## COURSE MEASUREMENT

Perseløpet Eidsvoll 2022


## SUMMARY SHEET

EVENT:
LOCATION:
DATE:
Promoting Organisation: Feiring IL
Name \& Address of race director

Email:
Distance:

Date:
Measurement method: Jones counter mounted on bicycle wheel
Elevation, if not same, of: START $0 \mathbf{m}$ FINISH $\mathbf{0} \mathbf{m}$
Distance, in a straight line, between start \& finish: $0 \boldsymbol{m}$
Distance, in a straight line, between start \& finish of 3 km course: 367 m Distance, in a straight line, between start \& finish of 5 km course: $\mathbf{2 6 6} \boldsymbol{m}$ Distance, in a straight line, between start \& finish of 10 km course: 532 m Distance, in a straight line, between start \& finish of $1 / 2$ marathon course: 33 m Distance, in a straight line, between start \& finish of $1 / 2$ marathon course: $67 \boldsymbol{m}$

## Description of the Course

Terrain: nearly flat
Race surface tarmac roads
Course configuration: point to point
Start point: Trondheimsvegen. Clearly marked with permanent spray
Finish lines:
Trondheimsvegen. Clearly marked with permanent spray

## Measurement Details

Section of road available: The runners use bicycle paths and small roads.
Line to be taken at turns: Shortest possible route.

SIGNED: ... Peer Zensen .... DATE: 2022-08-01

## STEEL TAPING DATA

EVENT:
LOCATION:
DATE:

## Perselopet

Eidsvoll, Norway
Every month in 2022

For measuring a calibration course
Name of calibration course: Trondheimsvegen
City/town and State: Eidsvoll, Norway
Date:
Start time:
27 July 2022
Finish time:
Pavement temperature:
09:30
09:45
Start $15{ }^{\circ} \mathrm{C} \quad$ Finish $15{ }^{\circ} \mathrm{C} \quad$ Average $15^{\circ} \mathrm{C}$
Measurements and calculations:
First measurement. $\quad 50.00 \mathrm{~m} \mathrm{x} \mathrm{7}=350 \mathrm{~m}$
Second measurement. $\quad 50.00 \mathrm{mx} 7=350 \mathrm{~m}$
Average raw (uncorrected) measurement of course: 350 m
Temperature correction.
Correction factor $=1-(5 * 0.0000115)=0.9999425$
Final (adjusted) length of calibration course $\mathbf{3 5 0} \boldsymbol{*} \mathbf{0 . 9 9 9 9 4 2 5}=\mathbf{3 4 9 . 9 8} \mathbf{~ m}$

## Calibrations

## Pre-measurement

Date/Time 27 July 2022 09:45
Temp. $\quad 15^{\circ} \mathrm{C}$

| Start | End | Reading | Start | End | Reading |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 278500 | 282653 | 4153 | 364600 | 368752 | 4152 |
| 282700 | 286851 | 4151 | 368800 | 372953 | 4153 |
| 286900 | 291050 | 4150 | 373000 | 377152 | 4152 |
| 291100 | 295252 | 4152 | 377200 | 281353 | 4153 |
| Average |  | 4151.50 | Average |  | 4152.50 |
| Working Constant$+1 \%$ |  | 11862.11/km | Working Constant |  | 11864.96/km |
|  |  | $11.86 / \mathrm{km}$ |  |  | $11.86 / \mathrm{km}$ |
| Pre-measu | rement c | 11873.97/km | Post-mea | rement | 11876.82/km |

## Post-measurement

Date/Time 26 July 2022 10:45
Temp $\quad 15^{\circ} \mathrm{C}$

Post-measurement constant $11876.82 / \mathrm{km}$

Measurement working constant: $\quad 11874 / \mathbf{k m}$
Constant for the Day (average): $\quad 11875.4 / \mathrm{km}$

# CALIBRATION COURSE MAP 

## EVENT:

Perselopet

## LOCATION:

Eidsvoll, Norway
DATE:
Every month in 2022


Calibration course 350 metres (part of race course)
Start point 3 km is directly on calibration course.

# MEASUREMENT PROCEDURE 

EVENT:
LOCATION:
DATE:

## Perselopet

Eidsvoll, Norway
Every month in 2022

Measurement working constant: 11874 ( 11862.1 without $1 \%$ )
Measurement constant for the day 11875.40 ( 11863.5 without $1 \%$ )

## Measurement of the course:

## 16:15

I checked the local measurer's start points and finish points.
Those points were clearly marked with permanent spray on the road and are used in every race.

| Counter | Counts | Distance | Fix point |
| :--- | ---: | ---: | :--- |
| 298700 | 0 | 0.00 m | 3 km start Trondheimsvegen |
| 298808 | 108 | 9.09 m | 10 km finish Trondheimsvegen |
| 301966 | 3158 | 265.93 m | 5 km finish Trondheimsvegen |
| 303058 | 1092 | 91.96 m | 3 km finish Trondheimsvegen |
| 305123 | 2065 | 173.89 m | Start all distances except from 3 km Trondheimsvegen |
| 305479 | 356 | 29.98 m | $1 / 2$ marathon finish Trondheimsvegen |
| 305838 | 359 | 30.23 m | Marathon finish Trondheimsvegen |
| 329978 | 24140 | $2,032.77 \mathrm{~m}$ | 3 km start Trondheimsvegen |

Length of one lap: $\quad 329978-298700=31278$ counts $=\mathbf{2 , 6 3 3 . 8 5} \mathbf{~ m}(3,636.50 \mathrm{~m})$
I measured one lap non-stop: 330000-361267
Length of one lap: $\quad 361267-330000=31267$ counts $=\mathbf{2 , 6 3 2 . 9 2} \mathbf{~ m}(3,635.50 \mathrm{~m})$
One lap is defined to be: $\quad \mathbf{2 . 6 3 3} \mathbf{~ m}$
Length of $3 \mathbf{~ k m}$ course:
$(303058-298700)+31267$ counts $=35625$ counts $=\quad \mathbf{2 , 9 9 9 . 9 0} \mathbf{~ m}(3,002.90 \mathrm{~m})$
Length of $5 \mathbf{~ k m}$ course:
$(2 * 31267)-(305123-301966)$ counts $=59377$ counts $=\mathbf{5 , 0 0 0} \mathbf{~ m}(5,005.00 \mathrm{~m})$

## Length of 10 km course:

$(4 * 31267)-(305123-298808)$ counts $=118753$ counts $=\mathbf{9 , 9 9 9 . 9 2} \mathbf{~ m}(10,009.95 \mathrm{~m})$
Length of $1 / 2$ marathon course:
$(8 * 31267)+356$ counts $=250492$ counts $=\mathbf{2 1 , 0 9 3 . 3 5} \mathbf{~ m}(21,114.50 \mathrm{~m})$
Length of Marathon course:
$(16$ * 31267$)+(356+359)$ counts $=500987$ counts $=\mathbf{4 2 . 1 8 7} \mathbf{~ m}(42,229 \mathrm{~m})$
Conclusion: The local measurer has done a good job and the distances are not too short. I recommend the courses to be certified as AIMS courses.

## MAP of the course

EVENT:
LOCATION:
DATE:

## Perselopet

Eidsvoll, Norway
Every month in 2022


