

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: P735903

Luminaire Tested: S122RDR-S1005D930-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P735903  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2308-143-2)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/24/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122RDR-S1005D930-X4F0-XX-UDD-W-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3503.7 lumens  
Efficiency: N/A  
Efficacy: 83.8 lumens/watt  
Spacing Criteria (0/90/45): 0.82 / 1.11 / 1  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

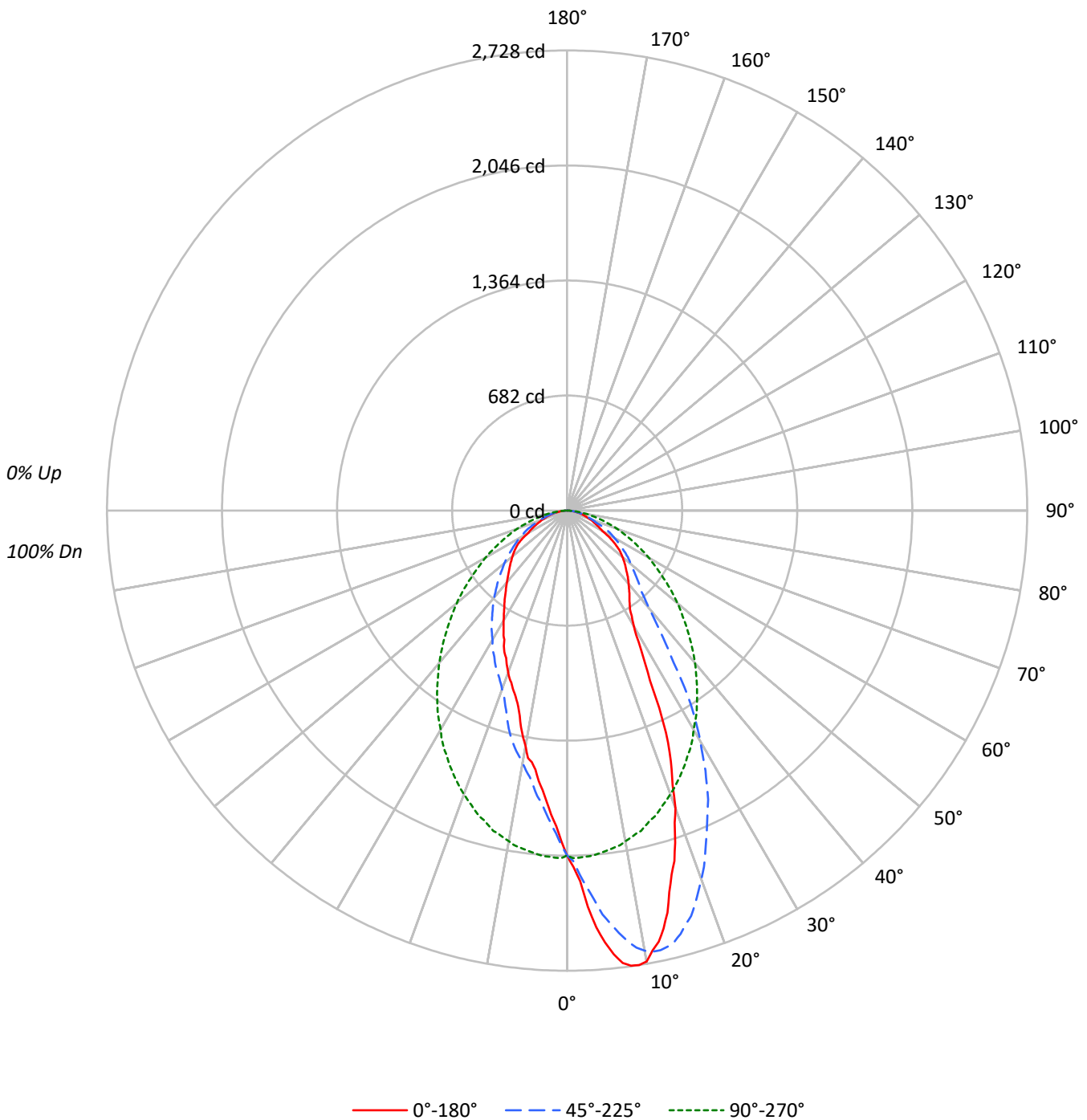
Input Watts (W): 41.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Luminous Intensity Polar Plot



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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  | 0 |  |   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |     |   |  |   |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |    |    | 100 |   |  |   |
| 1   | 110 | 106 | 103 | 99  | 108 | 104 | 101 | 98  | 100 | 97  | 95  | 96  | 94  | 92  | 92  | 91  | 89  |     |    |    |    | 87 |     |   |  |   |
| 2   | 102 | 95  | 89  | 84  | 99  | 93  | 87  | 83  | 89  | 85  | 81  | 86  | 82  | 79  | 83  | 80  | 77  |     |    |    |    | 75 |     |   |  |   |
| 3   | 94  | 85  | 78  | 72  | 92  | 83  | 77  | 71  | 80  | 75  | 70  | 78  | 73  | 69  | 75  | 71  | 68  |     |    |    |    | 66 |     |   |  |   |
| 4   | 87  | 77  | 69  | 63  | 85  | 75  | 68  | 62  | 73  | 67  | 62  | 71  | 65  | 61  | 69  | 64  | 60  |     |    |    |    | 58 |     |   |  |   |
| 5   | 81  | 69  | 61  | 55  | 79  | 68  | 61  | 55  | 66  | 60  | 55  | 64  | 59  | 54  | 63  | 58  | 54  |     |    |    |    | 52 |     |   |  |   |
| 6   | 75  | 63  | 55  | 50  | 74  | 63  | 55  | 49  | 61  | 54  | 49  | 59  | 53  | 49  | 58  | 52  | 48  |     |    |    |    | 46 |     |   |  |   |
| 7   | 71  | 58  | 50  | 45  | 69  | 57  | 50  | 45  | 56  | 49  | 44  | 55  | 49  | 44  | 53  | 48  | 44  |     |    |    |    | 42 |     |   |  |   |
| 8   | 66  | 54  | 46  | 41  | 65  | 53  | 46  | 41  | 52  | 45  | 40  | 51  | 45  | 40  | 50  | 44  | 40  |     |    |    |    | 38 |     |   |  |   |
| 9   | 62  | 50  | 42  | 37  | 61  | 49  | 42  | 37  | 48  | 42  | 37  | 47  | 41  | 37  | 46  | 41  | 37  |     |    |    |    | 35 |     |   |  |   |
| 10  | 59  | 46  | 39  | 34  | 57  | 46  | 39  | 34  | 45  | 39  | 34  | 44  | 38  | 34  | 43  | 38  | 34  |     |    |    |    | 32 |     |   |  |   |

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

|     | 0°    | 45°   | 90°   | 135°  | 180°  |
|-----|-------|-------|-------|-------|-------|
| 0°  | 39304 | 39304 | 39304 | 39304 | 39304 |
| 5°  | 49584 | 46381 | 39454 | 33523 | 32099 |
| 10° | 52965 | 51718 | 38854 | 29663 | 27719 |
| 15° | 46586 | 51700 | 37827 | 26597 | 23097 |
| 20° | 38406 | 47586 | 36620 | 23089 | 20901 |
| 25° | 27382 | 41776 | 35153 | 21384 | 18801 |
| 30° | 17521 | 35041 | 33268 | 19622 | 16702 |
| 35° | 15090 | 25823 | 31534 | 18206 | 15147 |
| 40° | 14222 | 18881 | 29588 | 16846 | 13913 |
| 45° | 13437 | 16177 | 27506 | 15608 | 13135 |
| 50° | 12795 | 14745 | 25555 | 14524 | 12649 |
| 55° | 11742 | 13639 | 23364 | 13351 | 12198 |
| 60° | 9265  | 12432 | 21459 | 12525 | 10303 |
| 65° | 8387  | 11129 | 19461 | 11634 | 9396  |
| 70° | 7739  | 8981  | 17692 | 10020 | 8638  |
| 75° | 7211  | 8125  | 15432 | 8949  | 8125  |
| 80° | 6664  | 7350  | 13062 | 8025  | 7350  |
| 85° | 5977  | 6506  | 10035 | 7057  | 6506  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 38505 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 198.3  | 5.7       |
| 10°-20°   | 532.9  | 15.2      |
| 20°-30°   | 668.4  | 19.1      |
| 30°-40°   | 636.9  | 18.2      |
| 40°-50°   | 561.9  | 16.0      |
| 50°-60°   | 442.0  | 12.6      |
| 60°-70°   | 282.0  | 8.0       |
| 70°-80°   | 143.4  | 4.1       |
| 80°-90°   | 38.0   | 1.1       |
| 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° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 1399.6 | 39.9      |
| 0°-40°    | 2036.5 | 58.1      |
| 0°-60°    | 3040.3 | 86.8      |
| 0°-90°    | 3503.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3503.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 2045 | 2045 | 2045 | 2045 | 2045 |      |
| 5°  | 2570 | 2404 | 2045 | 1737 | 1664 | 250  |
| 15° | 2341 | 2598 | 1901 | 1337 | 1161 | 648  |
| 25° | 1291 | 1970 | 1658 | 1008 | 886  | 582  |
| 35° | 643  | 1100 | 1344 | 776  | 646  | 409  |
| 45° | 494  | 595  | 1012 | 574  | 483  | 383  |
| 55° | 350  | 407  | 697  | 398  | 364  | 308  |
| 65° | 184  | 245  | 428  | 256  | 207  | 185  |
| 75° | 97   | 109  | 208  | 120  | 109  | 103  |
| 85° | 27   | 30   | 46   | 32   | 30   | 31   |
| 90° | 0    | 0    | 0    | 0    | 0    |      |



TEST NUMBER: P735903

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    | 112.5° | 135°   | 157.5° | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2044.8 | 2044.8 | 2044.8 | 2044.8 | 2044.8 | 2044.8 | 2044.8 | 2044.8 | 2044.8 |
| 1°    | 2113.7 | 2123.5 | 2078.0 | 2082.9 | 2060.8 | 2021.4 | 1983.3 | 1987.0 | 1960.0 |
| 2°    | 2198.5 | 2224.3 | 2161.6 | 2123.5 | 2059.6 | 1990.7 | 1914.5 | 1904.6 | 1871.4 |
| 3°    | 2352.2 | 2339.9 | 2236.6 | 2159.1 | 2054.6 | 1951.3 | 1855.4 | 1833.3 | 1805.0 |
| 4°    | 2476.4 | 2439.5 | 2312.8 | 2204.6 | 2052.2 | 1905.9 | 1797.7 | 1759.5 | 1731.3 |
| 5°    | 2569.8 | 2523.1 | 2403.8 | 2239.1 | 2044.8 | 1880.0 | 1737.4 | 1694.4 | 1663.6 |
| 6°    | 2644.8 | 2609.2 | 2462.9 | 2271.0 | 2035.0 | 1841.9 | 1701.7 | 1644.0 | 1612.0 |
| 7°    | 2702.6 | 2673.1 | 2523.1 | 2314.1 | 2026.4 | 1803.8 | 1645.2 | 1584.9 | 1546.8 |
| 8°    | 2724.8 | 2711.2 | 2578.4 | 2344.8 | 2016.5 | 1776.7 | 1594.8 | 1540.7 | 1506.2 |
| 9°    | 2728.4 | 2729.7 | 2622.7 | 2374.3 | 2007.9 | 1727.6 | 1559.1 | 1503.8 | 1485.3 |
| 10°   | 2713.7 | 2724.8 | 2649.8 | 2407.5 | 1990.7 | 1703.0 | 1519.8 | 1466.9 | 1420.2 |
| 11°   | 2655.9 | 2705.1 | 2663.3 | 2429.7 | 1975.9 | 1663.6 | 1485.3 | 1416.5 | 1369.8 |
| 12°   | 2612.9 | 2659.6 | 2664.5 | 2457.9 | 1958.7 | 1645.2 | 1455.8 | 1363.6 | 1314.4 |
| 13°   | 2541.5 | 2590.7 | 2652.2 | 2465.3 | 1948.9 | 1599.7 | 1418.9 | 1309.5 | 1249.3 |
| 14°   | 2456.7 | 2535.4 | 2632.5 | 2481.3 | 1924.3 | 1560.3 | 1382.1 | 1233.3 | 1197.6 |
| 15°   | 2341.1 | 2453.0 | 2598.1 | 2487.4 | 1900.9 | 1533.3 | 1336.6 | 1195.2 | 1160.7 |
| 16°   | 2245.2 | 2371.9 | 2551.4 | 2487.4 | 1886.2 | 1496.4 | 1287.4 | 1162.0 | 1127.5 |
| 17°   | 2172.7 | 2276.0 | 2513.3 | 2488.7 | 1861.6 | 1470.6 | 1238.2 | 1131.2 | 1104.2 |
| 18°   | 2070.6 | 2186.2 | 2453.0 | 2483.8 | 1835.8 | 1439.8 | 1196.4 | 1105.4 | 1072.2 |
| 19°   | 1957.5 | 2095.2 | 2389.1 | 2475.2 | 1813.6 | 1407.9 | 1152.1 | 1078.3 | 1050.1 |
| 20°   | 1877.6 | 2004.2 | 2326.4 | 2461.6 | 1790.3 | 1387.0 | 1128.8 | 1047.6 | 1021.8 |
| 21°   | 1743.5 | 1898.5 | 2263.7 | 2443.2 | 1765.7 | 1351.3 | 1096.8 | 1020.6 | 992.3  |
| 22.5° | 1607.1 | 1749.7 | 2148.1 | 2412.4 | 1725.1 | 1307.0 | 1061.1 | 987.4  | 945.5  |
| 23°   | 1554.2 | 1714.0 | 2112.4 | 2403.8 | 1711.6 | 1296.0 | 1050.1 | 972.6  | 935.7  |
| 24°   | 1441.1 | 1607.1 | 2038.6 | 2376.8 | 1682.1 | 1259.1 | 1029.2 | 943.1  | 917.3  |
| 25°   | 1291.1 | 1516.1 | 1969.8 | 2348.5 | 1657.5 | 1232.0 | 1008.3 | 919.7  | 886.5  |
| 26°   | 1121.4 | 1391.9 | 1907.1 | 2314.1 | 1623.1 | 1195.2 | 980.0  | 897.6  | 850.9  |
| 27°   | 1016.9 | 1284.9 | 1822.2 | 2277.2 | 1598.5 | 1168.1 | 956.6  | 864.4  | 831.2  |
| 28°   | 933.3  | 1116.5 | 1746.0 | 2241.5 | 1568.9 | 1134.9 | 940.6  | 841.0  | 801.7  |
| 29°   | 842.3  | 1024.2 | 1656.2 | 2193.6 | 1537.0 | 1096.8 | 914.8  | 817.7  | 775.9  |
| 30°   | 789.4  | 925.9  | 1578.8 | 2157.9 | 1498.9 | 1071.0 | 884.1  | 794.3  | 752.5  |
| 32.5° | 693.5  | 763.6  | 1368.5 | 2055.9 | 1426.3 | 997.2  | 833.7  | 730.4  | 694.7  |
| 35°   | 643.1  | 680.0  | 1100.5 | 1936.6 | 1343.9 | 935.7  | 775.9  | 677.5  | 645.5  |
| 37.5° | 605.0  | 627.1  | 908.7  | 1808.7 | 1260.3 | 881.6  | 723.0  | 628.3  | 597.6  |
| 40°   | 566.8  | 584.1  | 752.5  | 1685.8 | 1179.2 | 828.7  | 671.4  | 577.9  | 554.5  |
| 42.5° | 532.4  | 545.9  | 652.9  | 1564.0 | 1095.6 | 774.6  | 620.9  | 538.6  | 517.7  |
| 45°   | 494.3  | 506.6  | 595.1  | 1416.5 | 1011.9 | 719.3  | 574.2  | 495.5  | 483.2  |
| 47.5° | 462.3  | 470.9  | 539.8  | 1284.9 | 929.6  | 666.4  | 526.3  | 461.1  | 452.5  |
| 50°   | 427.9  | 439.0  | 493.1  | 1138.6 | 854.6  | 614.8  | 485.7  | 430.4  | 423.0  |
| 52.5° | 394.7  | 399.6  | 453.7  | 992.3  | 775.9  | 564.4  | 442.7  | 399.6  | 394.7  |
| 55°   | 350.4  | 370.1  | 407.0  | 842.3  | 697.2  | 517.7  | 398.4  | 367.6  | 364.0  |
| 57.5° | 300.0  | 325.8  | 365.2  | 707.0  | 623.4  | 466.0  | 362.7  | 338.1  | 322.2  |
| 60°   | 241.0  | 271.7  | 323.4  | 587.7  | 558.2  | 419.3  | 325.8  | 287.7  | 268.0  |
| 62.5° | 211.5  | 221.3  | 285.3  | 491.8  | 491.8  | 375.0  | 289.0  | 247.1  | 238.5  |
| 65°   | 184.4  | 191.8  | 244.7  | 407.0  | 427.9  | 325.8  | 255.8  | 213.9  | 206.6  |



TEST NUMBER: P735903

CATALOG NUMBER: S122RDR-S1005D930-X4F0-XX-UDD-W-W

**CANDELA DISTRIBUTION (continued):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   | 112.5° | 135°  | 157.5° | 180°  |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 67.5° | 161.1 | 167.2 | 186.9 | 339.4 | 368.9 | 284.0  | 211.5 | 186.9  | 178.3 |
| 70°   | 137.7 | 142.6 | 159.8 | 276.7 | 314.8 | 242.2  | 178.3 | 159.8  | 153.7 |
| 72.5° | 116.8 | 121.7 | 131.6 | 207.8 | 258.2 | 201.7  | 150.0 | 136.5  | 131.6 |
| 75°   | 97.1  | 99.6  | 109.4 | 154.9 | 207.8 | 161.1  | 120.5 | 111.9  | 109.4 |
| 77.5° | 78.7  | 79.9  | 86.1  | 110.7 | 161.1 | 123.0  | 97.1  | 89.8   | 88.5  |
| 80°   | 60.2  | 61.5  | 66.4  | 79.9  | 118.0 | 88.5   | 72.5  | 68.9   | 66.4  |
| 82.5° | 43.0  | 44.3  | 46.7  | 54.1  | 79.9  | 60.2   | 51.6  | 50.4   | 46.7  |
| 85°   | 27.1  | 27.1  | 29.5  | 33.2  | 45.5  | 34.4   | 32.0  | 30.7   | 29.5  |
| 87.5° | 12.3  | 12.3  | 13.5  | 13.5  | 20.9  | 14.8   | 14.8  | 13.5   | 12.3  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0    | 0.0   |

(END OF REPORT)