

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: P998213

Luminaire Tested: SA2XXDIP-B290D530UB2750-4F0-XX-W2A-D\_3000K

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998213  
REPORT IS A COMBINATION OF REPORTS P983953 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B290D530UB2750-4F0-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**

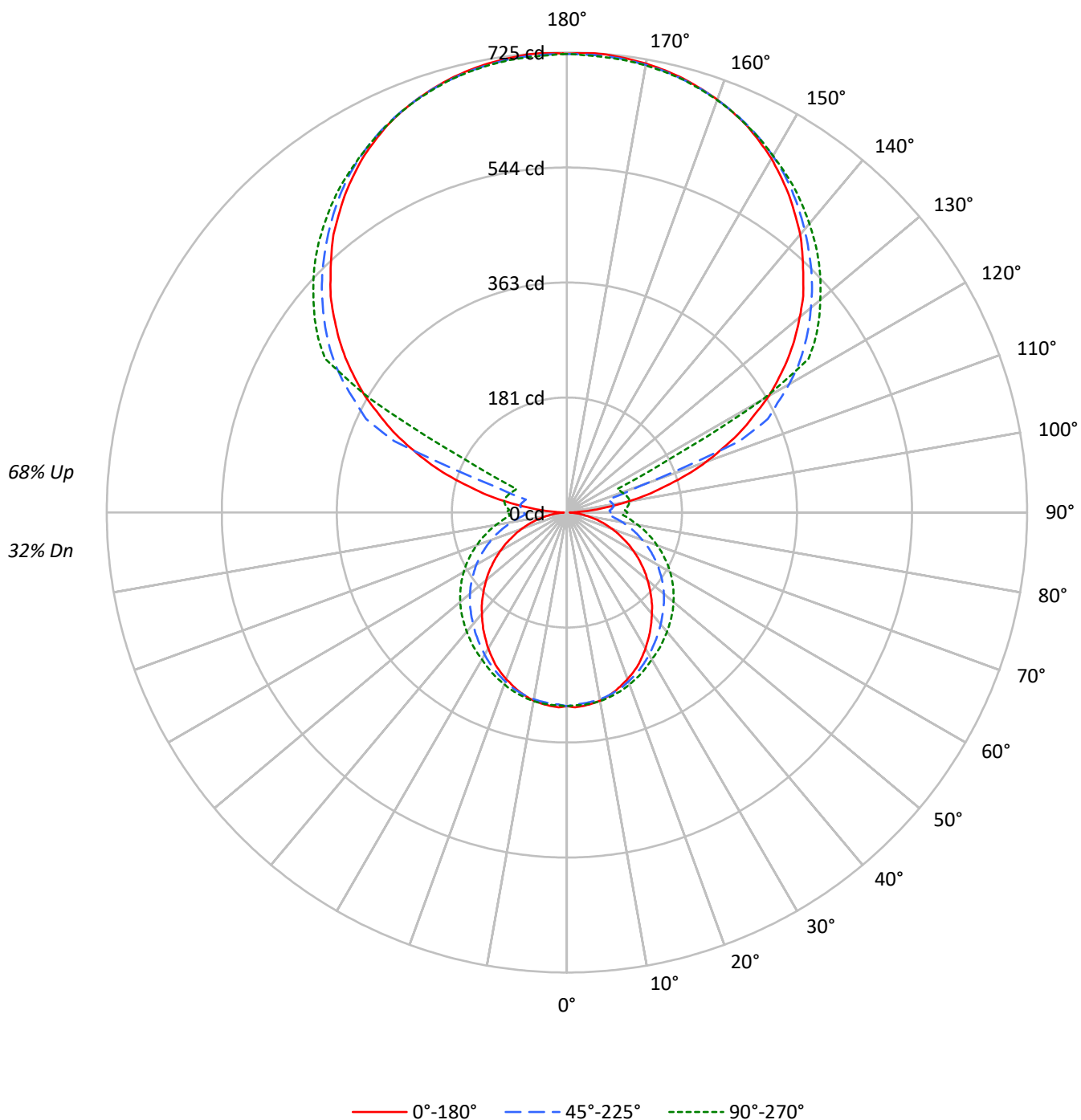
Lumens per Lamp: N/A  
Luminaire Lumens: 3284.0 lumens  
Efficiency: N/A  
Efficacy: 115.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: Semi-Indirect

Input Watts (W): 28.4  
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 |    |    |    | 0  |
| RW  | 70  | 50  | 30  | 10  | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0  |
| RCR |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0   | 103 | 103 | 103 | 103 | 92 | 92 | 92 | 92 | 73 | 73 | 73 | 55 | 55 | 55 | 39 | 39 | 39 | 39 | 39 | 39 | 32 |
| 1   | 93  | 88  | 84  | 80  | 83 | 79 | 76 | 73 | 63 | 60 | 58 | 47 | 46 | 44 | 33 | 32 | 31 | 31 | 31 | 31 | 25 |
| 2   | 84  | 76  | 70  | 65  | 75 | 69 | 63 | 59 | 54 | 50 | 47 | 41 | 38 | 36 | 29 | 27 | 25 | 25 | 25 | 25 | 20 |
| 3   | 76  | 67  | 59  | 53  | 68 | 60 | 54 | 49 | 47 | 43 | 39 | 36 | 33 | 30 | 25 | 23 | 21 | 21 | 21 | 21 | 16 |
| 4   | 70  | 59  | 51  | 45  | 62 | 53 | 46 | 41 | 42 | 37 | 33 | 32 | 28 | 25 | 22 | 20 | 18 | 18 | 18 | 18 | 14 |
| 5   | 64  | 52  | 44  | 38  | 57 | 47 | 40 | 35 | 37 | 32 | 28 | 28 | 25 | 22 | 20 | 17 | 16 | 16 | 16 | 16 | 12 |
| 6   | 59  | 46  | 38  | 33  | 52 | 42 | 35 | 30 | 33 | 28 | 24 | 25 | 22 | 19 | 18 | 15 | 14 | 14 | 14 | 14 | 10 |
| 7   | 54  | 42  | 34  | 28  | 48 | 38 | 31 | 26 | 30 | 25 | 21 | 23 | 19 | 17 | 16 | 14 | 12 | 12 | 12 | 12 | 9  |
| 8   | 50  | 38  | 30  | 25  | 45 | 34 | 27 | 23 | 27 | 22 | 19 | 21 | 17 | 15 | 15 | 12 | 11 | 11 | 11 | 11 | 8  |
| 9   | 46  | 34  | 27  | 22  | 42 | 31 | 25 | 20 | 25 | 20 | 17 | 19 | 16 | 13 | 14 | 11 | 9  | 9  | 9  | 9  | 7  |
| 10  | 43  | 31  | 24  | 19  | 39 | 28 | 22 | 18 | 23 | 18 | 15 | 18 | 14 | 12 | 13 | 10 | 9  | 9  | 9  | 9  | 6  |

**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   | 0.9       |
| 10°-20°   | 82.9   | 2.5       |
| 20°-30°   | 125.7  | 3.8       |
| 30°-40°   | 153.0  | 4.7       |
| 40°-50°   | 164.7  | 5.0       |
| 50°-60°   | 159.9  | 4.9       |
| 60°-70°   | 139.6  | 4.3       |
| 70°-80°   | 107.5  | 3.3       |
| 80°-90°   | 73.2   | 2.2       |
| 90°-100°  | 73.5   | 2.2       |
| 100°-110° | 125.1  | 3.8       |
| 110°-120° | 259.6  | 7.9       |
| 120°-130° | 404.1  | 12.3      |
| 130°-140° | 420.7  | 12.8      |
| 140°-150° | 386.7  | 11.8      |
| 150°-160° | 310.2  | 9.4       |
| 160°-170° | 199.9  | 6.1       |
| 170°-180° | 68.8   | 2.1       |
| 0°-30°    | 237.5  | 7.2       |
| 0°-40°    | 390.6  | 11.9      |
| 0°-60°    | 715.1  | 21.8      |
| 0°-90°    | 1035.5 | 31.5      |
| 90°-120°  | 458.1  | 14.0      |
| 90°-150°  | 1669.7 | 50.8      |
| 90°-180°  | 2248.0 | 68.5      |
| 0°-180°   | 3284.0 | 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   | 36    | 69  | 89    | 95  | 5    |
| 95°  | 38  | 41    | 71  | 91    | 95  | 43   |
| 105° | 161 | 190   | 70  | 91    | 98  | 172  |
| 115° | 302 | 316   | 349 | 120   | 88  | 298  |
| 125° | 426 | 433   | 457 | 472   | 478 | 380  |
| 135° | 526 | 535   | 544 | 558   | 561 | 407  |
| 145° | 610 | 610   | 619 | 625   | 625 | 382  |
| 155° | 672 | 667   | 674 | 677   | 672 | 310  |
| 165° | 708 | 705   | 706 | 710   | 706 | 200  |
| 175° | 724 | 721   | 722 | 725   | 720 | 69   |
| 180° | 723 | 723   | 723 | 723   | 723 |      |

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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°    | 4.9   | 36.4  | 68.9  | 89.1  | 95.4  |
| 92.5°  | 17.1  | 38.4  | 67.0  | 85.2  | 91.0  |
| 95°    | 37.5  | 41.0  | 71.2  | 90.6  | 95.4  |
| 97.5°  | 64.3  | 40.4  | 74.4  | 92.3  | 98.2  |
| 100°   | 95.7  | 40.4  | 74.0  | 94.6  | 100.4 |
| 102.5° | 129.8 | 143.2 | 72.0  | 93.6  | 100.1 |
| 105°   | 161.2 | 189.7 | 69.9  | 91.2  | 98.1  |
| 107.5° | 198.3 | 222.0 | 67.8  | 88.7  | 95.6  |
| 110°   | 233.5 | 253.2 | 123.8 | 85.6  | 92.6  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 266.9 | 283.3 | 294.9 | 83.6  | 90.0  |
| 115°   | 302.5 | 316.2 | 349.2 | 120.3 | 87.6  |
| 117.5° | 332.8 | 346.9 | 374.3 | 312.8 | 180.2 |
| 120°   | 367.4 | 377.0 | 404.1 | 422.8 | 357.0 |
| 122.5° | 396.6 | 405.5 | 432.3 | 447.4 | 451.8 |
| 125°   | 426.1 | 432.9 | 456.9 | 472.5 | 478.0 |
| 127.5° | 453.2 | 460.1 | 479.9 | 496.1 | 500.7 |
| 130°   | 478.9 | 486.7 | 501.8 | 518.1 | 521.2 |
| 132.5° | 505.0 | 511.3 | 523.8 | 538.6 | 541.7 |
| 135°   | 526.5 | 534.8 | 544.1 | 558.5 | 561.0 |
| 137.5° | 549.5 | 555.8 | 563.3 | 576.9 | 578.4 |
| 140°   | 572.0 | 575.8 | 582.4 | 594.2 | 594.2 |
| 142.5° | 590.8 | 594.1 | 600.9 | 610.3 | 609.9 |
| 145°   | 610.3 | 609.8 | 618.6 | 625.0 | 624.6 |
| 147.5° | 627.5 | 626.0 | 634.9 | 637.9 | 637.2 |
| 150°   | 644.3 | 640.6 | 649.0 | 652.1 | 649.5 |
| 152.5° | 658.4 | 654.2 | 662.0 | 665.2 | 661.5 |
| 155°   | 672.0 | 667.3 | 673.6 | 676.7 | 672.5 |
| 157.5° | 683.0 | 678.8 | 683.5 | 687.1 | 683.0 |
| 160°   | 692.4 | 689.2 | 692.4 | 695.5 | 691.9 |
| 162.5° | 700.7 | 697.6 | 700.2 | 703.9 | 699.2 |
| 165°   | 708.1 | 704.9 | 706.5 | 710.2 | 706.5 |
| 167.5° | 713.8 | 710.7 | 712.2 | 715.9 | 711.2 |
| 170°   | 718.5 | 715.4 | 716.4 | 720.1 | 715.4 |
| 172.5° | 721.7 | 718.5 | 719.6 | 723.2 | 718.5 |
| 175°   | 724.3 | 720.6 | 721.7 | 725.3 | 720.1 |
| 177.5° | 725.3 | 721.7 | 722.2 | 725.8 | 721.1 |
| 180°   | 722.7 | 722.7 | 722.7 | 722.7 | 722.7 |

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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 | 8.70             | 9.44  | 9.79  | 10.54 | 12.05 | 11.77          | 12.52 | 12.87 | 13.62 | 15.13 |
|                 | 3H   | 10.15            | 10.82 | 11.25 | 11.93 | 13.45 | 14.36          | 15.03 | 15.46 | 16.13 | 17.66 |
|                 | 4H   | 10.62            | 11.26 | 11.73 | 12.37 | 13.90 | 15.60          | 16.24 | 16.71 | 17.35 | 18.88 |
|                 | 6H   | 10.90            | 11.49 | 12.02 | 12.60 | 14.14 | 16.89          | 17.48 | 18.01 | 18.59 | 20.14 |
|                 | 8H   | 10.95            | 11.52 | 12.08 | 12.64 | 14.18 | 17.55          | 18.11 | 18.67 | 19.24 | 20.77 |
|                 | 12H  | 10.97            | 11.50 | 12.10 | 12.62 | 14.18 | 18.27          | 18.81 | 19.40 | 19.92 | 21.49 |
| 4H              | 2H   | 9.74             | 10.37 | 10.85 | 11.48 | 13.01 | 12.09          | 12.73 | 13.21 | 13.84 | 15.37 |
|                 | 3H   | 11.43            | 11.97 | 12.56 | 13.10 | 14.65 | 14.87          | 15.41 | 16.00 | 16.54 | 18.09 |
|                 | 4H   | 12.05            | 12.55 | 13.18 | 13.67 | 15.23 | 16.29          | 16.78 | 17.41 | 17.90 | 19.47 |
|                 | 6H   | 12.46            | 12.89 | 13.60 | 14.04 | 15.59 | 17.75          | 18.18 | 18.88 | 19.32 | 20.88 |
|                 | 8H   | 12.57            | 12.97 | 13.70 | 14.11 | 15.68 | 18.50          | 18.90 | 19.63 | 20.04 | 21.61 |
|                 | 12H  | 12.60            | 12.97 | 13.76 | 14.12 | 15.70 | 19.32          | 19.69 | 20.48 | 20.84 | 22.42 |
| 8H              | 4H   | 12.83            | 13.24 | 13.97 | 14.37 | 15.94 | 16.42          | 16.82 | 17.55 | 17.96 | 19.53 |
|                 | 6H   | 13.46            | 13.80 | 14.62 | 14.97 | 16.54 | 18.04          | 18.38 | 19.20 | 19.56 | 21.13 |
|                 | 8H   | 13.68            | 13.98 | 14.84 | 15.13 | 16.72 | 18.93          | 19.23 | 20.09 | 20.39 | 21.97 |
|                 | 12H  | 13.81            | 14.07 | 14.97 | 15.22 | 16.85 | 19.92          | 20.18 | 21.09 | 21.34 | 22.96 |
| 12H             | 4H   | 13.02            | 13.39 | 14.18 | 14.54 | 16.12 | 16.39          | 16.76 | 17.54 | 17.90 | 19.48 |
|                 | 6H   | 13.79            | 14.09 | 14.95 | 15.25 | 16.83 | 18.07          | 18.36 | 19.23 | 19.52 | 21.11 |
|                 | 8H   | 14.09            | 14.35 | 15.26 | 15.51 | 17.13 | 18.99          | 19.25 | 20.16 | 20.41 | 22.03 |