

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: P157388

Luminaire Tested: **VST-E09-LED-E-U-5MQ-8030**

Issue Date: 3/3/2020

### Test Information

Test Method: LM-79-08  
Report Number: P157388  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33708)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: VST-E09-LED-E-U-5MQ-8030  
Description: VENTUS LED SITE/ROADWAY LUMINAIRE  
(9) LIGHTBARS WITH AccuLED OPTICS - TYPE 5 SQUARE MEDIUM  
Light Source: (189) 3000K CCT, 80 CRI LEDs  
Ballast/Driver: -

### Summary

Lumens per Lamp: N/A  
Luminaire Lumens: 24298.3 lumens  
Efficiency: N/A  
Efficacy: 107.7 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type V - Short - Full Cutoff  
BUG Rating: B5 - U0 - G3

Input Watts (W): 225.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT

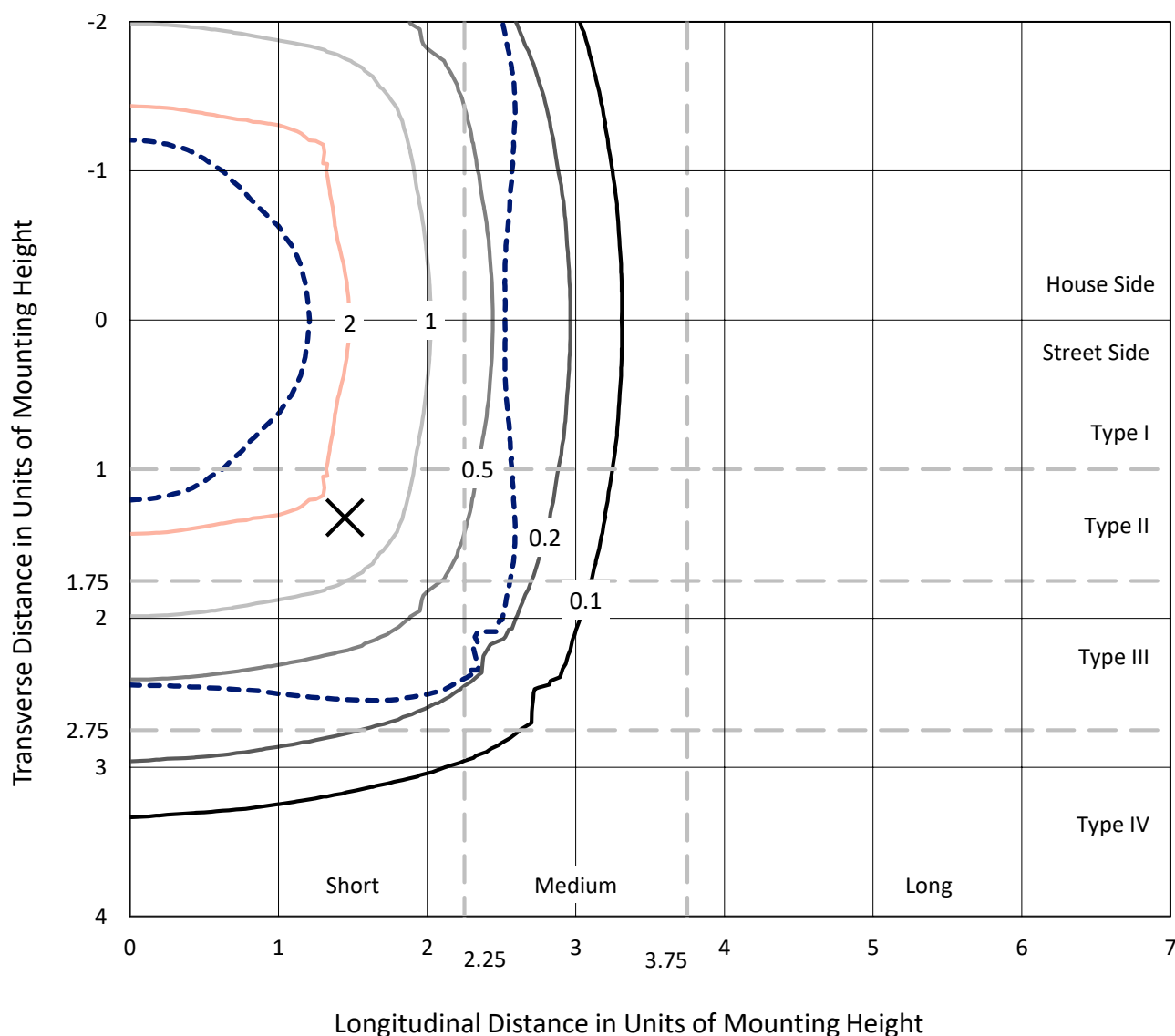


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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 --- 1/2 Max cd

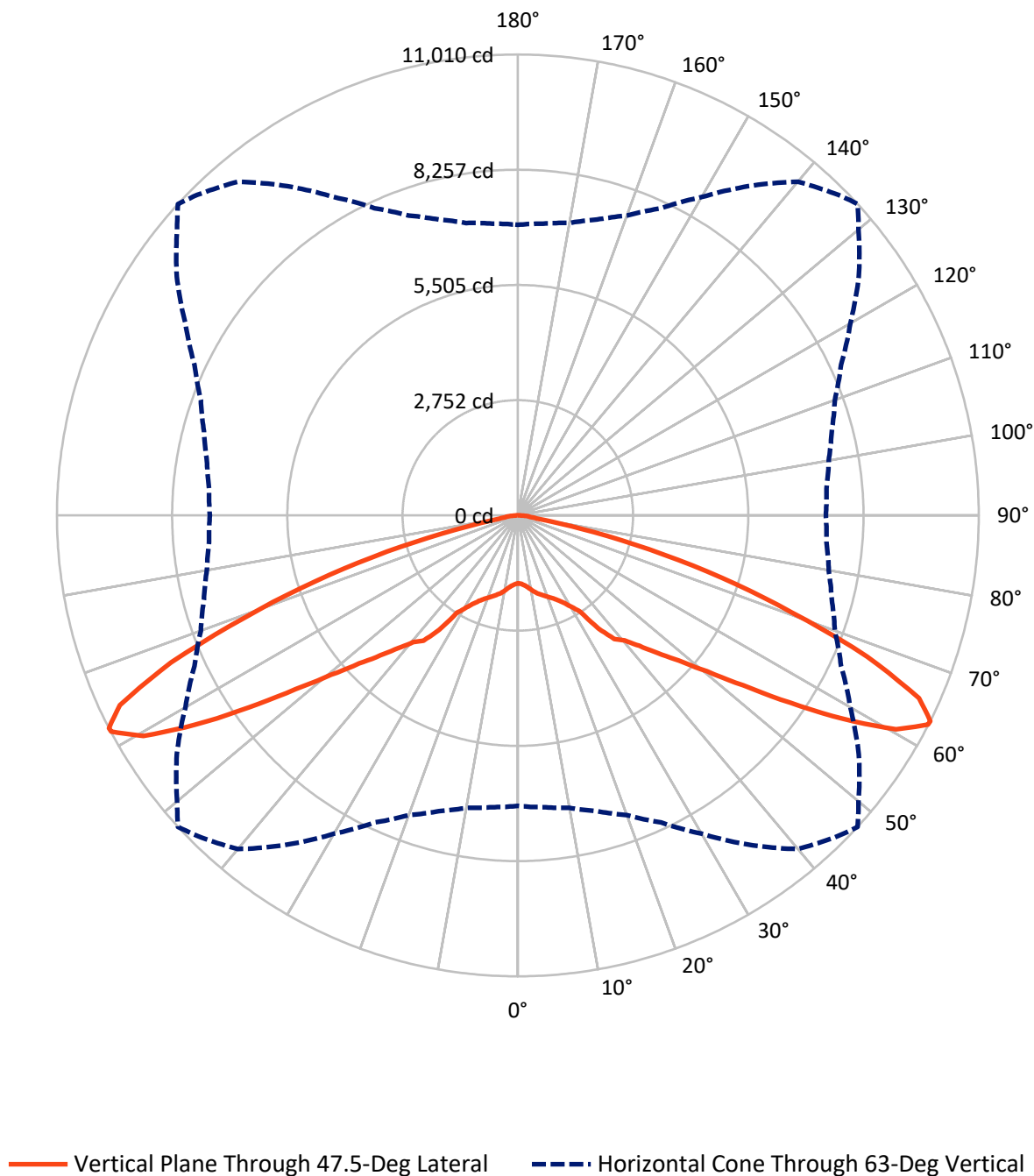


Based on 25 foot mounting height. Maximum calculated value = 2.8 fc  
 Type V - Short - Full Cutoff

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## Luminous Intensity Polar Plot



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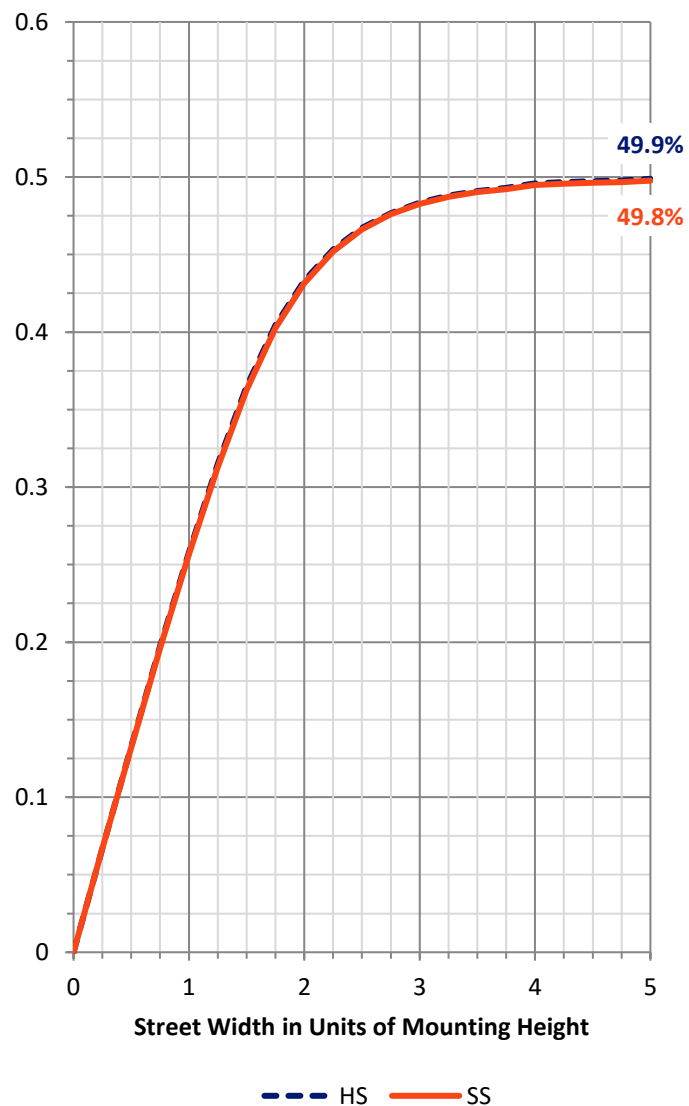
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 12149.1  | 0.0    | 12149.1 |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Street Side</b> | Lumens    | 12149.1  | 0.0    | 12149.1 |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Total</b>       | Lumens    | 24298.3  | 0.0    | 24298.3 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 162.9   | 0.7       |
| 10°-20°   | 553.7   | 2.3       |
| 20°-30°   | 1059.1  | 4.4       |
| 30°-40°   | 2026.0  | 8.3       |
| 40°-50°   | 3505.7  | 14.4      |
| 50°-60°   | 6296.0  | 25.9      |
| 60°-70°   | 7656.0  | 31.5      |
| 70°-80°   | 2765.0  | 11.4      |
| 80°-90°   | 273.8   | 1.1       |
| 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°    | 24298.3 | 100.0     |
| 0°-180°   | 24298.3 | 100.0     |

**Coefficient of Utilization**



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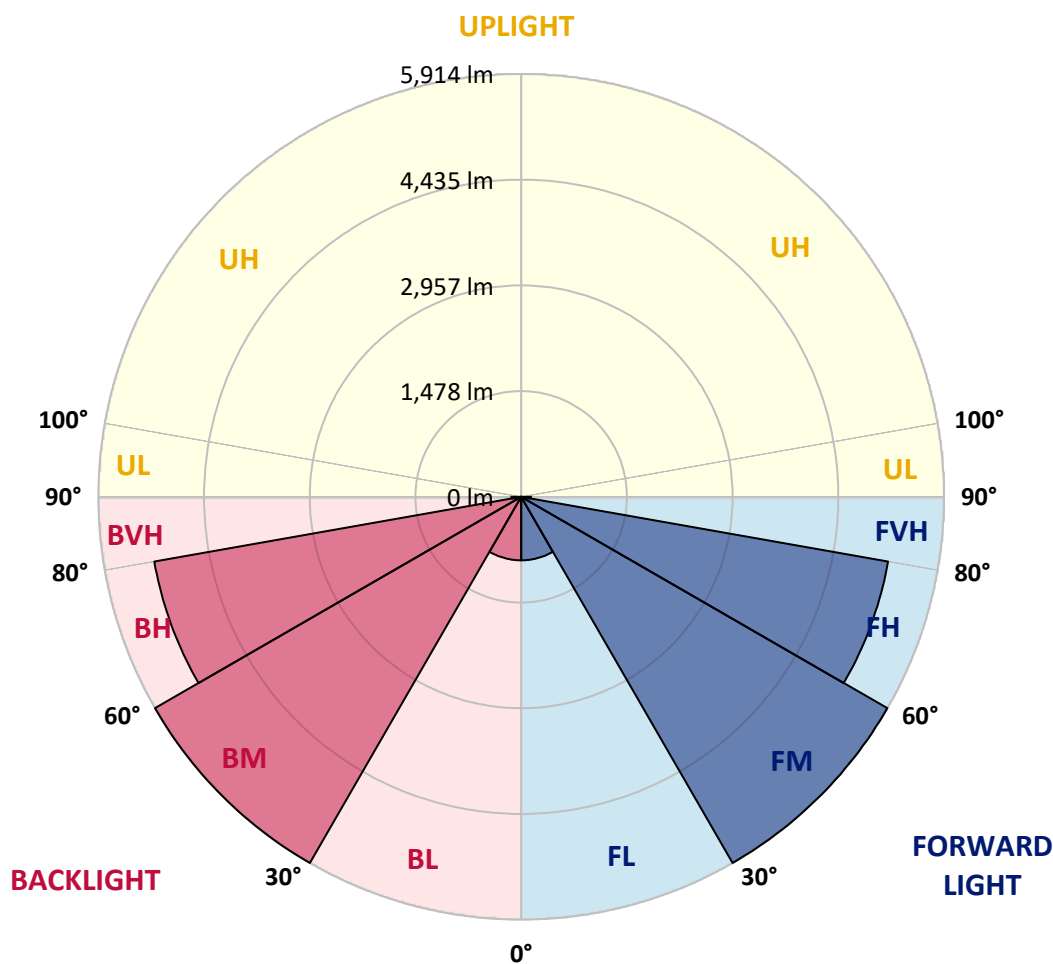
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 887.9  | 3.7       |                         |      |         |
| FM   | (30°-60°)   | 5913.9 | 24.3      |                         |      |         |
| FH   | (60°-80°)   | 5210.5 | 21.4      |                         |      | G3/7500 |
| FVH  | (80°-90°)   | 136.9  | 0.6       |                         |      | G2/225  |
| BL   | (0°-30°)    | 887.9  | 3.7       | B2/1000                 |      |         |
| BM   | (30°-60°)   | 5913.9 | 24.3      | B4/8500                 |      |         |
| BH   | (60°-80°)   | 5210.5 | 21.4      | B5                      |      | G3/7500 |
| BVH  | (80°-90°)   | 136.9  | 0.6       |                         |      | G2/225  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B5-U0-G3**

Type V Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 25°    | 30°    | 35°    | 40°     | 45°     | 47.5°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|
| 0°    | 1622.5 | 1622.5 | 1622.5 | 1622.5 | 1622.5 | 1622.5 | 1622.5 | 1622.5 | 1622.5  | 1622.5  | 1622.5  |
| 2.5°  | 1633.1 | 1630.1 | 1631.6 | 1633.1 | 1631.6 | 1630.1 | 1630.1 | 1630.1 | 1633.1  | 1630.1  | 1637.7  |
| 5°    | 1665.0 | 1662.0 | 1663.5 | 1663.5 | 1663.5 | 1660.5 | 1660.5 | 1660.5 | 1658.9  | 1660.5  | 1677.2  |
| 7.5°  | 1725.8 | 1721.2 | 1719.7 | 1722.8 | 1719.7 | 1718.2 | 1716.7 | 1716.7 | 1713.6  | 1713.6  | 1734.9  |
| 10°   | 1798.7 | 1792.6 | 1795.7 | 1797.2 | 1792.6 | 1789.6 | 1789.6 | 1789.6 | 1785.0  | 1783.5  | 1810.9  |
| 12.5° | 1879.2 | 1876.2 | 1876.2 | 1873.2 | 1871.6 | 1868.6 | 1867.1 | 1868.6 | 1862.5  | 1862.5  | 1889.9  |
| 15°   | 1956.7 | 1950.6 | 1952.2 | 1947.6 | 1944.6 | 1941.5 | 1940.0 | 1938.5 | 1935.4  | 1935.4  | 1952.2  |
| 17.5° | 2028.1 | 2023.6 | 2022.0 | 2017.5 | 2012.9 | 2008.4 | 2005.3 | 2003.8 | 1999.2  | 1999.2  | 2014.4  |
| 20°   | 2102.6 | 2098.0 | 2095.0 | 2087.4 | 2079.8 | 2075.2 | 2069.1 | 2066.1 | 2060.0  | 2061.5  | 2078.2  |
| 22.5° | 2187.6 | 2180.0 | 2174.0 | 2167.9 | 2154.2 | 2145.1 | 2137.5 | 2131.4 | 2128.4  | 2128.4  | 2151.2  |
| 25°   | 2301.6 | 2297.0 | 2287.9 | 2268.1 | 2251.4 | 2237.8 | 2225.6 | 2219.5 | 2213.5  | 2210.4  | 2245.4  |
| 27.5° | 2441.3 | 2436.8 | 2424.6 | 2404.9 | 2382.1 | 2359.3 | 2345.6 | 2335.0 | 2327.4  | 2322.8  | 2373.0  |
| 30°   | 2626.7 | 2619.1 | 2608.4 | 2576.5 | 2556.8 | 2521.8 | 2506.7 | 2491.5 | 2474.8  | 2479.3  | 2538.6  |
| 32.5° | 2989.8 | 2979.1 | 2945.7 | 2910.8 | 2850.0 | 2802.9 | 2754.3 | 2717.8 | 2682.9  | 2678.3  | 2742.1  |
| 35°   | 3319.4 | 3314.9 | 3308.8 | 3284.5 | 3261.7 | 3232.8 | 3210.0 | 3172.1 | 3140.2  | 3132.6  | 3311.8  |
| 37.5° | 3497.2 | 3507.8 | 3498.7 | 3495.6 | 3495.6 | 3509.3 | 3551.9 | 3594.4 | 3624.8  | 3643.0  | 3743.3  |
| 40°   | 3769.1 | 3769.1 | 3758.5 | 3752.4 | 3740.2 | 3758.5 | 3776.7 | 3808.6 | 3822.3  | 3823.8  | 3925.6  |
| 42.5° | 4077.5 | 4079.0 | 4068.4 | 4050.1 | 4044.1 | 4060.8 | 4085.1 | 4115.5 | 4133.7  | 4138.3  | 4256.8  |
| 45°   | 4420.8 | 4416.3 | 4407.2 | 4401.1 | 4405.6 | 4420.8 | 4449.7 | 4508.9 | 4536.3  | 4557.6  | 4686.7  |
| 47.5° | 4793.0 | 4823.4 | 4797.6 | 4802.1 | 4802.1 | 4849.2 | 4914.6 | 4963.2 | 5007.2  | 5048.2  | 5185.0  |
| 50°   | 5280.7 | 5285.2 | 5289.8 | 5303.5 | 5312.6 | 5374.9 | 5456.9 | 5514.6 | 5578.4  | 5631.6  | 5854.9  |
| 52.5° | 5932.4 | 5923.3 | 5946.1 | 5961.3 | 6012.9 | 6046.4 | 6183.1 | 6256.0 | 6344.1  | 6412.5  | 6739.1  |
| 55°   | 6711.8 | 6707.2 | 6740.6 | 6752.8 | 6821.1 | 6903.2 | 7055.1 | 7214.6 | 7365.0  | 7448.6  | 7895.2  |
| 57.5° | 7270.8 | 7283.0 | 7340.7 | 7421.2 | 7554.9 | 7729.6 | 7956.0 | 8308.4 | 8594.0  | 8685.2  | 9177.4  |
| 60°   | 7393.9 | 7433.4 | 7520.0 | 7681.0 | 7910.4 | 8235.5 | 8680.6 | 9219.9 | 9742.5  | 9917.2  | 10379.1 |
| 62.5° | 7049.0 | 7094.6 | 7222.2 | 7415.1 | 7714.4 | 8196.0 | 8838.6 | 9599.7 | 10376.0 | 10764.9 | 10997.4 |
| 63°   | 6939.6 | 6995.8 | 7091.5 | 7314.9 | 7618.7 | 8094.2 | 8777.8 | 9598.2 | 10403.4 | 10827.2 | 11009.5 |
| 65°   | 6426.1 | 6436.8 | 6579.6 | 6802.9 | 7144.7 | 7638.5 | 8328.2 | 9276.1 | 10169.4 | 10658.6 | 10532.5 |
| 67.5° | 5529.8 | 5573.9 | 5693.9 | 5918.7 | 6251.4 | 6764.9 | 7513.9 | 8390.5 | 9175.9  | 9566.3  | 9002.7  |
| 70°   | 4467.9 | 4464.9 | 4613.8 | 4794.5 | 5087.7 | 5538.9 | 6195.2 | 6986.7 | 7609.6  | 7893.7  | 6950.3  |
| 72.5° | 3191.8 | 3112.8 | 3222.2 | 3422.7 | 3662.8 | 4022.8 | 4542.4 | 5157.6 | 5715.2  | 5961.3  | 5081.7  |
| 75°   | 1453.9 | 1432.6 | 1529.8 | 1728.8 | 1971.9 | 2292.4 | 2719.3 | 3251.1 | 3785.8  | 4074.5  | 3237.4  |
| 77.5° | 489.2  | 495.3  | 533.2  | 604.6  | 735.3  | 896.3  | 1162.2 | 1502.5 | 1935.4  | 2221.0  | 1519.2  |
| 80°   | 328.1  | 337.3  | 349.4  | 360.0  | 375.2  | 399.5  | 457.3  | 545.4  | 679.1   | 821.9   | 480.1   |
| 82.5° | 268.9  | 279.5  | 306.9  | 319.0  | 328.1  | 335.7  | 340.3  | 346.4  | 346.4   | 349.4   | 303.8   |
| 85°   | 192.9  | 211.2  | 247.6  | 270.4  | 279.5  | 285.6  | 293.2  | 302.3  | 288.6   | 276.5   | 235.5   |
| 87.5° | 66.8   | 91.2   | 133.7  | 147.4  | 158.0  | 159.5  | 170.1  | 188.4  | 179.3   | 145.8   | 71.4    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |



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**CANDELA DISTRIBUTION (continued):**

|       | 50°     | 55°    | 60°    | 65°    | 70°    | 75°    | 80°    | 85°    | 90°    |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1622.5  | 1622.5 | 1622.5 | 1622.5 | 1622.5 | 1622.5 | 1622.5 | 1622.5 | 1622.5 |
| 2.5°  | 1630.1  | 1628.6 | 1630.1 | 1631.6 | 1631.6 | 1631.6 | 1633.1 | 1634.6 | 1634.6 |
| 5°    | 1660.5  | 1662.0 | 1660.5 | 1662.0 | 1662.0 | 1663.5 | 1663.5 | 1666.5 | 1666.5 |
| 7.5°  | 1712.1  | 1715.2 | 1713.6 | 1716.7 | 1716.7 | 1719.7 | 1718.2 | 1722.8 | 1722.8 |
| 10°   | 1782.0  | 1785.0 | 1788.1 | 1789.6 | 1788.1 | 1791.1 | 1794.2 | 1795.7 | 1794.2 |
| 12.5° | 1861.0  | 1862.5 | 1861.0 | 1864.0 | 1864.0 | 1867.1 | 1867.1 | 1871.6 | 1871.6 |
| 15°   | 1933.9  | 1932.4 | 1930.9 | 1935.4 | 1938.5 | 1940.0 | 1943.0 | 1947.6 | 1943.0 |
| 17.5° | 1999.2  | 2000.8 | 1997.7 | 2002.3 | 2008.4 | 2012.9 | 2016.0 | 2022.0 | 2020.5 |
| 20°   | 2064.6  | 2061.5 | 2064.6 | 2072.2 | 2078.2 | 2084.3 | 2090.4 | 2099.5 | 2098.0 |
| 22.5° | 2128.4  | 2131.4 | 2139.0 | 2145.1 | 2155.7 | 2164.8 | 2172.4 | 2184.6 | 2189.1 |
| 25°   | 2218.0  | 2218.0 | 2230.2 | 2237.8 | 2252.9 | 2265.1 | 2281.8 | 2295.5 | 2303.1 |
| 27.5° | 2331.9  | 2331.9 | 2345.6 | 2362.3 | 2385.1 | 2406.4 | 2424.6 | 2442.8 | 2439.8 |
| 30°   | 2486.9  | 2494.5 | 2506.7 | 2527.9 | 2558.3 | 2584.1 | 2608.4 | 2626.7 | 2628.2 |
| 32.5° | 2690.5  | 2699.6 | 2736.0 | 2790.7 | 2854.5 | 2903.2 | 2939.6 | 2983.7 | 2989.8 |
| 35°   | 3152.3  | 3175.1 | 3222.2 | 3266.2 | 3292.1 | 3320.9 | 3339.2 | 3340.7 | 3343.7 |
| 37.5° | 3638.4  | 3598.9 | 3562.5 | 3529.1 | 3513.9 | 3510.8 | 3510.8 | 3516.9 | 3519.9 |
| 40°   | 3816.2  | 3796.4 | 3779.7 | 3758.5 | 3764.5 | 3763.0 | 3773.7 | 3782.8 | 3788.8 |
| 42.5° | 4120.0  | 4104.8 | 4089.6 | 4062.3 | 4077.5 | 4072.9 | 4088.1 | 4101.8 | 4109.4 |
| 45°   | 4543.9  | 4496.8 | 4463.4 | 4419.3 | 4434.5 | 4425.4 | 4425.4 | 4442.1 | 4445.1 |
| 47.5° | 5011.8  | 4957.1 | 4888.7 | 4834.0 | 4815.8 | 4799.1 | 4814.3 | 4814.3 | 4797.6 |
| 50°   | 5572.4  | 5507.0 | 5426.5 | 5338.4 | 5308.0 | 5291.3 | 5297.4 | 5305.0 | 5257.9 |
| 52.5° | 6333.5  | 6260.6 | 6146.6 | 6012.9 | 5984.1 | 5970.4 | 5967.4 | 5956.7 | 5944.6 |
| 55°   | 7365.0  | 7228.3 | 7088.5 | 6912.3 | 6859.1 | 6843.9 | 6845.4 | 6833.3 | 6862.2 |
| 57.5° | 8581.9  | 8381.3 | 8059.3 | 7845.1 | 7717.5 | 7668.8 | 7624.8 | 7606.6 | 7608.1 |
| 60°   | 9786.6  | 9377.9 | 8896.3 | 8522.6 | 8255.2 | 8085.1 | 7951.4 | 7877.0 | 7855.7 |
| 62.5° | 10562.9 | 9920.3 | 9197.1 | 8591.0 | 8151.9 | 7870.9 | 7659.7 | 7526.0 | 7483.5 |
| 63°   | 10623.7 | 9943.1 | 9169.8 | 8519.6 | 8057.8 | 7763.0 | 7541.2 | 7403.0 | 7357.4 |
| 65°   | 10491.5 | 9713.7 | 8812.8 | 8038.0 | 7532.1 | 7205.5 | 6965.5 | 6834.8 | 6799.9 |
| 67.5° | 9464.5  | 8817.3 | 7899.8 | 7099.1 | 6588.7 | 6257.5 | 5982.5 | 5858.0 | 5818.5 |
| 70°   | 7699.2  | 7255.6 | 6503.6 | 5820.0 | 5344.5 | 5025.5 | 4747.4 | 4644.1 | 4642.6 |
| 72.5° | 5707.6  | 5131.8 | 4683.6 | 4182.3 | 3767.6 | 3513.9 | 3272.3 | 3156.9 | 3099.1 |
| 75°   | 3775.2  | 3158.4 | 2657.1 | 2234.7 | 1821.5 | 1593.6 | 1321.7 | 1204.7 | 1136.3 |
| 77.5° | 1902.0  | 1409.8 | 1010.3 | 700.3  | 543.9  | 446.6  | 408.7  | 388.9  | 387.4  |
| 80°   | 633.5   | 475.5  | 408.7  | 382.8  | 375.2  | 376.8  | 372.2  | 364.6  | 355.5  |
| 82.5° | 350.9   | 369.2  | 372.2  | 361.6  | 361.6  | 355.5  | 349.4  | 320.5  | 305.4  |
| 85°   | 300.8   | 331.2  | 334.2  | 328.1  | 326.6  | 317.5  | 306.9  | 267.4  | 244.6  |
| 87.5° | 188.4   | 217.2  | 212.7  | 189.9  | 209.6  | 196.0  | 185.3  | 120.0  | 88.1   |
| 90°   | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)