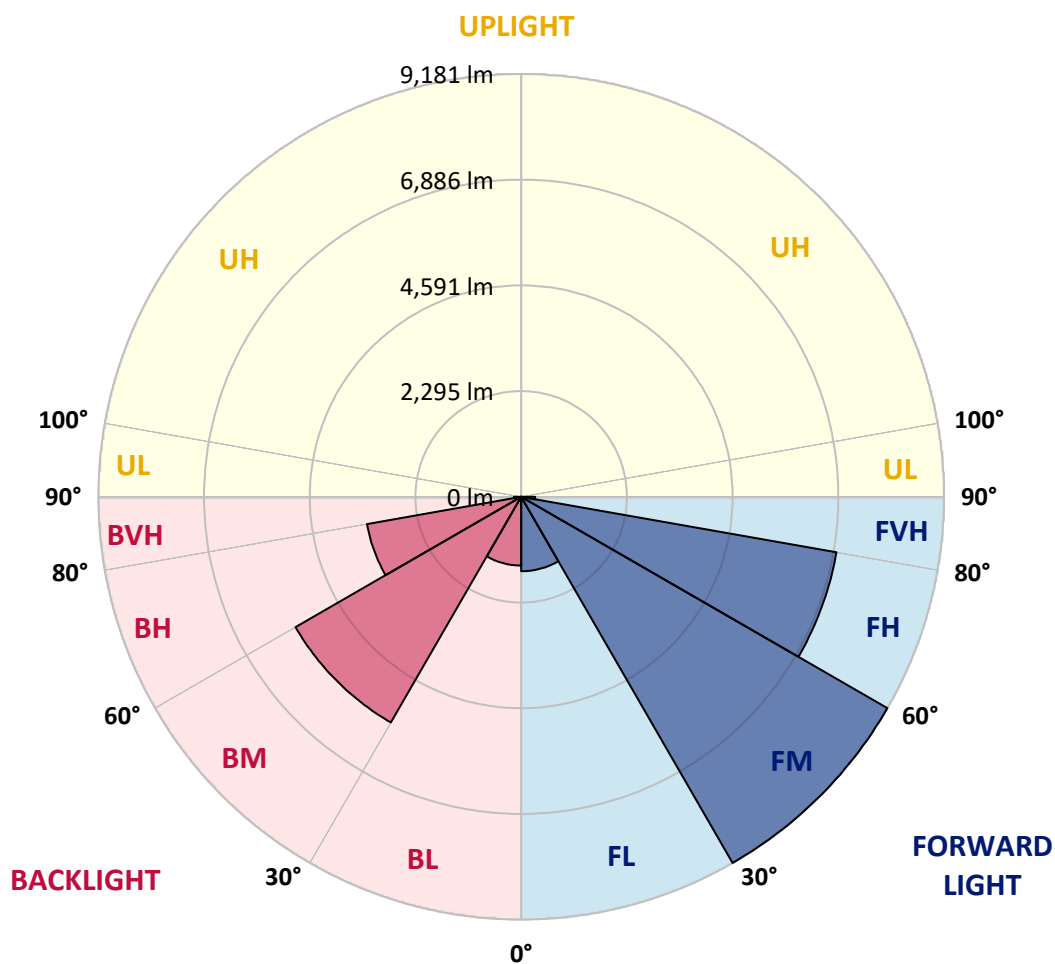
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 1615.8 | 5.6       |                         |      |         |
| FM   | (30°-60°)   | 9181.3 | 31.9      |                         |      |         |
| FH   | (60°-80°)   | 6951.3 | 24.2      |                         |      | G3/7500 |
| FVH  | (80°-90°)   | 304.3  | 1.1       |                         |      | G3/500  |
| BL   | (0°-30°)    | 1493.3 | 5.2       | B3/2500                 |      |         |
| BM   | (30°-60°)   | 5657.9 | 19.7      | B4/8500                 |      |         |
| BH   | (60°-80°)   | 3399.7 | 11.8      | B4/5000                 |      | G4/5000 |
| BVH  | (80°-90°)   | 158.0  | 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°    | 2676.1 | 2676.1 | 2676.1 | 2676.1 | 2676.1 | 2676.1 | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  |
| 2.5°  | 2821.4 | 2823.3 | 2821.4 | 2815.8 | 2814.0 | 2797.2 | 2778.6  | 2769.3  | 2767.4  | 2759.9  | 2761.8  |
| 5°    | 2996.6 | 2991.0 | 2983.6 | 2974.3 | 2964.9 | 2937.0 | 2905.3  | 2888.5  | 2882.9  | 2877.3  | 2869.9  |
| 7.5°  | 3153.2 | 3156.9 | 3153.2 | 3140.1 | 3115.9 | 3080.5 | 3039.5  | 3013.4  | 3011.5  | 3005.9  | 3000.3  |
| 10°   | 3354.4 | 3363.7 | 3341.4 | 3319.0 | 3285.5 | 3231.4 | 3184.8  | 3151.3  | 3145.7  | 3138.2  | 3134.5  |
| 12.5° | 3572.5 | 3574.3 | 3566.9 | 3516.5 | 3460.6 | 3386.1 | 3319.0  | 3285.5  | 3278.0  | 3268.7  | 3265.0  |
| 15°   | 3805.4 | 3807.3 | 3766.3 | 3717.8 | 3632.1 | 3542.6 | 3449.5  | 3412.2  | 3402.9  | 3404.7  | 3389.8  |
| 17.5° | 3989.9 | 3993.6 | 3954.5 | 3893.0 | 3790.5 | 3684.3 | 3583.6  | 3553.8  | 3548.2  | 3550.1  | 3542.6  |
| 20°   | 4070.0 | 4075.6 | 4051.4 | 4004.8 | 3907.9 | 3814.7 | 3742.0  | 3723.4  | 3721.5  | 3717.8  | 3732.7  |
| 22.5° | 4066.3 | 4068.2 | 4058.8 | 4040.2 | 3982.4 | 3928.4 | 3919.1  | 3930.3  | 3928.4  | 3932.1  | 3945.2  |
| 25°   | 4032.8 | 4038.3 | 4036.5 | 4043.9 | 4034.6 | 4055.1 | 4098.0  | 4137.1  | 4142.7  | 4150.2  | 4174.4  |
| 27.5° | 4118.5 | 4129.7 | 4116.6 | 4124.1 | 4139.0 | 4207.9 | 4295.5  | 4355.2  | 4366.3  | 4386.8  | 4407.3  |
| 30°   | 4453.9 | 4439.0 | 4422.2 | 4403.6 | 4412.9 | 4455.8 | 4554.6  | 4606.7  | 4612.3  | 4627.2  | 4655.2  |
| 32.5° | 4951.5 | 4934.7 | 4919.8 | 4890.0 | 4882.5 | 4863.9 | 4897.5  | 4910.5  | 4908.6  | 4923.5  | 4931.0  |
| 35°   | 5512.4 | 5514.3 | 5510.6 | 5532.9 | 5551.6 | 5456.5 | 5339.1  | 5307.4  | 5320.5  | 5303.7  | 5307.4  |
| 37.5° | 5991.4 | 5997.0 | 6095.7 | 6218.7 | 6254.1 | 6194.5 | 5937.3  | 5810.6  | 5767.7  | 5762.1  | 5719.3  |
| 40°   | 6522.5 | 6522.5 | 6671.6 | 6822.5 | 6921.3 | 6995.8 | 6690.2  | 6466.6  | 6375.3  | 6349.2  | 6242.9  |
| 42.5° | 7105.8 | 7076.0 | 7212.0 | 7377.9 | 7560.5 | 7730.1 | 7571.7  | 7320.1  | 7189.6  | 7143.0  | 6956.7  |
| 45°   | 7584.7 | 7566.1 | 7633.2 | 7787.8 | 8084.2 | 8415.9 | 8438.2  | 8309.6  | 8231.4  | 8134.5  | 7963.0  |
| 47.5° | 7879.2 | 7869.8 | 7909.0 | 8076.7 | 8447.5 | 8984.3 | 9284.3  | 9349.5  | 9302.9  | 9228.4  | 9062.5  |
| 50°   | 7994.7 | 7981.7 | 8009.6 | 8196.0 | 8611.5 | 9319.7 | 9983.1  | 10290.6 | 10313.0 | 10329.7 | 10277.6 |
| 52.5° | 7953.7 | 7936.9 | 7994.7 | 8151.2 | 8583.6 | 9437.1 | 10529.1 | 11119.9 | 11218.7 | 11302.5 | 11474.0 |
| 55°   | 7560.5 | 7534.4 | 7690.9 | 7985.4 | 8462.5 | 9394.2 | 10928.0 | 11917.5 | 12126.2 | 12349.9 | 12730.0 |
| 57.5° | 6958.6 | 6936.2 | 7161.7 | 7566.1 | 8248.1 | 9276.8 | 11196.3 | 12925.7 | 13395.3 | 13797.8 | 14876.9 |
| 60°   | 6379.0 | 6360.4 | 6492.7 | 6884.0 | 7553.0 | 8704.7 | 10864.6 | 13264.9 | 14053.2 | 14921.6 | 16891.4 |
| 62.5° | 5342.8 | 5292.5 | 5469.6 | 5799.4 | 6222.4 | 7200.8 | 9416.6  | 12510.1 | 13725.2 | 15001.7 | 17672.2 |
| 65°   | 3283.6 | 3356.3 | 3509.1 | 3874.4 | 4567.6 | 5033.5 | 6915.7  | 10121.0 | 11723.7 | 13324.5 | 16788.9 |
| 67.5° | 2085.3 | 2105.8 | 2219.5 | 2473.0 | 3009.7 | 3477.4 | 4191.2  | 6351.0  | 7586.6  | 9161.3  | 13181.0 |
| 70°   | 1787.2 | 1800.2 | 1897.1 | 2161.7 | 2532.6 | 3108.4 | 3171.8  | 3317.1  | 3760.7  | 4763.3  | 7748.7  |
| 72.5° | 1408.9 | 1431.2 | 1507.6 | 1736.8 | 2184.1 | 2802.8 | 3915.4  | 2622.0  | 2532.6  | 2616.4  | 3781.2  |
| 75°   | 838.6  | 864.7  | 928.1  | 1052.9 | 1403.3 | 2143.1 | 4101.7  | 3050.7  | 2843.8  | 2681.7  | 2609.0  |
| 77.5° | 443.5  | 424.9  | 467.8  | 540.4  | 721.2  | 1142.4 | 3082.3  | 3738.3  | 3593.0  | 3399.1  | 2987.3  |
| 80°   | 219.9  | 227.4  | 240.4  | 255.3  | 322.4  | 464.0  | 1541.2  | 3866.9  | 4286.2  | 4472.6  | 4107.3  |
| 82.5° | 87.6   | 98.8   | 139.8  | 149.1  | 177.0  | 197.5  | 495.7   | 2143.1  | 3069.3  | 4163.2  | 5436.0  |
| 85°   | 44.7   | 42.9   | 74.5   | 89.5   | 104.4  | 93.2   | 175.2   | 799.5   | 1438.7  | 2241.9  | 3632.1  |
| 87.5° | 5.6    | 7.5    | 16.8   | 22.4   | 31.7   | 29.8   | 50.3    | 173.3   | 275.8   | 391.3   | 549.8   |
| 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°    | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  |
| 2.5°  | 2752.5  | 2750.6  | 2750.6  | 2743.2  | 2743.2  | 2745.0  | 2739.4  | 2735.7  | 2735.7  | 2737.6  | 2730.1  |
| 5°    | 2864.3  | 2858.7  | 2858.7  | 2851.3  | 2841.9  | 2841.9  | 2834.5  | 2832.6  | 2828.9  | 2821.4  | 2815.8  |
| 7.5°  | 2994.8  | 2989.2  | 2979.8  | 2974.3  | 2970.5  | 2964.9  | 2955.6  | 2951.9  | 2944.4  | 2937.0  | 2929.5  |
| 10°   | 3128.9  | 3121.5  | 3117.7  | 3108.4  | 3104.7  | 3093.5  | 3087.9  | 3089.8  | 3074.9  | 3069.3  | 3071.2  |
| 12.5° | 3263.1  | 3255.7  | 3242.6  | 3238.9  | 3237.0  | 3225.8  | 3220.2  | 3216.5  | 3205.3  | 3203.5  | 3197.9  |
| 15°   | 3382.4  | 3386.1  | 3380.5  | 3371.2  | 3363.7  | 3361.9  | 3356.3  | 3352.6  | 3345.1  | 3337.6  | 3330.2  |
| 17.5° | 3537.0  | 3542.6  | 3535.2  | 3522.1  | 3522.1  | 3520.3  | 3522.1  | 3520.3  | 3507.2  | 3512.8  | 3509.1  |
| 20°   | 3734.6  | 3738.3  | 3719.7  | 3725.3  | 3729.0  | 3727.1  | 3732.7  | 3738.3  | 3734.6  | 3734.6  | 3740.2  |
| 22.5° | 3961.9  | 3967.5  | 3956.4  | 3963.8  | 3975.0  | 3965.7  | 3982.4  | 3980.6  | 3984.3  | 3989.9  | 3991.8  |
| 25°   | 4194.9  | 4206.1  | 4196.8  | 4217.3  | 4209.8  | 4217.3  | 4237.7  | 4232.2  | 4241.5  | 4256.4  | 4262.0  |
| 27.5° | 4427.8  | 4435.3  | 4437.2  | 4450.2  | 4463.2  | 4474.4  | 4500.5  | 4500.5  | 4508.0  | 4534.1  | 4534.1  |
| 30°   | 4672.0  | 4679.4  | 4686.9  | 4705.5  | 4713.0  | 4733.5  | 4759.5  | 4767.0  | 4763.3  | 4800.5  | 4811.7  |
| 32.5° | 4953.4  | 4960.8  | 4973.9  | 4996.2  | 5005.5  | 5026.0  | 5026.0  | 5046.5  | 5061.4  | 5093.1  | 5095.0  |
| 35°   | 5327.9  | 5333.5  | 5327.9  | 5326.1  | 5339.1  | 5367.1  | 5368.9  | 5398.8  | 5411.8  | 5443.5  | 5452.8  |
| 37.5° | 5702.5  | 5700.6  | 5676.4  | 5650.3  | 5652.2  | 5641.0  | 5633.6  | 5646.6  | 5652.2  | 5654.1  | 5674.6  |
| 40°   | 6207.5  | 6159.1  | 6121.8  | 6056.6  | 6026.8  | 5980.2  | 5952.2  | 5950.4  | 5920.6  | 5916.8  | 5922.4  |
| 42.5° | 6869.1  | 6813.2  | 6725.6  | 6615.7  | 6531.8  | 6446.1  | 6382.7  | 6345.4  | 6280.2  | 6246.7  | 6218.7  |
| 45°   | 7793.4  | 7655.5  | 7551.2  | 7420.7  | 7258.6  | 7109.5  | 6953.0  | 6882.2  | 6757.3  | 6680.9  | 6595.2  |
| 47.5° | 8922.8  | 8786.7  | 8626.4  | 8492.3  | 8279.8  | 8073.0  | 7858.7  | 7670.4  | 7452.4  | 7279.1  | 7137.5  |
| 50°   | 10149.0 | 10068.8 | 9953.3  | 9828.4  | 9554.5  | 9418.5  | 9148.2  | 8892.9  | 8658.1  | 8348.8  | 8078.6  |
| 52.5° | 11406.9 | 11453.5 | 11427.4 | 11382.7 | 11209.4 | 11157.2 | 10924.2 | 10613.0 | 10376.3 | 10163.9 | 9694.3  |
| 55°   | 12957.4 | 13013.3 | 13125.1 | 13190.3 | 13169.8 | 13302.1 | 13244.4 | 13002.1 | 12907.1 | 12808.3 | 12474.7 |
| 57.5° | 15329.7 | 15728.5 | 16155.3 | 16529.8 | 16617.4 | 17087.0 | 16986.4 | 17228.7 | 17400.1 | 17277.1 | 17169.0 |
| 60°   | 17858.6 | 18663.6 | 19388.5 | 20147.0 | 20763.9 | 21226.0 | 21837.3 | 22249.1 | 22508.2 | 22974.0 | 23011.3 |
| 62.5° | 18877.9 | 19971.8 | 20892.4 | 21772.0 | 22504.4 | 23145.5 | 23697.1 | 24265.5 | 24731.4 | 25152.6 | 25456.3 |
| 65°   | 18318.9 | 19461.2 | 20577.5 | 21470.1 | 22174.6 | 22726.2 | 23326.3 | 23777.2 | 24235.7 | 24505.9 | 24824.6 |
| 67.5° | 15229.1 | 16742.3 | 18115.7 | 19122.1 | 20085.5 | 20646.5 | 21356.5 | 21800.0 | 22286.4 | 22571.5 | 22776.5 |
| 70°   | 9929.1  | 11898.9 | 13775.5 | 15301.7 | 16602.5 | 17256.6 | 18113.9 | 18719.5 | 19304.7 | 19319.6 | 19660.6 |
| 72.5° | 5357.8  | 7005.1  | 8576.1  | 10135.9 | 11619.3 | 12489.6 | 13335.7 | 14071.8 | 14653.2 | 14405.4 | 14744.5 |
| 75°   | 2983.6  | 3755.1  | 4614.2  | 5551.6  | 6455.4  | 6953.0  | 7584.7  | 7588.4  | 7888.5  | 7417.0  | 7536.3  |
| 77.5° | 2869.9  | 2834.5  | 2847.5  | 2873.6  | 2918.3  | 2823.3  | 2821.4  | 2763.7  | 2674.2  | 2512.1  | 2540.0  |
| 80°   | 3770.0  | 3319.0  | 2994.8  | 2486.0  | 2001.5  | 1632.5  | 1530.0  | 1554.2  | 1626.9  | 1772.3  | 1956.7  |
| 82.5° | 5450.9  | 5070.8  | 4526.6  | 3725.3  | 2923.9  | 2254.9  | 1852.4  | 1643.7  | 1634.3  | 1779.7  | 2059.2  |
| 85°   | 3969.4  | 4198.6  | 4163.2  | 3475.6  | 2866.2  | 2327.6  | 1694.0  | 1431.2  | 1185.2  | 1127.5  | 1226.2  |
| 87.5° | 585.2   | 484.5   | 546.0   | 456.6   | 331.7   | 257.2   | 225.5   | 180.8   | 173.3   | 177.0   | 193.8   |
| 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°    | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  |
| 2.5°  | 2732.0  | 2724.5  | 2717.1  | 2722.7  | 2717.1  | 2715.2  | 2709.6  | 2705.9  | 2704.0  | 2704.0  | 2704.0  |
| 5°    | 2815.8  | 2806.5  | 2800.9  | 2799.1  | 2793.5  | 2787.9  | 2786.0  | 2776.7  | 2774.9  | 2774.9  | 2769.3  |
| 7.5°  | 2929.5  | 2922.1  | 2912.8  | 2907.2  | 2903.4  | 2894.1  | 2884.8  | 2882.9  | 2881.1  | 2873.6  | 2868.0  |
| 10°   | 3061.8  | 3050.7  | 3039.5  | 3039.5  | 3032.0  | 3030.2  | 3020.8  | 3007.8  | 3005.9  | 2994.8  | 2991.0  |
| 12.5° | 3186.7  | 3183.0  | 3169.9  | 3166.2  | 3160.6  | 3155.0  | 3149.4  | 3143.8  | 3138.2  | 3128.9  | 3132.7  |
| 15°   | 3335.8  | 3326.5  | 3315.3  | 3317.1  | 3315.3  | 3307.8  | 3300.4  | 3294.8  | 3291.1  | 3287.3  | 3287.3  |
| 17.5° | 3514.7  | 3511.0  | 3509.1  | 3499.8  | 3492.3  | 3497.9  | 3497.9  | 3497.9  | 3488.6  | 3490.5  | 3492.3  |
| 20°   | 3742.0  | 3745.8  | 3742.0  | 3734.6  | 3732.7  | 3738.3  | 3725.3  | 3745.8  | 3734.6  | 3727.1  | 3730.9  |
| 22.5° | 3993.6  | 4006.7  | 3991.8  | 3993.6  | 4002.9  | 4006.7  | 3993.6  | 4010.4  | 4004.8  | 3993.6  | 4002.9  |
| 25°   | 4267.6  | 4276.9  | 4269.4  | 4267.6  | 4273.2  | 4286.2  | 4284.3  | 4282.5  | 4295.5  | 4284.3  | 4289.9  |
| 27.5° | 4549.0  | 4554.6  | 4558.3  | 4563.9  | 4567.6  | 4565.7  | 4573.2  | 4573.2  | 4580.6  | 4567.6  | 4573.2  |
| 30°   | 4828.5  | 4828.5  | 4836.0  | 4843.4  | 4843.4  | 4843.4  | 4858.3  | 4860.2  | 4849.0  | 4852.7  | 4839.7  |
| 32.5° | 5126.7  | 5128.5  | 5136.0  | 5136.0  | 5150.9  | 5152.8  | 5169.5  | 5147.2  | 5169.5  | 5150.9  | 5154.6  |
| 35°   | 5477.0  | 5501.2  | 5505.0  | 5523.6  | 5538.5  | 5544.1  | 5544.1  | 5546.0  | 5566.5  | 5551.6  | 5557.2  |
| 37.5° | 5682.0  | 5687.6  | 5702.5  | 5711.8  | 5711.8  | 5719.3  | 5724.9  | 5719.3  | 5724.9  | 5723.0  | 5728.6  |
| 40°   | 5924.3  | 5918.7  | 5935.5  | 5939.2  | 5931.7  | 5941.0  | 5939.2  | 5933.6  | 5948.5  | 5937.3  | 5944.8  |
| 42.5° | 6218.7  | 6187.0  | 6185.2  | 6200.1  | 6185.2  | 6192.6  | 6190.8  | 6177.7  | 6196.4  | 6201.9  | 6196.4  |
| 45°   | 6533.7  | 6516.9  | 6483.3  | 6483.3  | 6468.4  | 6462.8  | 6464.7  | 6462.8  | 6464.7  | 6487.1  | 6494.5  |
| 47.5° | 7046.1  | 6943.6  | 6885.9  | 6831.8  | 6787.1  | 6785.2  | 6764.7  | 6775.9  | 6790.8  | 6828.1  | 6861.7  |
| 50°   | 7905.2  | 7668.6  | 7523.2  | 7389.0  | 7292.1  | 7258.6  | 7219.5  | 7215.7  | 7228.8  | 7271.6  | 7329.4  |
| 52.5° | 9437.1  | 9109.1  | 8799.8  | 8512.8  | 8263.1  | 8071.1  | 7976.1  | 7925.7  | 7907.1  | 7950.0  | 8005.9  |
| 55°   | 12239.9 | 11621.2 | 11185.1 | 10894.4 | 10273.8 | 10011.1 | 9673.8  | 9519.1  | 9368.1  | 9383.1  | 9478.1  |
| 57.5° | 17029.3 | 16695.7 | 16330.4 | 15821.7 | 15441.5 | 14983.1 | 14140.7 | 13671.1 | 13691.6 | 13801.6 | 13458.7 |
| 60°   | 23305.8 | 22968.5 | 22817.5 | 22355.3 | 22090.7 | 21906.2 | 21459.0 | 20680.0 | 20404.2 | 20352.0 | 19722.1 |
| 62.5° | 25689.3 | 25769.4 | 25888.7 | 26019.1 | 26011.7 | 26091.8 | 25700.4 | 25447.0 | 25128.3 | 24714.6 | 24092.2 |
| 65°   | 25066.8 | 25270.0 | 25512.2 | 25862.6 | 26261.4 | 26555.8 | 26803.7 | 26773.9 | 26475.7 | 25924.1 | 25266.2 |
| 67.5° | 22959.1 | 23160.4 | 23337.4 | 23807.1 | 24461.2 | 25059.4 | 25588.6 | 25948.3 | 25748.9 | 25292.3 | 24524.5 |
| 70°   | 19791.1 | 19936.4 | 20048.2 | 20456.4 | 21173.8 | 21904.4 | 22595.7 | 23199.5 | 23138.0 | 22584.6 | 21971.4 |
| 72.5° | 14340.1 | 14692.4 | 14882.4 | 14854.5 | 15298.0 | 16116.1 | 16213.0 | 16729.2 | 16872.7 | 16276.4 | 15299.9 |
| 75°   | 6986.5  | 6992.1  | 6772.2  | 6699.5  | 6721.9  | 6863.5  | 6593.3  | 6610.1  | 6516.9  | 6093.9  | 5745.4  |
| 77.5° | 2441.3  | 2374.2  | 2213.9  | 2023.8  | 1751.8  | 1496.4  | 1237.4  | 1125.6  | 1088.3  | 978.4   | 902.0   |
| 80°   | 2104.0  | 2202.7  | 2171.1  | 2014.5  | 1727.5  | 1377.2  | 1028.7  | 762.2   | 650.4   | 611.2   | 574.0   |
| 82.5° | 2389.1  | 2769.3  | 3011.5  | 2998.5  | 2605.3  | 1956.7  | 1220.6  | 700.7   | 499.4   | 437.9   | 402.5   |
| 85°   | 1332.4  | 1433.1  | 1461.0  | 1330.6  | 1105.1  | 754.7   | 421.2   | 296.3   | 251.6   | 229.2   | 206.9   |
| 87.5° | 212.4   | 193.8   | 190.1   | 165.9   | 156.5   | 143.5   | 126.7   | 119.3   | 110.0   | 104.4   | 104.4   |
| 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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CATALOG NUMBER: VST-F11-LED-E-U-T2-7050

**CANDELA DISTRIBUTION (continued):**

|       | 87°     | 88°     | 89°     | 90°     | 91°     | 92°     | 93°     | 94°     | 95°     | 96°     | 97°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  |
| 2.5°  | 2702.2  | 2700.3  | 2694.7  | 2689.1  | 2685.4  | 2683.5  | 2681.7  | 2677.9  | 2676.1  | 2674.2  | 2670.5  |
| 5°    | 2765.5  | 2761.8  | 2752.5  | 2743.2  | 2739.4  | 2733.9  | 2728.3  | 2724.5  | 2720.8  | 2718.9  | 2711.5  |
| 7.5°  | 2864.3  | 2860.6  | 2849.4  | 2841.9  | 2840.1  | 2825.2  | 2823.3  | 2817.7  | 2808.4  | 2806.5  | 2795.3  |
| 10°   | 2983.6  | 2981.7  | 2972.4  | 2966.8  | 2963.1  | 2955.6  | 2944.4  | 2935.1  | 2925.8  | 2925.8  | 2918.3  |
| 12.5° | 3121.5  | 3114.0  | 3119.6  | 3106.6  | 3102.8  | 3095.4  | 3089.8  | 3087.9  | 3076.7  | 3067.4  | 3065.6  |
| 15°   | 3283.6  | 3274.3  | 3274.3  | 3270.6  | 3266.8  | 3259.4  | 3257.5  | 3259.4  | 3248.2  | 3251.9  | 3240.7  |
| 17.5° | 3484.9  | 3488.6  | 3486.7  | 3486.7  | 3477.4  | 3477.4  | 3462.5  | 3481.1  | 3468.1  | 3477.4  | 3473.7  |
| 20°   | 3736.5  | 3738.3  | 3734.6  | 3740.2  | 3743.9  | 3742.0  | 3740.2  | 3738.3  | 3743.9  | 3751.4  | 3745.8  |
| 22.5° | 4004.8  | 4004.8  | 4002.9  | 4023.4  | 4001.1  | 4017.8  | 4023.4  | 4012.3  | 4042.1  | 4038.3  | 4043.9  |
| 25°   | 4295.5  | 4295.5  | 4310.4  | 4327.2  | 4330.9  | 4317.9  | 4325.3  | 4316.0  | 4334.7  | 4349.6  | 4353.3  |
| 27.5° | 4565.7  | 4590.0  | 4601.1  | 4590.0  | 4599.3  | 4619.8  | 4617.9  | 4617.9  | 4631.0  | 4627.2  | 4662.6  |
| 30°   | 4843.4  | 4858.3  | 4873.2  | 4865.8  | 4869.5  | 4895.6  | 4897.5  | 4899.3  | 4916.1  | 4940.3  | 4966.4  |
| 32.5° | 5160.2  | 5175.1  | 5167.7  | 5191.9  | 5190.0  | 5221.7  | 5227.3  | 5232.9  | 5285.1  | 5275.8  | 5329.8  |
| 35°   | 5549.7  | 5564.6  | 5557.2  | 5583.2  | 5579.5  | 5590.7  | 5611.2  | 5633.6  | 5642.9  | 5696.9  | 5739.8  |
| 37.5° | 5732.3  | 5732.3  | 5749.1  | 5778.9  | 5790.1  | 5808.7  | 5840.4  | 5868.4  | 5915.0  | 5972.7  | 6039.8  |
| 40°   | 5952.2  | 5957.8  | 5980.2  | 6011.9  | 6032.4  | 6075.2  | 6133.0  | 6172.1  | 6242.9  | 6306.3  | 6384.6  |
| 42.5° | 6218.7  | 6242.9  | 6269.0  | 6311.9  | 6356.6  | 6423.7  | 6505.7  | 6556.0  | 6649.2  | 6731.2  | 6828.1  |
| 45°   | 6529.9  | 6554.2  | 6615.7  | 6693.9  | 6759.2  | 6833.7  | 6900.8  | 7020.1  | 7103.9  | 7189.6  | 7273.5  |
| 47.5° | 6906.4  | 6977.2  | 7027.5  | 7120.7  | 7200.8  | 7299.6  | 7383.4  | 7495.3  | 7586.6  | 7690.9  | 7761.8  |
| 50°   | 7389.0  | 7476.6  | 7541.9  | 7663.0  | 7741.3  | 7851.2  | 7957.4  | 8041.3  | 8134.5  | 8237.0  | 8294.7  |
| 52.5° | 8082.3  | 8171.7  | 8253.7  | 8404.7  | 8501.6  | 8576.1  | 8717.8  | 8822.1  | 8907.8  | 8982.4  | 9045.8  |
| 55°   | 9584.3  | 9558.2  | 9785.6  | 10078.2 | 10111.7 | 10381.9 | 10432.2 | 10519.8 | 10678.2 | 10700.6 | 10877.6 |
| 57.5° | 13876.1 | 13741.9 | 14071.8 | 14500.4 | 14425.9 | 14289.8 | 14858.2 | 14893.6 | 14813.5 | 15027.8 | 14785.5 |
| 60°   | 19815.3 | 19580.5 | 19669.9 | 19787.3 | 19617.8 | 19537.6 | 19565.6 | 19645.7 | 19567.4 | 19481.7 | 19246.9 |
| 62.5° | 23781.0 | 23419.4 | 23160.4 | 22942.4 | 22666.6 | 22467.2 | 22243.5 | 21967.7 | 21893.2 | 21580.1 | 21317.3 |
| 65°   | 24627.0 | 24064.2 | 23654.2 | 23242.4 | 22862.2 | 22510.0 | 22172.7 | 21936.0 | 21623.0 | 21252.1 | 20978.2 |
| 67.5° | 23697.1 | 23000.1 | 22400.1 | 21801.9 | 21371.4 | 20853.3 | 20599.9 | 20214.1 | 19828.3 | 19403.5 | 19151.9 |
| 70°   | 20994.9 | 20268.1 | 19513.4 | 18928.2 | 18343.1 | 17702.0 | 17577.2 | 17120.6 | 16898.8 | 16319.3 | 16218.6 |
| 72.5° | 14491.1 | 14006.6 | 13669.3 | 12946.2 | 12590.3 | 12262.3 | 12157.9 | 11734.9 | 11779.6 | 11144.1 | 11375.2 |
| 75°   | 5152.8  | 5083.8  | 4985.0  | 4576.9  | 4504.2  | 4377.5  | 4344.0  | 4314.2  | 4616.1  | 4196.8  | 4500.5  |
| 77.5° | 885.2   | 879.6   | 829.3   | 805.1   | 851.6   | 821.8   | 829.3   | 814.4   | 902.0   | 915.0   | 894.5   |
| 80°   | 549.8   | 534.8   | 518.1   | 506.9   | 508.8   | 497.6   | 499.4   | 503.2   | 508.8   | 506.9   | 512.5   |
| 82.5° | 376.4   | 363.4   | 355.9   | 348.5   | 359.7   | 363.4   | 372.7   | 382.0   | 396.9   | 406.3   | 417.4   |
| 85°   | 205.0   | 188.2   | 188.2   | 186.4   | 201.3   | 212.4   | 227.4   | 246.0   | 272.1   | 294.4   | 318.7   |
| 87.5° | 104.4   | 100.6   | 102.5   | 106.2   | 119.3   | 128.6   | 147.2   | 164.0   | 186.4   | 210.6   | 232.9   |
| 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):**

|       | 98°     | 99°     | 100°    | 101°    | 102°    | 103°    | 104°    | 105°    | 115°   | 125°   | 135°   |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|
| 0°    | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1  | 2676.1 | 2676.1 | 2676.1 |
| 2.5°  | 2668.6  | 2668.6  | 2666.8  | 2666.8  | 2664.9  | 2663.0  | 2661.2  | 2655.6  | 2635.1 | 2616.4 | 2603.4 |
| 5°    | 2709.6  | 2704.0  | 2702.2  | 2696.6  | 2694.7  | 2691.0  | 2685.4  | 2679.8  | 2642.5 | 2609.0 | 2584.8 |
| 7.5°  | 2793.5  | 2786.0  | 2782.3  | 2776.7  | 2771.1  | 2763.7  | 2756.2  | 2750.6  | 2705.9 | 2666.8 | 2636.9 |
| 10°   | 2903.4  | 2899.7  | 2897.8  | 2890.4  | 2890.4  | 2879.2  | 2877.3  | 2864.3  | 2815.8 | 2780.4 | 2754.4 |
| 12.5° | 3056.2  | 3048.8  | 3046.9  | 3037.6  | 3041.3  | 3037.6  | 3033.9  | 3026.4  | 2991.0 | 2950.0 | 2914.6 |
| 15°   | 3246.3  | 3246.3  | 3237.0  | 3229.6  | 3231.4  | 3227.7  | 3235.2  | 3225.8  | 3203.5 | 3166.2 | 3108.4 |
| 17.5° | 3475.6  | 3471.8  | 3475.6  | 3470.0  | 3473.7  | 3477.4  | 3468.1  | 3470.0  | 3458.8 | 3412.2 | 3326.5 |
| 20°   | 3742.0  | 3736.5  | 3758.8  | 3749.5  | 3770.0  | 3751.4  | 3755.1  | 3760.7  | 3760.7 | 3699.2 | 3583.6 |
| 22.5° | 4047.7  | 4043.9  | 4043.9  | 4062.6  | 4070.0  | 4071.9  | 4079.3  | 4084.9  | 4099.8 | 4021.6 | 3837.1 |
| 25°   | 4353.3  | 4366.3  | 4368.2  | 4392.4  | 4403.6  | 4403.6  | 4409.2  | 4429.7  | 4474.4 | 4366.3 | 4127.8 |
| 27.5° | 4664.5  | 4696.2  | 4703.6  | 4720.4  | 4737.2  | 4754.0  | 4767.0  | 4781.9  | 4854.6 | 4737.2 | 4426.0 |
| 30°   | 4975.7  | 5011.1  | 5037.2  | 5055.9  | 5076.4  | 5117.4  | 5124.8  | 5154.6  | 5275.8 | 5132.3 | 4709.2 |
| 32.5° | 5341.0  | 5391.3  | 5424.8  | 5449.1  | 5480.7  | 5519.9  | 5542.2  | 5579.5  | 5696.9 | 5462.1 | 4916.1 |
| 35°   | 5777.1  | 5806.9  | 5855.3  | 5896.3  | 5915.0  | 5982.0  | 6017.5  | 6026.8  | 6116.2 | 5747.2 | 5068.9 |
| 37.5° | 6079.0  | 6129.3  | 6213.1  | 6270.9  | 6304.4  | 6341.7  | 6401.4  | 6440.5  | 6526.2 | 6006.3 | 5145.3 |
| 40°   | 6462.8  | 6539.3  | 6606.3  | 6692.1  | 6746.1  | 6774.1  | 6833.7  | 6865.4  | 6876.6 | 6228.0 | 5121.1 |
| 42.5° | 6930.6  | 6999.6  | 7089.0  | 7158.0  | 7199.0  | 7230.6  | 7279.1  | 7292.1  | 7146.8 | 6332.4 | 4990.6 |
| 45°   | 7370.4  | 7476.6  | 7553.0  | 7603.4  | 7633.2  | 7649.9  | 7679.8  | 7681.6  | 7370.4 | 6280.2 | 4767.0 |
| 47.5° | 7843.8  | 7920.2  | 7991.0  | 8026.4  | 8022.7  | 8026.4  | 8015.2  | 8007.7  | 7482.2 | 6099.5 | 4480.0 |
| 50°   | 8367.4  | 8417.7  | 8447.5  | 8464.3  | 8473.6  | 8438.2  | 8387.9  | 8354.4  | 7491.5 | 5842.3 | 4189.3 |
| 52.5° | 9070.0  | 9133.3  | 9127.7  | 9125.9  | 9051.3  | 9017.8  | 8883.6  | 8814.7  | 7437.5 | 5540.4 | 3861.3 |
| 55°   | 10849.7 | 10788.2 | 10667.1 | 10726.7 | 10422.9 | 10264.5 | 10055.8 | 9862.0  | 7508.3 | 5253.4 | 3481.1 |
| 57.5° | 14882.4 | 14906.7 | 14561.9 | 14377.4 | 13864.9 | 13223.9 | 12707.7 | 12206.4 | 8145.6 | 5078.2 | 2985.4 |
| 60°   | 19090.4 | 18773.6 | 18335.6 | 17668.5 | 17008.8 | 16056.5 | 15137.7 | 14269.3 | 8781.1 | 4895.6 | 2398.4 |
| 62.5° | 20927.9 | 20476.9 | 19815.3 | 18952.5 | 17916.3 | 16751.6 | 15607.4 | 14548.9 | 8473.6 | 4304.8 | 1744.3 |
| 65°   | 20555.1 | 19865.6 | 19135.1 | 18125.0 | 16865.3 | 15588.7 | 14252.6 | 13171.7 | 7089.0 | 3210.9 | 1075.3 |
| 67.5° | 18605.8 | 18020.7 | 17249.2 | 16050.9 | 14703.5 | 13374.8 | 12150.5 | 10939.1 | 5266.4 | 2001.5 | 601.9  |
| 70°   | 15704.3 | 15132.2 | 14349.5 | 13123.2 | 11777.7 | 10506.8 | 9209.7  | 8222.1  | 3356.3 | 965.3  | 434.2  |
| 72.5° | 10894.4 | 10430.4 | 9876.9  | 9002.9  | 7823.3  | 6667.8  | 5790.1  | 5031.6  | 1859.8 | 512.5  | 396.9  |
| 75°   | 4424.1  | 4426.0  | 4325.3  | 3956.4  | 3343.2  | 2882.9  | 2458.0  | 2085.3  | 777.1  | 436.1  | 391.3  |
| 77.5° | 1002.6  | 1019.4  | 1114.4  | 1056.6  | 952.3   | 890.8   | 797.6   | 704.4   | 473.3  | 449.1  | 395.1  |
| 80°   | 506.9   | 508.8   | 503.2   | 505.0   | 499.4   | 501.3   | 493.8   | 488.3   | 443.5  | 462.2  | 395.1  |
| 82.5° | 423.0   | 432.3   | 430.5   | 430.5   | 432.3   | 432.3   | 432.3   | 430.5   | 460.3  | 486.4  | 382.0  |
| 85°   | 335.4   | 354.1   | 369.0   | 383.9   | 400.7   | 411.8   | 417.4   | 423.0   | 447.3  | 478.9  | 346.6  |
| 87.5° | 253.4   | 275.8   | 294.4   | 309.4   | 335.4   | 335.4   | 354.1   | 367.1   | 367.1  | 374.6  | 182.6  |
| 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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CATALOG NUMBER: VST-F11-LED-E-U-T2-7050

**CANDELA DISTRIBUTION (continued):**

|       | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2676.1 | 2676.1 | 2676.1 | 2676.1 | 2676.1 |
| 2.5°  | 2584.8 | 2577.3 | 2569.9 | 2566.1 | 2558.7 |
| 5°    | 2566.1 | 2551.2 | 2541.9 | 2541.9 | 2534.5 |
| 7.5°  | 2620.2 | 2614.6 | 2601.5 | 2594.1 | 2601.5 |
| 10°   | 2735.7 | 2726.4 | 2711.5 | 2700.3 | 2705.9 |
| 12.5° | 2890.4 | 2853.1 | 2823.3 | 2810.3 | 2800.9 |
| 15°   | 3050.7 | 2976.1 | 2916.5 | 2882.9 | 2873.6 |
| 17.5° | 3222.1 | 3091.7 | 3002.2 | 2951.9 | 2942.6 |
| 20°   | 3397.3 | 3235.2 | 3108.4 | 3043.2 | 3041.3 |
| 22.5° | 3607.9 | 3391.7 | 3229.6 | 3143.8 | 3138.2 |
| 25°   | 3829.6 | 3531.5 | 3317.1 | 3207.2 | 3196.0 |
| 27.5° | 4021.6 | 3643.3 | 3371.2 | 3240.7 | 3229.6 |
| 30°   | 4181.8 | 3727.1 | 3415.9 | 3265.0 | 3250.1 |
| 32.5° | 4297.4 | 3775.6 | 3434.6 | 3272.4 | 3255.7 |
| 35°   | 4334.7 | 3756.9 | 3382.4 | 3205.3 | 3186.7 |
| 37.5° | 4284.3 | 3635.8 | 3237.0 | 3041.3 | 3019.0 |
| 40°   | 4133.4 | 3423.4 | 3000.3 | 2799.1 | 2771.1 |
| 42.5° | 3902.3 | 3162.5 | 2715.2 | 2523.3 | 2487.9 |
| 45°   | 3617.2 | 2868.0 | 2432.0 | 2217.6 | 2200.9 |
| 47.5° | 3319.0 | 2558.7 | 2113.3 | 1919.5 | 1899.0 |
| 50°   | 2996.6 | 2200.9 | 1802.1 | 1591.5 | 1591.5 |
| 52.5° | 2612.7 | 1852.4 | 1440.5 | 1282.1 | 1269.1 |
| 55°   | 2171.1 | 1459.2 | 1148.0 | 1026.8 | 1010.1 |
| 57.5° | 1695.8 | 1121.9 | 916.9  | 846.1  | 827.4  |
| 60°   | 1246.7 | 842.3  | 738.0  | 698.8  | 691.4  |
| 62.5° | 846.1  | 641.1  | 594.5  | 577.7  | 575.8  |
| 65°   | 572.1  | 499.4  | 486.4  | 480.8  | 482.7  |
| 67.5° | 439.8  | 415.6  | 410.0  | 408.1  | 408.1  |
| 70°   | 382.0  | 367.1  | 361.5  | 363.4  | 361.5  |
| 72.5° | 359.7  | 339.2  | 341.0  | 344.8  | 342.9  |
| 75°   | 352.2  | 326.1  | 333.6  | 335.4  | 328.0  |
| 77.5° | 346.6  | 311.2  | 329.9  | 335.4  | 314.9  |
| 80°   | 335.4  | 298.2  | 342.9  | 344.8  | 309.4  |
| 82.5° | 307.5  | 264.6  | 342.9  | 316.8  | 279.5  |
| 85°   | 260.9  | 201.3  | 387.6  | 275.8  | 206.9  |
| 87.5° | 165.9  | 119.3  | 262.8  | 188.2  | 124.9  |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)