

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: P1060879

Luminaire Tested: S124RDR-H575D835-X4F0-XX-UDD-SVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1060879  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-38)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDR-H575D835-X4F0-XX-UDD-SVL-B  
Description: DEFINE 4 BLACK REGRESSED DIRECT RECESSED HOUSING WITH SILVER STRAIGHT BLADE LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

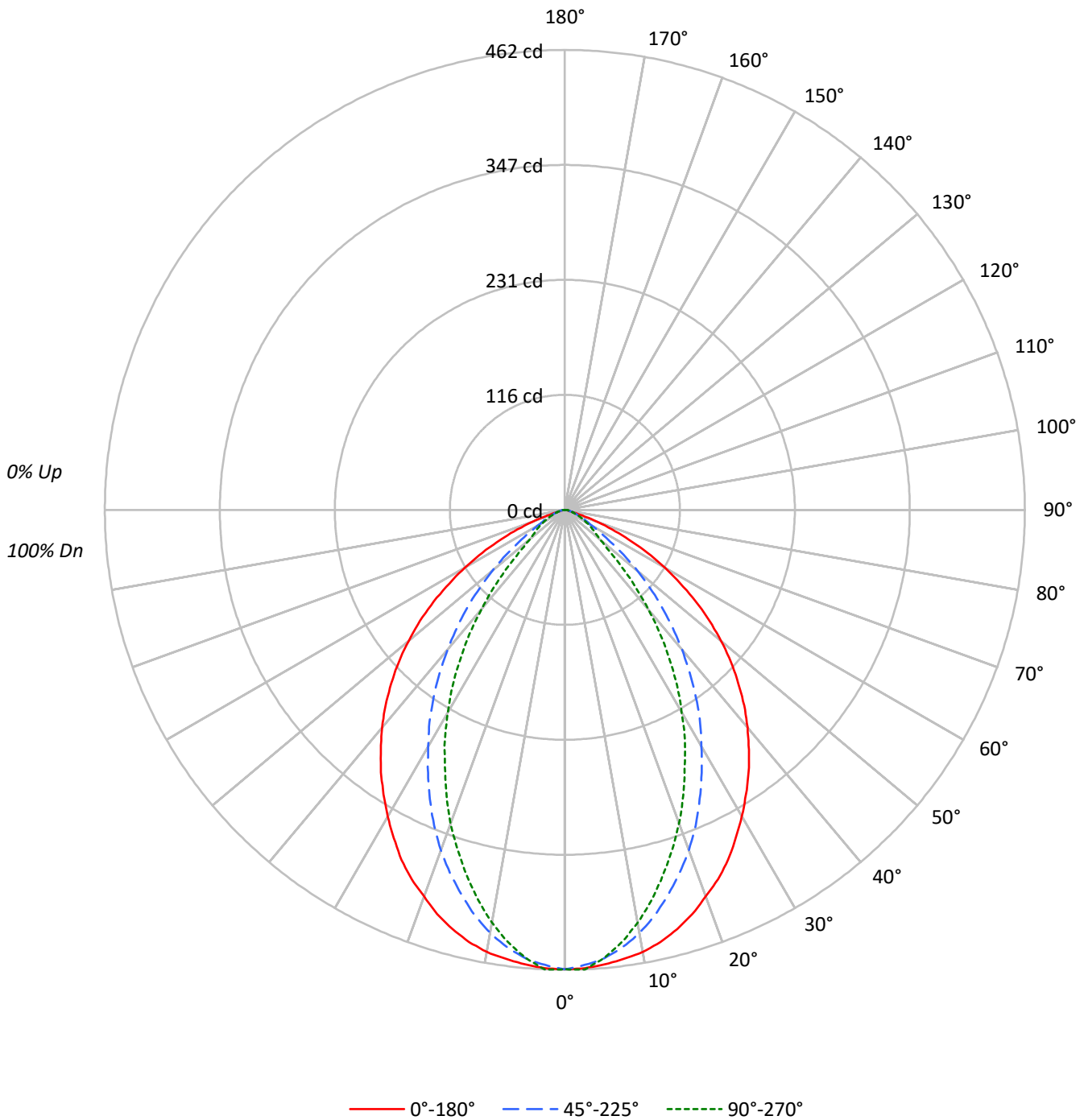
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 680.6 lumens  
Efficiency: N/A  
Efficacy: 39.1 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 0.87 / 1.02  
Luminous Opening: Rectangular (W 0.31' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 17.4  
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 |  |  |  |  |  |  |  |  | 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 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |
| 1   | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 101 | 102 | 100 | 97  | 98  | 96  | 94  | 95  | 93  | 92  | 90  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |
| 2   | 104 | 98  | 93  | 88  | 102 | 96  | 91  | 87  | 93  | 89  | 85  | 90  | 86  | 83  | 87  | 84  | 82  | 80  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |
| 3   | 97  | 89  | 82  | 77  | 95  | 87  | 81  | 76  | 84  | 79  | 75  | 82  | 78  | 74  | 79  | 76  | 73  | 71  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |
| 4   | 90  | 81  | 74  | 68  | 88  | 79  | 73  | 68  | 77  | 71  | 67  | 75  | 70  | 66  | 73  | 69  | 65  | 63  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |
| 5   | 84  | 74  | 66  | 61  | 82  | 73  | 66  | 60  | 71  | 65  | 60  | 69  | 63  | 59  | 67  | 62  | 59  | 57  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |
| 6   | 79  | 68  | 60  | 55  | 77  | 67  | 60  | 54  | 65  | 59  | 54  | 63  | 58  | 54  | 62  | 57  | 53  | 51  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |
| 7   | 74  | 62  | 55  | 50  | 72  | 61  | 54  | 49  | 60  | 54  | 49  | 59  | 53  | 49  | 58  | 52  | 48  | 47  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |
| 8   | 69  | 58  | 50  | 45  | 68  | 57  | 50  | 45  | 56  | 49  | 45  | 55  | 49  | 45  | 54  | 48  | 44  | 43  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |
| 9   | 65  | 53  | 46  | 41  | 64  | 53  | 46  | 41  | 52  | 46  | 41  | 51  | 45  | 41  | 50  | 45  | 41  | 39  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |
| 10  | 62  | 50  | 43  | 38  | 60  | 49  | 43  | 38  | 48  | 42  | 38  | 48  | 42  | 38  | 47  | 42  | 38  | 36  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3974 | 3974 | 3974 |
| 5°  | 3962 | 3911 | 3905 |
| 10° | 3944 | 3774 | 3683 |
| 15° | 3889 | 3570 | 3390 |
| 20° | 3788 | 3336 | 3074 |
| 25° | 3687 | 3045 | 2705 |
| 30° | 3536 | 2727 | 2334 |
| 35° | 3383 | 2413 | 1927 |
| 40° | 3208 | 2054 | 1461 |
| 45° | 3001 | 1678 | 982  |
| 50° | 2744 | 1271 | 610  |
| 55° | 2411 | 839  | 518  |
| 60° | 1993 | 515  | 425  |
| 65° | 1445 | 397  | 344  |
| 70° | 786  | 295  | 262  |
| 75° | 173  | 216  | 240  |
| 80° | 129  | 164  | 193  |
| 85° | 128  | 128  | 198  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3001 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 42.8   | 6.3       |
| 10°-20°   | 113.6  | 16.7      |
| 20°-30°   | 150.4  | 22.1      |
| 30°-40°   | 149.3  | 21.9      |
| 40°-50°   | 114.9  | 16.9      |
| 50°-60°   | 68.5   | 10.1      |
| 60°-70°   | 31.1   | 4.6       |
| 70°-80°   | 8.1    | 1.2       |
| 80°-90°   | 1.8    | 0.3       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 306.8  | 45.1      |
| 0°-40°    | 456.1  | 67.0      |
| 0°-60°    | 639.5  | 94.0      |
| 0°-90°    | 680.6  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 680.6  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 462 | 462   | 462 | 462   | 462 |      |
| 5°  | 458 | 459   | 452 | 452   | 452 | 44   |
| 15° | 436 | 425   | 400 | 387   | 380 | 123  |
| 25° | 388 | 360   | 320 | 294   | 285 | 178  |
| 35° | 322 | 282   | 230 | 194   | 183 | 201  |
| 45° | 246 | 198   | 138 | 96    | 81  | 190  |
| 55° | 161 | 114   | 56  | 35    | 34  | 143  |
| 65° | 71  | 42    | 20  | 17    | 17  | 71   |
| 75° | 5   | 6     | 6   | 7     | 7   | 11   |
| 85° | 1   | 1     | 1   | 2     | 2   | 1    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 461.5 | 461.5 | 461.5 | 461.5 | 461.5 |
| 2.5°  | 460.9 | 461.5 | 457.6 | 460.9 | 462.2 |
| 5°    | 458.3 | 458.9 | 452.4 | 452.4 | 451.8 |
| 7.5°  | 455.0 | 453.7 | 443.3 | 439.4 | 438.1 |
| 10°   | 451.1 | 446.6 | 431.6 | 423.8 | 421.2 |
| 12.5° | 444.6 | 437.5 | 417.3 | 406.3 | 401.7 |
| 15°   | 436.2 | 425.1 | 400.4 | 386.8 | 380.3 |
| 17.5° | 425.8 | 412.1 | 382.9 | 365.3 | 358.2 |
| 20°   | 413.4 | 395.2 | 364.0 | 341.9 | 335.4 |
| 22.5° | 401.7 | 379.0 | 343.2 | 317.9 | 310.7 |
| 25°   | 388.1 | 360.1 | 320.5 | 293.8 | 284.7 |
| 27.5° | 371.8 | 341.9 | 297.7 | 270.4 | 261.3 |
| 30°   | 355.6 | 322.4 | 274.3 | 245.7 | 234.7 |
| 32.5° | 338.7 | 302.3 | 252.9 | 220.4 | 210.0 |
| 35°   | 321.8 | 281.5 | 229.5 | 194.4 | 183.3 |
| 37.5° | 303.6 | 260.7 | 206.1 | 169.7 | 157.3 |
| 40°   | 285.4 | 240.5 | 182.7 | 145.6 | 130.0 |
| 42.5° | 266.5 | 219.7 | 159.9 | 120.9 | 105.3 |
| 45°   | 246.4 | 198.3 | 137.8 | 96.2  | 80.6  |
| 47.5° | 226.2 | 178.1 | 115.7 | 72.2  | 57.9  |
| 50°   | 204.8 | 156.7 | 94.9  | 52.7  | 45.5  |
| 52.5° | 183.3 | 135.9 | 74.1  | 41.0  | 39.0  |
| 55°   | 160.6 | 114.4 | 55.9  | 35.1  | 34.5  |
| 57.5° | 137.2 | 94.9  | 40.3  | 30.6  | 29.3  |
| 60°   | 115.7 | 76.7  | 29.9  | 26.0  | 24.7  |
| 62.5° | 93.6  | 57.9  | 24.7  | 21.5  | 20.2  |
| 65°   | 70.9  | 42.3  | 19.5  | 16.9  | 16.9  |
| 67.5° | 51.4  | 28.6  | 15.6  | 13.7  | 13.0  |
| 70°   | 31.2  | 17.6  | 11.7  | 11.1  | 10.4  |
| 72.5° | 15.6  | 10.4  | 9.1   | 8.5   | 8.5   |
| 75°   | 5.2   | 6.5   | 6.5   | 7.2   | 7.2   |
| 77.5° | 3.9   | 4.6   | 4.6   | 5.2   | 5.2   |
| 80°   | 2.6   | 3.3   | 3.3   | 3.9   | 3.9   |
| 82.5° | 2.0   | 2.0   | 2.6   | 2.6   | 3.3   |
| 85°   | 1.3   | 1.3   | 1.3   | 2.0   | 2.0   |
| 87.5° | 0.7   | 0.7   | 0.7   | 1.3   | 1.3   |
| 90°   | 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 | 13.91            | 15.25 | 14.28 | 15.56 | 15.87 | 5.47           | 6.81 | 5.84 | 7.12 | 7.43 |
|                 | 3H   | 14.42            | 15.60 | 14.80 | 15.93 | 16.30 | 6.29           | 7.47 | 6.67 | 7.80 | 8.16 |
|                 | 4H   | 14.39            | 15.49 | 14.79 | 15.84 | 16.22 | 6.58           | 7.67 | 6.98 | 8.02 | 8.41 |
|                 | 6H   | 14.32            | 15.33 | 14.74 | 15.70 | 16.10 | 6.75           | 7.75 | 7.16 | 8.12 | 8.52 |
|                 | 8H   | 14.29            | 15.24 | 14.72 | 15.63 | 16.04 | 6.81           | 7.77 | 7.24 | 8.16 | 8.56 |
|                 | 12H  | 14.25            | 15.16 | 14.68 | 15.54 | 15.97 | 6.86           | 7.77 | 7.29 | 8.15 | 8.59 |
| 4H              | 2H   | 13.75            | 14.85 | 14.16 | 15.20 | 15.59 | 5.91           | 7.01 | 6.31 | 7.36 | 7.74 |
|                 | 3H   | 14.31            | 15.20 | 14.72 | 15.61 | 16.01 | 6.88           | 7.77 | 7.29 | 8.18 | 8.58 |
|                 | 4H   | 14.28            | 15.07 | 14.71 | 15.49 | 15.94 | 7.25           | 8.04 | 7.68 | 8.46 | 8.90 |
|                 | 6H   | 14.23            | 14.91 | 14.69 | 15.36 | 15.82 | 7.50           | 8.18 | 7.96 | 8.63 | 9.09 |
|                 | 8H   | 14.18            | 14.82 | 14.65 | 15.27 | 15.74 | 7.59           | 8.23 | 8.05 | 8.67 | 9.14 |
|                 | 12H  | 14.14            | 14.71 | 14.63 | 15.19 | 15.66 | 7.67           | 8.23 | 8.15 | 8.71 | 9.19 |
| 8H              | 4H   | 14.17            | 14.81 | 14.64 | 15.26 | 15.73 | 7.33           | 7.97 | 7.80 | 8.42 | 8.89 |
|                 | 6H   | 14.11            | 14.63 | 14.61 | 15.13 | 15.61 | 7.64           | 8.17 | 8.15 | 8.66 | 9.14 |
|                 | 8H   | 14.06            | 14.53 | 14.58 | 15.04 | 15.54 | 7.78           | 8.25 | 8.30 | 8.76 | 9.25 |
|                 | 12H  | 14.03            | 14.44 | 14.54 | 14.94 | 15.51 | 7.92           | 8.33 | 8.43 | 8.83 | 9.40 |
| 12H             | 4H   | 14.13            | 14.69 | 14.61 | 15.17 | 15.65 | 7.31           | 7.87 | 7.80 | 8.36 | 8.83 |
|                 | 6H   | 14.05            | 14.52 | 14.57 | 15.04 | 15.53 | 7.62           | 8.09 | 8.15 | 8.61 | 9.10 |
|                 | 8H   | 14.03            | 14.44 | 14.54 | 14.93 | 15.51 | 7.80           | 8.21 | 8.31 | 8.71 | 9.28 |