

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: P893463

Luminaire Tested: 4MB-4SL-A-UNV-L940

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893463  
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-L940  
Description: 4000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTIC, 90CRI, 4000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

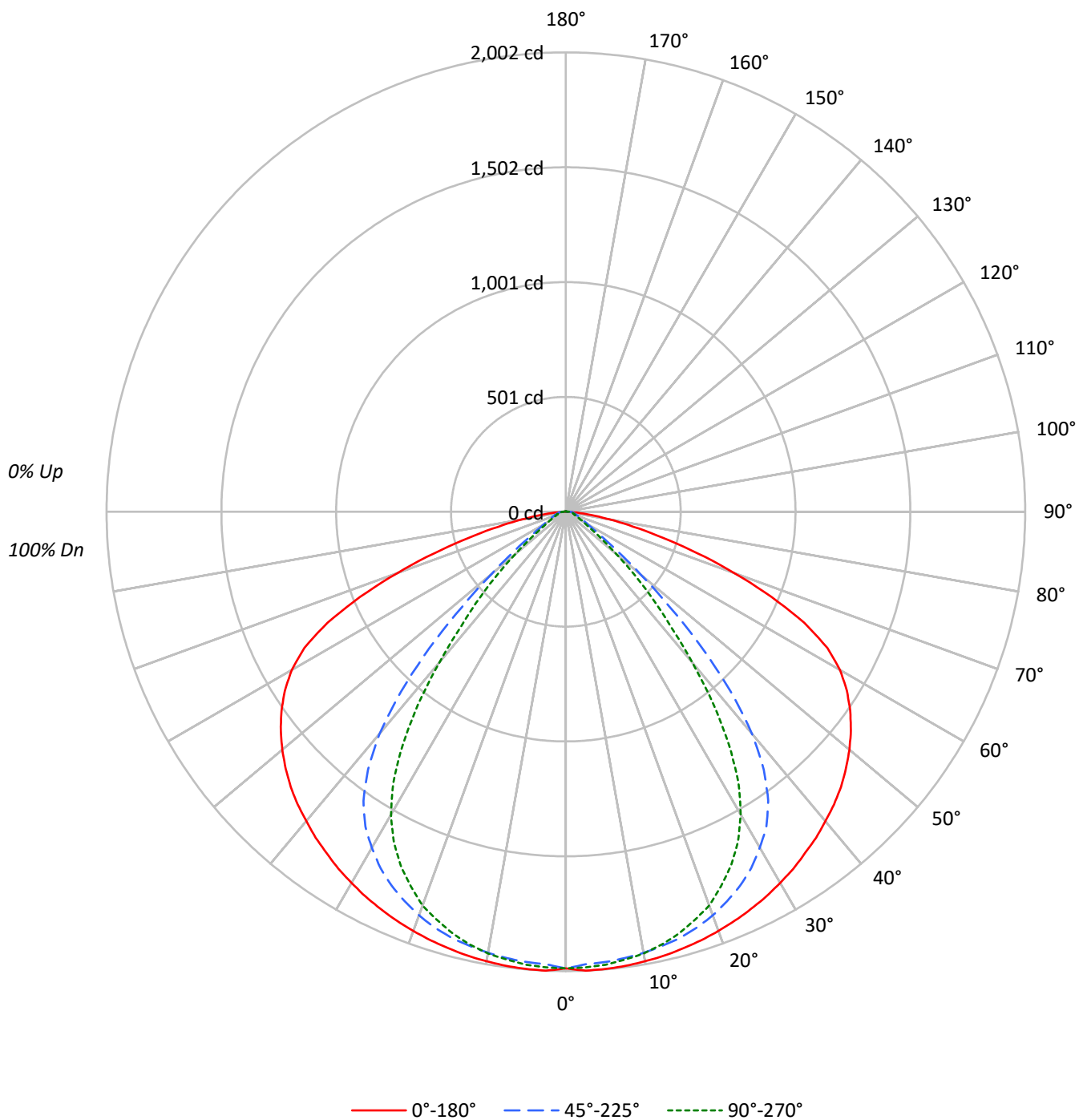
Lumens per Lamp: N/A  
Luminaire Lumens: 4079.2 lumens  
Efficiency: N/A  
Efficacy: 136.9 lumens/watt  
Spacing Criteria (0/90/45): 1.4 / 1.15 / 1.23  
Luminous Opening: Rectangular (W 0.27' x L: 3.98' x H: 0')  
CIE Type: Direct

Input Watts (W): 29.8  
Input Voltage (V): 120  
Input Current (Ain): 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  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 111 | 107 | 103 | 100 | 108 | 105 | 102 | 99  | 100 | 98  | 96  |  | 97  | 95  | 93  |  | 93  |
| 2   | 103 | 96  | 90  | 85  | 100 | 94  | 89  | 84  | 91  | 86  | 82  |  | 87  | 84  | 81  |  | 84  |
| 3   | 95  | 86  | 79  | 74  | 93  | 85  | 78  | 73  | 82  | 76  | 72  |  | 79  | 74  | 71  |  | 77  |
| 4   | 88  | 78  | 70  | 65  | 86  | 77  | 70  | 64  | 74  | 68  | 63  |  | 72  | 67  | 62  |  | 70  |
| 5   | 82  | 71  | 63  | 57  | 80  | 70  | 62  | 57  | 68  | 61  | 56  |  | 66  | 60  | 55  |  | 64  |
| 6   | 76  | 64  | 56  | 51  | 74  | 63  | 56  | 51  | 62  | 55  | 50  |  | 60  | 54  | 50  |  | 59  |
| 7   | 71  | 59  | 51  | 46  | 69  | 58  | 51  | 45  | 57  | 50  | 45  |  | 55  | 49  | 45  |  | 54  |
| 8   | 66  | 54  | 47  | 41  | 65  | 54  | 46  | 41  | 52  | 46  | 41  |  | 51  | 45  | 41  |  | 50  |
| 9   | 62  | 50  | 43  | 38  | 61  | 50  | 42  | 37  | 48  | 42  | 37  |  | 47  | 41  | 37  |  | 46  |
| 10  | 59  | 46  | 39  | 34  | 57  | 46  | 39  | 34  | 45  | 39  | 34  |  | 44  | 38  | 34  |  | 43  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 20265 | 20265 | 20265 |
| 5°  | 20443 | 20140 | 20258 |
| 10° | 20572 | 20184 | 20213 |
| 15° | 20776 | 20271 | 20062 |
| 20° | 21070 | 20288 | 19793 |
| 25° | 21463 | 20201 | 19124 |
| 30° | 21962 | 19883 | 17922 |
| 35° | 22589 | 19119 | 15409 |
| 40° | 23394 | 16791 | 11389 |
| 45° | 24424 | 12117 | 7661  |
| 50° | 25559 | 6770  | 4571  |
| 55° | 26864 | 3500  | 2502  |
| 60° | 28104 | 2277  | 1772  |
| 65° | 27623 | 1870  | 1407  |
| 70° | 23297 | 1721  | 1310  |
| 75° | 17136 | 1755  | 1409  |
| 80° | 11431 | 2064  | 1777  |
| 85° | 6240  | 3342  | 2699  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 62.5°

Luminance: 28344 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 188.9  | 4.6       |
| 10°-20°   | 546.0  | 13.4      |
| 20°-30°   | 830.5  | 20.4      |
| 30°-40°   | 948.5  | 23.3      |
| 40°-50°   | 765.2  | 18.8      |
| 50°-60°   | 418.9  | 10.3      |
| 60°-70°   | 220.9  | 5.4       |
| 70°-80°   | 108.3  | 2.7       |
| 80°-90°   | 38.2   | 0.9       |
| 90°-100°  | 8.2    | 0.2       |
| 100°-110° | 1.2    | 0.0       |
| 110°-120° | 0.7    | 0.0       |
| 120°-130° | 0.7    | 0.0       |
| 130°-140° | 0.7    | 0.0       |
| 140°-150° | 0.8    | 0.0       |
| 150°-160° | 0.7    | 0.0       |
| 160°-170° | 0.6    | 0.0       |
| 170°-180° | 0.2    | 0.0       |
| 0°-30°    | 1565.5 | 38.4      |
| 0°-40°    | 2514.0 | 61.6      |
| 0°-60°    | 3698.1 | 90.7      |
| 0°-90°    | 4065.4 | 99.7      |
| 90°-120°  | 10.1   | 0.2       |
| 90°-150°  | 12.2   | 0.3       |
| 90°-180°  | 14.0   | 0.3       |
| 0°-180°   | 4079.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1990 | 1990  | 1990 | 1990  | 1990 |      |
| 5°   | 2000 | 1994  | 1970 | 1988  | 1982 | 191  |
| 15°  | 1970 | 1958  | 1923 | 1919  | 1903 | 558  |
| 25°  | 1910 | 1882  | 1798 | 1736  | 1702 | 882  |
| 35°  | 1817 | 1740  | 1538 | 1329  | 1239 | 1140 |
| 45°  | 1696 | 1457  | 841  | 575   | 532  | 1309 |
| 55°  | 1513 | 623   | 197  | 152   | 141  | 1350 |
| 65°  | 1146 | 144   | 78   | 63    | 58   | 1109 |
| 75°  | 436  | 81    | 45   | 37    | 36   | 481  |
| 85°  | 53   | 42    | 29   | 26    | 23   | 74   |
| 90°  | 2    | 22    | 18   | 15    | 14   | 3    |
| 95°  | 2    | 3     | 6    | 9     | 9    | 1    |
| 105° | 1    | 0     | 1    | 1     | 1    | 1    |
| 115° | 1    | 1     | 1    | 1     | 1    | 1    |
| 125° | 1    | 1     | 1    | 1     | 1    | 1    |
| 135° | 1    | 1     | 1    | 1     | 1    | 1    |
| 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°     | 1989.8 | 1989.8 | 1989.8 | 1989.8 | 1989.8 |
| 2.5°   | 2001.9 | 1996.4 | 1973.8 | 1993.1 | 1987.6 |
| 5°     | 1999.7 | 1993.7 | 1970.0 | 1987.6 | 1981.6 |
| 7.5°   | 1995.9 | 1988.2 | 1962.3 | 1978.3 | 1968.9 |
| 10°    | 1989.3 | 1981.6 | 1951.8 | 1964.5 | 1954.6 |
| 12.5°  | 1981.6 | 1971.1 | 1938.1 | 1944.7 | 1932.0 |
| 15°    | 1970.5 | 1958.4 | 1922.6 | 1919.3 | 1902.8 |
| 17.5°  | 1958.4 | 1943.6 | 1900.1 | 1885.8 | 1865.9 |
| 20°    | 1944.1 | 1925.9 | 1872.0 | 1843.9 | 1826.3 |
| 22.5°  | 1928.1 | 1904.5 | 1836.7 | 1793.8 | 1766.3 |
| 25°    | 1910.0 | 1882.4 | 1797.7 | 1736.5 | 1701.9 |
| 27.5°  | 1890.7 | 1853.3 | 1750.3 | 1669.9 | 1623.1 |
| 30°    | 1867.6 | 1822.4 | 1690.8 | 1582.4 | 1524.0 |
| 32.5°  | 1844.5 | 1783.9 | 1627.0 | 1469.5 | 1400.1 |
| 35°    | 1816.9 | 1740.4 | 1537.8 | 1328.6 | 1239.4 |
| 37.5°  | 1791.1 | 1688.1 | 1417.2 | 1151.8 | 1056.0 |
| 40°    | 1759.7 | 1626.4 | 1263.0 | 948.7  | 856.7  |
| 42.5°  | 1729.9 | 1554.9 | 1063.2 | 752.6  | 672.8  |
| 45°    | 1695.8 | 1456.8 | 841.3  | 574.8  | 531.9  |
| 47.5°  | 1656.2 | 1323.1 | 611.7  | 427.8  | 400.8  |
| 50°    | 1613.2 | 1139.2 | 427.3  | 310.5  | 288.5  |
| 52.5°  | 1565.9 | 890.8  | 288.0  | 215.8  | 203.7  |
| 55°    | 1513.0 | 622.7  | 197.1  | 152.5  | 140.9  |
| 57.5°  | 1451.9 | 405.2  | 143.2  | 115.1  | 107.4  |
| 60°    | 1379.8 | 258.8  | 111.8  | 91.4   | 87.0   |
| 62.5°  | 1285.1 | 181.7  | 91.9   | 75.4   | 71.6   |
| 65°    | 1146.3 | 143.7  | 77.6   | 62.8   | 58.4   |
| 67.5°  | 970.7  | 121.7  | 66.6   | 52.9   | 50.1   |
| 70°    | 782.4  | 105.7  | 57.8   | 45.7   | 44.0   |
| 72.5°  | 601.2  | 92.5   | 50.1   | 40.7   | 39.6   |
| 75°    | 435.5  | 80.9   | 44.6   | 37.4   | 35.8   |
| 77.5°  | 301.7  | 69.9   | 39.6   | 33.6   | 32.5   |
| 80°    | 194.9  | 60.6   | 35.2   | 30.8   | 30.3   |
| 82.5°  | 111.8  | 50.7   | 31.9   | 29.7   | 29.2   |
| 85°    | 53.4   | 42.4   | 28.6   | 25.9   | 23.1   |
| 87.5°  | 17.1   | 31.4   | 22.6   | 19.8   | 17.6   |
| 90°    | 2.2    | 22.0   | 17.6   | 15.4   | 14.3   |
| 92.5°  | 2.2    | 12.1   | 12.7   | 12.7   | 12.1   |
| 95°    | 1.7    | 2.8    | 6.1    | 9.4    | 8.8    |
| 97.5°  | 1.7    | 1.1    | 3.9    | 6.6    | 6.6    |
| 100°   | 1.1    | 0.6    | 1.7    | 4.4    | 4.4    |
| 102.5° | 1.1    | 0.6    | 0.6    | 2.8    | 2.8    |
| 105°   | 0.6    | 0.0    | 0.6    | 1.1    | 1.1    |
| 107.5° | 0.6    | 0.6    | 0.6    | 1.1    | 0.6    |
| 110°   | 0.6    | 0.6    | 0.6    | 1.1    | 0.6    |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 112.5° | 0.6 | 0.6   | 0.6 | 1.1   | 0.6 |
| 115°   | 0.6 | 0.6   | 0.6 | 1.1   | 0.6 |
| 117.5° | 0.6 | 0.6   | 0.6 | 1.1   | 0.6 |
| 120°   | 0.6 | 0.6   | 0.6 | 1.1   | 0.6 |
| 122.5° | 0.6 | 0.6   | 0.6 | 1.1   | 0.6 |
| 125°   | 0.6 | 0.6   | 0.6 | 1.1   | 0.6 |
| 127.5° | 0.6 | 0.6   | 0.6 | 1.1   | 0.6 |
| 130°   | 0.6 | 0.6   | 1.1 | 1.1   | 0.6 |
| 132.5° | 0.6 | 0.6   | 1.1 | 1.1   | 0.6 |
| 135°   | 0.6 | 0.6   | 1.1 | 1.1   | 0.6 |
| 137.5° | 0.6 | 0.6   | 1.1 | 1.1   | 1.1 |
| 140°   | 1.1 | 0.6   | 1.1 | 1.1   | 1.1 |
| 142.5° | 1.1 | 1.1   | 1.1 | 1.7   | 1.1 |
| 145°   | 1.1 | 1.1   | 1.1 | 1.7   | 1.1 |
| 147.5° | 1.1 | 1.1   | 1.7 | 1.7   | 1.1 |
| 150°   | 1.1 | 1.1   | 1.7 | 1.7   | 1.1 |
| 152.5° | 1.1 | 1.1   | 1.7 | 1.7   | 1.7 |
| 155°   | 1.1 | 1.1   | 1.7 | 2.2   | 1.7 |
| 157.5° | 1.1 | 1.1   | 1.7 | 2.2   | 1.7 |
| 160°   | 1.1 | 1.7   | 2.2 | 2.2   | 1.7 |
| 162.5° | 1.1 | 1.7   | 2.2 | 2.2   | 2.2 |
| 165°   | 1.1 | 1.7   | 2.2 | 2.2   | 2.2 |
| 167.5° | 1.7 | 1.7   | 2.2 | 2.8   | 2.2 |
| 170°   | 1.7 | 1.7   | 2.2 | 2.8   | 2.2 |
| 172.5° | 1.7 | 1.7   | 2.2 | 2.8   | 2.2 |
| 175°   | 1.7 | 1.7   | 2.2 | 2.8   | 2.2 |
| 177.5° | 1.7 | 1.7   | 2.2 | 2.8   | 2.8 |
| 180°   | 2.2 | 2.2   | 2.2 | 2.2   | 2.2 |

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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 | 20.36            | 21.76 | 20.73 | 22.08 | 22.40 | 8.88           | 10.27 | 9.25  | 10.60 | 10.92 |
|                 | 3H   | 23.27            | 24.52 | 23.66 | 24.85 | 25.22 | 9.81           | 11.06 | 10.20 | 11.39 | 11.76 |
|                 | 4H   | 24.16            | 25.33 | 24.57 | 25.68 | 26.07 | 10.33          | 11.49 | 10.74 | 11.85 | 12.24 |
|                 | 6H   | 24.66            | 25.73 | 25.08 | 26.11 | 26.51 | 10.96          | 12.03 | 11.38 | 12.41 | 12.81 |
|                 | 8H   | 24.77            | 25.79 | 25.21 | 26.19 | 26.60 | 11.38          | 12.40 | 11.82 | 12.79 | 13.21 |
|                 | 12H  | 24.82            | 25.79 | 25.25 | 26.18 | 26.62 | 11.83          | 12.80 | 12.27 | 13.19 | 13.63 |
| 4H              | 2H   | 20.17            | 21.34 | 20.58 | 21.69 | 22.08 | 9.39           | 10.56 | 9.80  | 10.91 | 11.30 |
|                 | 3H   | 23.10            | 24.06 | 23.52 | 24.47 | 24.88 | 10.59          | 11.54 | 11.00 | 11.95 | 12.36 |
|                 | 4H   | 24.01            | 24.86 | 24.45 | 25.29 | 25.73 | 11.25          | 12.11 | 11.69 | 12.53 | 12.98 |
|                 | 6H   | 24.60            | 25.34 | 25.07 | 25.79 | 26.26 | 12.08          | 12.82 | 12.54 | 13.27 | 13.74 |
|                 | 8H   | 24.76            | 25.45 | 25.23 | 25.91 | 26.38 | 12.61          | 13.30 | 13.08 | 13.75 | 14.23 |
|                 | 12H  | 24.85            | 25.47 | 25.34 | 25.96 | 26.44 | 13.19          | 13.80 | 13.68 | 14.29 | 14.77 |
| 8H              | 4H   | 23.90            | 24.59 | 24.37 | 25.04 | 25.52 | 11.84          | 12.53 | 12.32 | 12.99 | 13.46 |
|                 | 6H   | 24.50            | 25.07 | 25.00 | 25.57 | 26.05 | 12.85          | 13.42 | 13.35 | 13.92 | 14.41 |
|                 | 8H   | 24.68            | 25.20 | 25.21 | 25.72 | 26.21 | 13.52          | 14.04 | 14.05 | 14.55 | 15.05 |
|                 | 12H  | 24.83            | 25.29 | 25.35 | 25.79 | 26.36 | 14.29          | 14.74 | 14.81 | 15.24 | 15.82 |
| 12H             | 4H   | 23.86            | 24.47 | 24.35 | 24.96 | 25.44 | 12.10          | 12.72 | 12.59 | 13.21 | 13.69 |
|                 | 6H   | 24.44            | 24.96 | 24.97 | 25.48 | 25.98 | 13.16          | 13.67 | 13.68 | 14.19 | 14.69 |
|                 | 8H   | 24.66            | 25.12 | 25.18 | 25.62 | 26.19 | 13.92          | 14.38 | 14.44 | 14.88 | 15.45 |