

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: P998603

Luminaire Tested: SA2XXDIP-B485D725UB40-4F0-XX-W2A-F

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998603  
REPORT IS A COMBINATION OF REPORTS P984346 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B485D725UB40-4F0-XX-W2A-F  
Description: Define 2 Direct/Indirect Pendant with 4000K BioUP LEDs {m-DER=0.865} {m-EER=0.951}  
Light Source: -  
Ballast/Driver: -

**Summary**

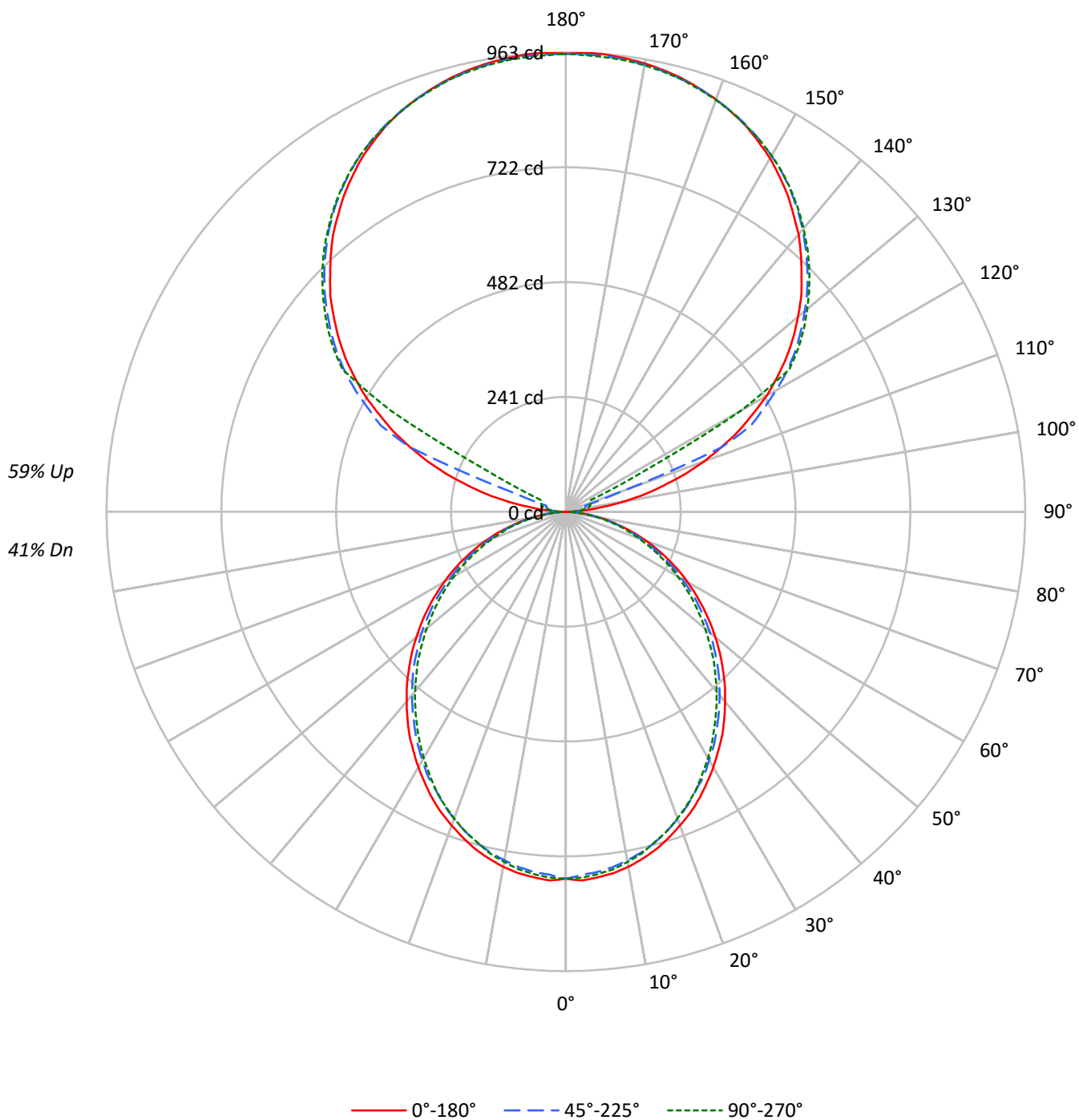
Lumens per Lamp: N/A  
Luminaire Lumens: 4773.0 lumens  
Efficiency: N/A  
Efficacy: 105.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 45.1  
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   | 105 | 105 | 105 | 105 | 96 | 96 | 96 | 96 | 78 | 78 | 78 | 62 | 62 | 62 | 48 | 48 | 48 |
| 1   | 96  | 92  | 88  | 84  | 87 | 84 | 80 | 77 | 69 | 66 | 64 | 55 | 53 | 52 | 42 | 41 | 40 |
| 2   | 87  | 80  | 74  | 69  | 79 | 73 | 68 | 63 | 60 | 56 | 53 | 48 | 46 | 43 | 37 | 36 | 34 |
| 3   | 80  | 70  | 63  | 57  | 72 | 64 | 58 | 53 | 53 | 48 | 45 | 43 | 39 | 37 | 33 | 31 | 29 |
| 4   | 73  | 62  | 54  | 48  | 66 | 57 | 50 | 45 | 47 | 42 | 38 | 38 | 34 | 31 | 29 | 27 | 25 |
| 5   | 67  | 55  | 47  | 41  | 61 | 51 | 44 | 38 | 42 | 37 | 33 | 34 | 30 | 27 | 27 | 24 | 22 |
| 6   | 61  | 50  | 42  | 36  | 56 | 45 | 38 | 33 | 38 | 33 | 29 | 31 | 27 | 24 | 24 | 21 | 19 |
| 7   | 57  | 45  | 37  | 31  | 52 | 41 | 34 | 29 | 34 | 29 | 25 | 28 | 24 | 21 | 22 | 19 | 17 |
| 8   | 53  | 40  | 33  | 28  | 48 | 37 | 31 | 26 | 31 | 26 | 22 | 26 | 22 | 19 | 20 | 17 | 15 |
| 9   | 49  | 37  | 30  | 25  | 45 | 34 | 27 | 23 | 29 | 23 | 20 | 23 | 20 | 17 | 19 | 16 | 14 |
| 10  | 46  | 34  | 27  | 22  | 42 | 31 | 25 | 21 | 26 | 21 | 18 | 22 | 18 | 15 | 17 | 14 | 12 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 12176 | 12176 | 12176 |
| 5°  | 12196 | 11606 | 11524 |
| 10° | 12097 | 11076 | 10857 |
| 15° | 11919 | 10544 | 10156 |
| 20° | 11680 | 9965  | 9493  |
| 25° | 11441 | 9359  | 8829  |
| 30° | 11141 | 8790  | 8133  |
| 35° | 10857 | 8190  | 7451  |
| 40° | 10508 | 7598  | 6805  |
| 45° | 10160 | 7011  | 6172  |
| 50° | 9781  | 6413  | 5514  |
| 55° | 9382  | 5772  | 4892  |
| 60° | 8933  | 5082  | 4245  |
| 65° | 8439  | 4378  | 3564  |
| 70° | 7817  | 3609  | 2878  |
| 75° | 6953  | 2782  | 2222  |
| 80° | 5908  | 1889  | 1430  |
| 85° | 4280  | 878   | 609   |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 10160 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 72.4   | 1.5       |
| 10°-20°   | 203.7  | 4.3       |
| 20°-30°   | 299.3  | 6.3       |
| 30°-40°   | 347.7  | 7.3       |
| 40°-50°   | 347.2  | 7.3       |
| 50°-60°   | 302.8  | 6.3       |
| 60°-70°   | 223.8  | 4.7       |
| 70°-80°   | 126.6  | 2.7       |
| 80°-90°   | 35.1   | 0.7       |
| 90°-100°  | 31.7   | 0.7       |
| 100°-110° | 118.0  | 2.5       |
| 110°-120° | 313.0  | 6.6       |
| 120°-130° | 519.1  | 10.9      |
| 130°-140° | 551.4  | 11.6      |
| 140°-150° | 512.4  | 10.7      |
| 150°-160° | 412.0  | 8.6       |
| 160°-170° | 265.5  | 5.6       |
| 170°-180° | 91.4   | 1.9       |
| 0°-30°    | 575.4  | 12.1      |
| 0°-40°    | 923.1  | 19.3      |
| 0°-60°    | 1573.1 | 33.0      |
| 0°-90°    | 1958.7 | 41.0      |
| 90°-120°  | 462.7  | 9.7       |
| 90°-150°  | 2045.5 | 42.9      |
| 90°-180°  | 2814.0 | 59.0      |
| 0°-180°   | 4773.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 769 | 769   | 769 | 769   | 769 |      |
| 5°   | 769 | 766   | 758 | 764   | 763 | 73   |
| 15°  | 732 | 728   | 718 | 721   | 717 | 206  |
| 25°  | 663 | 657   | 644 | 646   | 644 | 305  |
| 35°  | 572 | 564   | 552 | 548   | 544 | 357  |
| 45°  | 465 | 460   | 449 | 441   | 438 | 359  |
| 55°  | 352 | 348   | 339 | 330   | 326 | 315  |
| 65°  | 237 | 233   | 226 | 219   | 215 | 235  |
| 75°  | 124 | 123   | 119 | 115   | 116 | 133  |
| 85°  | 30  | 30    | 29  | 27    | 26  | 34   |
| 90°  | 1   | 8     | 14  | 17    | 19  | 4    |
| 95°  | 45  | 22    | 27  | 31    | 30  | 53   |
| 105° | 211 | 232   | 42  | 50    | 53  | 226  |
| 115° | 399 | 411   | 429 | 107   | 57  | 393  |
| 125° | 565 | 574   | 587 | 592   | 594 | 504  |
| 135° | 699 | 710   | 716 | 723   | 722 | 540  |
| 145° | 811 | 810   | 822 | 827   | 823 | 507  |
| 155° | 893 | 886   | 895 | 899   | 893 | 411  |
| 165° | 940 | 936   | 938 | 943   | 938 | 266  |
| 175° | 962 | 957   | 959 | 963   | 956 | 92   |
| 180° | 960 | 960   | 960 | 960   | 960 |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 769.2 | 769.2 | 769.2 | 769.2 | 769.2 |
| 2.5°   | 773.7 | 770.0 | 761.8 | 769.2 | 767.7 |
| 5°     | 769.2 | 766.3 | 758.1 | 764.0 | 762.6 |
| 7.5°   | 764.0 | 759.6 | 751.5 | 757.4 | 755.9 |
| 10°    | 755.9 | 750.7 | 741.8 | 747.8 | 745.5 |
| 12.5°  | 744.8 | 740.4 | 731.5 | 735.2 | 733.7 |
| 15°    | 732.2 | 727.8 | 718.2 | 721.1 | 717.4 |
| 17.5°  | 716.7 | 712.3 | 702.6 | 706.3 | 702.6 |
| 20°    | 699.7 | 695.2 | 684.9 | 687.1 | 684.2 |
| 22.5°  | 682.7 | 676.0 | 666.4 | 666.4 | 664.9 |
| 25°    | 662.7 | 656.8 | 644.2 | 645.7 | 644.2 |
| 27.5°  | 640.5 | 635.3 | 625.7 | 623.5 | 619.8 |
| 30°    | 618.3 | 612.4 | 601.3 | 599.1 | 596.1 |
| 32.5°  | 594.7 | 590.2 | 578.4 | 574.0 | 571.0 |
| 35°    | 571.7 | 564.3 | 552.5 | 548.1 | 544.4 |
| 37.5°  | 545.8 | 539.2 | 527.4 | 522.2 | 518.5 |
| 40°    | 519.2 | 513.3 | 501.5 | 494.8 | 491.9 |
| 42.5°  | 493.3 | 487.4 | 475.6 | 468.2 | 463.7 |
| 45°    | 465.2 | 460.0 | 449.0 | 440.8 | 437.9 |
| 47.5°  | 437.9 | 432.7 | 420.8 | 412.7 | 408.3 |
| 50°    | 409.0 | 405.3 | 395.0 | 384.6 | 380.9 |
| 52.5°  | 380.9 | 375.7 | 366.1 | 358.0 | 352.8 |
| 55°    | 352.1 | 347.6 | 338.7 | 329.9 | 326.2 |
| 57.5°  | 323.2 | 319.5 | 309.9 | 301.0 | 298.1 |
| 60°    | 294.4 | 291.4 | 281.1 | 272.9 | 270.7 |
| 62.5°  | 266.3 | 261.1 | 253.7 | 246.3 | 243.3 |
| 65°    | 237.4 | 233.0 | 225.6 | 218.9 | 215.2 |
| 67.5°  | 207.8 | 204.1 | 197.5 | 192.3 | 189.3 |
| 70°    | 180.5 | 177.5 | 170.9 | 165.7 | 162.7 |
| 72.5°  | 152.4 | 149.4 | 145.7 | 140.5 | 138.3 |
| 75°    | 124.3 | 122.8 | 119.1 | 114.6 | 116.1 |
| 77.5°  | 99.1  | 96.2  | 94.7  | 92.5  | 90.2  |
| 80°    | 74.0  | 73.2  | 71.7  | 69.5  | 68.0  |
| 82.5°  | 50.3  | 50.3  | 49.6  | 46.6  | 46.6  |
| 85°    | 30.3  | 29.6  | 28.8  | 26.6  | 25.9  |
| 87.5°  | 13.3  | 11.8  | 10.4  | 8.1   | 7.4   |
| 90°    | 0.7   | 8.3   | 13.9  | 17.4  | 18.8  |
| 92.5°  | 17.4  | 14.6  | 16.7  | 18.1  | 18.8  |
| 95°    | 45.2  | 22.2  | 27.1  | 30.6  | 29.9  |
| 97.5°  | 81.3  | 24.3  | 35.4  | 37.5  | 38.2  |
| 100°   | 122.9 | 27.8  | 39.6  | 45.2  | 46.5  |
| 102.5° | 168.8 | 167.4 | 41.0  | 48.6  | 50.7  |
| 105°   | 211.2 | 232.0 | 42.4  | 50.0  | 52.8  |
| 107.5° | 260.5 | 277.9 | 43.8  | 51.4  | 54.2  |
| 110°   | 307.7 | 322.3 | 121.6 | 52.1  | 54.9  |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 352.2 | 364.7 | 352.9 | 53.5  | 55.6  |
| 115°   | 399.4 | 411.2 | 428.6 | 107.0 | 57.0  |
| 117.5° | 440.4 | 454.3 | 466.1 | 366.8 | 184.8 |
| 120°   | 486.2 | 496.7 | 509.2 | 517.5 | 423.7 |
| 122.5° | 525.1 | 536.3 | 550.1 | 554.3 | 555.0 |
| 125°   | 564.7 | 573.8 | 587.0 | 591.8 | 593.9 |
| 127.5° | 600.9 | 610.6 | 621.0 | 627.9 | 628.6 |
| 130°   | 634.9 | 646.0 | 653.6 | 661.3 | 660.6 |
| 132.5° | 669.6 | 678.7 | 686.3 | 692.5 | 691.8 |
| 135°   | 698.8 | 709.9 | 716.2 | 723.1 | 721.7 |
| 137.5° | 729.4 | 737.7 | 744.6 | 751.6 | 749.5 |
| 140°   | 759.2 | 764.8 | 772.4 | 778.7 | 775.2 |
| 142.5° | 784.2 | 789.1 | 798.1 | 803.7 | 800.2 |
| 145°   | 810.6 | 809.9 | 821.7 | 826.6 | 823.1 |
| 147.5° | 833.6 | 831.5 | 843.3 | 846.8 | 844.0 |
| 150°   | 855.8 | 850.9 | 862.0 | 866.2 | 862.7 |
| 152.5° | 874.5 | 869.0 | 879.4 | 883.6 | 878.7 |
| 155°   | 892.6 | 886.3 | 894.7 | 898.8 | 893.3 |
| 157.5° | 907.2 | 901.6 | 907.9 | 912.7 | 907.2 |
| 160°   | 919.7 | 915.5 | 919.7 | 923.9 | 919.0 |
| 162.5° | 930.8 | 926.6 | 930.1 | 935.0 | 928.7 |
| 165°   | 940.5 | 936.4 | 938.4 | 943.3 | 938.4 |
| 167.5° | 948.2 | 944.0 | 946.1 | 950.9 | 944.7 |
| 170°   | 954.4 | 950.3 | 951.6 | 956.5 | 950.3 |
| 172.5° | 958.6 | 954.4 | 955.8 | 960.7 | 954.4 |
| 175°   | 962.1 | 957.2 | 958.6 | 963.4 | 956.5 |
| 177.5° | 963.4 | 958.6 | 959.3 | 964.1 | 957.9 |
| 180°   | 960.0 | 960.0 | 960.0 | 960.0 | 960.0 |

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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 | 13.03            | 13.82 | 14.06 | 14.85 | 16.25 | 13.81          | 14.60 | 14.84 | 15.64 | 17.03 |
|                 | 3H   | 14.36            | 15.07 | 15.40 | 16.11 | 17.53 | 15.43          | 16.14 | 16.47 | 17.18 | 18.60 |
|                 | 4H   | 14.76            | 15.43 | 15.82 | 16.48 | 17.90 | 16.02          | 16.69 | 17.07 | 17.74 | 19.16 |
|                 | 6H   | 14.98            | 15.59 | 16.04 | 16.65 | 18.08 | 16.42          | 17.04 | 17.48 | 18.09 | 19.52 |
|                 | 8H   | 15.01            | 15.59 | 16.07 | 16.66 | 18.09 | 16.53          | 17.11 | 17.59 | 18.18 | 19.61 |
|                 | 12H  | 15.00            | 15.55 | 16.07 | 16.62 | 18.07 | 16.57          | 17.13 | 17.64 | 18.19 | 19.64 |
| 4H              | 2H   | 13.49            | 14.16 | 14.55 | 15.21 | 16.63 | 14.13          | 14.80 | 15.19 | 15.85 | 17.27 |
|                 | 3H   | 15.00            | 15.56 | 16.07 | 16.63 | 18.07 | 15.91          | 16.46 | 16.97 | 17.54 | 18.97 |
|                 | 4H   | 15.50            | 16.01 | 16.58 | 17.08 | 18.54 | 16.58          | 17.10 | 17.66 | 18.16 | 19.62 |
|                 | 6H   | 15.80            | 16.24 | 16.88 | 17.33 | 18.78 | 17.08          | 17.52 | 18.16 | 18.61 | 20.06 |
|                 | 8H   | 15.86            | 16.27 | 16.94 | 17.35 | 18.82 | 17.22          | 17.63 | 18.30 | 18.71 | 20.18 |
|                 | 12H  | 15.85            | 16.23 | 16.95 | 17.32 | 18.79 | 17.28          | 17.65 | 18.38 | 18.74 | 20.21 |
| 8H              | 4H   | 15.67            | 16.08 | 16.76 | 17.17 | 18.63 | 16.66          | 17.07 | 17.75 | 18.16 | 19.62 |
|                 | 6H   | 16.05            | 16.39 | 17.16 | 17.52 | 18.98 | 17.23          | 17.57 | 18.33 | 18.69 | 20.16 |
|                 | 8H   | 16.16            | 16.45 | 17.27 | 17.56 | 19.04 | 17.42          | 17.72 | 18.53 | 18.82 | 20.30 |
|                 | 12H  | 16.18            | 16.45 | 17.30 | 17.55 | 19.07 | 17.51          | 17.77 | 18.63 | 18.88 | 20.40 |
| 12H             | 4H   | 15.65            | 16.02 | 16.75 | 17.12 | 18.59 | 16.62          | 17.00 | 17.72 | 18.09 | 19.56 |
|                 | 6H   | 16.07            | 16.37 | 17.18 | 17.48 | 18.96 | 17.22          | 17.52 | 18.33 | 18.63 | 20.11 |
|                 | 8H   | 16.18            | 16.44 | 17.30 | 17.54 | 19.06 | 17.41          | 17.68 | 18.53 | 18.78 | 20.30 |