

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: P998797

Luminaire Tested: SA2XXDIP-B675D530UB27-4F0-XX-W2A-D4

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998797  
REPORT IS A COMBINATION OF REPORTS P984543 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B675D530UB27-4F0-XX-W2A-D4  
Description: Define 2 Direct/Indirect Pendant with 2700K BioUP LEDs {m-DER=0.473} {m-EER=0.52}  
Light Source: -  
Ballast/Driver: -

**Summary**

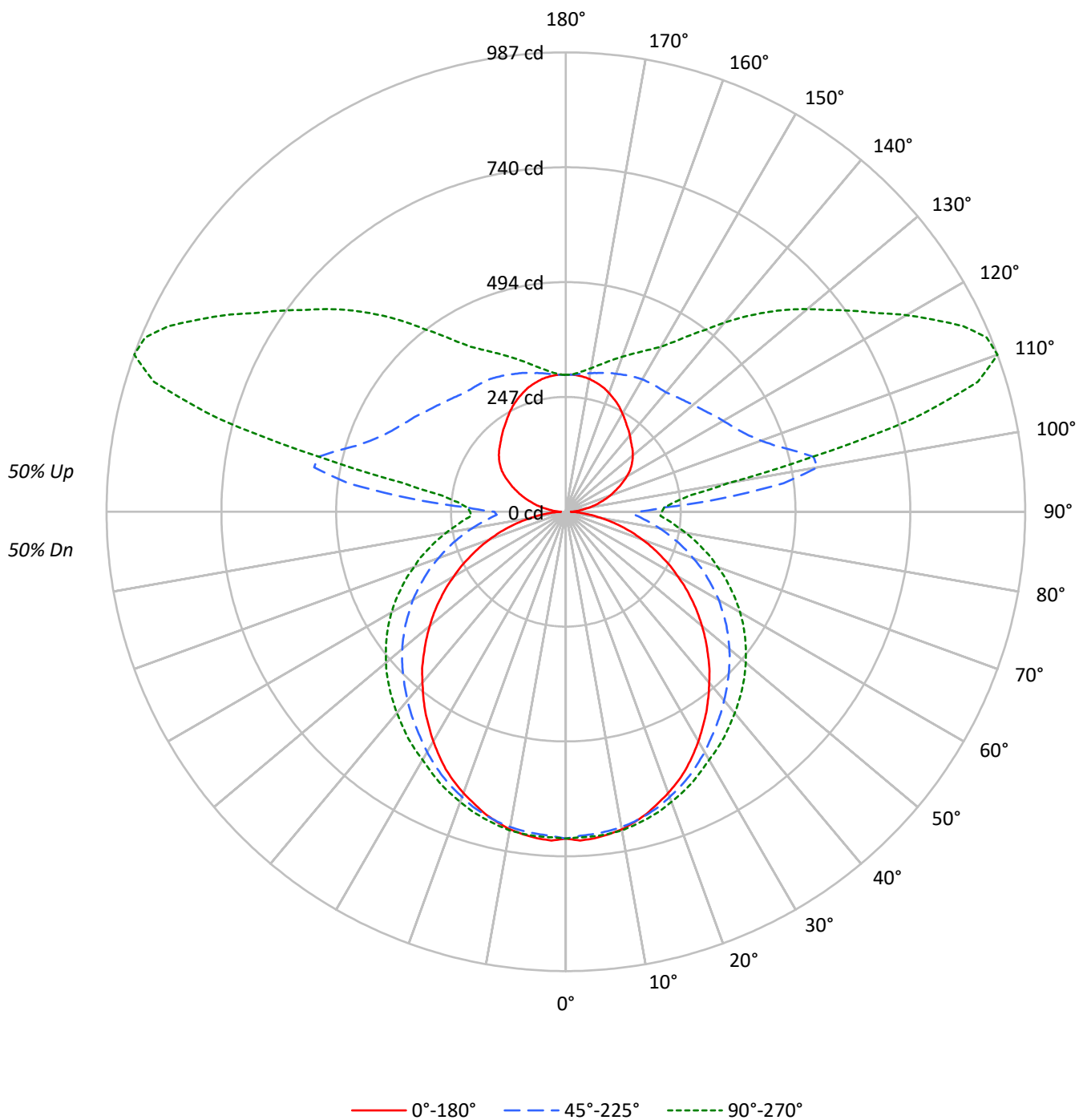
Lumens per Lamp: N/A  
Luminaire Lumens: 4734.4 lumens  
Efficiency: N/A  
Efficacy: 92.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 51.3  
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   | 107 | 107 | 107 | 107 | 99 | 99 | 99 | 99 | 84 | 84 | 84 | 69 | 69 | 69 | 56 | 56 | 56 |
| 1   | 96  | 91  | 87  | 83  | 89 | 84 | 80 | 77 | 71 | 68 | 65 | 59 | 57 | 55 | 47 | 46 | 45 |
| 2   | 87  | 79  | 72  | 66  | 80 | 73 | 67 | 62 | 61 | 57 | 53 | 51 | 47 | 45 | 41 | 39 | 36 |
| 3   | 79  | 69  | 61  | 55  | 72 | 64 | 57 | 51 | 54 | 48 | 44 | 44 | 40 | 37 | 36 | 33 | 30 |
| 4   | 72  | 61  | 52  | 46  | 66 | 56 | 49 | 43 | 47 | 42 | 37 | 39 | 35 | 31 | 32 | 28 | 26 |
| 5   | 66  | 54  | 45  | 39  | 60 | 50 | 42 | 36 | 42 | 36 | 32 | 35 | 30 | 27 | 28 | 25 | 22 |
| 6   | 61  | 48  | 40  | 34  | 56 | 45 | 37 | 31 | 38 | 32 | 27 | 32 | 27 | 23 | 26 | 22 | 19 |
| 7   | 56  | 43  | 35  | 29  | 51 | 40 | 33 | 27 | 34 | 28 | 24 | 29 | 24 | 20 | 23 | 20 | 17 |
| 8   | 52  | 39  | 31  | 26  | 48 | 36 | 29 | 24 | 31 | 25 | 21 | 26 | 21 | 18 | 21 | 18 | 15 |
| 9   | 48  | 36  | 28  | 23  | 44 | 33 | 26 | 21 | 28 | 23 | 19 | 24 | 19 | 16 | 20 | 16 | 14 |
| 10  | 45  | 33  | 25  | 20  | 42 | 30 | 24 | 19 | 26 | 21 | 17 | 22 | 18 | 15 | 18 | 15 | 12 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 11114 | 11114 | 11114 |
| 5°  | 11164 | 10640 | 10580 |
| 10° | 11090 | 10272 | 10121 |
| 15° | 10933 | 9890  | 9652  |
| 20° | 10735 | 9489  | 9204  |
| 25° | 10540 | 9106  | 8801  |
| 30° | 10267 | 8717  | 8399  |
| 35° | 9991  | 8341  | 8105  |
| 40° | 9701  | 8016  | 7813  |
| 45° | 9422  | 7722  | 7558  |
| 50° | 9125  | 7451  | 7307  |
| 55° | 8812  | 7162  | 7051  |
| 60° | 8430  | 6861  | 6782  |
| 65° | 8031  | 6517  | 6471  |
| 70° | 7579  | 6146  | 6139  |
| 75° | 7004  | 5777  | 5822  |
| 80° | 6092  | 5389  | 5498  |
| 85° | 5170  | 5025  | 5216  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 9422 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 66.6   | 1.4       |
| 10°-20°   | 190.9  | 4.0       |
| 20°-30°   | 289.2  | 6.1       |
| 30°-40°   | 352.2  | 7.4       |
| 40°-50°   | 379.0  | 8.0       |
| 50°-60°   | 368.0  | 7.8       |
| 60°-70°   | 321.4  | 6.8       |
| 70°-80°   | 247.4  | 5.2       |
| 80°-90°   | 167.6  | 3.5       |
| 90°-100°  | 233.7  | 4.9       |
| 100°-110° | 487.1  | 10.3      |
| 110°-120° | 479.4  | 10.1      |
| 120°-130° | 379.6  | 8.0       |
| 130°-140° | 293.3  | 6.2       |
| 140°-150° | 214.0  | 4.5       |
| 150°-160° | 148.9  | 3.1       |
| 160°-170° | 87.7   | 1.9       |
| 170°-180° | 28.5   | 0.6       |
| 0°-30°    | 546.7  | 11.5      |
| 0°-40°    | 898.9  | 19.0      |
| 0°-60°    | 1645.9 | 34.8      |
| 0°-90°    | 2382.2 | 50.3      |
| 90°-120°  | 1200.2 | 25.4      |
| 90°-150°  | 2087.1 | 44.1      |
| 90°-180°  | 2352.0 | 49.7      |
| 0°-180°   | 4734.4 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 702 | 702   | 702 | 702   | 702 |      |
| 5°   | 704 | 701   | 695 | 701   | 700 | 67   |
| 15°  | 672 | 674   | 674 | 683   | 682 | 189  |
| 25°  | 610 | 618   | 627 | 639   | 642 | 281  |
| 35°  | 526 | 543   | 563 | 585   | 592 | 329  |
| 45°  | 431 | 459   | 494 | 526   | 536 | 333  |
| 55°  | 331 | 367   | 420 | 457   | 470 | 296  |
| 65°  | 226 | 276   | 336 | 378   | 391 | 224  |
| 75°  | 125 | 182   | 247 | 291   | 304 | 132  |
| 85°  | 37  | 100   | 165 | 208   | 222 | 39   |
| 90°  | 11  | 77    | 154 | 193   | 206 | 8    |
| 95°  | 28  | 105   | 339 | 240   | 232 | 27   |
| 105° | 74  | 139   | 507 | 873   | 773 | 79   |
| 115° | 126 | 169   | 412 | 816   | 943 | 124  |
| 125° | 172 | 203   | 372 | 649   | 753 | 153  |
| 135° | 200 | 239   | 345 | 526   | 605 | 155  |
| 145° | 228 | 262   | 332 | 418   | 462 | 143  |
| 155° | 259 | 280   | 322 | 364   | 379 | 119  |
| 165° | 282 | 291   | 309 | 327   | 332 | 80   |
| 175° | 294 | 294   | 297 | 300   | 300 | 28   |
| 180° | 294 | 294   | 294 | 294   | 294 |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 702.1 | 702.1 | 702.1 | 702.1 | 702.1 |
| 2.5°   | 707.2 | 704.1 | 697.0 | 702.1 | 700.1 |
| 5°     | 704.1 | 701.1 | 695.0 | 701.1 | 700.1 |
| 7.5°   | 699.1 | 697.0 | 691.9 | 699.1 | 698.0 |
| 10°    | 693.0 | 690.9 | 687.9 | 696.0 | 695.0 |
| 12.5°  | 682.8 | 683.8 | 681.8 | 689.9 | 688.9 |
| 15°    | 671.6 | 673.6 | 673.6 | 682.8 | 681.8 |
| 17.5°  | 657.3 | 661.4 | 664.5 | 673.6 | 673.6 |
| 20°    | 643.1 | 648.2 | 652.2 | 663.4 | 663.4 |
| 22.5°  | 627.8 | 633.9 | 640.0 | 651.2 | 653.3 |
| 25°    | 610.5 | 617.7 | 626.8 | 639.0 | 642.1 |
| 27.5°  | 590.2 | 601.4 | 611.5 | 626.8 | 628.8 |
| 30°    | 569.8 | 583.1 | 596.3 | 612.6 | 615.6 |
| 32.5°  | 547.4 | 562.7 | 579.0 | 598.3 | 604.4 |
| 35°    | 526.1 | 543.4 | 562.7 | 585.1 | 592.2 |
| 37.5°  | 502.7 | 522.0 | 546.4 | 570.8 | 578.0 |
| 40°    | 479.3 | 501.7 | 529.1 | 555.6 | 564.7 |
| 42.5°  | 456.9 | 479.3 | 511.8 | 541.3 | 550.5 |
| 45°    | 431.4 | 458.9 | 494.5 | 526.1 | 536.2 |
| 47.5°  | 407.0 | 436.5 | 477.2 | 509.8 | 521.0 |
| 50°    | 381.6 | 413.1 | 458.9 | 493.5 | 504.7 |
| 52.5°  | 357.2 | 390.7 | 439.6 | 475.2 | 487.4 |
| 55°    | 330.7 | 367.3 | 420.2 | 456.9 | 470.1 |
| 57.5°  | 305.3 | 346.0 | 398.9 | 438.6 | 451.8 |
| 60°    | 277.8 | 321.5 | 379.5 | 418.2 | 432.5 |
| 62.5°  | 253.4 | 299.2 | 357.2 | 398.9 | 412.1 |
| 65°    | 225.9 | 275.8 | 335.8 | 377.5 | 390.7 |
| 67.5°  | 201.5 | 253.4 | 314.4 | 356.1 | 370.4 |
| 70°    | 175.0 | 227.9 | 291.0 | 334.8 | 347.0 |
| 72.5°  | 150.6 | 205.5 | 269.7 | 312.4 | 327.7 |
| 75°    | 125.2 | 182.1 | 247.3 | 291.0 | 304.2 |
| 77.5°  | 100.7 | 159.8 | 225.9 | 269.7 | 283.9 |
| 80°    | 76.3  | 138.4 | 204.5 | 247.3 | 261.5 |
| 82.5°  | 56.0  | 117.0 | 184.2 | 226.9 | 240.1 |
| 85°    | 36.6  | 99.7  | 164.8 | 207.6 | 221.8 |
| 87.5°  | 22.4  | 83.4  | 148.6 | 190.3 | 203.5 |
| 90°    | 10.8  | 76.9  | 153.6 | 193.4 | 205.9 |
| 92.5°  | 17.7  | 90.0  | 212.4 | 205.0 | 211.7 |
| 95°    | 27.9  | 104.7 | 339.0 | 239.6 | 232.5 |
| 97.5°  | 36.6  | 115.2 | 471.8 | 315.7 | 268.0 |
| 100°   | 50.7  | 123.6 | 549.3 | 474.4 | 353.4 |
| 102.5° | 62.7  | 131.4 | 544.9 | 697.7 | 537.8 |
| 105°   | 74.2  | 138.8 | 507.2 | 873.3 | 772.6 |
| 107.5° | 87.8  | 146.2 | 471.8 | 931.8 | 928.2 |
| 110°   | 100.4 | 153.8 | 446.4 | 912.8 | 986.9 |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 112.8 | 162.0 | 426.9 | 869.2 | 978.6 |
| 115°   | 125.9 | 169.0 | 412.3 | 816.3 | 942.8 |
| 117.5° | 138.5 | 177.1 | 400.5 | 766.4 | 892.7 |
| 120°   | 150.9 | 185.0 | 390.5 | 720.0 | 845.3 |
| 122.5° | 162.8 | 194.1 | 382.1 | 683.2 | 794.3 |
| 125°   | 171.9 | 203.0 | 372.2 | 649.2 | 752.6 |
| 127.5° | 180.4 | 212.6 | 364.4 | 618.0 | 712.2 |
| 130°   | 187.8 | 221.9 | 357.1 | 587.7 | 677.4 |
| 132.5° | 194.6 | 231.0 | 350.5 | 556.6 | 642.5 |
| 135°   | 200.4 | 238.9 | 344.8 | 526.0 | 605.4 |
| 137.5° | 206.6 | 245.6 | 339.7 | 494.9 | 568.4 |
| 140°   | 214.0 | 251.0 | 335.0 | 466.9 | 530.2 |
| 142.5° | 221.3 | 256.0 | 333.0 | 440.7 | 493.1 |
| 145°   | 227.7 | 261.6 | 331.9 | 418.2 | 462.1 |
| 147.5° | 235.6 | 266.2 | 330.2 | 398.6 | 432.9 |
| 150°   | 243.6 | 270.7 | 328.5 | 385.2 | 409.5 |
| 152.5° | 251.5 | 275.2 | 325.7 | 374.6 | 393.1 |
| 155°   | 258.8 | 279.6 | 322.3 | 364.5 | 378.9 |
| 157.5° | 265.1 | 282.9 | 318.9 | 354.8 | 366.5 |
| 160°   | 271.3 | 286.3 | 315.5 | 345.2 | 354.6 |
| 162.5° | 277.5 | 288.8 | 312.7 | 336.2 | 343.2 |
| 165°   | 282.1 | 290.6 | 308.7 | 327.4 | 332.5 |
| 167.5° | 286.0 | 292.2 | 305.3 | 319.5 | 322.3 |
| 170°   | 290.0 | 293.2 | 302.5 | 312.1 | 313.2 |
| 172.5° | 292.3 | 294.0 | 299.1 | 305.6 | 305.9 |
| 175°   | 294.0 | 294.2 | 296.8 | 300.5 | 299.6 |
| 177.5° | 295.1 | 294.5 | 294.5 | 296.8 | 295.1 |
| 180°   | 294.5 | 294.5 | 294.5 | 294.5 | 294.5 |

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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 | 13.60            | 14.52 | 14.55 | 15.49 | 16.75 | 16.68          | 17.59 | 17.62 | 18.56 | 19.82 |
|                 | 3H   | 15.07            | 15.90 | 16.02 | 16.87 | 18.16 | 19.27          | 20.10 | 20.22 | 21.08 | 22.36 |
|                 | 4H   | 15.55            | 16.33 | 16.51 | 17.31 | 18.61 | 20.53          | 21.31 | 21.49 | 22.29 | 23.59 |
|                 | 6H   | 15.83            | 16.56 | 16.81 | 17.55 | 18.85 | 21.83          | 22.55 | 22.80 | 23.54 | 24.85 |
|                 | 8H   | 15.89            | 16.59 | 16.88 | 17.59 | 18.89 | 22.49          | 23.18 | 23.47 | 24.19 | 25.49 |
|                 | 12H  | 15.91            | 16.58 | 16.90 | 17.57 | 18.90 | 23.21          | 23.88 | 24.20 | 24.87 | 26.20 |
| 4H              | 2H   | 14.66            | 15.45 | 15.63 | 16.43 | 17.72 | 17.01          | 17.80 | 17.99 | 18.78 | 20.07 |
|                 | 3H   | 16.37            | 17.04 | 17.35 | 18.05 | 19.35 | 19.81          | 20.48 | 20.79 | 21.49 | 22.79 |
|                 | 4H   | 17.00            | 17.61 | 17.99 | 18.61 | 19.94 | 21.23          | 21.84 | 22.22 | 22.85 | 24.17 |
|                 | 6H   | 17.41            | 17.95 | 18.41 | 18.98 | 20.30 | 22.70          | 23.24 | 23.70 | 24.26 | 25.59 |
|                 | 8H   | 17.52            | 18.03 | 18.53 | 19.05 | 20.39 | 23.46          | 23.96 | 24.46 | 24.98 | 26.32 |
|                 | 12H  | 17.57            | 18.03 | 18.59 | 19.06 | 20.41 | 24.29          | 24.75 | 25.31 | 25.78 | 27.13 |
| 8H              | 4H   | 17.79            | 18.29 | 18.79 | 19.31 | 20.65 | 21.38          | 21.88 | 22.38 | 22.90 | 24.24 |
|                 | 6H   | 18.42            | 18.85 | 19.45 | 19.91 | 21.25 | 23.01          | 23.43 | 24.04 | 24.49 | 25.83 |
|                 | 8H   | 18.65            | 19.02 | 19.68 | 20.07 | 21.43 | 23.90          | 24.27 | 24.93 | 25.32 | 26.68 |
|                 | 12H  | 18.78            | 19.12 | 19.82 | 20.16 | 21.56 | 24.90          | 25.23 | 25.94 | 26.27 | 27.67 |
| 12H             | 4H   | 17.99            | 18.45 | 19.01 | 19.48 | 20.83 | 21.35          | 21.81 | 22.38 | 22.85 | 24.19 |
|                 | 6H   | 18.76            | 19.14 | 19.79 | 20.18 | 21.54 | 23.03          | 23.41 | 24.07 | 24.46 | 25.81 |
|                 | 8H   | 19.07            | 19.40 | 20.11 | 20.44 | 21.84 | 23.97          | 24.30 | 25.01 | 25.34 | 26.74 |

END OF REPORT