

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: PORTFOLIO

Report Number: P183623

Luminaire Tested: **LSM70M9027D010TEP**

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P183623  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27020)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 03/03/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LSM70M9027D010TEP  
Description: PORTFOLIO SURFACE MOUNT LED LUMINAIRE, MEDIUM DISTRIBUTION WITH CLEAR GLASS LENS  
Light Source: 90 CRI, 2700K CCT LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5718.7 lumens  
Efficiency: N/A  
Efficacy: 76.6 lumens/watt  
Spacing Criteria (0/90/45): 1.28 / 1.28 / 1.33  
Luminous Opening: Circular (Dia: 1.12' x H: 0')  
CIE Type: Direct

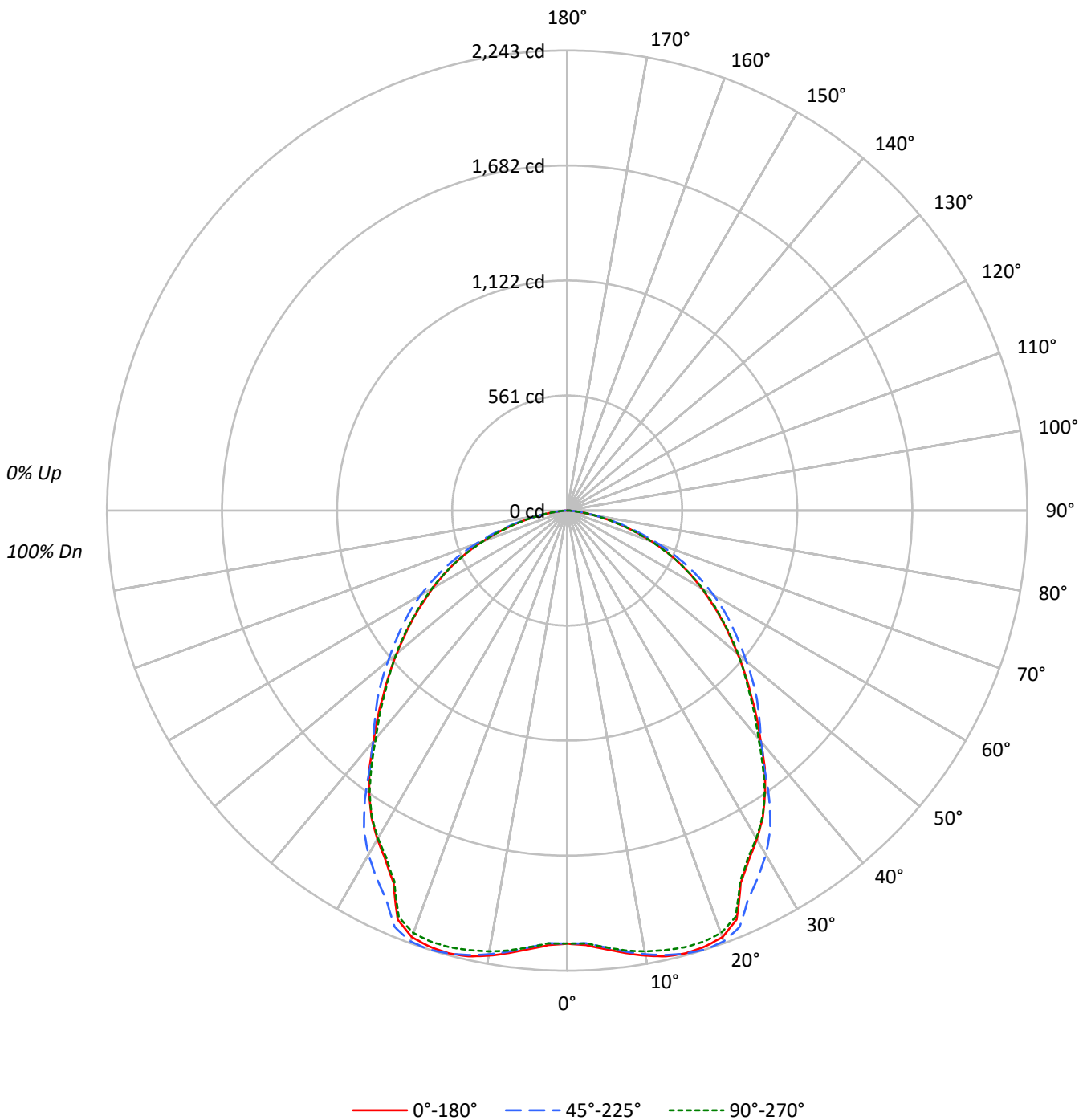
Input Watts (W): 74.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 110 | 105 | 101 | 98  | 107 | 103 | 99  | 96  | 99  | 96  | 93  |  | 95  | 92  | 90  |  | 91  | 89  | 87  | 85  |
| 2   | 100 | 92  | 86  | 80  | 98  | 90  | 85  | 79  | 87  | 82  | 78  |  | 84  | 80  | 76  |  | 81  | 77  | 74  | 72  |
| 3   | 92  | 82  | 74  | 68  | 89  | 80  | 73  | 67  | 77  | 71  | 66  |  | 74  | 69  | 65  |  | 72  | 67  | 64  | 61  |
| 4   | 84  | 73  | 64  | 58  | 82  | 71  | 63  | 57  | 69  | 62  | 57  |  | 67  | 61  | 56  |  | 64  | 59  | 55  | 53  |
| 5   | 78  | 65  | 56  | 50  | 76  | 64  | 56  | 50  | 62  | 55  | 49  |  | 60  | 54  | 49  |  | 58  | 53  | 48  | 46  |
| 6   | 72  | 59  | 50  | 44  | 70  | 58  | 50  | 44  | 56  | 49  | 43  |  | 54  | 48  | 43  |  | 53  | 47  | 43  | 41  |
| 7   | 67  | 54  | 45  | 39  | 65  | 53  | 45  | 39  | 51  | 44  | 39  |  | 50  | 43  | 38  |  | 48  | 43  | 38  | 36  |
| 8   | 62  | 49  | 41  | 35  | 61  | 48  | 40  | 35  | 47  | 40  | 35  |  | 46  | 39  | 34  |  | 45  | 39  | 34  | 32  |
| 9   | 58  | 45  | 37  | 32  | 57  | 44  | 37  | 32  | 43  | 36  | 31  |  | 42  | 36  | 31  |  | 41  | 35  | 31  | 29  |
| 10  | 55  | 42  | 34  | 29  | 53  | 41  | 34  | 29  | 40  | 33  | 29  |  | 39  | 33  | 28  |  | 38  | 33  | 28  | 27  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 22853 | 22853 | 22853 |
| 5°  | 23321 | 23229 | 23222 |
| 10° | 24225 | 24150 | 23992 |
| 15° | 25048 | 25065 | 24707 |
| 20° | 25494 | 25747 | 25256 |
| 25° | 23917 | 24961 | 23826 |
| 30° | 23120 | 24213 | 23053 |
| 35° | 22232 | 22715 | 22193 |
| 40° | 20756 | 20766 | 20508 |
| 45° | 19389 | 20052 | 19238 |
| 50° | 18256 | 19191 | 18334 |
| 55° | 17290 | 18522 | 17361 |
| 60° | 16392 | 17859 | 16525 |
| 65° | 15422 | 16747 | 15402 |
| 70° | 13836 | 14941 | 13763 |
| 75° | 11384 | 12271 | 11414 |
| 80° | 8294  | 8861  | 8531  |
| 85° | 4821  | 5094  | 5007  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 207.0  | 3.6       |
| 10°-20°   | 632.8  | 11.1      |
| 20°-30°   | 950.2  | 16.6      |
| 30°-40°   | 1040.1 | 18.2      |
| 40°-50°   | 1017.4 | 17.8      |
| 50°-60°   | 877.9  | 15.4      |
| 60°-70°   | 627.6  | 11.0      |
| 70°-80°   | 308.3  | 5.4       |
| 80°-90°   | 57.5   | 1.0       |
| 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°    | 1789.9 | 31.3      |
| 0°-40°    | 2830.0 | 49.5      |
| 0°-60°    | 4725.3 | 82.6      |
| 0°-90°    | 5718.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5718.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2110 | 2110  | 2110 | 2110  | 2110 |      |
| 5°  | 2145 | 2164  | 2137 | 2154  | 2136 | 207  |
| 15° | 2234 | 2265  | 2236 | 2238  | 2204 | 631  |
| 25° | 2002 | 2120  | 2089 | 2107  | 1994 | 933  |
| 35° | 1682 | 1656  | 1718 | 1636  | 1679 | 1047 |
| 45° | 1266 | 1350  | 1309 | 1335  | 1256 | 980  |
| 55° | 916  | 999   | 981  | 989   | 920  | 819  |
| 65° | 602  | 635   | 654  | 628   | 601  | 593  |
| 75° | 272  | 287   | 293  | 282   | 273  | 292  |
| 85° | 39   | 41    | 41   | 40    | 40   | 54   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 22.5°  | 25°    | 30°    | 35°    | 40°    | 45°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2110.4 | 2110.4 | 2110.4 | 2110.4 | 2110.4 | 2110.4 | 2110.4 | 2110.4 | 2110.4 | 2110.4 | 2110.4 |
| 2.5°  | 2120.3 | 2137.8 | 2123.3 | 2120.3 | 2108.1 | 2137.0 | 2126.4 | 2128.7 | 2120.3 | 2121.8 | 2110.4 |
| 5°    | 2145.4 | 2163.6 | 2149.9 | 2146.1 | 2134.0 | 2163.6 | 2153.0 | 2154.5 | 2146.1 | 2148.4 | 2137.0 |
| 7.5°  | 2175.0 | 2194.0 | 2179.6 | 2177.3 | 2165.9 | 2195.5 | 2185.7 | 2187.2 | 2178.1 | 2179.6 | 2168.2 |
| 10°   | 2203.1 | 2223.7 | 2209.2 | 2207.7 | 2196.3 | 2228.2 | 2217.6 | 2219.1 | 2208.5 | 2209.2 | 2196.3 |
| 12.5° | 2225.2 | 2246.5 | 2232.0 | 2232.0 | 2221.4 | 2251.8 | 2243.4 | 2244.9 | 2234.3 | 2234.3 | 2219.1 |
| 15°   | 2234.3 | 2256.3 | 2241.1 | 2243.4 | 2232.8 | 2264.7 | 2257.1 | 2257.9 | 2248.7 | 2251.0 | 2235.8 |
| 17.5° | 2229.0 | 2251.0 | 2237.3 | 2238.9 | 2229.0 | 2261.7 | 2254.1 | 2257.1 | 2249.5 | 2255.6 | 2242.7 |
| 20°   | 2212.3 | 2232.0 | 2215.3 | 2216.8 | 2209.2 | 2241.9 | 2236.6 | 2241.9 | 2236.6 | 2245.7 | 2234.3 |
| 22.5° | 2158.3 | 2176.5 | 2167.4 | 2177.3 | 2175.8 | 2210.7 | 2207.7 | 2212.3 | 2203.9 | 2208.5 | 2196.3 |
| 25°   | 2001.7 | 2025.3 | 2022.3 | 2050.4 | 2077.0 | 2120.3 | 2117.3 | 2118.8 | 2101.3 | 2102.8 | 2089.1 |
| 27.5° | 1918.2 | 1937.9 | 1926.5 | 1928.0 | 1917.4 | 1941.7 | 1943.2 | 1981.2 | 2004.0 | 2024.5 | 2015.4 |
| 30°   | 1849.0 | 1864.2 | 1836.8 | 1817.8 | 1790.5 | 1814.8 | 1813.3 | 1846.7 | 1887.0 | 1934.9 | 1936.4 |
| 32.5° | 1774.5 | 1779.1 | 1740.3 | 1714.5 | 1704.6 | 1730.4 | 1728.9 | 1738.8 | 1769.2 | 1820.9 | 1843.7 |
| 35°   | 1681.8 | 1685.6 | 1637.7 | 1630.1 | 1630.1 | 1656.0 | 1649.9 | 1652.9 | 1669.6 | 1703.1 | 1718.3 |
| 37.5° | 1582.2 | 1576.9 | 1549.6 | 1551.1 | 1557.2 | 1580.7 | 1576.2 | 1576.2 | 1581.5 | 1596.7 | 1577.7 |
| 40°   | 1468.3 | 1474.3 | 1466.0 | 1473.6 | 1478.9 | 1501.7 | 1499.4 | 1500.9 | 1498.7 | 1490.3 | 1469.0 |
| 42.5° | 1367.2 | 1382.4 | 1391.5 | 1400.6 | 1401.4 | 1423.4 | 1421.9 | 1428.0 | 1416.6 | 1394.5 | 1387.7 |
| 45°   | 1266.1 | 1284.3 | 1309.4 | 1327.7 | 1329.2 | 1350.5 | 1350.5 | 1352.0 | 1328.4 | 1312.5 | 1309.4 |
| 47.5° | 1174.9 | 1193.9 | 1219.7 | 1247.1 | 1251.7 | 1273.7 | 1273.7 | 1269.9 | 1244.8 | 1234.9 | 1225.1 |
| 50°   | 1083.7 | 1108.0 | 1132.3 | 1165.0 | 1167.3 | 1184.0 | 1184.8 | 1181.0 | 1169.6 | 1157.4 | 1139.2 |
| 52.5° | 997.1  | 1026.7 | 1050.3 | 1076.9 | 1078.4 | 1092.1 | 1089.0 | 1092.1 | 1093.6 | 1079.9 | 1057.9 |
| 55°   | 915.8  | 946.2  | 966.7  | 985.7  | 989.5  | 998.6  | 992.5  | 1002.4 | 1011.5 | 999.4  | 981.1  |
| 57.5° | 832.2  | 864.8  | 882.3  | 895.2  | 898.3  | 905.9  | 899.8  | 912.7  | 924.9  | 917.3  | 905.1  |
| 60°   | 756.9  | 782.8  | 794.9  | 807.1  | 807.8  | 815.4  | 810.1  | 823.0  | 836.7  | 832.9  | 824.6  |
| 62.5° | 679.4  | 697.6  | 706.8  | 719.7  | 715.9  | 723.5  | 725.8  | 737.2  | 747.0  | 747.8  | 741.0  |
| 65°   | 601.9  | 611.8  | 619.4  | 627.0  | 628.5  | 634.6  | 636.9  | 641.4  | 656.6  | 658.1  | 653.6  |
| 67.5° | 519.8  | 525.9  | 532.7  | 539.6  | 538.8  | 544.9  | 551.0  | 555.5  | 565.4  | 569.2  | 563.1  |
| 70°   | 437.0  | 444.6  | 448.4  | 451.4  | 450.7  | 456.7  | 462.1  | 465.9  | 475.0  | 477.3  | 471.9  |
| 72.5° | 353.4  | 361.0  | 364.0  | 364.8  | 364.0  | 370.9  | 375.4  | 377.7  | 385.3  | 389.1  | 380.7  |
| 75°   | 272.1  | 281.9  | 283.5  | 281.9  | 281.2  | 287.3  | 289.5  | 293.3  | 298.7  | 299.4  | 293.3  |
| 77.5° | 198.4  | 206.7  | 208.2  | 206.0  | 204.4  | 209.0  | 210.5  | 214.3  | 217.4  | 218.9  | 212.8  |
| 80°   | 133.0  | 141.4  | 140.6  | 139.8  | 137.6  | 140.6  | 142.9  | 144.4  | 146.7  | 146.7  | 142.1  |
| 82.5° | 79.8   | 85.1   | 84.4   | 85.1   | 82.8   | 83.6   | 85.1   | 87.4   | 86.6   | 88.2   | 85.1   |
| 85°   | 38.8   | 41.0   | 41.0   | 41.0   | 40.3   | 41.0   | 41.8   | 43.3   | 41.8   | 43.3   | 41.0   |
| 87.5° | 13.7   | 14.4   | 13.7   | 13.7   | 13.7   | 13.7   | 14.4   | 14.4   | 13.7   | 14.4   | 13.7   |
| 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):**

|       | 50°    | 55°    | 60°    | 65°    | 67.5°  | 70°    | 75°    | 80°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2110.4 | 2110.4 | 2110.4 | 2110.4 | 2110.4 | 2110.4 | 2110.4 | 2110.4 | 2110.4 | 2110.4 |
| 2.5°  | 2126.4 | 2114.2 | 2126.4 | 2121.1 | 2127.9 | 2125.6 | 2126.4 | 2134.7 | 2115.7 | 2111.2 |
| 5°    | 2153.0 | 2140.1 | 2152.2 | 2148.4 | 2153.7 | 2151.5 | 2153.0 | 2161.3 | 2141.6 | 2136.3 |
| 7.5°  | 2183.4 | 2169.7 | 2181.9 | 2176.5 | 2181.9 | 2179.6 | 2180.3 | 2187.2 | 2166.7 | 2162.1 |
| 10°   | 2211.5 | 2197.1 | 2207.7 | 2202.4 | 2205.4 | 2203.1 | 2204.7 | 2209.2 | 2187.2 | 2181.9 |
| 12.5° | 2233.5 | 2219.1 | 2229.7 | 2223.7 | 2225.2 | 2222.1 | 2221.4 | 2223.7 | 2200.9 | 2194.8 |
| 15°   | 2251.8 | 2237.3 | 2244.9 | 2238.9 | 2238.1 | 2233.5 | 2232.0 | 2232.8 | 2210.0 | 2203.9 |
| 17.5° | 2257.1 | 2240.4 | 2244.9 | 2238.1 | 2235.8 | 2232.0 | 2230.5 | 2232.0 | 2210.0 | 2203.9 |
| 20°   | 2246.5 | 2226.7 | 2229.0 | 2220.6 | 2217.6 | 2214.5 | 2214.5 | 2216.8 | 2195.5 | 2191.7 |
| 22.5° | 2210.0 | 2193.3 | 2198.6 | 2193.3 | 2190.2 | 2187.2 | 2181.9 | 2176.5 | 2149.2 | 2143.9 |
| 25°   | 2103.6 | 2092.2 | 2111.9 | 2115.0 | 2106.6 | 2090.7 | 2061.0 | 2038.2 | 1998.7 | 1994.1 |
| 27.5° | 2025.3 | 2001.7 | 1978.2 | 1948.6 | 1931.1 | 1924.2 | 1928.8 | 1937.2 | 1916.6 | 1909.0 |
| 30°   | 1937.9 | 1887.0 | 1841.4 | 1811.0 | 1799.6 | 1798.1 | 1816.3 | 1838.4 | 1842.2 | 1843.7 |
| 32.5° | 1829.2 | 1764.6 | 1729.7 | 1719.8 | 1712.2 | 1709.9 | 1716.0 | 1741.1 | 1757.0 | 1771.5 |
| 35°   | 1706.1 | 1661.3 | 1643.0 | 1643.8 | 1636.2 | 1633.2 | 1629.4 | 1644.6 | 1661.3 | 1678.8 |
| 37.5° | 1591.4 | 1571.6 | 1566.3 | 1569.3 | 1561.0 | 1556.4 | 1551.8 | 1555.6 | 1561.0 | 1567.0 |
| 40°   | 1483.5 | 1488.0 | 1491.1 | 1493.3 | 1482.7 | 1479.7 | 1475.9 | 1474.3 | 1465.2 | 1450.8 |
| 42.5° | 1391.5 | 1403.7 | 1417.3 | 1417.3 | 1405.9 | 1404.4 | 1405.2 | 1400.6 | 1373.3 | 1353.5 |
| 45°   | 1312.5 | 1317.0 | 1340.6 | 1345.1 | 1335.3 | 1333.0 | 1333.7 | 1319.3 | 1276.0 | 1256.2 |
| 47.5° | 1234.9 | 1237.2 | 1258.5 | 1269.1 | 1258.5 | 1256.2 | 1258.5 | 1228.1 | 1181.0 | 1171.1 |
| 50°   | 1156.7 | 1162.7 | 1171.9 | 1181.7 | 1171.9 | 1171.1 | 1168.8 | 1139.9 | 1093.6 | 1088.3 |
| 52.5° | 1077.6 | 1089.8 | 1085.2 | 1087.5 | 1081.4 | 1082.2 | 1084.5 | 1054.8 | 1012.3 | 1003.2 |
| 55°   | 997.1  | 1008.5 | 997.1  | 991.0  | 988.7  | 991.0  | 995.6  | 968.2  | 934.8  | 919.6  |
| 57.5° | 917.3  | 924.1  | 912.0  | 899.8  | 896.0  | 901.3  | 905.1  | 882.3  | 853.4  | 842.0  |
| 60°   | 834.4  | 832.9  | 823.0  | 811.6  | 804.0  | 810.1  | 816.2  | 795.7  | 769.8  | 763.0  |
| 62.5° | 747.0  | 745.5  | 733.4  | 723.5  | 715.9  | 720.4  | 726.5  | 706.8  | 689.3  | 683.2  |
| 65°   | 657.4  | 655.8  | 642.9  | 635.3  | 628.5  | 630.0  | 636.9  | 618.6  | 608.0  | 601.1  |
| 67.5° | 570.7  | 565.4  | 552.5  | 547.9  | 539.6  | 542.6  | 547.2  | 532.7  | 522.9  | 516.8  |
| 70°   | 479.5  | 475.0  | 463.6  | 459.0  | 452.2  | 453.7  | 458.3  | 449.1  | 438.5  | 434.7  |
| 72.5° | 386.8  | 386.1  | 375.4  | 369.3  | 365.5  | 366.3  | 370.1  | 365.5  | 355.7  | 352.6  |
| 75°   | 297.1  | 299.4  | 291.1  | 285.7  | 281.9  | 281.9  | 286.5  | 287.3  | 276.6  | 272.8  |
| 77.5° | 218.9  | 218.9  | 212.0  | 212.8  | 206.7  | 206.7  | 209.8  | 212.8  | 201.4  | 199.1  |
| 80°   | 146.7  | 145.9  | 143.6  | 141.4  | 138.3  | 139.1  | 141.4  | 145.2  | 136.0  | 136.8  |
| 82.5° | 86.6   | 86.6   | 86.6   | 85.1   | 82.8   | 82.1   | 85.1   | 88.2   | 82.1   | 82.1   |
| 85°   | 42.6   | 41.8   | 41.8   | 41.8   | 40.3   | 39.5   | 41.8   | 43.3   | 39.5   | 40.3   |
| 87.5° | 14.4   | 13.7   | 13.7   | 14.4   | 13.7   | 13.7   | 13.7   | 13.7   | 12.9   | 13.7   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)