

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: P645210

Luminaire Tested: OMN4DP-SR4F0-100D930-CLB-1DUDD-WW

Issue Date: 2/16/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P645210  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2206-689-20)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/16/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: OMN4DP-SR4F0-100D930-CLB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - BATWING LENS - 1000 LUMENS PER FOOT  
DIRECT ONLY  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

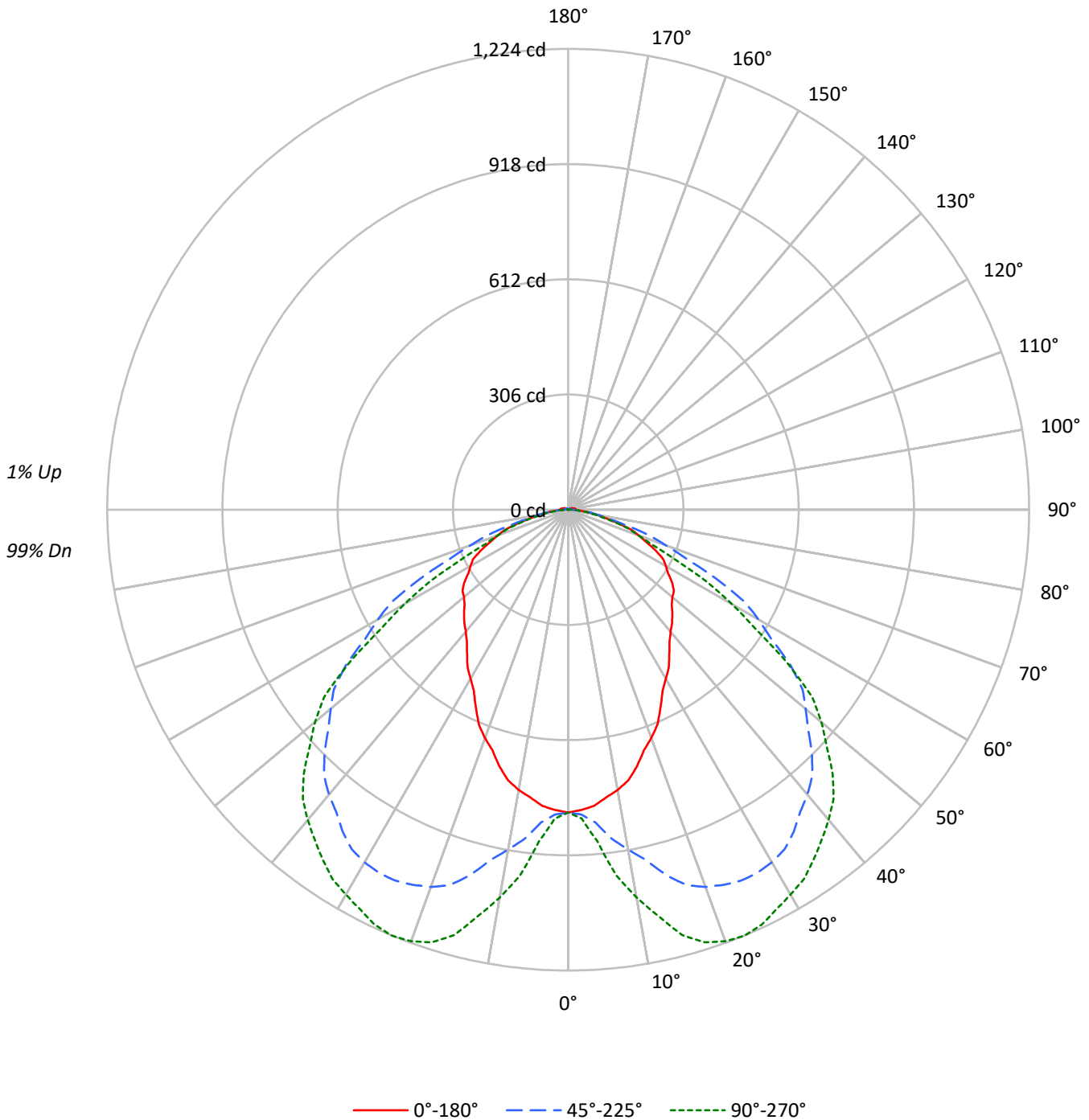
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3111.2 lumens  
Efficiency: N/A  
Efficacy: 104.1 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: Direct

Input Watts (W): 29.9  
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 |  |  |  |  |  |  |  |  |   |
| 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 | 101 | 101 | 101 | 99 |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 1   | 109 | 104 | 100 | 97  | 106 | 102 | 98  | 95  | 98  | 95  | 92  | 94  | 91  | 89  | 90  | 88  | 86  | 84 |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 99  | 91  | 85  | 79  | 97  | 89  | 83  | 78  | 86  | 81  | 76  | 82  | 78  | 74  | 79  | 76  | 73  | 70 |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 91  | 80  | 72  | 66  | 88  | 79  | 71  | 65  | 75  | 69  | 64  | 73  | 67  | 63  | 70  | 65  | 62  | 59 |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 83  | 71  | 62  | 56  | 80  | 70  | 61  | 55  | 67  | 60  | 54  | 65  | 58  | 53  | 62  | 57  | 53  | 51 |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 76  | 63  | 54  | 48  | 74  | 62  | 54  | 47  | 60  | 52  | 47  | 58  | 51  | 46  | 56  | 50  | 46  | 43 |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 70  | 57  | 48  | 41  | 68  | 56  | 47  | 41  | 54  | 46  | 41  | 52  | 45  | 40  | 50  | 45  | 40  | 38 |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 65  | 51  | 42  | 36  | 63  | 50  | 42  | 36  | 49  | 41  | 36  | 47  | 41  | 36  | 46  | 40  | 35  | 33 |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 60  | 47  | 38  | 32  | 59  | 46  | 38  | 32  | 44  | 37  | 32  | 43  | 36  | 32  | 42  | 36  | 31  | 29 |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 56  | 43  | 34  | 29  | 55  | 42  | 34  | 29  | 41  | 34  | 29  | 40  | 33  | 28  | 39  | 33  | 28  | 26 |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 53  | 39  | 31  | 26  | 51  | 39  | 31  | 26  | 38  | 31  | 26  | 37  | 30  | 26  | 36  | 30  | 25  | 24 |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 12988 | 12988 | 12988 |
| 5°  | 12794 | 13522 | 14311 |
| 10° | 12391 | 15028 | 17144 |
| 15° | 11789 | 16792 | 19544 |
| 20° | 11089 | 18321 | 20957 |
| 25° | 10331 | 19363 | 21663 |
| 30° | 9661  | 20159 | 22007 |
| 35° | 9219  | 20576 | 22381 |
| 40° | 8911  | 20818 | 22672 |
| 45° | 8928  | 20888 | 22681 |
| 50° | 9068  | 20675 | 22039 |
| 55° | 9478  | 20273 | 20011 |
| 60° | 9665  | 18849 | 16249 |
| 65° | 9792  | 16508 | 11935 |
| 70° | 9361  | 12982 | 9272  |
| 75° | 8403  | 9688  | 7817  |
| 80° | 7132  | 7652  | 6258  |
| 85° | 6928  | 6243  | 5206  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 22681 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 82.5   | 2.7       |
| 10°-20°   | 274.2  | 8.8       |
| 20°-30°   | 455.5  | 14.6      |
| 30°-40°   | 574.6  | 18.5      |
| 40°-50°   | 614.2  | 19.7      |
| 50°-60°   | 542.1  | 17.4      |
| 60°-70°   | 347.9  | 11.2      |
| 70°-80°   | 154.3  | 5.0       |
| 80°-90°   | 40.0   | 1.3       |
| 90°-100°  | 10.5   | 0.3       |
| 100°-110° | 6.7    | 0.2       |
| 110°-120° | 5.1    | 0.2       |
| 120°-130° | 3.3    | 0.1       |
| 130°-140° | 0.3    | 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°    | 812.1  | 26.1      |
| 0°-40°    | 1386.7 | 44.6      |
| 0°-60°    | 2543.1 | 81.7      |
| 0°-90°    | 3085.3 | 99.2      |
| 90°-120°  | 22.3   | 0.7       |
| 90°-150°  | 25.9   | 0.8       |
| 90°-180°  | 26.0   | 0.8       |
| 0°-180°   | 3111.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|-----|-------|------|-------|------|------|
| 0°   | 804 | 804   | 804  | 804   | 804  |      |
| 5°   | 789 | 813   | 834  | 863   | 883  | 74   |
| 15°  | 705 | 813   | 1005 | 1125  | 1169 | 198  |
| 25°  | 580 | 787   | 1087 | 1188  | 1216 | 267  |
| 35°  | 468 | 718   | 1044 | 1112  | 1136 | 294  |
| 45°  | 391 | 614   | 915  | 971   | 993  | 302  |
| 55°  | 337 | 483   | 720  | 724   | 711  | 299  |
| 65°  | 256 | 324   | 432  | 351   | 312  | 251  |
| 75°  | 135 | 149   | 155  | 133   | 125  | 144  |
| 85°  | 37  | 32    | 34   | 30    | 28   | 40   |
| 90°  | 13  | 13    | 11   | 11    | 8    | 9    |
| 95°  | 21  | 13    | 9    | 6     | 4    | 15   |
| 105° | 13  | 11    | 6    | 2     | 0    | 15   |
| 115° | 9   | 8     | 6    | 2     | 0    | 10   |
| 125° | 6   | 6     | 6    | 2     | 0    | 5    |
| 135° | 0   | 0     | 0    | 0     | 0    | 1    |
| 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     | 0    | 0    |
| 180° | 0   | 0     | 0    | 0     | 0    | 0    |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°    | 67.5°  | 90°    |
|--------|-------|-------|--------|--------|--------|
| 0°     | 804.4 | 804.4 | 804.4  | 804.4  | 804.4  |
| 2.5°   | 798.4 | 810.1 | 810.4  | 815.0  | 820.9  |
| 5°     | 789.4 | 813.2 | 834.3  | 862.9  | 883.0  |
| 7.5°   | 770.7 | 813.2 | 880.7  | 947.0  | 979.9  |
| 10°    | 755.8 | 814.3 | 916.6  | 1005.5 | 1045.7 |
| 12.5°  | 736.3 | 813.9 | 952.6  | 1059.5 | 1105.6 |
| 15°    | 705.3 | 813.2 | 1004.6 | 1125.3 | 1169.2 |
| 17.5°  | 669.3 | 809.8 | 1045.4 | 1166.3 | 1204.7 |
| 20°    | 645.4 | 806.4 | 1066.3 | 1181.3 | 1219.7 |
| 22.5°  | 618.5 | 798.4 | 1078.3 | 1188.7 | 1224.2 |
| 25°    | 579.9 | 786.6 | 1086.9 | 1188.5 | 1216.0 |
| 27.5°  | 542.1 | 769.7 | 1087.3 | 1173.5 | 1196.9 |
| 30°    | 518.2 | 756.0 | 1081.3 | 1158.5 | 1180.4 |
| 32.5°  | 497.2 | 740.9 | 1069.3 | 1140.5 | 1164.0 |
| 35°    | 467.7 | 718.3 | 1043.9 | 1111.7 | 1135.5 |
| 37.5°  | 442.2 | 692.5 | 1011.7 | 1077.8 | 1105.6 |
| 40°    | 422.8 | 671.5 | 987.7  | 1053.7 | 1075.7 |
| 42.5°  | 407.8 | 649.3 | 959.3  | 1023.7 | 1042.7 |
| 45°    | 391.0 | 614.1 | 914.8  | 971.4  | 993.3  |
| 47.5°  | 373.0 | 577.9 | 863.5  | 917.0  | 931.2  |
| 50°    | 361.0 | 551.3 | 823.1  | 871.9  | 877.4  |
| 52.5°  | 353.6 | 523.3 | 784.2  | 814.9  | 816.0  |
| 55°    | 336.7 | 483.1 | 720.2  | 723.7  | 710.9  |
| 57.5°  | 314.3 | 436.1 | 639.0  | 620.8  | 590.0  |
| 60°    | 299.3 | 403.6 | 583.7  | 547.1  | 503.2  |
| 62.5°  | 284.3 | 372.5 | 525.3  | 466.1  | 414.9  |
| 65°    | 256.3 | 324.0 | 432.1  | 350.8  | 312.4  |
| 67.5°  | 223.7 | 270.6 | 339.3  | 262.4  | 236.8  |
| 70°    | 198.3 | 234.9 | 275.0  | 214.7  | 196.4  |
| 72.5°  | 174.3 | 199.2 | 222.6  | 177.5  | 168.0  |
| 75°    | 134.7 | 149.3 | 155.3  | 132.7  | 125.3  |
| 77.5°  | 99.1  | 99.9  | 107.8  | 93.5   | 89.8   |
| 80°    | 76.7  | 73.0  | 82.3   | 71.0   | 67.3   |
| 82.5°  | 58.7  | 53.6  | 59.9   | 51.6   | 49.4   |
| 85°    | 37.4  | 31.9  | 33.7   | 29.9   | 28.1   |
| 87.5°  | 22.1  | 17.7  | 17.2   | 15.7   | 13.5   |
| 90°    | 13.1  | 13.1  | 11.2   | 11.1   | 7.5    |
| 92.5°  | 17.6  | 13.2  | 9.7    | 8.1    | 4.5    |
| 95°    | 20.6  | 13.3  | 9.4    | 5.6    | 3.7    |
| 97.5°  | 18.3  | 12.8  | 7.1    | 3.7    | 1.9    |
| 100°   | 16.8  | 11.3  | 5.6    | 3.7    | 1.9    |
| 102.5° | 15.3  | 11.3  | 5.6    | 2.2    | 0.4    |
| 105°   | 13.1  | 11.3  | 5.6    | 1.8    | 0.0    |
| 107.5° | 12.7  | 9.4   | 5.6    | 1.8    | 0.0    |
| 110°   | 11.2  | 9.4   | 5.6    | 1.8    | 0.0    |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°   | 22.5° | 45° | 67.5° | 90° |
|--------|------|-------|-----|-------|-----|
| 112.5° | 11.2 | 9.4   | 5.6 | 1.8   | 0.0 |
| 115°   | 9.4  | 7.5   | 5.6 | 1.8   | 0.0 |
| 117.5° | 9.0  | 7.5   | 5.6 | 1.8   | 0.0 |
| 120°   | 7.5  | 7.5   | 5.6 | 1.8   | 0.0 |
| 122.5° | 7.5  | 6.0   | 4.1 | 1.8   | 0.0 |
| 125°   | 5.6  | 5.6   | 5.6 | 1.8   | 0.0 |
| 127.5° | 3.7  | 5.2   | 3.7 | 1.5   | 0.0 |
| 130°   | 3.7  | 3.7   | 3.7 | 0.0   | 0.0 |
| 132.5° | 0.7  | 0.7   | 0.7 | 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° | 0.0  | 0.0   | 0.0 | 0.0   | 0.0 |
| 165°   | 0.0  | 0.0   | 0.0 | 0.0   | 0.0 |
| 167.5° | 0.0  | 0.0   | 0.0 | 0.0   | 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   | 0.0 |
| 177.5° | 0.0  | 0.0   | 0.0 | 0.0   | 0.0 |
| 180°   | 0.0  | 0.0   | 0.0 | 0.0   | 0.0 |

(END OF REPORT)