

ENERGY STAR Building Design Profile

Kroger Store #L-784
Lexington, KY 40502



Part of an urban renewal project, the new contemporary style Kroger near downtown Lexington, Kentucky is sure to entice passersby alike. Unlike any other Kroger before it, this store features parking on the roof, escalators, and an expansive sales floor with a majority of “behind the scene” work below ground. Large scale storefront windows bring in ample daylighting for a more appealing shopping experience while perusing unique delights in the feature departments like the Beer Cave or Murray’s fine cheeses.

Store #L-784 follows the companies standard design criteria and equipment plan to create an efficient, affordable, and sustainable grocery store. Kroger worked with Robertson Loia Roof to create the 90,413 square foot store so that it incorporated a large number of energy saving and sustainable features. The features help to reduce operating costs allowing Kroger to offer competitive prices for their goods and services. Efforts also come from customer data in which consumers expect their shopping centers to be designed for their best interest so it’s not only an exciting place to shop but a healthy and environmentally conscious one too.

Both Kroger and Robertson Loia Roof wanted to participate for the Designed to Earn the ENERGY STAR mark to help substantiate the value of design measures in both absolute terms as well as in the eyes of customers. Robertson Loia Roof used simulated models and Target Finder to ensure that each and every store is efficient to a rate of 75 or higher. This store’s rate is actually 90 (out of 100) and will reduce energy and CO₂ emissions by 28.94 percent.

The design of this structure incorporates energy efficiency measures from a number of areas. Installing insulating materials, use of high efficiency HVAC equipment and water heating equipment, and reclaiming cooler/freezer refrigerant heat help to qualify this building to earn the Designed to Earn the ENERGY STAR mark.

HVAC equipment installed on this building is high efficiency using variable speed motors and building energy management systems provide for optimal start and stop of equipment over the course of the shopping day. Occupancy ventilation is used to supplement exhaust only cooking hoods and equipment, keeping wasted conditioned air to a minimum. Refrigerants used to keep coolers and freezers cold also expel heat. This heat is reclaimed and used to heat both conditioned air and domestic water systems. This minimizes the use of fossil fuels for the same purpose.



Architect of Record:
Robertson Loia Roof, P.C.

Engineering Firm:
Robertson Loia Roof, P.C.

Building Owner:
Kroger – Mid-South Division

Design Energy Score:
90

Percent Energy and CO₂ Reduction*:
-28.94

Design Year/ Estimated Occupancy Date:
2014/December 29, 2014

Space Type:
Supermarket/Grocery

Floor Space:
90,413 s.f

Estimated Energy Use Intensity:
418 kBtu/sf/yr

Estimated Total Annual Energy Use:
37,860,182 kBtu/yr

Estimated Annual Energy Cost:
\$ 304,677

Technologies Specified:
Efficient HVAC systems, reclaiming of heat from refrigerated equipment

For More Information
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*Percent Energy and CO₂ Reductions are based on comparison to a median building of similar type.

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