

BetaLED™ Project Brief Overview

Innovative Cold Storage Enterprises – San Diego, California



PROJECT SUMMARY

“Utilizing the BetaLED fixtures was a final touch to an already phenomenal project concerning **energy savings**. We sought to pursue energy efficiency in every facet, as well as **cutting edge technology**, which is clearly demonstrated in the application of these industrial LEDs,”

*Phoebe Hamann,
Green Building Specialist,
LEED AP, Hamann Construction*

End User:	Innovative Cold Storage Enterprises, Inc. (ICE)
Application:	New construction featuring installation of interior LED lighting
Products:	<ul style="list-style-type: none">• 26 (321 watt) THE EDGE LED canopy lights for the freezer staging• 23 (321 watt) THE EDGE LED canopy lights for the dock area• 230 (86 watt) THE EDGE LED parking structure lights for freezer aisles
Benefits:	<ul style="list-style-type: none">• The BetaLED total system consumes 76 percent less energy than the originally designed HID system.• BetaLED luminaires provide over 150,000 maintenance-free hours in the minus 20 degree Celsius refrigerated warehouse.• With the help of THE EDGE fixtures, the ICE II freezer warehouse uses 62 percent less electricity than standard cold storage facilities.

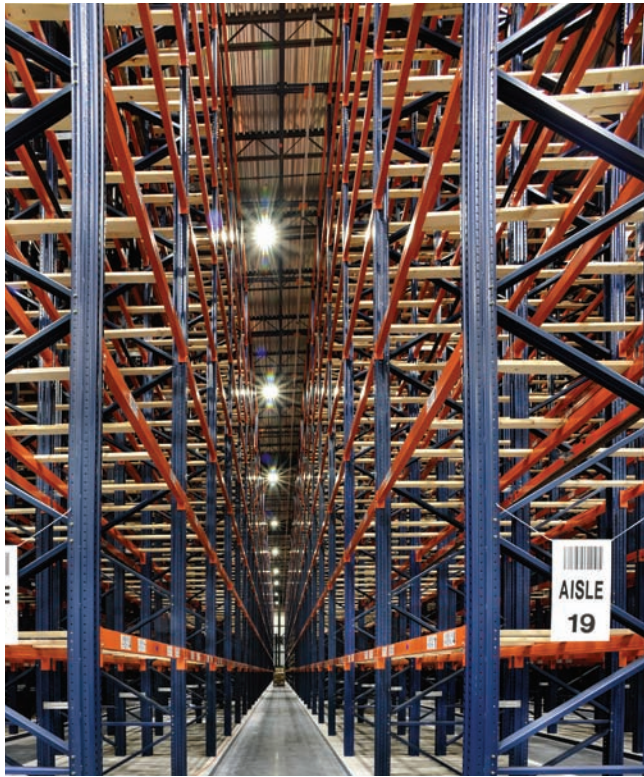


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Cold storage designed to save cold cash



Innovative Cold Storage Enterprises, Inc. (ICE) opened its second warehouse called ICE II, in March 2009. That same month, the Department of Energy (DOE) adopted mandatory energy conservation standards, effective January 2012. The standards outlined in The Energy Conservation Program for Commercial and Industrial Equipment forecasts significant energy savings for commercial and industrial cold storage facilities. Using a forward-thinking design, the ICE II warehouse affectively achieves futuristic conservation throughout the massive structure.

“Utilizing the BetaLED fixtures was a final touch to an already phenomenal project concerning energy savings. We sought to pursue energy efficiency in every facet, as well as cutting edge technology, which is clearly demonstrated in the application of these industrial LEDs,” said Phoebe Hamann, Green Building Specialist, LEED AP, Hamann Construction. Hamann stated the ICE II facility is five points over the requirement to achieve Gold rating for certification through the Leadership in Energy and Environmental Design (LEED®) Green Building Rating System™ of the U.S. Green Building Council.

The ICE II freezer warehouse is designed to save more than \$408,000 annually at current utility prices and uses 62 percent less electricity than standard cold storage facilities. The 132,000-square foot warehouse costs half as much to operate as the old ICE facility yet it can hold four times more product. The investment to design the warehouse around energy efficiency earned incentives from the local utility SDG&E®, including nearly \$80,000 that went to offset the cost of energy-efficient BetaLED lighting.

Lighting storage areas designed to be kept to specific ranges of cold temperature is a unique application. Traditional lighting equipment produces heat so there is an imbalance with hot lights operating within a cold space. LED performance inherently increases as operating temperatures drop. This makes LED fixtures a natural fit for lighting cold storage facilities. BetaLED luminaires provide over 150,000 maintenance-free hours in the minus 20 degree Celsius refrigerated warehouse — useful in this application where lamp replacement would otherwise be laborious and expensive due to 60-foot ceilings.

The ICE II project was originally designed with 321 traditional HID lights at approximately 465 system watts each. BetaLED fixtures were installed instead and included 230 LED fixtures at 86 system watts each and another 49 LED fixtures at 321 system watts each. The BetaLED 35,509 total watt system consumes 76 percent less energy than the originally designed HID 149,265 total watt system. Energy conservation is further increased through the use of motion sensors in the ICE II freezer warehouse and dock areas that instantly activate luminaires in rest-mode to 100 percent brightness when activity is detected.

The steel-framed ICE II facility integrates a variety of energy-saving features, including an R-42 cool roof, R-39 freezer walls with nine inches of polystyrene foam sandwiched in steel, high-speed freezer doors that reduce infiltration, and refrigeration components with variable-speed drives and computerized controls.