In the export directory there is a file called export\_info.csv. In that file, there is a Absolute Time Range which specifies the start and end timestamps of the export in seconds.

For each row in fixations.csv You could subtract the start timestamp from export\_info.csv from start\_timestamp to get the fixation start time in seconds relative to the world video.

There is also a duration value for each fixation, which is in milliseconds, that can be used to calculate the end time of the fixation.

The timestamps in fixations.csv are [Pupil Timestamps](https://docs.pupil-labs.com/core/terminology/#pupil-time). To convert them to [UNIX timestamps](https://docs.pupil-labs.com/core/terminology/#system-time) you could calculate the difference between start\_time\_system\_s and start\_time\_synced\_s from info.player.csv, and apply that difference to the timestamps in fixations.csv.

Example:

start\_time\_synced\_s = 108854.618865 # pupil timestamp

start\_time\_system\_s = 1581605232.6661968 # unix timestamp

fixation\_0\_start\_timestamp = 108855.2 # pupil timestamp

def pupil\_to\_unix\_timestamp(synced\_timestamp):

return synced\_timestamp - start\_time\_synced\_s + start\_time\_system\_s

# fixation\_0\_start\_timestamp as unix timestamp

pupil\_to\_unix\_timestamp(fixation\_0\_start\_timestamp)

Output: 1581605233.2473319