

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P148393

Luminaire Tested: **TLM-F04-LED-E1-5XQ-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P148393
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33676)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: TLM-F04-LED-E1-5XQ-8030
Description: TALON MEDIUM LED SITE LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 5 SQUARE EXTRA WIDE
Light Source: (28) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

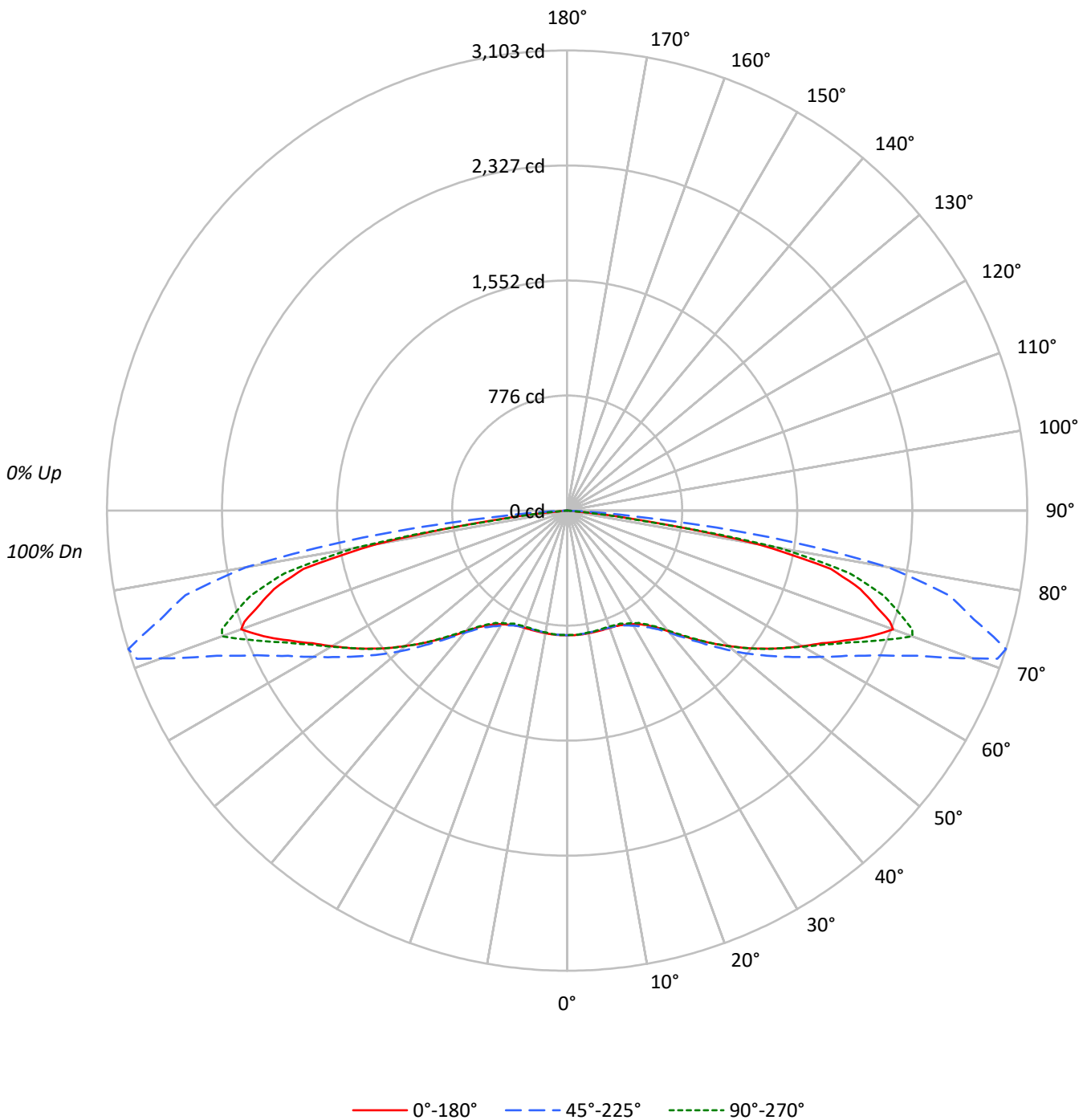
Lumens per Lamp: N/A
Luminaire Lumens: 8863.5 lumens
Efficiency: N/A
Efficacy: 86.7 lumens/watt
Spacing Criteria (0/90/45): 2.11 / 2.1 / 2.7
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
CIE Type: Direct

Input Watts (W): 102.2
Input Voltage (V): NR
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: 25 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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 102 | 95 | 88 | 82 | 99 | 92 | 86 | 80 | 88 | 82 | 78 | 83 | 79 | 75 | 79 | 76 | 73 | 70 |
| 2 | 88 | 76 | 66 | 57 | 85 | 74 | 64 | 56 | 70 | 62 | 55 | 66 | 59 | 53 | 63 | 57 | 52 | 49 |
| 3 | 77 | 62 | 51 | 42 | 74 | 60 | 50 | 41 | 57 | 48 | 40 | 54 | 46 | 39 | 51 | 44 | 38 | 36 |
| 4 | 69 | 53 | 41 | 32 | 66 | 51 | 40 | 31 | 48 | 38 | 31 | 46 | 37 | 30 | 43 | 36 | 30 | 27 |
| 5 | 62 | 45 | 34 | 25 | 60 | 44 | 33 | 25 | 42 | 32 | 24 | 39 | 31 | 24 | 37 | 30 | 24 | 21 |
| 6 | 57 | 40 | 29 | 20 | 54 | 39 | 28 | 20 | 37 | 27 | 20 | 35 | 26 | 20 | 33 | 25 | 19 | 17 |
| 7 | 52 | 35 | 25 | 17 | 50 | 34 | 24 | 17 | 33 | 24 | 17 | 31 | 23 | 17 | 30 | 22 | 16 | 14 |
| 8 | 48 | 32 | 22 | 15 | 46 | 31 | 21 | 15 | 30 | 21 | 14 | 28 | 20 | 14 | 27 | 20 | 14 | 12 |
| 9 | 45 | 29 | 19 | 13 | 43 | 28 | 19 | 13 | 27 | 18 | 12 | 26 | 18 | 12 | 25 | 17 | 12 | 10 |
| 10 | 42 | 26 | 17 | 11 | 40 | 26 | 17 | 11 | 25 | 17 | 11 | 24 | 16 | 11 | 23 | 16 | 11 | 9 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 13492 | 13492 | 13492 |
| 5° | 13566 | 13543 | 13537 |
| 10° | 13693 | 13640 | 13617 |
| 15° | 13968 | 13883 | 13845 |
| 20° | 14390 | 14330 | 14231 |
| 25° | 15110 | 15149 | 14927 |
| 30° | 16406 | 16618 | 16251 |
| 35° | 18493 | 18848 | 18375 |
| 40° | 22298 | 22555 | 22113 |
| 45° | 27964 | 28457 | 27859 |
| 50° | 35466 | 36918 | 35548 |
| 55° | 45470 | 47941 | 45560 |
| 60° | 58742 | 63363 | 58967 |
| 65° | 78766 | 87688 | 79914 |
| 70° | 109873 | 136897 | 116426 |
| 75° | 127124 | 176348 | 137006 |
| 80° | 120976 | 203132 | 134206 |
| 85° | 9843 | 82378 | 6415 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 80.0 | 0.9 |
| 10°-20° | 236.8 | 2.7 |
| 20°-30° | 396.5 | 4.5 |
| 30°-40° | 604.4 | 6.8 |
| 40°-50° | 965.1 | 10.9 |
| 50°-60° | 1483.9 | 16.7 |
| 60°-70° | 2160.6 | 24.4 |
| 70°-80° | 2433.9 | 27.5 |
| 80°-90° | 502.4 | 5.7 |
| 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° | 713.3 | 8.0 |
| 0°-40° | 1317.7 | 14.9 |
| 0°-60° | 3766.6 | 42.5 |
| 0°-90° | 8863.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 8863.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 840 | 840 | 840 | 840 | 840 | |
| 5° | 841 | 841 | 840 | 839 | 839 | 80 |
| 15° | 840 | 837 | 835 | 831 | 832 | 238 |
| 25° | 852 | 854 | 855 | 846 | 842 | 397 |
| 35° | 943 | 950 | 961 | 944 | 937 | 602 |
| 45° | 1231 | 1231 | 1252 | 1232 | 1226 | 960 |
| 55° | 1623 | 1628 | 1712 | 1635 | 1627 | 1461 |
| 65° | 2072 | 2080 | 2307 | 2111 | 2102 | 2065 |
| 75° | 2048 | 2178 | 2841 | 2357 | 2207 | 2086 |
| 85° | 53 | 141 | 447 | 113 | 35 | 332 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 839.8 | 839.8 | 839.8 | 839.8 | 839.8 | 839.8 | 839.8 | 839.8 | 839.8 | 839.8 | 839.8 |
| 2.5° | 841.2 | 841.6 | 841.4 | 841.0 | 841.2 | 841.0 | 840.5 | 840.3 | 838.6 | 839.6 | 841.0 |
| 5° | 841.2 | 840.8 | 840.5 | 840.3 | 840.3 | 841.0 | 840.3 | 839.6 | 839.4 | 839.8 | 839.1 |
| 7.5° | 840.7 | 839.8 | 839.3 | 839.1 | 839.3 | 839.6 | 838.9 | 838.0 | 838.6 | 837.9 | 837.0 |
| 10° | 839.4 | 838.6 | 838.8 | 838.0 | 838.2 | 838.0 | 837.0 | 836.3 | 836.8 | 836.1 | 834.9 |
| 12.5° | 839.8 | 838.6 | 838.4 | 838.0 | 837.7 | 837.5 | 836.4 | 835.2 | 835.4 | 834.9 | 833.8 |
| 15° | 839.8 | 839.1 | 838.8 | 838.0 | 837.7 | 837.2 | 835.9 | 835.4 | 835.4 | 834.7 | 833.3 |
| 17.5° | 840.2 | 839.8 | 839.8 | 838.6 | 838.2 | 837.9 | 836.3 | 835.6 | 836.3 | 835.0 | 834.0 |
| 20° | 841.7 | 841.2 | 841.4 | 840.7 | 839.8 | 839.8 | 838.6 | 838.2 | 838.4 | 838.2 | 835.6 |
| 22.5° | 844.4 | 844.4 | 844.9 | 844.7 | 844.4 | 844.7 | 843.8 | 843.8 | 844.0 | 844.0 | 841.9 |
| 25° | 852.4 | 852.1 | 852.6 | 852.6 | 852.8 | 854.4 | 853.7 | 853.5 | 854.7 | 854.6 | 852.6 |
| 27.5° | 867.2 | 866.7 | 867.2 | 867.7 | 868.8 | 870.9 | 870.4 | 871.1 | 873.0 | 872.6 | 870.7 |
| 30° | 884.4 | 883.9 | 885.1 | 886.5 | 887.4 | 890.6 | 889.2 | 892.8 | 894.4 | 895.8 | 894.4 |
| 32.5° | 909.4 | 909.5 | 911.6 | 912.5 | 914.6 | 917.8 | 918.3 | 921.1 | 923.2 | 925.5 | 923.9 |
| 35° | 942.9 | 942.4 | 944.1 | 945.7 | 948.3 | 951.3 | 952.4 | 956.2 | 959.4 | 961.0 | 958.0 |
| 37.5° | 994.0 | 991.4 | 994.4 | 995.4 | 997.5 | 998.2 | 1001.4 | 1006.1 | 1009.6 | 1009.1 | 1007.0 |
| 40° | 1063.2 | 1062.8 | 1061.6 | 1060.2 | 1063.4 | 1064.6 | 1064.6 | 1070.9 | 1076.4 | 1075.5 | 1075.3 |
| 42.5° | 1144.0 | 1142.0 | 1140.6 | 1140.6 | 1142.4 | 1142.8 | 1150.1 | 1154.7 | 1158.7 | 1159.6 | 1158.7 |
| 45° | 1230.8 | 1228.8 | 1229.3 | 1228.4 | 1229.0 | 1232.1 | 1236.2 | 1244.8 | 1252.2 | 1252.5 | 1248.5 |
| 47.5° | 1324.2 | 1317.8 | 1322.9 | 1315.7 | 1320.1 | 1322.4 | 1332.8 | 1345.4 | 1358.4 | 1360.7 | 1357.2 |
| 50° | 1419.0 | 1418.3 | 1417.8 | 1416.5 | 1418.6 | 1423.7 | 1436.4 | 1456.2 | 1468.7 | 1477.1 | 1471.5 |
| 52.5° | 1522.6 | 1519.1 | 1517.5 | 1515.1 | 1517.2 | 1527.2 | 1545.1 | 1562.3 | 1584.8 | 1594.4 | 1586.7 |
| 55° | 1623.4 | 1622.2 | 1616.2 | 1616.0 | 1620.4 | 1635.9 | 1655.4 | 1676.6 | 1701.0 | 1711.6 | 1708.8 |
| 57.5° | 1727.0 | 1720.2 | 1718.4 | 1715.6 | 1724.4 | 1739.0 | 1763.0 | 1801.1 | 1826.4 | 1838.4 | 1831.5 |
| 60° | 1828.2 | 1823.2 | 1819.2 | 1818.2 | 1824.3 | 1844.7 | 1879.1 | 1924.8 | 1956.2 | 1972.0 | 1960.8 |
| 62.5° | 1937.0 | 1933.7 | 1929.0 | 1923.7 | 1936.4 | 1962.7 | 2005.4 | 2056.1 | 2102.3 | 2121.8 | 2104.9 |
| 65° | 2072.0 | 2065.4 | 2060.2 | 2053.5 | 2064.0 | 2097.0 | 2150.6 | 2221.9 | 2283.9 | 2306.7 | 2294.6 |
| 67.5° | 2214.7 | 2208.4 | 2208.9 | 2204.7 | 2223.3 | 2269.0 | 2338.2 | 2435.1 | 2518.2 | 2557.0 | 2534.2 |
| 70° | 2339.1 | 2342.6 | 2343.6 | 2360.5 | 2392.6 | 2462.2 | 2577.4 | 2729.1 | 2855.2 | 2914.4 | 2890.1 |
| 71° | 2302.4 | 2310.1 | 2322.0 | 2339.6 | 2394.9 | 2477.4 | 2634.6 | 2818.3 | 2968.8 | 3069.1 | 3035.4 |
| 72.5° | 2198.4 | 2203.1 | 2209.1 | 2236.0 | 2298.6 | 2407.7 | 2569.5 | 2779.5 | 2973.0 | 3102.8 | 3063.8 |
| 75° | 2048.0 | 2052.4 | 2054.5 | 2073.2 | 2130.2 | 2225.4 | 2373.5 | 2559.8 | 2730.5 | 2841.0 | 2830.2 |
| 77.5° | 1820.8 | 1821.5 | 1837.8 | 1866.8 | 1930.6 | 2039.6 | 2195.6 | 2388.9 | 2549.4 | 2635.3 | 2580.7 |
| 80° | 1307.6 | 1298.7 | 1315.4 | 1352.8 | 1431.8 | 1556.8 | 1716.5 | 1937.2 | 2115.3 | 2195.6 | 2111.1 |
| 82.5° | 497.5 | 524.4 | 566.9 | 628.7 | 655.4 | 794.3 | 943.4 | 1073.0 | 1223.0 | 1390.7 | 1348.6 |
| 85° | 53.4 | 60.2 | 75.5 | 93.6 | 118.2 | 163.5 | 226.0 | 308.4 | 380.2 | 446.9 | 396.7 |
| 87.5° | 20.0 | 20.4 | 22.8 | 26.2 | 26.7 | 27.9 | 29.7 | 34.6 | 32.3 | 27.9 | 22.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 839.8 | 839.8 | 839.8 | 839.8 | 839.8 | 839.8 | 839.8 | 839.8 |
| 2.5° | 839.8 | 840.0 | 839.8 | 840.0 | 840.0 | 839.1 | 839.3 | 838.8 |
| 5° | 839.6 | 838.8 | 839.1 | 839.3 | 839.1 | 839.6 | 838.9 | 839.4 |
| 7.5° | 838.4 | 837.0 | 837.5 | 837.5 | 837.0 | 837.7 | 837.2 | 837.0 |
| 10° | 836.1 | 834.2 | 835.1 | 834.7 | 834.5 | 834.7 | 834.7 | 834.7 |
| 12.5° | 834.0 | 832.8 | 833.0 | 832.8 | 832.6 | 833.3 | 833.1 | 833.3 |
| 15° | 833.5 | 831.7 | 831.4 | 831.0 | 831.2 | 831.7 | 831.7 | 832.4 |
| 17.5° | 833.1 | 830.8 | 830.5 | 830.0 | 830.3 | 831.2 | 831.4 | 831.0 |
| 20° | 834.5 | 832.6 | 832.2 | 831.7 | 831.4 | 832.6 | 832.4 | 832.4 |
| 22.5° | 841.0 | 838.6 | 838.4 | 836.6 | 835.9 | 836.6 | 836.1 | 836.1 |
| 25° | 851.4 | 848.6 | 847.7 | 845.2 | 843.3 | 843.3 | 842.6 | 842.1 |
| 27.5° | 870.2 | 866.0 | 865.1 | 863.0 | 860.4 | 860.9 | 859.5 | 859.3 |
| 30° | 892.0 | 888.3 | 885.1 | 882.1 | 879.0 | 877.9 | 876.2 | 876.0 |
| 32.5° | 920.6 | 916.4 | 912.4 | 908.8 | 904.6 | 903.0 | 900.2 | 898.8 |
| 35° | 955.7 | 950.1 | 945.5 | 942.9 | 938.7 | 936.6 | 934.8 | 936.9 |
| 37.5° | 1004.7 | 998.0 | 995.6 | 992.6 | 989.8 | 986.6 | 987.3 | 986.6 |
| 40° | 1072.5 | 1066.5 | 1064.2 | 1058.8 | 1058.1 | 1054.4 | 1056.7 | 1054.4 |
| 42.5° | 1156.4 | 1145.2 | 1143.6 | 1139.4 | 1138.0 | 1135.9 | 1136.8 | 1135.2 |
| 45° | 1247.6 | 1237.6 | 1235.8 | 1229.0 | 1229.2 | 1224.4 | 1226.2 | 1226.2 |
| 47.5° | 1350.3 | 1339.8 | 1331.2 | 1326.4 | 1324.5 | 1321.5 | 1323.1 | 1322.9 |
| 50° | 1456.2 | 1442.0 | 1432.5 | 1423.0 | 1418.8 | 1420.0 | 1416.7 | 1422.3 |
| 52.5° | 1570.0 | 1548.8 | 1535.4 | 1526.3 | 1518.4 | 1520.0 | 1520.5 | 1522.2 |
| 55° | 1687.7 | 1660.8 | 1641.3 | 1629.4 | 1622.2 | 1622.7 | 1624.8 | 1626.6 |
| 57.5° | 1806.2 | 1772.5 | 1746.0 | 1728.4 | 1723.7 | 1725.8 | 1725.8 | 1725.6 |
| 60° | 1929.0 | 1888.6 | 1854.5 | 1834.5 | 1830.3 | 1829.2 | 1838.2 | 1835.2 |
| 62.5° | 2060.9 | 2012.4 | 1977.1 | 1951.6 | 1945.5 | 1949.7 | 1957.8 | 1956.0 |
| 65° | 2235.8 | 2168.7 | 2123.2 | 2097.9 | 2087.6 | 2091.8 | 2102.8 | 2102.2 |
| 67.5° | 2461.4 | 2367.5 | 2307.3 | 2274.9 | 2267.4 | 2272.5 | 2278.6 | 2284.4 |
| 70° | 2798.6 | 2664.6 | 2578.6 | 2508.2 | 2478.0 | 2472.2 | 2478.3 | 2478.6 |
| 71° | 2917.2 | 2763.2 | 2626.5 | 2540.6 | 2491.1 | 2470.2 | 2471.8 | 2461.4 |
| 72.5° | 2912.4 | 2722.6 | 2562.6 | 2472.7 | 2404.0 | 2387.2 | 2379.1 | 2366.6 |
| 75° | 2716.1 | 2545.2 | 2406.3 | 2308.3 | 2242.1 | 2222.4 | 2208.0 | 2207.2 |
| 77.5° | 2463.2 | 2337.0 | 2184.0 | 2080.2 | 1999.6 | 1966.9 | 1952.2 | 1951.8 |
| 80° | 1980.1 | 1791.3 | 1679.4 | 1616.9 | 1519.6 | 1491.5 | 1461.8 | 1450.6 |
| 82.5° | 1197.4 | 935.7 | 760.8 | 676.1 | 629.2 | 518.1 | 465.0 | 439.8 |
| 85° | 279.0 | 198.1 | 136.6 | 89.6 | 64.6 | 51.3 | 39.5 | 34.8 |
| 87.5° | 18.8 | 14.9 | 13.2 | 10.7 | 8.1 | 7.9 | 4.9 | 4.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)