

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: METALUX

Report Number: P892806

Luminaire Tested: 2MB-5HL-AOL-UNV-L835

Issue Date: 11/11/2024

**Test Information**

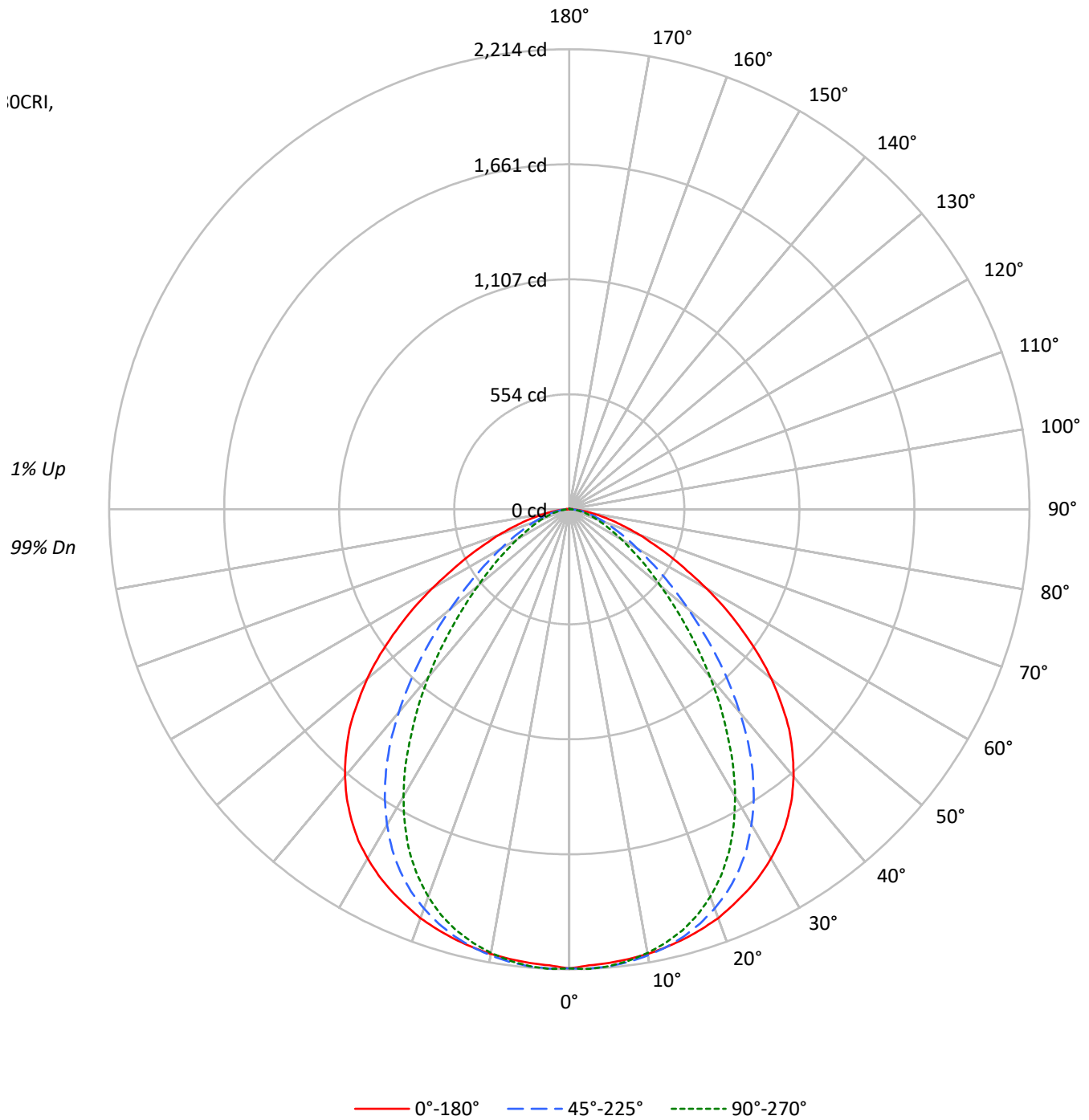
Test Method: LM-79-2019  
Report Number: P892806  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 2MB-5HL-AOL-UNV-L835  
Description: 5000 Lumen 2FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 8  
3500K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4579.9 lumens  
Efficiency: N/A  
Efficacy: 135.9 lumens/watt  
Spacing Criteria (0/90/45): 1.3 / 1.1 / 1.2  
Luminous Opening: Rectangular (W 0.27' x L: 1.98' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.99  
Total Harmonic Distortion (THDi): 4.5  
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  |    |    |    | 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   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 101 | 101 | 101 |    |    |    | 99 |
| 1   | 110 | 106 | 103 | 100 | 108 | 104 | 101 | 98  | 100 | 97  | 95  | 96  | 94  | 92  | 92  | 91  | 89  |    |    |    | 87 |
| 2   | 102 | 95  | 89  | 84  | 99  | 93  | 88  | 83  | 89  | 85  | 81  | 86  | 83  | 79  | 83  | 80  | 77  |    |    |    | 75 |
| 3   | 94  | 85  | 78  | 72  | 92  | 83  | 77  | 72  | 80  | 75  | 70  | 78  | 73  | 69  | 75  | 71  | 68  |    |    |    | 66 |
| 4   | 87  | 76  | 69  | 63  | 85  | 75  | 68  | 62  | 73  | 66  | 61  | 70  | 65  | 61  | 68  | 64  | 60  |    |    |    | 58 |
| 5   | 81  | 69  | 61  | 55  | 79  | 68  | 61  | 55  | 66  | 59  | 54  | 64  | 58  | 54  | 62  | 57  | 53  |    |    |    | 51 |
| 6   | 75  | 63  | 55  | 49  | 73  | 62  | 54  | 49  | 60  | 53  | 48  | 59  | 53  | 48  | 57  | 52  | 48  |    |    |    | 46 |
| 7   | 70  | 58  | 50  | 44  | 68  | 57  | 49  | 44  | 55  | 48  | 43  | 54  | 48  | 43  | 53  | 47  | 43  |    |    |    | 41 |
| 8   | 65  | 53  | 45  | 40  | 64  | 52  | 45  | 40  | 51  | 44  | 39  | 50  | 44  | 39  | 49  | 43  | 39  |    |    |    | 37 |
| 9   | 61  | 49  | 41  | 36  | 60  | 48  | 41  | 36  | 47  | 40  | 36  | 46  | 40  | 36  | 45  | 40  | 35  |    |    |    | 34 |
| 10  | 58  | 45  | 38  | 33  | 56  | 45  | 38  | 33  | 44  | 37  | 33  | 43  | 37  | 33  | 42  | 36  | 32  |    |    |    | 31 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 45243 | 45243 | 45243 |
| 5°  | 45046 | 45379 | 45360 |
| 10° | 45190 | 45321 | 45078 |
| 15° | 45368 | 45117 | 44488 |
| 20° | 45632 | 44551 | 43233 |
| 25° | 45783 | 43460 | 41097 |
| 30° | 45889 | 41453 | 37722 |
| 35° | 45650 | 38436 | 33184 |
| 40° | 44885 | 34110 | 28182 |
| 45° | 43327 | 29065 | 22929 |
| 50° | 40450 | 23815 | 18244 |
| 55° | 36253 | 19285 | 14712 |
| 60° | 31173 | 15550 | 11819 |
| 65° | 25955 | 12844 | 9831  |
| 70° | 21541 | 10962 | 8370  |
| 75° | 17334 | 9415  | 7279  |
| 80° | 13714 | 8396  | 6379  |
| 85° | 12076 | 8270  | 6367  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 43327 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 209.5  | 4.6       |
| 10°-20°   | 598.9  | 13.1      |
| 20°-30°   | 883.2  | 19.3      |
| 30°-40°   | 969.9  | 21.2      |
| 40°-50°   | 825.5  | 18.0      |
| 50°-60°   | 560.1  | 12.2      |
| 60°-70°   | 315.7  | 6.9       |
| 70°-80°   | 147.1  | 3.2       |
| 80°-90°   | 43.0   | 0.9       |
| 90°-100°  | 10.2   | 0.2       |
| 100°-110° | 6.6    | 0.1       |
| 110°-120° | 4.0    | 0.1       |
| 120°-130° | 2.2    | 0.0       |
| 130°-140° | 1.3    | 0.0       |
| 140°-150° | 1.1    | 0.0       |
| 150°-160° | 0.8    | 0.0       |
| 160°-170° | 0.6    | 0.0       |
| 170°-180° | 0.2    | 0.0       |
| 0°-30°    | 1691.7 | 36.9      |
| 0°-40°    | 2661.6 | 58.1      |
| 0°-60°    | 4047.2 | 88.4      |
| 0°-90°    | 4552.9 | 99.4      |
| 90°-120°  | 20.8   | 0.5       |
| 90°-150°  | 25.5   | 0.6       |
| 90°-180°  | 27.0   | 0.6       |
| 0°-180°   | 4579.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 2210 | 2210  | 2210 | 2210  | 2210 |      |
| 5°   | 2192 | 2202  | 2208 | 2210  | 2207 | 209  |
| 15°  | 2140 | 2143  | 2128 | 2110  | 2099 | 605  |
| 25°  | 2026 | 2001  | 1924 | 1852  | 1819 | 934  |
| 35°  | 1826 | 1733  | 1538 | 1388  | 1328 | 1141 |
| 45°  | 1496 | 1304  | 1004 | 838   | 792  | 1146 |
| 55°  | 1016 | 796   | 540  | 436   | 412  | 908  |
| 65°  | 536  | 404   | 265  | 216   | 203  | 536  |
| 75°  | 219  | 171   | 119  | 97    | 92   | 237  |
| 85°  | 51   | 45    | 35   | 29    | 27   | 56   |
| 90°  | 9    | 11    | 10   | 8     | 8    | 8    |
| 95°  | 15   | 12    | 9    | 7     | 7    | 11   |
| 105° | 4    | 9     | 6    | 4     | 4    | 5    |
| 115° | 3    | 5     | 4    | 4     | 4    | 3    |
| 125° | 2    | 3     | 3    | 3     | 3    | 2    |
| 135° | 1    | 2     | 2    | 2     | 2    | 1    |
| 145° | 1    | 2     | 2    | 2     | 2    | 1    |
| 155° | 1    | 2     | 2    | 2     | 2    | 1    |
| 165° | 2    | 2     | 2    | 3     | 3    | 1    |
| 175° | 2    | 2     | 3    | 3     | 3    | 0    |
| 180° | 3    | 3     | 3    | 3     | 3    |      |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 2209.5 | 2209.5 | 2209.5 | 2209.5 | 2209.5 |
| 2.5°   | 2196.9 | 2205.9 | 2212.2 | 2215.8 | 2214.0 |
| 5°     | 2191.5 | 2202.3 | 2207.7 | 2209.5 | 2206.8 |
| 7.5°   | 2183.4 | 2194.2 | 2196.9 | 2196.0 | 2191.5 |
| 10°    | 2173.4 | 2181.6 | 2179.7 | 2175.2 | 2168.0 |
| 12.5°  | 2158.1 | 2164.4 | 2158.1 | 2146.4 | 2137.4 |
| 15°    | 2140.1 | 2142.8 | 2128.3 | 2110.3 | 2098.6 |
| 17.5°  | 2118.4 | 2116.6 | 2090.5 | 2064.3 | 2048.1 |
| 20°    | 2094.1 | 2084.2 | 2044.5 | 2004.8 | 1984.0 |
| 22.5°  | 2060.7 | 2045.4 | 1990.4 | 1933.5 | 1908.3 |
| 25°    | 2026.4 | 2001.2 | 1923.6 | 1851.5 | 1819.0 |
| 27.5°  | 1986.8 | 1946.2 | 1846.1 | 1754.1 | 1713.5 |
| 30°    | 1940.8 | 1886.6 | 1753.2 | 1644.1 | 1595.4 |
| 32.5°  | 1889.4 | 1815.4 | 1652.2 | 1520.5 | 1468.2 |
| 35°    | 1826.2 | 1733.3 | 1537.6 | 1387.9 | 1327.5 |
| 37.5°  | 1757.7 | 1639.5 | 1413.2 | 1243.6 | 1193.1 |
| 40°    | 1679.2 | 1534.9 | 1276.1 | 1103.9 | 1054.3 |
| 42.5°  | 1589.9 | 1422.2 | 1139.9 | 965.0  | 920.8  |
| 45°    | 1496.2 | 1304.1 | 1003.7 | 837.8  | 791.8  |
| 47.5°  | 1383.4 | 1173.3 | 868.5  | 717.0  | 676.4  |
| 50°    | 1269.8 | 1042.5 | 747.6  | 609.6  | 572.7  |
| 52.5°  | 1147.1 | 918.1  | 635.8  | 517.7  | 487.0  |
| 55°    | 1015.5 | 796.3  | 540.2  | 436.5  | 412.1  |
| 57.5°  | 891.0  | 681.8  | 454.5  | 365.2  | 342.7  |
| 60°    | 761.2  | 575.4  | 379.7  | 307.5  | 288.6  |
| 62.5°  | 638.5  | 482.5  | 321.1  | 256.1  | 240.8  |
| 65°    | 535.7  | 404.0  | 265.1  | 215.5  | 202.9  |
| 67.5°  | 436.5  | 335.5  | 221.0  | 179.5  | 168.6  |
| 70°    | 359.8  | 271.5  | 183.1  | 147.9  | 139.8  |
| 72.5°  | 280.5  | 220.0  | 147.9  | 120.8  | 113.6  |
| 75°    | 219.1  | 171.3  | 119.0  | 97.4   | 92.0   |
| 77.5°  | 162.3  | 132.6  | 93.8   | 76.7   | 73.0   |
| 80°    | 116.3  | 98.3   | 71.2   | 58.6   | 54.1   |
| 82.5°  | 81.2   | 68.5   | 51.4   | 42.4   | 39.7   |
| 85°    | 51.4   | 45.1   | 35.2   | 28.9   | 27.1   |
| 87.5°  | 27.1   | 25.3   | 20.7   | 17.1   | 16.2   |
| 90°    | 9.0    | 10.8   | 9.9    | 8.1    | 8.1    |
| 92.5°  | 15.3   | 11.7   | 9.0    | 8.1    | 7.2    |
| 95°    | 15.3   | 11.7   | 9.0    | 7.2    | 7.2    |
| 97.5°  | 14.4   | 10.8   | 8.1    | 7.2    | 6.3    |
| 100°   | 7.2    | 10.8   | 7.2    | 6.3    | 5.4    |
| 102.5° | 4.5    | 9.9    | 7.2    | 5.4    | 5.4    |
| 105°   | 4.5    | 9.0    | 6.3    | 4.5    | 4.5    |
| 107.5° | 3.6    | 8.1    | 5.4    | 4.5    | 4.5    |
| 110°   | 3.6    | 7.2    | 5.4    | 4.5    | 3.6    |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 112.5° | 3.6 | 6.3   | 4.5 | 3.6   | 3.6 |
| 115°   | 2.7 | 5.4   | 3.6 | 3.6   | 3.6 |
| 117.5° | 2.7 | 4.5   | 3.6 | 3.6   | 3.6 |
| 120°   | 1.8 | 3.6   | 2.7 | 2.7   | 2.7 |
| 122.5° | 1.8 | 2.7   | 2.7 | 2.7   | 2.7 |
| 125°   | 1.8 | 2.7   | 2.7 | 2.7   | 2.7 |
| 127.5° | 1.8 | 1.8   | 2.7 | 2.7   | 2.7 |
| 130°   | 0.9 | 1.8   | 1.8 | 2.7   | 2.7 |
| 132.5° | 0.9 | 1.8   | 1.8 | 1.8   | 1.8 |
| 135°   | 0.9 | 1.8   | 1.8 | 1.8   | 1.8 |
| 137.5° | 0.9 | 1.8   | 1.8 | 1.8   | 1.8 |
| 140°   | 0.9 | 1.8   | 1.8 | 1.8   | 1.8 |
| 142.5° | 0.9 | 1.8   | 1.8 | 1.8   | 1.8 |
| 145°   | 0.9 | 1.8   | 1.8 | 1.8   | 1.8 |
| 147.5° | 0.9 | 1.8   | 1.8 | 1.8   | 1.8 |
| 150°   | 0.9 | 1.8   | 1.8 | 1.8   | 1.8 |
| 152.5° | 0.9 | 1.8   | 1.8 | 1.8   | 1.8 |
| 155°   | 0.9 | 1.8   | 1.8 | 1.8   | 1.8 |
| 157.5° | 1.8 | 1.8   | 1.8 | 1.8   | 2.7 |
| 160°   | 1.8 | 1.8   | 1.8 | 1.8   | 2.7 |
| 162.5° | 1.8 | 1.8   | 1.8 | 2.7   | 2.7 |
| 165°   | 1.8 | 1.8   | 1.8 | 2.7   | 2.7 |
| 167.5° | 1.8 | 1.8   | 1.8 | 2.7   | 2.7 |
| 170°   | 1.8 | 1.8   | 1.8 | 2.7   | 2.7 |
| 172.5° | 1.8 | 1.8   | 1.8 | 2.7   | 2.7 |
| 175°   | 1.8 | 1.8   | 2.7 | 2.7   | 2.7 |
| 177.5° | 1.8 | 1.8   | 2.7 | 2.7   | 2.7 |
| 180°   | 2.7 | 2.7   | 2.7 | 2.7   | 2.7 |



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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 | 23.68            | 25.12 | 24.05 | 25.44 | 25.77 | 18.88          | 20.32 | 19.26 | 20.65 | 20.98 |
|                 | 3H   | 24.90            | 26.19 | 25.29 | 26.53 | 26.91 | 19.89          | 21.18 | 20.28 | 21.52 | 21.90 |
|                 | 4H   | 25.30            | 26.50 | 25.71 | 26.87 | 27.26 | 20.25          | 21.45 | 20.66 | 21.81 | 22.21 |
|                 | 6H   | 25.56            | 26.67 | 25.98 | 27.05 | 27.45 | 20.50          | 21.61 | 20.93 | 21.99 | 22.40 |
|                 | 8H   | 25.63            | 26.68 | 26.07 | 27.09 | 27.50 | 20.58          | 21.64 | 21.02 | 22.04 | 22.46 |
|                 | 12H  | 25.68            | 26.69 | 26.12 | 27.08 | 27.53 | 20.65          | 21.66 | 21.09 | 22.05 | 22.49 |
| 4H              | 2H   | 23.70            | 24.90 | 24.11 | 25.26 | 25.66 | 19.51          | 20.71 | 19.92 | 21.07 | 21.47 |
|                 | 3H   | 25.09            | 26.09 | 25.52 | 26.50 | 26.92 | 20.71          | 21.70 | 21.13 | 22.11 | 22.53 |
|                 | 4H   | 25.60            | 26.49 | 26.04 | 26.92 | 27.37 | 21.14          | 22.03 | 21.59 | 22.46 | 22.92 |
|                 | 6H   | 25.97            | 26.74 | 26.44 | 27.20 | 27.68 | 21.49          | 22.26 | 21.96 | 22.72 | 23.20 |
|                 | 8H   | 26.09            | 26.81 | 26.56 | 27.27 | 27.75 | 21.61          | 22.33 | 22.08 | 22.79 | 23.27 |
|                 | 12H  | 26.18            | 26.82 | 26.67 | 27.31 | 27.80 | 21.71          | 22.35 | 22.20 | 22.84 | 23.32 |
| 8H              | 4H   | 25.60            | 26.32 | 26.07 | 26.78 | 27.26 | 21.48          | 22.20 | 21.96 | 22.66 | 23.14 |
|                 | 6H   | 26.04            | 26.63 | 26.55 | 27.14 | 27.63 | 21.93          | 22.52 | 22.44 | 23.03 | 23.52 |
|                 | 8H   | 26.21            | 26.74 | 26.73 | 27.26 | 27.77 | 22.10          | 22.63 | 22.62 | 23.15 | 23.66 |
|                 | 12H  | 26.36            | 26.83 | 26.88 | 27.34 | 27.92 | 22.26          | 22.73 | 22.78 | 23.24 | 23.82 |
| 12H             | 4H   | 25.57            | 26.22 | 26.07 | 26.71 | 27.19 | 21.53          | 22.17 | 22.03 | 22.66 | 23.15 |
|                 | 6H   | 26.01            | 26.55 | 26.54 | 27.07 | 27.57 | 22.00          | 22.54 | 22.53 | 23.06 | 23.56 |
|                 | 8H   | 26.22            | 26.69 | 26.74 | 27.20 | 27.78 | 22.23          | 22.70 | 22.75 | 23.20 | 23.78 |