

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P242689

Luminaire Tested: S124DRP-S795D935-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242689
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-16)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-S795D935-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

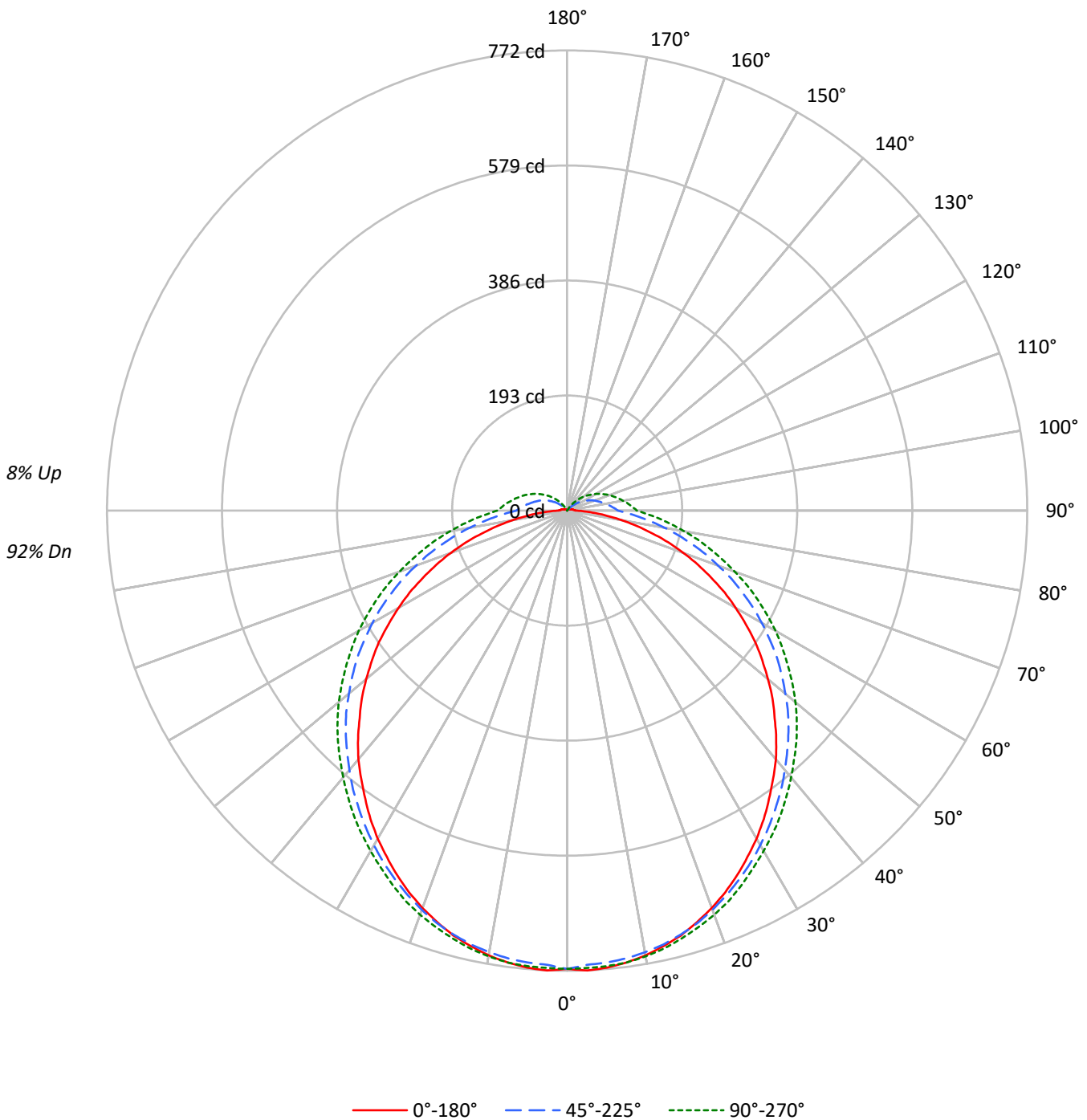
Lumens per Lamp: N/A
Luminaire Lumens: 2621.4 lumens
Efficiency: N/A
Efficacy: 99.3 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (A_{in}): 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



TEST NUMBER: P242689

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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 | 117 | 117 | 117 | 117 | 114 | 114 | 114 | 114 | 107 | 107 | 107 | 101 | 101 | 101 | 95 | 95 | 95 | 92 | | | | |
| 1 | 105 | 100 | 95 | 91 | 102 | 97 | 93 | 89 | 91 | 88 | 84 | 86 | 83 | 80 | 81 | 79 | 77 | 74 | | | | |
| 2 | 95 | 86 | 79 | 73 | 92 | 84 | 77 | 71 | 79 | 73 | 68 | 74 | 70 | 66 | 70 | 67 | 63 | 60 | | | | |
| 3 | 87 | 75 | 67 | 60 | 83 | 73 | 65 | 59 | 69 | 62 | 57 | 65 | 60 | 55 | 62 | 57 | 53 | 50 | | | | |
| 4 | 79 | 66 | 57 | 50 | 76 | 65 | 56 | 49 | 61 | 54 | 48 | 58 | 52 | 47 | 55 | 49 | 45 | 43 | | | | |
| 5 | 73 | 59 | 50 | 43 | 70 | 58 | 49 | 42 | 55 | 47 | 41 | 52 | 45 | 40 | 49 | 44 | 39 | 37 | | | | |
| 6 | 67 | 53 | 44 | 37 | 64 | 52 | 43 | 37 | 49 | 42 | 36 | 47 | 40 | 35 | 45 | 39 | 34 | 32 | | | | |
| 7 | 62 | 48 | 39 | 33 | 60 | 47 | 38 | 32 | 45 | 37 | 32 | 43 | 36 | 31 | 41 | 35 | 30 | 28 | | | | |
| 8 | 58 | 44 | 35 | 29 | 56 | 43 | 35 | 29 | 41 | 33 | 28 | 39 | 32 | 28 | 37 | 31 | 27 | 25 | | | | |
| 9 | 54 | 40 | 32 | 26 | 52 | 39 | 31 | 26 | 38 | 30 | 25 | 36 | 29 | 25 | 34 | 29 | 24 | 22 | | | | |
| 10 | 50 | 37 | 29 | 24 | 49 | 36 | 29 | 23 | 35 | 28 | 23 | 33 | 27 | 23 | 32 | 26 | 22 | 20 | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 6835 | 6835 | 6835 |
| 5° | 6855 | 6672 | 6690 |
| 10° | 6813 | 6557 | 6547 |
| 15° | 6752 | 6424 | 6381 |
| 20° | 6659 | 6278 | 6221 |
| 25° | 6555 | 6116 | 6046 |
| 30° | 6442 | 5954 | 5866 |
| 35° | 6314 | 5789 | 5708 |
| 40° | 6212 | 5632 | 5543 |
| 45° | 6061 | 5485 | 5401 |
| 50° | 5933 | 5317 | 5249 |
| 55° | 5799 | 5157 | 5073 |
| 60° | 5593 | 4955 | 4911 |
| 65° | 5366 | 4738 | 4711 |
| 70° | 5092 | 4490 | 4482 |
| 75° | 4708 | 4216 | 4269 |
| 80° | 4280 | 3947 | 4053 |
| 85° | 3733 | 3692 | 3905 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6061 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 72.8 | 2.8 |
| 10°-20° | 208.7 | 8.0 |
| 20°-30° | 315.6 | 12.0 |
| 30°-40° | 381.8 | 14.6 |
| 40°-50° | 403.7 | 15.4 |
| 50°-60° | 379.9 | 14.5 |
| 60°-70° | 315.2 | 12.0 |
| 70°-80° | 221.2 | 8.4 |
| 80°-90° | 124.7 | 4.8 |
| 90°-100° | 74.3 | 2.8 |
| 100°-110° | 55.0 | 2.1 |
| 110°-120° | 36.9 | 1.4 |
| 120°-130° | 20.8 | 0.8 |
| 130°-140° | 9.0 | 0.3 |
| 140°-150° | 1.8 | 0.1 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 597.2 | 22.8 |
| 0°-40° | 979.0 | 37.3 |
| 0°-60° | 1762.6 | 67.2 |
| 0°-90° | 2423.7 | 92.5 |
| 90°-120° | 166.1 | 6.3 |
| 90°-150° | 197.7 | 7.5 |
| 90°-180° | 198.0 | 7.6 |
| 0°-180° | 2621.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0° | 769 | 769 | 769 | 769 | 769 | |
| 5° | 770 | 767 | 761 | 768 | 767 | 73 |
| 15° | 738 | 739 | 736 | 744 | 743 | 208 |
| 25° | 675 | 680 | 683 | 692 | 693 | 311 |
| 35° | 591 | 601 | 610 | 622 | 624 | 370 |
| 45° | 492 | 509 | 525 | 540 | 544 | 381 |
| 55° | 386 | 404 | 430 | 447 | 452 | 344 |
| 65° | 267 | 294 | 324 | 345 | 352 | 265 |
| 75° | 148 | 180 | 216 | 240 | 248 | 157 |
| 85° | 46 | 82 | 120 | 146 | 155 | 48 |
| 90° | 14 | 48 | 85 | 110 | 117 | 9 |
| 95° | 11 | 40 | 75 | 98 | 106 | 9 |
| 105° | 8 | 25 | 57 | 78 | 85 | 9 |
| 115° | 5 | 13 | 40 | 59 | 65 | 5 |
| 125° | 3 | 3 | 24 | 40 | 46 | 3 |
| 135° | 2 | 2 | 8 | 22 | 27 | 2 |
| 145° | 1 | 0 | 0 | 5 | 9 | 1 |
| 155° | 0 | 0 | 0 | 0 | 0 | 0 |
| 165° | 0 | 0 | 0 | 0 | 0 | 0 |
| 175° | 0 | 0 | 0 | 0 | 0 | 0 |
| 180° | 0 | 0 | 0 | 0 | 0 | 0 |

TEST NUMBER: P242689

CATALOG NUMBER: S124DRP-S795D935-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|-------|-------|
| 0° | 768.9 | 768.9 | 768.9 | 768.9 | 768.9 |
| 2.5° | 772.3 | 769.7 | 762.8 | 768.9 | 768.0 |
| 5° | 769.7 | 767.2 | 761.1 | 768.0 | 767.2 |
| 7.5° | 764.6 | 762.8 | 757.7 | 765.4 | 764.6 |
| 10° | 757.7 | 756.8 | 752.5 | 760.3 | 759.4 |
| 12.5° | 748.2 | 748.2 | 745.6 | 752.5 | 752.5 |
| 15° | 737.9 | 738.7 | 736.2 | 743.9 | 743.0 |
| 17.5° | 724.1 | 726.7 | 725.8 | 733.6 | 732.7 |
| 20° | 709.5 | 712.0 | 712.9 | 721.5 | 721.5 |
| 22.5° | 693.1 | 696.5 | 698.3 | 706.9 | 708.6 |
| 25° | 675.0 | 680.2 | 682.8 | 692.2 | 693.1 |
| 27.5° | 655.2 | 663.0 | 666.4 | 675.0 | 675.9 |
| 30° | 635.4 | 642.3 | 648.3 | 657.8 | 659.5 |
| 32.5° | 613.9 | 622.5 | 629.4 | 640.6 | 642.3 |
| 35° | 590.6 | 601.0 | 609.6 | 621.6 | 624.2 |
| 37.5° | 567.4 | 579.5 | 589.8 | 601.8 | 604.4 |
| 40° | 545.0 | 556.2 | 568.3 | 581.2 | 584.6 |
| 42.5° | 519.2 | 532.1 | 546.7 | 561.4 | 564.0 |
| 45° | 492.5 | 508.9 | 525.2 | 539.8 | 544.2 |
| 47.5° | 467.5 | 483.9 | 502.8 | 517.5 | 522.6 |
| 50° | 440.0 | 458.9 | 477.9 | 495.1 | 500.2 |
| 52.5° | 412.4 | 431.4 | 453.7 | 471.0 | 476.1 |
| 55° | 385.7 | 403.8 | 429.6 | 446.9 | 452.0 |
| 57.5° | 355.6 | 378.0 | 402.9 | 423.6 | 427.9 |
| 60° | 326.3 | 348.7 | 377.1 | 396.9 | 403.8 |
| 62.5° | 297.9 | 322.9 | 351.3 | 371.1 | 378.0 |
| 65° | 266.9 | 294.5 | 323.7 | 345.3 | 352.1 |
| 67.5° | 237.6 | 266.9 | 297.9 | 319.4 | 326.3 |
| 70° | 207.5 | 236.8 | 269.5 | 292.7 | 298.8 |
| 72.5° | 178.2 | 208.4 | 243.7 | 266.0 | 272.9 |
| 75° | 148.1 | 179.9 | 216.1 | 240.2 | 248.0 |
| 77.5° | 119.7 | 153.3 | 191.1 | 215.2 | 223.9 |
| 80° | 93.8 | 128.3 | 166.2 | 192.0 | 198.9 |
| 82.5° | 68.0 | 104.2 | 142.1 | 168.8 | 176.5 |
| 85° | 45.6 | 81.8 | 120.5 | 146.4 | 155.0 |
| 87.5° | 28.4 | 63.7 | 101.6 | 126.6 | 134.3 |
| 90° | 13.8 | 48.2 | 85.2 | 110.2 | 117.1 |
| 92.5° | 12.9 | 43.0 | 80.1 | 104.2 | 111.1 |
| 95° | 11.2 | 39.6 | 74.9 | 98.2 | 105.9 |
| 97.5° | 10.3 | 35.3 | 70.6 | 93.0 | 100.7 |
| 100° | 9.5 | 31.9 | 65.4 | 88.7 | 94.7 |
| 102.5° | 9.5 | 28.4 | 61.1 | 83.5 | 90.4 |
| 105° | 7.7 | 25.0 | 56.8 | 78.4 | 85.2 |
| 107.5° | 7.7 | 22.4 | 52.5 | 74.0 | 80.1 |
| 110° | 6.9 | 18.9 | 49.1 | 68.9 | 75.8 |



TEST NUMBER: P242689

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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|------|-------|------|
| 112.5° | 6.0 | 16.4 | 44.8 | 63.7 | 70.6 |
| 115° | 5.2 | 12.9 | 40.5 | 59.4 | 65.4 |
| 117.5° | 5.2 | 10.3 | 36.2 | 54.2 | 61.1 |
| 120° | 4.3 | 6.9 | 31.9 | 49.1 | 56.0 |
| 122.5° | 4.3 | 4.3 | 27.6 | 44.8 | 50.8 |
| 125° | 3.4 | 2.6 | 24.1 | 40.5 | 45.6 |
| 127.5° | 3.4 | 2.6 | 19.8 | 35.3 | 41.3 |
| 130° | 2.6 | 1.7 | 15.5 | 31.0 | 36.2 |
| 132.5° | 2.6 | 1.7 | 12.1 | 26.7 | 31.9 |
| 135° | 1.7 | 1.7 | 7.7 | 21.5 | 26.7 |
| 137.5° | 1.7 | 0.9 | 4.3 | 17.2 | 21.5 |
| 140° | 1.7 | 0.9 | 1.7 | 12.9 | 17.2 |
| 142.5° | 0.9 | 0.9 | 0.0 | 9.5 | 12.9 |
| 145° | 0.9 | 0.0 | 0.0 | 5.2 | 8.6 |
| 147.5° | 0.9 | 0.0 | 0.0 | 0.9 | 4.3 |
| 150° | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| 152.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 155° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 157.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 162.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 165° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 167.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 172.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 175° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 177.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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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 | 16.47 | 17.99 | 16.95 | 18.46 | 18.96 | 18.02 | 19.55 | 18.50 | 20.01 | 20.51 |
| | 3H | 18.11 | 19.50 | 18.60 | 19.97 | 20.51 | 20.33 | 21.72 | 20.82 | 22.19 | 22.73 |
| | 4H | 18.67 | 19.99 | 19.19 | 20.48 | 21.04 | 21.39 | 22.70 | 21.90 | 23.20 | 23.75 |
| | 6H | 19.06 | 20.28 | 19.58 | 20.79 | 21.36 | 22.44 | 23.67 | 22.97 | 24.17 | 24.74 |
| | 8H | 19.16 | 20.34 | 19.70 | 20.87 | 21.44 | 22.96 | 24.13 | 23.50 | 24.66 | 25.24 |
| | 12H | 19.22 | 20.35 | 19.77 | 20.87 | 21.48 | 23.51 | 24.64 | 24.06 | 25.16 | 25.77 |
| 4H | 2H | 17.32 | 18.63 | 17.83 | 19.13 | 19.68 | 18.52 | 19.84 | 19.03 | 20.33 | 20.88 |
| | 3H | 19.20 | 20.32 | 19.72 | 20.85 | 21.43 | 21.05 | 22.17 | 21.57 | 22.70 | 23.28 |
| | 4H | 19.90 | 20.93 | 20.45 | 21.47 | 22.08 | 22.27 | 23.29 | 22.81 | 23.84 | 24.44 |
| | 6H | 20.42 | 21.32 | 20.98 | 21.89 | 22.51 | 23.50 | 24.40 | 24.06 | 24.97 | 25.59 |
| | 8H | 20.57 | 21.42 | 21.14 | 22.00 | 22.63 | 24.11 | 24.96 | 24.68 | 25.53 | 26.16 |
| | 12H | 20.68 | 21.45 | 21.27 | 22.05 | 22.68 | 24.77 | 25.54 | 25.36 | 26.14 | 26.78 |
| 8H | 4H | 20.48 | 21.33 | 21.05 | 21.90 | 22.53 | 22.52 | 23.37 | 23.09 | 23.94 | 24.57 |
| | 6H | 21.17 | 21.89 | 21.78 | 22.51 | 23.14 | 23.91 | 24.63 | 24.52 | 25.25 | 25.88 |
| | 8H | 21.43 | 22.07 | 22.04 | 22.70 | 23.35 | 24.66 | 25.30 | 25.27 | 25.93 | 26.58 |
| | 12H | 21.61 | 22.19 | 22.23 | 22.80 | 23.52 | 25.48 | 26.06 | 26.10 | 26.67 | 27.39 |
| 12H | 4H | 20.62 | 21.39 | 21.21 | 21.99 | 22.62 | 22.54 | 23.31 | 23.13 | 23.91 | 24.55 |
| | 6H | 21.39 | 22.04 | 22.00 | 22.66 | 23.31 | 23.96 | 24.61 | 24.58 | 25.24 | 25.89 |
| | 8H | 21.73 | 22.30 | 22.34 | 22.92 | 23.63 | 24.77 | 25.35 | 25.39 | 25.96 | 26.68 |