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ENERGY STAR Lamps v.2.0 DRAFT Specification Comments

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SUBMITTED BY:

Seth Craigo-Snell, Ph.D.
CLEAResult
Director of Research, Consumer Product Services
146 Chestnut Street
Springfield, MA 01103
stan.mertz@clearesult.com
413.731.6546 ext. 231 office

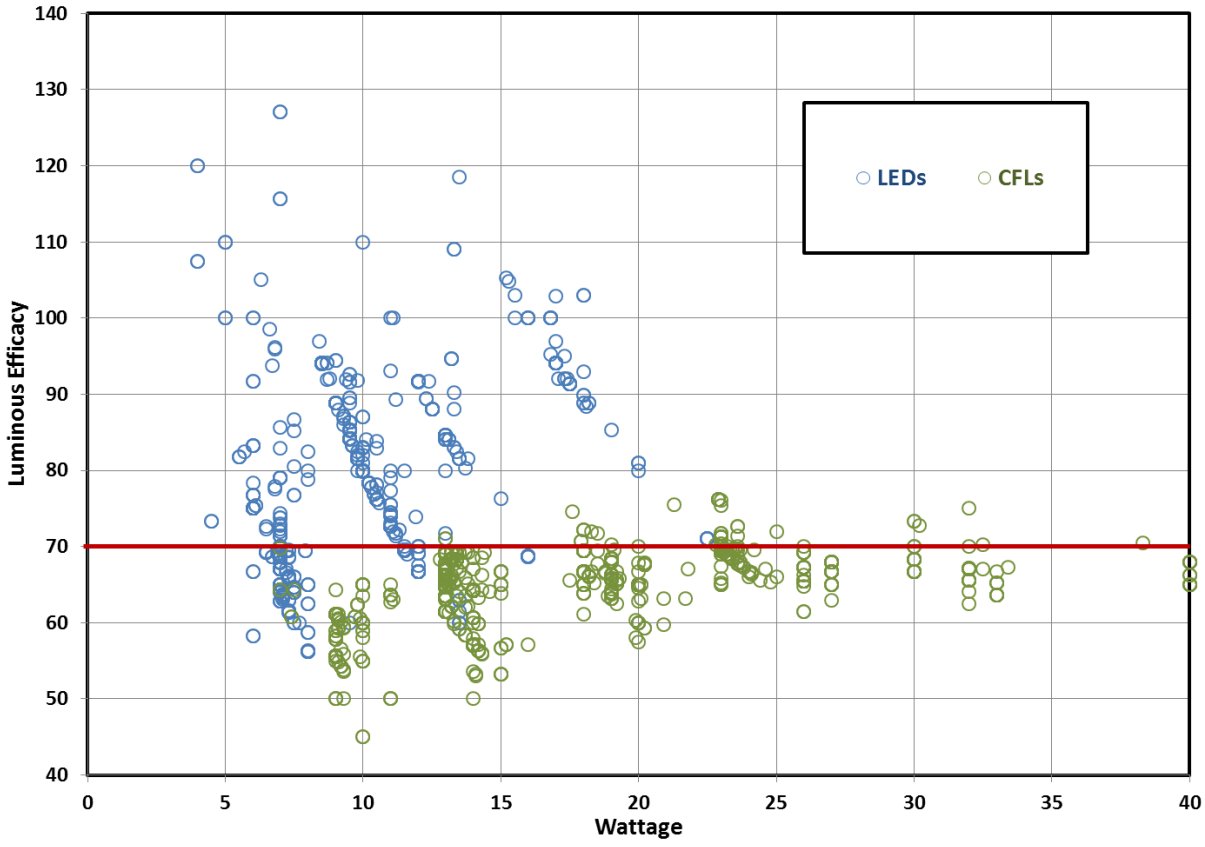
Stan Mertz
CLEAResult
Director of Retail Operations, Consumer Product Services
146 Chestnut Street
Springfield, MA 01103
stan.mertz@clearesult.com
413.731.6546 ext. 231 office

For years, the ENERGY STAR brand has identified not only *efficient* products, but also *high quality* products. This has been especially true in recent years with the revised certification process. Energy Efficiency (EE) Program Sponsors across the nation have relied on ENERGY STAR for accurate identification of products with notable energy savings opportunities to deliver to their customers/constituents.

In review of the DRAFT ENERGY STAR Lamp specification v.2.0, we are concerned that the proposed luminous efficacy requirement for omnidirectional lamps (70 lpw; Section 9.1) is unnecessarily high given current market conditions and consumer preferences.

Although we agree with the inherent value of having a single ENERGY STAR specification for light bulbs that is technology neutral, this efficacy requirement would remove a disproportionate number of CFL models compared to LED models (see Figure 1 below). Of the 1201 omnidirectional CFL models currently ENERGY STAR listed, only 104 models (<9%) have a luminous efficacy above 70 lpw. For omnidirectional LED models, 539 (>68%) of the 788 currently ENERGY STAR listed models have luminous efficacy above 70 lpw. Ironically, although technically technology neutral, with a minimum requirement of 70 lpw, after the removal of over 90% of CFL models, the ENERGY STAR certified models would be overwhelmingly LED.

Figure 1: ENERGY STAR Omnidirectional Products - March 2015



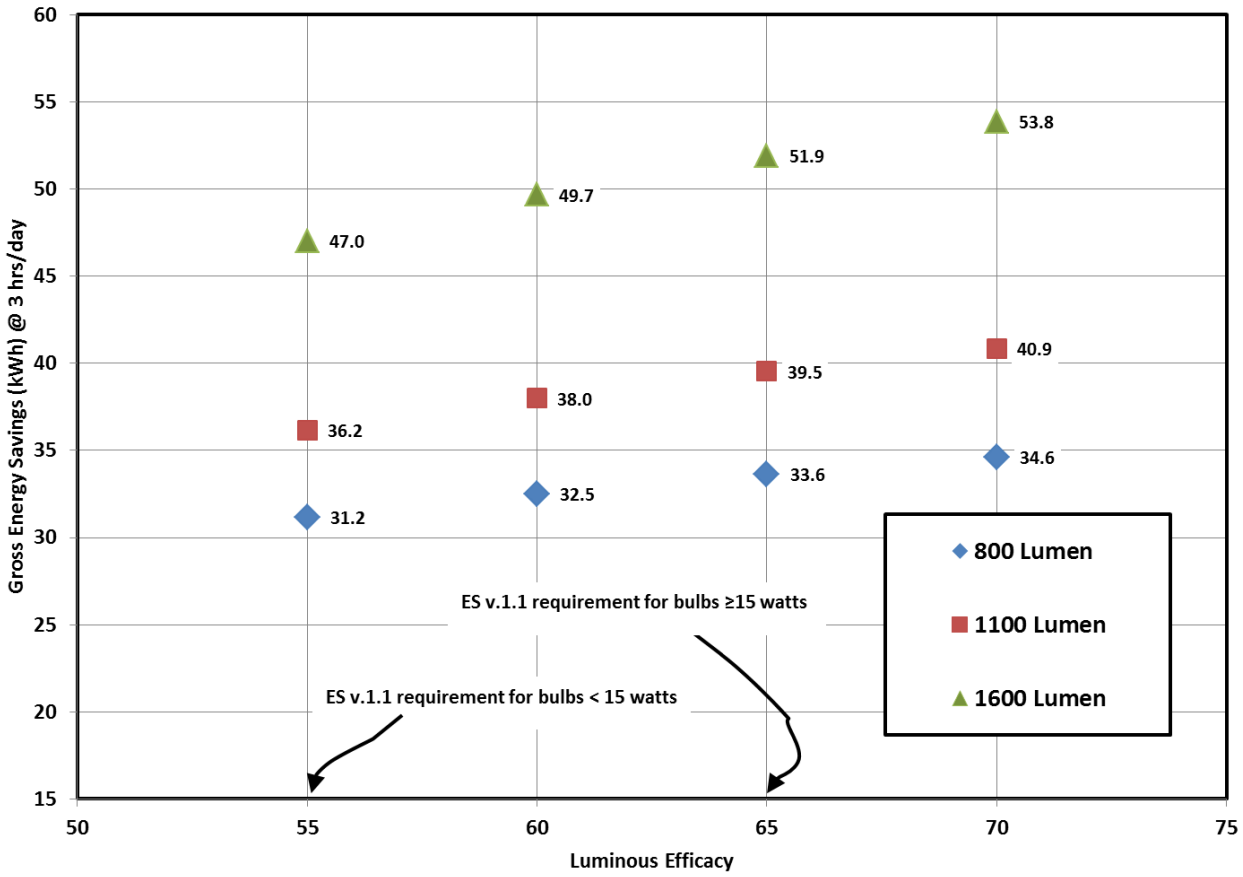
Of course, there may be some CFL models that could be re-engineered to achieve a higher luminous efficacy, but the additional investment needed to achieve this would directly increase the cost of the CFL models to customers. Research and development on CFLs have significantly improved the quality of products over the past several years and customers are now generally satisfied with the quality of omnidirectional CFL products on the market.

As it relates to setting the luminous efficacy requirement, the real question might be:

What is to be gained by raising the requirement to 70 lpw?

The overwhelming majority of savings generated by promoting light bulbs in the U.S. market are already generated with the current v.1 ENERGY STAR level compared to the baseline conditions in the U.S. market established by the EISA, 2007 legislation for omnidirectional lamps (e.g. EISA compliant halogen lamps). The increase from 55 lpw (for lamps under 15 watts) and 65 lpw (for lamps ≥15 watts) delivers only a marginal improvement to energy savings (see Figure 2).

Figure 2: Marginal Improvement Based on Higher ENERGY STAR Efficacy Requirement



For example, increasing the luminous efficacy requirement from 65 to 70 lpw for bulbs 15 watts or greater yields **less than 2 kWh per year** in gross energy savings (at

3 hours/day of lamp usage). Similarly, and more importantly, the increase in luminous efficacy from 55 to 70 lpw for bulbs less than 15 watts yields **only 3.4 kWh per year** in gross energy savings (at 3 hours/day of lamp usage).

For energy efficiency program sponsors all around the country, these requirements do not come close to providing the amount of energy savings that would be necessary to justify such a radical revision to the ENERGY STAR certified CFL products.

While there are some notable EE sponsors that are potentially planning to offer *LED only* programs, this does not represent the majority of programs. Many EE program sponsors plan to keep Standard CFLs as a substantial portion of their programs up to 2020, and possibly beyond. Given the advance nature of program filings with service commissions, there are a significant number of program filings that have included standard CFLs through the next several cycles. By setting such a drastic change in the efficacy requirements, this would put these program sponsors in serious jeopardy without a wide enough variety of products to promote to hit their filed goals. Most all EE programs across the US are challenged with annual kWh savings goals rather than lifetime savings goals. This continued focus on annual savings makes it nearly impossible for a program to be successful with an *all LED* product mix. Current program designs have been filed that are allowing a moderate transition of unit count to LEDs, but at a pace that still allows aggressive goals to be hit and stays within the allocated budgets. The average cost to promote LEDs is still significantly higher than CFLs. So, in an annual savings environment; the CFLs cost effectiveness is much higher than an LED.

With LED only programs, the retail price that the consumer would be paying is significantly higher than many customer demographics may be willing to pay to purchase a commodity product such as a light bulb. Programs have been challenged for many years to get a wide array of program participants to purchase substantial quantities of CFLs to meet filed kWh savings plans. Programs have rightly used incentives as a primary driver of the adoption of these efficient products because consumers are extremely sensitive to first cost for commodity products. Given the pre-discounted cost of CFLs, an average incentive may be in the $1.00 per bulb range.

For example, the Great Value branded 13w CFL 4 pack regularly retails at $4.88 per package. Many utility programs will offer a $4.00 per package discount ($1.00 per bulb) bringing the final retail price to the consumer to $0.88 per package. Evaluations studies have shown that there is a significant impact to sales velocities by bringing pricing to a point where that product is below the cost of the baseline product (EISA compliant halogen). In an all LED program, the incentives required in 2016-2020 timeframe will still ***far*** exceed the CFL incentive cost for a comparable product. Since programs may not be able to afford these high incentive levels to get to the same final prices as seen in a program with a mix of CFLs and LEDs, they may be forced to scale back the EE program to stay within the filed dollar budgets, and risk not achieving the filed savings goals. This will also exclude a significant portion of consumers that will not pay $2.00 to $3.00 for a

light bulb. Under such a framework, we risk a substantial number of consumers backsliding to a less expensive and less efficient halogen product.

There's no doubt that LEDs offer considerable promise for lighting solutions in the U.S. residential market moving forward, and many programs are supporting the promotion of LED products. However, the simple facts are that LED products: a) are still emerging, b) are quite expensive relative to other efficient options (i.e. CFLs), and c) deliver only marginally more savings (on an annual basis) than CFLs for program sponsors. Beyond cost effectiveness concerns, program sponsors want to be able to offer their ratepayers a wide variety of high quality CFL and LED products to reach the widest possible customer demographic and make sure that they are offering solid solutions with cost effective programs. This change in the ENERGY STAR specification would significantly hinder their ability to do so.