

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: P998669

Luminaire Tested: SA2XXDIP-B485D925UB50-4F0-XX-W2A-D

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998669  
REPORT IS A COMBINATION OF REPORTS P984412 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B485D925UB50-4F0-XX-W2A-D  
Description: Define 2 Direct/Indirect Pendant with 5000K BioUP LEDs {m-DER=1.015} {m-EER=1.115}  
Light Source: -  
Ballast/Driver: -

**Summary**

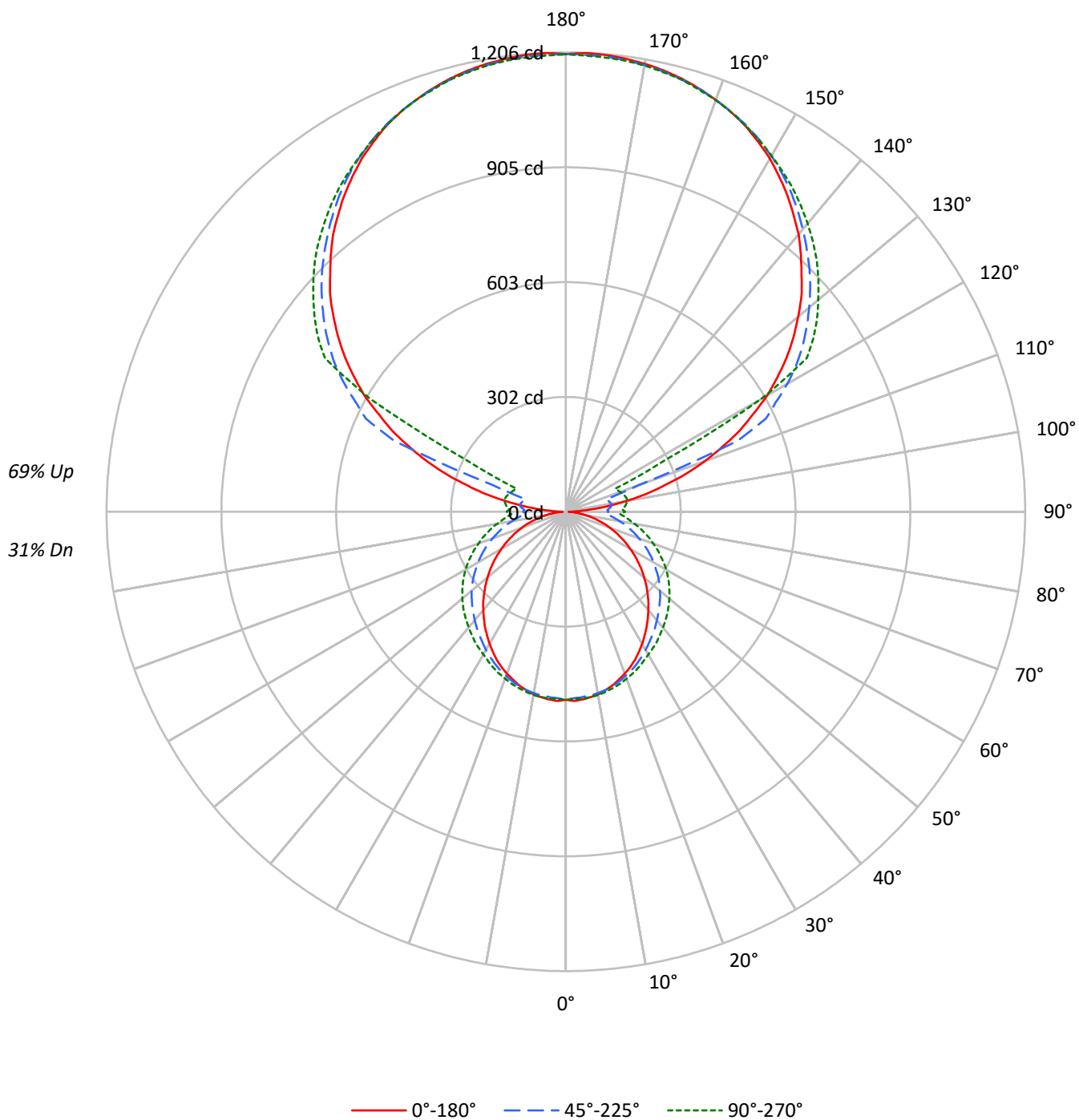
Lumens per Lamp: N/A  
Luminaire Lumens: 5407.0 lumens  
Efficiency: N/A  
Efficacy: 103.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: Semi-Indirect

Input Watts (W): 52.5  
Input Voltage (V):  
Input Current (A<sub>in</sub>): 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 |
| RW  | 70  | 50  | 30  | 10  | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 |
| RCR |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0   | 103 | 103 | 103 | 103 | 92 | 92 | 92 | 92 | 73 | 73 | 73 | 55 | 55 | 55 | 39 | 39 | 39 |
| 1   | 93  | 88  | 84  | 80  | 83 | 79 | 76 | 72 | 62 | 60 | 58 | 47 | 45 | 44 | 33 | 32 | 31 |
| 2   | 84  | 76  | 70  | 65  | 75 | 69 | 63 | 59 | 54 | 50 | 47 | 41 | 38 | 36 | 28 | 27 | 25 |
| 3   | 76  | 67  | 59  | 53  | 68 | 60 | 54 | 48 | 47 | 43 | 39 | 36 | 32 | 30 | 25 | 23 | 21 |
| 4   | 70  | 59  | 51  | 45  | 62 | 53 | 46 | 41 | 42 | 37 | 33 | 31 | 28 | 25 | 22 | 20 | 18 |
| 5   | 64  | 52  | 44  | 38  | 57 | 47 | 40 | 35 | 37 | 32 | 28 | 28 | 24 | 22 | 20 | 17 | 15 |
| 6   | 58  | 46  | 38  | 33  | 52 | 42 | 35 | 30 | 33 | 28 | 24 | 25 | 22 | 19 | 18 | 15 | 13 |
| 7   | 54  | 42  | 34  | 28  | 48 | 38 | 31 | 26 | 30 | 25 | 21 | 23 | 19 | 16 | 16 | 14 | 12 |
| 8   | 50  | 38  | 30  | 25  | 45 | 34 | 27 | 23 | 27 | 22 | 19 | 21 | 17 | 14 | 15 | 12 | 10 |
| 9   | 46  | 34  | 27  | 22  | 41 | 31 | 25 | 20 | 25 | 20 | 16 | 19 | 15 | 13 | 14 | 11 | 9  |
| 10  | 43  | 31  | 24  | 19  | 39 | 28 | 22 | 18 | 23 | 18 | 15 | 17 | 14 | 12 | 12 | 10 | 8  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 7812 | 7812 | 7812 |
| 5°  | 7847 | 7478 | 7437 |
| 10° | 7795 | 7220 | 7114 |
| 15° | 7684 | 6952 | 6784 |
| 20° | 7545 | 6669 | 6470 |
| 25° | 7408 | 6401 | 6186 |
| 30° | 7216 | 6127 | 5904 |
| 35° | 7023 | 5863 | 5698 |
| 40° | 6819 | 5635 | 5491 |
| 45° | 6622 | 5428 | 5312 |
| 50° | 6414 | 5238 | 5135 |
| 55° | 6193 | 5035 | 4955 |
| 60° | 5926 | 4824 | 4767 |
| 65° | 5645 | 4580 | 4548 |
| 70° | 5327 | 4319 | 4315 |
| 75° | 4923 | 4060 | 4092 |
| 80° | 4279 | 3789 | 3864 |
| 85° | 3630 | 3534 | 3666 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 6622 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 46.8   | 0.9       |
| 10°-20°   | 134.2  | 2.5       |
| 20°-30°   | 203.3  | 3.8       |
| 30°-40°   | 247.6  | 4.6       |
| 40°-50°   | 266.4  | 4.9       |
| 50°-60°   | 258.7  | 4.8       |
| 60°-70°   | 225.9  | 4.2       |
| 70°-80°   | 173.9  | 3.2       |
| 80°-90°   | 118.6  | 2.2       |
| 90°-100°  | 119.9  | 2.2       |
| 100°-110° | 206.3  | 3.8       |
| 110°-120° | 430.4  | 8.0       |
| 120°-130° | 671.1  | 12.4      |
| 130°-140° | 699.0  | 12.9      |
| 140°-150° | 642.8  | 11.9      |
| 150°-160° | 515.6  | 9.5       |
| 160°-170° | 332.2  | 6.1       |
| 170°-180° | 114.3  | 2.1       |
| <hr/>     |        |           |
| 0°-30°    | 384.3  | 7.1       |
| 0°-40°    | 631.8  | 11.7      |
| 0°-60°    | 1156.9 | 21.4      |
| 0°-90°    | 1675.2 | 31.0      |
| 90°-120°  | 756.7  | 14.0      |
| 90°-150°  | 2769.6 | 51.2      |
| 90°-180°  | 3732.0 | 69.0      |
| 0°-180°   | 5407.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 494  | 494   | 494  | 494   | 494  |      |
| 5°   | 495  | 493   | 488  | 493   | 492  | 47   |
| 15°  | 472  | 474   | 474  | 480   | 479  | 133  |
| 25°  | 429  | 434   | 441  | 449   | 451  | 197  |
| 35°  | 370  | 382   | 396  | 411   | 416  | 231  |
| 45°  | 303  | 323   | 348  | 370   | 377  | 234  |
| 55°  | 232  | 258   | 295  | 321   | 330  | 208  |
| 65°  | 159  | 194   | 236  | 265   | 275  | 158  |
| 75°  | 88   | 128   | 174  | 204   | 214  | 93   |
| 85°  | 26   | 70    | 116  | 146   | 156  | 27   |
| 90°  | 8    | 59    | 112  | 145   | 155  | 8    |
| 95°  | 62   | 67    | 116  | 148   | 155  | 71   |
| 105° | 268  | 315   | 114  | 149   | 160  | 286  |
| 115° | 503  | 525   | 579  | 198   | 144  | 495  |
| 125° | 708  | 719   | 759  | 784   | 793  | 632  |
| 135° | 875  | 889   | 904  | 928   | 932  | 676  |
| 145° | 1014 | 1014  | 1028 | 1039  | 1038 | 635  |
| 155° | 1117 | 1109  | 1120 | 1125  | 1118 | 515  |
| 165° | 1177 | 1172  | 1174 | 1180  | 1174 | 333  |
| 175° | 1204 | 1198  | 1200 | 1206  | 1197 | 115  |
| 180° | 1201 | 1201  | 1201 | 1201  | 1201 |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 493.5 | 493.5 | 493.5 | 493.5 | 493.5 |
| 2.5°   | 497.1 | 494.9 | 489.9 | 493.5 | 492.1 |
| 5°     | 494.9 | 492.8 | 488.5 | 492.8 | 492.1 |
| 7.5°   | 491.3 | 489.9 | 486.3 | 491.3 | 490.6 |
| 10°    | 487.1 | 485.6 | 483.5 | 489.2 | 488.5 |
| 12.5°  | 479.9 | 480.6 | 479.2 | 484.9 | 484.2 |
| 15°    | 472.0 | 473.5 | 473.5 | 479.9 | 479.2 |
| 17.5°  | 462.0 | 464.9 | 467.0 | 473.5 | 473.5 |
| 20°    | 452.0 | 455.6 | 458.4 | 466.3 | 466.3 |
| 22.5°  | 441.3 | 445.6 | 449.9 | 457.7 | 459.2 |
| 25°    | 429.1 | 434.1 | 440.6 | 449.2 | 451.3 |
| 27.5°  | 414.8 | 422.7 | 429.8 | 440.6 | 442.0 |
| 30°    | 400.5 | 409.8 | 419.1 | 430.6 | 432.7 |
| 32.5°  | 384.8 | 395.5 | 407.0 | 420.5 | 424.8 |
| 35°    | 369.8 | 381.9 | 395.5 | 411.2 | 416.3 |
| 37.5°  | 353.3 | 366.9 | 384.1 | 401.2 | 406.2 |
| 40°    | 336.9 | 352.6 | 371.9 | 390.5 | 396.9 |
| 42.5°  | 321.1 | 336.9 | 359.7 | 380.5 | 386.9 |
| 45°    | 303.2 | 322.6 | 347.6 | 369.8 | 376.9 |
| 47.5°  | 286.1 | 306.8 | 335.4 | 358.3 | 366.2 |
| 50°    | 268.2 | 290.4 | 322.6 | 346.9 | 354.7 |
| 52.5°  | 251.0 | 274.6 | 309.0 | 334.0 | 342.6 |
| 55°    | 232.4 | 258.2 | 295.4 | 321.1 | 330.4 |
| 57.5°  | 214.6 | 243.2 | 280.4 | 308.3 | 317.6 |
| 60°    | 195.3 | 226.0 | 266.8 | 294.0 | 304.0 |
| 62.5°  | 178.1 | 210.3 | 251.0 | 280.4 | 289.7 |
| 65°    | 158.8 | 193.8 | 236.0 | 265.3 | 274.6 |
| 67.5°  | 141.6 | 178.1 | 221.0 | 250.3 | 260.3 |
| 70°    | 123.0 | 160.2 | 204.5 | 235.3 | 243.9 |
| 72.5°  | 105.9 | 144.5 | 189.5 | 219.6 | 230.3 |
| 75°    | 88.0  | 128.0 | 173.8 | 204.5 | 213.8 |
| 77.5°  | 70.8  | 112.3 | 158.8 | 189.5 | 199.5 |
| 80°    | 53.6  | 97.3  | 143.8 | 173.8 | 183.8 |
| 82.5°  | 39.3  | 82.2  | 129.5 | 159.5 | 168.8 |
| 85°    | 25.7  | 70.1  | 115.9 | 145.9 | 155.9 |
| 87.5°  | 15.7  | 58.6  | 104.4 | 133.7 | 143.0 |
| 90°    | 8.1   | 59.0  | 111.8 | 144.7 | 155.1 |
| 92.5°  | 28.1  | 62.6  | 108.9 | 138.5 | 147.9 |
| 95°    | 62.2  | 67.1  | 116.1 | 147.6 | 155.4 |
| 97.5°  | 106.7 | 66.2  | 121.5 | 150.6 | 160.1 |
| 100°   | 158.9 | 66.3  | 121.0 | 154.5 | 164.1 |
| 102.5° | 215.5 | 237.4 | 117.8 | 153.1 | 163.6 |
| 105°   | 267.9 | 314.6 | 114.5 | 149.1 | 160.5 |
| 107.5° | 329.6 | 368.4 | 111.3 | 145.1 | 156.5 |
| 110°   | 388.0 | 420.5 | 204.3 | 140.3 | 151.7 |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 112.5° | 443.6  | 470.7  | 488.8  | 137.0  | 147.5  |
| 115°   | 502.7  | 525.3  | 579.2  | 198.3  | 143.5  |
| 117.5° | 553.2  | 576.4  | 621.2  | 518.4  | 297.7  |
| 120°   | 610.6  | 626.5  | 670.8  | 701.2  | 591.8  |
| 122.5° | 659.3  | 674.0  | 717.8  | 742.3  | 749.6  |
| 125°   | 708.1  | 719.4  | 758.8  | 784.2  | 793.3  |
| 127.5° | 753.3  | 764.8  | 797.1  | 823.7  | 831.0  |
| 130°   | 795.9  | 809.1  | 833.7  | 860.4  | 865.3  |
| 132.5° | 839.4  | 850.0  | 870.2  | 894.6  | 899.4  |
| 135°   | 875.2  | 889.1  | 904.1  | 927.8  | 931.8  |
| 137.5° | 913.4  | 923.9  | 936.2  | 958.5  | 960.8  |
| 140°   | 950.8  | 957.1  | 968.0  | 987.4  | 987.3  |
| 142.5° | 982.1  | 987.5  | 998.8  | 1014.3 | 1013.6 |
| 145°   | 1014.4 | 1013.6 | 1028.3 | 1038.7 | 1038.0 |
| 147.5° | 1043.1 | 1040.5 | 1055.3 | 1060.3 | 1059.1 |
| 150°   | 1070.9 | 1064.9 | 1078.8 | 1084.0 | 1079.6 |
| 152.5° | 1094.4 | 1087.5 | 1100.5 | 1105.7 | 1099.6 |
| 155°   | 1117.0 | 1109.2 | 1119.6 | 1124.8 | 1117.9 |
| 157.5° | 1135.3 | 1128.3 | 1136.1 | 1142.2 | 1135.3 |
| 160°   | 1150.9 | 1145.7 | 1150.9 | 1156.1 | 1150.0 |
| 162.5° | 1164.8 | 1159.6 | 1164.0 | 1170.0 | 1162.2 |
| 165°   | 1177.0 | 1171.8 | 1174.4 | 1180.5 | 1174.4 |
| 167.5° | 1186.6 | 1181.3 | 1183.9 | 1190.0 | 1182.2 |
| 170°   | 1194.4 | 1189.2 | 1190.9 | 1197.0 | 1189.2 |
| 172.5° | 1199.6 | 1194.4 | 1196.1 | 1202.2 | 1194.4 |
| 175°   | 1203.9 | 1197.9 | 1199.6 | 1205.7 | 1197.0 |
| 177.5° | 1205.7 | 1199.6 | 1200.5 | 1206.5 | 1198.7 |
| 180°   | 1201.3 | 1201.3 | 1201.3 | 1201.3 | 1201.3 |

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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 | 10.30            | 11.04 | 11.39 | 12.14 | 13.65 | 13.37          | 14.11 | 14.47 | 15.21 | 16.73 |
|                 | 3H   | 11.75            | 12.42 | 12.86 | 13.53 | 15.06 | 15.95          | 16.62 | 17.06 | 17.73 | 19.26 |
|                 | 4H   | 12.22            | 12.86 | 13.34 | 13.97 | 15.50 | 17.20          | 17.84 | 18.32 | 18.95 | 20.48 |
|                 | 6H   | 12.50            | 13.09 | 13.62 | 14.20 | 15.75 | 18.49          | 19.08 | 19.62 | 20.19 | 21.74 |
|                 | 8H   | 12.55            | 13.11 | 13.68 | 14.24 | 15.78 | 19.15          | 19.71 | 20.28 | 20.84 | 22.38 |
|                 | 12H  | 12.57            | 13.10 | 13.70 | 14.22 | 15.79 | 19.87          | 20.40 | 21.00 | 21.52 | 23.09 |
| 4H              | 2H   | 11.34            | 11.97 | 12.46 | 13.08 | 14.62 | 13.69          | 14.33 | 14.81 | 15.43 | 16.97 |
|                 | 3H   | 13.03            | 13.57 | 14.16 | 14.70 | 16.25 | 16.47          | 17.01 | 17.60 | 18.14 | 19.69 |
|                 | 4H   | 13.65            | 14.15 | 14.78 | 15.27 | 16.84 | 17.88          | 18.38 | 19.01 | 19.50 | 21.07 |
|                 | 6H   | 14.06            | 14.49 | 15.20 | 15.63 | 17.19 | 19.34          | 19.77 | 20.48 | 20.92 | 22.48 |
|                 | 8H   | 14.17            | 14.57 | 15.30 | 15.70 | 17.28 | 20.10          | 20.50 | 21.24 | 21.64 | 23.22 |
|                 | 12H  | 14.20            | 14.57 | 15.36 | 15.72 | 17.30 | 20.92          | 21.29 | 22.08 | 22.44 | 24.02 |
| 8H              | 4H   | 14.43            | 14.83 | 15.57 | 15.97 | 17.55 | 18.02          | 18.42 | 19.16 | 19.56 | 21.14 |
|                 | 6H   | 15.06            | 15.39 | 16.22 | 16.57 | 18.15 | 19.64          | 19.98 | 20.80 | 21.16 | 22.73 |
|                 | 8H   | 15.28            | 15.57 | 16.44 | 16.73 | 18.33 | 20.53          | 20.82 | 21.69 | 21.98 | 23.58 |
|                 | 12H  | 15.41            | 15.67 | 16.58 | 16.82 | 18.45 | 21.52          | 21.78 | 22.69 | 22.94 | 24.56 |
| 12H             | 4H   | 14.62            | 14.99 | 15.78 | 16.14 | 17.72 | 17.99          | 18.35 | 19.14 | 19.50 | 21.08 |
|                 | 6H   | 15.39            | 15.69 | 16.56 | 16.85 | 18.44 | 19.67          | 19.96 | 20.83 | 21.12 | 22.71 |
|                 | 8H   | 15.69            | 15.95 | 16.86 | 17.11 | 18.73 | 20.59          | 20.85 | 21.76 | 22.01 | 23.63 |