



7200 Suter Road
Coopersburg, PA 18036
www.lutron.com

DOCKET	
05-BSTD-2	
DATE	JUL 12 2006
RECD.	SEP 27 2006

Gary Flamm
Lighting Program Lead
California Energy Commission
1516 Ninth Street, Mail Stop 25
Sacramento, CA 95814

31 July 2006

Dear Gary,

Per your request, attached is a summary of a study that we conducted regarding residential usage of Lutron dimmers.

Basically, we found that the most popular dimmer setting for the residents surveyed was 46% to 61% power (saving 39% to 54% in energy). Furthermore, taking a conservative approach and assuming the worst-case scenario, we concluded that their usage patterns result in an average power setting of 70%, yielding an energy savings of 30%. Additionally, it is important to note that even when residents don't dim their lights, they are saving energy if they have a dimmer. In this case, the energy savings is 12% even when the dimmer is set to full-on.

I hope this helps. Let me know if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Pekka Hakkarainen", followed by a long horizontal flourish line.

Pekka Hakkarainen
Vice President
Lutron Electronics
(610) 282-6766

Residential Power Usage of Lutron Dimmers

Background:

Below are results from an online residential customer survey on dimmer use. Although numerous questions were asked in the survey, one question specifically asked what power level the customer had selected for their "locked preset". The "locked preset" is the power level that the dimmer turns on to every time it is used. It can be set for any light level. Because the dimmer has seven LED indicators, we have grouped the customer settings into seven discrete power ranges.

All of the power consumption levels are expressed as a percentage of power that would be consumed if the light were controlled by a light switch instead of a dimmer. For example, if the "locked preset" was set to 60% power, then a fixture with a 100W bulb in it would consume 60W.

Purpose:

To determine the most common dim setting for Lutron residential dimmers.

Methodology:

Web survey of residential Lutron dimmer customers.

Although one particular dimmer model was studied, since people typically set their light level according to their lighting needs and not based on the attributes of their dimmer, these results apply to dimmers as a whole.

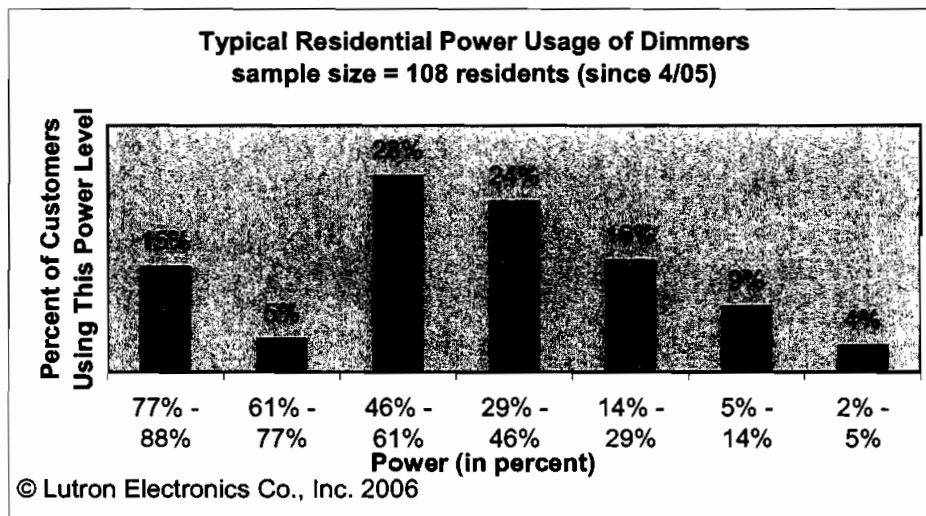
Dates:

4/2005 to present

Sample Size:

108 residential Lutron dimmer users

Results:



Residential Power Usage of Lutron Dimmers

The power ranges that the “locked preset” can be set to are shown across the bottom of the graph. Note for the dimmer in this survey, the highest power level that it can deliver to the load is 88%. In other words, even at the dimmer’s highest setting, the resident is achieving energy savings of 12%.

For each power range, the percentage of respondents that had their dimmer configured to that range is shown above the bar.

Conclusion:

The most popular dimmed setting (used by 28% of the respondents) is in the range of 46% to 61% power, which equates to energy savings of 39% to 54%.

For the purposes of calculating the average energy savings across the entire set of respondents, we calculated the weighted average for the “locked preset”. Taking a conservative approach, we assumed that all respondents were at the top power setting for the range that they were using. This resulted in a weighted average power setting of 51%.

The “locked preset” is effectively the favorite light level for the resident, and thus is the level that they would use most often. However, it is unlikely that it is the only light level that they would use. Presumably, they bought the dimmer so that they had flexibility to choose many different light levels. An absolute worst-case assumption would be that full-on (which is 88% power) is the second-most used power setting, and that it is used as often as the “locked preset” setting. This would yield an adjusted weighted average power setting of 70%. This power setting equates to energy savings of 30%.