

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: P998273

Luminaire Tested: SA2XXDIP-B290D725UB2750-4F0-XX-W2A-D\_3000K

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998273  
REPORT IS A COMBINATION OF REPORTS P984013 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B290D725UB2750-4F0-XX-W2A-D\_3000K  
Description: Define 2 Direct/Indirect Pendant with 3000K BioUP LEDs {m-DER=0.589} {m-EER=0.647}  
Light Source: -  
Ballast/Driver: -

**Summary**

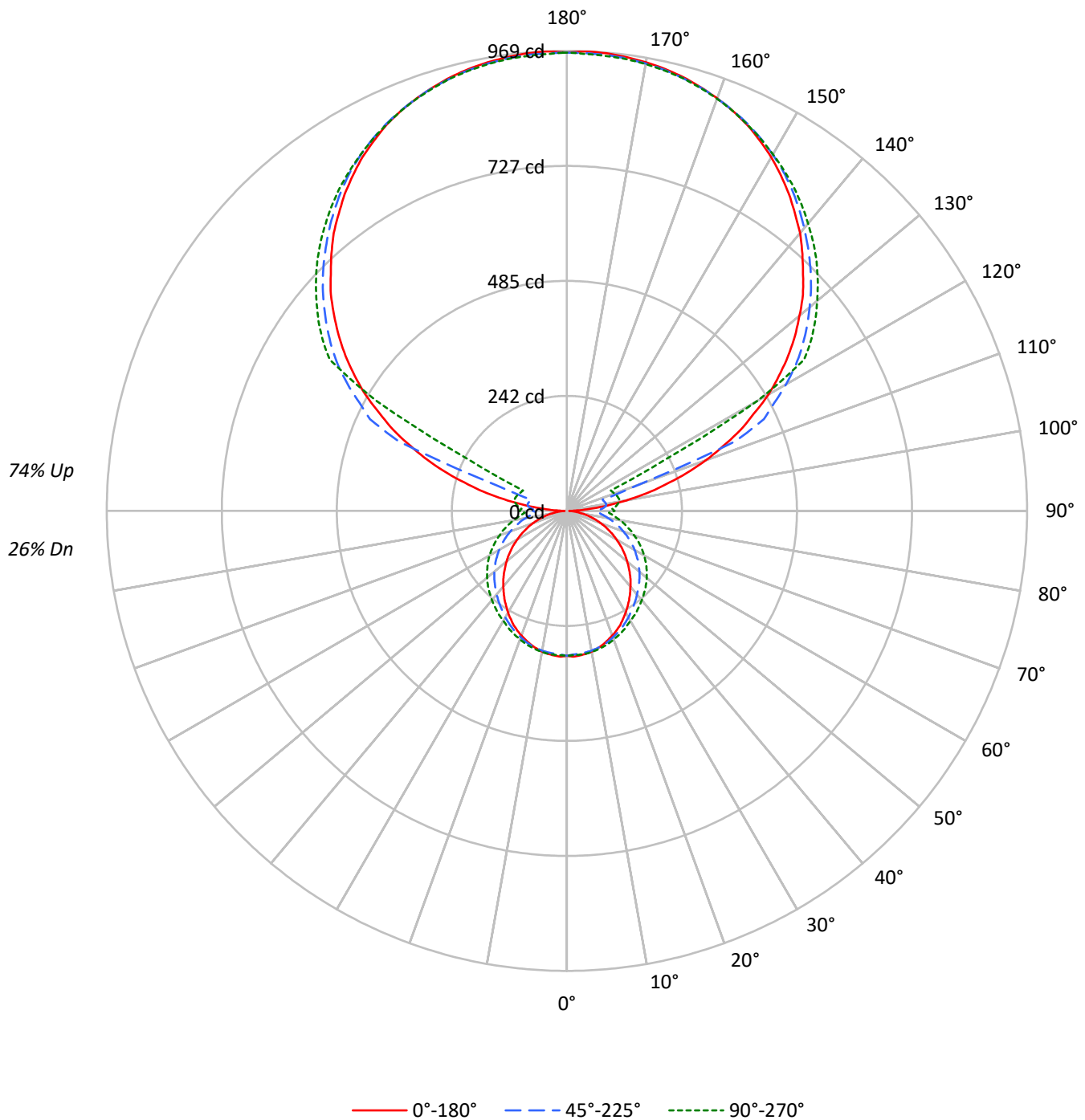
Lumens per Lamp: N/A  
Luminaire Lumens: 3996.0 lumens  
Efficiency: N/A  
Efficacy: 117.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: Semi-Indirect

Input Watts (W): 34.1  
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   | 101 | 101 | 101 | 101 | 90 | 90 | 90 | 90 | 70 | 70 | 70 | 51 | 51 | 51 | 34 | 34 | 34 |
| 1   | 92  | 87  | 83  | 79  | 81 | 78 | 74 | 71 | 60 | 58 | 56 | 44 | 42 | 41 | 29 | 28 | 27 |
| 2   | 83  | 76  | 69  | 64  | 74 | 67 | 62 | 58 | 52 | 48 | 45 | 38 | 36 | 33 | 25 | 23 | 22 |
| 3   | 76  | 66  | 59  | 53  | 67 | 59 | 53 | 48 | 46 | 41 | 38 | 33 | 30 | 28 | 22 | 20 | 19 |
| 4   | 69  | 58  | 50  | 44  | 61 | 52 | 45 | 40 | 40 | 36 | 32 | 29 | 26 | 24 | 19 | 17 | 16 |
| 5   | 63  | 52  | 44  | 38  | 56 | 46 | 39 | 34 | 36 | 31 | 27 | 26 | 23 | 20 | 17 | 15 | 14 |
| 6   | 58  | 46  | 38  | 32  | 51 | 41 | 34 | 29 | 32 | 27 | 23 | 24 | 20 | 18 | 16 | 13 | 12 |
| 7   | 53  | 41  | 34  | 28  | 47 | 37 | 30 | 25 | 29 | 24 | 20 | 21 | 18 | 15 | 14 | 12 | 10 |
| 8   | 49  | 37  | 30  | 25  | 44 | 33 | 27 | 22 | 26 | 21 | 18 | 19 | 16 | 14 | 13 | 11 | 9  |
| 9   | 46  | 34  | 27  | 22  | 41 | 30 | 24 | 20 | 24 | 19 | 16 | 18 | 14 | 12 | 12 | 10 | 8  |
| 10  | 43  | 31  | 24  | 19  | 38 | 28 | 22 | 17 | 22 | 17 | 14 | 16 | 13 | 11 | 11 | 9  | 7  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 4830 | 4830 | 4830 |
| 5°  | 4850 | 4623 | 4597 |
| 10° | 4818 | 4463 | 4398 |
| 15° | 4750 | 4297 | 4193 |
| 20° | 4664 | 4123 | 4000 |
| 25° | 4580 | 3956 | 3824 |
| 30° | 4461 | 3788 | 3650 |
| 35° | 4341 | 3624 | 3522 |
| 40° | 4214 | 3483 | 3395 |
| 45° | 4095 | 3356 | 3284 |
| 50° | 3965 | 3237 | 3175 |
| 55° | 3829 | 3112 | 3064 |
| 60° | 3663 | 2981 | 2947 |
| 65° | 3487 | 2832 | 2812 |
| 70° | 3291 | 2670 | 2668 |
| 75° | 3043 | 2509 | 2530 |
| 80° | 2651 | 2343 | 2388 |
| 85° | 2246 | 2183 | 2267 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4095 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 28.9   | 0.7       |
| 10°-20°   | 82.9   | 2.1       |
| 20°-30°   | 125.7  | 3.1       |
| 30°-40°   | 153.0  | 3.8       |
| 40°-50°   | 164.7  | 4.1       |
| 50°-60°   | 159.9  | 4.0       |
| 60°-70°   | 139.6  | 3.5       |
| 70°-80°   | 107.5  | 2.7       |
| 80°-90°   | 73.7   | 1.8       |
| 90°-100°  | 81.5   | 2.0       |
| 100°-110° | 154.9  | 3.9       |
| 110°-120° | 338.7  | 8.5       |
| 120°-130° | 535.4  | 13.4      |
| 130°-140° | 560.1  | 14.0      |
| 140°-150° | 516.3  | 12.9      |
| 150°-160° | 414.3  | 10.4      |
| 160°-170° | 267.0  | 6.7       |
| 170°-180° | 91.9   | 2.3       |
| 0°-30°    | 237.5  | 5.9       |
| 0°-40°    | 390.6  | 9.8       |
| 0°-60°    | 715.1  | 17.9      |
| 0°-90°    | 1035.9 | 25.9      |
| 90°-120°  | 575.1  | 14.4      |
| 90°-150°  | 2186.9 | 54.7      |
| 90°-180°  | 2960.0 | 74.1      |
| 0°-180°   | 3996.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 305 | 305   | 305 | 305   | 305 |      |
| 5°   | 306 | 305   | 302 | 305   | 304 | 29   |
| 15°  | 292 | 293   | 293 | 297   | 296 | 82   |
| 25°  | 265 | 268   | 272 | 278   | 279 | 122  |
| 35°  | 229 | 236   | 244 | 254   | 257 | 143  |
| 45°  | 188 | 199   | 215 | 229   | 233 | 145  |
| 55°  | 144 | 160   | 183 | 198   | 204 | 129  |
| 65°  | 98  | 120   | 146 | 164   | 170 | 98   |
| 75°  | 54  | 79    | 107 | 126   | 132 | 58   |
| 85°  | 16  | 43    | 72  | 90    | 96  | 17   |
| 90°  | 5   | 38    | 72  | 94    | 100 | 6    |
| 95°  | 49  | 47    | 78  | 98    | 103 | 56   |
| 105° | 215 | 248   | 81  | 104   | 112 | 229  |
| 115° | 404 | 420   | 458 | 147   | 102 | 397  |
| 125° | 569 | 578   | 605 | 622   | 628 | 507  |
| 135° | 703 | 714   | 725 | 741   | 744 | 543  |
| 145° | 815 | 814   | 826 | 834   | 833 | 510  |
| 155° | 898 | 891   | 900 | 904   | 898 | 414  |
| 165° | 946 | 942   | 944 | 949   | 944 | 267  |
| 175° | 968 | 963   | 964 | 969   | 962 | 92   |
| 180° | 965 | 965   | 965 | 965   | 965 |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 305.1 | 305.1 | 305.1 | 305.1 | 305.1 |
| 2.5°   | 307.3 | 305.9 | 302.8 | 305.1 | 304.2 |
| 5°     | 305.9 | 304.6 | 302.0 | 304.6 | 304.2 |
| 7.5°   | 303.7 | 302.8 | 300.6 | 303.7 | 303.3 |
| 10°    | 301.1 | 300.2 | 298.9 | 302.4 | 302.0 |
| 12.5°  | 296.7 | 297.1 | 296.2 | 299.8 | 299.3 |
| 15°    | 291.8 | 292.7 | 292.7 | 296.7 | 296.2 |
| 17.5°  | 285.6 | 287.4 | 288.7 | 292.7 | 292.7 |
| 20°    | 279.4 | 281.6 | 283.4 | 288.3 | 288.3 |
| 22.5°  | 272.8 | 275.4 | 278.1 | 283.0 | 283.8 |
| 25°    | 265.3 | 268.4 | 272.3 | 277.6 | 279.0 |
| 27.5°  | 256.4 | 261.3 | 265.7 | 272.3 | 273.2 |
| 30°    | 247.6 | 253.3 | 259.1 | 266.2 | 267.5 |
| 32.5°  | 237.9 | 244.5 | 251.6 | 260.0 | 262.6 |
| 35°    | 228.6 | 236.1 | 244.5 | 254.2 | 257.3 |
| 37.5°  | 218.4 | 226.8 | 237.4 | 248.0 | 251.1 |
| 40°    | 208.2 | 218.0 | 229.9 | 241.4 | 245.4 |
| 42.5°  | 198.5 | 208.2 | 222.4 | 235.2 | 239.2 |
| 45°    | 187.5 | 199.4 | 214.9 | 228.6 | 233.0 |
| 47.5°  | 176.8 | 189.7 | 207.4 | 221.5 | 226.4 |
| 50°    | 165.8 | 179.5 | 199.4 | 214.4 | 219.3 |
| 52.5°  | 155.2 | 169.8 | 191.0 | 206.5 | 211.8 |
| 55°    | 143.7 | 159.6 | 182.6 | 198.5 | 204.3 |
| 57.5°  | 132.6 | 150.3 | 173.3 | 190.6 | 196.3 |
| 60°    | 120.7 | 139.7 | 164.9 | 181.7 | 187.9 |
| 62.5°  | 110.1 | 130.0 | 155.2 | 173.3 | 179.1 |
| 65°    | 98.1  | 119.8 | 145.9 | 164.0 | 169.8 |
| 67.5°  | 87.5  | 110.1 | 136.6 | 154.7 | 160.9 |
| 70°    | 76.0  | 99.0  | 126.4 | 145.5 | 150.8 |
| 72.5°  | 65.4  | 89.3  | 117.2 | 135.7 | 142.4 |
| 75°    | 54.4  | 79.1  | 107.4 | 126.4 | 132.2 |
| 77.5°  | 43.8  | 69.4  | 98.1  | 117.2 | 123.4 |
| 80°    | 33.2  | 60.1  | 88.9  | 107.4 | 113.6 |
| 82.5°  | 24.3  | 50.8  | 80.0  | 98.6  | 104.3 |
| 85°    | 15.9  | 43.3  | 71.6  | 90.2  | 96.4  |
| 87.5°  | 9.7   | 36.3  | 64.5  | 82.7  | 88.4  |
| 90°    | 5.1   | 38.5  | 72.4  | 93.5  | 100.2 |
| 92.5°  | 21.5  | 42.1  | 71.2  | 89.8  | 95.8  |
| 95°    | 48.9  | 46.7  | 78.0  | 98.3  | 102.9 |
| 97.5°  | 84.8  | 46.6  | 83.3  | 101.8 | 107.8 |
| 100°   | 126.7 | 47.4  | 84.0  | 106.0 | 112.2 |
| 102.5° | 172.5 | 185.6 | 82.3  | 105.9 | 112.9 |
| 105°   | 214.6 | 248.3 | 80.6  | 103.8 | 111.5 |
| 107.5° | 264.2 | 292.2 | 78.9  | 101.7 | 109.3 |
| 110°   | 311.3 | 334.7 | 154.6 | 98.8  | 106.5 |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 356.0 | 375.6 | 384.1 | 97.1  | 104.1 |
| 115°   | 403.5 | 420.2 | 457.5 | 147.4 | 102.0 |
| 117.5° | 444.2 | 461.8 | 492.1 | 405.5 | 226.9 |
| 120°   | 490.3 | 502.6 | 532.9 | 553.6 | 464.1 |
| 122.5° | 529.4 | 541.1 | 571.4 | 587.6 | 592.2 |
| 125°   | 568.8 | 577.9 | 605.3 | 622.2 | 628.2 |
| 127.5° | 605.2 | 614.4 | 636.9 | 654.9 | 659.6 |
| 130°   | 639.4 | 650.1 | 667.1 | 685.3 | 688.2 |
| 132.5° | 674.3 | 682.9 | 697.3 | 713.7 | 716.6 |
| 135°   | 703.2 | 714.3 | 725.1 | 741.3 | 743.5 |
| 137.5° | 733.9 | 742.3 | 751.6 | 767.0 | 767.9 |
| 140°   | 763.9 | 769.1 | 777.7 | 791.1 | 790.2 |
| 142.5° | 789.1 | 793.6 | 802.7 | 813.6 | 812.3 |
| 145°   | 815.2 | 814.5 | 826.4 | 834.0 | 832.7 |
| 147.5° | 838.3 | 836.2 | 848.1 | 852.0 | 850.6 |
| 150°   | 860.6 | 855.8 | 866.9 | 871.1 | 867.6 |
| 152.5° | 879.5 | 873.9 | 884.4 | 888.6 | 883.7 |
| 155°   | 897.7 | 891.4 | 899.8 | 904.0 | 898.4 |
| 157.5° | 912.3 | 906.7 | 913.0 | 917.9 | 912.3 |
| 160°   | 924.9 | 920.7 | 924.9 | 929.1 | 924.2 |
| 162.5° | 936.1 | 931.9 | 935.4 | 940.3 | 934.0 |
| 165°   | 945.9 | 941.7 | 943.8 | 948.7 | 943.8 |
| 167.5° | 953.6 | 949.4 | 951.5 | 956.3 | 950.1 |
| 170°   | 959.8 | 955.6 | 957.0 | 961.9 | 955.6 |
| 172.5° | 964.0 | 959.8 | 961.2 | 966.1 | 959.8 |
| 175°   | 967.5 | 962.6 | 964.0 | 968.9 | 961.9 |
| 177.5° | 968.9 | 964.0 | 964.7 | 969.6 | 963.3 |
| 180°   | 965.4 | 965.4 | 965.4 | 965.4 | 965.4 |

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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 | 7.91             | 8.61  | 9.04  | 9.74  | 11.31 | 10.99          | 11.69 | 12.12 | 12.82 | 14.39 |
|                 | 3H   | 9.36             | 9.99  | 10.50 | 11.13 | 12.72 | 13.56          | 14.20 | 14.70 | 15.33 | 16.92 |
|                 | 4H   | 9.83             | 10.43 | 10.98 | 11.57 | 13.16 | 14.81          | 15.41 | 15.96 | 16.55 | 18.14 |
|                 | 6H   | 10.10            | 10.66 | 11.26 | 11.80 | 13.41 | 16.10          | 16.65 | 17.26 | 17.79 | 19.40 |
|                 | 8H   | 10.16            | 10.69 | 11.32 | 11.84 | 13.44 | 16.75          | 17.28 | 17.91 | 18.44 | 20.04 |
|                 | 12H  | 10.17            | 10.67 | 11.33 | 11.82 | 13.44 | 17.47          | 17.98 | 18.64 | 19.12 | 20.75 |
| 4H              | 2H   | 8.94             | 9.54  | 10.10 | 10.68 | 12.28 | 11.30          | 11.90 | 12.46 | 13.04 | 14.63 |
|                 | 3H   | 10.64            | 11.14 | 11.80 | 12.31 | 13.91 | 14.08          | 14.58 | 15.24 | 15.75 | 17.35 |
|                 | 4H   | 11.25            | 11.72 | 12.42 | 12.87 | 14.50 | 15.49          | 15.96 | 16.65 | 17.11 | 18.73 |
|                 | 6H   | 11.66            | 12.06 | 12.83 | 13.24 | 14.85 | 16.95          | 17.35 | 18.12 | 18.52 | 20.14 |
|                 | 8H   | 11.76            | 12.14 | 12.93 | 13.31 | 14.94 | 17.70          | 18.08 | 18.87 | 19.24 | 20.88 |
|                 | 12H  | 11.80            | 12.14 | 12.98 | 13.32 | 14.96 | 18.52          | 18.86 | 19.71 | 20.04 | 21.68 |
| 8H              | 4H   | 12.03            | 12.41 | 13.20 | 13.57 | 15.21 | 15.62          | 16.00 | 16.79 | 17.16 | 18.79 |
|                 | 6H   | 12.66            | 12.97 | 13.85 | 14.18 | 15.81 | 17.24          | 17.56 | 18.43 | 18.76 | 20.39 |
|                 | 8H   | 12.88            | 13.15 | 14.07 | 14.34 | 15.99 | 18.13          | 18.40 | 19.32 | 19.59 | 21.24 |
|                 | 12H  | 13.00            | 13.25 | 14.20 | 14.43 | 16.11 | 19.12          | 19.36 | 20.31 | 20.54 | 22.22 |
| 12H             | 4H   | 12.22            | 12.56 | 13.41 | 13.74 | 15.38 | 15.58          | 15.93 | 16.77 | 17.10 | 18.74 |
|                 | 6H   | 12.99            | 13.27 | 14.18 | 14.45 | 16.10 | 17.26          | 17.54 | 18.46 | 18.72 | 20.37 |
|                 | 8H   | 13.29            | 13.53 | 14.48 | 14.71 | 16.39 | 18.18          | 18.43 | 19.38 | 19.61 | 21.29 |