

LIGHTING MARKET CHARACTERIZATION AND ADJUSTED MEASURE LIFE STUDY



The primary purpose of the study was to calculate the adjusted measure lives (AML) for commercial and industrial LED lighting measures. The AML accounts for changes in the lighting market that would have resulted in the customers likely changing to LEDs earlier than the full equipment measure life or effective useful life (EUL) had LEDs not been incentivized by the program.

Approach

To estimate the future baselines required for the AML calculations, DNV leveraged its lighting market model which was calibrated using results from interviews with seventeen participating and non-participating lighting distributors in Rhode Island. In addition to the future baselines, the market model yielded forecasts of installed stock saturation and net program savings over time to help better understand the remaining potential for generating program savings.

Key terms

AML (adjusted measure life): the ratio of lifetime savings and firstyear savings applied to program measures to calculate the lifetime savings in a dual-baseline framework. **Saturation:** The percentage of sockets filled with a particular lighting technology type.

Market share: The percent of lighting technologies sold in the Rhode Island market.

Key findings

Overall LED market share in 2021: 56%



LED saturation is expected to increase from 38% in 2021 to 68% by 2025, assuming the program continues as-is versus 63% if the programs were to end.



Recommendations Adopt the updated AMLs for TLEDs, LED luminaires, and LED luminaires with controls.

Application	Measure	AML
Ambient linear	TLED	6
	LED luminaire	6
	LED luminaires with controls	7
High/low bay	TLED	7
	LED luminaire	7
	LED luminaires with controls	8
Exterior/ outdoor	TLED	5
	LED luminaire	5
	LED luminaires with controls	6
Screw- based	A-lamp	2
	Downlight	2
	Decorative	2

Conclusion

With the longer lifetimes associated with LEDs and increasing rates of LED saturation, fewer sockets are available for upgrade leading to decreasing opportunities to generate program savings. There are still opportunities for savings in the high/low bay submarket. Distributors said that absent the program, C&I customers would not pursue high bay projects given the disruption and lower ROI. In the exterior submarket, there are not as many non-LED products available in the marketplace, so customers will likely be forced to replace non-LEDs with LEDs as equipment burns out or fails resulting in less opportunity.

Rhode Island has proven to be a different market than Massachusetts and Connecticut's LED market share in the C&I space. Rhode Island has been less aggressive in transforming the market than the other jurisdictions, illustrated through distributor interviews and on-site data collection efforts in past studies.