

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: P998499

Luminaire Tested: SA2XXDIP-B485D530UB27-4F0-XX-W2A-D1

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998499  
REPORT IS A COMBINATION OF REPORTS P984242 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B485D530UB27-4F0-XX-W2A-D1  
Description: Define 2 Direct/Indirect Pendant with 2700K BioUP LEDs {m-DER=0.473} {m-EER=0.52}  
Light Source: -  
Ballast/Driver: -

**Summary**

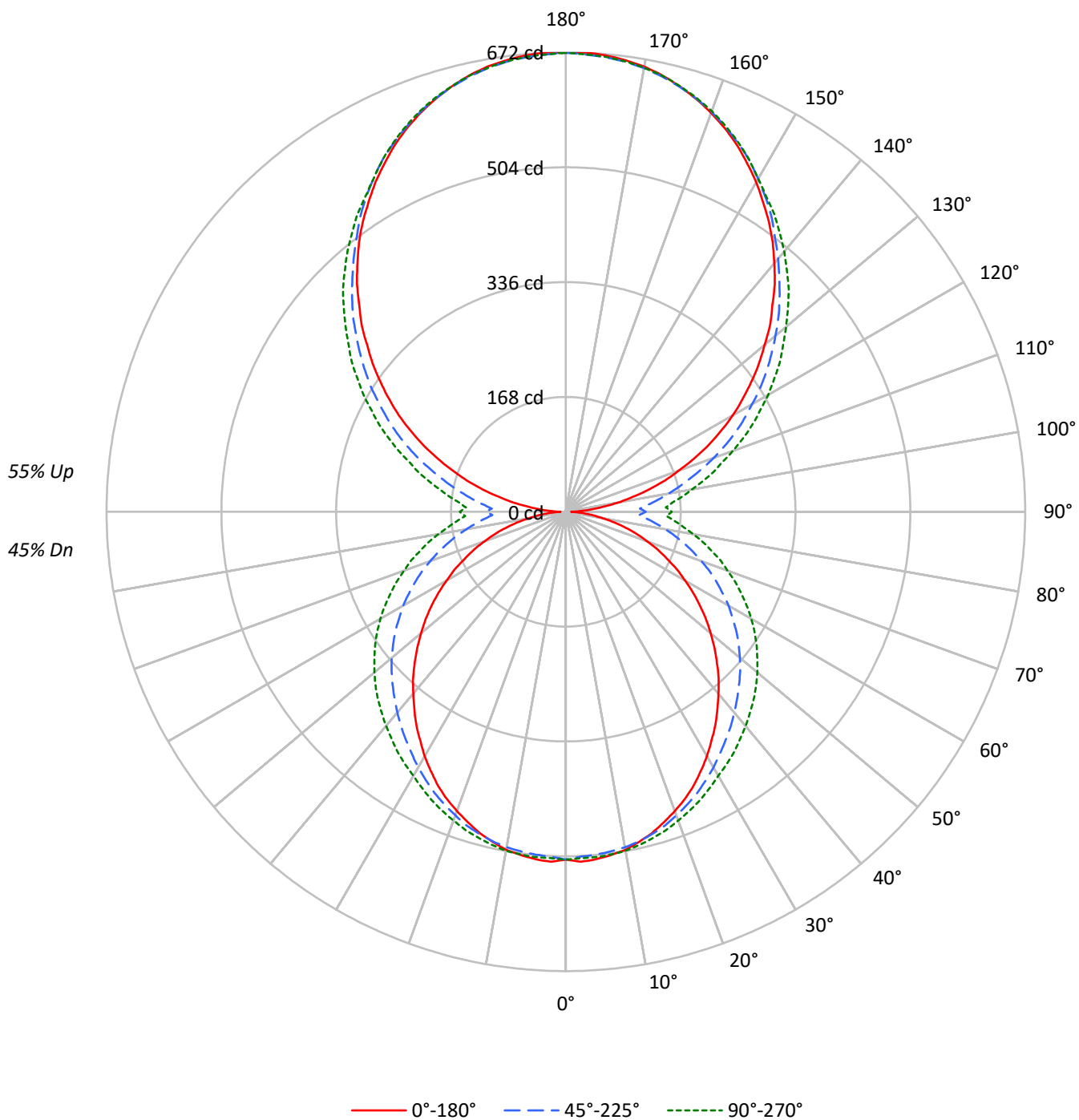
Lumens per Lamp: N/A  
Luminaire Lumens: 3820.0 lumens  
Efficiency: N/A  
Efficacy: 97.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 39.4  
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 |
| RCR |     |     |     |     |    |    |    |    |    |    |    |  |    |    |    |  |    |
| 0   | 106 | 106 | 106 | 106 | 97 | 97 | 97 | 97 | 81 | 81 | 81 |  | 66 | 66 | 66 |  | 52 |
| 1   | 95  | 90  | 86  | 82  | 87 | 83 | 79 | 76 | 69 | 66 | 63 |  | 56 | 54 | 52 |  | 44 |
| 2   | 86  | 78  | 72  | 66  | 79 | 72 | 66 | 61 | 59 | 55 | 51 |  | 48 | 45 | 42 |  | 38 |
| 3   | 78  | 68  | 60  | 54  | 71 | 63 | 56 | 50 | 52 | 47 | 43 |  | 42 | 38 | 35 |  | 33 |
| 4   | 71  | 60  | 52  | 45  | 65 | 55 | 48 | 42 | 46 | 40 | 36 |  | 37 | 33 | 30 |  | 29 |
| 5   | 65  | 53  | 45  | 39  | 59 | 49 | 42 | 36 | 41 | 35 | 31 |  | 33 | 29 | 25 |  | 26 |
| 6   | 60  | 48  | 39  | 33  | 55 | 44 | 36 | 31 | 37 | 31 | 26 |  | 30 | 25 | 22 |  | 23 |
| 7   | 56  | 43  | 35  | 29  | 51 | 40 | 32 | 27 | 33 | 27 | 23 |  | 27 | 23 | 19 |  | 21 |
| 8   | 51  | 39  | 31  | 25  | 47 | 36 | 29 | 24 | 30 | 24 | 20 |  | 25 | 20 | 17 |  | 20 |
| 9   | 48  | 35  | 28  | 23  | 44 | 33 | 26 | 21 | 27 | 22 | 18 |  | 23 | 18 | 15 |  | 18 |
| 10  | 45  | 32  | 25  | 20  | 41 | 30 | 23 | 19 | 25 | 20 | 16 |  | 21 | 17 | 14 |  | 17 |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 8052 | 8052 | 8052 |
| 5°  | 8089 | 7708 | 7665 |
| 10° | 8035 | 7442 | 7332 |
| 15° | 7921 | 7166 | 6992 |
| 20° | 7777 | 6876 | 6670 |
| 25° | 7636 | 6597 | 6376 |
| 30° | 7440 | 6315 | 6085 |
| 35° | 7240 | 6043 | 5873 |
| 40° | 7027 | 5809 | 5661 |
| 45° | 6827 | 5595 | 5476 |
| 50° | 6612 | 5398 | 5294 |
| 55° | 6384 | 5190 | 5108 |
| 60° | 6108 | 4972 | 4913 |
| 65° | 5819 | 4722 | 4689 |
| 70° | 5491 | 4454 | 4447 |
| 75° | 5074 | 4184 | 4219 |
| 80° | 4415 | 3905 | 3984 |
| 85° | 3743 | 3641 | 3779 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
Vertical Angle: 45°  
Luminance: 6827 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 48.2   | 1.3       |
| 10°-20°   | 138.3  | 3.6       |
| 20°-30°   | 209.6  | 5.5       |
| 30°-40°   | 255.2  | 6.7       |
| 40°-50°   | 274.6  | 7.2       |
| 50°-60°   | 266.6  | 7.0       |
| 60°-70°   | 232.9  | 6.1       |
| 70°-80°   | 179.2  | 4.7       |
| 80°-90°   | 121.9  | 3.2       |
| 90°-100°  | 124.4  | 3.3       |
| 100°-110° | 192.5  | 5.0       |
| 110°-120° | 265.9  | 7.0       |
| 120°-130° | 319.4  | 8.4       |
| 130°-140° | 342.9  | 9.0       |
| 140°-150° | 328.6  | 8.6       |
| 150°-160° | 274.3  | 7.2       |
| 160°-170° | 182.0  | 4.8       |
| 170°-180° | 63.6   | 1.7       |
| 0°-30°    | 396.1  | 10.4      |
| 0°-40°    | 651.3  | 17.0      |
| 0°-60°    | 1192.5 | 31.2      |
| 0°-90°    | 1726.5 | 45.2      |
| 90°-120°  | 582.7  | 15.3      |
| 90°-150°  | 1573.6 | 41.2      |
| 90°-180°  | 2093.0 | 54.8      |
| 0°-180°   | 3820.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 509 | 509   | 509 | 509   | 509 |      |
| 5°   | 510 | 508   | 504 | 508   | 507 | 48   |
| 15°  | 487 | 488   | 488 | 495   | 494 | 137  |
| 25°  | 442 | 448   | 454 | 463   | 465 | 203  |
| 35°  | 381 | 394   | 408 | 424   | 429 | 238  |
| 45°  | 313 | 332   | 358 | 381   | 388 | 241  |
| 55°  | 240 | 266   | 304 | 331   | 341 | 214  |
| 65°  | 164 | 200   | 243 | 274   | 283 | 163  |
| 75°  | 91  | 132   | 179 | 211   | 220 | 96   |
| 85°  | 26  | 72    | 119 | 150   | 161 | 28   |
| 90°  | 8   | 58    | 117 | 146   | 155 | 7    |
| 95°  | 35  | 76    | 121 | 149   | 157 | 38   |
| 105° | 126 | 149   | 188 | 215   | 223 | 133  |
| 115° | 230 | 241   | 273 | 295   | 301 | 227  |
| 125° | 331 | 336   | 358 | 376   | 382 | 296  |
| 135° | 427 | 434   | 442 | 457   | 461 | 330  |
| 145° | 518 | 522   | 525 | 530   | 532 | 324  |
| 155° | 592 | 594   | 596 | 598   | 597 | 273  |
| 165° | 644 | 644   | 644 | 648   | 645 | 182  |
| 175° | 670 | 669   | 667 | 671   | 668 | 64   |
| 180° | 671 | 671   | 671 | 671   | 671 |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 508.7 | 508.7 | 508.7 | 508.7 | 508.7 |
| 2.5°   | 512.4 | 510.2 | 505.0 | 508.7 | 507.2 |
| 5°     | 510.2 | 508.0 | 503.5 | 508.0 | 507.2 |
| 7.5°   | 506.5 | 505.0 | 501.3 | 506.5 | 505.7 |
| 10°    | 502.1 | 500.6 | 498.4 | 504.3 | 503.5 |
| 12.5°  | 494.7 | 495.4 | 493.9 | 499.8 | 499.1 |
| 15°    | 486.6 | 488.1 | 488.1 | 494.7 | 493.9 |
| 17.5°  | 476.3 | 479.2 | 481.4 | 488.1 | 488.1 |
| 20°    | 465.9 | 469.6 | 472.6 | 480.7 | 480.7 |
| 22.5°  | 454.9 | 459.3 | 463.7 | 471.8 | 473.3 |
| 25°    | 442.3 | 447.5 | 454.1 | 463.0 | 465.2 |
| 27.5°  | 427.6 | 435.7 | 443.1 | 454.1 | 455.6 |
| 30°    | 412.9 | 422.4 | 432.0 | 443.8 | 446.0 |
| 32.5°  | 396.6 | 407.7 | 419.5 | 433.5 | 437.9 |
| 35°    | 381.2 | 393.7 | 407.7 | 423.9 | 429.1 |
| 37.5°  | 364.2 | 378.2 | 395.9 | 413.6 | 418.8 |
| 40°    | 347.2 | 363.5 | 383.4 | 402.5 | 409.2 |
| 42.5°  | 331.0 | 347.2 | 370.8 | 392.2 | 398.8 |
| 45°    | 312.6 | 332.5 | 358.3 | 381.2 | 388.5 |
| 47.5°  | 294.9 | 316.3 | 345.8 | 369.4 | 377.5 |
| 50°    | 276.5 | 299.3 | 332.5 | 357.6 | 365.7 |
| 52.5°  | 258.8 | 283.1 | 318.5 | 344.3 | 353.1 |
| 55°    | 239.6 | 266.1 | 304.5 | 331.0 | 340.6 |
| 57.5°  | 221.2 | 250.7 | 289.0 | 317.7 | 327.3 |
| 60°    | 201.3 | 233.0 | 275.0 | 303.0 | 313.3 |
| 62.5°  | 183.6 | 216.7 | 258.8 | 289.0 | 298.6 |
| 65°    | 163.7 | 199.8 | 243.3 | 273.5 | 283.1 |
| 67.5°  | 146.0 | 183.6 | 227.8 | 258.0 | 268.4 |
| 70°    | 126.8 | 165.1 | 210.9 | 242.6 | 251.4 |
| 72.5°  | 109.1 | 148.9 | 195.4 | 226.3 | 237.4 |
| 75°    | 90.7  | 132.0 | 179.1 | 210.9 | 220.4 |
| 77.5°  | 73.0  | 115.7 | 163.7 | 195.4 | 205.7 |
| 80°    | 55.3  | 100.3 | 148.2 | 179.1 | 189.5 |
| 82.5°  | 40.5  | 84.8  | 133.4 | 164.4 | 174.0 |
| 85°    | 26.5  | 72.2  | 119.4 | 150.4 | 160.7 |
| 87.5°  | 16.2  | 60.5  | 107.6 | 137.9 | 147.4 |
| 90°    | 8.0   | 57.5  | 117.1 | 145.5 | 155.0 |
| 92.5°  | 19.1  | 62.7  | 108.3 | 137.5 | 146.4 |
| 95°    | 35.4  | 75.6  | 121.1 | 149.1 | 156.7 |
| 97.5°  | 54.5  | 91.3  | 136.3 | 163.6 | 172.4 |
| 100°   | 77.2  | 108.9 | 151.9 | 179.2 | 186.7 |
| 102.5° | 100.2 | 128.0 | 170.0 | 197.1 | 204.6 |
| 105°   | 125.5 | 148.6 | 188.0 | 215.0 | 223.1 |
| 107.5° | 151.6 | 171.5 | 208.3 | 234.0 | 239.3 |
| 110°   | 175.7 | 193.9 | 230.0 | 253.6 | 260.0 |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 202.9 | 218.1 | 251.5 | 273.3 | 280.4 |
| 115°   | 229.5 | 241.1 | 273.1 | 294.7 | 301.1 |
| 117.5° | 255.5 | 265.9 | 294.1 | 314.5 | 320.2 |
| 120°   | 282.1 | 289.6 | 314.6 | 335.2 | 341.6 |
| 122.5° | 306.5 | 312.8 | 337.3 | 355.5 | 361.1 |
| 125°   | 331.2 | 336.3 | 358.2 | 376.4 | 382.5 |
| 127.5° | 356.2 | 361.6 | 379.2 | 395.5 | 400.4 |
| 130°   | 379.4 | 386.0 | 400.3 | 416.9 | 420.5 |
| 132.5° | 405.5 | 410.3 | 422.0 | 436.2 | 440.4 |
| 135°   | 427.3 | 433.6 | 442.1 | 457.0 | 461.2 |
| 137.5° | 452.3 | 457.4 | 462.2 | 475.6 | 478.6 |
| 140°   | 474.4 | 478.8 | 483.1 | 494.9 | 497.0 |
| 142.5° | 497.0 | 501.4 | 503.1 | 512.5 | 513.9 |
| 145°   | 517.9 | 521.8 | 525.2 | 530.2 | 531.6 |
| 147.5° | 537.1 | 542.2 | 544.5 | 546.3 | 546.2 |
| 150°   | 556.9 | 560.3 | 562.6 | 564.3 | 562.6 |
| 152.5° | 574.5 | 577.9 | 580.7 | 583.0 | 580.7 |
| 155°   | 592.1 | 593.8 | 595.5 | 598.3 | 596.6 |
| 157.5° | 607.4 | 608.5 | 609.6 | 613.6 | 610.8 |
| 160°   | 621.0 | 622.1 | 622.7 | 626.1 | 623.8 |
| 162.5° | 633.4 | 633.4 | 634.0 | 638.0 | 635.1 |
| 165°   | 644.2 | 643.6 | 643.6 | 647.6 | 644.8 |
| 167.5° | 653.8 | 652.1 | 652.1 | 656.1 | 653.3 |
| 170°   | 661.2 | 659.5 | 658.9 | 662.9 | 659.5 |
| 172.5° | 666.3 | 664.6 | 664.0 | 668.0 | 664.6 |
| 175°   | 670.3 | 668.6 | 667.4 | 671.4 | 668.0 |
| 177.5° | 672.5 | 670.8 | 669.7 | 673.1 | 669.7 |
| 180°   | 671.4 | 671.4 | 671.4 | 671.4 | 671.4 |

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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 | 12.00            | 12.87 | 12.99 | 13.87 | 15.21 | 15.08          | 15.94 | 16.06 | 16.95 | 18.28 |
|                 | 3H   | 13.46            | 14.24 | 14.46 | 15.26 | 16.61 | 17.67          | 18.45 | 18.66 | 19.46 | 20.82 |
|                 | 4H   | 13.94            | 14.68 | 14.95 | 15.70 | 17.06 | 18.92          | 19.66 | 19.93 | 20.68 | 22.04 |
|                 | 6H   | 14.22            | 14.91 | 15.24 | 15.93 | 17.31 | 20.22          | 20.90 | 21.24 | 21.93 | 23.30 |
|                 | 8H   | 14.28            | 14.94 | 15.31 | 15.98 | 17.35 | 20.87          | 21.53 | 21.90 | 22.57 | 23.94 |
|                 | 12H  | 14.30            | 14.92 | 15.33 | 15.96 | 17.35 | 21.60          | 22.23 | 22.63 | 23.26 | 24.66 |
| 4H              | 2H   | 13.05            | 13.80 | 14.07 | 14.81 | 16.18 | 15.41          | 16.15 | 16.42 | 17.17 | 18.53 |
|                 | 3H   | 14.76            | 15.39 | 15.78 | 16.43 | 17.81 | 18.20          | 18.83 | 19.22 | 19.87 | 21.25 |
|                 | 4H   | 15.38            | 15.96 | 16.41 | 17.00 | 18.40 | 19.61          | 20.19 | 20.65 | 21.23 | 22.63 |
|                 | 6H   | 15.80            | 16.30 | 16.84 | 17.36 | 18.75 | 21.08          | 21.59 | 22.12 | 22.65 | 24.04 |
|                 | 8H   | 15.91            | 16.38 | 16.95 | 17.43 | 18.84 | 21.84          | 22.31 | 22.88 | 23.37 | 24.78 |
|                 | 12H  | 15.95            | 16.38 | 17.01 | 17.45 | 18.86 | 22.67          | 23.10 | 23.73 | 24.17 | 25.58 |
| 8H              | 4H   | 16.17            | 16.65 | 17.21 | 17.70 | 19.11 | 19.76          | 20.23 | 20.80 | 21.29 | 22.69 |
|                 | 6H   | 16.81            | 17.20 | 17.87 | 18.30 | 19.70 | 21.39          | 21.79 | 22.45 | 22.88 | 24.29 |
|                 | 8H   | 17.03            | 17.38 | 18.10 | 18.46 | 19.88 | 22.28          | 22.63 | 23.35 | 23.71 | 25.13 |
|                 | 12H  | 17.16            | 17.47 | 18.24 | 18.55 | 20.01 | 23.27          | 23.58 | 24.35 | 24.66 | 26.12 |
| 12H             | 4H   | 16.37            | 16.80 | 17.43 | 17.87 | 19.28 | 19.73          | 20.16 | 20.79 | 21.23 | 22.65 |
|                 | 6H   | 17.14            | 17.49 | 18.21 | 18.57 | 19.99 | 21.41          | 21.77 | 22.48 | 22.84 | 24.27 |
|                 | 8H   | 17.44            | 17.76 | 18.52 | 18.83 | 20.29 | 22.34          | 22.65 | 23.42 | 23.73 | 25.19 |