

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: P998917

Luminaire Tested: SA2XXDIP-B675D925UB27-4F0-XX-W2A-D4

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998917  
REPORT IS A COMBINATION OF REPORTS P984663 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B675D925UB27-4F0-XX-W2A-D4  
Description: Define 2 Direct/Indirect Pendant with 2700K BioUP LEDs {m-DER=0.473} {m-EER=0.52}  
Light Source: -  
Ballast/Driver: -

**Summary**

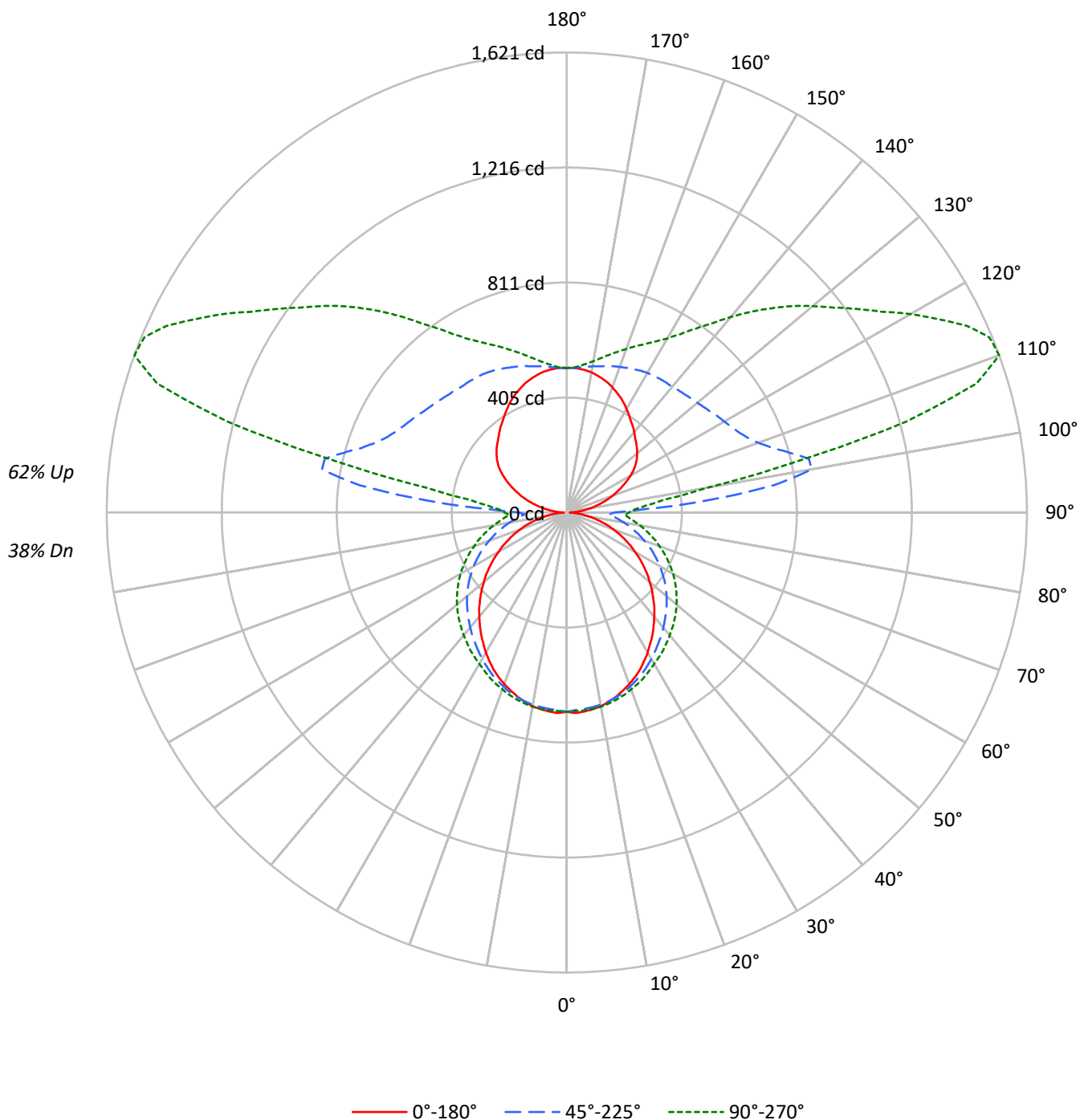
Lumens per Lamp: N/A  
Luminaire Lumens: 6234.1 lumens  
Efficiency: N/A  
Efficacy: 96.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: Semi-Indirect

Input Watts (W): 64.4  
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   | 104 | 104 | 104 | 104 | 95 | 95 | 95 | 95 | 77 | 77 | 77 | 60 | 60 | 60 | 45 | 45 | 45 |
| 1   | 94  | 89  | 85  | 81  | 85 | 81 | 77 | 74 | 66 | 63 | 61 | 51 | 50 | 48 | 38 | 37 | 36 |
| 2   | 85  | 77  | 71  | 65  | 77 | 70 | 65 | 60 | 57 | 53 | 49 | 44 | 42 | 39 | 33 | 31 | 29 |
| 3   | 77  | 67  | 60  | 54  | 70 | 61 | 55 | 49 | 50 | 45 | 41 | 39 | 35 | 32 | 29 | 26 | 24 |
| 4   | 71  | 59  | 51  | 45  | 64 | 54 | 47 | 41 | 44 | 39 | 34 | 34 | 31 | 27 | 26 | 23 | 21 |
| 5   | 65  | 53  | 44  | 38  | 58 | 48 | 41 | 35 | 39 | 34 | 29 | 31 | 27 | 24 | 23 | 20 | 18 |
| 6   | 59  | 47  | 39  | 33  | 53 | 43 | 36 | 30 | 35 | 29 | 25 | 28 | 24 | 20 | 21 | 18 | 16 |
| 7   | 55  | 42  | 34  | 29  | 49 | 39 | 32 | 26 | 32 | 26 | 22 | 25 | 21 | 18 | 19 | 16 | 14 |
| 8   | 51  | 38  | 30  | 25  | 46 | 35 | 28 | 23 | 29 | 23 | 20 | 23 | 19 | 16 | 17 | 14 | 12 |
| 9   | 47  | 35  | 27  | 22  | 43 | 32 | 25 | 21 | 26 | 21 | 17 | 21 | 17 | 14 | 16 | 13 | 11 |
| 10  | 44  | 32  | 25  | 20  | 40 | 29 | 23 | 18 | 24 | 19 | 15 | 19 | 15 | 13 | 15 | 12 | 10 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 11114 | 11114 | 11114 |
| 5°  | 11164 | 10640 | 10580 |
| 10° | 11090 | 10272 | 10121 |
| 15° | 10933 | 9890  | 9652  |
| 20° | 10735 | 9489  | 9204  |
| 25° | 10540 | 9106  | 8801  |
| 30° | 10267 | 8717  | 8399  |
| 35° | 9991  | 8341  | 8105  |
| 40° | 9701  | 8016  | 7813  |
| 45° | 9422  | 7722  | 7558  |
| 50° | 9125  | 7451  | 7307  |
| 55° | 8812  | 7162  | 7051  |
| 60° | 8430  | 6861  | 6782  |
| 65° | 8031  | 6517  | 6471  |
| 70° | 7579  | 6146  | 6139  |
| 75° | 7004  | 5777  | 5822  |
| 80° | 6092  | 5389  | 5498  |
| 85° | 5170  | 5025  | 5216  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 9422 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 66.6   | 1.1       |
| 10°-20°   | 190.9  | 3.1       |
| 20°-30°   | 289.2  | 4.6       |
| 30°-40°   | 352.2  | 5.6       |
| 40°-50°   | 379.0  | 6.1       |
| 50°-60°   | 368.0  | 5.9       |
| 60°-70°   | 321.4  | 5.2       |
| 70°-80°   | 247.4  | 4.0       |
| 80°-90°   | 168.9  | 2.7       |
| 90°-100°  | 320.8  | 5.1       |
| 100°-110° | 781.6  | 12.5      |
| 110°-120° | 789.0  | 12.7      |
| 120°-130° | 634.2  | 10.2      |
| 130°-140° | 497.8  | 8.0       |
| 140°-150° | 368.5  | 5.9       |
| 150°-160° | 257.5  | 4.1       |
| 160°-170° | 151.6  | 2.4       |
| 170°-180° | 49.3   | 0.8       |
| 0°-30°    | 546.7  | 8.8       |
| 0°-40°    | 898.9  | 14.4      |
| 0°-60°    | 1645.9 | 26.4      |
| 0°-90°    | 2383.6 | 38.2      |
| 90°-120°  | 1891.4 | 30.3      |
| 90°-150°  | 3392.0 | 54.4      |
| 90°-180°  | 3850.0 | 61.8      |
| 0°-180°   | 6234.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90°  | Flux |
|------|-----|-------|-----|-------|------|------|
| 0°   | 702 | 702   | 702 | 702   | 702  |      |
| 5°   | 704 | 701   | 695 | 701   | 700  | 67   |
| 15°  | 672 | 674   | 674 | 683   | 682  | 189  |
| 25°  | 610 | 618   | 627 | 639   | 642  | 281  |
| 35°  | 526 | 543   | 563 | 585   | 592  | 329  |
| 45°  | 431 | 459   | 494 | 526   | 536  | 333  |
| 55°  | 331 | 367   | 420 | 457   | 470  | 296  |
| 65°  | 226 | 276   | 336 | 378   | 391  | 224  |
| 75°  | 125 | 182   | 247 | 291   | 304  | 132  |
| 85°  | 37  | 100   | 165 | 208   | 222  | 39   |
| 90°  | 11  | 82    | 168 | 207   | 220  | 9    |
| 95°  | 42  | 140   | 501 | 301   | 280  | 42   |
| 105° | 125 | 215   | 813 | 1421  | 1238 | 133  |
| 115° | 215 | 281   | 668 | 1345  | 1556 | 213  |
| 125° | 296 | 350   | 618 | 1078  | 1250 | 263  |
| 135° | 346 | 412   | 588 | 886   | 1017 | 267  |
| 145° | 394 | 453   | 574 | 719   | 791  | 247  |
| 155° | 448 | 483   | 557 | 630   | 655  | 206  |
| 165° | 488 | 503   | 534 | 566   | 575  | 138  |
| 175° | 508 | 509   | 513 | 520   | 518  | 48   |
| 180° | 509 | 509   | 509 | 509   | 509  |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5°  | 90°    |
|--------|-------|-------|-------|--------|--------|
| 0°     | 702.1 | 702.1 | 702.1 | 702.1  | 702.1  |
| 2.5°   | 707.2 | 704.1 | 697.0 | 702.1  | 700.1  |
| 5°     | 704.1 | 701.1 | 695.0 | 701.1  | 700.1  |
| 7.5°   | 699.1 | 697.0 | 691.9 | 699.1  | 698.0  |
| 10°    | 693.0 | 690.9 | 687.9 | 696.0  | 695.0  |
| 12.5°  | 682.8 | 683.8 | 681.8 | 689.9  | 688.9  |
| 15°    | 671.6 | 673.6 | 673.6 | 682.8  | 681.8  |
| 17.5°  | 657.3 | 661.4 | 664.5 | 673.6  | 673.6  |
| 20°    | 643.1 | 648.2 | 652.2 | 663.4  | 663.4  |
| 22.5°  | 627.8 | 633.9 | 640.0 | 651.2  | 653.3  |
| 25°    | 610.5 | 617.7 | 626.8 | 639.0  | 642.1  |
| 27.5°  | 590.2 | 601.4 | 611.5 | 626.8  | 628.8  |
| 30°    | 569.8 | 583.1 | 596.3 | 612.6  | 615.6  |
| 32.5°  | 547.4 | 562.7 | 579.0 | 598.3  | 604.4  |
| 35°    | 526.1 | 543.4 | 562.7 | 585.1  | 592.2  |
| 37.5°  | 502.7 | 522.0 | 546.4 | 570.8  | 578.0  |
| 40°    | 479.3 | 501.7 | 529.1 | 555.6  | 564.7  |
| 42.5°  | 456.9 | 479.3 | 511.8 | 541.3  | 550.5  |
| 45°    | 431.4 | 458.9 | 494.5 | 526.1  | 536.2  |
| 47.5°  | 407.0 | 436.5 | 477.2 | 509.8  | 521.0  |
| 50°    | 381.6 | 413.1 | 458.9 | 493.5  | 504.7  |
| 52.5°  | 357.2 | 390.7 | 439.6 | 475.2  | 487.4  |
| 55°    | 330.7 | 367.3 | 420.2 | 456.9  | 470.1  |
| 57.5°  | 305.3 | 346.0 | 398.9 | 438.6  | 451.8  |
| 60°    | 277.8 | 321.5 | 379.5 | 418.2  | 432.5  |
| 62.5°  | 253.4 | 299.2 | 357.2 | 398.9  | 412.1  |
| 65°    | 225.9 | 275.8 | 335.8 | 377.5  | 390.7  |
| 67.5°  | 201.5 | 253.4 | 314.4 | 356.1  | 370.4  |
| 70°    | 175.0 | 227.9 | 291.0 | 334.8  | 347.0  |
| 72.5°  | 150.6 | 205.5 | 269.7 | 312.4  | 327.7  |
| 75°    | 125.2 | 182.1 | 247.3 | 291.0  | 304.2  |
| 77.5°  | 100.7 | 159.8 | 225.9 | 269.7  | 283.9  |
| 80°    | 76.3  | 138.4 | 204.5 | 247.3  | 261.5  |
| 82.5°  | 56.0  | 117.0 | 184.2 | 226.9  | 240.1  |
| 85°    | 36.6  | 99.7  | 164.8 | 207.6  | 221.8  |
| 87.5°  | 22.4  | 83.4  | 148.6 | 190.3  | 203.5  |
| 90°    | 11.2  | 82.4  | 167.6 | 206.8  | 219.5  |
| 92.5°  | 23.9  | 109.6 | 276.1 | 234.4  | 236.9  |
| 95°    | 42.4  | 140.2 | 501.0 | 300.7  | 279.6  |
| 97.5°  | 58.0  | 162.1 | 735.9 | 438.5  | 346.9  |
| 100°   | 82.5  | 181.0 | 875.8 | 718.9  | 501.3  |
| 102.5° | 104.1 | 198.4 | 873.4 | 1111.0 | 826.3  |
| 105°   | 124.6 | 214.8 | 813.4 | 1420.7 | 1238.4 |
| 107.5° | 148.1 | 231.3 | 757.4 | 1527.7 | 1513.4 |
| 110°   | 170.6 | 248.3 | 718.0 | 1500.9 | 1620.8 |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5°  | 90°    |
|--------|-------|-------|-------|--------|--------|
| 112.5° | 192.2 | 265.3 | 689.3 | 1430.6 | 1611.8 |
| 115°   | 214.7 | 281.3 | 668.5 | 1345.1 | 1555.7 |
| 117.5° | 237.2 | 298.2 | 653.5 | 1264.0 | 1475.0 |
| 120°   | 258.8 | 314.7 | 640.5 | 1189.7 | 1398.3 |
| 122.5° | 279.4 | 332.8 | 630.5 | 1131.2 | 1316.7 |
| 125°   | 295.9 | 349.8 | 618.5 | 1077.6 | 1249.8 |
| 127.5° | 310.6 | 366.9 | 609.5 | 1029.7 | 1185.8 |
| 130°   | 323.3 | 383.1 | 601.4 | 982.4  | 1131.6 |
| 132.5° | 335.1 | 398.8 | 594.3 | 933.6  | 1076.5 |
| 135°   | 345.8 | 412.5 | 588.2 | 885.9  | 1017.4 |
| 137.5° | 356.6 | 424.2 | 583.1 | 837.6  | 959.4  |
| 140°   | 369.4 | 434.0 | 578.1 | 794.2  | 899.3  |
| 142.5° | 382.1 | 442.8 | 576.1 | 753.4  | 840.2  |
| 145°   | 393.8 | 452.6 | 574.1 | 718.8  | 791.0  |
| 147.5° | 407.5 | 460.4 | 571.2 | 688.8  | 745.7  |
| 150°   | 421.3 | 468.3 | 568.2 | 666.2  | 708.3  |
| 152.5° | 435.0 | 476.2 | 563.3 | 648.0  | 679.9  |
| 155°   | 447.7 | 483.4 | 557.4 | 630.4  | 655.4  |
| 157.5° | 458.5 | 489.4 | 551.6 | 613.8  | 633.9  |
| 160°   | 469.3 | 495.2 | 545.7 | 597.1  | 613.3  |
| 162.5° | 480.0 | 499.6 | 540.8 | 581.4  | 593.7  |
| 165°   | 487.9 | 502.6 | 533.9 | 566.2  | 575.1  |
| 167.5° | 494.7 | 505.6 | 528.1 | 552.6  | 557.4  |
| 170°   | 501.6 | 507.0 | 523.2 | 539.8  | 541.8  |
| 172.5° | 505.5 | 508.4 | 517.3 | 528.6  | 529.0  |
| 175°   | 508.5 | 509.0 | 513.4 | 519.7  | 518.3  |
| 177.5° | 510.4 | 509.4 | 509.4 | 513.4  | 510.4  |
| 180°   | 509.4 | 509.4 | 509.4 | 509.4  | 509.4  |

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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 | 12.40            | 13.20 | 13.44 | 14.25 | 15.68 | 15.47          | 16.27 | 16.51 | 17.33 | 18.75 |
|                 | 3H   | 13.85            | 14.57 | 14.90 | 15.64 | 17.08 | 18.06          | 18.78 | 19.11 | 19.84 | 21.29 |
|                 | 4H   | 14.33            | 15.01 | 15.39 | 16.08 | 17.53 | 19.31          | 19.99 | 20.37 | 21.06 | 22.51 |
|                 | 6H   | 14.61            | 15.24 | 15.68 | 16.31 | 17.77 | 20.60          | 21.24 | 21.67 | 22.30 | 23.77 |
|                 | 8H   | 14.66            | 15.27 | 15.74 | 16.36 | 17.81 | 21.26          | 21.86 | 22.33 | 22.95 | 24.41 |
|                 | 12H  | 14.68            | 15.26 | 15.76 | 16.33 | 17.82 | 21.98          | 22.56 | 23.06 | 23.64 | 25.12 |
| 4H              | 2H   | 13.44            | 14.13 | 14.51 | 15.19 | 16.64 | 15.79          | 16.48 | 16.86 | 17.55 | 19.00 |
|                 | 3H   | 15.14            | 15.72 | 16.22 | 16.82 | 18.28 | 18.58          | 19.16 | 19.66 | 20.25 | 21.72 |
|                 | 4H   | 15.76            | 16.30 | 16.84 | 17.38 | 18.87 | 19.99          | 20.53 | 21.08 | 21.61 | 23.10 |
|                 | 6H   | 16.17            | 16.64 | 17.26 | 17.74 | 19.22 | 21.46          | 21.92 | 22.55 | 23.03 | 24.51 |
|                 | 8H   | 16.28            | 16.72 | 17.37 | 17.81 | 19.31 | 22.22          | 22.65 | 23.31 | 23.75 | 25.24 |
|                 | 12H  | 16.32            | 16.72 | 17.43 | 17.83 | 19.33 | 23.04          | 23.44 | 24.15 | 24.55 | 26.05 |
| 8H              | 4H   | 16.55            | 16.98 | 17.64 | 18.08 | 19.58 | 20.13          | 20.57 | 21.22 | 21.67 | 23.16 |
|                 | 6H   | 17.18            | 17.54 | 18.29 | 18.68 | 20.17 | 21.76          | 22.13 | 22.87 | 23.27 | 24.76 |
|                 | 8H   | 17.40            | 17.72 | 18.52 | 18.84 | 20.35 | 22.65          | 22.97 | 23.77 | 24.09 | 25.60 |
|                 | 12H  | 17.53            | 17.82 | 18.65 | 18.93 | 20.48 | 23.64          | 23.93 | 24.77 | 25.04 | 26.59 |
| 12H             | 4H   | 16.74            | 17.14 | 17.85 | 18.25 | 19.75 | 20.11          | 20.50 | 21.21 | 21.61 | 23.11 |
|                 | 6H   | 17.51            | 17.83 | 18.63 | 18.95 | 20.46 | 21.79          | 22.11 | 22.90 | 23.23 | 24.74 |
|                 | 8H   | 17.81            | 18.10 | 18.94 | 19.21 | 20.76 | 22.71          | 23.00 | 23.84 | 24.11 | 25.66 |