

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: CORELITE

Report Number: P572158

Luminaire Tested: 24ID-45-L830-DBR

Issue Date: 10/5/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P572158  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2109-397-7)  
Test Lab: INNOVATION CENTER  
Issue Date: 10/5/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: CORELITE  
Catalog Number: 24ID-45-L830-DBR  
Description: 4500 LUMEN, 2X4 INDEPTH TROFFER WITH 2IN REGRESSED DOUBLE BARRELL LENS AND 3000K, 80 CRI LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

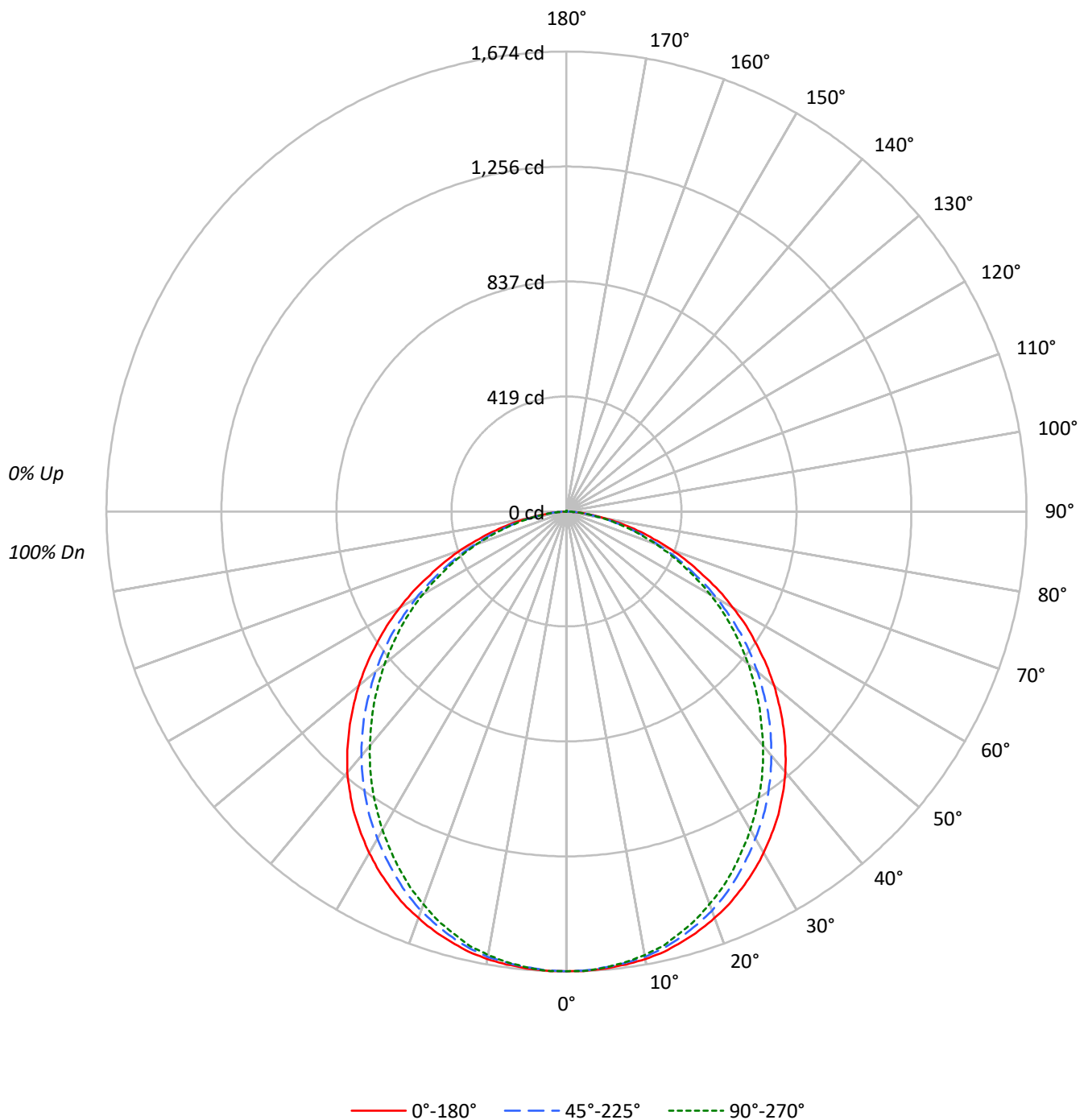
Lumens per Lamp: N/A  
Luminaire Lumens: 4399.0 lumens  
Efficiency: N/A  
Efficacy: 110.0 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.19 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 40  
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   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 |
| 1   | 109 | 105 | 101 | 97  | 107 | 103 | 99  | 95  | 98  | 95  | 92  | 94  | 92  | 90  | 91  | 89  | 87  |
| 2   | 100 | 92  | 85  | 80  | 97  | 90  | 84  | 79  | 86  | 81  | 77  | 83  | 79  | 75  | 80  | 77  | 73  |
| 3   | 91  | 81  | 73  | 67  | 89  | 79  | 72  | 66  | 76  | 70  | 65  | 74  | 68  | 64  | 71  | 67  | 63  |
| 4   | 84  | 72  | 63  | 57  | 81  | 71  | 63  | 56  | 68  | 61  | 56  | 66  | 60  | 55  | 64  | 58  | 54  |
| 5   | 77  | 64  | 56  | 49  | 75  | 63  | 55  | 49  | 61  | 54  | 48  | 59  | 53  | 48  | 57  | 52  | 47  |
| 6   | 71  | 58  | 49  | 43  | 69  | 57  | 49  | 43  | 55  | 48  | 42  | 54  | 47  | 42  | 52  | 46  | 42  |
| 7   | 66  | 53  | 44  | 38  | 64  | 52  | 44  | 38  | 50  | 43  | 38  | 49  | 42  | 37  | 48  | 42  | 37  |
| 8   | 61  | 48  | 40  | 34  | 60  | 47  | 39  | 34  | 46  | 39  | 34  | 45  | 38  | 33  | 44  | 38  | 33  |
| 9   | 57  | 44  | 36  | 31  | 56  | 44  | 36  | 31  | 42  | 35  | 30  | 41  | 35  | 30  | 40  | 34  | 30  |
| 10  | 54  | 41  | 33  | 28  | 53  | 40  | 33  | 28  | 39  | 32  | 28  | 38  | 32  | 27  | 37  | 32  | 27  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2252 | 2252 | 2252 |
| 5°  | 2255 | 2249 | 2249 |
| 10° | 2260 | 2249 | 2240 |
| 15° | 2260 | 2236 | 2215 |
| 20° | 2255 | 2215 | 2178 |
| 25° | 2246 | 2179 | 2134 |
| 30° | 2230 | 2136 | 2080 |
| 35° | 2209 | 2093 | 2022 |
| 40° | 2178 | 2038 | 1955 |
| 45° | 2126 | 1975 | 1885 |
| 50° | 2064 | 1898 | 1808 |
| 55° | 1981 | 1814 | 1724 |
| 60° | 1879 | 1700 | 1625 |
| 65° | 1744 | 1560 | 1498 |
| 70° | 1598 | 1403 | 1361 |
| 75° | 1385 | 1207 | 1173 |
| 80° | 1116 | 949  | 949  |
| 85° | 563  | 597  | 563  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2126 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 158.4  | 3.6       |
| 10°-20°   | 452.7  | 10.3      |
| 20°-30°   | 677.7  | 15.4      |
| 30°-40°   | 801.1  | 18.2      |
| 40°-50°   | 806.3  | 18.3      |
| 50°-60°   | 697.7  | 15.9      |
| 60°-70°   | 496.9  | 11.3      |
| 70°-80°   | 255.1  | 5.8       |
| 80°-90°   | 52.8   | 1.2       |
| 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° | 0.2    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 1288.8 | 29.3      |
| 0°-40°    | 2089.9 | 47.5      |
| 0°-60°    | 3593.9 | 81.7      |
| 0°-90°    | 4398.8 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4399.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1674 | 1674  | 1674 | 1674  | 1674 |      |
| 5°   | 1670 | 1667  | 1665 | 1663  | 1665 | 159  |
| 15°  | 1622 | 1616  | 1605 | 1592  | 1590 | 458  |
| 25°  | 1513 | 1500  | 1468 | 1444  | 1437 | 697  |
| 35°  | 1345 | 1324  | 1274 | 1242  | 1231 | 840  |
| 45°  | 1117 | 1094  | 1038 | 1001  | 990  | 861  |
| 55°  | 844  | 821   | 774  | 741   | 735  | 756  |
| 65°  | 548  | 529   | 490  | 473   | 471  | 546  |
| 75°  | 266  | 254   | 232  | 224   | 226  | 284  |
| 85°  | 36   | 36    | 39   | 39    | 36   | 55   |
| 90°  | 0    | 0     | 0    | 0     | 0    | 2    |
| 95°  | 0    | 0     | 0    | 0     | 0    | 0    |
| 105° | 0    | 0     | 0    | 0     | 0    | 0    |
| 115° | 0    | 0     | 0    | 0     | 0    | 0    |
| 125° | 0    | 0     | 0    | 0     | 0    | 0    |
| 135° | 0    | 0     | 0    | 0     | 0    | 0    |
| 145° | 0    | 0     | 0    | 0     | 0    | 0    |
| 155° | 0    | 0     | 0    | 0     | 0    | 0    |
| 165° | 0    | 0     | 0    | 0     | 0    | 0    |
| 175° | 0    | 0     | 0    | 0     | 2    | 0    |
| 180° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1673.8 | 1673.8 | 1673.8 | 1673.8 | 1673.8 |
| 2.5°   | 1673.8 | 1671.7 | 1671.7 | 1669.5 | 1673.8 |
| 5°     | 1669.5 | 1667.4 | 1665.2 | 1663.1 | 1665.2 |
| 7.5°   | 1663.1 | 1658.8 | 1656.6 | 1652.3 | 1654.5 |
| 10°    | 1654.5 | 1650.2 | 1645.9 | 1639.4 | 1639.4 |
| 12.5°  | 1641.6 | 1637.3 | 1628.7 | 1620.1 | 1620.1 |
| 15°    | 1622.2 | 1615.8 | 1605.0 | 1592.2 | 1590.0 |
| 17.5°  | 1600.7 | 1592.2 | 1577.1 | 1562.1 | 1559.9 |
| 20°    | 1575.0 | 1566.4 | 1547.0 | 1527.7 | 1521.2 |
| 22.5°  | 1547.0 | 1536.3 | 1510.5 | 1489.0 | 1482.6 |
| 25°    | 1512.7 | 1499.8 | 1467.5 | 1443.9 | 1437.4 |
| 27.5°  | 1476.1 | 1458.9 | 1422.4 | 1396.6 | 1388.0 |
| 30°    | 1435.3 | 1418.1 | 1375.1 | 1349.4 | 1338.6 |
| 32.5°  | 1390.2 | 1370.8 | 1327.9 | 1295.6 | 1284.9 |
| 35°    | 1345.1 | 1323.6 | 1274.2 | 1241.9 | 1231.2 |
| 37.5°  | 1293.5 | 1269.9 | 1218.3 | 1183.9 | 1173.2 |
| 40°    | 1239.8 | 1216.1 | 1160.3 | 1125.9 | 1113.0 |
| 42.5°  | 1179.6 | 1156.0 | 1100.1 | 1063.6 | 1050.7 |
| 45°    | 1117.3 | 1093.7 | 1037.8 | 1001.3 | 990.5  |
| 47.5°  | 1052.8 | 1024.9 | 971.2  | 936.8  | 926.1  |
| 50°    | 986.2  | 958.3  | 906.7  | 872.4  | 863.8  |
| 52.5°  | 917.5  | 889.5  | 840.1  | 805.7  | 799.3  |
| 55°    | 844.4  | 820.8  | 773.5  | 741.3  | 734.8  |
| 57.5°  | 775.7  | 749.9  | 700.5  | 676.8  | 670.4  |
| 60°    | 698.3  | 676.8  | 631.7  | 610.2  | 603.8  |
| 62.5°  | 627.4  | 605.9  | 560.8  | 537.2  | 535.0  |
| 65°    | 547.9  | 528.6  | 489.9  | 472.7  | 470.6  |
| 67.5°  | 479.1  | 457.7  | 425.4  | 408.2  | 408.2  |
| 70°    | 406.1  | 386.8  | 356.7  | 345.9  | 345.9  |
| 72.5°  | 333.0  | 320.1  | 294.4  | 283.6  | 285.8  |
| 75°    | 266.4  | 253.5  | 232.1  | 223.5  | 225.6  |
| 77.5°  | 204.1  | 189.1  | 176.2  | 169.7  | 171.9  |
| 80°    | 144.0  | 133.2  | 122.5  | 120.3  | 122.5  |
| 82.5°  | 85.9   | 79.5   | 77.4   | 77.4   | 77.4   |
| 85°    | 36.5   | 36.5   | 38.7   | 38.7   | 36.5   |
| 87.5°  | 15.0   | 12.9   | 12.9   | 15.0   | 15.0   |
| 90°    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 92.5°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 95°    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 97.5°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 100°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 102.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 105°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 107.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 110°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 112.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 115°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 117.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 120°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 122.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 125°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 127.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 130°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 132.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 135°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 137.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 140°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 142.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 145°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 147.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 150°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 152.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 155°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 157.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 160°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 162.5° | 2.1 | 0.0   | 2.1 | 2.1   | 2.1 |
| 165°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 167.5° | 0.0 | 0.0   | 0.0 | 2.1   | 0.0 |
| 170°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 172.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 175°   | 0.0 | 0.0   | 0.0 | 0.0   | 2.1 |
| 177.5° | 0.0 | 0.0   | 2.1 | 2.1   | 2.1 |
| 180°   | 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 | 14.55            | 16.15 | 14.91 | 16.47 | 16.78 | 13.78          | 15.38 | 14.15 | 15.70 | 16.01 |
|                 | 3H   | 16.17            | 17.62 | 16.55 | 17.94 | 18.31 | 15.33          | 16.78 | 15.71 | 17.10 | 17.47 |
|                 | 4H   | 16.73            | 18.08 | 17.12 | 18.43 | 18.81 | 15.86          | 17.21 | 16.25 | 17.56 | 17.94 |
|                 | 6H   | 17.08            | 18.33 | 17.49 | 18.70 | 19.09 | 16.19          | 17.44 | 16.60 | 17.81 | 18.20 |
|                 | 8H   | 17.16            | 18.35 | 17.58 | 18.74 | 19.14 | 16.27          | 17.47 | 16.69 | 17.86 | 18.25 |
|                 | 12H  | 17.18            | 18.33 | 17.61 | 18.71 | 19.14 | 16.30          | 17.45 | 16.73 | 17.83 | 18.26 |
| 4H              | 2H   | 15.01            | 16.37 | 15.41 | 16.72 | 17.09 | 14.39          | 15.75 | 14.79 | 16.09 | 16.47 |
|                 | 3H   | 16.85            | 17.98 | 17.26 | 18.38 | 18.78 | 16.14          | 17.27 | 16.55 | 17.67 | 18.07 |
|                 | 4H   | 17.51            | 18.53 | 17.95 | 18.95 | 19.39 | 16.76          | 17.78 | 17.19 | 18.19 | 18.63 |
|                 | 6H   | 17.97            | 18.86 | 18.43 | 19.30 | 19.76 | 17.19          | 18.08 | 17.64 | 18.52 | 18.98 |
|                 | 8H   | 18.08            | 18.91 | 18.54 | 19.35 | 19.82 | 17.30          | 18.13 | 17.76 | 18.57 | 19.04 |
|                 | 12H  | 18.12            | 18.87 | 18.60 | 19.34 | 19.81 | 17.35          | 18.10 | 17.83 | 18.58 | 19.05 |
| 8H              | 4H   | 17.70            | 18.53 | 18.16 | 18.98 | 19.44 | 17.02          | 17.85 | 17.48 | 18.29 | 18.76 |
|                 | 6H   | 18.24            | 18.92 | 18.73 | 19.41 | 19.89 | 17.53          | 18.22 | 18.02 | 18.71 | 19.18 |
|                 | 8H   | 18.38            | 19.00 | 18.89 | 19.51 | 19.99 | 17.68          | 18.30 | 18.20 | 18.81 | 19.30 |
|                 | 12H  | 18.46            | 19.00 | 18.97 | 19.49 | 20.06 | 17.78          | 18.32 | 18.29 | 18.81 | 19.38 |
| 12H             | 4H   | 17.71            | 18.45 | 18.19 | 18.93 | 19.40 | 17.04          | 17.78 | 17.52 | 18.26 | 18.73 |
|                 | 6H   | 18.25            | 18.86 | 18.76 | 19.37 | 19.86 | 17.56          | 18.17 | 18.07 | 18.68 | 19.17 |
|                 | 8H   | 18.43            | 18.98 | 18.94 | 19.47 | 20.03 | 17.75          | 18.30 | 18.26 | 18.79 | 19.35 |