

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: P997940

Luminaire Tested: SA2XXDIP-B1005D530UB35-4F0-XX-W2A-F

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P997940  
REPORT IS A COMBINATION OF REPORTS P983677 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B1005D530UB35-4F0-XX-W2A-F  
Description: Define 2 Direct/Indirect Pendant with 3500K BioUP LEDs {m-DER=0.721} {m-EER=0.792}  
Light Source: -  
Ballast/Driver: -

**Summary**

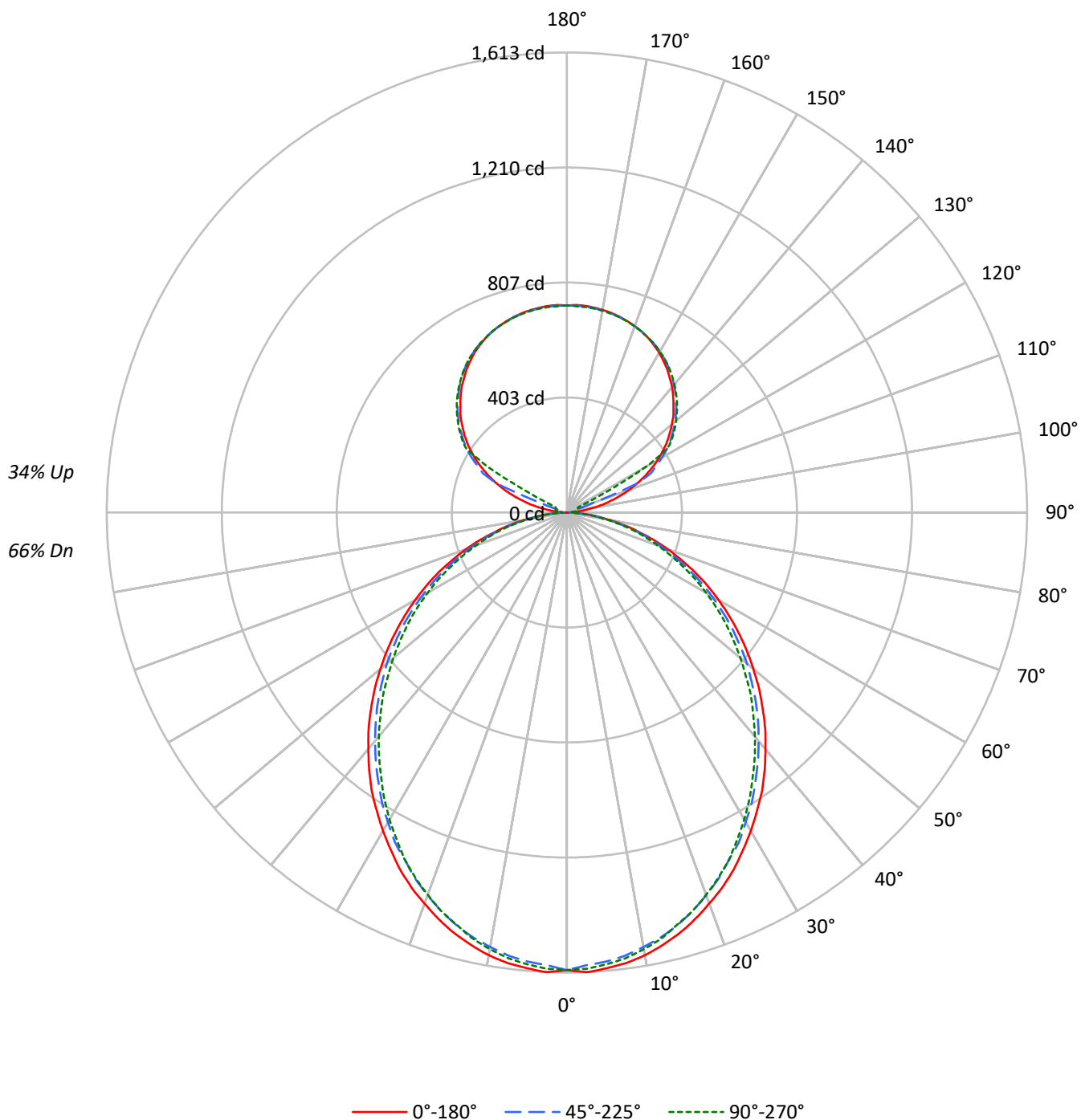
Lumens per Lamp: N/A  
Luminaire Lumens: 6210.0 lumens  
Efficiency: N/A  
Efficacy: 81.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: Semi-Direct

Input Watts (W): 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   | 111 | 111 | 111 | 111 | 104 | 104 | 104 | 104 | 92 | 92 | 92 | 81 | 81 | 81 | 71 | 71 | 71 |
| 1   | 101 | 97  | 93  | 89  | 95  | 91  | 88  | 85  | 81 | 78 | 76 | 71 | 69 | 67 | 62 | 61 | 60 |
| 2   | 92  | 85  | 78  | 73  | 87  | 80  | 74  | 70  | 71 | 67 | 63 | 63 | 59 | 56 | 55 | 52 | 50 |
| 3   | 84  | 74  | 67  | 61  | 79  | 70  | 64  | 58  | 63 | 57 | 53 | 55 | 51 | 48 | 49 | 46 | 43 |
| 4   | 77  | 66  | 58  | 52  | 72  | 62  | 55  | 49  | 56 | 50 | 45 | 49 | 45 | 41 | 44 | 40 | 37 |
| 5   | 71  | 59  | 51  | 44  | 66  | 56  | 48  | 43  | 50 | 44 | 39 | 44 | 39 | 36 | 39 | 35 | 32 |
| 6   | 65  | 53  | 45  | 39  | 61  | 50  | 43  | 37  | 45 | 39 | 34 | 40 | 35 | 31 | 36 | 32 | 28 |
| 7   | 61  | 48  | 40  | 34  | 57  | 45  | 38  | 33  | 41 | 35 | 30 | 37 | 32 | 28 | 33 | 28 | 25 |
| 8   | 56  | 44  | 36  | 30  | 53  | 41  | 34  | 29  | 37 | 31 | 27 | 34 | 28 | 25 | 30 | 26 | 23 |
| 9   | 52  | 40  | 32  | 27  | 49  | 38  | 31  | 26  | 34 | 28 | 24 | 31 | 26 | 22 | 28 | 24 | 21 |
| 10  | 49  | 37  | 29  | 24  | 46  | 35  | 28  | 24  | 32 | 26 | 22 | 29 | 24 | 20 | 26 | 22 | 19 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 25392 | 25392 | 25392 |
| 5°  | 25433 | 24202 | 24031 |
| 10° | 25225 | 23099 | 22641 |
| 15° | 24856 | 21987 | 21179 |
| 20° | 24357 | 20779 | 19795 |
| 25° | 23859 | 19517 | 18413 |
| 30° | 23232 | 18330 | 16963 |
| 35° | 22644 | 17079 | 15537 |
| 40° | 21913 | 15843 | 14190 |
| 45° | 21189 | 14619 | 12870 |
| 50° | 20396 | 13372 | 11499 |
| 55° | 19564 | 12039 | 10202 |
| 60° | 18629 | 10597 | 8852  |
| 65° | 17601 | 9129  | 7433  |
| 70° | 16296 | 7525  | 6002  |
| 75° | 14494 | 5800  | 4636  |
| 80° | 12311 | 3942  | 2983  |
| 85° | 8927  | 1836  | 1270  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 21189 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 151.0  | 2.4       |
| 10°-20°   | 424.8  | 6.8       |
| 20°-30°   | 624.2  | 10.1      |
| 30°-40°   | 725.0  | 11.7      |
| 40°-50°   | 724.1  | 11.7      |
| 50°-60°   | 631.4  | 10.2      |
| 60°-70°   | 466.7  | 7.5       |
| 70°-80°   | 264.1  | 4.3       |
| 80°-90°   | 71.0   | 1.1       |
| 90°-100°  | 23.9   | 0.4       |
| 100°-110° | 89.2   | 1.4       |
| 110°-120° | 236.6  | 3.8       |
| 120°-130° | 392.4  | 6.3       |
| 130°-140° | 416.9  | 6.7       |
| 140°-150° | 387.4  | 6.2       |
| 150°-160° | 311.5  | 5.0       |
| 160°-170° | 200.7  | 3.2       |
| 170°-180° | 69.1   | 1.1       |
| 0°-30°    | 1200.0 | 19.3      |
| 0°-40°    | 1925.0 | 31.0      |
| 0°-60°    | 3280.5 | 52.8      |
| 0°-90°    | 4082.3 | 65.7      |
| 90°-120°  | 349.8  | 5.6       |
| 90°-150°  | 1546.5 | 24.9      |
| 90°-180°  | 2128.0 | 34.3      |
| 0°-180°   | 6210.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1604 | 1604  | 1604 | 1604  | 1604 |      |
| 5°   | 1604 | 1598  | 1581 | 1593  | 1590 | 152  |
| 15°  | 1527 | 1518  | 1498 | 1504  | 1496 | 430  |
| 25°  | 1382 | 1370  | 1343 | 1346  | 1343 | 636  |
| 35°  | 1192 | 1177  | 1152 | 1143  | 1135 | 745  |
| 45°  | 970  | 959   | 936  | 919   | 913  | 749  |
| 55°  | 734  | 725   | 706  | 688   | 680  | 656  |
| 65°  | 495  | 486   | 470  | 456   | 449  | 490  |
| 75°  | 259  | 256   | 248  | 239   | 242  | 277  |
| 85°  | 63   | 62    | 60   | 56    | 54   | 70   |
| 90°  | 0    | 6     | 10   | 13    | 14   | 6    |
| 95°  | 34   | 17    | 20   | 23    | 23   | 40   |
| 105° | 160  | 175   | 32   | 38    | 40   | 171  |
| 115° | 302  | 311   | 324  | 81    | 43   | 297  |
| 125° | 427  | 434   | 444  | 447   | 449  | 381  |
| 135° | 528  | 537   | 541  | 547   | 546  | 408  |
| 145° | 613  | 612   | 621  | 625   | 622  | 383  |
| 155° | 675  | 670   | 676  | 680   | 675  | 311  |
| 165° | 711  | 708   | 710  | 713   | 710  | 201  |
| 175° | 727  | 724   | 725  | 728   | 723  | 69   |
| 180° | 726  | 726   | 726  | 726   | 726  |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1604.1 | 1604.1 | 1604.1 | 1604.1 | 1604.1 |
| 2.5°   | 1613.3 | 1605.6 | 1588.6 | 1604.1 | 1601.0 |
| 5°     | 1604.1 | 1597.9 | 1580.9 | 1593.3 | 1590.2 |
| 7.5°   | 1593.3 | 1584.0 | 1567.0 | 1579.4 | 1576.3 |
| 10°    | 1576.3 | 1565.5 | 1547.0 | 1559.3 | 1554.7 |
| 12.5°  | 1553.2 | 1543.9 | 1525.4 | 1533.1 | 1530.0 |
| 15°    | 1526.9 | 1517.7 | 1497.6 | 1503.8 | 1496.1 |
| 17.5°  | 1494.6 | 1485.3 | 1465.3 | 1473.0 | 1465.3 |
| 20°    | 1459.1 | 1449.8 | 1428.2 | 1432.9 | 1426.7 |
| 22.5°  | 1423.6 | 1409.7 | 1389.7 | 1389.7 | 1386.6 |
| 25°    | 1382.0 | 1369.6 | 1343.4 | 1346.5 | 1343.4 |
| 27.5°  | 1335.7 | 1324.9 | 1304.8 | 1300.2 | 1292.5 |
| 30°    | 1289.4 | 1277.1 | 1253.9 | 1249.3 | 1243.2 |
| 32.5°  | 1240.1 | 1230.8 | 1206.1 | 1196.9 | 1190.7 |
| 35°    | 1192.3 | 1176.8 | 1152.2 | 1142.9 | 1135.2 |
| 37.5°  | 1138.3 | 1124.4 | 1099.7 | 1088.9 | 1081.2 |
| 40°    | 1082.7 | 1070.4 | 1045.7 | 1031.8 | 1025.7 |
| 42.5°  | 1028.8 | 1016.4 | 991.7  | 976.3  | 967.1  |
| 45°    | 970.2  | 959.4  | 936.2  | 919.3  | 913.1  |
| 47.5°  | 913.1  | 902.3  | 877.6  | 860.6  | 851.4  |
| 50°    | 852.9  | 845.2  | 823.6  | 802.0  | 794.3  |
| 52.5°  | 794.3  | 783.5  | 763.5  | 746.5  | 735.7  |
| 55°    | 734.2  | 724.9  | 706.4  | 687.9  | 680.2  |
| 57.5°  | 674.0  | 666.3  | 646.3  | 627.7  | 621.6  |
| 60°    | 613.9  | 607.7  | 586.1  | 569.1  | 564.5  |
| 62.5°  | 555.3  | 544.5  | 529.0  | 513.6  | 507.4  |
| 65°    | 495.1  | 485.8  | 470.4  | 456.5  | 448.8  |
| 67.5°  | 433.4  | 425.7  | 411.8  | 401.0  | 394.8  |
| 70°    | 376.3  | 370.2  | 356.3  | 345.5  | 339.3  |
| 72.5°  | 317.7  | 311.6  | 303.8  | 293.1  | 288.4  |
| 75°    | 259.1  | 256.0  | 248.3  | 239.1  | 242.2  |
| 77.5°  | 206.7  | 200.5  | 197.4  | 192.8  | 188.2  |
| 80°    | 154.2  | 152.7  | 149.6  | 145.0  | 141.9  |
| 82.5°  | 104.9  | 104.9  | 103.3  | 97.2   | 97.2   |
| 85°    | 63.2   | 61.7   | 60.2   | 55.5   | 54.0   |
| 87.5°  | 27.8   | 24.7   | 21.6   | 17.0   | 15.4   |
| 90°    | 0.5    | 6.3    | 10.5   | 13.1   | 14.2   |
| 92.5°  | 13.1   | 11.0   | 12.6   | 13.7   | 14.2   |
| 95°    | 34.1   | 16.8   | 20.5   | 23.1   | 22.6   |
| 97.5°  | 61.4   | 18.4   | 26.8   | 28.4   | 28.9   |
| 100°   | 93.0   | 21.0   | 29.9   | 34.1   | 35.2   |
| 102.5° | 127.6  | 126.6  | 31.0   | 36.8   | 38.3   |
| 105°   | 159.6  | 175.4  | 32.0   | 37.8   | 39.9   |
| 107.5° | 196.9  | 210.1  | 33.1   | 38.9   | 41.0   |
| 110°   | 232.6  | 243.7  | 91.9   | 39.4   | 41.5   |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 266.3 | 275.7 | 266.8 | 40.4  | 42.0  |
| 115°   | 302.0 | 310.9 | 324.0 | 80.9  | 43.1  |
| 117.5° | 333.0 | 343.5 | 352.4 | 277.3 | 139.7 |
| 120°   | 367.6 | 375.5 | 384.9 | 391.2 | 320.4 |
| 122.5° | 397.0 | 405.4 | 415.9 | 419.1 | 419.6 |
| 125°   | 427.0 | 433.8 | 443.8 | 447.4 | 449.0 |
| 127.5° | 454.3 | 461.6 | 469.5 | 474.7 | 475.3 |
| 130°   | 480.0 | 488.4 | 494.2 | 500.0 | 499.4 |
| 132.5° | 506.3 | 513.1 | 518.9 | 523.6 | 523.1 |
| 135°   | 528.3 | 536.7 | 541.4 | 546.7 | 545.6 |
| 137.5° | 551.4 | 557.7 | 563.0 | 568.2 | 566.7 |
| 140°   | 574.0 | 578.2 | 584.0 | 588.7 | 586.1 |
| 142.5° | 592.9 | 596.6 | 603.4 | 607.6 | 605.0 |
| 145°   | 612.9 | 612.3 | 621.3 | 624.9 | 622.3 |
| 147.5° | 630.2 | 628.6 | 637.5 | 640.2 | 638.1 |
| 150°   | 647.0 | 643.3 | 651.7 | 654.9 | 652.3 |
| 152.5° | 661.2 | 657.0 | 664.9 | 668.0 | 664.3 |
| 155°   | 674.8 | 670.1 | 676.4 | 679.6 | 675.4 |
| 157.5° | 685.9 | 681.7 | 686.4 | 690.1 | 685.9 |
| 160°   | 695.3 | 692.2 | 695.3 | 698.5 | 694.8 |
| 162.5° | 703.7 | 700.6 | 703.2 | 706.9 | 702.1 |
| 165°   | 711.1 | 707.9 | 709.5 | 713.2 | 709.5 |
| 167.5° | 716.8 | 713.7 | 715.3 | 718.9 | 714.2 |
| 170°   | 721.6 | 718.4 | 719.5 | 723.2 | 718.4 |
| 172.5° | 724.7 | 721.6 | 722.6 | 726.3 | 721.6 |
| 175°   | 727.4 | 723.7 | 724.7 | 728.4 | 723.2 |
| 177.5° | 728.4 | 724.7 | 725.3 | 728.9 | 724.2 |
| 180°   | 725.8 | 725.8 | 725.8 | 725.8 | 725.8 |

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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 | 17.81            | 18.83 | 18.62 | 19.67 | 20.69 | 18.59          | 19.62 | 19.40 | 20.45 | 21.48 |
|                 | 3H   | 19.16            | 20.08 | 19.98 | 20.92 | 21.98 | 20.23          | 21.15 | 21.05 | 21.99 | 23.05 |
|                 | 4H   | 19.57            | 20.44 | 20.41 | 21.29 | 22.36 | 20.83          | 21.70 | 21.67 | 22.55 | 23.61 |
|                 | 6H   | 19.80            | 20.60 | 20.65 | 21.46 | 22.54 | 21.24          | 22.04 | 22.09 | 22.90 | 23.98 |
|                 | 8H   | 19.84            | 20.60 | 20.70 | 21.47 | 22.55 | 21.36          | 22.12 | 22.22 | 22.99 | 24.07 |
|                 | 12H  | 19.83            | 20.56 | 20.70 | 21.43 | 22.53 | 21.41          | 22.13 | 22.27 | 23.00 | 24.11 |
| 4H              | 2H   | 18.30            | 19.17 | 19.14 | 20.02 | 21.08 | 18.94          | 19.81 | 19.79 | 20.66 | 21.73 |
|                 | 3H   | 19.83            | 20.56 | 20.69 | 21.44 | 22.52 | 20.74          | 21.46 | 21.59 | 22.34 | 23.43 |
|                 | 4H   | 20.34            | 21.00 | 21.21 | 21.88 | 22.99 | 21.43          | 22.09 | 22.29 | 22.97 | 24.07 |
|                 | 6H   | 20.66            | 21.23 | 21.54 | 22.13 | 23.24 | 21.93          | 22.50 | 22.81 | 23.41 | 24.52 |
|                 | 8H   | 20.72            | 21.25 | 21.60 | 22.15 | 23.27 | 22.08          | 22.61 | 22.96 | 23.51 | 24.63 |
|                 | 12H  | 20.72            | 21.21 | 21.63 | 22.12 | 23.25 | 22.15          | 22.63 | 23.05 | 23.55 | 24.68 |
| 8H              | 4H   | 20.53            | 21.07 | 21.42 | 21.96 | 23.09 | 21.52          | 22.06 | 22.41 | 22.96 | 24.08 |
|                 | 6H   | 20.92            | 21.37 | 21.84 | 22.30 | 23.43 | 22.10          | 22.54 | 23.01 | 23.48 | 24.61 |
|                 | 8H   | 21.03            | 21.42 | 21.95 | 22.35 | 23.49 | 22.29          | 22.68 | 23.21 | 23.61 | 24.76 |
|                 | 12H  | 21.07            | 21.41 | 21.99 | 22.34 | 23.53 | 22.40          | 22.74 | 23.32 | 23.67 | 24.86 |
| 12H             | 4H   | 20.52            | 21.00 | 21.43 | 21.92 | 23.05 | 21.50          | 21.98 | 22.40 | 22.89 | 24.02 |
|                 | 6H   | 20.94            | 21.33 | 21.87 | 22.27 | 23.41 | 22.09          | 22.49 | 23.02 | 23.42 | 24.56 |
|                 | 8H   | 21.06            | 21.41 | 21.99 | 22.33 | 23.53 | 22.30          | 22.64 | 23.22 | 23.57 | 24.76 |