

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: P998498

Luminaire Tested: SA2XXDIP-B485D530UB27-4F0-XX-W2A-D

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998498  
REPORT IS A COMBINATION OF REPORTS P984241 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B485D530UB27-4F0-XX-W2A-D  
Description: Define 2 Direct/Indirect Pendant with 2700K BioUP LEDs {m-DER=0.473} {m-EER=0.52}  
Light Source: -  
Ballast/Driver: -

**Summary**

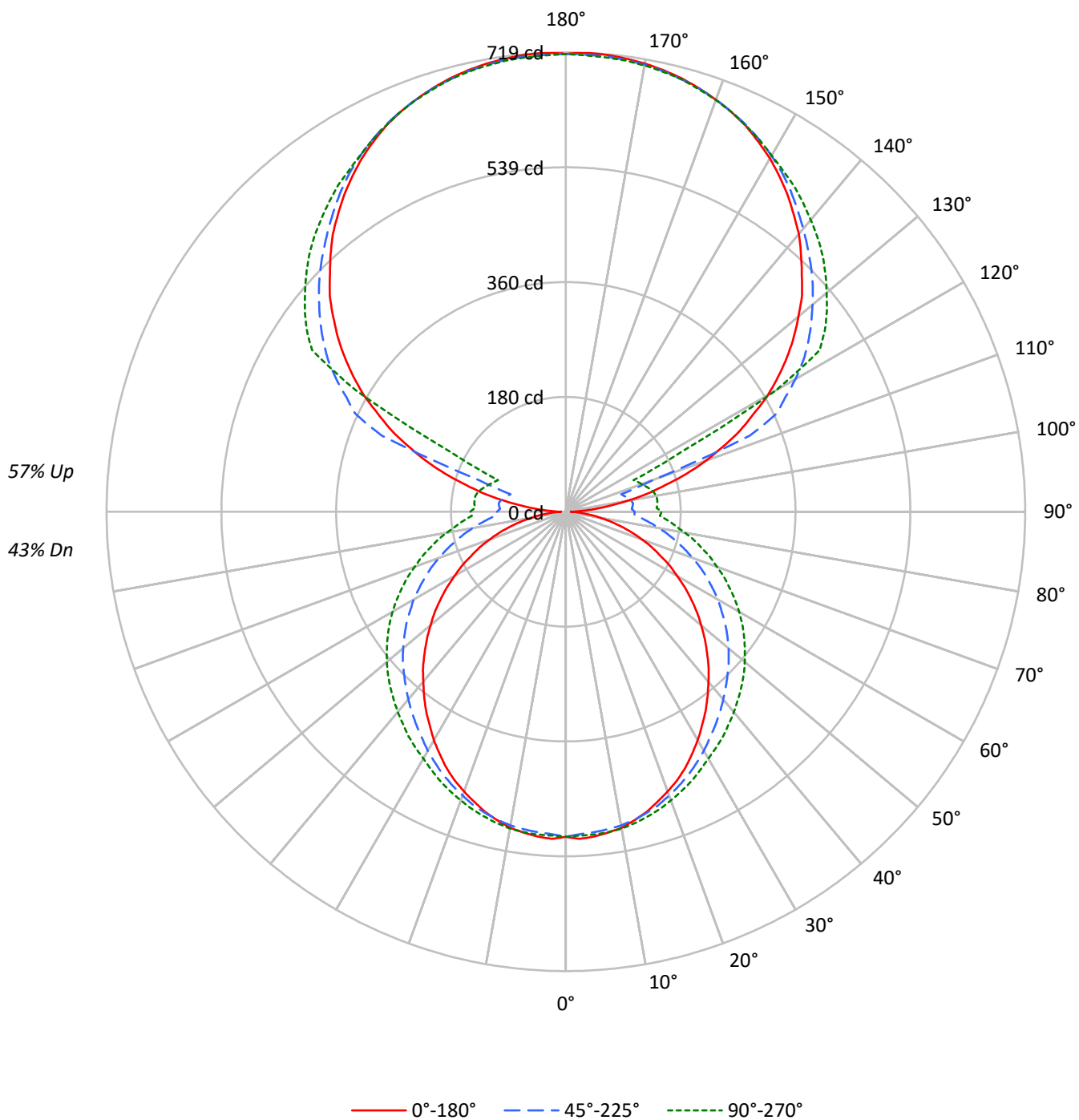
Lumens per Lamp: N/A  
Luminaire Lumens: 4043.0 lumens  
Efficiency: N/A  
Efficacy: 102.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 39.4  
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 |
| 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 | 79 | 79 | 79 | 64 | 64 | 64 | 49 | 49 | 49 |
| 1   | 95  | 90  | 86  | 82  | 86 | 82 | 78 | 75 | 68 | 65 | 62 | 54 | 52 | 50 | 42 | 40 | 39 |
| 2   | 86  | 78  | 71  | 66  | 78 | 71 | 65 | 61 | 58 | 54 | 51 | 47 | 44 | 41 | 36 | 34 | 32 |
| 3   | 78  | 68  | 60  | 54  | 71 | 62 | 55 | 50 | 51 | 46 | 42 | 41 | 37 | 34 | 31 | 29 | 27 |
| 4   | 71  | 60  | 52  | 45  | 64 | 55 | 48 | 42 | 45 | 40 | 35 | 36 | 32 | 29 | 28 | 25 | 23 |
| 5   | 65  | 53  | 45  | 39  | 59 | 49 | 41 | 36 | 40 | 34 | 30 | 32 | 28 | 25 | 25 | 22 | 19 |
| 6   | 60  | 47  | 39  | 33  | 54 | 44 | 36 | 31 | 36 | 30 | 26 | 29 | 25 | 21 | 22 | 19 | 17 |
| 7   | 55  | 43  | 35  | 29  | 50 | 39 | 32 | 27 | 33 | 27 | 23 | 26 | 22 | 19 | 20 | 17 | 15 |
| 8   | 51  | 39  | 31  | 25  | 46 | 36 | 28 | 24 | 30 | 24 | 20 | 24 | 20 | 17 | 19 | 16 | 13 |
| 9   | 48  | 35  | 28  | 22  | 43 | 32 | 26 | 21 | 27 | 22 | 18 | 22 | 18 | 15 | 17 | 14 | 12 |
| 10  | 44  | 32  | 25  | 20  | 40 | 30 | 23 | 19 | 25 | 20 | 16 | 20 | 16 | 13 | 16 | 13 | 11 |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 8052 | 8052 | 8052 |
| 5°  | 8089 | 7708 | 7665 |
| 10° | 8035 | 7442 | 7332 |
| 15° | 7921 | 7166 | 6992 |
| 20° | 7777 | 6876 | 6670 |
| 25° | 7636 | 6597 | 6376 |
| 30° | 7440 | 6315 | 6085 |
| 35° | 7240 | 6043 | 5873 |
| 40° | 7027 | 5809 | 5661 |
| 45° | 6827 | 5595 | 5476 |
| 50° | 6612 | 5398 | 5294 |
| 55° | 6384 | 5190 | 5108 |
| 60° | 6108 | 4972 | 4913 |
| 65° | 5819 | 4722 | 4689 |
| 70° | 5491 | 4454 | 4447 |
| 75° | 5074 | 4184 | 4219 |
| 80° | 4415 | 3905 | 3984 |
| 85° | 3743 | 3641 | 3779 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 6827 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 48.2   | 1.2       |
| 10°-20°   | 138.3  | 3.4       |
| 20°-30°   | 209.6  | 5.2       |
| 30°-40°   | 255.2  | 6.3       |
| 40°-50°   | 274.6  | 6.8       |
| 50°-60°   | 266.6  | 6.6       |
| 60°-70°   | 232.9  | 5.8       |
| 70°-80°   | 179.2  | 4.4       |
| 80°-90°   | 121.3  | 3.0       |
| 90°-100°  | 106.4  | 2.6       |
| 100°-110° | 148.6  | 3.7       |
| 110°-120° | 273.5  | 6.8       |
| 120°-130° | 409.7  | 10.1      |
| 130°-140° | 420.9  | 10.4      |
| 140°-150° | 384.1  | 9.5       |
| 150°-160° | 307.5  | 7.6       |
| 160°-170° | 198.2  | 4.9       |
| 170°-180° | 68.2   | 1.7       |
| 0°-30°    | 396.1  | 9.8       |
| 0°-40°    | 651.3  | 16.1      |
| 0°-60°    | 1192.5 | 29.5      |
| 0°-90°    | 1725.9 | 42.7      |
| 90°-120°  | 528.5  | 13.1      |
| 90°-150°  | 1743.2 | 43.1      |
| 90°-180°  | 2317.0 | 57.3      |
| 0°-180°   | 4043.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 509 | 509   | 509 | 509   | 509 |      |
| 5°   | 510 | 508   | 504 | 508   | 507 | 48   |
| 15°  | 487 | 488   | 488 | 495   | 494 | 137  |
| 25°  | 442 | 448   | 454 | 463   | 465 | 203  |
| 35°  | 381 | 394   | 408 | 424   | 429 | 238  |
| 45°  | 313 | 332   | 358 | 381   | 388 | 241  |
| 55°  | 240 | 266   | 304 | 331   | 341 | 214  |
| 65°  | 164 | 200   | 243 | 274   | 283 | 163  |
| 75°  | 91  | 132   | 179 | 211   | 220 | 96   |
| 85°  | 26  | 72    | 119 | 150   | 161 | 28   |
| 90°  | 8   | 56    | 108 | 140   | 150 | 7    |
| 95°  | 40  | 57    | 105 | 136   | 144 | 45   |
| 105° | 161 | 198   | 95  | 126   | 137 | 173  |
| 115° | 301 | 318   | 364 | 146   | 117 | 296  |
| 125° | 423 | 430   | 463 | 487   | 495 | 378  |
| 135° | 522 | 531   | 543 | 563   | 568 | 404  |
| 145° | 605 | 605   | 613 | 621   | 622 | 379  |
| 155° | 666 | 662   | 668 | 671   | 667 | 307  |
| 165° | 702 | 699   | 700 | 704   | 700 | 198  |
| 175° | 718 | 714   | 716 | 719   | 714 | 68   |
| 180° | 717 | 717   | 717 | 717   | 717 |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 508.7 | 508.7 | 508.7 | 508.7 | 508.7 |
| 2.5°   | 512.4 | 510.2 | 505.0 | 508.7 | 507.2 |
| 5°     | 510.2 | 508.0 | 503.5 | 508.0 | 507.2 |
| 7.5°   | 506.5 | 505.0 | 501.3 | 506.5 | 505.7 |
| 10°    | 502.1 | 500.6 | 498.4 | 504.3 | 503.5 |
| 12.5°  | 494.7 | 495.4 | 493.9 | 499.8 | 499.1 |
| 15°    | 486.6 | 488.1 | 488.1 | 494.7 | 493.9 |
| 17.5°  | 476.3 | 479.2 | 481.4 | 488.1 | 488.1 |
| 20°    | 465.9 | 469.6 | 472.6 | 480.7 | 480.7 |
| 22.5°  | 454.9 | 459.3 | 463.7 | 471.8 | 473.3 |
| 25°    | 442.3 | 447.5 | 454.1 | 463.0 | 465.2 |
| 27.5°  | 427.6 | 435.7 | 443.1 | 454.1 | 455.6 |
| 30°    | 412.9 | 422.4 | 432.0 | 443.8 | 446.0 |
| 32.5°  | 396.6 | 407.7 | 419.5 | 433.5 | 437.9 |
| 35°    | 381.2 | 393.7 | 407.7 | 423.9 | 429.1 |
| 37.5°  | 364.2 | 378.2 | 395.9 | 413.6 | 418.8 |
| 40°    | 347.2 | 363.5 | 383.4 | 402.5 | 409.2 |
| 42.5°  | 331.0 | 347.2 | 370.8 | 392.2 | 398.8 |
| 45°    | 312.6 | 332.5 | 358.3 | 381.2 | 388.5 |
| 47.5°  | 294.9 | 316.3 | 345.8 | 369.4 | 377.5 |
| 50°    | 276.5 | 299.3 | 332.5 | 357.6 | 365.7 |
| 52.5°  | 258.8 | 283.1 | 318.5 | 344.3 | 353.1 |
| 55°    | 239.6 | 266.1 | 304.5 | 331.0 | 340.6 |
| 57.5°  | 221.2 | 250.7 | 289.0 | 317.7 | 327.3 |
| 60°    | 201.3 | 233.0 | 275.0 | 303.0 | 313.3 |
| 62.5°  | 183.6 | 216.7 | 258.8 | 289.0 | 298.6 |
| 65°    | 163.7 | 199.8 | 243.3 | 273.5 | 283.1 |
| 67.5°  | 146.0 | 183.6 | 227.8 | 258.0 | 268.4 |
| 70°    | 126.8 | 165.1 | 210.9 | 242.6 | 251.4 |
| 72.5°  | 109.1 | 148.9 | 195.4 | 226.3 | 237.4 |
| 75°    | 90.7  | 132.0 | 179.1 | 210.9 | 220.4 |
| 77.5°  | 73.0  | 115.7 | 163.7 | 195.4 | 205.7 |
| 80°    | 55.3  | 100.3 | 148.2 | 179.1 | 189.5 |
| 82.5°  | 40.5  | 84.8  | 133.4 | 164.4 | 174.0 |
| 85°    | 26.5  | 72.2  | 119.4 | 150.4 | 160.7 |
| 87.5°  | 16.2  | 60.5  | 107.6 | 137.9 | 147.4 |
| 90°    | 7.9   | 56.3  | 107.7 | 139.8 | 149.7 |
| 92.5°  | 19.6  | 56.6  | 103.1 | 132.9 | 142.3 |
| 95°    | 39.6  | 57.1  | 105.0 | 135.6 | 143.9 |
| 97.5°  | 65.9  | 55.0  | 106.0 | 134.9 | 144.2 |
| 100°   | 97.0  | 53.1  | 103.3 | 134.7 | 143.8 |
| 102.5° | 130.4 | 153.8 | 99.2  | 131.4 | 141.1 |
| 105°   | 161.3 | 198.3 | 95.0  | 126.5 | 136.7 |
| 107.5° | 198.1 | 228.8 | 90.9  | 121.7 | 131.8 |
| 110°   | 232.6 | 258.3 | 144.5 | 116.3 | 126.5 |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 265.8 | 286.9 | 312.1 | 112.1 | 121.9 |
| 115°   | 301.0 | 318.1 | 364.1 | 146.2 | 117.0 |
| 117.5° | 330.9 | 347.2 | 387.0 | 335.0 | 206.5 |
| 120°   | 365.2 | 375.9 | 414.8 | 441.6 | 379.7 |
| 122.5° | 394.2 | 403.2 | 440.9 | 463.9 | 471.1 |
| 125°   | 423.0 | 429.8 | 463.2 | 486.8 | 494.9 |
| 127.5° | 450.0 | 456.5 | 484.1 | 507.8 | 514.9 |
| 130°   | 475.4 | 482.9 | 504.1 | 527.5 | 532.9 |
| 132.5° | 501.3 | 507.3 | 524.1 | 545.7 | 551.1 |
| 135°   | 522.3 | 530.6 | 542.7 | 563.4 | 568.2 |
| 137.5° | 545.1 | 551.4 | 560.2 | 579.4 | 583.1 |
| 140°   | 567.4 | 570.9 | 578.1 | 594.5 | 596.4 |
| 142.5° | 586.1 | 589.0 | 595.8 | 608.7 | 609.8 |
| 145°   | 605.1 | 604.6 | 613.4 | 621.4 | 622.5 |
| 147.5° | 622.2 | 620.6 | 629.5 | 632.8 | 632.9 |
| 150°   | 638.8 | 635.2 | 643.5 | 646.6 | 644.0 |
| 152.5° | 652.8 | 648.6 | 656.4 | 659.5 | 655.9 |
| 155°   | 666.3 | 661.6 | 667.8 | 670.9 | 666.8 |
| 157.5° | 677.2 | 673.0 | 677.7 | 681.3 | 677.2 |
| 160°   | 686.5 | 683.4 | 686.5 | 689.6 | 686.0 |
| 162.5° | 694.8 | 691.7 | 694.3 | 697.9 | 693.2 |
| 165°   | 702.1 | 698.9 | 700.5 | 704.1 | 700.5 |
| 167.5° | 707.8 | 704.6 | 706.2 | 709.8 | 705.2 |
| 170°   | 712.4 | 709.3 | 710.4 | 714.0 | 709.3 |
| 172.5° | 715.5 | 712.4 | 713.5 | 717.1 | 712.4 |
| 175°   | 718.1 | 714.5 | 715.5 | 719.2 | 714.0 |
| 177.5° | 719.2 | 715.5 | 716.1 | 719.7 | 715.0 |
| 180°   | 716.6 | 716.6 | 716.6 | 716.6 | 716.6 |

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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 | 11.75            | 12.59 | 12.76 | 13.62 | 14.98 | 14.83          | 15.67 | 15.83 | 16.69 | 18.06 |
|                 | 3H   | 13.21            | 13.97 | 14.23 | 15.00 | 16.39 | 17.41          | 18.17 | 18.43 | 19.21 | 20.59 |
|                 | 4H   | 13.69            | 14.41 | 14.72 | 15.44 | 16.84 | 18.67          | 19.39 | 19.70 | 20.42 | 21.82 |
|                 | 6H   | 13.97            | 14.64 | 15.01 | 15.68 | 17.08 | 19.96          | 20.63 | 21.00 | 21.67 | 23.08 |
|                 | 8H   | 14.03            | 14.67 | 15.07 | 15.72 | 17.12 | 20.62          | 21.26 | 21.67 | 22.32 | 23.72 |
|                 | 12H  | 14.04            | 14.65 | 15.09 | 15.70 | 17.13 | 21.35          | 21.95 | 22.40 | 23.00 | 24.43 |
| 4H              | 2H   | 12.80            | 13.52 | 13.84 | 14.56 | 15.95 | 15.15          | 15.88 | 16.19 | 16.91 | 18.31 |
|                 | 3H   | 14.51            | 15.12 | 15.55 | 16.18 | 17.59 | 17.94          | 18.56 | 18.99 | 19.62 | 21.03 |
|                 | 4H   | 15.13            | 15.69 | 16.18 | 16.75 | 18.18 | 19.36          | 19.92 | 20.41 | 20.98 | 22.41 |
|                 | 6H   | 15.54            | 16.03 | 16.60 | 17.11 | 18.53 | 20.83          | 21.32 | 21.89 | 22.39 | 23.82 |
|                 | 8H   | 15.65            | 16.11 | 16.71 | 17.18 | 18.62 | 21.58          | 22.04 | 22.64 | 23.11 | 24.55 |
|                 | 12H  | 15.69            | 16.11 | 16.77 | 17.19 | 18.64 | 22.41          | 22.83 | 23.49 | 23.91 | 25.36 |
| 8H              | 4H   | 15.92            | 16.38 | 16.98 | 17.45 | 18.89 | 19.50          | 19.96 | 20.56 | 21.03 | 22.47 |
|                 | 6H   | 16.55            | 16.93 | 17.63 | 18.04 | 19.48 | 21.13          | 21.52 | 22.21 | 22.63 | 24.06 |
|                 | 8H   | 16.77            | 17.11 | 17.86 | 18.20 | 19.66 | 22.02          | 22.36 | 23.11 | 23.46 | 24.91 |
|                 | 12H  | 16.90            | 17.20 | 18.00 | 18.29 | 19.79 | 23.01          | 23.32 | 24.11 | 24.41 | 25.90 |
| 12H             | 4H   | 16.11            | 16.53 | 17.19 | 17.61 | 19.06 | 19.48          | 19.89 | 20.55 | 20.98 | 22.42 |
|                 | 6H   | 16.88            | 17.22 | 17.97 | 18.32 | 19.77 | 21.16          | 21.50 | 22.24 | 22.59 | 24.05 |
|                 | 8H   | 17.19            | 17.49 | 18.28 | 18.58 | 20.07 | 22.08          | 22.39 | 23.18 | 23.48 | 24.97 |