

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: P624723

Luminaire Tested: S930DIP-W540-X2-U5LT-W

Issue Date: 11/3/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P624723  
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-W540-X2-U5LT-W  
Description: NEO-RAY COVERA DIRECT/INDIRECT 2-FOOT LED WaveStream LUMINAIRE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

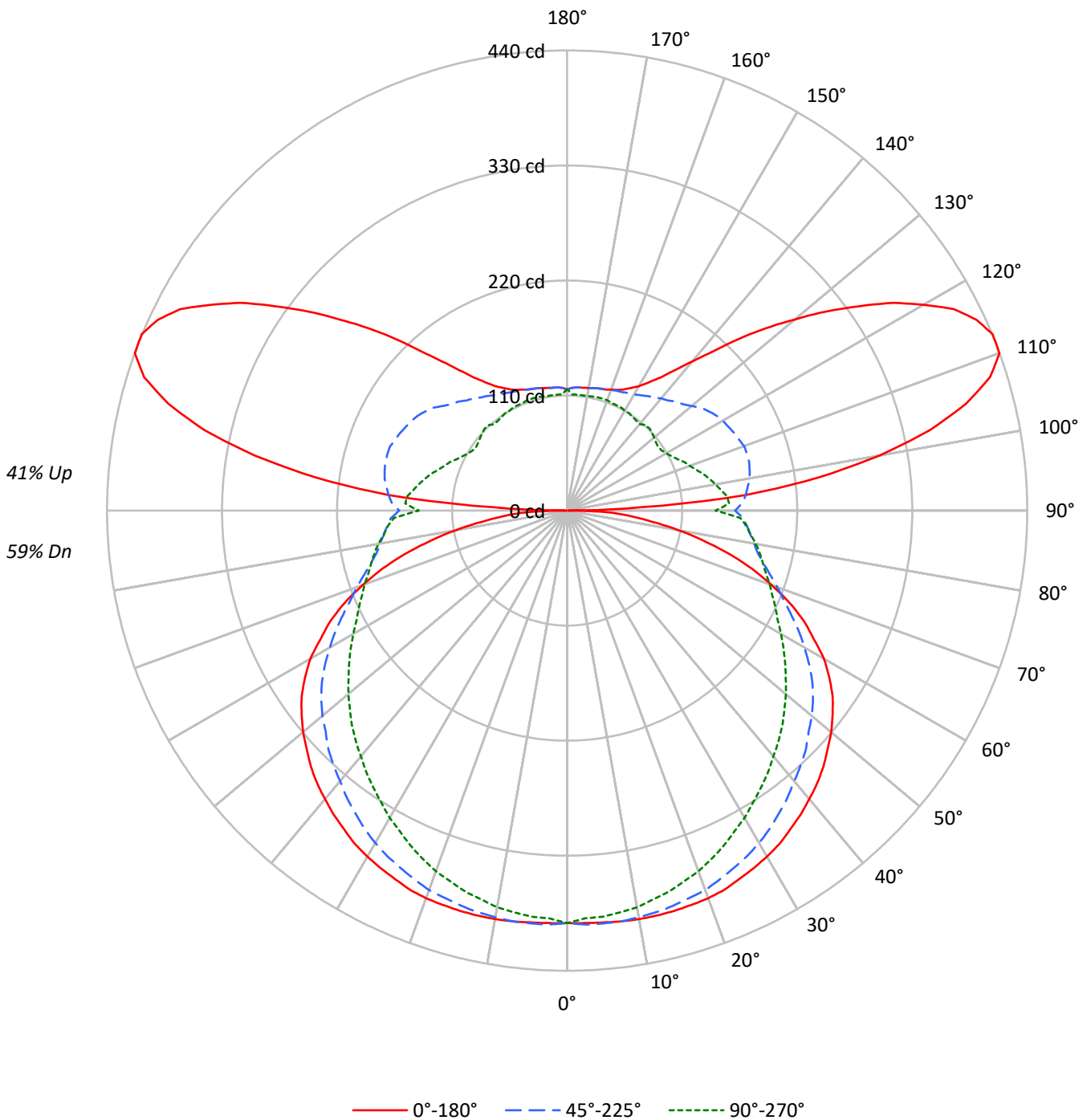
Lumens per Lamp: N/A  
Luminaire Lumens: 2772.8 lumens  
Efficiency: N/A  
Efficacy: 107.1 lumens/watt  
Spacing Criteria (0/90/45): 1.44 / 1.28 / 1.52  
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1.92' x H: 0.17')  
CIE Type: General Diffuse

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°  | 3322 | 3322 | 3322 |
| 5°  | 3317 | 3282 | 3226 |
| 10° | 3341 | 3241 | 3156 |
| 15° | 3377 | 3207 | 3081 |
| 20° | 3427 | 3185 | 3016 |
| 25° | 3474 | 3154 | 2945 |
| 30° | 3538 | 3138 | 2883 |
| 35° | 3606 | 3114 | 2829 |
| 40° | 3692 | 3096 | 2789 |
| 45° | 3798 | 3106 | 2772 |
| 50° | 3914 | 3118 | 2757 |
| 55° | 4050 | 3137 | 2753 |
| 60° | 4153 | 3126 | 2777 |
| 65° | 4197 | 3121 | 2851 |
| 70° | 4133 | 3183 | 3009 |
| 75° | 3944 | 3346 | 3263 |
| 80° | 3525 | 3743 | 3678 |
| 85° | 2981 | 4486 | 4317 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 90°  
 Luminance: 7112 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 37.7   | 1.4       |
| 10°-20°   | 110.2  | 4.0       |
| 20°-30°   | 173.1  | 6.2       |
| 30°-40°   | 220.2  | 7.9       |
| 40°-50°   | 248.0  | 8.9       |
| 50°-60°   | 254.0  | 9.2       |
| 60°-70°   | 234.8  | 8.5       |
| 70°-80°   | 197.2  | 7.1       |
| 80°-90°   | 163.0  | 5.9       |
| 90°-100°  | 187.8  | 6.8       |
| 100°-110° | 236.0  | 8.5       |
| 110°-120° | 224.5  | 8.1       |
| 120°-130° | 175.7  | 6.3       |
| 130°-140° | 124.0  | 4.5       |
| 140°-150° | 84.6   | 3.1       |
| 150°-160° | 57.2   | 2.1       |
| 160°-170° | 33.8   | 1.2       |
| 170°-180° | 11.2   | 0.4       |
| 0°-30°    | 321.0  | 11.6      |
| 0°-40°    | 541.1  | 19.5      |
| 0°-60°    | 1043.1 | 37.6      |
| 0°-90°    | 1638.2 | 59.1      |
| 90°-120°  | 648.2  | 23.4      |
| 90°-150°  | 1032.5 | 37.2      |
| 90°-180°  | 1135.0 | 40.9      |
| 0°-180°   | 2772.8 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 394 | 394   | 394 | 394   | 394 |      |
| 5°   | 395 | 396   | 396 | 396   | 390 | 38   |
| 15°  | 396 | 395   | 391 | 386   | 377 | 112  |
| 25°  | 389 | 386   | 377 | 366   | 354 | 180  |
| 35°  | 372 | 366   | 353 | 338   | 323 | 233  |
| 45°  | 346 | 336   | 323 | 306   | 291 | 267  |
| 55°  | 310 | 298   | 286 | 270   | 254 | 276  |
| 65°  | 250 | 246   | 237 | 231   | 220 | 246  |
| 75°  | 160 | 172   | 194 | 200   | 194 | 168  |
| 85°  | 62  | 133   | 173 | 176   | 172 | 59   |
| 90°  | 1   | 149   | 160 | 149   | 142 | 15   |
| 95°  | 172 | 207   | 171 | 158   | 154 | 164  |
| 105° | 395 | 312   | 180 | 145   | 135 | 408  |
| 115° | 432 | 330   | 176 | 130   | 116 | 424  |
| 125° | 341 | 270   | 166 | 123   | 106 | 306  |
| 135° | 232 | 196   | 147 | 124   | 111 | 181  |
| 145° | 155 | 148   | 134 | 121   | 109 | 100  |
| 155° | 128 | 128   | 125 | 120   | 111 | 60   |
| 165° | 121 | 121   | 121 | 118   | 112 | 34   |
| 175° | 118 | 118   | 118 | 117   | 111 | 11   |
| 180° | 116 | 116   | 116 | 116   | 116 |      |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 394.4 | 394.4 | 394.4 | 394.4 | 394.4 |
| 2.5°   | 394.8 | 395.3 | 396.2 | 396.2 | 390.2 |
| 5°     | 395.3 | 395.7 | 396.2 | 395.7 | 389.8 |
| 7.5°   | 396.2 | 395.7 | 396.2 | 394.4 | 387.5 |
| 10°    | 396.6 | 396.2 | 394.8 | 392.5 | 385.2 |
| 12.5°  | 396.6 | 395.7 | 393.4 | 388.9 | 380.7 |
| 15°    | 396.2 | 394.8 | 391.2 | 385.7 | 377.0 |
| 17.5°  | 395.3 | 393.9 | 388.4 | 381.1 | 371.6 |
| 20°    | 394.4 | 392.1 | 386.1 | 377.5 | 367.0 |
| 22.5°  | 392.5 | 388.9 | 381.6 | 372.0 | 360.6 |
| 25°    | 388.9 | 385.7 | 377.0 | 365.6 | 353.8 |
| 27.5°  | 385.7 | 381.6 | 372.5 | 359.2 | 346.0 |
| 30°    | 382.0 | 377.0 | 367.0 | 352.4 | 339.2 |
| 32.5°  | 377.9 | 372.0 | 360.6 | 345.6 | 331.0 |
| 35°    | 372.0 | 365.6 | 353.3 | 338.3 | 323.2 |
| 37.5°  | 366.5 | 359.7 | 346.0 | 330.5 | 315.5 |
| 40°    | 360.2 | 352.4 | 337.8 | 321.9 | 306.8 |
| 42.5°  | 353.8 | 345.1 | 330.5 | 315.0 | 299.1 |
| 45°    | 346.5 | 336.5 | 322.8 | 306.4 | 290.9 |
| 47.5°  | 337.8 | 327.8 | 313.2 | 297.7 | 281.7 |
| 50°    | 329.6 | 319.6 | 305.5 | 288.6 | 273.1 |
| 52.5°  | 320.0 | 309.6 | 296.3 | 279.0 | 263.5 |
| 55°    | 310.0 | 298.2 | 286.3 | 269.9 | 254.4 |
| 57.5°  | 297.2 | 287.2 | 274.5 | 259.4 | 245.3 |
| 60°    | 283.6 | 274.0 | 262.1 | 249.4 | 236.2 |
| 62.5°  | 265.8 | 260.3 | 249.8 | 239.8 | 227.0 |
| 65°    | 249.8 | 246.2 | 236.6 | 230.7 | 219.7 |
| 67.5°  | 230.2 | 231.1 | 224.3 | 222.0 | 212.4 |
| 70°    | 207.9 | 213.4 | 213.8 | 214.3 | 206.1 |
| 72.5°  | 185.6 | 193.3 | 203.3 | 206.1 | 199.2 |
| 75°    | 160.5 | 172.3 | 194.2 | 200.1 | 193.8 |
| 77.5°  | 134.0 | 152.7 | 186.5 | 194.7 | 188.7 |
| 80°    | 108.5 | 139.0 | 181.4 | 188.7 | 183.3 |
| 82.5°  | 82.1  | 132.2 | 176.9 | 181.9 | 176.9 |
| 85°    | 61.5  | 132.7 | 172.8 | 176.0 | 172.3 |
| 87.5°  | 39.7  | 138.6 | 168.7 | 169.6 | 165.9 |
| 90°    | 0.9   | 148.6 | 160.5 | 149.1 | 141.8 |
| 92.5°  | 70.2  | 176.9 | 167.8 | 159.6 | 155.0 |
| 95°    | 171.9 | 207.4 | 171.4 | 158.2 | 153.6 |
| 97.5°  | 242.5 | 238.9 | 174.2 | 155.0 | 148.6 |
| 100°   | 303.2 | 266.2 | 177.3 | 152.3 | 144.1 |
| 102.5° | 355.1 | 291.3 | 178.7 | 148.6 | 139.5 |
| 105°   | 394.8 | 311.8 | 180.1 | 145.0 | 134.9 |
| 107.5° | 424.0 | 326.9 | 180.1 | 141.3 | 129.5 |
| 110°   | 439.9 | 336.5 | 180.1 | 137.7 | 124.9 |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 440.4 | 336.5 | 177.8 | 133.1 | 121.3 |
| 115°   | 431.7 | 329.6 | 176.0 | 130.4 | 116.3 |
| 117.5° | 417.1 | 318.7 | 173.7 | 126.3 | 112.6 |
| 120°   | 393.4 | 305.0 | 171.9 | 124.0 | 109.4 |
| 122.5° | 369.7 | 288.1 | 169.1 | 123.1 | 107.1 |
| 125°   | 340.6 | 270.3 | 165.5 | 122.6 | 106.2 |
| 127.5° | 312.7 | 251.7 | 161.4 | 123.1 | 107.1 |
| 130°   | 284.5 | 233.0 | 155.5 | 124.5 | 108.5 |
| 132.5° | 258.0 | 212.4 | 150.4 | 124.9 | 109.9 |
| 135°   | 232.1 | 195.6 | 147.3 | 124.0 | 111.2 |
| 137.5° | 206.1 | 180.1 | 142.7 | 121.3 | 110.8 |
| 140°   | 186.0 | 167.3 | 140.0 | 120.4 | 108.0 |
| 142.5° | 169.1 | 156.4 | 136.3 | 120.8 | 108.5 |
| 145°   | 155.0 | 148.2 | 133.6 | 120.8 | 109.4 |
| 147.5° | 145.4 | 141.3 | 130.8 | 120.8 | 110.3 |
| 150°   | 137.2 | 135.4 | 128.1 | 120.4 | 110.3 |
| 152.5° | 132.2 | 131.3 | 126.7 | 120.4 | 111.2 |
| 155°   | 127.7 | 127.7 | 124.9 | 119.9 | 111.2 |
| 157.5° | 124.9 | 124.9 | 124.0 | 119.4 | 111.2 |
| 160°   | 123.1 | 123.5 | 122.6 | 119.4 | 112.2 |
| 162.5° | 121.3 | 121.7 | 121.7 | 119.0 | 112.2 |
| 165°   | 120.8 | 120.8 | 120.8 | 118.5 | 112.2 |
| 167.5° | 119.9 | 119.9 | 119.9 | 118.1 | 111.7 |
| 170°   | 119.0 | 119.0 | 119.0 | 117.6 | 111.2 |
| 172.5° | 118.5 | 118.1 | 118.1 | 117.2 | 111.2 |
| 175°   | 118.1 | 118.1 | 118.1 | 117.2 | 111.2 |
| 177.5° | 117.6 | 117.6 | 117.6 | 116.7 | 111.2 |
| 180°   | 115.8 | 115.8 | 115.8 | 115.8 | 115.8 |



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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 | 13.32            | 14.37 | 14.18 | 15.26 | 16.39 | 12.96          | 14.00 | 13.82 | 14.90 | 16.03 |
|                 | 3H   | 15.51            | 16.46 | 16.37 | 17.36 | 18.51 | 15.62          | 16.57 | 16.49 | 17.47 | 18.62 |
|                 | 4H   | 16.33            | 17.24 | 17.22 | 18.14 | 19.31 | 16.99          | 17.89 | 17.87 | 18.80 | 19.96 |
|                 | 6H   | 16.95            | 17.79 | 17.85 | 18.71 | 19.88 | 18.47          | 19.31 | 19.36 | 20.22 | 21.40 |
|                 | 8H   | 17.16            | 17.97 | 18.07 | 18.90 | 20.08 | 19.24          | 20.04 | 20.14 | 20.98 | 22.15 |
|                 | 12H  | 17.32            | 18.09 | 18.23 | 19.01 | 20.22 | 20.06          | 20.83 | 20.97 | 21.75 | 22.96 |
| 4H              | 2H   | 13.98            | 14.88 | 14.87 | 15.79 | 16.95 | 13.71          | 14.61 | 14.59 | 15.52 | 16.68 |
|                 | 3H   | 16.41            | 17.19 | 17.31 | 18.13 | 19.30 | 16.58          | 17.36 | 17.48 | 18.29 | 19.47 |
|                 | 4H   | 17.41            | 18.13 | 18.32 | 19.06 | 20.26 | 18.11          | 18.83 | 19.02 | 19.76 | 20.96 |
|                 | 6H   | 18.21            | 18.84 | 19.14 | 19.80 | 21.00 | 19.77          | 20.40 | 20.70 | 21.36 | 22.56 |
|                 | 8H   | 18.52            | 19.12 | 19.45 | 20.07 | 21.28 | 20.64          | 21.24 | 21.57 | 22.19 | 23.41 |
|                 | 12H  | 18.76            | 19.30 | 19.71 | 20.27 | 21.49 | 21.57          | 22.11 | 22.52 | 23.08 | 24.30 |
| 8H              | 4H   | 17.98            | 18.57 | 18.90 | 19.52 | 20.74 | 18.57          | 19.16 | 19.49 | 20.11 | 21.33 |
|                 | 6H   | 19.04            | 19.54 | 19.99 | 20.53 | 21.74 | 20.46          | 20.96 | 21.41 | 21.95 | 23.17 |
|                 | 8H   | 19.52            | 19.97 | 20.48 | 20.95 | 22.18 | 21.50          | 21.95 | 22.45 | 22.93 | 24.16 |
|                 | 12H  | 19.94            | 20.35 | 20.91 | 21.32 | 22.60 | 22.62          | 23.02 | 23.58 | 23.99 | 25.27 |
| 12H             | 4H   | 18.12            | 18.66 | 19.07 | 19.63 | 20.85 | 18.62          | 19.17 | 19.57 | 20.13 | 21.36 |
|                 | 6H   | 19.32            | 19.77 | 20.28 | 20.75 | 21.98 | 20.61          | 21.06 | 21.57 | 22.04 | 23.27 |
|                 | 8H   | 19.92            | 20.33 | 20.89 | 21.30 | 22.58 | 21.73          | 22.13 | 22.69 | 23.11 | 24.38 |