

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: P893462

Luminaire Tested: 4MB-4SL-A-UNV-L935

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893462  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-16)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-4SL-A-UNV-L935  
Description: 4000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTIC, 90CRI, 3500K CCT  
Light Source: -  
Ballast/Driver: -

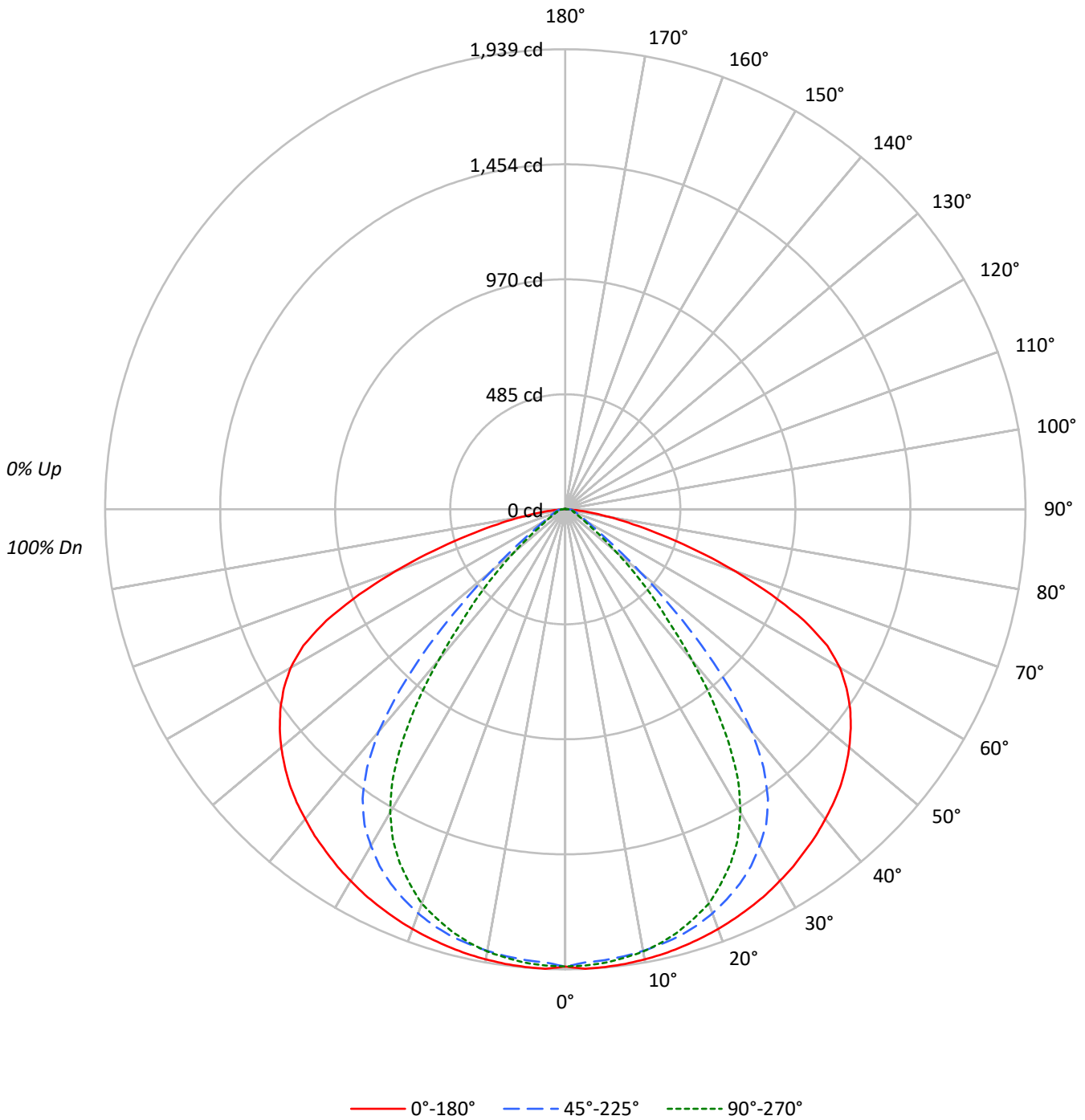
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3950.0 lumens  
Efficiency: N/A  
Efficacy: 132.6 lumens/watt  
Spacing Criteria (0/90/45): 1.41 / 1.15 / 1.23  
Luminous Opening: Rectangular (W 0.27' x L: 3.98' x H: 0')  
CIE Type: Direct

Input Watts (W): 29.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.99  
Total Harmonic Distortion (THDi): 5.5  
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  |     |     |     |     |
| 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 | 102 | 102 | 102 | 102 | 102 | 102 | 100 |
| 1   | 111 | 107 | 103 | 100 | 108 | 105 | 102 | 99  | 100 | 98  | 96  | 97  | 95  | 93  | 93  | 91  | 90  | 93  | 91  | 90  | 88  |
| 2   | 103 | 96  | 90  | 85  | 100 | 94  | 89  | 84  | 91  | 86  | 82  | 87  | 84  | 81  | 84  | 81  | 79  | 84  | 81  | 79  | 77  |
| 3   | 95  | 86  | 79  | 74  | 93  | 85  | 78  | 73  | 82  | 76  | 72  | 79  | 74  | 71  | 77  | 73  | 69  | 77  | 73  | 69  | 67  |
| 4   | 88  | 78  | 70  | 65  | 86  | 77  | 70  | 64  | 74  | 68  | 63  | 72  | 67  | 62  | 70  | 65  | 62  | 70  | 65  | 62  | 60  |
| 5   | 82  | 71  | 63  | 57  | 80  | 70  | 62  | 57  | 68  | 61  | 56  | 66  | 60  | 55  | 64  | 59  | 55  | 64  | 59  | 55  | 53  |
| 6   | 76  | 64  | 56  | 51  | 74  | 63  | 56  | 51  | 62  | 55  | 50  | 60  | 54  | 50  | 59  | 53  | 49  | 59  | 53  | 49  | 47  |
| 7   | 71  | 59  | 51  | 46  | 69  | 58  | 51  | 45  | 57  | 50  | 45  | 55  | 49  | 45  | 54  | 49  | 45  | 54  | 49  | 45  | 43  |
| 8   | 66  | 54  | 47  | 41  | 65  | 54  | 46  | 41  | 52  | 46  | 41  | 51  | 45  | 41  | 50  | 44  | 40  | 50  | 44  | 40  | 39  |
| 9   | 62  | 50  | 43  | 38  | 61  | 50  | 42  | 37  | 48  | 42  | 37  | 47  | 41  | 37  | 46  | 41  | 37  | 46  | 41  | 37  | 35  |
| 10  | 59  | 46  | 39  | 34  | 57  | 46  | 39  | 34  | 45  | 39  | 34  | 44  | 38  | 34  | 43  | 38  | 34  | 43  | 38  | 34  | 32  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 19624 | 19624 | 19624 |
| 5°  | 19797 | 19503 | 19617 |
| 10° | 19922 | 19546 | 19574 |
| 15° | 20119 | 19630 | 19427 |
| 20° | 20403 | 19647 | 19167 |
| 25° | 20784 | 19561 | 18519 |
| 30° | 21267 | 19255 | 17355 |
| 35° | 21875 | 18513 | 14922 |
| 40° | 22654 | 16261 | 11029 |
| 45° | 23652 | 11734 | 7417  |
| 50° | 24751 | 6555  | 4427  |
| 55° | 26016 | 3390  | 2424  |
| 60° | 27214 | 2204  | 1715  |
| 65° | 26751 | 1812  | 1362  |
| 70° | 22559 | 1667  | 1271  |
| 75° | 16593 | 1700  | 1365  |
| 80° | 11067 | 2000  | 1718  |
| 85° | 6041  | 3237  | 2617  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 62.5°  
 Luminance: 27446 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 183.0  | 4.6       |
| 10°-20°   | 528.7  | 13.4      |
| 20°-30°   | 804.3  | 20.4      |
| 30°-40°   | 918.5  | 23.3      |
| 40°-50°   | 741.0  | 18.8      |
| 50°-60°   | 405.6  | 10.3      |
| 60°-70°   | 213.9  | 5.4       |
| 70°-80°   | 104.9  | 2.7       |
| 80°-90°   | 37.0   | 0.9       |
| 90°-100°  | 8.0    | 0.2       |
| 100°-110° | 1.1    | 0.0       |
| 110°-120° | 0.6    | 0.0       |
| 120°-130° | 0.6    | 0.0       |
| 130°-140° | 0.6    | 0.0       |
| 140°-150° | 0.8    | 0.0       |
| 150°-160° | 0.7    | 0.0       |
| 160°-170° | 0.5    | 0.0       |
| 170°-180° | 0.2    | 0.0       |
| 0°-30°    | 1516.0 | 38.4      |
| 0°-40°    | 2434.5 | 61.6      |
| 0°-60°    | 3581.2 | 90.7      |
| 0°-90°    | 3936.9 | 99.7      |
| 90°-120°  | 9.7    | 0.2       |
| 90°-150°  | 11.7   | 0.3       |
| 90°-180°  | 13.0   | 0.3       |
| 0°-180°   | 3950.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1927 | 1927  | 1927 | 1927  | 1927 |      |
| 5°   | 1936 | 1931  | 1908 | 1925  | 1919 | 184  |
| 15°  | 1908 | 1896  | 1862 | 1859  | 1843 | 540  |
| 25°  | 1850 | 1823  | 1741 | 1682  | 1648 | 855  |
| 35°  | 1760 | 1685  | 1489 | 1286  | 1200 | 1104 |
| 45°  | 1642 | 1411  | 815  | 557   | 515  | 1267 |
| 55°  | 1465 | 603   | 191  | 148   | 136  | 1307 |
| 65°  | 1110 | 139   | 75   | 61    | 56   | 1074 |
| 75°  | 422  | 78    | 43   | 36    | 35   | 466  |
| 85°  | 52   | 41    | 28   | 25    | 22   | 71   |
| 90°  | 2    | 21    | 17   | 15    | 14   | 3    |
| 95°  | 2    | 3     | 6    | 9     | 8    | 1    |
| 105° | 0    | 0     | 0    | 1     | 1    | 1    |
| 115° | 0    | 0     | 0    | 1     | 0    | 0    |
| 125° | 0    | 0     | 0    | 1     | 0    | 0    |
| 135° | 0    | 0     | 1    | 1     | 0    | 0    |
| 145° | 1    | 1     | 1    | 2     | 1    | 1    |
| 155° | 1    | 1     | 2    | 2     | 2    | 1    |
| 165° | 1    | 2     | 2    | 2     | 2    | 0    |
| 175° | 2    | 2     | 2    | 3     | 2    | 0    |
| 180° | 2    | 2     | 2    | 2     | 2    |      |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1926.9 | 1926.9 | 1926.9 | 1926.9 | 1926.9 |
| 2.5°   | 1938.6 | 1933.3 | 1911.4 | 1930.1 | 1924.8 |
| 5°     | 1936.5 | 1930.6 | 1907.7 | 1924.8 | 1918.9 |
| 7.5°   | 1932.7 | 1925.3 | 1900.2 | 1915.7 | 1906.6 |
| 10°    | 1926.4 | 1918.9 | 1890.1 | 1902.4 | 1892.8 |
| 12.5°  | 1918.9 | 1908.8 | 1876.8 | 1883.2 | 1870.9 |
| 15°    | 1908.2 | 1896.5 | 1861.8 | 1858.6 | 1842.6 |
| 17.5°  | 1896.5 | 1882.1 | 1840.0 | 1826.1 | 1806.9 |
| 20°    | 1882.6 | 1865.0 | 1812.8 | 1785.6 | 1768.5 |
| 22.5°  | 1867.2 | 1844.2 | 1778.7 | 1737.1 | 1710.4 |
| 25°    | 1849.6 | 1822.9 | 1740.8 | 1681.6 | 1648.0 |
| 27.5°  | 1830.9 | 1794.7 | 1695.0 | 1617.1 | 1571.8 |
| 30°    | 1808.5 | 1764.8 | 1637.4 | 1532.3 | 1475.8 |
| 32.5°  | 1786.1 | 1727.5 | 1575.5 | 1423.0 | 1355.9 |
| 35°    | 1759.5 | 1685.4 | 1489.1 | 1286.5 | 1200.2 |
| 37.5°  | 1734.4 | 1634.7 | 1372.4 | 1115.4 | 1022.6 |
| 40°    | 1704.0 | 1575.0 | 1223.1 | 918.7  | 829.6  |
| 42.5°  | 1675.2 | 1505.7 | 1029.6 | 728.8  | 651.5  |
| 45°    | 1642.2 | 1410.8 | 814.7  | 556.6  | 515.0  |
| 47.5°  | 1603.8 | 1281.2 | 592.4  | 414.3  | 388.1  |
| 50°    | 1562.2 | 1103.1 | 413.7  | 300.7  | 279.4  |
| 52.5°  | 1516.3 | 862.7  | 278.8  | 209.0  | 197.3  |
| 55°    | 1465.2 | 603.0  | 190.9  | 147.7  | 136.5  |
| 57.5°  | 1406.0 | 392.4  | 138.6  | 111.4  | 104.0  |
| 60°    | 1336.1 | 250.6  | 108.2  | 88.5   | 84.2   |
| 62.5°  | 1244.4 | 175.9  | 89.0   | 73.0   | 69.3   |
| 65°    | 1110.1 | 139.2  | 75.2   | 60.8   | 56.5   |
| 67.5°  | 940.0  | 117.8  | 64.5   | 51.2   | 48.5   |
| 70°    | 757.6  | 102.4  | 56.0   | 44.3   | 42.7   |
| 72.5°  | 582.2  | 89.6   | 48.5   | 39.5   | 38.4   |
| 75°    | 421.7  | 78.4   | 43.2   | 36.3   | 34.7   |
| 77.5°  | 292.2  | 67.7   | 38.4   | 32.5   | 31.5   |
| 80°    | 188.7  | 58.6   | 34.1   | 29.9   | 29.3   |
| 82.5°  | 108.2  | 49.1   | 30.9   | 28.8   | 28.3   |
| 85°    | 51.7   | 41.1   | 27.7   | 25.1   | 22.4   |
| 87.5°  | 16.5   | 30.4   | 21.9   | 19.2   | 17.1   |
| 90°    | 2.1    | 21.3   | 17.1   | 14.9   | 13.9   |
| 92.5°  | 2.1    | 11.7   | 12.3   | 12.3   | 11.7   |
| 95°    | 1.6    | 2.7    | 5.9    | 9.1    | 8.5    |
| 97.5°  | 1.6    | 1.1    | 3.7    | 6.4    | 6.4    |
| 100°   | 1.1    | 0.5    | 1.6    | 4.3    | 4.3    |
| 102.5° | 1.1    | 0.5    | 0.5    | 2.7    | 2.7    |
| 105°   | 0.5    | 0.0    | 0.5    | 1.1    | 1.1    |
| 107.5° | 0.5    | 0.5    | 0.5    | 1.1    | 0.5    |
| 110°   | 0.5    | 0.5    | 0.5    | 1.1    | 0.5    |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 112.5° | 0.5 | 0.5   | 0.5 | 1.1   | 0.5 |
| 115°   | 0.5 | 0.5   | 0.5 | 1.1   | 0.5 |
| 117.5° | 0.5 | 0.5   | 0.5 | 1.1   | 0.5 |
| 120°   | 0.5 | 0.5   | 0.5 | 1.1   | 0.5 |
| 122.5° | 0.5 | 0.5   | 0.5 | 1.1   | 0.5 |
| 125°   | 0.5 | 0.5   | 0.5 | 1.1   | 0.5 |
| 127.5° | 0.5 | 0.5   | 0.5 | 1.1   | 0.5 |
| 130°   | 0.5 | 0.5   | 1.1 | 1.1   | 0.5 |
| 132.5° | 0.5 | 0.5   | 1.1 | 1.1   | 0.5 |
| 135°   | 0.5 | 0.5   | 1.1 | 1.1   | 0.5 |
| 137.5° | 0.5 | 0.5   | 1.1 | 1.1   | 1.1 |
| 140°   | 1.1 | 0.5   | 1.1 | 1.1   | 1.1 |
| 142.5° | 1.1 | 1.1   | 1.1 | 1.6   | 1.1 |
| 145°   | 1.1 | 1.1   | 1.1 | 1.6   | 1.1 |
| 147.5° | 1.1 | 1.1   | 1.6 | 1.6   | 1.1 |
| 150°   | 1.1 | 1.1   | 1.6 | 1.6   | 1.1 |
| 152.5° | 1.1 | 1.1   | 1.6 | 1.6   | 1.6 |
| 155°   | 1.1 | 1.1   | 1.6 | 2.1   | 1.6 |
| 157.5° | 1.1 | 1.1   | 1.6 | 2.1   | 1.6 |
| 160°   | 1.1 | 1.6   | 2.1 | 2.1   | 1.6 |
| 162.5° | 1.1 | 1.6   | 2.1 | 2.1   | 2.1 |
| 165°   | 1.1 | 1.6   | 2.1 | 2.1   | 2.1 |
| 167.5° | 1.6 | 1.6   | 2.1 | 2.7   | 2.1 |
| 170°   | 1.6 | 1.6   | 2.1 | 2.7   | 2.1 |
| 172.5° | 1.6 | 1.6   | 2.1 | 2.7   | 2.1 |
| 175°   | 1.6 | 1.6   | 2.1 | 2.7   | 2.1 |
| 177.5° | 1.6 | 1.6   | 2.1 | 2.7   | 2.7 |
| 180°   | 2.1 | 2.1   | 2.1 | 2.1   | 2.1 |



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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 | 20.25            | 21.65 | 20.62 | 21.97 | 22.29 | 8.76           | 10.16 | 9.13  | 10.48 | 10.80 |
|                 | 3H   | 23.16            | 24.40 | 23.54 | 24.74 | 25.11 | 9.70           | 10.94 | 10.08 | 11.28 | 11.65 |
|                 | 4H   | 24.05            | 25.21 | 24.46 | 25.57 | 25.96 | 10.22          | 11.38 | 10.62 | 11.74 | 12.13 |
|                 | 6H   | 24.55            | 25.62 | 24.97 | 25.99 | 26.40 | 10.85          | 11.92 | 11.27 | 12.30 | 12.70 |
|                 | 8H   | 24.66            | 25.68 | 25.10 | 26.07 | 26.49 | 11.27          | 12.29 | 11.71 | 12.68 | 13.10 |
|                 | 12H  | 24.70            | 25.68 | 25.14 | 26.07 | 26.50 | 11.72          | 12.69 | 12.16 | 13.08 | 13.52 |
| 4H              | 2H   | 20.06            | 21.23 | 20.47 | 21.58 | 21.97 | 9.28           | 10.44 | 9.69  | 10.80 | 11.19 |
|                 | 3H   | 22.99            | 23.95 | 23.41 | 24.36 | 24.77 | 10.47          | 11.43 | 10.89 | 11.84 | 12.25 |
|                 | 4H   | 23.89            | 24.75 | 24.33 | 25.17 | 25.62 | 11.14          | 12.00 | 11.58 | 12.42 | 12.87 |
|                 | 6H   | 24.49            | 25.23 | 24.95 | 25.68 | 26.15 | 11.97          | 12.71 | 12.43 | 13.16 | 13.63 |
|                 | 8H   | 24.65            | 25.34 | 25.12 | 25.79 | 26.27 | 12.50          | 13.19 | 12.97 | 13.64 | 14.12 |
|                 | 12H  | 24.74            | 25.36 | 25.23 | 25.84 | 26.32 | 13.08          | 13.69 | 13.57 | 14.18 | 14.66 |
| 8H              | 4H   | 23.78            | 24.48 | 24.26 | 24.93 | 25.41 | 11.73          | 12.43 | 12.21 | 12.88 | 13.36 |
|                 | 6H   | 24.38            | 24.95 | 24.89 | 25.46 | 25.94 | 12.74          | 13.31 | 13.24 | 13.81 | 14.30 |
|                 | 8H   | 24.57            | 25.09 | 25.10 | 25.60 | 26.10 | 13.41          | 13.93 | 13.94 | 14.45 | 14.94 |
|                 | 12H  | 24.72            | 25.17 | 25.24 | 25.67 | 26.25 | 14.18          | 14.64 | 14.70 | 15.14 | 15.71 |
| 12H             | 4H   | 23.75            | 24.36 | 24.24 | 24.85 | 25.33 | 11.99          | 12.61 | 12.48 | 13.10 | 13.58 |
|                 | 6H   | 24.33            | 24.85 | 24.86 | 25.37 | 25.86 | 13.05          | 13.56 | 13.57 | 14.08 | 14.58 |
|                 | 8H   | 24.55            | 25.00 | 25.07 | 25.50 | 26.08 | 13.81          | 14.27 | 14.33 | 14.77 | 15.34 |