

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: P998645

Luminaire Tested: SA2XXDIP-B485D925UB30-4F0-XX-W2A-F

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998645  
REPORT IS A COMBINATION OF REPORTS P984388 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B485D925UB30-4F0-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**

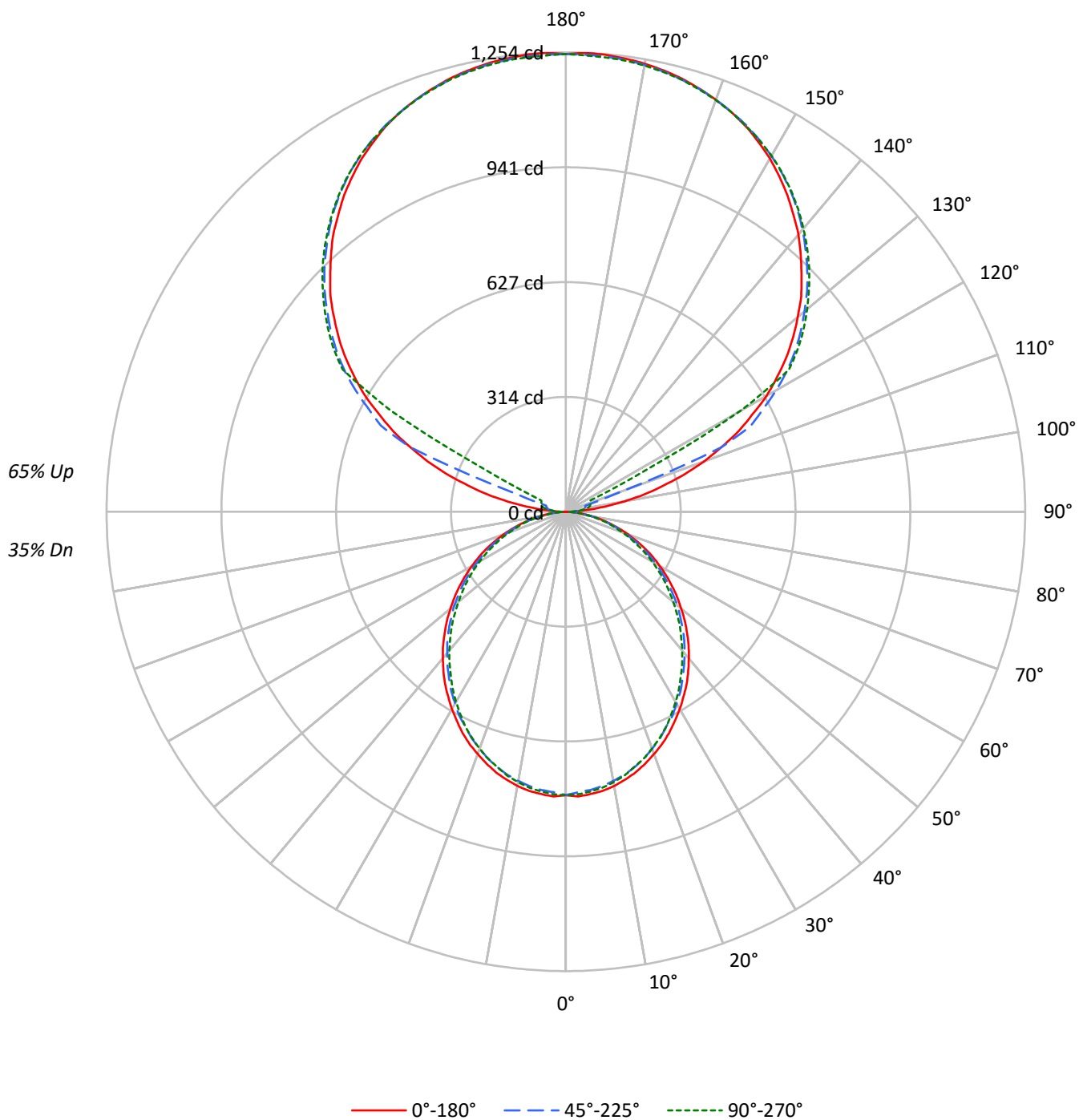
Lumens per Lamp: N/A  
Luminaire Lumens: 5633.0 lumens  
Efficiency: N/A  
Efficacy: 107.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: Semi-Indirect

Input Watts (W): 52.5  
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   | 104 | 104 | 104 | 104 |  | 94 | 94 | 94 | 94 |  | 75 | 75 | 75 |  | 58 | 58 | 58 |  | 42 | 42 | 42 |
| 1   | 94  | 90  | 86  | 83  |  | 85 | 82 | 78 | 76 |  | 66 | 63 | 61 |  | 51 | 49 | 48 |  | 37 | 37 | 36 |
| 2   | 86  | 79  | 73  | 68  |  | 77 | 71 | 66 | 62 |  | 57 | 54 | 51 |  | 45 | 42 | 40 |  | 33 | 31 | 30 |
| 3   | 78  | 69  | 62  | 56  |  | 71 | 63 | 57 | 52 |  | 51 | 46 | 43 |  | 40 | 36 | 34 |  | 29 | 27 | 26 |
| 4   | 72  | 61  | 53  | 48  |  | 64 | 56 | 49 | 44 |  | 45 | 40 | 36 |  | 35 | 32 | 29 |  | 26 | 24 | 22 |
| 5   | 66  | 54  | 46  | 41  |  | 59 | 49 | 43 | 37 |  | 40 | 35 | 31 |  | 32 | 28 | 25 |  | 23 | 21 | 19 |
| 6   | 60  | 49  | 41  | 35  |  | 54 | 44 | 37 | 32 |  | 36 | 31 | 27 |  | 28 | 25 | 22 |  | 21 | 19 | 17 |
| 7   | 56  | 44  | 36  | 31  |  | 50 | 40 | 33 | 28 |  | 33 | 28 | 24 |  | 26 | 22 | 19 |  | 19 | 17 | 15 |
| 8   | 52  | 40  | 32  | 27  |  | 47 | 36 | 30 | 25 |  | 30 | 25 | 21 |  | 24 | 20 | 17 |  | 18 | 15 | 13 |
| 9   | 48  | 36  | 29  | 24  |  | 43 | 33 | 27 | 22 |  | 27 | 22 | 19 |  | 22 | 18 | 15 |  | 16 | 14 | 12 |
| 10  | 45  | 33  | 26  | 21  |  | 41 | 30 | 24 | 20 |  | 25 | 20 | 17 |  | 20 | 16 | 14 |  | 15 | 13 | 11 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 12244 | 12244 | 12244 |
| 5°  | 12264 | 11672 | 11588 |
| 10° | 12164 | 11139 | 10918 |
| 15° | 11986 | 10603 | 10214 |
| 20° | 11745 | 10020 | 9546  |
| 25° | 11505 | 9411  | 8879  |
| 30° | 11204 | 8840  | 8180  |
| 35° | 10918 | 8236  | 7492  |
| 40° | 10567 | 7641  | 6843  |
| 45° | 10217 | 7050  | 6206  |
| 50° | 9836  | 6449  | 5545  |
| 55° | 9433  | 5807  | 4919  |
| 60° | 8982  | 5109  | 4268  |
| 65° | 8489  | 4404  | 3584  |
| 70° | 7860  | 3628  | 2894  |
| 75° | 6993  | 2796  | 2236  |
| 80° | 5940  | 1900  | 1438  |
| 85° | 4308  | 884   | 611   |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 10217 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 72.8   | 1.3       |
| 10°-20°   | 204.8  | 3.6       |
| 20°-30°   | 301.0  | 5.3       |
| 30°-40°   | 349.6  | 6.2       |
| 40°-50°   | 349.2  | 6.2       |
| 50°-60°   | 304.5  | 5.4       |
| 60°-70°   | 225.1  | 4.0       |
| 70°-80°   | 127.3  | 2.3       |
| 80°-90°   | 35.8   | 0.6       |
| 90°-100°  | 41.2   | 0.7       |
| 100°-110° | 153.6  | 2.7       |
| 110°-120° | 407.3  | 7.2       |
| 120°-130° | 675.6  | 12.0      |
| 130°-140° | 717.6  | 12.7      |
| 140°-150° | 666.9  | 11.8      |
| 150°-160° | 536.2  | 9.5       |
| 160°-170° | 345.5  | 6.1       |
| 170°-180° | 118.9  | 2.1       |
| 0°-30°    | 578.7  | 10.3      |
| 0°-40°    | 928.3  | 16.5      |
| 0°-60°    | 1582.0 | 28.1      |
| 0°-90°    | 1970.2 | 35.0      |
| 90°-120°  | 602.1  | 10.7      |
| 90°-150°  | 2662.2 | 47.3      |
| 90°-180°  | 3663.0 | 65.0      |
| 0°-180°   | 5633.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 774  | 774   | 774  | 774   | 774  |      |
| 5°   | 774  | 771   | 762  | 768   | 767  | 73   |
| 15°  | 736  | 732   | 722  | 725   | 722  | 207  |
| 25°  | 666  | 660   | 648  | 649   | 648  | 307  |
| 35°  | 575  | 568   | 556  | 551   | 547  | 359  |
| 45°  | 468  | 463   | 452  | 443   | 440  | 361  |
| 55°  | 354  | 350   | 341  | 332   | 328  | 317  |
| 65°  | 239  | 234   | 227  | 220   | 216  | 236  |
| 75°  | 125  | 124   | 120  | 115   | 117  | 133  |
| 85°  | 30   | 30    | 29   | 27    | 26   | 34   |
| 90°  | 1    | 11    | 18   | 23    | 24   | 5    |
| 95°  | 59   | 29    | 35   | 40    | 39   | 70   |
| 105° | 275  | 302   | 55   | 65    | 69   | 294  |
| 115° | 520  | 535   | 558  | 139   | 74   | 512  |
| 125° | 735  | 747   | 764  | 770   | 773  | 656  |
| 135° | 910  | 924   | 932  | 941   | 939  | 703  |
| 145° | 1055 | 1054  | 1070 | 1076  | 1071 | 660  |
| 155° | 1162 | 1154  | 1164 | 1170  | 1163 | 535  |
| 165° | 1224 | 1219  | 1221 | 1228  | 1221 | 346  |
| 175° | 1252 | 1246  | 1248 | 1254  | 1245 | 119  |
| 180° | 1249 | 1249  | 1249 | 1249  | 1249 |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 773.5 | 773.5 | 773.5 | 773.5 | 773.5 |
| 2.5°   | 778.0 | 774.3 | 766.1 | 773.5 | 772.0 |
| 5°     | 773.5 | 770.6 | 762.4 | 768.3 | 766.8 |
| 7.5°   | 768.3 | 763.9 | 755.7 | 761.6 | 760.1 |
| 10°    | 760.1 | 754.9 | 746.0 | 752.0 | 749.7 |
| 12.5°  | 749.0 | 744.5 | 735.6 | 739.3 | 737.8 |
| 15°    | 736.3 | 731.9 | 722.2 | 725.2 | 721.5 |
| 17.5°  | 720.7 | 716.3 | 706.6 | 710.3 | 706.6 |
| 20°    | 703.6 | 699.2 | 688.7 | 691.0 | 688.0 |
| 22.5°  | 686.5 | 679.8 | 670.2 | 670.2 | 668.7 |
| 25°    | 666.4 | 660.5 | 647.8 | 649.3 | 647.8 |
| 27.5°  | 644.1 | 638.9 | 629.2 | 627.0 | 623.3 |
| 30°    | 621.8 | 615.9 | 604.7 | 602.5 | 599.5 |
| 32.5°  | 598.0 | 593.5 | 581.6 | 577.2 | 574.2 |
| 35°    | 574.9 | 567.5 | 555.6 | 551.1 | 547.4 |
| 37.5°  | 548.9 | 542.2 | 530.3 | 525.1 | 521.4 |
| 40°    | 522.1 | 516.2 | 504.3 | 497.6 | 494.6 |
| 42.5°  | 496.1 | 490.2 | 478.3 | 470.8 | 466.4 |
| 45°    | 467.8 | 462.6 | 451.5 | 443.3 | 440.3 |
| 47.5°  | 440.3 | 435.1 | 423.2 | 415.0 | 410.6 |
| 50°    | 411.3 | 407.6 | 397.2 | 386.8 | 383.0 |
| 52.5°  | 383.0 | 377.8 | 368.2 | 360.0 | 354.8 |
| 55°    | 354.0 | 349.6 | 340.7 | 331.7 | 328.0 |
| 57.5°  | 325.0 | 321.3 | 311.6 | 302.7 | 299.7 |
| 60°    | 296.0 | 293.1 | 282.6 | 274.5 | 272.2 |
| 62.5°  | 267.8 | 262.6 | 255.1 | 247.7 | 244.7 |
| 65°    | 238.8 | 234.3 | 226.9 | 220.2 | 216.4 |
| 67.5°  | 209.0 | 205.3 | 198.6 | 193.4 | 190.4 |
| 70°    | 181.5 | 178.5 | 171.8 | 166.6 | 163.6 |
| 72.5°  | 153.2 | 150.2 | 146.5 | 141.3 | 139.1 |
| 75°    | 125.0 | 123.5 | 119.7 | 115.3 | 116.8 |
| 77.5°  | 99.7  | 96.7  | 95.2  | 93.0  | 90.7  |
| 80°    | 74.4  | 73.6  | 72.1  | 69.9  | 68.4  |
| 82.5°  | 50.6  | 50.6  | 49.8  | 46.9  | 46.9  |
| 85°    | 30.5  | 29.8  | 29.0  | 26.8  | 26.0  |
| 87.5°  | 13.4  | 11.9  | 10.4  | 8.2   | 7.4   |
| 90°    | 0.9   | 10.8  | 18.1  | 22.6  | 24.4  |
| 92.5°  | 22.6  | 19.0  | 21.7  | 23.5  | 24.4  |
| 95°    | 58.8  | 28.9  | 35.3  | 39.8  | 38.9  |
| 97.5°  | 105.8 | 31.6  | 46.1  | 48.8  | 49.7  |
| 100°   | 160.0 | 36.2  | 51.5  | 58.8  | 60.6  |
| 102.5° | 219.7 | 217.9 | 53.3  | 63.3  | 66.0  |
| 105°   | 274.8 | 302.0 | 55.1  | 65.1  | 68.7  |
| 107.5° | 339.0 | 361.6 | 57.0  | 66.9  | 70.5  |
| 110°   | 400.5 | 419.5 | 158.2 | 67.8  | 71.4  |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 112.5° | 458.4  | 474.6  | 459.3  | 69.6   | 72.3   |
| 115°   | 519.8  | 535.2  | 557.8  | 139.2  | 74.1   |
| 117.5° | 573.2  | 591.2  | 606.6  | 477.3  | 240.5  |
| 120°   | 632.8  | 646.4  | 662.7  | 673.5  | 551.5  |
| 122.5° | 683.5  | 697.9  | 716.0  | 721.4  | 722.3  |
| 125°   | 735.0  | 746.7  | 763.9  | 770.3  | 773.0  |
| 127.5° | 782.0  | 794.7  | 808.2  | 817.3  | 818.2  |
| 130°   | 826.3  | 840.8  | 850.7  | 860.7  | 859.8  |
| 132.5° | 871.5  | 883.3  | 893.2  | 901.3  | 900.4  |
| 135°   | 909.5  | 923.9  | 932.1  | 941.1  | 939.3  |
| 137.5° | 949.3  | 960.1  | 969.1  | 978.2  | 975.5  |
| 140°   | 988.1  | 995.4  | 1005.3 | 1013.4 | 1008.9 |
| 142.5° | 1020.7 | 1027.0 | 1038.8 | 1046.0 | 1041.5 |
| 145°   | 1055.0 | 1054.1 | 1069.5 | 1075.8 | 1071.3 |
| 147.5° | 1084.9 | 1082.2 | 1097.5 | 1102.0 | 1098.4 |
| 150°   | 1113.8 | 1107.5 | 1121.9 | 1127.4 | 1122.8 |
| 152.5° | 1138.2 | 1131.0 | 1144.5 | 1150.0 | 1143.6 |
| 155°   | 1161.7 | 1153.6 | 1164.4 | 1169.8 | 1162.6 |
| 157.5° | 1180.7 | 1173.5 | 1181.6 | 1187.9 | 1180.7 |
| 160°   | 1197.0 | 1191.5 | 1197.0 | 1202.4 | 1196.1 |
| 162.5° | 1211.4 | 1206.0 | 1210.5 | 1216.9 | 1208.7 |
| 165°   | 1224.1 | 1218.7 | 1221.4 | 1227.7 | 1221.4 |
| 167.5° | 1234.0 | 1228.6 | 1231.3 | 1237.6 | 1229.5 |
| 170°   | 1242.2 | 1236.7 | 1238.6 | 1244.9 | 1236.7 |
| 172.5° | 1247.6 | 1242.2 | 1244.0 | 1250.3 | 1242.2 |
| 175°   | 1252.1 | 1245.8 | 1247.6 | 1253.9 | 1244.9 |
| 177.5° | 1253.9 | 1247.6 | 1248.5 | 1254.8 | 1246.7 |
| 180°   | 1249.4 | 1249.4 | 1249.4 | 1249.4 | 1249.4 |

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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 | 12.36            | 13.10 | 13.44 | 14.18 | 15.65 | 13.15          | 13.89 | 14.22 | 14.96 | 16.43 |
|                 | 3H   | 13.69            | 14.36 | 14.78 | 15.44 | 16.93 | 14.76          | 15.43 | 15.85 | 16.51 | 18.00 |
|                 | 4H   | 14.09            | 14.72 | 15.19 | 15.81 | 17.30 | 15.35          | 15.98 | 16.44 | 17.07 | 18.56 |
|                 | 6H   | 14.30            | 14.88 | 15.41 | 15.97 | 17.48 | 15.75          | 16.33 | 16.85 | 17.42 | 18.92 |
|                 | 8H   | 14.33            | 14.88 | 15.44 | 15.99 | 17.49 | 15.85          | 16.40 | 16.96 | 17.51 | 19.01 |
|                 | 12H  | 14.32            | 14.84 | 15.43 | 15.94 | 17.47 | 15.89          | 16.42 | 17.01 | 17.52 | 19.04 |
| 4H              | 2H   | 12.82            | 13.45 | 13.92 | 14.53 | 16.03 | 13.46          | 14.09 | 14.56 | 15.18 | 16.67 |
|                 | 3H   | 14.32            | 14.85 | 15.43 | 15.96 | 17.47 | 15.23          | 15.76 | 16.34 | 16.87 | 18.38 |
|                 | 4H   | 14.83            | 15.31 | 15.94 | 16.41 | 17.94 | 15.91          | 16.39 | 17.02 | 17.49 | 19.02 |
|                 | 6H   | 15.12            | 15.53 | 16.24 | 16.66 | 18.18 | 16.40          | 16.81 | 17.52 | 17.94 | 19.46 |
|                 | 8H   | 15.18            | 15.56 | 16.30 | 16.68 | 18.22 | 16.54          | 16.92 | 17.66 | 18.04 | 19.58 |
|                 | 12H  | 15.17            | 15.52 | 16.31 | 16.65 | 18.19 | 16.59          | 16.94 | 17.73 | 18.07 | 19.61 |
| 8H              | 4H   | 14.99            | 15.38 | 16.11 | 16.50 | 18.03 | 15.98          | 16.37 | 17.10 | 17.49 | 19.02 |
|                 | 6H   | 15.37            | 15.69 | 16.51 | 16.85 | 18.38 | 16.55          | 16.87 | 17.69 | 18.03 | 19.56 |
|                 | 8H   | 15.47            | 15.75 | 16.62 | 16.89 | 18.44 | 16.73          | 17.01 | 17.88 | 18.15 | 19.71 |
|                 | 12H  | 15.50            | 15.74 | 16.65 | 16.88 | 18.47 | 16.83          | 17.07 | 17.98 | 18.21 | 19.80 |
| 12H             | 4H   | 14.97            | 15.32 | 16.11 | 16.45 | 17.99 | 15.94          | 16.29 | 17.08 | 17.42 | 18.96 |
|                 | 6H   | 15.39            | 15.67 | 16.53 | 16.81 | 18.36 | 16.54          | 16.82 | 17.69 | 17.96 | 19.51 |
|                 | 8H   | 15.49            | 15.74 | 16.65 | 16.88 | 18.46 | 16.73          | 16.97 | 17.88 | 18.11 | 19.70 |