

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: P998312

Luminaire Tested: SA2XXDIP-B290D725UB50-4F0-XX-W2A-D

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998312  
REPORT IS A COMBINATION OF REPORTS P984052 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B290D725UB50-4F0-XX-W2A-D  
Description: Define 2 Direct/Indirect Pendant with 5000K BioUP LEDs {m-DER=1.015} {m-EER=1.115}  
Light Source: -  
Ballast/Driver: -

**Summary**

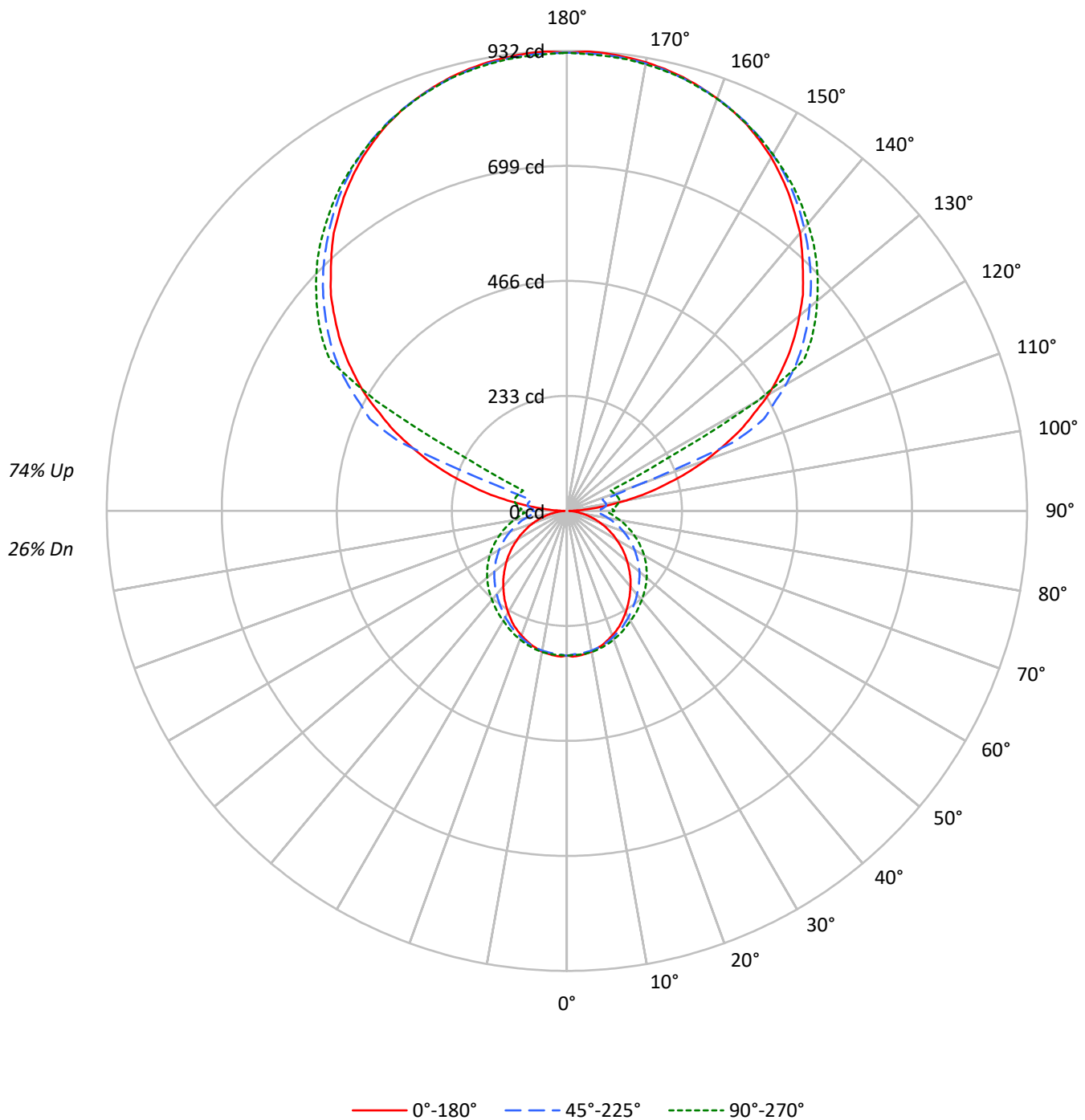
Lumens per Lamp: N/A  
Luminaire Lumens: 3842.1 lumens  
Efficiency: N/A  
Efficacy: 112.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: Semi-Indirect

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°  | 4643 | 4643 | 4643 |
| 5°  | 4663 | 4444 | 4419 |
| 10° | 4631 | 4290 | 4228 |
| 15° | 4566 | 4131 | 4032 |
| 20° | 4484 | 3963 | 3845 |
| 25° | 4402 | 3803 | 3676 |
| 30° | 4288 | 3641 | 3508 |
| 35° | 4172 | 3483 | 3386 |
| 40° | 4052 | 3348 | 3264 |
| 45° | 3936 | 3226 | 3157 |
| 50° | 3812 | 3112 | 3052 |
| 55° | 3680 | 2991 | 2946 |
| 60° | 3520 | 2866 | 2832 |
| 65° | 3356 | 2723 | 2703 |
| 70° | 3166 | 2568 | 2563 |
| 75° | 2926 | 2413 | 2433 |
| 80° | 2547 | 2250 | 2296 |
| 85° | 2161 | 2101 | 2180 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3936 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 27.8   | 0.7       |
| 10°-20°   | 79.7   | 2.1       |
| 20°-30°   | 120.8  | 3.1       |
| 30°-40°   | 147.1  | 3.8       |
| 40°-50°   | 158.3  | 4.1       |
| 50°-60°   | 153.7  | 4.0       |
| 60°-70°   | 134.3  | 3.5       |
| 70°-80°   | 103.3  | 2.7       |
| 80°-90°   | 70.9   | 1.8       |
| 90°-100°  | 78.4   | 2.0       |
| 100°-110° | 149.0  | 3.9       |
| 110°-120° | 325.6  | 8.5       |
| 120°-130° | 514.8  | 13.4      |
| 130°-140° | 538.5  | 14.0      |
| 140°-150° | 496.4  | 12.9      |
| 150°-160° | 398.4  | 10.4      |
| 160°-170° | 256.7  | 6.7       |
| 170°-180° | 88.4   | 2.3       |
| 0°-30°    | 228.3  | 5.9       |
| 0°-40°    | 375.5  | 9.8       |
| 0°-60°    | 687.5  | 17.9      |
| 0°-90°    | 995.9  | 25.9      |
| 90°-120°  | 553.0  | 14.4      |
| 90°-150°  | 2102.7 | 54.7      |
| 90°-180°  | 2846.0 | 74.1      |
| 0°-180°   | 3842.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 293 | 293   | 293 | 293   | 293 |      |
| 5°   | 294 | 293   | 290 | 293   | 292 | 28   |
| 15°  | 280 | 281   | 281 | 285   | 285 | 79   |
| 25°  | 255 | 258   | 262 | 267   | 268 | 117  |
| 35°  | 220 | 227   | 235 | 244   | 247 | 137  |
| 45°  | 180 | 192   | 207 | 220   | 224 | 139  |
| 55°  | 138 | 153   | 176 | 191   | 196 | 124  |
| 65°  | 94  | 115   | 140 | 158   | 163 | 94   |
| 75°  | 52  | 76    | 103 | 122   | 127 | 55   |
| 85°  | 15  | 42    | 69  | 87    | 93  | 16   |
| 90°  | 5   | 37    | 70  | 90    | 96  | 5    |
| 95°  | 47  | 45    | 75  | 95    | 99  | 54   |
| 105° | 206 | 239   | 78  | 100   | 107 | 221  |
| 115° | 388 | 404   | 440 | 142   | 98  | 382  |
| 125° | 547 | 556   | 582 | 598   | 604 | 488  |
| 135° | 676 | 687   | 697 | 713   | 715 | 522  |
| 145° | 784 | 783   | 795 | 802   | 801 | 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°     | 293.3 | 293.3 | 293.3 | 293.3 | 293.3 |
| 2.5°   | 295.4 | 294.1 | 291.1 | 293.3 | 292.4 |
| 5°     | 294.1 | 292.8 | 290.3 | 292.8 | 292.4 |
| 7.5°   | 292.0 | 291.1 | 289.0 | 292.0 | 291.6 |
| 10°    | 289.4 | 288.6 | 287.3 | 290.7 | 290.3 |
| 12.5°  | 285.2 | 285.6 | 284.8 | 288.2 | 287.7 |
| 15°    | 280.5 | 281.4 | 281.4 | 285.2 | 284.8 |
| 17.5°  | 274.6 | 276.3 | 277.5 | 281.4 | 281.4 |
| 20°    | 268.6 | 270.7 | 272.4 | 277.1 | 277.1 |
| 22.5°  | 262.2 | 264.8 | 267.3 | 272.0 | 272.9 |
| 25°    | 255.0 | 258.0 | 261.8 | 266.9 | 268.2 |
| 27.5°  | 246.5 | 251.2 | 255.4 | 261.8 | 262.7 |
| 30°    | 238.0 | 243.5 | 249.1 | 255.9 | 257.1 |
| 32.5°  | 228.7 | 235.0 | 241.8 | 249.9 | 252.5 |
| 35°    | 219.7 | 227.0 | 235.0 | 244.4 | 247.4 |
| 37.5°  | 210.0 | 218.0 | 228.2 | 238.4 | 241.4 |
| 40°    | 200.2 | 209.5 | 221.0 | 232.1 | 235.9 |
| 42.5°  | 190.8 | 200.2 | 213.8 | 226.1 | 229.9 |
| 45°    | 180.2 | 191.7 | 206.6 | 219.7 | 224.0 |
| 47.5°  | 170.0 | 182.3 | 199.3 | 212.9 | 217.6 |
| 50°    | 159.4 | 172.6 | 191.7 | 206.1 | 210.8 |
| 52.5°  | 149.2 | 163.2 | 183.6 | 198.5 | 203.6 |
| 55°    | 138.1 | 153.4 | 175.5 | 190.8 | 196.4 |
| 57.5°  | 127.5 | 144.5 | 166.6 | 183.2 | 188.7 |
| 60°    | 116.0 | 134.3 | 158.5 | 174.7 | 180.6 |
| 62.5°  | 105.8 | 125.0 | 149.2 | 166.6 | 172.1 |
| 65°    | 94.4  | 115.2 | 140.3 | 157.7 | 163.2 |
| 67.5°  | 84.2  | 105.8 | 131.3 | 148.8 | 154.7 |
| 70°    | 73.1  | 95.2  | 121.6 | 139.8 | 144.9 |
| 72.5°  | 62.9  | 85.9  | 112.6 | 130.5 | 136.9 |
| 75°    | 52.3  | 76.1  | 103.3 | 121.6 | 127.1 |
| 77.5°  | 42.1  | 66.7  | 94.4  | 112.6 | 118.6 |
| 80°    | 31.9  | 57.8  | 85.4  | 103.3 | 109.2 |
| 82.5°  | 23.4  | 48.9  | 76.9  | 94.8  | 100.3 |
| 85°    | 15.3  | 41.7  | 68.9  | 86.7  | 92.7  |
| 87.5°  | 9.4   | 34.9  | 62.1  | 79.5  | 85.0  |
| 90°    | 5.0   | 37.0  | 69.5  | 89.9  | 96.3  |
| 92.5°  | 20.6  | 40.5  | 68.4  | 86.4  | 92.1  |
| 95°    | 47.1  | 44.9  | 75.1  | 94.6  | 99.0  |
| 97.5°  | 81.6  | 44.8  | 80.2  | 97.9  | 103.6 |
| 100°   | 121.9 | 45.6  | 80.8  | 101.9 | 107.9 |
| 102.5° | 165.8 | 178.5 | 79.1  | 101.8 | 108.5 |
| 105°   | 206.3 | 238.8 | 77.6  | 99.8  | 107.1 |
| 107.5° | 254.0 | 281.0 | 75.9  | 97.7  | 105.1 |
| 110°   | 299.3 | 321.9 | 148.5 | 95.0  | 102.4 |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 342.2 | 361.1 | 369.3 | 93.4  | 100.0 |
| 115°   | 387.9 | 404.0 | 439.9 | 141.7 | 98.0  |
| 117.5° | 427.1 | 444.0 | 473.2 | 390.0 | 218.2 |
| 120°   | 471.5 | 483.3 | 512.3 | 532.3 | 446.3 |
| 122.5° | 509.1 | 520.2 | 549.4 | 564.9 | 569.4 |
| 125°   | 547.0 | 555.7 | 582.1 | 598.2 | 604.1 |
| 127.5° | 581.9 | 590.8 | 612.4 | 629.7 | 634.3 |
| 130°   | 614.8 | 625.1 | 641.5 | 659.0 | 661.8 |
| 132.5° | 648.4 | 656.6 | 670.4 | 686.3 | 689.0 |
| 135°   | 676.1 | 686.9 | 697.2 | 712.8 | 714.9 |
| 137.5° | 705.7 | 713.7 | 722.6 | 737.4 | 738.4 |
| 140°   | 734.6 | 739.5 | 747.8 | 760.7 | 759.8 |
| 142.5° | 758.7 | 763.0 | 771.8 | 782.2 | 781.0 |
| 145°   | 783.9 | 783.2 | 794.6 | 801.9 | 800.6 |
| 147.5° | 806.0 | 804.0 | 815.4 | 819.2 | 817.8 |
| 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 | 7.77             | 8.47  | 8.90  | 9.60  | 11.18 | 10.85          | 11.55 | 11.98 | 12.68 | 14.25 |
|                 | 3H   | 9.22             | 9.85  | 10.36 | 10.99 | 12.58 | 13.43          | 14.06 | 14.57 | 15.19 | 16.78 |
|                 | 4H   | 9.69             | 10.29 | 10.84 | 11.43 | 13.03 | 14.67          | 15.27 | 15.82 | 16.41 | 18.01 |
|                 | 6H   | 9.97             | 10.52 | 11.12 | 11.66 | 13.27 | 15.96          | 16.52 | 17.12 | 17.66 | 19.26 |
|                 | 8H   | 10.02            | 10.55 | 11.18 | 11.71 | 13.31 | 16.62          | 17.15 | 17.78 | 18.30 | 19.90 |
|                 | 12H  | 10.03            | 10.54 | 11.20 | 11.68 | 13.31 | 17.34          | 17.84 | 18.50 | 18.99 | 20.61 |
| 4H              | 2H   | 8.81             | 9.41  | 9.96  | 10.54 | 12.14 | 11.16          | 11.76 | 12.32 | 12.90 | 14.49 |
|                 | 3H   | 10.50            | 11.01 | 11.66 | 12.17 | 13.78 | 13.94          | 14.45 | 15.10 | 15.61 | 17.22 |
|                 | 4H   | 11.12            | 11.59 | 12.28 | 12.74 | 14.36 | 15.35          | 15.82 | 16.51 | 16.97 | 18.60 |
|                 | 6H   | 11.52            | 11.93 | 12.69 | 13.10 | 14.72 | 16.81          | 17.21 | 17.98 | 18.39 | 20.00 |
|                 | 8H   | 11.63            | 12.01 | 12.80 | 13.17 | 14.81 | 17.56          | 17.94 | 18.73 | 19.11 | 20.74 |
|                 | 12H  | 11.66            | 12.01 | 12.85 | 13.18 | 14.82 | 18.38          | 18.73 | 19.57 | 19.90 | 21.54 |
| 8H              | 4H   | 11.89            | 12.27 | 13.06 | 13.44 | 15.07 | 15.48          | 15.86 | 16.65 | 17.02 | 18.66 |
|                 | 6H   | 12.52            | 12.84 | 13.71 | 14.04 | 15.67 | 17.10          | 17.42 | 18.29 | 18.63 | 20.26 |
|                 | 8H   | 12.74            | 13.02 | 13.93 | 14.20 | 15.85 | 17.99          | 18.27 | 19.18 | 19.45 | 21.10 |
|                 | 12H  | 12.87            | 13.11 | 14.06 | 14.29 | 15.97 | 18.98          | 19.22 | 20.18 | 20.40 | 22.09 |
| 12H             | 4H   | 12.08            | 12.43 | 13.27 | 13.60 | 15.24 | 15.45          | 15.79 | 16.63 | 16.97 | 18.61 |
|                 | 6H   | 12.85            | 13.13 | 14.05 | 14.31 | 15.96 | 17.13          | 17.40 | 18.32 | 18.59 | 20.24 |
|                 | 8H   | 13.15            | 13.39 | 14.35 | 14.58 | 16.26 | 18.05          | 18.29 | 19.25 | 19.47 | 21.15 |