

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: P199384

Luminaire Tested: **S122-DIW-U1-1-30-0048-1D-UDD-1-5-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199384  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P27883 P27883)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122-DIW-U1-1-30-0048-1D-UDD-1-5-W  
Description: DEFINE 2-INCH DIRECT/INDIRECT WALL LED LUMINAIRE  
UPLIGHT LL1-3000K, SATIN WHITE DIFFUSER  
DOWNLIGHT LL1-3000K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

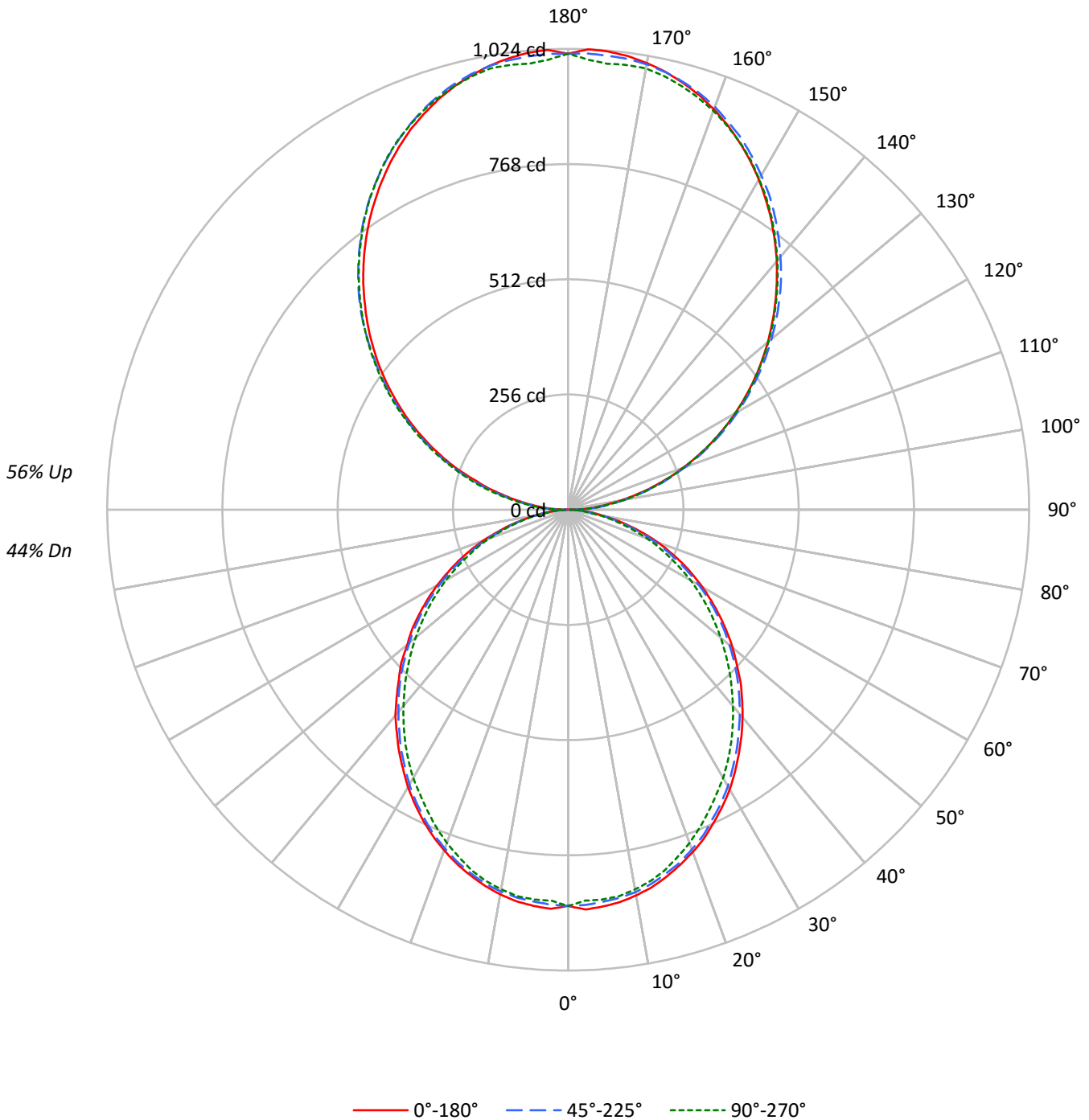
Lumens per Lamp: N/A  
Luminaire Lumens: 5124.8 lumens  
Efficiency: N/A  
Efficacy: 98.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.17 / 1.31  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4.08' x H: 0.38')  
CIE Type: General Diffuse

Input Watts (W): 52  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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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### Luminous Intensity Polar Plot





TEST NUMBER: P199384

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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 | 0  |
| RCR |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0   | 106 | 106 | 106 | 106 | 97 | 97 | 97 | 97 | 80 | 80 | 80 | 65 | 65 | 65 | 51 | 51 | 51 | 44 |
| 1   | 97  | 92  | 88  | 85  | 88 | 85 | 81 | 78 | 70 | 68 | 66 | 57 | 56 | 54 | 45 | 44 | 43 | 37 |
| 2   | 88  | 81  | 75  | 69  | 80 | 74 | 69 | 64 | 62 | 58 | 55 | 50 | 47 | 45 | 40 | 38 | 36 | 31 |
| 3   | 80  | 71  | 64  | 58  | 73 | 65 | 59 | 54 | 54 | 50 | 46 | 44 | 41 | 38 | 35 | 33 | 31 | 27 |
| 4   | 73  | 63  | 55  | 49  | 67 | 58 | 51 | 46 | 48 | 43 | 39 | 39 | 36 | 33 | 31 | 29 | 27 | 23 |
| 5   | 67  | 56  | 48  | 42  | 61 | 51 | 44 | 39 | 43 | 38 | 34 | 35 | 31 | 28 | 28 | 25 | 23 | 20 |
| 6   | 62  | 50  | 42  | 36  | 57 | 46 | 39 | 34 | 39 | 33 | 29 | 32 | 28 | 25 | 26 | 23 | 20 | 17 |
| 7   | 57  | 45  | 37  | 32  | 52 | 42 | 35 | 30 | 35 | 30 | 26 | 29 | 25 | 22 | 23 | 20 | 18 | 15 |
| 8   | 53  | 41  | 33  | 28  | 49 | 38 | 31 | 26 | 32 | 27 | 23 | 27 | 22 | 19 | 21 | 18 | 16 | 14 |
| 9   | 49  | 37  | 30  | 25  | 45 | 35 | 28 | 23 | 29 | 24 | 20 | 24 | 20 | 17 | 20 | 17 | 15 | 12 |
| 10  | 46  | 34  | 27  | 22  | 42 | 32 | 25 | 21 | 27 | 22 | 18 | 23 | 19 | 16 | 18 | 15 | 13 | 11 |

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

|     | 0°    | 90°   | 180°  |
|-----|-------|-------|-------|
| 0°  | 13923 | 13923 | 13923 |
| 5°  | 13940 | 11533 | 13918 |
| 10° | 13751 | 9848  | 13720 |
| 15° | 13491 | 8472  | 13437 |
| 20° | 13184 | 7289  | 13117 |
| 25° | 12817 | 6291  | 12750 |
| 30° | 12446 | 5468  | 12340 |
| 35° | 11993 | 4731  | 11883 |
| 40° | 11549 | 4069  | 11446 |
| 45° | 11089 | 3482  | 10892 |
| 50° | 10570 | 2954  | 10344 |
| 55° | 9992  | 2473  | 9826  |
| 60° | 9402  | 2028  | 9159  |
| 65° | 8686  | 1592  | 8386  |
| 70° | 7795  | 1197  | 7415  |
| 75° | 6508  | 806   | 6071  |
| 80° | 4851  | 469   | 4402  |
| 85° | 3010  | 185   | 2532  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 83.0   | 1.6       |
| 10°-20°   | 235.0  | 4.6       |
| 20°-30°   | 346.5  | 6.8       |
| 30°-40°   | 404.1  | 7.9       |
| 40°-50°   | 405.0  | 7.9       |
| 50°-60°   | 354.3  | 6.9       |
| 60°-70°   | 260.6  | 5.1       |
| 70°-80°   | 141.3  | 2.8       |
| 80°-90°   | 36.2   | 0.7       |
| 90°-100°  | 70.3   | 1.4       |
| 100°-110° | 206.2  | 4.0       |
| 110°-120° | 346.7  | 6.8       |
| 120°-130° | 452.2  | 8.8       |
| 130°-140° | 504.1  | 9.8       |
| 140°-150° | 493.0  | 9.6       |
| 150°-160° | 414.7  | 8.1       |
| 160°-170° | 275.7  | 5.4       |
| 170°-180° | 96.0   | 1.9       |
| 0°-30°    | 664.5  | 13.0      |
| 0°-40°    | 1068.6 | 20.9      |
| 0°-60°    | 1827.8 | 35.7      |
| 0°-90°    | 2266.0 | 44.2      |
| 90°-120°  | 623.2  | 12.2      |
| 90°-150°  | 2072.5 | 40.4      |
| 90°-180°  | 2859.0 | 55.8      |
| 0°-180°   | 5124.8 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|------|------|------|------|------|------|------|
| 0°   | 880  | 880  | 880  | 880  | 880  |      |
| 5°   | 885  | 875  | 869  | 874  | 884  | 84   |
| 15°  | 844  | 837  | 829  | 836  | 841  | 238  |
| 25°  | 766  | 758  | 739  | 756  | 762  | 353  |
| 35°  | 661  | 652  | 631  | 648  | 655  | 414  |
| 45°  | 541  | 532  | 506  | 526  | 532  | 417  |
| 55°  | 410  | 402  | 378  | 395  | 403  | 367  |
| 65°  | 278  | 267  | 248  | 259  | 268  | 275  |
| 75°  | 143  | 136  | 124  | 127  | 133  | 152  |
| 85°  | 34   | 32   | 27   | 28   | 29   | 38   |
| 90°  | 1    | 3    | 5    | 4    | 1    | 8    |
| 95°  | 59   | 67   | 67   | 63   | 55   | 61   |
| 105° | 193  | 202  | 199  | 192  | 182  | 204  |
| 115° | 351  | 356  | 351  | 346  | 338  | 346  |
| 125° | 504  | 513  | 506  | 502  | 493  | 451  |
| 135° | 651  | 664  | 653  | 656  | 638  | 502  |
| 145° | 786  | 799  | 789  | 790  | 773  | 492  |
| 155° | 901  | 910  | 901  | 901  | 889  | 415  |
| 165° | 982  | 984  | 974  | 979  | 974  | 277  |
| 175° | 1022 | 1012 | 995  | 1011 | 1019 | 97   |
| 180° | 1013 | 1013 | 1013 | 1013 | 1013 |      |



TEST NUMBER: P199384

CATALOG NUMBER: S122-DIW-U1-1-30-0048-1D-UDD-1-5-W

**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   | 112.5° | 135°  | 157.5° | 180°  |
|--------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 0°     | 880.3 | 880.3 | 880.3 | 880.3 | 880.3 | 880.3  | 880.3 | 880.3  | 880.3 |
| 2.5°   | 889.2 | 876.9 | 879.0 | 876.2 | 869.4 | 875.5  | 878.3 | 876.2  | 887.8 |
| 5°     | 885.1 | 872.8 | 874.9 | 871.5 | 869.4 | 871.5  | 874.2 | 871.5  | 883.7 |
| 7.5°   | 879.6 | 866.0 | 870.1 | 868.1 | 866.0 | 867.4  | 869.4 | 864.7  | 877.6 |
| 10°    | 870.1 | 856.5 | 862.6 | 858.5 | 856.5 | 857.8  | 861.3 | 854.4  | 868.1 |
| 12.5°  | 859.2 | 845.6 | 851.7 | 847.0 | 844.9 | 844.9  | 851.0 | 843.6  | 855.8 |
| 15°    | 844.2 | 833.3 | 837.4 | 832.7 | 829.3 | 831.3  | 836.1 | 830.6  | 840.8 |
| 17.5°  | 827.2 | 817.7 | 822.4 | 815.0 | 808.8 | 813.6  | 820.4 | 814.3  | 824.5 |
| 20°    | 809.5 | 798.6 | 803.4 | 793.2 | 787.7 | 791.8  | 800.7 | 795.9  | 805.4 |
| 22.5°  | 789.8 | 779.6 | 783.6 | 770.0 | 764.6 | 768.0  | 780.9 | 776.1  | 785.0 |
| 25°    | 765.9 | 757.8 | 758.4 | 744.8 | 738.7 | 742.8  | 756.4 | 753.7  | 761.9 |
| 27.5°  | 742.8 | 734.6 | 735.3 | 719.6 | 712.8 | 718.3  | 731.9 | 729.9  | 737.3 |
| 30°    | 717.6 | 710.1 | 709.4 | 693.8 | 688.3 | 691.7  | 705.3 | 705.3  | 711.5 |
| 32.5°  | 689.7 | 683.6 | 680.2 | 665.9 | 660.4 | 664.5  | 676.1 | 678.1  | 682.9 |
| 35°    | 661.1 | 657.0 | 652.2 | 638.6 | 631.1 | 636.6  | 647.5 | 650.2  | 655.0 |
| 37.5°  | 632.5 | 627.7 | 622.3 | 608.7 | 600.5 | 607.3  | 616.8 | 621.6  | 625.0 |
| 40°    | 602.5 | 599.1 | 593.0 | 579.4 | 569.2 | 576.0  | 586.9 | 592.3  | 597.1 |
| 42.5°  | 571.9 | 569.9 | 562.4 | 548.1 | 537.9 | 545.3  | 556.9 | 561.7  | 563.7 |
| 45°    | 541.3 | 538.5 | 531.7 | 516.8 | 505.9 | 514.0  | 526.3 | 531.0  | 531.7 |
| 47.5°  | 507.2 | 507.9 | 499.7 | 484.8 | 473.9 | 482.0  | 492.9 | 499.7  | 502.5 |
| 50°    | 476.6 | 477.3 | 467.7 | 452.8 | 441.9 | 448.0  | 460.9 | 467.7  | 466.4 |
| 52.5°  | 443.9 | 445.9 | 435.7 | 420.8 | 409.9 | 416.0  | 428.9 | 436.4  | 437.1 |
| 55°    | 409.9 | 413.3 | 402.4 | 387.4 | 377.9 | 384.0  | 394.9 | 403.7  | 403.1 |
| 57.5°  | 377.2 | 379.9 | 369.0 | 355.4 | 345.9 | 351.3  | 360.8 | 372.4  | 369.7 |
| 60°    | 344.5 | 347.2 | 335.6 | 322.0 | 313.9 | 316.6  | 327.5 | 337.0  | 335.6 |
| 62.5°  | 311.1 | 313.9 | 301.6 | 289.4 | 279.8 | 283.9  | 293.4 | 305.0  | 301.6 |
| 65°    | 277.8 | 279.8 | 266.9 | 256.0 | 247.8 | 251.9  | 258.7 | 271.0  | 268.2 |
| 67.5°  | 244.4 | 245.8 | 234.2 | 224.0 | 217.2 | 219.2  | 225.4 | 235.6  | 234.2 |
| 70°    | 211.1 | 212.4 | 201.5 | 192.0 | 185.9 | 187.9  | 192.7 | 202.2  | 200.8 |
| 72.5°  | 177.0 | 179.1 | 168.2 | 159.3 | 153.2 | 155.2  | 158.6 | 167.5  | 165.4 |
| 75°    | 143.0 | 144.3 | 136.2 | 129.4 | 123.9 | 124.6  | 127.3 | 134.1  | 133.4 |
| 77.5°  | 111.7 | 115.1 | 106.2 | 100.1 | 96.0  | 96.7   | 100.1 | 103.5  | 102.1 |
| 80°    | 81.0  | 85.1  | 79.0  | 74.2  | 70.8  | 70.1   | 72.8  | 75.6   | 73.5  |
| 82.5°  | 57.2  | 57.9  | 53.8  | 50.4  | 47.0  | 47.0   | 49.0  | 51.1   | 49.0  |
| 85°    | 34.0  | 35.4  | 32.0  | 29.3  | 27.2  | 26.6   | 27.9  | 30.0   | 28.6  |
| 87.5°  | 16.3  | 17.0  | 13.6  | 12.3  | 10.2  | 9.5    | 10.2  | 11.6   | 11.6  |
| 90°    | 1.4   | 3.4   | 3.4   | 4.1   | 4.8   | 4.8    | 4.1   | 4.1    | 0.7   |
| 92.5°  | 36.8  | 40.8  | 42.9  | 41.5  | 40.8  | 38.8   | 38.8  | 36.8   | 32.7  |
| 95°    | 58.6  | 64.7  | 67.4  | 66.7  | 66.7  | 64.0   | 63.3  | 61.3   | 55.1  |
| 97.5°  | 86.5  | 93.3  | 95.3  | 96.0  | 95.3  | 91.9   | 89.9  | 87.8   | 81.0  |
| 100°   | 118.5 | 125.3 | 127.3 | 127.3 | 126.6 | 123.2  | 120.5 | 117.8  | 110.3 |
| 102.5° | 153.9 | 160.7 | 162.7 | 161.4 | 161.4 | 156.6  | 153.9 | 151.8  | 143.7 |
| 105°   | 193.4 | 200.2 | 201.5 | 199.5 | 198.8 | 194.0  | 192.0 | 189.3  | 181.8 |
| 107.5° | 231.5 | 238.3 | 237.6 | 236.9 | 234.2 | 230.8  | 229.4 | 225.4  | 215.8 |
| 110°   | 271.0 | 279.8 | 276.4 | 275.1 | 272.3 | 268.9  | 267.6 | 266.2  | 258.7 |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    | 112.5° | 135°   | 157.5° | 180°   |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 112.5° | 310.5  | 320.0  | 315.9  | 314.5  | 311.1  | 307.1  | 307.1  | 306.4  | 298.9  |
| 115°   | 350.6  | 360.2  | 356.1  | 353.4  | 350.6  | 346.5  | 345.9  | 346.5  | 338.4  |
| 117.5° | 389.4  | 400.3  | 395.6  | 392.2  | 389.4  | 384.7  | 385.4  | 386.7  | 377.9  |
| 120°   | 428.2  | 440.5  | 435.1  | 431.0  | 428.9  | 423.5  | 424.2  | 426.9  | 416.7  |
| 122.5° | 466.4  | 478.6  | 473.9  | 469.8  | 467.7  | 461.6  | 463.0  | 464.3  | 454.8  |
| 125°   | 504.5  | 516.8  | 512.7  | 507.9  | 505.9  | 501.8  | 502.5  | 502.5  | 492.9  |
| 127.5° | 541.9  | 554.2  | 551.5  | 546.0  | 543.3  | 537.9  | 540.6  | 538.5  | 530.4  |
| 130°   | 578.7  | 590.3  | 588.9  | 582.8  | 580.7  | 577.3  | 579.4  | 573.3  | 567.1  |
| 132.5° | 614.8  | 626.4  | 627.0  | 620.2  | 617.5  | 614.1  | 618.2  | 611.4  | 603.2  |
| 135°   | 650.9  | 661.1  | 663.8  | 656.3  | 652.9  | 650.2  | 655.6  | 644.7  | 637.9  |
| 137.5° | 685.6  | 693.8  | 699.9  | 691.0  | 688.3  | 683.6  | 690.4  | 679.5  | 673.3  |
| 140°   | 721.0  | 727.8  | 733.3  | 726.4  | 723.0  | 719.0  | 724.4  | 713.5  | 707.4  |
| 142.5° | 753.7  | 761.2  | 766.6  | 759.8  | 755.7  | 752.3  | 757.8  | 746.2  | 740.7  |
| 145°   | 786.4  | 792.5  | 799.3  | 793.2  | 789.1  | 785.7  | 790.4  | 778.9  | 773.4  |
| 147.5° | 817.0  | 822.4  | 830.6  | 823.8  | 819.7  | 817.0  | 820.4  | 808.8  | 804.1  |
| 150°   | 847.0  | 849.7  | 857.8  | 853.8  | 848.3  | 845.6  | 848.3  | 838.1  | 834.0  |
| 152.5° | 874.9  | 876.9  | 884.4  | 879.6  | 876.9  | 872.1  | 875.5  | 865.3  | 862.6  |
| 155°   | 900.7  | 901.4  | 910.3  | 904.8  | 901.4  | 898.0  | 900.7  | 892.6  | 889.2  |
| 157.5° | 925.2  | 925.2  | 931.4  | 928.7  | 923.2  | 921.8  | 923.9  | 915.0  | 914.4  |
| 160°   | 946.4  | 945.0  | 952.5  | 947.7  | 943.0  | 941.6  | 945.0  | 936.8  | 936.1  |
| 162.5° | 966.1  | 963.4  | 970.2  | 964.1  | 960.0  | 958.6  | 963.4  | 955.9  | 956.6  |
| 165°   | 982.4  | 979.0  | 984.5  | 978.4  | 974.3  | 973.6  | 979.0  | 971.5  | 974.3  |
| 167.5° | 996.7  | 991.3  | 996.1  | 989.9  | 986.5  | 985.8  | 992.0  | 985.2  | 989.2  |
| 170°   | 1007.6 | 1000.8 | 1004.9 | 996.7  | 995.4  | 994.0  | 1001.5 | 995.4  | 1002.2 |
| 172.5° | 1016.5 | 1009.0 | 1010.4 | 1001.5 | 996.7  | 999.5  | 1007.6 | 1004.2 | 1011.7 |
| 175°   | 1021.9 | 1013.8 | 1012.4 | 1002.9 | 994.7  | 1000.8 | 1011.0 | 1010.4 | 1019.2 |
| 177.5° | 1024.0 | 1016.5 | 1014.4 | 1003.5 | 1000.8 | 1002.2 | 1013.8 | 1014.4 | 1022.6 |
| 180°   | 1013.1 | 1013.1 | 1013.1 | 1013.1 | 1013.1 | 1013.1 | 1013.1 | 1013.1 | 1013.1 |

(END OF REPORT)