

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: P894097

Luminaire Tested: 4MB-SC3-A-UNV-CC93-MID-4000K

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894097
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-SC3-A-UNV-CC93-MID-4000K
Description: Selectable 4FT MICROBAY LINEAR BAY with AISLE OPTIC, 90CRI, 4000K CCT, MID lumen setting
Light Source: -
Ballast/Driver: -

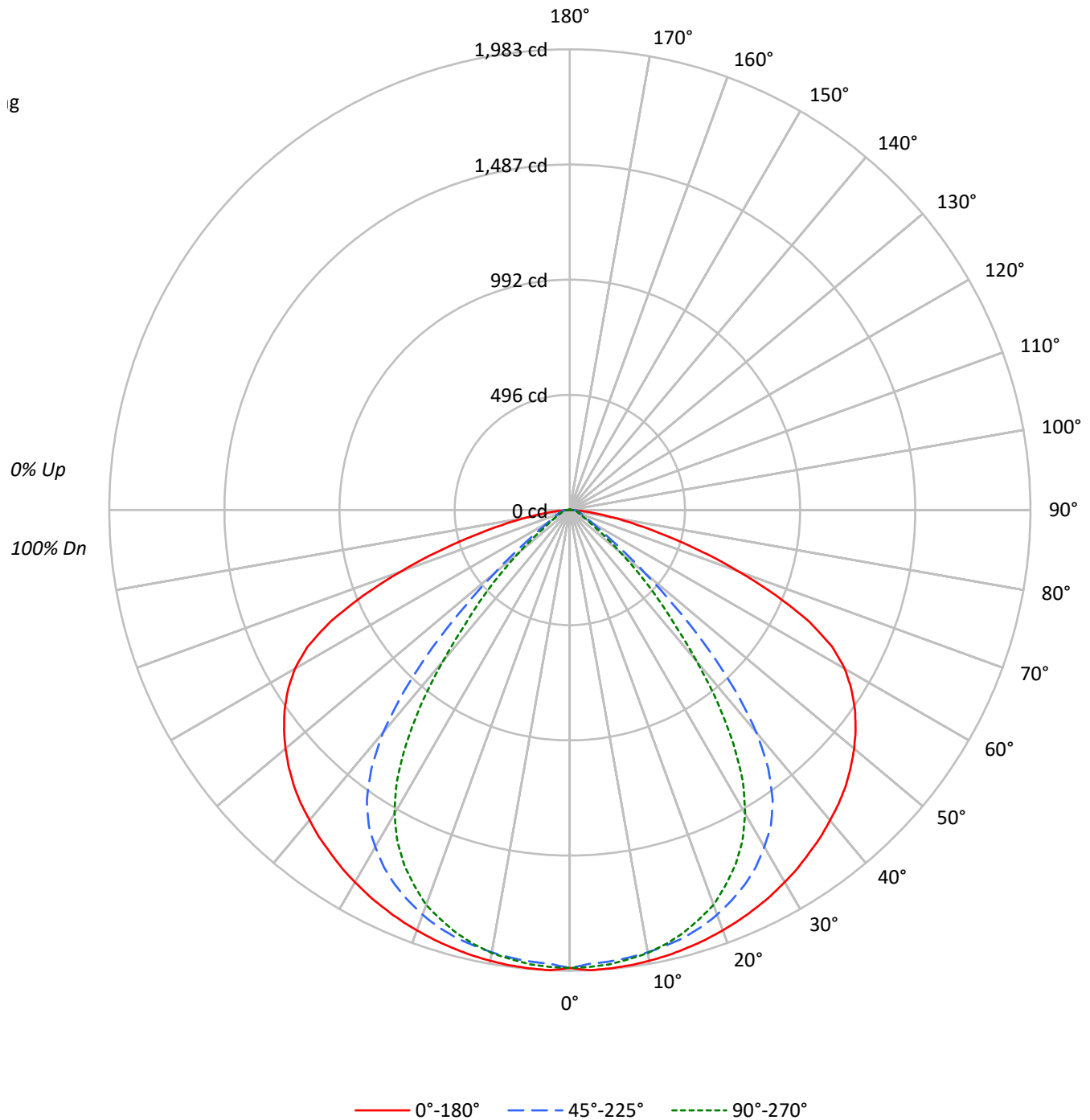
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4039.9 lumens
Efficiency: N/A
Efficacy: 120.6 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): 33.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9948
Total Harmonic Distortion (THDi): 5.65231997856897
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P894097
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Luminous Intensity Polar Plot





TEST NUMBER: P894097

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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 | 90 | 90 | 90 | 88 |
| 2 | 103 | 96 | 90 | 85 | 100 | 94 | 89 | 84 | 91 | 86 | 82 | 87 | 84 | 81 | 84 | 81 | 79 | 79 | 79 | 79 | 77 |
| 3 | 95 | 86 | 79 | 74 | 93 | 85 | 78 | 73 | 82 | 76 | 72 | 79 | 74 | 71 | 77 | 73 | 69 | 69 | 69 | 69 | 67 |
| 4 | 88 | 78 | 70 | 65 | 86 | 77 | 70 | 64 | 74 | 68 | 63 | 72 | 67 | 62 | 70 | 65 | 62 | 62 | 62 | 62 | 60 |
| 5 | 82 | 71 | 63 | 57 | 80 | 70 | 62 | 57 | 68 | 61 | 56 | 66 | 60 | 56 | 64 | 59 | 55 | 55 | 55 | 55 | 53 |
| 6 | 76 | 64 | 56 | 51 | 74 | 63 | 56 | 51 | 62 | 55 | 50 | 60 | 54 | 50 | 59 | 53 | 49 | 49 | 49 | 49 | 47 |
| 7 | 71 | 59 | 51 | 46 | 69 | 58 | 51 | 45 | 57 | 50 | 45 | 55 | 49 | 45 | 54 | 49 | 45 | 45 | 45 | 45 | 43 |
| 8 | 66 | 54 | 47 | 41 | 65 | 54 | 46 | 41 | 52 | 46 | 41 | 51 | 45 | 41 | 50 | 44 | 40 | 40 | 40 | 40 | 39 |
| 9 | 62 | 50 | 43 | 38 | 61 | 50 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 37 | 37 | 37 | 35 |
| 10 | 59 | 46 | 39 | 34 | 57 | 46 | 39 | 34 | 45 | 39 | 34 | 44 | 38 | 34 | 43 | 38 | 34 | 34 | 34 | 34 | 32 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 20071 | 20071 | 20071 |
| 5° | 20248 | 19947 | 20064 |
| 10° | 20374 | 19992 | 20020 |
| 15° | 20578 | 20078 | 19870 |
| 20° | 20868 | 20094 | 19603 |
| 25° | 21257 | 20008 | 18941 |
| 30° | 21752 | 19694 | 17750 |
| 35° | 22374 | 18936 | 15261 |
| 40° | 23170 | 16631 | 11280 |
| 45° | 24191 | 12000 | 7587 |
| 50° | 25315 | 6705 | 4527 |
| 55° | 26607 | 3466 | 2479 |
| 60° | 27835 | 2255 | 1756 |
| 65° | 27361 | 1853 | 1393 |
| 70° | 23074 | 1706 | 1298 |
| 75° | 16971 | 1739 | 1393 |
| 80° | 11319 | 2047 | 1759 |
| 85° | 6181 | 3319 | 2676 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 62.5°
 Luminance: 28073 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 187.1 | 4.6 |
| 10°-20° | 540.8 | 13.4 |
| 20°-30° | 822.6 | 20.4 |
| 30°-40° | 939.5 | 23.3 |
| 40°-50° | 757.9 | 18.8 |
| 50°-60° | 414.9 | 10.3 |
| 60°-70° | 218.7 | 5.4 |
| 70°-80° | 107.3 | 2.7 |
| 80°-90° | 37.8 | 0.9 |
| 90°-100° | 8.1 | 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° | 0.6 | 0.0 |
| 170°-180° | 0.2 | 0.0 |
| 0°-30° | 1550.5 | 38.4 |
| 0°-40° | 2490.0 | 61.6 |
| 0°-60° | 3662.8 | 90.7 |
| 0°-90° | 4026.6 | 99.7 |
| 90°-120° | 9.9 | 0.2 |
| 90°-150° | 11.9 | 0.3 |
| 90°-180° | 13.0 | 0.3 |
| 0°-180° | 4039.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 1971 | 1971 | 1971 | 1971 | 1971 | |
| 5° | 1981 | 1975 | 1951 | 1969 | 1963 | 189 |
| 15° | 1952 | 1940 | 1904 | 1901 | 1885 | 552 |
| 25° | 1892 | 1864 | 1780 | 1720 | 1686 | 874 |
| 35° | 1800 | 1724 | 1523 | 1316 | 1228 | 1129 |
| 45° | 1680 | 1443 | 833 | 569 | 527 | 1296 |
| 55° | 1498 | 617 | 195 | 151 | 140 | 1337 |
| 65° | 1135 | 142 | 77 | 62 | 58 | 1098 |
| 75° | 431 | 80 | 44 | 37 | 35 | 476 |
| 85° | 53 | 42 | 28 | 26 | 23 | 73 |
| 90° | 2 | 22 | 18 | 15 | 14 | 3 |
| 95° | 2 | 3 | 6 | 9 | 9 | 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 | |



TEST NUMBER: P894097

CATALOG NUMBER: 4MB-SC3-A-UNV-CC93-MID-4000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 1970.8 | 1970.8 | 1970.8 | 1970.8 | 1970.8 |
| 2.5° | 1982.8 | 1977.3 | 1955.0 | 1974.1 | 1968.6 |
| 5° | 1980.6 | 1974.6 | 1951.2 | 1968.6 | 1962.6 |
| 7.5° | 1976.8 | 1969.2 | 1943.5 | 1959.3 | 1950.1 |
| 10° | 1970.2 | 1962.6 | 1933.2 | 1945.7 | 1935.9 |
| 12.5° | 1962.6 | 1952.2 | 1919.5 | 1926.1 | 1913.5 |
| 15° | 1951.7 | 1939.7 | 1904.3 | 1901.0 | 1884.6 |
| 17.5° | 1939.7 | 1925.0 | 1881.9 | 1867.7 | 1848.1 |
| 20° | 1925.5 | 1907.5 | 1854.1 | 1826.3 | 1808.8 |
| 22.5° | 1909.7 | 1886.3 | 1819.2 | 1776.7 | 1749.4 |
| 25° | 1891.7 | 1864.4 | 1780.5 | 1719.9 | 1685.6 |
| 27.5° | 1872.6 | 1835.5 | 1733.6 | 1654.0 | 1607.6 |
| 30° | 1849.7 | 1805.0 | 1674.7 | 1567.3 | 1509.4 |
| 32.5° | 1826.8 | 1766.8 | 1611.4 | 1455.5 | 1386.7 |
| 35° | 1799.6 | 1723.8 | 1523.1 | 1315.9 | 1227.5 |
| 37.5° | 1773.9 | 1672.0 | 1403.7 | 1140.8 | 1045.9 |
| 40° | 1742.8 | 1610.9 | 1251.0 | 939.6 | 848.5 |
| 42.5° | 1713.4 | 1540.0 | 1053.0 | 745.5 | 666.4 |
| 45° | 1679.6 | 1442.9 | 833.2 | 569.3 | 526.8 |
| 47.5° | 1640.3 | 1310.4 | 605.9 | 423.7 | 397.0 |
| 50° | 1597.8 | 1128.3 | 423.2 | 307.6 | 285.7 |
| 52.5° | 1550.9 | 882.3 | 285.2 | 213.8 | 201.8 |
| 55° | 1498.5 | 616.8 | 195.2 | 151.1 | 139.6 |
| 57.5° | 1438.0 | 401.4 | 141.8 | 114.0 | 106.3 |
| 60° | 1366.6 | 256.3 | 110.7 | 90.5 | 86.2 |
| 62.5° | 1272.8 | 180.0 | 91.1 | 74.7 | 70.9 |
| 65° | 1135.4 | 142.3 | 76.9 | 62.2 | 57.8 |
| 67.5° | 961.4 | 120.5 | 66.0 | 52.4 | 49.6 |
| 70° | 774.9 | 104.7 | 57.3 | 45.3 | 43.6 |
| 72.5° | 595.5 | 91.6 | 49.6 | 40.4 | 39.3 |
| 75° | 431.3 | 80.2 | 44.2 | 37.1 | 35.4 |
| 77.5° | 298.8 | 69.3 | 39.3 | 33.3 | 32.2 |
| 80° | 193.0 | 60.0 | 34.9 | 30.5 | 30.0 |
| 82.5° | 110.7 | 50.2 | 31.6 | 29.4 | 28.9 |
| 85° | 52.9 | 42.0 | 28.4 | 25.6 | 22.9 |
| 87.5° | 16.9 | 31.1 | 22.4 | 19.6 | 17.5 |
| 90° | 2.2 | 21.8 | 17.5 | 15.3 | 14.2 |
| 92.5° | 2.2 | 12.0 | 12.5 | 12.5 | 12.0 |
| 95° | 1.6 | 2.7 | 6.0 | 9.3 | 8.7 |
| 97.5° | 1.6 | 1.1 | 3.8 | 6.5 | 6.5 |
| 100° | 1.1 | 0.5 | 1.6 | 4.4 | 4.4 |
| 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 |



TEST NUMBER: P894097

CATALOG NUMBER: 4MB-SC3-A-UNV-CC93-MID-4000K

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 | 2.2 | 1.6 |
| 157.5° | 1.1 | 1.1 | 1.6 | 2.2 | 1.6 |
| 160° | 1.1 | 1.6 | 2.2 | 2.2 | 1.6 |
| 162.5° | 1.1 | 1.6 | 2.2 | 2.2 | 2.2 |
| 165° | 1.1 | 1.6 | 2.2 | 2.2 | 2.2 |
| 167.5° | 1.6 | 1.6 | 2.2 | 2.7 | 2.2 |
| 170° | 1.6 | 1.6 | 2.2 | 2.7 | 2.2 |
| 172.5° | 1.6 | 1.6 | 2.2 | 2.7 | 2.2 |
| 175° | 1.6 | 1.6 | 2.2 | 2.7 | 2.2 |
| 177.5° | 1.6 | 1.6 | 2.2 | 2.7 | 2.7 |
| 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 | 20.33 | 21.73 | 20.70 | 22.05 | 22.37 | 8.84 | 10.24 | 9.21 | 10.56 | 10.89 |
| | 3H | 23.24 | 24.48 | 23.62 | 24.82 | 25.19 | 9.78 | 11.02 | 10.16 | 11.36 | 11.73 |
| | 4H | 24.13 | 25.29 | 24.54 | 25.65 | 26.04 | 10.30 | 11.46 | 10.70 | 11.82 | 12.20 |
| | 6H | 24.63 | 25.70 | 25.05 | 26.07 | 26.47 | 10.93 | 12.00 | 11.35 | 12.38 | 12.78 |
| | 8H | 24.74 | 25.76 | 25.17 | 26.15 | 26.56 | 11.35 | 12.36 | 11.78 | 12.76 | 13.17 |
| | 12H | 24.78 | 25.75 | 25.22 | 26.14 | 26.58 | 11.80 | 12.77 | 12.23 | 13.16 | 13.59 |
| 4H | 2H | 20.14 | 21.30 | 20.55 | 21.66 | 22.05 | 9.36 | 10.52 | 9.77 | 10.88 | 11.27 |
| | 3H | 23.07 | 24.03 | 23.49 | 24.43 | 24.85 | 10.55 | 11.51 | 10.97 | 11.92 | 12.33 |
| | 4H | 23.97 | 24.83 | 24.41 | 25.25 | 25.70 | 11.22 | 12.08 | 11.66 | 12.50 | 12.95 |
| | 6H | 24.57 | 25.31 | 25.03 | 25.76 | 26.23 | 12.04 | 12.78 | 12.51 | 13.24 | 13.71 |
| | 8H | 24.73 | 25.42 | 25.20 | 25.87 | 26.35 | 12.57 | 13.27 | 13.05 | 13.72 | 14.20 |
| | 12H | 24.82 | 25.43 | 25.31 | 25.92 | 26.40 | 13.15 | 13.77 | 13.64 | 14.26 | 14.74 |
| 8H | 4H | 23.86 | 24.56 | 24.34 | 25.01 | 25.49 | 11.81 | 12.50 | 12.28 | 12.96 | 13.43 |
| | 6H | 24.46 | 25.03 | 24.97 | 25.53 | 26.02 | 12.82 | 13.39 | 13.32 | 13.89 | 14.37 |
| | 8H | 24.65 | 25.16 | 25.17 | 25.68 | 26.18 | 13.49 | 14.00 | 14.01 | 14.52 | 15.02 |
| | 12H | 24.80 | 25.25 | 25.31 | 25.75 | 26.33 | 14.25 | 14.71 | 14.77 | 15.21 | 15.79 |
| 12H | 4H | 23.83 | 24.44 | 24.32 | 24.93 | 25.41 | 12.07 | 12.69 | 12.56 | 13.18 | 13.66 |
| | 6H | 24.41 | 24.93 | 24.94 | 25.44 | 25.94 | 13.13 | 13.64 | 13.65 | 14.16 | 14.66 |
| | 8H | 24.63 | 25.08 | 25.15 | 25.58 | 26.16 | 13.89 | 14.34 | 14.41 | 14.84 | 15.42 |