

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: SHAPER

Report Number: P241276

Luminaire Tested: **1800-X-90-L35-4-M-UNV-STD-X-X**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P241276
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25346)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: SHAPER
Catalog Number: 1800-X-90-L35-4-M-UNV-STD-X-X
Description: SHAPER 1800 SERIES LED PENDANT DIRECT DOWNLIGHT
MEDIUM DISTRIBUTION.
Light Source: (168) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

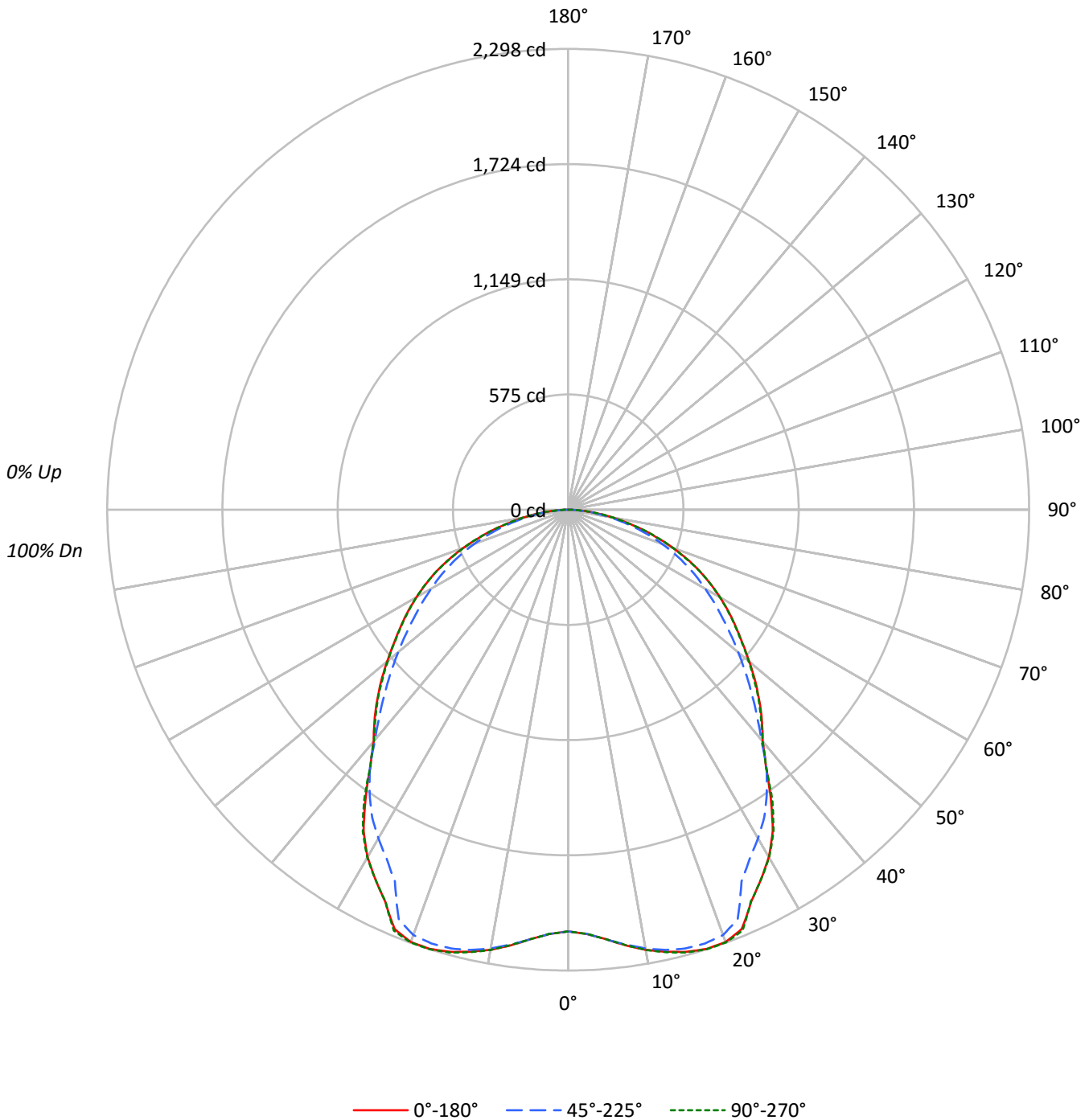
Lumens per Lamp: N/A
Luminaire Lumens: 6029.5 lumens
Efficiency: N/A
Efficacy: 72.7 lumens/watt
Spacing Criteria (0/90/45): 1.34 / 1.34 / 1.33
Luminous Opening: Circular (Dia: 1.17' x H: 0')
CIE Type: Direct

Input Watts (W): 82.9
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: 25 FT



TEST NUMBER: P241276
CATALOG NUMBER: 1800-X-90-L35-4-M-UNV-STD-X-X

Luminous Intensity Polar Plot





TEST NUMBER: P241276

CATALOG NUMBER: 1800-X-90-L35-4-M-UNV-STD-X-X

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 | 109 | 104 | 100 | 96 | 106 | 102 | 98 | 95 | 98 | 95 | 92 | 94 | 91 | 89 | 90 | 88 | 86 | 84 |
| 2 | 99 | 91 | 85 | 79 | 97 | 89 | 83 | 78 | 86 | 81 | 76 | 83 | 78 | 74 | 80 | 76 | 73 | 71 |
| 3 | 91 | 80 | 72 | 66 | 88 | 79 | 71 | 65 | 76 | 70 | 64 | 73 | 68 | 63 | 71 | 66 | 62 | 60 |
| 4 | 83 | 72 | 63 | 56 | 81 | 70 | 62 | 56 | 68 | 61 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 |
| 5 | 77 | 64 | 55 | 49 | 75 | 63 | 55 | 48 | 61 | 54 | 48 | 59 | 52 | 47 | 57 | 51 | 47 | 45 |
| 6 | 71 | 58 | 49 | 43 | 69 | 57 | 49 | 43 | 55 | 48 | 42 | 53 | 47 | 42 | 52 | 46 | 41 | 39 |
| 7 | 66 | 53 | 44 | 38 | 64 | 52 | 44 | 38 | 50 | 43 | 38 | 49 | 42 | 37 | 48 | 42 | 37 | 35 |
| 8 | 61 | 48 | 40 | 34 | 60 | 47 | 39 | 34 | 46 | 39 | 34 | 45 | 38 | 33 | 44 | 38 | 33 | 31 |
| 9 | 58 | 44 | 36 | 31 | 56 | 44 | 36 | 31 | 43 | 35 | 30 | 41 | 35 | 30 | 40 | 34 | 30 | 28 |
| 10 | 54 | 41 | 33 | 28 | 53 | 40 | 33 | 28 | 39 | 32 | 28 | 38 | 32 | 28 | 38 | 32 | 27 | 26 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 21178 | 21178 | 21178 |
| 5° | 21731 | 21731 | 21724 |
| 10° | 22786 | 22710 | 22786 |
| 15° | 23795 | 23610 | 23827 |
| 20° | 24579 | 24182 | 24611 |
| 25° | 23969 | 22709 | 23944 |
| 30° | 23256 | 21998 | 23282 |
| 35° | 21652 | 21215 | 21807 |
| 40° | 19831 | 19685 | 19802 |
| 45° | 19192 | 18401 | 19130 |
| 50° | 18454 | 17339 | 18384 |
| 55° | 17908 | 16463 | 17869 |
| 60° | 17587 | 15885 | 17587 |
| 65° | 17221 | 15403 | 17169 |
| 70° | 16348 | 14646 | 16327 |
| 75° | 14885 | 13468 | 14939 |
| 80° | 13023 | 11823 | 13070 |
| 85° | 11310 | 9855 | 11310 |



TEST NUMBER: P241276

CATALOG NUMBER: 1800-X-90-L35-4-M-UNV-STD-X-X

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 207.7 | 3.4 |
| 10°-20° | 643.7 | 10.7 |
| 20°-30° | 973.5 | 16.1 |
| 30°-40° | 1062.7 | 17.6 |
| 40°-50° | 1043.2 | 17.3 |
| 50°-60° | 913.2 | 15.1 |
| 60°-70° | 686.2 | 11.4 |
| 70°-80° | 392.3 | 6.5 |
| 80°-90° | 107.0 | 1.8 |
| 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° | 1824.9 | 30.3 |
| 0°-40° | 2887.5 | 47.9 |
| 0°-60° | 4843.9 | 80.3 |
| 0°-90° | 6029.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 6029.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2103 | 2103 | 2103 | 2103 | 2103 | |
| 5° | 2150 | 2150 | 2150 | 2150 | 2149 | 208 |
| 15° | 2283 | 2281 | 2265 | 2282 | 2286 | 646 |
| 25° | 2157 | 2160 | 2044 | 2160 | 2155 | 996 |
| 35° | 1762 | 1675 | 1726 | 1668 | 1774 | 1098 |
| 45° | 1348 | 1375 | 1292 | 1367 | 1343 | 1039 |
| 55° | 1020 | 1036 | 938 | 1033 | 1018 | 915 |
| 65° | 723 | 695 | 646 | 694 | 721 | 711 |
| 75° | 383 | 368 | 346 | 368 | 384 | 406 |
| 85° | 98 | 92 | 85 | 92 | 98 | 110 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P241276

CATALOG NUMBER: 1800-X-90-L35-4-M-UNV-STD-X-X

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2103.3 | 2103.3 | 2103.3 | 2103.3 | 2103.3 | 2103.3 | 2103.3 | 2103.3 | 2103.3 | 2103.3 | 2103.3 |
| 2.5° | 2117.4 | 2115.9 | 2116.6 | 2115.9 | 2117.4 | 2117.4 | 2116.6 | 2117.4 | 2116.6 | 2116.6 | 2116.6 |
| 5° | 2150.0 | 2148.5 | 2149.3 | 2147.8 | 2150.0 | 2150.7 | 2150.0 | 2150.7 | 2150.7 | 2150.0 | 2150.0 |
| 7.5° | 2190.8 | 2187.8 | 2188.6 | 2187.1 | 2189.3 | 2189.3 | 2188.6 | 2188.6 | 2187.8 | 2187.1 | 2187.8 |
| 10° | 2228.6 | 2227.1 | 2227.1 | 2226.4 | 2227.8 | 2227.1 | 2225.6 | 2224.9 | 2221.9 | 2221.2 | 2222.7 |
| 12.5° | 2257.5 | 2259.0 | 2261.2 | 2261.2 | 2260.5 | 2259.7 | 2256.0 | 2253.8 | 2249.3 | 2248.6 | 2250.1 |
| 15° | 2282.7 | 2283.4 | 2285.7 | 2284.9 | 2282.7 | 2279.0 | 2275.3 | 2270.8 | 2267.1 | 2264.9 | 2267.1 |
| 17.5° | 2296.1 | 2296.1 | 2295.3 | 2293.1 | 2288.6 | 2284.2 | 2279.0 | 2274.6 | 2270.8 | 2267.9 | 2270.8 |
| 20° | 2293.8 | 2293.8 | 2290.1 | 2285.7 | 2278.3 | 2271.6 | 2266.4 | 2261.9 | 2258.2 | 2256.8 | 2259.0 |
| 22.5° | 2262.7 | 2264.9 | 2261.9 | 2261.2 | 2255.3 | 2246.4 | 2236.0 | 2224.9 | 2213.0 | 2209.3 | 2214.5 |
| 25° | 2157.4 | 2155.9 | 2157.4 | 2171.5 | 2175.2 | 2145.6 | 2107.7 | 2072.9 | 2052.1 | 2044.0 | 2055.1 |
| 27.5° | 2079.6 | 2078.1 | 2059.6 | 2029.9 | 1989.1 | 1969.8 | 1972.8 | 1969.8 | 1964.7 | 1960.9 | 1966.1 |
| 30° | 2000.2 | 1989.1 | 1938.7 | 1884.6 | 1845.3 | 1839.4 | 1856.4 | 1877.9 | 1891.3 | 1892.0 | 1889.8 |
| 32.5° | 1897.9 | 1875.7 | 1810.4 | 1768.9 | 1752.6 | 1749.7 | 1754.8 | 1777.1 | 1807.5 | 1819.3 | 1803.8 |
| 35° | 1761.5 | 1748.9 | 1708.9 | 1682.2 | 1677.0 | 1673.3 | 1664.4 | 1675.5 | 1713.3 | 1725.9 | 1711.8 |
| 37.5° | 1619.9 | 1631.8 | 1614.7 | 1605.1 | 1604.3 | 1596.9 | 1584.3 | 1585.8 | 1605.8 | 1623.6 | 1603.6 |
| 40° | 1508.7 | 1520.6 | 1531.7 | 1530.9 | 1528.0 | 1516.9 | 1507.2 | 1502.0 | 1500.6 | 1497.6 | 1502.0 |
| 42.5° | 1429.4 | 1424.9 | 1446.4 | 1458.3 | 1450.9 | 1443.5 | 1435.3 | 1431.6 | 1404.2 | 1391.6 | 1407.9 |
| 45° | 1347.8 | 1346.3 | 1361.2 | 1386.4 | 1380.4 | 1370.1 | 1367.8 | 1353.0 | 1306.3 | 1292.2 | 1310.0 |
| 47.5° | 1264.1 | 1270.0 | 1283.3 | 1304.1 | 1307.8 | 1298.9 | 1292.2 | 1261.8 | 1214.4 | 1197.3 | 1213.6 |
| 50° | 1178.1 | 1191.4 | 1209.9 | 1218.1 | 1221.8 | 1216.6 | 1212.2 | 1172.9 | 1124.7 | 1106.9 | 1125.4 |
| 52.5° | 1095.8 | 1114.3 | 1138.8 | 1132.1 | 1129.1 | 1131.3 | 1123.9 | 1088.3 | 1041.6 | 1020.1 | 1042.4 |
| 55° | 1020.1 | 1037.9 | 1059.4 | 1046.1 | 1032.0 | 1040.2 | 1033.5 | 1005.3 | 964.5 | 937.8 | 963.1 |
| 57.5° | 949.0 | 960.1 | 977.1 | 959.3 | 943.0 | 952.7 | 946.0 | 923.8 | 885.9 | 863.0 | 887.4 |
| 60° | 873.3 | 882.2 | 891.9 | 874.8 | 857.8 | 863.0 | 860.0 | 840.0 | 808.8 | 788.8 | 807.4 |
| 62.5° | 797.7 | 802.2 | 808.8 | 790.3 | 776.2 | 776.2 | 774.7 | 755.5 | 731.0 | 719.9 | 730.3 |
| 65° | 722.8 | 722.1 | 724.3 | 705.8 | 695.4 | 693.9 | 691.0 | 673.2 | 653.9 | 646.5 | 654.6 |
| 67.5° | 638.3 | 639.8 | 640.6 | 623.5 | 615.3 | 611.6 | 609.4 | 593.1 | 577.5 | 572.3 | 578.3 |
| 70° | 555.3 | 556.0 | 556.0 | 540.5 | 534.5 | 528.6 | 526.4 | 513.8 | 501.2 | 497.5 | 502.7 |
| 72.5° | 467.8 | 473.0 | 470.8 | 458.2 | 453.7 | 446.3 | 444.8 | 436.7 | 427.0 | 421.8 | 427.0 |
| 75° | 382.6 | 390.0 | 387.7 | 376.6 | 371.4 | 364.0 | 364.8 | 360.3 | 349.9 | 346.2 | 351.4 |
| 77.5° | 300.3 | 304.7 | 305.4 | 299.5 | 291.4 | 286.2 | 288.4 | 287.7 | 280.2 | 271.3 | 278.0 |
| 80° | 224.6 | 229.8 | 230.6 | 225.4 | 218.7 | 214.3 | 217.2 | 217.2 | 211.3 | 203.9 | 209.8 |
| 82.5° | 156.4 | 160.1 | 160.1 | 157.2 | 154.2 | 149.8 | 151.2 | 152.0 | 148.3 | 140.9 | 146.1 |
| 85° | 97.9 | 98.6 | 97.1 | 94.9 | 92.7 | 91.2 | 91.2 | 92.7 | 89.7 | 85.3 | 89.0 |
| 87.5° | 36.3 | 37.1 | 36.3 | 38.6 | 36.3 | 35.6 | 36.3 | 38.6 | 35.6 | 35.6 | 36.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P241276

CATALOG NUMBER: 1800-X-90-L35-4-M-UNV-STD-X-X

CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2103.3 | 2103.3 | 2103.3 | 2103.3 | 2103.3 | 2103.3 | 2103.3 | 2103.3 |
| 2.5° | 2116.6 | 2117.4 | 2117.4 | 2116.6 | 2116.6 | 2116.6 | 2115.9 | 2116.6 |
| 5° | 2150.0 | 2150.7 | 2150.7 | 2149.3 | 2150.0 | 2149.3 | 2148.5 | 2149.3 |
| 7.5° | 2188.6 | 2190.0 | 2189.3 | 2190.0 | 2190.8 | 2189.3 | 2189.3 | 2189.3 |
| 10° | 2224.1 | 2226.4 | 2227.8 | 2229.3 | 2230.1 | 2228.6 | 2229.3 | 2228.6 |
| 12.5° | 2253.1 | 2257.5 | 2260.5 | 2261.9 | 2263.4 | 2263.4 | 2261.9 | 2260.5 |
| 15° | 2270.8 | 2276.0 | 2279.7 | 2284.2 | 2287.2 | 2287.9 | 2286.4 | 2285.7 |
| 17.5° | 2275.3 | 2279.7 | 2284.9 | 2289.4 | 2293.8 | 2296.8 | 2298.3 | 2297.5 |
| 20° | 2262.7 | 2266.4 | 2272.3 | 2279.0 | 2284.9 | 2290.9 | 2295.3 | 2296.8 |
| 22.5° | 2226.4 | 2236.7 | 2247.9 | 2256.0 | 2261.2 | 2264.2 | 2266.4 | 2271.6 |
| 25° | 2077.3 | 2104.8 | 2144.8 | 2175.2 | 2170.0 | 2155.9 | 2150.7 | 2155.2 |
| 27.5° | 1971.3 | 1968.4 | 1963.9 | 1987.6 | 2024.7 | 2057.3 | 2072.9 | 2080.3 |
| 30° | 1876.4 | 1854.2 | 1833.4 | 1841.6 | 1879.4 | 1935.7 | 1983.2 | 2002.5 |
| 32.5° | 1777.1 | 1746.7 | 1743.7 | 1748.9 | 1766.7 | 1804.5 | 1869.0 | 1905.3 |
| 35° | 1672.6 | 1656.2 | 1665.1 | 1671.8 | 1677.7 | 1697.0 | 1741.5 | 1774.1 |
| 37.5° | 1579.1 | 1576.2 | 1588.0 | 1596.2 | 1599.2 | 1608.8 | 1625.8 | 1621.4 |
| 40° | 1496.8 | 1499.1 | 1509.4 | 1518.3 | 1524.3 | 1525.0 | 1514.6 | 1506.5 |
| 42.5° | 1422.7 | 1432.3 | 1432.3 | 1443.5 | 1453.8 | 1439.8 | 1418.3 | 1424.2 |
| 45° | 1347.1 | 1362.7 | 1361.9 | 1371.6 | 1381.2 | 1356.7 | 1338.9 | 1343.4 |
| 47.5° | 1258.1 | 1287.8 | 1292.2 | 1302.6 | 1302.6 | 1277.4 | 1263.3 | 1258.1 |
| 50° | 1167.7 | 1206.2 | 1211.4 | 1217.3 | 1214.4 | 1204.7 | 1186.2 | 1173.6 |
| 52.5° | 1083.9 | 1120.2 | 1125.4 | 1123.2 | 1129.1 | 1133.6 | 1108.4 | 1092.8 |
| 55° | 1001.6 | 1029.8 | 1036.4 | 1029.0 | 1043.1 | 1055.7 | 1032.0 | 1017.9 |
| 57.5° | 920.1 | 941.6 | 947.5 | 941.6 | 957.1 | 971.2 | 955.6 | 946.0 |
| 60° | 837.8 | 857.0 | 860.7 | 855.6 | 874.1 | 886.7 | 879.3 | 873.3 |
| 62.5° | 756.9 | 770.3 | 774.0 | 776.2 | 787.3 | 802.2 | 800.7 | 799.9 |
| 65° | 675.4 | 689.5 | 691.0 | 697.6 | 705.1 | 724.3 | 720.6 | 720.6 |
| 67.5° | 596.1 | 605.7 | 607.9 | 618.3 | 621.3 | 639.8 | 637.6 | 634.6 |
| 70° | 513.8 | 523.4 | 526.4 | 536.8 | 541.2 | 556.0 | 556.8 | 554.6 |
| 72.5° | 438.2 | 441.9 | 444.8 | 454.5 | 458.2 | 472.3 | 472.3 | 469.3 |
| 75° | 361.1 | 360.3 | 363.3 | 372.9 | 376.6 | 388.5 | 387.7 | 384.0 |
| 77.5° | 288.4 | 284.7 | 286.9 | 293.6 | 298.0 | 306.9 | 304.0 | 301.0 |
| 80° | 220.2 | 214.3 | 215.0 | 221.7 | 224.6 | 230.6 | 227.6 | 225.4 |
| 82.5° | 155.7 | 150.5 | 149.0 | 154.2 | 158.7 | 159.4 | 158.7 | 157.2 |
| 85° | 94.9 | 90.4 | 91.2 | 93.4 | 96.4 | 96.4 | 97.9 | 97.9 |
| 87.5° | 37.1 | 34.8 | 34.8 | 37.1 | 37.1 | 37.8 | 37.1 | 35.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)