

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: P998281

Luminaire Tested: SA2XXDIP-B290D725UB2750-4F0-XX-W2A-F\_5000K

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998281  
REPORT IS A COMBINATION OF REPORTS P984021 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-F\_5000K  
Description: Define 2 Direct/Indirect Pendant with 5000K BioUP LEDs {m-DER=1.015} {m-EER=1.115}  
Light Source: -  
Ballast/Driver: -

**Summary**

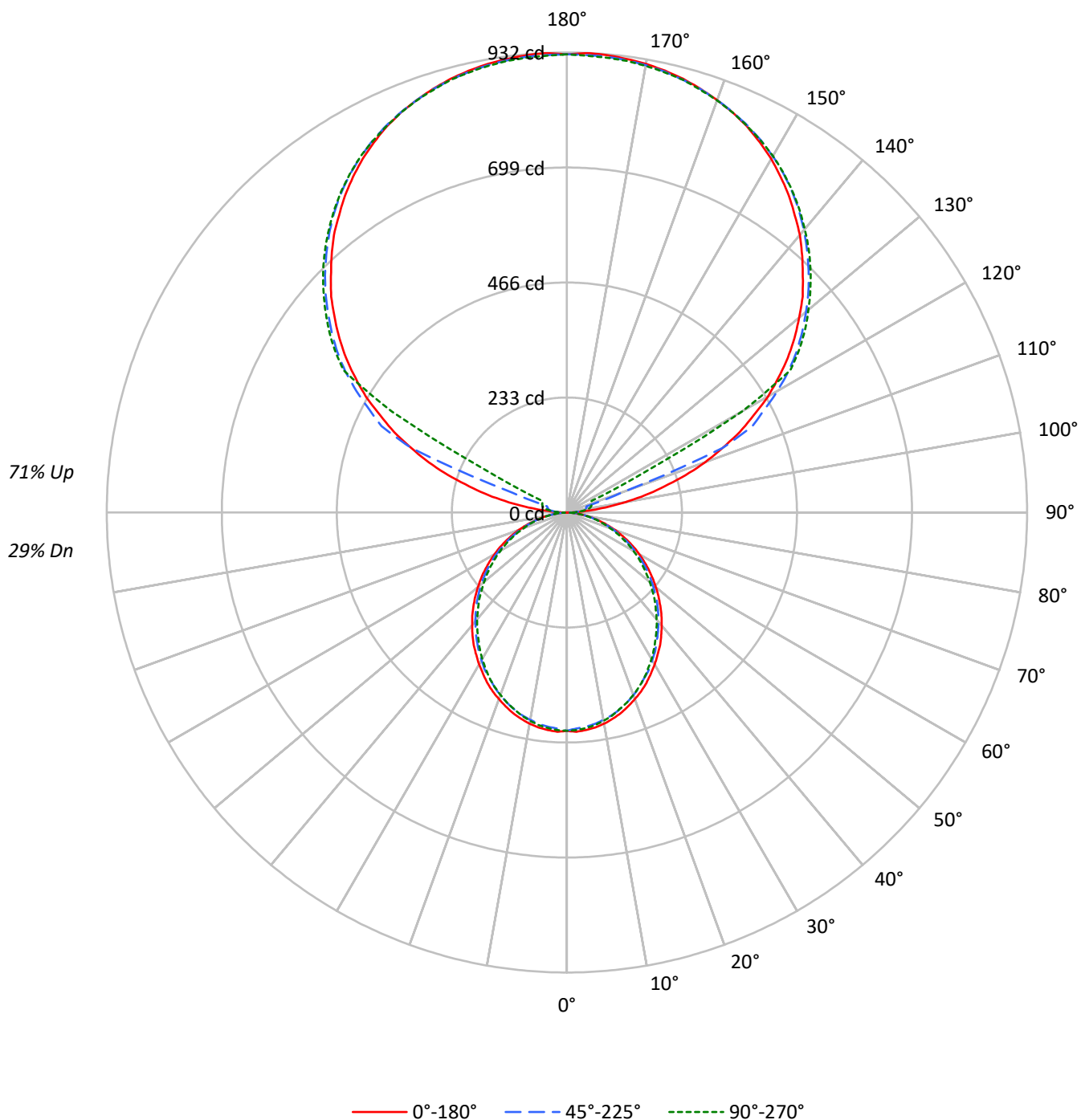
Lumens per Lamp: N/A  
Luminaire Lumens: 3848.0 lumens  
Efficiency: N/A  
Efficacy: 112.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: Semi-Indirect

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   | 102 | 102 | 102 | 102 | 92 | 92 | 92 | 92 | 72 | 72 | 72 | 54 | 54 | 54 | 37 | 37 | 37 |
| 1   | 93  | 89  | 85  | 82  | 83 | 80 | 77 | 74 | 63 | 61 | 59 | 47 | 46 | 45 | 33 | 32 | 31 |
| 2   | 85  | 78  | 72  | 67  | 76 | 70 | 65 | 61 | 55 | 52 | 49 | 41 | 39 | 37 | 29 | 27 | 26 |
| 3   | 77  | 68  | 61  | 56  | 69 | 61 | 55 | 51 | 48 | 44 | 41 | 37 | 34 | 31 | 26 | 24 | 22 |
| 4   | 71  | 60  | 53  | 47  | 63 | 54 | 48 | 43 | 43 | 38 | 35 | 33 | 29 | 27 | 23 | 21 | 19 |
| 5   | 65  | 54  | 46  | 40  | 58 | 48 | 42 | 36 | 38 | 33 | 30 | 29 | 26 | 23 | 20 | 18 | 17 |
| 6   | 60  | 48  | 40  | 34  | 53 | 43 | 36 | 32 | 34 | 30 | 26 | 26 | 23 | 20 | 19 | 16 | 15 |
| 7   | 55  | 43  | 35  | 30  | 49 | 39 | 32 | 28 | 31 | 26 | 23 | 24 | 20 | 18 | 17 | 15 | 13 |
| 8   | 51  | 39  | 32  | 26  | 45 | 35 | 29 | 24 | 28 | 23 | 20 | 22 | 18 | 16 | 16 | 13 | 12 |
| 9   | 47  | 35  | 28  | 23  | 42 | 32 | 26 | 21 | 26 | 21 | 18 | 20 | 17 | 14 | 14 | 12 | 11 |
| 10  | 44  | 32  | 25  | 21  | 39 | 29 | 23 | 19 | 24 | 19 | 16 | 18 | 15 | 13 | 13 | 11 | 10 |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 7000 | 7000 | 7000 |
| 5°  | 7011 | 6672 | 6625 |
| 10° | 6953 | 6368 | 6242 |
| 15° | 6852 | 6062 | 5838 |
| 20° | 6714 | 5728 | 5457 |
| 25° | 6578 | 5380 | 5075 |
| 30° | 6405 | 5054 | 4676 |
| 35° | 6243 | 4708 | 4283 |
| 40° | 6041 | 4368 | 3911 |
| 45° | 5840 | 4030 | 3548 |
| 50° | 5622 | 3686 | 3170 |
| 55° | 5393 | 3318 | 2812 |
| 60° | 5134 | 2922 | 2440 |
| 65° | 4852 | 2517 | 2049 |
| 70° | 4491 | 2074 | 1654 |
| 75° | 3994 | 1600 | 1279 |
| 80° | 3393 | 1086 | 822  |
| 85° | 2458 | 506  | 350  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5840 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 41.6   | 1.1       |
| 10°-20°   | 117.1  | 3.0       |
| 20°-30°   | 172.1  | 4.5       |
| 30°-40°   | 199.9  | 5.2       |
| 40°-50°   | 199.6  | 5.2       |
| 50°-60°   | 174.1  | 4.5       |
| 60°-70°   | 128.7  | 3.3       |
| 70°-80°   | 72.8   | 1.9       |
| 80°-90°   | 20.9   | 0.5       |
| 90°-100°  | 30.6   | 0.8       |
| 100°-110° | 114.1  | 3.0       |
| 110°-120° | 302.6  | 7.9       |
| 120°-130° | 501.9  | 13.0      |
| 130°-140° | 533.2  | 13.9      |
| 140°-150° | 495.5  | 12.9      |
| 150°-160° | 398.4  | 10.4      |
| 160°-170° | 256.7  | 6.7       |
| 170°-180° | 88.4   | 2.3       |
| 0°-30°    | 330.8  | 8.6       |
| 0°-40°    | 530.7  | 13.8      |
| 0°-60°    | 904.3  | 23.5      |
| 0°-90°    | 1126.6 | 29.3      |
| 90°-120°  | 447.3  | 11.6      |
| 90°-150°  | 1977.9 | 51.4      |
| 90°-180°  | 2721.0 | 70.7      |
| 0°-180°   | 3848.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 442 | 442   | 442 | 442   | 442 |      |
| 5°   | 442 | 440   | 436 | 439   | 438 | 42   |
| 15°  | 421 | 418   | 413 | 415   | 412 | 119  |
| 25°  | 381 | 378   | 370 | 371   | 370 | 175  |
| 35°  | 329 | 324   | 318 | 315   | 313 | 205  |
| 45°  | 267 | 264   | 258 | 253   | 252 | 206  |
| 55°  | 202 | 200   | 195 | 190   | 188 | 181  |
| 65°  | 136 | 134   | 130 | 126   | 124 | 135  |
| 75°  | 71  | 71    | 68  | 66    | 67  | 76   |
| 85°  | 17  | 17    | 17  | 15    | 15  | 19   |
| 90°  | 1   | 8     | 13  | 17    | 18  | 4    |
| 95°  | 44  | 22    | 26  | 30    | 29  | 52   |
| 105° | 204 | 224   | 41  | 48    | 51  | 218  |
| 115° | 386 | 398   | 414 | 103   | 55  | 380  |
| 125° | 546 | 555   | 568 | 572   | 574 | 487  |
| 135° | 676 | 686   | 692 | 699   | 698 | 522  |
| 145° | 784 | 783   | 795 | 799   | 796 | 490  |
| 155° | 863 | 857   | 865 | 869   | 864 | 398  |
| 165° | 910 | 905   | 907 | 912   | 907 | 257  |
| 175° | 930 | 926   | 927 | 932   | 925 | 89   |
| 180° | 928 | 928   | 928 | 928   | 928 |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 442.2 | 442.2 | 442.2 | 442.2 | 442.2 |
| 2.5°   | 444.7 | 442.6 | 437.9 | 442.2 | 441.3 |
| 5°     | 442.2 | 440.5 | 435.8 | 439.2 | 438.4 |
| 7.5°   | 439.2 | 436.7 | 432.0 | 435.4 | 434.5 |
| 10°    | 434.5 | 431.6 | 426.5 | 429.9 | 428.6 |
| 12.5°  | 428.2 | 425.6 | 420.5 | 422.6 | 421.8 |
| 15°    | 420.9 | 418.4 | 412.9 | 414.6 | 412.4 |
| 17.5°  | 412.0 | 409.5 | 403.9 | 406.0 | 403.9 |
| 20°    | 402.2 | 399.7 | 393.7 | 395.0 | 393.3 |
| 22.5°  | 392.4 | 388.6 | 383.1 | 383.1 | 382.2 |
| 25°    | 381.0 | 377.6 | 370.3 | 371.2 | 370.3 |
| 27.5°  | 368.2 | 365.2 | 359.7 | 358.4 | 356.3 |
| 30°    | 355.5 | 352.1 | 345.7 | 344.4 | 342.7 |
| 32.5°  | 341.8 | 339.3 | 332.5 | 329.9 | 328.2 |
| 35°    | 328.7 | 324.4 | 317.6 | 315.1 | 312.9 |
| 37.5°  | 313.8 | 310.0 | 303.2 | 300.2 | 298.1 |
| 40°    | 298.5 | 295.1 | 288.3 | 284.4 | 282.7 |
| 42.5°  | 283.6 | 280.2 | 273.4 | 269.1 | 266.6 |
| 45°    | 267.4 | 264.5 | 258.1 | 253.4 | 251.7 |
| 47.5°  | 251.7 | 248.7 | 241.9 | 237.3 | 234.7 |
| 50°    | 235.1 | 233.0 | 227.0 | 221.1 | 219.0 |
| 52.5°  | 219.0 | 216.0 | 210.5 | 205.8 | 202.8 |
| 55°    | 202.4 | 199.8 | 194.7 | 189.6 | 187.5 |
| 57.5°  | 185.8 | 183.7 | 178.2 | 173.0 | 171.3 |
| 60°    | 169.2 | 167.5 | 161.6 | 156.9 | 155.6 |
| 62.5°  | 153.1 | 150.1 | 145.8 | 141.6 | 139.9 |
| 65°    | 136.5 | 133.9 | 129.7 | 125.9 | 123.7 |
| 67.5°  | 119.5 | 117.4 | 113.5 | 110.5 | 108.8 |
| 70°    | 103.7 | 102.0 | 98.2  | 95.2  | 93.5  |
| 72.5°  | 87.6  | 85.9  | 83.8  | 80.8  | 79.5  |
| 75°    | 71.4  | 70.6  | 68.5  | 65.9  | 66.8  |
| 77.5°  | 57.0  | 55.3  | 54.4  | 53.1  | 51.9  |
| 80°    | 42.5  | 42.1  | 41.2  | 40.0  | 39.1  |
| 82.5°  | 28.9  | 28.9  | 28.5  | 26.8  | 26.8  |
| 85°    | 17.4  | 17.0  | 16.6  | 15.3  | 14.9  |
| 87.5°  | 7.7   | 6.8   | 6.0   | 4.7   | 4.3   |
| 90°    | 0.7   | 8.1   | 13.4  | 16.8  | 18.1  |
| 92.5°  | 16.8  | 14.1  | 16.1  | 17.5  | 18.1  |
| 95°    | 43.7  | 21.5  | 26.2  | 29.6  | 28.9  |
| 97.5°  | 78.6  | 23.5  | 34.3  | 36.3  | 36.9  |
| 100°   | 118.9 | 26.9  | 38.3  | 43.7  | 45.0  |
| 102.5° | 163.2 | 161.9 | 39.6  | 47.0  | 49.0  |
| 105°   | 204.2 | 224.3 | 41.0  | 48.4  | 51.0  |
| 107.5° | 251.9 | 268.7 | 42.3  | 49.7  | 52.4  |
| 110°   | 297.6 | 311.7 | 117.5 | 50.4  | 53.1  |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 340.5 | 352.6 | 341.2 | 51.7  | 53.7  |
| 115°   | 386.2 | 397.6 | 414.4 | 103.4 | 55.1  |
| 117.5° | 425.8 | 439.3 | 450.7 | 354.7 | 178.7 |
| 120°   | 470.2 | 480.3 | 492.3 | 500.4 | 409.7 |
| 122.5° | 507.8 | 518.5 | 532.0 | 536.0 | 536.7 |
| 125°   | 546.1 | 554.8 | 567.6 | 572.3 | 574.3 |
| 127.5° | 581.0 | 590.4 | 600.5 | 607.2 | 607.9 |
| 130°   | 613.9 | 624.7 | 632.1 | 639.4 | 638.8 |
| 132.5° | 647.5 | 656.2 | 663.6 | 669.7 | 669.0 |
| 135°   | 675.7 | 686.5 | 692.5 | 699.2 | 697.9 |
| 137.5° | 705.3 | 713.3 | 720.0 | 726.8 | 724.8 |
| 140°   | 734.2 | 739.5 | 746.9 | 753.0 | 749.6 |
| 142.5° | 758.3 | 763.0 | 771.8 | 777.1 | 773.8 |
| 145°   | 783.9 | 783.2 | 794.6 | 799.3 | 795.9 |
| 147.5° | 806.0 | 804.0 | 815.4 | 818.8 | 816.1 |
| 150°   | 827.5 | 822.8 | 833.6 | 837.6 | 834.2 |
| 152.5° | 845.7 | 840.3 | 850.4 | 854.4 | 849.7 |
| 155°   | 863.1 | 857.1 | 865.1 | 869.2 | 863.8 |
| 157.5° | 877.2 | 871.8 | 877.9 | 882.6 | 877.2 |
| 160°   | 889.3 | 885.3 | 889.3 | 893.3 | 888.6 |
| 162.5° | 900.1 | 896.0 | 899.4 | 904.1 | 898.0 |
| 165°   | 909.5 | 905.4 | 907.4 | 912.2 | 907.4 |
| 167.5° | 916.9 | 912.8 | 914.8 | 919.5 | 913.5 |
| 170°   | 922.9 | 918.9 | 920.2 | 924.9 | 918.9 |
| 172.5° | 926.9 | 922.9 | 924.2 | 928.9 | 922.9 |
| 175°   | 930.3 | 925.6 | 926.9 | 931.6 | 924.9 |
| 177.5° | 931.6 | 926.9 | 927.6 | 932.3 | 926.3 |
| 180°   | 928.3 | 928.3 | 928.3 | 928.3 | 928.3 |

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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 | 9.68             | 10.39 | 10.80 | 11.50 | 13.04 | 10.46          | 11.17 | 11.58 | 12.28 | 13.82 |
|                 | 3H   | 11.01            | 11.64 | 12.13 | 12.76 | 14.31 | 12.08          | 12.71 | 13.20 | 13.82 | 15.38 |
|                 | 4H   | 11.41            | 12.00 | 12.54 | 13.12 | 14.68 | 12.66          | 13.26 | 13.80 | 14.38 | 15.94 |
|                 | 6H   | 11.62            | 12.17 | 12.76 | 13.29 | 14.86 | 13.06          | 13.61 | 14.20 | 14.73 | 16.30 |
|                 | 8H   | 11.64            | 12.17 | 12.79 | 13.30 | 14.87 | 13.16          | 13.68 | 14.31 | 14.82 | 16.39 |
|                 | 12H  | 11.63            | 12.12 | 12.78 | 13.26 | 14.84 | 13.20          | 13.70 | 14.35 | 14.83 | 16.42 |
| 4H              | 2H   | 10.13            | 10.73 | 11.28 | 11.85 | 13.41 | 10.78          | 11.37 | 11.92 | 12.49 | 14.05 |
|                 | 3H   | 11.64            | 12.13 | 12.78 | 13.28 | 14.85 | 12.54          | 13.04 | 13.69 | 14.18 | 15.76 |
|                 | 4H   | 12.13            | 12.59 | 13.29 | 13.73 | 15.32 | 13.22          | 13.67 | 14.37 | 14.81 | 16.40 |
|                 | 6H   | 12.43            | 12.82 | 13.59 | 13.98 | 15.56 | 13.70          | 14.09 | 14.86 | 15.25 | 16.84 |
|                 | 8H   | 12.48            | 12.85 | 13.64 | 14.00 | 15.60 | 13.84          | 14.21 | 15.00 | 15.36 | 16.96 |
|                 | 12H  | 12.47            | 12.81 | 13.65 | 13.97 | 15.57 | 13.90          | 14.23 | 15.07 | 15.39 | 16.99 |
| 8H              | 4H   | 12.30            | 12.66 | 13.45 | 13.81 | 15.41 | 13.29          | 13.65 | 14.44 | 14.80 | 16.40 |
|                 | 6H   | 12.67            | 12.98 | 13.85 | 14.17 | 15.76 | 13.85          | 14.15 | 15.03 | 15.34 | 16.94 |
|                 | 8H   | 12.78            | 13.04 | 13.96 | 14.21 | 15.83 | 14.04          | 14.30 | 15.22 | 15.47 | 17.09 |
|                 | 12H  | 12.80            | 13.03 | 13.98 | 14.20 | 15.85 | 14.13          | 14.36 | 15.31 | 15.53 | 17.18 |
| 12H             | 4H   | 12.27            | 12.60 | 13.44 | 13.76 | 15.37 | 13.24          | 13.58 | 14.42 | 14.74 | 16.34 |
|                 | 6H   | 12.69            | 12.95 | 13.87 | 14.12 | 15.74 | 13.84          | 14.10 | 15.02 | 15.27 | 16.89 |
|                 | 8H   | 12.80            | 13.03 | 13.98 | 14.19 | 15.85 | 14.03          | 14.26 | 15.21 | 15.43 | 17.08 |