The groundtruth (GT) distribution map is generated by defining the mean pixel value as threshold, and this thresholding strategy is too coarse to generate inaccurate GT. Taking the inaccurate GT as input, the errors will also be propagated to the de-raining network thus producing unsatisfactory results. On the other hand, for our design by using a DMG-Net to generate distribution map, the DMG-Net will receive two supervisions including (1) the L1 distance between the output and the inaccurate GT and (2) the indirect de-raining loss. By such way, the negative loss induced from the inaccurate GT will be mitigated by the de-raining loss in an implicit manner, thus producing better de-raining results. Driven by this, we also set the weight for the L1 loss as small as 0.05 to avoid the changing of gradient of DMG-Net being dominated by the inaccurate GT.

Besides, following the setup of the ablation study in Sec4.3, we also compare the results by concatenating the distorted images with (1) GT or (2) the output from DMG-Net. Results are shown in Table R1.

Table R1: Results by using different information for task-relevant factor enhancement.

Setup	RS-Data	RD-Data
DMG-Net	30.92/0.935	32.01/0.938
GT	30.15/0.928	31.56/0.932

Results in Table R1 demonstrates the superiority of our design over the setup of directly using GT distribution map. We will add the results and analysis to Sec 4.3 of the paper in a future version.