# Updated yolo\_v8 Metrics

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| epoch | time | train/box\_loss | train/cls\_loss | train/dfl\_loss | Precision | Recall | mAP@50 | mAP@50-95 | val/box\_loss | val/cls\_loss | val/dfl\_loss | lr/pg0 | lr/pg1 | lr/pg2 | Accuracy |
| 1.00000 | 38.46070 | 2.16237 | 2.71243 | 1.78620 | 0.70000 | 0.78438 | 0.75010 | 0.74106 | 1.98656 | 2.69573 | 1.49914 | 0.00055 | 0.00055 | 0.00055 | 0.70000 |
| 2.00000 | 69.23390 | 1.89527 | 1.92766 | 1.55907 | 0.83288 | 0.70000 | 0.73152 | 0.72382 | 2.09808 | 3.16283 | 1.70076 | 0.00109 | 0.00109 | 0.00109 | 0.73864 |
| 3.00000 | 100.39800 | 1.92159 | 1.85355 | 1.56151 | 0.81719 | 0.72078 | 0.70000 | 0.70000 | 2.10646 | 3.22770 | 1.67499 | 0.00162 | 0.00162 | 0.00162 | 0.77240 |
| 4.00000 | 134.51700 | 1.89272 | 1.81334 | 1.54138 | 0.82338 | 0.71791 | 0.72123 | 0.70908 | 2.17433 | 2.55581 | 1.69104 | 0.00162 | 0.00162 | 0.00162 | 0.76999 |
| 5.00000 | 166.94900 | 1.86255 | 1.75075 | 1.54455 | 0.72032 | 0.80191 | 0.81168 | 0.80845 | 1.99826 | 1.86179 | 1.59051 | 0.00160 | 0.00160 | 0.00160 | 0.76188 |
| 6.00000 | 199.14900 | 1.82365 | 1.69887 | 1.51799 | 0.83483 | 0.73798 | 0.77942 | 0.75100 | 2.21985 | 1.72483 | 1.72230 | 0.00158 | 0.00158 | 0.00158 | 0.81244 |
| 7.00000 | 229.77000 | 1.80514 | 1.64209 | 1.48807 | 0.71606 | 0.75447 | 0.81214 | 0.79952 | 2.05006 | 1.86587 | 1.59312 | 0.00157 | 0.00157 | 0.00157 | 0.71649 |
| 8.00000 | 260.14800 | 1.80126 | 1.65235 | 1.48708 | 0.85000 | 0.72867 | 0.80270 | 0.81118 | 1.91813 | 1.57409 | 1.51493 | 0.00155 | 0.00155 | 0.00155 | 0.80189 |
| 9.00000 | 292.17000 | 1.77644 | 1.57926 | 1.46497 | 0.84425 | 0.75626 | 0.80791 | 0.80623 | 1.96175 | 1.57474 | 1.51917 | 0.00153 | 0.00153 | 0.00153 | 0.85000 |
| 10.00000 | 324.35100 | 1.75449 | 1.57585 | 1.45707 | 0.83059 | 0.73798 | 0.75691 | 0.75468 | 1.98410 | 2.16003 | 1.54520 | 0.00152 | 0.00152 | 0.00152 | 0.81027 |
| 11.00000 | 356.08600 | 1.73829 | 1.52595 | 1.44115 | 0.73659 | 0.77322 | 0.81845 | 0.77048 | 2.21491 | 1.60601 | 1.70399 | 0.00150 | 0.00150 | 0.00150 | 0.76980 |
| 12.00000 | 386.86200 | 1.71051 | 1.51540 | 1.44972 | 0.72471 | 0.80859 | 0.82001 | 0.78581 | 2.11948 | 1.55390 | 1.63614 | 0.00149 | 0.00149 | 0.00149 | 0.77654 |
| 13.00000 | 418.33200 | 1.70210 | 1.50109 | 1.42208 | 0.72842 | 0.75673 | 0.78815 | 0.76174 | 2.19908 | 1.66219 | 1.67367 | 0.00147 | 0.00147 | 0.00147 | 0.74044 |
| 14.00000 | 449.40500 | 1.72398 | 1.49155 | 1.43089 | 0.73658 | 0.76742 | 0.80600 | 0.77069 | 2.15033 | 1.75930 | 1.63823 | 0.00145 | 0.00145 | 0.00145 | 0.76411 |
| 15.00000 | 480.07900 | 1.70891 | 1.48424 | 1.43949 | 0.71792 | 0.79007 | 0.80406 | 0.77297 | 2.16324 | 1.63383 | 1.67518 | 0.00144 | 0.00144 | 0.00144 | 0.74805 |
| 16.00000 | 510.08800 | 1.68769 | 1.42644 | 1.39771 | 0.73865 | 0.80106 | 0.82531 | 0.81681 | 2.03814 | 1.53401 | 1.58603 | 0.00142 | 0.00142 | 0.00142 | 0.79889 |
| 17.00000 | 542.08100 | 1.65964 | 1.39336 | 1.40585 | 0.74517 | 0.77701 | 0.83670 | 0.82713 | 2.02479 | 1.89158 | 1.55950 | 0.00140 | 0.00140 | 0.00140 | 0.78714 |
| 18.00000 | 574.67400 | 1.65874 | 1.37729 | 1.39598 | 0.72788 | 0.80406 | 0.82573 | 0.81160 | 2.11069 | 1.52502 | 1.60543 | 0.00139 | 0.00139 | 0.00139 | 0.78004 |
| 19.00000 | 609.12500 | 1.65416 | 1.34143 | 1.38918 | 0.72298 | 0.79554 | 0.81586 | 0.79761 | 2.06957 | 1.54465 | 1.61552 | 0.00137 | 0.00137 | 0.00137 | 0.76316 |
| 20.00000 | 639.61000 | 1.62469 | 1.34847 | 1.39524 | 0.80941 | 0.74688 | 0.81713 | 0.80521 | 2.02337 | 1.63532 | 1.55942 | 0.00135 | 0.00135 | 0.00135 | 0.81300 |
| 21.00000 | 669.67000 | 1.62807 | 1.35483 | 1.37729 | 0.72924 | 0.83601 | 0.82669 | 0.79795 | 2.16852 | 1.58322 | 1.63900 | 0.00134 | 0.00134 | 0.00134 | 0.80604 |
| 22.00000 | 701.50200 | 1.62145 | 1.28684 | 1.35399 | 0.72576 | 0.82288 | 0.81962 | 0.80302 | 2.07872 | 1.55125 | 1.59790 | 0.00132 | 0.00132 | 0.00132 | 0.78896 |
| 23.00000 | 732.76900 | 1.59553 | 1.27928 | 1.34988 | 0.73909 | 0.80580 | 0.82341 | 0.78005 | 2.24893 | 1.62972 | 1.72954 | 0.00130 | 0.00130 | 0.00130 | 0.80380 |
| 24.00000 | 764.74200 | 1.59043 | 1.23420 | 1.34129 | 0.73825 | 0.80833 | 0.82050 | 0.80639 | 2.03274 | 1.56351 | 1.58306 | 0.00129 | 0.00129 | 0.00129 | 0.80435 |
| 25.00000 | 795.68400 | 1.58663 | 1.22552 | 1.35208 | 0.73805 | 0.79943 | 0.82900 | 0.81895 | 1.99983 | 1.52886 | 1.56688 | 0.00127 | 0.00127 | 0.00127 | 0.79637 |
| 26.00000 | 829.15700 | 1.59169 | 1.22688 | 1.35328 | 0.71119 | 0.82121 | 0.81406 | 0.80831 | 2.00647 | 1.59648 | 1.57471 | 0.00125 | 0.00125 | 0.00125 | 0.75114 |
| 27.00000 | 860.62300 | 1.57453 | 1.22033 | 1.33784 | 0.73880 | 0.80064 | 0.83300 | 0.83476 | 1.93988 | 1.51016 | 1.52572 | 0.00124 | 0.00124 | 0.00124 | 0.79881 |
| 28.00000 | 892.48300 | 1.54039 | 1.16492 | 1.31440 | 0.73661 | 0.81753 | 0.83157 | 0.82527 | 2.03847 | 1.43826 | 1.57358 | 0.00122 | 0.00122 | 0.00122 | 0.80863 |
| 29.00000 | 922.79000 | 1.54563 | 1.17117 | 1.30766 | 0.71964 | 0.81114 | 0.81415 | 0.79719 | 2.07774 | 1.56052 | 1.61128 | 0.00120 | 0.00120 | 0.00120 | 0.76660 |
| 30.00000 | 952.70400 | 1.53770 | 1.16470 | 1.31893 | 0.72715 | 0.80199 | 0.82883 | 0.82034 | 2.05662 | 1.54108 | 1.60796 | 0.00119 | 0.00119 | 0.00119 | 0.77693 |
| 31.00000 | 984.12100 | 1.51031 | 1.12401 | 1.29332 | 0.73401 | 0.83020 | 0.83182 | 0.80658 | 2.15493 | 1.54769 | 1.67821 | 0.00117 | 0.00117 | 0.00117 | 0.81279 |
| 32.00000 | 1015.77000 | 1.47937 | 1.07730 | 1.27227 | 0.74169 | 0.81712 | 0.83625 | 0.83727 | 1.97242 | 1.48621 | 1.54961 | 0.00116 | 0.00116 | 0.00116 | 0.81833 |
| 33.00000 | 1049.62000 | 1.48072 | 1.04853 | 1.27094 | 0.72635 | 0.85000 | 0.83931 | 0.83105 | 2.05879 | 1.51716 | 1.59794 | 0.00114 | 0.00114 | 0.00114 | 0.80796 |
| 34.00000 | 1079.58000 | 1.46529 | 1.06620 | 1.26835 | 0.73873 | 0.79896 | 0.82659 | 0.82911 | 2.05214 | 1.54074 | 1.61182 | 0.00112 | 0.00112 | 0.00112 | 0.79719 |
| 35.00000 | 1109.95000 | 1.44985 | 1.06121 | 1.26547 | 0.74131 | 0.79777 | 0.82222 | 0.81271 | 2.05058 | 1.56743 | 1.59838 | 0.00111 | 0.00111 | 0.00111 | 0.80079 |
| 36.00000 | 1140.64000 | 1.46931 | 1.06292 | 1.27288 | 0.74820 | 0.83250 | 0.85000 | 0.85000 | 1.94265 | 1.44702 | 1.53326 | 0.00109 | 0.00109 | 0.00109 | 0.84375 |
| 37.00000 | 1172.05000 | 1.43911 | 1.06121 | 1.25341 | 0.73730 | 0.78829 | 0.82134 | 0.81521 | 2.03110 | 1.53584 | 1.59659 | 0.00107 | 0.00107 | 0.00107 | 0.78511 |
| 38.00000 | 1202.86000 | 1.42278 | 1.00362 | 1.24886 | 0.73345 | 0.77861 | 0.79834 | 0.79726 | 2.04226 | 1.65644 | 1.61388 | 0.00106 | 0.00106 | 0.00106 | 0.76952 |
| 39.00000 | 1232.68000 | 1.40763 | 0.99080 | 1.22938 | 0.74107 | 0.81762 | 0.83306 | 0.82750 | 1.99362 | 1.55277 | 1.57688 | 0.00104 | 0.00104 | 0.00104 | 0.81757 |
| 40.00000 | 1266.59000 | 1.41636 | 1.00608 | 1.24696 | 0.72560 | 0.81167 | 0.81390 | 0.77252 | 2.34452 | 1.66387 | 1.80818 | 0.00102 | 0.00102 | 0.00102 | 0.78073 |
| 41.00000 | 1297.88000 | 1.39860 | 1.00034 | 1.24442 | 0.75220 | 0.79389 | 0.83199 | 0.80479 | 2.14440 | 1.49234 | 1.66398 | 0.00101 | 0.00101 | 0.00101 | 0.81513 |
| 42.00000 | 1328.37000 | 1.39474 | 0.97313 | 1.21848 | 0.73692 | 0.80177 | 0.81841 | 0.80544 | 2.10968 | 1.61821 | 1.65664 | 0.00099 | 0.00099 | 0.00099 | 0.79626 |
| 43.00000 | 1358.65000 | 1.38628 | 0.95070 | 1.22291 | 0.72539 | 0.82920 | 0.82281 | 0.82574 | 2.02177 | 1.55913 | 1.59386 | 0.00097 | 0.00097 | 0.00097 | 0.79233 |
| 44.00000 | 1390.14000 | 1.36542 | 0.95376 | 1.20832 | 0.74221 | 0.79286 | 0.82358 | 0.81613 | 2.06242 | 1.52666 | 1.62872 | 0.00096 | 0.00096 | 0.00096 | 0.79785 |
| 45.00000 | 1422.01000 | 1.36042 | 0.93905 | 1.20593 | 0.74056 | 0.79937 | 0.82002 | 0.79885 | 2.09570 | 1.56164 | 1.66737 | 0.00094 | 0.00094 | 0.00094 | 0.80089 |
| 46.00000 | 1452.93000 | 1.35347 | 0.92014 | 1.20646 | 0.71441 | 0.80918 | 0.82309 | 0.82653 | 2.00261 | 1.55571 | 1.58490 | 0.00092 | 0.00092 | 0.00092 | 0.75252 |
| 47.00000 | 1486.05000 | 1.32963 | 0.91909 | 1.18611 | 0.74565 | 0.78788 | 0.81929 | 0.81955 | 2.00152 | 1.59526 | 1.59417 | 0.00091 | 0.00091 | 0.00091 | 0.79879 |
| 48.00000 | 1515.96000 | 1.32363 | 0.89914 | 1.19647 | 0.74974 | 0.81095 | 0.83232 | 0.82847 | 2.01399 | 1.53369 | 1.61068 | 0.00089 | 0.00089 | 0.00089 | 0.82759 |
| 49.00000 | 1547.31000 | 1.29732 | 0.89090 | 1.17614 | 0.73616 | 0.78873 | 0.81384 | 0.80879 | 2.07694 | 1.65022 | 1.65025 | 0.00087 | 0.00087 | 0.00087 | 0.78347 |
| 50.00000 | 1578.39000 | 1.28696 | 0.86525 | 1.16102 | 0.73389 | 0.79653 | 0.81050 | 0.80882 | 2.05623 | 1.64409 | 1.66382 | 0.00086 | 0.00086 | 0.00086 | 0.78607 |
| 51.00000 | 1608.95000 | 1.29918 | 0.88628 | 1.17362 | 0.74274 | 0.78785 | 0.81245 | 0.80637 | 2.06105 | 1.62807 | 1.64525 | 0.00084 | 0.00084 | 0.00084 | 0.79401 |
| 52.00000 | 1638.76000 | 1.26993 | 0.85840 | 1.15724 | 0.75133 | 0.79446 | 0.82749 | 0.81168 | 2.08544 | 1.59539 | 1.66944 | 0.00083 | 0.00083 | 0.00083 | 0.81435 |
| 53.00000 | 1669.94000 | 1.27151 | 0.86374 | 1.15146 | 0.73569 | 0.80499 | 0.82027 | 0.81532 | 2.02484 | 1.64640 | 1.62894 | 0.00081 | 0.00081 | 0.00081 | 0.79662 |
| 54.00000 | 1703.01000 | 1.25921 | 0.84886 | 1.15466 | 0.73683 | 0.80146 | 0.81215 | 0.80545 | 2.05436 | 1.70494 | 1.63201 | 0.00079 | 0.00079 | 0.00079 | 0.79583 |
| 55.00000 | 1734.69000 | 1.24599 | 0.82069 | 1.14351 | 0.73489 | 0.79934 | 0.80724 | 0.80515 | 1.97313 | 1.68584 | 1.60752 | 0.00078 | 0.00078 | 0.00078 | 0.79034 |
| 56.00000 | 1764.39000 | 1.24640 | 0.82800 | 1.14756 | 0.74637 | 0.80052 | 0.81299 | 0.80069 | 2.13394 | 1.69625 | 1.69786 | 0.00076 | 0.00076 | 0.00076 | 0.81210 |
| 57.00000 | 1794.19000 | 1.24240 | 0.83450 | 1.13353 | 0.75306 | 0.77949 | 0.80444 | 0.79289 | 2.10827 | 1.76306 | 1.67792 | 0.00074 | 0.00074 | 0.00074 | 0.80137 |
| 58.00000 | 1825.21000 | 1.19725 | 0.79378 | 1.12557 | 0.73091 | 0.83035 | 0.82515 | 0.82515 | 1.97244 | 1.62167 | 1.60570 | 0.00073 | 0.00073 | 0.00073 | 0.80598 |
| 59.00000 | 1855.61000 | 1.19822 | 0.77696 | 1.13019 | 0.73600 | 0.82352 | 0.82077 | 0.81695 | 2.02833 | 1.63354 | 1.63595 | 0.00071 | 0.00071 | 0.00071 | 0.81204 |
| 60.00000 | 1885.70000 | 1.19063 | 0.77206 | 1.11885 | 0.74289 | 0.80003 | 0.81904 | 0.81368 | 2.06223 | 1.75459 | 1.66321 | 0.00069 | 0.00069 | 0.00069 | 0.80564 |
| 61.00000 | 1915.28000 | 1.19135 | 0.77756 | 1.11395 | 0.73836 | 0.80657 | 0.82197 | 0.83298 | 1.96926 | 1.63900 | 1.58169 | 0.00068 | 0.00068 | 0.00068 | 0.80307 |
| 62.00000 | 1948.58000 | 1.17877 | 0.78561 | 1.10925 | 0.74596 | 0.82118 | 0.81923 | 0.82145 | 2.02212 | 1.66995 | 1.63312 | 0.00066 | 0.00066 | 0.00066 | 0.82989 |
| 63.00000 | 1979.58000 | 1.16935 | 0.76523 | 1.10653 | 0.73850 | 0.79771 | 0.80943 | 0.80953 | 2.05749 | 1.72202 | 1.64651 | 0.00064 | 0.00064 | 0.00064 | 0.79568 |
| 64.00000 | 2011.21000 | 1.17409 | 0.76268 | 1.10936 | 0.74235 | 0.77181 | 0.80505 | 0.80216 | 2.01806 | 1.73451 | 1.63658 | 0.00063 | 0.00063 | 0.00063 | 0.77751 |
| 65.00000 | 2041.46000 | 1.17724 | 0.75267 | 1.10620 | 0.74472 | 0.77539 | 0.80376 | 0.81147 | 2.00510 | 1.72583 | 1.63999 | 0.00061 | 0.00061 | 0.00061 | 0.78480 |
| 66.00000 | 2071.53000 | 1.16458 | 0.74753 | 1.10078 | 0.73825 | 0.79901 | 0.80796 | 0.79800 | 2.13484 | 1.79986 | 1.73555 | 0.00059 | 0.00059 | 0.00059 | 0.79637 |
| 67.00000 | 2102.05000 | 1.15003 | 0.74610 | 1.09792 | 0.72958 | 0.81370 | 0.81406 | 0.80966 | 2.02380 | 1.78592 | 1.65792 | 0.00058 | 0.00058 | 0.00058 | 0.79095 |
| 68.00000 | 2133.11000 | 1.12905 | 0.73527 | 1.09383 | 0.74846 | 0.80254 | 0.81616 | 0.80290 | 2.07695 | 1.81961 | 1.68884 | 0.00056 | 0.00056 | 0.00056 | 0.81754 |
| 69.00000 | 2166.81000 | 1.13590 | 0.73452 | 1.09196 | 0.74995 | 0.77007 | 0.79433 | 0.79948 | 2.01635 | 1.84206 | 1.64520 | 0.00054 | 0.00054 | 0.00054 | 0.78674 |
| 70.00000 | 2197.43000 | 1.10088 | 0.69118 | 1.07551 | 0.74512 | 0.78959 | 0.80412 | 0.81037 | 2.00818 | 1.76892 | 1.63999 | 0.00053 | 0.00053 | 0.00053 | 0.79960 |
| 71.00000 | 2227.10000 | 1.08329 | 0.68747 | 1.06473 | 0.73530 | 0.79562 | 0.79362 | 0.79653 | 2.03925 | 1.86548 | 1.65729 | 0.00051 | 0.00051 | 0.00051 | 0.78795 |
| 72.00000 | 2256.64000 | 1.10644 | 0.70438 | 1.06676 | 0.73218 | 0.80012 | 0.80532 | 0.81273 | 1.99335 | 1.76899 | 1.64589 | 0.00050 | 0.00050 | 0.00050 | 0.78573 |
| 73.00000 | 2287.88000 | 1.10681 | 0.69932 | 1.07731 | 0.74623 | 0.78134 | 0.79768 | 0.79411 | 2.10707 | 1.86616 | 1.70626 | 0.00048 | 0.00048 | 0.00048 | 0.79318 |
| 74.00000 | 2318.61000 | 1.07722 | 0.67992 | 1.05826 | 0.74337 | 0.80797 | 0.81718 | 0.82561 | 1.97887 | 1.82413 | 1.62310 | 0.00046 | 0.00046 | 0.00046 | 0.81361 |
| 75.00000 | 2348.12000 | 1.05982 | 0.67493 | 1.05820 | 0.73913 | 0.79850 | 0.81665 | 0.82256 | 2.00199 | 1.82438 | 1.63824 | 0.00045 | 0.00045 | 0.00045 | 0.79753 |
| 76.00000 | 2378.08000 | 1.08279 | 0.68328 | 1.06370 | 0.73573 | 0.78518 | 0.80005 | 0.80061 | 2.04577 | 1.81670 | 1.69197 | 0.00043 | 0.00043 | 0.00043 | 0.77950 |
| 77.00000 | 2410.11000 | 1.06878 | 0.67148 | 1.05499 | 0.75888 | 0.76751 | 0.80426 | 0.80526 | 1.98807 | 1.86222 | 1.64283 | 0.00041 | 0.00041 | 0.00041 | 0.79557 |
| 78.00000 | 2440.59000 | 1.05783 | 0.66474 | 1.04752 | 0.73235 | 0.80039 | 0.79978 | 0.80745 | 2.01347 | 1.89023 | 1.66034 | 0.00040 | 0.00040 | 0.00040 | 0.78628 |
| 79.00000 | 2471.25000 | 1.03892 | 0.66701 | 1.05136 | 0.73932 | 0.80296 | 0.80851 | 0.80345 | 2.06507 | 1.92038 | 1.70947 | 0.00038 | 0.00038 | 0.00038 | 0.80178 |
| 80.00000 | 2500.87000 | 1.04045 | 0.66309 | 1.03981 | 0.71785 | 0.80673 | 0.80947 | 0.80248 | 2.05415 | 1.84370 | 1.69005 | 0.00036 | 0.00036 | 0.00036 | 0.75940 |
| 81.00000 | 2531.52000 | 1.05260 | 0.66114 | 1.04551 | 0.75545 | 0.77145 | 0.81128 | 0.81774 | 1.99642 | 1.81641 | 1.65683 | 0.00035 | 0.00035 | 0.00035 | 0.79574 |
| 82.00000 | 2562.99000 | 1.02630 | 0.64352 | 1.03324 | 0.75238 | 0.75579 | 0.80000 | 0.80232 | 2.01824 | 1.89415 | 1.64851 | 0.00033 | 0.00033 | 0.00033 | 0.77362 |
| 83.00000 | 2594.06000 | 1.02758 | 0.65170 | 1.03499 | 0.74284 | 0.78662 | 0.79963 | 0.80735 | 1.99595 | 1.81630 | 1.66430 | 0.00031 | 0.00031 | 0.00031 | 0.79299 |
| 84.00000 | 2625.17000 | 1.00228 | 0.63696 | 1.03123 | 0.73930 | 0.78405 | 0.79752 | 0.79777 | 2.06015 | 1.88123 | 1.69232 | 0.00030 | 0.00030 | 0.00030 | 0.78463 |
| 85.00000 | 2655.99000 | 1.02956 | 0.65299 | 1.04484 | 0.73424 | 0.81227 | 0.80959 | 0.80997 | 2.04359 | 1.85531 | 1.69635 | 0.00028 | 0.00028 | 0.00028 | 0.79963 |
| 86.00000 | 2687.24000 | 1.01054 | 0.62242 | 1.02922 | 0.74620 | 0.78769 | 0.80196 | 0.80674 | 1.99969 | 1.88624 | 1.64891 | 0.00026 | 0.00026 | 0.00026 | 0.79948 |
| 87.00000 | 2717.98000 | 0.99830 | 0.61519 | 1.02357 | 0.75506 | 0.77262 | 0.80488 | 0.80432 | 2.04149 | 1.90115 | 1.68774 | 0.00025 | 0.00025 | 0.00025 | 0.79655 |
| 88.00000 | 2747.62000 | 0.98374 | 0.61952 | 1.02514 | 0.75536 | 0.77616 | 0.80687 | 0.80827 | 2.01676 | 1.90295 | 1.67578 | 0.00023 | 0.00023 | 0.00023 | 0.80092 |
| 89.00000 | 2776.73000 | 0.96688 | 0.60805 | 1.01172 | 0.74369 | 0.79711 | 0.80727 | 0.80735 | 2.00517 | 1.92139 | 1.66128 | 0.00021 | 0.00021 | 0.00021 | 0.80435 |
| 90.00000 | 2807.44000 | 0.98085 | 0.61424 | 1.01799 | 0.72782 | 0.80356 | 0.80437 | 0.80900 | 1.99574 | 1.91874 | 1.65345 | 0.00020 | 0.00020 | 0.00020 | 0.77955 |
| 91.00000 | 2841.19000 | 0.97929 | 0.59783 | 1.02178 | 0.75066 | 0.76345 | 0.79857 | 0.80574 | 1.95545 | 1.87306 | 1.63560 | 0.00018 | 0.00018 | 0.00018 | 0.78031 |
| 92.00000 | 2871.84000 | 0.95109 | 0.55264 | 1.00230 | 0.75310 | 0.77115 | 0.80389 | 0.80784 | 2.00706 | 1.94513 | 1.66651 | 0.00017 | 0.00017 | 0.00017 | 0.79226 |
| 93.00000 | 2901.25000 | 0.93338 | 0.54815 | 1.00351 | 0.72974 | 0.79716 | 0.80118 | 0.80935 | 1.98610 | 1.96364 | 1.64165 | 0.00015 | 0.00015 | 0.00015 | 0.77846 |
| 94.00000 | 2932.95000 | 0.91195 | 0.53346 | 0.98584 | 0.73461 | 0.78781 | 0.80759 | 0.81056 | 1.98514 | 1.95461 | 1.65499 | 0.00013 | 0.00013 | 0.00013 | 0.77986 |
| 95.00000 | 2963.61000 | 0.89581 | 0.52172 | 0.99044 | 0.73556 | 0.79812 | 0.80141 | 0.80539 | 2.01148 | 2.00616 | 1.67967 | 0.00012 | 0.00012 | 0.00012 | 0.79057 |
| 96.00000 | 2993.66000 | 0.91697 | 0.53130 | 0.99111 | 0.75679 | 0.78159 | 0.80713 | 0.81405 | 1.97737 | 1.97458 | 1.65151 | 0.00010 | 0.00010 | 0.00010 | 0.80890 |
| 97.00000 | 3023.46000 | 0.88578 | 0.51674 | 0.98003 | 0.74333 | 0.78482 | 0.80296 | 0.80910 | 1.99367 | 2.00835 | 1.66435 | 0.00008 | 0.00008 | 0.00008 | 0.79205 |
| 98.00000 | 3055.07000 | 0.88023 | 0.52301 | 0.97247 | 0.73907 | 0.78589 | 0.80327 | 0.81163 | 1.97744 | 2.02186 | 1.65608 | 0.00007 | 0.00007 | 0.00007 | 0.78598 |
| 99.00000 | 3087.43000 | 0.87765 | 0.51520 | 0.97797 | 0.75512 | 0.77329 | 0.80707 | 0.80989 | 2.00168 | 2.00707 | 1.67291 | 0.00005 | 0.00005 | 0.00005 | 0.79739 |
| 100.00000 | 3116.82000 | 0.89350 | 0.52603 | 0.99198 | 0.74370 | 0.78956 | 0.81017 | 0.81715 | 1.97681 | 2.01803 | 1.65983 | 0.00003 | 0.00003 | 0.00003 | 0.79724 |