Spring and Autumn Equinox : Why is the daytime longer than the nighttime ?

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It is said that the length of daytime and nighttime on Vernal equinox day and Autumn equinox day are the same, but actually the daytime is 16 minutes longer than the nighttime. One of the reasons is the detinition of the sunrise and the sunset. The other is the refraction of light that travels in the air. We can't prove the first reason because it is the matter of detinition, so we will prove the second one. We revised the distortion of the photos we took and calculated the angle that the sun moved. But we couldn't get a graph as we had expected. We will make a research on this cause and take the photos of the sun movement on the next Vernal equinox day.

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