

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: P998466

Luminaire Tested: SA2XXDIP-B485D330UB30-4F0-XX-W2A-F1

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998466  
REPORT IS A COMBINATION OF REPORTS P984209 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B485D330UB30-4F0-XX-W2A-F1  
Description: Define 2 Direct/Indirect Pendant with 3000K BioUP LEDs {m-DER=0.589} {m-EER=0.647}  
Light Source: -  
Ballast/Driver: -

**Summary**

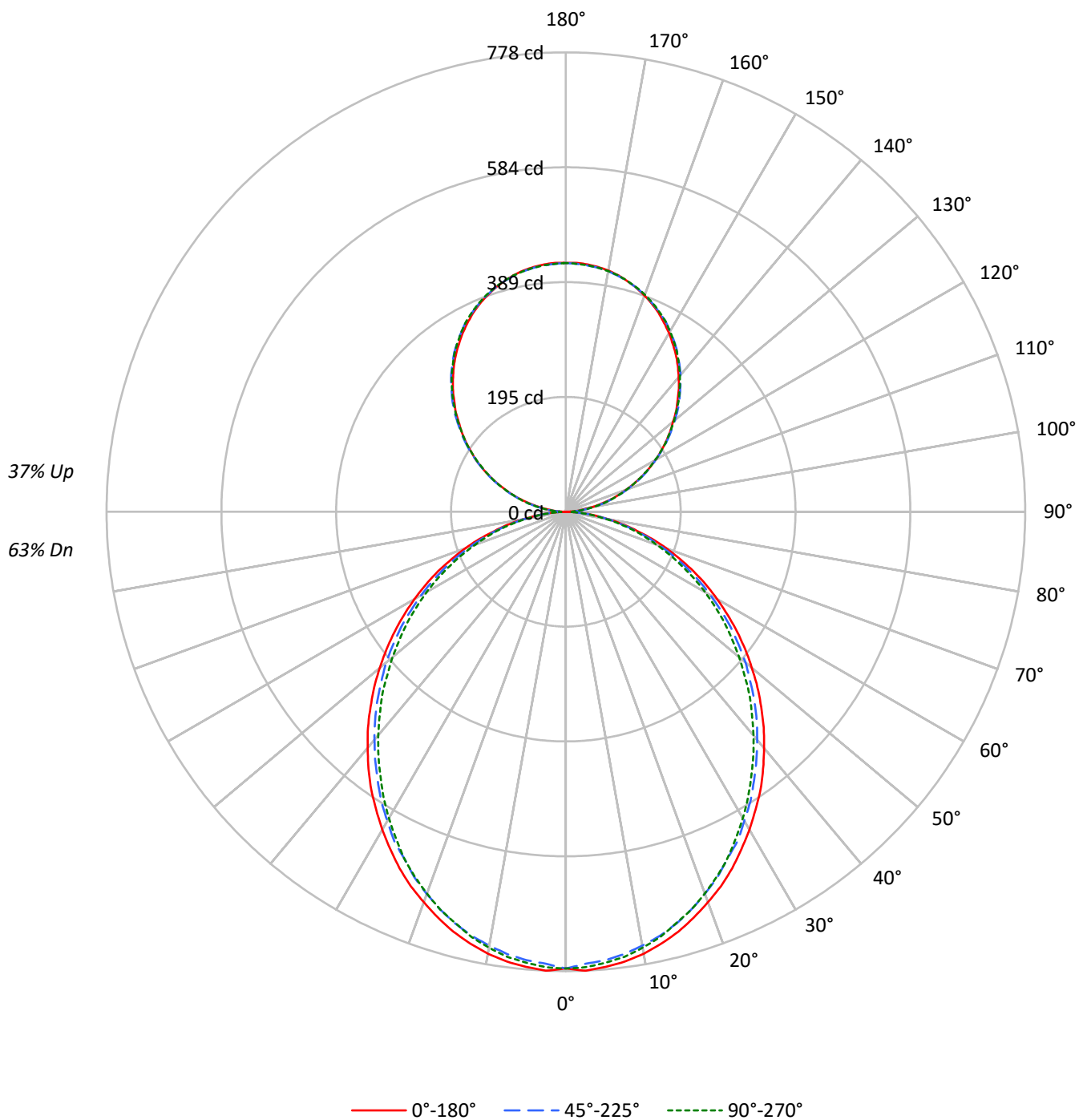
Lumens per Lamp: N/A  
Luminaire Lumens: 3147.0 lumens  
Efficiency: N/A  
Efficacy: 94.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: Semi-Direct

Input Watts (W): 33.3  
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 | 90 | 90 | 90 | 79 | 79 | 79 | 68 | 68 | 68 |
| 1   | 101 | 96  | 92  | 89  | 94  | 90  | 87  | 84  | 79 | 77 | 74 | 69 | 67 | 65 | 60 | 58 | 57 |
| 2   | 92  | 84  | 78  | 72  | 86  | 79  | 73  | 69  | 70 | 65 | 62 | 61 | 58 | 55 | 53 | 50 | 48 |
| 3   | 84  | 74  | 66  | 60  | 78  | 70  | 63  | 57  | 61 | 56 | 52 | 54 | 50 | 46 | 47 | 44 | 41 |
| 4   | 77  | 65  | 57  | 51  | 71  | 62  | 54  | 49  | 55 | 49 | 44 | 48 | 43 | 40 | 42 | 38 | 35 |
| 5   | 70  | 58  | 50  | 44  | 66  | 55  | 48  | 42  | 49 | 43 | 38 | 43 | 38 | 35 | 38 | 34 | 31 |
| 6   | 65  | 53  | 44  | 38  | 61  | 50  | 42  | 37  | 44 | 38 | 33 | 39 | 34 | 30 | 34 | 30 | 27 |
| 7   | 60  | 47  | 39  | 34  | 56  | 45  | 38  | 32  | 40 | 34 | 30 | 36 | 31 | 27 | 31 | 27 | 24 |
| 8   | 56  | 43  | 35  | 30  | 52  | 41  | 34  | 29  | 37 | 31 | 26 | 33 | 28 | 24 | 29 | 25 | 22 |
| 9   | 52  | 40  | 32  | 27  | 49  | 37  | 30  | 26  | 34 | 28 | 24 | 30 | 25 | 22 | 27 | 23 | 20 |
| 10  | 49  | 36  | 29  | 24  | 46  | 35  | 28  | 23  | 31 | 25 | 21 | 28 | 23 | 20 | 25 | 21 | 18 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 12244 | 12244 | 12244 |
| 5°  | 12264 | 11672 | 11588 |
| 10° | 12164 | 11139 | 10918 |
| 15° | 11986 | 10603 | 10214 |
| 20° | 11745 | 10020 | 9546  |
| 25° | 11505 | 9411  | 8879  |
| 30° | 11204 | 8840  | 8180  |
| 35° | 10918 | 8236  | 7492  |
| 40° | 10567 | 7641  | 6843  |
| 45° | 10217 | 7050  | 6206  |
| 50° | 9836  | 6449  | 5545  |
| 55° | 9433  | 5807  | 4919  |
| 60° | 8982  | 5109  | 4268  |
| 65° | 8489  | 4404  | 3584  |
| 70° | 7860  | 3628  | 2894  |
| 75° | 6993  | 2796  | 2236  |
| 80° | 5940  | 1900  | 1438  |
| 85° | 4308  | 884   | 611   |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 10217 cd/sqm

TEST NUMBER: P998466

CATALOG NUMBER: SA2XXDIP-B485D330UB30-4F0-XX-W2A-F1

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 72.8   | 2.3       |
| 10°-20°   | 204.8  | 6.5       |
| 20°-30°   | 301.0  | 9.6       |
| 30°-40°   | 349.6  | 11.1      |
| 40°-50°   | 349.2  | 11.1      |
| 50°-60°   | 304.5  | 9.7       |
| 60°-70°   | 225.1  | 7.2       |
| 70°-80°   | 127.3  | 4.0       |
| 80°-90°   | 34.8   | 1.1       |
| 90°-100°  | 26.1   | 0.8       |
| 100°-110° | 82.8   | 2.6       |
| 110°-120° | 141.8  | 4.5       |
| 120°-130° | 186.4  | 5.9       |
| 130°-140° | 209.3  | 6.6       |
| 140°-150° | 205.2  | 6.5       |
| 150°-160° | 172.1  | 5.5       |
| 160°-170° | 114.2  | 3.6       |
| 170°-180° | 39.9   | 1.3       |
| 0°-30°    | 578.7  | 18.4      |
| 0°-40°    | 928.3  | 29.5      |
| 0°-60°    | 1582.0 | 50.3      |
| 0°-90°    | 1969.2 | 62.6      |
| 90°-120°  | 250.7  | 8.0       |
| 90°-150°  | 851.6  | 27.1      |
| 90°-180°  | 1178.0 | 37.4      |
| 0°-180°   | 3147.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 774 | 774   | 774 | 774   | 774 |      |
| 5°   | 774 | 771   | 762 | 768   | 767 | 73   |
| 15°  | 736 | 732   | 722 | 725   | 722 | 207  |
| 25°  | 666 | 660   | 648 | 649   | 648 | 307  |
| 35°  | 575 | 568   | 556 | 551   | 547 | 359  |
| 45°  | 468 | 463   | 452 | 443   | 440 | 361  |
| 55°  | 354 | 350   | 341 | 332   | 328 | 317  |
| 65°  | 239 | 234   | 227 | 220   | 216 | 236  |
| 75°  | 125 | 124   | 120 | 115   | 117 | 133  |
| 85°  | 30  | 30    | 29  | 27    | 26  | 34   |
| 90°  | 0   | 5     | 12  | 12    | 12  | 3    |
| 95°  | 18  | 22    | 23  | 23    | 22  | 21   |
| 105° | 76  | 78    | 78  | 79    | 79  | 81   |
| 115° | 142 | 144   | 144 | 143   | 142 | 141  |
| 125° | 207 | 210   | 209 | 208   | 208 | 185  |
| 135° | 268 | 272   | 272 | 272   | 271 | 207  |
| 145° | 325 | 327   | 330 | 330   | 328 | 203  |
| 155° | 372 | 373   | 374 | 375   | 374 | 171  |
| 165° | 404 | 404   | 404 | 406   | 405 | 114  |
| 175° | 421 | 420   | 419 | 421   | 419 | 40   |
| 180° | 421 | 421   | 421 | 421   | 421 |      |

TEST NUMBER: P998466

CATALOG NUMBER: SA2XXDIP-B485D330UB30-4F0-XX-W2A-F1

**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 773.5 | 773.5 | 773.5 | 773.5 | 773.5 |
| 2.5°   | 778.0 | 774.3 | 766.1 | 773.5 | 772.0 |
| 5°     | 773.5 | 770.6 | 762.4 | 768.3 | 766.8 |
| 7.5°   | 768.3 | 763.9 | 755.7 | 761.6 | 760.1 |
| 10°    | 760.1 | 754.9 | 746.0 | 752.0 | 749.7 |
| 12.5°  | 749.0 | 744.5 | 735.6 | 739.3 | 737.8 |
| 15°    | 736.3 | 731.9 | 722.2 | 725.2 | 721.5 |
| 17.5°  | 720.7 | 716.3 | 706.6 | 710.3 | 706.6 |
| 20°    | 703.6 | 699.2 | 688.7 | 691.0 | 688.0 |
| 22.5°  | 686.5 | 679.8 | 670.2 | 670.2 | 668.7 |
| 25°    | 666.4 | 660.5 | 647.8 | 649.3 | 647.8 |
| 27.5°  | 644.1 | 638.9 | 629.2 | 627.0 | 623.3 |
| 30°    | 621.8 | 615.9 | 604.7 | 602.5 | 599.5 |
| 32.5°  | 598.0 | 593.5 | 581.6 | 577.2 | 574.2 |
| 35°    | 574.9 | 567.5 | 555.6 | 551.1 | 547.4 |
| 37.5°  | 548.9 | 542.2 | 530.3 | 525.1 | 521.4 |
| 40°    | 522.1 | 516.2 | 504.3 | 497.6 | 494.6 |
| 42.5°  | 496.1 | 490.2 | 478.3 | 470.8 | 466.4 |
| 45°    | 467.8 | 462.6 | 451.5 | 443.3 | 440.3 |
| 47.5°  | 440.3 | 435.1 | 423.2 | 415.0 | 410.6 |
| 50°    | 411.3 | 407.6 | 397.2 | 386.8 | 383.0 |
| 52.5°  | 383.0 | 377.8 | 368.2 | 360.0 | 354.8 |
| 55°    | 354.0 | 349.6 | 340.7 | 331.7 | 328.0 |
| 57.5°  | 325.0 | 321.3 | 311.6 | 302.7 | 299.7 |
| 60°    | 296.0 | 293.1 | 282.6 | 274.5 | 272.2 |
| 62.5°  | 267.8 | 262.6 | 255.1 | 247.7 | 244.7 |
| 65°    | 238.8 | 234.3 | 226.9 | 220.2 | 216.4 |
| 67.5°  | 209.0 | 205.3 | 198.6 | 193.4 | 190.4 |
| 70°    | 181.5 | 178.5 | 171.8 | 166.6 | 163.6 |
| 72.5°  | 153.2 | 150.2 | 146.5 | 141.3 | 139.1 |
| 75°    | 125.0 | 123.5 | 119.7 | 115.3 | 116.8 |
| 77.5°  | 99.7  | 96.7  | 95.2  | 93.0  | 90.7  |
| 80°    | 74.4  | 73.6  | 72.1  | 69.9  | 68.4  |
| 82.5°  | 50.6  | 50.6  | 49.8  | 46.9  | 46.9  |
| 85°    | 30.5  | 29.8  | 29.0  | 26.8  | 26.0  |
| 87.5°  | 13.4  | 11.9  | 10.4  | 8.2   | 7.4   |
| 90°    | 0.4   | 4.6   | 12.4  | 11.7  | 12.1  |
| 92.5°  | 7.8   | 10.7  | 11.0  | 11.4  | 11.4  |
| 95°    | 18.5  | 22.0  | 22.8  | 22.8  | 22.0  |
| 97.5°  | 30.9  | 34.1  | 35.6  | 35.6  | 35.6  |
| 100°   | 45.1  | 48.0  | 49.1  | 49.1  | 48.7  |
| 102.5° | 60.1  | 62.2  | 63.6  | 64.0  | 63.6  |
| 105°   | 76.4  | 77.5  | 78.2  | 78.9  | 78.9  |
| 107.5° | 92.8  | 94.2  | 94.2  | 94.6  | 92.8  |
| 110°   | 108.4 | 110.6 | 110.6 | 110.6 | 109.5 |



TEST NUMBER: P998466

CATALOG NUMBER: SA2XXDIP-B485D330UB30-4F0-XX-W2A-F1

**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 125.5 | 127.6 | 127.3 | 126.2 | 125.5 |
| 115°   | 142.2 | 144.3 | 143.6 | 143.3 | 142.2 |
| 117.5° | 158.9 | 161.8 | 160.0 | 158.9 | 157.8 |
| 120°   | 175.6 | 178.5 | 175.6 | 175.6 | 174.6 |
| 122.5° | 190.9 | 194.5 | 192.7 | 191.6 | 190.9 |
| 125°   | 206.9 | 210.1 | 209.0 | 208.0 | 207.6 |
| 127.5° | 222.5 | 226.5 | 225.0 | 223.6 | 222.5 |
| 130°   | 237.1 | 241.7 | 241.0 | 240.3 | 238.9 |
| 132.5° | 253.5 | 257.0 | 257.4 | 255.6 | 254.5 |
| 135°   | 267.7 | 271.6 | 272.3 | 272.0 | 270.9 |
| 137.5° | 283.3 | 286.5 | 287.2 | 286.9 | 285.5 |
| 140°   | 297.2 | 300.4 | 302.2 | 302.2 | 300.8 |
| 142.5° | 311.4 | 314.6 | 315.7 | 316.0 | 314.6 |
| 145°   | 324.9 | 327.4 | 329.6 | 329.9 | 328.5 |
| 147.5° | 337.0 | 340.2 | 341.6 | 342.4 | 340.9 |
| 150°   | 349.5 | 351.6 | 353.0 | 354.1 | 353.0 |
| 152.5° | 360.5 | 362.6 | 364.4 | 365.8 | 364.4 |
| 155°   | 371.5 | 372.6 | 373.6 | 375.4 | 374.3 |
| 157.5° | 381.1 | 381.8 | 382.5 | 385.0 | 383.2 |
| 160°   | 389.6 | 390.3 | 390.7 | 392.8 | 391.4 |
| 162.5° | 397.5 | 397.5 | 397.8 | 400.3 | 398.5 |
| 165°   | 404.2 | 403.9 | 403.9 | 406.3 | 404.6 |
| 167.5° | 410.3 | 409.2 | 409.2 | 411.7 | 409.9 |
| 170°   | 414.9 | 413.8 | 413.5 | 415.9 | 413.8 |
| 172.5° | 418.1 | 417.0 | 416.7 | 419.1 | 417.0 |
| 175°   | 420.6 | 419.5 | 418.8 | 421.3 | 419.1 |
| 177.5° | 422.0 | 420.9 | 420.2 | 422.3 | 420.2 |
| 180°   | 421.3 | 421.3 | 421.3 | 421.3 | 421.3 |

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CATALOG NUMBER: SA2XXDIP-B485D330UB30-4F0-XX-W2A-F1

**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 | 15.02            | 16.01 | 15.87 | 16.87 | 17.95 | 15.81          | 16.79 | 16.65 | 17.66 | 18.74 |
|                 | 3H   | 16.37            | 17.26 | 17.22 | 18.13 | 19.24 | 17.44          | 18.33 | 18.29 | 19.20 | 20.31 |
|                 | 4H   | 16.78            | 17.62 | 17.65 | 18.50 | 19.62 | 18.04          | 18.88 | 18.91 | 19.76 | 20.87 |
|                 | 6H   | 17.01            | 17.78 | 17.89 | 18.67 | 19.80 | 18.45          | 19.22 | 19.33 | 20.11 | 21.24 |
|                 | 8H   | 17.04            | 17.78 | 17.93 | 18.68 | 19.81 | 18.56          | 19.30 | 19.45 | 20.20 | 21.33 |
|                 | 12H  | 17.04            | 17.74 | 17.93 | 18.64 | 19.79 | 18.61          | 19.31 | 19.51 | 20.21 | 21.37 |
| 4H              | 2H   | 15.51            | 16.35 | 16.38 | 17.23 | 18.34 | 16.15          | 16.99 | 17.03 | 17.87 | 18.99 |
|                 | 3H   | 17.04            | 17.74 | 17.92 | 18.65 | 19.78 | 17.94          | 18.64 | 18.83 | 19.55 | 20.69 |
|                 | 4H   | 17.55            | 18.19 | 18.45 | 19.09 | 20.25 | 18.63          | 19.27 | 19.53 | 20.17 | 21.33 |
|                 | 6H   | 17.86            | 18.41 | 18.77 | 19.34 | 20.50 | 19.13          | 19.68 | 20.04 | 20.61 | 21.77 |
|                 | 8H   | 17.92            | 18.43 | 18.83 | 19.36 | 20.53 | 19.28          | 19.79 | 20.19 | 20.72 | 21.89 |
|                 | 12H  | 17.92            | 18.39 | 18.86 | 19.33 | 20.51 | 19.35          | 19.81 | 20.28 | 20.75 | 21.93 |
| 8H              | 4H   | 17.73            | 18.25 | 18.65 | 19.17 | 20.35 | 18.73          | 19.24 | 19.64 | 20.17 | 21.34 |
|                 | 6H   | 18.12            | 18.55 | 19.06 | 19.52 | 20.69 | 19.30          | 19.73 | 20.24 | 20.69 | 21.87 |
|                 | 8H   | 18.23            | 18.60 | 19.18 | 19.56 | 20.75 | 19.49          | 19.87 | 20.44 | 20.83 | 22.02 |
|                 | 12H  | 18.26            | 18.60 | 19.22 | 19.55 | 20.79 | 19.59          | 19.93 | 20.55 | 20.88 | 22.12 |
| 12H             | 4H   | 17.72            | 18.19 | 18.66 | 19.13 | 20.31 | 18.70          | 19.16 | 19.63 | 20.10 | 21.28 |
|                 | 6H   | 18.14            | 18.52 | 19.09 | 19.48 | 20.67 | 19.29          | 19.67 | 20.24 | 20.63 | 21.82 |
|                 | 8H   | 18.26            | 18.59 | 19.21 | 19.54 | 20.78 | 19.49          | 19.83 | 20.45 | 20.78 | 22.02 |