

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P997947

Luminaire Tested: SA2XXDIP-B1005D530UB40-4F0-XX-W2A-D1

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P997947  
REPORT IS A COMBINATION OF REPORTS P983684 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B1005D530UB40-4F0-XX-W2A-D1  
Description: Define 2 Direct/Indirect Pendant with 4000K BioUP LEDs {m-DER=0.865} {m-EER=0.951}  
Light Source: -  
Ballast/Driver: -

**Summary**

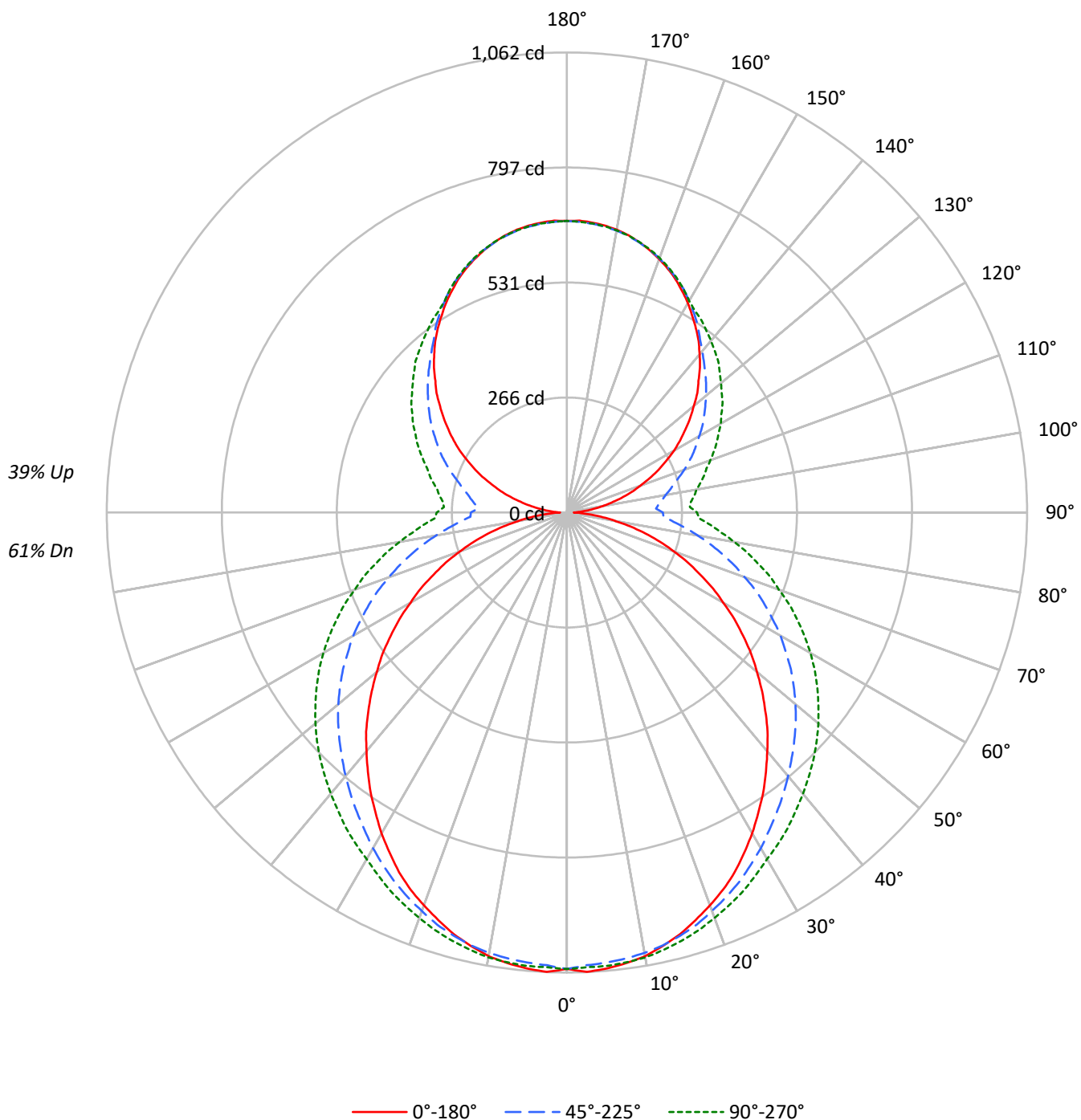
Lumens per Lamp: N/A  
Luminaire Lumens: 5905.0 lumens  
Efficiency: N/A  
Efficacy: 77.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: Semi-Direct

Input Watts (W): 76.7  
Input Voltage (V):  
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: 24 FT

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### Luminous Intensity Polar Plot



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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|
| RF  | 20  |     |     |     | 20  |     |     |     | 20 |    |    |    | 20 |    |    |    | 20 |
| RC  | 80  |     |     |     | 70  |     |     |     | 50 |    |    |    | 30 |    |    |    | 10 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 |
| RCR |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |
| 0   | 110 | 110 | 110 | 110 | 103 | 103 | 103 | 103 | 89 | 89 | 89 | 77 | 77 | 77 | 66 | 66 | 66 |
| 1   | 98  | 93  | 88  | 84  | 92  | 87  | 83  | 79  | 76 | 72 | 70 | 65 | 63 | 61 | 55 | 54 | 52 |
| 2   | 89  | 80  | 73  | 67  | 82  | 75  | 69  | 64  | 65 | 60 | 56 | 56 | 52 | 49 | 48 | 45 | 42 |
| 3   | 81  | 70  | 62  | 55  | 75  | 65  | 58  | 52  | 57 | 51 | 46 | 49 | 45 | 41 | 42 | 38 | 35 |
| 4   | 73  | 62  | 53  | 46  | 68  | 58  | 50  | 44  | 50 | 44 | 39 | 43 | 38 | 34 | 37 | 33 | 30 |
| 5   | 67  | 55  | 46  | 39  | 62  | 51  | 43  | 37  | 45 | 38 | 33 | 39 | 34 | 30 | 33 | 29 | 26 |
| 6   | 62  | 49  | 40  | 34  | 57  | 46  | 38  | 32  | 40 | 34 | 29 | 35 | 30 | 26 | 30 | 26 | 22 |
| 7   | 57  | 44  | 36  | 30  | 53  | 41  | 34  | 28  | 36 | 30 | 25 | 32 | 26 | 23 | 27 | 23 | 20 |
| 8   | 53  | 40  | 32  | 26  | 49  | 38  | 30  | 25  | 33 | 27 | 22 | 29 | 24 | 20 | 25 | 21 | 18 |
| 9   | 49  | 37  | 29  | 23  | 46  | 34  | 27  | 22  | 30 | 24 | 20 | 27 | 22 | 18 | 23 | 19 | 16 |
| 10  | 46  | 34  | 26  | 21  | 43  | 32  | 25  | 20  | 28 | 22 | 18 | 25 | 20 | 16 | 21 | 17 | 14 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 16681 | 16681 | 16681 |
| 5°  | 16757 | 15969 | 15880 |
| 10° | 16645 | 15416 | 15191 |
| 15° | 16409 | 14845 | 14486 |
| 20° | 16112 | 14243 | 13816 |
| 25° | 15821 | 13668 | 13209 |
| 30° | 15411 | 13083 | 12607 |
| 35° | 14996 | 12520 | 12166 |
| 40° | 14558 | 12033 | 11726 |
| 45° | 14144 | 11591 | 11345 |
| 50° | 13695 | 11183 | 10966 |
| 55° | 13227 | 10751 | 10583 |
| 60° | 12651 | 10300 | 10179 |
| 65° | 12055 | 9782  | 9714  |
| 70° | 11377 | 9225  | 9213  |
| 75° | 10511 | 8668  | 8741  |
| 80° | 9141  | 8090  | 8252  |
| 85° | 7769  | 7544  | 7828  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 14144 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 99.9   | 1.7       |
| 10°-20°   | 286.5  | 4.9       |
| 20°-30°   | 434.1  | 7.4       |
| 30°-40°   | 528.7  | 9.0       |
| 40°-50°   | 568.8  | 9.6       |
| 50°-60°   | 552.4  | 9.4       |
| 60°-70°   | 482.4  | 8.2       |
| 70°-80°   | 371.3  | 6.3       |
| 80°-90°   | 250.6  | 4.2       |
| 90°-100°  | 213.2  | 3.6       |
| 100°-110° | 257.7  | 4.4       |
| 110°-120° | 309.2  | 5.2       |
| 120°-130° | 344.0  | 5.8       |
| 130°-140° | 353.8  | 6.0       |
| 140°-150° | 331.2  | 5.6       |
| 150°-160° | 275.1  | 4.7       |
| 160°-170° | 182.4  | 3.1       |
| 170°-180° | 63.8   | 1.1       |
| 0°-30°    | 820.6  | 13.9      |
| 0°-40°    | 1349.2 | 22.8      |
| 0°-60°    | 2470.4 | 41.8      |
| 0°-90°    | 3574.7 | 60.5      |
| 90°-120°  | 780.1  | 13.2      |
| 90°-150°  | 1809.1 | 30.6      |
| 90°-180°  | 2330.0 | 39.5      |
| 0°-180°   | 5905.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1054 | 1054  | 1054 | 1054  | 1054 |      |
| 5°   | 1057 | 1052  | 1043 | 1052  | 1051 | 100  |
| 15°  | 1008 | 1011  | 1011 | 1025  | 1023 | 284  |
| 25°  | 916  | 927   | 941  | 959   | 964  | 421  |
| 35°  | 790  | 816   | 845  | 878   | 889  | 494  |
| 45°  | 648  | 689   | 742  | 790   | 805  | 500  |
| 55°  | 496  | 551   | 631  | 686   | 706  | 444  |
| 65°  | 339  | 414   | 504  | 567   | 586  | 337  |
| 75°  | 188  | 273   | 371  | 437   | 457  | 199  |
| 85°  | 55   | 150   | 247  | 312   | 333  | 58   |
| 90°  | 16   | 111   | 222  | 281   | 300  | 13   |
| 95°  | 42   | 119   | 212  | 270   | 287  | 43   |
| 105° | 130  | 176   | 256  | 311   | 328  | 138  |
| 115° | 233  | 254   | 321  | 366   | 382  | 230  |
| 125° | 334  | 339   | 386  | 426   | 439  | 299  |
| 135° | 429  | 436   | 452  | 484   | 494  | 332  |
| 145° | 519  | 523   | 527  | 536   | 542  | 325  |
| 155° | 594  | 595   | 597  | 600   | 598  | 273  |
| 165° | 646  | 645   | 645  | 649   | 646  | 182  |
| 175° | 672  | 670   | 669  | 673   | 670  | 64   |
| 180° | 673  | 673   | 673  | 673   | 673  |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1053.8 | 1053.8 | 1053.8 | 1053.8 | 1053.8 |
| 2.5°   | 1061.5 | 1056.9 | 1046.2 | 1053.8 | 1050.8 |
| 5°     | 1056.9 | 1052.3 | 1043.1 | 1052.3 | 1050.8 |
| 7.5°   | 1049.2 | 1046.2 | 1038.5 | 1049.2 | 1047.7 |
| 10°    | 1040.1 | 1037.0 | 1032.4 | 1044.7 | 1043.1 |
| 12.5°  | 1024.8 | 1026.3 | 1023.3 | 1035.5 | 1034.0 |
| 15°    | 1008.0 | 1011.1 | 1011.1 | 1024.8 | 1023.3 |
| 17.5°  | 986.6  | 992.7  | 997.3  | 1011.1 | 1011.1 |
| 20°    | 965.2  | 972.9  | 979.0  | 995.8  | 995.8  |
| 22.5°  | 942.3  | 951.5  | 960.7  | 977.5  | 980.5  |
| 25°    | 916.4  | 927.1  | 940.8  | 959.1  | 963.7  |
| 27.5°  | 885.8  | 902.6  | 917.9  | 940.8  | 943.9  |
| 30°    | 855.3  | 875.1  | 895.0  | 919.4  | 924.0  |
| 32.5°  | 821.7  | 844.6  | 869.0  | 898.0  | 907.2  |
| 35°    | 789.6  | 815.6  | 844.6  | 878.2  | 888.9  |
| 37.5°  | 754.5  | 783.5  | 820.1  | 856.8  | 867.5  |
| 40°    | 719.3  | 752.9  | 794.2  | 833.9  | 847.6  |
| 42.5°  | 685.7  | 719.3  | 768.2  | 812.5  | 826.3  |
| 45°    | 647.6  | 688.8  | 742.3  | 789.6  | 804.9  |
| 47.5°  | 610.9  | 655.2  | 716.3  | 765.2  | 782.0  |
| 50°    | 572.7  | 620.1  | 688.8  | 740.7  | 757.5  |
| 52.5°  | 536.1  | 586.5  | 659.8  | 713.2  | 731.6  |
| 55°    | 496.4  | 551.3  | 630.8  | 685.7  | 705.6  |
| 57.5°  | 458.2  | 519.3  | 598.7  | 658.3  | 678.1  |
| 60°    | 416.9  | 482.6  | 569.7  | 627.7  | 649.1  |
| 62.5°  | 380.3  | 449.0  | 536.1  | 598.7  | 618.5  |
| 65°    | 339.1  | 413.9  | 504.0  | 566.6  | 586.5  |
| 67.5°  | 302.4  | 380.3  | 471.9  | 534.5  | 555.9  |
| 70°    | 262.7  | 342.1  | 436.8  | 502.5  | 520.8  |
| 72.5°  | 226.0  | 308.5  | 404.7  | 468.9  | 491.8  |
| 75°    | 187.9  | 273.4  | 371.1  | 436.8  | 456.7  |
| 77.5°  | 151.2  | 239.8  | 339.1  | 404.7  | 426.1  |
| 80°    | 114.5  | 207.7  | 307.0  | 371.1  | 392.5  |
| 82.5°  | 84.0   | 175.6  | 276.4  | 340.6  | 360.4  |
| 85°    | 55.0   | 149.7  | 247.4  | 311.6  | 332.9  |
| 87.5°  | 33.6   | 125.2  | 223.0  | 285.6  | 305.5  |
| 90°    | 15.9   | 111.3  | 221.5  | 281.4  | 300.3  |
| 92.5°  | 26.2   | 111.7  | 205.5  | 265.6  | 283.9  |
| 95°    | 41.7   | 119.2  | 212.0  | 270.1  | 287.2  |
| 97.5°  | 60.1   | 130.9  | 221.7  | 278.3  | 296.6  |
| 100°   | 82.8   | 143.9  | 231.1  | 287.6  | 303.8  |
| 102.5° | 105.2  | 159.0  | 243.7  | 299.3  | 315.5  |
| 105°   | 129.7  | 175.7  | 256.3  | 310.9  | 327.7  |
| 107.5° | 155.9  | 194.8  | 271.2  | 323.7  | 337.7  |
| 110°   | 179.4  | 213.4  | 288.2  | 337.1  | 352.2  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 206.6 | 234.4 | 304.2 | 351.4 | 367.0 |
| 115°   | 233.3 | 253.5 | 321.1 | 366.4 | 381.5 |
| 117.5° | 258.5 | 275.3 | 336.5 | 380.7 | 394.2 |
| 120°   | 285.2 | 295.9 | 352.4 | 395.1 | 410.2 |
| 122.5° | 309.7 | 316.8 | 370.5 | 410.1 | 422.7 |
| 125°   | 333.7 | 338.8 | 385.9 | 425.5 | 438.7 |
| 127.5° | 358.7 | 363.4 | 402.4 | 438.2 | 450.3 |
| 130°   | 382.0 | 387.8 | 418.8 | 454.3 | 464.3 |
| 132.5° | 408.1 | 412.2 | 435.7 | 468.1 | 478.5 |
| 135°   | 429.3 | 435.5 | 452.0 | 483.5 | 494.0 |
| 137.5° | 454.3 | 459.4 | 468.2 | 496.6 | 505.1 |
| 140°   | 476.4 | 480.0 | 486.0 | 510.4 | 517.3 |
| 142.5° | 499.1 | 502.8 | 504.5 | 523.3 | 528.8 |
| 145°   | 519.2 | 523.2 | 526.6 | 536.4 | 541.7 |
| 147.5° | 538.5 | 543.7 | 545.9 | 548.6 | 550.9 |
| 150°   | 558.4 | 561.8 | 564.1 | 565.8 | 564.1 |
| 152.5° | 576.0 | 579.4 | 582.3 | 584.6 | 582.3 |
| 155°   | 593.6 | 595.4 | 597.1 | 599.9 | 598.2 |
| 157.5° | 609.0 | 610.1 | 611.3 | 615.2 | 612.4 |
| 160°   | 622.6 | 623.8 | 624.3 | 627.7 | 625.5 |
| 162.5° | 635.1 | 635.1 | 635.7 | 639.7 | 636.8 |
| 165°   | 645.9 | 645.3 | 645.3 | 649.3 | 646.5 |
| 167.5° | 655.6 | 653.9 | 653.9 | 657.8 | 655.0 |
| 170°   | 663.0 | 661.3 | 660.7 | 664.7 | 661.3 |
| 172.5° | 668.1 | 666.4 | 665.8 | 669.8 | 666.4 |
| 175°   | 672.0 | 670.3 | 669.2 | 673.2 | 669.8 |
| 177.5° | 674.3 | 672.6 | 671.5 | 674.9 | 671.5 |
| 180°   | 673.2 | 673.2 | 673.2 | 673.2 | 673.2 |

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**CIE UGR TABLE:**

| Reflectances:   |      |                  |       |       |       |       |                |       |       |       |       |
|-----------------|------|------------------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|
| Ceiling         |      | 0.7              | 0.7   | 0.5   | 0.5   | 0.3   | 0.7            | 0.7   | 0.5   | 0.5   | 0.3   |
| Wall            |      | 0.5              | 0.3   | 0.5   | 0.3   | 0.3   | 0.5            | 0.3   | 0.5   | 0.3   | 0.3   |
| Reference plane |      | 0.2              | 0.2   | 0.2   | 0.2   | 0.2   | 0.2            | 0.2   | 0.2   | 0.2   | 0.2   |
| Room dimensions |      | Viewed crosswise |       |       |       |       | Viewed endwise |       |       |       |       |
| X=2H            | Y=2H | 15.89            | 16.92 | 16.74 | 17.80 | 18.90 | 18.96          | 19.99 | 19.81 | 20.87 | 21.98 |
|                 | 3H   | 17.36            | 18.29 | 18.22 | 19.18 | 20.31 | 21.56          | 22.49 | 22.42 | 23.38 | 24.52 |
|                 | 4H   | 17.84            | 18.73 | 18.72 | 19.62 | 20.76 | 22.82          | 23.71 | 23.70 | 24.60 | 25.75 |
|                 | 6H   | 18.13            | 18.95 | 19.02 | 19.86 | 21.01 | 24.13          | 24.95 | 25.01 | 25.85 | 27.01 |
|                 | 8H   | 18.20            | 18.98 | 19.09 | 19.90 | 21.06 | 24.79          | 25.58 | 25.69 | 26.50 | 27.65 |
|                 | 12H  | 18.22            | 18.97 | 19.12 | 19.88 | 21.07 | 25.52          | 26.27 | 26.42 | 27.19 | 28.37 |
| 4H              | 2H   | 16.95            | 17.84 | 17.83 | 18.74 | 19.88 | 19.31          | 20.20 | 20.19 | 21.09 | 22.23 |
|                 | 3H   | 18.67            | 19.43 | 19.57 | 20.35 | 21.51 | 22.11          | 22.87 | 23.00 | 23.79 | 24.95 |
|                 | 4H   | 19.30            | 20.00 | 20.20 | 20.92 | 22.10 | 23.53          | 24.23 | 24.44 | 25.15 | 26.33 |
|                 | 6H   | 19.73            | 20.33 | 20.64 | 21.28 | 22.46 | 25.01          | 25.62 | 25.93 | 26.57 | 27.75 |
|                 | 8H   | 19.84            | 20.41 | 20.76 | 21.35 | 22.55 | 25.77          | 26.34 | 26.69 | 27.28 | 28.48 |
|                 | 12H  | 19.89            | 20.41 | 20.83 | 21.37 | 22.57 | 26.61          | 27.13 | 27.55 | 28.09 | 29.29 |
| 8H              | 4H   | 20.11            | 20.68 | 21.02 | 21.62 | 22.81 | 23.69          | 24.26 | 24.61 | 25.20 | 26.40 |
|                 | 6H   | 20.75            | 21.23 | 21.69 | 22.21 | 23.40 | 25.33          | 25.81 | 26.27 | 26.79 | 27.99 |
|                 | 8H   | 20.97            | 21.40 | 21.92 | 22.37 | 23.58 | 26.22          | 26.65 | 27.17 | 27.62 | 28.83 |
|                 | 12H  | 21.11            | 21.49 | 22.07 | 22.46 | 23.72 | 27.22          | 27.61 | 28.18 | 28.57 | 29.83 |
| 12H             | 4H   | 20.31            | 20.83 | 21.25 | 21.79 | 22.99 | 23.68          | 24.19 | 24.61 | 25.15 | 26.36 |
|                 | 6H   | 21.08            | 21.51 | 22.04 | 22.48 | 23.70 | 25.36          | 25.79 | 26.31 | 26.76 | 27.97 |
|                 | 8H   | 21.39            | 21.78 | 22.35 | 22.74 | 24.00 | 26.29          | 26.68 | 27.25 | 27.64 | 28.90 |