

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: P644814

Luminaire Tested: OMN4DIP-SR4F0-125D75U830-CLBOOB-1DUDD-WW

Issue Date: 2/16/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644814  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2203-563-26, G2-2206-689-20)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/16/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: OMN4DIP-SR4F0-125D75U830-CLBOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - BATWING LENS - 1250 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 750 LUMENS PER FOOT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

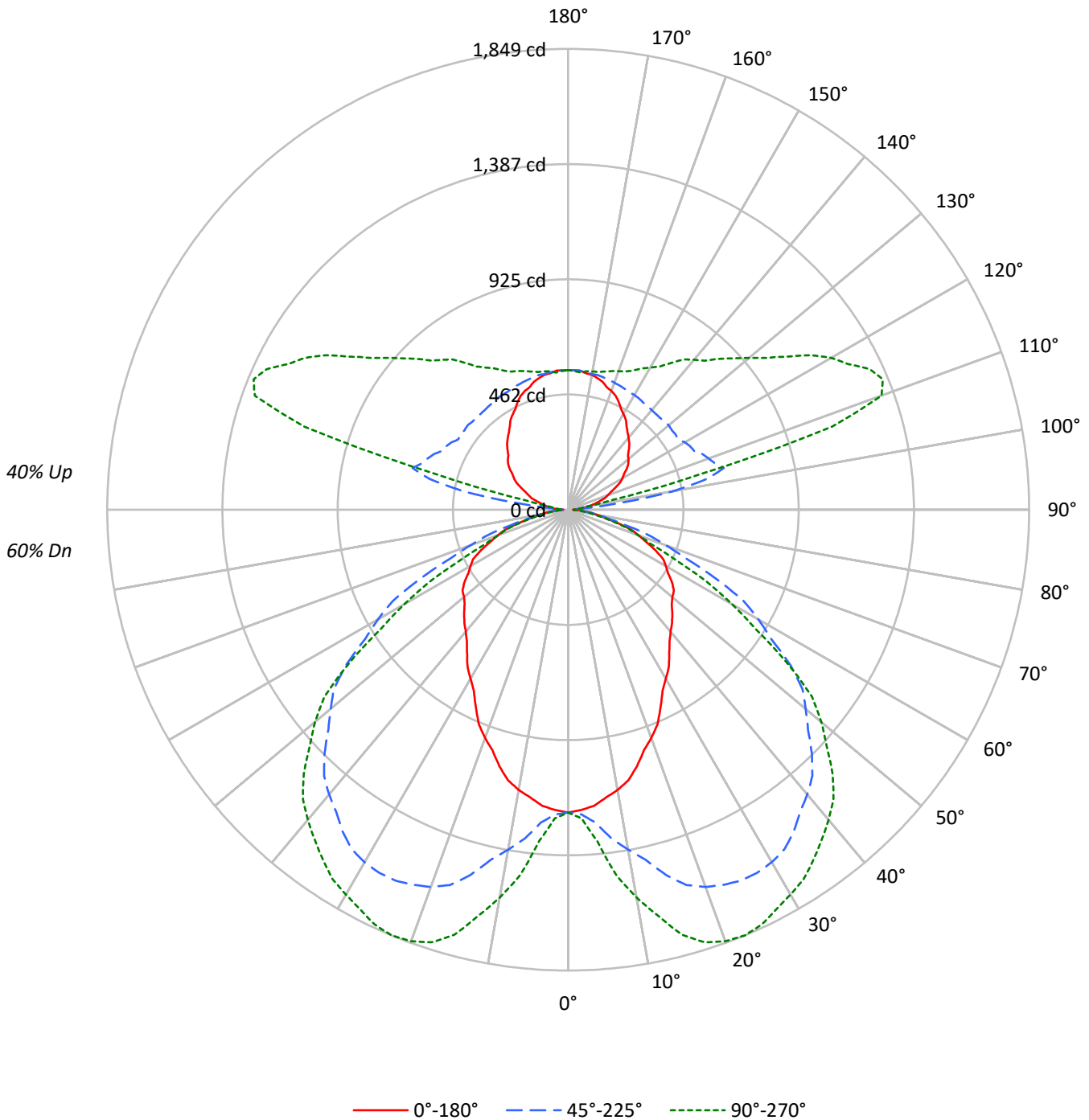
Lumens per Lamp: N/A  
Luminaire Lumens: 7707.5 lumens  
Efficiency: N/A  
Efficacy: 126.8 lumens/watt  
Spacing Criteria (0/90/45): 0.99 / 1.87 / 1.75  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

Input Watts (W): 60.8  
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





TEST NUMBER: P644814

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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|--|--|--|----|--|--|--|--|--|--|--|--|----|---|
| RF  | 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 | 0 |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| RCR |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 0   | 110 | 110 | 110 | 110 | 102 | 102 | 102 | 102 | 89 | 89 | 89 | 77 | 77 | 77 | 66 | 66 | 66 | 60 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 1   | 100 | 96  | 92  | 89  | 94  | 90  | 86  | 83  | 78 | 76 | 74 | 68 | 66 | 64 | 58 | 57 | 56 | 51 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 2   | 91  | 84  | 78  | 72  | 85  | 79  | 73  | 68  | 69 | 65 | 61 | 60 | 57 | 54 | 51 | 49 | 47 | 43 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 3   | 83  | 74  | 66  | 60  | 77  | 69  | 62  | 57  | 61 | 55 | 51 | 53 | 49 | 45 | 45 | 42 | 40 | 36 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 4   | 76  | 65  | 57  | 51  | 71  | 61  | 54  | 48  | 54 | 48 | 43 | 47 | 42 | 39 | 40 | 37 | 34 | 31 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 5   | 70  | 58  | 49  | 43  | 65  | 54  | 47  | 41  | 48 | 42 | 37 | 42 | 37 | 33 | 36 | 32 | 30 | 27 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 6   | 64  | 52  | 43  | 37  | 60  | 49  | 41  | 36  | 43 | 37 | 32 | 38 | 33 | 29 | 33 | 29 | 26 | 23 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 7   | 59  | 47  | 38  | 33  | 55  | 44  | 36  | 31  | 39 | 33 | 28 | 34 | 29 | 26 | 30 | 26 | 23 | 20 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 8   | 55  | 42  | 34  | 29  | 51  | 40  | 33  | 28  | 35 | 29 | 25 | 31 | 26 | 23 | 27 | 23 | 20 | 18 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 9   | 51  | 38  | 31  | 26  | 48  | 36  | 29  | 24  | 32 | 26 | 22 | 29 | 24 | 20 | 25 | 21 | 18 | 16 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 10  | 48  | 35  | 28  | 23  | 44  | 33  | 26  | 22  | 30 | 24 | 20 | 26 | 22 | 18 | 23 | 19 | 16 | 14 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 19617 | 19617 | 19617 |
| 5°  | 19326 | 20425 | 21616 |
| 10° | 18715 | 22699 | 25896 |
| 15° | 17805 | 25362 | 29519 |
| 20° | 16749 | 27673 | 31654 |
| 25° | 15604 | 29247 | 32719 |
| 30° | 14592 | 30449 | 33240 |
| 35° | 13923 | 31077 | 33805 |
| 40° | 13460 | 31445 | 34244 |
| 45° | 13483 | 31549 | 34260 |
| 50° | 13697 | 31230 | 33287 |
| 55° | 14317 | 30621 | 30224 |
| 60° | 14599 | 28468 | 24545 |
| 65° | 14789 | 24936 | 18029 |
| 70° | 14139 | 19610 | 14006 |
| 75° | 12689 | 14629 | 11809 |
| 80° | 10767 | 11557 | 9456  |
| 85° | 10467 | 9429  | 7855  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 34260 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 124.6  | 1.6       |
| 10°-20°   | 414.1  | 5.4       |
| 20°-30°   | 688.0  | 8.9       |
| 30°-40°   | 867.9  | 11.3      |
| 40°-50°   | 927.7  | 12.0      |
| 50°-60°   | 818.8  | 10.6      |
| 60°-70°   | 525.5  | 6.8       |
| 70°-80°   | 233.0  | 3.0       |
| 80°-90°   | 61.7   | 0.8       |
| 90°-100°  | 84.7   | 1.1       |
| 100°-110° | 500.6  | 6.5       |
| 110°-120° | 673.5  | 8.7       |
| 120°-130° | 546.8  | 7.1       |
| 130°-140° | 436.3  | 5.7       |
| 140°-150° | 343.6  | 4.5       |
| 150°-160° | 251.2  | 3.3       |
| 160°-170° | 156.1  | 2.0       |
| 170°-180° | 53.2   | 0.7       |
| 0°-30°    | 1226.7 | 15.9      |
| 0°-40°    | 2094.5 | 27.2      |
| 0°-60°    | 3841.1 | 49.8      |
| 0°-90°    | 4661.3 | 60.5      |
| 90°-120°  | 1258.8 | 16.3      |
| 90°-150°  | 2585.6 | 33.5      |
| 90°-180°  | 3046.0 | 39.5      |
| 0°-180°   | 7707.5 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1215 | 1215  | 1215 | 1215  | 1215 |      |
| 5°   | 1192 | 1228  | 1260 | 1303  | 1334 | 112  |
| 15°  | 1065 | 1228  | 1517 | 1700  | 1766 | 298  |
| 25°  | 876  | 1188  | 1642 | 1795  | 1837 | 403  |
| 35°  | 706  | 1085  | 1577 | 1679  | 1715 | 444  |
| 45°  | 590  | 928   | 1382 | 1467  | 1500 | 456  |
| 55°  | 509  | 730   | 1088 | 1093  | 1074 | 451  |
| 65°  | 387  | 489   | 653  | 530   | 472  | 379  |
| 75°  | 203  | 226   | 234  | 200   | 189  | 217  |
| 85°  | 56   | 48    | 51   | 45    | 42   | 60   |
| 90°  | 20   | 23    | 24   | 27    | 22   | 15   |
| 95°  | 59   | 72    | 42   | 40    | 44   | 55   |
| 105° | 129  | 185   | 646  | 817   | 539  | 137  |
| 115° | 208  | 246   | 558  | 1144  | 1334 | 207  |
| 125° | 287  | 324   | 526  | 908   | 1070 | 255  |
| 135° | 345  | 383   | 521  | 745   | 856  | 266  |
| 145° | 408  | 443   | 525  | 649   | 718  | 257  |
| 155° | 479  | 496   | 535  | 589   | 616  | 220  |
| 165° | 532  | 538   | 549  | 564   | 574  | 149  |
| 175° | 560  | 563   | 560  | 556   | 553  | 53   |
| 180° | 560  | 560   | 560  | 560   | 560  |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1215.0 | 1215.0 | 1215.0 | 1215.0 | 1215.0 |
| 2.5°   | 1206.0 | 1223.6 | 1224.0 | 1231.0 | 1239.9 |
| 5°     | 1192.4 | 1228.3 | 1260.2 | 1303.3 | 1333.7 |
| 7.5°   | 1164.1 | 1228.2 | 1330.3 | 1430.3 | 1480.0 |
| 10°    | 1141.5 | 1229.9 | 1384.5 | 1518.7 | 1579.5 |
| 12.5°  | 1112.1 | 1229.3 | 1438.8 | 1600.3 | 1669.9 |
| 15°    | 1065.2 | 1228.2 | 1517.3 | 1699.7 | 1766.0 |
| 17.5°  | 1011.0 | 1223.2 | 1578.9 | 1761.7 | 1819.7 |
| 20°    | 974.8  | 1218.0 | 1610.6 | 1784.3 | 1842.3 |
| 22.5°  | 934.1  | 1206.0 | 1628.7 | 1795.5 | 1849.1 |
| 25°    | 875.9  | 1188.1 | 1641.7 | 1795.2 | 1836.6 |
| 27.5°  | 818.9  | 1162.5 | 1642.2 | 1772.4 | 1807.8 |
| 30°    | 782.7  | 1141.8 | 1633.2 | 1749.8 | 1782.9 |
| 32.5°  | 751.0  | 1119.0 | 1615.1 | 1722.7 | 1758.1 |
| 35°    | 706.4  | 1084.9 | 1576.7 | 1679.2 | 1715.1 |
| 37.5°  | 668.0  | 1045.9 | 1528.1 | 1627.9 | 1669.9 |
| 40°    | 638.6  | 1014.3 | 1491.9 | 1591.6 | 1624.7 |
| 42.5°  | 616.0  | 980.7  | 1449.0 | 1546.2 | 1575.0 |
| 45°    | 590.5  | 927.6  | 1381.7 | 1467.2 | 1500.4 |
| 47.5°  | 563.4  | 872.9  | 1304.3 | 1385.0 | 1406.6 |
| 50°    | 545.3  | 832.7  | 1243.3 | 1316.9 | 1325.2 |
| 52.5°  | 534.0  | 790.4  | 1184.5 | 1230.9 | 1232.5 |
| 55°    | 508.6  | 729.6  | 1087.8 | 1093.1 | 1073.7 |
| 57.5°  | 474.7  | 658.7  | 965.2  | 937.6  | 891.2  |
| 60°    | 452.1  | 609.6  | 881.6  | 826.4  | 760.1  |
| 62.5°  | 429.5  | 562.7  | 793.4  | 704.1  | 626.7  |
| 65°    | 387.1  | 489.3  | 652.7  | 529.9  | 471.9  |
| 67.5°  | 337.9  | 408.7  | 512.6  | 396.4  | 357.7  |
| 70°    | 299.5  | 354.8  | 415.4  | 324.3  | 296.7  |
| 72.5°  | 263.3  | 300.9  | 336.2  | 268.1  | 253.7  |
| 75°    | 203.4  | 225.5  | 234.5  | 200.4  | 189.3  |
| 77.5°  | 149.8  | 150.9  | 162.8  | 141.2  | 135.6  |
| 80°    | 115.8  | 110.3  | 124.3  | 107.2  | 101.7  |
| 82.5°  | 88.7   | 81.0   | 90.4   | 77.9   | 74.6   |
| 85°    | 56.5   | 48.2   | 50.9   | 45.1   | 42.4   |
| 87.5°  | 33.3   | 27.4   | 27.4   | 25.8   | 22.5   |
| 90°    | 19.8   | 23.2   | 24.0   | 27.4   | 21.9   |
| 92.5°  | 35.0   | 31.8   | 30.2   | 34.2   | 31.4   |
| 95°    | 59.2   | 72.3   | 42.3   | 40.3   | 44.4   |
| 97.5°  | 77.7   | 119.7  | 217.7  | 66.7   | 55.6   |
| 100°   | 92.3   | 142.6  | 423.9  | 127.9  | 83.8   |
| 102.5° | 107.0  | 162.2  | 570.4  | 326.0  | 177.3  |
| 105°   | 128.9  | 184.7  | 645.7  | 816.8  | 538.6  |
| 107.5° | 153.7  | 192.8  | 616.8  | 1187.5 | 1109.7 |
| 110°   | 168.3  | 206.9  | 599.9  | 1247.6 | 1337.8 |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5°  | 90°    |
|--------|-------|-------|-------|--------|--------|
| 112.5° | 185.2 | 223.8 | 583.0 | 1212.5 | 1366.0 |
| 115°   | 207.8 | 246.3 | 557.7 | 1144.3 | 1334.3 |
| 117.5° | 233.2 | 271.7 | 551.4 | 1070.5 | 1266.0 |
| 120°   | 250.7 | 288.6 | 540.1 | 1014.3 | 1218.1 |
| 122.5° | 264.8 | 303.2 | 523.7 | 966.1  | 1153.3 |
| 125°   | 286.6 | 324.5 | 526.0 | 907.8  | 1070.3 |
| 127.5° | 304.2 | 345.0 | 523.9 | 839.6  | 1000.5 |
| 130°   | 315.5 | 356.8 | 526.7 | 792.1  | 947.0  |
| 132.5° | 325.0 | 366.3 | 522.2 | 771.8  | 899.2  |
| 135°   | 345.0 | 382.9 | 521.0 | 745.3  | 855.5  |
| 137.5° | 362.6 | 403.2 | 521.0 | 716.1  | 810.4  |
| 140°   | 376.7 | 414.6 | 521.0 | 699.0  | 785.1  |
| 142.5° | 390.8 | 425.9 | 523.9 | 679.2  | 759.7  |
| 145°   | 408.4 | 442.8 | 524.6 | 649.4  | 718.2  |
| 147.5° | 429.5 | 459.8 | 528.8 | 627.9  | 680.9  |
| 150°   | 443.6 | 471.1 | 531.6 | 613.6  | 658.3  |
| 152.5° | 457.7 | 482.5 | 531.6 | 602.1  | 638.6  |
| 155°   | 478.8 | 496.0 | 535.1 | 588.6  | 616.1  |
| 157.5° | 495.7 | 512.2 | 539.4 | 579.9  | 599.9  |
| 160°   | 507.0 | 520.7 | 542.2 | 574.2  | 591.5  |
| 162.5° | 515.4 | 529.2 | 545.0 | 571.3  | 583.0  |
| 165°   | 531.6 | 538.5 | 549.2 | 563.5  | 573.9  |
| 167.5° | 540.8 | 547.0 | 552.7 | 559.9  | 566.1  |
| 170°   | 549.2 | 552.7 | 552.7 | 559.9  | 563.3  |
| 172.5° | 552.0 | 558.2 | 555.5 | 557.0  | 560.5  |
| 175°   | 559.8 | 563.2 | 559.8 | 556.2  | 552.7  |
| 177.5° | 559.8 | 562.5 | 559.8 | 559.7  | 557.0  |
| 180°   | 559.8 | 559.8 | 559.8 | 559.8  | 559.8  |

(END OF REPORT)