

## ENERGY STAR Building Design Profile

Kroger Store #GA-491  
Atlanta, GA 30319



This Kroger store follows the company's standard design criteria and equipment plan to create an efficient, affordable, and sustainable grocery store. Kroger worked with Robertson Loia Roof to create the 89,975 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 89 (out of 100) and will reduce energy and CO<sub>2</sub> emissions by 29 percent.

The design of this structure incorporates energy efficiency measures from a number of areas. Daylighting the sales area, 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 achieve the Designed to Earn the ENERGY STAR mark.

Approximately 3% of the roof area is installed with skylights. Skylights assist in lowering light levels throughout the store. Lights are controlled to 1/3 and 2/3 levels when light sensors detected abundant sunlight from the roof. Roofing insulation and reflectance allow for sunlight absorption to be minimized, while an R-21 EPDM roofing system helps to minimize heat transfer through the roof structure.

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 - Atlanta/South Division

**Design Energy Rating:**

89

**Percent Energy and CO<sub>2</sub> Reduction\*:**

29

**Design Year/ Estimated**

**Occupancy Date:**

2012/September 2013

**Space Type:**

Supermarket/Grocery

**Floor Space:**

89,975 sq ft

**Estimated Energy Use Intensity:**

463 kBtu/sf/yr

**Estimated Total Annual Energy Use:**

13,024,202 kBtu/yr

**Estimated Annual Energy Cost:**

\$328,231

**Technologies Specified:**

Daylighting through the use of skylights, efficient HVAC systems, reclaiming of heat from refrigerated equipment, roof materials

**For More Information**

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\*Percent Energy and CO<sub>2</sub> Reductions are based on comparison to a median building of similar type.

