

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: LUMARK

Report Number: P882799

Luminaire Tested: **NAV-SB2D-830-U-T3**

Issue Date: 10/7/2024

Test Information

Test Method: LM-79-08
Report Number: P882799
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2405-108-5)
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-SB2D-830-U-T3
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE
(2) 80 CRI, 3000K, 900mA LIGHTSQUARES WITH 26 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18159 lumens
Efficiency: N/A
Efficacy: 123.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B3 - U0 - G3

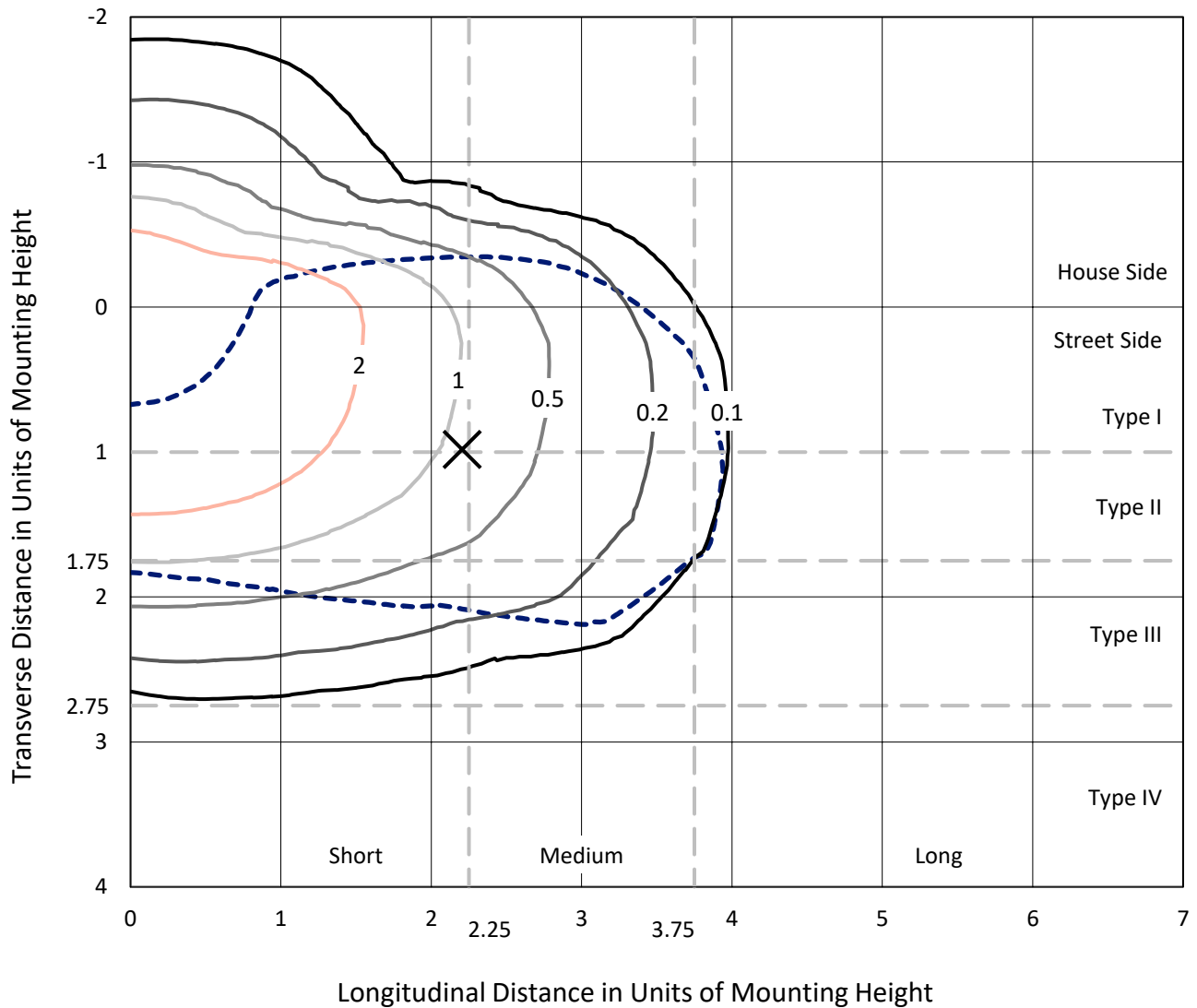
Input Watts (W): 147.6
Input Voltage (V): 120.0
Input Current (Ain): 1.234
Voltage Rise (V): NR
Power Factor: 0.999
Total Harmonic Distortion (THDi): 3.108
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

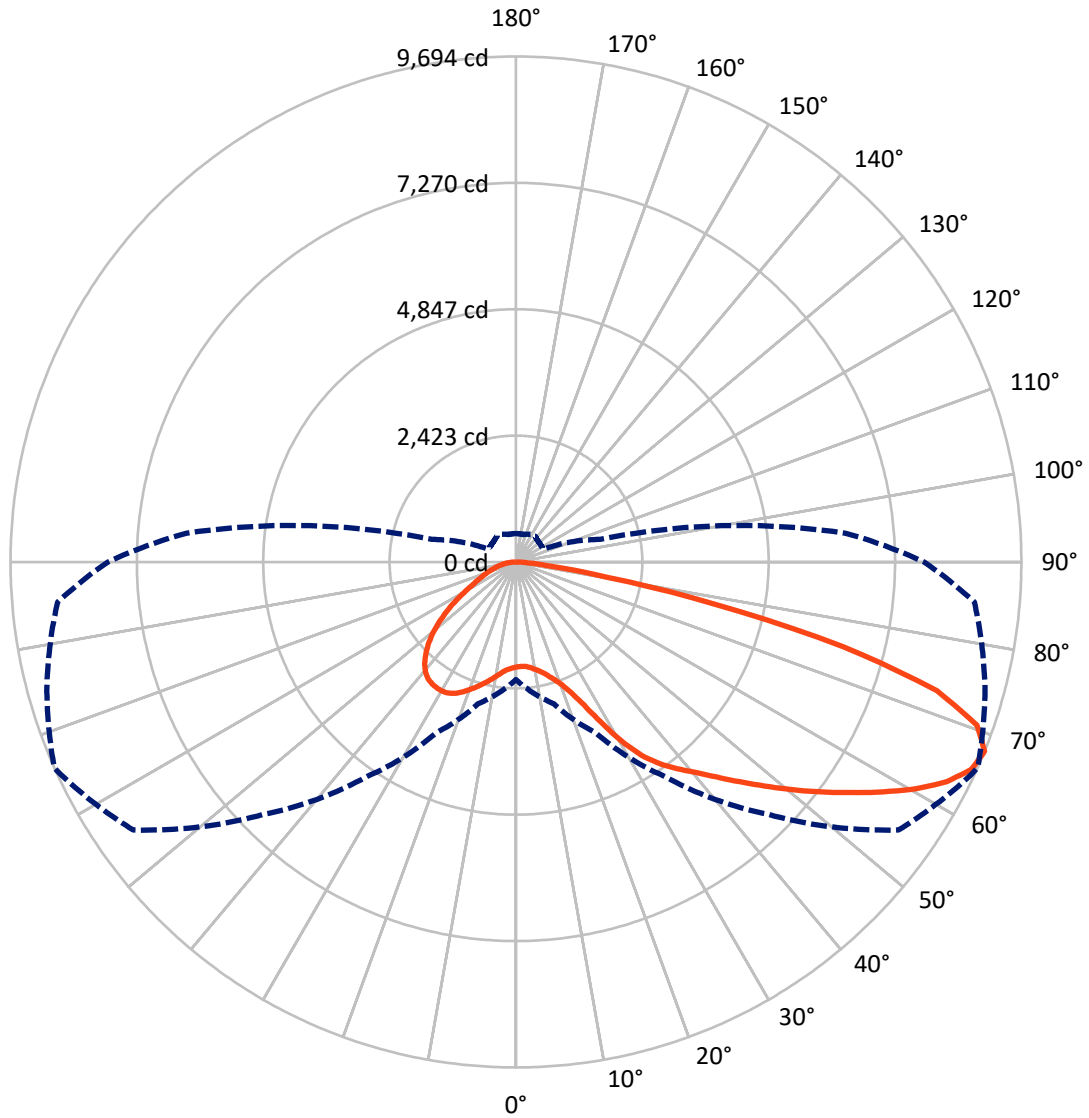
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.6 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 4515.2 | 0.0 | 4515.2 |
| | % Fixture | 24.9 | 0.0 | 24.9 |
| Street Side | Lumens | 13643.8 | 0.0 | 13643.8 |
| | % Fixture | 75.1 | 0.0 | 75.1 |
| Total | Lumens | 18159.0 | 0.0 | 18159.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 199.7 | 1.1 |
| 10°-20° | 659.7 | 3.6 |
| 20°-30° | 1271.6 | 7.0 |
| 30°-40° | 2229.6 | 12.3 |
| 40°-50° | 3314.7 | 18.3 |
| 50°-60° | 4201.7 | 23.1 |
| 60°-70° | 4111.3 | 22.6 |
| 70°-80° | 1961.1 | 10.8 |
| 80°-90° | 209.6 | 1.2 |
| 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°-90° | 18159.0 | 100.0 |
| 0°-180° | 18159.0 | 100.0 |

Coefficient of Utilization



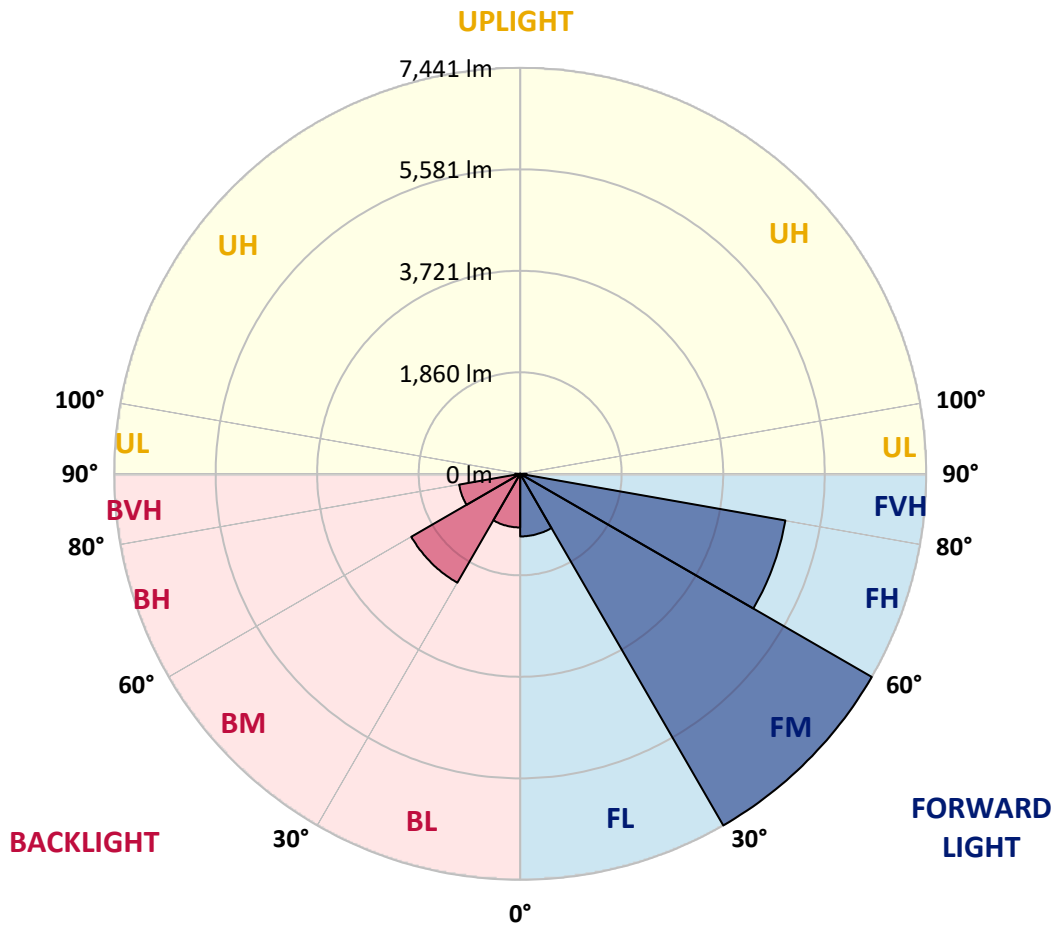
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1147.5 | 6.3 | | | |
| FM (30°-60°) | 7441.4 | 41.0 | | | |
| FH (60°-80°) | 4936.1 | 27.2 | | | G2/5000 |
| FVH (80°-90°) | 118.8 | 0.7 | | | G2/225 |
| BL (0°-30°) | 983.6 | 5.4 | B2/1000 | | |
| BM (30°-60°) | 2304.6 | 12.7 | B2/2500 | | |
| BH (60°-80°) | 1136.3 | 6.3 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 90.8 | 0.5 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G3

Type III Short



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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 66° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2014.1 | 2014.1 | 2014.1 | 2014.1 | 2014.1 | 2014.1 | 2014.1 | 2014.1 | 2014.1 | 2014.1 | 2014.1 |
| 2.5° | 1993.1 | 2004.5 | 2001.7 | 1996.9 | 1995.9 | 1997.9 | 2000.7 | 2003.6 | 2002.6 | 2007.4 | 2015.0 |
| 5° | 1987.4 | 1998.8 | 1997.9 | 1997.9 | 2001.7 | 2009.3 | 2014.1 | 2018.8 | 2014.1 | 2019.8 | 2030.3 |
| 7.5° | 1991.2 | 1999.8 | 2003.6 | 2007.4 | 2016.9 | 2031.2 | 2042.7 | 2053.2 | 2047.5 | 2054.1 | 2067.5 |
| 10° | 2039.8 | 2046.5 | 2050.3 | 2050.3 | 2057.0 | 2073.2 | 2084.7 | 2103.8 | 2099.0 | 2109.5 | 2126.7 |
| 12.5° | 2128.6 | 2135.2 | 2135.2 | 2131.4 | 2136.2 | 2146.7 | 2150.5 | 2171.5 | 2162.9 | 2180.1 | 2197.3 |
| 15° | 2237.3 | 2250.7 | 2240.2 | 2233.5 | 2235.4 | 2245.9 | 2245.0 | 2261.2 | 2252.6 | 2266.9 | 2282.2 |
| 17.5° | 2357.5 | 2374.7 | 2357.5 | 2356.6 | 2352.8 | 2364.2 | 2365.2 | 2379.5 | 2364.2 | 2374.7 | 2385.2 |
| 20° | 2499.7 | 2523.6 | 2509.2 | 2514.0 | 2505.4 | 2510.2 | 2515.0 | 2536.0 | 2512.1 | 2519.7 | 2516.9 |
| 22.5° | 2700.1 | 2728.7 | 2713.4 | 2731.5 | 2725.8 | 2722.0 | 2721.0 | 2758.3 | 2721.0 | 2723.9 | 2696.2 |
| 25° | 2992.0 | 3026.4 | 2999.6 | 3024.4 | 3024.4 | 3036.9 | 3051.2 | 3098.9 | 3036.9 | 3018.7 | 2947.2 |
| 27.5° | 3423.3 | 3457.6 | 3405.1 | 3420.4 | 3415.6 | 3446.2 | 3430.9 | 3549.2 | 3482.4 | 3452.8 | 3308.8 |
| 30° | 3942.3 | 4003.3 | 3904.1 | 3900.3 | 3895.5 | 3944.2 | 3966.1 | 4044.4 | 3976.6 | 3947.0 | 3773.4 |
| 32.5° | 4503.3 | 4567.2 | 4448.9 | 4414.6 | 4396.4 | 4426.0 | 4407.9 | 4470.8 | 4424.1 | 4378.3 | 4163.6 |
| 35° | 5096.7 | 5159.7 | 5047.1 | 4980.3 | 4907.8 | 4845.8 | 4780.9 | 4797.1 | 4753.3 | 4683.6 | 4461.3 |
| 37.5° | 5657.7 | 5773.2 | 5653.9 | 5582.4 | 5448.8 | 5327.6 | 5146.3 | 5071.0 | 5029.9 | 4966.0 | 4741.8 |
| 40° | 6229.2 | 6295.1 | 6204.4 | 6143.4 | 5998.3 | 5808.5 | 5518.4 | 5359.1 | 5303.8 | 5241.7 | 5051.9 |
| 42.5° | 6650.0 | 6712.9 | 6664.3 | 6622.3 | 6508.8 | 6288.4 | 5913.4 | 5714.0 | 5633.9 | 5564.2 | 5403.0 |
| 45° | 6983.9 | 7030.7 | 7000.1 | 7015.4 | 6966.7 | 6753.0 | 6322.7 | 6094.7 | 6011.7 | 5926.8 | 5799.9 |
| 47.5° | 7118.4 | 7168.0 | 7216.7 | 7307.3 | 7390.3 | 7232.9 | 6762.6 | 6506.9 | 6419.1 | 6332.3 | 6207.3 |
| 50° | 7103.2 | 7153.7 | 7294.9 | 7487.7 | 7745.3 | 7692.8 | 7226.2 | 6945.7 | 6864.6 | 6765.4 | 6650.0 |
| 52.5° | 6981.0 | 7038.3 | 7219.6 | 7540.1 | 7950.4 | 8037.2 | 7698.5 | 7398.9 | 7322.6 | 7204.3 | 7088.9 |
| 55° | 6660.5 | 6694.8 | 6966.7 | 7420.9 | 7999.0 | 8277.6 | 8161.2 | 7881.7 | 7805.4 | 7640.3 | 7514.4 |
| 57.5° | 6066.1 | 6115.7 | 6511.6 | 7099.3 | 7876.9 | 8440.8 | 8567.7 | 8389.3 | 8315.8 | 8078.2 | 7946.6 |
| 60° | 5290.4 | 5369.6 | 5822.8 | 6559.3 | 7565.9 | 8439.8 | 8936.9 | 8888.3 | 8827.2 | 8509.5 | 8372.1 |
| 62.5° | 4412.6 | 4504.2 | 4940.3 | 5796.1 | 7022.1 | 8200.4 | 9167.8 | 9306.1 | 9274.7 | 8907.3 | 8731.8 |
| 65° | 3388.9 | 3451.9 | 3886.0 | 4808.6 | 6175.8 | 7686.1 | 9194.5 | 9591.4 | 9597.1 | 9209.8 | 8919.7 |
| 67.5° | 2256.4 | 2437.7 | 2814.6 | 3608.3 | 5042.3 | 6845.6 | 8959.8 | 9638.2 | 9693.5 | 9313.8 | 8825.3 |
| 70° | 1101.0 | 1339.5 | 1708.8 | 2345.1 | 3608.3 | 5556.6 | 8346.3 | 9254.6 | 9377.7 | 9010.4 | 8262.4 |
| 72.5° | 457.0 | 534.3 | 735.6 | 1157.3 | 2071.3 | 3749.6 | 7113.7 | 8214.7 | 8442.7 | 7983.8 | 6946.7 |
| 75° | 308.2 | 333.9 | 420.8 | 593.4 | 943.6 | 1849.0 | 5130.1 | 6125.2 | 6492.5 | 6029.8 | 4928.8 |
| 77.5° | 237.6 | 253.8 | 306.3 | 415.0 | 561.0 | 699.3 | 2745.9 | 3691.4 | 3881.2 | 3593.1 | 2564.6 |
| 80° | 187.0 | 199.4 | 229.0 | 302.4 | 397.9 | 374.0 | 936.0 | 1672.5 | 1782.2 | 1495.1 | 824.3 |
| 82.5° | 162.2 | 167.0 | 164.1 | 205.1 | 264.3 | 218.5 | 307.2 | 617.3 | 681.2 | 494.2 | 269.1 |
| 85° | 117.4 | 130.7 | 136.4 | 126.9 | 140.3 | 110.7 | 125.9 | 218.5 | 240.4 | 214.7 | 151.7 |
| 87.5° | 47.7 | 70.6 | 86.8 | 82.1 | 51.5 | 31.5 | 39.1 | 63.9 | 73.5 | 80.1 | 49.6 |
| 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):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2014.1 | 2014.1 | 2014.1 | 2014.1 | 2014.1 | 2014.1 | 2014.1 | 2014.1 | 2014.1 | 2014.1 | 2014.1 |
| 2.5° | 2016.0 | 2022.7 | 2027.4 | 2033.2 | 2037.0 | 2042.7 | 2054.1 | 2060.8 | 2061.8 | 2066.5 | 2065.6 |
| 5° | 2034.1 | 2043.6 | 2054.1 | 2069.4 | 2086.6 | 2100.9 | 2122.8 | 2138.1 | 2143.8 | 2148.6 | 2147.6 |
| 7.5° | 2073.2 | 2086.6 | 2105.7 | 2132.4 | 2157.2 | 2176.3 | 2203.0 | 2221.1 | 2239.2 | 2245.9 | 2246.9 |
| 10° | 2131.4 | 2150.5 | 2178.2 | 2214.4 | 2241.1 | 2266.0 | 2293.6 | 2308.9 | 2327.0 | 2334.6 | 2338.5 |
| 12.5° | 2203.9 | 2224.0 | 2260.2 | 2310.8 | 2335.6 | 2352.8 | 2362.3 | 2358.5 | 2362.3 | 2369.0 | 2370.9 |
| 15° | 2286.9 | 2308.9 | 2349.9 | 2404.3 | 2421.5 | 2406.2 | 2385.2 | 2366.1 | 2363.3 | 2365.2 | 2371.9 |
| 17.5° | 2385.2 | 2401.4 | 2449.1 | 2494.9 | 2482.5 | 2419.6 | 2373.8 | 2343.2 | 2328.0 | 2323.2 | 2329.9 |
| 20° | 2522.6 | 2522.6 | 2561.7 | 2590.3 | 2507.3 | 2400.5 | 2328.9 | 2279.3 | 2247.8 | 2234.5 | 2231.6 |
| 22.5° | 2689.6 | 2674.3 | 2699.1 | 2679.1 | 2502.6 | 2347.0 | 2247.8 | 2162.0 | 2114.3 | 2095.2 | 2092.3 |
| 25° | 2901.4 | 2883.2 | 2876.6 | 2752.5 | 2468.2 | 2262.1 | 2100.9 | 1996.9 | 1954.9 | 1944.4 | 1946.3 |
| 27.5° | 3221.0 | 3175.2 | 3088.4 | 2792.6 | 2405.2 | 2128.6 | 1929.2 | 1832.8 | 1808.9 | 1809.9 | 1812.8 |
| 30° | 3646.5 | 3554.9 | 3342.2 | 2799.3 | 2302.2 | 1939.7 | 1753.6 | 1684.9 | 1673.5 | 1678.2 | 1694.5 |
| 32.5° | 4040.5 | 3953.7 | 3601.7 | 2768.8 | 2143.8 | 1754.6 | 1596.2 | 1550.4 | 1533.2 | 1538.9 | 1546.6 |
| 35° | 4349.7 | 4325.8 | 3842.1 | 2725.8 | 1949.2 | 1580.9 | 1455.0 | 1415.9 | 1382.5 | 1374.8 | 1380.6 |
| 37.5° | 4641.6 | 4632.1 | 4022.4 | 2665.7 | 1756.5 | 1457.8 | 1341.4 | 1289.9 | 1241.3 | 1214.5 | 1215.5 |
| 40° | 4962.2 | 4952.7 | 4140.7 | 2573.2 | 1585.7 | 1351.0 | 1239.4 | 1171.6 | 1111.5 | 1062.9 | 1067.6 |
| 42.5° | 5322.8 | 5266.5 | 4197.0 | 2440.5 | 1440.7 | 1260.3 | 1156.4 | 1064.8 | 985.6 | 940.7 | 943.6 |
| 45° | 5716.9 | 5590.0 | 4196.1 | 2271.7 | 1318.5 | 1177.3 | 1067.6 | 937.9 | 864.4 | 822.4 | 820.5 |
| 47.5° | 6134.8 | 5899.1 | 4144.5 | 2084.7 | 1200.2 | 1085.7 | 930.2 | 831.0 | 782.3 | 756.6 | 750.9 |
| 50° | 6566.0 | 6188.2 | 4056.8 | 1870.0 | 1079.1 | 981.8 | 844.4 | 776.6 | 739.4 | 715.6 | 707.0 |
| 52.5° | 6971.5 | 6450.6 | 3950.9 | 1626.7 | 956.0 | 880.6 | 806.2 | 753.7 | 714.6 | 687.9 | 676.4 |
| 55° | 7348.4 | 6676.7 | 3801.1 | 1377.7 | 855.8 | 812.9 | 788.1 | 744.2 | 699.3 | 667.9 | 655.5 |
| 57.5° | 7683.2 | 6823.6 | 3542.5 | 1143.9 | 784.3 | 766.1 | 769.0 | 728.0 | 676.4 | 649.7 | 632.6 |
| 60° | 7961.8 | 6931.4 | 3159.9 | 927.4 | 726.1 | 720.3 | 739.4 | 697.4 | 637.3 | 606.8 | 593.4 |
| 62.5° | 8128.8 | 6929.5 | 2690.5 | 759.5 | 676.4 | 678.4 | 700.3 | 659.3 | 598.2 | 569.6 | 561.0 |
| 65° | 8114.5 | 6759.7 | 2175.3 | 649.7 | 628.7 | 630.7 | 659.3 | 617.3 | 565.8 | 548.6 | 547.6 |
| 67.5° | 7827.3 | 6345.6 | 1668.7 | 578.2 | 576.3 | 584.9 | 618.2 | 588.7 | 545.7 | 543.8 | 546.7 |
| 70° | 7049.7 | 5486.0 | 1202.1 | 520.9 | 521.9 | 534.3 | 578.2 | 570.5 | 535.2 | 539.1 | 538.1 |
| 72.5° | 5653.0 | 4182.7 | 807.2 | 460.8 | 461.8 | 481.8 | 540.0 | 556.2 | 524.7 | 575.3 | 582.9 |
| 75° | 3764.8 | 2608.5 | 519.0 | 396.9 | 397.9 | 423.6 | 506.6 | 528.6 | 496.1 | 573.4 | 578.2 |
| 77.5° | 1808.9 | 1172.6 | 375.9 | 333.9 | 333.9 | 357.8 | 437.9 | 473.2 | 422.7 | 445.6 | 408.3 |
| 80° | 624.9 | 440.8 | 295.8 | 269.1 | 263.3 | 279.5 | 369.2 | 410.3 | 364.5 | 335.8 | 314.8 |
| 82.5° | 246.2 | 229.0 | 237.6 | 208.9 | 189.9 | 200.4 | 287.2 | 338.7 | 268.1 | 242.3 | 241.4 |
| 85° | 141.2 | 148.8 | 167.9 | 138.3 | 109.7 | 123.1 | 210.9 | 243.3 | 202.3 | 178.4 | 182.2 |
| 87.5° | 38.2 | 52.5 | 77.3 | 71.6 | 49.6 | 52.5 | 100.2 | 134.5 | 116.4 | 89.7 | 92.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)