



# ENERGY STAR CFL Criteria Revision Partner & Stakeholder Meeting

U.S. Department of Energy  
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Washington, D.C.

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U.S. Department of Energy

# ENERGY STAR Fundamentals



- Voluntary Program
- Reduces Energy Use
- Prevents Pollution
- Profitable for Partners

# Guiding Principles for ENERGY STAR Criteria Development



- Significant energy savings
- No impact on product performance
- ENERGY STAR qualified product is cost effective
- Several technology options can achieve criteria setting (one of which is non-proprietary)
- Energy consumption can be quantified
- Label differentiates products and is visible to purchasers

# Why Revise the ENERGY STAR Criteria for CFLs?



- 1) Version 3.0 achieved the goal to improve the ENERGY STAR qualification process.
- 2) In addition, DOE identified the following topics to address in creating Version 4.0:
  - Efficacy
  - CFL Reflectors
  - Run-up Time
  - Correlated Color Temperature (CCT)
  - Third-Party Testing and Verification System
  - Criteria Standard Operating Procedures (SOP)
  - Candelabra-base CFLs
  - Equivalency for Reflector/Globe CFLs
- 3) ENERGY STAR wants to continue to drive the market to offer the highest quality products – maintaining brand integrity.

# History of the ENERGY STAR Criteria for CFLs Revision Process



- **1999:** ENERGY STAR established criteria for CFLs.
- **March 2001:** ENERGY STAR held a partner and stakeholder meeting to discuss upgrading the criteria.
- **October 2001:** Based on the meeting and comments, the criteria was updated and was put into effect.
- **December 2002:** DOE begins third revision of CFL criteria.
- **April 2003:** ENERGY STAR held a meeting to discuss potential criteria changes.
- **January 2004:** ENERGY STAR criteria for CFLs – Version 3.0 went into effect.

# ENERGY STAR Criteria Revision Process



1. ENERGY STAR criteria changes can be triggered by revisions to Federal standards, increase in market saturation, or product performance issues.
2. DOE will notify all ENERGY STAR partners and stakeholders by e-mail to announce the launch of a revision process, provide initial analysis or proposal of those requirements are targeted for potential revision, and call for comments.

# Criteria Revision Process



3. DOE will hold a criteria revision partner and stakeholder meeting.
4. All formal submitted comments will be reviewed and considered by DOE.
5. All draft criteria revisions, announcements, partner and stakeholder comments, partner meeting minutes and presentations will be posted on the ENERGY STAR web site.



# Criteria Revision Overview

Bare and Covered CFL Products



# ENERGY STAR CFL Eligibility Criteria

## Bare & Covered CFL Requirements – Page 5



### EFFICACY:

#### Current Criteria 10/30/03:

Lamp Power (Watts) & Configuration	Minimum Efficacy: Lumens/watt
<b><u>Bare lamp:</u></b>	
Lamp power < 15	45.0
Lamp power $\geq$ 15	60.0
<b><u>Covered lamp:</u></b>	
Lamp power < 15	40.0
15 $\geq$ lamp power < 19	48.0
19 $\geq$ lamp power < 25	50.0
Lamp power $\geq$ 25	55.0

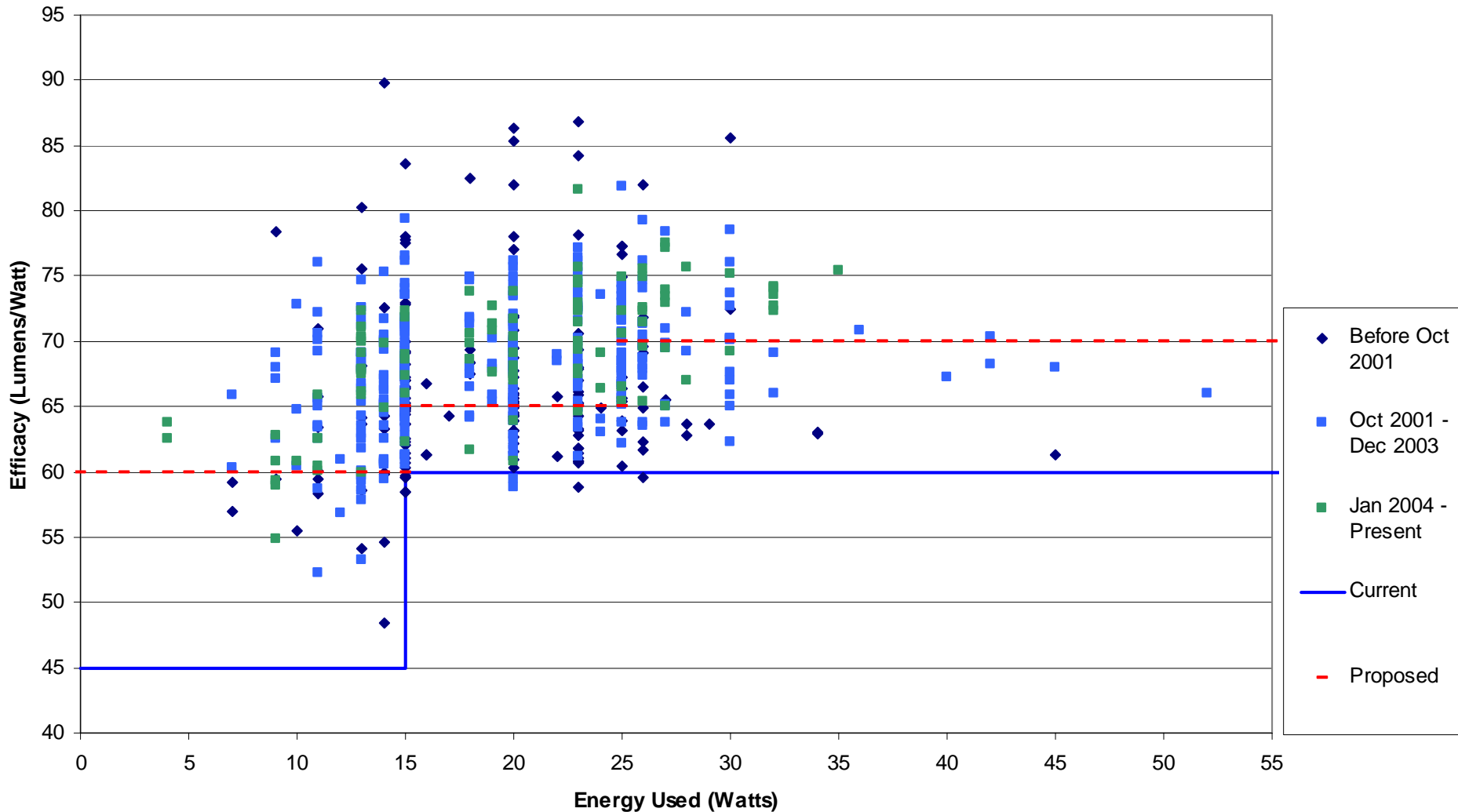
#### Draft Revision Criteria 8/30/05:

Lamp Power (Watts) & Configuration	Minimum Efficacy: Lumens/watt
<b><u>Bare lamp:</u></b>	
Lamp power < 15	60.0
15 $\leq$ Lamp power < 25	65.0
Lamp power $\geq$ 25	70.0
<b><u>Covered lamp:</u></b>	
Lamp power < 15	50.0
15 $\leq$ Lamp power < 25	55.0
Lamp power $\geq$ 25	60.0

# ENERGY STAR Qualified Bare CFL Efficacy Data



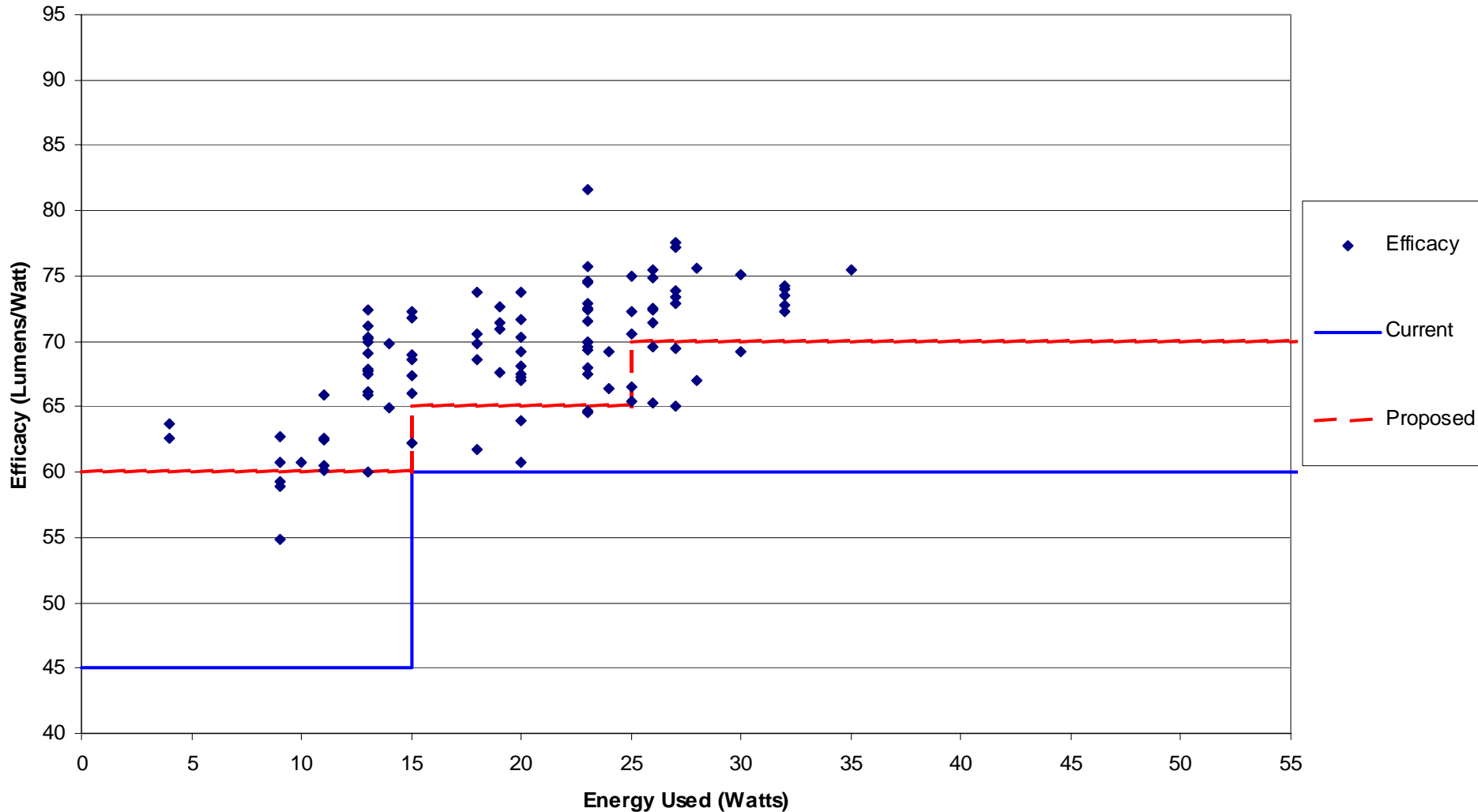
ENERGY STAR Qualified Bare CFLs - All Products



# ENERGY STAR Qualified Bare CFL Efficacy Data: January 04 - Present



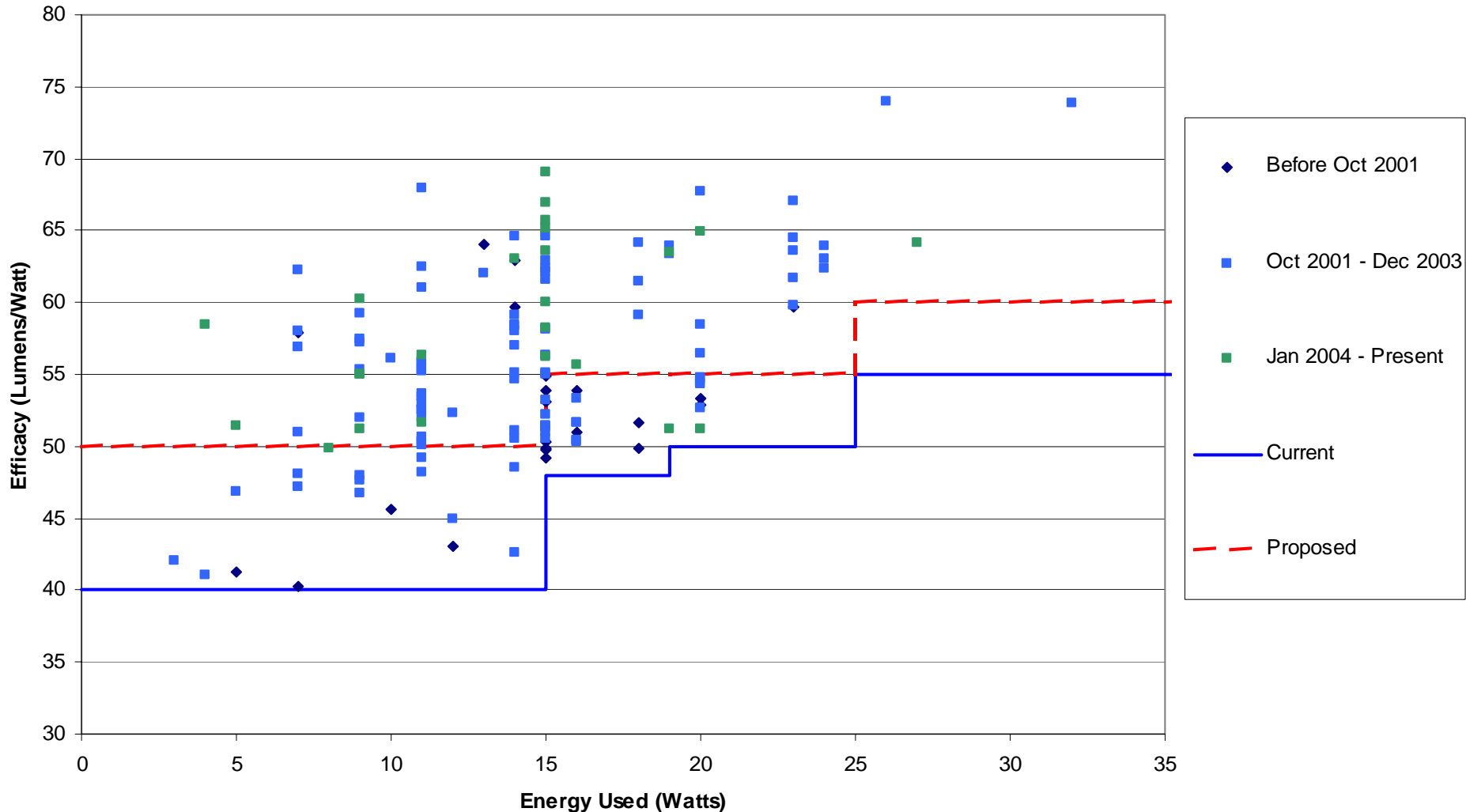
ENERGY STAR Qualified Bare CFLs  
Qualified Since January 2004 - Present



# ENERGY STAR Qualified Covered CFL Efficacy Data



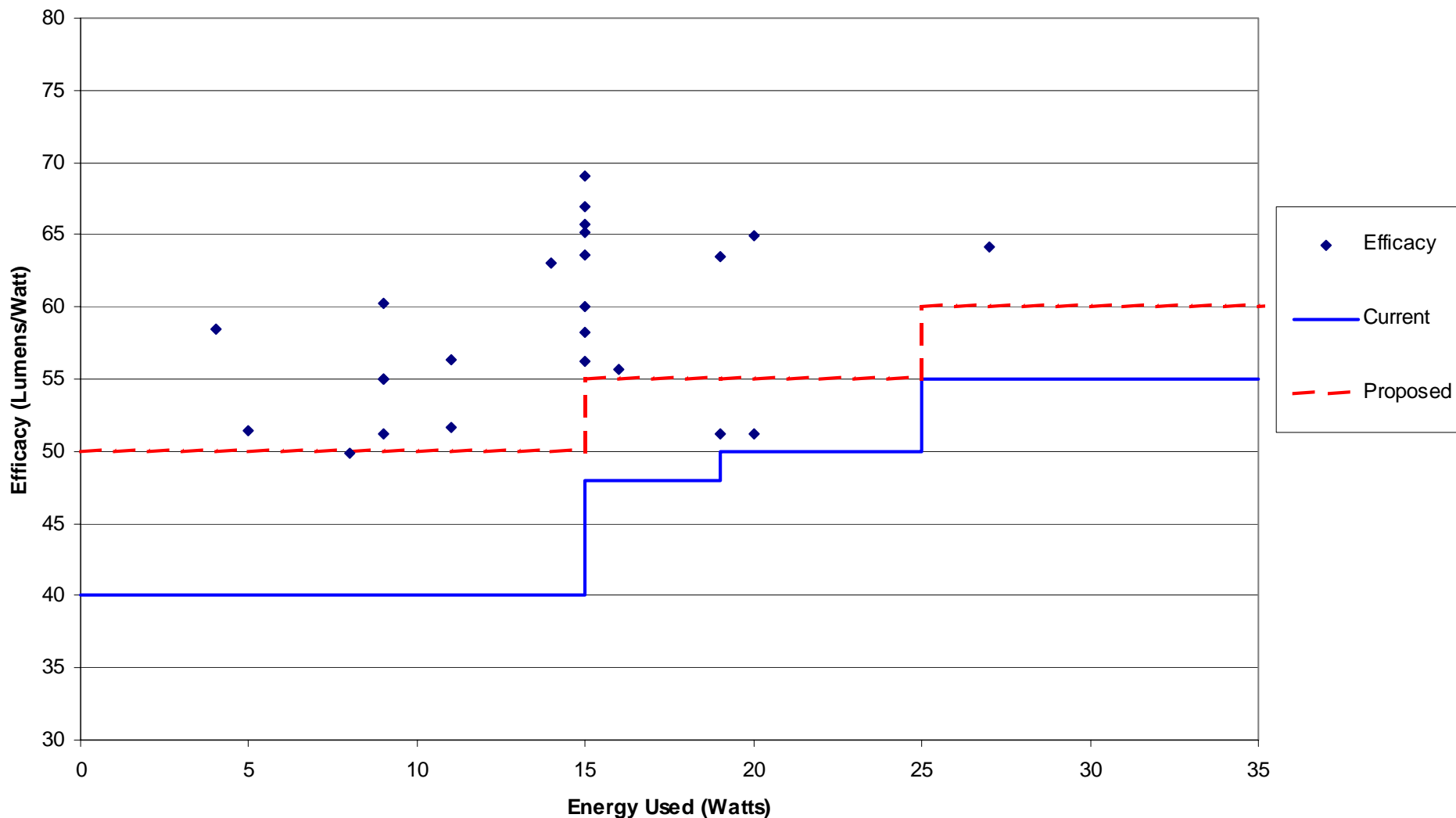
## ENERGY STAR Qualified Covered CFLs - All Products



# ENERGY STAR Qualified Covered CFL Efficacy Data: January 04 - Present



Covered Models Qualified Since 01/01/04





### COLOR RENDERING INDEX (CRI):

#### Current Criteria Text:

Average of the 10 samples tested must be greater than 80.0.

#### 8/30/05 Draft Text:

Average of the 10 samples tested must be greater than 80.0, and no more than 2 individual samples can have a CRI less than 77.0.



### 1,000-HOUR LUMEN MAINTENANCE:

#### Current Criteria Text:

Average lumen output measurement of the 10 lamps tested must be greater than 90.0% of initial (100-hour) lumen output @ 1,000 hours of rated life.

#### 8/30/05 Draft Text:

Average lumen output measurement of the 10 lamps tested must be greater than 90.0% of initial (100-hour) lumen output @ 1,000 hours of rated life, and no more than 2 individual samples can have a lumen output measurement less than 85.0%.



### LUMEN MAINTENANCE AT 40% OF RATED LIFE:

#### Current Criteria Text:

Average of 10 samples must be greater than 80.0% of initial (100-hour) lumen output at 40% of model's rated life (per ANSI C78.5, Clause 4.10).

#### 8/30/05 Draft Text:

Average of the 10 samples tested must be greater than 80.0% of initial (100-hour) rating at 40% of model's rated life (Per ANSI C78.5, Clause 4.10), **and no more than 2 individual samples can have a lumen output less than 75.0%.**





### PRODUCT CONSISTENCY:

Introduction of the “no less than 2 samples” requirement is to reduce inconsistent product performance or the potential to have wide variability within the sample set.

Example: Lumen Maintenance at 40% of rated lifetime

Sample 1: 81.6%

**Sample 2: 74.8%**

Sample 3: 89.1%

**Sample 4: 92.7%**

Sample 5: 87.5%

**Sample 6: 63.8%**

Sample 7: 88.7%

Sample 8: 88.6%

**Sample 9: 74.4%**

Sample 10: 87.5%

Inconsistent performance detracts from the goal of providing high quality ENERGY STAR qualified CFLs.

# ENERGY STAR CFL Eligibility Criteria

## Photometric Requirements – Page 5



### PRODUCT CONSISTENCY, CONT.:

The significant majority of ENERGY STAR qualified CFLs consistently meet or exceed the criteria program requirements.

Proposed Criterion	Current Qualified Product Performance			
	Testing Sample	Average	25th Percentile	10th Percentile
# of Samples <85% Lumen Maintenance at 1,000 Hours	Qualification	0.61	0	1
	PEARL	1.22	2	3.7
# of Samples <75% Lumen Maintenance at 40% of Rated Life	Qualification	0.52	0	1

When you include PEARL results, the variability increases significantly. Almost 4 samples have 1,000-hour lumen maintenance of less than 85.0% in the lower 10%.

The criterion should prevent the qualification of the most inconsistently performing products but not eliminate those with isolated anomalies.



### CORRELATED COLOR TEMPERATURE:

#### Current Criteria Text:

Between 2700K and 3000K. If not, packaging should clearly state temperature and color of product (cool or warm).

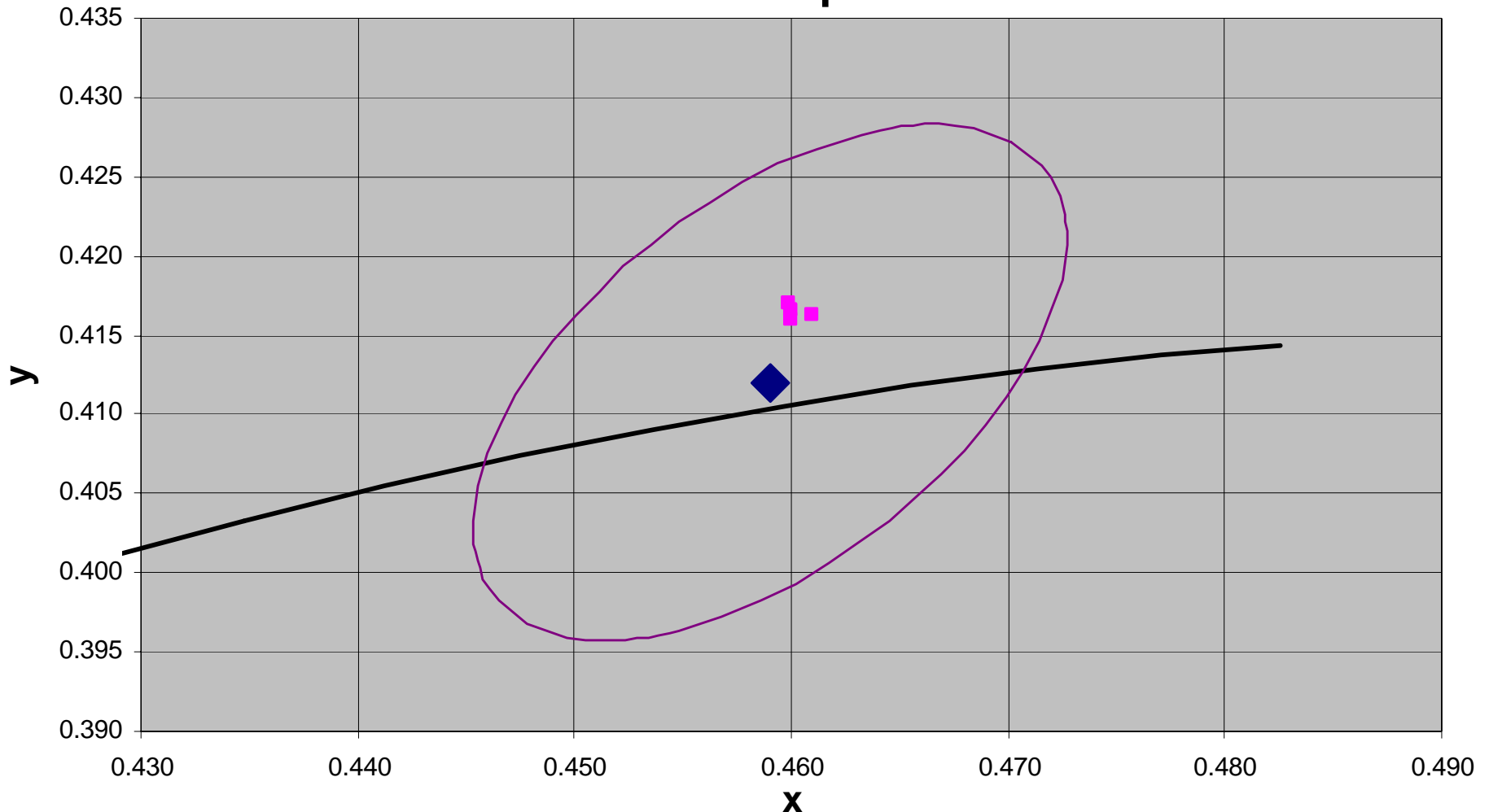
#### 8/30/05 Draft Text:

Manufacturer must identify one of the following designated correlated color temperatures to market their product as: 2700K, 3000K, 3500K, 4100K, 5000K, or 6500K, and at least 9 out of the 10 samples tested must fall within a 7-step ANSI Mac Adam ellipse for that color temperature at the 100-hour lumen measurement.

# Correlated Color Temperature - Examples



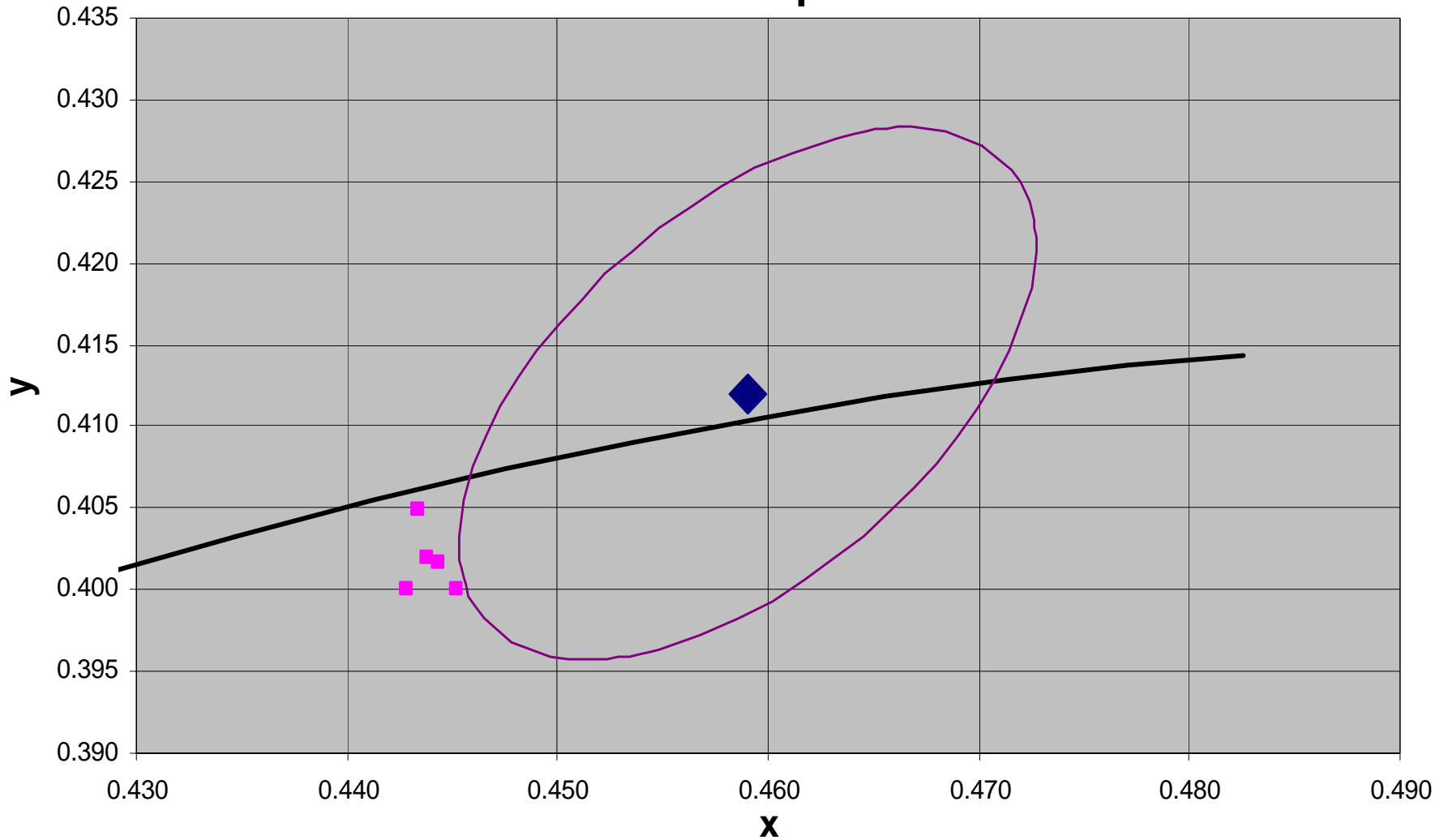
## 2700K Ellipse



# Correlated Color Temperature - Examples



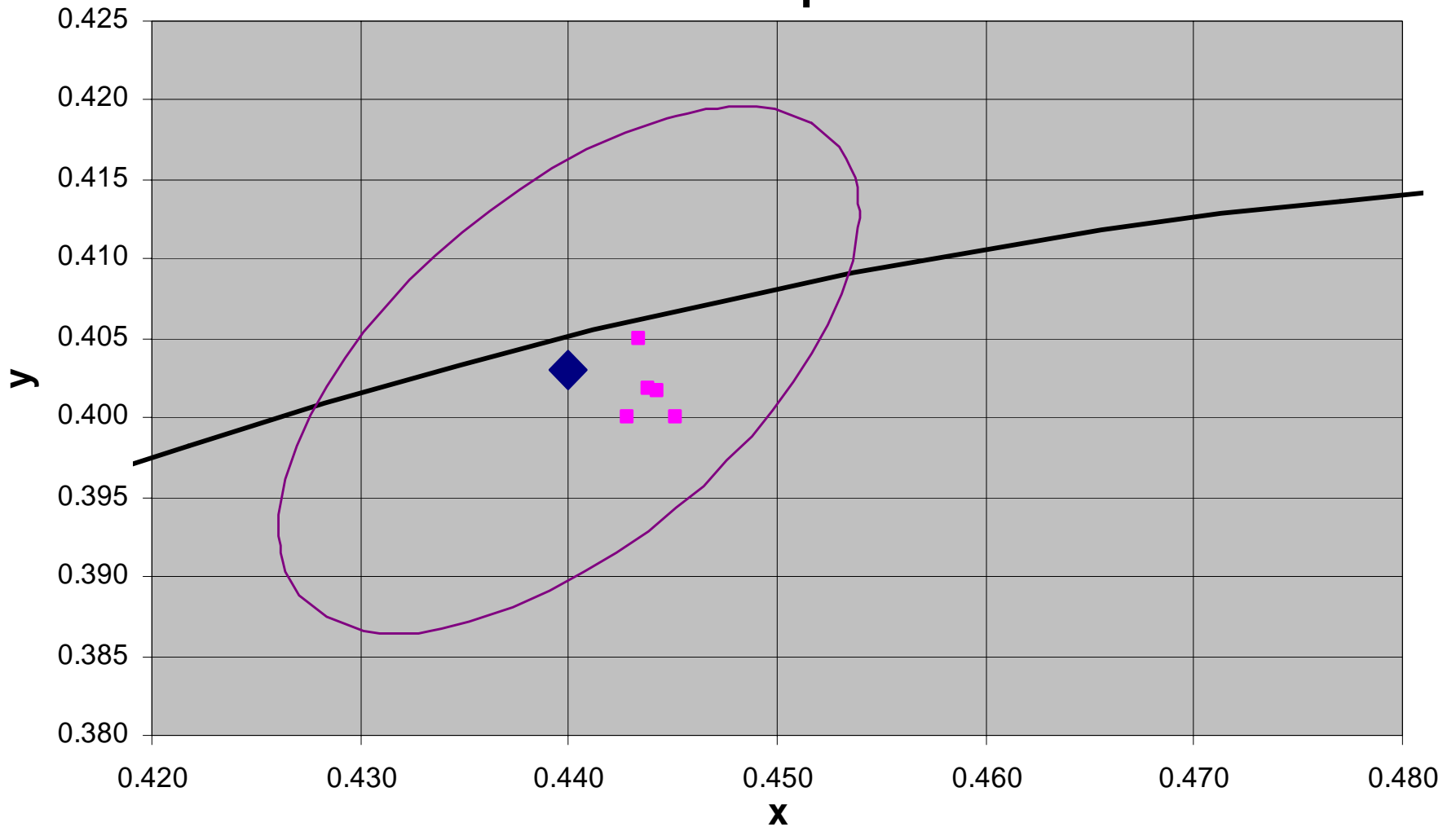
## 2700K Ellipse



# Correlated Color Temperature - Examples



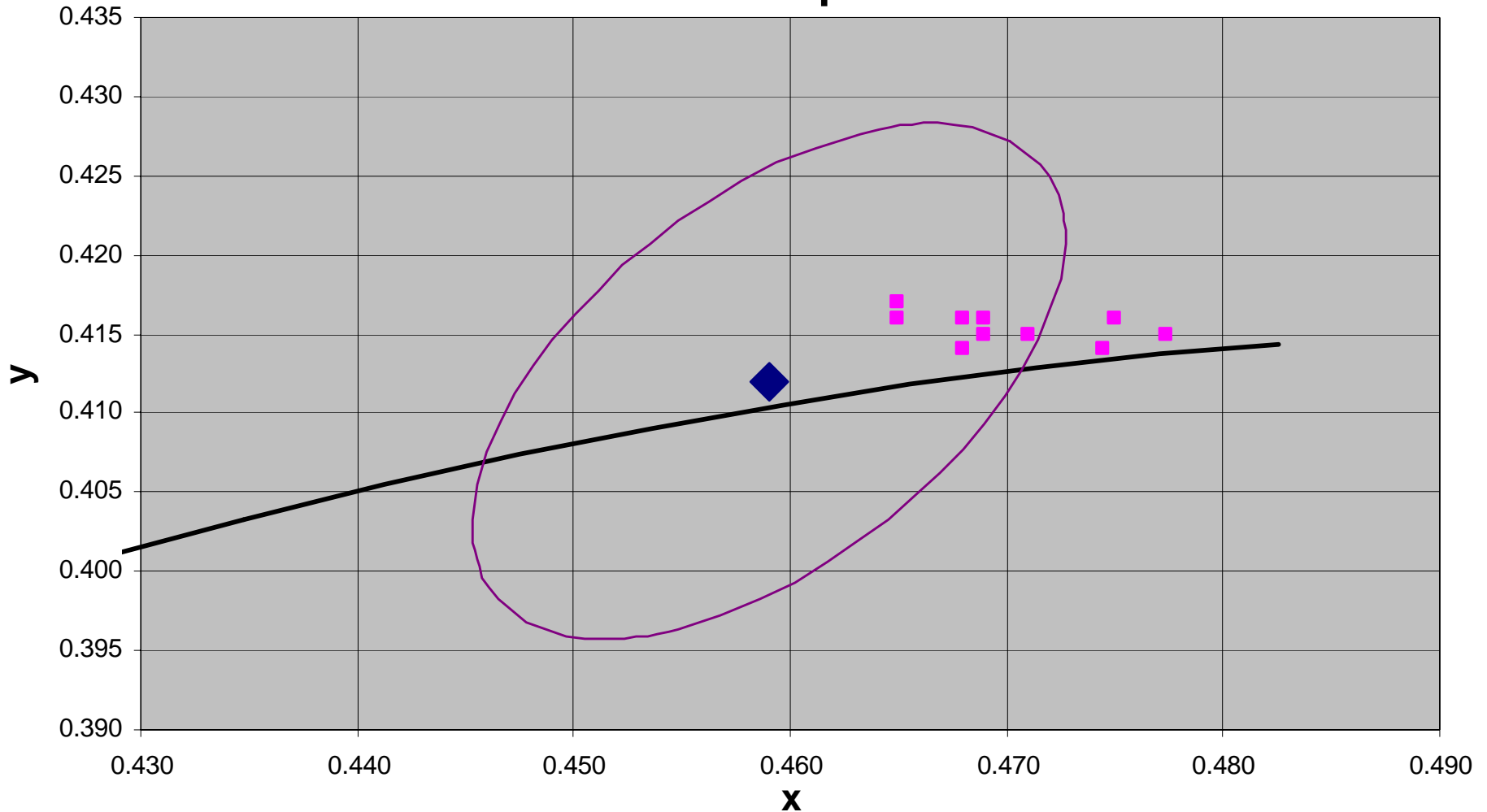
## 3000K Ellipse



# Correlated Color Temperature - Examples



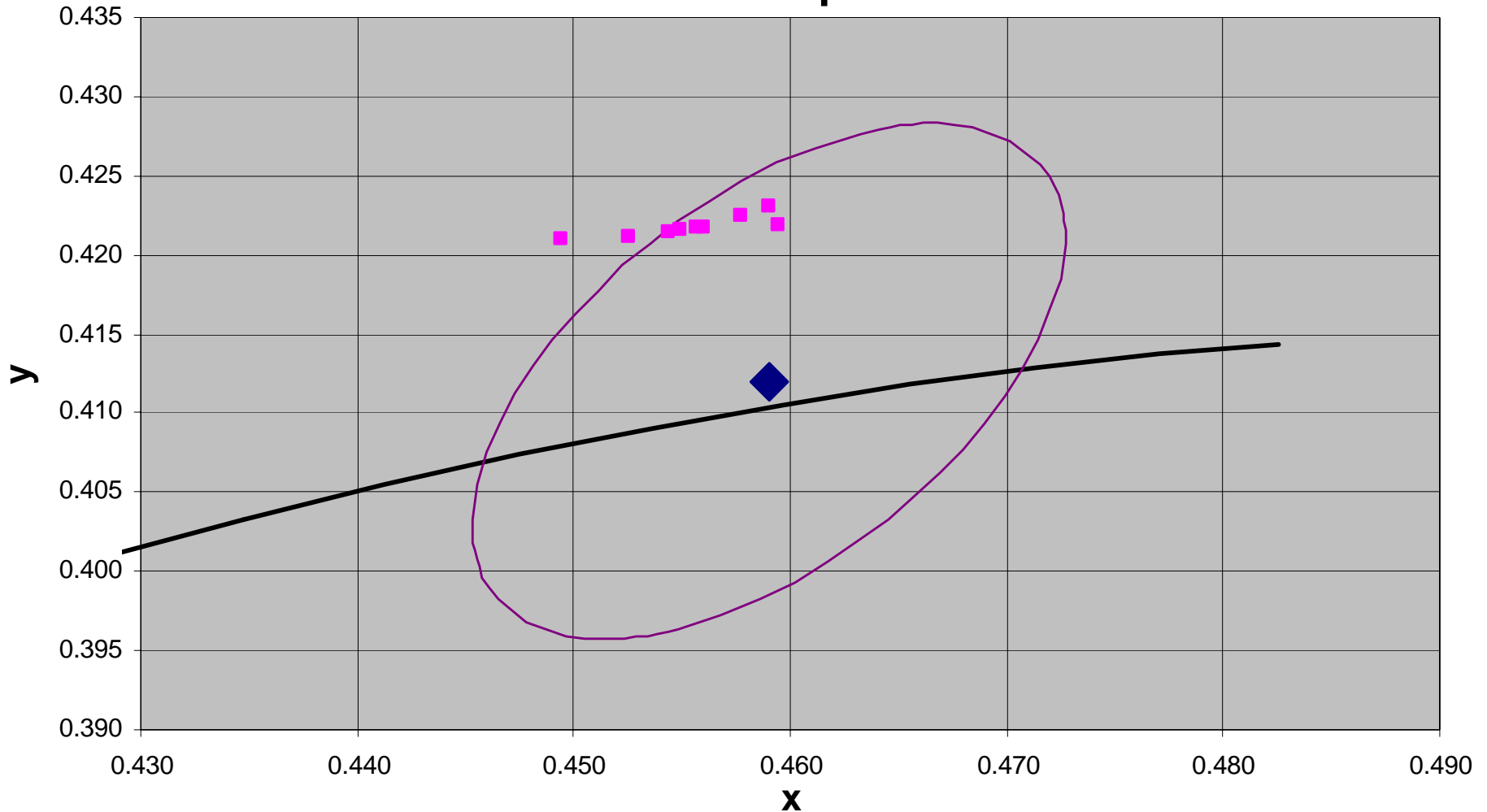
## 2700K Ellipse



# Correlated Color Temperature - Examples



## 2700K Ellipse

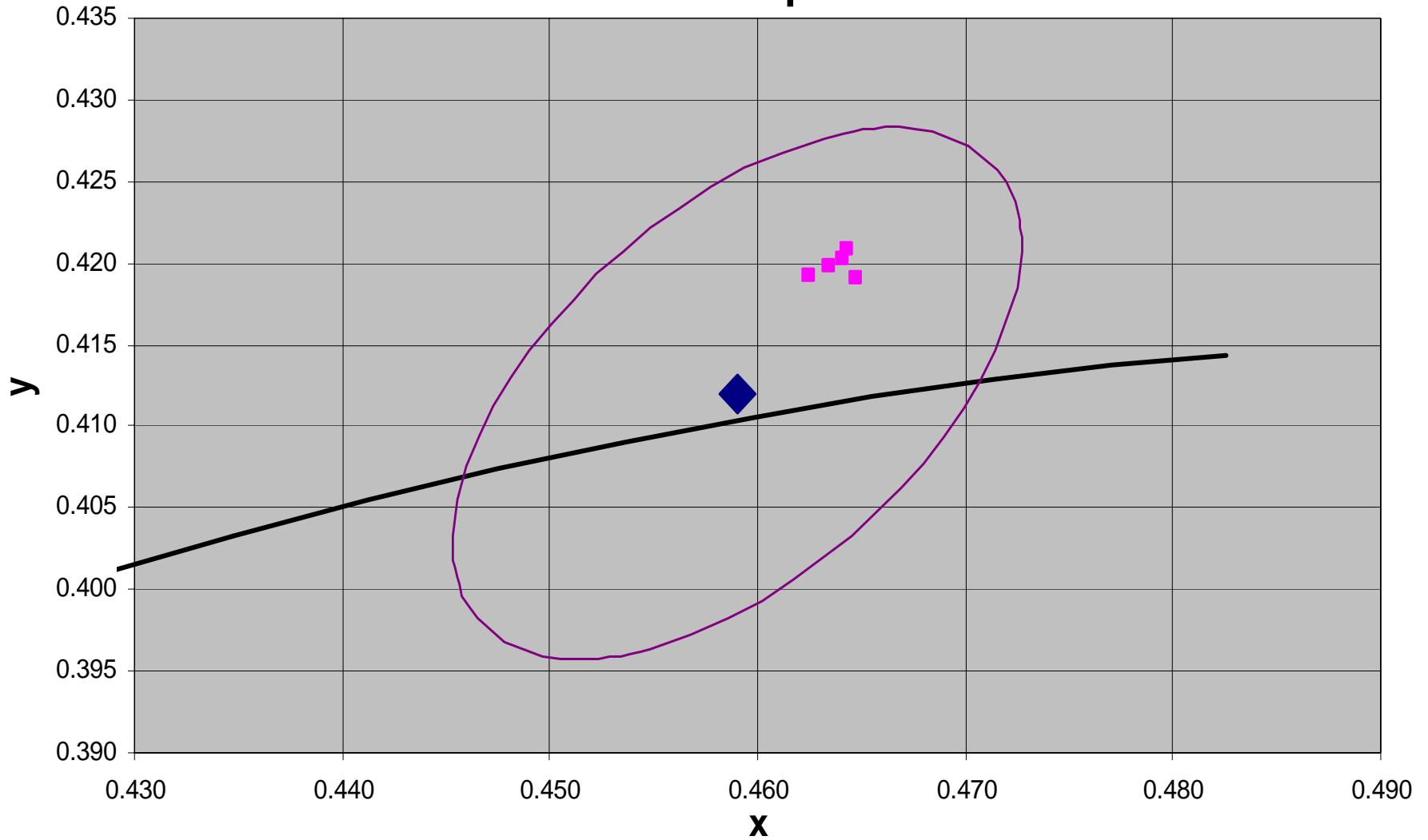




# Correlated Color Temperature - Examples



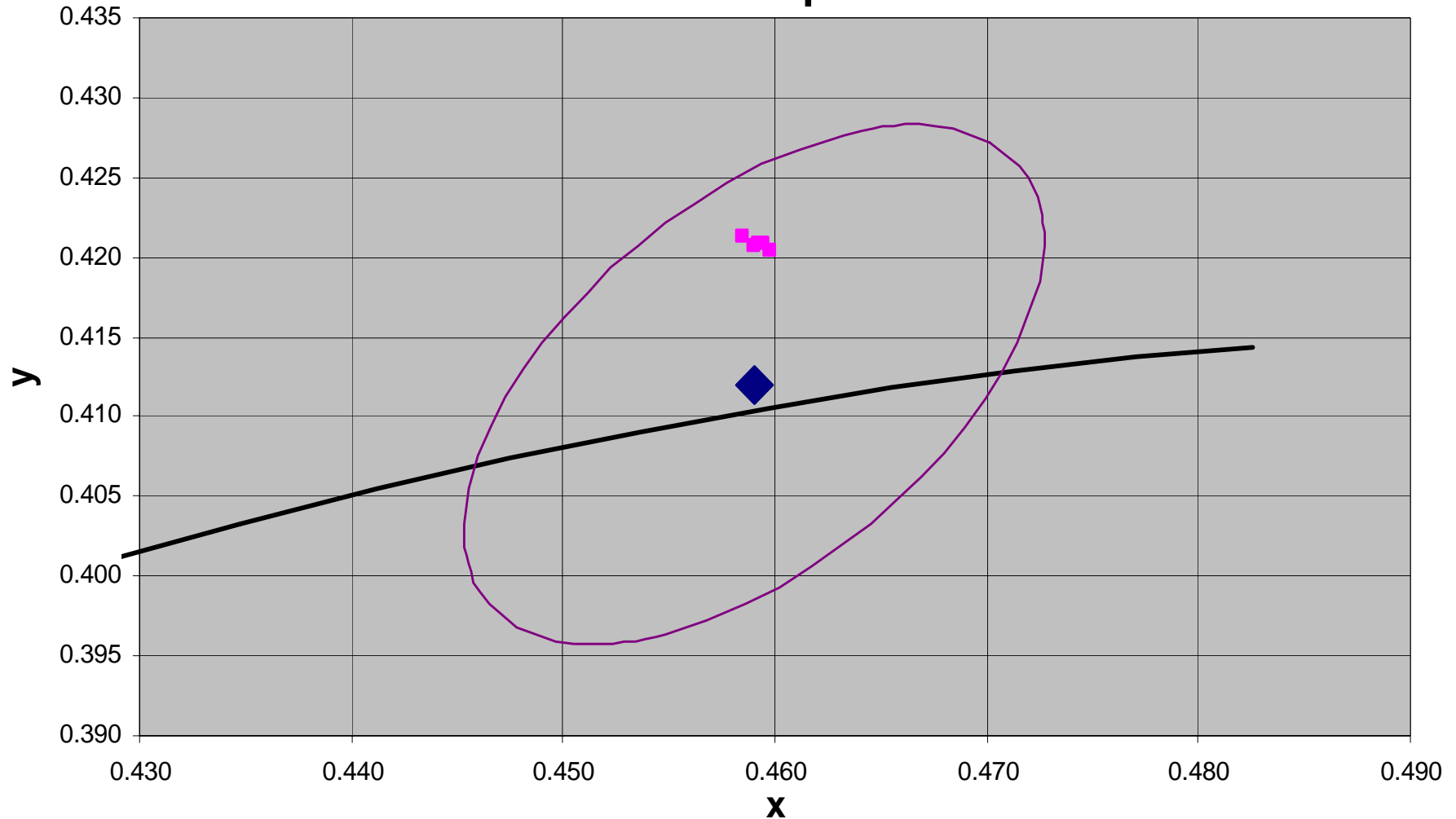
## 2700K Ellipse



# Correlated Color Temperature - Examples



## 2700K Ellipse



# ENERGY STAR CFL Eligibility Criteria

## Bare & Covered CFL Requirements – Page 6



### RUN-UP TIME – BARE PRODUCTS ONLY:

#### Current Criteria Text:

Average of 10 samples tested must be less than 3.0 minute per ANSI C78.5, clause 3.11 and 4.8.

#### 8/30/05 Draft Text:

Average of 10 samples tested must be less than 1.0 minute per ANSI C78.5, clause 3.11 and 4.8.

# Run-up Time Analysis



Qualified Bare CFL Products		Run-up Time (S)		
Qualification Date	Number of Models	Mean	25%	10%
All	567	36.7	40.0	51.5
Version 1.0 (9/99 - 9/2001)	163	38.5	40.0	65.6
Version 2.0 (10/01 - 12/03)	303	34.1	36.0	44.3
Version 3.0 (01/04 - Present)	101	41.7	50.0	56.0

The chart contains the mean values as well as bottom 25<sup>th</sup> and 10<sup>th</sup> percentile figures for run-up time of ENERGY STAR qualified bare CFLs.

# ENERGY STAR CFL Eligibility Criteria

## Bare & Covered CFL Requirements – Page 8



### CFL/INCANDESCENT EQUIVALANCY TABLE:

A-Shaped Incandescent bulb (Watts)	Typical Luminous Flux (Lumens) <sup>†</sup> † Lumens must be 100 hr, initial values for CFLs <i>Note: excludes globes, reflectors, or decorative CFLs</i>
25	Minimum of 250
40	Minimum of 450
60	Minimum of 800
75	Minimum of 1,100
100	Minimum of 1,600
125	Minimum of 2,000
150	Minimum of 2,600



# Criteria Revision Overview

Reflector CFL Products

# ENERGY STAR CFL Reflectors



## ENERGY STAR QUALIFIED REFLECTOR TESTING UPDATE:

Out of the 64 reflector products that were tested:

Number of Products Meeting Criteria:	22
Number of Products for Disqualification:	32
Number of Products still in testing:	<u>10*</u>
<b>Total:</b>	<b>64</b>

\*Testing expected to be complete by the end of September.

Where testing has been completed, over half of the products (~60.0%) did not meet the current criteria.

# ENERGY STAR CFL Reflectors



## ENERGY STAR Qualified Reflector Testing Update

### Results Overview:

- There are performance issues across manufacturers and testing requirements.
- Lumen maintenance was the largest problem area. Of the bulbs not meeting the criteria:
  - 1,000-hour lumen maintenance results ranged from 85.55% to a low of 76.93%.
  - Lumen maintenance at 40% of rated lifetime results ranged from 77.30% to a low of 46.76%.
- Disqualification letters will be distributed to affected partners the week of **September 26<sup>th</sup>** and the final list of disqualified products will be announced after **October 25<sup>th</sup>**.



# ENERGY STAR CFL Eligibility Criteria

## Reflector CFL Requirements – Page 9



### EFFICACY:

Current Criteria 10/30/03:

Lamp Power (Watts) & Configuration	Minimum Efficacy: Lumens/watt
<u>Reflector:</u>	
Lamp power < 20	33.0
Lamp power $\geq$ 20	40.0

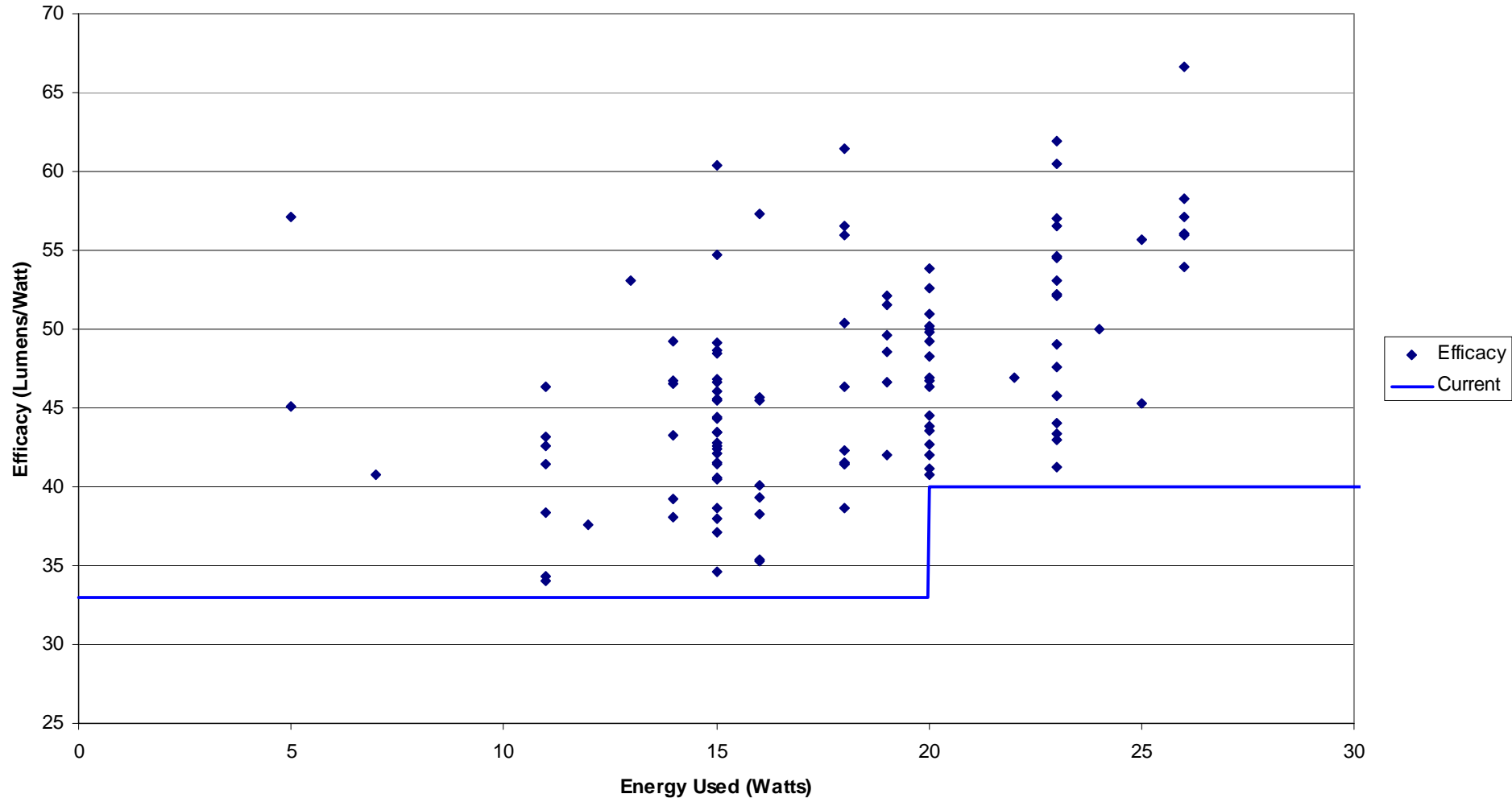
Draft Revision Criteria 8/30/05:

Lamp Power (Watts) & Configuration	Minimum Efficacy: Lumens/watt
<u>Reflector:</u>	
Lamp power < 20	33.0
Lamp power $\geq$ 20	40.0

# ENERGY STAR Qualified Reflector CFL Efficacy Data



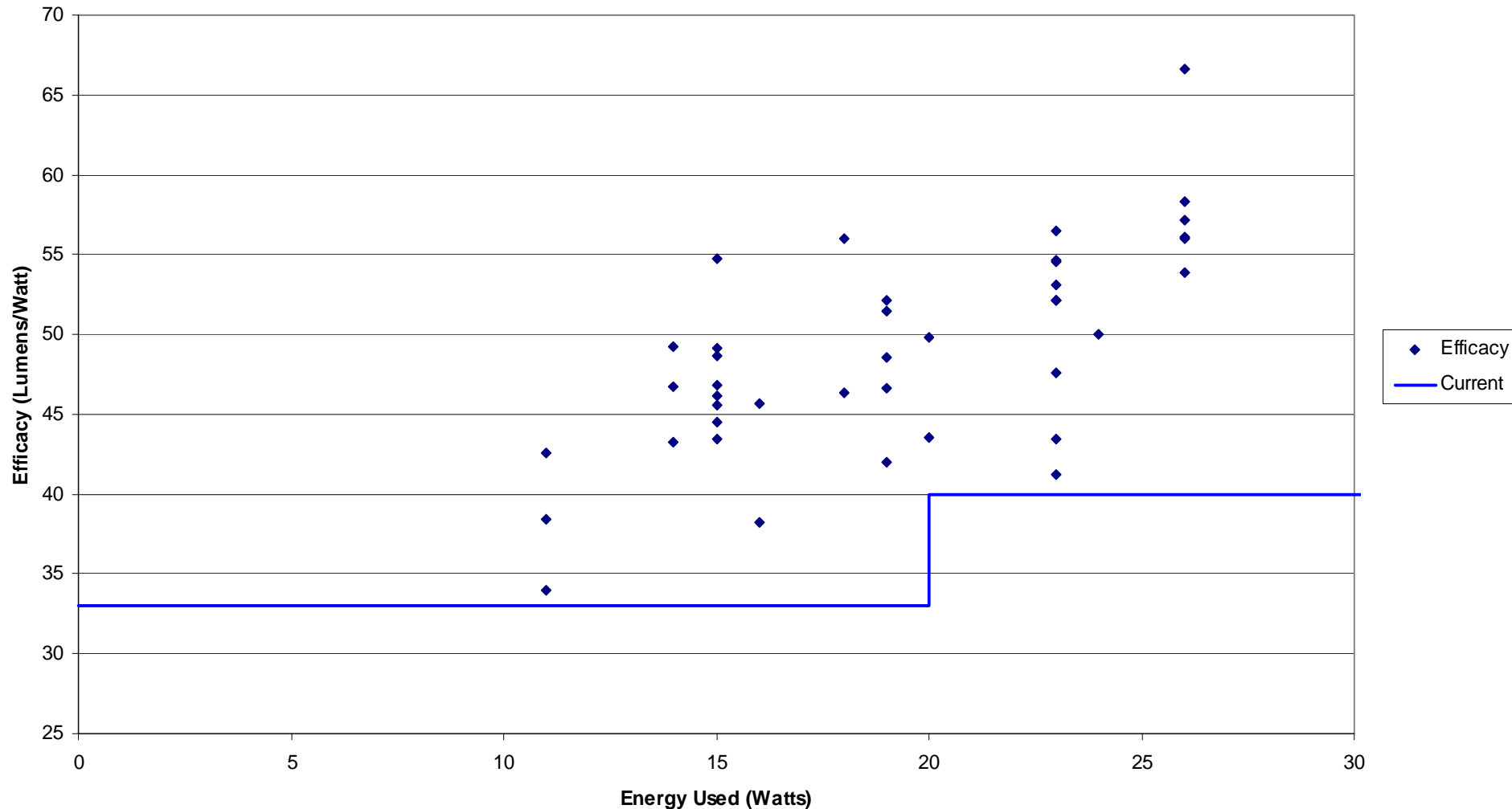
All ENERGY STAR Qualified Reflector Models



# ENERGY STAR Qualified Reflector CFL Efficacy Data: January 04 - Present



Qualified CFL Reflector Models Since 01/01/04





### INITIAL ELEVATED TEMPERATURE LIGHT OUTPUT:

Product will meet the minimum requirement of maintaining 90.0% of initial rated light output when operated in an 8" (nominal) deep ICAT down light installed in the UL 1598 thermal test apparatus for IC-rated luminaries.



### ELEVATED TEMPERATURE 1,000-HOUR LUMEN MAINTENANCE:

Current Criteria 10/30/03:

Average lumen output measurement of the 10 lamps tested must be greater than 90.0% of initial (100-hour) lumen output @ 1,000 hours of rated life.

Draft Revision Criteria 8/30/05:

Average lumen output measurement of the 10 lamps tested must be greater than 90.0% of initial (100-hour) lumen output @ 1,000 hours of life, and no more than 2 individual samples can have a lumen output measurement less than 85.0%.

*Samples must be tested at 55°C ± 5°C in the Elevated Temperature Test apparatus.*



### ELEVATED TEMPERATURE LUMEN MAINTENANCE @ 40% of RATED LIFE:

Current Criteria 10/30/03:

Average lumen output measurement of the 10 lamps tested must be greater than 80.0% of initial (100-hour) lumen output @ 1,000 hours of rated life.

Draft Revision Criteria 8/30/05:

Average of the 10 samples tested must be greater than 80.0% of initial (100-hour) rating at 40% of model's rated life (Per ANSI C78.5, Clause 4.10), and no more than 2 individual samples can have a lumen output less than 75.0%.

*Samples must be tested at 55°C ± 5°C in the Elevated Temperature Test apparatus.*



### ELEVATED TEMPERATURE INTERIM LIFE TIME TEST:

Current Criteria 10/30/03:

@ 40% of rated life report on lamp life:

One sample failure, acceptable;

Two sample failures, requires submission of a self-certification product failure report to describe in detail the specific reasons for sample product failures;

Three sample failures, does not qualify.

Draft Revision Criteria 8/30/05:

@ 40% of rated life report on lamp life:

One sample failure, acceptable;

Two sample failures, requires submission of a self-certification product failure report to describe in detail the specific reasons for sample product failures;

Three sample failures, does not qualify.

*Samples must be tested at  $55^{\circ}\text{C} \pm 5^{\circ}\text{C}$  in the Elevated Temperature Test apparatus.*



### ELEVATED TEMPERATURE LIFE TESTING:

Current Criteria 10/30/03:

$\geq$  6,000 hours as declared by the manufacturer on submitted packaging and qualification form. Partner must complete lifetime test to stated rated lamp life on packaging (i.e. – if CFL is marketed as a 10,000 hour CFL, it must complete the life time test to 10,000 hours).

Draft Revision Criteria 8/30/05:

$\geq$  6,000 hours as declared by the manufacturer on submitted packaging and qualification form.

*Must follow the testing procedures.*





# ENERGY STAR Qualified Reflectors

## Elevated Temperature Life Testing

Jeff McCullough

Pacific Northwest National Laboratory



# ENERGY STAR Quality Assurance & Third Party Testing and Verification System

Richard H. Karney, P.E.  
U.S. Department of Energy

# ENERGY STAR CFL Eligibility Criteria

## Quality Assurance – Page 16



### MANUFACTURING QUALITY CONTROL PROCESSES:

DOE will accept the following industry quality control processes:

- Adherence to the International Standards Organization (ISO) 9000 family of international quality management standards and guidelines, used as the basis for establishing quality management systems;
- Employment of the Six Sigma methodology to measure and improve a company's operational performance, practices and systems; or an equally recognized industry process.
- Other systems or formats that will be determined at a later date.
- Private labelers, distributors, and retailers will be exempt from this requirement.



The goals of the Third Party Testing and Verification Program are to:

- Develop a CFL testing program that will aid DOE in maintaining quality control of its ENERGY STAR CFL Program;
- Develop a mechanism providing added assurance to ENERGY STAR PARTNERS sponsoring CFL Programs and to manufacturer competitors alike that qualified products do in fact meet the ENERGY STAR criteria;
- Provide a basis upon which the DOE can reasonably make decisions on disqualifying products not exhibiting the necessary qualifications to keep its ENERGY STAR qualification status;
- Maintain the precepts of the ENERGY STAR Program, the highest of which is the consumer receives superior products that perform as advertised.



### PROGRAM COMMITTEES:

#### Product Selection Committee:

- Oversee the final product selection process for each testing cycle.
- Comprised of four representatives – one member from industry (equipment manufacturers, testing organizations or laboratories), two members from a lighting stakeholder group or utility, and DOE. Third Party Testing Administrator will assist the committee.

#### Technical & Research Committee:

- Responsibilities include identifying product test procedures to incorporate into the program, evaluating testing uncertainties and data anomalies, testing tolerance levels, and developing management protocols to address these topics.
- Comprised of six representatives – will consist of a balanced representation from industry (equipment manufacturers, retailers, and testing laboratories) and lighting stakeholder groups.

# ENERGY STAR CFL Eligibility Criteria

## Third Party Testing & Verification System –

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## TESTS TO BE CONDUCTED:

### Bare and Covered Products:

- Initial Efficacy
- Rapid Cycle Stress Test
- Correlated Color Temperature (CCT)
- Color Rendering Index (CRI)
- Run-up Time
- Start Time
- 1,000 Hour Lumen Maintenance
- Lumen Maintenance at 40% of rated lifetime
- Interim Life Test at 40% of rated lifetime
- Power Factor

### Reflector Products:

- Initial Efficacy
- Rapid Cycle Stress Test
- Correlated Color Temperature (CCT)
- Color Rendering Index (CRI)
- Run-up Time
- Start-up Time
- Initial Elevated Temperature Light Output
- Elevated Temperature 1,000 hour Lumen Maintenance
- Elevated Temperature Lumen Maintenance at 40% of rated lifetime
- Elevated Interim Life Test at 40% of rated lifetime
- Power Factor



### PRODUCT NOMINATIONS:

- The program will target to test 20% of the total number of current qualified bulbs during a calendar year
  - 10% of the product testing pool will be selected via a random generator
  - 10% of the product testing pool will be selected by DOE, utilities, manufacturers, states, efficiency program sponsors, or other government entities
  - A maximum of six products per CFL PARTNER may be tested within the fiscal year (two-cycle timeframe).
- Once a product is identified for third party testing, the program will remove any accompanying products out of the product pool to remove the possibility of any redundant testing of the same specific technical design or product.



### PRODUCT SELECTION:

- The Third Party Testing Program Administrator will distribute the overall list of product nominations (random generator and PARTNER nominations) to the Product Selection Committee to review.
- The Product Selection Committee will meet via conference call or meeting to discuss the product nominations and finalize a list of products to test within each cycle. The Product Selection Committee will have five business days to review the nominations and approve the final list of products to test per testing cycle.
- DOE will approve the final product list and then the Third Party Testing Program Administrator will contact each CFL PARTNER to inform them their product or products will be tested and to notify which participating NVLAP accredited laboratory they will be working with.





### LABORATORY-PARTNER LOGISTICS:

- Each participating laboratory will provide a quotation to the specific ENERGY STAR CFL PARTNER, which will include the following:
  - Testing Costs
  - Product procurement costs
  - Shipment costs
  - Confidentiality clause that automatically permits the test laboratory to release the data to the Third Party Program Administrator and to the manufacturer.
  
- PARTNERS will send payment directly to the testing facility within the allotted timeframe.



### PRODUCT PROCUREMENT:

- PARTNERS will assist the assigned laboratory to identify retail sources or Internet shopping venues to purchase products from.
- At a minimum, at least two different date or lot codes will make up the samples of bulbs per model tested.
- Products will be purchased in accordance with these procurement guidelines:
  - Store Selection: If available, samples must be purchased from a minimum of three different retail or commercial outlets.
  - Geographic location selection: At a minimum, samples must be purchased from two (2) separate geographic regions of the U.S. The recommended number of locations is four (4).
- Collection of the following information:
  - Lot numbers
  - Date code
  - Geographic location of purchase (city, State, zip code, store number)
  - Retailer or distributor where product was purchased



### INFORMATION FLOW & DATA MANAGEMENT:

- PARTNERS will receive the complete test reports for its product(s) directly from the testing laboratory.
  
- The Third Party Testing Program Administrator will also receive the complete testing reports from the testing laboratory.
  
- The Third Party Testing Program Administrator will deliver the compiled test results to DOE to review and identify which products met the ENERGY STAR criteria.

DOE will notify PARTNERS of one of the following outcomes:

- Qualification verification
- Marginal failure
- Intend to disqualify the product



### INFORMATION FLOW & DATA MANAGEMENT, cont.:

The Third Party Testing Program Administrator will be responsible for developing consolidated trend data reports that will include:

- Overall pass/fail statistics
- Pass/fail statistics by product type
- Statistical scatter plots of measured performance test data
- Statistical analysis of mean, median
- Year-by-year or round-by-round trend data

These consolidated trend data reports will be provided to all manufacturers, utilities, states, energy efficiency program sponsors, other governmental organizations, and retailers.



### TESTING REVIEW PROCESS:

Based on the results and incorporation of measurement tolerances, DOE will categorize the tested products into three groups:

- Qualification verification
- Intent to disqualify
- Marginal failure

**Qualification verification** is defined when a product meets or exceeds all of the ENERGY STAR qualification testing requirements of the third party testing program.

**Intent to disqualify** is defined when a product fails one or more of any of the ENERGY STAR qualification testing or Third Party Testing requirements. If a product is so categorized, DOE will begin the **disqualification appeals process**.



### TESTING REVIEW PROCESS, CONT.:

Marginal failure is defined as having one sample exceed the allowable failure rate for one test.

An example of a marginal failure is a result of 4 out of 6 samples passing the rapid cycle stress test or if the interim lifetime testing results in failure of 2 samples (out of the 10 samples).

The reason behind the establishment of a marginal failure is if a product meets or exceeds all of the other testing requirements, especially the efficacy and 1,000-hour lumen maintenance tests and fails the rapid cycle stress test, it then causes a conflict on the quality of the product.



### DISQUALIFICATION APPEALS PROCESS:

1. DOE will contact the PARTNER by e-mail or by hard copy letter to inform of the intent to disqualify model(s) and will provide 30 days for the PARTNER to respond to the notification. Within this 30-day period, the product(s) in question will remain designated as ENERGY STAR qualified to avoid any consumer confusion or unnecessary logistical costs.
2. If a product is designated for disqualification as a result of the Third Party Testing, the PARTNER can submit a request to the testing laboratory to receive the failed lamp(s) so that the manufacturer can perform an autopsy analysis to try and determine the root cause of the failures.
3. During the 30-day appeals timeframe, a PARTNER can present to DOE conclusive manufacturing or design evidence, or quality assurance information on why their product did not perform up to ENERGY STAR standards and how the manufacturer has addressed the identified performance issues (poor efficacy or lumen maintenance, early failures, etc.).



### COSTS & FUNDING:

PARTNERS will pay for the testing of their products. The fee will vary as a function of the rated lifetime of the product. Included in the fee will be:

- A per model charge for the Third Party Program Administrator services, which will not exceed 20%
- Laboratory fees for product testing and product procurement, which will include:
  - Total retail costs of the samples (the laboratory will work to identify the best retail price to procure the products).
  - Flat fee to covers the logistical costs to purchase the products (transportation, telephone, hotel, etc.).
  - Product shipments
  - The procurement prices will be reviewed after each cycle to identify whether the cost needs to be adjusted.

PARTNERS whose products are retested due to marginal failure will pay for the retest and any additional product samples and shipment costs needed to complete the retest.





### COSTS & FUNDING, cont.:

A per model charge for the Third Party Program Administrator services, which will not exceed 20%. This Administrator fee will cover:

- Test Report Development
- Coordination of accredited NVLAP laboratories
- Verification of Qualified Product Information
- Coordination of Technical and Nomination Committees
- Notify PARTNERS of product selection and provide selected laboratory information
- Administrative tasks (conference calls; mailings; etc.)

# ENERGY STAR CFL Eligibility Criteria

Third Party Testing & Verification System –

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## ENERGY STAR CFL REQUALIFICATION PROCEDURE:

Qualified CFLs must be requalified every 36 months to ensure ongoing design or manufacturing changes maintain overall performance against the program requirements.

To requalify a product, PARTNERS must follow the current ENERGY STAR CFL qualification testing procedure. ENERGY STAR will track and inform PARTNERS when their qualified products must begin testing for requalification.

The 36-month requalification clock will not start until the end-of-life testing of a qualified product is completed. Specifically, PARTNERS must:

- Submit their product for requalification testing at an accredited NVLAP testing facility within 45 days of notification from the ENERGY STAR CFL program contractor.
- Submit the test qualification reports and product packaging to the ENERGY STAR CFL program contractor for review and approval.

Products that meet the ENERGY STAR criteria will continue to be recognized as ENERGY STAR qualified. Products that fail to meet the criteria will be categorized for immediate disqualification.

# ENERGY STAR CFL Eligibility Criteria

## Effective Date – Page 22



### Suggested Effective Date and Procedures:

The suggested effective date for the ENERGY STAR Program Requirements and Criteria for CFLs – Version 4.0 will be **April 1, 2006**, and replaces all previous versions.

All products, including models originally qualified prior to Version 4.0, must meet the new Version 4.0 requirements in order to use the ENERGY STAR certification mark on products or product literature by **October 1, 2006**.

Manufacturers may begin to test and submit products under Version 4.0 upon DOE's release of the final criteria document.

# ENERGY STAR CFL Criteria

## Suggested Criteria Revision Timeline



### Timeline:

- October 14:** First round of formal comments due to DOE
- October 31:** DOE completes review of comments
- November 14:** Second draft criteria revision distributed for review and comment
- December 9:** Second round of formal comments due to DOE
- December 30, 2005:** DOE completes review of comments
- January 16, 2006:** Final criteria revision distributed with the effective date of **April 1, 2006**.
- April 1, 2006:** ENERGY STAR criteria for CFLs – Version 4.0 goes into effect.
- October 1, 2006:** Deadline for all existing ENERGY STAR qualified CFLs to meet Version 4.0.

# ENERGY STAR CFL Criteria

## Next Steps



- Meeting notes and presentations from this meeting will be developed and distributed all participants. In addition, the information will be posted under the “Specifications under Revision” section of the ENERGY STAR Web site.
- Partner and stakeholder comments can be submitted to DOE – **by October 14<sup>th</sup>** to:
  - Richard Karney, [Richard.karney@ee.doe.gov](mailto:Richard.karney@ee.doe.gov)
  - Susan Gardner Zartman, [sgardner@drintl.com](mailto:sgardner@drintl.com)

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- Questions?