

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: P624676

Luminaire Tested: S930DIP-W240-X2-USTD-W

Issue Date: 11/3/2022

Test Information

Test Method: LM-79-2019
Report Number: P624676
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-W240-X2-USTD-W
Description: NEO-RAY COVERA DIRECT/INDIRECT 2-FOOT LED WaveStream LUMINAIRE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

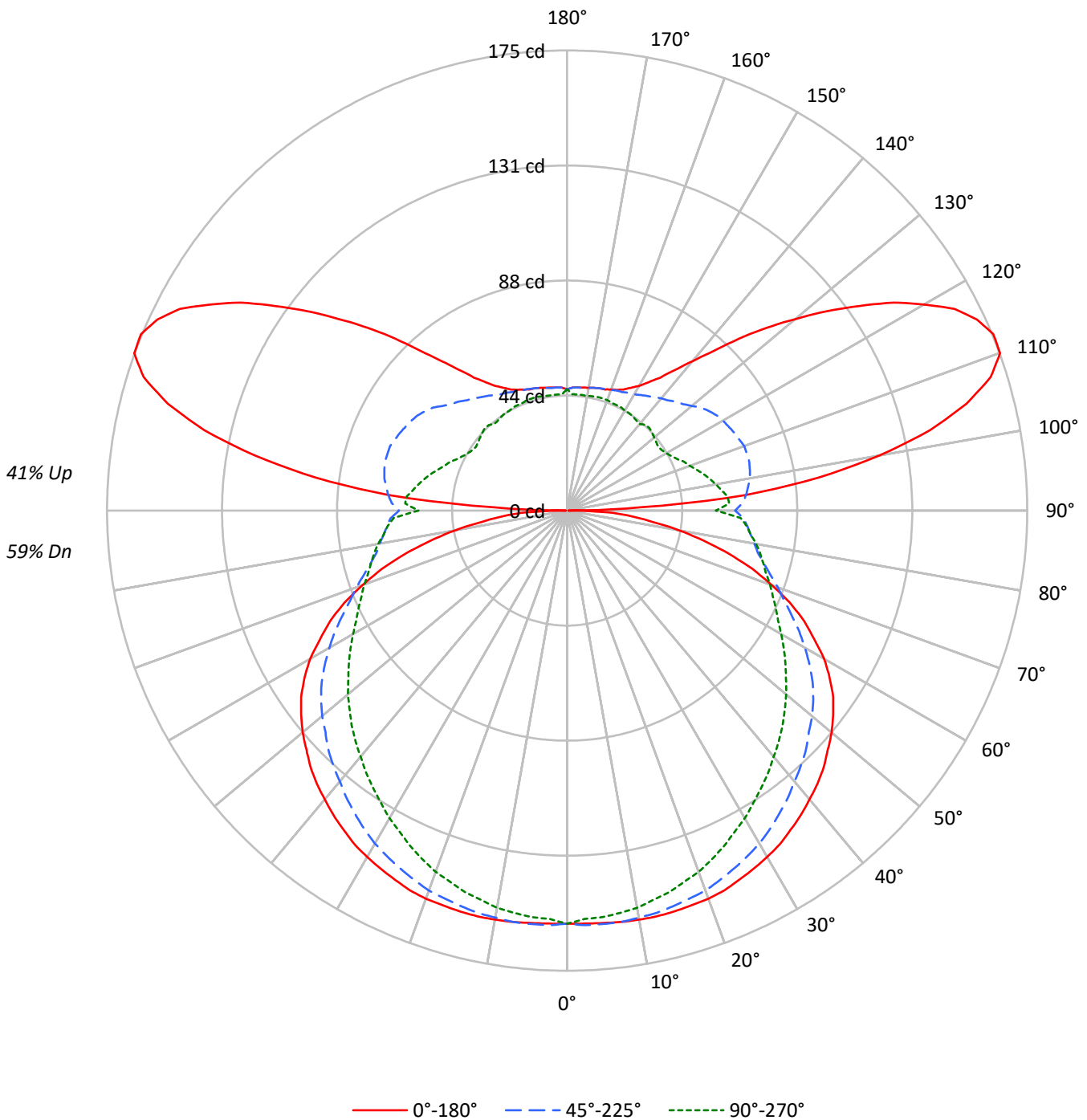
Lumens per Lamp: N/A
Luminaire Lumens: 1104.3 lumens
Efficiency: N/A
Efficacy: 107.2 lumens/watt
Spacing Criteria (0/90/45): 1.44 / 1.28 / 1.52
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1.92' x H: 0.17')
CIE Type: General Diffuse

Input Watts (W): 10.3
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



TEST NUMBER: P624676
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Luminous Intensity Polar Plot





TEST NUMBER: P624676

CATALOG NUMBER: S930DIP-W240-X2-USTD-W

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|--|--|--|----|--|--|--|--|--|--|--|--|----|---|
| RF | 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 | 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° | 1323 | 1323 | 1323 |
| 5° | 1321 | 1307 | 1284 |
| 10° | 1331 | 1290 | 1257 |
| 15° | 1345 | 1277 | 1228 |
| 20° | 1365 | 1269 | 1201 |
| 25° | 1384 | 1256 | 1173 |
| 30° | 1409 | 1250 | 1148 |
| 35° | 1437 | 1240 | 1126 |
| 40° | 1470 | 1233 | 1111 |
| 45° | 1513 | 1236 | 1104 |
| 50° | 1559 | 1241 | 1099 |
| 55° | 1613 | 1249 | 1096 |
| 60° | 1653 | 1245 | 1105 |
| 65° | 1672 | 1243 | 1135 |
| 70° | 1646 | 1268 | 1199 |
| 75° | 1570 | 1332 | 1300 |
| 80° | 1404 | 1492 | 1465 |
| 85° | 1188 | 1786 | 1719 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 90°
 Luminance: 2833 cd/sqm



TEST NUMBER: P624676

CATALOG NUMBER: S930DIP-W240-X2-USTD-W

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 15.0 | 1.4 |
| 10°-20° | 43.9 | 4.0 |
| 20°-30° | 69.0 | 6.2 |
| 30°-40° | 87.7 | 7.9 |
| 40°-50° | 98.7 | 8.9 |
| 50°-60° | 101.1 | 9.2 |
| 60°-70° | 93.5 | 8.5 |
| 70°-80° | 78.6 | 7.1 |
| 80°-90° | 64.9 | 5.9 |
| 90°-100° | 74.8 | 6.8 |
| 100°-110° | 94.0 | 8.5 |
| 110°-120° | 89.4 | 8.1 |
| 120°-130° | 70.0 | 6.3 |
| 130°-140° | 49.4 | 4.5 |
| 140°-150° | 33.7 | 3.0 |
| 150°-160° | 22.8 | 2.1 |
| 160°-170° | 13.5 | 1.2 |
| 170°-180° | 4.5 | 0.4 |
| 0°-30° | 127.8 | 11.6 |
| 0°-40° | 215.5 | 19.5 |
| 0°-60° | 415.4 | 37.6 |
| 0°-90° | 652.4 | 59.1 |
| 90°-120° | 258.1 | 23.4 |
| 90°-150° | 411.2 | 37.2 |
| 90°-180° | 452.0 | 40.9 |
| 0°-180° | 1104.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0° | 157 | 157 | 157 | 157 | 157 | |
| 5° | 157 | 158 | 158 | 158 | 155 | 15 |
| 15° | 158 | 157 | 156 | 154 | 150 | 45 |
| 25° | 155 | 154 | 150 | 146 | 141 | 72 |
| 35° | 148 | 146 | 141 | 135 | 129 | 93 |
| 45° | 138 | 134 | 128 | 122 | 116 | 107 |
| 55° | 124 | 119 | 114 | 108 | 101 | 110 |
| 65° | 100 | 98 | 94 | 92 | 88 | 98 |
| 75° | 64 | 69 | 77 | 80 | 77 | 67 |
| 85° | 24 | 53 | 69 | 70 | 69 | 24 |
| 90° | 0 | 59 | 64 | 59 | 56 | 6 |
| 95° | 68 | 83 | 68 | 63 | 61 | 65 |
| 105° | 157 | 124 | 72 | 58 | 54 | 163 |
| 115° | 172 | 131 | 70 | 52 | 46 | 169 |
| 125° | 136 | 108 | 66 | 49 | 42 | 122 |
| 135° | 92 | 78 | 59 | 49 | 44 | 72 |
| 145° | 62 | 59 | 53 | 48 | 44 | 40 |
| 155° | 51 | 51 | 50 | 48 | 44 | 24 |
| 165° | 48 | 48 | 48 | 47 | 45 | 14 |
| 175° | 47 | 47 | 47 | 47 | 44 | 4 |
| 180° | 46 | 46 | 46 | 46 | 46 | |



TEST NUMBER: P624676

CATALOG NUMBER: S930DIP-W240-X2-USTD-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|-------|-------|
| 0° | 157.1 | 157.1 | 157.1 | 157.1 | 157.1 |
| 2.5° | 157.2 | 157.4 | 157.8 | 157.8 | 155.4 |
| 5° | 157.4 | 157.6 | 157.8 | 157.6 | 155.2 |
| 7.5° | 157.8 | 157.6 | 157.8 | 157.1 | 154.3 |
| 10° | 158.0 | 157.8 | 157.2 | 156.3 | 153.4 |
| 12.5° | 158.0 | 157.6 | 156.7 | 154.9 | 151.6 |
| 15° | 157.8 | 157.2 | 155.8 | 153.6 | 150.2 |
| 17.5° | 157.4 | 156.9 | 154.7 | 151.8 | 148.0 |
| 20° | 157.1 | 156.1 | 153.8 | 150.3 | 146.2 |
| 22.5° | 156.3 | 154.9 | 152.0 | 148.2 | 143.6 |
| 25° | 154.9 | 153.6 | 150.2 | 145.6 | 140.9 |
| 27.5° | 153.6 | 152.0 | 148.3 | 143.1 | 137.8 |
| 30° | 152.1 | 150.2 | 146.2 | 140.3 | 135.1 |
| 32.5° | 150.5 | 148.2 | 143.6 | 137.6 | 131.8 |
| 35° | 148.2 | 145.6 | 140.7 | 134.7 | 128.7 |
| 37.5° | 146.0 | 143.3 | 137.8 | 131.6 | 125.6 |
| 40° | 143.4 | 140.3 | 134.5 | 128.2 | 122.2 |
| 42.5° | 140.9 | 137.4 | 131.6 | 125.5 | 119.1 |
| 45° | 138.0 | 134.0 | 128.5 | 122.0 | 115.8 |
| 47.5° | 134.5 | 130.5 | 124.7 | 118.6 | 112.2 |
| 50° | 131.3 | 127.3 | 121.6 | 114.9 | 108.8 |
| 52.5° | 127.5 | 123.3 | 118.0 | 111.1 | 104.9 |
| 55° | 123.5 | 118.7 | 114.0 | 107.5 | 101.3 |
| 57.5° | 118.4 | 114.4 | 109.3 | 103.3 | 97.7 |
| 60° | 112.9 | 109.1 | 104.4 | 99.3 | 94.0 |
| 62.5° | 105.9 | 103.7 | 99.5 | 95.5 | 90.4 |
| 65° | 99.5 | 98.0 | 94.2 | 91.9 | 87.5 |
| 67.5° | 91.7 | 92.1 | 89.3 | 88.4 | 84.6 |
| 70° | 82.8 | 85.0 | 85.2 | 85.3 | 82.1 |
| 72.5° | 73.9 | 77.0 | 81.0 | 82.1 | 79.3 |
| 75° | 63.9 | 68.6 | 77.3 | 79.7 | 77.2 |
| 77.5° | 53.4 | 60.8 | 74.3 | 77.5 | 75.2 |
| 80° | 43.2 | 55.4 | 72.3 | 75.2 | 73.0 |
| 82.5° | 32.7 | 52.7 | 70.4 | 72.4 | 70.4 |
| 85° | 24.5 | 52.8 | 68.8 | 70.1 | 68.6 |
| 87.5° | 15.8 | 55.2 | 67.2 | 67.5 | 66.1 |
| 90° | 0.4 | 59.2 | 63.9 | 59.4 | 56.5 |
| 92.5° | 28.0 | 70.4 | 66.8 | 63.5 | 61.7 |
| 95° | 68.4 | 82.6 | 68.3 | 63.0 | 61.2 |
| 97.5° | 96.6 | 95.1 | 69.4 | 61.7 | 59.2 |
| 100° | 120.7 | 106.0 | 70.6 | 60.6 | 57.4 |
| 102.5° | 141.4 | 116.0 | 71.2 | 59.2 | 55.6 |
| 105° | 157.2 | 124.2 | 71.7 | 57.7 | 53.7 |
| 107.5° | 168.9 | 130.2 | 71.7 | 56.3 | 51.6 |
| 110° | 175.2 | 134.0 | 71.7 | 54.8 | 49.7 |



TEST NUMBER: P624676

CATALOG NUMBER: S930DIP-W240-X2-USTD-W

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|------|-------|------|
| 112.5° | 175.4 | 134.0 | 70.8 | 53.0 | 48.3 |
| 115° | 171.9 | 131.3 | 70.1 | 51.9 | 46.3 |
| 117.5° | 166.1 | 126.9 | 69.2 | 50.3 | 44.8 |
| 120° | 156.7 | 121.5 | 68.4 | 49.4 | 43.6 |
| 122.5° | 147.2 | 114.7 | 67.4 | 49.0 | 42.7 |
| 125° | 135.6 | 107.7 | 65.9 | 48.8 | 42.3 |
| 127.5° | 124.6 | 100.2 | 64.3 | 49.0 | 42.7 |
| 130° | 113.3 | 92.8 | 61.9 | 49.6 | 43.2 |
| 132.5° | 102.8 | 84.6 | 59.9 | 49.7 | 43.8 |
| 135° | 92.4 | 77.9 | 58.6 | 49.4 | 44.3 |
| 137.5° | 82.1 | 71.7 | 56.8 | 48.3 | 44.1 |
| 140° | 74.1 | 66.6 | 55.7 | 47.9 | 43.0 |
| 142.5° | 67.4 | 62.3 | 54.3 | 48.1 | 43.2 |
| 145° | 61.7 | 59.0 | 53.2 | 48.1 | 43.6 |
| 147.5° | 57.9 | 56.3 | 52.1 | 48.1 | 43.9 |
| 150° | 54.7 | 53.9 | 51.0 | 47.9 | 43.9 |
| 152.5° | 52.7 | 52.3 | 50.5 | 47.9 | 44.3 |
| 155° | 50.8 | 50.8 | 49.7 | 47.8 | 44.3 |
| 157.5° | 49.7 | 49.7 | 49.4 | 47.6 | 44.3 |
| 160° | 49.0 | 49.2 | 48.8 | 47.6 | 44.7 |
| 162.5° | 48.3 | 48.5 | 48.5 | 47.4 | 44.7 |
| 165° | 48.1 | 48.1 | 48.1 | 47.2 | 44.7 |
| 167.5° | 47.8 | 47.8 | 47.8 | 47.0 | 44.5 |
| 170° | 47.4 | 47.4 | 47.4 | 46.8 | 44.3 |
| 172.5° | 47.2 | 47.0 | 47.0 | 46.7 | 44.3 |
| 175° | 47.0 | 47.0 | 47.0 | 46.7 | 44.3 |
| 177.5° | 46.8 | 46.8 | 46.8 | 46.5 | 44.3 |
| 180° | 46.1 | 46.1 | 46.1 | 46.1 | 46.1 |



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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 | 10.12 | 11.17 | 10.98 | 12.06 | 13.19 | 9.76 | 10.80 | 10.62 | 11.70 | 12.83 |
| | 3H | 12.31 | 13.26 | 13.18 | 14.16 | 15.31 | 12.42 | 13.37 | 13.29 | 14.27 | 15.42 |
| | 4H | 13.13 | 14.04 | 14.02 | 14.94 | 16.11 | 13.79 | 14.69 | 14.67 | 15.60 | 16.76 |
| | 6H | 13.75 | 14.59 | 14.65 | 15.51 | 16.68 | 15.27 | 16.11 | 16.17 | 17.03 | 18.20 |
| | 8H | 13.97 | 14.77 | 14.87 | 15.70 | 16.88 | 16.04 | 16.85 | 16.94 | 17.78 | 18.95 |
| | 12H | 14.12 | 14.89 | 15.03 | 15.81 | 17.02 | 16.86 | 17.63 | 17.77 | 18.56 | 19.76 |
| 4H | 2H | 10.78 | 11.68 | 11.67 | 12.59 | 13.75 | 10.51 | 11.41 | 11.39 | 12.32 | 13.48 |
| | 3H | 13.21 | 13.99 | 14.11 | 14.93 | 16.10 | 13.38 | 14.16 | 14.28 | 15.09 | 16.27 |
| | 4H | 14.21 | 14.93 | 15.12 | 15.86 | 17.06 | 14.91 | 15.63 | 15.82 | 16.56 | 17.76 |
| | 6H | 15.02 | 15.65 | 15.94 | 16.60 | 17.80 | 16.58 | 17.21 | 17.50 | 18.16 | 19.36 |
| | 8H | 15.33 | 15.92 | 16.25 | 16.87 | 18.09 | 17.45 | 18.04 | 18.37 | 18.99 | 20.21 |
| | 12H | 15.56 | 16.10 | 16.51 | 17.07 | 18.29 | 18.37 | 18.91 | 19.32 | 19.88 | 21.10 |
| 8H | 4H | 14.78 | 15.37 | 15.70 | 16.32 | 17.54 | 15.37 | 15.96 | 16.29 | 16.91 | 18.13 |
| | 6H | 15.84 | 16.34 | 16.79 | 17.33 | 18.55 | 17.26 | 17.77 | 18.21 | 18.76 | 19.97 |
| | 8H | 16.32 | 16.78 | 17.28 | 17.75 | 18.99 | 18.30 | 18.75 | 19.26 | 19.73 | 20.96 |
| | 12H | 16.74 | 17.15 | 17.71 | 18.12 | 19.40 | 19.42 | 19.82 | 20.38 | 20.80 | 22.07 |
| 12H | 4H | 14.92 | 15.47 | 15.87 | 16.43 | 17.66 | 15.43 | 15.97 | 16.37 | 16.93 | 18.16 |
| | 6H | 16.12 | 16.58 | 17.08 | 17.55 | 18.79 | 17.41 | 17.86 | 18.37 | 18.84 | 20.07 |
| | 8H | 16.73 | 17.13 | 17.69 | 18.10 | 19.38 | 18.53 | 18.94 | 19.50 | 19.91 | 21.19 |