

Pmax 148.23  
 .98\*Pmax 145.2687

.98\*P<sub>max</sub>-high 6259.7  
 .98\*P<sub>max</sub>-low 5620.049  
 Speed at Pmax 5939.875

Σmax,  
 maximum sum  
 of squares 2.090765

.98\*Σ<sub>max</sub> 2.048949

.98\*Σ<sub>max</sub>-low 6083.804

.98\*Σ<sub>max</sub>-high 6300 point of engagement of rev limiter

Fnorm 6191.902 Maximum Test Speed

**5750 declared maximum test speed +/- 500 rpm**

Normalized  
 Speed

CFR referenced nomenclature

Time, sec Speed, rpm Torque, N.m Power, kW

P<sub>norm</sub> f<sub>norm</sub>

|    |       |        |       |            |           |
|----|-------|--------|-------|------------|-----------|
| 0  | 633.6 | -31.61 | -2.10 | 0.10666398 | -0.014148 |
| 1  | 641.6 | 7.85   | 0.53  | 0.10800993 | 0.003558  |
| 2  | 652.0 | 9.10   | 0.62  | 0.10976299 | 0.00419   |
| 3  | 663.8 | 10.51  | 0.73  | 0.11175254 | 0.004928  |
| 4  | 672.8 | 11.58  | 0.82  | 0.11327253 | 0.005506  |
| 5  | 683.1 | 12.80  | 0.92  | 0.11499421 | 0.006176  |
| 6  | 691.2 | 13.76  | 1.00  | 0.11636075 | 0.006719  |
| 7  | 703.3 | 15.19  | 1.12  | 0.11839476 | 0.007547  |
| 8  | 712.3 | 16.25  | 1.21  | 0.1199113  | 0.008178  |
| 9  | 723.9 | 17.62  | 1.34  | 0.12186669 | 0.00901   |
| 10 | 732.2 | 18.60  | 1.43  | 0.12327371 | 0.009622  |
| 11 | 741.5 | 19.69  | 1.53  | 0.12483745 | 0.010314  |
| 12 | 755.0 | 21.26  | 1.68  | 0.12710232 | 0.011339  |
| 13 | 760.8 | 21.94  | 1.75  | 0.1280909  | 0.011795  |
| 14 | 773.6 | 23.43  | 1.90  | 0.13023786 | 0.012803  |
| 15 | 784.5 | 24.69  | 2.03  | 0.13207352 | 0.013683  |
| 16 | 794.8 | 25.88  | 2.15  | 0.13381118 | 0.014533  |
| 17 | 804.4 | 26.99  | 2.27  | 0.13542006 | 0.015334  |
| 18 | 812.7 | 27.94  | 2.38  | 0.13682283 | 0.016044  |
| 19 | 823.4 | 29.17  | 2.52  | 0.13862457 | 0.016969  |
| 20 | 831.8 | 30.13  | 2.62  | 0.14003528 | 0.017706  |
| 21 | 844.7 | 31.60  | 2.80  | 0.14220497 | 0.018859  |
| 22 | 854.9 | 32.77  | 2.93  | 0.14392795 | 0.019791  |
| 23 | 861.2 | 33.49  | 3.02  | 0.14499339 | 0.020375  |
| 24 | 873.7 | 34.90  | 3.19  | 0.14708716 | 0.021539  |
| 25 | 881.2 | 35.75  | 3.30  | 0.14836044 | 0.022258  |
| 26 | 893.1 | 37.09  | 3.47  | 0.1503567  | 0.023401  |
| 27 | 902.7 | 38.17  | 3.61  | 0.15196759 | 0.024338  |
| 28 | 914.9 | 39.54  | 3.79  | 0.15402226 | 0.025552  |
| 29 | 922.6 | 40.40  | 3.90  | 0.15532251 | 0.026331  |
| 30 | 935.5 | 41.84  | 4.10  | 0.15749705 | 0.027652  |
| 31 | 943.8 | 42.76  | 4.23  | 0.15889471 | 0.028513  |
| 32 | 952.5 | 43.73  | 4.36  | 0.1603622  | 0.029428  |

|    |        |       |       |            |          |
|----|--------|-------|-------|------------|----------|
| 33 | 961.0  | 44.67 | 4.50  | 0.16179017 | 0.030328 |
| 34 | 972.2  | 45.90 | 4.67  | 0.16366885 | 0.031527 |
| 35 | 985.0  | 47.32 | 4.88  | 0.16583124 | 0.032928 |
| 36 | 993.3  | 48.23 | 5.02  | 0.16722514 | 0.033843 |
| 37 | 1000.7 | 49.04 | 5.14  | 0.16846579 | 0.034665 |
| 38 | 1011.0 | 50.17 | 5.31  | 0.17020797 | 0.035832 |
| 39 | 1022.9 | 51.46 | 5.51  | 0.1722087  | 0.037189 |
| 40 | 1035.3 | 52.81 | 5.73  | 0.17429965 | 0.038628 |
| 41 | 1040.9 | 53.42 | 5.82  | 0.1752441  | 0.039285 |
| 42 | 1053.4 | 54.77 | 6.04  | 0.17734616 | 0.040761 |
| 43 | 1063.5 | 55.86 | 6.22  | 0.1790477  | 0.041971 |
| 44 | 1074.5 | 57.04 | 6.42  | 0.18088924 | 0.043295 |
| 45 | 1080.4 | 57.68 | 6.53  | 0.1818902  | 0.044022 |
| 46 | 1091.1 | 58.82 | 6.72  | 0.18369531 | 0.045343 |
| 47 | 1101.6 | 59.94 | 6.92  | 0.18545996 | 0.04665  |
| 48 | 1113.1 | 61.17 | 7.13  | 0.18739476 | 0.048098 |
| 49 | 1121.4 | 62.04 | 7.29  | 0.18878436 | 0.049149 |
| 50 | 1130.6 | 63.02 | 7.46  | 0.19034323 | 0.050338 |
| 51 | 1145.5 | 64.60 | 7.75  | 0.19285226 | 0.052274 |
| 52 | 1154.8 | 65.58 | 7.93  | 0.19442002 | 0.053499 |
| 53 | 1161.9 | 66.31 | 8.07  | 0.19560369 | 0.05443  |
| 54 | 1171.1 | 67.28 | 8.25  | 0.19715857 | 0.055663 |
| 55 | 1180.7 | 68.28 | 8.44  | 0.1987698  | 0.056951 |
| 56 | 1194.6 | 69.73 | 8.72  | 0.20111755 | 0.058849 |
| 57 | 1200.5 | 70.35 | 8.84  | 0.2021157  | 0.059663 |
| 58 | 1212.6 | 71.59 | 9.09  | 0.2041389  | 0.061327 |
| 59 | 1223.9 | 72.77 | 9.33  | 0.20605453 | 0.062918 |
| 60 | 1231.1 | 73.50 | 9.48  | 0.20725488 | 0.063923 |
| 61 | 1242.4 | 74.67 | 9.71  | 0.2091676  | 0.065537 |
| 62 | 1252.7 | 75.72 | 9.93  | 0.21089269 | 0.067006 |
| 63 | 1265.4 | 77.01 | 10.20 | 0.21302691 | 0.06884  |
| 64 | 1273.7 | 77.86 | 10.38 | 0.21442584 | 0.070053 |
| 65 | 1280.3 | 78.53 | 10.53 | 0.21554742 | 0.071031 |
| 66 | 1294.4 | 79.95 | 10.84 | 0.2179132  | 0.073112 |
| 67 | 1301.5 | 80.67 | 10.99 | 0.2191044  | 0.074168 |
| 68 | 1311.2 | 81.65 | 11.21 | 0.22074478 | 0.075632 |
| 69 | 1322.9 | 82.83 | 11.47 | 0.22271959 | 0.077409 |
| 70 | 1331.6 | 83.70 | 11.67 | 0.22418209 | 0.078735 |
| 71 | 1341.5 | 84.68 | 11.90 | 0.22584794 | 0.080256 |
| 72 | 1354.8 | 86.01 | 12.20 | 0.22809036 | 0.082321 |
| 73 | 1362.5 | 86.77 | 12.38 | 0.22939017 | 0.083527 |
| 74 | 1374.3 | 87.94 | 12.66 | 0.23137128 | 0.085378 |
| 75 | 1385.1 | 89.00 | 12.91 | 0.23317848 | 0.08708  |
| 76 | 1390.7 | 89.55 | 13.04 | 0.23412147 | 0.087974 |
| 77 | 1401.2 | 90.58 | 13.29 | 0.23589462 | 0.089663 |
| 78 | 1411.2 | 91.56 | 13.53 | 0.23757613 | 0.091276 |
| 79 | 1424.7 | 92.88 | 13.86 | 0.23985457 | 0.093478 |
| 80 | 1432.9 | 93.67 | 14.06 | 0.24123166 | 0.09482  |
| 81 | 1444.8 | 94.83 | 14.35 | 0.24324149 | 0.09679  |
| 82 | 1455.0 | 95.81 | 14.60 | 0.24496126 | 0.098488 |
| 83 | 1461.1 | 96.40 | 14.75 | 0.24598145 | 0.0995   |

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|-----|--------|--------|-------|------------|----------|
| 84  | 1472.8 | 97.52  | 15.04 | 0.2479541  | 0.101469 |
| 85  | 1481.6 | 98.36  | 15.26 | 0.24943419 | 0.102956 |
| 86  | 1492.6 | 99.42  | 15.54 | 0.25129075 | 0.104832 |
| 87  | 1504.0 | 100.50 | 15.83 | 0.25320528 | 0.10678  |
| 88  | 1514.9 | 101.53 | 16.11 | 0.25503138 | 0.108651 |
| 89  | 1521.8 | 102.18 | 16.28 | 0.25620158 | 0.109856 |
| 90  | 1533.0 | 103.24 | 16.57 | 0.25808721 | 0.111809 |
| 91  | 1542.3 | 104.11 | 16.81 | 0.25964382 | 0.11343  |
| 92  | 1555.1 | 105.31 | 17.15 | 0.2618041  | 0.115695 |
| 93  | 1564.8 | 106.22 | 17.40 | 0.26343396 | 0.117414 |
| 94  | 1572.2 | 106.91 | 17.60 | 0.26468258 | 0.118737 |
| 95  | 1585.8 | 108.17 | 17.96 | 0.26697209 | 0.121178 |
| 96  | 1595.4 | 109.06 | 18.22 | 0.26859432 | 0.122919 |
| 97  | 1603.6 | 109.81 | 18.44 | 0.26997019 | 0.124403 |
| 98  | 1615.1 | 110.87 | 18.75 | 0.27190462 | 0.126499 |
| 99  | 1621.2 | 111.43 | 18.92 | 0.27292988 | 0.127616 |
| 100 | 1634.5 | 112.65 | 19.28 | 0.27517875 | 0.130077 |
| 101 | 1643.3 | 113.44 | 19.52 | 0.27664882 | 0.131695 |
| 102 | 1651.3 | 114.17 | 19.74 | 0.27800135 | 0.13319  |
| 103 | 1663.4 | 115.27 | 20.08 | 0.28003796 | 0.135453 |
| 104 | 1671.6 | 116.01 | 20.31 | 0.28141845 | 0.136995 |
| 105 | 1683.8 | 117.11 | 20.65 | 0.28347215 | 0.1393   |
| 106 | 1692.4 | 117.88 | 20.89 | 0.28492918 | 0.140944 |
| 107 | 1702.9 | 118.82 | 21.19 | 0.28668645 | 0.142935 |
| 108 | 1712.4 | 119.66 | 21.46 | 0.28828371 | 0.144754 |
| 109 | 1724.6 | 120.74 | 21.81 | 0.29033774 | 0.147105 |
| 110 | 1733.8 | 121.56 | 22.07 | 0.291889   | 0.14889  |
| 111 | 1745.6 | 122.60 | 22.41 | 0.29387277 | 0.151183 |
| 112 | 1754.3 | 123.37 | 22.66 | 0.29534342 | 0.152891 |
| 113 | 1764.1 | 124.22 | 22.95 | 0.2969924  | 0.154814 |
| 114 | 1774.1 | 125.10 | 23.24 | 0.29867955 | 0.15679  |
| 115 | 1783.3 | 125.90 | 23.51 | 0.3002317  | 0.158616 |
| 116 | 1791.7 | 126.63 | 23.76 | 0.3016417  | 0.160281 |
| 117 | 1804.6 | 127.74 | 24.14 | 0.3038134  | 0.162857 |
| 118 | 1815.5 | 128.68 | 24.46 | 0.30564189 | 0.165037 |
| 119 | 1821.8 | 129.23 | 24.65 | 0.30671279 | 0.166318 |
| 120 | 1831.5 | 130.05 | 24.94 | 0.30833274 | 0.168263 |
| 121 | 1844.8 | 131.19 | 25.34 | 0.31058054 | 0.170975 |
| 122 | 1854.6 | 132.02 | 25.64 | 0.312234   | 0.172979 |
| 123 | 1863.9 | 132.81 | 25.92 | 0.31379158 | 0.174874 |
| 124 | 1872.2 | 133.51 | 26.18 | 0.31519608 | 0.176588 |
| 125 | 1884.3 | 134.53 | 26.55 | 0.31723705 | 0.17909  |
| 126 | 1891.1 | 135.10 | 26.75 | 0.31837464 | 0.18049  |
| 127 | 1905.2 | 136.28 | 27.19 | 0.32075062 | 0.183424 |
| 128 | 1915.1 | 137.10 | 27.49 | 0.32240657 | 0.185479 |
| 129 | 1925.2 | 137.94 | 27.81 | 0.32411025 | 0.187601 |
| 130 | 1931.6 | 138.47 | 28.01 | 0.32519738 | 0.188959 |
| 131 | 1942.3 | 139.35 | 28.34 | 0.32699205 | 0.191209 |
| 132 | 1955.1 | 140.40 | 28.75 | 0.3291491  | 0.193923 |
| 133 | 1962.8 | 141.04 | 28.99 | 0.33045134 | 0.195568 |
| 134 | 1975.2 | 142.05 | 29.38 | 0.33253518 | 0.19821  |

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|-----|--------|--------|-------|------------|----------|
| 135 | 1983.0 | 142.67 | 29.63 | 0.33383879 | 0.199869 |
| 136 | 1993.8 | 143.56 | 29.97 | 0.33566871 | 0.202204 |
| 137 | 2005.1 | 144.47 | 30.33 | 0.33757126 | 0.204641 |
| 138 | 2014.8 | 145.25 | 30.65 | 0.3392061  | 0.206743 |
| 139 | 2023.8 | 145.97 | 30.94 | 0.34071952 | 0.208695 |
| 140 | 2032.0 | 146.62 | 31.20 | 0.34209751 | 0.210477 |
| 141 | 2042.9 | 147.49 | 31.55 | 0.34392807 | 0.212852 |
| 142 | 2051.9 | 148.20 | 31.84 | 0.3454476  | 0.21483  |
| 143 | 2060.6 | 148.89 | 32.13 | 0.3469083  | 0.216737 |
| 144 | 2074.2 | 149.96 | 32.57 | 0.3492007  | 0.219739 |
| 145 | 2080.7 | 150.47 | 32.79 | 0.35029318 | 0.221175 |
| 146 | 2090.3 | 151.22 | 33.10 | 0.35191243 | 0.223308 |
| 147 | 2101.3 | 152.08 | 33.46 | 0.3537631  | 0.225753 |
| 148 | 2114.8 | 153.12 | 33.91 | 0.3560372  | 0.228769 |
| 149 | 2124.1 | 153.84 | 34.22 | 0.35760446 | 0.230854 |
| 150 | 2132.1 | 154.46 | 34.49 | 0.35895373 | 0.232654 |
| 151 | 2144.3 | 155.39 | 34.89 | 0.36100273 | 0.235396 |
| 152 | 2151.1 | 155.91 | 35.12 | 0.36213738 | 0.236918 |
| 153 | 2161.5 | 156.70 | 35.47 | 0.3638902  | 0.239275 |
| 154 | 2171.1 | 157.43 | 35.79 | 0.36551003 | 0.24146  |
| 155 | 2183.5 | 158.37 | 36.21 | 0.36760642 | 0.244296 |
| 156 | 2192.3 | 159.03 | 36.51 | 0.36907587 | 0.246289 |
| 157 | 2203.2 | 159.84 | 36.88 | 0.3709098  | 0.248784 |
| 158 | 2214.6 | 160.69 | 37.27 | 0.37282855 | 0.251401 |
| 159 | 2221.2 | 161.19 | 37.49 | 0.3739428  | 0.252925 |
| 160 | 2235.0 | 162.21 | 37.97 | 0.37627753 | 0.256126 |
| 161 | 2244.1 | 162.88 | 38.28 | 0.37779642 | 0.258214 |
| 162 | 2251.2 | 163.40 | 38.52 | 0.37900323 | 0.259877 |
| 163 | 2263.4 | 164.30 | 38.94 | 0.38105621 | 0.262713 |
| 164 | 2274.7 | 165.12 | 39.33 | 0.38295754 | 0.265346 |
| 165 | 2281.2 | 165.59 | 39.56 | 0.3840404  | 0.266849 |
| 166 | 2294.1 | 166.52 | 40.01 | 0.38621931 | 0.269881 |
| 167 | 2303.9 | 167.23 | 40.35 | 0.38787741 | 0.272194 |
| 168 | 2312.1 | 167.82 | 40.63 | 0.38925068 | 0.274114 |
| 169 | 2320.7 | 168.44 | 40.93 | 0.39070347 | 0.276149 |
| 170 | 2333.0 | 169.31 | 41.37 | 0.39277357 | 0.279055 |
| 171 | 2341.4 | 169.90 | 41.66 | 0.39417872 | 0.281032 |
| 172 | 2355.2 | 170.88 | 42.15 | 0.39651138 | 0.284323 |
| 173 | 2360.6 | 171.26 | 42.33 | 0.39740992 | 0.285593 |
| 174 | 2372.4 | 172.09 | 42.75 | 0.39940636 | 0.288421 |
| 175 | 2384.2 | 172.91 | 43.17 | 0.40139436 | 0.291243 |
| 176 | 2391.5 | 173.42 | 43.43 | 0.40262298 | 0.292991 |
| 177 | 2403.5 | 174.24 | 43.86 | 0.40463256 | 0.295855 |
| 178 | 2410.8 | 174.75 | 44.12 | 0.40586425 | 0.297614 |
| 179 | 2424.5 | 175.69 | 44.61 | 0.4081735  | 0.300919 |
| 180 | 2435.5 | 176.44 | 45.00 | 0.4100322  | 0.303586 |
| 181 | 2443.9 | 177.01 | 45.30 | 0.41143598 | 0.305603 |
| 182 | 2453.2 | 177.64 | 45.64 | 0.41300662 | 0.307865 |
| 183 | 2463.2 | 178.31 | 45.99 | 0.41468192 | 0.310281 |
| 184 | 2473.0 | 178.98 | 46.35 | 0.41634498 | 0.312684 |
| 185 | 2483.2 | 179.66 | 46.72 | 0.41806208 | 0.31517  |

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|-----|--------|--------|-------|------------|----------|
| 186 | 2491.3 | 180.20 | 47.01 | 0.41942641 | 0.317148 |
| 187 | 2503.3 | 180.99 | 47.45 | 0.42144254 | 0.320077 |
| 188 | 2513.4 | 181.66 | 47.81 | 0.4231386  | 0.322545 |
| 189 | 2521.2 | 182.17 | 48.10 | 0.42445898 | 0.324469 |
| 190 | 2532.7 | 182.92 | 48.51 | 0.42638475 | 0.327281 |
| 191 | 2544.3 | 183.68 | 48.94 | 0.42835016 | 0.330155 |
| 192 | 2555.3 | 184.39 | 49.34 | 0.4301966  | 0.332861 |
| 193 | 2563.2 | 184.90 | 49.63 | 0.43152655 | 0.334813 |
| 194 | 2571.7 | 185.45 | 49.94 | 0.43295806 | 0.336916 |
| 195 | 2583.6 | 186.21 | 50.38 | 0.434962   | 0.339866 |
| 196 | 2592.6 | 186.78 | 50.71 | 0.43647454 | 0.342095 |
| 197 | 2604.9 | 187.56 | 51.16 | 0.43855036 | 0.34516  |
| 198 | 2614.1 | 188.14 | 51.50 | 0.44008908 | 0.347435 |
| 199 | 2623.0 | 188.70 | 51.83 | 0.44159083 | 0.349659 |
| 200 | 2634.3 | 189.40 | 52.25 | 0.44348787 | 0.352472 |
| 201 | 2641.2 | 189.83 | 52.50 | 0.44465525 | 0.354205 |
| 202 | 2652.7 | 190.54 | 52.93 | 0.44658958 | 0.35708  |
| 203 | 2664.4 | 191.27 | 53.37 | 0.44856149 | 0.360016 |
| 204 | 2670.5 | 191.64 | 53.59 | 0.44959449 | 0.361555 |
| 205 | 2683.6 | 192.44 | 54.08 | 0.45179568 | 0.36484  |
| 206 | 2692.8 | 193.00 | 54.42 | 0.4533349  | 0.36714  |
| 207 | 2702.3 | 193.58 | 54.78 | 0.45494089 | 0.369543 |
| 208 | 2715.2 | 194.35 | 55.26 | 0.45711357 | 0.372798 |
| 209 | 2721.7 | 194.74 | 55.50 | 0.45819992 | 0.374427 |
| 210 | 2734.4 | 195.50 | 55.98 | 0.46035146 | 0.377657 |
| 211 | 2741.4 | 195.92 | 56.24 | 0.46152972 | 0.379428 |
| 212 | 2752.2 | 196.55 | 56.65 | 0.46334141 | 0.382154 |
| 213 | 2763.6 | 197.22 | 57.08 | 0.46525474 | 0.385036 |
| 214 | 2774.3 | 197.85 | 57.48 | 0.46705903 | 0.387757 |
| 215 | 2781.5 | 198.27 | 57.75 | 0.46827291 | 0.389589 |
| 216 | 2792.9 | 198.93 | 58.18 | 0.47019117 | 0.392488 |
| 217 | 2804.0 | 199.57 | 58.60 | 0.47206334 | 0.395319 |
| 218 | 2814.3 | 200.16 | 58.99 | 0.47379999 | 0.397948 |
| 219 | 2824.1 | 200.72 | 59.36 | 0.47544876 | 0.400447 |
| 220 | 2831.3 | 201.13 | 59.63 | 0.47666761 | 0.402295 |
| 221 | 2841.6 | 201.71 | 60.02 | 0.47839742 | 0.404921 |
| 222 | 2853.7 | 202.39 | 60.48 | 0.48043315 | 0.408013 |
| 223 | 2860.8 | 202.78 | 60.75 | 0.48162073 | 0.409819 |
| 224 | 2872.9 | 203.46 | 61.21 | 0.48366795 | 0.412934 |
| 225 | 2883.8 | 204.06 | 61.62 | 0.48550377 | 0.415729 |
| 226 | 2895.0 | 204.67 | 62.05 | 0.48738098 | 0.41859  |
| 227 | 2903.2 | 205.12 | 62.36 | 0.48876343 | 0.420699 |
| 228 | 2913.5 | 205.68 | 62.75 | 0.49050139 | 0.423351 |
| 229 | 2921.5 | 206.12 | 63.06 | 0.49185345 | 0.425416 |
| 230 | 2932.2 | 206.69 | 63.47 | 0.4936504  | 0.428162 |
| 231 | 2942.8 | 207.26 | 63.87 | 0.49542922 | 0.430882 |
| 232 | 2954.8 | 207.90 | 64.33 | 0.497447   | 0.433969 |
| 233 | 2960.9 | 208.22 | 64.56 | 0.49847827 | 0.435548 |
| 234 | 2973.0 | 208.86 | 65.02 | 0.50051083 | 0.438661 |
| 235 | 2985.8 | 209.53 | 65.51 | 0.50266336 | 0.44196  |
| 236 | 2995.2 | 210.02 | 65.87 | 0.50425031 | 0.444394 |

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|-----|--------|--------|-------|------------|----------|
| 237 | 3000.9 | 210.32 | 66.09 | 0.50521701 | 0.445876 |
| 238 | 3013.5 | 210.97 | 66.58 | 0.50733939 | 0.449134 |
| 239 | 3021.9 | 211.40 | 66.90 | 0.50874722 | 0.451295 |
| 240 | 3035.1 | 212.07 | 67.40 | 0.51096319 | 0.454699 |
| 241 | 3043.3 | 212.49 | 67.72 | 0.51235613 | 0.45684  |
| 242 | 3052.2 | 212.93 | 68.06 | 0.51384688 | 0.459131 |
| 243 | 3062.9 | 213.47 | 68.47 | 0.51565374 | 0.46191  |
| 244 | 3072.2 | 213.93 | 68.83 | 0.51721226 | 0.464307 |
| 245 | 3082.0 | 214.42 | 69.20 | 0.51886911 | 0.466856 |
| 246 | 3094.7 | 215.05 | 69.69 | 0.52100732 | 0.470147 |
| 247 | 3103.4 | 215.47 | 70.03 | 0.52247012 | 0.472399 |
| 248 | 3110.8 | 215.83 | 70.31 | 0.52371559 | 0.474316 |
| 249 | 3123.1 | 216.43 | 70.78 | 0.52578861 | 0.477509 |
| 250 | 3130.6 | 216.79 | 71.07 | 0.52704365 | 0.479442 |
| 251 | 3144.2 | 217.43 | 71.59 | 0.52933106 | 0.482966 |
| 252 | 3152.7 | 217.84 | 71.92 | 0.53077153 | 0.485185 |
| 253 | 3161.4 | 218.25 | 72.25 | 0.5322293  | 0.487431 |
| 254 | 3173.5 | 218.82 | 72.72 | 0.5342737  | 0.490582 |
| 255 | 3184.3 | 219.33 | 73.14 | 0.53609716 | 0.493392 |
| 256 | 3192.8 | 219.72 | 73.46 | 0.53752535 | 0.495593 |
| 257 | 3204.0 | 220.23 | 73.89 | 0.53940905 | 0.498496 |
| 258 | 3214.4 | 220.71 | 74.29 | 0.54115672 | 0.501189 |
| 259 | 3222.9 | 221.10 | 74.62 | 0.54259151 | 0.5034   |
| 260 | 3233.5 | 221.57 | 75.03 | 0.54437172 | 0.506144 |
| 261 | 3243.8 | 222.04 | 75.42 | 0.54610999 | 0.508822 |
| 262 | 3250.8 | 222.35 | 75.69 | 0.54729106 | 0.510642 |
| 263 | 3264.6 | 222.96 | 76.22 | 0.54960595 | 0.514207 |
| 264 | 3272.6 | 223.31 | 76.53 | 0.55095718 | 0.516289 |
| 265 | 3285.7 | 223.89 | 77.03 | 0.55316178 | 0.519683 |
| 266 | 3294.8 | 224.28 | 77.38 | 0.55468426 | 0.522027 |
| 267 | 3301.9 | 224.59 | 77.66 | 0.55589425 | 0.52389  |
| 268 | 3313.1 | 225.07 | 78.09 | 0.55776805 | 0.526773 |
| 269 | 3325.2 | 225.58 | 78.55 | 0.55980897 | 0.529913 |
| 270 | 3332.1 | 225.87 | 78.81 | 0.56096744 | 0.531695 |
| 271 | 3342.2 | 226.30 | 79.20 | 0.56267657 | 0.534322 |
| 272 | 3351.4 | 226.68 | 79.56 | 0.56422528 | 0.536703 |
| 273 | 3365.7 | 227.28 | 80.11 | 0.56663274 | 0.540401 |
| 274 | 3374.2 | 227.63 | 80.43 | 0.5680619  | 0.542596 |
| 275 | 3382.1 | 227.95 | 80.73 | 0.56938138 | 0.544621 |
| 276 | 3395.0 | 228.47 | 81.23 | 0.57155354 | 0.547954 |
| 277 | 3404.9 | 228.87 | 81.61 | 0.57322802 | 0.550522 |
| 278 | 3414.3 | 229.24 | 81.96 | 0.57480891 | 0.552945 |
| 279 | 3422.7 | 229.58 | 82.28 | 0.57621805 | 0.555104 |
| 280 | 3434.0 | 230.02 | 82.72 | 0.57813188 | 0.558035 |
| 281 | 3440.2 | 230.27 | 82.96 | 0.57917784 | 0.559636 |
| 282 | 3452.6 | 230.75 | 83.43 | 0.58125702 | 0.562816 |
| 283 | 3464.8 | 231.22 | 83.89 | 0.58331336 | 0.56596  |
| 284 | 3473.0 | 231.53 | 84.21 | 0.58469963 | 0.568077 |
| 285 | 3481.0 | 231.84 | 84.51 | 0.586043   | 0.570128 |
| 286 | 3491.8 | 232.24 | 84.92 | 0.58785996 | 0.5729   |
| 287 | 3500.3 | 232.56 | 85.24 | 0.5892822  | 0.575069 |

|     |        |        |        |            |          |
|-----|--------|--------|--------|------------|----------|
| 288 | 3512.5 | 233.01 | 85.71  | 0.59133503 | 0.578197 |
| 289 | 3522.1 | 233.37 | 86.07  | 0.59295458 | 0.580662 |
| 290 | 3533.2 | 233.78 | 86.50  | 0.59483041 | 0.583515 |
| 291 | 3542.5 | 234.11 | 86.85  | 0.59639184 | 0.585889 |
| 292 | 3550.8 | 234.41 | 87.16  | 0.59778223 | 0.588    |
| 293 | 3565.1 | 234.92 | 87.70  | 0.60019868 | 0.591667 |
| 294 | 3573.0 | 235.20 | 88.00  | 0.60152947 | 0.593684 |
| 295 | 3584.0 | 235.59 | 88.42  | 0.60338595 | 0.596495 |
| 296 | 3594.8 | 235.96 | 88.83  | 0.6051993  | 0.599239 |
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| 298 | 3614.3 | 236.63 | 89.56  | 0.60847269 | 0.604184 |
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| 300 | 3630.4 | 237.18 | 90.17  | 0.61119156 | 0.608284 |
| 301 | 3643.2 | 237.60 | 90.65  | 0.61334887 | 0.611533 |
| 302 | 3651.2 | 237.87 | 90.95  | 0.61468977 | 0.61355  |
| 303 | 3665.1 | 238.32 | 91.47  | 0.61704063 | 0.617081 |
| 304 | 3674.7 | 238.63 | 91.83  | 0.61864251 | 0.619484 |
| 305 | 3683.3 | 238.91 | 92.15  | 0.6200957  | 0.621662 |
| 306 | 3691.6 | 239.18 | 92.46  | 0.62149975 | 0.623764 |
| 307 | 3701.4 | 239.49 | 92.83  | 0.6231457  | 0.626226 |
| 308 | 3711.8 | 239.81 | 93.22  | 0.62489778 | 0.628843 |
| 309 | 3725.2 | 240.23 | 93.72  | 0.62715783 | 0.632214 |
| 310 | 3731.7 | 240.43 | 93.95  | 0.62823756 | 0.633822 |
| 311 | 3744.7 | 240.83 | 94.44  | 0.63043879 | 0.637096 |
| 312 | 3751.9 | 241.04 | 94.71  | 0.63164719 | 0.638892 |
| 313 | 3764.7 | 241.42 | 95.18  | 0.63379818 | 0.642083 |
| 314 | 3771.2 | 241.62 | 95.42  | 0.63489635 | 0.64371  |
| 315 | 3784.1 | 242.00 | 95.90  | 0.63707508 | 0.646933 |
| 316 | 3795.3 | 242.32 | 96.31  | 0.63895304 | 0.649707 |
| 317 | 3804.9 | 242.60 | 96.66  | 0.64057135 | 0.652094 |
| 318 | 3812.3 | 242.80 | 96.93  | 0.64180769 | 0.653915 |
| 319 | 3824.9 | 243.16 | 97.40  | 0.64393811 | 0.657048 |
| 320 | 3831.9 | 243.35 | 97.65  | 0.64510947 | 0.658768 |
| 321 | 3842.7 | 243.65 | 98.05  | 0.64692979 | 0.661437 |
| 322 | 3851.9 | 243.91 | 98.39  | 0.6484901  | 0.663721 |
| 323 | 3860.9 | 244.15 | 98.71  | 0.64999691 | 0.665924 |
| 324 | 3873.4 | 244.48 | 99.17  | 0.65210361 | 0.668998 |
| 325 | 3885.3 | 244.80 | 99.60  | 0.65409867 | 0.671903 |
| 326 | 3893.1 | 245.00 | 99.88  | 0.65541128 | 0.673811 |
| 327 | 3903.8 | 245.28 | 100.27 | 0.65722764 | 0.676447 |
| 328 | 3912.6 | 245.50 | 100.59 | 0.65870537 | 0.678588 |
| 329 | 3923.4 | 245.77 | 100.98 | 0.66052277 | 0.681217 |
| 330 | 3934.4 | 246.05 | 101.37 | 0.66236951 | 0.683882 |
| 331 | 3940.3 | 246.19 | 101.59 | 0.6633646  | 0.685316 |
| 332 | 3955.2 | 246.56 | 102.12 | 0.66586772 | 0.688916 |
| 333 | 3965.2 | 246.80 | 102.48 | 0.66755815 | 0.691342 |
| 334 | 3975.3 | 247.04 | 102.84 | 0.66926309 | 0.693784 |
| 335 | 3982.1 | 247.20 | 103.08 | 0.67039649 | 0.695404 |
| 336 | 3993.8 | 247.47 | 103.50 | 0.67237587 | 0.698229 |
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| 338 | 4013.3 | 247.92 | 104.19 | 0.67565724 | 0.702896 |



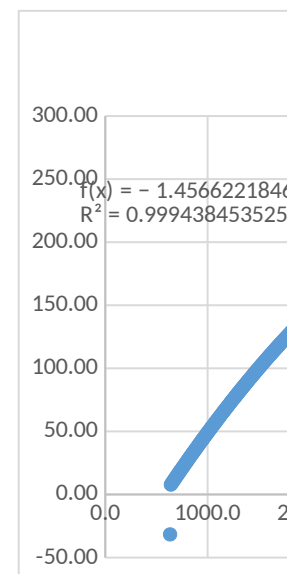
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|-----|--------|--------|--------|------------|----------|
| 339 | 4022.5 | 248.12 | 104.52 | 0.67719753 | 0.705081 |
| 340 | 4035.2 | 248.40 | 104.97 | 0.67933702 | 0.708108 |
| 341 | 4042.5 | 248.56 | 105.22 | 0.68057188 | 0.709852 |
| 342 | 4051.3 | 248.75 | 105.53 | 0.68205493 | 0.711942 |
| 343 | 4065.5 | 249.05 | 106.03 | 0.68443852 | 0.715293 |
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| 347 | 4104.7 | 249.85 | 107.40 | 0.69104256 | 0.724521 |
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| 352 | 4153.9 | 250.80 | 109.10 | 0.6993321  | 0.735982 |
| 353 | 4160.6 | 250.92 | 109.33 | 0.70045755 | 0.737527 |
| 354 | 4171.3 | 251.11 | 109.69 | 0.70225726 | 0.739993 |
| 355 | 4183.5 | 251.33 | 110.11 | 0.70430265 | 0.742787 |
| 356 | 4191.4 | 251.47 | 110.38 | 0.70563812 | 0.744606 |
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| 358 | 4214.9 | 251.87 | 111.17 | 0.70959621 | 0.749976 |
| 359 | 4223.1 | 252.01 | 111.45 | 0.71097141 | 0.751834 |
| 360 | 4231.8 | 252.15 | 111.74 | 0.71243746 | 0.753809 |
| 361 | 4242.5 | 252.32 | 112.10 | 0.7142428  | 0.756236 |
| 362 | 4254.2 | 252.50 | 112.49 | 0.71620995 | 0.758871 |
| 363 | 4262.4 | 252.63 | 112.76 | 0.71758405 | 0.760707 |
| 364 | 4272.6 | 252.79 | 113.10 | 0.71931318 | 0.76301  |
| 365 | 4281.2 | 252.91 | 113.39 | 0.72075188 | 0.764922 |
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| 369 | 4322.4 | 253.50 | 114.74 | 0.72769748 | 0.774081 |
| 370 | 4334.6 | 253.66 | 115.14 | 0.72974565 | 0.77676  |
| 371 | 4344.4 | 253.79 | 115.46 | 0.73139775 | 0.778913 |
| 372 | 4351.1 | 253.88 | 115.68 | 0.73253107 | 0.780386 |
| 373 | 4361.4 | 254.01 | 116.01 | 0.73426234 | 0.78263  |
| 374 | 4372.0 | 254.14 | 116.35 | 0.73603493 | 0.78492  |
| 375 | 4384.9 | 254.29 | 116.77 | 0.73821171 | 0.787722 |
| 376 | 4391.2 | 254.36 | 116.97 | 0.73926733 | 0.789076 |
| 377 | 4403.9 | 254.51 | 117.37 | 0.74141052 | 0.791816 |
| 378 | 4414.9 | 254.63 | 117.72 | 0.7432689  | 0.794182 |
| 379 | 4421.7 | 254.71 | 117.94 | 0.74441068 | 0.795632 |
| 380 | 4434.2 | 254.84 | 118.33 | 0.74650681 | 0.798284 |
| 381 | 4442.3 | 254.92 | 118.59 | 0.74787933 | 0.800014 |
| 382 | 4450.8 | 255.01 | 118.85 | 0.74930255 | 0.801802 |
| 383 | 4463.1 | 255.13 | 119.24 | 0.75137208 | 0.804393 |
| 384 | 4475.0 | 255.24 | 119.61 | 0.75338205 | 0.806899 |
| 385 | 4483.8 | 255.32 | 119.88 | 0.75486327 | 0.808738 |
| 386 | 4491.2 | 255.38 | 120.11 | 0.75610473 | 0.810274 |
| 387 | 4504.0 | 255.49 | 120.50 | 0.7582586  | 0.81293  |
| 388 | 4512.3 | 255.56 | 120.76 | 0.75965944 | 0.81465  |
| 389 | 4520.5 | 255.63 | 121.01 | 0.761043   | 0.816344 |

|     |        |        |        |            |          |
|-----|--------|--------|--------|------------|----------|
| 390 | 4531.4 | 255.71 | 121.34 | 0.76288278 | 0.818588 |
| 391 | 4542.1 | 255.79 | 121.66 | 0.76467387 | 0.820762 |
| 392 | 4554.5 | 255.88 | 122.04 | 0.76676    | 0.823284 |
| 393 | 4561.5 | 255.92 | 122.25 | 0.7679529  | 0.82472  |
| 394 | 4571.0 | 255.99 | 122.54 | 0.76955194 | 0.826638 |
| 395 | 4583.3 | 256.06 | 122.90 | 0.77160872 | 0.829094 |
| 396 | 4594.7 | 256.13 | 123.24 | 0.77353317 | 0.831381 |
| 397 | 4603.2 | 256.18 | 123.49 | 0.77495924 | 0.833068 |
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| 399 | 4625.5 | 256.29 | 124.14 | 0.77872483 | 0.837494 |
| 400 | 4631.3 | 256.32 | 124.31 | 0.77970148 | 0.838635 |
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| 403 | 4662.7 | 256.45 | 125.22 | 0.78498141 | 0.84475  |
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| 405 | 4685.1 | 256.53 | 125.86 | 0.78875093 | 0.849063 |
| 406 | 4692.0 | 256.55 | 126.06 | 0.78991472 | 0.850385 |
| 407 | 4700.6 | 256.58 | 126.30 | 0.79135721 | 0.852017 |
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| 409 | 4724.8 | 256.63 | 126.98 | 0.79543859 | 0.8566   |
| 410 | 4733.2 | 256.65 | 127.21 | 0.79685799 | 0.858181 |
| 411 | 4744.3 | 256.67 | 127.52 | 0.79872223 | 0.860247 |
| 412 | 4753.2 | 256.68 | 127.76 | 0.8002117  | 0.86189  |
| 413 | 4765.3 | 256.69 | 128.09 | 0.80226226 | 0.864139 |
| 414 | 4775.6 | 256.70 | 128.37 | 0.80398223 | 0.866014 |
| 415 | 4782.3 | 256.70 | 128.56 | 0.80511889 | 0.867248 |
| 416 | 4795.6 | 256.70 | 128.91 | 0.80735585 | 0.869663 |
| 417 | 4804.1 | 256.70 | 129.14 | 0.80878653 | 0.871199 |
| 418 | 4813.5 | 256.69 | 129.39 | 0.81036515 | 0.872885 |
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| 420 | 4831.7 | 256.68 | 129.87 | 0.81343064 | 0.876135 |
| 421 | 4841.5 | 256.67 | 130.13 | 0.81508977 | 0.87788  |
| 422 | 4851.5 | 256.65 | 130.39 | 0.81676856 | 0.879635 |
| 423 | 4861.5 | 256.63 | 130.65 | 0.81845608 | 0.88139  |
| 424 | 4871.7 | 256.61 | 130.91 | 0.82016358 | 0.883155 |
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| 426 | 4893.0 | 256.56 | 131.46 | 0.82375989 | 0.886838 |
| 427 | 4900.6 | 256.53 | 131.65 | 0.82503171 | 0.888129 |
| 428 | 4911.5 | 256.50 | 131.93 | 0.82687534 | 0.88999  |
| 429 | 4920.5 | 256.47 | 132.15 | 0.82838465 | 0.891504 |
| 430 | 4935.2 | 256.41 | 132.52 | 0.83086671 | 0.893976 |
| 431 | 4943.8 | 256.37 | 132.73 | 0.83230033 | 0.895393 |
| 432 | 4953.3 | 256.33 | 132.96 | 0.83390071 | 0.896965 |
| 433 | 4961.3 | 256.29 | 133.16 | 0.83524808 | 0.898282 |
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| 435 | 4985.6 | 256.17 | 133.74 | 0.83934012 | 0.902238 |
| 436 | 4992.3 | 256.13 | 133.90 | 0.84046918 | 0.903318 |
| 437 | 5004.5 | 256.06 | 134.19 | 0.84253106 | 0.905277 |
| 438 | 5015.3 | 255.99 | 134.45 | 0.84435181 | 0.906994 |
| 439 | 5024.3 | 255.93 | 134.66 | 0.84585417 | 0.908401 |
| 440 | 5030.8 | 255.89 | 134.81 | 0.84696102 | 0.909431 |

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| 441 | 5043.6 | 255.80 | 135.10 | 0.84910865 | 0.911417 |
| 442 | 5051.5 | 255.74 | 135.28 | 0.85043089 | 0.912631 |
| 443 | 5064.5 | 255.64 | 135.58 | 0.85262283 | 0.914627 |
| 444 | 5074.7 | 255.56 | 135.81 | 0.85434686 | 0.916184 |
| 445 | 5084.7 | 255.47 | 136.03 | 0.85603097 | 0.917693 |
| 446 | 5091.6 | 255.42 | 136.18 | 0.85718262 | 0.918718 |
| 447 | 5105.2 | 255.30 | 136.49 | 0.85947854 | 0.920746 |
| 448 | 5114.7 | 255.21 | 136.69 | 0.86107521 | 0.922143 |
| 449 | 5124.1 | 255.12 | 136.90 | 0.86266347 | 0.923522 |
| 450 | 5134.3 | 255.02 | 137.11 | 0.86437028 | 0.924993 |
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| 453 | 5162.3 | 254.73 | 137.71 | 0.86909913 | 0.929004 |
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| 457 | 5205.4 | 254.25 | 138.59 | 0.87634297 | 0.934963 |
| 458 | 5211.4 | 254.18 | 138.71 | 0.87735052 | 0.935774 |
| 459 | 5220.3 | 254.07 | 138.89 | 0.87886505 | 0.936984 |
| 460 | 5231.4 | 253.93 | 139.11 | 0.8807211  | 0.938454 |
| 461 | 5243.0 | 253.78 | 139.34 | 0.88267205 | 0.939983 |
| 462 | 5250.6 | 253.68 | 139.48 | 0.88395808 | 0.940982 |
| 463 | 5264.8 | 253.49 | 139.76 | 0.88634956 | 0.942819 |
| 464 | 5271.1 | 253.41 | 139.88 | 0.88740379 | 0.943621 |
| 465 | 5285.5 | 253.20 | 140.15 | 0.8898301  | 0.945448 |
| 466 | 5293.3 | 253.09 | 140.29 | 0.89114138 | 0.946424 |
| 467 | 5300.5 | 252.99 | 140.42 | 0.89235918 | 0.947323 |
| 468 | 5310.6 | 252.84 | 140.61 | 0.89406233 | 0.94857  |
| 469 | 5321.7 | 252.67 | 140.81 | 0.89593413 | 0.949925 |
| 470 | 5335.0 | 252.47 | 141.05 | 0.8981588  | 0.951514 |
| 471 | 5342.8 | 252.34 | 141.18 | 0.89948123 | 0.952448 |
| 472 | 5353.6 | 252.17 | 141.37 | 0.90129688 | 0.953718 |
| 473 | 5362.8 | 252.02 | 141.53 | 0.90284888 | 0.95479  |
| 474 | 5372.9 | 251.85 | 141.70 | 0.90454743 | 0.955951 |
| 475 | 5383.1 | 251.68 | 141.88 | 0.90626773 | 0.957113 |
| 476 | 5393.6 | 251.50 | 142.05 | 0.90803674 | 0.958294 |
| 477 | 5400.9 | 251.37 | 142.17 | 0.90926757 | 0.959106 |
| 478 | 5415.0 | 251.12 | 142.40 | 0.91162796 | 0.960644 |
| 479 | 5423.0 | 250.98 | 142.53 | 0.91298242 | 0.961515 |
| 480 | 5432.5 | 250.80 | 142.68 | 0.91458652 | 0.962534 |
| 481 | 5442.4 | 250.62 | 142.84 | 0.91625653 | 0.963583 |
| 482 | 5454.7 | 250.39 | 143.02 | 0.91831949 | 0.964859 |
| 483 | 5462.0 | 250.25 | 143.13 | 0.91954177 | 0.965605 |
| 484 | 5472.9 | 250.03 | 143.30 | 0.92138588 | 0.966717 |
| 485 | 5483.0 | 249.84 | 143.45 | 0.92307508 | 0.967721 |
| 486 | 5491.8 | 249.66 | 143.58 | 0.9245653  | 0.968596 |
| 487 | 5504.9 | 249.39 | 143.77 | 0.92676325 | 0.969865 |
| 488 | 5510.6 | 249.27 | 143.85 | 0.9277241  | 0.970412 |
| 489 | 5524.4 | 248.99 | 144.04 | 0.93004942 | 0.971717 |
| 490 | 5535.2 | 248.76 | 144.19 | 0.93186315 | 0.972717 |
| 491 | 5542.2 | 248.60 | 144.29 | 0.9330575  | 0.973365 |

|     |        |        |        |            |          |
|-----|--------|--------|--------|------------|----------|
| 492 | 5555.0 | 248.33 | 144.46 | 0.93520635 | 0.974515 |
| 493 | 5564.9 | 248.11 | 144.58 | 0.93686659 | 0.975387 |
| 494 | 5574.5 | 247.89 | 144.71 | 0.93848225 | 0.976222 |
| 495 | 5582.7 | 247.71 | 144.81 | 0.93986686 | 0.976927 |
| 496 | 5590.9 | 247.52 | 144.92 | 0.9412572  | 0.977624 |
| 497 | 5602.8 | 247.24 | 145.06 | 0.94325558 | 0.97861  |
| 498 | 5610.9 | 247.05 | 145.16 | 0.94460756 | 0.979265 |
| 499 | 5625.3 | 246.71 | 145.33 | 0.94704292 | 0.980421 |
| 500 | 5634.0 | 246.50 | 145.43 | 0.94850817 | 0.981101 |
| 501 | 5642.9 | 246.28 | 145.53 | 0.95000342 | 0.981784 |
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| 503 | 5663.3 | 245.78 | 145.76 | 0.95343341 | 0.983305 |
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| 505 | 5684.7 | 245.23 | 145.99 | 0.95703772 | 0.984836 |
| 506 | 5692.5 | 245.03 | 146.07 | 0.95834618 | 0.985375 |
| 507 | 5703.0 | 244.76 | 146.17 | 0.96011575 | 0.986089 |
| 508 | 5715.0 | 244.44 | 146.29 | 0.96213448 | 0.986882 |
| 509 | 5721.6 | 244.26 | 146.35 | 0.96324941 | 0.987311 |
| 510 | 5735.4 | 243.89 | 146.48 | 0.96557233 | 0.988182 |
| 511 | 5741.7 | 243.72 | 146.54 | 0.96664428 | 0.988575 |
| 512 | 5752.0 | 243.43 | 146.63 | 0.96836902 | 0.989192 |
| 513 | 5762.0 | 243.16 | 146.72 | 0.97004913 | 0.989778 |
| 514 | 5773.9 | 242.82 | 146.82 | 0.97205294 | 0.990457 |
| 515 | 5783.7 | 242.54 | 146.90 | 0.97370307 | 0.990999 |
| 516 | 5790.9 | 242.33 | 146.96 | 0.97492399 | 0.99139  |
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| 518 | 5813.8 | 241.67 | 147.13 | 0.97877326 | 0.992568 |
| 519 | 5822.6 | 241.41 | 147.20 | 0.98025565 | 0.993    |
| 520 | 5833.3 | 241.09 | 147.27 | 0.98205619 | 0.993507 |
| 521 | 5841.0 | 240.86 | 147.32 | 0.98335104 | 0.993861 |
| 522 | 5852.0 | 240.52 | 147.40 | 0.98520384 | 0.99435  |
| 523 | 5861.9 | 240.22 | 147.46 | 0.98686621 | 0.994772 |
| 524 | 5871.1 | 239.93 | 147.51 | 0.98841965 | 0.995152 |
| 525 | 5883.6 | 239.54 | 147.59 | 0.99052435 | 0.995645 |
| 526 | 5894.8 | 239.19 | 147.65 | 0.99241166 | 0.996065 |
| 527 | 5901.5 | 238.97 | 147.69 | 0.99353164 | 0.996304 |
| 528 | 5913.2 | 238.59 | 147.75 | 0.9955143  | 0.99671  |
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| 530 | 5933.2 | 237.94 | 147.84 | 0.9988696  | 0.997344 |
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| 532 | 5953.1 | 237.28 | 147.92 | 1.00223466 | 0.997913 |
| 533 | 5962.0 | 236.98 | 147.96 | 1.00372628 | 0.998144 |
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| 542 | 6050.4 | 233.89 | 148.19 | 1.01860361 | 0.999711 |

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|-----|--------|--------|--------|------------|----------|
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| 544 | 6071.4 | 233.12 | 148.22 | 1.02214647 | 0.999885 |
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| 557 | 6202.7 | 228.03 | 148.11 | 1.04424359 | 0.999187 |
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**$\Sigma$  squares**<sub>max</sub>

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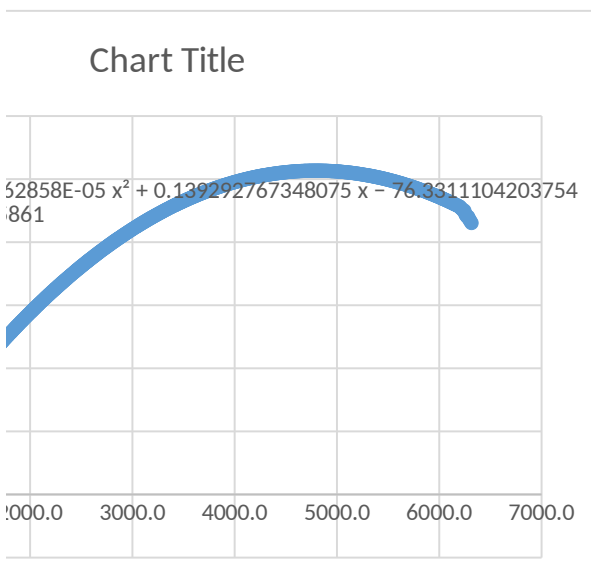
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## Marine SI Engine Map Data Sheet (40 CFR 1065.510)

Regulatory references: 40 CFR 1065.510 and 1065.511

|        |   |
|--------|---|
|        | Engine Family   |
|        | Date of Map   |
|        | Ambient Conditions of Engine Map  |
|        | Barometer   |
|        | Temperature   |
|        | Humidity  |
|        | Indicate Step or Continuous Sweep Map (1065(b)(5)(i))   |
|        | Record Checkpoint Speed   |
|        | <b>If Checkpoint Speed Not Achieved, Provide explanation</b>  |
| YES/NO | Unsafe-- (you should describe why it is unsafe)   |
| YES/NO | Unachievable (rev Limiter or Governor)  |
|        | <b>If Engine Governed indicate Speed Setting</b>  |
| YES/NO | Governor?   |
| YES/NO | Rev Limiter?  |
|        | Speed Setting of Above  |
|        | <b>Describe the method of speed limitation</b>  |
|        | <b>Describe how you notify your customers or the installer of a pro<br/>speed range this engine can be operated, and what maximum r</b>   |
|        | <b>On The Map Data Sheet, Identify the following values from 1065.510:</b>  |
|        | $P_{max}$   |
|        | High and Low values of 98% $P_{max}$ (interpolate if needed)  |
|        | $F_n P_{max}$   |
|        | Maximum Value of $\Sigma(P_{norm}^2 + f_{norm}^2)$  |
|        | High and low 98% points of $\Sigma(P_{norm}^2 + f_{norm}^2)$ (interpolate if neces  |
|        | $f_{ntest,}$ maximum test speed   |
|        | If the provisions of 1045.501(f) is used, state the declared Maxim<br>of the measured maximum test speed)   |
|        | Additionally you should supply the following information in spec<br>Provide the timebase, speed, load, and power data for the powe  |
|        | Show your work in tabulating $P_{norm}$ (notmalized power) and $f_{norm}$ (   |
|        | Show your work in tabulating $\Sigma(P_{norm}^2 + f_{norm}^2)$  |
|        | Identify all of the above values in the analysis  |
|        | If you cannot identify the higher 98% power or higher 98% $\Sigma(P_{nor}$<br>terminated too soon for safety reasons, you may use the nomina<br>calculation purposes. You are attesting with this application that<br>and functioning for this family's production and at the stated nor<br>engines would be limited in this way. |

|  |  |
|--|--|
|  |  |
|  | If any alternate procedures were used in mapping the engine, including 1065.510(b)(5)(iv), or any other regulatory provision, you should request approval. |

FR 1045)

5.610

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top of the engine into a vessel, of the recommended speed is?

5.610:

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sary)

imum Test Speed (it must be within 500 rpm

adsheet format:

r map on the noted worksheet

normalized speed).

$f_m^2 + f_{norm}^2$ ) value, because the map  
l governor or rev limiter speed for  
: this speed limiting function is installed  
ninal speed, and it is expected that in-use

**Paperwork Re**

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1/31/2022  
EPA Form 5900-459

cluding as provided for in 1065.10 or  
describe the procedure and contact EPA

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