

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: NEO-RAY

Report Number: P624711

Luminaire Tested: S930DIP-W527-X2-U5LT-W

Issue Date: 11/3/2022

Test Information

Test Method: LM-79-2019
Report Number: P624711
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35531-R2)
Test Lab: INNOVATION CENTER
Issue Date: 11/3/2022
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S930DIP-W527-X2-U5LT-W
Description: NEO-RAY COVERA DIRECT/INDIRECT 2-FOOT LED WaveStream LUMINAIRE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

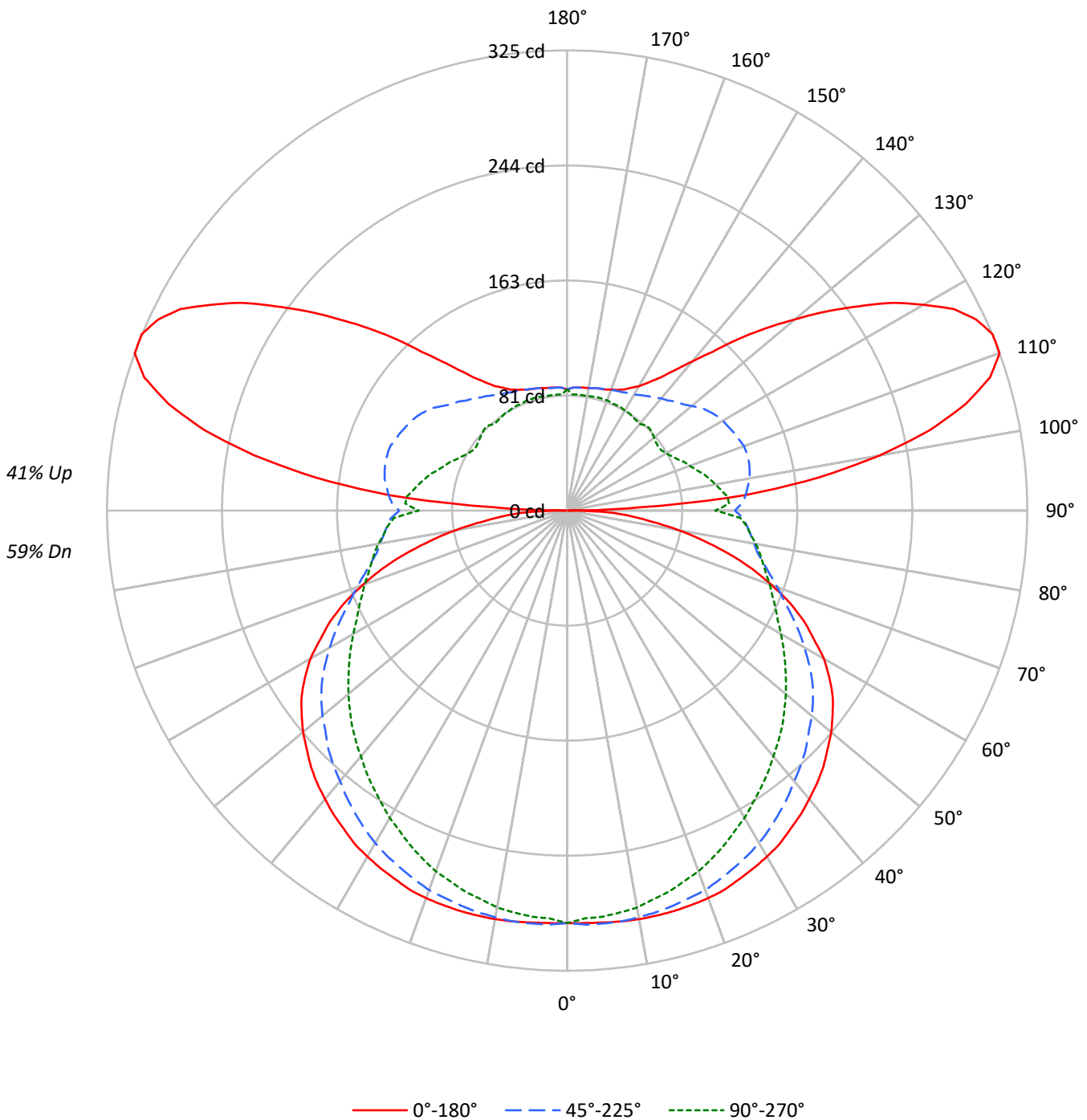
Lumens per Lamp: N/A
Luminaire Lumens: 2048.2 lumens
Efficiency: N/A
Efficacy: 79.1 lumens/watt
Spacing Criteria (0/90/45): 1.44 / 1.28 / 1.52
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1.92' x H: 0.17')
CIE Type: General Diffuse

Input Watts (W): 25.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 109 | 109 | 109 | 109 | 102 | 102 | 102 | 102 | 88 | 88 | 88 | 76 | 76 | 76 | 64 | 64 | 64 | 59 |
| 1 | 97 | 92 | 87 | 82 | 90 | 85 | 81 | 77 | 74 | 70 | 67 | 63 | 60 | 58 | 53 | 51 | 49 | 44 |
| 2 | 87 | 78 | 71 | 65 | 81 | 73 | 67 | 61 | 63 | 58 | 53 | 54 | 50 | 46 | 45 | 42 | 39 | 35 |
| 3 | 79 | 68 | 60 | 53 | 73 | 63 | 56 | 50 | 55 | 49 | 44 | 46 | 42 | 38 | 39 | 35 | 32 | 28 |
| 4 | 72 | 60 | 51 | 44 | 66 | 56 | 48 | 42 | 48 | 42 | 37 | 41 | 36 | 32 | 34 | 30 | 27 | 24 |
| 5 | 66 | 53 | 44 | 37 | 61 | 49 | 41 | 35 | 43 | 36 | 31 | 36 | 31 | 27 | 31 | 26 | 23 | 20 |
| 6 | 61 | 47 | 38 | 32 | 56 | 44 | 36 | 30 | 38 | 32 | 27 | 33 | 27 | 23 | 28 | 23 | 20 | 17 |
| 7 | 56 | 43 | 34 | 28 | 52 | 40 | 32 | 26 | 35 | 28 | 23 | 30 | 24 | 20 | 25 | 21 | 18 | 15 |
| 8 | 52 | 38 | 30 | 24 | 48 | 36 | 28 | 23 | 31 | 25 | 21 | 27 | 22 | 18 | 23 | 19 | 16 | 13 |
| 9 | 48 | 35 | 27 | 22 | 45 | 33 | 26 | 21 | 29 | 23 | 18 | 25 | 20 | 16 | 21 | 17 | 14 | 12 |
| 10 | 45 | 32 | 24 | 19 | 42 | 30 | 23 | 18 | 26 | 20 | 16 | 23 | 18 | 15 | 20 | 16 | 13 | 11 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2454 | 2454 | 2454 |
| 5° | 2451 | 2425 | 2382 |
| 10° | 2468 | 2394 | 2332 |
| 15° | 2495 | 2368 | 2276 |
| 20° | 2531 | 2353 | 2228 |
| 25° | 2566 | 2330 | 2175 |
| 30° | 2614 | 2318 | 2130 |
| 35° | 2664 | 2300 | 2090 |
| 40° | 2726 | 2287 | 2060 |
| 45° | 2805 | 2294 | 2048 |
| 50° | 2891 | 2303 | 2037 |
| 55° | 2992 | 2318 | 2034 |
| 60° | 3068 | 2309 | 2050 |
| 65° | 3100 | 2306 | 2106 |
| 70° | 3054 | 2350 | 2222 |
| 75° | 2912 | 2472 | 2409 |
| 80° | 2606 | 2765 | 2717 |
| 85° | 2206 | 3312 | 3190 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 90°
 Luminance: 5255 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 27.8 | 1.4 |
| 10°-20° | 81.4 | 4.0 |
| 20°-30° | 127.9 | 6.2 |
| 30°-40° | 162.6 | 7.9 |
| 40°-50° | 183.2 | 8.9 |
| 50°-60° | 187.6 | 9.2 |
| 60°-70° | 173.5 | 8.5 |
| 70°-80° | 145.7 | 7.1 |
| 80°-90° | 120.4 | 5.9 |
| 90°-100° | 138.7 | 6.8 |
| 100°-110° | 174.3 | 8.5 |
| 110°-120° | 165.8 | 8.1 |
| 120°-130° | 129.8 | 6.3 |
| 130°-140° | 91.6 | 4.5 |
| 140°-150° | 62.5 | 3.1 |
| 150°-160° | 42.2 | 2.1 |
| 160°-170° | 25.0 | 1.2 |
| 170°-180° | 8.3 | 0.4 |
| 0°-30° | 237.1 | 11.6 |
| 0°-40° | 399.8 | 19.5 |
| 0°-60° | 770.5 | 37.6 |
| 0°-90° | 1210.1 | 59.1 |
| 90°-120° | 478.8 | 23.4 |
| 90°-150° | 762.7 | 37.2 |
| 90°-180° | 838.0 | 40.9 |
| 0°-180° | 2048.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0° | 291 | 291 | 291 | 291 | 291 | |
| 5° | 292 | 292 | 293 | 292 | 288 | 28 |
| 15° | 293 | 292 | 289 | 285 | 278 | 83 |
| 25° | 287 | 285 | 278 | 270 | 261 | 133 |
| 35° | 275 | 270 | 261 | 250 | 239 | 172 |
| 45° | 256 | 248 | 238 | 226 | 215 | 198 |
| 55° | 229 | 220 | 212 | 199 | 188 | 204 |
| 65° | 184 | 182 | 175 | 170 | 162 | 181 |
| 75° | 118 | 127 | 144 | 148 | 143 | 124 |
| 85° | 46 | 98 | 128 | 130 | 127 | 44 |
| 90° | 1 | 110 | 118 | 110 | 105 | 11 |
| 95° | 127 | 153 | 127 | 117 | 114 | 121 |
| 105° | 292 | 230 | 133 | 107 | 100 | 302 |
| 115° | 319 | 244 | 130 | 96 | 86 | 313 |
| 125° | 252 | 200 | 122 | 91 | 78 | 226 |
| 135° | 171 | 144 | 109 | 92 | 82 | 134 |
| 145° | 114 | 110 | 99 | 89 | 81 | 74 |
| 155° | 94 | 94 | 92 | 89 | 82 | 44 |
| 165° | 89 | 89 | 89 | 88 | 83 | 25 |
| 175° | 87 | 87 | 87 | 86 | 82 | 8 |
| 180° | 86 | 86 | 86 | 86 | 86 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|-------|-------|
| 0° | 291.3 | 291.3 | 291.3 | 291.3 | 291.3 |
| 2.5° | 291.6 | 292.0 | 292.7 | 292.7 | 288.3 |
| 5° | 292.0 | 292.3 | 292.7 | 292.3 | 287.9 |
| 7.5° | 292.7 | 292.3 | 292.7 | 291.3 | 286.3 |
| 10° | 293.0 | 292.7 | 291.6 | 290.0 | 284.6 |
| 12.5° | 293.0 | 292.3 | 290.6 | 287.3 | 281.2 |
| 15° | 292.7 | 291.6 | 288.9 | 284.9 | 278.5 |
| 17.5° | 292.0 | 291.0 | 286.9 | 281.5 | 274.5 |
| 20° | 291.3 | 289.6 | 285.2 | 278.8 | 271.1 |
| 22.5° | 290.0 | 287.3 | 281.9 | 274.8 | 266.4 |
| 25° | 287.3 | 284.9 | 278.5 | 270.1 | 261.3 |
| 27.5° | 284.9 | 281.9 | 275.1 | 265.4 | 255.6 |
| 30° | 282.2 | 278.5 | 271.1 | 260.3 | 250.6 |
| 32.5° | 279.2 | 274.8 | 266.4 | 255.3 | 244.5 |
| 35° | 274.8 | 270.1 | 261.0 | 249.9 | 238.8 |
| 37.5° | 270.8 | 265.7 | 255.6 | 244.2 | 233.0 |
| 40° | 266.0 | 260.3 | 249.5 | 237.8 | 226.6 |
| 42.5° | 261.3 | 254.9 | 244.2 | 232.7 | 220.9 |
| 45° | 255.9 | 248.5 | 238.4 | 226.3 | 214.9 |
| 47.5° | 249.5 | 242.1 | 231.4 | 219.9 | 208.1 |
| 50° | 243.5 | 236.1 | 225.6 | 213.2 | 201.7 |
| 52.5° | 236.4 | 228.7 | 218.9 | 206.1 | 194.7 |
| 55° | 229.0 | 220.2 | 211.5 | 199.4 | 187.9 |
| 57.5° | 219.6 | 212.2 | 202.7 | 191.6 | 181.2 |
| 60° | 209.5 | 202.4 | 193.6 | 184.2 | 174.4 |
| 62.5° | 196.3 | 192.3 | 184.5 | 177.1 | 167.7 |
| 65° | 184.5 | 181.9 | 174.8 | 170.4 | 162.3 |
| 67.5° | 170.1 | 170.7 | 165.7 | 164.0 | 156.9 |
| 70° | 153.6 | 157.6 | 157.9 | 158.3 | 152.2 |
| 72.5° | 137.1 | 142.8 | 150.2 | 152.2 | 147.2 |
| 75° | 118.5 | 127.3 | 143.5 | 147.8 | 143.1 |
| 77.5° | 99.0 | 112.8 | 137.7 | 143.8 | 139.4 |
| 80° | 80.2 | 102.7 | 134.0 | 139.4 | 135.4 |
| 82.5° | 60.6 | 97.7 | 130.7 | 134.4 | 130.7 |
| 85° | 45.5 | 98.0 | 127.6 | 130.0 | 127.3 |
| 87.5° | 29.3 | 102.4 | 124.6 | 125.3 | 122.6 |
| 90° | 0.7 | 109.8 | 118.5 | 110.1 | 104.7 |
| 92.5° | 51.9 | 130.7 | 123.9 | 117.9 | 114.5 |
| 95° | 127.0 | 153.2 | 126.6 | 116.9 | 113.5 |
| 97.5° | 179.2 | 176.5 | 128.6 | 114.5 | 109.8 |
| 100° | 224.0 | 196.7 | 131.0 | 112.5 | 106.4 |
| 102.5° | 262.3 | 215.2 | 132.0 | 109.8 | 103.1 |
| 105° | 291.6 | 230.4 | 133.0 | 107.1 | 99.7 |
| 107.5° | 313.2 | 241.5 | 133.0 | 104.4 | 95.6 |
| 110° | 325.0 | 248.5 | 133.0 | 101.7 | 92.3 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|-------|------|
| 112.5° | 325.3 | 248.5 | 131.3 | 98.3 | 89.6 |
| 115° | 318.9 | 243.5 | 130.0 | 96.3 | 85.9 |
| 117.5° | 308.1 | 235.4 | 128.3 | 93.3 | 83.2 |
| 120° | 290.6 | 225.3 | 127.0 | 91.6 | 80.8 |
| 122.5° | 273.1 | 212.8 | 124.9 | 90.9 | 79.1 |
| 125° | 251.6 | 199.7 | 122.2 | 90.6 | 78.5 |
| 127.5° | 231.0 | 185.9 | 119.2 | 90.9 | 79.1 |
| 130° | 210.1 | 172.1 | 114.8 | 91.9 | 80.2 |
| 132.5° | 190.6 | 156.9 | 111.1 | 92.3 | 81.2 |
| 135° | 171.4 | 144.5 | 108.8 | 91.6 | 82.2 |
| 137.5° | 152.2 | 133.0 | 105.4 | 89.6 | 81.8 |
| 140° | 137.4 | 123.6 | 103.4 | 88.9 | 79.8 |
| 142.5° | 124.9 | 115.5 | 100.7 | 89.2 | 80.2 |
| 145° | 114.5 | 109.5 | 98.7 | 89.2 | 80.8 |
| 147.5° | 107.4 | 104.4 | 96.7 | 89.2 | 81.5 |
| 150° | 101.4 | 100.0 | 94.6 | 88.9 | 81.5 |
| 152.5° | 97.7 | 97.0 | 93.6 | 88.9 | 82.2 |
| 155° | 94.3 | 94.3 | 92.3 | 88.6 | 82.2 |
| 157.5° | 92.3 | 92.3 | 91.6 | 88.2 | 82.2 |
| 160° | 90.9 | 91.3 | 90.6 | 88.2 | 82.8 |
| 162.5° | 89.6 | 89.9 | 89.9 | 87.9 | 82.8 |
| 165° | 89.2 | 89.2 | 89.2 | 87.6 | 82.8 |
| 167.5° | 88.6 | 88.6 | 88.6 | 87.2 | 82.5 |
| 170° | 87.9 | 87.9 | 87.9 | 86.9 | 82.2 |
| 172.5° | 87.6 | 87.2 | 87.2 | 86.5 | 82.2 |
| 175° | 87.2 | 87.2 | 87.2 | 86.5 | 82.2 |
| 177.5° | 86.9 | 86.9 | 86.9 | 86.2 | 82.2 |
| 180° | 85.5 | 85.5 | 85.5 | 85.5 | 85.5 |



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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 | 12.27 | 13.31 | 13.13 | 14.21 | 15.33 | 11.91 | 12.95 | 12.77 | 13.84 | 14.97 |
| | 3H | 14.45 | 15.40 | 15.32 | 16.30 | 17.46 | 14.56 | 15.51 | 15.43 | 16.41 | 17.57 |
| | 4H | 15.28 | 16.18 | 16.16 | 17.09 | 18.25 | 15.93 | 16.84 | 16.82 | 17.74 | 18.91 |
| | 6H | 15.90 | 16.74 | 16.79 | 17.65 | 18.83 | 17.42 | 18.26 | 18.31 | 19.17 | 20.35 |
| | 8H | 16.11 | 16.92 | 17.02 | 17.85 | 19.03 | 18.19 | 18.99 | 19.09 | 19.92 | 21.10 |
| | 12H | 16.26 | 17.03 | 17.17 | 17.96 | 19.16 | 19.01 | 19.78 | 19.92 | 20.70 | 21.91 |
| 4H | 2H | 12.93 | 13.83 | 13.81 | 14.74 | 15.90 | 12.65 | 13.56 | 13.54 | 14.46 | 15.63 |
| | 3H | 15.36 | 16.14 | 16.26 | 17.07 | 18.25 | 15.53 | 16.30 | 16.43 | 17.24 | 18.42 |
| | 4H | 16.36 | 17.08 | 17.27 | 18.01 | 19.21 | 17.06 | 17.78 | 17.97 | 18.71 | 19.91 |
| | 6H | 17.16 | 17.79 | 18.08 | 18.75 | 19.95 | 18.72 | 19.35 | 19.64 | 20.31 | 21.51 |
| | 8H | 17.47 | 18.07 | 18.40 | 19.02 | 20.23 | 19.59 | 20.19 | 20.52 | 21.14 | 22.35 |
| | 12H | 17.71 | 18.25 | 18.65 | 19.22 | 20.44 | 20.52 | 21.06 | 21.46 | 22.03 | 23.25 |
| 8H | 4H | 16.93 | 17.52 | 17.85 | 18.47 | 19.69 | 17.52 | 18.11 | 18.44 | 19.06 | 20.28 |
| | 6H | 17.98 | 18.49 | 18.93 | 19.48 | 20.69 | 19.41 | 19.91 | 20.36 | 20.90 | 22.12 |
| | 8H | 18.47 | 18.92 | 19.43 | 19.90 | 21.13 | 20.44 | 20.90 | 21.40 | 21.87 | 23.11 |
| | 12H | 18.89 | 19.29 | 19.86 | 20.27 | 21.55 | 21.56 | 21.97 | 22.53 | 22.94 | 24.22 |
| 12H | 4H | 17.07 | 17.61 | 18.02 | 18.58 | 19.80 | 17.57 | 18.11 | 18.52 | 19.08 | 20.30 |
| | 6H | 18.27 | 18.72 | 19.23 | 19.70 | 20.93 | 19.56 | 20.01 | 20.51 | 20.99 | 22.22 |
| | 8H | 18.87 | 19.28 | 19.84 | 20.25 | 21.53 | 20.68 | 21.08 | 21.64 | 22.06 | 23.33 |