

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: P998375

Luminaire Tested: SA2XXDIP-B290D925UB50-4F0-XX-W2A-F

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998375  
REPORT IS A COMBINATION OF REPORTS P984115 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B290D925UB50-4F0-XX-W2A-F  
Description: Define 2 Direct/Indirect Pendant with 5000K BioUP LEDs {m-DER=1.015} {m-EER=1.115}  
Light Source: -  
Ballast/Driver: -

**Summary**

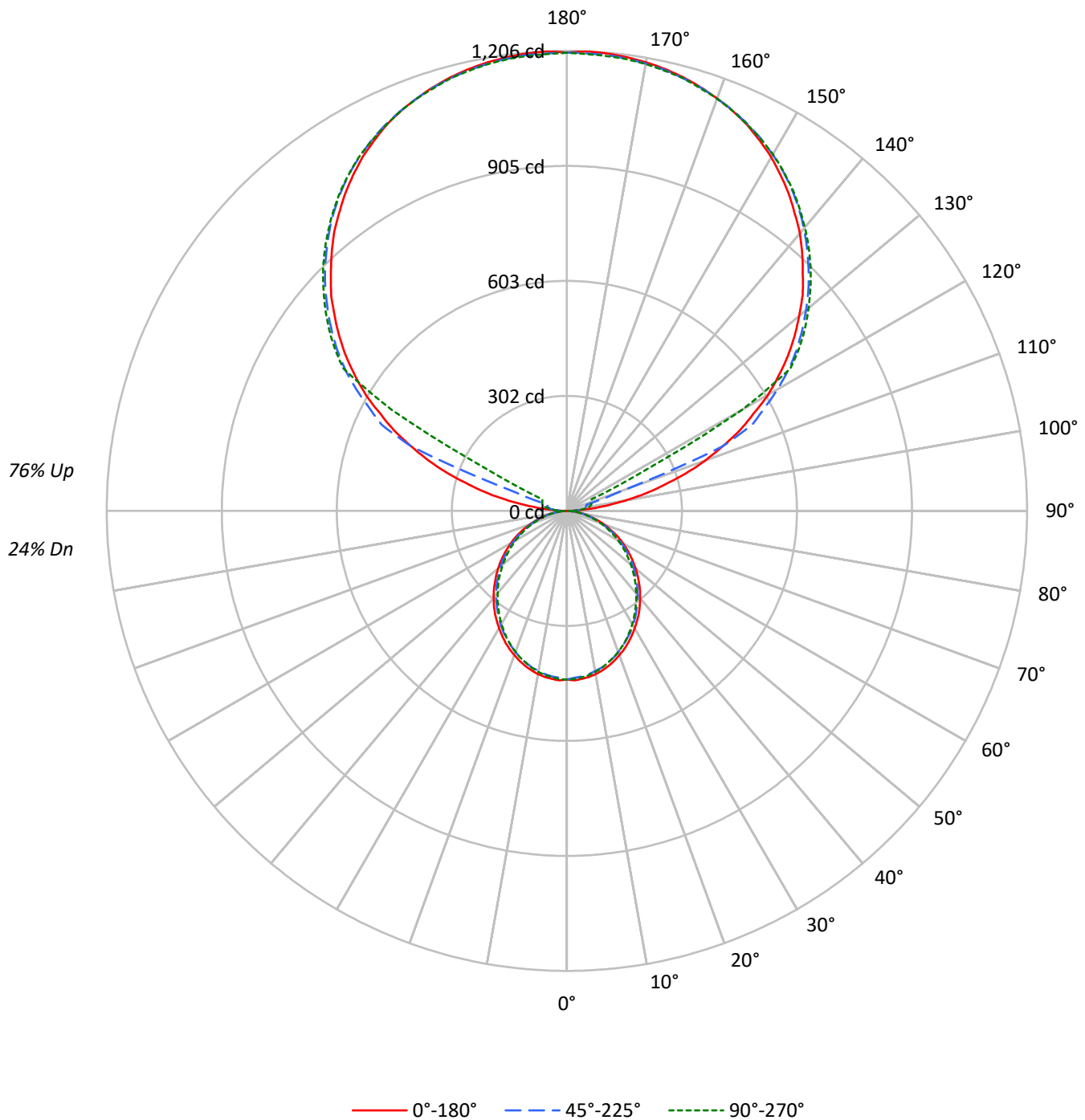
Lumens per Lamp: N/A  
Luminaire Lumens: 4649.0 lumens  
Efficiency: N/A  
Efficacy: 112.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: Semi-Indirect

Input Watts (W): 41.5  
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

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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   | 101 | 101 | 101 | 101 | 90 | 90 | 90 | 90 | 69 | 69 | 69 | 50 | 50 | 50 | 32 | 32 | 32 |
| 1   | 92  | 88  | 84  | 81  | 82 | 78 | 75 | 72 | 60 | 58 | 56 | 44 | 43 | 41 | 29 | 28 | 27 |
| 2   | 84  | 77  | 71  | 66  | 74 | 68 | 63 | 59 | 53 | 49 | 47 | 38 | 36 | 35 | 25 | 24 | 23 |
| 3   | 76  | 67  | 60  | 55  | 68 | 60 | 54 | 49 | 47 | 42 | 39 | 34 | 31 | 29 | 22 | 21 | 20 |
| 4   | 70  | 59  | 52  | 46  | 62 | 53 | 47 | 42 | 41 | 37 | 33 | 30 | 27 | 25 | 20 | 18 | 17 |
| 5   | 64  | 53  | 45  | 39  | 57 | 47 | 41 | 36 | 37 | 32 | 28 | 27 | 24 | 21 | 18 | 16 | 15 |
| 6   | 59  | 47  | 39  | 34  | 52 | 42 | 36 | 31 | 33 | 28 | 25 | 24 | 21 | 19 | 16 | 14 | 13 |
| 7   | 54  | 42  | 35  | 29  | 48 | 38 | 31 | 27 | 30 | 25 | 22 | 22 | 19 | 16 | 15 | 13 | 11 |
| 8   | 50  | 38  | 31  | 26  | 44 | 34 | 28 | 24 | 27 | 22 | 19 | 20 | 17 | 15 | 14 | 12 | 10 |
| 9   | 47  | 35  | 28  | 23  | 41 | 31 | 25 | 21 | 25 | 20 | 17 | 18 | 15 | 13 | 12 | 11 | 9  |
| 10  | 43  | 32  | 25  | 20  | 39 | 29 | 23 | 19 | 23 | 18 | 15 | 17 | 14 | 12 | 12 | 10 | 8  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 7000 | 7000 | 7000 |
| 5°  | 7011 | 6672 | 6625 |
| 10° | 6953 | 6368 | 6242 |
| 15° | 6852 | 6062 | 5838 |
| 20° | 6714 | 5728 | 5457 |
| 25° | 6578 | 5380 | 5075 |
| 30° | 6405 | 5054 | 4676 |
| 35° | 6243 | 4708 | 4283 |
| 40° | 6041 | 4368 | 3911 |
| 45° | 5840 | 4030 | 3548 |
| 50° | 5622 | 3686 | 3170 |
| 55° | 5393 | 3318 | 2812 |
| 60° | 5134 | 2922 | 2440 |
| 65° | 4852 | 2517 | 2049 |
| 70° | 4491 | 2074 | 1654 |
| 75° | 3994 | 1600 | 1279 |
| 80° | 3393 | 1086 | 822  |
| 85° | 2458 | 506  | 350  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5840 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 41.6   | 0.9       |
| 10°-20°   | 117.1  | 2.5       |
| 20°-30°   | 172.1  | 3.7       |
| 30°-40°   | 199.9  | 4.3       |
| 40°-50°   | 199.6  | 4.3       |
| 50°-60°   | 174.1  | 3.7       |
| 60°-70°   | 128.7  | 2.8       |
| 70°-80°   | 72.8   | 1.6       |
| 80°-90°   | 21.3   | 0.5       |
| 90°-100°  | 39.6   | 0.9       |
| 100°-110° | 147.7  | 3.2       |
| 110°-120° | 391.6  | 8.4       |
| 120°-130° | 649.6  | 14.0      |
| 130°-140° | 690.0  | 14.8      |
| 140°-150° | 641.3  | 13.8      |
| 150°-160° | 515.6  | 11.1      |
| 160°-170° | 332.2  | 7.1       |
| 170°-180° | 114.3  | 2.5       |
| 0°-30°    | 330.8  | 7.1       |
| 0°-40°    | 530.7  | 11.4      |
| 0°-60°    | 904.3  | 19.5      |
| 0°-90°    | 1127.1 | 24.2      |
| 90°-120°  | 578.9  | 12.5      |
| 90°-150°  | 2559.8 | 55.1      |
| 90°-180°  | 3522.0 | 75.8      |
| 0°-180°   | 4649.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 442  | 442   | 442  | 442   | 442  |      |
| 5°   | 442  | 440   | 436  | 439   | 438  | 42   |
| 15°  | 421  | 418   | 413  | 415   | 412  | 119  |
| 25°  | 381  | 378   | 370  | 371   | 370  | 175  |
| 35°  | 329  | 324   | 318  | 315   | 313  | 205  |
| 45°  | 267  | 264   | 258  | 253   | 252  | 206  |
| 55°  | 202  | 200   | 195  | 190   | 188  | 181  |
| 65°  | 136  | 134   | 130  | 126   | 124  | 135  |
| 75°  | 71   | 71    | 68   | 66    | 67   | 76   |
| 85°  | 17   | 17    | 17   | 15    | 15   | 19   |
| 90°  | 1    | 10    | 17   | 22    | 24   | 4    |
| 95°  | 56   | 28    | 34   | 38    | 37   | 67   |
| 105° | 264  | 290   | 53   | 63    | 66   | 282  |
| 115° | 500  | 515   | 536  | 134   | 71   | 492  |
| 125° | 707  | 718   | 734  | 741   | 743  | 630  |
| 135° | 874  | 888   | 896  | 905   | 903  | 676  |
| 145° | 1014 | 1014  | 1028 | 1034  | 1030 | 634  |
| 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°     | 442.2 | 442.2 | 442.2 | 442.2 | 442.2 |
| 2.5°   | 444.7 | 442.6 | 437.9 | 442.2 | 441.3 |
| 5°     | 442.2 | 440.5 | 435.8 | 439.2 | 438.4 |
| 7.5°   | 439.2 | 436.7 | 432.0 | 435.4 | 434.5 |
| 10°    | 434.5 | 431.6 | 426.5 | 429.9 | 428.6 |
| 12.5°  | 428.2 | 425.6 | 420.5 | 422.6 | 421.8 |
| 15°    | 420.9 | 418.4 | 412.9 | 414.6 | 412.4 |
| 17.5°  | 412.0 | 409.5 | 403.9 | 406.0 | 403.9 |
| 20°    | 402.2 | 399.7 | 393.7 | 395.0 | 393.3 |
| 22.5°  | 392.4 | 388.6 | 383.1 | 383.1 | 382.2 |
| 25°    | 381.0 | 377.6 | 370.3 | 371.2 | 370.3 |
| 27.5°  | 368.2 | 365.2 | 359.7 | 358.4 | 356.3 |
| 30°    | 355.5 | 352.1 | 345.7 | 344.4 | 342.7 |
| 32.5°  | 341.8 | 339.3 | 332.5 | 329.9 | 328.2 |
| 35°    | 328.7 | 324.4 | 317.6 | 315.1 | 312.9 |
| 37.5°  | 313.8 | 310.0 | 303.2 | 300.2 | 298.1 |
| 40°    | 298.5 | 295.1 | 288.3 | 284.4 | 282.7 |
| 42.5°  | 283.6 | 280.2 | 273.4 | 269.1 | 266.6 |
| 45°    | 267.4 | 264.5 | 258.1 | 253.4 | 251.7 |
| 47.5°  | 251.7 | 248.7 | 241.9 | 237.3 | 234.7 |
| 50°    | 235.1 | 233.0 | 227.0 | 221.1 | 219.0 |
| 52.5°  | 219.0 | 216.0 | 210.5 | 205.8 | 202.8 |
| 55°    | 202.4 | 199.8 | 194.7 | 189.6 | 187.5 |
| 57.5°  | 185.8 | 183.7 | 178.2 | 173.0 | 171.3 |
| 60°    | 169.2 | 167.5 | 161.6 | 156.9 | 155.6 |
| 62.5°  | 153.1 | 150.1 | 145.8 | 141.6 | 139.9 |
| 65°    | 136.5 | 133.9 | 129.7 | 125.9 | 123.7 |
| 67.5°  | 119.5 | 117.4 | 113.5 | 110.5 | 108.8 |
| 70°    | 103.7 | 102.0 | 98.2  | 95.2  | 93.5  |
| 72.5°  | 87.6  | 85.9  | 83.8  | 80.8  | 79.5  |
| 75°    | 71.4  | 70.6  | 68.5  | 65.9  | 66.8  |
| 77.5°  | 57.0  | 55.3  | 54.4  | 53.1  | 51.9  |
| 80°    | 42.5  | 42.1  | 41.2  | 40.0  | 39.1  |
| 82.5°  | 28.9  | 28.9  | 28.5  | 26.8  | 26.8  |
| 85°    | 17.4  | 17.0  | 16.6  | 15.3  | 14.9  |
| 87.5°  | 7.7   | 6.8   | 6.0   | 4.7   | 4.3   |
| 90°    | 0.9   | 10.4  | 17.4  | 21.7  | 23.5  |
| 92.5°  | 21.7  | 18.3  | 20.9  | 22.6  | 23.5  |
| 95°    | 56.5  | 27.8  | 33.9  | 38.2  | 37.4  |
| 97.5°  | 101.7 | 30.4  | 44.3  | 46.9  | 47.8  |
| 100°   | 153.9 | 34.8  | 49.5  | 56.5  | 58.2  |
| 102.5° | 211.2 | 209.5 | 51.3  | 60.8  | 63.5  |
| 105°   | 264.3 | 290.3 | 53.0  | 62.6  | 66.1  |
| 107.5° | 326.0 | 347.7 | 54.8  | 64.3  | 67.8  |
| 110°   | 385.1 | 403.3 | 152.1 | 65.2  | 68.7  |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 112.5° | 440.7  | 456.4  | 441.6  | 66.9   | 69.5   |
| 115°   | 499.8  | 514.6  | 536.3  | 133.9  | 71.3   |
| 117.5° | 551.1  | 568.5  | 583.3  | 459.0  | 231.2  |
| 120°   | 608.5  | 621.5  | 637.2  | 647.6  | 530.3  |
| 122.5° | 657.2  | 671.1  | 688.5  | 693.7  | 694.5  |
| 125°   | 706.7  | 718.0  | 734.5  | 740.6  | 743.2  |
| 127.5° | 751.9  | 764.1  | 777.1  | 785.8  | 786.7  |
| 130°   | 794.5  | 808.4  | 818.0  | 827.5  | 826.7  |
| 132.5° | 838.0  | 849.3  | 858.8  | 866.7  | 865.8  |
| 135°   | 874.5  | 888.4  | 896.2  | 904.9  | 903.2  |
| 137.5° | 912.7  | 923.2  | 931.9  | 940.6  | 937.9  |
| 140°   | 950.1  | 957.1  | 966.6  | 974.5  | 970.1  |
| 142.5° | 981.4  | 987.5  | 998.8  | 1005.7 | 1001.4 |
| 145°   | 1014.4 | 1013.6 | 1028.3 | 1034.4 | 1030.1 |
| 147.5° | 1043.1 | 1040.5 | 1055.3 | 1059.6 | 1056.2 |
| 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 | 8.93             | 9.60  | 10.08 | 10.73 | 12.33 | 9.71           | 10.37 | 10.86 | 11.51 | 13.11 |
|                 | 3H   | 10.25            | 10.85 | 11.41 | 11.99 | 13.61 | 11.32          | 11.92 | 12.47 | 13.06 | 14.67 |
|                 | 4H   | 10.64            | 11.21 | 11.81 | 12.36 | 13.98 | 11.90          | 12.47 | 13.07 | 13.62 | 15.23 |
|                 | 6H   | 10.85            | 11.38 | 12.03 | 12.53 | 14.15 | 12.29          | 12.82 | 13.47 | 13.97 | 15.59 |
|                 | 8H   | 10.88            | 11.38 | 12.05 | 12.54 | 14.16 | 12.40          | 12.89 | 13.57 | 14.06 | 15.68 |
|                 | 12H  | 10.86            | 11.34 | 12.04 | 12.49 | 14.14 | 12.43          | 12.91 | 13.62 | 14.07 | 15.71 |
| 4H              | 2H   | 9.37             | 9.94  | 10.55 | 11.09 | 12.70 | 10.01          | 10.58 | 11.19 | 11.73 | 13.35 |
|                 | 3H   | 10.87            | 11.35 | 12.05 | 12.52 | 14.15 | 11.77          | 12.25 | 12.95 | 13.42 | 15.05 |
|                 | 4H   | 11.37            | 11.81 | 12.55 | 12.97 | 14.61 | 12.45          | 12.89 | 13.63 | 14.05 | 15.69 |
|                 | 6H   | 11.66            | 12.03 | 12.85 | 13.22 | 14.85 | 12.93          | 13.31 | 14.12 | 14.49 | 16.13 |
|                 | 8H   | 11.71            | 12.06 | 12.90 | 13.24 | 14.89 | 13.07          | 13.42 | 14.26 | 14.60 | 16.25 |
|                 | 12H  | 11.70            | 12.02 | 12.90 | 13.21 | 14.86 | 13.12          | 13.44 | 14.33 | 14.63 | 16.29 |
| 8H              | 4H   | 11.53            | 11.88 | 12.71 | 13.05 | 14.71 | 12.52          | 12.87 | 13.70 | 14.04 | 15.70 |
|                 | 6H   | 11.90            | 12.19 | 13.11 | 13.41 | 15.06 | 13.08          | 13.37 | 14.28 | 14.58 | 16.23 |
|                 | 8H   | 12.00            | 12.25 | 13.21 | 13.45 | 15.12 | 13.27          | 13.52 | 14.48 | 14.71 | 16.38 |
|                 | 12H  | 12.03            | 12.25 | 13.24 | 13.44 | 15.14 | 13.36          | 13.58 | 14.57 | 14.77 | 16.47 |
| 12H             | 4H   | 11.50            | 11.82 | 12.70 | 13.00 | 14.66 | 12.47          | 12.79 | 13.67 | 13.98 | 15.63 |
|                 | 6H   | 11.92            | 12.17 | 13.13 | 13.36 | 15.04 | 13.07          | 13.32 | 14.28 | 14.51 | 16.19 |
|                 | 8H   | 12.02            | 12.24 | 13.24 | 13.44 | 15.14 | 13.26          | 13.48 | 14.47 | 14.67 | 16.37 |