

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: INVUE

Report Number: P400941

Luminaire Tested: **ENV-SA1A-735-U-T4FT-HSS**

Issue Date: 5/20/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P400941  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-16)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/20/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: ENV-SA1A-735-U-T4FT-HSS  
Description: ENTRI LED LUMINAIRE  
(1) 70 CRI, 3500K, 350mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV FORWARD  
THROW OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1819 lumens  
Efficiency: N/A  
Efficacy: 90.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B0 - U0 - G1

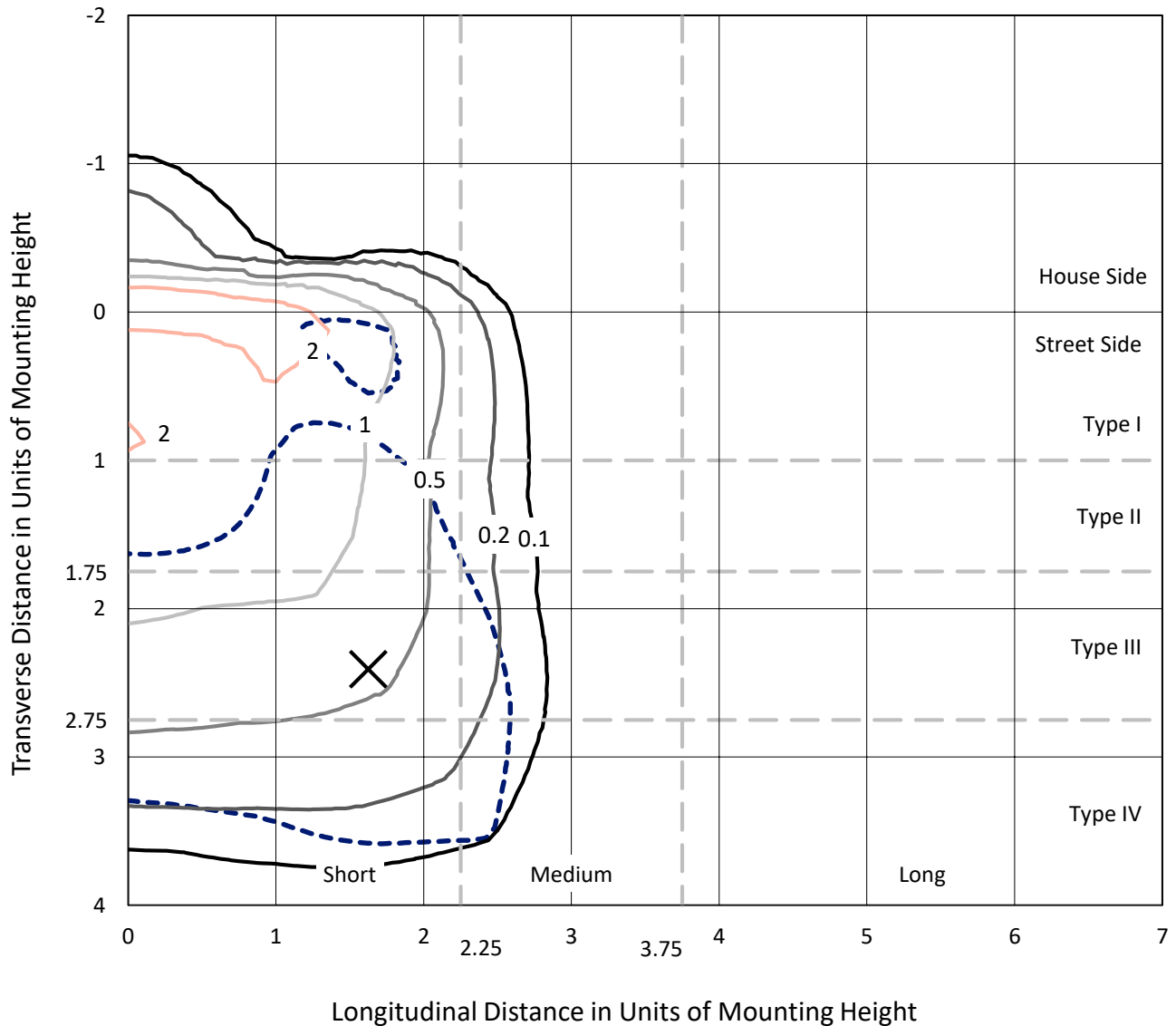
Input Watts (W): 20.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

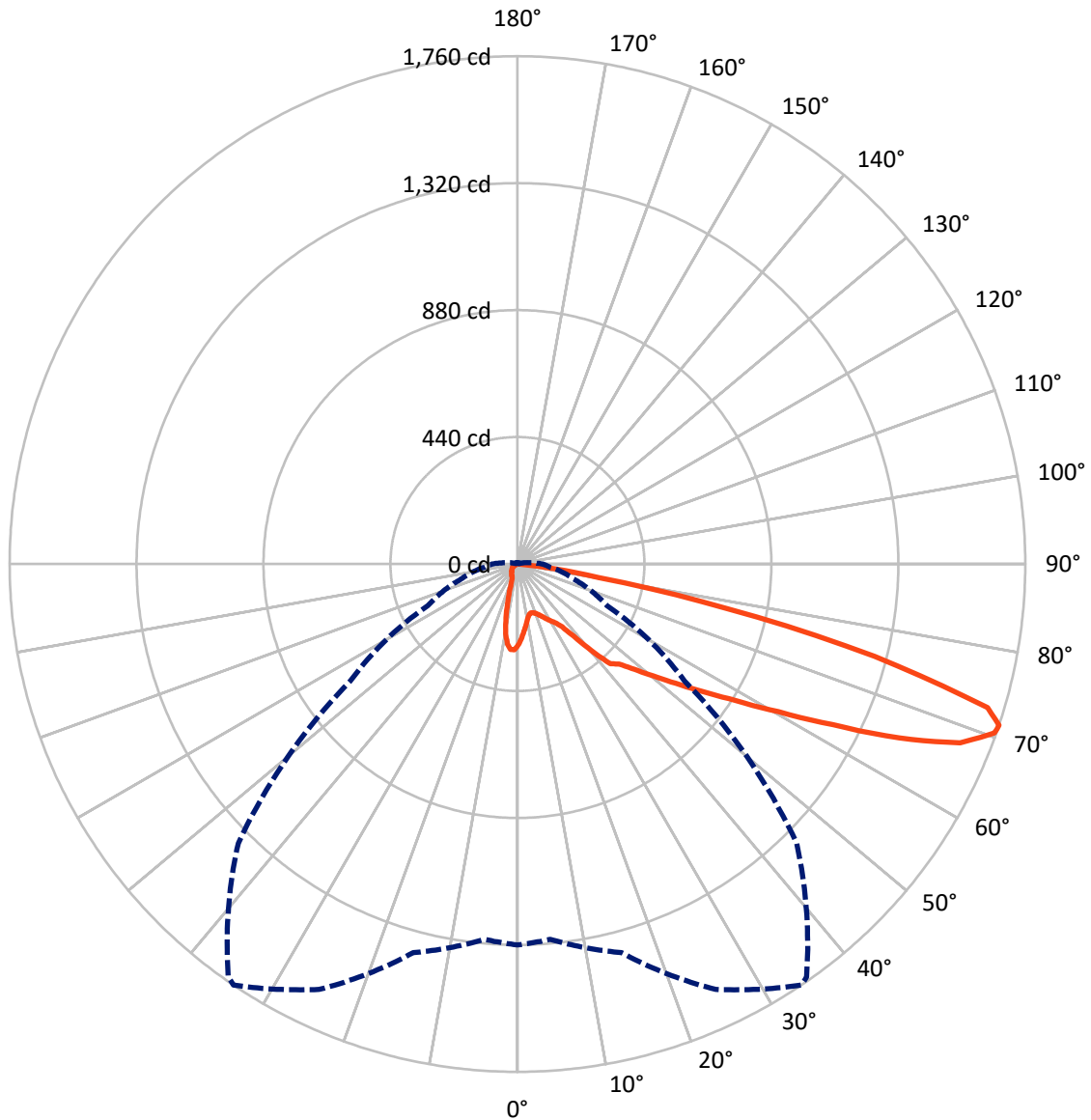
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 2.8 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 34-Deg Lateral      - - - Horizontal Cone Through 71-Deg Vertical

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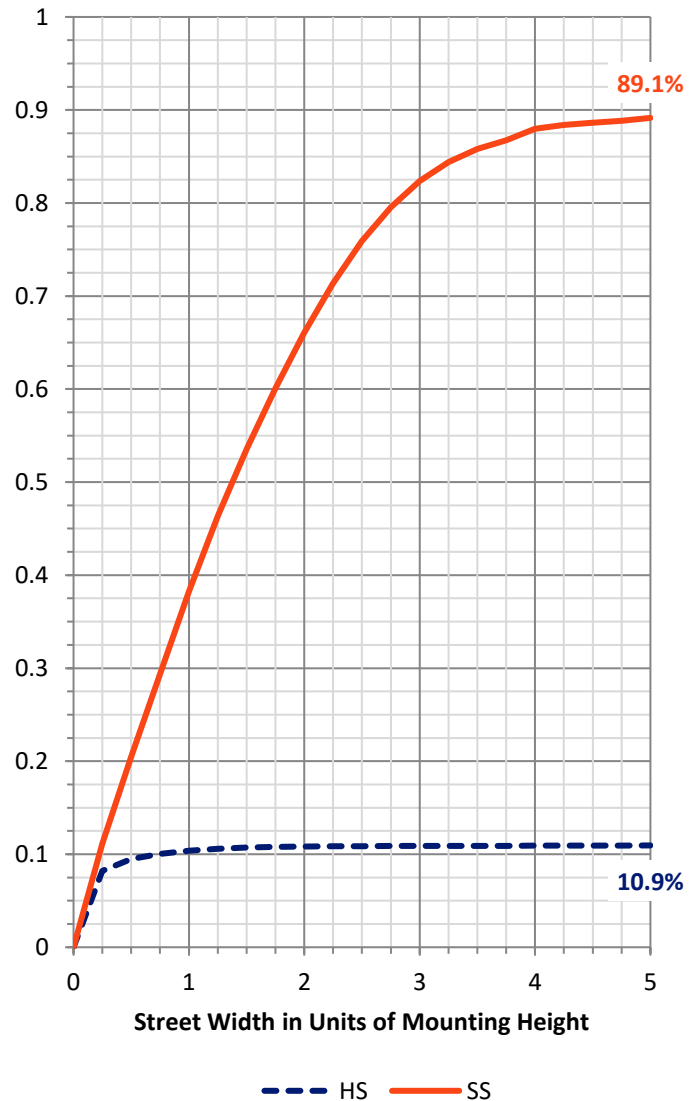
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 201.1    | 0.0    | 201.1  |
|                    | % Fixture | 11.1     | 0.0    | 11.1   |
| <b>Street Side</b> | Lumens    | 1617.9   | 0.0    | 1617.9 |
|                    | % Fixture | 88.9     | 0.0    | 88.9   |
| <b>Total</b>       | Lumens    | 1819.0   | 0.0    | 1819.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 24.8   | 1.4       |
| 10°-20°   | 56.9   | 3.1       |
| 20°-30°   | 85.0   | 4.7       |
| 30°-40°   | 141.9  | 7.8       |
| 40°-50°   | 256.3  | 14.1      |
| 50°-60°   | 406.7  | 22.4      |
| 60°-70°   | 546.5  | 30.0      |
| 70°-80°   | 290.0  | 15.9      |
| 80°-90°   | 10.7   | 0.6       |
| 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°    | 1819.0 | 100.0     |
| 0°-180°   | 1819.0 | 100.0     |



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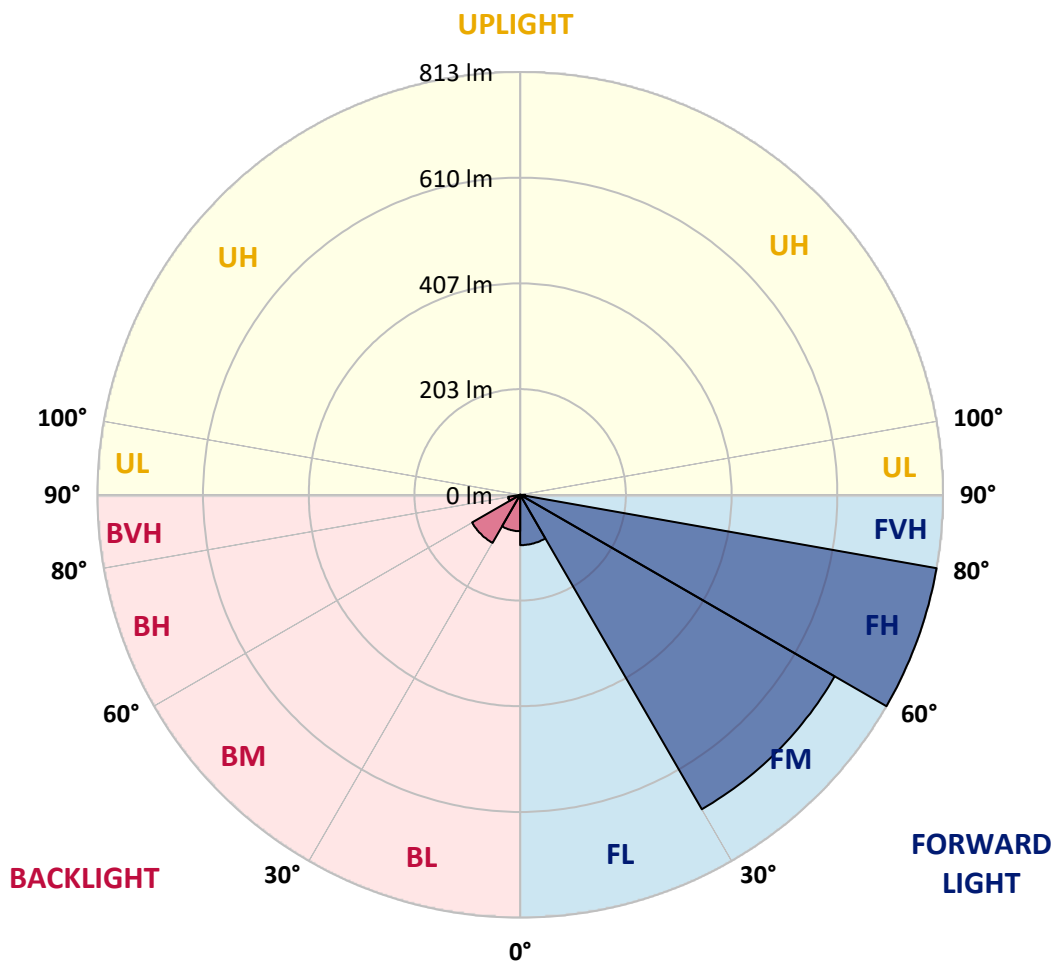
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 96.8   | 5.3       |                         |      |         |
| FM   | (30°-60°)   | 698.3  | 38.4      |                         |      |         |
| FH   | (60°-80°)   | 813.1  | 44.7      |                         |      | G1/1800 |
| FVH  | (80°-90°)   | 9.7    | 0.5       |                         |      | G0/10   |
| BL   | (0°-30°)    | 70.0   | 3.8       | B0/110                  |      |         |
| BM   | (30°-60°)   | 106.7  | 5.9       | B0/220                  |      |         |
| BH   | (60°-80°)   | 23.5   | 1.3       | B0/110                  |      | G0/110  |
| BVH  | (80°-90°)   | 1.0    | 0.1       |                         |      | G0/10   |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B0-U0-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 34°    | 35°    | 45°    | 55°    | 65°   | 75°   | 85°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|
| 0°    | 281.8  | 281.8  | 281.8  | 281.8  | 281.8  | 281.8  | 281.8  | 281.8  | 281.8 | 281.8 | 281.8 |
| 2.5°  | 256.7  | 253.4  | 256.3  | 257.7  | 258.8  | 260.3  | 262.5  | 266.5  | 270.9 | 276.0 | 278.9 |
| 5°    | 223.8  | 225.6  | 226.7  | 230.7  | 234.7  | 235.5  | 242.4  | 250.4  | 260.7 | 270.9 | 279.7 |
| 7.5°  | 197.1  | 197.1  | 200.4  | 206.6  | 213.2  | 213.9  | 226.0  | 236.6  | 251.2 | 266.9 | 281.1 |
| 10°   | 176.0  | 176.7  | 179.3  | 185.5  | 193.9  | 195.7  | 209.2  | 223.8  | 242.1 | 262.5 | 282.6 |
| 12.5° | 169.0  | 168.7  | 168.3  | 172.7  | 179.6  | 181.4  | 196.4  | 213.9  | 235.5 | 260.3 | 286.2 |
| 15°   | 173.4  | 172.3  | 169.8  | 170.5  | 174.9  | 176.7  | 189.8  | 207.4  | 231.5 | 259.9 | 292.4 |
| 17.5° | 180.4  | 178.9  | 174.1  | 172.7  | 177.4  | 179.3  | 190.2  | 205.5  | 230.0 | 261.8 | 299.7 |
| 20°   | 188.7  | 187.3  | 180.0  | 178.2  | 182.9  | 184.4  | 195.7  | 208.8  | 230.7 | 265.4 | 309.6 |
| 22.5° | 200.8  | 199.0  | 188.4  | 186.2  | 190.9  | 192.4  | 204.4  | 216.5  | 235.1 | 272.0 | 323.1 |
| 25°   | 215.4  | 213.2  | 199.7  | 196.8  | 202.6  | 204.1  | 216.1  | 227.4  | 242.4 | 280.7 | 340.3 |
| 27.5° | 231.5  | 228.9  | 214.7  | 208.8  | 215.4  | 217.6  | 228.9  | 241.3  | 253.0 | 291.7 | 362.9 |
| 30°   | 246.1  | 243.1  | 229.3  | 222.7  | 229.3  | 230.4  | 243.9  | 257.7  | 270.2 | 310.3 | 396.1 |
| 32.5° | 286.6  | 279.3  | 257.7  | 238.8  | 243.1  | 245.3  | 261.8  | 283.7  | 302.3 | 332.6 | 438.8 |
| 35°   | 347.2  | 341.4  | 315.1  | 282.2  | 266.9  | 267.6  | 288.8  | 316.5  | 324.9 | 358.5 | 491.8 |
| 37.5° | 405.6  | 400.5  | 377.5  | 347.2  | 318.0  | 319.1  | 322.7  | 349.4  | 359.2 | 403.4 | 556.4 |
| 40°   | 469.5  | 461.5  | 443.2  | 414.4  | 394.3  | 389.5  | 371.7  | 390.3  | 411.8 | 460.0 | 626.8 |
| 42.5° | 499.1  | 491.4  | 472.4  | 474.2  | 472.1  | 463.7  | 428.2  | 454.2  | 478.3 | 542.1 | 704.6 |
| 45°   | 548.0  | 533.0  | 494.0  | 496.9  | 494.0  | 494.7  | 503.4  | 541.1  | 561.9 | 629.0 | 792.6 |
| 47.5° | 593.3  | 576.1  | 535.2  | 532.3  | 545.1  | 551.6  | 598.7  | 644.4  | 646.2 | 704.6 | 861.6 |
| 50°   | 634.5  | 622.1  | 584.5  | 584.9  | 608.2  | 615.5  | 709.7  | 751.3  | 714.5 | 762.7 | 915.6 |
| 52.5° | 689.3  | 671.8  | 638.2  | 650.2  | 686.7  | 693.3  | 820.3  | 845.2  | 763.8 | 815.2 | 958.0 |
| 55°   | 740.0  | 730.5  | 705.7  | 723.6  | 779.5  | 796.6  | 932.8  | 917.5  | 798.4 | 862.0 | 978.4 |
| 57.5° | 823.3  | 814.1  | 807.6  | 816.7  | 891.5  | 913.1  | 1046.7 | 968.6  | 825.5 | 893.0 | 968.9 |
| 60°   | 962.0  | 952.9  | 933.2  | 941.5  | 1039.0 | 1050.0 | 1136.1 | 1020.4 | 836.0 | 901.8 | 931.7 |
| 62.5° | 1133.2 | 1121.9 | 1090.1 | 1128.8 | 1226.7 | 1226.3 | 1228.9 | 1047.8 | 822.5 | 875.8 | 833.5 |
| 65°   | 1287.6 | 1272.0 | 1255.5 | 1334.4 | 1453.4 | 1437.0 | 1327.4 | 1051.1 | 779.8 | 750.6 | 644.7 |
| 67.5° | 1400.1 | 1393.9 | 1403.0 | 1526.0 | 1654.2 | 1637.8 | 1423.1 | 1005.8 | 649.1 | 541.8 | 398.3 |
| 70°   | 1395.7 | 1382.9 | 1441.0 | 1637.4 | 1753.9 | 1740.4 | 1419.1 | 826.5  | 433.0 | 287.0 | 166.8 |
| 71°   | 1320.1 | 1305.5 | 1393.9 | 1626.4 | 1759.7 | 1746.9 | 1368.0 | 707.2  | 342.4 | 202.6 | 109.9 |
| 72.5° | 1020.0 | 1064.2 | 1204.8 | 1509.3 | 1703.5 | 1687.0 | 1228.9 | 541.4  | 216.9 | 117.2 | 55.1  |
| 75°   | 431.5  | 455.6  | 715.2  | 1077.4 | 1277.8 | 1269.4 | 828.4  | 250.1  | 99.7  | 52.9  | 21.2  |
| 77.5° | 111.0  | 109.5  | 219.0  | 462.2  | 744.0  | 757.2  | 381.9  | 85.8   | 51.8  | 37.6  | 12.0  |
| 80°   | 21.5   | 23.4   | 62.4   | 160.6  | 284.0  | 291.7  | 124.5  | 37.6   | 34.7  | 29.6  | 6.2   |
| 82.5° | 2.2    | 2.6    | 11.0   | 49.7   | 95.3   | 92.0   | 27.4   | 14.2   | 21.2  | 20.1  | 2.9   |
| 85°   | 0.0    | 0.0    | 0.4    | 0.4    | 0.4    | 0.4    | 0.4    | 1.5    | 5.1   | 5.5   | 0.7   |
| 87.5° | 0.0    | 0.0    | 0.4    | 0.4    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   | 0.0   |
| 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):**

|       | 90°   | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 281.8 | 281.8 | 281.8 | 281.8 | 281.8 | 281.8 | 281.8 | 281.8 | 281.8 | 281.8 | 281.8 |
| 2.5°  | 281.1 | 284.4 | 288.1 | 290.6 | 293.2 | 293.5 | 297.2 | 296.4 | 297.5 | 297.9 | 297.5 |
| 5°    | 284.4 | 288.8 | 295.7 | 299.4 | 300.8 | 298.3 | 297.5 | 293.5 | 292.1 | 290.2 | 288.4 |
| 7.5°  | 288.1 | 293.5 | 301.6 | 303.4 | 298.3 | 288.8 | 281.1 | 271.3 | 262.1 | 256.3 | 257.0 |
| 10°   | 292.1 | 299.0 | 305.6 | 300.8 | 287.7 | 269.1 | 247.5 | 225.6 | 206.3 | 199.0 | 201.5 |
| 12.5° | 297.2 | 305.6 | 308.5 | 295.4 | 269.8 | 232.2 | 193.1 | 159.9 | 139.8 | 127.8 | 126.3 |
| 15°   | 304.8 | 313.2 | 310.0 | 286.6 | 241.3 | 182.5 | 134.0 | 100.4 | 81.0  | 74.8  | 71.6  |
| 17.5° | 314.3 | 322.4 | 310.0 | 270.9 | 200.8 | 130.7 | 81.4  | 61.0  | 54.8  | 53.3  | 53.7  |
| 20°   | 326.0 | 333.7 | 308.5 | 247.2 | 154.8 | 80.3  | 54.4  | 50.4  | 50.4  | 50.4  | 50.0  |
| 22.5° | 341.7 | 345.7 | 306.3 | 215.8 | 106.6 | 54.4  | 48.2  | 47.8  | 48.2  | 48.2  | 48.2  |
| 25°   | 360.7 | 360.0 | 302.3 | 178.2 | 67.2  | 46.4  | 46.0  | 46.0  | 46.4  | 46.7  | 46.7  |
| 27.5° | 385.9 | 378.2 | 295.4 | 133.3 | 47.5  | 43.1  | 43.8  | 44.5  | 45.3  | 46.0  | 46.0  |
| 30°   | 420.9 | 402.3 | 284.0 | 90.2  | 40.2  | 39.8  | 41.3  | 43.4  | 44.5  | 45.3  | 45.3  |
| 32.5° | 458.5 | 427.1 | 264.7 | 57.7  | 36.9  | 36.5  | 38.0  | 41.3  | 44.2  | 44.9  | 44.9  |
| 35°   | 506.0 | 453.8 | 235.8 | 41.6  | 34.7  | 34.0  | 35.4  | 38.3  | 42.7  | 44.9  | 44.9  |
| 37.5° | 556.0 | 482.3 | 193.9 | 35.0  | 32.5  | 31.8  | 32.9  | 35.0  | 40.2  | 44.2  | 44.5  |
| 40°   | 609.3 | 507.5 | 145.7 | 32.5  | 30.3  | 29.9  | 30.3  | 32.5  | 36.5  | 42.0  | 43.1  |
| 42.5° | 663.0 | 528.6 | 101.9 | 29.9  | 28.5  | 27.7  | 28.5  | 29.9  | 33.6  | 38.3  | 39.1  |
| 45°   | 722.1 | 552.0 | 67.9  | 27.7  | 27.0  | 26.3  | 27.0  | 28.1  | 30.7  | 33.2  | 33.6  |
| 47.5° | 765.2 | 560.4 | 46.7  | 25.2  | 24.8  | 25.2  | 25.6  | 26.3  | 27.7  | 28.1  | 27.7  |
| 50°   | 793.7 | 556.0 | 33.6  | 22.6  | 23.0  | 24.1  | 24.1  | 24.5  | 24.5  | 23.4  | 23.0  |
| 52.5° | 814.5 | 540.0 | 25.9  | 19.3  | 21.5  | 22.6  | 22.6  | 21.9  | 21.2  | 19.7  | 19.3  |
| 55°   | 816.7 | 503.8 | 20.4  | 16.8  | 19.3  | 21.2  | 20.8  | 19.3  | 17.9  | 16.4  | 16.4  |
| 57.5° | 788.9 | 449.1 | 16.8  | 14.2  | 16.8  | 18.6  | 17.9  | 16.4  | 14.6  | 13.5  | 13.5  |
| 60°   | 744.0 | 392.8 | 14.2  | 12.0  | 13.9  | 15.7  | 14.6  | 13.5  | 11.7  | 10.6  | 10.6  |
| 62.5° | 661.2 | 337.3 | 11.7  | 9.9   | 11.3  | 12.4  | 12.0  | 11.0  | 9.1   | 8.4   | 8.0   |
| 65°   | 506.7 | 256.7 | 8.8   | 7.7   | 8.8   | 10.2  | 9.5   | 8.4   | 7.3   | 6.2   | 5.8   |
| 67.5° | 304.5 | 154.4 | 6.9   | 5.8   | 6.9   | 8.0   | 7.3   | 6.2   | 5.1   | 4.4   | 4.4   |
| 70°   | 128.9 | 66.1  | 5.5   | 4.4   | 5.1   | 6.2   | 5.8   | 5.1   | 4.0   | 3.7   | 3.7   |
| 71°   | 87.6  | 47.1  | 4.7   | 4.0   | 4.7   | 5.8   | 5.5   | 4.7   | 4.0   | 3.7   | 3.7   |
| 72.5° | 44.9  | 24.1  | 4.0   | 3.3   | 4.4   | 5.1   | 5.1   | 4.4   | 3.7   | 3.7   | 3.7   |
| 75°   | 16.1  | 10.2  | 3.3   | 2.9   | 3.7   | 3.7   | 4.0   | 4.0   | 4.0   | 4.0   | 3.7   |
| 77.5° | 9.1   | 6.2   | 2.9   | 2.9   | 2.9   | 3.3   | 4.0   | 4.4   | 4.7   | 4.7   | 4.4   |
| 80°   | 5.1   | 3.3   | 1.8   | 2.2   | 2.9   | 3.3   | 4.0   | 4.4   | 5.1   | 5.1   | 4.7   |
| 82.5° | 2.6   | 1.1   | 0.4   | 1.1   | 1.8   | 2.9   | 3.3   | 3.7   | 4.4   | 4.0   | 4.0   |
| 85°   | 0.4   | 0.0   | 0.0   | 0.4   | 1.1   | 1.5   | 2.2   | 2.9   | 3.7   | 3.7   | 3.3   |
| 87.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.4   | 0.7   | 1.1   | 1.8   | 2.6   | 2.9   | 2.6   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)