



# Residential Light Fixtures: A National Estimate of Energy Savings

June 14, 2006

1

## Purpose for Study



- Investigate underlying assumptions for fixture savings estimates
  - EPA: estimates vary
  - EEPS: estimates important for setting incentive levels and program evaluation
- Increase confidence in estimates for annual and lifetime savings for fixtures

2

## Overall Plan



1. Compile and compare findings for persistence, hours of use, and displaced wattage from EPA and EEPs/utilities
2. Collate data sets from in-field studies to produce large national dataset
3. Identify gaps and areas for improvement for future studies
4. Assess EEPs/manufacture interest in partnering in additional study

3

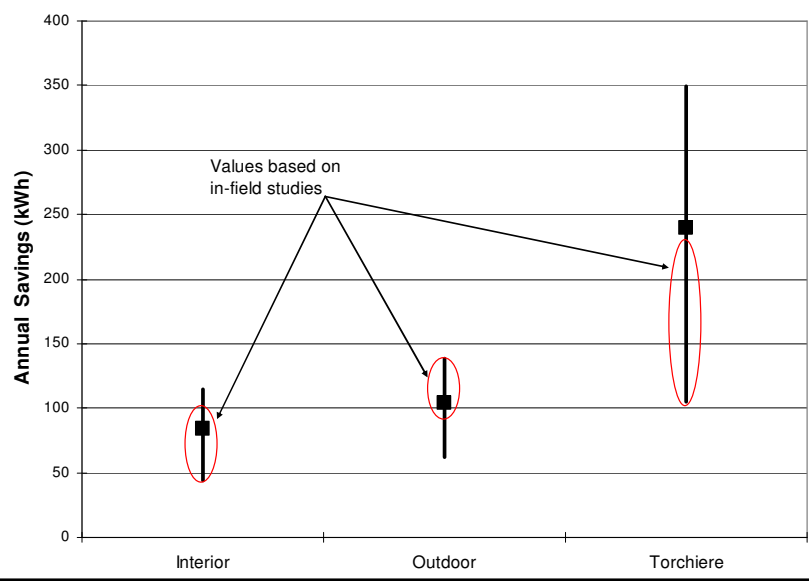
## Initial Findings: Annual Savings



- Wide range of numbers
  - Interior: 44 – 115 kWh/yr
  - Outdoor: 62 – 138 kWh/yr
  - Torchieres: 105 – 325 kWh/yr

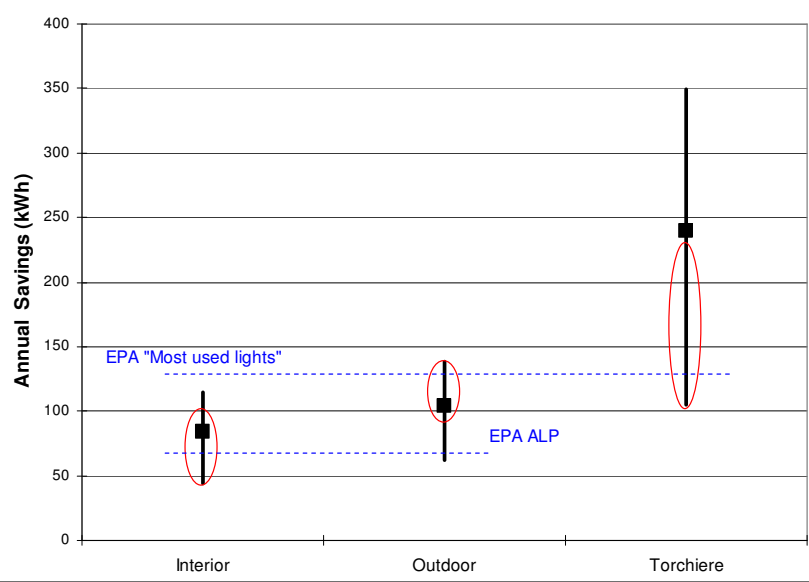
4

# EEPS Annual Fixture Savings



5

# EEPS Annual Fixture Savings



6

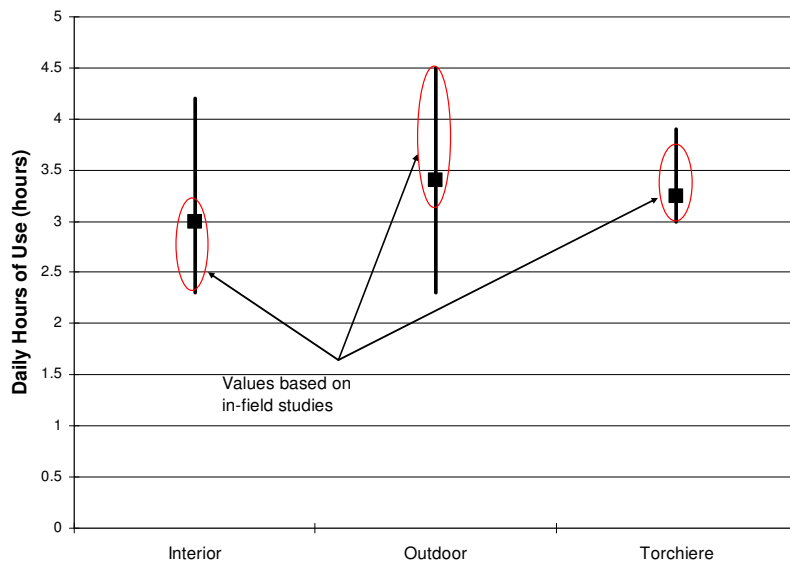
## Initial Findings: Annual Savings



- Explanation for range
  - Interior: displaced watts (then daily use)
  - Outdoor: daily use
  - Torchieres: displaced watts

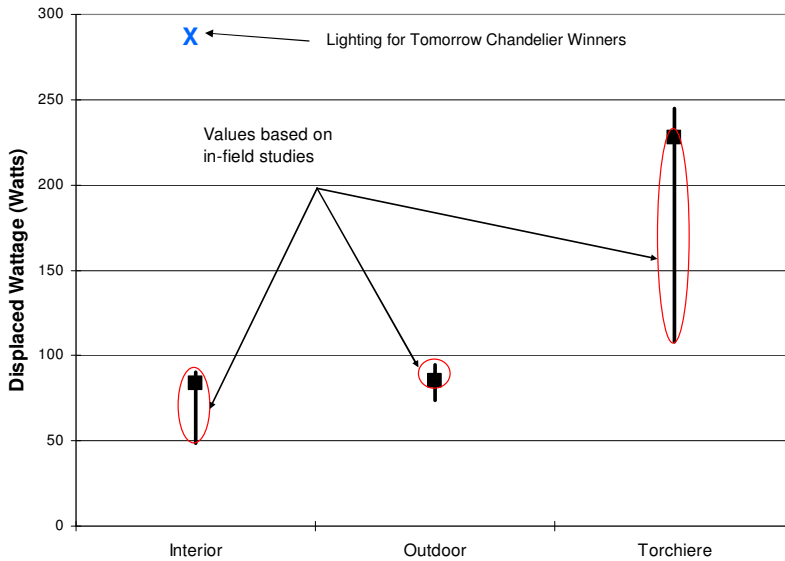
7

## EEPS Daily Use Assumptions by Fixture Type



8

# EEPS Displaced Wattage Assumptions by Fixture Type



9

# Next Steps: National Data Set



- Putting together data from across the country
- Determining acceptable set size

Fixture Type	Unique Units	Unique Homes
Data Available for Hour and Displaced Wattage Analysis		
Exterior Fixture	107	58
Interior Fixture	128	68
Torchiere	113	85
<i>Sub total</i>	<i>348</i>	<i>211</i>
Data Available for Displaced Wattage Analysis Only		
Exterior Fixture	1	1
Interior Fixture	30	10
Torchiere	6	3
<i>Sub total</i>	<i>37</i>	<i>14</i>
<b>Grand Total</b>	<b>385</b>	<b>225</b>

10

## How you can help



- Send data from in-field studies
  - Particularly interested in daily use & displaced wattage
- Let us know if you have done any persistence studies
- Let us know what would make this most valuable for you

11

## Outcomes



- National Study – October 2006
  - Most rigorous to date
  - EPA will use to revise its own estimates
  - Available to EEPS to inform their savings estimates
- Recommendation for study of fixture lifetime / persistence – November 2006
  - Start to build a database of persistence data
  - Hope to link with existing EEPS efforts

12

## Contact Information



- Data and comments can be sent to:  
Sarah Banas, Contractor to EPA,  
[sbanas@cadmusgroup.com](mailto:sbanas@cadmusgroup.com),  
617-673-7105
- Project managed by:  
Peter Banwell, EPA ENERGY STAR,  
[banwell.peter@epa.gov](mailto:banwell.peter@epa.gov)

13