

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: P999119

Luminaire Tested: SA2XXDIP-B865D530UB30-4F0-XX-W2A-F

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P999119  
REPORT IS A COMBINATION OF REPORTS P984868 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B865D530UB30-4F0-XX-W2A-F  
Description: Define 2 Direct/Indirect Pendant with 3000K BioUP LEDs {m-DER=0.589} {m-EER=0.647}  
Light Source: -  
Ballast/Driver: -

**Summary**

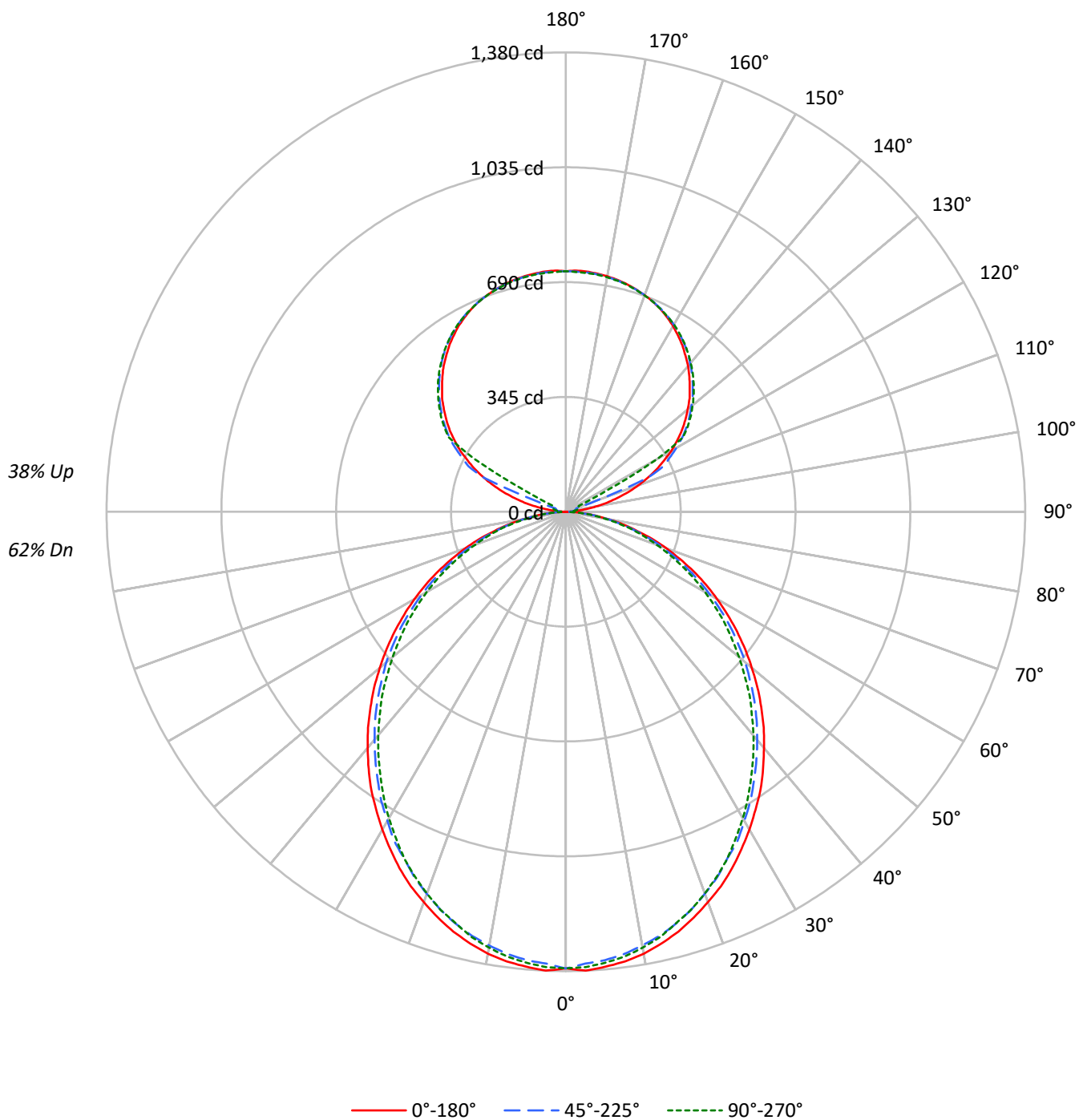
Lumens per Lamp: N/A  
Luminaire Lumens: 5610.0 lumens  
Efficiency: N/A  
Efficacy: 90.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: Semi-Direct

Input Watts (W): 62.2  
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 | 78 | 78 | 78 | 67 | 67 | 67 |
| 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  | 69 | 65 | 61 | 61 | 57 | 55 | 52 | 50 | 48 |
| 3   | 84  | 74  | 66  | 60  | 78  | 69  | 63  | 57  | 61 | 56 | 52 | 54 | 50 | 46 | 46 | 43 | 41 |
| 4   | 76  | 65  | 57  | 51  | 71  | 62  | 54  | 49  | 54 | 49 | 44 | 48 | 43 | 40 | 42 | 38 | 35 |
| 5   | 70  | 58  | 50  | 44  | 66  | 55  | 48  | 42  | 49 | 43 | 38 | 43 | 38 | 34 | 37 | 34 | 31 |
| 6   | 65  | 52  | 44  | 38  | 61  | 50  | 42  | 37  | 44 | 38 | 33 | 39 | 34 | 30 | 34 | 30 | 27 |
| 7   | 60  | 47  | 39  | 34  | 56  | 45  | 37  | 32  | 40 | 34 | 29 | 35 | 30 | 27 | 31 | 27 | 24 |
| 8   | 56  | 43  | 35  | 30  | 52  | 41  | 34  | 29  | 37 | 31 | 26 | 32 | 28 | 24 | 29 | 25 | 22 |
| 9   | 52  | 39  | 32  | 27  | 49  | 37  | 30  | 26  | 34 | 28 | 24 | 30 | 25 | 22 | 26 | 22 | 20 |
| 10  | 49  | 36  | 29  | 24  | 46  | 34  | 28  | 23  | 31 | 25 | 21 | 28 | 23 | 20 | 25 | 21 | 18 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 21715 | 21715 | 21715 |
| 5°  | 21750 | 20698 | 20551 |
| 10° | 21572 | 19755 | 19363 |
| 15° | 21257 | 18804 | 18112 |
| 20° | 20830 | 17770 | 16928 |
| 25° | 20403 | 16691 | 15747 |
| 30° | 19868 | 15677 | 14505 |
| 35° | 19364 | 14605 | 13287 |
| 40° | 18739 | 13549 | 12135 |
| 45° | 18121 | 12501 | 11007 |
| 50° | 17443 | 11436 | 9834  |
| 55° | 16728 | 10296 | 8724  |
| 60° | 15931 | 9062  | 7571  |
| 65° | 15052 | 7808  | 6357  |
| 70° | 13936 | 6435  | 5134  |
| 75° | 12396 | 4961  | 3964  |
| 80° | 10531 | 3370  | 2550  |
| 85° | 7642  | 1567  | 1086  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 18121 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 129.1  | 2.3       |
| 10°-20°   | 363.3  | 6.5       |
| 20°-30°   | 533.8  | 9.5       |
| 30°-40°   | 620.0  | 11.1      |
| 40°-50°   | 619.2  | 11.0      |
| 50°-60°   | 540.0  | 9.6       |
| 60°-70°   | 399.1  | 7.1       |
| 70°-80°   | 225.8  | 4.0       |
| 80°-90°   | 60.9   | 1.1       |
| 90°-100°  | 23.8   | 0.4       |
| 100°-110° | 88.8   | 1.6       |
| 110°-120° | 235.6  | 4.2       |
| 120°-130° | 390.8  | 7.0       |
| 130°-140° | 415.1  | 7.4       |
| 140°-150° | 385.8  | 6.9       |
| 150°-160° | 310.2  | 5.5       |
| 160°-170° | 199.9  | 3.6       |
| 170°-180° | 68.8   | 1.2       |
| 0°-30°    | 1026.2 | 18.3      |
| 0°-40°    | 1646.2 | 29.3      |
| 0°-60°    | 2805.4 | 50.0      |
| 0°-90°    | 3491.3 | 62.2      |
| 90°-120°  | 348.3  | 6.2       |
| 90°-150°  | 1539.9 | 27.4      |
| 90°-180°  | 2119.0 | 37.8      |
| 0°-180°   | 5610.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1372 | 1372  | 1372 | 1372  | 1372 |      |
| 5°   | 1372 | 1366  | 1352 | 1362  | 1360 | 130  |
| 15°  | 1306 | 1298  | 1281 | 1286  | 1279 | 368  |
| 25°  | 1182 | 1171  | 1149 | 1152  | 1149 | 544  |
| 35°  | 1020 | 1006  | 985  | 977   | 971  | 637  |
| 45°  | 830  | 820   | 801  | 786   | 781  | 640  |
| 55°  | 628  | 620   | 604  | 588   | 582  | 561  |
| 65°  | 423  | 416   | 402  | 390   | 384  | 419  |
| 75°  | 222  | 219   | 212  | 204   | 207  | 236  |
| 85°  | 54   | 53    | 51   | 48    | 46   | 60   |
| 90°  | 0    | 6     | 10   | 13    | 14   | 5    |
| 95°  | 34   | 17    | 20   | 23    | 22   | 40   |
| 105° | 159  | 175   | 32   | 38    | 40   | 170  |
| 115° | 301  | 310   | 323  | 80    | 43   | 296  |
| 125° | 425  | 432   | 442  | 446   | 447  | 379  |
| 135° | 526  | 534   | 539  | 544   | 543  | 406  |
| 145° | 610  | 610   | 619  | 622   | 620  | 382  |
| 155° | 672  | 667   | 674  | 677   | 672  | 310  |
| 165° | 708  | 705   | 706  | 710   | 706  | 200  |
| 175° | 724  | 721   | 722  | 725   | 720  | 69   |
| 180° | 723  | 723   | 723  | 723   | 723  |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1371.8 | 1371.8 | 1371.8 | 1371.8 | 1371.8 |
| 2.5°   | 1379.7 | 1373.1 | 1358.6 | 1371.8 | 1369.1 |
| 5°     | 1371.8 | 1366.5 | 1352.0 | 1362.5 | 1359.9 |
| 7.5°   | 1362.5 | 1354.6 | 1340.1 | 1350.7 | 1348.0 |
| 10°    | 1348.0 | 1338.8 | 1323.0 | 1333.5 | 1329.6 |
| 12.5°  | 1328.2 | 1320.3 | 1304.5 | 1311.1 | 1308.5 |
| 15°    | 1305.8 | 1297.9 | 1280.8 | 1286.0 | 1279.4 |
| 17.5°  | 1278.1 | 1270.2 | 1253.1 | 1259.7 | 1253.1 |
| 20°    | 1247.8 | 1239.9 | 1221.4 | 1225.4 | 1220.1 |
| 22.5°  | 1217.4 | 1205.6 | 1188.4 | 1188.4 | 1185.8 |
| 25°    | 1181.8 | 1171.3 | 1148.9 | 1151.5 | 1148.9 |
| 27.5°  | 1142.3 | 1133.0 | 1115.9 | 1111.9 | 1105.3 |
| 30°    | 1102.7 | 1092.1 | 1072.4 | 1068.4 | 1063.1 |
| 32.5°  | 1060.5 | 1052.6 | 1031.5 | 1023.6 | 1018.3 |
| 35°    | 1019.6 | 1006.4 | 985.3  | 977.4  | 970.8  |
| 37.5°  | 973.4  | 961.6  | 940.5  | 931.2  | 924.6  |
| 40°    | 925.9  | 915.4  | 894.3  | 882.4  | 877.1  |
| 42.5°  | 879.8  | 869.2  | 848.1  | 834.9  | 827.0  |
| 45°    | 829.7  | 820.4  | 800.6  | 786.1  | 780.9  |
| 47.5°  | 780.9  | 771.6  | 750.5  | 736.0  | 728.1  |
| 50°    | 729.4  | 722.8  | 704.4  | 685.9  | 679.3  |
| 52.5°  | 679.3  | 670.1  | 652.9  | 638.4  | 629.2  |
| 55°    | 627.8  | 619.9  | 604.1  | 588.3  | 581.7  |
| 57.5°  | 576.4  | 569.8  | 552.7  | 536.8  | 531.6  |
| 60°    | 525.0  | 519.7  | 501.2  | 486.7  | 482.8  |
| 62.5°  | 474.8  | 465.6  | 452.4  | 439.2  | 434.0  |
| 65°    | 423.4  | 415.5  | 402.3  | 390.4  | 383.8  |
| 67.5°  | 370.6  | 364.0  | 352.2  | 342.9  | 337.7  |
| 70°    | 321.8  | 316.6  | 304.7  | 295.5  | 290.2  |
| 72.5°  | 271.7  | 266.4  | 259.8  | 250.6  | 246.7  |
| 75°    | 221.6  | 219.0  | 212.4  | 204.4  | 207.1  |
| 77.5°  | 176.7  | 171.5  | 168.8  | 164.9  | 160.9  |
| 80°    | 131.9  | 130.6  | 127.9  | 124.0  | 121.3  |
| 82.5°  | 89.7   | 89.7   | 88.4   | 83.1   | 83.1   |
| 85°    | 54.1   | 52.8   | 51.4   | 47.5   | 46.2   |
| 87.5°  | 23.7   | 21.1   | 18.5   | 14.5   | 13.2   |
| 90°    | 0.5    | 6.3    | 10.5   | 13.1   | 14.1   |
| 92.5°  | 13.1   | 11.0   | 12.6   | 13.6   | 14.1   |
| 95°    | 34.0   | 16.7   | 20.4   | 23.0   | 22.5   |
| 97.5°  | 61.2   | 18.3   | 26.7   | 28.2   | 28.8   |
| 100°   | 92.6   | 20.9   | 29.8   | 34.0   | 35.0   |
| 102.5° | 127.1  | 126.0  | 30.9   | 36.6   | 38.2   |
| 105°   | 159.0  | 174.7  | 31.9   | 37.7   | 39.7   |
| 107.5° | 196.1  | 209.2  | 32.9   | 38.7   | 40.8   |
| 110°   | 231.7  | 242.6  | 91.5   | 39.2   | 41.3   |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 265.1 | 274.5 | 265.7 | 40.3  | 41.8  |
| 115°   | 300.7 | 309.6 | 322.7 | 80.5  | 42.9  |
| 117.5° | 331.5 | 342.0 | 350.9 | 276.1 | 139.1 |
| 120°   | 366.1 | 373.9 | 383.3 | 389.6 | 319.0 |
| 122.5° | 395.3 | 403.7 | 414.2 | 417.3 | 417.8 |
| 125°   | 425.2 | 432.0 | 441.9 | 445.5 | 447.1 |
| 127.5° | 452.3 | 459.7 | 467.5 | 472.7 | 473.3 |
| 130°   | 478.0 | 486.3 | 492.1 | 497.8 | 497.3 |
| 132.5° | 504.1 | 510.9 | 516.7 | 521.4 | 520.9 |
| 135°   | 526.1 | 534.4 | 539.2 | 544.4 | 543.3 |
| 137.5° | 549.1 | 555.4 | 560.6 | 565.8 | 564.3 |
| 140°   | 571.6 | 575.8 | 581.5 | 586.2 | 583.6 |
| 142.5° | 590.4 | 594.1 | 600.9 | 605.0 | 602.4 |
| 145°   | 610.3 | 609.8 | 618.6 | 622.3 | 619.7 |
| 147.5° | 627.5 | 626.0 | 634.9 | 637.5 | 635.4 |
| 150°   | 644.3 | 640.6 | 649.0 | 652.1 | 649.5 |
| 152.5° | 658.4 | 654.2 | 662.0 | 665.2 | 661.5 |
| 155°   | 672.0 | 667.3 | 673.6 | 676.7 | 672.5 |
| 157.5° | 683.0 | 678.8 | 683.5 | 687.1 | 683.0 |
| 160°   | 692.4 | 689.2 | 692.4 | 695.5 | 691.9 |
| 162.5° | 700.7 | 697.6 | 700.2 | 703.9 | 699.2 |
| 165°   | 708.1 | 704.9 | 706.5 | 710.2 | 706.5 |
| 167.5° | 713.8 | 710.7 | 712.2 | 715.9 | 711.2 |
| 170°   | 718.5 | 715.4 | 716.4 | 720.1 | 715.4 |
| 172.5° | 721.7 | 718.5 | 719.6 | 723.2 | 718.5 |
| 175°   | 724.3 | 720.6 | 721.7 | 725.3 | 720.1 |
| 177.5° | 725.3 | 721.7 | 722.2 | 725.8 | 721.1 |
| 180°   | 722.7 | 722.7 | 722.7 | 722.7 | 722.7 |

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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 | 16.99            | 17.97 | 17.83 | 18.84 | 19.92 | 17.77          | 18.75 | 18.61 | 19.62 | 20.70 |
|                 | 3H   | 18.33            | 19.22 | 19.19 | 20.09 | 21.21 | 19.40          | 20.29 | 20.26 | 21.16 | 22.28 |
|                 | 4H   | 18.74            | 19.58 | 19.62 | 20.46 | 21.58 | 20.00          | 20.84 | 20.88 | 21.72 | 22.84 |
|                 | 6H   | 18.97            | 19.74 | 19.86 | 20.63 | 21.76 | 20.41          | 21.18 | 21.30 | 22.07 | 23.21 |
|                 | 8H   | 19.00            | 19.74 | 19.90 | 20.64 | 21.78 | 20.52          | 21.26 | 21.42 | 22.16 | 23.30 |
|                 | 12H  | 19.00            | 19.70 | 19.90 | 20.60 | 21.76 | 20.57          | 21.27 | 21.47 | 22.17 | 23.33 |
| 4H              | 2H   | 17.47            | 18.31 | 18.35 | 19.19 | 20.31 | 18.12          | 18.95 | 18.99 | 19.83 | 20.95 |
|                 | 3H   | 19.00            | 19.70 | 19.89 | 20.61 | 21.75 | 19.91          | 20.60 | 20.80 | 21.52 | 22.65 |
|                 | 4H   | 19.51            | 20.15 | 20.41 | 21.06 | 22.22 | 20.59          | 21.23 | 21.49 | 22.14 | 23.30 |
|                 | 6H   | 19.82            | 20.37 | 20.74 | 21.30 | 22.47 | 21.10          | 21.64 | 22.01 | 22.58 | 23.74 |
|                 | 8H   | 19.88            | 20.39 | 20.80 | 21.32 | 22.50 | 21.24          | 21.75 | 22.16 | 22.68 | 23.86 |
|                 | 12H  | 19.89            | 20.35 | 20.82 | 21.30 | 22.48 | 21.31          | 21.77 | 22.25 | 22.72 | 23.90 |
| 8H              | 4H   | 19.70            | 20.21 | 20.61 | 21.14 | 22.32 | 20.69          | 21.20 | 21.61 | 22.13 | 23.31 |
|                 | 6H   | 20.08            | 20.51 | 21.03 | 21.48 | 22.66 | 21.26          | 21.69 | 22.21 | 22.66 | 23.83 |
|                 | 8H   | 20.19            | 20.56 | 21.14 | 21.53 | 22.72 | 21.45          | 21.83 | 22.41 | 22.79 | 23.98 |
|                 | 12H  | 20.23            | 20.56 | 21.18 | 21.51 | 22.76 | 21.56          | 21.89 | 22.51 | 22.84 | 24.09 |
| 12H             | 4H   | 19.68            | 20.15 | 20.62 | 21.09 | 22.28 | 20.66          | 21.12 | 21.60 | 22.07 | 23.25 |
|                 | 6H   | 20.10            | 20.48 | 21.06 | 21.44 | 22.64 | 21.25          | 21.63 | 22.21 | 22.59 | 23.79 |
|                 | 8H   | 20.22            | 20.55 | 21.18 | 21.51 | 22.75 | 21.46          | 21.79 | 22.41 | 22.74 | 23.99 |