

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: P401035

Luminaire Tested: **ENT-SA1A-830-U-SL2-HSS**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401035
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-2)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1A-830-U-SL2-HSS
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 3000K, 350mA LIGHTSQUARE WITH 16 LEDS AND TYPE II SPILL LIGHT
ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1756 lumens
Efficiency: N/A
Efficacy: 87.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B0 - U0 - G1

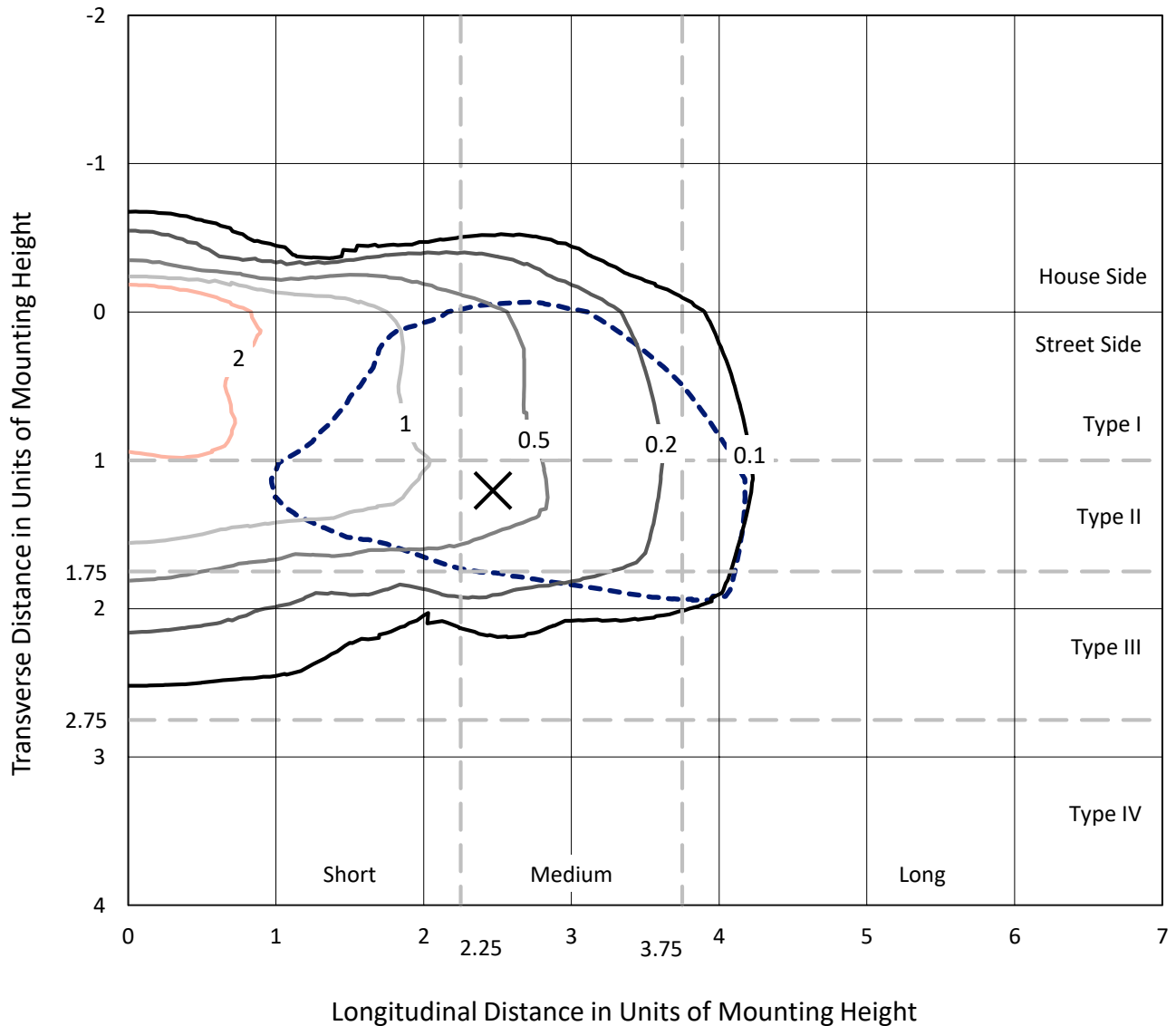
Input Watts (W): 20.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

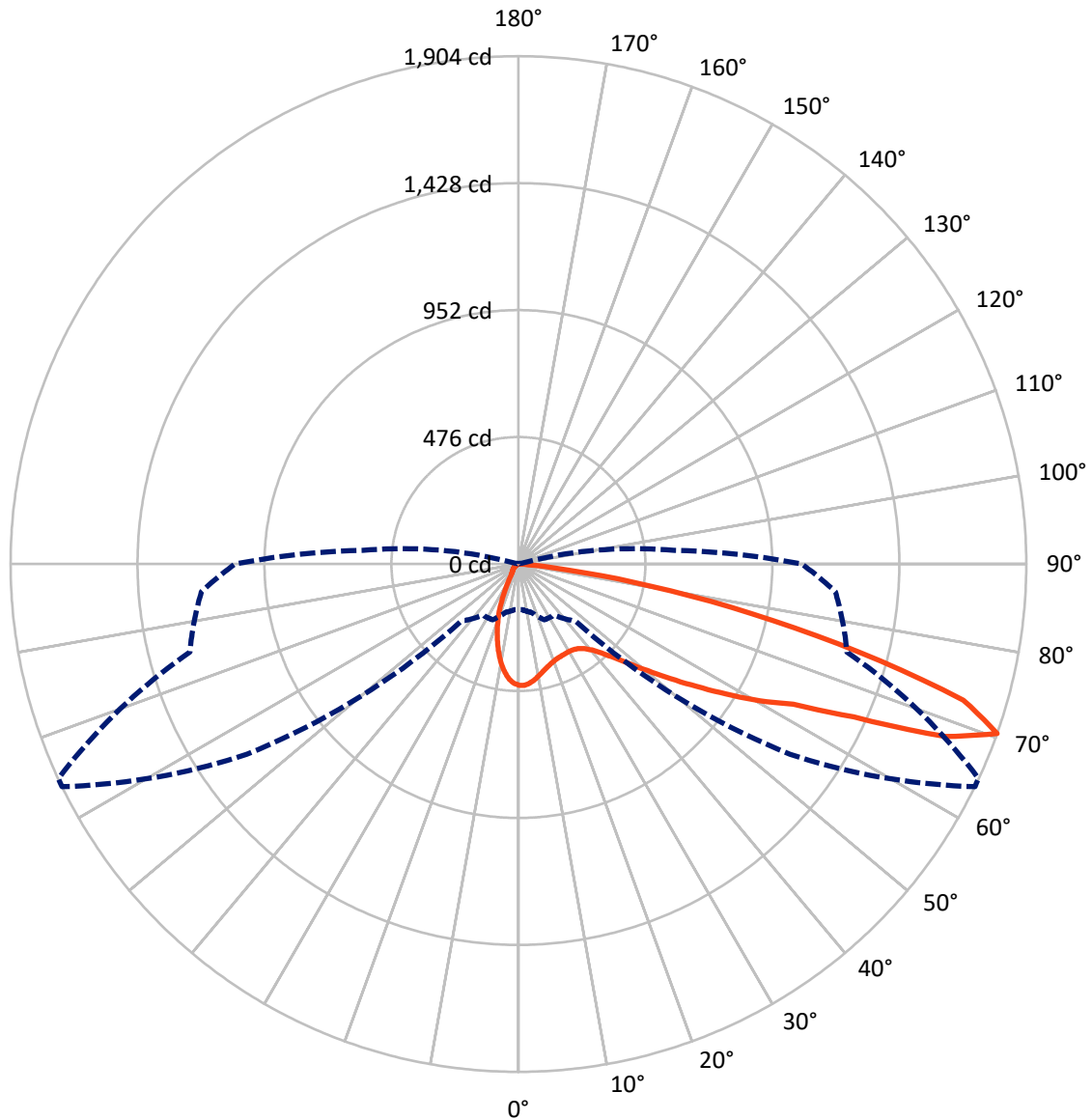
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.5 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 64-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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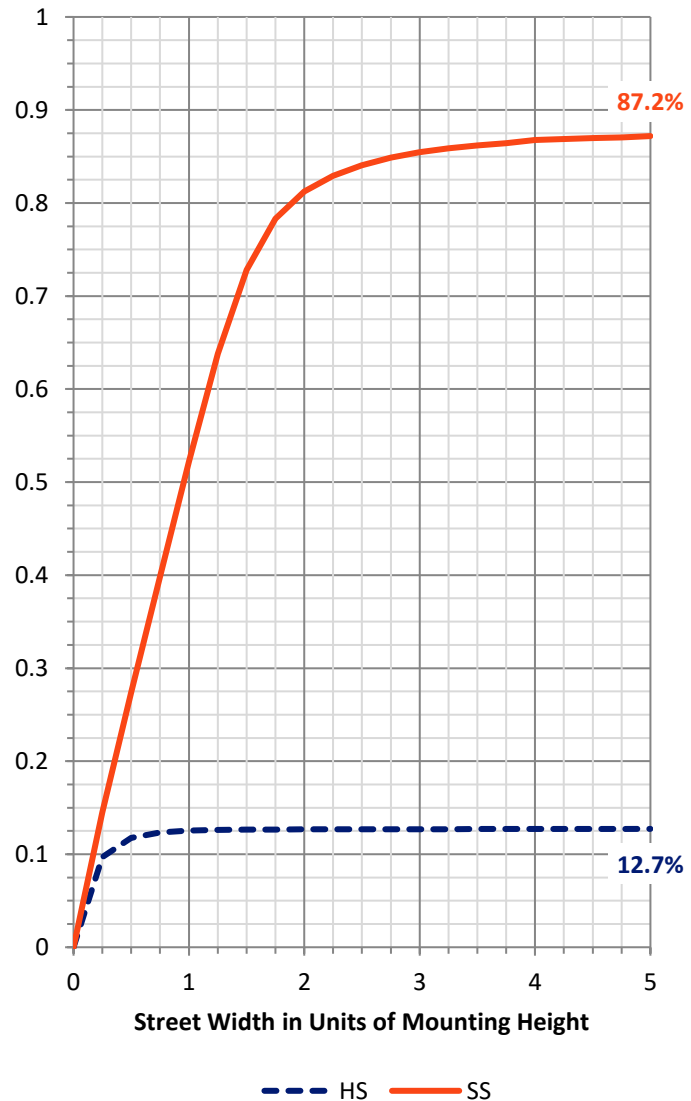
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 225.6 | 0.0 | 225.6 |
| | % Fixture | 12.8 | 0.0 | 12.8 |
| Street Side | Lumens | 1530.4 | 0.0 | 1530.4 |
| | % Fixture | 87.2 | 0.0 | 87.2 |
| Total | Lumens | 1756.0 | 0.0 | 1756.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 38.3 | 2.2 |
| 10°-20° | 85.0 | 4.8 |
| 20°-30° | 117.1 | 6.7 |
| 30°-40° | 161.2 | 9.2 |
| 40°-50° | 240.3 | 13.7 |
| 50°-60° | 379.6 | 21.6 |
| 60°-70° | 430.1 | 24.5 |
| 70°-80° | 282.4 | 16.1 |
| 80°-90° | 22.1 | 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° | 1756.0 | 100.0 |
| 0°-180° | 1756.0 | 100.0 |



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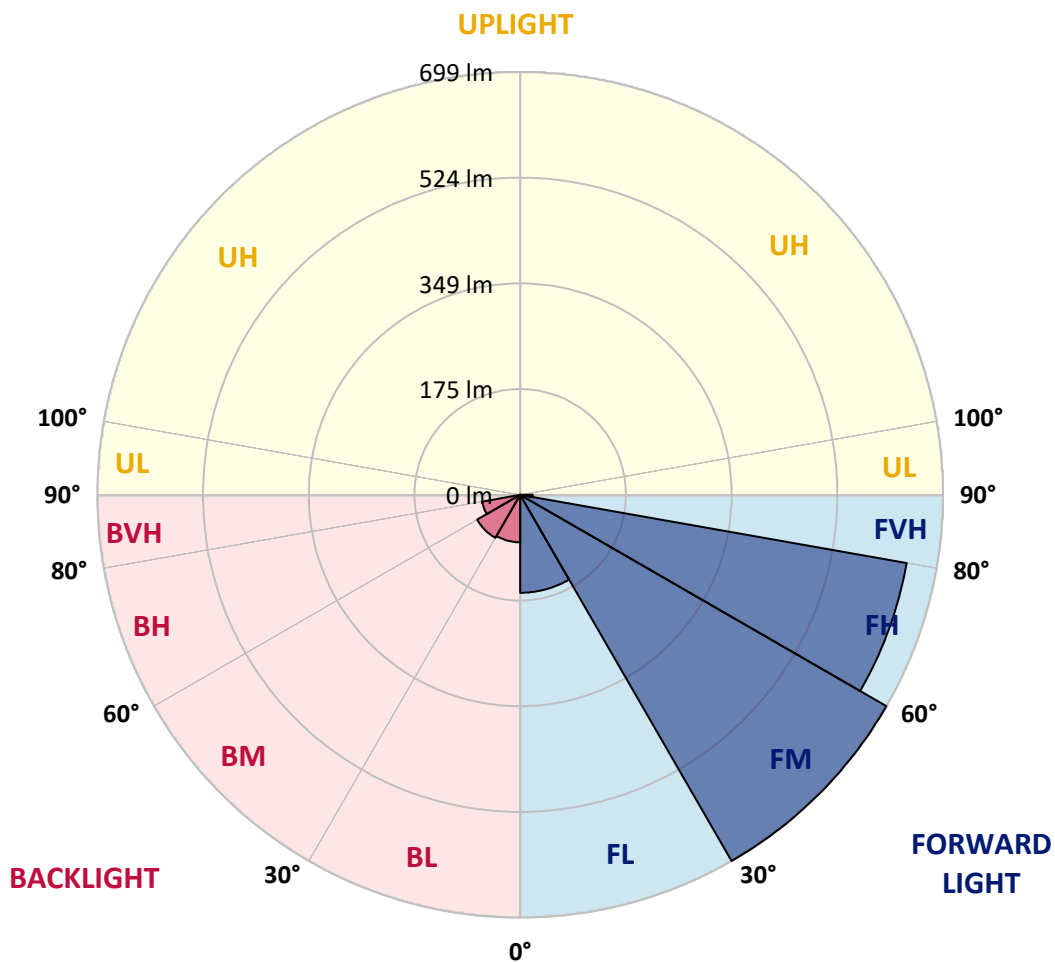
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|--------|
| | | | | B | U | G |
| FL | (0°-30°) | 161.9 | 9.2 | | | |
| FM | (30°-60°) | 698.9 | 39.8 | | | |
| FH | (60°-80°) | 648.8 | 36.9 | | | G0/660 |
| FVH | (80°-90°) | 20.9 | 1.2 | | | G1/100 |
| BL | (0°-30°) | 78.5 | 4.5 | B0/110 | | |
| BM | (30°-60°) | 82.2 | 4.7 | B0/220 | | |
| BH | (60°-80°) | 63.7 | 3.6 | B0/110 | | G0/110 |
| BVH | (80°-90°) | 1.2 | 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 III Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 64° | 65° | 75° | 85° |
|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
| 0° | 454.6 | 454.6 | 454.6 | 454.6 | 454.6 | 454.6 | 454.6 | 454.6 | 454.6 | 454.6 | 454.6 |
| 2.5° | 441.9 | 441.9 | 444.1 | 446.2 | 447.5 | 450.9 | 453.3 | 455.2 | 455.2 | 456.4 | 454.3 |
| 5° | 412.6 | 412.6 | 414.4 | 419.7 | 425.2 | 432.3 | 440.4 | 448.4 | 449.9 | 455.8 | 455.5 |
| 7.5° | 385.4 | 387.9 | 390.9 | 396.2 | 402.1 | 412.6 | 423.7 | 437.6 | 439.1 | 453.3 | 456.4 |
| 10° | 366.6 | 368.1 | 369.9 | 375.8 | 384.5 | 396.5 | 408.5 | 424.9 | 427.7 | 449.0 | 456.4 |
| 12.5° | 351.4 | 351.7 | 354.5 | 361.0 | 369.3 | 381.1 | 394.7 | 412.6 | 416.0 | 441.3 | 455.2 |
| 15° | 340.6 | 340.3 | 343.4 | 349.6 | 357.6 | 369.6 | 382.9 | 401.8 | 405.5 | 434.8 | 454.9 |
| 17.5° | 334.1 | 334.4 | 336.9 | 341.5 | 349.3 | 360.7 | 374.3 | 392.8 | 396.5 | 429.5 | 456.4 |
| 20° | 334.1 | 334.1 | 335.7 | 337.8 | 343.7 | 353.9 | 367.2 | 386.3 | 390.0 | 426.2 | 458.6 |
| 22.5° | 340.6 | 340.0 | 341.2 | 339.4 | 342.2 | 349.3 | 362.8 | 382.0 | 386.0 | 424.6 | 462.0 |
| 25° | 352.3 | 351.1 | 352.0 | 348.0 | 344.9 | 348.0 | 360.1 | 380.1 | 384.5 | 424.9 | 465.1 |
| 27.5° | 368.7 | 368.7 | 366.9 | 361.3 | 353.6 | 350.2 | 359.8 | 378.9 | 383.2 | 424.9 | 467.2 |
| 30° | 391.6 | 390.6 | 387.9 | 382.3 | 370.3 | 358.8 | 362.8 | 378.9 | 383.2 | 425.2 | 467.8 |
| 32.5° | 414.4 | 415.0 | 416.6 | 411.0 | 394.7 | 373.7 | 370.3 | 381.7 | 385.4 | 424.9 | 466.9 |
| 35° | 437.6 | 437.9 | 444.7 | 445.3 | 424.3 | 397.4 | 382.9 | 389.1 | 391.6 | 428.0 | 467.5 |
| 37.5° | 458.0 | 459.5 | 472.8 | 479.3 | 462.0 | 428.0 | 403.0 | 403.0 | 404.2 | 436.3 | 471.2 |
| 40° | 480.8 | 484.8 | 500.9 | 515.4 | 508.6 | 467.2 | 432.3 | 423.4 | 424.0 | 451.5 | 479.6 |
| 42.5° | 507.4 | 512.3 | 533.3 | 554.3 | 554.0 | 515.4 | 469.4 | 455.8 | 456.4 | 477.7 | 496.6 |
| 45° | 541.0 | 544.4 | 571.0 | 597.2 | 602.8 | 568.5 | 516.0 | 498.1 | 498.7 | 517.6 | 529.6 |
| 47.5° | 582.1 | 586.1 | 611.7 | 643.2 | 657.4 | 632.4 | 576.5 | 557.1 | 555.2 | 568.5 | 577.2 |
| 50° | 635.8 | 643.6 | 658.7 | 688.9 | 723.2 | 706.5 | 647.6 | 628.1 | 625.6 | 636.1 | 638.9 |
| 52.5° | 687.1 | 694.2 | 700.4 | 728.2 | 794.6 | 798.6 | 734.6 | 713.3 | 710.9 | 713.3 | 716.7 |
| 55° | 694.8 | 698.8 | 703.5 | 741.1 | 852.3 | 915.6 | 833.8 | 808.5 | 801.4 | 796.7 | 808.1 |
| 57.5° | 633.4 | 630.9 | 646.3 | 697.6 | 861.9 | 1045.0 | 967.8 | 918.7 | 911.9 | 886.3 | 874.8 |
| 60° | 501.5 | 498.1 | 512.6 | 582.7 | 808.1 | 1109.2 | 1153.7 | 1040.7 | 1024.0 | 938.2 | 927.0 |
| 62.5° | 352.3 | 348.3 | 367.2 | 408.5 | 626.9 | 1096.6 | 1363.4 | 1156.2 | 1123.1 | 984.2 | 969.0 |
| 65° | 271.4 | 269.6 | 279.8 | 289.0 | 382.6 | 949.9 | 1478.9 | 1381.6 | 1313.4 | 1034.2 | 1014.7 |
| 67.5° | 212.8 | 215.2 | 227.9 | 254.8 | 247.0 | 592.0 | 1468.1 | 1725.6 | 1657.4 | 1126.2 | 1113.9 |
| 70° | 171.1 | 171.7 | 187.4 | 230.4 | 233.1 | 301.4 | 1242.9 | 1903.5 | 1902.6 | 1274.8 | 1192.6 |
| 72.5° | 103.4 | 106.2 | 131.9 | 199.2 | 235.3 | 230.7 | 835.6 | 1744.1 | 1768.2 | 1309.3 | 1075.6 |
| 75° | 49.7 | 52.5 | 68.2 | 133.7 | 233.8 | 224.5 | 452.1 | 1320.5 | 1351.3 | 1174.1 | 872.1 |
| 77.5° | 18.5 | 21.0 | 31.5 | 65.5 | 173.2 | 205.7 | 237.8 | 890.3 | 914.7 | 859.4 | 590.7 |
| 80° | 5.9 | 6.8 | 12.4 | 30.0 | 88.0 | 169.8 | 153.2 | 502.1 | 518.5 | 376.1 | 198.6 |
| 82.5° | 0.6 | 0.9 | 3.4 | 10.2 | 34.0 | 86.5 | 89.9 | 189.0 | 197.3 | 73.5 | 40.1 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 22.2 | 36.1 | 29.6 | 7.1 | 11.7 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.6 | 0.9 | 0.9 | 0.9 | 1.2 |
| 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):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 454.6 | 454.6 | 454.6 | 454.6 | 454.6 | 454.6 | 454.6 | 454.6 | 454.6 | 454.6 | 454.6 |
| 2.5° | 453.9 | 453.9 | 451.8 | 448.4 | 444.1 | 437.9 | 436.3 | 431.4 | 431.4 | 427.4 | 426.8 |
| 5° | 454.6 | 452.7 | 445.6 | 435.1 | 420.6 | 404.8 | 395.0 | 384.2 | 374.9 | 369.0 | 369.6 |
| 7.5° | 454.6 | 450.5 | 436.3 | 413.2 | 386.0 | 358.8 | 338.1 | 314.1 | 302.9 | 295.5 | 298.9 |
| 10° | 453.3 | 446.5 | 421.8 | 386.6 | 343.7 | 306.0 | 272.1 | 244.3 | 225.1 | 217.1 | 210.3 |
| 12.5° | 450.5 | 440.7 | 403.6 | 353.6 | 298.6 | 249.2 | 202.3 | 165.8 | 140.5 | 127.8 | 126.3 |
| 15° | 448.1 | 434.5 | 382.3 | 317.5 | 247.7 | 183.1 | 130.6 | 95.7 | 74.1 | 69.2 | 69.8 |
| 17.5° | 447.5 | 428.6 | 361.9 | 279.2 | 197.9 | 122.0 | 75.3 | 60.8 | 57.7 | 56.5 | 56.2 |
| 20° | 447.8 | 423.4 | 339.7 | 241.2 | 140.2 | 76.0 | 57.1 | 53.7 | 52.5 | 51.9 | 51.6 |
| 22.5° | 449.0 | 417.5 | 317.8 | 201.3 | 95.7 | 55.6 | 51.0 | 48.8 | 47.2 | 46.3 | 46.0 |
| 25° | 449.0 | 411.0 | 293.4 | 159.0 | 62.7 | 48.8 | 45.7 | 42.9 | 40.8 | 39.5 | 39.5 |
| 27.5° | 448.1 | 403.6 | 268.0 | 120.7 | 49.7 | 43.5 | 40.1 | 36.4 | 33.7 | 32.1 | 32.1 |
| 30° | 445.3 | 394.7 | 243.6 | 84.3 | 43.5 | 38.9 | 34.6 | 30.0 | 26.6 | 25.0 | 24.4 |
| 32.5° | 441.3 | 385.1 | 215.5 | 59.3 | 39.2 | 34.0 | 29.0 | 24.1 | 21.0 | 19.1 | 19.1 |
| 35° | 437.0 | 375.5 | 185.3 | 45.4 | 35.5 | 30.0 | 24.4 | 19.5 | 16.7 | 15.4 | 15.1 |
| 37.5° | 434.8 | 365.3 | 155.6 | 39.2 | 31.8 | 25.6 | 19.8 | 15.7 | 13.6 | 12.7 | 12.4 |
| 40° | 436.3 | 357.6 | 126.6 | 35.2 | 28.4 | 21.6 | 16.4 | 13.3 | 11.4 | 10.2 | 10.2 |
| 42.5° | 445.6 | 353.3 | 99.1 | 32.1 | 25.3 | 18.2 | 13.6 | 10.8 | 9.0 | 8.0 | 8.0 |
| 45° | 464.4 | 356.4 | 75.3 | 29.3 | 21.6 | 15.1 | 11.4 | 8.6 | 6.8 | 5.9 | 5.9 |
| 47.5° | 495.9 | 368.7 | 57.1 | 26.9 | 18.5 | 12.4 | 9.3 | 6.8 | 5.2 | 4.6 | 4.3 |
| 50° | 542.0 | 393.1 | 44.8 | 24.4 | 15.4 | 10.5 | 7.7 | 5.2 | 4.0 | 3.4 | 3.4 |
| 52.5° | 608.3 | 435.4 | 38.3 | 21.6 | 12.7 | 8.6 | 6.2 | 4.0 | 3.1 | 2.5 | 2.5 |
| 55° | 689.9 | 489.1 | 34.6 | 19.1 | 10.2 | 7.1 | 4.9 | 3.1 | 2.2 | 1.9 | 1.5 |
| 57.5° | 756.0 | 531.8 | 32.4 | 16.7 | 8.6 | 6.2 | 3.7 | 2.5 | 1.9 | 1.2 | 1.2 |
| 60° | 814.3 | 559.2 | 28.7 | 13.9 | 7.4 | 4.9 | 3.1 | 1.9 | 1.2 | 0.9 | 0.9 |
| 62.5° | 861.6 | 577.2 | 23.8 | 11.1 | 6.2 | 4.0 | 2.5 | 1.5 | 1.2 | 0.9 | 0.9 |
| 65° | 915.3 | 591.7 | 19.5 | 8.6 | 5.2 | 3.4 | 2.2 | 1.2 | 0.9 | 0.9 | 0.9 |
| 67.5° | 1020.6 | 624.1 | 14.5 | 6.8 | 4.0 | 2.8 | 1.9 | 1.2 | 0.9 | 0.6 | 0.6 |
| 70° | 1061.7 | 586.1 | 11.4 | 5.6 | 3.1 | 2.5 | 1.9 | 1.2 | 0.6 | 0.6 | 0.6 |
| 72.5° | 903.6 | 438.8 | 9.0 | 4.6 | 2.8 | 2.2 | 1.9 | 1.2 | 0.9 | 0.9 | 0.6 |
| 75° | 716.7 | 296.5 | 7.1 | 3.7 | 2.8 | 2.5 | 1.9 | 1.9 | 1.5 | 1.2 | 1.2 |
| 77.5° | 457.7 | 131.2 | 5.6 | 3.1 | 2.8 | 3.1 | 2.8 | 1.9 | 1.9 | 1.5 | 1.5 |
| 80° | 136.5 | 31.5 | 4.0 | 2.5 | 2.2 | 2.5 | 2.8 | 1.9 | 1.2 | 0.9 | 0.9 |
| 82.5° | 29.6 | 7.4 | 2.5 | 1.2 | 1.5 | 1.2 | 1.9 | 1.9 | 1.2 | 0.9 | 0.9 |
| 85° | 9.9 | 2.8 | 1.5 | 1.2 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.6 |
| 87.5° | 0.6 | 0.9 | 0.9 | 0.6 | 0.6 | 0.6 | 0.6 | 0.3 | 0.3 | 0.6 | 0.6 |
| 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)