

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: P158077

Luminaire Tested: **VST-F11-LED-E-U-RW-7060**

Issue Date: 3/3/2020

### Test Information

Test Method: LM-79-08  
Report Number: P158077  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33711)  
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-RW-7060  
Description: VENTUS LED SITE/ROADWAY LUMINAIRE  
(11) LIGHTBARS WITH AccuLED OPTICS - RECTANGULAR WIDE  
Light Source: (77) 5700K CCT, 70 CRI LEDs  
Ballast/Driver: -

### Summary

Lumens per Lamp: N/A  
Luminaire Lumens: 29028.9 lumens  
Efficiency: N/A  
Efficacy: 102.7 lumens/watt  
Luminous Opening: Rectangular (W 1.83' x L: 1' x H: 0')  
IES Classification: Type I - Medium - Full Cutoff  
BUG Rating: B5 - U0 - G5

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

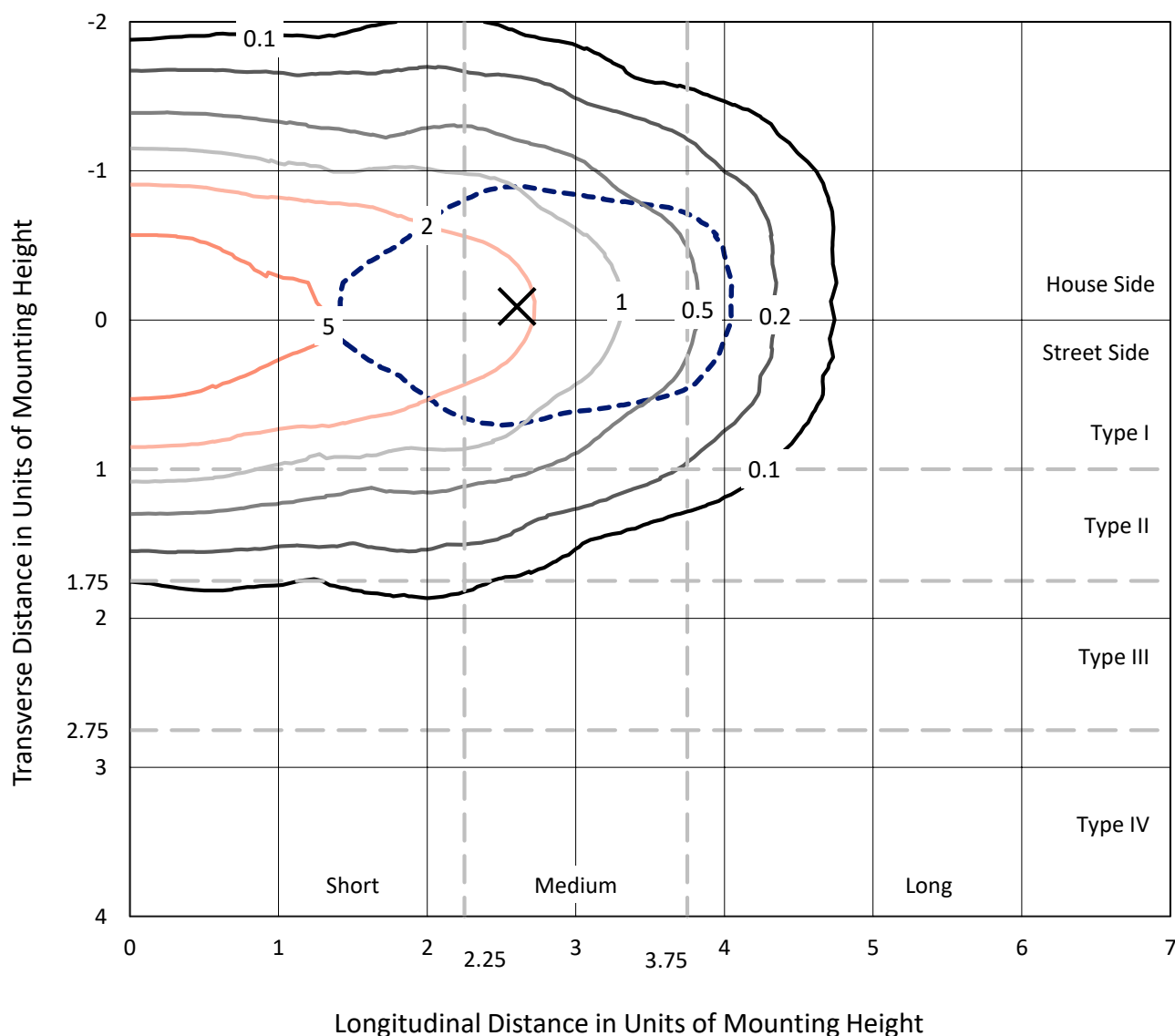


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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

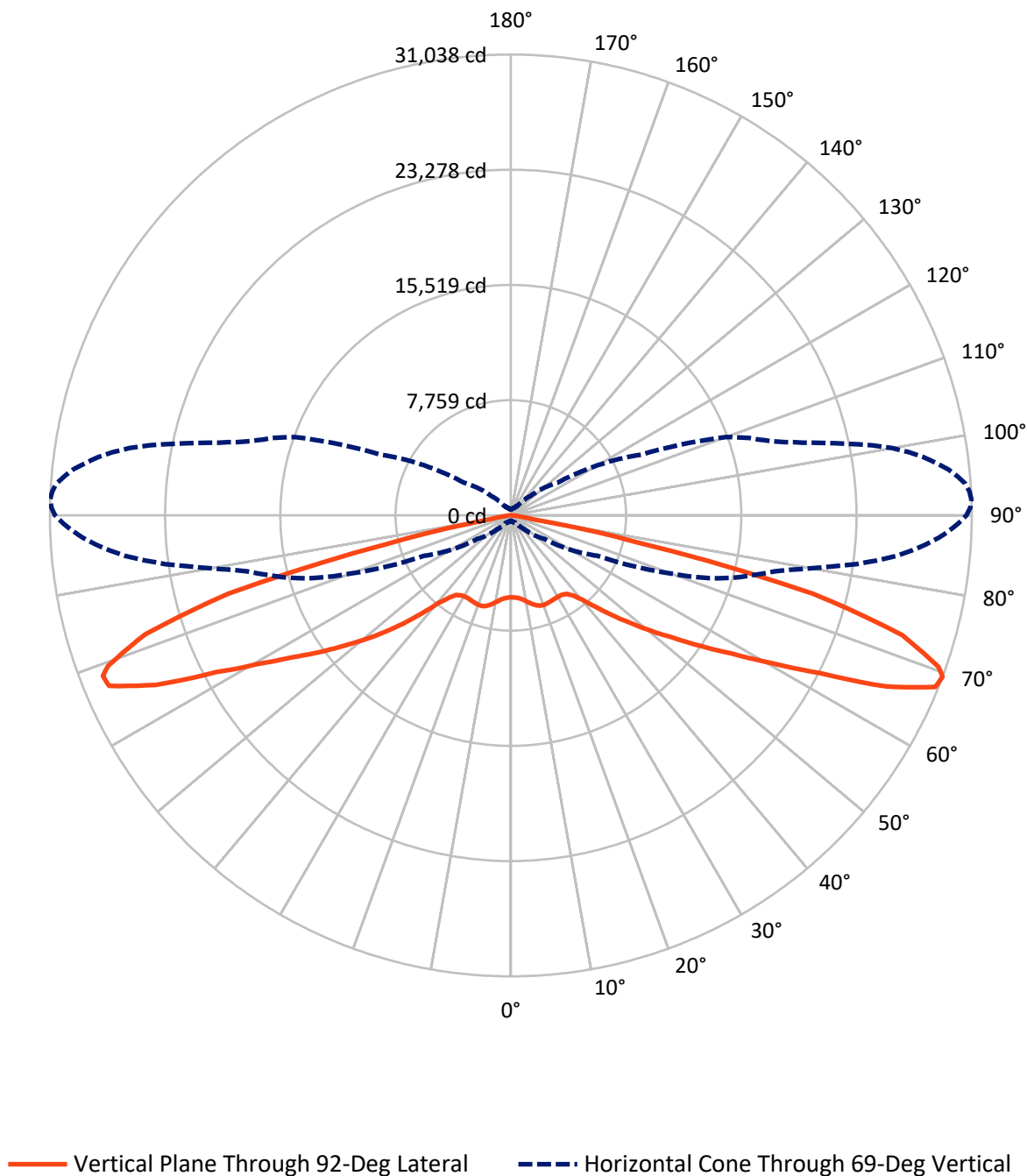


Based on 25 foot mounting height. Maximum calculated value = 9.1 fc  
 Type I - Medium - Full Cutoff

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## Luminous Intensity Polar Plot



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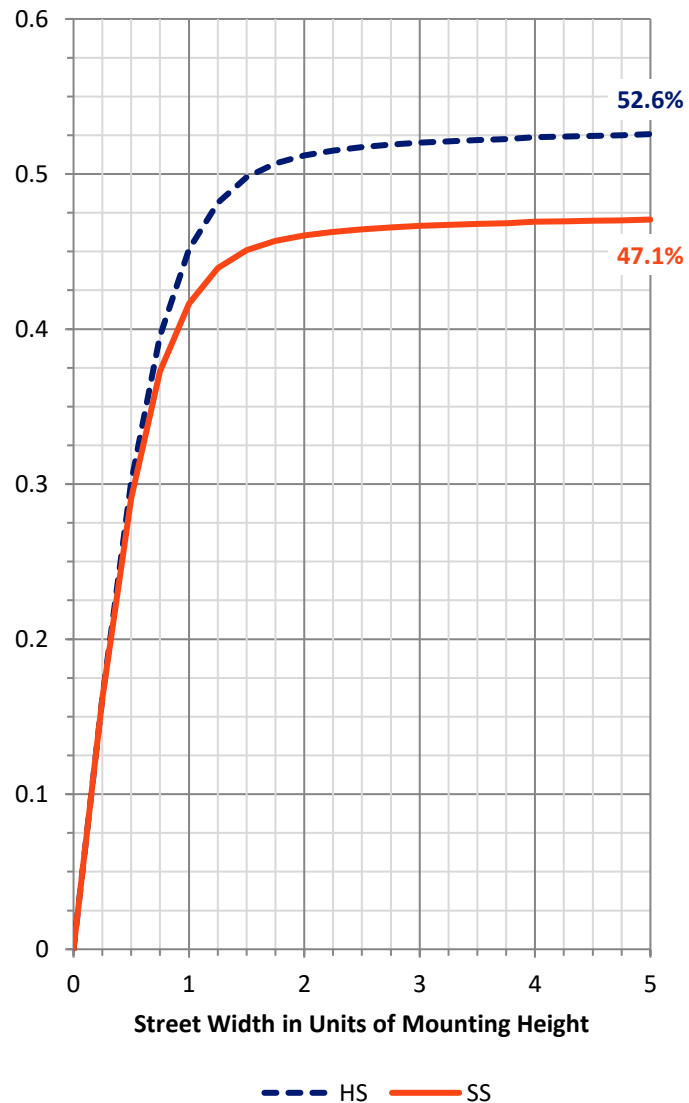
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 15395.6  | 0.0    | 15395.6 |
|                    | % Fixture | 53.0     | 0.0    | 53.0    |
| <b>Street Side</b> | Lumens    | 13633.4  | 0.0    | 13633.4 |
|                    | % Fixture | 47.0     | 0.0    | 47.0    |
| <b>Total</b>       | Lumens    | 29028.9  | 0.0    | 29028.9 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 539.6   | 1.9       |
| 10°-20°   | 1704.5  | 5.9       |
| 20°-30°   | 2765.4  | 9.5       |
| 30°-40°   | 3446.5  | 11.9      |
| 40°-50°   | 4291.2  | 14.8      |
| 50°-60°   | 5292.2  | 18.2      |
| 60°-70°   | 6572.5  | 22.6      |
| 70°-80°   | 4038.4  | 13.9      |
| 80°-90°   | 378.5   | 1.3       |
| 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°    | 29028.9 | 100.0     |
| 0°-180°   | 29028.9 | 100.0     |

**Coefficient of Utilization**



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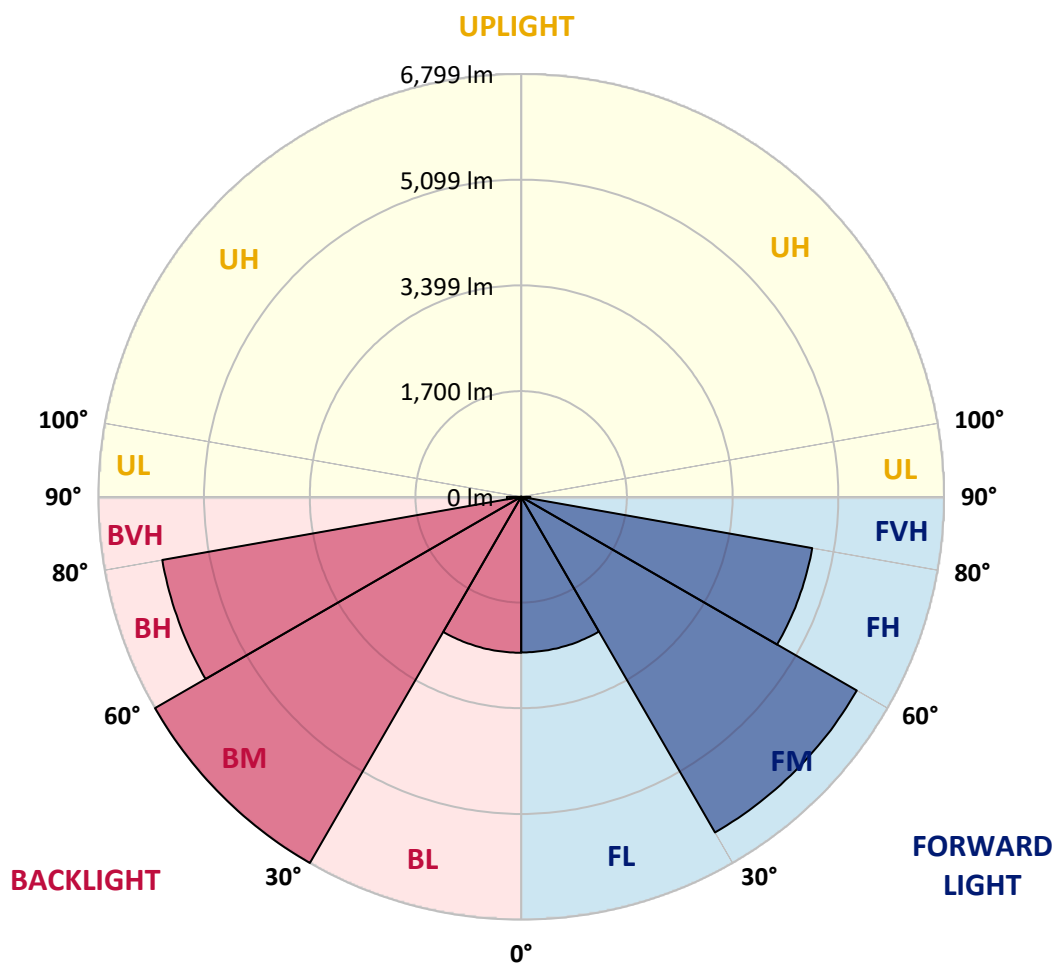
CATALOG NUMBER: VST-F11-LED-E-U-RW-7060

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 2502.1 | 8.6       |                         |      |         |
| FM   | (30°-60°)   | 6231.4 | 21.5      |                         |      |         |
| FH   | (60°-80°)   | 4751.7 | 16.4      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 148.2  | 0.5       |                         |      | G2/225  |
| BL   | (0°-30°)    | 2507.4 | 8.6       | B4/5000                 |      |         |
| BM   | (30°-60°)   | 6798.5 | 23.4      | B4/8500                 |      |         |
| BH   | (60°-80°)   | 5859.3 | 20.2      | B5                      |      | G5      |
| BVH  | (80°-90°)   | 230.3  | 0.8       |                         |      | G3/500  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B5-U0-G5**

Type I Medium





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 70°     | 71°     | 72°     |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|
| 0°    | 5514.3 | 5514.3 | 5514.3 | 5514.3 | 5514.3 | 5514.3 | 5514.3 | 5514.3 | 5514.3  | 5514.3  | 5514.3  |
| 2.5°  | 5601.9 | 5587.0 | 5600.0 | 5601.9 | 5600.0 | 5600.0 | 5583.2 | 5579.5 | 5557.2  | 5562.7  | 5560.9  |
| 5°    | 5678.3 | 5672.7 | 5682.0 | 5685.7 | 5689.5 | 5682.0 | 5669.0 | 5663.4 | 5648.5  | 5642.9  | 5641.0  |
| 7.5°  | 5749.1 | 5739.8 | 5754.7 | 5767.7 | 5777.1 | 5778.9 | 5780.8 | 5771.5 | 5771.5  | 5764.0  | 5764.0  |
| 10°   | 5808.7 | 5801.3 | 5825.5 | 5842.3 | 5872.1 | 5888.9 | 5907.5 | 5920.6 | 5928.0  | 5929.9  | 5928.0  |
| 12.5° | 5834.8 | 5829.2 | 5868.4 | 5918.7 | 5974.6 | 6013.7 | 6060.3 | 6093.9 | 6103.2  | 6101.3  | 6110.6  |
| 15°   | 5790.1 | 5793.8 | 5853.5 | 5952.2 | 6071.5 | 6170.3 | 6235.5 | 6263.4 | 6270.9  | 6274.6  | 6276.5  |
| 17.5° | 5669.0 | 5676.4 | 5762.1 | 5922.4 | 6131.1 | 6310.0 | 6406.9 | 6406.9 | 6392.0  | 6392.0  | 6390.2  |
| 20°   | 5475.2 | 5482.6 | 5594.4 | 5825.5 | 6133.0 | 6406.9 | 6544.8 | 6516.9 | 6461.0  | 6449.8  | 6438.6  |
| 22.5° | 5206.8 | 5236.6 | 5359.6 | 5628.0 | 6052.9 | 6434.9 | 6630.6 | 6589.6 | 6502.0  | 6477.8  | 6461.0  |
| 25°   | 4903.0 | 4899.3 | 5046.5 | 5348.4 | 5859.1 | 6367.8 | 6654.8 | 6647.3 | 6554.2  | 6528.1  | 6498.3  |
| 27.5° | 4556.4 | 4567.6 | 4703.6 | 5009.3 | 5562.7 | 6174.0 | 6613.8 | 6712.6 | 6636.2  | 6610.1  | 6582.1  |
| 30°   | 4200.5 | 4211.7 | 4340.2 | 4696.2 | 5225.4 | 5896.3 | 6529.9 | 6775.9 | 6746.1  | 6725.6  | 6707.0  |
| 32.5° | 3842.7 | 3846.4 | 3999.2 | 4381.2 | 4940.3 | 5564.6 | 6403.2 | 6833.7 | 6874.7  | 6865.4  | 6857.9  |
| 35°   | 3507.2 | 3511.0 | 3676.8 | 4064.4 | 4658.9 | 5281.3 | 6250.4 | 6917.6 | 7049.9  | 7061.1  | 7068.5  |
| 37.5° | 3181.1 | 3186.7 | 3356.3 | 3762.5 | 4381.2 | 5067.0 | 6080.8 | 7046.1 | 7295.9  | 7336.9  | 7344.3  |
| 40°   | 2856.8 | 2862.4 | 3024.6 | 3455.1 | 4099.8 | 4878.8 | 5950.4 | 7226.9 | 7627.6  | 7683.5  | 7741.3  |
| 42.5° | 2547.5 | 2568.0 | 2705.9 | 3117.7 | 3786.8 | 4645.9 | 5894.5 | 7446.8 | 8020.8  | 8108.4  | 8173.6  |
| 45°   | 2258.6 | 2260.5 | 2417.0 | 2802.8 | 3415.9 | 4330.9 | 5857.2 | 7696.5 | 8460.6  | 8592.9  | 8682.4  |
| 47.5° | 1949.3 | 1971.7 | 2135.6 | 2510.2 | 3069.3 | 3941.4 | 5737.9 | 7989.1 | 8939.5  | 9094.2  | 9275.0  |
| 50°   | 1649.3 | 1680.9 | 1839.3 | 2210.2 | 2752.5 | 3538.9 | 5417.4 | 8332.0 | 9478.1  | 9679.4  | 9888.1  |
| 52.5° | 1360.4 | 1358.5 | 1526.3 | 1912.0 | 2433.8 | 3197.9 | 4897.5 | 8691.7 | 10100.5 | 10316.7 | 10542.2 |
| 55°   | 1028.7 | 1028.7 | 1194.5 | 1546.8 | 2089.1 | 2894.1 | 4340.2 | 8915.3 | 10678.2 | 10939.1 | 11185.1 |
| 57.5° | 706.3  | 724.9  | 881.5  | 1185.2 | 1729.4 | 2616.4 | 3913.5 | 8786.7 | 11119.9 | 11444.2 | 11736.7 |
| 60°   | 523.7  | 542.3  | 657.8  | 851.6  | 1352.9 | 2288.5 | 3593.0 | 8181.1 | 11386.4 | 11816.9 | 12197.0 |
| 62.5° | 452.8  | 465.9  | 575.8  | 682.1  | 974.6  | 1940.0 | 3309.7 | 7411.4 | 11770.3 | 12359.2 | 12888.4 |
| 65°   | 404.4  | 417.4  | 527.4  | 588.9  | 762.2  | 1559.8 | 3151.3 | 6971.6 | 12228.7 | 13128.8 | 13896.6 |
| 67.5° | 374.6  | 389.5  | 482.7  | 527.4  | 665.3  | 1410.7 | 3028.3 | 6869.1 | 12225.0 | 13317.0 | 14297.3 |
| 69°   | 359.7  | 370.8  | 447.3  | 495.7  | 642.9  | 1366.0 | 2761.8 | 6423.7 | 11418.1 | 12590.3 | 13574.2 |
| 70°   | 350.4  | 361.5  | 426.8  | 475.2  | 635.5  | 1285.9 | 2515.8 | 5834.8 | 10499.3 | 11679.0 | 12677.8 |
| 72.5° | 320.5  | 331.7  | 380.2  | 424.9  | 529.3  | 859.1  | 1753.6 | 3734.6 | 7502.7  | 8345.1  | 9487.4  |
| 75°   | 283.3  | 296.3  | 333.6  | 370.8  | 400.7  | 497.6  | 1011.9 | 1938.1 | 4289.9  | 4929.1  | 5946.6  |
| 77.5° | 231.1  | 244.1  | 283.3  | 342.9  | 339.2  | 378.3  | 657.8  | 1190.8 | 2008.9  | 2491.6  | 2868.0  |
| 80°   | 190.1  | 199.4  | 232.9  | 346.6  | 277.7  | 316.8  | 533.0  | 976.5  | 1414.4  | 1563.5  | 1653.0  |
| 82.5° | 126.7  | 139.8  | 180.8  | 272.1  | 212.4  | 225.5  | 398.8  | 913.1  | 1196.4  | 1312.0  | 1420.0  |
| 85°   | 59.6   | 65.2   | 110.0  | 145.4  | 128.6  | 121.1  | 227.4  | 644.8  | 890.8   | 944.8   | 985.8   |
| 87.5° | 0.0    | 0.0    | 5.6    | 11.2   | 16.8   | 16.8   | 41.0   | 136.0  | 249.7   | 301.9   | 298.2   |
| 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):**

|       | 73°     | 74°     | 75°     | 76°     | 77°     | 78°     | 79°     | 80°     | 81°     | 82°     | 83°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  |
| 2.5°  | 5553.4  | 5555.3  | 5553.4  | 5553.4  | 5551.6  | 5547.8  | 5547.8  | 5544.1  | 5546.0  | 5544.1  | 5547.8  |
| 5°    | 5639.2  | 5639.2  | 5633.6  | 5629.8  | 5635.4  | 5629.8  | 5631.7  | 5622.4  | 5622.4  | 5616.8  | 5609.3  |
| 7.5°  | 5762.1  | 5762.1  | 5764.0  | 5752.8  | 5760.3  | 5762.1  | 5756.6  | 5752.8  | 5749.1  | 5739.8  | 5741.6  |
| 10°   | 5926.1  | 5926.1  | 5931.7  | 5916.8  | 5924.3  | 5928.0  | 5929.9  | 5929.9  | 5926.1  | 5909.4  | 5911.2  |
| 12.5° | 6108.8  | 6105.0  | 6106.9  | 6099.5  | 6106.9  | 6110.6  | 6114.4  | 6110.6  | 6110.6  | 6106.9  | 6105.0  |
| 15°   | 6274.6  | 6272.8  | 6276.5  | 6270.9  | 6272.8  | 6276.5  | 6287.7  | 6285.8  | 6283.9  | 6272.8  | 6272.8  |
| 17.5° | 6388.3  | 6382.7  | 6379.0  | 6377.1  | 6377.1  | 6375.3  | 6377.1  | 6377.1  | 6371.5  | 6369.7  | 6369.7  |
| 20°   | 6431.2  | 6416.3  | 6406.9  | 6401.4  | 6393.9  | 6390.2  | 6386.4  | 6388.3  | 6384.6  | 6379.0  | 6380.9  |
| 22.5° | 6438.6  | 6418.1  | 6399.5  | 6382.7  | 6367.8  | 6358.5  | 6349.2  | 6345.4  | 6336.1  | 6330.5  | 6330.5  |
| 25°   | 6474.0  | 6442.3  | 6412.5  | 6384.6  | 6362.2  | 6341.7  | 6321.2  | 6306.3  | 6295.1  | 6282.1  | 6278.4  |
| 27.5° | 6552.3  | 6518.8  | 6483.3  | 6447.9  | 6418.1  | 6377.1  | 6349.2  | 6319.4  | 6293.3  | 6272.8  | 6257.9  |
| 30°   | 6673.4  | 6639.9  | 6604.5  | 6563.5  | 6524.3  | 6481.5  | 6434.9  | 6399.5  | 6362.2  | 6321.2  | 6298.9  |
| 32.5° | 6833.7  | 6811.3  | 6775.9  | 6736.8  | 6701.4  | 6656.7  | 6600.8  | 6546.7  | 6511.3  | 6462.8  | 6427.4  |
| 35°   | 7062.9  | 7036.8  | 7025.6  | 7008.9  | 6973.5  | 6945.5  | 6884.0  | 6833.7  | 6800.2  | 6733.1  | 6707.0  |
| 37.5° | 7376.0  | 7374.1  | 7383.4  | 7377.9  | 7383.4  | 7348.0  | 7320.1  | 7318.2  | 7269.8  | 7204.5  | 7141.2  |
| 40°   | 7802.8  | 7825.1  | 7875.4  | 7910.8  | 7944.4  | 7948.1  | 7987.2  | 7946.2  | 7951.8  | 7942.5  | 7877.3  |
| 42.5° | 8289.1  | 8365.5  | 8425.2  | 8529.5  | 8609.7  | 8684.2  | 8734.5  | 8803.5  | 8855.7  | 8902.3  | 8913.4  |
| 45°   | 8831.4  | 8945.1  | 9083.0  | 9176.2  | 9332.7  | 9457.6  | 9629.0  | 9761.4  | 9899.3  | 10035.3 | 10083.8 |
| 47.5° | 9420.3  | 9562.0  | 9714.8  | 9888.1  | 10085.6 | 10281.3 | 10545.9 | 10749.1 | 10970.8 | 11155.3 | 11319.3 |
| 50°   | 10070.7 | 10217.9 | 10422.9 | 10622.3 | 10894.4 | 11119.9 | 11466.5 | 11733.0 | 12090.8 | 12336.8 | 12549.3 |
| 52.5° | 10749.1 | 10933.5 | 11162.8 | 11382.7 | 11660.3 | 11949.2 | 12334.9 | 12728.2 | 13158.6 | 13531.4 | 13840.7 |
| 55°   | 11412.5 | 11639.8 | 11859.7 | 12116.9 | 12424.4 | 12759.8 | 13195.9 | 13714.0 | 14250.7 | 14677.4 | 15087.4 |
| 57.5° | 12003.2 | 12266.0 | 12525.0 | 12785.9 | 13100.9 | 13490.4 | 13980.5 | 14539.5 | 15154.5 | 15722.9 | 16285.7 |
| 60°   | 12551.1 | 12866.1 | 13182.9 | 13509.0 | 13870.5 | 14351.3 | 14940.2 | 15627.9 | 16423.6 | 17200.7 | 17936.8 |
| 62.5° | 13417.7 | 13831.4 | 14224.6 | 14645.8 | 15081.8 | 15646.5 | 16341.6 | 17243.6 | 18156.7 | 19127.6 | 19882.4 |
| 65°   | 14591.7 | 15173.2 | 15687.5 | 16233.5 | 16798.2 | 17552.9 | 18384.1 | 19463.1 | 20771.3 | 21766.5 | 22977.8 |
| 67.5° | 15175.0 | 15940.9 | 16602.5 | 17210.0 | 17908.9 | 18671.1 | 19658.8 | 20935.3 | 22331.1 | 23773.5 | 25124.6 |
| 69°   | 14489.2 | 15279.4 | 16011.8 | 16692.0 | 17398.3 | 18138.1 | 19170.5 | 20480.6 | 21956.5 | 23516.3 | 24835.7 |
| 70°   | 13600.3 | 14390.5 | 15171.3 | 15946.5 | 16591.3 | 17312.5 | 18348.7 | 19699.8 | 21173.8 | 22795.1 | 24103.4 |
| 72.5° | 10419.2 | 11369.6 | 12075.9 | 12802.7 | 13550.0 | 14161.2 | 15357.7 | 16496.3 | 18031.9 | 19677.4 | 21117.9 |
| 75°   | 6666.0  | 7540.0  | 8311.5  | 8930.2  | 9660.7  | 10393.1 | 11276.4 | 12541.8 | 13503.4 | 14854.5 | 16022.9 |
| 77.5° | 3425.2  | 3684.3  | 4427.8  | 4649.6  | 5156.5  | 5555.3  | 6041.7  | 6358.5  | 7141.2  | 7307.0  | 7996.6  |
| 80°   | 1623.2  | 1462.9  | 1377.2  | 1298.9  | 1321.3  | 1312.0  | 1272.8  | 1220.6  | 1285.9  | 1257.9  | 1246.7  |
| 82.5° | 1414.4  | 1261.6  | 1006.3  | 855.4   | 739.8   | 628.0   | 540.4   | 495.7   | 501.3   | 516.2   | 521.8   |
| 85°   | 991.4   | 931.8   | 726.8   | 551.6   | 430.5   | 333.6   | 268.4   | 257.2   | 264.6   | 285.1   | 277.7   |
| 87.5° | 287.0   | 300.0   | 264.6   | 184.5   | 128.6   | 93.2    | 72.7    | 82.0    | 78.3    | 76.4    | 80.1    |
| 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):**

|       | 84°     | 85°     | 86°     | 87°     | 88°     | 89°     | 90°     | 91°     | 92°     | 93°     | 94°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  |
| 2.5°  | 5547.8  | 5546.0  | 5540.4  | 5534.8  | 5534.8  | 5531.1  | 5534.8  | 5536.7  | 5534.8  | 5534.8  | 5531.1  |
| 5°    | 5611.2  | 5613.1  | 5618.7  | 5607.5  | 5605.6  | 5607.5  | 5600.0  | 5598.2  | 5592.6  | 5598.2  | 5590.7  |
| 7.5°  | 5732.3  | 5737.9  | 5737.9  | 5730.5  | 5728.6  | 5734.2  | 5723.0  | 5719.3  | 5713.7  | 5711.8  | 5710.0  |
| 10°   | 5913.1  | 5918.7  | 5909.4  | 5903.8  | 5898.2  | 5905.6  | 5896.3  | 5896.3  | 5890.7  | 5885.1  | 5883.3  |
| 12.5° | 6114.4  | 6110.6  | 6106.9  | 6110.6  | 6105.0  | 6105.0  | 6099.5  | 6095.7  | 6093.9  | 6092.0  | 6088.3  |
| 15°   | 6270.9  | 6283.9  | 6283.9  | 6287.7  | 6283.9  | 6283.9  | 6276.5  | 6278.4  | 6274.6  | 6272.8  | 6274.6  |
| 17.5° | 6371.5  | 6375.3  | 6384.6  | 6390.2  | 6390.2  | 6392.0  | 6388.3  | 6392.0  | 6388.3  | 6388.3  | 6395.8  |
| 20°   | 6384.6  | 6388.3  | 6397.6  | 6406.9  | 6412.5  | 6416.3  | 6416.3  | 6421.8  | 6425.6  | 6429.3  | 6438.6  |
| 22.5° | 6332.4  | 6338.0  | 6349.2  | 6365.9  | 6375.3  | 6379.0  | 6386.4  | 6395.8  | 6405.1  | 6412.5  | 6425.6  |
| 25°   | 6278.4  | 6280.2  | 6291.4  | 6308.2  | 6319.4  | 6328.7  | 6341.7  | 6352.9  | 6365.9  | 6380.9  | 6395.8  |
| 27.5° | 6248.5  | 6246.7  | 6256.0  | 6272.8  | 6282.1  | 6295.1  | 6306.3  | 6323.1  | 6338.0  | 6356.6  | 6369.7  |
| 30°   | 6274.6  | 6259.7  | 6261.6  | 6269.0  | 6276.5  | 6285.8  | 6298.9  | 6313.8  | 6330.5  | 6347.3  | 6362.2  |
| 32.5° | 6390.2  | 6356.6  | 6334.3  | 6328.7  | 6330.5  | 6332.4  | 6339.9  | 6349.2  | 6362.2  | 6375.3  | 6380.9  |
| 35°   | 6639.9  | 6582.1  | 6552.3  | 6528.1  | 6507.6  | 6490.8  | 6494.5  | 6492.7  | 6492.7  | 6503.8  | 6490.8  |
| 37.5° | 7115.1  | 7042.4  | 7010.7  | 6967.9  | 6943.6  | 6882.2  | 6865.4  | 6861.7  | 6837.4  | 6837.4  | 6809.5  |
| 40°   | 7860.5  | 7817.7  | 7793.4  | 7754.3  | 7636.9  | 7651.8  | 7567.9  | 7569.8  | 7500.9  | 7508.3  | 7459.9  |
| 42.5° | 8920.9  | 8926.5  | 8896.7  | 8870.6  | 8779.3  | 8738.3  | 8660.0  | 8548.2  | 8460.6  | 8458.7  | 8361.8  |
| 45°   | 10147.1 | 10214.2 | 10119.2 | 10152.7 | 10072.6 | 9962.6  | 9871.3  | 9727.8  | 9591.8  | 9548.9  | 9450.1  |
| 47.5° | 11429.3 | 11539.2 | 11466.5 | 11479.6 | 11440.4 | 11283.9 | 11160.9 | 10983.9 | 10806.8 | 10687.6 | 10627.9 |
| 50°   | 12799.0 | 12871.7 | 12869.8 | 12834.4 | 12815.7 | 12662.9 | 12465.4 | 12331.2 | 12200.8 | 12040.5 | 11988.3 |
| 52.5° | 14040.1 | 14209.7 | 14323.4 | 14297.3 | 14243.2 | 14151.9 | 13976.7 | 13861.2 | 13669.3 | 13646.9 | 13669.3 |
| 55°   | 15368.8 | 15588.7 | 15704.3 | 15844.0 | 15845.9 | 15829.1 | 15756.5 | 15713.6 | 15534.7 | 15555.2 | 15529.1 |
| 57.5° | 16626.7 | 16949.1 | 17126.2 | 17424.3 | 17526.8 | 17662.9 | 17612.6 | 17668.5 | 17560.4 | 17631.2 | 17610.7 |
| 60°   | 18331.9 | 18779.2 | 19073.6 | 19481.7 | 19671.8 | 20012.8 | 20079.9 | 20120.9 | 20180.6 | 20325.9 | 20243.9 |
| 62.5° | 20476.9 | 21132.8 | 21744.1 | 22299.4 | 22482.1 | 22994.5 | 23078.4 | 23398.9 | 23415.7 | 23514.5 | 23333.7 |
| 65°   | 23987.8 | 24787.3 | 25460.0 | 26125.3 | 26509.2 | 27109.3 | 27351.6 | 27974.0 | 27783.9 | 27864.0 | 27478.3 |
| 67.5° | 26287.5 | 27217.4 | 28119.4 | 28749.2 | 29386.6 | 29999.7 | 30441.4 | 30843.9 | 30840.2 | 30761.9 | 30419.0 |
| 69°   | 26084.3 | 27120.5 | 28009.4 | 28853.6 | 29524.5 | 30154.4 | 30685.5 | 30946.4 | 31037.7 | 30924.0 | 30679.9 |
| 70°   | 25381.8 | 26445.9 | 27534.2 | 28229.3 | 28959.8 | 29651.2 | 30199.1 | 30484.2 | 30547.6 | 30467.4 | 30256.9 |
| 72.5° | 22135.4 | 23156.7 | 24356.8 | 24988.6 | 25871.9 | 26371.3 | 27126.1 | 27495.1 | 27560.3 | 27457.8 | 27319.9 |
| 75°   | 17275.3 | 17459.8 | 18682.3 | 19084.8 | 19725.8 | 20301.7 | 20771.3 | 20652.0 | 20985.6 | 20920.4 | 20868.2 |
| 77.5° | 8138.2  | 7646.2  | 8438.2  | 8807.2  | 8613.4  | 8097.2  | 8848.2  | 8305.9  | 8665.6  | 9133.3  | 9014.1  |
| 80°   | 1341.8  | 1338.0  | 1373.4  | 1451.7  | 1358.5  | 1442.4  | 1440.5  | 1399.5  | 1403.3  | 1503.9  | 1451.7  |
| 82.5° | 516.2   | 527.4   | 533.0   | 547.9   | 547.9   | 549.8   | 559.1   | 570.3   | 560.9   | 579.6   | 575.8   |
| 85°   | 279.5   | 298.2   | 281.4   | 268.4   | 277.7   | 283.3   | 290.7   | 300.0   | 290.7   | 318.7   | 303.8   |
| 87.5° | 72.7    | 76.4    | 67.1    | 67.1    | 65.2    | 59.6    | 59.6    | 63.4    | 69.0    | 82.0    | 89.5    |
| 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):**

|       | 95°     | 96°     | 97°     | 98°     | 99°     | 100°    | 101°    | 102°    | 103°    | 104°    | 105°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  |
| 2.5°  | 5523.6  | 5525.5  | 5527.3  | 5521.7  | 5518.0  | 5518.0  | 5516.2  | 5512.4  | 5510.6  | 5510.6  | 5510.6  |
| 5°    | 5587.0  | 5590.7  | 5581.4  | 5579.5  | 5575.8  | 5572.1  | 5572.1  | 5568.3  | 5570.2  | 5570.2  | 5560.9  |
| 7.5°  | 5713.7  | 5708.1  | 5696.9  | 5689.5  | 5696.9  | 5683.9  | 5678.3  | 5682.0  | 5678.3  | 5680.2  | 5676.4  |
| 10°   | 5883.3  | 5883.3  | 5870.2  | 5877.7  | 5868.4  | 5853.5  | 5859.1  | 5853.5  | 5849.7  | 5836.7  | 5844.1  |
| 12.5° | 6093.9  | 6088.3  | 6080.8  | 6064.0  | 6058.5  | 6056.6  | 6039.8  | 6041.7  | 6036.1  | 6032.4  | 6026.8  |
| 15°   | 6278.4  | 6276.5  | 6259.7  | 6250.4  | 6248.5  | 6241.1  | 6233.6  | 6229.9  | 6220.6  | 6218.7  | 6215.0  |
| 17.5° | 6401.4  | 6395.8  | 6388.3  | 6379.0  | 6379.0  | 6367.8  | 6364.1  | 6354.8  | 6352.9  | 6347.3  | 6341.7  |
| 20°   | 6442.3  | 6444.2  | 6436.8  | 6429.3  | 6425.6  | 6418.1  | 6412.5  | 6405.1  | 6401.4  | 6393.9  | 6388.3  |
| 22.5° | 6433.0  | 6433.0  | 6425.6  | 6423.7  | 6416.3  | 6405.1  | 6397.6  | 6388.3  | 6379.0  | 6369.7  | 6358.5  |
| 25°   | 6403.2  | 6401.4  | 6395.8  | 6386.4  | 6377.1  | 6360.4  | 6345.4  | 6330.5  | 6317.5  | 6306.3  | 6289.5  |
| 27.5° | 6377.1  | 6373.4  | 6362.2  | 6349.2  | 6330.5  | 6311.9  | 6283.9  | 6263.4  | 6246.7  | 6231.8  | 6213.1  |
| 30°   | 6367.8  | 6354.8  | 6338.0  | 6317.5  | 6295.1  | 6267.2  | 6237.4  | 6211.3  | 6192.6  | 6177.7  | 6170.3  |
| 32.5° | 6379.0  | 6362.2  | 6336.1  | 6310.0  | 6282.1  | 6248.5  | 6218.7  | 6196.4  | 6179.6  | 6175.9  | 6175.9  |
| 35°   | 6481.5  | 6453.5  | 6418.1  | 6380.9  | 6345.4  | 6317.5  | 6297.0  | 6295.1  | 6283.9  | 6297.0  | 6317.5  |
| 37.5° | 6781.5  | 6757.3  | 6703.2  | 6654.8  | 6630.6  | 6617.5  | 6598.9  | 6602.6  | 6576.5  | 6617.5  | 6651.1  |
| 40°   | 7418.9  | 7389.0  | 7325.7  | 7286.5  | 7238.1  | 7191.5  | 7228.8  | 7217.6  | 7236.2  | 7228.8  | 7264.2  |
| 42.5° | 8348.8  | 8319.0  | 8218.3  | 8203.4  | 8182.9  | 8164.3  | 8164.3  | 8149.4  | 8141.9  | 8168.0  | 8138.2  |
| 45°   | 9480.0  | 9420.3  | 9383.1  | 9427.8  | 9366.3  | 9384.9  | 9450.1  | 9362.6  | 9383.1  | 9261.9  | 9150.1  |
| 47.5° | 10654.0 | 10648.4 | 10639.1 | 10693.1 | 10702.5 | 10730.4 | 10765.8 | 10676.4 | 10514.2 | 10422.9 | 10195.6 |
| 50°   | 12005.1 | 12062.9 | 12085.2 | 12137.4 | 12159.8 | 12180.3 | 12124.4 | 11992.0 | 11718.1 | 11475.8 | 11207.5 |
| 52.5° | 13646.9 | 13546.3 | 13684.2 | 13734.5 | 13712.1 | 13630.1 | 13428.9 | 13266.7 | 12888.4 | 12539.9 | 12124.4 |
| 55°   | 15558.9 | 15583.1 | 15486.2 | 15447.1 | 15370.7 | 15143.3 | 14865.7 | 14500.4 | 14021.5 | 13566.8 | 13041.2 |
| 57.5° | 17506.3 | 17497.0 | 17346.1 | 17133.6 | 16874.6 | 16600.6 | 16186.9 | 15663.3 | 15104.2 | 14493.0 | 13857.5 |
| 60°   | 19874.9 | 19865.6 | 19560.0 | 19196.6 | 18827.6 | 18385.9 | 17737.4 | 17107.5 | 16358.4 | 15555.2 | 14798.6 |
| 62.5° | 22987.1 | 22586.4 | 22286.4 | 21744.1 | 21173.8 | 20596.1 | 19718.4 | 18881.7 | 17880.9 | 16867.1 | 15983.8 |
| 65°   | 26975.1 | 26315.4 | 25974.4 | 25188.0 | 24304.6 | 23402.7 | 22510.0 | 21410.5 | 20063.2 | 18836.9 | 17757.9 |
| 67.5° | 29925.1 | 29321.4 | 28697.1 | 27912.5 | 26943.4 | 25937.1 | 24714.6 | 23330.0 | 21800.0 | 20424.7 | 19248.8 |
| 69°   | 30184.2 | 29619.5 | 28870.4 | 28083.9 | 27167.1 | 26073.2 | 24738.8 | 23188.4 | 21637.9 | 20245.8 | 19088.5 |
| 70°   | 29791.0 | 29190.9 | 28402.6 | 27584.5 | 26559.5 | 25527.1 | 24129.5 | 22513.7 | 20961.4 | 19565.6 | 18436.3 |
| 72.5° | 26857.7 | 26272.6 | 25434.0 | 24455.6 | 23404.5 | 22521.2 | 21194.3 | 19509.7 | 17821.3 | 16531.7 | 15652.1 |
| 75°   | 20422.8 | 20294.2 | 19699.8 | 19129.5 | 18302.1 | 17316.3 | 16103.1 | 14970.0 | 13585.4 | 12221.3 | 11401.3 |
| 77.5° | 8714.0  | 9010.3  | 9319.7  | 9364.4  | 9394.2  | 9090.5  | 8902.3  | 8617.1  | 7690.9  | 7269.8  | 6835.6  |
| 80°   | 1610.1  | 1438.7  | 1535.6  | 1546.8  | 1610.1  | 1643.7  | 1766.7  | 2094.6  | 2131.9  | 2212.1  | 2310.8  |
| 82.5° | 572.1   | 581.4   | 596.3   | 601.9   | 607.5   | 629.9   | 713.7   | 855.4   | 984.0   | 1151.7  | 1375.3  |
| 85°   | 324.3   | 329.9   | 342.9   | 354.1   | 361.5   | 383.9   | 430.5   | 514.3   | 641.1   | 833.0   | 1129.3  |
| 87.5° | 98.8    | 111.8   | 119.3   | 134.2   | 139.8   | 143.5   | 164.0   | 219.9   | 283.3   | 419.3   | 611.2   |
| 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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CATALOG NUMBER: VST-F11-LED-E-U-RW-7060

**CANDELA DISTRIBUTION (continued):**

|       | 106°    | 107°    | 108°    | 109°    | 110°    | 115°    | 125°   | 135°   | 145°   | 155°   | 165°   |
|-------|---------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|
| 0°    | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3  | 5514.3 | 5514.3 | 5514.3 | 5514.3 | 5514.3 |
| 2.5°  | 5510.6  | 5508.7  | 5505.0  | 5501.2  | 5503.1  | 5499.4  | 5488.2 | 5484.5 | 5471.4 | 5462.1 | 5454.7 |
| 5°    | 5560.9  | 5559.0  | 5551.6  | 5553.4  | 5551.6  | 5532.9  | 5519.9 | 5497.5 | 5484.5 | 5464.0 | 5456.5 |
| 7.5°  | 5665.2  | 5663.4  | 5650.3  | 5655.9  | 5652.2  | 5624.2  | 5601.9 | 5566.5 | 5547.8 | 5521.7 | 5501.2 |
| 10°   | 5821.8  | 5821.8  | 5806.9  | 5808.7  | 5808.7  | 5771.5  | 5732.3 | 5672.7 | 5629.8 | 5588.8 | 5553.4 |
| 12.5° | 6011.9  | 6004.4  | 6002.5  | 5993.2  | 5985.8  | 5944.8  | 5885.1 | 5805.0 | 5724.9 | 5657.8 | 5609.3 |
| 15°   | 6203.8  | 6192.6  | 6187.0  | 6175.9  | 6166.5  | 6129.3  | 6049.1 | 5950.4 | 5842.3 | 5734.2 | 5654.1 |
| 17.5° | 6328.7  | 6321.2  | 6310.0  | 6306.3  | 6293.3  | 6256.0  | 6200.1 | 6101.3 | 5967.1 | 5816.2 | 5695.1 |
| 20°   | 6375.3  | 6362.2  | 6354.8  | 6347.3  | 6339.9  | 6313.8  | 6313.8 | 6250.4 | 6101.3 | 5888.9 | 5704.4 |
| 22.5° | 6345.4  | 6338.0  | 6326.8  | 6321.2  | 6313.8  | 6317.5  | 6390.2 | 6380.9 | 6209.4 | 5905.6 | 5637.3 |
| 25°   | 6276.5  | 6267.2  | 6257.9  | 6257.9  | 6256.0  | 6295.1  | 6470.3 | 6494.5 | 6241.1 | 5823.6 | 5490.1 |
| 27.5° | 6205.7  | 6192.6  | 6196.4  | 6198.2  | 6207.5  | 6291.4  | 6557.9 | 6524.3 | 6155.4 | 5626.1 | 5236.6 |
| 30°   | 6162.8  | 6162.8  | 6172.1  | 6187.0  | 6205.7  | 6352.9  | 6626.8 | 6457.3 | 5933.6 | 5327.9 | 4901.2 |
| 32.5° | 6181.4  | 6200.1  | 6220.6  | 6257.9  | 6285.8  | 6488.9  | 6651.1 | 6283.9 | 5611.2 | 4959.0 | 4550.8 |
| 35°   | 6347.3  | 6369.7  | 6408.8  | 6466.6  | 6500.1  | 6684.6  | 6651.1 | 6030.5 | 5236.6 | 4642.1 | 4189.3 |
| 37.5° | 6708.8  | 6731.2  | 6777.8  | 6822.5  | 6856.1  | 6930.6  | 6623.1 | 5708.1 | 4923.5 | 4314.2 | 3865.0 |
| 40°   | 7290.3  | 7322.0  | 7355.5  | 7348.0  | 7325.7  | 7253.0  | 6567.2 | 5408.1 | 4634.7 | 4027.2 | 3546.4 |
| 42.5° | 8108.4  | 8078.6  | 8074.8  | 8002.2  | 7927.6  | 7616.4  | 6526.2 | 5212.4 | 4386.8 | 3725.3 | 3229.6 |
| 45°   | 9053.2  | 8932.1  | 8807.2  | 8710.3  | 8596.6  | 8015.2  | 6515.0 | 5054.0 | 4112.9 | 3389.8 | 2884.8 |
| 47.5° | 10003.6 | 9809.8  | 9567.5  | 9416.6  | 9232.1  | 8440.1  | 6548.6 | 4841.5 | 3760.7 | 3024.6 | 2562.4 |
| 50°   | 10935.4 | 10618.6 | 10318.6 | 10137.8 | 9929.1  | 8928.3  | 6602.6 | 4483.7 | 3339.5 | 2692.9 | 2268.0 |
| 52.5° | 11798.2 | 11390.1 | 11082.6 | 10870.2 | 10614.9 | 9496.7  | 6554.2 | 4014.1 | 2974.3 | 2374.2 | 1988.4 |
| 55°   | 12618.2 | 12167.2 | 11848.6 | 11624.9 | 11324.9 | 10067.0 | 6203.8 | 3587.4 | 2625.8 | 2063.0 | 1673.5 |
| 57.5° | 13335.7 | 12903.3 | 12571.6 | 12267.9 | 12014.4 | 10562.7 | 5512.4 | 3235.2 | 2290.3 | 1707.0 | 1332.4 |
| 60°   | 14174.3 | 13687.9 | 13294.7 | 12970.4 | 12672.3 | 10818.0 | 4737.2 | 2922.1 | 1932.5 | 1321.3 | 963.5  |
| 62.5° | 15305.5 | 14746.4 | 14291.7 | 13920.8 | 13531.4 | 10873.9 | 4207.9 | 2609.0 | 1533.7 | 956.0  | 700.7  |
| 65°   | 16982.7 | 16293.2 | 15724.8 | 15214.2 | 14686.8 | 10642.8 | 3947.0 | 2268.0 | 1140.5 | 710.0  | 587.0  |
| 67.5° | 18315.1 | 17599.5 | 16941.7 | 16285.7 | 15611.1 | 10214.2 | 3889.3 | 1953.0 | 875.9  | 603.8  | 527.4  |
| 69°   | 18153.0 | 17470.9 | 16867.1 | 16157.1 | 15409.8 | 9675.6  | 3831.5 | 1831.9 | 799.5  | 560.9  | 499.4  |
| 70°   | 17528.7 | 16882.0 | 16268.9 | 15691.2 | 14776.2 | 9075.6  | 3678.7 | 1764.8 | 769.7  | 540.4  | 478.9  |
| 72.5° | 14811.6 | 14062.5 | 13468.0 | 12748.7 | 11785.2 | 6744.2  | 2789.8 | 1427.5 | 706.3  | 493.8  | 432.3  |
| 75°   | 10803.1 | 10182.5 | 9589.9  | 8794.2  | 7856.8  | 3902.3  | 1736.8 | 816.2  | 518.1  | 447.3  | 391.3  |
| 77.5° | 6308.2  | 6168.4  | 5596.3  | 5072.6  | 4144.6  | 1986.6  | 997.0  | 488.3  | 402.5  | 406.3  | 344.8  |
| 80°   | 2374.2  | 2528.9  | 2586.6  | 2405.9  | 2223.2  | 1371.6  | 724.9  | 396.9  | 350.4  | 400.7  | 292.6  |
| 82.5° | 1731.3  | 2008.9  | 2042.5  | 1956.7  | 1820.7  | 1278.4  | 579.6  | 318.7  | 285.1  | 430.5  | 251.6  |
| 85°   | 1444.3  | 1598.9  | 1623.2  | 1533.7  | 1489.0  | 1082.7  | 404.4  | 223.6  | 208.7  | 309.4  | 188.2  |
| 87.5° | 730.5   | 769.7   | 790.2   | 715.6   | 719.3   | 505.0   | 162.1  | 95.0   | 113.7  | 132.3  | 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    |



REPORT NUMBER: P158077

CATALOG NUMBER: VST-F11-LED-E-U-RW-7060

**CANDELA DISTRIBUTION (continued):**

|       | 175°   | 180°   |
|-------|--------|--------|
| 0°    | 5514.3 | 5514.3 |
| 2.5°  | 5437.9 | 5449.1 |
| 5°    | 5445.3 | 5445.3 |
| 7.5°  | 5488.2 | 5488.2 |
| 10°   | 5534.8 | 5536.7 |
| 12.5° | 5577.7 | 5575.8 |
| 15°   | 5611.2 | 5605.6 |
| 17.5° | 5631.7 | 5626.1 |
| 20°   | 5611.2 | 5601.9 |
| 22.5° | 5506.8 | 5480.7 |
| 25°   | 5316.8 | 5283.2 |
| 27.5° | 5065.2 | 5042.8 |
| 30°   | 4737.2 | 4703.6 |
| 32.5° | 4353.3 | 4336.5 |
| 35°   | 3986.2 | 3965.7 |
| 37.5° | 3650.7 | 3645.1 |
| 40°   | 3367.5 | 3337.6 |
| 42.5° | 3035.7 | 3022.7 |
| 45°   | 2698.4 | 2691.0 |
| 47.5° | 2381.6 | 2374.2 |
| 50°   | 2089.1 | 2074.1 |
| 52.5° | 1802.1 | 1777.8 |
| 55°   | 1483.4 | 1466.6 |
| 57.5° | 1138.6 | 1123.7 |
| 60°   | 801.3  | 784.6  |
| 62.5° | 570.3  | 551.6  |
| 65°   | 475.2  | 460.3  |
| 67.5° | 430.5  | 413.7  |
| 69°   | 410.0  | 395.1  |
| 70°   | 396.9  | 385.8  |
| 72.5° | 369.0  | 361.5  |
| 75°   | 337.3  | 331.7  |
| 77.5° | 296.3  | 287.0  |
| 80°   | 247.9  | 238.5  |
| 82.5° | 208.7  | 199.4  |
| 85°   | 139.8  | 126.7  |
| 87.5° | 63.4   | 55.9   |
| 90°   | 0.0    | 0.0    |

(END OF REPORT)