

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: P999095

Luminaire Tested: SA2XXDIP-B865D530UB27-4F0-XX-W2A-F

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P999095  
REPORT IS A COMBINATION OF REPORTS P984844 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B865D530UB27-4F0-XX-W2A-F  
Description: Define 2 Direct/Indirect Pendant with 2700K BioUP LEDs {m-DER=0.473} {m-EER=0.52}  
Light Source: -  
Ballast/Driver: -

**Summary**

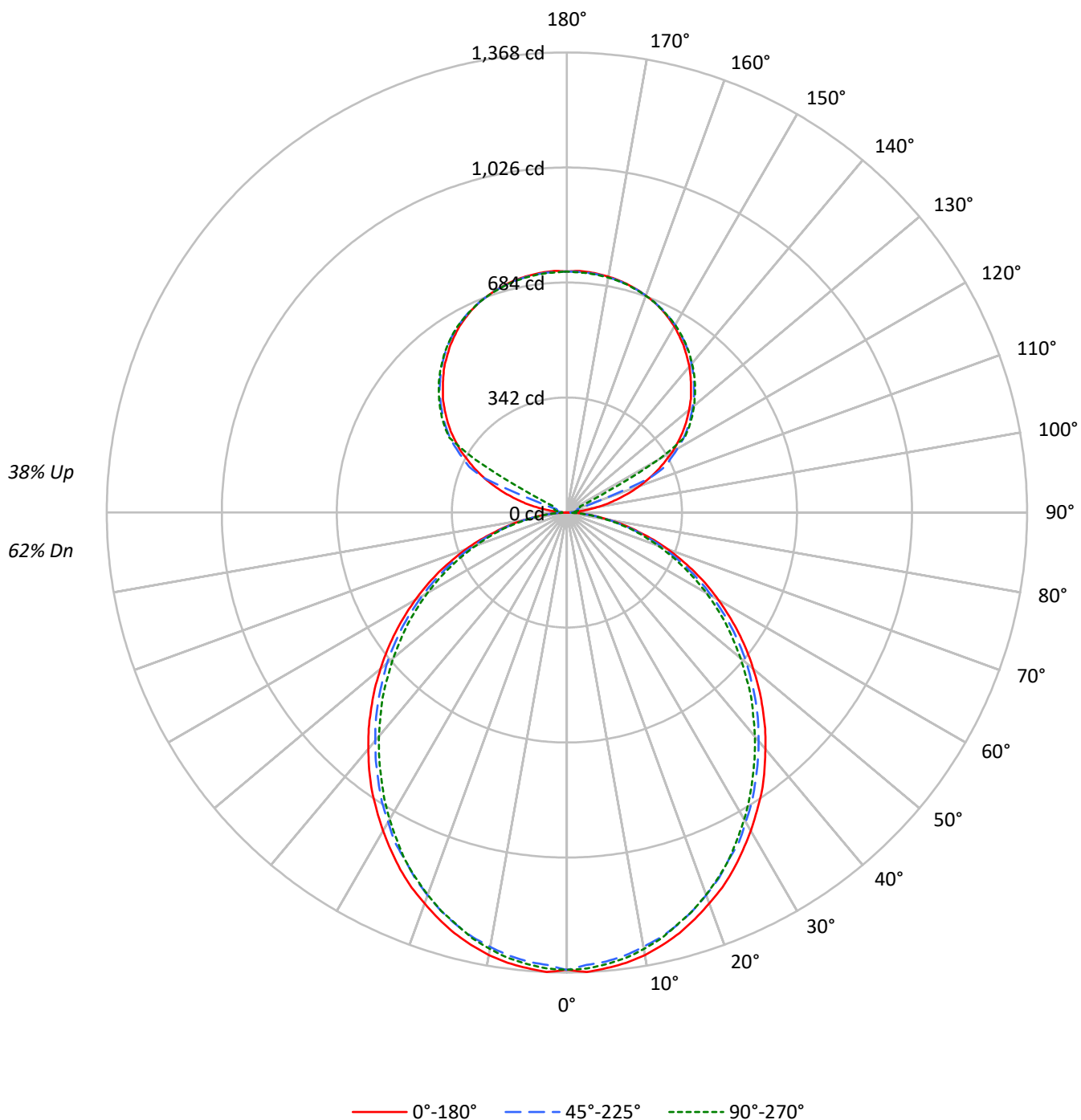
Lumens per Lamp: N/A  
Luminaire Lumens: 5562.0 lumens  
Efficiency: N/A  
Efficacy: 89.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: Semi-Direct

Input Watts (W): 62.2  
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

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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   | 110 | 110 | 110 | 110 | 103 | 103 | 103 | 103 | 90 | 90 | 90 | 78 | 78 | 78 | 67 | 67 | 67 |
| 1   | 101 | 96  | 92  | 89  | 94  | 90  | 87  | 84  | 79 | 77 | 74 | 69 | 67 | 65 | 60 | 58 | 57 |
| 2   | 92  | 84  | 78  | 72  | 86  | 79  | 73  | 69  | 69 | 65 | 61 | 61 | 57 | 55 | 52 | 50 | 48 |
| 3   | 84  | 74  | 66  | 60  | 78  | 69  | 63  | 57  | 61 | 56 | 52 | 54 | 50 | 46 | 46 | 43 | 41 |
| 4   | 76  | 65  | 57  | 51  | 71  | 62  | 54  | 49  | 54 | 49 | 44 | 48 | 43 | 40 | 42 | 38 | 35 |
| 5   | 70  | 58  | 50  | 44  | 66  | 55  | 48  | 42  | 49 | 43 | 38 | 43 | 38 | 34 | 37 | 34 | 31 |
| 6   | 65  | 52  | 44  | 38  | 61  | 50  | 42  | 37  | 44 | 38 | 33 | 39 | 34 | 30 | 34 | 30 | 27 |
| 7   | 60  | 47  | 39  | 34  | 56  | 45  | 37  | 32  | 40 | 34 | 29 | 35 | 30 | 27 | 31 | 27 | 24 |
| 8   | 56  | 43  | 35  | 30  | 52  | 41  | 34  | 29  | 37 | 31 | 26 | 32 | 28 | 24 | 29 | 25 | 22 |
| 9   | 52  | 39  | 32  | 27  | 49  | 37  | 30  | 26  | 34 | 28 | 24 | 30 | 25 | 22 | 26 | 22 | 20 |
| 10  | 49  | 36  | 29  | 24  | 46  | 34  | 28  | 23  | 31 | 25 | 21 | 28 | 23 | 20 | 25 | 21 | 18 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 21528 | 21528 | 21528 |
| 5°  | 21563 | 20520 | 20374 |
| 10° | 21386 | 19585 | 19195 |
| 15° | 21074 | 18642 | 17956 |
| 20° | 20651 | 17617 | 16783 |
| 25° | 20229 | 16547 | 15611 |
| 30° | 19697 | 15541 | 14381 |
| 35° | 19197 | 14479 | 13172 |
| 40° | 18579 | 13433 | 12031 |
| 45° | 17963 | 12395 | 10911 |
| 50° | 17292 | 11337 | 9750  |
| 55° | 16587 | 10207 | 8649  |
| 60° | 15794 | 8984  | 7505  |
| 65° | 14924 | 7740  | 6302  |
| 70° | 13819 | 6380  | 5090  |
| 75° | 12290 | 4917  | 3930  |
| 80° | 10443 | 3341  | 2529  |
| 85° | 7571  | 1555  | 1077  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 17963 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 128.0  | 2.3       |
| 10°-20°   | 360.1  | 6.5       |
| 20°-30°   | 529.2  | 9.5       |
| 30°-40°   | 614.7  | 11.1      |
| 40°-50°   | 613.9  | 11.0      |
| 50°-60°   | 535.3  | 9.6       |
| 60°-70°   | 395.7  | 7.1       |
| 70°-80°   | 223.9  | 4.0       |
| 80°-90°   | 60.3   | 1.1       |
| 90°-100°  | 23.6   | 0.4       |
| 100°-110° | 88.1   | 1.6       |
| 110°-120° | 233.6  | 4.2       |
| 120°-130° | 387.5  | 7.0       |
| 130°-140° | 411.6  | 7.4       |
| 140°-150° | 382.5  | 6.9       |
| 150°-160° | 307.5  | 5.5       |
| 160°-170° | 198.2  | 3.6       |
| 170°-180° | 68.2   | 1.2       |
| 0°-30°    | 1017.4 | 18.3      |
| 0°-40°    | 1632.1 | 29.3      |
| 0°-60°    | 2781.3 | 50.0      |
| 0°-90°    | 3461.3 | 62.2      |
| 90°-120°  | 345.3  | 6.2       |
| 90°-150°  | 1526.9 | 27.5      |
| 90°-180°  | 2101.0 | 37.8      |
| 0°-180°   | 5562.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1360 | 1360  | 1360 | 1360  | 1360 |      |
| 5°   | 1360 | 1355  | 1340 | 1351  | 1348 | 129  |
| 15°  | 1295 | 1287  | 1270 | 1275  | 1268 | 365  |
| 25°  | 1172 | 1161  | 1139 | 1142  | 1139 | 539  |
| 35°  | 1011 | 998   | 977  | 969   | 962  | 631  |
| 45°  | 822  | 813   | 794  | 779   | 774  | 635  |
| 55°  | 622  | 615   | 599  | 583   | 577  | 557  |
| 65°  | 420  | 412   | 399  | 387   | 380  | 415  |
| 75°  | 220  | 217   | 210  | 203   | 205  | 234  |
| 85°  | 54   | 52    | 51   | 47    | 46   | 60   |
| 90°  | 0    | 6     | 10   | 13    | 14   | 5    |
| 95°  | 34   | 17    | 20   | 23    | 22   | 40   |
| 105° | 158  | 173   | 32   | 37    | 39   | 168  |
| 115° | 298  | 307   | 320  | 80    | 42   | 293  |
| 125° | 422  | 428   | 438  | 442   | 443  | 376  |
| 135° | 522  | 530   | 535  | 540   | 539  | 403  |
| 145° | 605  | 605   | 613  | 617   | 614  | 378  |
| 155° | 666  | 662   | 668  | 671   | 667  | 307  |
| 165° | 702  | 699   | 700  | 704   | 700  | 198  |
| 175° | 718  | 714   | 716  | 719   | 714  | 68   |
| 180° | 717  | 717   | 717  | 717   | 717  |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1360.0 | 1360.0 | 1360.0 | 1360.0 | 1360.0 |
| 2.5°   | 1367.8 | 1361.3 | 1346.9 | 1360.0 | 1357.4 |
| 5°     | 1360.0 | 1354.7 | 1340.4 | 1350.8 | 1348.2 |
| 7.5°   | 1350.8 | 1343.0 | 1328.6 | 1339.1 | 1336.4 |
| 10°    | 1336.4 | 1327.3 | 1311.6 | 1322.1 | 1318.1 |
| 12.5°  | 1316.8 | 1309.0 | 1293.3 | 1299.8 | 1297.2 |
| 15°    | 1294.6 | 1286.7 | 1269.7 | 1275.0 | 1268.4 |
| 17.5°  | 1267.1 | 1259.3 | 1242.3 | 1248.8 | 1242.3 |
| 20°    | 1237.1 | 1229.2 | 1210.9 | 1214.8 | 1209.6 |
| 22.5°  | 1207.0 | 1195.2 | 1178.2 | 1178.2 | 1175.6 |
| 25°    | 1171.7 | 1161.2 | 1139.0 | 1141.6 | 1139.0 |
| 27.5°  | 1132.4 | 1123.3 | 1106.3 | 1102.4 | 1095.8 |
| 30°    | 1093.2 | 1082.8 | 1063.1 | 1059.2 | 1054.0 |
| 32.5°  | 1051.4 | 1043.5 | 1022.6 | 1014.8 | 1009.5 |
| 35°    | 1010.8 | 997.8  | 976.8  | 969.0  | 962.4  |
| 37.5°  | 965.1  | 953.3  | 932.4  | 923.2  | 916.7  |
| 40°    | 918.0  | 907.5  | 886.6  | 874.8  | 869.6  |
| 42.5°  | 872.2  | 861.8  | 840.8  | 827.8  | 819.9  |
| 45°    | 822.5  | 813.4  | 793.8  | 779.4  | 774.1  |
| 47.5°  | 774.1  | 765.0  | 744.1  | 729.7  | 721.8  |
| 50°    | 723.1  | 716.6  | 698.3  | 680.0  | 673.5  |
| 52.5°  | 673.5  | 664.3  | 647.3  | 632.9  | 623.8  |
| 55°    | 622.5  | 614.6  | 598.9  | 583.2  | 576.7  |
| 57.5°  | 571.5  | 564.9  | 547.9  | 532.2  | 527.0  |
| 60°    | 520.5  | 515.2  | 496.9  | 482.5  | 478.6  |
| 62.5°  | 470.8  | 461.6  | 448.5  | 435.5  | 430.2  |
| 65°    | 419.8  | 411.9  | 398.8  | 387.1  | 380.5  |
| 67.5°  | 367.5  | 360.9  | 349.1  | 340.0  | 334.8  |
| 70°    | 319.1  | 313.8  | 302.1  | 292.9  | 287.7  |
| 72.5°  | 269.4  | 264.1  | 257.6  | 248.5  | 244.5  |
| 75°    | 219.7  | 217.1  | 210.5  | 202.7  | 205.3  |
| 77.5°  | 175.2  | 170.0  | 167.4  | 163.5  | 159.5  |
| 80°    | 130.8  | 129.5  | 126.8  | 122.9  | 120.3  |
| 82.5°  | 88.9   | 88.9   | 87.6   | 82.4   | 82.4   |
| 85°    | 53.6   | 52.3   | 51.0   | 47.1   | 45.8   |
| 87.5°  | 23.5   | 20.9   | 18.3   | 14.4   | 13.1   |
| 90°    | 0.5    | 6.2    | 10.4   | 13.0   | 14.0   |
| 92.5°  | 13.0   | 10.9   | 12.4   | 13.5   | 14.0   |
| 95°    | 33.7   | 16.6   | 20.2   | 22.8   | 22.3   |
| 97.5°  | 60.7   | 18.1   | 26.4   | 28.0   | 28.5   |
| 100°   | 91.8   | 20.7   | 29.6   | 33.7   | 34.7   |
| 102.5° | 126.0  | 125.0  | 30.6   | 36.3   | 37.9   |
| 105°   | 157.6  | 173.2  | 31.6   | 37.3   | 39.4   |
| 107.5° | 194.4  | 207.4  | 32.7   | 38.4   | 40.4   |
| 110°   | 229.7  | 240.6  | 90.7   | 38.9   | 41.0   |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 262.9 | 272.2 | 263.4 | 39.9  | 41.5  |
| 115°   | 298.1 | 307.0 | 319.9 | 79.8  | 42.5  |
| 117.5° | 328.7 | 339.1 | 347.9 | 273.8 | 137.9 |
| 120°   | 363.0 | 370.7 | 380.1 | 386.3 | 316.3 |
| 122.5° | 392.0 | 400.3 | 410.7 | 413.8 | 414.3 |
| 125°   | 421.5 | 428.3 | 438.1 | 441.8 | 443.3 |
| 127.5° | 448.5 | 455.8 | 463.5 | 468.7 | 469.2 |
| 130°   | 473.9 | 482.2 | 487.9 | 493.6 | 493.1 |
| 132.5° | 499.8 | 506.6 | 512.3 | 516.9 | 516.4 |
| 135°   | 521.6 | 529.9 | 534.6 | 539.8 | 538.7 |
| 137.5° | 544.4 | 550.7 | 555.8 | 561.0 | 559.5 |
| 140°   | 566.7 | 570.9 | 576.6 | 581.2 | 578.7 |
| 142.5° | 585.4 | 589.0 | 595.8 | 599.9 | 597.3 |
| 145°   | 605.1 | 604.6 | 613.4 | 617.0 | 614.4 |
| 147.5° | 622.2 | 620.6 | 629.5 | 632.1 | 630.0 |
| 150°   | 638.8 | 635.2 | 643.5 | 646.6 | 644.0 |
| 152.5° | 652.8 | 648.6 | 656.4 | 659.5 | 655.9 |
| 155°   | 666.3 | 661.6 | 667.8 | 670.9 | 666.8 |
| 157.5° | 677.2 | 673.0 | 677.7 | 681.3 | 677.2 |
| 160°   | 686.5 | 683.4 | 686.5 | 689.6 | 686.0 |
| 162.5° | 694.8 | 691.7 | 694.3 | 697.9 | 693.2 |
| 165°   | 702.1 | 698.9 | 700.5 | 704.1 | 700.5 |
| 167.5° | 707.8 | 704.6 | 706.2 | 709.8 | 705.2 |
| 170°   | 712.4 | 709.3 | 710.4 | 714.0 | 709.3 |
| 172.5° | 715.5 | 712.4 | 713.5 | 717.1 | 712.4 |
| 175°   | 718.1 | 714.5 | 715.5 | 719.2 | 714.0 |
| 177.5° | 719.2 | 715.5 | 716.1 | 719.7 | 715.0 |
| 180°   | 716.6 | 716.6 | 716.6 | 716.6 | 716.6 |

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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 | 16.96            | 17.94 | 17.80 | 18.81 | 19.89 | 17.74          | 18.72 | 18.58 | 19.59 | 20.67 |
|                 | 3H   | 18.30            | 19.19 | 19.16 | 20.06 | 21.18 | 19.37          | 20.26 | 20.23 | 21.13 | 22.25 |
|                 | 4H   | 18.72            | 19.55 | 19.59 | 20.43 | 21.55 | 19.97          | 20.81 | 20.85 | 21.69 | 22.81 |
|                 | 6H   | 18.94            | 19.71 | 19.83 | 20.60 | 21.74 | 20.38          | 21.15 | 21.27 | 22.04 | 23.18 |
|                 | 8H   | 18.97            | 19.71 | 19.87 | 20.61 | 21.75 | 20.49          | 21.23 | 21.39 | 22.13 | 23.27 |
|                 | 12H  | 18.97            | 19.67 | 19.87 | 20.57 | 21.73 | 20.54          | 21.24 | 21.44 | 22.14 | 23.30 |
| 4H              | 2H   | 17.44            | 18.28 | 18.32 | 19.16 | 20.28 | 18.08          | 18.92 | 18.96 | 19.80 | 20.92 |
|                 | 3H   | 18.97            | 19.67 | 19.86 | 20.58 | 21.72 | 19.88          | 20.57 | 20.76 | 21.49 | 22.62 |
|                 | 4H   | 19.48            | 20.12 | 20.38 | 21.03 | 22.19 | 20.56          | 21.20 | 21.46 | 22.11 | 23.27 |
|                 | 6H   | 19.79            | 20.34 | 20.71 | 21.27 | 22.44 | 21.07          | 21.61 | 21.98 | 22.55 | 23.71 |
|                 | 8H   | 19.85            | 20.36 | 20.77 | 21.29 | 22.47 | 21.21          | 21.72 | 22.13 | 22.65 | 23.83 |
|                 | 12H  | 19.86            | 20.32 | 20.79 | 21.27 | 22.45 | 21.28          | 21.74 | 22.22 | 22.69 | 23.87 |
| 8H              | 4H   | 19.67            | 20.18 | 20.58 | 21.11 | 22.29 | 20.66          | 21.17 | 21.58 | 22.10 | 23.28 |
|                 | 6H   | 20.05            | 20.48 | 21.00 | 21.45 | 22.63 | 21.23          | 21.66 | 22.18 | 22.63 | 23.80 |
|                 | 8H   | 20.16            | 20.53 | 21.11 | 21.50 | 22.69 | 21.42          | 21.80 | 22.38 | 22.76 | 23.95 |
|                 | 12H  | 20.20            | 20.53 | 21.15 | 21.48 | 22.73 | 21.53          | 21.86 | 22.48 | 22.81 | 24.06 |
| 12H             | 4H   | 19.65            | 20.12 | 20.59 | 21.06 | 22.25 | 20.63          | 21.09 | 21.57 | 22.04 | 23.22 |
|                 | 6H   | 20.07            | 20.45 | 21.03 | 21.41 | 22.61 | 21.22          | 21.60 | 22.18 | 22.56 | 23.76 |
|                 | 8H   | 20.19            | 20.52 | 21.15 | 21.48 | 22.72 | 21.43          | 21.76 | 22.38 | 22.71 | 23.96 |

END OF REPORT