

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: P158070

Luminaire Tested: **VST-E11-LED-E-U-RW**

Issue Date: 3/3/2020

### Test Information

Test Method: LM-79-08  
Report Number: P158070  
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-E11-LED-E-U-RW  
Description: VENTUS LED SITE/ROADWAY LUMINAIRE  
(11) LIGHTBARS WITH AccuLED OPTICS - RECTANGULAR WIDE  
Light Source: (231) 4000K CCT, 70 CRI LEDs  
Ballast/Driver: -

### Summary

Lumens per Lamp: N/A  
Luminaire Lumens: 34269.6 lumens  
Efficiency: N/A  
Efficacy: 127.1 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): 269.7  
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

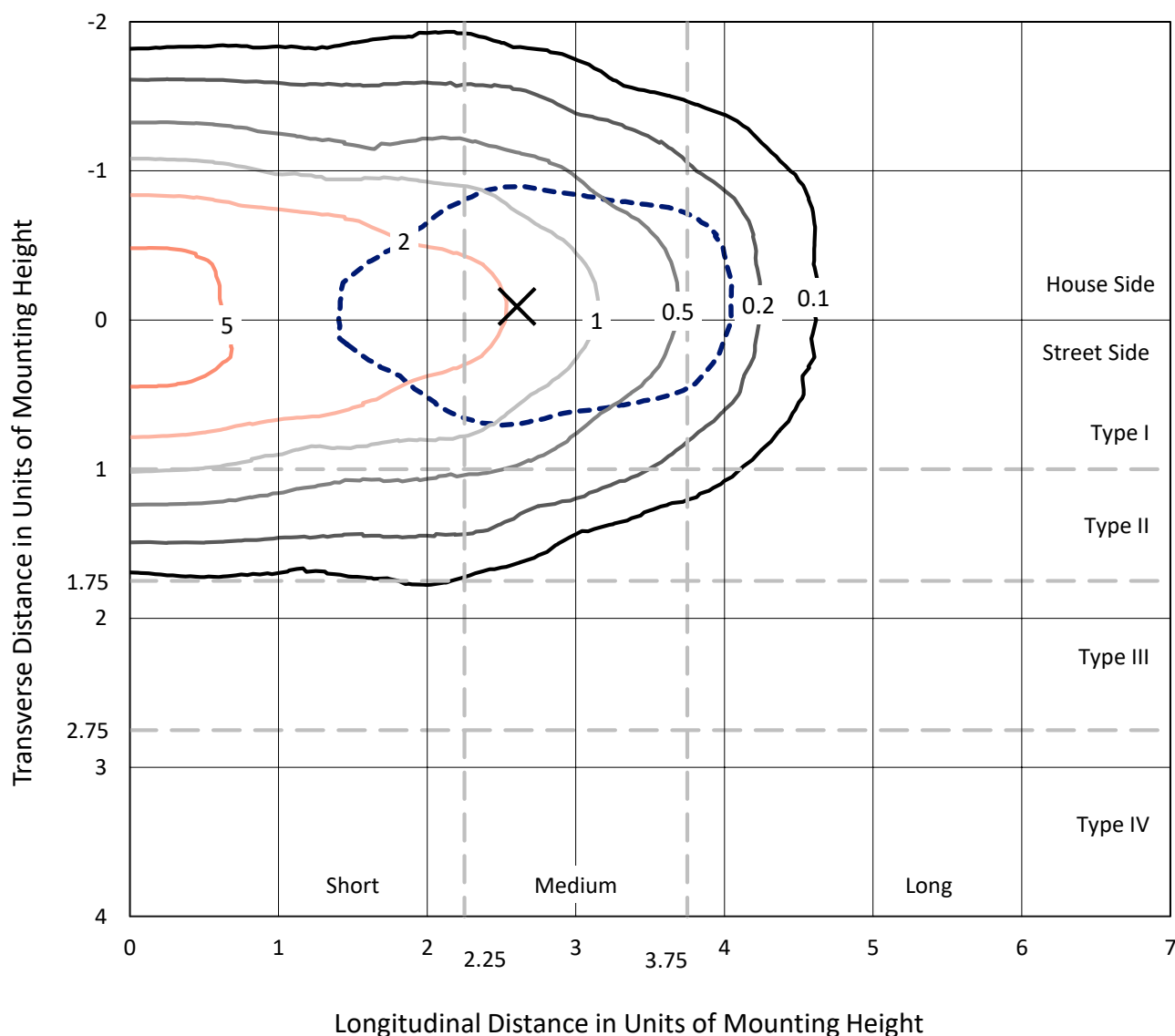


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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

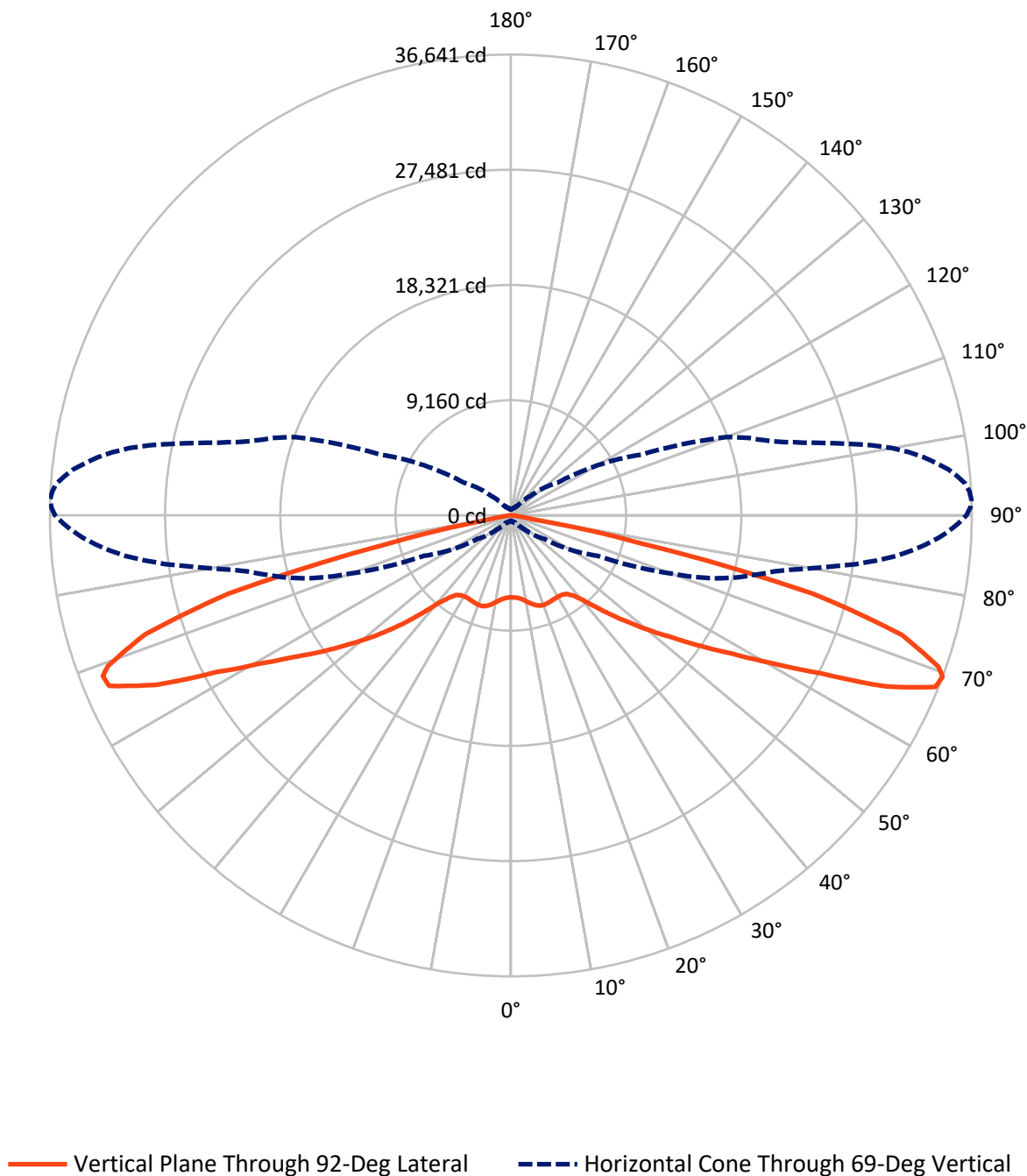


Based on 30 foot mounting height. Maximum calculated value = 7.4 fc  
 Type I - Medium - Full Cutoff

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## Luminous Intensity Polar Plot



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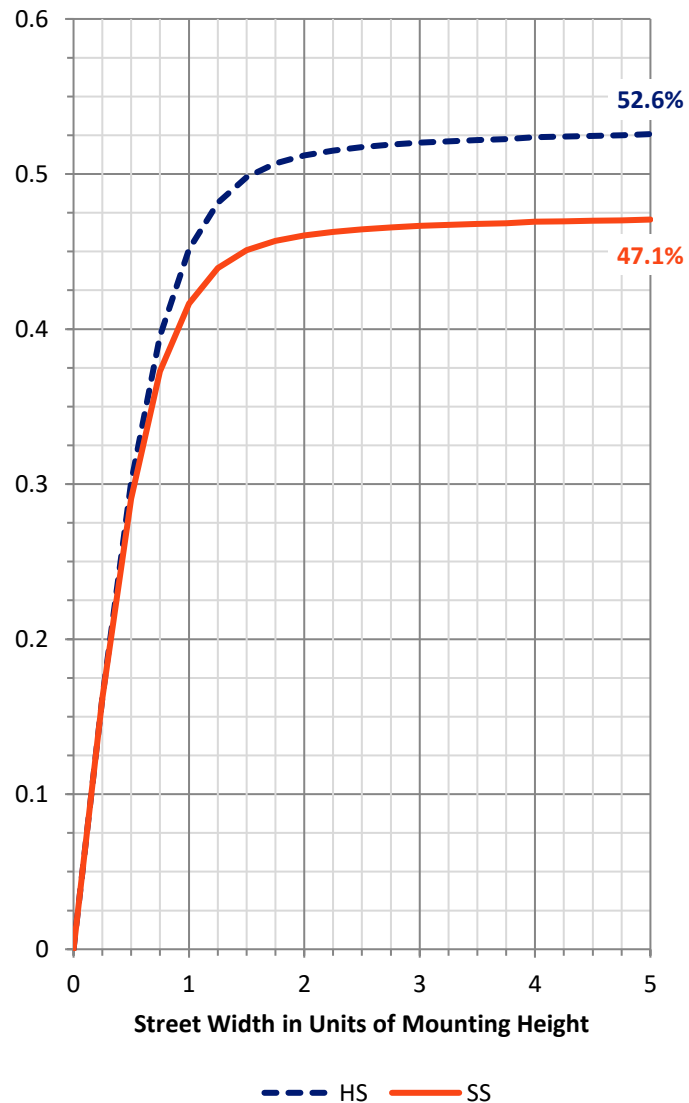
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 18174.9  | 0.0    | 18174.9 |
|                    | % Fixture | 53.0     | 0.0    | 53.0    |
| <b>Street Side</b> | Lumens    | 16094.6  | 0.0    | 16094.6 |
|                    | % Fixture | 47.0     | 0.0    | 47.0    |
| <b>Total</b>       | Lumens    | 34269.6  | 0.0    | 34269.6 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 637.0   | 1.9       |
| 10°-20°   | 2012.3  | 5.9       |
| 20°-30°   | 3264.7  | 9.5       |
| 30°-40°   | 4068.7  | 11.9      |
| 40°-50°   | 5065.9  | 14.8      |
| 50°-60°   | 6247.6  | 18.2      |
| 60°-70°   | 7759.1  | 22.6      |
| 70°-80°   | 4767.5  | 13.9      |
| 80°-90°   | 446.8   | 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°    | 34269.6 | 100.0     |
| 0°-180°   | 34269.6 | 100.0     |

**Coefficient of Utilization**



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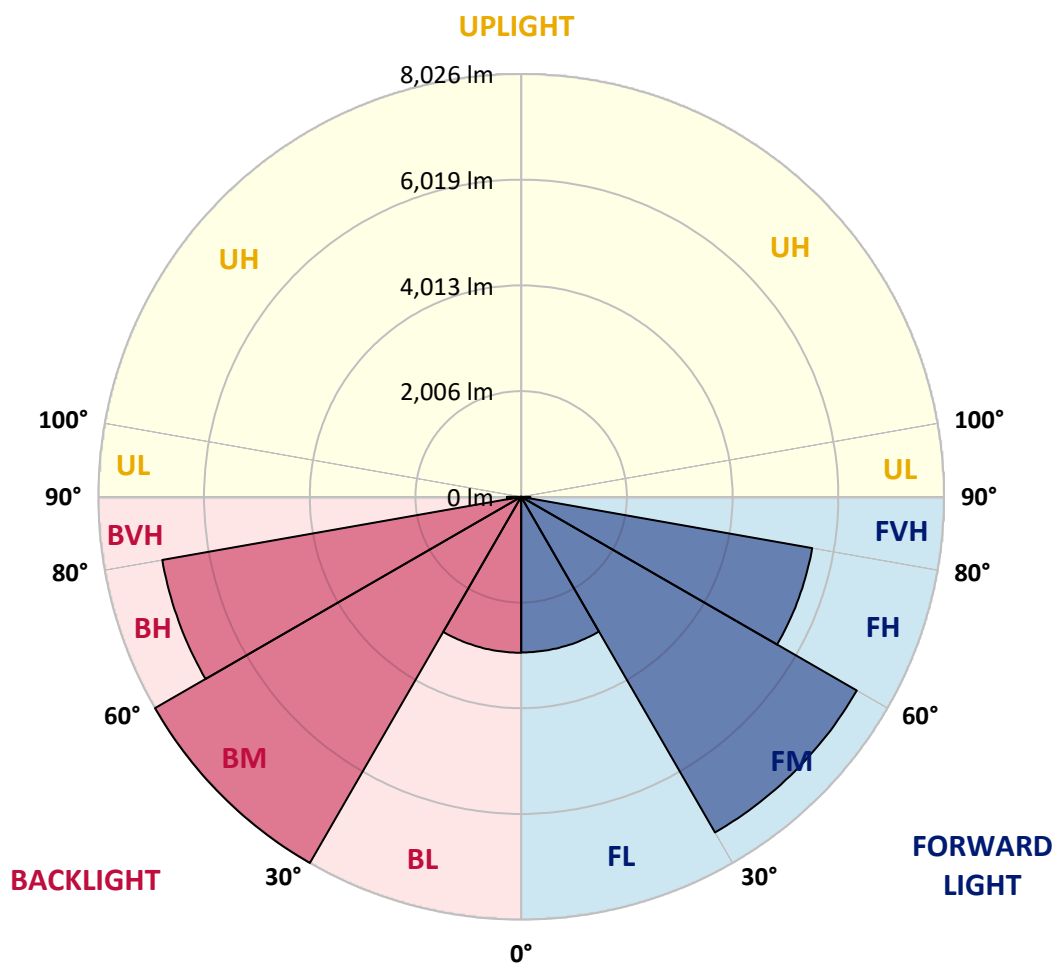
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 2953.8 | 8.6       |                         |      |         |
| FM   | (30°-60°)   | 7356.4 | 21.5      |                         |      |         |
| FH   | (60°-80°)   | 5609.5 | 16.4      |                         |      | G3/7500 |
| FVH  | (80°-90°)   | 175.0  | 0.5       |                         |      | G2/225  |
| BL   | (0°-30°)    | 2960.1 | 8.6       | B4/5000                 |      |         |
| BM   | (30°-60°)   | 8025.9 | 23.4      | B4/8500                 |      |         |
| BH   | (60°-80°)   | 6917.1 | 20.2      | B5                      |      | G5      |
| BVH  | (80°-90°)   | 271.9  | 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°    | 6509.8 | 6509.8 | 6509.8 | 6509.8 | 6509.8 | 6509.8 | 6509.8 | 6509.8  | 6509.8  | 6509.8  | 6509.8  |
| 2.5°  | 6613.2 | 6595.6 | 6611.0 | 6613.2 | 6611.0 | 6611.0 | 6591.2 | 6586.8  | 6560.4  | 6567.0  | 6564.8  |
| 5°    | 6703.4 | 6696.8 | 6707.8 | 6712.2 | 6716.6 | 6707.8 | 6692.4 | 6685.8  | 6668.2  | 6661.6  | 6659.4  |
| 7.5°  | 6787.0 | 6776.0 | 6793.6 | 6809.0 | 6820.0 | 6822.2 | 6824.4 | 6813.4  | 6813.4  | 6804.6  | 6804.6  |
| 10°   | 6857.4 | 6848.6 | 6877.2 | 6897.0 | 6932.2 | 6952.0 | 6974.0 | 6989.4  | 6998.2  | 7000.4  | 6998.2  |
| 12.5° | 6888.2 | 6881.6 | 6927.8 | 6987.2 | 7053.2 | 7099.4 | 7154.4 | 7194.0  | 7205.0  | 7202.8  | 7213.8  |
| 15°   | 6835.4 | 6839.8 | 6910.2 | 7026.8 | 7167.6 | 7284.2 | 7361.2 | 7394.2  | 7403.0  | 7407.4  | 7409.6  |
| 17.5° | 6692.4 | 6701.2 | 6802.4 | 6991.6 | 7238.0 | 7449.2 | 7563.6 | 7563.6  | 7546.0  | 7546.0  | 7543.8  |
| 20°   | 6463.6 | 6472.4 | 6604.4 | 6877.2 | 7240.2 | 7563.6 | 7726.4 | 7693.4  | 7627.4  | 7614.2  | 7601.0  |
| 22.5° | 6146.8 | 6182.0 | 6327.2 | 6644.0 | 7145.6 | 7596.6 | 7827.6 | 7779.2  | 7675.8  | 7647.2  | 7627.4  |
| 25°   | 5788.2 | 5783.8 | 5957.6 | 6314.0 | 6916.8 | 7517.4 | 7856.2 | 7847.4  | 7737.4  | 7706.6  | 7671.4  |
| 27.5° | 5379.0 | 5392.2 | 5552.8 | 5913.6 | 6567.0 | 7288.6 | 7807.8 | 7924.4  | 7834.2  | 7803.4  | 7770.4  |
| 30°   | 4958.8 | 4972.0 | 5123.8 | 5544.0 | 6168.8 | 6960.8 | 7708.8 | 7999.2  | 7964.0  | 7939.8  | 7917.8  |
| 32.5° | 4536.4 | 4540.8 | 4721.2 | 5172.2 | 5832.2 | 6569.2 | 7559.2 | 8067.4  | 8115.8  | 8104.8  | 8096.0  |
| 35°   | 4140.4 | 4144.8 | 4340.6 | 4798.2 | 5500.0 | 6234.8 | 7378.8 | 8166.4  | 8322.6  | 8335.8  | 8344.6  |
| 37.5° | 3755.4 | 3762.0 | 3962.2 | 4441.8 | 5172.2 | 5981.8 | 7178.6 | 8318.2  | 8613.0  | 8661.4  | 8670.2  |
| 40°   | 3372.6 | 3379.2 | 3570.6 | 4078.8 | 4840.0 | 5759.6 | 7024.6 | 8531.6  | 9004.6  | 9070.6  | 9138.8  |
| 42.5° | 3007.4 | 3031.6 | 3194.4 | 3680.6 | 4470.4 | 5484.6 | 6958.6 | 8791.2  | 9468.8  | 9572.2  | 9649.2  |
| 45°   | 2666.4 | 2668.6 | 2853.4 | 3308.8 | 4032.6 | 5112.8 | 6914.6 | 9086.0  | 9988.0  | 10144.2 | 10249.8 |
| 47.5° | 2301.2 | 2327.6 | 2521.2 | 2963.4 | 3623.4 | 4653.0 | 6773.8 | 9431.4  | 10553.4 | 10736.0 | 10949.4 |
| 50°   | 1947.0 | 1984.4 | 2171.4 | 2609.2 | 3249.4 | 4177.8 | 6395.4 | 9836.2  | 11189.2 | 11426.8 | 11673.2 |
| 52.5° | 1606.0 | 1603.8 | 1801.8 | 2257.2 | 2873.2 | 3775.2 | 5781.6 | 10260.8 | 11924.0 | 12179.2 | 12445.4 |
| 55°   | 1214.4 | 1214.4 | 1410.2 | 1826.0 | 2466.2 | 3416.6 | 5123.8 | 10524.8 | 12606.0 | 12914.0 | 13204.4 |
| 57.5° | 833.8  | 855.8  | 1040.6 | 1399.2 | 2041.6 | 3088.8 | 4620.0 | 10373.0 | 13127.4 | 13510.2 | 13855.6 |
| 60°   | 618.2  | 640.2  | 776.6  | 1005.4 | 1597.2 | 2701.6 | 4241.6 | 9658.0  | 13442.0 | 13950.2 | 14399.0 |
| 62.5° | 534.6  | 550.0  | 679.8  | 805.2  | 1150.6 | 2290.2 | 3907.2 | 8749.4  | 13895.2 | 14590.4 | 15215.2 |
| 65°   | 477.4  | 492.8  | 622.6  | 695.2  | 899.8  | 1841.4 | 3720.2 | 8230.2  | 14436.4 | 15499.0 | 16405.4 |
| 67.5° | 442.2  | 459.8  | 569.8  | 622.6  | 785.4  | 1665.4 | 3575.0 | 8109.2  | 14432.0 | 15721.2 | 16878.4 |
| 69°   | 424.6  | 437.8  | 528.0  | 585.2  | 759.0  | 1612.6 | 3260.4 | 7583.4  | 13479.4 | 14863.2 | 16024.8 |
| 70°   | 413.6  | 426.8  | 503.8  | 561.0  | 750.2  | 1518.0 | 2970.0 | 6888.2  | 12394.8 | 13787.4 | 14966.6 |
| 72.5° | 378.4  | 391.6  | 448.8  | 501.6  | 624.8  | 1014.2 | 2070.2 | 4408.8  | 8857.2  | 9851.6  | 11200.2 |
| 75°   | 334.4  | 349.8  | 393.8  | 437.8  | 473.0  | 587.4  | 1194.6 | 2288.0  | 5064.4  | 5819.0  | 7020.2  |
| 77.5° | 272.8  | 288.2  | 334.4  | 404.8  | 400.4  | 446.6  | 776.6  | 1405.8  | 2371.6  | 2941.4  | 3385.8  |
| 80°   | 224.4  | 235.4  | 275.0  | 409.2  | 327.8  | 374.0  | 629.2  | 1152.8  | 1669.8  | 1845.8  | 1951.4  |
| 82.5° | 149.6  | 165.0  | 213.4  | 321.2  | 250.8  | 266.2  | 470.8  | 1078.0  | 1412.4  | 1548.8  | 1676.4  |
| 85°   | 70.4   | 77.0   | 129.8  | 171.6  | 151.8  | 143.0  | 268.4  | 761.2   | 1051.6  | 1115.4  | 1163.8  |
| 87.5° | 0.0    | 0.0    | 6.6    | 13.2   | 19.8   | 19.8   | 48.4   | 160.6   | 294.8   | 356.4   | 352.0   |
| 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):**

|       | 73°     | 74°     | 75°     | 76°     | 77°     | 78°     | 79°     | 80°     | 81°     | 82°     | 83°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  |
| 2.5°  | 6556.0  | 6558.2  | 6556.0  | 6556.0  | 6553.8  | 6549.4  | 6549.4  | 6545.0  | 6547.2  | 6545.0  | 6549.4  |
| 5°    | 6657.2  | 6657.2  | 6650.6  | 6646.2  | 6652.8  | 6646.2  | 6648.4  | 6637.4  | 6637.4  | 6630.8  | 6622.0  |
| 7.5°  | 6802.4  | 6802.4  | 6804.6  | 6791.4  | 6800.2  | 6802.4  | 6795.8  | 6791.4  | 6787.0  | 6776.0  | 6778.2  |
| 10°   | 6996.0  | 6996.0  | 7002.6  | 6985.0  | 6993.8  | 6998.2  | 7000.4  | 7000.4  | 6996.0  | 6976.2  | 6978.4  |
| 12.5° | 7211.6  | 7207.2  | 7209.4  | 7200.6  | 7209.4  | 7213.8  | 7218.2  | 7213.8  | 7213.8  | 7209.4  | 7207.2  |
| 15°   | 7407.4  | 7405.2  | 7409.6  | 7403.0  | 7405.2  | 7409.6  | 7422.8  | 7420.6  | 7418.4  | 7405.2  | 7405.2  |
| 17.5° | 7541.6  | 7535.0  | 7530.6  | 7528.4  | 7528.4  | 7526.2  | 7528.4  | 7528.4  | 7521.8  | 7519.6  | 7519.6  |
| 20°   | 7592.2  | 7574.6  | 7563.6  | 7557.0  | 7548.2  | 7543.8  | 7539.4  | 7541.6  | 7537.2  | 7530.6  | 7532.8  |
| 22.5° | 7601.0  | 7576.8  | 7554.8  | 7535.0  | 7517.4  | 7506.4  | 7495.4  | 7491.0  | 7480.0  | 7473.4  | 7473.4  |
| 25°   | 7642.8  | 7605.4  | 7570.2  | 7537.2  | 7510.8  | 7486.6  | 7462.4  | 7444.8  | 7431.6  | 7416.2  | 7411.8  |
| 27.5° | 7735.2  | 7695.6  | 7653.8  | 7612.0  | 7576.8  | 7528.4  | 7495.4  | 7460.2  | 7429.4  | 7405.2  | 7387.6  |
| 30°   | 7878.2  | 7838.6  | 7796.8  | 7748.4  | 7702.2  | 7651.6  | 7596.6  | 7554.8  | 7510.8  | 7462.4  | 7436.0  |
| 32.5° | 8067.4  | 8041.0  | 7999.2  | 7953.0  | 7911.2  | 7858.4  | 7792.4  | 7728.6  | 7686.8  | 7629.6  | 7587.8  |
| 35°   | 8338.0  | 8307.2  | 8294.0  | 8274.2  | 8232.4  | 8199.4  | 8126.8  | 8067.4  | 8027.8  | 7948.6  | 7917.8  |
| 37.5° | 8707.6  | 8705.4  | 8716.4  | 8709.8  | 8716.4  | 8674.6  | 8641.6  | 8639.4  | 8582.2  | 8505.2  | 8430.4  |
| 40°   | 9211.4  | 9237.8  | 9297.2  | 9339.0  | 9378.6  | 9383.0  | 9429.2  | 9380.8  | 9387.4  | 9376.4  | 9299.4  |
| 42.5° | 9785.6  | 9875.8  | 9946.2  | 10069.4 | 10164.0 | 10252.0 | 10311.4 | 10392.8 | 10454.4 | 10509.4 | 10522.6 |
| 45°   | 10425.8 | 10560.0 | 10722.8 | 10832.8 | 11017.6 | 11165.0 | 11367.4 | 11523.6 | 11686.4 | 11847.0 | 11904.2 |
| 47.5° | 11121.0 | 11288.2 | 11468.6 | 11673.2 | 11906.4 | 12137.4 | 12449.8 | 12689.6 | 12951.4 | 13169.2 | 13362.8 |
| 50°   | 11888.8 | 12062.6 | 12304.6 | 12540.0 | 12861.2 | 13127.4 | 13536.6 | 13851.2 | 14273.6 | 14564.0 | 14814.8 |
| 52.5° | 12689.6 | 12907.4 | 13178.0 | 13437.6 | 13765.4 | 14106.4 | 14561.8 | 15026.0 | 15534.2 | 15974.2 | 16339.4 |
| 55°   | 13472.8 | 13741.2 | 14000.8 | 14304.4 | 14667.4 | 15063.4 | 15578.2 | 16189.8 | 16823.4 | 17327.2 | 17811.2 |
| 57.5° | 14170.2 | 14480.4 | 14786.2 | 15094.2 | 15466.0 | 15925.8 | 16504.4 | 17164.4 | 17890.4 | 18561.4 | 19225.8 |
| 60°   | 14817.0 | 15188.8 | 15562.8 | 15947.8 | 16374.6 | 16942.2 | 17637.4 | 18449.2 | 19388.6 | 20306.0 | 21175.0 |
| 62.5° | 15840.0 | 16328.4 | 16792.6 | 17289.8 | 17804.6 | 18471.2 | 19291.8 | 20356.6 | 21434.6 | 22580.8 | 23471.8 |
| 65°   | 17226.0 | 17912.4 | 18519.6 | 19164.2 | 19830.8 | 20721.8 | 21703.0 | 22976.8 | 24521.2 | 25696.0 | 27126.0 |
| 67.5° | 17914.6 | 18818.8 | 19599.8 | 20317.0 | 21142.0 | 22041.8 | 23207.8 | 24714.8 | 26362.6 | 28065.4 | 29660.4 |
| 69°   | 17105.0 | 18037.8 | 18902.4 | 19705.4 | 20539.2 | 21412.6 | 22631.4 | 24178.0 | 25920.4 | 27761.8 | 29319.4 |
| 70°   | 16055.6 | 16988.4 | 17910.2 | 18825.4 | 19586.6 | 20438.0 | 21661.2 | 23256.2 | 24996.4 | 26910.4 | 28454.8 |
| 72.5° | 12300.2 | 13422.2 | 14256.0 | 15114.0 | 15996.2 | 16717.8 | 18130.2 | 19474.4 | 21287.2 | 23229.8 | 24930.4 |
| 75°   | 7869.4  | 8901.2  | 9812.0  | 10542.4 | 11404.8 | 12269.4 | 13312.2 | 14806.0 | 15941.2 | 17536.2 | 18915.6 |
| 77.5° | 4043.6  | 4349.4  | 5227.2  | 5489.0  | 6087.4  | 6558.2  | 7132.4  | 7506.4  | 8430.4  | 8626.2  | 9440.2  |
| 80°   | 1916.2  | 1727.0  | 1625.8  | 1533.4  | 1559.8  | 1548.8  | 1502.6  | 1441.0  | 1518.0  | 1485.0  | 1471.8  |
| 82.5° | 1669.8  | 1489.4  | 1188.0  | 1009.8  | 873.4   | 741.4   | 638.0   | 585.2   | 591.8   | 609.4   | 616.0   |
| 85°   | 1170.4  | 1100.0  | 858.0   | 651.2   | 508.2   | 393.8   | 316.8   | 303.6   | 312.4   | 336.6   | 327.8   |
| 87.5° | 338.8   | 354.2   | 312.4   | 217.8   | 151.8   | 110.0   | 85.8    | 96.8    | 92.4    | 90.2    | 94.6    |
| 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):**

|       | 84°     | 85°     | 86°     | 87°     | 88°     | 89°     | 90°     | 91°     | 92°     | 93°     | 94°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  |
| 2.5°  | 6549.4  | 6547.2  | 6540.6  | 6534.0  | 6534.0  | 6529.6  | 6534.0  | 6536.2  | 6534.0  | 6534.0  | 6529.6  |
| 5°    | 6624.2  | 6626.4  | 6633.0  | 6619.8  | 6617.6  | 6619.8  | 6611.0  | 6608.8  | 6602.2  | 6608.8  | 6600.0  |
| 7.5°  | 6767.2  | 6773.8  | 6773.8  | 6765.0  | 6762.8  | 6769.4  | 6756.2  | 6751.8  | 6745.2  | 6743.0  | 6740.8  |
| 10°   | 6980.6  | 6987.2  | 6976.2  | 6969.6  | 6963.0  | 6971.8  | 6960.8  | 6960.8  | 6954.2  | 6947.6  | 6945.4  |
| 12.5° | 7218.2  | 7213.8  | 7209.4  | 7213.8  | 7207.2  | 7207.2  | 7200.6  | 7196.2  | 7194.0  | 7191.8  | 7187.4  |
| 15°   | 7403.0  | 7418.4  | 7418.4  | 7422.8  | 7418.4  | 7418.4  | 7409.6  | 7411.8  | 7407.4  | 7405.2  | 7407.4  |
| 17.5° | 7521.8  | 7526.2  | 7537.2  | 7543.8  | 7543.8  | 7546.0  | 7541.6  | 7546.0  | 7541.6  | 7541.6  | 7550.4  |
| 20°   | 7537.2  | 7541.6  | 7552.6  | 7563.6  | 7570.2  | 7574.6  | 7574.6  | 7581.2  | 7585.6  | 7590.0  | 7601.0  |
| 22.5° | 7475.6  | 7482.2  | 7495.4  | 7515.2  | 7526.2  | 7530.6  | 7539.4  | 7550.4  | 7561.4  | 7570.2  | 7585.6  |
| 25°   | 7411.8  | 7414.0  | 7427.2  | 7447.0  | 7460.2  | 7471.2  | 7486.6  | 7499.8  | 7515.2  | 7532.8  | 7550.4  |
| 27.5° | 7376.6  | 7374.4  | 7385.4  | 7405.2  | 7416.2  | 7431.6  | 7444.8  | 7464.6  | 7482.2  | 7504.2  | 7519.6  |
| 30°   | 7407.4  | 7389.8  | 7392.0  | 7400.8  | 7409.6  | 7420.6  | 7436.0  | 7453.6  | 7473.4  | 7493.2  | 7510.8  |
| 32.5° | 7543.8  | 7504.2  | 7477.8  | 7471.2  | 7473.4  | 7475.6  | 7484.4  | 7495.4  | 7510.8  | 7526.2  | 7532.8  |
| 35°   | 7838.6  | 7770.4  | 7735.2  | 7706.6  | 7682.4  | 7662.6  | 7667.0  | 7664.8  | 7664.8  | 7678.0  | 7662.6  |
| 37.5° | 8399.6  | 8313.8  | 8276.4  | 8225.8  | 8197.2  | 8124.6  | 8104.8  | 8100.4  | 8071.8  | 8071.8  | 8038.8  |
| 40°   | 9279.6  | 9229.0  | 9200.4  | 9154.2  | 9015.6  | 9033.2  | 8934.2  | 8936.4  | 8855.0  | 8863.8  | 8806.6  |
| 42.5° | 10531.4 | 10538.0 | 10502.8 | 10472.0 | 10364.2 | 10315.8 | 10223.4 | 10091.4 | 9988.0  | 9985.8  | 9871.4  |
| 45°   | 11979.0 | 12058.2 | 11946.0 | 11985.6 | 11891.0 | 11761.2 | 11653.4 | 11484.0 | 11323.4 | 11272.8 | 11156.2 |
| 47.5° | 13492.6 | 13622.4 | 13536.6 | 13552.0 | 13505.8 | 13321.0 | 13175.8 | 12966.8 | 12757.8 | 12617.0 | 12546.6 |
| 50°   | 15109.6 | 15195.4 | 15193.2 | 15151.4 | 15129.4 | 14949.0 | 14715.8 | 14557.4 | 14403.4 | 14214.2 | 14152.6 |
| 52.5° | 16574.8 | 16775.0 | 16909.2 | 16878.4 | 16814.6 | 16706.8 | 16500.0 | 16363.6 | 16137.0 | 16110.6 | 16137.0 |
| 55°   | 18143.4 | 18403.0 | 18539.4 | 18704.4 | 18706.6 | 18686.8 | 18601.0 | 18550.4 | 18339.2 | 18363.4 | 18332.6 |
| 57.5° | 19628.4 | 20009.0 | 20218.0 | 20570.0 | 20691.0 | 20851.6 | 20792.2 | 20858.2 | 20730.6 | 20814.2 | 20790.0 |
| 60°   | 21641.4 | 22169.4 | 22517.0 | 22998.8 | 23223.2 | 23625.8 | 23705.0 | 23753.4 | 23823.8 | 23995.4 | 23898.6 |
| 62.5° | 24173.6 | 24948.0 | 25669.6 | 26325.2 | 26540.8 | 27145.8 | 27244.8 | 27623.2 | 27643.0 | 27759.6 | 27546.2 |
| 65°   | 28318.4 | 29262.2 | 30056.4 | 30841.8 | 31295.0 | 32003.4 | 32289.4 | 33024.2 | 32799.8 | 32894.4 | 32439.0 |
| 67.5° | 31033.2 | 32131.0 | 33195.8 | 33939.4 | 34691.8 | 35415.6 | 35937.0 | 36412.2 | 36407.8 | 36315.4 | 35910.6 |
| 69°   | 30793.4 | 32016.6 | 33066.0 | 34062.6 | 34854.6 | 35598.2 | 36225.2 | 36533.2 | 36641.0 | 36506.8 | 36218.6 |
| 70°   | 29964.0 | 31220.2 | 32505.0 | 33325.6 | 34188.0 | 35004.2 | 35651.0 | 35987.6 | 36062.4 | 35967.8 | 35719.2 |
| 72.5° | 26131.6 | 27337.2 | 28754.0 | 29499.8 | 30542.6 | 31132.2 | 32023.2 | 32458.8 | 32535.8 | 32414.8 | 32252.0 |
| 75°   | 20394.0 | 20611.8 | 22055.0 | 22530.2 | 23287.0 | 23966.8 | 24521.2 | 24380.4 | 24774.2 | 24697.2 | 24635.6 |
| 77.5° | 9607.4  | 9026.6  | 9961.6  | 10397.2 | 10168.4 | 9559.0  | 10445.6 | 9805.4  | 10230.0 | 10782.2 | 10641.4 |
| 80°   | 1584.0  | 1579.6  | 1621.4  | 1713.8  | 1603.8  | 1702.8  | 1700.6  | 1652.2  | 1656.6  | 1775.4  | 1713.8  |
| 82.5° | 609.4   | 622.6   | 629.2   | 646.8   | 646.8   | 649.0   | 660.0   | 673.2   | 662.2   | 684.2   | 679.8   |
| 85°   | 330.0   | 352.0   | 332.2   | 316.8   | 327.8   | 334.4   | 343.2   | 354.2   | 343.2   | 376.2   | 358.6   |
| 87.5° | 85.8    | 90.2    | 79.2    | 79.2    | 77.0    | 70.4    | 70.4    | 74.8    | 81.4    | 96.8    | 105.6   |
| 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: P158070

CATALOG NUMBER: VST-E11-LED-E-U-RW

**CANDELA DISTRIBUTION (continued):**

|       | 95°     | 96°     | 97°     | 98°     | 99°     | 100°    | 101°    | 102°    | 103°    | 104°    | 105°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  |
| 2.5°  | 6520.8  | 6523.0  | 6525.2  | 6518.6  | 6514.2  | 6514.2  | 6512.0  | 6507.6  | 6505.4  | 6505.4  | 6505.4  |
| 5°    | 6595.6  | 6600.0  | 6589.0  | 6586.8  | 6582.4  | 6578.0  | 6578.0  | 6573.6  | 6575.8  | 6575.8  | 6564.8  |
| 7.5°  | 6745.2  | 6738.6  | 6725.4  | 6716.6  | 6725.4  | 6710.0  | 6703.4  | 6707.8  | 6703.4  | 6705.6  | 6701.2  |
| 10°   | 6945.4  | 6945.4  | 6930.0  | 6938.8  | 6927.8  | 6910.2  | 6916.8  | 6910.2  | 6905.8  | 6890.4  | 6899.2  |
| 12.5° | 7194.0  | 7187.4  | 7178.6  | 7158.8  | 7152.2  | 7150.0  | 7130.2  | 7132.4  | 7125.8  | 7121.4  | 7114.8  |
| 15°   | 7411.8  | 7409.6  | 7389.8  | 7378.8  | 7376.6  | 7367.8  | 7359.0  | 7354.6  | 7343.6  | 7341.4  | 7337.0  |
| 17.5° | 7557.0  | 7550.4  | 7541.6  | 7530.6  | 7530.6  | 7517.4  | 7513.0  | 7502.0  | 7499.8  | 7493.2  | 7486.6  |
| 20°   | 7605.4  | 7607.6  | 7598.8  | 7590.0  | 7585.6  | 7576.8  | 7570.2  | 7561.4  | 7557.0  | 7548.2  | 7541.6  |
| 22.5° | 7594.4  | 7594.4  | 7585.6  | 7583.4  | 7574.6  | 7561.4  | 7552.6  | 7541.6  | 7530.6  | 7519.6  | 7506.4  |
| 25°   | 7559.2  | 7557.0  | 7550.4  | 7539.4  | 7528.4  | 7508.6  | 7491.0  | 7473.4  | 7458.0  | 7444.8  | 7425.0  |
| 27.5° | 7528.4  | 7524.0  | 7510.8  | 7495.4  | 7473.4  | 7451.4  | 7418.4  | 7394.2  | 7374.4  | 7356.8  | 7334.8  |
| 30°   | 7517.4  | 7502.0  | 7482.2  | 7458.0  | 7431.6  | 7398.6  | 7363.4  | 7332.6  | 7310.6  | 7293.0  | 7284.2  |
| 32.5° | 7530.6  | 7510.8  | 7480.0  | 7449.2  | 7416.2  | 7376.6  | 7341.4  | 7315.0  | 7295.2  | 7290.8  | 7290.8  |
| 35°   | 7651.6  | 7618.6  | 7576.8  | 7532.8  | 7491.0  | 7458.0  | 7433.8  | 7431.6  | 7418.4  | 7433.8  | 7458.0  |
| 37.5° | 8005.8  | 7977.2  | 7913.4  | 7856.2  | 7827.6  | 7812.2  | 7790.2  | 7794.6  | 7763.8  | 7812.2  | 7851.8  |
| 40°   | 8758.2  | 8723.0  | 8648.2  | 8602.0  | 8544.8  | 8489.8  | 8533.8  | 8520.6  | 8542.6  | 8533.8  | 8575.6  |
| 42.5° | 9856.0  | 9820.8  | 9702.0  | 9684.4  | 9660.2  | 9638.2  | 9638.2  | 9620.6  | 9611.8  | 9642.6  | 9607.4  |
| 45°   | 11191.4 | 11121.0 | 11077.0 | 11129.8 | 11057.2 | 11079.2 | 11156.2 | 11052.8 | 11077.0 | 10934.0 | 10802.0 |
| 47.5° | 12577.4 | 12570.8 | 12559.8 | 12623.6 | 12634.6 | 12667.6 | 12709.4 | 12603.8 | 12412.4 | 12304.6 | 12036.2 |
| 50°   | 14172.4 | 14240.6 | 14267.0 | 14328.6 | 14355.0 | 14379.2 | 14313.2 | 14157.0 | 13833.6 | 13547.6 | 13230.8 |
| 52.5° | 16110.6 | 15991.8 | 16154.6 | 16214.0 | 16187.6 | 16090.8 | 15853.2 | 15661.8 | 15215.2 | 14803.8 | 14313.2 |
| 55°   | 18367.8 | 18396.4 | 18282.0 | 18235.8 | 18145.6 | 17877.2 | 17549.4 | 17118.2 | 16552.8 | 16016.0 | 15395.6 |
| 57.5° | 20666.8 | 20655.8 | 20477.6 | 20226.8 | 19921.0 | 19597.6 | 19109.2 | 18491.0 | 17831.0 | 17109.4 | 16359.2 |
| 60°   | 23463.0 | 23452.0 | 23091.2 | 22662.2 | 22226.6 | 21705.2 | 20939.6 | 20196.0 | 19311.6 | 18363.4 | 17470.2 |
| 62.5° | 27137.0 | 26664.0 | 26309.8 | 25669.6 | 24996.4 | 24314.4 | 23278.2 | 22290.4 | 21109.0 | 19912.2 | 18869.4 |
| 65°   | 31845.0 | 31066.2 | 30663.6 | 29735.2 | 28692.4 | 27627.6 | 26573.8 | 25275.8 | 23685.2 | 22237.6 | 20963.8 |
| 67.5° | 35327.6 | 34614.8 | 33877.8 | 32951.6 | 31807.6 | 30619.6 | 29176.4 | 27541.8 | 25735.6 | 24112.0 | 22723.8 |
| 69°   | 35633.4 | 34966.8 | 34082.4 | 33154.0 | 32071.6 | 30780.2 | 29205.0 | 27374.6 | 25544.2 | 23900.8 | 22534.6 |
| 70°   | 35169.2 | 34460.8 | 33530.2 | 32564.4 | 31354.4 | 30135.6 | 28485.6 | 26578.2 | 24745.6 | 23097.8 | 21764.6 |
| 72.5° | 31706.4 | 31015.6 | 30025.6 | 28870.6 | 27629.8 | 26587.0 | 25020.6 | 23031.8 | 21038.6 | 19516.2 | 18477.8 |
| 75°   | 24109.8 | 23958.0 | 23256.2 | 22583.0 | 21606.2 | 20442.4 | 19010.2 | 17672.6 | 16038.0 | 14427.6 | 13459.6 |
| 77.5° | 10287.2 | 10637.0 | 11002.2 | 11055.0 | 11090.2 | 10731.6 | 10509.4 | 10172.8 | 9079.4  | 8582.2  | 8069.6  |
| 80°   | 1900.8  | 1698.4  | 1812.8  | 1826.0  | 1900.8  | 1940.4  | 2085.6  | 2472.8  | 2516.8  | 2611.4  | 2728.0  |
| 82.5° | 675.4   | 686.4   | 704.0   | 710.6   | 717.2   | 743.6   | 842.6   | 1009.8  | 1161.6  | 1359.6  | 1623.6  |
| 85°   | 382.8   | 389.4   | 404.8   | 418.0   | 426.8   | 453.2   | 508.2   | 607.2   | 756.8   | 983.4   | 1333.2  |
| 87.5° | 116.6   | 132.0   | 140.8   | 158.4   | 165.0   | 169.4   | 193.6   | 259.6   | 334.4   | 495.0   | 721.6   |
| 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: P158070

CATALOG NUMBER: VST-E11-LED-E-U-RW

**CANDELA DISTRIBUTION (continued):**

|       | 106°    | 107°    | 108°    | 109°    | 110°    | 115°    | 125°   | 135°   | 145°   | 155°   | 165°   |
|-------|---------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|
| 0°    | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8  | 6509.8 | 6509.8 | 6509.8 | 6509.8 | 6509.8 |
| 2.5°  | 6505.4  | 6503.2  | 6498.8  | 6494.4  | 6496.6  | 6492.2  | 6479.0 | 6474.6 | 6459.2 | 6448.2 | 6439.4 |
| 5°    | 6564.8  | 6562.6  | 6553.8  | 6556.0  | 6553.8  | 6531.8  | 6516.4 | 6490.0 | 6474.6 | 6450.4 | 6441.6 |
| 7.5°  | 6688.0  | 6685.8  | 6670.4  | 6677.0  | 6672.6  | 6639.6  | 6613.2 | 6571.4 | 6549.4 | 6518.6 | 6494.4 |
| 10°   | 6872.8  | 6872.8  | 6855.2  | 6857.4  | 6857.4  | 6813.4  | 6767.2 | 6696.8 | 6646.2 | 6597.8 | 6556.0 |
| 12.5° | 7097.2  | 7088.4  | 7086.2  | 7075.2  | 7066.4  | 7018.0  | 6947.6 | 6853.0 | 6758.4 | 6679.2 | 6622.0 |
| 15°   | 7323.8  | 7310.6  | 7304.0  | 7290.8  | 7279.8  | 7235.8  | 7141.2 | 7024.6 | 6897.0 | 6769.4 | 6674.8 |
| 17.5° | 7471.2  | 7462.4  | 7449.2  | 7444.8  | 7429.4  | 7385.4  | 7319.4 | 7202.8 | 7044.4 | 6866.2 | 6723.2 |
| 20°   | 7526.2  | 7510.8  | 7502.0  | 7493.2  | 7484.4  | 7453.6  | 7453.6 | 7378.8 | 7202.8 | 6952.0 | 6734.2 |
| 22.5° | 7491.0  | 7482.2  | 7469.0  | 7462.4  | 7453.6  | 7458.0  | 7543.8 | 7532.8 | 7330.4 | 6971.8 | 6655.0 |
| 25°   | 7409.6  | 7398.6  | 7387.6  | 7387.6  | 7385.4  | 7431.6  | 7638.4 | 7667.0 | 7367.8 | 6875.0 | 6481.2 |
| 27.5° | 7326.0  | 7310.6  | 7315.0  | 7317.2  | 7328.2  | 7427.2  | 7741.8 | 7702.2 | 7266.6 | 6641.8 | 6182.0 |
| 30°   | 7275.4  | 7275.4  | 7286.4  | 7304.0  | 7326.0  | 7499.8  | 7823.2 | 7623.0 | 7004.8 | 6289.8 | 5786.0 |
| 32.5° | 7297.4  | 7319.4  | 7343.6  | 7387.6  | 7420.6  | 7660.4  | 7851.8 | 7418.4 | 6624.2 | 5854.2 | 5372.4 |
| 35°   | 7493.2  | 7519.6  | 7565.8  | 7634.0  | 7673.6  | 7891.4  | 7851.8 | 7119.2 | 6182.0 | 5480.2 | 4945.6 |
| 37.5° | 7920.0  | 7946.4  | 8001.4  | 8054.2  | 8093.8  | 8181.8  | 7818.8 | 6738.6 | 5812.4 | 5093.0 | 4562.8 |
| 40°   | 8606.4  | 8643.8  | 8683.4  | 8674.6  | 8648.2  | 8562.4  | 7752.8 | 6384.4 | 5471.4 | 4754.2 | 4186.6 |
| 42.5° | 9572.2  | 9537.0  | 9532.6  | 9446.8  | 9358.8  | 8991.4  | 7704.4 | 6153.4 | 5178.8 | 4397.8 | 3812.6 |
| 45°   | 10687.6 | 10544.6 | 10397.2 | 10282.8 | 10148.6 | 9462.2  | 7691.2 | 5966.4 | 4855.4 | 4001.8 | 3405.6 |
| 47.5° | 11809.6 | 11580.8 | 11294.8 | 11116.6 | 10898.8 | 9963.8  | 7730.8 | 5715.6 | 4439.6 | 3570.6 | 3025.0 |
| 50°   | 12909.6 | 12535.6 | 12181.4 | 11968.0 | 11721.6 | 10540.2 | 7794.6 | 5293.2 | 3942.4 | 3179.0 | 2677.4 |
| 52.5° | 13928.2 | 13446.4 | 13083.4 | 12832.6 | 12531.2 | 11211.2 | 7737.4 | 4738.8 | 3511.2 | 2802.8 | 2347.4 |
| 55°   | 14896.2 | 14363.8 | 13987.6 | 13723.6 | 13369.4 | 11884.4 | 7323.8 | 4235.0 | 3099.8 | 2435.4 | 1975.6 |
| 57.5° | 15743.2 | 15232.8 | 14841.2 | 14482.6 | 14183.4 | 12469.6 | 6507.6 | 3819.2 | 2703.8 | 2015.2 | 1573.0 |
| 60°   | 16733.2 | 16159.0 | 15694.8 | 15312.0 | 14960.0 | 12771.0 | 5592.4 | 3449.6 | 2281.4 | 1559.8 | 1137.4 |
| 62.5° | 18068.6 | 17408.6 | 16871.8 | 16434.0 | 15974.2 | 12837.0 | 4967.6 | 3080.0 | 1810.6 | 1128.6 | 827.2  |
| 65°   | 20048.6 | 19234.6 | 18563.6 | 17960.8 | 17338.2 | 12564.2 | 4659.6 | 2677.4 | 1346.4 | 838.2  | 693.0  |
| 67.5° | 21621.6 | 20776.8 | 20000.2 | 19225.8 | 18429.4 | 12058.2 | 4591.4 | 2305.6 | 1034.0 | 712.8  | 622.6  |
| 69°   | 21430.2 | 20625.0 | 19912.2 | 19074.0 | 18191.8 | 11422.4 | 4523.2 | 2162.6 | 943.8  | 662.2  | 589.6  |
| 70°   | 20693.2 | 19929.8 | 19206.0 | 18524.0 | 17443.8 | 10714.0 | 4342.8 | 2083.4 | 908.6  | 638.0  | 565.4  |
| 72.5° | 17485.6 | 16601.2 | 15899.4 | 15050.2 | 13912.8 | 7961.8  | 3293.4 | 1685.2 | 833.8  | 583.0  | 510.4  |
| 75°   | 12753.4 | 12020.8 | 11321.2 | 10381.8 | 9275.2  | 4606.8  | 2050.4 | 963.6  | 611.6  | 528.0  | 462.0  |
| 77.5° | 7447.0  | 7282.0  | 6606.6  | 5988.4  | 4892.8  | 2345.2  | 1177.0 | 576.4  | 475.2  | 479.6  | 407.0  |
| 80°   | 2802.8  | 2985.4  | 3053.6  | 2840.2  | 2624.6  | 1619.2  | 855.8  | 468.6  | 413.6  | 473.0  | 345.4  |
| 82.5° | 2043.8  | 2371.6  | 2411.2  | 2310.0  | 2149.4  | 1509.2  | 684.2  | 376.2  | 336.6  | 508.2  | 297.0  |
| 85°   | 1705.0  | 1887.6  | 1916.2  | 1810.6  | 1757.8  | 1278.2  | 477.4  | 264.0  | 246.4  | 365.2  | 222.2  |
| 87.5° | 862.4   | 908.6   | 932.8   | 844.8   | 849.2   | 596.2   | 191.4  | 112.2  | 134.2  | 156.2  | 123.2  |
| 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: P158070

CATALOG NUMBER: VST-E11-LED-E-U-RW

**CANDELA DISTRIBUTION (continued):**

|       | 175°   | 180°   |
|-------|--------|--------|
| 0°    | 6509.8 | 6509.8 |
| 2.5°  | 6419.6 | 6432.8 |
| 5°    | 6428.4 | 6428.4 |
| 7.5°  | 6479.0 | 6479.0 |
| 10°   | 6534.0 | 6536.2 |
| 12.5° | 6584.6 | 6582.4 |
| 15°   | 6624.2 | 6617.6 |
| 17.5° | 6648.4 | 6641.8 |
| 20°   | 6624.2 | 6613.2 |
| 22.5° | 6501.0 | 6470.2 |
| 25°   | 6276.6 | 6237.0 |
| 27.5° | 5979.6 | 5953.2 |
| 30°   | 5592.4 | 5552.8 |
| 32.5° | 5139.2 | 5119.4 |
| 35°   | 4705.8 | 4681.6 |
| 37.5° | 4309.8 | 4303.2 |
| 40°   | 3975.4 | 3940.2 |
| 42.5° | 3583.8 | 3568.4 |
| 45°   | 3185.6 | 3176.8 |
| 47.5° | 2811.6 | 2802.8 |
| 50°   | 2466.2 | 2448.6 |
| 52.5° | 2127.4 | 2098.8 |
| 55°   | 1751.2 | 1731.4 |
| 57.5° | 1344.2 | 1326.6 |
| 60°   | 946.0  | 926.2  |
| 62.5° | 673.2  | 651.2  |
| 65°   | 561.0  | 543.4  |
| 67.5° | 508.2  | 488.4  |
| 69°   | 484.0  | 466.4  |
| 70°   | 468.6  | 455.4  |
| 72.5° | 435.6  | 426.8  |
| 75°   | 398.2  | 391.6  |
| 77.5° | 349.8  | 338.8  |
| 80°   | 292.6  | 281.6  |
| 82.5° | 246.4  | 235.4  |
| 85°   | 165.0  | 149.6  |
| 87.5° | 74.8   | 66.0   |
| 90°   | 0.0    | 0.0    |

(END OF REPORT)