

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: FAIL-SAFE

Report Number: P646273

Luminaire Tested: **FLDSQ4C55D010 FEU4C559030 F4LC-DFSSQ-MW-D2W**

Issue Date: 12/13/2022

Test Information

Test Method: LM-79-08
Report Number: P646273
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P209253)
Test Lab: INNOVATION CENTER
Issue Date: 12/13/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FLDSQ4C55D010 FEU4C559030 F4LC-DFSSQ-MW-D2W
Description: 4 INCH 5500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-DFSSQ TRIM WITH MW FINISH, DIM TO WARM
Light Source: -
Ballast/Driver: -

Summary

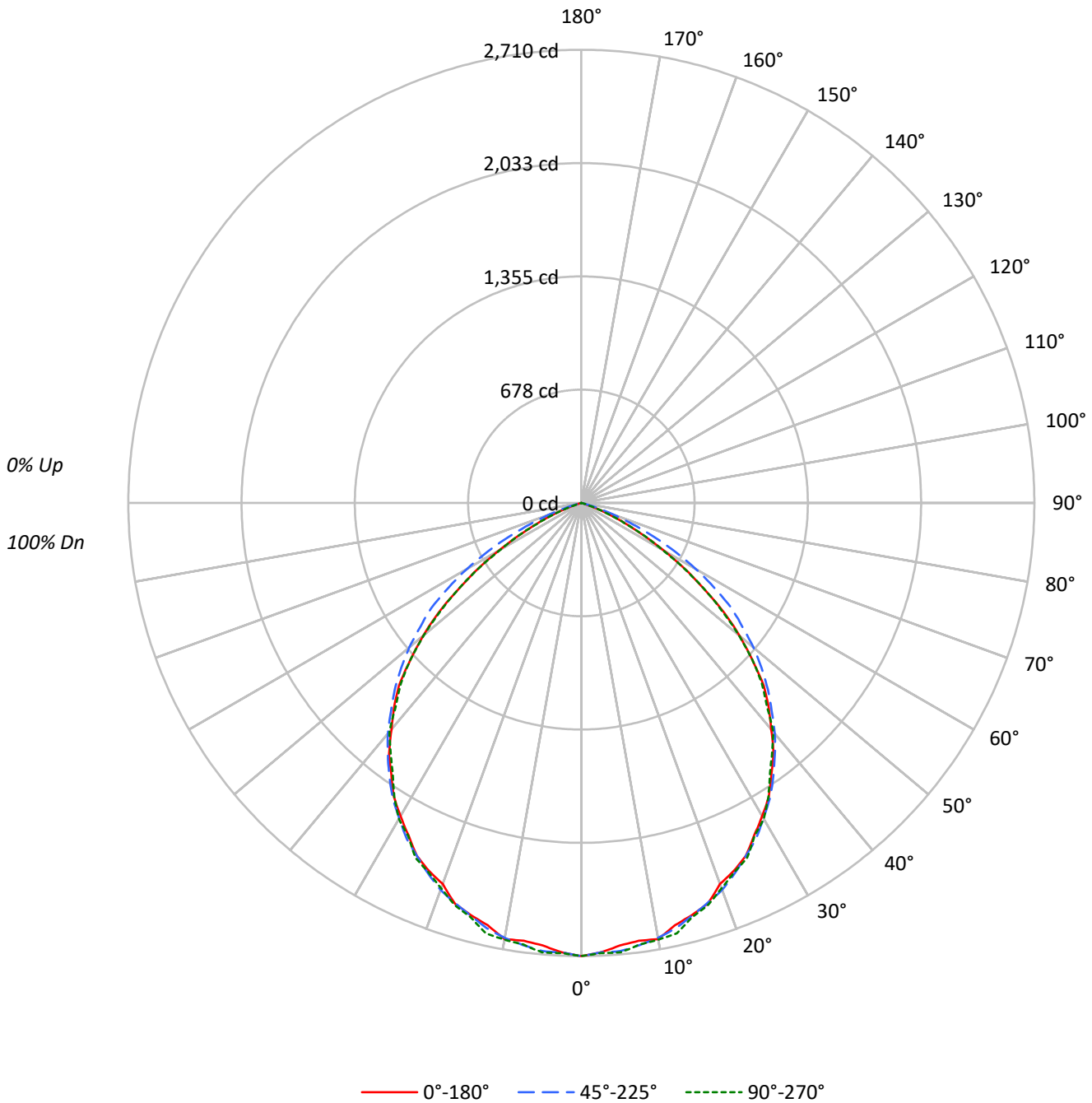
Lumens per Lamp: N/A
Luminaire Lumens: 5788.0 lumens
Efficiency: N/A
Efficacy: 90.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 63.9
Input Voltage (V):
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



TEST NUMBER: P646273
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Luminous Intensity Polar Plot





TEST NUMBER: P646273

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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 | 111 | 108 | 104 | 101 | 109 | 105 | 102 | 100 | 101 | 99 | 96 | 97 | 95 | 94 | 94 | 92 | 91 | 89 |
| 2 | 103 | 96 | 91 | 86 | 100 | 94 | 89 | 85 | 91 | 87 | 83 | 88 | 84 | 81 | 85 | 82 | 79 | 77 |
| 3 | 95 | 86 | 79 | 74 | 93 | 85 | 78 | 73 | 82 | 76 | 72 | 79 | 74 | 71 | 77 | 73 | 69 | 67 |
| 4 | 88 | 77 | 70 | 64 | 86 | 76 | 69 | 63 | 74 | 67 | 63 | 71 | 66 | 62 | 69 | 65 | 61 | 59 |
| 5 | 81 | 70 | 62 | 56 | 79 | 69 | 61 | 56 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 |
| 6 | 75 | 63 | 55 | 49 | 73 | 62 | 55 | 49 | 61 | 54 | 49 | 59 | 53 | 48 | 57 | 52 | 48 | 46 |
| 7 | 70 | 58 | 50 | 44 | 68 | 57 | 49 | 44 | 55 | 49 | 44 | 54 | 48 | 43 | 53 | 47 | 43 | 41 |
| 8 | 65 | 53 | 45 | 40 | 64 | 52 | 45 | 39 | 51 | 44 | 39 | 50 | 44 | 39 | 49 | 43 | 39 | 37 |
| 9 | 61 | 49 | 41 | 36 | 60 | 48 | 41 | 36 | 47 | 40 | 36 | 46 | 40 | 35 | 45 | 39 | 35 | 33 |
| 10 | 57 | 45 | 38 | 33 | 56 | 44 | 37 | 33 | 44 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 32 | 31 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 261437 | 261437 | 261437 |
| 5° | 257224 | 260566 | 261312 |
| 10° | 259444 | 258690 | 259816 |
| 15° | 254896 | 255276 | 256045 |
| 20° | 248971 | 252925 | 251744 |
| 25° | 247890 | 247890 | 249530 |
| 30° | 240981 | 242697 | 243132 |
| 35° | 233462 | 235736 | 231648 |
| 40° | 222516 | 226862 | 224922 |
| 45° | 210592 | 215327 | 208491 |
| 50° | 185461 | 201628 | 184305 |
| 55° | 150207 | 184524 | 150863 |
| 60° | 109901 | 152993 | 107701 |
| 65° | 66781 | 108951 | 65023 |
| 70° | 26039 | 58652 | 24995 |
| 75° | 2871 | 15807 | 2871 |
| 80° | 2167 | 2167 | 2167 |
| 85° | 0 | 0 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 255.8 | 4.4 |
| 10°-20° | 723.7 | 12.5 |
| 20°-30° | 1073.8 | 18.6 |
| 30°-40° | 1244.3 | 21.5 |
| 40°-50° | 1193.0 | 20.6 |
| 50°-60° | 877.2 | 15.2 |
| 60°-70° | 378.8 | 6.5 |
| 70°-80° | 40.9 | 0.7 |
| 80°-90° | 0.5 | 0.0 |
| 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° | 2053.3 | 35.5 |
| 0°-40° | 3297.6 | 57.0 |
| 0°-60° | 5367.7 | 92.7 |
| 0°-90° | 5788.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5788.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2710 | 2710 | 2710 | 2710 | 2710 | |
| 5° | 2656 | 2682 | 2690 | 2694 | 2698 | 253 |
| 15° | 2552 | 2567 | 2556 | 2559 | 2563 | 719 |
| 25° | 2328 | 2325 | 2328 | 2332 | 2344 | 1066 |
| 35° | 1982 | 1994 | 2001 | 1997 | 1967 | 1239 |
| 45° | 1543 | 1547 | 1578 | 1555 | 1528 | 1173 |
| 55° | 893 | 985 | 1097 | 981 | 897 | 804 |
| 65° | 292 | 366 | 477 | 362 | 285 | 301 |
| 75° | 8 | 12 | 42 | 8 | 8 | 24 |
| 85° | 0 | 0 | 0 | 0 | 0 | 1 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P646273
 CATALOG NUMBER: FLDSQ4C55D010 FEU4C559030 F4LC-DFSSQ-MW-D2W

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 22.5° | 25° | 30° | 35° | 40° | 45° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2709.5 | 2709.5 | 2709.5 | 2709.5 | 2709.5 | 2709.5 | 2709.5 | 2709.5 | 2709.5 | 2709.5 | 2709.5 |
| 2.5° | 2690.2 | 2721.0 | 2724.9 | 2705.6 | 2697.9 | 2686.5 | 2713.3 | 2694.2 | 2701.8 | 2694.2 | 2690.2 |
| 5° | 2655.7 | 2690.2 | 2694.2 | 2694.2 | 2686.5 | 2682.5 | 2694.2 | 2690.2 | 2686.5 | 2678.8 | 2690.2 |
| 7.5° | 2640.3 | 2659.5 | 2678.8 | 2655.7 | 2667.1 | 2663.4 | 2690.2 | 2678.8 | 2674.8 | 2674.8 | 2667.1 |
| 10° | 2648.0 | 2644.1 | 2659.5 | 2636.4 | 2644.1 | 2636.4 | 2659.5 | 2659.5 | 2651.8 | 2644.1 | 2640.3 |
| 12.5° | 2586.3 | 2617.1 | 2617.1 | 2613.3 | 2605.6 | 2594.0 | 2617.1 | 2632.6 | 2609.4 | 2609.4 | 2605.6 |
| 15° | 2551.7 | 2559.4 | 2563.2 | 2563.2 | 2559.4 | 2567.1 | 2578.6 | 2563.2 | 2567.1 | 2547.8 | 2555.5 |
| 17.5° | 2513.3 | 2497.9 | 2509.3 | 2501.6 | 2505.6 | 2513.3 | 2528.6 | 2528.6 | 2505.6 | 2501.6 | 2509.3 |
| 20° | 2424.7 | 2470.9 | 2474.8 | 2451.7 | 2455.5 | 2455.5 | 2482.5 | 2459.4 | 2474.8 | 2455.5 | 2463.2 |
| 22.5° | 2382.3 | 2413.1 | 2417.0 | 2386.2 | 2405.4 | 2382.3 | 2409.3 | 2374.6 | 2413.1 | 2386.2 | 2397.7 |
| 25° | 2328.4 | 2324.7 | 2336.1 | 2320.7 | 2324.7 | 2324.7 | 2343.8 | 2328.4 | 2340.1 | 2324.7 | 2328.4 |
| 27.5° | 2240.0 | 2270.8 | 2266.9 | 2251.5 | 2259.2 | 2255.4 | 2293.9 | 2251.5 | 2274.6 | 2255.4 | 2263.1 |
| 30° | 2162.9 | 2189.9 | 2182.2 | 2166.8 | 2166.8 | 2155.2 | 2197.6 | 2186.0 | 2182.2 | 2182.2 | 2178.3 |
| 32.5° | 2086.0 | 2089.9 | 2082.2 | 2086.0 | 2089.9 | 2074.5 | 2109.1 | 2093.7 | 2089.9 | 2093.7 | 2097.6 |
| 35° | 1982.0 | 1982.0 | 1989.7 | 1978.3 | 1993.6 | 1993.6 | 2024.4 | 2005.1 | 2001.3 | 1989.7 | 2001.3 |
| 37.5° | 1889.7 | 1878.2 | 1882.0 | 1882.0 | 1889.7 | 1897.4 | 1912.8 | 1905.1 | 1905.1 | 1893.6 | 1901.3 |
| 40° | 1766.6 | 1758.9 | 1770.4 | 1770.4 | 1782.0 | 1782.0 | 1797.4 | 1789.7 | 1801.1 | 1801.1 | 1801.1 |
| 42.5° | 1658.9 | 1658.9 | 1651.2 | 1662.6 | 1666.6 | 1662.6 | 1689.6 | 1685.7 | 1689.6 | 1681.9 | 1685.7 |
| 45° | 1543.3 | 1543.3 | 1535.6 | 1531.8 | 1551.0 | 1547.2 | 1578.0 | 1566.4 | 1581.8 | 1574.1 | 1578.0 |
| 47.5° | 1385.5 | 1404.8 | 1393.2 | 1404.8 | 1427.9 | 1431.8 | 1451.0 | 1443.3 | 1458.6 | 1447.2 | 1462.6 |
| 50° | 1235.5 | 1235.5 | 1247.0 | 1262.4 | 1285.4 | 1289.4 | 1312.5 | 1327.8 | 1335.5 | 1339.3 | 1343.2 |
| 52.5° | 1077.7 | 1073.8 | 1085.4 | 1104.5 | 1123.9 | 1139.2 | 1162.3 | 1185.4 | 1200.8 | 1223.9 | 1212.3 |
| 55° | 892.9 | 900.6 | 912.2 | 935.3 | 966.0 | 985.2 | 1004.5 | 1035.3 | 1062.3 | 1073.8 | 1096.9 |
| 57.5° | 735.1 | 727.4 | 735.1 | 765.8 | 800.5 | 815.9 | 842.9 | 873.7 | 912.2 | 935.3 | 943.0 |
| 60° | 569.5 | 573.5 | 581.2 | 608.2 | 635.0 | 658.1 | 669.7 | 719.7 | 754.4 | 777.5 | 792.8 |
| 62.5° | 419.6 | 427.3 | 435.0 | 458.1 | 484.9 | 504.2 | 523.4 | 565.8 | 596.6 | 619.6 | 635.0 |
| 65° | 292.5 | 296.3 | 307.9 | 319.4 | 346.4 | 365.6 | 381.0 | 415.7 | 446.4 | 465.7 | 477.2 |
| 67.5° | 180.9 | 184.7 | 192.4 | 207.9 | 227.1 | 242.5 | 257.8 | 280.9 | 307.9 | 327.1 | 331.0 |
| 70° | 92.3 | 96.3 | 100.0 | 111.6 | 127.0 | 134.7 | 146.2 | 165.5 | 184.7 | 200.1 | 207.9 |
| 72.5° | 30.8 | 30.8 | 34.7 | 42.4 | 50.1 | 57.8 | 61.6 | 80.9 | 96.3 | 104.0 | 107.7 |
| 75° | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 11.6 | 11.6 | 23.1 | 30.8 | 38.5 | 42.4 |
| 77.5° | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 7.7 | 7.7 |
| 80° | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 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° | 2709.5 | 2709.5 | 2709.5 | 2709.5 | 2709.5 | 2709.5 | 2709.5 | 2709.5 | 2709.5 | 2709.5 |
| 2.5° | 2709.5 | 2701.8 | 2697.9 | 2701.8 | 2701.8 | 2697.9 | 2709.5 | 2724.9 | 2744.1 | 2694.2 |
| 5° | 2705.6 | 2697.9 | 2705.6 | 2682.5 | 2694.2 | 2686.5 | 2701.8 | 2697.9 | 2713.3 | 2697.9 |
| 7.5° | 2694.2 | 2678.8 | 2682.5 | 2671.1 | 2686.5 | 2667.1 | 2678.8 | 2701.8 | 2686.5 | 2663.4 |
| 10° | 2655.7 | 2648.0 | 2674.8 | 2636.4 | 2628.7 | 2644.1 | 2674.8 | 2651.8 | 2644.1 | 2651.8 |
| 12.5° | 2617.1 | 2617.1 | 2628.7 | 2597.9 | 2601.7 | 2609.4 | 2624.8 | 2609.4 | 2617.1 | 2636.4 |
| 15° | 2574.8 | 2567.1 | 2586.3 | 2563.2 | 2559.4 | 2551.7 | 2567.1 | 2567.1 | 2574.8 | 2563.2 |
| 17.5° | 2524.7 | 2513.3 | 2513.3 | 2505.6 | 2501.6 | 2520.9 | 2528.6 | 2532.4 | 2536.3 | 2520.9 |
| 20° | 2463.2 | 2459.4 | 2470.9 | 2459.4 | 2463.2 | 2467.1 | 2467.1 | 2459.4 | 2493.9 | 2451.7 |
| 22.5° | 2397.7 | 2409.3 | 2393.9 | 2386.2 | 2393.9 | 2401.6 | 2401.6 | 2405.4 | 2397.7 | 2390.0 |
| 25° | 2332.4 | 2340.1 | 2343.8 | 2320.7 | 2332.4 | 2320.7 | 2347.7 | 2351.5 | 2336.1 | 2343.8 |
| 27.5° | 2274.6 | 2263.1 | 2259.2 | 2243.8 | 2251.5 | 2247.7 | 2251.5 | 2251.5 | 2274.6 | 2243.8 |
| 30° | 2186.0 | 2174.5 | 2178.3 | 2166.8 | 2170.6 | 2166.8 | 2170.6 | 2170.6 | 2186.0 | 2182.2 |
| 32.5° | 2101.4 | 2089.9 | 2093.7 | 2082.2 | 2082.2 | 2086.0 | 2078.3 | 2078.3 | 2089.9 | 2082.2 |
| 35° | 2020.5 | 1993.6 | 1997.4 | 1993.6 | 1997.4 | 1982.0 | 1982.0 | 1978.3 | 1986.0 | 1966.6 |
| 37.5° | 1905.1 | 1893.6 | 1889.7 | 1885.9 | 1889.7 | 1882.0 | 1889.7 | 1878.2 | 1889.7 | 1874.3 |
| 40° | 1801.1 | 1793.4 | 1797.4 | 1774.3 | 1774.3 | 1778.0 | 1770.4 | 1766.6 | 1770.4 | 1785.7 |
| 42.5° | 1697.3 | 1681.9 | 1674.2 | 1666.6 | 1670.3 | 1658.9 | 1654.9 | 1647.2 | 1654.9 | 1639.5 |
| 45° | 1574.1 | 1574.1 | 1570.3 | 1551.0 | 1554.9 | 1554.9 | 1539.5 | 1524.1 | 1527.9 | 1527.9 |
| 47.5° | 1462.6 | 1454.9 | 1451.0 | 1431.8 | 1427.9 | 1424.1 | 1408.6 | 1397.1 | 1397.1 | 1385.5 |
| 50° | 1339.3 | 1331.6 | 1320.1 | 1300.8 | 1293.1 | 1270.1 | 1258.6 | 1243.2 | 1227.8 | 1227.8 |
| 52.5° | 1223.9 | 1196.9 | 1181.5 | 1150.7 | 1139.2 | 1127.6 | 1096.9 | 1085.4 | 1073.8 | 1062.3 |
| 55° | 1085.4 | 1062.3 | 1031.5 | 996.8 | 981.4 | 962.1 | 931.3 | 908.3 | 892.9 | 896.8 |
| 57.5° | 950.7 | 912.2 | 881.4 | 835.2 | 815.9 | 804.3 | 773.5 | 742.8 | 727.4 | 727.4 |
| 60° | 785.1 | 754.4 | 715.9 | 673.5 | 658.1 | 639.0 | 600.3 | 581.2 | 569.5 | 558.1 |
| 62.5° | 627.3 | 604.2 | 569.5 | 515.7 | 504.2 | 484.9 | 458.1 | 435.0 | 423.4 | 423.4 |
| 65° | 469.5 | 446.4 | 415.7 | 377.2 | 361.8 | 346.4 | 323.3 | 300.2 | 288.6 | 284.8 |
| 67.5° | 331.0 | 304.0 | 277.2 | 246.4 | 234.8 | 227.1 | 204.0 | 188.6 | 180.9 | 177.0 |
| 70° | 200.1 | 184.7 | 165.5 | 142.4 | 130.8 | 123.1 | 107.7 | 96.3 | 92.3 | 88.6 |
| 72.5° | 104.0 | 92.3 | 76.9 | 61.6 | 53.9 | 46.2 | 38.5 | 30.8 | 27.0 | 27.0 |
| 75° | 38.5 | 30.8 | 19.3 | 11.6 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| 77.5° | 7.7 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 |
| 80° | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)