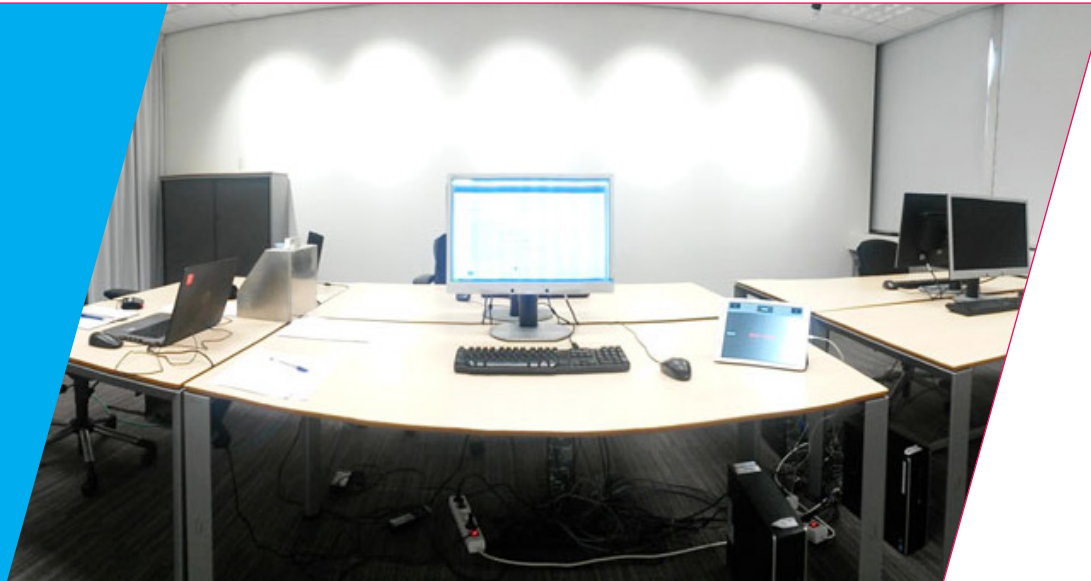


The influence of wall illuminance on satisfying lighting in an open office



On average lighting accounts for approximately 40% of the electrical energy used in office buildings. With the changing nature of work, and the need to use workspaces economically, open plan offices are more often considered than cell offices in workplace design. Guidelines and standards give recommendations regarding horizontal illuminance levels and luminance distributions in the visual, although they are based on research results from static lighting systems. Therefore, when designing the lighting for modern offices, greater importance should be attached to the creation of a well-balanced luminance distribution in the field of view.

An experiment has been carried out in a simulated work environment in which test participants were instructed to adjust the task illuminance to their preferred level of lighting while the wall luminance level and uniformity changed during the test. With the results of the experiment, further analyses have been performed.

According to this study, it can be concluded that energy savings can be enhanced if occupants in an open office space are offered a personal dimming control with a broad range in task illuminances. The start point for dimming should be the minimal luminaire output combined with a non-uniform wall luminance.



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