A static, indoor study was conducted to assess the effects of rear window defroster/defogger line width and separation on the identification of obstacles located to the rear of a motor vehicle. Additional independent variables included participant age, rake angle of the rear window, and target location in the rearward field of view. The targets used in this simulated backing/reversing task, as seen through the interior rearview mirror, were a trash can (low contrast) and a child’s bicycle (high contrast). The dependent variables were reaction time to correctly identify the target, and subjective ratings of how easily targets could be seen through the simulated defroster/defogger line patterns.

There were two main findings. First, neither the width nor separation of the opaque lines affected participant reaction time to correctly identify a target, even when the percentage of the rearward view that was obscured by the lines reached 50%. Second, subjective ratings of the ease with which targets could be seen were significantly affected by both the width and separation of the defroster/defogger lines. These results suggest that drivers will object to the increased width and decreased separation of lines before target identification is significantly affected.