

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: io LED

Report Number: P273467

Luminaire Tested: **0.05-12W-827-90SYM-STD-UNV-AN-3F0**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P273467
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1708-246-4)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: 0.05-12W-827-90SYM-STD-UNV-AN-3F0
Description: iO LIGHTING SERIES 2.0 LINEAR LED LUMINAIRE. 90 DEGREE SYMMETRIC OPTIC.
V2 HIGH OUTPUT
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2015.2 lumens
Efficiency: N/A
Efficacy: 57.1 lumens/watt
Spacing Criteria (0/90/45): 1.34 / 1.29 / 1.43
Luminous Opening: Rectangular (W 2.92' x L: 0.17' x H: 0')
CIE Type: Direct

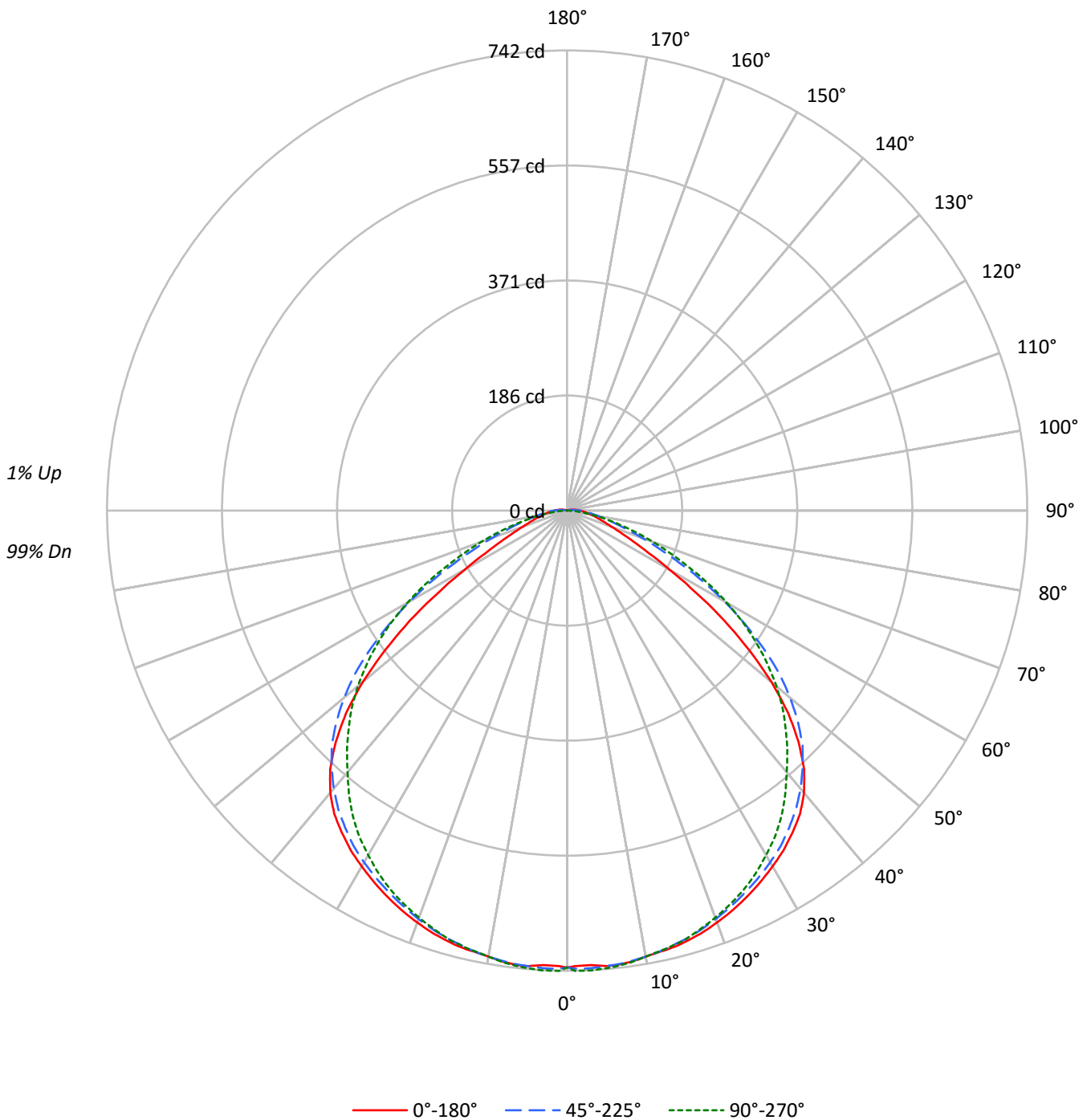
Input Watts (W): 35.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P273467

CATALOG NUMBER: 0.05-12W-827-90SYM-STD-UNV-AN-3F0

Luminous Intensity Polar Plot





TEST NUMBER: P273467

CATALOG NUMBER: 0.05-12W-827-90SYM-STD-UNV-AN-3F0

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|---|--|---|
| RF | 20 | | | | | 20 | | | | | 20 | | | | | 20 | | | | | 20 | | | | | |
| RC | 80 | | | | | 70 | | | | | 50 | | | | | 30 | | | | | 10 | | | | | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 101 | 101 | 101 | 99 | | | | | | | | |
| 1 | 109 | 105 | 101 | 97 | 107 | 103 | 99 | 96 | 98 | 95 | 93 | 94 | 92 | 90 | 91 | 89 | 87 | 85 | | | | | | | | |
| 2 | 100 | 92 | 86 | 81 | 98 | 90 | 85 | 80 | 87 | 82 | 78 | 84 | 79 | 76 | 80 | 77 | 74 | 72 | | | | | | | | |
| 3 | 92 | 82 | 74 | 68 | 89 | 80 | 73 | 67 | 77 | 71 | 66 | 74 | 69 | 65 | 72 | 67 | 63 | 61 | | | | | | | | |
| 4 | 84 | 73 | 64 | 58 | 82 | 71 | 63 | 57 | 69 | 62 | 57 | 66 | 61 | 56 | 64 | 59 | 55 | 53 | | | | | | | | |
| 5 | 78 | 65 | 56 | 50 | 75 | 64 | 56 | 50 | 62 | 55 | 49 | 60 | 53 | 49 | 58 | 52 | 48 | 46 | | | | | | | | |
| 6 | 72 | 59 | 50 | 44 | 70 | 58 | 50 | 44 | 56 | 49 | 43 | 54 | 48 | 43 | 53 | 47 | 42 | 40 | | | | | | | | |
| 7 | 66 | 53 | 45 | 39 | 65 | 52 | 44 | 39 | 51 | 44 | 38 | 49 | 43 | 38 | 48 | 42 | 38 | 36 | | | | | | | | |
| 8 | 62 | 49 | 40 | 35 | 60 | 48 | 40 | 34 | 47 | 39 | 34 | 45 | 39 | 34 | 44 | 38 | 34 | 32 | | | | | | | | |
| 9 | 58 | 45 | 37 | 31 | 56 | 44 | 36 | 31 | 43 | 36 | 31 | 42 | 35 | 31 | 41 | 35 | 30 | 29 | | | | | | | | |
| 10 | 54 | 41 | 33 | 28 | 53 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 32 | 28 | 38 | 32 | 28 | 26 | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 16315 | 16315 | 16315 |
| 5° | 16388 | 16388 | 16459 |
| 10° | 16420 | 16420 | 16420 |
| 15° | 16547 | 16462 | 16482 |
| 20° | 16657 | 16514 | 16459 |
| 25° | 16780 | 16597 | 16472 |
| 30° | 16939 | 16747 | 16400 |
| 35° | 17124 | 16870 | 16278 |
| 40° | 17176 | 16918 | 15918 |
| 45° | 16515 | 16807 | 15607 |
| 50° | 14816 | 16170 | 15171 |
| 55° | 11948 | 14890 | 14403 |
| 60° | 8467 | 12980 | 13166 |
| 65° | 6125 | 10510 | 11364 |
| 70° | 4933 | 8293 | 9504 |
| 75° | 4637 | 6836 | 7520 |
| 80° | 5126 | 6503 | 5725 |
| 85° | 7495 | 8206 | 3811 |



TEST NUMBER: P273467

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 70.0 | 3.5 |
| 10°-20° | 202.8 | 10.1 |
| 20°-30° | 313.3 | 15.5 |
| 30°-40° | 387.6 | 19.2 |
| 40°-50° | 401.9 | 19.9 |
| 50°-60° | 323.0 | 16.0 |
| 60°-70° | 186.1 | 9.2 |
| 70°-80° | 85.1 | 4.2 |
| 80°-90° | 32.7 | 1.6 |
| 90°-100° | 10.3 | 0.5 |
| 100°-110° | 2.3 | 0.1 |
| 110°-120° | 0.1 | 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°-30° | 586.1 | 29.1 |
| 0°-40° | 973.7 | 48.3 |
| 0°-60° | 1698.6 | 84.3 |
| 0°-90° | 2002.5 | 99.4 |
| 90°-120° | 12.7 | 0.6 |
| 90°-150° | 12.7 | 0.6 |
| 90°-180° | 13.0 | 0.6 |
| 0°-180° | 2015.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0° | 737 | 737 | 737 | 737 | 737 | |
| 5° | 737 | 737 | 737 | 734 | 740 | 70 |
| 15° | 722 | 721 | 718 | 714 | 719 | 204 |
| 25° | 687 | 685 | 679 | 672 | 674 | 317 |
| 35° | 634 | 630 | 624 | 607 | 602 | 396 |
| 45° | 527 | 533 | 537 | 512 | 498 | 403 |
| 55° | 310 | 337 | 386 | 388 | 373 | 275 |
| 65° | 117 | 137 | 201 | 234 | 217 | 121 |
| 75° | 54 | 59 | 80 | 101 | 88 | 59 |
| 85° | 30 | 30 | 32 | 30 | 15 | 26 |
| 90° | 21 | 21 | 20 | 13 | 0 | 12 |
| 95° | 14 | 14 | 11 | 4 | 0 | 11 |
| 105° | 5 | 4 | 1 | 0 | 0 | 6 |
| 115° | 0 | 0 | 0 | 0 | 0 | 0 |
| 125° | 0 | 0 | 0 | 0 | 0 | 0 |
| 135° | 0 | 0 | 0 | 0 | 0 | 0 |
| 145° | 0 | 0 | 0 | 0 | 0 | 0 |
| 155° | 0 | 0 | 0 | 0 | 0 | 0 |
| 165° | 0 | 0 | 0 | 0 | 0 | 0 |
| 175° | 0 | 0 | 0 | 0 | 0 | 0 |
| 180° | 0 | 0 | 0 | 0 | 0 | 0 |



TEST NUMBER: P273467

CATALOG NUMBER: 0.05-12W-827-90SYM-STD-UNV-AN-3F0

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 736.8 | 736.8 | 736.8 | 736.8 | 736.8 | 736.8 | 736.8 | 736.8 | 736.8 | 736.8 | 736.8 |
| 1° | 734.5 | 734.0 | 732.6 | 733.1 | 736.3 | 739.1 | 740.1 | 739.6 | 740.1 | 738.7 | 738.2 |
| 2° | 734.0 | 733.5 | 732.1 | 733.5 | 736.3 | 738.7 | 740.1 | 739.6 | 739.6 | 739.1 | 738.7 |
| 3° | 734.0 | 734.0 | 732.1 | 734.0 | 736.3 | 738.2 | 739.1 | 739.1 | 739.1 | 738.7 | 738.2 |
| 4° | 735.4 | 735.4 | 733.1 | 734.5 | 735.9 | 737.7 | 738.7 | 738.2 | 738.7 | 738.2 | 737.7 |
| 5° | 737.3 | 735.9 | 733.5 | 734.5 | 736.3 | 737.3 | 738.2 | 737.3 | 737.7 | 737.3 | 737.3 |
| 6° | 737.3 | 736.3 | 734.0 | 734.0 | 735.9 | 735.9 | 736.8 | 736.3 | 737.3 | 736.3 | 736.3 |
| 7° | 736.3 | 735.4 | 733.1 | 733.5 | 734.5 | 735.4 | 736.3 | 735.9 | 735.9 | 735.4 | 734.9 |
| 8° | 734.9 | 733.5 | 731.2 | 731.2 | 733.5 | 734.5 | 735.4 | 734.9 | 734.9 | 734.0 | 734.0 |
| 9° | 732.6 | 731.2 | 728.4 | 728.9 | 731.2 | 732.6 | 733.5 | 733.5 | 733.1 | 732.1 | 732.1 |
| 10° | 730.3 | 728.9 | 727.0 | 727.5 | 729.3 | 730.7 | 731.7 | 732.1 | 731.7 | 730.3 | 729.8 |
| 11° | 728.4 | 727.5 | 725.1 | 725.6 | 728.4 | 729.3 | 729.8 | 730.3 | 729.8 | 728.4 | 728.4 |
| 12° | 727.0 | 726.1 | 723.2 | 723.7 | 726.1 | 727.5 | 727.5 | 727.9 | 727.9 | 726.1 | 726.1 |
| 13° | 725.6 | 724.2 | 721.8 | 722.3 | 723.7 | 726.1 | 726.1 | 726.1 | 726.1 | 723.7 | 724.2 |
| 14° | 724.2 | 722.3 | 720.4 | 720.0 | 721.4 | 723.7 | 723.7 | 723.2 | 723.2 | 720.4 | 721.8 |
| 15° | 721.8 | 720.9 | 719.0 | 719.0 | 720.4 | 721.4 | 721.4 | 721.4 | 720.4 | 718.1 | 720.0 |
| 17.5° | 715.3 | 713.9 | 712.5 | 711.6 | 713.4 | 714.4 | 713.9 | 713.9 | 712.5 | 710.2 | 712.0 |
| 20° | 706.9 | 705.5 | 704.1 | 703.1 | 704.1 | 704.5 | 704.5 | 704.1 | 702.7 | 700.8 | 701.7 |
| 22.5° | 697.5 | 696.1 | 694.7 | 693.3 | 694.3 | 695.7 | 694.3 | 694.3 | 692.9 | 690.5 | 691.0 |
| 25° | 686.8 | 685.8 | 684.4 | 683.0 | 684.4 | 684.9 | 683.5 | 683.5 | 682.1 | 679.3 | 679.3 |
| 27.5° | 675.1 | 675.1 | 673.2 | 671.8 | 673.7 | 673.7 | 671.8 | 672.8 | 669.9 | 667.6 | 668.1 |
| 30° | 662.5 | 662.5 | 660.6 | 659.2 | 660.1 | 660.6 | 658.7 | 658.7 | 656.9 | 655.0 | 654.1 |
| 32.5° | 649.4 | 649.4 | 647.5 | 645.2 | 645.6 | 646.6 | 644.2 | 643.3 | 641.4 | 641.0 | 640.5 |
| 35° | 633.5 | 633.5 | 631.6 | 629.3 | 629.7 | 629.7 | 627.9 | 626.5 | 625.1 | 624.1 | 622.7 |
| 37.5° | 616.7 | 616.2 | 614.3 | 612.0 | 612.0 | 612.9 | 610.6 | 608.7 | 606.8 | 606.4 | 605.4 |
| 40° | 594.2 | 594.2 | 592.3 | 590.9 | 590.9 | 591.4 | 590.0 | 588.6 | 586.7 | 585.3 | 583.9 |
| 42.5° | 565.7 | 566.2 | 563.8 | 563.4 | 565.2 | 566.6 | 567.1 | 566.2 | 564.3 | 562.0 | 562.0 |
| 45° | 527.4 | 529.2 | 527.8 | 528.3 | 531.6 | 534.8 | 536.2 | 537.6 | 537.6 | 536.7 | 534.8 |
| 47.5° | 483.4 | 482.5 | 482.9 | 485.7 | 489.5 | 496.0 | 500.2 | 504.0 | 506.3 | 504.9 | 504.9 |
| 50° | 430.1 | 430.6 | 431.0 | 436.2 | 440.9 | 450.2 | 457.7 | 462.8 | 467.0 | 469.4 | 468.9 |
| 52.5° | 369.8 | 373.1 | 374.5 | 381.0 | 387.1 | 397.9 | 408.6 | 417.0 | 425.0 | 430.6 | 431.5 |
| 55° | 309.5 | 309.0 | 314.2 | 321.7 | 331.0 | 343.2 | 356.2 | 366.5 | 377.8 | 385.7 | 391.3 |
| 57.5° | 245.9 | 248.7 | 252.9 | 261.3 | 272.1 | 288.5 | 302.0 | 315.1 | 327.7 | 339.4 | 347.8 |
| 60° | 191.2 | 192.6 | 197.3 | 204.3 | 214.6 | 229.5 | 248.3 | 263.7 | 277.2 | 293.1 | 302.9 |
| 62.5° | 147.7 | 149.1 | 153.8 | 159.4 | 169.2 | 180.5 | 195.9 | 211.3 | 228.1 | 245.9 | 257.6 |
| 65° | 116.9 | 116.9 | 119.7 | 124.4 | 131.4 | 141.7 | 153.8 | 167.8 | 183.7 | 200.6 | 213.7 |
| 67.5° | 93.5 | 94.0 | 96.3 | 98.6 | 103.8 | 111.7 | 121.1 | 131.8 | 145.9 | 161.3 | 174.4 |
| 70° | 76.2 | 77.1 | 78.5 | 79.9 | 83.2 | 88.8 | 95.4 | 103.8 | 114.5 | 128.1 | 140.7 |
| 72.5° | 64.0 | 64.0 | 65.0 | 65.9 | 68.3 | 72.0 | 77.1 | 82.8 | 91.6 | 101.5 | 111.7 |
| 75° | 54.2 | 54.7 | 54.7 | 55.6 | 57.5 | 59.8 | 63.1 | 66.9 | 72.5 | 79.9 | 88.4 |
| 77.5° | 46.8 | 46.3 | 47.2 | 47.2 | 48.6 | 50.0 | 52.4 | 54.7 | 59.4 | 63.6 | 69.2 |
| 80° | 40.2 | 39.7 | 40.2 | 40.2 | 41.1 | 42.1 | 43.0 | 44.9 | 48.2 | 51.0 | 54.2 |
| 82.5° | 34.1 | 34.1 | 34.1 | 34.6 | 34.6 | 35.1 | 36.5 | 37.4 | 38.8 | 40.7 | 42.5 |
| 85° | 29.5 | 29.5 | 29.5 | 29.5 | 29.9 | 29.9 | 29.9 | 30.9 | 31.3 | 32.3 | 33.2 |
| 87.5° | 25.2 | 25.2 | 25.2 | 24.8 | 24.3 | 25.2 | 25.2 | 25.2 | 25.7 | 25.7 | 25.7 |



TEST NUMBER: P273467

CATALOG NUMBER: 0.05-12W-827-90SYM-STD-UNV-AN-3F0

CANDELA DISTRIBUTION (continued):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|--------|------|------|------|------|------|------|------|------|------|------|------|
| 90° | 21.0 | 21.5 | 20.6 | 20.6 | 20.6 | 20.6 | 20.6 | 20.1 | 20.1 | 20.1 | 19.2 |
| 92.5° | 17.8 | 17.8 | 17.3 | 17.3 | 17.3 | 16.8 | 16.4 | 16.4 | 15.4 | 15.4 | 14.5 |
| 95° | 14.5 | 14.5 | 14.5 | 14.0 | 13.6 | 13.6 | 13.1 | 12.6 | 11.7 | 10.8 | 9.8 |
| 97.5° | 11.7 | 11.7 | 11.2 | 10.8 | 10.8 | 10.8 | 9.8 | 9.4 | 8.9 | 7.9 | 6.5 |
| 100° | 8.9 | 8.9 | 8.9 | 8.9 | 8.4 | 7.9 | 7.5 | 7.0 | 6.1 | 5.1 | 4.2 |
| 102.5° | 7.0 | 7.0 | 7.0 | 6.5 | 6.1 | 5.6 | 5.1 | 4.7 | 3.7 | 2.8 | 1.9 |
| 105° | 5.1 | 5.1 | 5.1 | 4.7 | 4.2 | 3.7 | 3.3 | 2.8 | 2.3 | 1.4 | 0.5 |
| 107.5° | 3.3 | 3.3 | 3.3 | 2.8 | 2.8 | 2.3 | 1.9 | 1.4 | 0.5 | 0.5 | 0.0 |
| 110° | 1.9 | 1.9 | 1.9 | 1.4 | 1.4 | 1.4 | 0.5 | 0.5 | 0.0 | 0.0 | 0.0 |
| 112.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 115° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 117.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 122.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 125° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 127.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 132.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 135° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 137.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 142.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 145° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 147.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 152.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 155° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 157.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 162.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 165° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 167.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 172.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 175° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 177.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P273467

CATALOG NUMBER: 0.05-12W-827-90SYM-STD-UNV-AN-3F0

CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 736.8 | 736.8 | 736.8 | 736.8 | 736.8 | 736.8 | 736.8 | 736.8 |
| 1° | 734.9 | 733.5 | 734.5 | 734.0 | 736.3 | 741.0 | 741.9 | 742.4 |
| 2° | 734.9 | 733.5 | 734.9 | 734.5 | 736.3 | 740.5 | 741.9 | 742.4 |
| 3° | 734.5 | 734.0 | 734.9 | 734.5 | 735.9 | 740.1 | 741.9 | 742.4 |
| 4° | 734.5 | 733.5 | 734.5 | 734.0 | 734.9 | 739.1 | 741.0 | 741.5 |
| 5° | 734.0 | 733.1 | 734.0 | 733.5 | 734.0 | 738.7 | 740.1 | 740.5 |
| 6° | 733.1 | 731.7 | 733.5 | 732.6 | 733.1 | 737.3 | 739.1 | 739.6 |
| 7° | 732.1 | 730.3 | 732.1 | 731.7 | 731.7 | 735.4 | 737.3 | 737.7 |
| 8° | 731.2 | 728.9 | 730.7 | 730.3 | 730.3 | 733.5 | 734.9 | 735.9 |
| 9° | 729.3 | 726.1 | 728.9 | 728.4 | 728.4 | 731.2 | 732.6 | 733.1 |
| 10° | 727.5 | 724.2 | 726.5 | 727.0 | 726.1 | 728.9 | 730.3 | 730.3 |
| 11° | 725.6 | 721.8 | 724.6 | 724.6 | 724.2 | 727.0 | 728.4 | 727.5 |
| 12° | 723.2 | 719.5 | 722.3 | 722.3 | 722.3 | 724.2 | 725.6 | 725.6 |
| 13° | 720.4 | 717.6 | 720.0 | 719.5 | 720.0 | 722.3 | 723.7 | 723.7 |
| 14° | 718.1 | 714.8 | 717.2 | 717.2 | 717.2 | 720.0 | 720.9 | 720.9 |
| 15° | 715.8 | 712.5 | 713.9 | 714.4 | 714.8 | 717.6 | 718.6 | 719.0 |
| 17.5° | 706.9 | 705.0 | 704.5 | 705.9 | 706.4 | 707.8 | 708.3 | 708.8 |
| 20° | 698.0 | 694.7 | 695.2 | 695.2 | 695.7 | 698.5 | 698.0 | 698.5 |
| 22.5° | 688.2 | 683.5 | 683.5 | 684.9 | 684.4 | 687.7 | 686.3 | 687.2 |
| 25° | 676.5 | 671.8 | 670.4 | 672.8 | 672.3 | 674.6 | 674.2 | 674.2 |
| 27.5° | 663.9 | 660.1 | 656.9 | 659.7 | 658.3 | 659.7 | 658.7 | 659.2 |
| 30° | 651.2 | 644.7 | 642.8 | 643.8 | 642.4 | 643.8 | 642.4 | 641.4 |
| 32.5° | 636.8 | 629.3 | 625.5 | 627.4 | 625.1 | 626.5 | 624.1 | 623.7 |
| 35° | 619.9 | 612.9 | 606.8 | 606.4 | 605.0 | 604.0 | 602.6 | 602.2 |
| 37.5° | 602.2 | 594.7 | 588.1 | 584.9 | 581.6 | 580.7 | 578.3 | 577.8 |
| 40° | 581.1 | 573.6 | 564.8 | 561.5 | 556.8 | 555.4 | 551.7 | 550.7 |
| 42.5° | 556.8 | 550.3 | 541.4 | 536.2 | 532.5 | 529.2 | 525.5 | 525.5 |
| 45° | 530.6 | 523.1 | 514.3 | 510.1 | 506.3 | 503.0 | 498.8 | 498.4 |
| 47.5° | 501.2 | 494.2 | 486.7 | 481.1 | 478.3 | 475.0 | 471.7 | 471.3 |
| 50° | 468.0 | 462.8 | 457.2 | 451.6 | 447.9 | 443.7 | 439.9 | 440.4 |
| 52.5° | 432.9 | 429.2 | 425.0 | 419.8 | 415.6 | 410.9 | 407.7 | 407.7 |
| 55° | 394.6 | 393.6 | 390.4 | 385.7 | 381.0 | 376.3 | 373.1 | 373.1 |
| 57.5° | 353.9 | 355.3 | 354.4 | 349.2 | 345.5 | 339.4 | 337.1 | 336.6 |
| 60° | 311.8 | 316.0 | 316.0 | 311.8 | 308.1 | 302.0 | 298.7 | 297.3 |
| 62.5° | 267.9 | 273.5 | 275.4 | 272.6 | 269.3 | 263.7 | 259.5 | 259.0 |
| 65° | 224.4 | 231.4 | 235.2 | 232.8 | 229.1 | 222.5 | 218.8 | 216.9 |
| 67.5° | 186.1 | 193.1 | 194.0 | 195.0 | 191.2 | 186.5 | 182.3 | 180.5 |
| 70° | 151.5 | 157.6 | 160.4 | 159.9 | 157.1 | 152.4 | 148.2 | 146.8 |
| 72.5° | 121.1 | 127.2 | 130.0 | 128.1 | 125.8 | 122.0 | 118.3 | 115.9 |
| 75° | 95.8 | 100.0 | 102.4 | 100.5 | 97.7 | 93.5 | 91.6 | 87.9 |
| 77.5° | 74.3 | 77.6 | 79.0 | 77.1 | 73.9 | 70.6 | 67.3 | 64.5 |
| 80° | 58.0 | 59.8 | 60.3 | 57.0 | 53.8 | 50.5 | 46.8 | 44.9 |
| 82.5° | 44.4 | 45.3 | 44.4 | 40.7 | 36.9 | 33.2 | 29.9 | 28.1 |
| 85° | 34.1 | 33.7 | 31.8 | 28.1 | 23.8 | 20.1 | 16.4 | 15.0 |
| 87.5° | 25.2 | 24.3 | 22.0 | 18.2 | 14.0 | 10.3 | 7.0 | 5.6 |



TEST NUMBER: P273467

CATALOG NUMBER: 0.05-12W-827-90SYM-STD-UNV-AN-3F0

CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|--------|------|------|------|------|-----|-----|-----|-----|
| 90° | 18.2 | 17.3 | 14.5 | 11.2 | 7.5 | 4.2 | 1.9 | 0.0 |
| 92.5° | 13.1 | 11.2 | 8.9 | 6.1 | 3.3 | 0.9 | 0.0 | 0.0 |
| 95° | 8.9 | 7.0 | 5.1 | 2.8 | 0.9 | 0.0 | 0.0 | 0.0 |
| 97.5° | 5.1 | 3.7 | 2.3 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100° | 2.8 | 1.4 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 102.5° | 1.4 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 105° | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 107.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 112.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 115° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 117.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 122.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 125° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 127.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 132.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 135° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 137.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 142.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 145° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 147.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 152.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 155° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 157.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 162.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 165° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 167.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 172.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 175° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 177.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)