

# UC Davis challenge produces a better air conditioner

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The first certified winner of the UC Davis "Western Cooling Challenge" is Coolerado Corp. of Denver. Recent federal tests showed that their five-ton commercial rooftop unit should be able to air-condition a typical big-box store with less than half the energy needed by conventional cooling units.

"Coolerado's entry in the Western Cooling Challenge was the first to take our rigorous tests at the Advanced HVAC Lab at the U.S. Department of Energy's National [Renewable Energy](#) Laboratory in Golden, Colo.," said Mark Modera, director of the UC Davis Western Cooling Efficiency Center.

"We are extremely pleased to announce that Coolerado's product exceeded our expectations. While our target was a 40 percent reduction in [energy use](#) and peak electricity demand compared to conventional cooling units, the Coolerado H-80 tests indicate almost 80 percent energy-use savings and over 60 percent peak-demand reduction."

Launched in June 2008, the UC Davis Western Cooling Challenge is a program of activities designed to help cooling-unit manufacturers deliver better products, and to help building owners install and use those products in their new and existing low-rise, nonresidential buildings (such as suburban retail and office buildings).

Many western states are hot and dry, but use cooling systems that were designed for warm and humid climates. The Cooling Challenge is based

on the premise that Western-specific technologies should be able to cool using far less energy.

The potential energy savings are substantial, Modera said: Commercial rooftop air-conditioning units are used to cool 70 percent of the floor area in nonresidential buildings in the western U.S.

Coolerado CEO Mike Luby said his company's five-ton H-80 rooftop unit is designed principally for light commercial buildings. One H-80 is able to cool 1,500 to 3,000 square feet of commercial floor area.

"Coolerado would not have taken on the big task of producing this exceptional product had it not been for the challenge laid down by the Western Cooling Efficiency Center," Luby said.

The firm is now taking H-80 orders for delivery late this year. Luby said, "There will be a higher first cost associated with this equipment, but with utility rebates, tax incentives and energy savings, our customers should make up that difference in just two years."

The completed certification of the first unit puts the Western Cooling Challenge right on schedule to have a selection of new equipment reach the market by spring of 2010, Modera said.

Five other manufacturers have promised to submit equipment for Western-Cooling-Challenge efficiency testing. More results should be available by the end of 2009.

Source: University of California - Davis

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