



**SUPPLEMENTARY FIGURE 7** | Continuous plant monitoring revealed a direct influence of natural environmental variables in the experiment canopy aspect. Fluctuations of air temperature (**A**), RH (**B**), and PAR (**C**) were registered by the real-time monitoring platform. Averages per datapoint and SD are shown by solid lines and the colored background, respectively. RGB images were taken from the whole experimental setup (**D,F,H**) and the subset of plants grown for the time-lapse movie (**E,G,I**). (**D,E**) Nearly all plant leaves rolled inward in an extreme peak of air temperature found at 47 DAS at 1:45 pm ( $45.03 \pm 1.58^\circ\text{C}$ ), combined with intermediate RH ( $64.03 \pm 17.91\%$ ) and high PAR ( $321.71 \pm 29.45 \mu\text{mol m}^{-2} \text{s}^{-1}$ ). (**F,G**) A contrasting event was observed at 48 DAS, when the maximum air temperature reached  $28.58 \pm 0.98^\circ\text{C}$  at 2:00 pm. Together with higher RH ( $81.1 \pm 11.96\%$ ) and relatively lower PAR ( $147.85 \pm 32.87 \mu\text{mol m}^{-2} \text{s}^{-1}$ ), plants presented unrolled leaves on average. (**H,I**) An intermediate event was found at 49 DAS at 12:30 pm, when an intermediate temperature ( $39.4 \pm 1.43^\circ\text{C}$ ) was observed, combined with lower RH ( $52.13 \pm 3.05\%$ ) and reduced PAR ( $105.26 \pm 18.85 \mu\text{mol m}^{-2} \text{s}^{-1}$ ), leading plants to express an intermediate phenotype of leaf rolling. Values expressed as the mean  $\pm$  SD. RH, air relative humidity; PAR, photosynthetically active radiation; SD, standard deviation; DAS, days after sowing.