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Poster Title: The Last Great LED Hunt: Observations from the End of Residential Lighting

Abstract: The reign of residential lighting programs has been long and fruitful, but the throne is quaking. In recent years, the implementation of the Energy Independence and Security Act of 2007 (EISA) and the introduction of LEDs into the marketplace have pointed to the end of program-induced savings from residential lighting programs. Hence program administrators have had to carefully reexamine their programs. The data presented in this paper will help inform program administrators as they make crucial decisions on how to allocate limited program funds given the dwindling savings from residential lighting. This paper will look at market data gathered over 17 years, drawing from both historic and recent market assessments in multiple areas, including non-program areas. Using these data, we will paint a picture of the long-term lighting market and forecast the market's future based on market adoption curves developed from saturation data and from insights provided by market actors. The various market assessments will allow the authors to track and present key market indicators and examine them for emerging trends and issues brought about by technological change and increased efficiency standards. The paper will place special emphasis on the impacts of EISA (including Phase 1 and 2), and on the adoption of LEDs in program and non-program areas. The authors will use the information on historic trends and current market conditions to provide actionable insights to help program administrators carefully consider when and how to exit the lighting market. This paper will be of interest to a wide variety of program planners, implementers, administrators, regulators, and evaluators. All research will be completed prior to March of 2018. Data sources include: thousands of on-site lighting inventories (including repeat visits to panels of homes), point-of-sale data for 44 program and non-program states, and scores of in-depth interviews with manufacturers, suppliers, and retailers representing programs across the nation. All data collection will be completed by December 2018. Study Limitations: To help mitigate both the potential for Hawthorne effects among panelists and non-response bias from the consumer survey used to recruit for the on-site visits, evaluators set strict quotas based on home type that help ensure good representation from often overlooked respondents including: low income, multifamily, renters, and households with lower levels of educational attainment.