

Lab Ventilation Effectiveness Tests

In Med Sci D488

2021

EH&S

University of California, Irvine

Introduction and Summary

Ventilation Effectiveness (Lab VEFF) tests have been performed in Med Sci D488 to evaluate the effectiveness of room ventilation system.

The results from the VEFF tests performed in 2020 indicate 45% and 87% reduction in dose when fume hood sash was closed and open respectively – improved ventilation effectiveness compared to the test data collected back in 2016 – before the building Smart Labs renovation.

Results

Table 1 shows the results of VEFF tests conducted in 2016. And, the results of VEFF tests performed in 2020 are shown on Table 2.

Table 1. Results of VEFF Tests - 2016

Test Date	Building	Lab	VEFF Score (Dose)	Fume Hood Sash
2016	Med Sci D	488	0.80	Closed
2016	Med Sci D	488	3.68	Open

Table 2. Results of VEFF Tests - 2020

Test Date	Building	Lab	VEFF Score (Dose)	Fume Hood Sash
2020	Med Sci D	488	0.44	Closed
2020	Med Sci D	488	0.47	Open

The comparison of VEFF test results are shown on Chart 1 and 2.

Chart 1. Results of VEFF tests w/ FH Sash Closed – 2016 and 2020

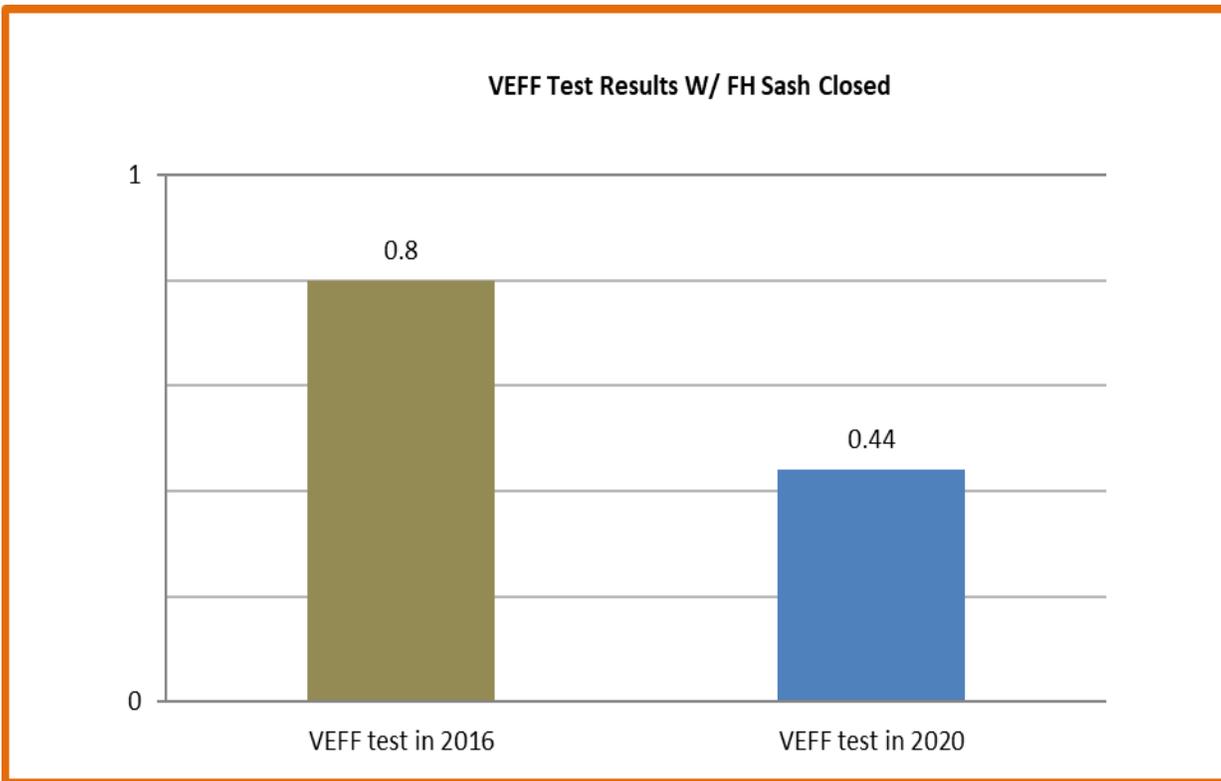
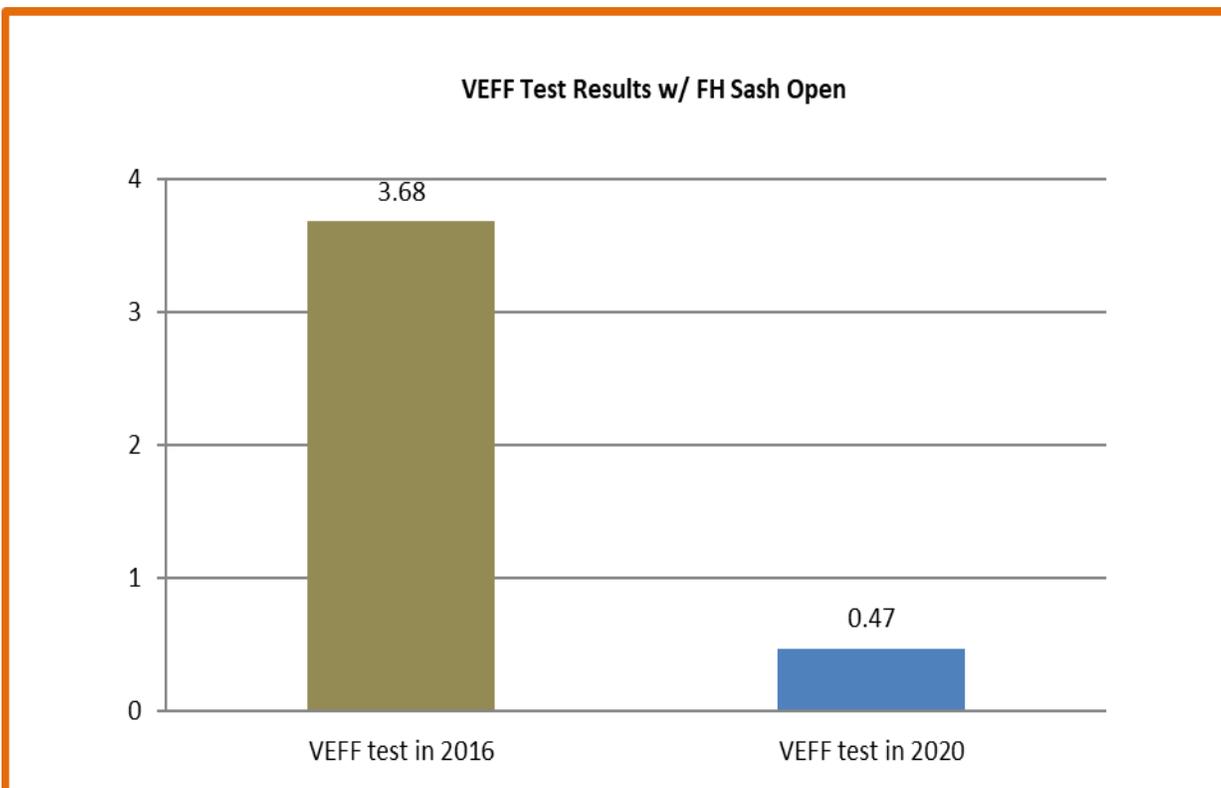


Chart 2. Results of VEFF tests w/ FH Sash Open – 2016 and 2020



Some of the changes made during the renovation contributing to the improvement of ventilation effectiveness (reduction in dose) in Med Sci D488 are shown on Table 3.

Table 3. Changes made during the Smart labs renovation in Med Sci D488

Changes/ Contributing Factors	Before Renovation - 2016	After Renovation
Supply Diffuser	1 x 4 way supply diffuser in center of lab	3 x Radial pattern diffusers
General Exhaust	1 x G.E.	1 x G.E. Location of G.E. changed
CDCV	-	Yes

Conclusions

The results of the VEFF Tests performed in 2016 and 2020 indicate that the effectiveness of room ventilation system in Med Sci D488 has been significantly improved – 45% and 87% reduction in dose when fume hood sash was closed and open respectively after the Med Sci D building renovation - Smart Labs.

