



NRDC Comments to the FTC on Lamp Labeling Study, Project No. P084206

Submitted by:¹
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On February 20, 2009, the Federal Trade Commission published a notice in the *Federal Register* seeking public input on its proposed approach to testing various components of a light bulb labeling program with consumers.

FTC is seeking comments on the following key issues:

- 1) whether the proposed collection of information is necessary for the proper performance of the functions of the FTC, including whether the information will have practical utility
- 2) ways to enhance the quality, utility, and clarity of the information to be collected

On behalf of the Natural Resources Defense Council and its more than 1 million members and e-activists, enclosed is our input. Our comments respond to each of these key issues and build from our prior comments to FTC which are summarized below.

- Label should include an easy to understand method for consumers to be able to compare the relative energy efficiency of bulbs that give off similar amounts of light. We propose a 1 to 5 star system, with 5 stars being most efficient. This system is needed as much to shine a light on the most efficient models as it is to help identify those that are very inefficient.
- Label needs to provide a way for consumers to select the bulb that gives off the amount of light they are seeking. Today consumers buy lamps based on their wattage and have committed to memory the current offerings of 40, 60, 75 and 100W, without knowing how much light, expressed in lumens, they give off. For the next several years, most

¹ With assistance provided by Ecos Consulting's Chris Calwell and Laura Moorefield

consumers will continue to need some way of comparing the new bulb's light levels and power to the levels previously provided by those with the standard wattages. To that end NRDC includes at the back of this document an updated version of its label that includes a "sliding scale" that shows the light output of the bulb compared against the light provided by the traditional incandescent lamps (expressed as watts)

- We believe FTC shall a) decide what information must be on the package and b) provide guidelines for manufacturers on how to make claims for specific "optional" categories. For example, while FTC might choose not to require claims on a lamp's color to appear on the front panel, they should consider establishing a set of standardized terms and definitions for interested manufacturers to convey this information. Similarly FTC should provide guidance to manufacturers on claims that can be made regarding energy cost savings (e.g. saves \$53 over the life of the bulb). This guidance would include the electricity cost to use (cents/kWh) and if the claims need to be shown on a per bulb basis.

Usefulness of Additional Research

NRDC believes that the FTC's proposed collection of information to support a revised approach to lamp labeling effort is absolutely warranted and will be highly useful to lamp purchasers. Americans have been purchasing incandescent lamps on the basis of wattage for more than a century. They incorrectly believe that wattage equals brightness. After 20 years of consumer education, many purchasers have grown to understand that CFLs represent a similar light output for 60 to 75% less wattage than incandescents. However, they generally do not understand that various incandescent lamps can all consume 60 watts but emit widely different amounts of light. Similarly, they will be overwhelmed by the number of wattage equivalencies they must keep track of as various efficient incandescent and LED technologies join CFLs in the marketplace over the next few years in response to EISA and other market pressures. For example, Philips' new Halogena product uses 70W but gives off as much light as traditional 100W incandescent lamps, and is much brighter than today's 75W incandescent lamp

Now is the time to switch to labeling strategies that clearly distinguish among the range of competing options on an efficiency and light output basis. A successful FTC label revision will help the average buyer understand how much light they need for a particular purpose, and which options represent the most energy efficient way to deliver that amount of light.

It is absolutely useful and necessary for the FTC to conduct additional consumer research on the proper design of a label for lighting products. We commend the Federal Trade Commission for conducting an initial focus group through Synovate with a small number of consumers to test some of the ideas put forward by stakeholders previously in this process.² We believe the key lighting and labeling topics were addressed properly by FTC's consultants.

We agree with them (page 3) that "the most critical challenge will be to educate consumers that brightness is measured by lumens, not watts."

² Synovate, *Lamp Labeling Focus Group for the Federal Trade Commission*, October 30, 2008.

Synovate's conclusion that "the 'Star Rating System' was very well-received by respondents" affirms previous labeling research and NRDC's assertion in prior comments to the FTC³ that a simple, categorical comparative efficiency rating system will be one of the most useful label features for consumers. Synovate's conclusion bears repeating:

The idea that the energy efficiency of a bulb could be determined in the blink of an eye was very appealing.

Focus group participants' preference for the "graph"-style label reflects their desire for comparative information. Edward Tufte, a professor at Yale University and the founder of much of the science of displaying quantitative information, has long argued that the single most important job of a graph is to answer the question, "compared to what?" Good graphs do that brilliantly, in a simple, intuitive, visual shorthand, with little chance for misinterpretation. Poorly designed graphics clutter the visual with so much explanatory text in fine print that the impact of the key message is lost or hopelessly diluted. The best package labels will be grasped and understood at a glance by most consumers, not read for complete comprehension like a book by the smaller number of consumers willing to invest that much time in researching a simple light bulb purchase.

Additionally, the focus group (page 5) validated another aspect of the proposed NRDC label design:

[R]espondents felt that it was important that these ratings be consistent over bulb types. They wanted to compare the efficiency of an incandescent bulb to a fluorescent or CFL. Understanding that one incandescent was more efficient than another, an intra-category comparison, was much less motivating.

Approaches to the Proposed Research

By conducting its survey online, the FTC will be gaining sample size and statistical relevance (engaging 5,600 respondents from 15,000 respondents to "screener" questions), but may lose comprehension, meaning, and context. Consumer response data tend to be the most relevant when they come from consumers looking at, handling, and reacting to physical samples of actual lamps and their packages, side-by-side, at the final intended scale. Will Internet-based facsimiles of such packaging and labels suffice? Will interested parties have the opportunity to review and comment on the survey and the results from the pilot group? Will there be an opportunity to revise the survey if interested parties feel that clarification is needed?

As a prelude to such a large-scale test of final concepts, we recommend more in-person focus groups with larger numbers of participants to hone the concepts themselves. The first one yielded many useful insights into the way consumers grasp and respond to the information provided to them in various forms. *However, is it reasonable to conclude that all consumers or the average one would favor front-of-package labels that address only brightness, color,*

³ Noah Horowitz, *NRDC Input on FTC Proceeding to Establish Updated Lighting Labeling Requirements*, Natural Resources Defense Council, September 19, 2008.

efficiency, and lifetime, in that priority order, because most of the participants in a guided focus group of seven individuals felt that way? Without a set of iterative focus groups to test particular elements, answer questions, and make subtle revisions, the FTC runs the risk of garnering large-scale reaction to ideas that do not yet represent the most compelling or effective variants of particular concepts.

The Philosophy Behind Label Layouts

We have some sympathy for the FTC's observation that four or fewer pieces of information should be considered for the prime real estate on the front of the package. Narrowing the list to the most vital items ensures that each can be large enough to be legible and that the sum total of the information is not overwhelming to purchasers. But a few more focus groups might reveal whether the right number of pieces of front label information is three or four or five, and whether a particular order is consistently preferred.

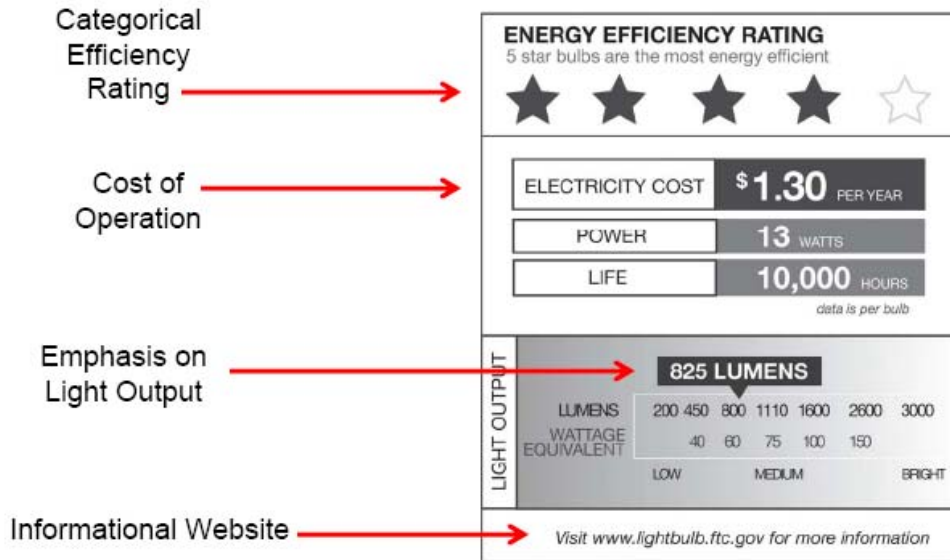
We noted in previous comments that the top-to-bottom order in which information is presented on a label should not be confused with a value judgment on which elements are the most important to consumers. Importance is conveyed by visual prominence as much as anything. We chose the top and bottom portions of the label to impart comparative information on energy efficiency and both absolute and comparative information on brightness, giving the greatest visual prominence to those two attributes.

We believe that consumers will also benefit greatly from being furnished at least one piece of *absolute* information: annual operating cost under standard usage conditions at national average electricity prices. Without this information, consumers can be fooled into thinking that a highly efficient but overly bright lamp will save more energy in a particular application than a moderately efficient lamp of the proper brightness for that application. We used the middle of the label to provide this quantitative data on operating cost, along with two other pieces of information -- wattage and lifetime -- that were still important, but not as vital as efficiency and brightness.

If wattage information is omitted from the label and, instead, manufacturers are allowed to list product wattage on the front of the package in a font as large or colorful or prominent as they wish and to make wattage equivalency claims as they see fit, much of the FTC's aspiration to shift consumers to lumens-based purchasing on its label will be for naught. If wattage equivalencies are to appear anywhere on product packaging, either on a federal label or in manufacturer claims, the FTC should specify the minimum lumen values necessary to achieve particular equivalencies.

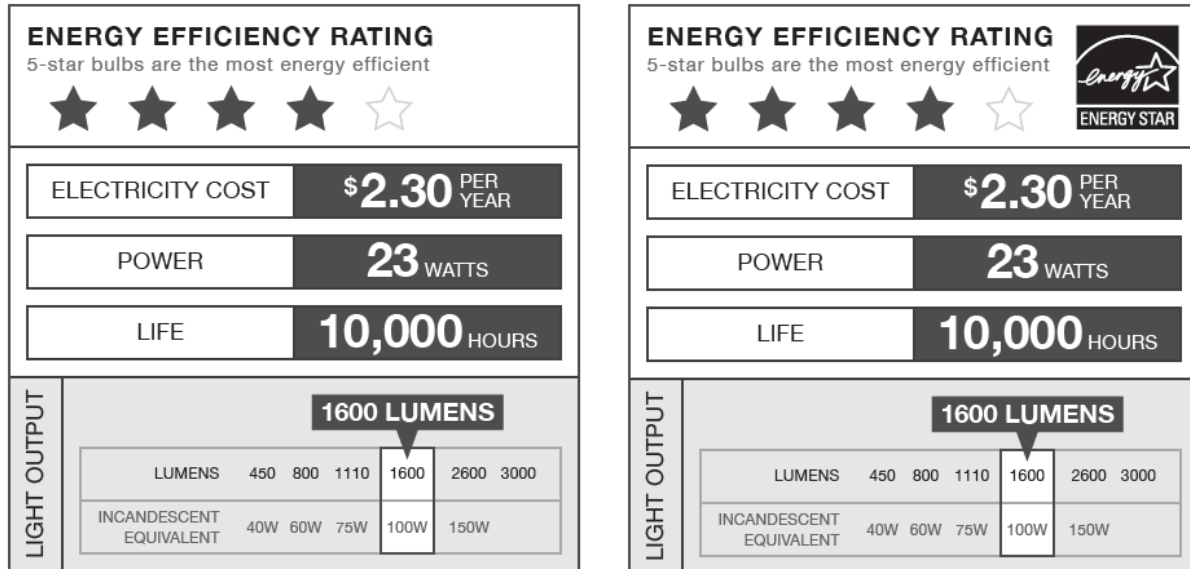
Specific Concepts to Be Shared with Survey Respondents

FTC and Synovate worked from NRDC's original categorical labeling proposal to assess focus group reactions to star-based labels:

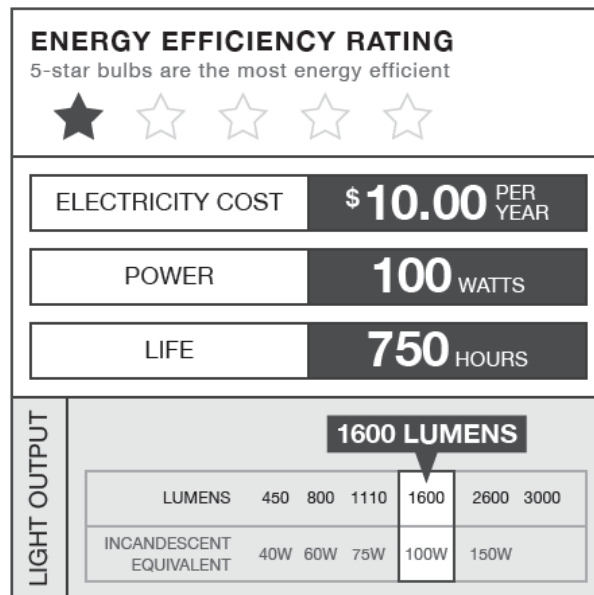


In the interim, NRDC and its consultant, Ecos Consulting, have made revisions to our label proposal to increase visual clarity. The original proposal still included a few elements of “fine print” that can be better handled on the rear of the package to explain secondary aspects of product performance. We reformatted the rating stars and explanatory text to leave room for the ENERGY STAR logo to appear in the upper right hand corner of the label for qualifying products. Likewise, we felt that FTC and Synovate’s modification of the lumens and incandescent equivalence scale increased legibility, so we incorporated a similar visual approach in our revision.

This is how the labels would appear for two CFLs of identical light output and power consumption – one of which has not earned the ENERGY STAR label and one of which has.



Likewise, here is a sample revised label for a highly inefficient incandescent lamp:



Here, the one-star rating, the absence of an ENERGY STAR logo, the high electricity cost, and the short lifetime help a potential purchaser to recognize that this product would be a more costly long term choice than the compact fluorescent product labeled above.

We urge the Federal Trade Commission to include this sample in the matrix of options it presents to consumers for feedback. If focus groups indicate a preference for the word “Brightness” over the phrase “Light Output,” that change would be warranted on our sample label.

Other Comments on Specific Label Elements to Test

Regarding color, is there a chance that consumers will confuse the claim of soft white as a particular color temperature with its more traditional meaning as a diffuse light source? In most present incandescent lamps, the soft white designation refers to a powdery coating on the inside of the lamp that obscures the filament from view and “softens” the resulting light, rather than to any particular color.

Regarding cost of energy, we urge FTC to employ an assumption of 1,000 operating hours per year, rather than 3 hours per day. While the two are nearly equivalent mathematically, the former is far simpler for consumers to work with. At 1,000 operating hours per year, a lamp that consumes 40 watts also consumes 40 kWh/year. Similarly, if one lamp *saves* 10 watts compared to another, it will also save 10 kWh/year.

In its Table 1, FTC indicates that it will test energy use indicators in a mutually exclusive fashion – either a categorical star-based system or a words and numbers indication of the absolute value. Would it also be worthwhile to test a label on which both pieces of information were provided (perhaps one on the front side and one on the back side of the label) to enhance comprehension by potential buyers?

The FTC’s Table 2 – “Examples of Test Models” chooses a large number of similar products, but omits other very important product categories and selects unrealistic performance values. Our recommended changes are:

- Include some 3-star lamps. (Philips Halogena Energy Savers are 3-star; many CFLs that have a cover on them are also 3-star)
- Include models that employ similar technology or functionality, but widely different efficiencies (i.e. 35 Lm/W CFL vs. 60 Lm/W CFL)
- Reduce the 124 Lm/W for the LED lamp. This is unreasonable for a screw-based general service LED product of any reasonable brightness with present technology. Levels closer to 70 Lm/W would be more reasonable.

In its Federal Register notice, the FTC’s characterization of NRDC’s proposed “curved efficiency boundaries” is slightly different than the actual levels and rationale NRDC originally proposed. We can clarify here as follows:

- 1 star = incandescents with less than average efficiency today (i.e. mostly long life or modified spectrum products)
- 2 stars = incandescents with better than average efficiency today (the dividing line between 1 and 2 stars is typical or average incandescent efficiency)

- 3 stars = halogen IR incandescents and the least efficient CFLs (mostly covered lamps). The 3-star level is approximately the same level as EISA, but depicted in continuous, rather than stepped form, for greater uniformity and consistency with the other star levels above and below it.
- 4 stars = the vast majority of today's ENERGY STAR CFLs. Many screw-based general service LEDs will be at this level as well. (Proposed ENERGY STAR requirement for replacement LED lamps falls between 45 and 55 lumens/watt).
- 5 stars = 70 lm/W or better. These are the most efficient CFLs and solid state lighting products. (70 lumens/watt references DOE's proposed Tier II ENERGY STAR level for LEDs).

We are thankful for the opportunity to comment on the FTC's ongoing process, and look forward to participating in its next steps.