

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: NEO-RAY

Report Number: P331282-840

Luminaire Tested: **SA2XXDIP-C290D1080U840-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331282-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C290D1080U840-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5565.2 lumens  
Efficiency: N/A  
Efficacy: 131.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

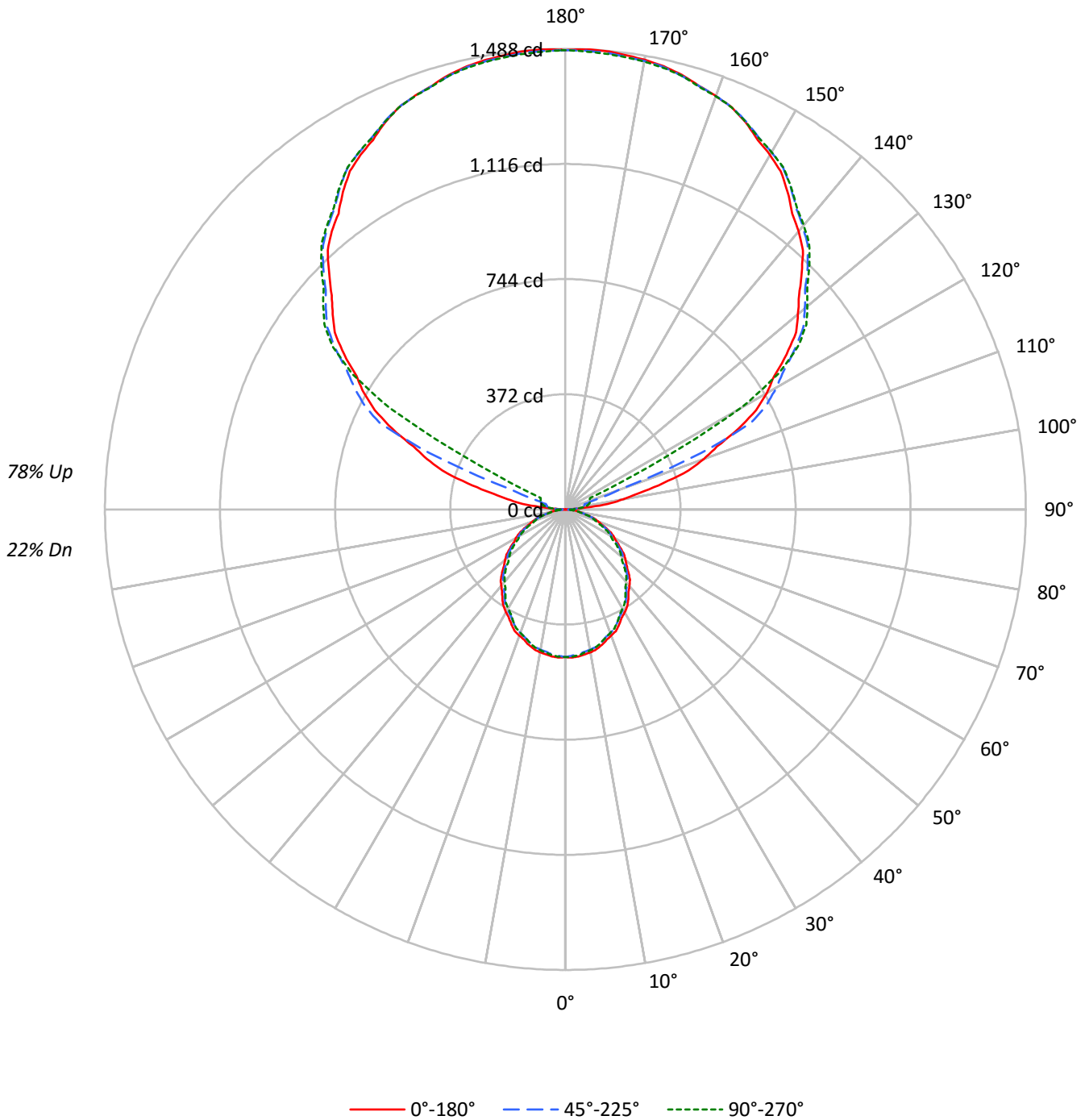
Input Watts (W): 42.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331282-840

CATALOG NUMBER: SA2XXDIP-C290D1080U840-4F0-1E-UDD-F

### Luminous Intensity Polar Plot





TEST NUMBER: P331282-840

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**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 | 0  |   |
| RCR |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| 0   | 100 | 100 | 100 | 100 | 89 | 89 | 89 | 89 | 68 | 68 | 68 | 48 | 48 | 48 | 30 | 30 | 30 | 22 |    |    |    |   |
| 1   | 91  | 87  | 84  | 80  | 81 | 78 | 74 | 72 | 59 | 57 | 55 | 42 | 41 | 40 | 27 | 26 | 25 | 18 |    |    |    |   |
| 2   | 83  | 76  | 70  | 65  | 74 | 68 | 63 | 59 | 52 | 49 | 46 | 37 | 35 | 33 | 23 | 22 | 21 | 15 |    |    |    |   |
| 3   | 76  | 67  | 60  | 54  | 67 | 59 | 54 | 49 | 46 | 42 | 38 | 33 | 30 | 28 | 21 | 19 | 18 | 13 |    |    |    |   |
| 4   | 69  | 59  | 52  | 46  | 61 | 53 | 46 | 41 | 40 | 36 | 33 | 29 | 26 | 24 | 19 | 17 | 16 | 11 |    |    |    |   |
| 5   | 63  | 52  | 45  | 39  | 56 | 47 | 40 | 35 | 36 | 31 | 28 | 26 | 23 | 21 | 17 | 15 | 14 | 10 |    |    |    |   |
| 6   | 58  | 47  | 39  | 34  | 51 | 42 | 35 | 30 | 32 | 28 | 24 | 23 | 20 | 18 | 15 | 13 | 12 | 9  |    |    |    |   |
| 7   | 54  | 42  | 35  | 29  | 47 | 38 | 31 | 26 | 29 | 24 | 21 | 21 | 18 | 16 | 14 | 12 | 11 | 8  |    |    |    |   |
| 8   | 50  | 38  | 31  | 26  | 44 | 34 | 28 | 23 | 26 | 22 | 19 | 19 | 16 | 14 | 13 | 11 | 9  | 7  |    |    |    |   |
| 9   | 46  | 35  | 27  | 23  | 41 | 31 | 25 | 21 | 24 | 20 | 16 | 18 | 15 | 12 | 12 | 10 | 8  | 6  |    |    |    |   |
| 10  | 43  | 32  | 25  | 20  | 38 | 28 | 22 | 18 | 22 | 18 | 15 | 16 | 13 | 11 | 11 | 9  | 8  | 6  |    |    |    |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 7703 | 7703 | 7703 |
| 5°  | 7733 | 7621 | 7666 |
| 10° | 7688 | 7543 | 7581 |
| 15° | 7590 | 7447 | 7438 |
| 20° | 7455 | 7301 | 7290 |
| 25° | 7322 | 7119 | 7119 |
| 30° | 7150 | 6952 | 6893 |
| 35° | 6991 | 6753 | 6654 |
| 40° | 6787 | 6555 | 6431 |
| 45° | 6588 | 6357 | 6202 |
| 50° | 6373 | 6154 | 5935 |
| 55° | 6145 | 5917 | 5695 |
| 60° | 5896 | 5628 | 5422 |
| 65° | 5624 | 5349 | 5100 |
| 70° | 5282 | 4999 | 4763 |
| 75° | 4810 | 4604 | 4492 |
| 80° | 4258 | 4138 | 3924 |
| 85° | 3483 | 3316 | 2983 |



TEST NUMBER: P331282-840

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 44.9   | 0.8       |
| 10°-20°   | 126.2  | 2.3       |
| 20°-30°   | 185.5  | 3.3       |
| 30°-40°   | 215.5  | 3.9       |
| 40°-50°   | 215.3  | 3.9       |
| 50°-60°   | 187.7  | 3.4       |
| 60°-70°   | 138.8  | 2.5       |
| 70°-80°   | 78.6   | 1.4       |
| 80°-90°   | 24.8   | 0.4       |
| 90°-100°  | 49.5   | 0.9       |
| 100°-110° | 181.5  | 3.3       |
| 110°-120° | 485.1  | 8.7       |
| 120°-130° | 800.8  | 14.4      |
| 130°-140° | 851.6  | 15.3      |
| 140°-150° | 791.6  | 14.2      |
| 150°-160° | 636.4  | 11.4      |
| 160°-170° | 410.1  | 7.4       |
| 170°-180° | 141.2  | 2.5       |
| 0°-30°    | 356.6  | 6.4       |
| 0°-40°    | 572.2  | 10.3      |
| 0°-60°    | 975.2  | 17.5      |
| 0°-90°    | 1217.4 | 21.9      |
| 90°-120°  | 716.1  | 12.9      |
| 90°-150°  | 3160.1 | 56.8      |
| 90°-180°  | 4348.0 | 78.1      |
| 0°-180°   | 5565.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 477  | 477   | 477  | 477   | 477  |      |
| 5°   | 477  | 475   | 470  | 474   | 473  | 45   |
| 15°  | 454  | 451   | 446  | 447   | 445  | 128  |
| 25°  | 411  | 407   | 400  | 400   | 400  | 189  |
| 35°  | 355  | 350   | 343  | 340   | 338  | 221  |
| 45°  | 288  | 285   | 278  | 274   | 272  | 223  |
| 55°  | 218  | 215   | 210  | 205   | 202  | 195  |
| 65°  | 147  | 144   | 140  | 136   | 134  | 146  |
| 75°  | 77   | 76    | 74   | 71    | 72   | 82   |
| 85°  | 19   | 18    | 18   | 17    | 16   | 22   |
| 90°  | 1    | 13    | 22   | 27    | 29   | 4    |
| 95°  | 70   | 37    | 42   | 47    | 46   | 85   |
| 105° | 326  | 340   | 65   | 77    | 82   | 349  |
| 115° | 617  | 636   | 662  | 189   | 88   | 608  |
| 125° | 873  | 887   | 907  | 914   | 918  | 778  |
| 135° | 1080 | 1097  | 1107 | 1117  | 1115 | 834  |
| 145° | 1253 | 1253  | 1270 | 1277  | 1272 | 783  |
| 155° | 1380 | 1371  | 1383 | 1388  | 1381 | 635  |
| 165° | 1454 | 1448  | 1450 | 1457  | 1450 | 410  |
| 175° | 1487 | 1480  | 1482 | 1488  | 1478 | 141  |
| 180° | 1484 | 1484  | 1484 | 1484  | 1484 |      |



TEST NUMBER: P331282-840

CATALOG NUMBER: SA2XXDIP-C290D1080U840-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 5°    | 10°   | 15°   | 20°   | 25°   | 30°   | 35°   | 40°   | 45°   | 50°   |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°     | 477.1 | 477.1 | 477.1 | 477.1 | 477.1 | 477.1 | 477.1 | 477.1 | 477.1 | 477.1 | 477.1 |
| 2.5°   | 479.3 | 478.9 | 478.5 | 478.1 | 477.7 | 477.1 | 476.2 | 475.2 | 474.3 | 473.4 | 474.2 |
| 5°     | 477.1 | 476.7 | 476.3 | 475.8 | 475.4 | 474.7 | 473.6 | 472.5 | 471.3 | 470.2 | 471.0 |
| 7.5°   | 472.9 | 472.2 | 471.6 | 471.0 | 470.4 | 469.5 | 468.4 | 467.2 | 466.1 | 464.9 | 465.7 |
| 10°    | 468.9 | 468.2 | 467.5 | 466.8 | 466.0 | 465.0 | 463.8 | 462.6 | 461.4 | 460.1 | 460.9 |
| 12.5°  | 463.3 | 462.7 | 462.1 | 461.4 | 460.8 | 459.9 | 458.7 | 457.5 | 456.3 | 455.0 | 455.6 |
| 15°    | 454.1 | 453.5 | 452.9 | 452.3 | 451.7 | 450.8 | 449.4 | 448.1 | 446.8 | 445.5 | 445.9 |
| 17.5°  | 442.4 | 441.8 | 441.2 | 440.6 | 440.0 | 439.0 | 437.7 | 436.3 | 434.9 | 433.6 | 434.0 |
| 20°    | 433.9 | 433.3 | 432.7 | 432.1 | 431.5 | 430.5 | 429.1 | 427.7 | 426.3 | 424.9 | 425.2 |
| 22.5°  | 425.6 | 424.6 | 423.8 | 422.9 | 422.1 | 421.0 | 419.7 | 418.3 | 417.0 | 415.7 | 415.7 |
| 25°    | 411.0 | 410.2 | 409.4 | 408.6 | 407.8 | 406.5 | 404.8 | 403.0 | 401.3 | 399.6 | 399.8 |
| 27.5°  | 394.6 | 393.8 | 393.0 | 392.3 | 391.6 | 390.5 | 389.2 | 387.8 | 386.5 | 385.1 | 384.8 |
| 30°    | 383.5 | 382.7 | 381.9 | 381.1 | 380.2 | 379.1 | 377.6 | 376.1 | 374.5 | 372.9 | 372.6 |
| 32.5°  | 371.7 | 371.1 | 370.5 | 369.8 | 369.2 | 368.0 | 366.4 | 364.9 | 363.2 | 361.6 | 361.0 |
| 35°    | 354.7 | 353.6 | 352.5 | 351.5 | 350.5 | 349.2 | 347.6 | 346.0 | 344.4 | 342.6 | 342.0 |
| 37.5°  | 335.3 | 334.4 | 333.5 | 332.5 | 331.6 | 330.4 | 328.8 | 327.2 | 325.5 | 323.9 | 323.2 |
| 40°    | 322.0 | 321.2 | 320.4 | 319.6 | 318.8 | 317.6 | 315.9 | 314.3 | 312.7 | 311.0 | 310.1 |
| 42.5°  | 309.2 | 308.4 | 307.6 | 306.8 | 306.0 | 304.7 | 303.1 | 301.4 | 299.8 | 298.2 | 297.2 |
| 45°    | 288.5 | 287.8 | 287.1 | 286.4 | 285.7 | 284.6 | 283.1 | 281.6 | 280.0 | 278.4 | 277.3 |
| 47.5°  | 268.0 | 267.3 | 266.7 | 266.0 | 265.3 | 264.2 | 262.6 | 261.1 | 259.4 | 257.8 | 256.6 |
| 50°    | 253.7 | 253.2 | 252.7 | 252.2 | 251.7 | 250.6 | 249.2 | 247.8 | 246.4 | 245.0 | 243.6 |
| 52.5°  | 239.7 | 239.0 | 238.4 | 237.7 | 237.0 | 236.0 | 234.7 | 233.4 | 232.0 | 230.7 | 229.4 |
| 55°    | 218.3 | 217.7 | 217.1 | 216.5 | 215.9 | 215.0 | 213.8 | 212.6 | 211.4 | 210.2 | 208.8 |
| 57.5°  | 196.9 | 196.4 | 195.9 | 195.4 | 194.9 | 194.0 | 192.7 | 191.4 | 190.0 | 188.6 | 187.4 |
| 60°    | 182.6 | 182.2 | 181.8 | 181.4 | 181.0 | 180.1 | 178.6 | 177.2 | 175.7 | 174.3 | 173.2 |
| 62.5°  | 168.6 | 167.9 | 167.3 | 166.7 | 166.0 | 165.1 | 164.0 | 163.0 | 161.9 | 160.8 | 159.7 |
| 65°    | 147.2 | 146.6 | 146.0 | 145.4 | 144.8 | 144.0 | 143.0 | 142.0 | 141.0 | 140.0 | 139.0 |
| 67.5°  | 125.5 | 125.0 | 124.5 | 124.0 | 123.6 | 122.9 | 121.9 | 121.0 | 120.1 | 119.2 | 118.5 |
| 70°    | 111.9 | 111.5 | 111.1 | 110.7 | 110.3 | 109.7 | 108.8 | 107.9 | 106.8 | 105.9 | 105.2 |
| 72.5°  | 98.0  | 97.6  | 97.1  | 96.7  | 96.3  | 95.8  | 95.2  | 94.7  | 94.1  | 93.5  | 92.8  |
| 75°    | 77.1  | 76.9  | 76.6  | 76.4  | 76.2  | 75.9  | 75.4  | 74.8  | 74.3  | 73.8  | 73.2  |
| 77.5°  | 58.4  | 58.0  | 57.7  | 57.4  | 57.0  | 56.7  | 56.5  | 56.2  | 56.0  | 55.8  | 55.5  |
| 80°    | 45.8  | 45.7  | 45.6  | 45.5  | 45.4  | 45.3  | 45.1  | 44.9  | 44.7  | 44.5  | 44.2  |
| 82.5°  | 34.1  | 34.1  | 34.1  | 34.0  | 34.0  | 33.9  | 33.8  | 33.7  | 33.6  | 33.5  | 33.1  |
| 85°    | 18.8  | 18.7  | 18.6  | 18.5  | 18.4  | 18.3  | 18.2  | 18.1  | 18.0  | 17.9  | 17.6  |
| 87.5°  | 6.9   | 7.2   | 7.6   | 7.9   | 8.3   | 8.6   | 8.8   | 9.0   | 9.2   | 9.4   | 9.4   |
| 90°    | 1.1   | 3.7   | 6.4   | 9.0   | 11.6  | 13.8  | 15.8  | 17.7  | 19.6  | 21.5  | 22.6  |
| 92.5°  | 21.7  | 21.4  | 21.2  | 21.0  | 20.7  | 21.1  | 22.0  | 23.0  | 23.9  | 24.9  | 25.5  |
| 95°    | 69.8  | 61.9  | 54.0  | 46.2  | 38.3  | 35.1  | 36.9  | 38.6  | 40.2  | 41.9  | 43.0  |
| 97.5°  | 138.5 | 116.3 | 94.1  | 71.9  | 49.8  | 40.6  | 44.4  | 48.3  | 52.2  | 56.0  | 57.0  |
| 100°   | 190.1 | 157.3 | 124.6 | 92.0  | 59.3  | 44.9  | 49.0  | 53.1  | 57.2  | 61.2  | 63.1  |
| 102.5° | 246.7 | 239.7 | 232.9 | 225.9 | 219.0 | 198.6 | 164.7 | 130.8 | 96.8  | 62.9  | 65.4  |
| 105°   | 326.4 | 333.6 | 340.6 | 347.8 | 355.0 | 326.0 | 260.8 | 195.7 | 130.6 | 65.4  | 68.1  |
| 107.5° | 417.2 | 422.9 | 428.7 | 434.4 | 440.3 | 404.1 | 326.0 | 247.9 | 169.8 | 91.7  | 89.0  |
| 110°   | 475.5 | 480.6 | 485.6 | 490.6 | 495.6 | 463.6 | 394.7 | 325.8 | 256.8 | 187.8 | 164.0 |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°     | 5°     | 10°    | 15°    | 20°    | 25°    | 30°    | 35°    | 40°    | 45°    | 50°    |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 112.5° | 530.6  | 535.0  | 539.4  | 543.8  | 548.3  | 542.0  | 524.9  | 508.0  | 490.9  | 473.8  | 386.9  |
| 115°   | 617.3  | 621.4  | 625.4  | 629.4  | 633.5  | 638.5  | 644.5  | 650.5  | 656.4  | 662.4  | 551.9  |
| 117.5° | 694.8  | 699.3  | 703.9  | 708.4  | 713.0  | 717.2  | 721.3  | 725.5  | 729.5  | 733.7  | 706.9  |
| 120°   | 751.4  | 755.1  | 758.6  | 762.2  | 765.8  | 769.7  | 774.1  | 778.3  | 782.6  | 786.9  | 789.7  |
| 122.5° | 799.6  | 803.3  | 807.1  | 810.9  | 814.7  | 818.9  | 823.5  | 828.2  | 832.9  | 837.6  | 839.3  |
| 125°   | 872.8  | 875.9  | 879.0  | 882.1  | 885.1  | 889.0  | 893.5  | 898.1  | 902.6  | 907.2  | 908.8  |
| 127.5° | 939.2  | 942.6  | 946.0  | 949.5  | 952.9  | 956.2  | 959.7  | 963.0  | 966.4  | 969.9  | 972.3  |
| 130°   | 981.2  | 985.0  | 988.9  | 992.7  | 996.4  | 999.7  | 1002.3 | 1004.9 | 1007.5 | 1010.2 | 1012.8 |
| 132.5° | 1024.1 | 1027.4 | 1030.7 | 1033.9 | 1037.1 | 1040.1 | 1042.7 | 1045.3 | 1047.9 | 1050.6 | 1052.8 |
| 135°   | 1079.9 | 1083.8 | 1087.6 | 1091.5 | 1095.2 | 1098.2 | 1100.3 | 1102.5 | 1104.7 | 1106.8 | 1109.2 |
| 137.5° | 1136.4 | 1139.1 | 1141.8 | 1144.5 | 1147.1 | 1149.6 | 1152.2 | 1154.6 | 1157.0 | 1159.4 | 1161.7 |
| 140°   | 1173.4 | 1175.3 | 1177.2 | 1179.1 | 1181.0 | 1183.3 | 1185.9 | 1188.5 | 1191.1 | 1193.8 | 1195.9 |
| 142.5° | 1204.3 | 1206.0 | 1207.7 | 1209.4 | 1211.1 | 1213.6 | 1216.5 | 1219.5 | 1222.5 | 1225.6 | 1227.5 |
| 145°   | 1252.8 | 1252.5 | 1252.3 | 1252.1 | 1251.8 | 1253.7 | 1257.8 | 1261.8 | 1266.0 | 1270.0 | 1271.6 |
| 147.5° | 1295.2 | 1294.2 | 1293.3 | 1292.4 | 1291.5 | 1293.0 | 1297.1 | 1301.0 | 1305.0 | 1309.1 | 1310.3 |
| 150°   | 1322.6 | 1320.9 | 1319.3 | 1317.6 | 1316.0 | 1317.0 | 1320.8 | 1324.6 | 1328.5 | 1332.2 | 1333.7 |
| 152.5° | 1345.7 | 1343.9 | 1342.0 | 1340.2 | 1338.4 | 1339.2 | 1342.8 | 1346.5 | 1350.1 | 1353.7 | 1355.1 |
| 155°   | 1379.5 | 1377.4 | 1375.2 | 1373.0 | 1370.9 | 1371.3 | 1374.1 | 1377.0 | 1379.9 | 1382.7 | 1384.1 |
| 157.5° | 1405.9 | 1404.1 | 1402.3 | 1400.5 | 1398.7 | 1398.8 | 1400.8 | 1402.7 | 1404.7 | 1406.7 | 1408.4 |
| 160°   | 1421.4 | 1420.0 | 1418.5 | 1417.0 | 1415.6 | 1415.6 | 1417.0 | 1418.5 | 1420.0 | 1421.4 | 1422.8 |
| 162.5° | 1435.1 | 1433.7 | 1432.2 | 1430.8 | 1429.4 | 1429.3 | 1430.5 | 1431.8 | 1433.0 | 1434.2 | 1435.8 |
| 165°   | 1453.6 | 1452.1 | 1450.7 | 1449.3 | 1447.8 | 1447.4 | 1448.1 | 1449.0 | 1449.7 | 1450.4 | 1452.0 |
| 167.5° | 1467.3 | 1465.9 | 1464.4 | 1463.0 | 1461.6 | 1461.2 | 1461.9 | 1462.5 | 1463.2 | 1463.9 | 1465.5 |
| 170°   | 1475.0 | 1473.6 | 1472.2 | 1470.8 | 1469.4 | 1468.8 | 1469.4 | 1469.8 | 1470.3 | 1470.8 | 1472.4 |
| 172.5° | 1480.2 | 1478.7 | 1477.3 | 1475.9 | 1474.5 | 1474.0 | 1474.5 | 1474.9 | 1475.4 | 1475.9 | 1477.5 |
| 175°   | 1486.8 | 1485.2 | 1483.5 | 1481.9 | 1480.2 | 1479.6 | 1480.1 | 1480.6 | 1481.0 | 1481.5 | 1483.2 |
| 177.5° | 1487.9 | 1486.6 | 1485.2 | 1483.9 | 1482.6 | 1482.0 | 1482.2 | 1482.4 | 1482.6 | 1482.8 | 1484.1 |
| 180°   | 1483.6 | 1483.6 | 1483.6 | 1483.6 | 1483.6 | 1483.6 | 1483.6 | 1483.6 | 1483.6 | 1483.6 | 1483.6 |



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**CANDELA DISTRIBUTION (continued):**

|        | 55°   | 60°   | 65°   | 70°   | 75°   | 80°   | 85°   | 90°   |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°     | 477.1 | 477.1 | 477.1 | 477.1 | 477.1 | 477.1 | 477.1 | 477.1 |
| 2.5°   | 475.0 | 475.8 | 476.7 | 477.1 | 476.9 | 476.7 | 476.6 | 476.4 |
| 5°     | 471.9 | 472.7 | 473.5 | 473.8 | 473.6 | 473.4 | 473.2 | 473.0 |
| 7.5°   | 466.6 | 467.4 | 468.2 | 468.5 | 468.3 | 468.0 | 467.8 | 467.6 |
| 10°    | 461.8 | 462.6 | 463.4 | 463.6 | 463.3 | 463.0 | 462.7 | 462.4 |
| 12.5°  | 456.2 | 456.7 | 457.3 | 457.5 | 457.3 | 457.0 | 456.8 | 456.6 |
| 15°    | 446.3 | 446.7 | 447.1 | 447.1 | 446.6 | 446.1 | 445.6 | 445.0 |
| 17.5°  | 434.5 | 435.0 | 435.5 | 435.5 | 434.9 | 434.5 | 434.0 | 433.5 |
| 20°    | 425.5 | 425.8 | 426.1 | 426.0 | 425.6 | 425.2 | 424.7 | 424.3 |
| 22.5°  | 415.8 | 415.9 | 415.9 | 415.8 | 415.6 | 415.3 | 415.1 | 414.9 |
| 25°    | 400.0 | 400.2 | 400.4 | 400.4 | 400.2 | 400.0 | 399.8 | 399.6 |
| 27.5°  | 384.5 | 384.2 | 383.8 | 383.4 | 382.9 | 382.4 | 382.0 | 381.5 |
| 30°    | 372.3 | 372.0 | 371.7 | 371.4 | 371.0 | 370.6 | 370.2 | 369.7 |
| 32.5°  | 360.5 | 359.9 | 359.4 | 358.9 | 358.5 | 358.1 | 357.7 | 357.3 |
| 35°    | 341.4 | 340.8 | 340.2 | 339.7 | 339.2 | 338.7 | 338.2 | 337.6 |
| 37.5°  | 322.3 | 321.6 | 320.8 | 320.2 | 319.7 | 319.2 | 318.8 | 318.3 |
| 40°    | 309.2 | 308.3 | 307.4 | 306.7 | 306.3 | 305.9 | 305.5 | 305.1 |
| 42.5°  | 296.2 | 295.2 | 294.2 | 293.4 | 292.9 | 292.3 | 291.8 | 291.1 |
| 45°    | 276.2 | 275.1 | 274.0 | 273.2 | 272.8 | 272.4 | 272.0 | 271.6 |
| 47.5°  | 255.5 | 254.3 | 253.1 | 252.2 | 251.7 | 251.1 | 250.4 | 249.8 |
| 50°    | 242.2 | 240.7 | 239.2 | 238.3 | 237.8 | 237.3 | 236.8 | 236.3 |
| 52.5°  | 228.3 | 227.1 | 225.9 | 225.0 | 224.3 | 223.7 | 223.0 | 222.3 |
| 55°    | 207.6 | 206.4 | 205.2 | 204.4 | 203.9 | 203.3 | 202.8 | 202.3 |
| 57.5°  | 186.2 | 185.0 | 183.8 | 183.0 | 182.7 | 182.3 | 181.9 | 181.5 |
| 60°    | 172.1 | 171.0 | 169.9 | 169.2 | 168.8 | 168.5 | 168.2 | 167.9 |
| 62.5°  | 158.6 | 157.6 | 156.6 | 155.9 | 155.5 | 155.1 | 154.7 | 154.3 |
| 65°    | 138.0 | 137.1 | 136.2 | 135.5 | 135.0 | 134.5 | 134.0 | 133.5 |
| 67.5°  | 117.8 | 117.0 | 116.3 | 115.7 | 115.3 | 114.9 | 114.5 | 114.1 |
| 70°    | 104.5 | 103.8 | 103.1 | 102.6 | 102.2 | 101.7 | 101.3 | 100.9 |
| 72.5°  | 92.1  | 91.4  | 90.7  | 90.1  | 89.8  | 89.5  | 89.2  | 88.8  |
| 75°    | 72.6  | 72.0  | 71.4  | 71.2  | 71.4  | 71.6  | 71.8  | 72.0  |
| 77.5°  | 55.2  | 54.9  | 54.6  | 54.3  | 54.0  | 53.8  | 53.5  | 53.2  |
| 80°    | 43.9  | 43.6  | 43.3  | 43.0  | 42.8  | 42.6  | 42.4  | 42.2  |
| 82.5°  | 32.7  | 32.3  | 31.9  | 31.7  | 31.7  | 31.6  | 31.6  | 31.6  |
| 85°    | 17.3  | 17.0  | 16.7  | 16.5  | 16.4  | 16.3  | 16.2  | 16.1  |
| 87.5°  | 9.4   | 9.4   | 9.4   | 9.4   | 9.4   | 9.4   | 9.5   | 9.5   |
| 90°    | 23.8  | 25.0  | 26.3  | 27.1  | 27.6  | 28.1  | 28.5  | 29.0  |
| 92.5°  | 26.2  | 26.8  | 27.4  | 27.9  | 28.2  | 28.4  | 28.7  | 29.0  |
| 95°    | 44.2  | 45.4  | 46.7  | 47.2  | 46.9  | 46.7  | 46.4  | 46.2  |
| 97.5°  | 58.0  | 58.9  | 59.9  | 60.5  | 60.8  | 61.1  | 61.3  | 61.6  |
| 100°   | 65.0  | 67.0  | 68.9  | 70.0  | 70.5  | 71.0  | 71.5  | 71.9  |
| 102.5° | 67.9  | 70.4  | 72.8  | 74.4  | 75.0  | 75.7  | 76.4  | 77.1  |
| 105°   | 70.7  | 73.3  | 75.9  | 77.8  | 78.8  | 79.7  | 80.6  | 81.6  |
| 107.5° | 86.3  | 83.6  | 81.0  | 80.2  | 81.1  | 82.0  | 83.0  | 83.9  |
| 110°   | 140.2 | 116.3 | 92.4  | 81.0  | 81.9  | 82.9  | 83.8  | 84.8  |





TEST NUMBER: P331282-840

CATALOG NUMBER: SA2XXDIP-C290D1080U840-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

|        | 55°    | 60°    | 65°    | 70°    | 75°    | 80°    | 85°    | 90°    |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 112.5° | 299.8  | 212.8  | 125.7  | 82.6   | 83.4   | 84.1   | 84.9   | 85.6   |
| 115°   | 441.4  | 331.0  | 220.6  | 156.7  | 139.6  | 122.4  | 105.2  | 88.1   |
| 117.5° | 680.2  | 653.5  | 626.8  | 585.2  | 528.8  | 472.3  | 415.9  | 359.4  |
| 120°   | 792.6  | 795.5  | 798.4  | 783.7  | 751.4  | 719.2  | 687.0  | 654.9  |
| 122.5° | 841.0  | 842.7  | 844.4  | 842.1  | 836.0  | 829.7  | 823.4  | 817.2  |
| 125°   | 910.5  | 912.1  | 913.8  | 915.0  | 915.7  | 916.5  | 917.2  | 917.9  |
| 127.5° | 974.7  | 977.1  | 979.6  | 980.9  | 981.0  | 981.2  | 981.3  | 981.4  |
| 130°   | 1015.4 | 1018.0 | 1020.7 | 1021.9 | 1021.7 | 1021.4 | 1021.2 | 1021.0 |
| 132.5° | 1055.0 | 1057.3 | 1059.6 | 1060.6 | 1060.3 | 1060.1 | 1059.9 | 1059.6 |
| 135°   | 1111.6 | 1114.0 | 1116.3 | 1117.3 | 1116.8 | 1116.3 | 1115.9 | 1115.4 |
| 137.5° | 1164.1 | 1166.4 | 1168.7 | 1169.5 | 1168.7 | 1167.9 | 1167.1 | 1166.3 |
| 140°   | 1198.1 | 1200.2 | 1202.3 | 1202.9 | 1201.6 | 1200.4 | 1199.2 | 1198.1 |
| 142.5° | 1229.4 | 1231.4 | 1233.3 | 1233.8 | 1232.5 | 1231.3 | 1230.2 | 1229.0 |
| 145°   | 1273.3 | 1275.0 | 1276.7 | 1276.9 | 1275.8 | 1274.6 | 1273.3 | 1272.1 |
| 147.5° | 1311.5 | 1312.8 | 1314.0 | 1314.1 | 1313.1 | 1312.1 | 1311.1 | 1310.1 |
| 150°   | 1335.1 | 1336.6 | 1338.0 | 1338.1 | 1336.9 | 1335.7 | 1334.5 | 1333.3 |
| 152.5° | 1356.6 | 1358.1 | 1359.5 | 1359.4 | 1357.8 | 1356.2 | 1354.6 | 1353.1 |
| 155°   | 1385.5 | 1387.0 | 1388.5 | 1388.2 | 1386.2 | 1384.4 | 1382.5 | 1380.6 |
| 157.5° | 1410.0 | 1411.6 | 1413.2 | 1413.1 | 1411.3 | 1409.4 | 1407.5 | 1405.6 |
| 160°   | 1424.2 | 1425.6 | 1427.0 | 1426.9 | 1425.3 | 1423.6 | 1422.0 | 1420.3 |
| 162.5° | 1437.4 | 1439.1 | 1440.8 | 1440.5 | 1438.5 | 1436.4 | 1434.3 | 1432.3 |
| 165°   | 1453.7 | 1455.3 | 1457.0 | 1457.0 | 1455.3 | 1453.7 | 1452.0 | 1450.4 |
| 167.5° | 1467.2 | 1468.8 | 1470.6 | 1470.3 | 1468.1 | 1466.0 | 1463.9 | 1461.7 |
| 170°   | 1474.1 | 1475.7 | 1477.4 | 1477.1 | 1475.0 | 1472.9 | 1470.8 | 1468.5 |
| 172.5° | 1479.3 | 1480.9 | 1482.6 | 1482.4 | 1480.2 | 1478.0 | 1475.9 | 1473.7 |
| 175°   | 1484.8 | 1486.5 | 1488.1 | 1487.8 | 1485.4 | 1483.0 | 1480.7 | 1478.2 |
| 177.5° | 1485.4 | 1486.7 | 1488.1 | 1487.9 | 1486.2 | 1484.5 | 1482.8 | 1481.1 |
| 180°   | 1483.6 | 1483.6 | 1483.6 | 1483.6 | 1483.6 | 1483.6 | 1483.6 | 1483.6 |

(END OF REPORT)