

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: P998890

Luminaire Tested: SA2XXDIP-B675D725UB35-4F0-XX-W2A-D4

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998890  
REPORT IS A COMBINATION OF REPORTS P984636 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B675D725UB35-4F0-XX-W2A-D4  
Description: Define 2 Direct/Indirect Pendant with 3500K BioUP LEDs {m-DER=0.721} {m-EER=0.792}  
Light Source: -  
Ballast/Driver: -

**Summary**

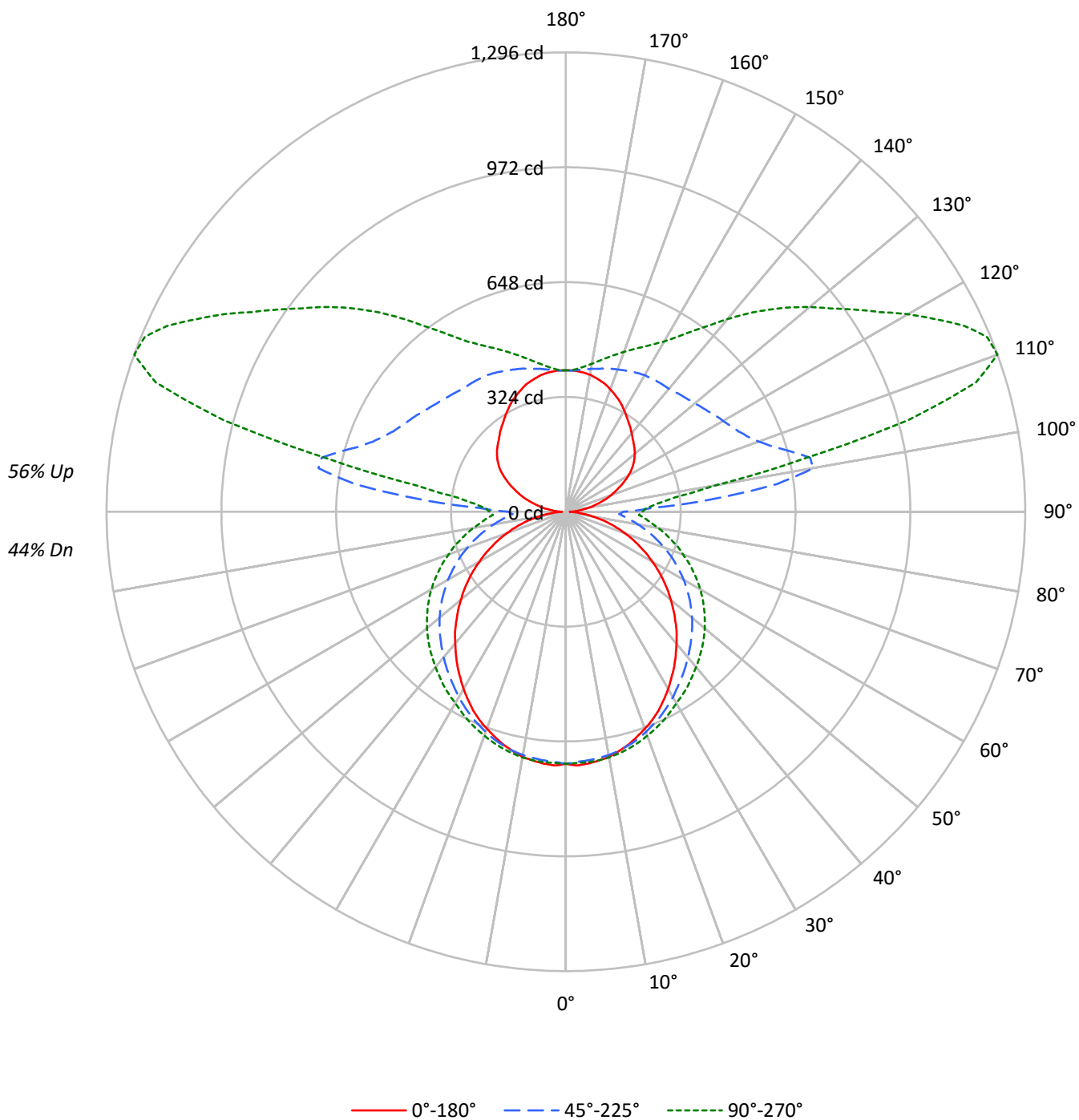
Lumens per Lamp: N/A  
Luminaire Lumens: 5496.1 lumens  
Efficiency: N/A  
Efficacy: 96.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 57  
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   | 106 | 106 | 106 | 106 | 97 | 97 | 97 | 97 | 80 | 80 | 80 | 65 | 65 | 65 | 51 | 51 | 51 |
| 1   | 95  | 90  | 86  | 82  | 87 | 83 | 79 | 75 | 68 | 65 | 63 | 55 | 53 | 51 | 43 | 41 | 40 |
| 2   | 86  | 78  | 71  | 66  | 78 | 71 | 66 | 61 | 59 | 55 | 51 | 47 | 44 | 42 | 37 | 35 | 33 |
| 3   | 78  | 68  | 60  | 54  | 71 | 62 | 56 | 50 | 51 | 46 | 42 | 41 | 38 | 35 | 32 | 29 | 27 |
| 4   | 71  | 60  | 52  | 45  | 65 | 55 | 48 | 42 | 45 | 40 | 36 | 37 | 33 | 29 | 28 | 26 | 23 |
| 5   | 65  | 53  | 45  | 39  | 59 | 49 | 41 | 36 | 40 | 35 | 30 | 33 | 28 | 25 | 25 | 22 | 20 |
| 6   | 60  | 48  | 39  | 33  | 54 | 44 | 36 | 31 | 36 | 31 | 26 | 29 | 25 | 22 | 23 | 20 | 17 |
| 7   | 55  | 43  | 35  | 29  | 50 | 39 | 32 | 27 | 33 | 27 | 23 | 27 | 22 | 19 | 21 | 18 | 15 |
| 8   | 51  | 39  | 31  | 25  | 47 | 36 | 29 | 24 | 30 | 24 | 20 | 24 | 20 | 17 | 19 | 16 | 14 |
| 9   | 48  | 35  | 28  | 23  | 43 | 33 | 26 | 21 | 27 | 22 | 18 | 22 | 18 | 15 | 18 | 15 | 12 |
| 10  | 44  | 32  | 25  | 20  | 41 | 30 | 23 | 19 | 25 | 20 | 16 | 21 | 16 | 14 | 16 | 13 | 11 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 11259 | 11259 | 11259 |
| 5°  | 11309 | 10779 | 10717 |
| 10° | 11234 | 10404 | 10254 |
| 15° | 11076 | 10019 | 9778  |
| 20° | 10876 | 9614  | 9325  |
| 25° | 10678 | 9225  | 8916  |
| 30° | 10402 | 8831  | 8510  |
| 35° | 10121 | 8451  | 8212  |
| 40° | 9826  | 8121  | 7915  |
| 45° | 9546  | 7823  | 7658  |
| 50° | 9245  | 7548  | 7402  |
| 55° | 8926  | 7255  | 7142  |
| 60° | 8539  | 6952  | 6870  |
| 65° | 8134  | 6603  | 6555  |
| 70° | 7678  | 6226  | 6218  |
| 75° | 7093  | 5851  | 5899  |
| 80° | 6171  | 5460  | 5569  |
| 85° | 5241  | 5092  | 5284  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 9546 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 67.4   | 1.2       |
| 10°-20°   | 193.4  | 3.5       |
| 20°-30°   | 293.0  | 5.3       |
| 30°-40°   | 356.8  | 6.5       |
| 40°-50°   | 383.9  | 7.0       |
| 50°-60°   | 372.8  | 6.8       |
| 60°-70°   | 325.6  | 5.9       |
| 70°-80°   | 250.6  | 4.6       |
| 80°-90°   | 170.4  | 3.1       |
| 90°-100°  | 277.4  | 5.0       |
| 100°-110° | 630.9  | 11.5      |
| 110°-120° | 630.2  | 11.5      |
| 120°-130° | 503.4  | 9.2       |
| 130°-140° | 392.6  | 7.1       |
| 140°-150° | 288.9  | 5.3       |
| 150°-160° | 201.6  | 3.7       |
| 160°-170° | 118.7  | 2.2       |
| 170°-180° | 38.6   | 0.7       |
| 0°-30°    | 553.8  | 10.1      |
| 0°-40°    | 910.7  | 16.6      |
| 0°-60°    | 1667.4 | 30.3      |
| 0°-90°    | 2414.0 | 43.9      |
| 90°-120°  | 1538.5 | 28.0      |
| 90°-150°  | 2723.3 | 49.6      |
| 90°-180°  | 3082.0 | 56.1      |
| 0°-180°   | 5496.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90°  | Flux |
|------|-----|-------|-----|-------|------|------|
| 0°   | 711 | 711   | 711 | 711   | 711  |      |
| 5°   | 713 | 710   | 704 | 710   | 709  | 68   |
| 15°  | 680 | 682   | 682 | 692   | 691  | 192  |
| 25°  | 618 | 626   | 635 | 647   | 650  | 284  |
| 35°  | 533 | 550   | 570 | 593   | 600  | 333  |
| 45°  | 437 | 465   | 501 | 533   | 543  | 337  |
| 55°  | 335 | 372   | 426 | 463   | 476  | 300  |
| 65°  | 229 | 279   | 340 | 382   | 396  | 227  |
| 75°  | 127 | 184   | 250 | 295   | 308  | 134  |
| 85°  | 37  | 101   | 167 | 210   | 225  | 39   |
| 90°  | 11  | 80    | 162 | 202   | 215  | 9    |
| 95°  | 35  | 123   | 419 | 271   | 258  | 34   |
| 105° | 99  | 176   | 657 | 1140  | 1000 | 105  |
| 115° | 169 | 224   | 537 | 1074  | 1241 | 167  |
| 125° | 232 | 274   | 492 | 858   | 994  | 207  |
| 135° | 271 | 323   | 463 | 701   | 806  | 210  |
| 145° | 308 | 354   | 449 | 564   | 622  | 194  |
| 155° | 350 | 378   | 436 | 493   | 513  | 161  |
| 165° | 382 | 393   | 418 | 443   | 450  | 108  |
| 175° | 398 | 398   | 402 | 407   | 406  | 38   |
| 180° | 399 | 399   | 399 | 399   | 399  |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5°  | 90°    |
|--------|-------|-------|-------|--------|--------|
| 0°     | 711.3 | 711.3 | 711.3 | 711.3  | 711.3  |
| 2.5°   | 716.4 | 713.3 | 706.1 | 711.3  | 709.2  |
| 5°     | 713.3 | 710.3 | 704.1 | 710.3  | 709.2  |
| 7.5°   | 708.2 | 706.1 | 701.0 | 708.2  | 707.2  |
| 10°    | 702.0 | 699.9 | 696.8 | 705.1  | 704.1  |
| 12.5°  | 691.7 | 692.7 | 690.7 | 698.9  | 697.9  |
| 15°    | 680.4 | 682.4 | 682.4 | 691.7  | 690.7  |
| 17.5°  | 665.9 | 670.0 | 673.1 | 682.4  | 682.4  |
| 20°    | 651.5 | 656.6 | 660.8 | 672.1  | 672.1  |
| 22.5°  | 636.0 | 642.2 | 648.4 | 659.7  | 661.8  |
| 25°    | 618.5 | 625.7 | 635.0 | 647.4  | 650.5  |
| 27.5°  | 597.9 | 609.2 | 619.5 | 635.0  | 637.1  |
| 30°    | 577.3 | 590.7 | 604.1 | 620.6  | 623.7  |
| 32.5°  | 554.6 | 570.1 | 586.5 | 606.1  | 612.3  |
| 35°    | 532.9 | 550.5 | 570.1 | 592.7  | 600.0  |
| 37.5°  | 509.2 | 528.8 | 553.6 | 578.3  | 585.5  |
| 40°    | 485.5 | 508.2 | 536.0 | 562.8  | 572.1  |
| 42.5°  | 462.8 | 485.5 | 518.5 | 548.4  | 557.7  |
| 45°    | 437.1 | 464.9 | 501.0 | 532.9  | 543.3  |
| 47.5°  | 412.3 | 442.2 | 483.5 | 516.5  | 527.8  |
| 50°    | 386.6 | 418.5 | 464.9 | 500.0  | 511.3  |
| 52.5°  | 361.8 | 395.8 | 445.3 | 481.4  | 493.8  |
| 55°    | 335.0 | 372.1 | 425.7 | 462.8  | 476.2  |
| 57.5°  | 309.3 | 350.5 | 404.1 | 444.3  | 457.7  |
| 60°    | 281.4 | 325.7 | 384.5 | 423.7  | 438.1  |
| 62.5°  | 256.7 | 303.1 | 361.8 | 404.1  | 417.5  |
| 65°    | 228.8 | 279.4 | 340.2 | 382.4  | 395.8  |
| 67.5°  | 204.1 | 256.7 | 318.5 | 360.8  | 375.2  |
| 70°    | 177.3 | 230.9 | 294.8 | 339.1  | 351.5  |
| 72.5°  | 152.6 | 208.2 | 273.2 | 316.5  | 331.9  |
| 75°    | 126.8 | 184.5 | 250.5 | 294.8  | 308.2  |
| 77.5°  | 102.1 | 161.8 | 228.8 | 273.2  | 287.6  |
| 80°    | 77.3  | 140.2 | 207.2 | 250.5  | 264.9  |
| 82.5°  | 56.7  | 118.5 | 186.6 | 229.9  | 243.3  |
| 85°    | 37.1  | 101.0 | 167.0 | 210.3  | 224.7  |
| 87.5°  | 22.7  | 84.5  | 150.5 | 192.8  | 206.2  |
| 90°    | 11.1  | 80.4  | 162.2 | 202.2  | 215.0  |
| 92.5°  | 20.8  | 100.3 | 244.9 | 221.4  | 226.2  |
| 95°    | 35.0  | 122.6 | 419.0 | 271.2  | 257.5  |
| 97.5°  | 47.1  | 138.6 | 601.2 | 377.2  | 308.2  |
| 100°   | 66.2  | 152.0 | 708.8 | 594.7  | 427.1  |
| 102.5° | 82.9  | 164.4 | 705.4 | 899.7  | 679.5  |
| 105°   | 98.7  | 176.0 | 656.8 | 1140.1 | 1000.2 |
| 107.5° | 117.1 | 187.8 | 611.2 | 1222.1 | 1213.4 |
| 110°   | 134.4 | 199.9 | 579.0 | 1199.2 | 1295.7 |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5°  | 90°    |
|--------|-------|-------|-------|--------|--------|
| 112.5° | 151.3 | 212.3 | 554.9 | 1142.6 | 1287.0 |
| 115°   | 168.9 | 223.6 | 537.3 | 1073.8 | 1241.1 |
| 117.5° | 186.3 | 236.0 | 523.8 | 1008.7 | 1176.2 |
| 120°   | 203.2 | 248.0 | 512.3 | 948.6  | 1114.5 |
| 122.5° | 219.3 | 261.3 | 503.1 | 901.2  | 1048.5 |
| 125°   | 232.1 | 274.2 | 492.0 | 857.6  | 994.5  |
| 127.5° | 243.6 | 287.4 | 483.6 | 818.2  | 942.5  |
| 130°   | 253.6 | 300.0 | 475.8 | 779.6  | 898.3  |
| 132.5° | 262.8 | 312.2 | 468.9 | 739.8  | 853.4  |
| 135°   | 270.9 | 323.0 | 462.9 | 700.8  | 805.6  |
| 137.5° | 279.3 | 332.2 | 457.8 | 661.4  | 758.3  |
| 140°   | 289.3 | 339.6 | 452.9 | 625.8  | 709.4  |
| 142.5° | 299.2 | 346.5 | 450.8 | 592.4  | 661.5  |
| 145°   | 308.2 | 354.2 | 449.3 | 564.0  | 621.6  |
| 147.5° | 318.9 | 360.4 | 447.0 | 539.2  | 584.5  |
| 150°   | 329.7 | 366.5 | 444.7 | 521.4  | 554.3  |
| 152.5° | 340.4 | 372.6 | 440.9 | 507.2  | 532.1  |
| 155°   | 350.4 | 378.4 | 436.3 | 493.4  | 512.9  |
| 157.5° | 358.8 | 383.0 | 431.7 | 480.4  | 496.1  |
| 160°   | 367.2 | 387.6 | 427.1 | 467.3  | 480.0  |
| 162.5° | 375.7 | 391.0 | 423.2 | 455.0  | 464.6  |
| 165°   | 381.8 | 393.3 | 417.9 | 443.2  | 450.1  |
| 167.5° | 387.2 | 395.6 | 413.3 | 432.4  | 436.3  |
| 170°   | 392.5 | 396.8 | 409.4 | 422.4  | 424.0  |
| 172.5° | 395.6 | 397.9 | 404.8 | 413.6  | 414.0  |
| 175°   | 397.9 | 398.3 | 401.7 | 406.7  | 405.6  |
| 177.5° | 399.4 | 398.7 | 398.7 | 401.7  | 399.4  |
| 180°   | 398.7 | 398.7 | 398.7 | 398.7  | 398.7  |

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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 | 13.04            | 13.89 | 14.04 | 14.91 | 16.26 | 16.12          | 16.97 | 17.11 | 17.98 | 19.33 |
|                 | 3H   | 14.50            | 15.27 | 15.51 | 16.29 | 17.66 | 18.70          | 19.47 | 19.71 | 20.50 | 21.87 |
|                 | 4H   | 14.97            | 15.71 | 15.99 | 16.73 | 18.11 | 19.96          | 20.69 | 20.98 | 21.72 | 23.09 |
|                 | 6H   | 15.26            | 15.94 | 16.29 | 16.97 | 18.36 | 21.25          | 21.93 | 22.28 | 22.96 | 24.35 |
|                 | 8H   | 15.32            | 15.96 | 16.35 | 17.01 | 18.40 | 21.91          | 22.56 | 22.95 | 23.61 | 24.99 |
|                 | 12H  | 15.33            | 15.95 | 16.37 | 16.99 | 18.40 | 22.64          | 23.25 | 23.68 | 24.29 | 25.71 |
| 4H              | 2H   | 14.09            | 14.82 | 15.11 | 15.85 | 17.23 | 16.44          | 17.18 | 17.47 | 18.20 | 19.58 |
|                 | 3H   | 15.80            | 16.42 | 16.83 | 17.47 | 18.86 | 19.23          | 19.85 | 20.27 | 20.91 | 22.30 |
|                 | 4H   | 16.42            | 16.99 | 17.46 | 18.04 | 19.45 | 20.65          | 21.22 | 21.69 | 22.27 | 23.68 |
|                 | 6H   | 16.83            | 17.33 | 17.88 | 18.40 | 19.81 | 22.12          | 22.61 | 23.17 | 23.68 | 25.09 |
|                 | 8H   | 16.94            | 17.41 | 17.99 | 18.47 | 19.89 | 22.87          | 23.34 | 23.93 | 24.40 | 25.83 |
|                 | 12H  | 16.98            | 17.41 | 18.05 | 18.48 | 19.91 | 23.70          | 24.13 | 24.77 | 25.20 | 26.63 |
| 8H              | 4H   | 17.21            | 17.67 | 18.26 | 18.74 | 20.16 | 20.79          | 21.26 | 21.84 | 22.32 | 23.75 |
|                 | 6H   | 17.84            | 18.23 | 18.91 | 19.33 | 20.76 | 22.42          | 22.81 | 23.50 | 23.92 | 25.34 |
|                 | 8H   | 18.06            | 18.41 | 19.14 | 19.49 | 20.93 | 23.31          | 23.66 | 24.39 | 24.75 | 26.19 |
|                 | 12H  | 18.19            | 18.50 | 19.28 | 19.58 | 21.06 | 24.31          | 24.61 | 25.39 | 25.70 | 27.18 |
| 12H             | 4H   | 17.40            | 17.83 | 18.47 | 18.90 | 20.34 | 20.77          | 21.19 | 21.84 | 22.27 | 23.70 |
|                 | 6H   | 18.17            | 18.52 | 19.25 | 19.61 | 21.05 | 22.45          | 22.79 | 23.53 | 23.88 | 25.32 |
|                 | 8H   | 18.48            | 18.78 | 19.56 | 19.87 | 21.35 | 23.38          | 23.68 | 24.46 | 24.77 | 26.25 |