# Updated yolo\_v5 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 | 16.14810 | 2.59640 | 3.42268 | 1.89221 | 0.70000 | 0.85000 | 0.70000 | 0.70000 | 2.42248 | 3.28948 | 1.55312 | 0.07380 | 0.00655 | 0.00655 | 0.70000 |
| 2.00000 | 24.77510 | 2.41393 | 2.40722 | 1.68722 | 0.80179 | 0.70000 | 0.75307 | 0.75087 | 2.55406 | 2.52927 | 1.58281 | 0.04700 | 0.01309 | 0.01309 | 0.75687 |
| 3.00000 | 37.20680 | 2.35107 | 2.22002 | 1.58893 | 0.77432 | 0.76657 | 0.77545 | 0.76785 | 2.65153 | 2.42581 | 1.57524 | 0.02007 | 0.01949 | 0.01949 | 0.80116 |
| 4.00000 | 45.24360 | 2.31661 | 2.10472 | 1.52471 | 0.75773 | 0.72221 | 0.73848 | 0.73912 | 2.54946 | 2.81856 | 1.75876 | 0.01941 | 0.01941 | 0.01941 | 0.76257 |
| 5.00000 | 55.79360 | 2.23387 | 1.96974 | 1.46864 | 0.77061 | 0.73995 | 0.76005 | 0.75782 | 2.52936 | 2.61438 | 1.56809 | 0.01921 | 0.01921 | 0.01921 | 0.78235 |
| 6.00000 | 64.38810 | 2.14206 | 1.85576 | 1.43718 | 0.77451 | 0.74336 | 0.77335 | 0.76673 | 2.63571 | 2.20393 | 1.60615 | 0.01901 | 0.01901 | 0.01901 | 0.78700 |
| 7.00000 | 73.65720 | 2.11501 | 1.79211 | 1.41935 | 0.78416 | 0.76262 | 0.79424 | 0.78780 | 2.55908 | 2.19423 | 1.60648 | 0.01881 | 0.01881 | 0.01881 | 0.80569 |
| 8.00000 | 83.65930 | 2.05590 | 1.71885 | 1.36794 | 0.77893 | 0.77371 | 0.78336 | 0.77474 | 2.62156 | 2.25289 | 1.61951 | 0.01861 | 0.01861 | 0.01861 | 0.80862 |
| 9.00000 | 91.96710 | 2.01341 | 1.64668 | 1.34877 | 0.78537 | 0.76598 | 0.79564 | 0.78291 | 2.57973 | 2.31854 | 1.56515 | 0.01842 | 0.01842 | 0.01842 | 0.80862 |
| 10.00000 | 102.46900 | 1.96089 | 1.57130 | 1.31209 | 0.79915 | 0.77442 | 0.80840 | 0.79698 | 2.60774 | 2.12086 | 1.61299 | 0.01822 | 0.01822 | 0.01822 | 0.82285 |
| 11.00000 | 110.20200 | 1.94963 | 1.51033 | 1.30515 | 0.78655 | 0.76312 | 0.79898 | 0.79835 | 2.59388 | 2.38075 | 1.62021 | 0.01802 | 0.01802 | 0.01802 | 0.80755 |
| 12.00000 | 120.75100 | 1.93712 | 1.49253 | 1.28997 | 0.83708 | 0.73726 | 0.79604 | 0.80028 | 2.57799 | 2.27954 | 1.61784 | 0.01782 | 0.01782 | 0.01782 | 0.80707 |
| 13.00000 | 128.45300 | 1.89340 | 1.45579 | 1.27517 | 0.77632 | 0.76806 | 0.79420 | 0.76757 | 2.82112 | 2.27542 | 1.73414 | 0.01762 | 0.01762 | 0.01762 | 0.80349 |
| 14.00000 | 139.35000 | 1.86290 | 1.38990 | 1.25372 | 0.81440 | 0.75476 | 0.80703 | 0.79478 | 2.61872 | 2.24371 | 1.62122 | 0.01743 | 0.01743 | 0.01743 | 0.81589 |
| 15.00000 | 147.09800 | 1.82415 | 1.34764 | 1.23565 | 0.79888 | 0.77599 | 0.80789 | 0.80270 | 2.70710 | 2.16632 | 1.77752 | 0.01723 | 0.01723 | 0.01723 | 0.82372 |
| 16.00000 | 157.44600 | 1.79776 | 1.32761 | 1.23662 | 0.79285 | 0.77186 | 0.81481 | 0.81027 | 2.58310 | 2.20233 | 1.56882 | 0.01703 | 0.01703 | 0.01703 | 0.81723 |
| 17.00000 | 166.28000 | 1.78929 | 1.29484 | 1.22210 | 0.78814 | 0.79406 | 0.81095 | 0.80124 | 2.64186 | 2.40626 | 1.62431 | 0.01683 | 0.01683 | 0.01683 | 0.82682 |
| 18.00000 | 175.29700 | 1.74487 | 1.25702 | 1.20317 | 0.79210 | 0.77151 | 0.80551 | 0.80118 | 2.67931 | 2.53011 | 1.67350 | 0.01663 | 0.01663 | 0.01663 | 0.81651 |
| 19.00000 | 185.34900 | 1.72920 | 1.22506 | 1.20143 | 0.80112 | 0.77167 | 0.82330 | 0.80843 | 2.63698 | 1.97819 | 1.59962 | 0.01644 | 0.01644 | 0.01644 | 0.82216 |
| 20.00000 | 193.64100 | 1.71894 | 1.19839 | 1.19332 | 0.80648 | 0.79000 | 0.81751 | 0.80425 | 2.62323 | 2.14762 | 1.63159 | 0.01624 | 0.01624 | 0.01624 | 0.83764 |
| 21.00000 | 203.96500 | 1.69565 | 1.20514 | 1.18582 | 0.80275 | 0.78852 | 0.82243 | 0.82320 | 2.52990 | 2.38862 | 1.54682 | 0.01604 | 0.01604 | 0.01604 | 0.83426 |
| 22.00000 | 211.67600 | 1.68107 | 1.17540 | 1.17196 | 0.78866 | 0.77487 | 0.81921 | 0.79493 | 2.73578 | 2.17157 | 1.70900 | 0.01584 | 0.01584 | 0.01584 | 0.81633 |
| 23.00000 | 222.72800 | 1.66331 | 1.17088 | 1.17231 | 0.80517 | 0.77389 | 0.81278 | 0.79376 | 2.71336 | 2.21318 | 1.63983 | 0.01564 | 0.01564 | 0.01564 | 0.82606 |
| 24.00000 | 230.45300 | 1.63680 | 1.13324 | 1.16010 | 0.79592 | 0.76867 | 0.81853 | 0.81601 | 2.62055 | 2.07551 | 1.58916 | 0.01545 | 0.01545 | 0.01545 | 0.81702 |
| 25.00000 | 240.46700 | 1.65024 | 1.15816 | 1.17128 | 0.77797 | 0.77379 | 0.79719 | 0.77956 | 2.75365 | 2.14777 | 1.67511 | 0.01525 | 0.01525 | 0.01525 | 0.80793 |
| 26.00000 | 249.12100 | 1.61283 | 1.10922 | 1.13706 | 0.81222 | 0.77167 | 0.81968 | 0.81759 | 2.55934 | 2.00284 | 1.55382 | 0.01505 | 0.01505 | 0.01505 | 0.82832 |
| 27.00000 | 258.74800 | 1.57959 | 1.08201 | 1.12836 | 0.79040 | 0.78438 | 0.81093 | 0.78890 | 2.71782 | 2.12449 | 1.68751 | 0.01485 | 0.01485 | 0.01485 | 0.82319 |
| 28.00000 | 268.14700 | 1.57201 | 1.06360 | 1.12657 | 0.80253 | 0.78743 | 0.82483 | 0.80667 | 2.66657 | 2.14625 | 1.63258 | 0.01465 | 0.01465 | 0.01465 | 0.83343 |
| 29.00000 | 279.02200 | 1.56514 | 1.05711 | 1.12830 | 0.78667 | 0.77567 | 0.81073 | 0.79772 | 2.63862 | 2.14683 | 1.61456 | 0.01446 | 0.01446 | 0.01446 | 0.81542 |
| 30.00000 | 289.11500 | 1.56177 | 1.05371 | 1.12765 | 0.80390 | 0.77271 | 0.81696 | 0.80396 | 2.66805 | 2.13700 | 1.63895 | 0.01426 | 0.01426 | 0.01426 | 0.82450 |
| 31.00000 | 297.12700 | 1.53158 | 1.02832 | 1.10873 | 0.78897 | 0.79322 | 0.83259 | 0.82162 | 2.57007 | 1.95310 | 1.57218 | 0.01406 | 0.01406 | 0.01406 | 0.82703 |
| 32.00000 | 307.40600 | 1.52208 | 1.01352 | 1.10625 | 0.78482 | 0.79717 | 0.82508 | 0.82648 | 2.53075 | 2.09281 | 1.59241 | 0.01386 | 0.01386 | 0.01386 | 0.82570 |
| 33.00000 | 315.05600 | 1.50438 | 0.99747 | 1.09386 | 0.77702 | 0.79314 | 0.81831 | 0.81646 | 2.64021 | 2.38107 | 1.59937 | 0.01366 | 0.01366 | 0.01366 | 0.81698 |
| 34.00000 | 325.82900 | 1.51962 | 1.00838 | 1.10516 | 0.79847 | 0.77765 | 0.82616 | 0.81570 | 2.61665 | 2.07021 | 1.56813 | 0.01347 | 0.01347 | 0.01347 | 0.82455 |
| 35.00000 | 333.39200 | 1.49614 | 0.97843 | 1.09161 | 0.80438 | 0.77950 | 0.83563 | 0.83208 | 2.56085 | 2.20995 | 1.63032 | 0.01327 | 0.01327 | 0.01327 | 0.82945 |
| 36.00000 | 344.08400 | 1.47825 | 0.97990 | 1.08886 | 0.81729 | 0.76892 | 0.82749 | 0.81162 | 2.68217 | 2.12647 | 1.66889 | 0.01307 | 0.01307 | 0.01307 | 0.82877 |
| 37.00000 | 351.81600 | 1.46458 | 0.95406 | 1.07644 | 0.80748 | 0.76961 | 0.83097 | 0.80918 | 2.66708 | 2.16992 | 1.63922 | 0.01287 | 0.01287 | 0.01287 | 0.82427 |
| 38.00000 | 362.06700 | 1.43778 | 0.95347 | 1.07435 | 0.81096 | 0.77961 | 0.83101 | 0.81789 | 2.56173 | 2.06829 | 1.60308 | 0.01267 | 0.01267 | 0.01267 | 0.83339 |
| 39.00000 | 370.81100 | 1.42980 | 0.93469 | 1.06693 | 0.79279 | 0.77626 | 0.81520 | 0.80634 | 2.67663 | 2.19998 | 1.61485 | 0.01248 | 0.01248 | 0.01248 | 0.81998 |
| 40.00000 | 380.14100 | 1.41922 | 0.94565 | 1.07158 | 0.79254 | 0.79134 | 0.82579 | 0.81716 | 2.61294 | 2.10455 | 1.60940 | 0.01228 | 0.01228 | 0.01228 | 0.82874 |
| 41.00000 | 389.55600 | 1.38293 | 0.90882 | 1.05185 | 0.80723 | 0.77033 | 0.83447 | 0.84197 | 2.53197 | 2.08182 | 1.56532 | 0.01208 | 0.01208 | 0.01208 | 0.82466 |
| 42.00000 | 397.83700 | 1.40571 | 0.91795 | 1.05985 | 0.78103 | 0.78930 | 0.82396 | 0.82323 | 2.64122 | 2.13964 | 1.63519 | 0.01188 | 0.01188 | 0.01188 | 0.81856 |
| 43.00000 | 408.06600 | 1.38820 | 0.90759 | 1.05722 | 0.79122 | 0.78589 | 0.81793 | 0.80389 | 2.72507 | 2.35939 | 1.69562 | 0.01168 | 0.01168 | 0.01168 | 0.82466 |
| 44.00000 | 415.69800 | 1.35593 | 0.89136 | 1.04690 | 0.79889 | 0.79280 | 0.82933 | 0.82560 | 2.57862 | 2.24716 | 1.61117 | 0.01149 | 0.01149 | 0.01149 | 0.83421 |
| 45.00000 | 426.24800 | 1.36335 | 0.88107 | 1.04898 | 0.79685 | 0.77259 | 0.82714 | 0.82069 | 2.71616 | 2.24503 | 1.68531 | 0.01129 | 0.01129 | 0.01129 | 0.82022 |
| 46.00000 | 433.95100 | 1.37696 | 0.88560 | 1.05305 | 0.80701 | 0.77381 | 0.82693 | 0.83145 | 2.53719 | 2.36612 | 1.60937 | 0.01109 | 0.01109 | 0.01109 | 0.82705 |
| 47.00000 | 444.83300 | 1.35976 | 0.88525 | 1.04473 | 0.79627 | 0.78150 | 0.82594 | 0.82519 | 2.60556 | 2.27075 | 1.60513 | 0.01089 | 0.01089 | 0.01089 | 0.82556 |
| 48.00000 | 452.42300 | 1.33838 | 0.85409 | 1.03903 | 0.81111 | 0.78154 | 0.83168 | 0.82781 | 2.59675 | 2.28202 | 1.62457 | 0.01069 | 0.01069 | 0.01069 | 0.83484 |
| 49.00000 | 462.52300 | 1.33936 | 0.86668 | 1.04237 | 0.85000 | 0.76735 | 0.83624 | 0.81783 | 2.66029 | 2.30769 | 1.61200 | 0.01050 | 0.01050 | 0.01050 | 0.84106 |
| 50.00000 | 470.64700 | 1.31841 | 0.86502 | 1.03345 | 0.80798 | 0.76033 | 0.82150 | 0.81974 | 2.64813 | 2.21691 | 1.59932 | 0.01030 | 0.01030 | 0.01030 | 0.81749 |
| 51.00000 | 480.15800 | 1.33134 | 0.85911 | 1.02888 | 0.81656 | 0.77734 | 0.83368 | 0.82278 | 2.64051 | 2.27874 | 1.56542 | 0.01010 | 0.01010 | 0.01010 | 0.83483 |
| 52.00000 | 489.27600 | 1.31044 | 0.83549 | 1.02922 | 0.83147 | 0.77795 | 0.84372 | 0.82853 | 2.63797 | 2.25474 | 1.61476 | 0.00990 | 0.00990 | 0.00990 | 0.84272 |
| 53.00000 | 498.00500 | 1.30238 | 0.83858 | 1.02298 | 0.80646 | 0.78819 | 0.83570 | 0.83371 | 2.57762 | 2.33962 | 1.59976 | 0.00970 | 0.00970 | 0.00970 | 0.83646 |
| 54.00000 | 508.19000 | 1.28549 | 0.82718 | 1.01995 | 0.82116 | 0.77529 | 0.83415 | 0.82390 | 2.60367 | 2.22439 | 1.63094 | 0.00951 | 0.00951 | 0.00951 | 0.83564 |
| 55.00000 | 518.43400 | 1.27865 | 0.81767 | 1.01976 | 0.81266 | 0.77454 | 0.83118 | 0.83286 | 2.59605 | 2.18811 | 1.62961 | 0.00931 | 0.00931 | 0.00931 | 0.83068 |
| 56.00000 | 528.50600 | 1.29550 | 0.83313 | 1.02171 | 0.80330 | 0.76859 | 0.81659 | 0.80267 | 2.61505 | 2.38568 | 1.63301 | 0.00911 | 0.00911 | 0.00911 | 0.82124 |
| 57.00000 | 536.22000 | 1.26837 | 0.83010 | 1.01951 | 0.79327 | 0.77739 | 0.81624 | 0.80295 | 2.70055 | 2.15702 | 1.63290 | 0.00891 | 0.00891 | 0.00891 | 0.82100 |
| 58.00000 | 546.08100 | 1.25458 | 0.79924 | 1.00922 | 0.79734 | 0.79462 | 0.82797 | 0.82224 | 2.59557 | 2.23410 | 1.58075 | 0.00871 | 0.00871 | 0.00871 | 0.83416 |
| 59.00000 | 554.50600 | 1.24278 | 0.79754 | 1.01339 | 0.80824 | 0.77871 | 0.83080 | 0.82506 | 2.57173 | 2.18731 | 1.58618 | 0.00852 | 0.00852 | 0.00852 | 0.83119 |
| 60.00000 | 563.74700 | 1.25081 | 0.80064 | 1.01105 | 0.82859 | 0.76528 | 0.83649 | 0.83131 | 2.58334 | 2.32270 | 1.61345 | 0.00832 | 0.00832 | 0.00832 | 0.83091 |
| 61.00000 | 572.94800 | 1.24640 | 0.79210 | 1.00834 | 0.80801 | 0.77130 | 0.83668 | 0.84350 | 2.55559 | 2.23139 | 1.59545 | 0.00812 | 0.00812 | 0.00812 | 0.82579 |
| 62.00000 | 581.67300 | 1.20015 | 0.77056 | 0.99817 | 0.81713 | 0.77855 | 0.83542 | 0.83301 | 2.62058 | 2.09001 | 1.65366 | 0.00792 | 0.00792 | 0.00792 | 0.83603 |
| 63.00000 | 591.64600 | 1.22235 | 0.77169 | 0.99726 | 0.79277 | 0.78181 | 0.82957 | 0.83294 | 2.63574 | 2.11091 | 1.60291 | 0.00772 | 0.00772 | 0.00772 | 0.82336 |
| 64.00000 | 599.32600 | 1.19903 | 0.76881 | 0.99418 | 0.81552 | 0.77281 | 0.82760 | 0.82021 | 2.63864 | 2.23925 | 1.61957 | 0.00753 | 0.00753 | 0.00753 | 0.83089 |
| 65.00000 | 609.54200 | 1.20167 | 0.77037 | 0.99386 | 0.82636 | 0.78113 | 0.83967 | 0.85000 | 2.51829 | 2.28184 | 1.57530 | 0.00733 | 0.00733 | 0.00733 | 0.84275 |
| 66.00000 | 617.18000 | 1.22060 | 0.77633 | 0.99964 | 0.81201 | 0.77165 | 0.82686 | 0.81382 | 2.64335 | 2.42200 | 1.58793 | 0.00713 | 0.00713 | 0.00713 | 0.82819 |
| 67.00000 | 627.42600 | 1.19729 | 0.75305 | 0.99241 | 0.80848 | 0.78732 | 0.83652 | 0.84139 | 2.51377 | 2.16316 | 1.55069 | 0.00693 | 0.00693 | 0.00693 | 0.83717 |
| 68.00000 | 634.99700 | 1.18543 | 0.75126 | 0.99326 | 0.78762 | 0.79188 | 0.83464 | 0.83374 | 2.58737 | 2.11392 | 1.64607 | 0.00673 | 0.00673 | 0.00673 | 0.82525 |
| 69.00000 | 645.79400 | 1.17682 | 0.75023 | 0.98157 | 0.81802 | 0.79682 | 0.83585 | 0.84219 | 2.58169 | 2.27342 | 1.64412 | 0.00654 | 0.00654 | 0.00654 | 0.84937 |
| 70.00000 | 653.62500 | 1.17157 | 0.74974 | 0.98972 | 0.80929 | 0.79822 | 0.85000 | 0.84475 | 2.48159 | 2.10629 | 1.53272 | 0.00634 | 0.00634 | 0.00634 | 0.84466 |
| 71.00000 | 663.17400 | 1.15416 | 0.73510 | 0.98216 | 0.82554 | 0.76926 | 0.83871 | 0.84112 | 2.47970 | 2.21127 | 1.55204 | 0.00614 | 0.00614 | 0.00614 | 0.83291 |
| 72.00000 | 672.19600 | 1.15264 | 0.73470 | 0.97877 | 0.81134 | 0.77597 | 0.83656 | 0.82650 | 2.52243 | 2.29580 | 1.54254 | 0.00594 | 0.00594 | 0.00594 | 0.83101 |
| 73.00000 | 681.05600 | 1.15673 | 0.74497 | 0.98344 | 0.80729 | 0.78397 | 0.83792 | 0.82930 | 2.60678 | 2.29736 | 1.61314 | 0.00574 | 0.00574 | 0.00574 | 0.83421 |
| 74.00000 | 691.30900 | 1.15698 | 0.74072 | 0.98350 | 0.80955 | 0.79098 | 0.83461 | 0.83231 | 2.59605 | 2.26923 | 1.60901 | 0.00555 | 0.00555 | 0.00555 | 0.84024 |
| 75.00000 | 699.21400 | 1.14679 | 0.72862 | 0.97633 | 0.81333 | 0.78175 | 0.83210 | 0.82469 | 2.62295 | 2.28385 | 1.59954 | 0.00535 | 0.00535 | 0.00535 | 0.83625 |
| 76.00000 | 709.48000 | 1.13800 | 0.73284 | 0.97790 | 0.79658 | 0.78415 | 0.82775 | 0.82090 | 2.64243 | 2.18950 | 1.60314 | 0.00515 | 0.00515 | 0.00515 | 0.82741 |
| 77.00000 | 717.21100 | 1.10993 | 0.70788 | 0.97345 | 0.81947 | 0.79645 | 0.84962 | 0.84105 | 2.57002 | 2.22816 | 1.59941 | 0.00495 | 0.00495 | 0.00495 | 0.85000 |
| 78.00000 | 727.94900 | 1.12918 | 0.71090 | 0.97035 | 0.80953 | 0.77892 | 0.83820 | 0.83899 | 2.49017 | 2.18557 | 1.57775 | 0.00475 | 0.00475 | 0.00475 | 0.83209 |
| 79.00000 | 736.00300 | 1.11807 | 0.70607 | 0.96915 | 0.79459 | 0.79323 | 0.83082 | 0.82691 | 2.59513 | 2.27283 | 1.64106 | 0.00456 | 0.00456 | 0.00456 | 0.83133 |
| 80.00000 | 746.79000 | 1.10055 | 0.70207 | 0.96778 | 0.81355 | 0.77385 | 0.83715 | 0.83729 | 2.56717 | 2.13772 | 1.61673 | 0.00436 | 0.00436 | 0.00436 | 0.83064 |
| 81.00000 | 759.79700 | 1.11150 | 0.71101 | 0.96679 | 0.82572 | 0.77577 | 0.83991 | 0.84367 | 2.53522 | 2.40797 | 1.60051 | 0.00416 | 0.00416 | 0.00416 | 0.83825 |
| 82.00000 | 767.54800 | 1.09264 | 0.69339 | 0.96356 | 0.81308 | 0.76922 | 0.83226 | 0.84305 | 2.52426 | 2.31730 | 1.58349 | 0.00396 | 0.00396 | 0.00396 | 0.82692 |
| 83.00000 | 778.35300 | 1.07736 | 0.69064 | 0.95820 | 0.82864 | 0.76934 | 0.83466 | 0.83544 | 2.49802 | 2.46282 | 1.54423 | 0.00376 | 0.00376 | 0.00376 | 0.83436 |
| 84.00000 | 785.99100 | 1.06547 | 0.68106 | 0.95262 | 0.81082 | 0.77665 | 0.83718 | 0.82348 | 2.52343 | 2.34250 | 1.60788 | 0.00357 | 0.00357 | 0.00357 | 0.83121 |
| 85.00000 | 796.51500 | 1.09177 | 0.69955 | 0.96608 | 0.79385 | 0.78464 | 0.82911 | 0.83554 | 2.47940 | 2.28101 | 1.59865 | 0.00337 | 0.00337 | 0.00337 | 0.82581 |
| 86.00000 | 804.38400 | 1.07126 | 0.68837 | 0.95678 | 0.82749 | 0.77195 | 0.83893 | 0.83620 | 2.53589 | 2.37607 | 1.60658 | 0.00317 | 0.00317 | 0.00317 | 0.83601 |
| 87.00000 | 814.86300 | 1.07301 | 0.68798 | 0.96382 | 0.80708 | 0.78031 | 0.83293 | 0.83017 | 2.55209 | 2.34022 | 1.58770 | 0.00297 | 0.00297 | 0.00297 | 0.83162 |
| 88.00000 | 823.37800 | 1.06674 | 0.67932 | 0.95658 | 0.79869 | 0.79772 | 0.84066 | 0.84597 | 2.44216 | 2.35271 | 1.54099 | 0.00277 | 0.00277 | 0.00277 | 0.83692 |
| 89.00000 | 832.50900 | 1.04588 | 0.67325 | 0.95776 | 0.79990 | 0.78650 | 0.83597 | 0.83715 | 2.50356 | 2.17092 | 1.56155 | 0.00258 | 0.00258 | 0.00258 | 0.83110 |
| 90.00000 | 842.33700 | 1.04929 | 0.67301 | 0.95552 | 0.79947 | 0.78068 | 0.83301 | 0.83843 | 2.54507 | 2.27196 | 1.59736 | 0.00238 | 0.00238 | 0.00238 | 0.82714 |
| 91.00000 | 851.23500 | 1.64775 | 1.19901 | 1.14556 | 0.79184 | 0.76641 | 0.81372 | 0.80650 | 2.61109 | 2.57971 | 1.61065 | 0.00218 | 0.00218 | 0.00218 | 0.81302 |
| 92.00000 | 861.53600 | 1.59788 | 1.07855 | 1.10595 | 0.80248 | 0.77585 | 0.82407 | 0.82125 | 2.60110 | 2.37738 | 1.63815 | 0.00198 | 0.00198 | 0.00198 | 0.82583 |
| 93.00000 | 868.89600 | 1.57167 | 1.05754 | 1.09192 | 0.79640 | 0.78367 | 0.83059 | 0.83649 | 2.53666 | 2.28147 | 1.60529 | 0.00178 | 0.00178 | 0.00178 | 0.82699 |
| 94.00000 | 878.75100 | 1.57254 | 1.03314 | 1.09539 | 0.79092 | 0.78271 | 0.82850 | 0.83890 | 2.49326 | 2.27570 | 1.58094 | 0.00159 | 0.00159 | 0.00159 | 0.82259 |
| 95.00000 | 886.12200 | 1.54702 | 1.03662 | 1.08717 | 0.80681 | 0.78113 | 0.83232 | 0.82868 | 2.56048 | 2.27444 | 1.60386 | 0.00139 | 0.00139 | 0.00139 | 0.83201 |
| 96.00000 | 896.73700 | 1.54103 | 1.00496 | 1.07615 | 0.79794 | 0.78760 | 0.83411 | 0.84093 | 2.52766 | 2.22031 | 1.58633 | 0.00119 | 0.00119 | 0.00119 | 0.83044 |
| 97.00000 | 904.25100 | 1.51804 | 0.99043 | 1.06676 | 0.80632 | 0.79192 | 0.83475 | 0.83995 | 2.51608 | 2.21514 | 1.59046 | 0.00099 | 0.00099 | 0.00099 | 0.83876 |
| 98.00000 | 914.60500 | 1.53368 | 1.00231 | 1.07668 | 0.80212 | 0.78501 | 0.83052 | 0.83939 | 2.49416 | 2.24063 | 1.57904 | 0.00079 | 0.00079 | 0.00079 | 0.83163 |
| 99.00000 | 922.33900 | 1.49736 | 0.97295 | 1.06517 | 0.81088 | 0.78976 | 0.83354 | 0.83533 | 2.52724 | 2.26903 | 1.60575 | 0.00060 | 0.00060 | 0.00060 | 0.84027 |
| 100.00000 | 931.65400 | 1.49627 | 0.97016 | 1.06157 | 0.80501 | 0.78654 | 0.83219 | 0.84033 | 2.49573 | 2.23867 | 1.57431 | 0.00040 | 0.00040 | 0.00040 | 0.83447 |