

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: P894108

Luminaire Tested: 4MB-SC3-ACL-UNV-CC93-HI-3500K

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894108
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-15)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-SC3-ACL-UNV-CC93-HI-3500K
Description: Selectable 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS, 90CRI, 3500K CC
HI lumen setting
Light Source: -
Ballast/Driver: -

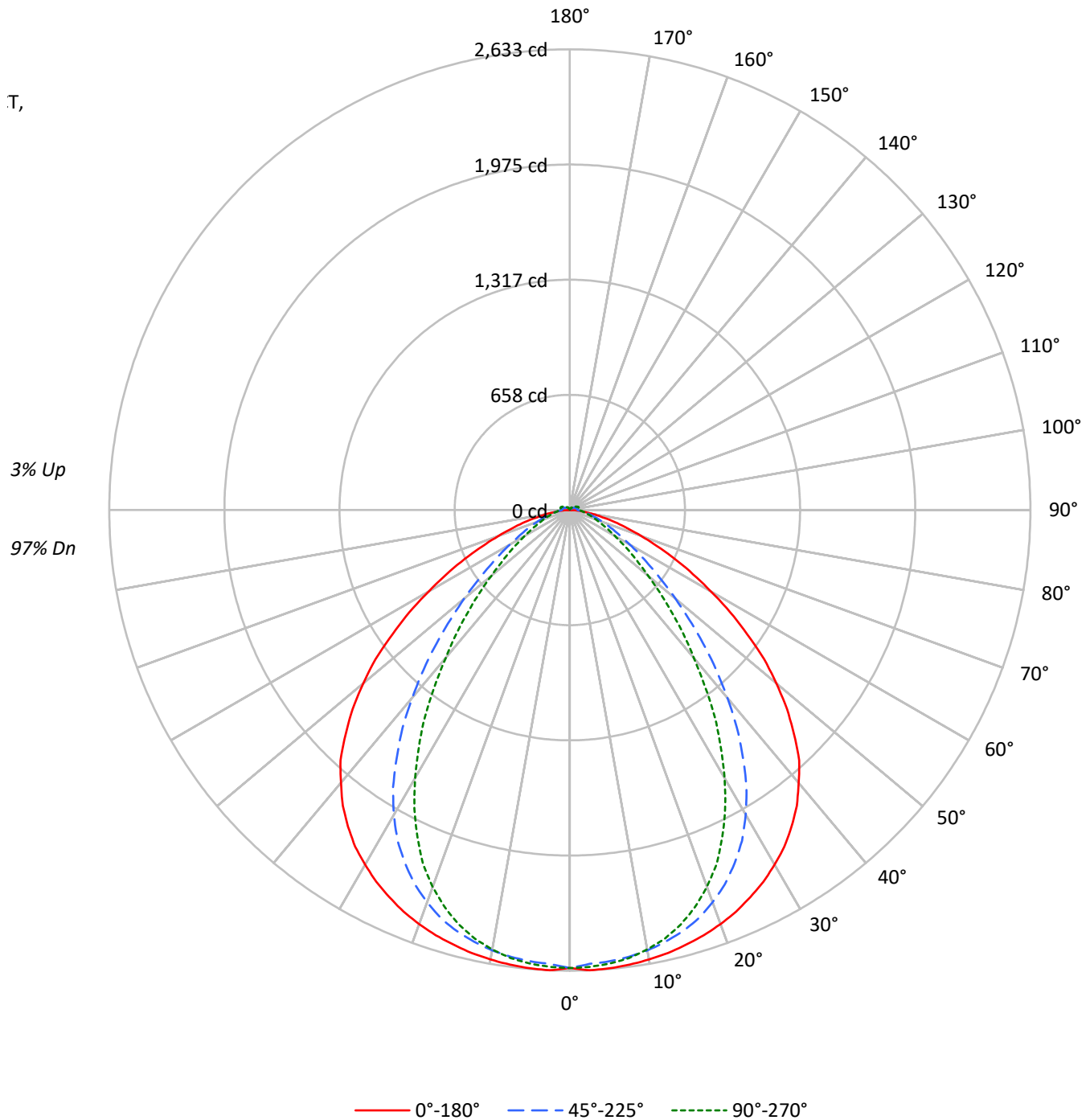
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5370.0 lumens
Efficiency: N/A
Efficacy: 105.9 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.06 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 3.98' x H: 0.08')
CIE Type: Direct

Input Watts (W): 50.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 5.39961257980444
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





TEST NUMBER: P894108

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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 | 118 | 118 | 118 | 118 | 115 | 115 | 115 | 115 | 110 | 110 | 110 | 104 | 104 | 104 | 100 | 100 | 100 | 97 | | | | 97 |
| 1 | 110 | 106 | 102 | 99 | 107 | 103 | 100 | 97 | 99 | 96 | 93 | 94 | 92 | 90 | 90 | 89 | 87 | 85 | | | | 85 |
| 2 | 101 | 94 | 88 | 84 | 99 | 92 | 87 | 82 | 88 | 84 | 80 | 85 | 81 | 78 | 82 | 79 | 76 | 74 | | | | 74 |
| 3 | 94 | 85 | 77 | 72 | 91 | 83 | 76 | 71 | 80 | 74 | 69 | 77 | 72 | 68 | 74 | 70 | 66 | 64 | | | | 64 |
| 4 | 87 | 76 | 68 | 62 | 84 | 75 | 67 | 62 | 72 | 66 | 61 | 69 | 64 | 60 | 67 | 62 | 59 | 57 | | | | 57 |
| 5 | 80 | 69 | 61 | 55 | 78 | 68 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 53 | 61 | 56 | 52 | 50 | | | | 50 |
| 6 | 75 | 63 | 55 | 49 | 73 | 62 | 54 | 49 | 60 | 53 | 48 | 58 | 52 | 47 | 56 | 51 | 47 | 45 | | | | 45 |
| 7 | 70 | 57 | 50 | 44 | 68 | 57 | 49 | 44 | 55 | 48 | 43 | 53 | 47 | 43 | 52 | 46 | 42 | 40 | | | | 40 |
| 8 | 65 | 53 | 45 | 40 | 64 | 52 | 45 | 40 | 51 | 44 | 39 | 49 | 43 | 39 | 48 | 42 | 38 | 37 | | | | 37 |
| 9 | 61 | 49 | 41 | 36 | 60 | 48 | 41 | 36 | 47 | 40 | 36 | 46 | 40 | 35 | 45 | 39 | 35 | 33 | | | | 33 |
| 10 | 58 | 45 | 38 | 33 | 56 | 45 | 38 | 33 | 44 | 37 | 33 | 43 | 37 | 32 | 42 | 36 | 32 | 31 | | | | 31 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 26659 | 26659 | 26659 |
| 5° | 26829 | 25936 | 25895 |
| 10° | 26877 | 25373 | 24987 |
| 15° | 26958 | 24713 | 23849 |
| 20° | 27089 | 23805 | 22293 |
| 25° | 27168 | 22544 | 20221 |
| 30° | 27195 | 20811 | 17617 |
| 35° | 27079 | 18391 | 14737 |
| 40° | 26598 | 15535 | 11597 |
| 45° | 25575 | 12541 | 8992 |
| 50° | 23810 | 9731 | 6746 |
| 55° | 21314 | 7450 | 5160 |
| 60° | 18311 | 5726 | 3931 |
| 65° | 15270 | 4516 | 3125 |
| 70° | 12212 | 3624 | 2553 |
| 75° | 9727 | 2920 | 2174 |
| 80° | 7124 | 2410 | 1902 |
| 85° | 4894 | 2048 | 1751 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 25575 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 248.0 | 4.6 |
| 10°-20° | 706.3 | 13.2 |
| 20°-30° | 1029.8 | 19.2 |
| 30°-40° | 1106.4 | 20.6 |
| 40°-50° | 920.8 | 17.1 |
| 50°-60° | 615.9 | 11.5 |
| 60°-70° | 352.6 | 6.6 |
| 70°-80° | 175.3 | 3.3 |
| 80°-90° | 71.7 | 1.3 |
| 90°-100° | 41.6 | 0.8 |
| 100°-110° | 36.7 | 0.7 |
| 110°-120° | 27.0 | 0.5 |
| 120°-130° | 17.3 | 0.3 |
| 130°-140° | 10.3 | 0.2 |
| 140°-150° | 5.8 | 0.1 |
| 150°-160° | 2.9 | 0.1 |
| 160°-170° | 1.2 | 0.0 |
| 170°-180° | 0.3 | 0.0 |
| 0°-30° | 1984.1 | 36.9 |
| 0°-40° | 3090.5 | 57.6 |
| 0°-60° | 4627.2 | 86.2 |
| 0°-90° | 5226.8 | 97.3 |
| 90°-120° | 105.3 | 2.0 |
| 90°-150° | 138.7 | 2.6 |
| 90°-180° | 143.0 | 2.7 |
| 0°-180° | 5370.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 2618 | 2618 | 2618 | 2618 | 2618 | |
| 5° | 2629 | 2621 | 2590 | 2611 | 2602 | 250 |
| 15° | 2571 | 2554 | 2492 | 2474 | 2452 | 727 |
| 25° | 2441 | 2383 | 2228 | 2115 | 2063 | 1126 |
| 35° | 2210 | 2050 | 1724 | 1512 | 1446 | 1380 |
| 45° | 1813 | 1507 | 1077 | 871 | 820 | 1394 |
| 55° | 1236 | 892 | 561 | 444 | 421 | 1107 |
| 65° | 662 | 449 | 282 | 229 | 217 | 662 |
| 75° | 266 | 194 | 140 | 124 | 120 | 286 |
| 85° | 52 | 58 | 65 | 68 | 69 | 61 |
| 90° | 8 | 24 | 44 | 53 | 54 | 7 |
| 95° | 12 | 24 | 44 | 53 | 54 | 9 |
| 105° | 8 | 20 | 39 | 51 | 54 | 8 |
| 115° | 4 | 12 | 30 | 42 | 46 | 4 |
| 125° | 2 | 8 | 21 | 30 | 34 | 2 |
| 135° | 2 | 6 | 14 | 21 | 23 | 1 |
| 145° | 2 | 5 | 9 | 14 | 16 | 1 |
| 155° | 2 | 4 | 6 | 8 | 11 | 1 |
| 165° | 2 | 3 | 5 | 5 | 7 | 1 |
| 175° | 2 | 2 | 3 | 3 | 3 | 0 |
| 180° | 2 | 2 | 2 | 2 | 2 | |



TEST NUMBER: P894108

CATALOG NUMBER: 4MB-SC3-ACL-UNV-CC93-HI-3500K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 2617.7 | 2617.7 | 2617.7 | 2617.7 | 2617.7 |
| 2.5° | 2633.0 | 2626.1 | 2596.4 | 2620.0 | 2613.2 |
| 5° | 2629.2 | 2620.8 | 2589.5 | 2610.9 | 2602.5 |
| 7.5° | 2620.8 | 2611.6 | 2575.7 | 2592.5 | 2583.4 |
| 10° | 2608.6 | 2597.1 | 2555.9 | 2564.3 | 2549.8 |
| 12.5° | 2593.3 | 2578.8 | 2527.6 | 2525.3 | 2509.3 |
| 15° | 2571.2 | 2553.6 | 2492.5 | 2474.2 | 2452.0 |
| 17.5° | 2548.2 | 2522.3 | 2447.4 | 2410.0 | 2379.5 |
| 20° | 2518.5 | 2484.1 | 2385.6 | 2329.8 | 2291.7 |
| 22.5° | 2484.1 | 2437.5 | 2316.1 | 2230.6 | 2190.9 |
| 25° | 2441.3 | 2383.3 | 2227.5 | 2115.3 | 2062.6 |
| 27.5° | 2395.5 | 2318.4 | 2131.3 | 1983.9 | 1923.6 |
| 30° | 2340.5 | 2245.1 | 2011.4 | 1834.2 | 1769.3 |
| 32.5° | 2282.5 | 2151.9 | 1880.1 | 1676.9 | 1605.9 |
| 35° | 2210.0 | 2049.6 | 1724.3 | 1512.0 | 1445.6 |
| 37.5° | 2131.3 | 1927.4 | 1570.0 | 1343.2 | 1268.4 |
| 40° | 2035.8 | 1798.4 | 1400.5 | 1176.0 | 1101.9 |
| 42.5° | 1941.2 | 1657.9 | 1237.9 | 1024.8 | 960.7 |
| 45° | 1812.9 | 1506.7 | 1076.7 | 871.3 | 820.1 |
| 47.5° | 1683.8 | 1344.8 | 922.5 | 746.8 | 696.4 |
| 50° | 1540.3 | 1185.9 | 787.3 | 626.9 | 584.9 |
| 52.5° | 1400.5 | 1037.8 | 664.4 | 530.0 | 494.1 |
| 55° | 1236.3 | 891.9 | 561.3 | 443.7 | 420.8 |
| 57.5° | 1088.2 | 756.8 | 473.5 | 375.7 | 354.3 |
| 60° | 931.6 | 641.5 | 396.3 | 317.7 | 297.8 |
| 62.5° | 794.2 | 539.1 | 333.7 | 269.6 | 255.8 |
| 65° | 662.1 | 449.0 | 282.5 | 229.1 | 216.9 |
| 67.5° | 540.7 | 374.9 | 238.3 | 195.5 | 185.6 |
| 70° | 433.7 | 303.9 | 200.8 | 166.5 | 159.6 |
| 72.5° | 341.3 | 244.4 | 167.2 | 143.6 | 137.5 |
| 75° | 266.5 | 194.0 | 139.7 | 123.7 | 119.9 |
| 77.5° | 192.4 | 151.2 | 116.8 | 106.1 | 103.9 |
| 80° | 135.9 | 114.5 | 96.2 | 91.6 | 90.1 |
| 82.5° | 90.1 | 83.2 | 79.4 | 79.4 | 78.7 |
| 85° | 51.9 | 58.0 | 64.9 | 68.0 | 68.7 |
| 87.5° | 26.7 | 38.9 | 51.9 | 58.0 | 58.8 |
| 90° | 7.6 | 24.4 | 44.3 | 52.7 | 54.2 |
| 92.5° | 11.5 | 24.4 | 43.5 | 52.7 | 54.2 |
| 95° | 11.5 | 24.4 | 43.5 | 52.7 | 54.2 |
| 97.5° | 10.7 | 23.7 | 43.5 | 52.7 | 54.2 |
| 100° | 9.9 | 22.1 | 42.8 | 52.7 | 54.2 |
| 102.5° | 8.4 | 21.4 | 41.2 | 51.9 | 54.2 |
| 105° | 7.6 | 19.9 | 38.9 | 51.2 | 53.5 |
| 107.5° | 6.9 | 16.8 | 36.7 | 48.9 | 51.9 |
| 110° | 5.3 | 14.5 | 35.1 | 46.6 | 50.4 |



TEST NUMBER: P894108

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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|------|-------|------|
| 112.5° | 4.6 | 13.0 | 32.8 | 44.3 | 48.1 |
| 115° | 3.8 | 11.5 | 30.5 | 42.0 | 45.8 |
| 117.5° | 3.1 | 10.7 | 27.5 | 38.9 | 42.8 |
| 120° | 2.3 | 9.9 | 25.2 | 36.7 | 39.7 |
| 122.5° | 2.3 | 9.2 | 22.1 | 33.6 | 36.7 |
| 125° | 2.3 | 7.6 | 20.6 | 30.5 | 33.6 |
| 127.5° | 1.5 | 6.9 | 18.3 | 27.5 | 30.5 |
| 130° | 1.5 | 6.9 | 16.8 | 25.2 | 27.5 |
| 132.5° | 1.5 | 6.1 | 15.3 | 22.9 | 25.2 |
| 135° | 1.5 | 6.1 | 13.7 | 20.6 | 22.9 |
| 137.5° | 1.5 | 5.3 | 12.2 | 19.1 | 21.4 |
| 140° | 1.5 | 5.3 | 11.5 | 16.8 | 19.1 |
| 142.5° | 1.5 | 4.6 | 9.9 | 16.0 | 17.6 |
| 145° | 1.5 | 4.6 | 9.2 | 13.7 | 16.0 |
| 147.5° | 1.5 | 4.6 | 8.4 | 13.0 | 14.5 |
| 150° | 1.5 | 3.8 | 7.6 | 10.7 | 13.0 |
| 152.5° | 1.5 | 3.8 | 6.9 | 9.9 | 12.2 |
| 155° | 1.5 | 3.8 | 6.1 | 8.4 | 10.7 |
| 157.5° | 1.5 | 3.8 | 6.1 | 7.6 | 9.2 |
| 160° | 2.3 | 3.1 | 5.3 | 6.9 | 8.4 |
| 162.5° | 2.3 | 3.1 | 4.6 | 6.1 | 7.6 |
| 165° | 2.3 | 3.1 | 4.6 | 5.3 | 6.9 |
| 167.5° | 2.3 | 3.1 | 3.8 | 4.6 | 5.3 |
| 170° | 2.3 | 2.3 | 3.8 | 3.8 | 3.8 |
| 172.5° | 2.3 | 2.3 | 3.1 | 3.8 | 3.1 |
| 175° | 2.3 | 2.3 | 3.1 | 3.1 | 3.1 |
| 177.5° | 2.3 | 2.3 | 3.1 | 3.1 | 3.1 |
| 180° | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 |



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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 | 20.14 | 21.53 | 20.55 | 21.91 | 22.29 | 15.44 | 16.83 | 15.85 | 17.20 | 17.58 |
| | 3H | 21.23 | 22.48 | 21.66 | 22.86 | 23.29 | 16.58 | 17.82 | 17.00 | 18.21 | 18.64 |
| | 4H | 21.54 | 22.71 | 21.99 | 23.11 | 23.56 | 17.08 | 18.24 | 17.52 | 18.65 | 19.09 |
| | 6H | 21.69 | 22.76 | 22.15 | 23.18 | 23.64 | 17.58 | 18.65 | 18.04 | 19.07 | 19.53 |
| | 8H | 21.71 | 22.73 | 22.18 | 23.17 | 23.64 | 17.84 | 18.86 | 18.31 | 19.30 | 19.77 |
| | 12H | 21.70 | 22.67 | 22.18 | 23.11 | 23.61 | 18.13 | 19.11 | 18.61 | 19.54 | 20.04 |
| 4H | 2H | 20.12 | 21.29 | 20.57 | 21.69 | 22.14 | 15.93 | 17.10 | 16.38 | 17.50 | 17.95 |
| | 3H | 21.36 | 22.32 | 21.82 | 22.78 | 23.24 | 17.25 | 18.21 | 17.71 | 18.66 | 19.13 |
| | 4H | 21.74 | 22.61 | 22.22 | 23.08 | 23.58 | 17.84 | 18.71 | 18.32 | 19.17 | 19.68 |
| | 6H | 21.98 | 22.73 | 22.48 | 23.22 | 23.75 | 18.46 | 19.21 | 18.97 | 19.71 | 20.23 |
| | 8H | 22.02 | 22.72 | 22.53 | 23.21 | 23.74 | 18.78 | 19.48 | 19.29 | 19.98 | 20.51 |
| | 12H | 22.03 | 22.65 | 22.56 | 23.18 | 23.72 | 19.16 | 19.78 | 19.69 | 20.31 | 20.85 |
| 8H | 4H | 21.73 | 22.43 | 22.24 | 22.93 | 23.46 | 18.08 | 18.78 | 18.59 | 19.28 | 19.81 |
| | 6H | 22.01 | 22.59 | 22.55 | 23.13 | 23.67 | 18.80 | 19.38 | 19.35 | 19.93 | 20.47 |
| | 8H | 22.08 | 22.60 | 22.64 | 23.16 | 23.71 | 19.21 | 19.73 | 19.77 | 20.29 | 20.84 |
| | 12H | 22.13 | 22.59 | 22.68 | 23.13 | 23.76 | 19.70 | 20.16 | 20.26 | 20.70 | 21.33 |
| 12H | 4H | 21.71 | 22.33 | 22.24 | 22.86 | 23.40 | 18.10 | 18.72 | 18.62 | 19.25 | 19.78 |
| | 6H | 21.99 | 22.51 | 22.55 | 23.07 | 23.62 | 18.84 | 19.36 | 19.40 | 19.92 | 20.47 |
| | 8H | 22.09 | 22.56 | 22.65 | 23.10 | 23.72 | 19.30 | 19.76 | 19.86 | 20.30 | 20.93 |