About ENERGY STAR

- **What is ENERGY STAR**
  - **More than** 50 product **categories covered**
  - **Almost** 40 state, 500 utilities, and many other energy efficiency program sponsors **promoting ENERGY STAR at** over 21,000 partner storefronts
  - **More than** 2 billion **ENERGY STAR qualified products purchased in the US to date**

About ENERGY STAR

- **Why ENERGY STAR?**
  - Increasing demand
  - Supply constraints
  - Increasing energy prices

ENERGY STAR Qualified Products

- Benefits
  - Up to 50% more efficient
  - Quality and performance
  - Reduce air pollution
  - ROI through operating cost savings
- ENERGY STAR qualified appliances
  - Clothes washers
  - Dehumidifiers
  - Dishwashers
  - Refrigerators
  - Room Air Conditioners
- ENERGY STAR qualified lighting
  - Bulbs
  - Fixtures and Fans

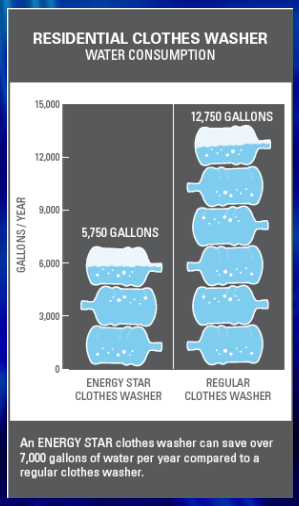
ENERGY STAR Qualified Clothes Washers

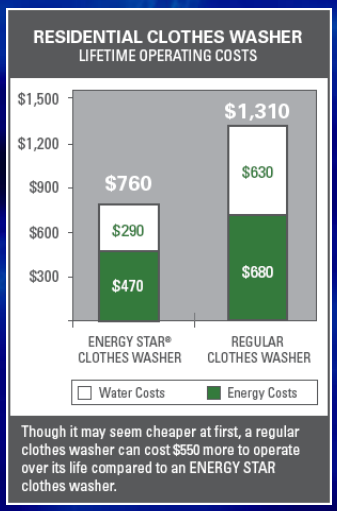
- At least 37% more efficient than standard
- Benefits
  - Energy and water savings
  - More capacity
  - Clothes last longer
  - Higher spin speeds = less drying time

ENERGY STAR Qualified Clothes Washers

- Cost Effectiveness
  - Average life: 11 Years
  - Average cycles/year: 392
  - Time to recover initial investment: 5 years
  - Price ranges
    - ENERGY STAR: $550 - $1,520
    - Conventional: $240 - $770

ENERGY STAR Qualified Clothes Washers





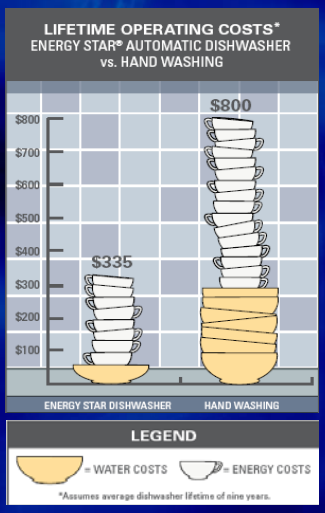
ENERGY STAR Qualified Dehumidifiers

- **At least 10-20% more efficient**
  - **40-pint ENERGY STAR qualified dehumidifier can save ~$20 per year, or $200+ over the life of the unit.**

Condition without Dehumidification	Area (Sq. Feet)				
	500	1,000	1,500	2,000	2,500
Moderately Damp (space feels damp and has musty odor only in humid weather)	10	14	18	22	26
Very Damp (space always feels damp and has musty odor. Damp spots show on walls and floor.)	12	17	22	27	32
Wet (space feels and smells wet. Walls or floor sweat, or seepage is present.)	14	20	26	32	38
Extremely Wet (laundry drying, wet floor, high load conditions.)	16	23	30	37	44

ENERGY STAR Qualified Dishwashers

- At least 40% more efficient than standard
- Added benefits
  - Innovative designs
  - Soil sensors



ENERGY STAR Qualified Dishwashers

- Cost effectiveness
  - Average life: 11 years
  - Average cycles per year: 215
  - ENERGY STAR price premium: $30 – $60
  - Time to recover price premium: 2 – 6 years
  - Price ranges
    - ENERGY STAR: $170 - $1,750
    - Conventional: $160 - $450

ENERGY STAR Qualified Refrigerators

- ENERGY STAR standard refrigerators & refrigerator/freezers (>7.75ft^3) are at least 15% more efficient than federal standards
- ENERGY STAR standard freezers (>7.75ft^3) are at least 10% more efficient than federal standards

ENERGY STAR Qualified Refrigerators

- ENERGY STAR compact refrigerators & refrigerator/freezers (<7.75ft^3) are at least 20% more efficient than federal standards

ENERGY STAR Qualified Refrigerators

- Benefits
  - Quiet operation
  - Convenience and design
  - Freshness
- Cost effectiveness
  - Average life: 14 years
  - ENERGY STAR price premium: $30 – $100
  - Time to recover initial investment: 2 – 6 years
  - Price ranges (full size)
    - ENERGY STAR: $400 - $5,000
    - Conventional: $300 - $5,000

ENERGY STAR Qualified Refrigerators

- Retirement & Recycling can save
  - 33 million pre-1993 refrigerators in American households
  - Retiring/recycling could save >$55 per year

ENERGY STAR Qualified Room Air Conditioners

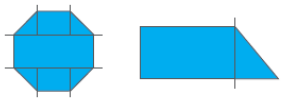
- At least 10% more efficient than standard
- Benefits
  - Added features
  - Quieter operation
- Cost effectiveness
  - Average product life expectancy: 10 years
  - Price ranges (approx)
    - ENERGY STAR: $130 - $850
    - Conventional: $80 - $1,000
  - ENERGY STAR price premium: $30 – $50
  - Time to recover price premium: 4 – 7 years

ENERGY STAR Qualified Room Air Conditioners

DETERMINE WHICH UNIT SIZE IS BEST FOR YOU.

- IF THE ROOM IS SQUARE OR RECTANGULAR, multiply the length of the area by the width.
- IF THE ROOM IS TRIANGULAR, multiply the length of the area by the width and divide by two.

Most rooms can be further divided into these basic shapes to determine the square footage:



If your room is other than square or rectangular, ask your sales associate to help you determine the square footage.

Using the square footage and the chart on the right, determine the correct cooling capacity.

AREA TO BE COOLED (sq. ft.)	CAPACITY NEEDED (btu/hour)
100 to 150	5,000
150 to 250	6,000
250 to 300	7,000
300 to 350	8,000
350 to 400	9,000
400 to 450	10,000
450 to 550	12,000
550 to 700	14,000
700 to 1,000	18,000
1,000 to 1,200	21,000
1,200 to 1,400	23,000
1,400 to 1,500	24,000
1,500 to 2,000	30,000

ENERGY STAR Qualified Lighting

- Lighting accounts for ~20% of an average home electric bill [1]
- An average home has ~45 bulbs in ~30 light fixtures [2]
- Home sizes are increasing[3]

ENERGY STAR Qualified Lighting

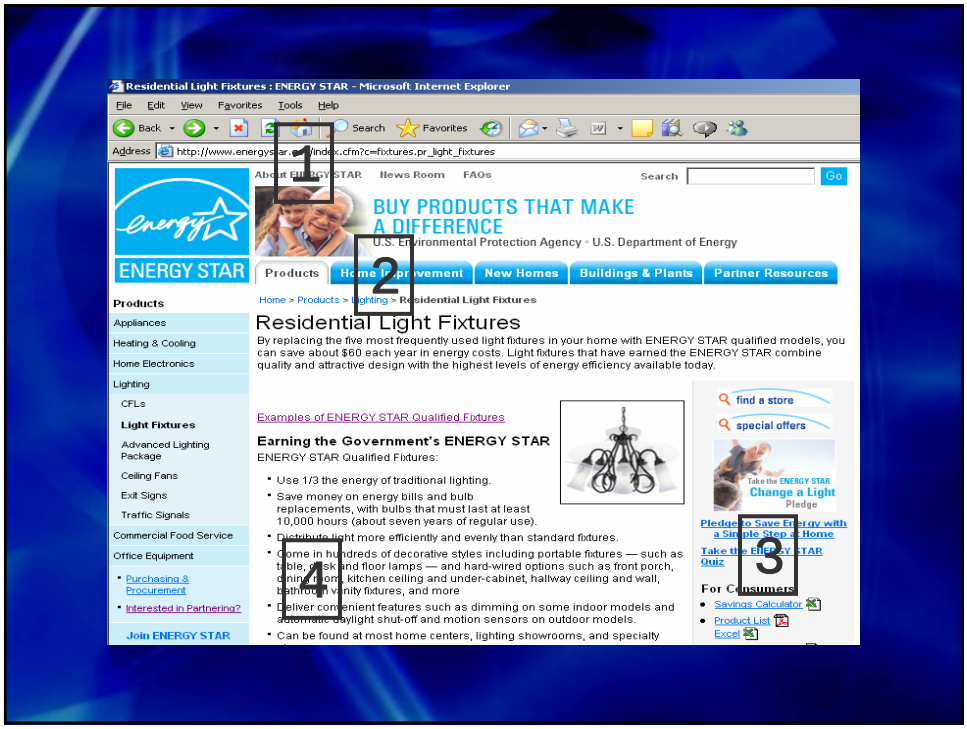
- ENERGY STAR qualified CFL bulbs
  - Use 75% less energy than incandescent bulbs
  - Last up to 10 times longer than incandescent bulbs
  - Save $30 or more in lifetime energy costs
  - Generate 70% less heat
  - Additional Requirements:
    - Instant-on
    - No humming
    - Color requirements
  - Available in many sizes and shapes

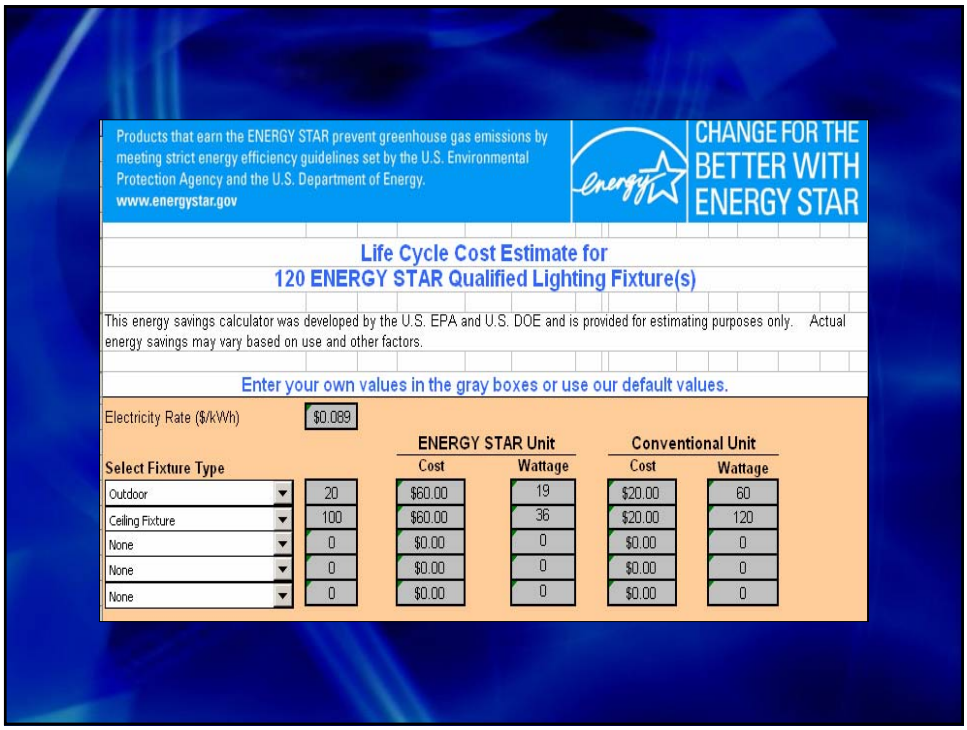
ENERGY STAR Qualified Lighting – Fixtures

- ENERGY STAR qualified residential light fixtures
  - 75% less energy
  - Bulbs last at least 7 yrs
  - Many decorative styles
  - 2-year warranty—2x industry standard

ENERGY STAR Qualified Lighting – Fixtures

- ENERGY STAR qualified ceiling fans and light kits
  - Fans are 15 – 20% more efficient
  - Fans with ENERGY STAR qualified light kits deliver 50% more savings


Residential Light Fixtures : ENERGY STAR - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://www.energystar.gov/index.cfm?c=fixtures.pr_light_fixtures
About ENERGY STAR News Room FAQs Search Go
ENERGY STAR
BUY PRODUCTS THAT MAKE A DIFFERENCE
U.S. Environmental Protection Agency • U.S. Department of Energy
Products Home Improvement New Homes Buildings & Plants Partner Resources
Products
Appliances
Heating & Cooling
Home Electronics
Lighting
CFLs
Light Fixtures
Advanced Lighting Package
Ceiling Fans
Exit Signs
Traffic Signals
Commercial Food Service
Office Equipment
Purchasing & Procurement
Interested in Partnering?
Join ENERGY STAR
Home > Products > Lighting > Residential Light Fixtures
Residential Light Fixtures
By replacing the five most frequently used light fixtures in your home with ENERGY STAR qualified models, you can save about $60 each year in energy costs. Light fixtures that have earned the ENERGY STAR combine quality and attractive design with the highest levels of energy efficiency available today.
Examples of ENERGY STAR Qualified Fixtures
Earning the Government's ENERGY STAR
ENERGY STAR Qualified Fixtures:
Use 1/3 the energy of traditional lighting.
Save money on energy bills and bulb replacements, with bulbs that must last at least 10,000 hours (about seven years of regular use).
Distribute light more efficiently and evenly than standard fixtures.
Come in hundreds of decorative styles including portable fixtures — such as table, desk and floor lamps — and hard-wired options such as front porch, dining room, kitchen ceiling and under-cabinet, hallway ceiling and wall, bathroom vanity fixtures, and more
Deliver convenient features such as dimming on some indoor models and automatic daylight shut-off and motion sensors on outdoor models.
Can be found at most home centers, lighting showrooms, and specialty
find a store
special offers
Take the ENERGY STAR Change a Light Pledge
Pledge to Save Energy with a Simple Step at Home
Take the ENERGY STAR Quiz
For Consumers
Savings Calculator
Product List Excel
1
2
3
4


Products that earn the ENERGY STAR prevent greenhouse gas emissions by meeting strict energy efficiency guidelines set by the U.S. Environmental Protection Agency and the U.S. Department of Energy.
www.energystar.gov
CHANGE FOR THE BETTER WITH ENERGY STAR
Life Cycle Cost Estimate for
120 ENERGY STAR Qualified Lighting Fixture(s)
This energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may vary based on use and other factors.
Enter your own values in the gray boxes or use our default values.
Electricity Rate ($/kWh) $0.089
ENERGY STAR Unit
Conventional Unit
Select Fixture Type
Cost
Wattage
Cost
Wattage
Outdoor 20 $60.00 19 $20.00 60
Ceiling Fixture 100 $60.00 36 $20.00 120
None 0 $0.00 0 $0.00 0
None 0 $0.00 0 $0.00 0
None 0 $0.00 0 $0.00 0

ENERGY STAR Savings Calculator – Results

Annual and Life Cycle Costs and Savings for 120 Light Fixture(s)

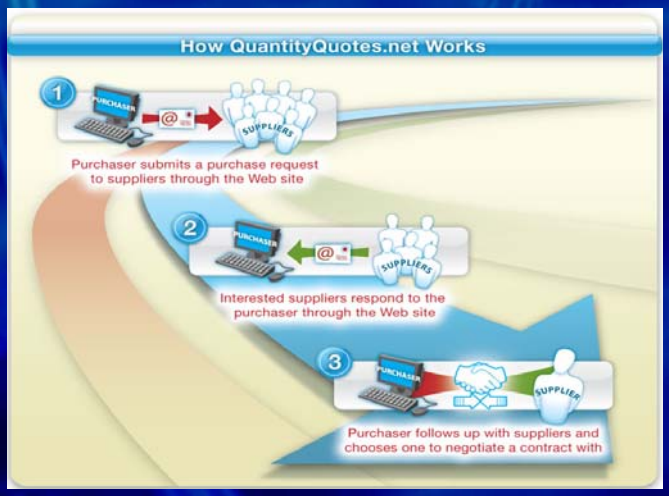
	120 ENERGY STAR Qualified Unit(s)	120 Conventional Unit(s)	Savings with ENERGY STAR
Annual Operating Costs*			
Energy cost	$861	$2,819	$1,958
Maintenance cost	$418	$1,124	$707
Total	**$1,279**	**$3,944**	**$2,665**
Life Cycle Costs*			
Life cycle operating cost (energy + maintenance)	$17,382	$53,594	$36,211
Purchase price for 120 unit(s)	$7,200	$2,400	-$4,800
Total	**$24,582**	**$55,994**	**$31,411**
		Simple payback of initial additional cost (years)†	**1.8**

ENERGY STAR Savings Calculator – Results

Summary of Benefits for 120 Light Fixture(s)

Initial cost difference	**$4,800**
Life cycle savings	**$36,211**
Net life cycle savings (life cycle savings - additional cost)	**$31,411**
Simple payback of additional cost (years)	**1.8**
Life cycle energy saved (kWh)	**438,000**
Life cycle air pollution reduction (lbs of CO_2)	**700,800**
Air pollution reduction equivalence (number of cars removed from the road for a year)	**61.10**
Air pollution reduction equivalence (acres of forest)	**86.88**
Savings as a percent of retail price	**238%**

www.Quantity Quotes.net



Purchase Request Form for CFLs

This information will be sent to suppliers as part of your request.

Purchaser Location: Silver Spring, Maryland, 20910

1. Delivery City:

Delivery State:

Delivery Zip Code:

2. Contract Duration

From: To:

3. Project Description:

4. Total Order Quantity:

5. Will the Total Order Quantity be shipped in one shipment? (if no, complete below)

○ Yes ○ No

Schedule of Order Release (if known at this time):

Quantity of Order Release (if known at this time):

6. Will the Total Order Quantity be delivered to one location? (if no, complete below)

○ Yes ○ No

Number of Delivery Locations:

Delivery Locations(s) Description/Comments:

Use this field to elaborate on your delivery requirements. Do you need the supplier to deliver single products to individual units? Do you have centralized locations where the supplier can deliver a large shipment of products? Please use the space below to provide this type of information to the supplisers. It will help them better respond to your request.

7. Responses Due by:

This information will enable suppliers to make a more informed response to your request.

1. * Model Type

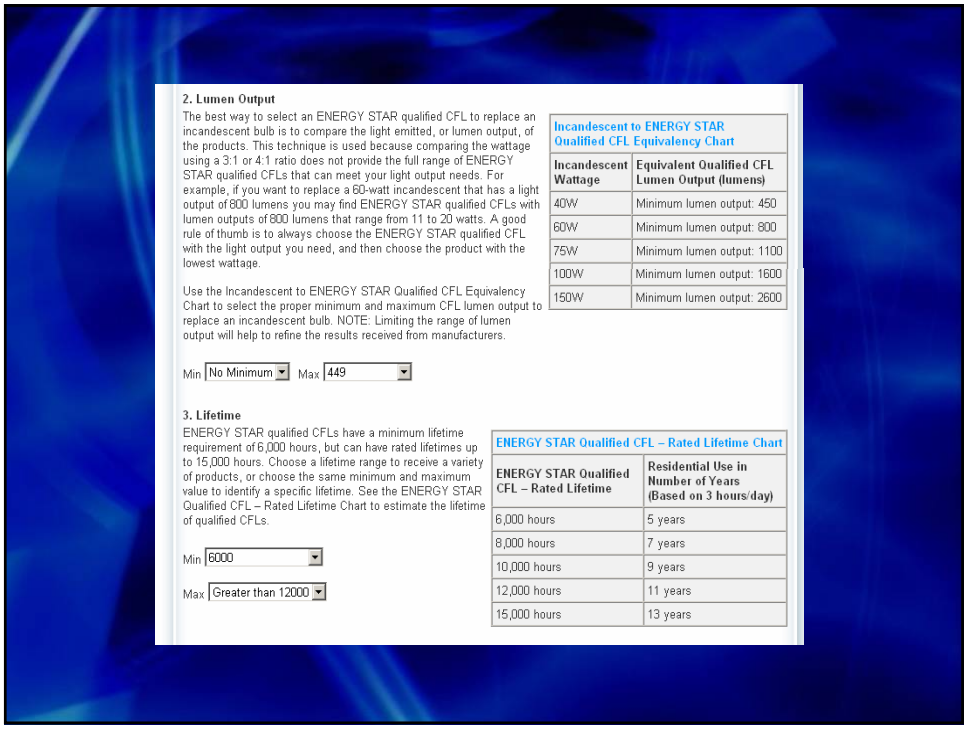
Consider the possible lighting applications of the end-user when selecting an ENERGY STAR qualified CFL model type. Bare-spiral CFLs are most common and will fit most lighting applications. Bare-mini-spiral models are small enough to fit in most flush mounted ceiling fixtures and ceiling fans with light kits. Covered CFLs are better for specialty applications where the CFL is likely to be exposed. For instance, covered A-lines can be used in table lamps, hanging pendant lights, ceiling fans, or outdoor enclosed fixtures; covered globes are designed for use in bath bars or other decorative fixtures; covered reflectors are used in mostly recessed can fixtures. Make sure to review the manufacturer's information on the best application for the product you select.

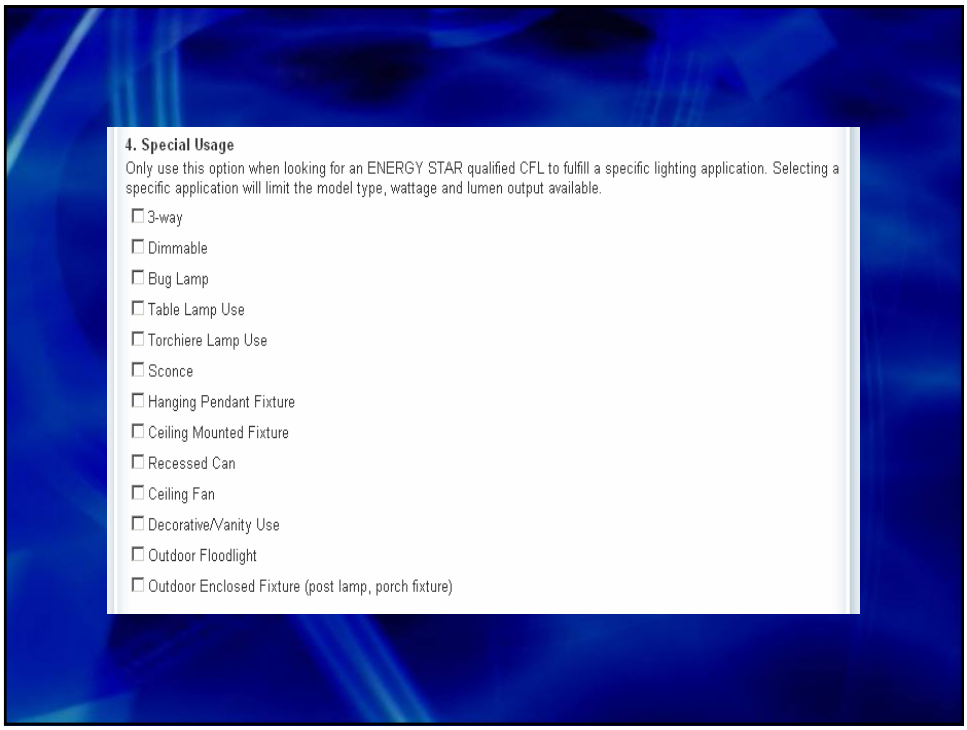
- ☐ Bare-mini-spiral
- ☐ Bare-spiral
- ☐ Bare-twin Tube
- ☐ Bare-triple Tube
- ☐ Bare-quad Tube
- ☐ Bare-circline
- ☐ Covered A-line
- ☐ Covered Bullet
- ☐ Covered Candle (medium base only)
- ☐ Covered Globe
- ☐ Covered Reflector
- ☐ Covered Post

Bare-mini-spiral | Bare-spiral | Bare-twin Tube | Bare-triple Tube

Bare-quad Tube | Bare-circline | Covered A-line | Covered Bullet

Covered Candle | Covered Globe | Covered Reflector | Covered Post


2. Lumen Output
The best way to select an ENERGY STAR qualified CFL to replace an incandescent bulb is to compare the light emitted, or lumen output, of the products. This technique is used because comparing the wattage using a 3:1 or 4:1 ratio does not provide the full range of ENERGY STAR qualified CFLs that can meet your light output needs. For example, if you want to replace a 60-watt incandescent that has a light output of 800 lumens you may find ENERGY STAR qualified CFLs with lumen outputs of 800 lumens that range from 11 to 20 watts. A good rule of thumb is to always choose the ENERGY STAR qualified CFL with the light output you need, and then choose the product with the lowest wattage.
Use the Incandescent to ENERGY STAR Qualified CFL Equivalency Chart to select the proper minimum and maximum CFL lumen output to replace an incandescent bulb. NOTE: Limiting the range of lumen output will help to refine the results received from manufacturers.
Incandescent to ENERGY STAR Qualified CFL Equivalency Chart
Incandescent Wattage
Equivalent Qualified CFL Lumen Output (lumens)
40W
Minimum lumen output: 450
60W
Minimum lumen output: 800
75W
Minimum lumen output: 1100
100W
Minimum lumen output: 1600
150W
Minimum lumen output: 2600
Min No Minimum
Max 449
3. Lifetime
ENERGY STAR qualified CFLs have a minimum lifetime requirement of 6,000 hours, but can have rated lifetimes up to 15,000 hours. Choose a lifetime range to receive a variety of products, or choose the same minimum and maximum value to identify a specific lifetime. See the ENERGY STAR Qualified CFL – Rated Lifetime Chart to estimate the lifetime of qualified CFLs.
Min 6000
Max Greater than 12000
ENERGY STAR Qualified CFL – Rated Lifetime Chart
ENERGY STAR Qualified CFL – Rated Lifetime
Residential Use in Number of Years (Based on 3 hours/day)
6,000 hours
5 years
8,000 hours
7 years
10,000 hours
9 years
12,000 hours
11 years
15,000 hours
13 years


4. Special Usage
Only use this option when looking for an ENERGY STAR qualified CFL to fulfill a specific lighting application. Selecting a specific application will limit the model type, wattage and lumen output available.
3-way
Dimmable
Bug Lamp
Table Lamp Use
Torchiere Lamp Use
Sconce
Hanging Pendant Fixture
Ceiling Mounted Fixture
Recessed Can
Ceiling Fan
Decorative/Vanity Use
Outdoor Floodlight
Outdoor Enclosed Fixture (post lamp, porch fixture)

5. Color Correlated Temperature (CCT)

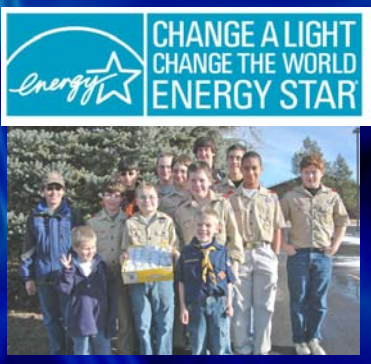
Color Correlated Temperature is the perceived color of light. Many ENERGY STAR qualified CFLs have a color correlated temperature similar to soft white incandescent bulbs, 2700-3000K (Kelvin). ENERGY STAR qualified CFLs with a CCT above 3000K have a whiter or "cooler" light appearance, and a qualified CFL with a CCT outside 2700-3000K must label the CCT on the product packaging. Selecting a specific CCT will limit the number of products available. The CCT Chart to the right indicates lighting applications and light descriptions per Kelvin temperature.

- ☐ 2500 – 2700K
- ☐ 2700 - 3000K
- ☐ 3000 - 3500K
- ☐ 3500 - 4100K
- ☐ 4100 - 5000K
- ☐ 5000 - 6500K

CCT Chart

Kelvin Temperature	Lighting Applications	Light Description
2500 – 2700K	Homes	Warm White
2700 – 3000K	Homes, Restaurants	Soft White
3000 – 3500K	Homes, Restaurants, Public Reception Areas	White
3500 – 4100K	Homes, Libraries, Public Areas, Offices	Cool White
4100 – 5000K	Homes, Offices, Classrooms, Retailers	Cool White
5000 – 6500K	Medical Facilities, Jewelers	Daylight

Resident Education with ENERGY STAR



Change A Light Day is October 3, 2007

A challenge to every American to help change the world, one light – one energy-saving step – at a time.

HUD and Change A Light

- **DOE, EPA and HUD work together**
  - **Engage government leaders**
  - **Invite participation by regional offices and affiliated organizations**

HUD and Change A Light

- HUD's leadership in 2006
  - 3,500 Public Housing Authorities received information
  - 30 HUD regional and field offices signed up as pledge drivers
  - 85 HUD offices registered their activity online

Get Involved

- Plan kick-off events
- Do a lighting change out in your facility and promote the results
- Drive pledges

Get Involved

- Go to www.energystar.gov/joinCAL to
  - Access information and promotional templates/materials
  - Sign up as a new pledge driver or plan to reset goal
  - Register your ’07-’08 campaign activity this fall and view what others are doing

Selected Resources

- Online
  - www.hud.gov/energy
  - www.energystar.gov
    - www.energystar.gov/purchasing
    - www.energystar.gov/nationalcampaigns
    - www.energystar.gov/joinCAL
    - www.energystar.gov/training
  - www.quantityquotes.net

Selected Resources

- In person
  - Your HUD Regional Energy Coordinator
  - Your local utility
- For more information on ENERGY STAR
  - Hewan Tomlinson, US EPA
  - Tel: 202.343.9082
  - Email: tomlinson.hewan@epa.gov