The Residential Lighting Market:

Past, Present, and Future

Stephen Bickel
Director of Market Research, D&R International

Presented at 2012 ENERGY STAR Partner Meeting,
October 23, 2012

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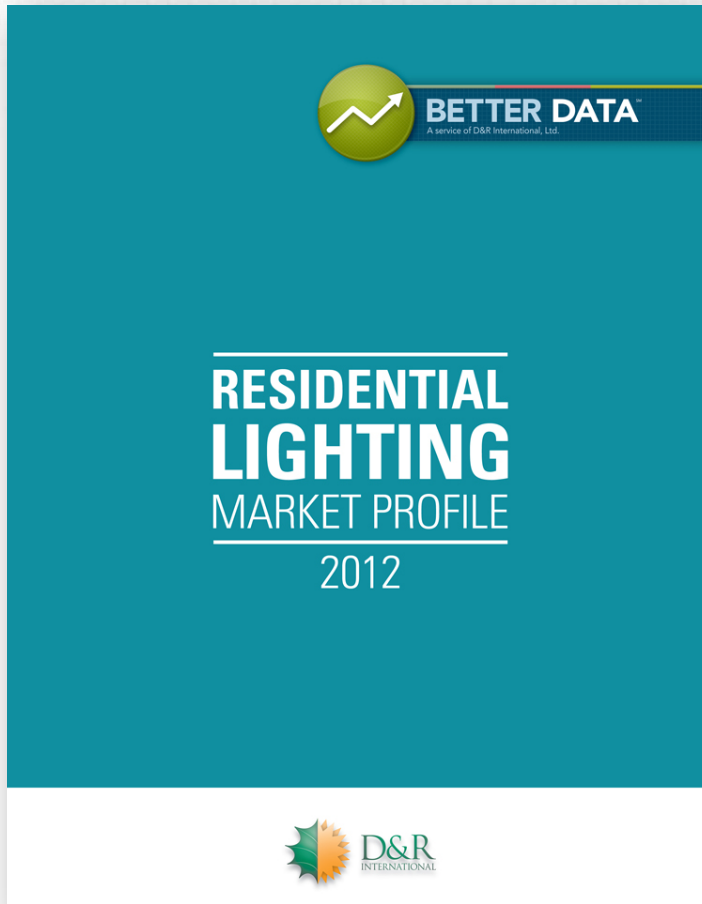
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RESIDENTIAL LIGHTING MARKET PROFILE
2012

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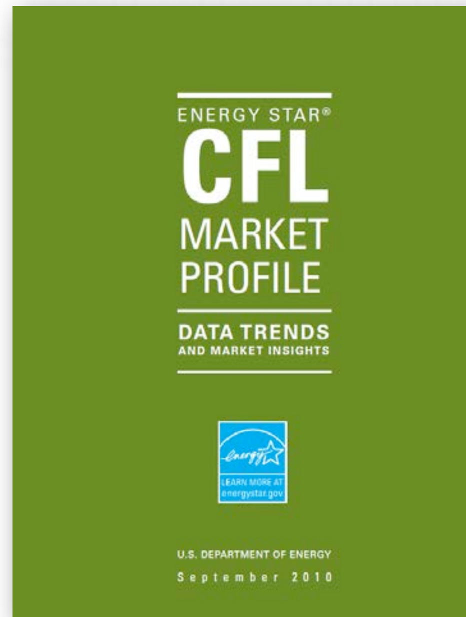
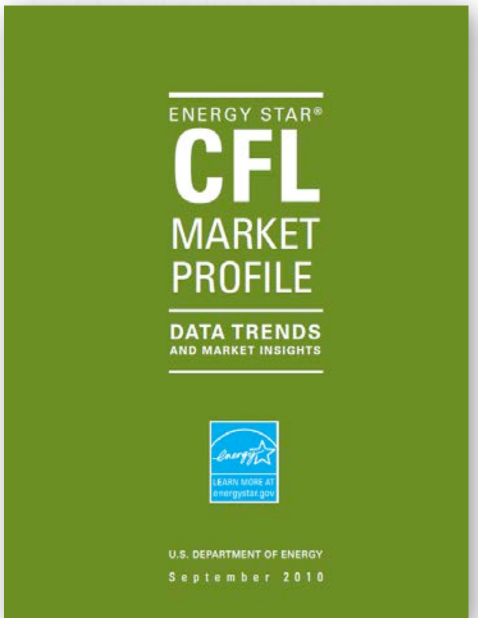
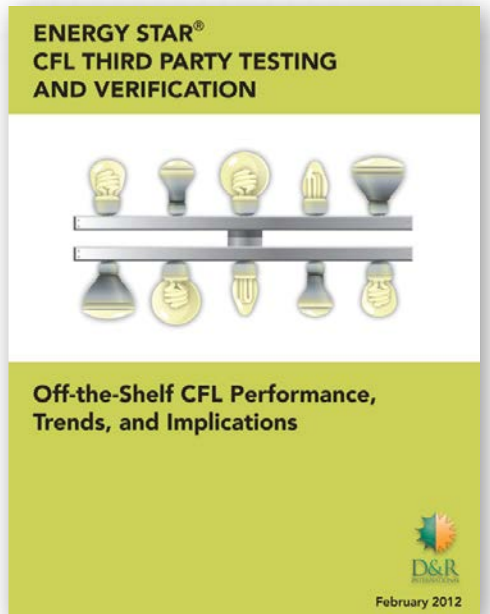
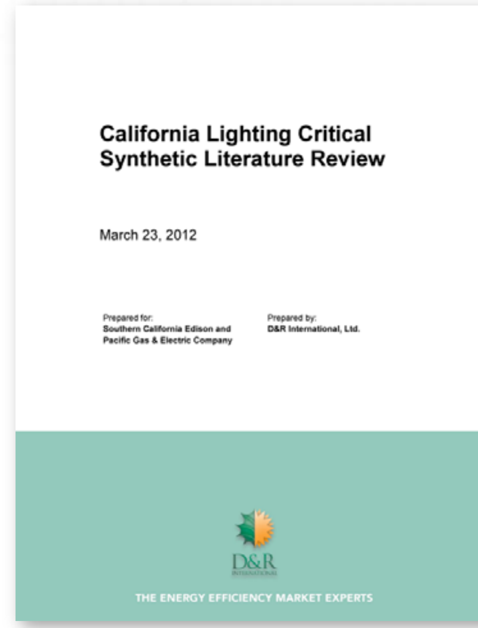
BETTER DATA Market Profile Predecessors



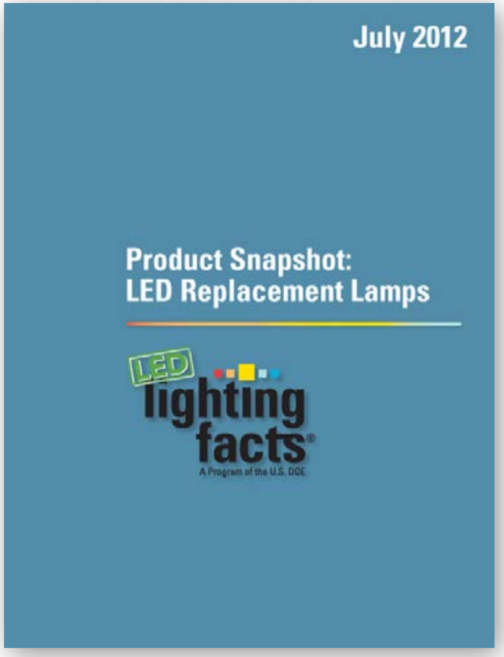
D&R and Lighting







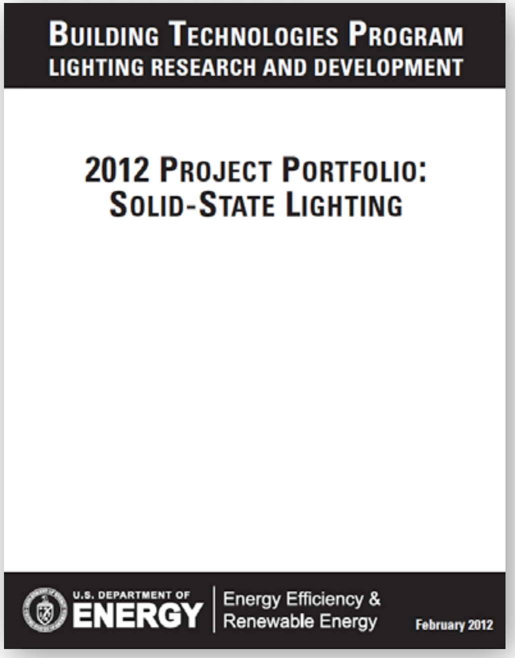
D&R and Lighting


July 2012

Product Snapshot:
LED Replacement Lamps

LED lighting facts®
A Program of the U.S. DOE

DESIGNLIGHTS CONSORTIUM


BUILDING TECHNOLOGIES PROGRAM
LIGHTING RESEARCH AND DEVELOPMENT

2012 PROJECT PORTFOLIO:
SOLID-STATE LIGHTING

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

February 2012

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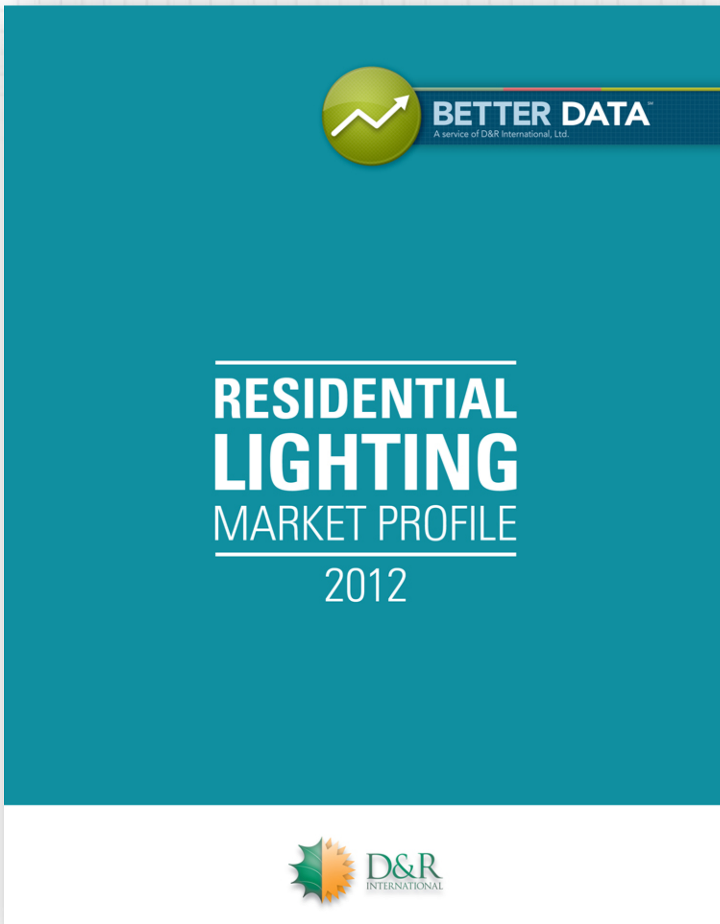
Lighting Market Profiles



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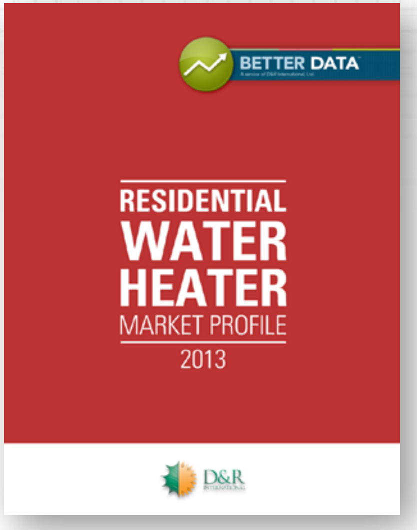
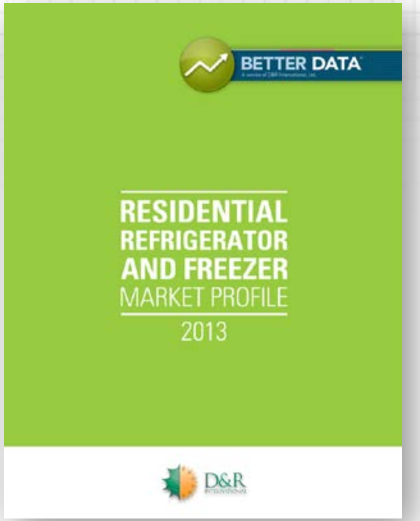
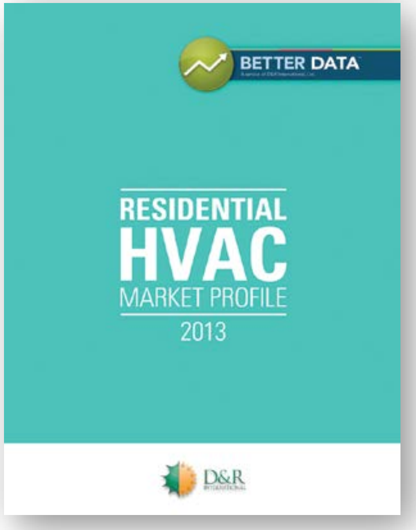
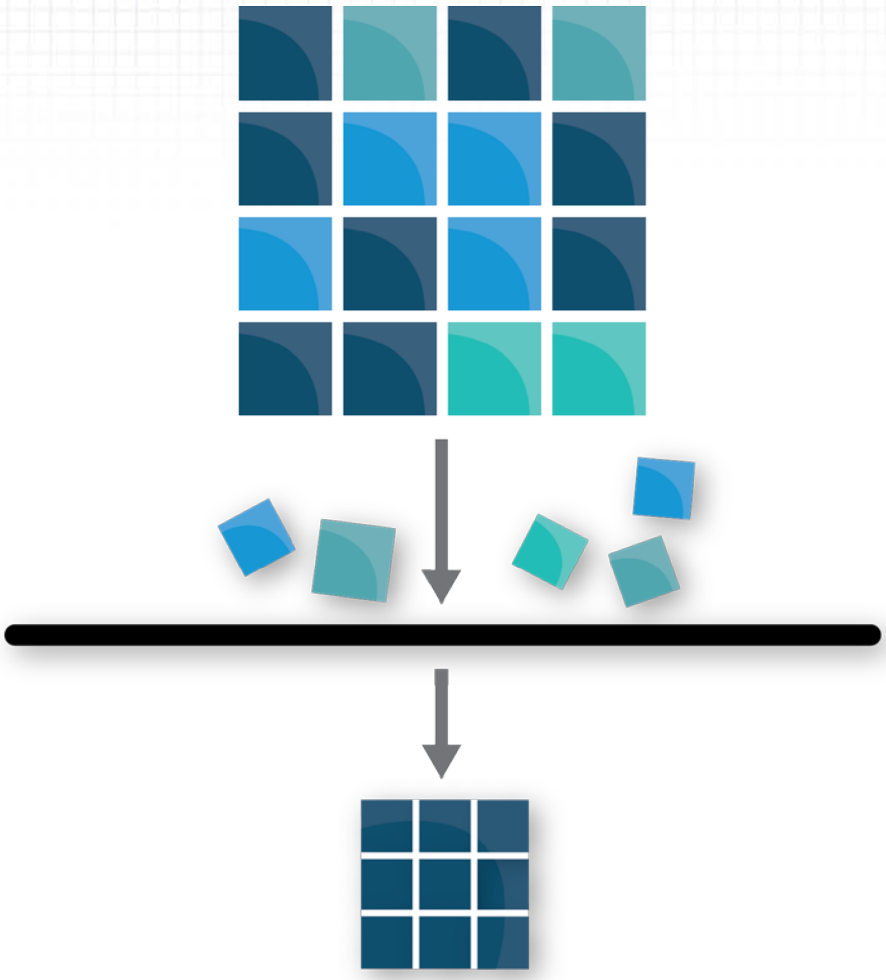
New Suite of Market Profiles







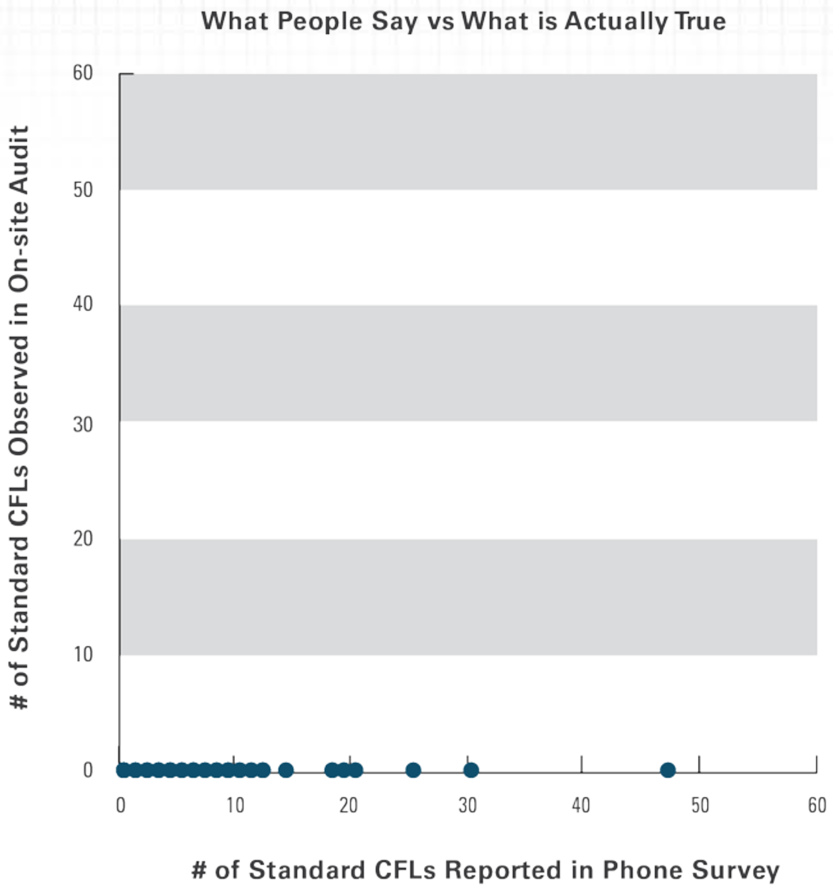
All Data is Screened



- Point of sale and shipment data
- Sensor and metering data
- Professional audit data
- Controlled peer review studies
- Large, unbiased samples

- No unvalidated self-report data
- No willingness-to-pay data
- No anecdotal data

Why We Screen Data



Note: Excludes outliers and respondents not familiar with CFLs.
Source: Adapted from NMR Group, Inc. The Market for CFLs in Connecticut. March 2, 2010. Connecticut Energy Conservation Management Board. Connecticut Light and Power. The United Illuminating Company.

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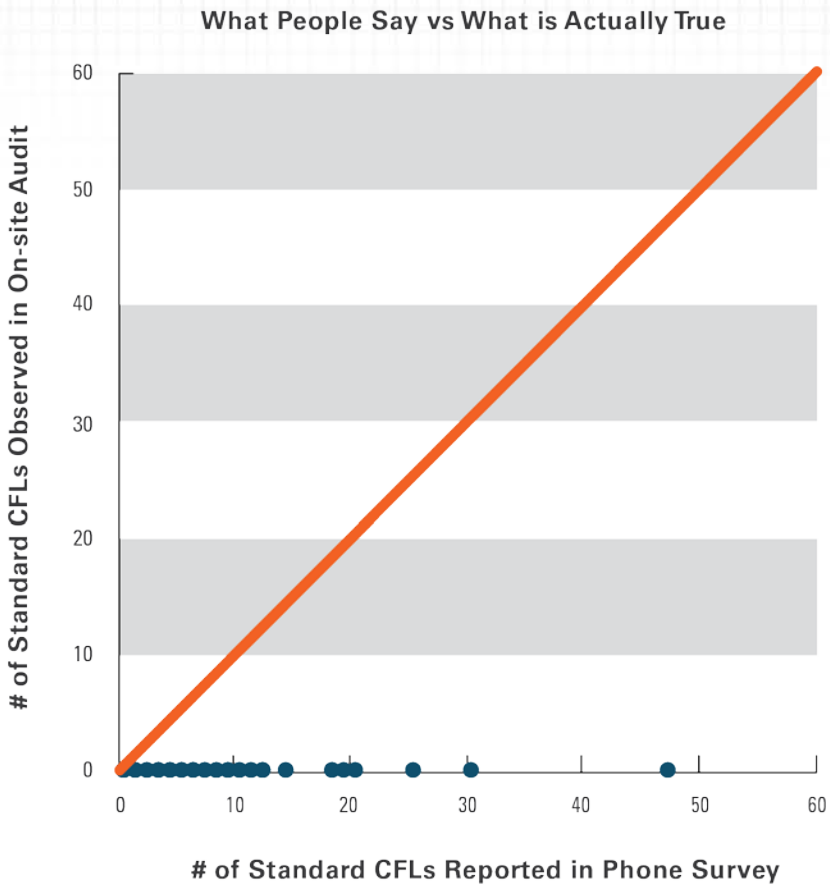

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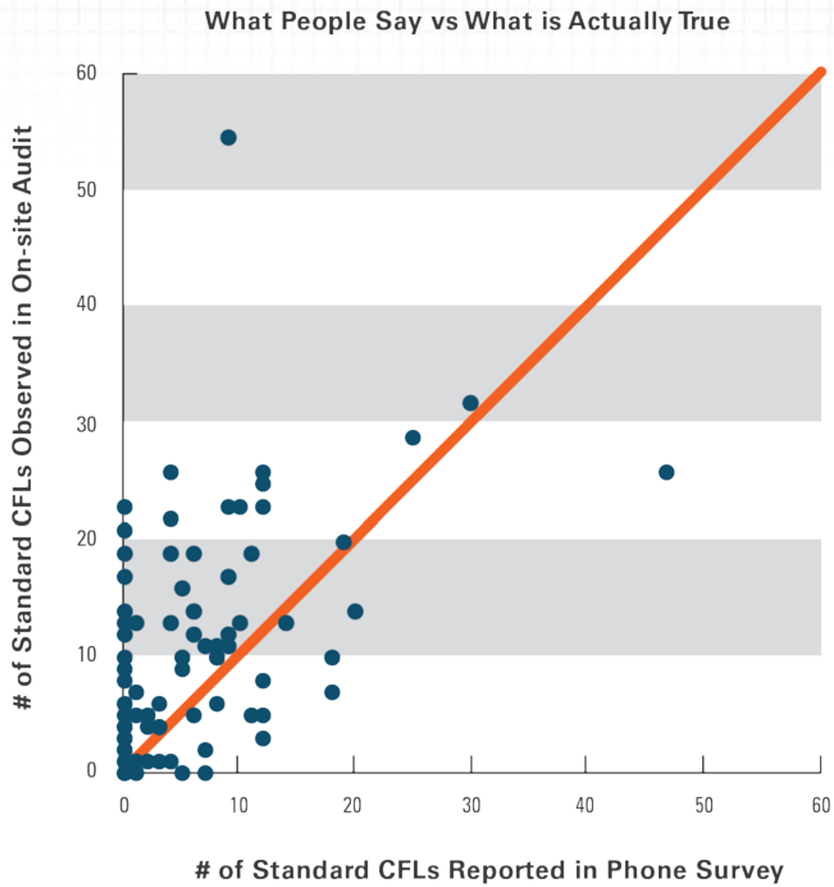

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Superior Results

EXPERT INSIGHTS

CAREFUL ANALYSIS

GOOD DATA

Accurate Calculation of Energy Savings

Superior Program Designs

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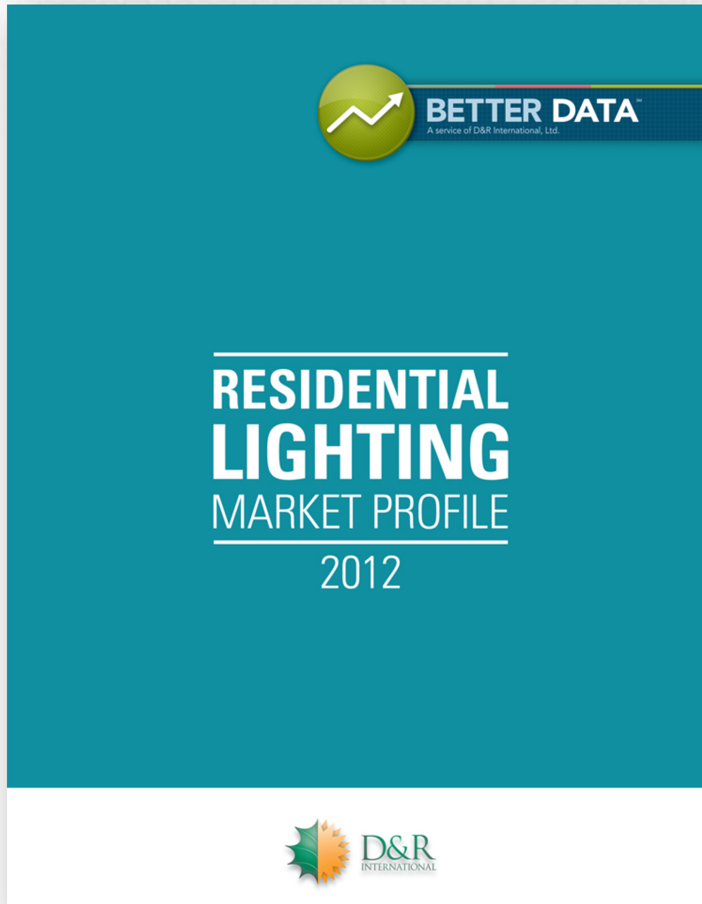
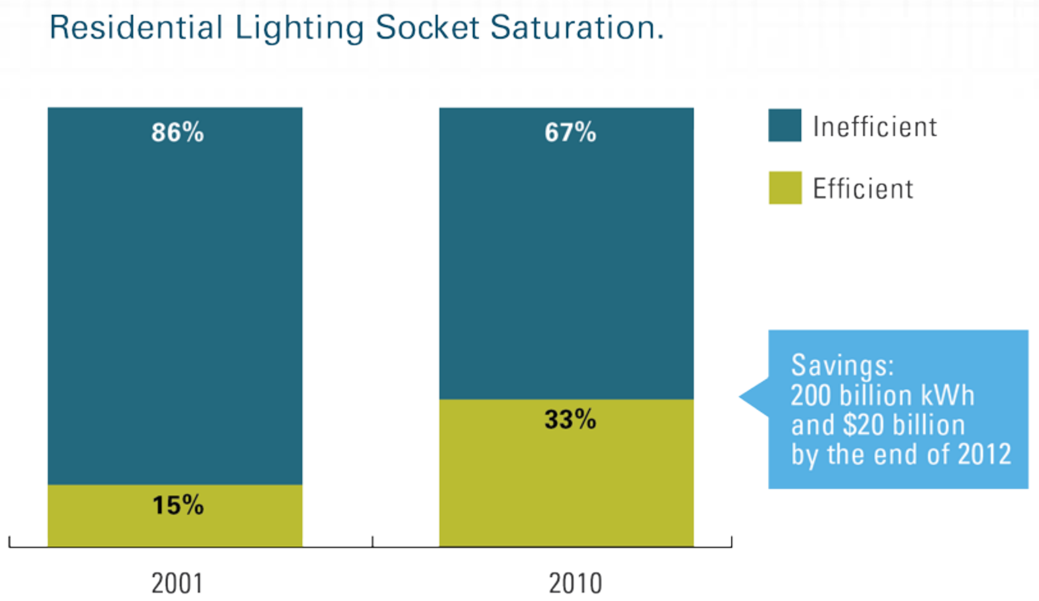
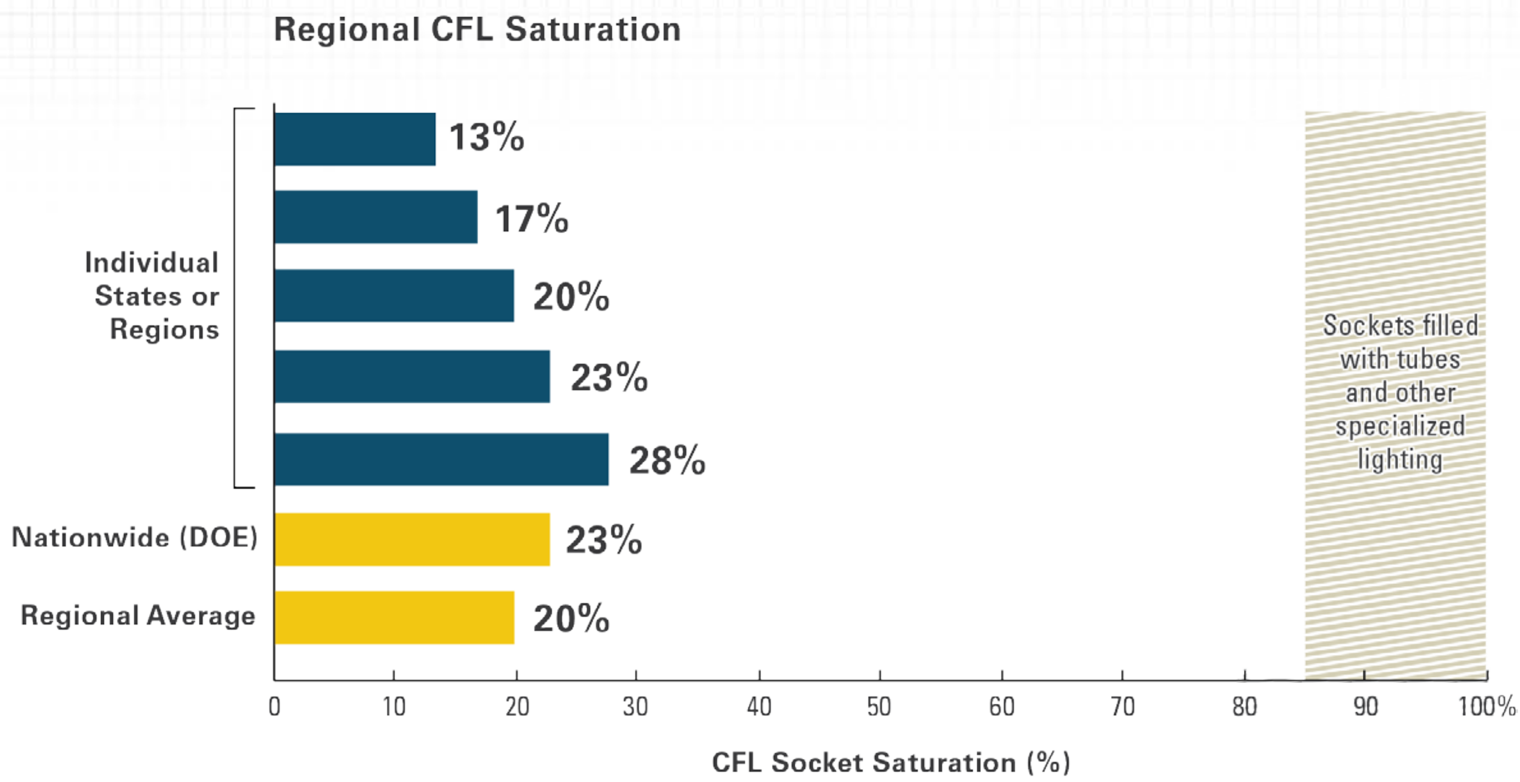


The good news.



Note: Totals may not sum to 100% due to rounding.
Source: Adapted from data in D&R International's **Residential Lighting Market Profile-2012.**

Big savings remain



Source: D&R's **Residential Lighting Market Profile-2012, Figure 5**

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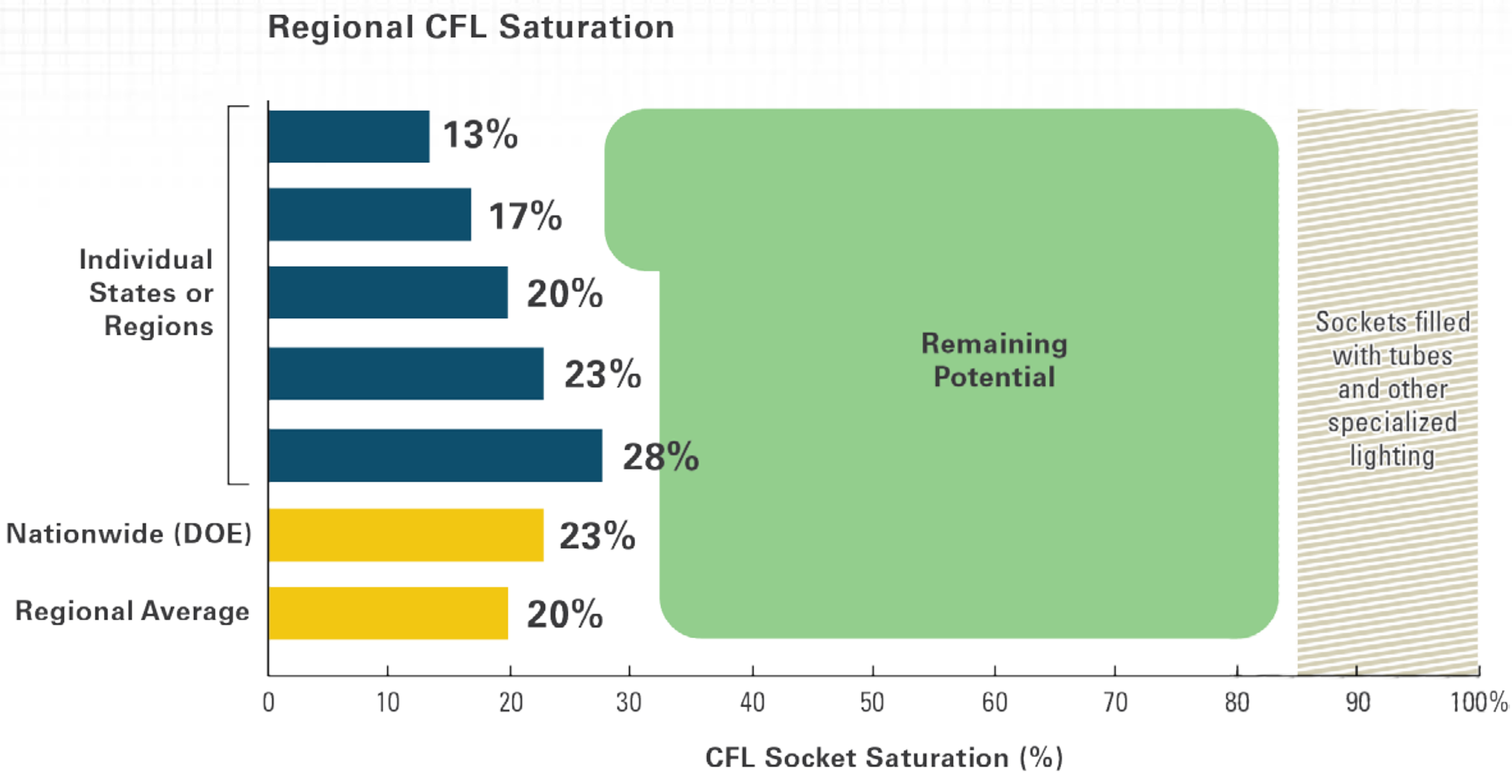
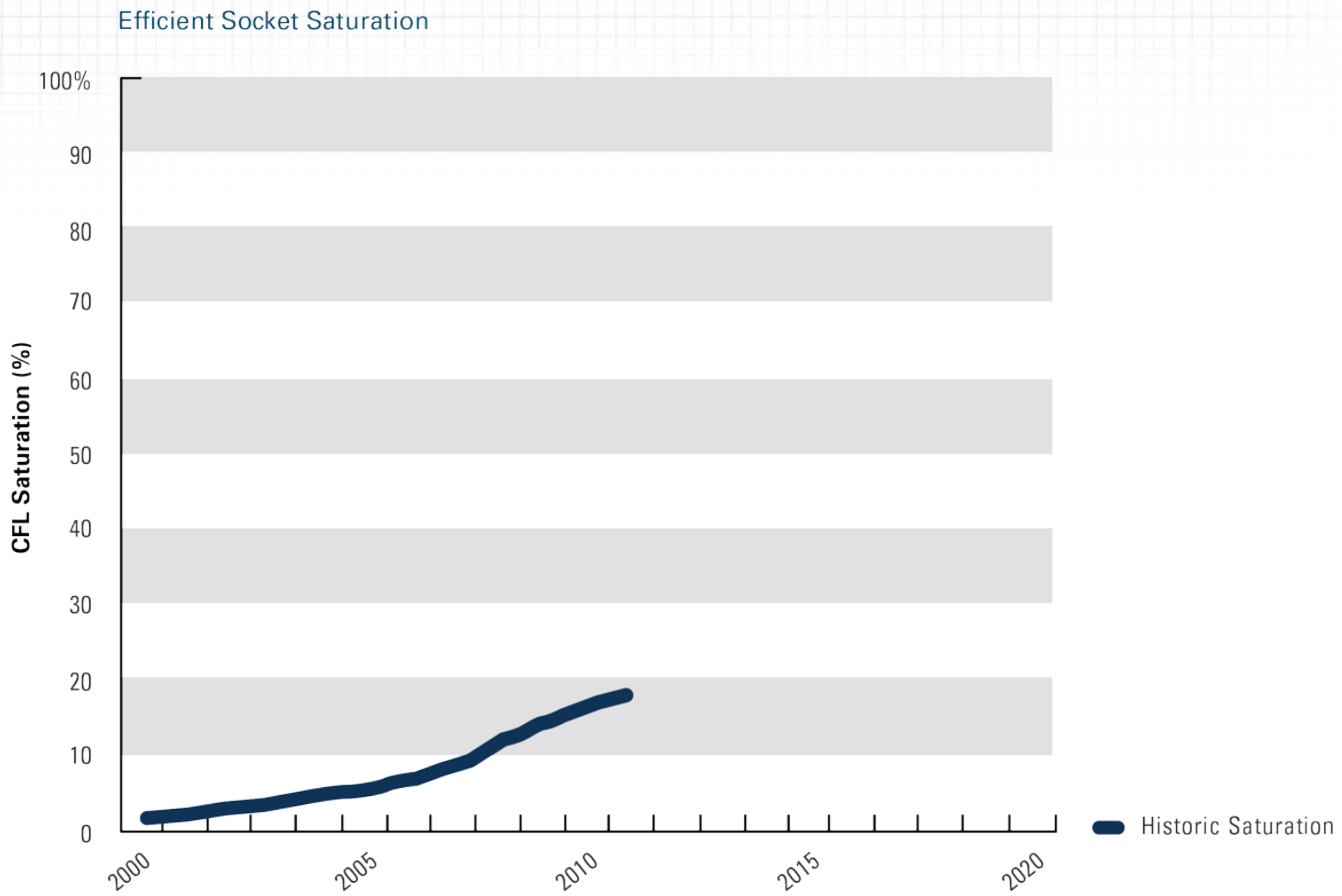
Big savings remain

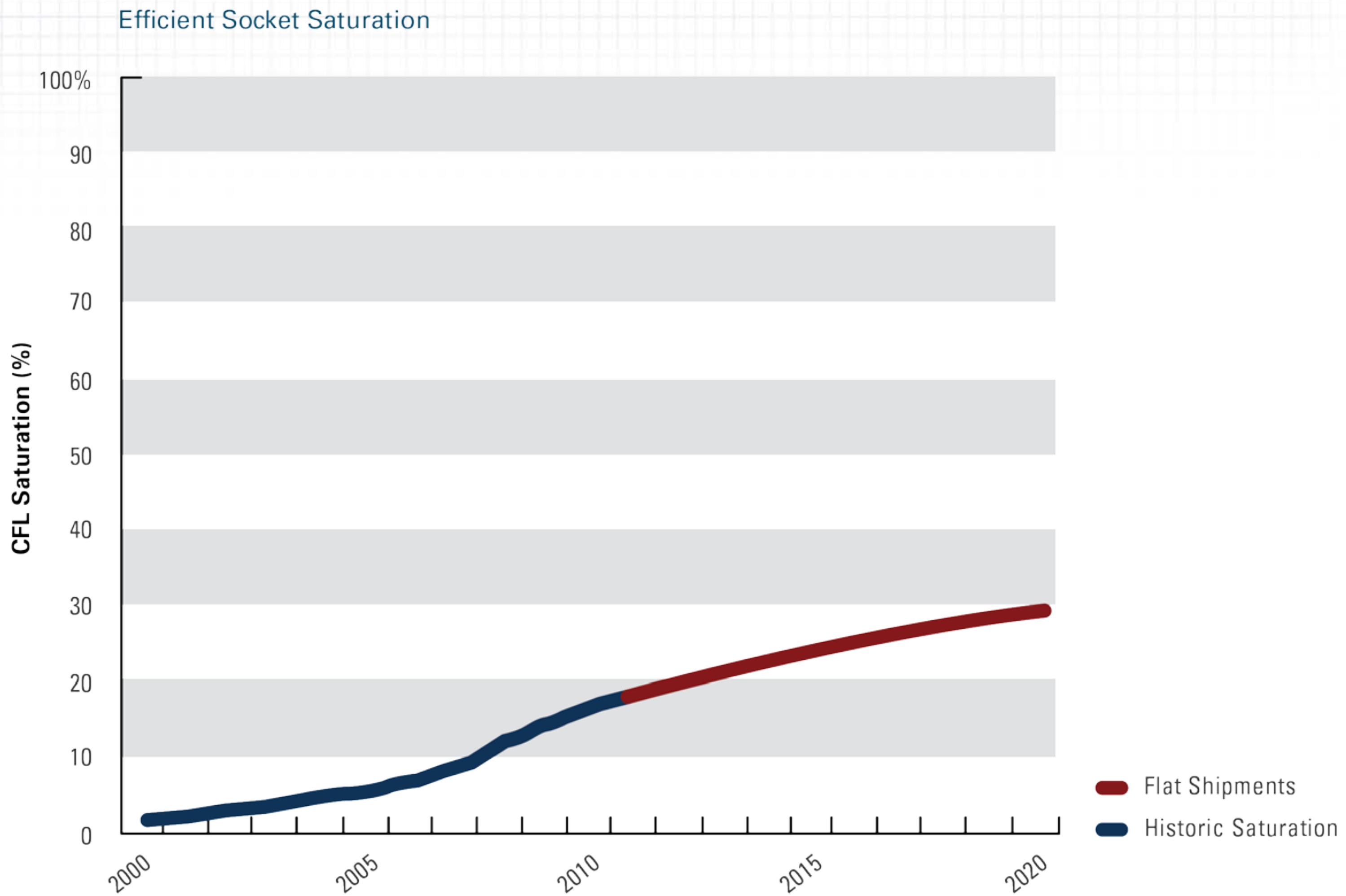


Source: D&R's **Residential Lighting Market Profile-2012, Figure 5**

The bad news


Efficient Socket Saturation
100%
90
80
70
60
50
40
30
20
10
0
CFL Saturation (%)
2000
2005
2010
2015
2020
Historic Saturation

The bad news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Flat Shipments
Historic Saturation

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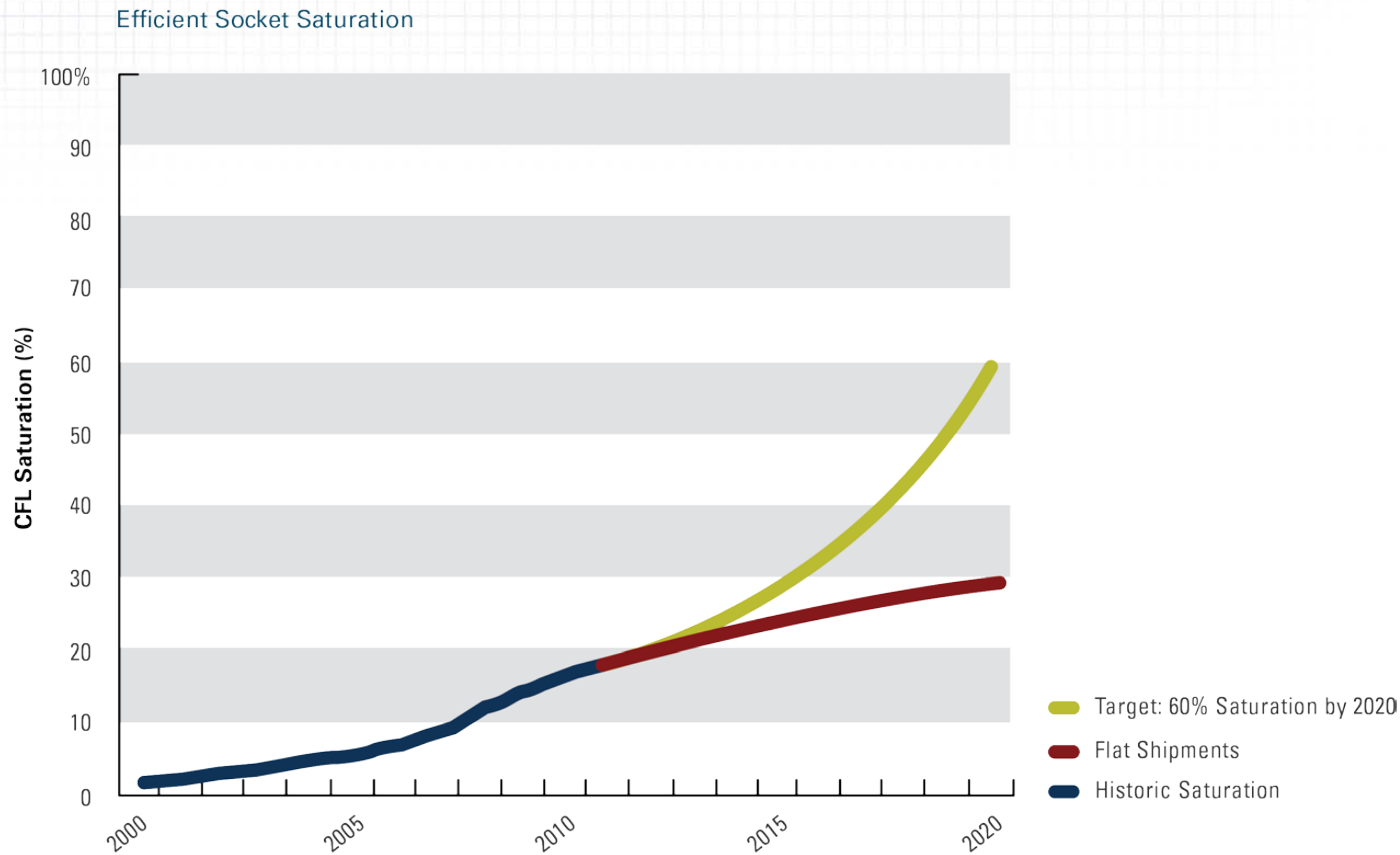
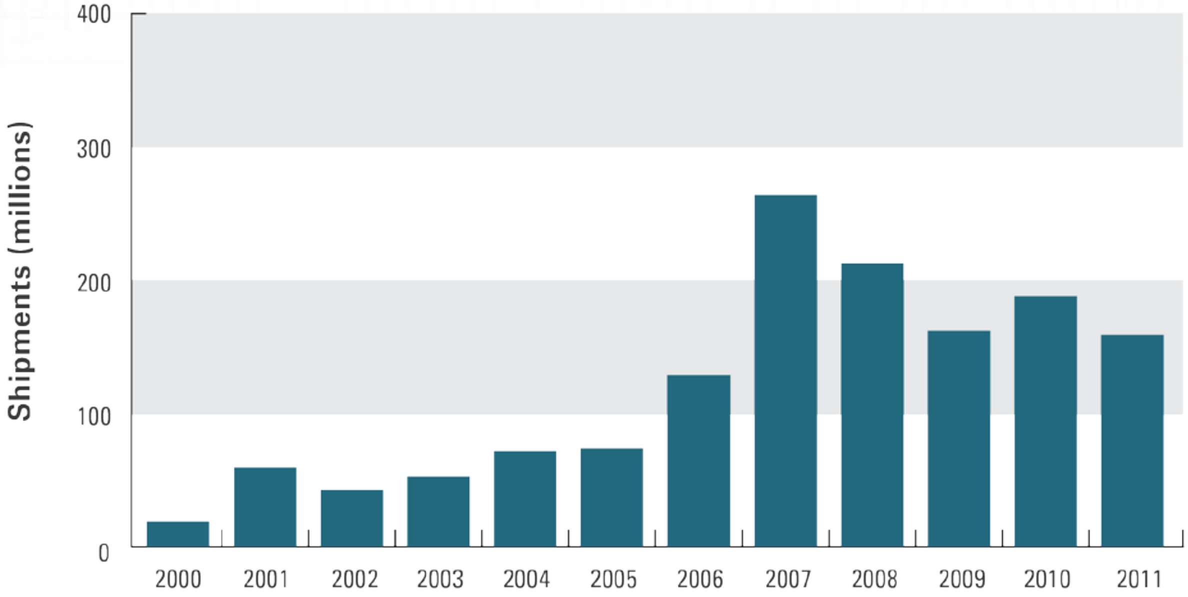

Efficient Socket Saturation
CFL Saturation (%)
100%
90
80
70
60
50
40
30
20
10
0
2000
2005
2010
2015
2020
Target: 60% Saturation by 2020
Flat Shipments
Historic Saturation

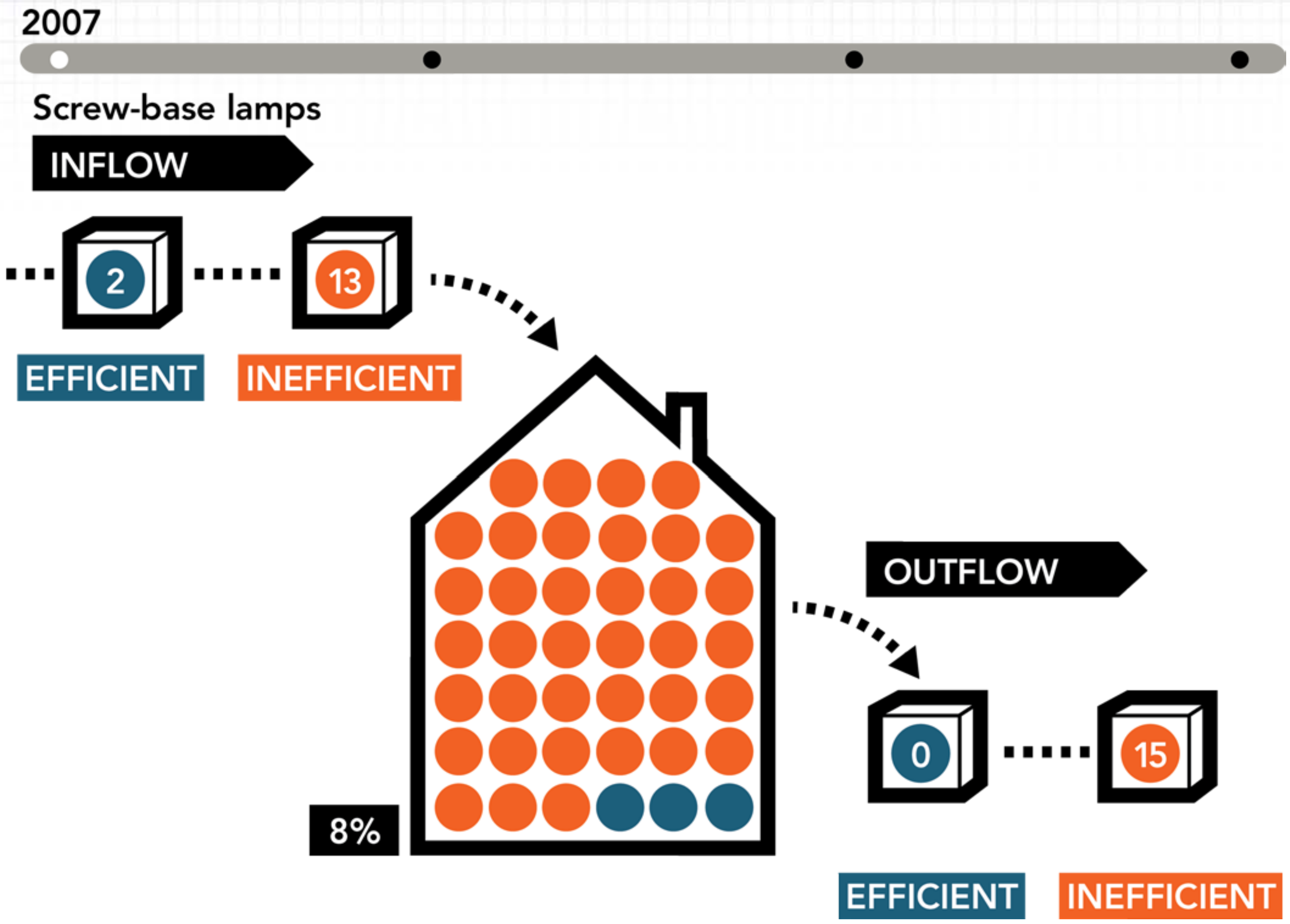
Here's the problem

U.S. Shipments of CFLs for Installation in Homes



Note: Totals may not sum to 100% due to rounding.
Source: Adapted from data in D&R International's **Residential Lighting Market Profile-2012**, Figure 3.

Why is this a problem?



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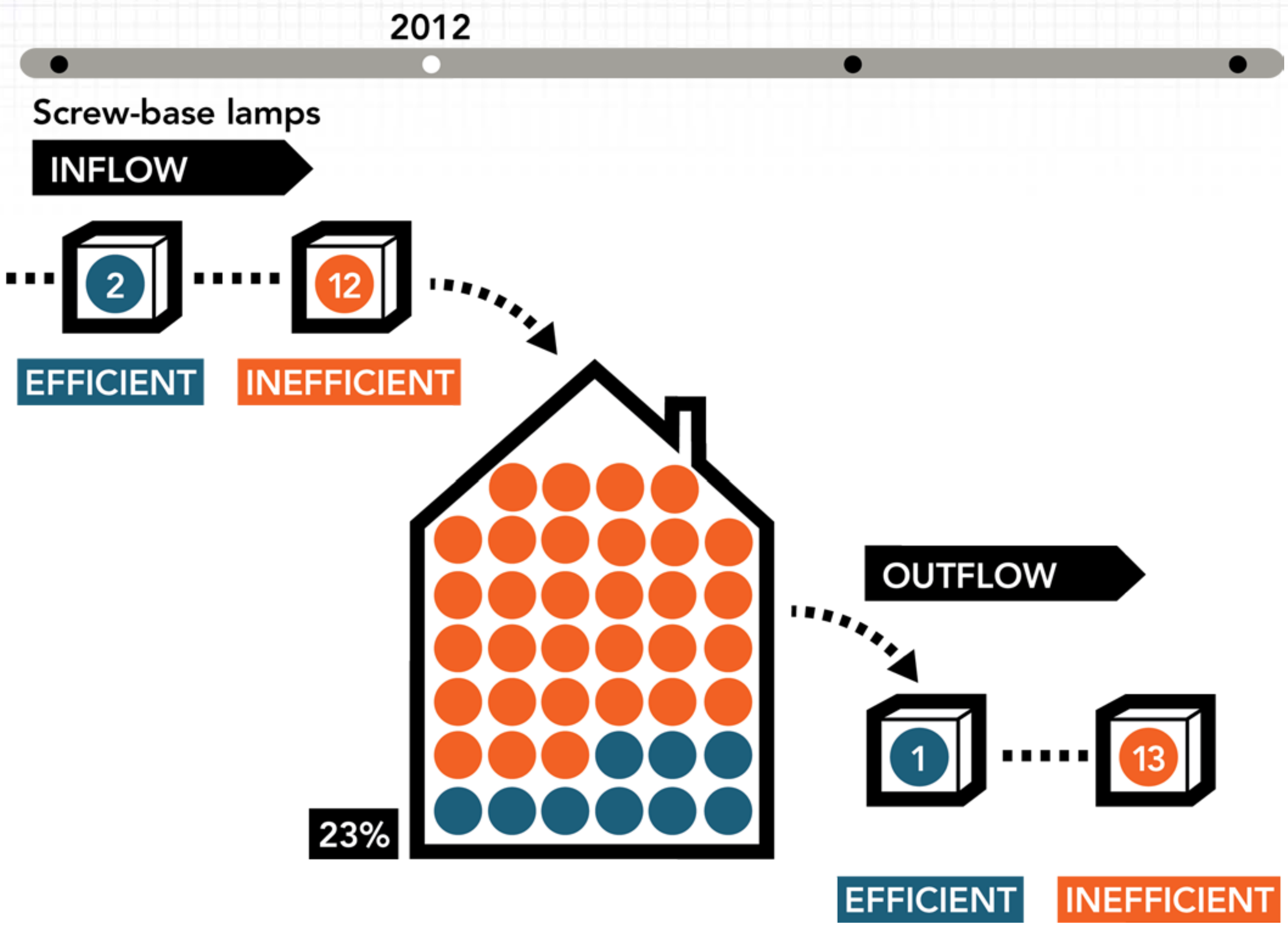

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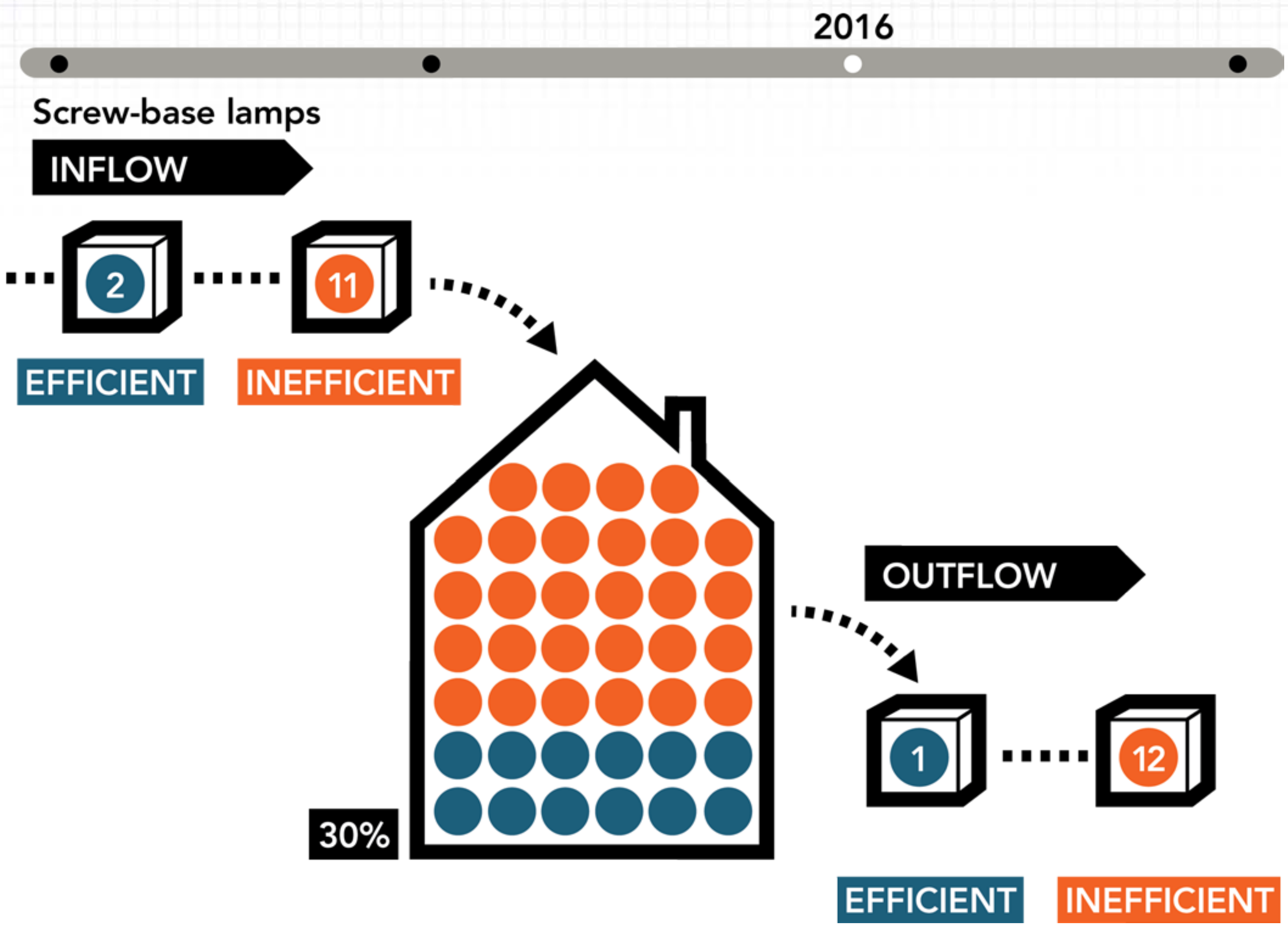

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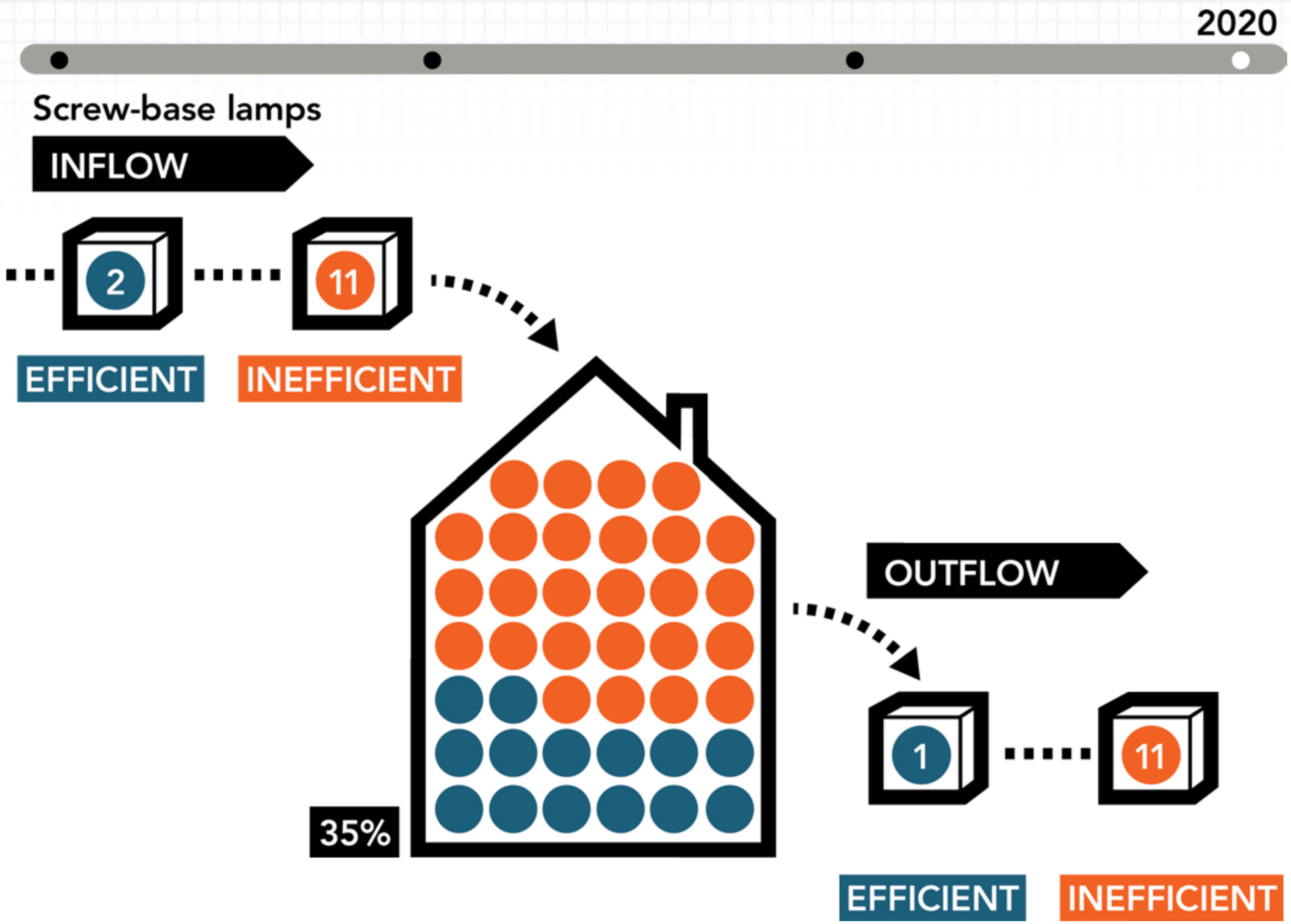

So How Many Lamps Do We Need to Sustain Growth?

Annual Efficient Lamp Sales per Home Needed to Increase Saturation

		2011 Socket Saturation						
		0%	5%	10%	15%	20%	25%	30%
Desired 2020 Socket Saturation	No Change							
	30%							
	35%							
	40%							
	45%							
	50%							
	55%							
	60%					3.2		
	65%							
	70%							
	75%							
	80%							
Example Regions						U.S. Average		

Source: D&R International's **Residential Lighting Market Profile-2012**, Table 10.

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	70%							
	75%							
	80%							
Example Regions						U.S. Average		

Source: D&R International's **Residential Lighting Market Profile-2012**, Table 10.

We need BIG increases in unit sales

Annual Shipments of CFLs and LED Lamps for Final Sale in the United States

	Lamps Installed per Home	Shipments for Installation in Homes	Total Shipments (All Sectors)*
2011	1.4	159,000,000	302,000,000

* Assumes the volume of efficient lamps sold for installation outside the residential sector remains constant from 2011 to 2020.
Source: D&R International

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To reach 60% socket saturation by 2020	3.2	358,000,000	501,000,000

* Assumes the volume of efficient lamps sold for installation outside the residential sector remains constant from 2011 to 2020.
Source: D&R International

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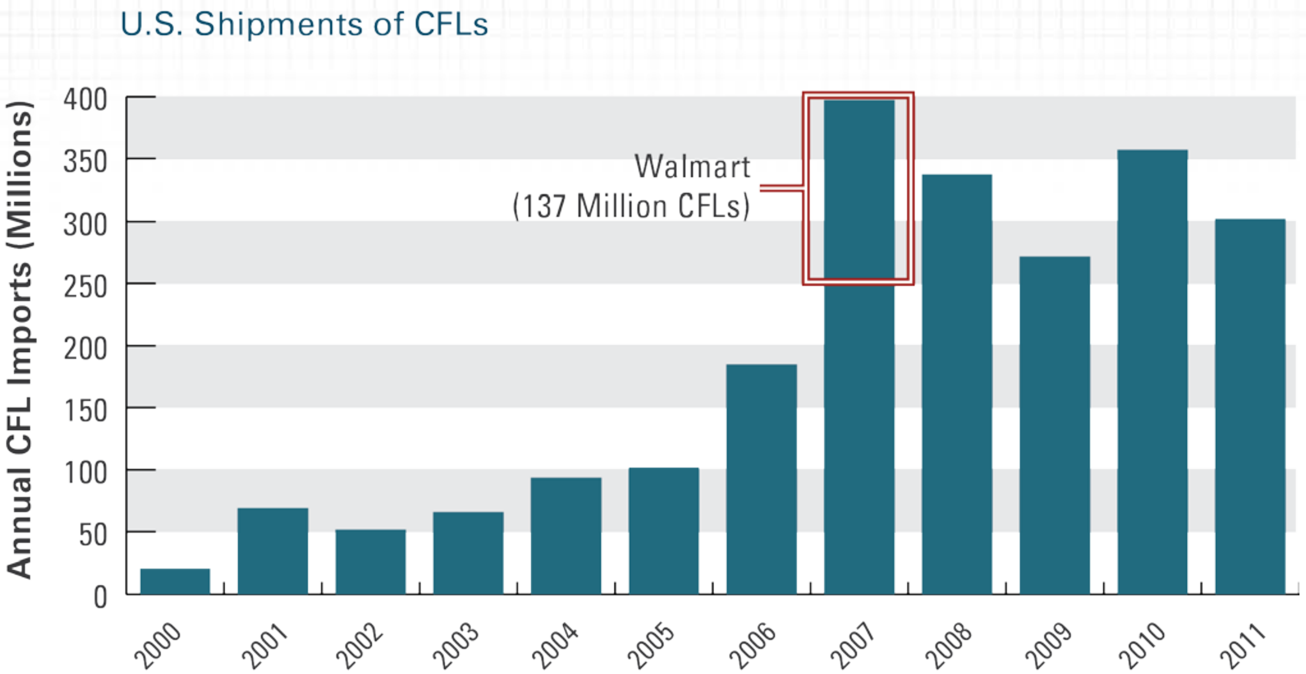
To reach 60% socket saturation by 2020	3.2	358,000,000	501,000,000

130% INCREASE

* Assumes the volume of efficient lamps sold for installation outside the residential sector remains constant from 2011 to 2020.
Source: D&R International

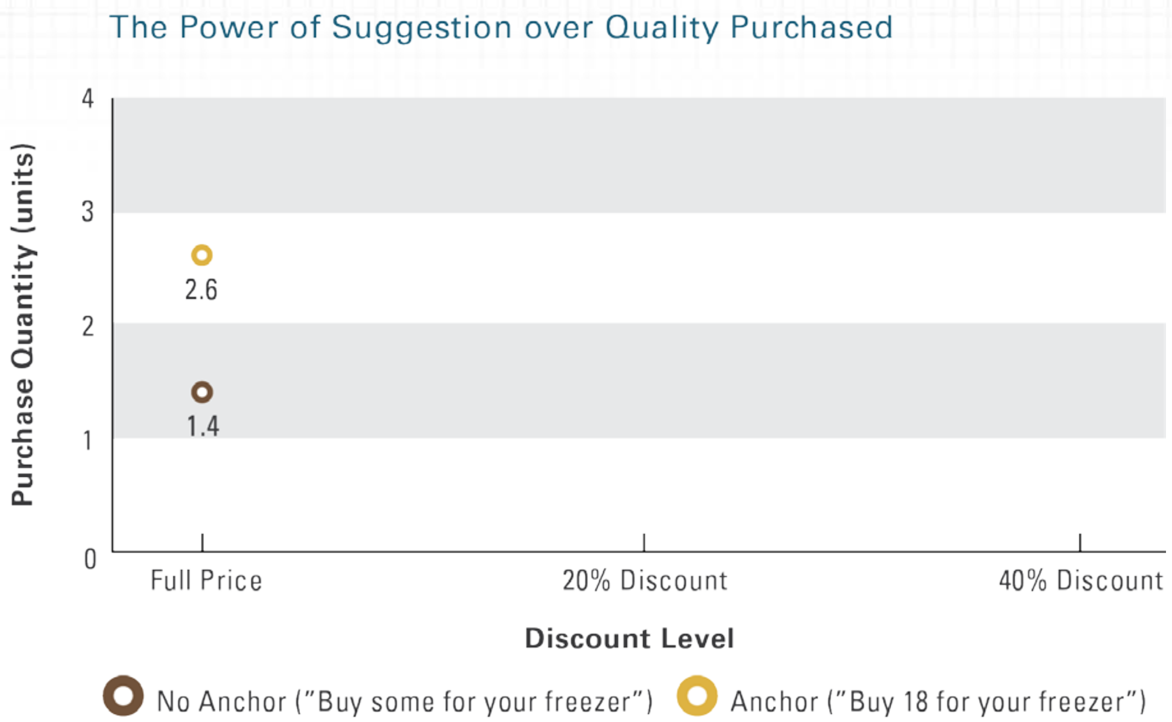
It can be done



Source: D&R International's **Residential Lighting Market Profile-2012**.

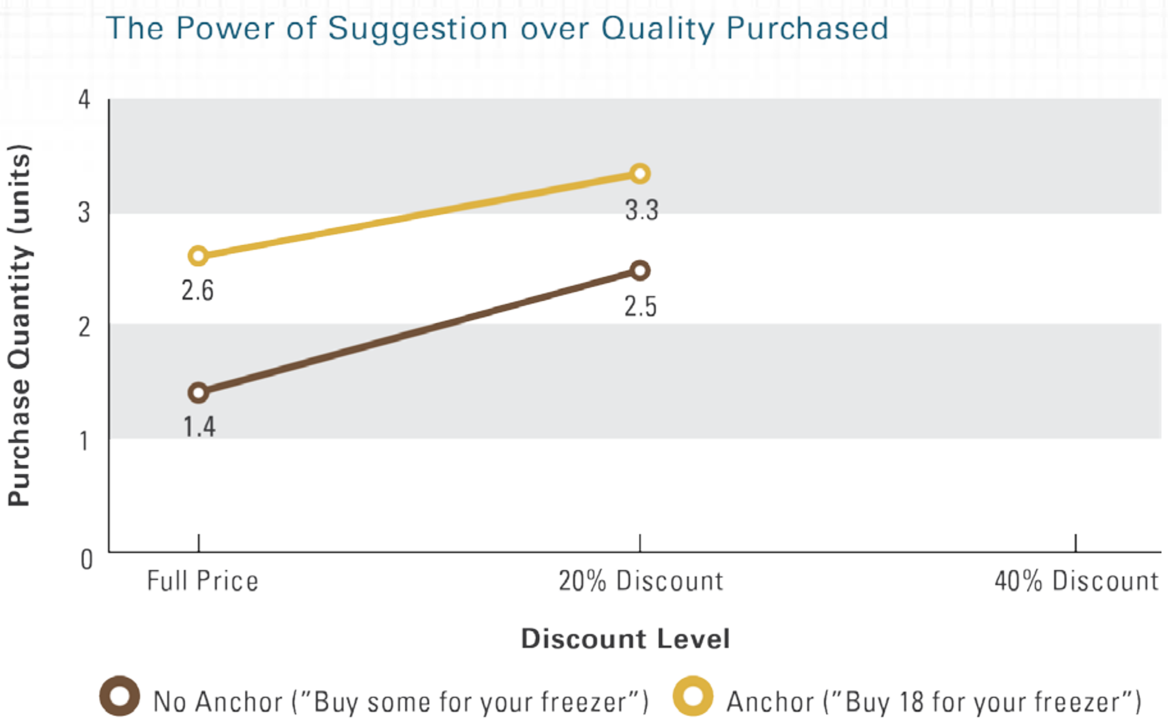
Types of strategies

Types of strategies



Note: Signage featuring the indicated message was placed at point of purchase.
Source: D&R International's **Residential Lighting Market Profile-2012, Figure 37**

Types of strategies



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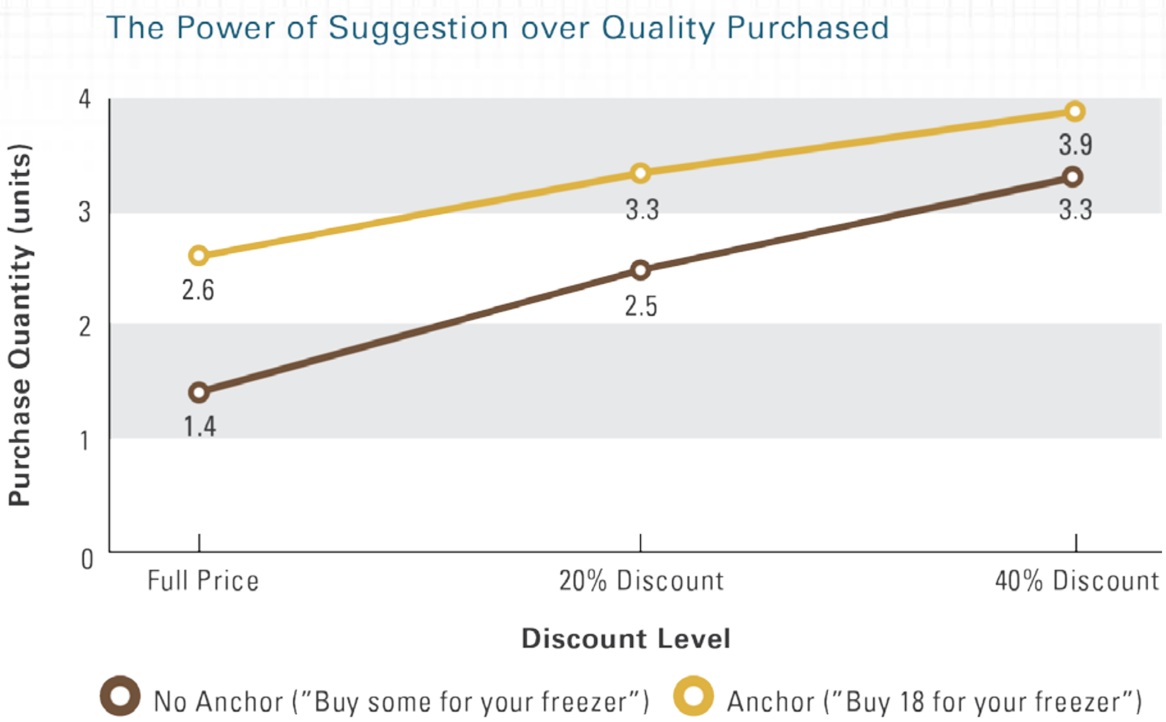

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What role will LEDs play?

Table 8. Projected LED Replacement Lamp Prices, by Light Output ($)

Lumens	2011	2012	2013	2014	2015	2016
250	11.50	7.50	6.00	4.75	3.63	2.50
450	20.70	13.50	10.80	8.55	6.53	4.50
800	**36.80**	**24.00**	**19.20**	**15.20**	**11.60**	**8.00**
1100	50.60	33.00	26.40	20.90	15.95	11.00
1600	-	48.00	38.40	30.40	23.20	16.00
$/kilolumens	**46.00**	**30.00**	**24.00**	**19.00**	**14.50**	**10.00**

Notes: $/kilolumen values were estimated based on projections from DOE's Multi-Year Program Plan. Prices for each year are considered to be the prices in January of that year. Prices for each light output category were calculated based on the estimated $/kilolumen values.

Source: D&R International's **Residential Lighting Market Profile-2012** drawing on data from U.S. DOE. "Solid State Lighting Research and Development: Multi Year Program Plan." March 2011 and April 2012.

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The Bottom Line

- We need to more than double efficient lamp sales
- Maintain or surpass those volumes through 2020
- It is possible to do so
- Regulators and program administrators should not restrict or disincetivize utility promotion of CFLs

If you want to know:

- How low hours of use could go
- What role LEDs will play in the market in the next few years
- How well efficient lighting products are performing
- Where the remaining savings potential is concentrated
- Why dimming is probably not as big a problem as people think
- Why you don't need to target your lighting programs to specific segments

Length

80 Pages

Tables and Charts

60

Sources

70

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