

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: P998228

Luminaire Tested: SA2XXDIP-B290D530UB30-4F0-XX-W2A-F

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998228  
REPORT IS A COMBINATION OF REPORTS P983968 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B290D530UB30-4F0-XX-W2A-F  
Description: Define 2 Direct/Indirect Pendant with 3000K BioUP LEDs {m-DER=0.589} {m-EER=0.647}  
Light Source: -  
Ballast/Driver: -

**Summary**

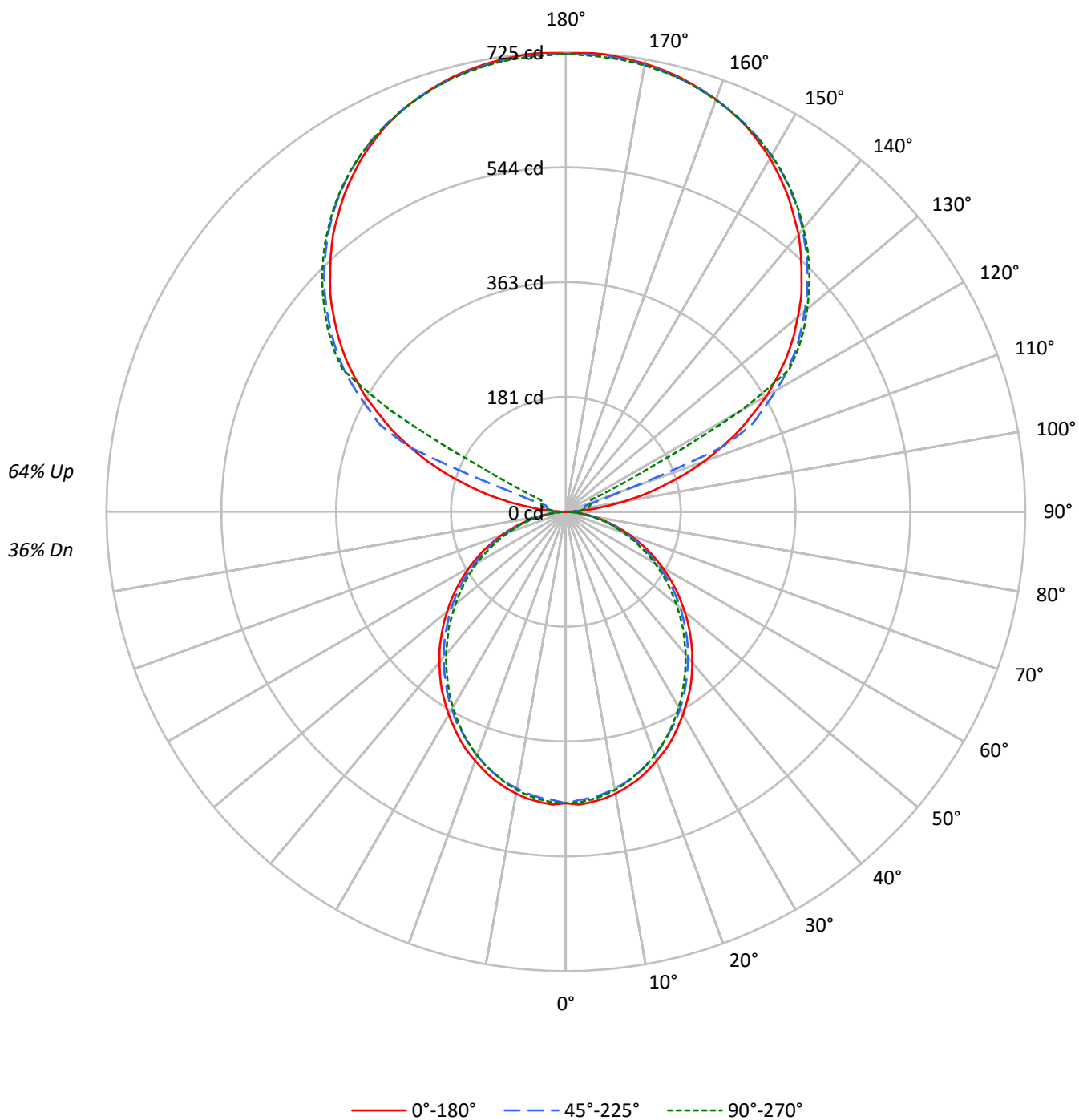
Lumens per Lamp: N/A  
Luminaire Lumens: 3290.0 lumens  
Efficiency: N/A  
Efficacy: 115.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: Semi-Indirect

Input Watts (W): 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

TEST NUMBER: P998228

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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   | 104 | 104 | 104 | 104 | 94 | 94 | 94 | 94 | 75 | 75 | 75 | 58 | 58 | 58 | 43 | 43 | 43 |
| 1   | 95  | 90  | 87  | 83  | 85 | 82 | 79 | 76 | 66 | 64 | 62 | 51 | 50 | 49 | 38 | 37 | 36 |
| 2   | 86  | 79  | 73  | 68  | 78 | 72 | 66 | 62 | 58 | 54 | 51 | 45 | 43 | 41 | 33 | 32 | 30 |
| 3   | 78  | 69  | 62  | 56  | 71 | 63 | 57 | 52 | 51 | 47 | 43 | 40 | 37 | 34 | 30 | 28 | 26 |
| 4   | 72  | 61  | 54  | 48  | 65 | 56 | 49 | 44 | 45 | 40 | 36 | 35 | 32 | 29 | 26 | 24 | 22 |
| 5   | 66  | 54  | 47  | 41  | 59 | 50 | 43 | 38 | 40 | 35 | 31 | 32 | 28 | 25 | 24 | 21 | 19 |
| 6   | 61  | 49  | 41  | 35  | 55 | 44 | 38 | 33 | 36 | 31 | 27 | 29 | 25 | 22 | 22 | 19 | 17 |
| 7   | 56  | 44  | 36  | 31  | 50 | 40 | 33 | 28 | 33 | 28 | 24 | 26 | 22 | 20 | 20 | 17 | 15 |
| 8   | 52  | 40  | 32  | 27  | 47 | 36 | 30 | 25 | 30 | 25 | 21 | 24 | 20 | 17 | 18 | 15 | 14 |
| 9   | 48  | 36  | 29  | 24  | 44 | 33 | 27 | 22 | 27 | 22 | 19 | 22 | 18 | 16 | 17 | 14 | 12 |
| 10  | 45  | 33  | 26  | 21  | 41 | 30 | 24 | 20 | 25 | 20 | 17 | 20 | 17 | 14 | 15 | 13 | 11 |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 7280 | 7280 | 7280 |
| 5°  | 7292 | 6938 | 6890 |
| 10° | 7232 | 6622 | 6491 |
| 15° | 7127 | 6304 | 6072 |
| 20° | 6983 | 5958 | 5675 |
| 25° | 6840 | 5595 | 5278 |
| 30° | 6661 | 5255 | 4863 |
| 35° | 6491 | 4896 | 4455 |
| 40° | 6282 | 4542 | 4069 |
| 45° | 6074 | 4191 | 3690 |
| 50° | 5847 | 3833 | 3296 |
| 55° | 5609 | 3451 | 2925 |
| 60° | 5341 | 3037 | 2537 |
| 65° | 5044 | 2618 | 2132 |
| 70° | 4673 | 2156 | 1721 |
| 75° | 4156 | 1663 | 1328 |
| 80° | 3529 | 1131 | 856  |
| 85° | 2557 | 524  | 364  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 6074 cd/sqm

TEST NUMBER: P998228

CATALOG NUMBER: SA2XXDIP-B290D530UB30-4F0-XX-W2A-F

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 43.3   | 1.3       |
| 10°-20°   | 121.8  | 3.7       |
| 20°-30°   | 179.0  | 5.4       |
| 30°-40°   | 207.9  | 6.3       |
| 40°-50°   | 207.6  | 6.3       |
| 50°-60°   | 181.0  | 5.5       |
| 60°-70°   | 133.8  | 4.1       |
| 70°-80°   | 75.7   | 2.3       |
| 80°-90°   | 21.3   | 0.6       |
| 90°-100°  | 23.8   | 0.7       |
| 100°-110° | 88.8   | 2.7       |
| 110°-120° | 235.6  | 7.2       |
| 120°-130° | 390.8  | 11.9      |
| 130°-140° | 415.1  | 12.6      |
| 140°-150° | 385.8  | 11.7      |
| 150°-160° | 310.2  | 9.4       |
| 160°-170° | 199.9  | 6.1       |
| 170°-180° | 68.8   | 2.1       |
| 0°-30°    | 344.0  | 10.5      |
| 0°-40°    | 551.9  | 16.8      |
| 0°-60°    | 940.5  | 28.6      |
| 0°-90°    | 1171.3 | 35.6      |
| 90°-120°  | 348.3  | 10.6      |
| 90°-150°  | 1539.9 | 46.8      |
| 90°-180°  | 2119.0 | 64.4      |
| 0°-180°   | 3290.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 460 | 460   | 460 | 460   | 460 |      |
| 5°   | 460 | 458   | 453 | 457   | 456 | 44   |
| 15°  | 438 | 435   | 429 | 431   | 429 | 123  |
| 25°  | 396 | 393   | 385 | 386   | 385 | 182  |
| 35°  | 342 | 337   | 330 | 328   | 326 | 213  |
| 45°  | 278 | 275   | 268 | 264   | 262 | 215  |
| 55°  | 210 | 208   | 202 | 197   | 195 | 188  |
| 65°  | 142 | 139   | 135 | 131   | 129 | 140  |
| 75°  | 74  | 73    | 71  | 68    | 69  | 79   |
| 85°  | 18  | 18    | 17  | 16    | 16  | 20   |
| 90°  | 0   | 6     | 10  | 13    | 14  | 3    |
| 95°  | 34  | 17    | 20  | 23    | 22  | 40   |
| 105° | 159 | 175   | 32  | 38    | 40  | 170  |
| 115° | 301 | 310   | 323 | 80    | 43  | 296  |
| 125° | 425 | 432   | 442 | 446   | 447 | 379  |
| 135° | 526 | 534   | 539 | 544   | 543 | 406  |
| 145° | 610 | 610   | 619 | 622   | 620 | 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 |      |

TEST NUMBER: P998228

CATALOG NUMBER: SA2XXDIP-B290D530UB30-4F0-XX-W2A-F

**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 459.9 | 459.9 | 459.9 | 459.9 | 459.9 |
| 2.5°   | 462.5 | 460.3 | 455.5 | 459.9 | 459.0 |
| 5°     | 459.9 | 458.1 | 453.2 | 456.8 | 455.9 |
| 7.5°   | 456.8 | 454.1 | 449.3 | 452.8 | 451.9 |
| 10°    | 451.9 | 448.8 | 443.5 | 447.1 | 445.7 |
| 12.5°  | 445.3 | 442.6 | 437.3 | 439.5 | 438.7 |
| 15°    | 437.8 | 435.1 | 429.4 | 431.1 | 428.9 |
| 17.5°  | 428.5 | 425.8 | 420.1 | 422.3 | 420.1 |
| 20°    | 418.3 | 415.7 | 409.5 | 410.8 | 409.0 |
| 22.5°  | 408.1 | 404.2 | 398.4 | 398.4 | 397.5 |
| 25°    | 396.2 | 392.7 | 385.1 | 386.0 | 385.1 |
| 27.5°  | 382.9 | 379.8 | 374.1 | 372.8 | 370.6 |
| 30°    | 369.7 | 366.1 | 359.5 | 358.2 | 356.4 |
| 32.5°  | 355.5 | 352.9 | 345.8 | 343.1 | 341.4 |
| 35°    | 341.8 | 337.4 | 330.3 | 327.7 | 325.5 |
| 37.5°  | 326.3 | 322.4 | 315.3 | 312.2 | 310.0 |
| 40°    | 310.4 | 306.9 | 299.8 | 295.8 | 294.1 |
| 42.5°  | 294.9 | 291.4 | 284.3 | 279.9 | 277.3 |
| 45°    | 278.1 | 275.0 | 268.4 | 263.5 | 261.8 |
| 47.5°  | 261.8 | 258.7 | 251.6 | 246.7 | 244.1 |
| 50°    | 244.5 | 242.3 | 236.1 | 229.9 | 227.7 |
| 52.5°  | 227.7 | 224.6 | 218.9 | 214.0 | 210.9 |
| 55°    | 210.5 | 207.8 | 202.5 | 197.2 | 195.0 |
| 57.5°  | 193.2 | 191.0 | 185.3 | 180.0 | 178.2 |
| 60°    | 176.0 | 174.2 | 168.0 | 163.2 | 161.8 |
| 62.5°  | 159.2 | 156.1 | 151.7 | 147.2 | 145.5 |
| 65°    | 141.9 | 139.3 | 134.9 | 130.9 | 128.7 |
| 67.5°  | 124.3 | 122.0 | 118.1 | 115.0 | 113.2 |
| 70°    | 107.9 | 106.1 | 102.1 | 99.1  | 97.3  |
| 72.5°  | 91.1  | 89.3  | 87.1  | 84.0  | 82.7  |
| 75°    | 74.3  | 73.4  | 71.2  | 68.5  | 69.4  |
| 77.5°  | 59.3  | 57.5  | 56.6  | 55.3  | 53.9  |
| 80°    | 44.2  | 43.8  | 42.9  | 41.6  | 40.7  |
| 82.5°  | 30.1  | 30.1  | 29.6  | 27.9  | 27.9  |
| 85°    | 18.1  | 17.7  | 17.2  | 15.9  | 15.5  |
| 87.5°  | 8.0   | 7.1   | 6.2   | 4.9   | 4.4   |
| 90°    | 0.5   | 6.3   | 10.5  | 13.1  | 14.1  |
| 92.5°  | 13.1  | 11.0  | 12.6  | 13.6  | 14.1  |
| 95°    | 34.0  | 16.7  | 20.4  | 23.0  | 22.5  |
| 97.5°  | 61.2  | 18.3  | 26.7  | 28.2  | 28.8  |
| 100°   | 92.6  | 20.9  | 29.8  | 34.0  | 35.0  |
| 102.5° | 127.1 | 126.0 | 30.9  | 36.6  | 38.2  |
| 105°   | 159.0 | 174.7 | 31.9  | 37.7  | 39.7  |
| 107.5° | 196.1 | 209.2 | 32.9  | 38.7  | 40.8  |
| 110°   | 231.7 | 242.6 | 91.5  | 39.2  | 41.3  |

TEST NUMBER: P998228

CATALOG NUMBER: SA2XXDIP-B290D530UB30-4F0-XX-W2A-F

**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 265.1 | 274.5 | 265.7 | 40.3  | 41.8  |
| 115°   | 300.7 | 309.6 | 322.7 | 80.5  | 42.9  |
| 117.5° | 331.5 | 342.0 | 350.9 | 276.1 | 139.1 |
| 120°   | 366.1 | 373.9 | 383.3 | 389.6 | 319.0 |
| 122.5° | 395.3 | 403.7 | 414.2 | 417.3 | 417.8 |
| 125°   | 425.2 | 432.0 | 441.9 | 445.5 | 447.1 |
| 127.5° | 452.3 | 459.7 | 467.5 | 472.7 | 473.3 |
| 130°   | 478.0 | 486.3 | 492.1 | 497.8 | 497.3 |
| 132.5° | 504.1 | 510.9 | 516.7 | 521.4 | 520.9 |
| 135°   | 526.1 | 534.4 | 539.2 | 544.4 | 543.3 |
| 137.5° | 549.1 | 555.4 | 560.6 | 565.8 | 564.3 |
| 140°   | 571.6 | 575.8 | 581.5 | 586.2 | 583.6 |
| 142.5° | 590.4 | 594.1 | 600.9 | 605.0 | 602.4 |
| 145°   | 610.3 | 609.8 | 618.6 | 622.3 | 619.7 |
| 147.5° | 627.5 | 626.0 | 634.9 | 637.5 | 635.4 |
| 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 |

TEST NUMBER: P998228

CATALOG NUMBER: SA2XXDIP-B290D530UB30-4F0-XX-W2A-F

**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 | 10.63            | 11.38 | 11.70 | 12.45 | 13.91 | 11.41          | 12.16 | 12.49 | 13.23 | 14.70 |
|                 | 3H   | 11.96            | 12.63 | 13.04 | 13.71 | 15.19 | 13.03          | 13.70 | 14.11 | 14.78 | 16.26 |
|                 | 4H   | 12.36            | 12.99 | 13.45 | 14.08 | 15.56 | 13.62          | 14.25 | 14.71 | 15.33 | 16.82 |
|                 | 6H   | 12.57            | 13.16 | 13.67 | 14.24 | 15.74 | 14.02          | 14.60 | 15.12 | 15.68 | 17.18 |
|                 | 8H   | 12.60            | 13.15 | 13.70 | 14.26 | 15.75 | 14.12          | 14.68 | 15.23 | 15.78 | 17.27 |
|                 | 12H  | 12.59            | 13.11 | 13.70 | 14.21 | 15.73 | 14.16          | 14.69 | 15.27 | 15.79 | 17.30 |
| 4H              | 2H   | 11.09            | 11.72 | 12.19 | 12.80 | 14.29 | 11.73          | 12.36 | 12.83 | 13.45 | 14.94 |
|                 | 3H   | 12.59            | 13.12 | 13.70 | 14.23 | 15.73 | 13.50          | 14.03 | 14.61 | 15.14 | 16.64 |
|                 | 4H   | 13.09            | 13.58 | 14.20 | 14.68 | 16.20 | 14.18          | 14.66 | 15.29 | 15.76 | 17.28 |
|                 | 6H   | 13.39            | 13.81 | 14.51 | 14.93 | 16.44 | 14.67          | 15.08 | 15.78 | 16.21 | 17.72 |
|                 | 8H   | 13.44            | 13.83 | 14.56 | 14.95 | 16.48 | 14.81          | 15.20 | 15.92 | 16.31 | 17.84 |
|                 | 12H  | 13.44            | 13.79 | 14.57 | 14.92 | 16.45 | 14.86          | 15.22 | 16.00 | 16.34 | 17.88 |
| 8H              | 4H   | 13.26            | 13.65 | 14.38 | 14.76 | 16.29 | 14.25          | 14.64 | 15.37 | 15.76 | 17.29 |
|                 | 6H   | 13.64            | 13.96 | 14.78 | 15.12 | 16.64 | 14.82          | 15.14 | 15.96 | 16.29 | 17.82 |
|                 | 8H   | 13.74            | 14.02 | 14.89 | 15.16 | 16.71 | 15.00          | 15.29 | 16.15 | 16.42 | 17.97 |
|                 | 12H  | 13.77            | 14.01 | 14.92 | 15.15 | 16.73 | 15.10          | 15.35 | 16.25 | 16.48 | 18.06 |
| 12H             | 4H   | 13.24            | 13.59 | 14.37 | 14.72 | 16.25 | 14.21          | 14.56 | 15.35 | 15.69 | 17.22 |
|                 | 6H   | 13.66            | 13.94 | 14.80 | 15.07 | 16.62 | 14.81          | 15.09 | 15.95 | 16.23 | 17.77 |
|                 | 8H   | 13.76            | 14.01 | 14.91 | 15.14 | 16.73 | 15.00          | 15.25 | 16.15 | 16.38 | 17.96 |