

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: P183624

Luminaire Tested: **LSM80M9027D010TEP**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P183624
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: LSM80M9027D010TEP
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: 6429.4 lumens
Efficiency: N/A
Efficacy: 73.0 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

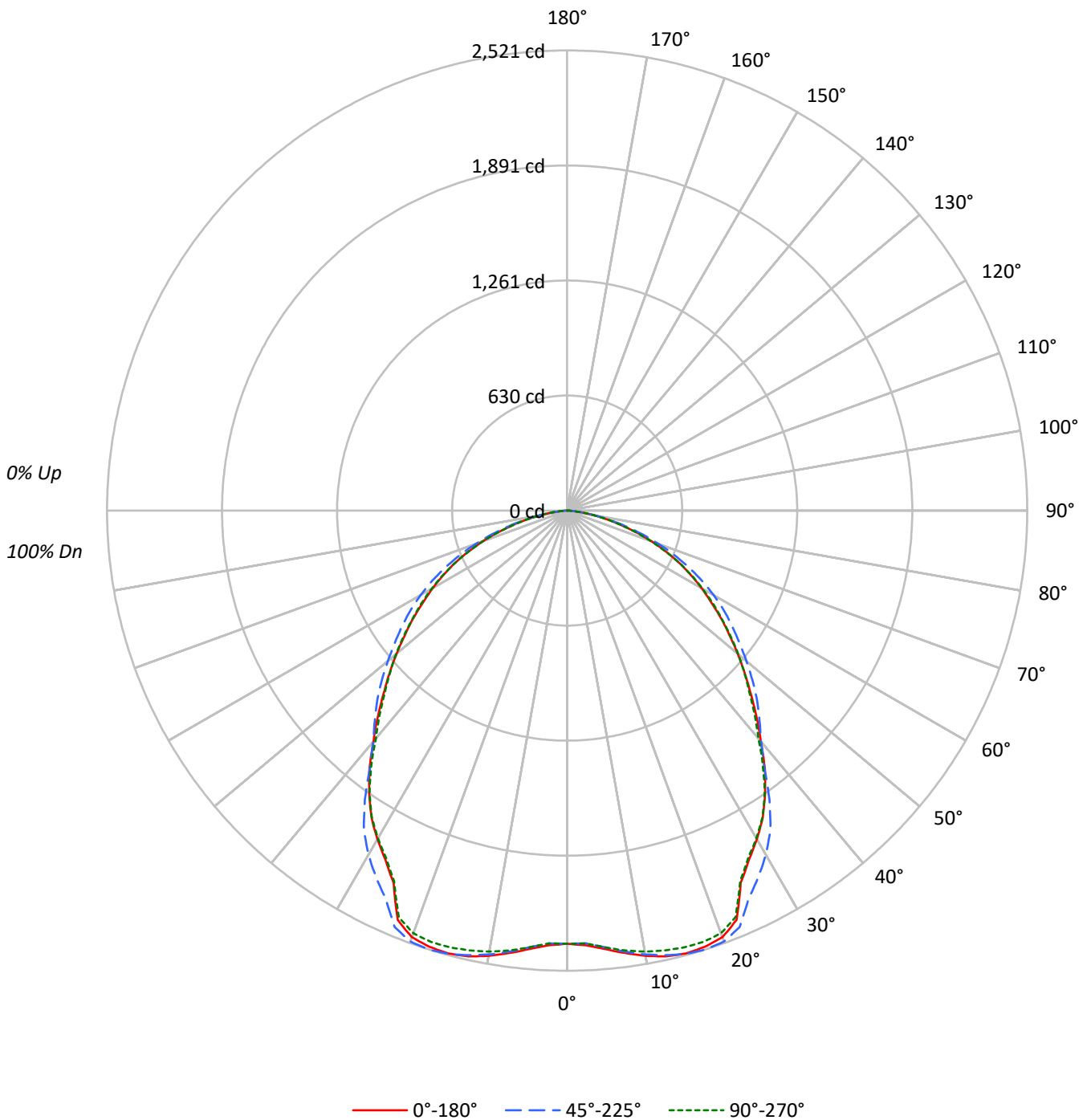
Input Watts (W): 88.06
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P183624

CATALOG NUMBER: LSM80M9027D010TEP

Luminous Intensity Polar Plot





TEST NUMBER: P183624

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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° | 25693 | 25693 | 25693 |
| 5° | 26219 | 26116 | 26108 |
| 10° | 27236 | 27152 | 26973 |
| 15° | 28161 | 28180 | 27778 |
| 20° | 28662 | 28947 | 28395 |
| 25° | 26889 | 28064 | 26788 |
| 30° | 25993 | 27222 | 25918 |
| 35° | 24995 | 25537 | 24950 |
| 40° | 23334 | 23347 | 23057 |
| 45° | 21800 | 22545 | 21628 |
| 50° | 20526 | 21577 | 20612 |
| 55° | 19438 | 20826 | 19517 |
| 60° | 18430 | 20076 | 18578 |
| 65° | 17339 | 18828 | 17316 |
| 70° | 15555 | 16799 | 15473 |
| 75° | 12798 | 13798 | 12832 |
| 80° | 9323 | 9965 | 9591 |
| 85° | 5417 | 5728 | 5628 |



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CATALOG NUMBER: LSM80M9027D010TEP

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 232.7 | 3.6 |
| 10°-20° | 711.4 | 11.1 |
| 20°-30° | 1068.2 | 16.6 |
| 30°-40° | 1169.4 | 18.2 |
| 40°-50° | 1143.8 | 17.8 |
| 50°-60° | 987.0 | 15.4 |
| 60°-70° | 705.6 | 11.0 |
| 70°-80° | 346.6 | 5.4 |
| 80°-90° | 64.6 | 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° | 2012.4 | 31.3 |
| 0°-40° | 3181.7 | 49.5 |
| 0°-60° | 5312.6 | 82.6 |
| 0°-90° | 6429.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 6429.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2373 | 2373 | 2373 | 2373 | 2373 | |
| 5° | 2412 | 2432 | 2403 | 2421 | 2402 | 232 |
| 15° | 2512 | 2546 | 2514 | 2516 | 2478 | 709 |
| 25° | 2250 | 2384 | 2349 | 2368 | 2242 | 1049 |
| 35° | 1891 | 1862 | 1932 | 1840 | 1887 | 1177 |
| 45° | 1424 | 1518 | 1472 | 1501 | 1412 | 1102 |
| 55° | 1030 | 1123 | 1103 | 1112 | 1034 | 921 |
| 65° | 677 | 713 | 735 | 707 | 676 | 667 |
| 75° | 306 | 323 | 330 | 317 | 307 | 328 |
| 85° | 44 | 46 | 46 | 45 | 45 | 61 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CATALOG NUMBER: LSM80M9027D010TEP

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 22.5° | 25° | 30° | 35° | 40° | 45° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2372.7 | 2372.7 | 2372.7 | 2372.7 | 2372.7 | 2372.7 | 2372.7 | 2372.7 | 2372.7 | 2372.7 | 2372.7 |
| 2.5° | 2383.8 | 2403.5 | 2387.2 | 2383.8 | 2370.2 | 2402.6 | 2390.7 | 2393.2 | 2383.8 | 2385.5 | 2372.7 |
| 5° | 2412.0 | 2432.5 | 2417.1 | 2412.9 | 2399.2 | 2432.5 | 2420.6 | 2422.3 | 2412.9 | 2415.4 | 2402.6 |
| 7.5° | 2445.3 | 2466.7 | 2450.5 | 2447.9 | 2435.1 | 2468.4 | 2457.3 | 2459.0 | 2448.8 | 2450.5 | 2437.6 |
| 10° | 2477.0 | 2500.0 | 2483.8 | 2482.1 | 2469.3 | 2505.1 | 2493.2 | 2494.9 | 2482.9 | 2483.8 | 2469.3 |
| 12.5° | 2501.7 | 2525.7 | 2509.4 | 2509.4 | 2497.5 | 2531.6 | 2522.2 | 2523.9 | 2512.0 | 2512.0 | 2494.9 |
| 15° | 2512.0 | 2536.8 | 2519.7 | 2522.2 | 2510.3 | 2546.2 | 2537.6 | 2538.5 | 2528.2 | 2530.8 | 2513.7 |
| 17.5° | 2506.0 | 2530.8 | 2515.4 | 2517.1 | 2506.0 | 2542.7 | 2534.2 | 2537.6 | 2529.1 | 2535.9 | 2521.4 |
| 20° | 2487.2 | 2509.4 | 2490.6 | 2492.3 | 2483.8 | 2520.5 | 2514.5 | 2520.5 | 2514.5 | 2524.8 | 2512.0 |
| 22.5° | 2426.5 | 2447.0 | 2436.8 | 2447.9 | 2446.2 | 2485.5 | 2482.1 | 2487.2 | 2477.8 | 2482.9 | 2469.3 |
| 25° | 2250.5 | 2277.0 | 2273.6 | 2305.2 | 2335.1 | 2383.8 | 2380.4 | 2382.1 | 2362.5 | 2364.2 | 2348.8 |
| 27.5° | 2156.5 | 2178.8 | 2165.9 | 2167.7 | 2155.7 | 2183.0 | 2184.7 | 2227.5 | 2253.1 | 2276.2 | 2265.9 |
| 30° | 2078.8 | 2095.9 | 2065.1 | 2043.8 | 2013.0 | 2040.3 | 2038.6 | 2076.2 | 2121.5 | 2175.3 | 2177.1 |
| 32.5° | 1995.1 | 2000.2 | 1956.6 | 1927.6 | 1916.5 | 1945.5 | 1943.8 | 1954.9 | 1989.1 | 2047.2 | 2072.8 |
| 35° | 1890.8 | 1895.1 | 1841.3 | 1832.7 | 1832.7 | 1861.8 | 1854.9 | 1858.4 | 1877.2 | 1914.7 | 1931.8 |
| 37.5° | 1778.9 | 1772.9 | 1742.2 | 1743.9 | 1750.7 | 1777.2 | 1772.1 | 1772.1 | 1778.0 | 1795.1 | 1773.8 |
| 40° | 1650.7 | 1657.6 | 1648.2 | 1656.7 | 1662.7 | 1688.3 | 1685.8 | 1687.5 | 1684.9 | 1675.5 | 1651.6 |
| 42.5° | 1537.1 | 1554.2 | 1564.4 | 1574.7 | 1575.5 | 1600.3 | 1598.6 | 1605.4 | 1592.6 | 1567.9 | 1560.2 |
| 45° | 1423.5 | 1444.0 | 1472.2 | 1492.7 | 1494.4 | 1518.3 | 1518.3 | 1520.0 | 1493.5 | 1475.6 | 1472.2 |
| 47.5° | 1320.9 | 1342.3 | 1371.3 | 1402.1 | 1407.2 | 1432.0 | 1432.0 | 1427.7 | 1399.5 | 1388.4 | 1377.3 |
| 50° | 1218.4 | 1245.7 | 1273.1 | 1309.8 | 1312.4 | 1331.2 | 1332.0 | 1327.8 | 1314.9 | 1301.3 | 1280.8 |
| 52.5° | 1121.0 | 1154.3 | 1180.8 | 1210.7 | 1212.4 | 1227.8 | 1224.4 | 1227.8 | 1229.5 | 1214.1 | 1189.3 |
| 55° | 1029.6 | 1063.7 | 1086.8 | 1108.2 | 1112.4 | 1122.7 | 1115.9 | 1127.0 | 1137.2 | 1123.6 | 1103.1 |
| 57.5° | 935.6 | 972.3 | 992.0 | 1006.5 | 1009.9 | 1018.5 | 1011.6 | 1026.2 | 1039.8 | 1031.3 | 1017.6 |
| 60° | 851.0 | 880.0 | 893.7 | 907.4 | 908.2 | 916.8 | 910.8 | 925.3 | 940.7 | 936.4 | 927.0 |
| 62.5° | 763.8 | 784.4 | 794.6 | 809.1 | 804.9 | 813.4 | 816.0 | 828.8 | 839.9 | 840.7 | 833.1 |
| 65° | 676.7 | 687.8 | 696.3 | 704.9 | 706.6 | 713.4 | 716.0 | 721.1 | 738.2 | 739.9 | 734.8 |
| 67.5° | 584.4 | 591.3 | 598.9 | 606.6 | 605.8 | 612.6 | 619.5 | 624.6 | 635.7 | 640.0 | 633.1 |
| 70° | 491.3 | 499.8 | 504.1 | 507.5 | 506.7 | 513.5 | 519.5 | 523.8 | 534.0 | 536.6 | 530.6 |
| 72.5° | 397.3 | 405.8 | 409.3 | 410.1 | 409.3 | 417.0 | 422.1 | 424.6 | 433.2 | 437.5 | 428.1 |
| 75° | 305.9 | 317.0 | 318.7 | 317.0 | 316.1 | 323.0 | 325.5 | 329.8 | 335.8 | 336.6 | 329.8 |
| 77.5° | 223.0 | 232.4 | 234.1 | 231.5 | 229.8 | 235.0 | 236.7 | 240.9 | 244.4 | 246.1 | 239.2 |
| 80° | 149.5 | 158.9 | 158.1 | 157.2 | 154.6 | 158.1 | 160.6 | 162.3 | 164.9 | 164.9 | 159.8 |
| 82.5° | 89.7 | 95.7 | 94.8 | 95.7 | 93.1 | 94.0 | 95.7 | 98.3 | 97.4 | 99.1 | 95.7 |
| 85° | 43.6 | 46.1 | 46.1 | 46.1 | 45.3 | 46.1 | 47.0 | 48.7 | 47.0 | 48.7 | 46.1 |
| 87.5° | 15.4 | 16.2 | 15.4 | 15.4 | 15.4 | 15.4 | 16.2 | 16.2 | 15.4 | 16.2 | 15.4 |
| 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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CATALOG NUMBER: LSM80M9027D010TEP

CANDELA DISTRIBUTION (continued):

| | 50° | 55° | 60° | 65° | 67.5° | 70° | 75° | 80° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2372.7 | 2372.7 | 2372.7 | 2372.7 | 2372.7 | 2372.7 | 2372.7 | 2372.7 | 2372.7 | 2372.7 |
| 2.5° | 2390.7 | 2377.0 | 2390.7 | 2384.7 | 2392.4 | 2389.8 | 2390.7 | 2400.1 | 2378.7 | 2373.6 |
| 5° | 2420.6 | 2406.0 | 2419.7 | 2415.4 | 2421.4 | 2418.9 | 2420.6 | 2430.0 | 2407.7 | 2401.8 |
| 7.5° | 2454.7 | 2439.4 | 2453.0 | 2447.0 | 2453.0 | 2450.5 | 2451.3 | 2459.0 | 2435.9 | 2430.8 |
| 10° | 2486.4 | 2470.1 | 2482.1 | 2476.1 | 2479.5 | 2477.0 | 2478.7 | 2483.8 | 2459.0 | 2453.0 |
| 12.5° | 2511.1 | 2494.9 | 2506.9 | 2500.0 | 2501.7 | 2498.3 | 2497.5 | 2500.0 | 2474.4 | 2467.6 |
| 15° | 2531.6 | 2515.4 | 2523.9 | 2517.1 | 2516.3 | 2511.1 | 2509.4 | 2510.3 | 2484.6 | 2477.8 |
| 17.5° | 2537.6 | 2518.8 | 2523.9 | 2516.3 | 2513.7 | 2509.4 | 2507.7 | 2509.4 | 2484.6 | 2477.8 |
| 20° | 2525.7 | 2503.4 | 2506.0 | 2496.6 | 2493.2 | 2489.8 | 2489.8 | 2492.3 | 2468.4 | 2464.1 |
| 22.5° | 2484.6 | 2465.8 | 2471.8 | 2465.8 | 2462.4 | 2459.0 | 2453.0 | 2447.0 | 2416.3 | 2410.3 |
| 25° | 2365.0 | 2352.2 | 2374.4 | 2377.8 | 2368.4 | 2350.5 | 2317.2 | 2291.5 | 2247.1 | 2242.0 |
| 27.5° | 2277.0 | 2250.5 | 2224.0 | 2190.7 | 2171.1 | 2163.4 | 2168.5 | 2177.9 | 2154.8 | 2146.3 |
| 30° | 2178.8 | 2121.5 | 2070.3 | 2036.1 | 2023.3 | 2021.5 | 2042.1 | 2066.8 | 2071.1 | 2072.8 |
| 32.5° | 2056.6 | 1984.0 | 1944.7 | 1933.5 | 1925.0 | 1922.4 | 1929.3 | 1957.5 | 1975.4 | 1991.6 |
| 35° | 1918.2 | 1867.8 | 1847.2 | 1848.1 | 1839.6 | 1836.1 | 1831.9 | 1849.0 | 1867.8 | 1887.4 |
| 37.5° | 1789.1 | 1766.9 | 1761.0 | 1764.4 | 1755.0 | 1749.8 | 1744.7 | 1749.0 | 1755.0 | 1761.8 |
| 40° | 1667.8 | 1672.9 | 1676.4 | 1678.9 | 1667.0 | 1663.5 | 1659.3 | 1657.6 | 1647.3 | 1631.1 |
| 42.5° | 1564.4 | 1578.1 | 1593.5 | 1593.5 | 1580.7 | 1579.0 | 1579.8 | 1574.7 | 1543.9 | 1521.7 |
| 45° | 1475.6 | 1480.7 | 1507.2 | 1512.3 | 1501.2 | 1498.6 | 1499.5 | 1483.3 | 1434.6 | 1412.3 |
| 47.5° | 1388.4 | 1391.0 | 1414.9 | 1426.9 | 1414.9 | 1412.3 | 1414.9 | 1380.7 | 1327.8 | 1316.7 |
| 50° | 1300.4 | 1307.3 | 1317.5 | 1328.6 | 1317.5 | 1316.7 | 1314.1 | 1281.6 | 1229.5 | 1223.5 |
| 52.5° | 1211.6 | 1225.2 | 1220.1 | 1222.7 | 1215.8 | 1216.7 | 1219.3 | 1185.9 | 1138.1 | 1127.8 |
| 55° | 1121.0 | 1133.8 | 1121.0 | 1114.2 | 1111.6 | 1114.2 | 1119.3 | 1088.5 | 1050.9 | 1033.8 |
| 57.5° | 1031.3 | 1039.0 | 1025.3 | 1011.6 | 1007.4 | 1013.3 | 1017.6 | 992.0 | 959.5 | 946.7 |
| 60° | 938.1 | 936.4 | 925.3 | 912.5 | 904.0 | 910.8 | 917.6 | 894.6 | 865.5 | 857.8 |
| 62.5° | 839.9 | 838.2 | 824.5 | 813.4 | 804.9 | 810.0 | 816.8 | 794.6 | 775.0 | 768.1 |
| 65° | 739.1 | 737.4 | 722.8 | 714.3 | 706.6 | 708.3 | 716.0 | 695.5 | 683.5 | 675.8 |
| 67.5° | 641.7 | 635.7 | 621.2 | 616.0 | 606.6 | 610.1 | 615.2 | 598.9 | 587.8 | 581.0 |
| 70° | 539.1 | 534.0 | 521.2 | 516.1 | 508.4 | 510.1 | 515.2 | 505.0 | 493.0 | 488.7 |
| 72.5° | 434.9 | 434.0 | 422.1 | 415.2 | 411.0 | 411.8 | 416.1 | 411.0 | 399.9 | 396.4 |
| 75° | 334.1 | 336.6 | 327.2 | 321.3 | 317.0 | 317.0 | 322.1 | 323.0 | 311.0 | 306.7 |
| 77.5° | 246.1 | 246.1 | 238.4 | 239.2 | 232.4 | 232.4 | 235.8 | 239.2 | 226.4 | 223.9 |
| 80° | 164.9 | 164.0 | 161.5 | 158.9 | 155.5 | 156.4 | 158.9 | 163.2 | 152.9 | 153.8 |
| 82.5° | 97.4 | 97.4 | 97.4 | 95.7 | 93.1 | 92.3 | 95.7 | 99.1 | 92.3 | 92.3 |
| 85° | 47.8 | 47.0 | 47.0 | 47.0 | 45.3 | 44.4 | 47.0 | 48.7 | 44.4 | 45.3 |
| 87.5° | 16.2 | 15.4 | 15.4 | 16.2 | 15.4 | 15.4 | 15.4 | 15.4 | 14.5 | 15.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)