ABSTRACT

The indoor environment quality (IEQ) is an important design consideration for high performance buildings. In order to assess the IEQ performance in a LEED Gold building, we made objective measurements of physical parameters related to thermal comfort and air quality for the Husky Union Building (HUB) on the Seattle campus. These measurements were compared with subjective measurements made through occupant surveys for two locations: The third floor Student Legal Services office and the ground level Firecracker restaurant facility in the Husky Den food court. Results show that 1) the occupants are uncomfortably hot during the summer months in both locations, and 2) the CO₂ levels are too high in both locations in the autumn. The existing ASHRAE guidelines are too simplistic to assure adequate IEQ. We propose that a probability-based exceedance approach to IEQ performance be created and implemented for an improved design process. We also note that occupant behavior such as window opening affects the building IEQ and warrants further study.

SLS OFFICE

DISHWASHING

FIRECRACKER

In all the comfort zone graphs:
Blue boxed area: 1.0 clo zone
Green boxed area: 0.5 clo zone

Survey Results

CREDITS

We would like to thank HUB Associate Director Paul Zuchowski; Carole A. Grayson, JD, Director of Student Legal Services, and Dale T. Askew, General Manager of the Husky Den. We would also like to thank all the employees who filled out surveys.