

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: NEO-RAY

Report Number: P998759

Luminaire Tested: SA2XXDIP-B675D330UB30-4F0-XX-W2A-D

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998759  
REPORT IS A COMBINATION OF REPORTS P984505 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B675D330UB30-4F0-XX-W2A-D  
Description: Define 2 Direct/Indirect Pendant with 3000K BioUP LEDs {m-DER=0.589} {m-EER=0.647}  
Light Source: -  
Ballast/Driver: -

**Summary**

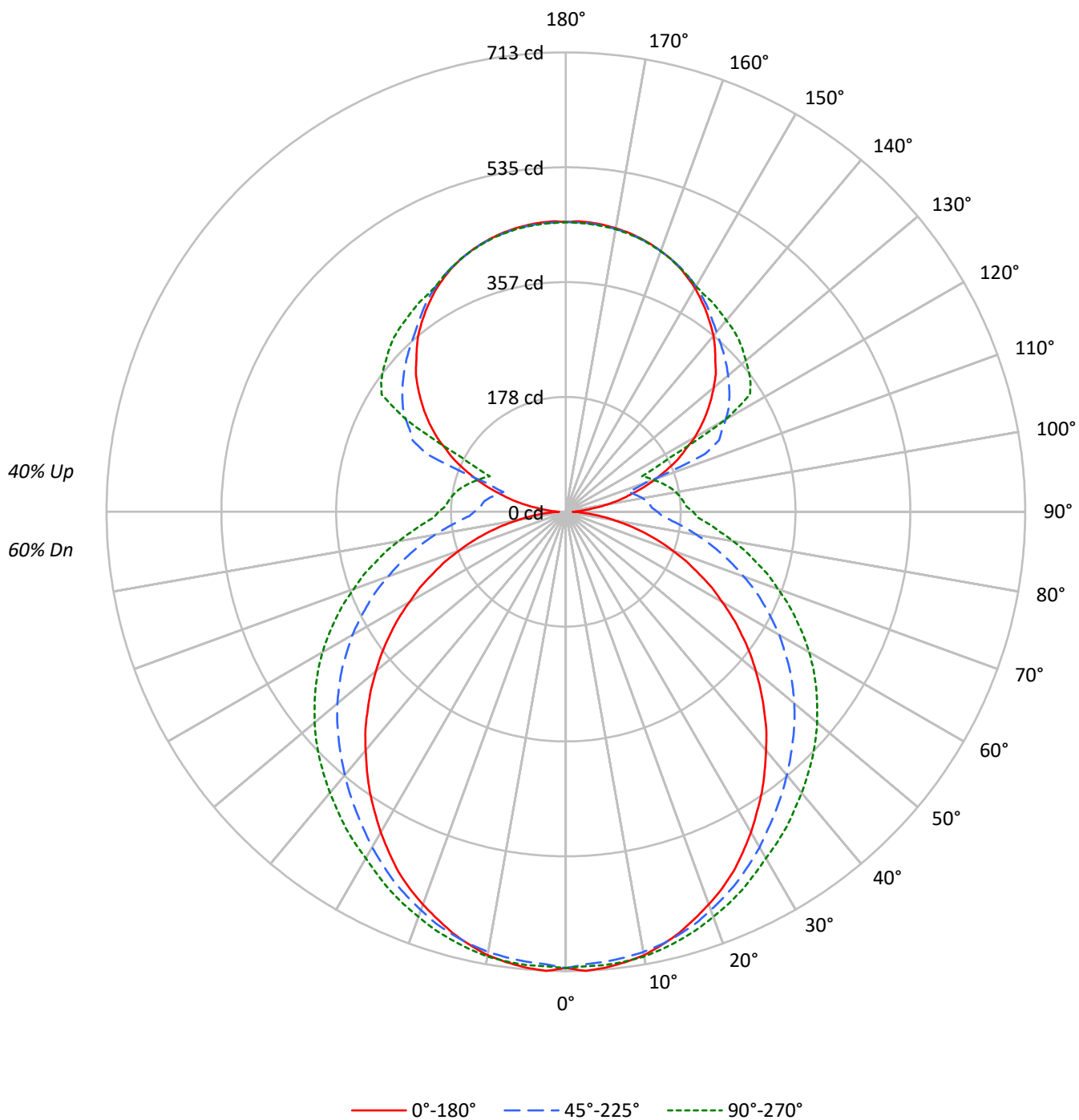
Lumens per Lamp: N/A  
Luminaire Lumens: 4021.0 lumens  
Efficiency: N/A  
Efficacy: 89.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 45.2  
Input Voltage (V):  
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: P998759

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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 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 |
| RCR |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |
| 0   | 109 | 109 | 109 | 109 | 102 | 102 | 102 | 102 | 89 | 89 | 89 | 76 | 76 | 76 | 65 | 65 | 65 |
| 1   | 98  | 93  | 88  | 84  | 91  | 87  | 83  | 79  | 75 | 72 | 69 | 65 | 62 | 60 | 55 | 53 | 51 |
| 2   | 89  | 80  | 73  | 67  | 82  | 75  | 69  | 63  | 65 | 60 | 56 | 56 | 52 | 49 | 47 | 44 | 42 |
| 3   | 80  | 70  | 62  | 55  | 75  | 65  | 58  | 52  | 57 | 51 | 46 | 49 | 44 | 40 | 41 | 38 | 35 |
| 4   | 73  | 62  | 53  | 46  | 68  | 58  | 50  | 44  | 50 | 44 | 39 | 43 | 38 | 34 | 36 | 33 | 30 |
| 5   | 67  | 55  | 46  | 39  | 62  | 51  | 43  | 37  | 45 | 38 | 33 | 38 | 33 | 29 | 33 | 29 | 25 |
| 6   | 62  | 49  | 40  | 34  | 57  | 46  | 38  | 32  | 40 | 34 | 29 | 35 | 29 | 26 | 29 | 25 | 22 |
| 7   | 57  | 44  | 36  | 30  | 53  | 41  | 34  | 28  | 36 | 30 | 25 | 31 | 26 | 22 | 27 | 23 | 20 |
| 8   | 53  | 40  | 32  | 26  | 49  | 38  | 30  | 25  | 33 | 27 | 22 | 29 | 24 | 20 | 25 | 21 | 17 |
| 9   | 49  | 36  | 29  | 23  | 46  | 34  | 27  | 22  | 30 | 24 | 20 | 26 | 21 | 18 | 23 | 19 | 16 |
| 10  | 46  | 33  | 26  | 21  | 43  | 32  | 25  | 20  | 28 | 22 | 18 | 24 | 20 | 16 | 21 | 17 | 14 |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 11209 | 11209 | 11209 |
| 5°  | 11260 | 10732 | 10671 |
| 10° | 11184 | 10360 | 10209 |
| 15° | 11026 | 9975  | 9734  |
| 20° | 10827 | 9570  | 9284  |
| 25° | 10631 | 9185  | 8876  |
| 30° | 10355 | 8791  | 8472  |
| 35° | 10077 | 8412  | 8175  |
| 40° | 9784  | 8086  | 7880  |
| 45° | 9503  | 7789  | 7624  |
| 50° | 9204  | 7516  | 7369  |
| 55° | 8886  | 7225  | 7111  |
| 60° | 8503  | 6921  | 6840  |
| 65° | 8098  | 6573  | 6527  |
| 70° | 7644  | 6199  | 6192  |
| 75° | 7060  | 5826  | 5874  |
| 80° | 6148  | 5436  | 5546  |
| 85° | 5212  | 5071  | 5260  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 9503 cd/sqm

TEST NUMBER: P998759

CATALOG NUMBER: SA2XXDIP-B675D330UB30-4F0-XX-W2A-D

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 67.1   | 1.7       |
| 10°-20°   | 192.5  | 4.8       |
| 20°-30°   | 291.7  | 7.3       |
| 30°-40°   | 355.2  | 8.8       |
| 40°-50°   | 382.2  | 9.5       |
| 50°-60°   | 371.2  | 9.2       |
| 60°-70°   | 324.2  | 8.1       |
| 70°-80°   | 249.5  | 6.2       |
| 80°-90°   | 167.9  | 4.2       |
| 90°-100°  | 130.1  | 3.2       |
| 100°-110° | 139.5  | 3.5       |
| 110°-120° | 202.2  | 5.0       |
| 120°-130° | 274.1  | 6.8       |
| 130°-140° | 271.3  | 6.7       |
| 140°-150° | 242.2  | 6.0       |
| 150°-160° | 193.0  | 4.8       |
| 160°-170° | 124.3  | 3.1       |
| 170°-180° | 42.8   | 1.1       |
| 0°-30°    | 551.4  | 13.7      |
| 0°-40°    | 906.6  | 22.5      |
| 0°-60°    | 1660.0 | 41.3      |
| 0°-90°    | 2401.6 | 59.7      |
| 90°-120°  | 471.7  | 11.7      |
| 90°-150°  | 1259.3 | 31.3      |
| 90°-180°  | 1619.0 | 40.3      |
| 0°-180°   | 4021.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 708 | 708   | 708 | 708   | 708 |      |
| 5°   | 710 | 707   | 701 | 707   | 706 | 67   |
| 15°  | 677 | 679   | 679 | 689   | 688 | 191  |
| 25°  | 616 | 623   | 632 | 644   | 648 | 283  |
| 35°  | 531 | 548   | 568 | 590   | 597 | 332  |
| 45°  | 435 | 463   | 499 | 531   | 541 | 336  |
| 55°  | 334 | 370   | 424 | 461   | 474 | 298  |
| 65°  | 228 | 278   | 339 | 381   | 394 | 226  |
| 75°  | 126 | 184   | 249 | 294   | 307 | 134  |
| 85°  | 37  | 101   | 166 | 209   | 224 | 39   |
| 90°  | 11  | 74    | 142 | 185   | 198 | 8    |
| 95°  | 29  | 67    | 131 | 171   | 183 | 31   |
| 105° | 104 | 144   | 108 | 148   | 160 | 112  |
| 115° | 191 | 208   | 262 | 142   | 130 | 188  |
| 125° | 267 | 271   | 310 | 340   | 350 | 238  |
| 135° | 328 | 334   | 347 | 372   | 379 | 254  |
| 145° | 380 | 379   | 385 | 393   | 397 | 238  |
| 155° | 418 | 415   | 419 | 421   | 418 | 193  |
| 165° | 440 | 439   | 440 | 442   | 440 | 124  |
| 175° | 451 | 448   | 449 | 451   | 448 | 43   |
| 180° | 450 | 450   | 450 | 450   | 450 |      |

TEST NUMBER: P998759

CATALOG NUMBER: SA2XXDIP-B675D330UB30-4F0-XX-W2A-D

**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 708.1 | 708.1 | 708.1 | 708.1 | 708.1 |
| 2.5°   | 713.3 | 710.2 | 703.0 | 708.1 | 706.1 |
| 5°     | 710.2 | 707.1 | 701.0 | 707.1 | 706.1 |
| 7.5°   | 705.1 | 703.0 | 697.9 | 705.1 | 704.0 |
| 10°    | 698.9 | 696.8 | 693.8 | 702.0 | 701.0 |
| 12.5°  | 688.6 | 689.7 | 687.6 | 695.8 | 694.8 |
| 15°    | 677.3 | 679.4 | 679.4 | 688.6 | 687.6 |
| 17.5°  | 663.0 | 667.1 | 670.2 | 679.4 | 679.4 |
| 20°    | 648.6 | 653.7 | 657.8 | 669.1 | 669.1 |
| 22.5°  | 633.2 | 639.4 | 645.5 | 656.8 | 658.9 |
| 25°    | 615.8 | 623.0 | 632.2 | 644.5 | 647.6 |
| 27.5°  | 595.2 | 606.5 | 616.8 | 632.2 | 634.2 |
| 30°    | 574.7 | 588.1 | 601.4 | 617.8 | 620.9 |
| 32.5°  | 552.1 | 567.5 | 584.0 | 603.5 | 609.6 |
| 35°    | 530.6 | 548.0 | 567.5 | 590.1 | 597.3 |
| 37.5°  | 507.0 | 526.5 | 551.1 | 575.7 | 582.9 |
| 40°    | 483.4 | 506.0 | 533.7 | 560.4 | 569.6 |
| 42.5°  | 460.8 | 483.4 | 516.2 | 546.0 | 555.2 |
| 45°    | 435.1 | 462.9 | 498.8 | 530.6 | 540.9 |
| 47.5°  | 410.5 | 440.3 | 481.3 | 514.2 | 525.5 |
| 50°    | 384.9 | 416.7 | 462.9 | 497.7 | 509.0 |
| 52.5°  | 360.2 | 394.1 | 443.4 | 479.3 | 491.6 |
| 55°    | 333.5 | 370.5 | 423.9 | 460.8 | 474.1 |
| 57.5°  | 307.9 | 348.9 | 402.3 | 442.3 | 455.7 |
| 60°    | 280.2 | 324.3 | 382.8 | 421.8 | 436.2 |
| 62.5°  | 255.5 | 301.7 | 360.2 | 402.3 | 415.6 |
| 65°    | 227.8 | 278.1 | 338.7 | 380.8 | 394.1 |
| 67.5°  | 203.2 | 255.5 | 317.1 | 359.2 | 373.6 |
| 70°    | 176.5 | 229.9 | 293.5 | 337.6 | 350.0 |
| 72.5°  | 151.9 | 207.3 | 272.0 | 315.1 | 330.5 |
| 75°    | 126.2 | 183.7 | 249.4 | 293.5 | 306.9 |
| 77.5°  | 101.6 | 161.1 | 227.8 | 272.0 | 286.3 |
| 80°    | 77.0  | 139.6 | 206.3 | 249.4 | 263.8 |
| 82.5°  | 56.4  | 118.0 | 185.8 | 228.9 | 242.2 |
| 85°    | 36.9  | 100.6 | 166.3 | 209.4 | 223.7 |
| 87.5°  | 22.6  | 84.2  | 149.8 | 191.9 | 205.3 |
| 90°    | 10.6  | 73.7  | 142.0 | 184.6 | 197.6 |
| 92.5°  | 17.3  | 70.4  | 134.0 | 174.8 | 187.4 |
| 95°    | 29.3  | 66.8  | 130.7 | 171.3 | 183.3 |
| 97.5°  | 45.3  | 62.7  | 127.4 | 166.4 | 179.0 |
| 100°   | 64.8  | 58.2  | 121.1 | 161.7 | 173.7 |
| 102.5° | 85.3  | 118.4 | 114.6 | 155.2 | 167.5 |
| 105°   | 104.0 | 143.6 | 108.1 | 147.6 | 160.2 |
| 107.5° | 127.1 | 159.9 | 101.6 | 140.1 | 152.7 |
| 110°   | 148.2 | 175.6 | 131.8 | 132.2 | 144.7 |

TEST NUMBER: P998759

CATALOG NUMBER: SA2XXDIP-B675D330UB30-4F0-XX-W2A-D

**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 169.1 | 191.3 | 233.0 | 125.7 | 137.9 |
| 115°   | 191.2 | 208.0 | 262.3 | 142.5 | 130.4 |
| 117.5° | 209.4 | 224.1 | 272.7 | 257.0 | 181.9 |
| 120°   | 230.9 | 239.8 | 286.7 | 319.4 | 286.8 |
| 122.5° | 249.1 | 255.3 | 299.8 | 329.4 | 339.0 |
| 125°   | 266.6 | 270.8 | 309.8 | 339.8 | 350.0 |
| 127.5° | 283.5 | 287.0 | 319.6 | 348.5 | 358.1 |
| 130°   | 299.5 | 303.6 | 328.8 | 356.9 | 364.8 |
| 132.5° | 315.7 | 318.9 | 337.9 | 364.4 | 372.3 |
| 135°   | 328.3 | 333.5 | 346.7 | 371.5 | 379.1 |
| 137.5° | 342.6 | 346.5 | 355.0 | 377.7 | 383.9 |
| 140°   | 356.6 | 358.2 | 363.9 | 383.2 | 387.7 |
| 142.5° | 368.3 | 369.6 | 373.8 | 388.7 | 392.2 |
| 145°   | 379.7 | 379.4 | 384.9 | 393.4 | 396.9 |
| 147.5° | 390.4 | 389.5 | 395.0 | 397.6 | 399.4 |
| 150°   | 400.8 | 398.6 | 403.8 | 405.7 | 404.1 |
| 152.5° | 409.6 | 407.0 | 411.9 | 413.9 | 411.6 |
| 155°   | 418.1 | 415.2 | 419.1 | 421.0 | 418.4 |
| 157.5° | 424.9 | 422.3 | 425.2 | 427.5 | 424.9 |
| 160°   | 430.8 | 428.8 | 430.8 | 432.7 | 430.5 |
| 162.5° | 436.0 | 434.0 | 435.7 | 437.9 | 435.0 |
| 165°   | 440.5 | 438.6 | 439.6 | 441.8 | 439.6 |
| 167.5° | 444.1 | 442.2 | 443.1 | 445.4 | 442.5 |
| 170°   | 447.0 | 445.1 | 445.7 | 448.0 | 445.1 |
| 172.5° | 449.0 | 447.0 | 447.7 | 450.0 | 447.0 |
| 175°   | 450.6 | 448.3 | 449.0 | 451.3 | 448.0 |
| 177.5° | 451.3 | 449.0 | 449.3 | 451.6 | 448.7 |
| 180°   | 449.6 | 449.6 | 449.6 | 449.6 | 449.6 |

TEST NUMBER: P998759

CATALOG NUMBER: SA2XXDIP-B675D330UB30-4F0-XX-W2A-D

**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 | 14.44            | 15.46 | 15.30 | 16.35 | 17.47 | 17.52          | 18.53 | 18.37 | 19.42 | 20.54 |
|                 | 3H   | 15.91            | 16.83 | 16.78 | 17.73 | 18.88 | 20.11          | 21.04 | 20.98 | 21.94 | 23.08 |
|                 | 4H   | 16.39            | 17.27 | 17.28 | 18.17 | 19.33 | 21.37          | 22.25 | 22.26 | 23.16 | 24.31 |
|                 | 6H   | 16.68            | 17.50 | 17.58 | 18.41 | 19.58 | 22.68          | 23.49 | 23.57 | 24.40 | 25.57 |
|                 | 8H   | 16.75            | 17.53 | 17.65 | 18.45 | 19.62 | 23.34          | 24.12 | 24.25 | 25.05 | 26.22 |
|                 | 12H  | 16.77            | 17.51 | 17.68 | 18.43 | 19.63 | 24.07          | 24.82 | 24.98 | 25.74 | 26.93 |
| 4H              | 2H   | 15.51            | 16.39 | 16.39 | 17.29 | 18.44 | 17.86          | 18.74 | 18.75 | 19.64 | 20.80 |
|                 | 3H   | 17.23            | 17.97 | 18.13 | 18.91 | 20.08 | 20.66          | 21.41 | 21.56 | 22.34 | 23.51 |
|                 | 4H   | 17.85            | 18.54 | 18.76 | 19.47 | 20.66 | 22.09          | 22.77 | 23.00 | 23.70 | 24.90 |
|                 | 6H   | 18.28            | 18.88 | 19.20 | 19.83 | 21.03 | 23.56          | 24.17 | 24.49 | 25.12 | 26.31 |
|                 | 8H   | 18.39            | 18.96 | 19.32 | 19.90 | 21.11 | 24.32          | 24.89 | 25.25 | 25.84 | 27.05 |
|                 | 12H  | 18.44            | 18.96 | 19.39 | 19.92 | 21.14 | 25.16          | 25.68 | 26.11 | 26.64 | 27.86 |
| 8H              | 4H   | 18.66            | 19.22 | 19.58 | 20.17 | 21.38 | 22.24          | 22.81 | 23.17 | 23.76 | 24.97 |
|                 | 6H   | 19.30            | 19.77 | 20.25 | 20.76 | 21.97 | 23.88          | 24.36 | 24.83 | 25.34 | 26.55 |
|                 | 8H   | 19.52            | 19.95 | 20.48 | 20.92 | 22.15 | 24.77          | 25.20 | 25.73 | 26.17 | 27.40 |
|                 | 12H  | 19.66            | 20.04 | 20.63 | 21.01 | 22.28 | 25.77          | 26.15 | 26.74 | 27.12 | 28.39 |
| 12H             | 4H   | 18.86            | 19.38 | 19.81 | 20.34 | 21.56 | 22.23          | 22.74 | 23.17 | 23.70 | 24.92 |
|                 | 6H   | 19.63            | 20.06 | 20.59 | 21.03 | 22.26 | 23.91          | 24.33 | 24.87 | 25.31 | 26.53 |
|                 | 8H   | 19.94            | 20.32 | 20.91 | 21.29 | 22.57 | 24.84          | 25.22 | 25.81 | 26.19 | 27.46 |