

## Measurement report

# Jüri Jaanson Kahe Silla jooks

10 km

## **GENERAL INFORMATION**

**Name of measurer:** Karen Aau, B grade measurer

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**Name of event:** Jüri Jaasoni Kahe Silla jooks

**Location:** Pärnu, Estonia

**Race date:** 03.09.2023

**Distance:** 10 km

**Advertised race distance:** not less than 10000 m

**Race contact person:** Vahur Mäe

**Phone:** +372 5660 8532

**E-mail:** vahur@2silda.ee

### **Description of the course**

**Type of course:** flat, loop

**Race surface:** asphalt, 50m gravel section between 1 st and 2 nd kilometer

**Altitude:**

Start – 4 m, Finish 4 m

Highest point – 11 m, Lowest point – 1 m

Difference in elevation highest > lowest point – 10 m

### **Measurement details**

**Section of road available:** Entire width of road, except Lai St (track on the pavement)

**Line to be taken at turns:** shortest possible route

## DETAIL OF THE CALIBRATION COURSE

**Date:** 18.08.2023

**Location of calibration course:** pavement along the river near Tallinna mnt bridge

**Measure method:** steel taped

**Number of measurements:** 2

**Markers:** nails

**Start time:** 18.30

**Finish time:** 19.00

**Temperature:** *Start* +21°C, *Finish* +21°C, *Average* +21°C

### MEASUREMENTS AND CALCULATIONS:

1 First measurement.

$$\frac{5}{\# \text{ tape lengths}} \times \frac{49,9 \text{ m}}{\text{distance per tape length}} + \frac{0,5 \text{ m}}{\text{partial tape length}} = \frac{250 \text{ m}}{\text{measured distance}}$$

2 Second measurement.

$$\frac{5}{\# \text{ tape lengths}} \times \frac{49,9 \text{ m}}{\text{distance per tape length}} + \frac{0,5 \text{ m}}{\text{partial tape length}} = \frac{250 \text{ m}}{\text{measured distance}}$$

3 Average raw (uncorrected) measurement of course 250 m

4 Temperature correction.

$$\text{Correction factor} = 1 + (0,0000116 \times [21 - 20]) = 1,0000116$$

5 Multiply the temperature correction factor by the average raw measurement of the course

$$\frac{1,0000116}{\text{correction factor}} \times \frac{250 \text{ m}}{\text{avg. raw measurement}} = \frac{250,0029 \text{ m}}{\text{corrected measurement}}$$

6 Final (adjusted) length of calibration course: **250 m**

$$= 250,0029 \text{ m} - 0,0029 \text{ m} = 250 \text{ m}$$

**Summary:** To get 250 m length calibration course, divorced 2,9 mm with steel tape.

## BICYCLE CALIBRATION DATA SHEET

### PRE-CALIBRATION:

**Day:** 18.08.2023

**Time:** 19.42

**Temperature:** +21°C

Start count	Finish count	Difference
454851	457593	2742
457593	460335	2742
460335	463077	2742
463077	465819	2742

Pre-measurement average count =  $(2742+2742+2742+2742) / 4 = 2742$

Counts per km =  $2742 \times 1000 / 250 = 10968$

**Working Constant** =  $10968 \times 1,001 / 1000 = 10,978968 \text{ c/m}$

### POST-CALIBRATION:

**Day:** 18.08.2023

**Time:** 22.30

**Temperature:** +20°C

Start count	Finish count	Difference
582420	585163	2743
585163	587906	2743
587906	590649	2743
590649	593392	2743

Post-measurement average count =  $(2743+2743+2743+2743) / 4 = 2743$

Counts per km =  $2743 \times 1000 / 250 = 10972$

**Working Constant** =  $10972 \times 1,001 / 1000 = 10,982972 \text{ c/m}$

**CONSTANT FOR THE DAY** =  $(10,978968+10,982972) / 2 = 10,98097 \text{ c/m}$

## COURSE MEASUREMENT DATA SHEET

reading	counts	distance	adj.dist	location
<i>Measured in reverse of running direction, 18.08.2023, c=10,98097 c/m</i>				
467176	0	0.0m		START - at Akadeemia St (detailed sketch attached)
469176	2000	<b>182,1 m</b>		P1 - 2nd bridge railing post after lamppost (to river side)
<i>Measured in running direction, 18.08.2023, c=10,98097 c/m</i>				
472010	0	182,1 m		P1 - 2nd bridge railing post after lamppost (to river side)
524432	52422	<b>4956 m</b>		P2 - First lp after the triangular road junction
<i>--- adjustment here adds 976 counts c=10,98097 c/m =88,9 m ---</i>				
524432	0	4956 m		P2 - First lp after the triangular road junction
524743	311	<b>4984,3</b>	<b>5073,2 m</b>	P3 - lamp post left hand on the bend in the bushes before pc
524743	0	4984,3	5073,2 m	P3 - lamp post left hand on the bend in the bushes before pc
578891	54148	<b>9915,4 m</b>	<b>10004,3 m</b>	START - at Akadeemia St (detailed sketch attached)

### Note any adjustments made to the course after measurement:

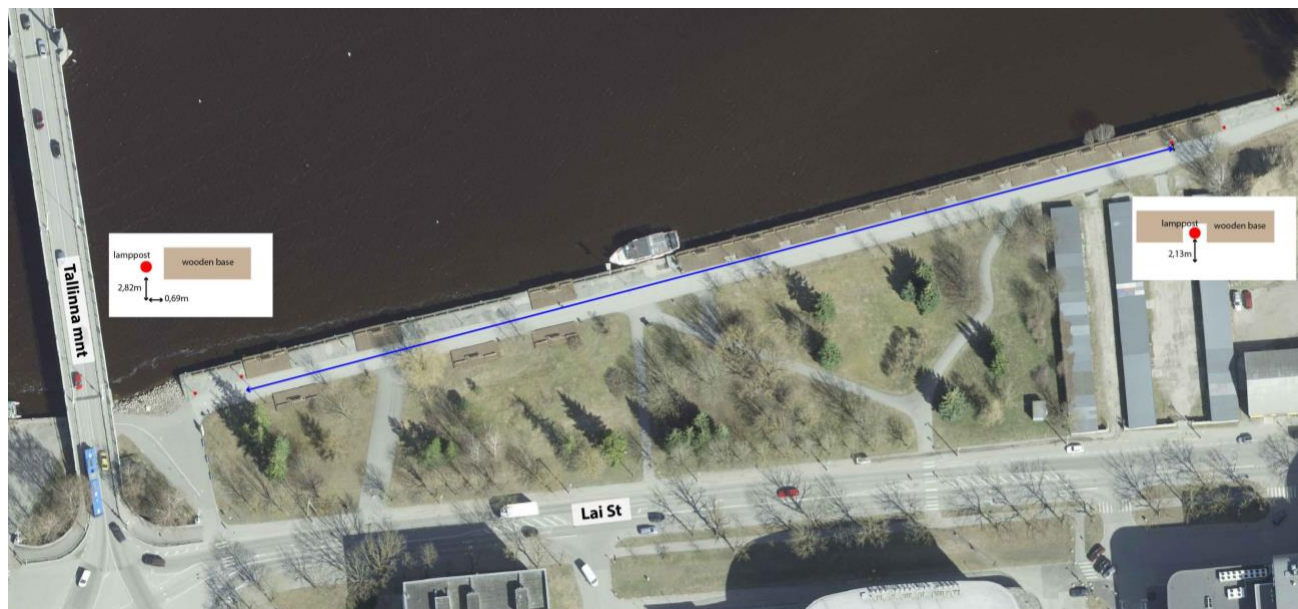
Adjustment made between P2 – P3. Extended the turnaround. The path is 4,3 m longer because of the rose bushes before the turnaround.

### Notes:

lp= lamp post

pc=pedestrian crossing

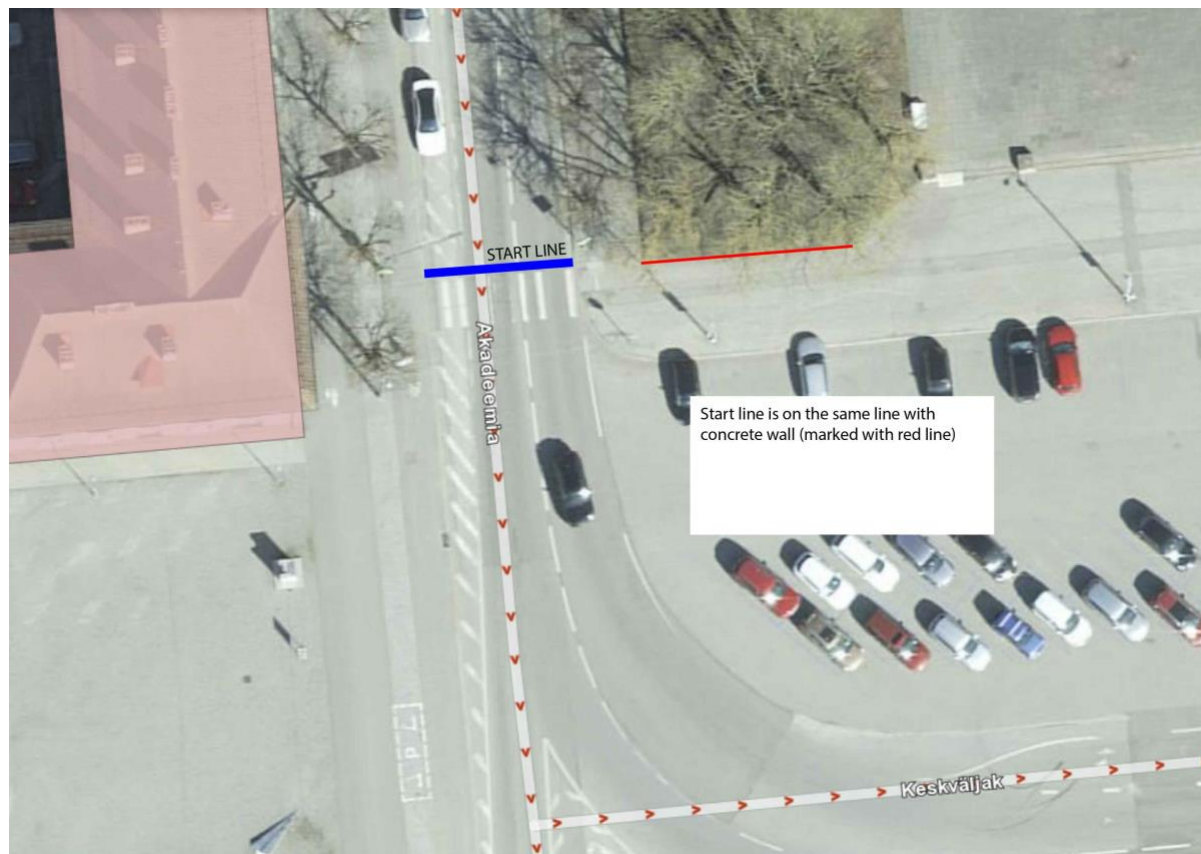
## CALIBRATION COURSE



## COURSE



## START LINE





## TURNAROUND (P2 – P3)

