

## Incandescent, Halogens, CFLs, LEDs—What's the Difference? Continued from page 16-B

### Halogens

These are a type of incandescent light bulb that use halogen gas.

- ▶ **Average cost** \$2 to \$15
- ▶ **Average wattage** 29W to 72W
- ▶ **Average life expectancy** 1,000 hours

Halogens offer a low initial cost and are about 20 to 30 percent more energy efficient than the old incandescent bulbs. Halogens are usually dimmable but less efficient and with a shorter life span than CFLs and LEDs.

### Compact Florescent Lights

The curly-shaped energy saving light bulbs, otherwise known as CFLs, were originally proclaimed to be the replacement to the incandescent.

- ▶ **Average cost** \$2 to \$20
- ▶ **Average Wattage** 9W to 52W
- ▶ **Average Life expectancy** 10,000 hours

These are slightly more expen-

sive than incandescent bulbs, but last longer and are more energy efficient. Many are not dimmable and often don't last as long as advertised if turned on and off frequently. CFLs are not as efficient in cold areas, and they contain mercury that requires proper disposal.

### Light Emitting Diodes

Commonly known as LEDs, these bulbs are the hot new option taking the lighting isle by storm.

- ▶ **Average cost** \$3 to \$20
- ▶ **Average Wattage** 4W to 22W,
- ▶ **Average life expectancy** 20,000 hours

LEDs offer the longest life span and highest energy efficiency than any other bulb. Many manufacturers offer 10-year warranties; however, most LEDs are not dimmable and they cost the most initially.

If saving money over time is your primary goal when buying your

new light bulb, then the chart in diagram 3 should help you.

LEDs and CFLs save consumers the most money but consider these questions before purchasing:

- ▶ Where will I use this bulb? If outside, will it be turned off and on a lot? If so, then CFLs are not the best choice.
- ▶ Does the bulb need to be dimmable? Although you can find dimmable LEDs and CFLs, they may cost a lot more. Here, a halogen bulb may be your best option.

When shopping for a new bulb, pay attention to the color appearance section on the label. Warmer light is produced by the older incandescent bulbs. Neutral white lights are often used for task and office spaces, while cool white lights mimic daylight, which is good for reading and high contrast. Overall, it comes down to individual preference.

## New Phone System Offers Improvements for Members

FreeState Electric Cooperative installed a new phone system on Feb. 24 to improve reliability, flexibility, emergency preparedness and offer enhanced features that allow us to better serve you, our members. Read more about the improvements our new phone system provides:

### Flexibility

Key staff can now register their smart phones to simultaneously receive calls on their cellular device as well as on their desk phones. This ensures staff can be reached even when they are engaged in fieldwork away from their office.

### Reliability

Members will no longer receive a busy signal when attempting to call our office during busy times. Instead, if one representative is busy or away from their office, it will roll over to another phone.

### Emergency Preparedness

In the event of a major disaster, FreeState employees can utilize the co-op's office phones from any location using internet access. For example, if one of our facilities is damaged due to severe weather, we have the flexibility to set up critical business operations elsewhere.

### Enhanced Features

When you call, you will be greeted by an auto attendant (the menu you hear when dialing in) that allows members to report outages, take after-hour messages, update account information and make payments without waiting on hold for a member ser-

vices representative. If you would like to talk with a representative, simply press "zero" and you will be connected to a FreeState employee.

You can access FreeState's full menu of options by calling 785-478-3444 for the West District or 913-796-6111 for the East. When calling, you will hear four prompts:

- ▶ **PRESS 1** for non-emergencies and security light issues.
- ▶ **PRESS 2** to report an outage, check an existing outage status, or to update your account phone number.
- ▶ **PRESS 3** for payment. (To make a payment via phone, you must use this option. To maintain the confidentiality and safety of our members' information, our representatives cannot take payments over the phone.)
- ▶ **PRESS 0 (zero)** for immediate assistance/speak to an FreeState member service representative.

In FreeState's efforts to respond to members as quickly as possible, non-emergency messages left after hours will be addressed the next business day. During regular business hours of 7:30 a.m. to 4 p.m., FreeState's member service representatives are notified of messages left and the appropriate office personnel will respond the same day.

To avoid listening to all prompts, you can call the direct payment line at 877-853-6120 or report an outage at 800-794-1989.

All members can visit our website, [freestate.coop](http://freestate.coop), for more information and for a detailed diagram of the phone system prompts and services.

## 5 Things We Learned Chaperoning Youth Tour

BY BRENT EDGECOMB & SARAH FARLEE

When we embarked on our adventure in Topeka with these 40 Youth Tour delegates, we have to admit there were a few fleeting "what did we do?" moments.

We had both been to Washington, D.C. before, but not with precious cargo like this in tow. We can honestly say that this trip taught us a lot about ourselves, too. Here are the five things we learned while chaperoning:

### 1 Sleep is Overrated

As a chaperone we sometimes felt like we were running on fumes; however, it was far more fun to check in with the delegates after a day of touring Washington, D.C. than it was to hit the hay right away. That's when we got to learn more about the delegate's personalities, answer questions about life and truly get to know these young leaders. Besides, the bus rides were ideal for catching a catnap.

### 2 Kansas-Hawaii Delegates Rock the Dance Floor

There were multiple opportunities for delegates to "bust a move," and they did just that. Not only did they enjoy a riverboat dinner and dance cruise, they also learned how to dance 18th-century style at Mt. Vernon. Some delegates brought it to the dance floor, and others showed off their moves...All. Week. Long.

### 3 You Can't Stump the Senator

Our delegates were fortunate enough to meet five of the six Kansas' representatives in Washington, D.C., including Senator Jerry Moran. Delegates were encouraged to try to "stump the senator" geographically. They quizzed him on the location of their small hometowns and lesser-known locations in Kansas. Impressively, it was impossible to stump the senator—he had even visited nearly every location!

### 4 You Learn a lot about the Pentagon

Ask any delegate and they can tell you exactly how many restrooms there are in the Pentagon. The answer? 284. (We know you were



From left: Brent Edgcomb, Director of IT, Allison Williams, Sierra Staats, and Sarah Farlee, PR/Marketing Specialist, visit the Capitol to meet with their Kansas representatives.

curious.) Why do they know about this obscure trivia? Every day we passed the Pentagon, and every day we shared odd facts about the iconic building. By the way, there are no elevators in the Pentagon, and it is 17.5 miles long, but only takes minutes to get from one side to the other due to the intricately designed corridors and some slick engineering.

### 5 You Build Great Relationships

We met kids interested in politics, science and engineering, music, and so much more. We knew we would build meaningful relationships with the delegates during Youth Tour, but now we can honestly say we're rooting for each one of these delegates as they begin to navigate life. The decisions they'll be making over the next year will shape their lives for the future, and it's so exciting to see what these kids will accomplish as leaders in their communities.

Cooperatives across the state shared their best young members with us, and we're fortunate for the opportunity to make a positive impact in their lives. We'd like to say thank you to those cooperatives for sharing your young leaders with us for a week. The Youth Tour is a trip of a lifetime for those selected to attend this journey, but we never expected that to be true for chaperones, too.



FREESTATE ELECTRIC COOPERATIVE, INC.  
800-794-1989  
[www.freestate.coop](http://www.freestate.coop)

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**East & West District Office Hours:**  
Monday-Friday, 7:30 a.m.-4 p.m.

### Offices Closed Sept. 4

In observance of Labor Day, our offices will be closed on Monday, Sept. 4. FreeState Electric wishes you a safe and happy Labor Day!

### FROM THE CEO

## Youth Tour Fosters Future Leaders

FreeState Electric Cooperative has a strong commitment to the communities and members we serve, and sponsoring students for these exciting, educational trips is just one of the ways we're investing in our youth. We take special care in selecting youth to represent the membership with the same dedication and commitment as our FreeState staff.

Each year, we send two high schoolers to the Electric Cooperative Youth Tour in Washington, D.C., and two students to the Cooperative Youth Leadership Camp in Steamboat Springs, Colorado.

On Youth Tour, FreeState's delegates meet with more than 1,800 youth from across the country for a once-in-a-lifetime experience. This year, the students were fortunate to meet with five of the six elected officials representing Kansas in Washington, D.C. This alone should tell you the importance of the trip.

Representatives Lynn Jenkins, Roger Marshall and Ron Estes all took time from their busy schedules to join the delegates for breakfast, and Senators Pat Roberts and Jerry Moran met our delegates at the U.S. Capitol to answer questions and discuss issues that were on the minds of our youngest members. In July, we sent two students to Cooperative Youth Leadership Camp where they learned about

the co-op business model, co-op careers, electric safety and leadership skills. It is always exciting to hear from the kids after camp. I enjoy reading their letters from camp; it tells me that what we're doing is making a difference.

These youth programs are a joint effort of the members of FreeState and our statewide organization, Kansas Electric Cooperatives, Inc. Members occasionally ask about the cost of their individual investment. It costs approximately 50 cents a year per member to help sponsor four FreeState delegates to attend these annual leadership opportunities. That is a small price to pay to invest in our future leaders.

Those who have attended these trips in the past have repeatedly returned and shared that this experience was a life-changing one. Students return home with a deeper understanding and skill set of what it takes to be a leader, and as a result, they put these skills to use right here in our local communities.

Be a part of something powerful. Learn more about FreeState youth programs by visiting [freestate.coop](http://freestate.coop), following us on Facebook or contacting us at [marketing@freestate.coop](mailto:marketing@freestate.coop) or 800-794-1989.



Steve Foss

## Incandescent, Halogens, CFLs, LEDs—What's the Difference?

BY MATT LAMBERT, ENERGY USE COORDINATOR



Matt Lambert

How many of you have stood in the lighting aisle at the store and thought, "It used to be simple?" You purchased a light bulb by determining how many watts the light bulb you were replacing required. Sure, you might get fancy and want a softer or brighter light, maybe a little more of a yellow tint or a little less, but it basically came down to a simple equation—more watts equal a brighter light. Simple, right? Well, it used to be. As any of you who have purchased a light bulb in the last few years can attest, what was once the simplest of purchases is now one of the most complicated.

To help make this complicated purchase simple again for our members, we would like to provide you with a few helpful guidelines.

First, a little history on how we got here—the Energy Independence and Security Act of 2007. The long definition for this act is as follows: an Act to move the United States toward greater energy independence and security, to increase the production of clean renewable fuels, to protect consumers, to increase the efficiency of products, buildings, and vehicles, to promote research on and deploy greenhouse gas capture and storage options, and to improve the energy performance of the Federal Government, and for other purposes.

Confused yet? What does this mean for you while

### Understanding Bulb Labels

Lighting Facts Per Bulb	
Brightness	800 lumens
Estimated Yearly Energy Cost	\$1.69
<small>Based on 3 hrs/day, 11 cents/kWh. Cost depends on rates and use.</small>	
Life	7 years
<small>Based on 3 hrs/day</small>	
Light Appearance/Color	Warm
<small>2700 K</small>	
Energy Used	14 watts
Contains Mercury	
<small>For more on clean up and safe disposal, visit epa.gov/cfl.</small>	

**Life**- Estimates in years how long the bulb will last. The longer the life, the more you save on the hassle of changing bulbs frequently.

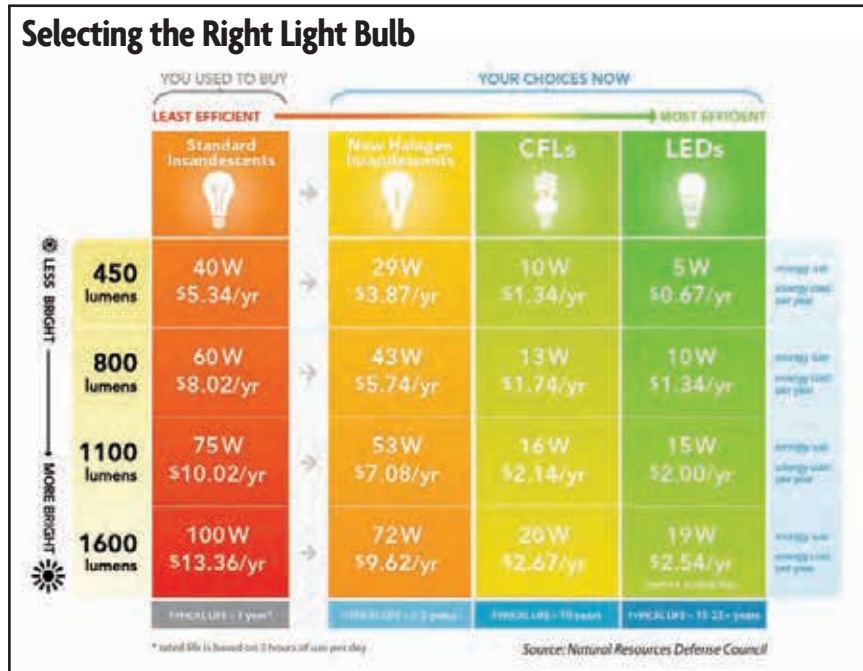
**Light Appearance/Color**- Indicates the shade of light. Incandescents produce warmer white lights—2,700 to 3,000 K. Bulbs producing cooler or blue light have higher ratings—4,000 to 6,500 K.

**Energy Used (watts)**- Measures bulb energy use (does not indicate brightness).

**Contains Mercury**- CFLs have very low levels of mercury (less than 5 mg) and are safe for normal operating usage. If a CFL breaks inside your home, use common sense cleaning procedures—keeping children away, opening a window and cleaning up pieces for proper disposal. Retailers such as Home Depot and Lowes also offer free CFL recycling.

you're standing in the light bulb aisle? It means most of the incandescent light bulbs with the familiar 60- 75- and 100-watt ratings have been phased out, replaced by more efficient incandescents, compact florescent lights (CFLs), halogens and light emitting diodes (LEDs). Before explaining their differences, let's review their commonalities. They all produce a visible light that can be rated in something called lumens, which is the unit of measure that tells you the brightness of the bulb. Packaging of these new light bulbs includes the wattage they are equal to along with a lumen rating.

In addition, the labeling on light bulb packaging has become standardized, as you can see in the example above. As for your lighting choices, let's break it down.



### Incandescent Light Bulbs

These are what most of us think of when we think of a light bulb. Thomas Edison filed his patent for "improvement in Electric Lights" in 1878 and this type of bulb has been with us ever since.

- ▶ **Average Cost** \$1 to \$10
- ▶ **Average Wattage** 40W to 150W
- ▶ **Average Life expectancy** 1,000 hours

These bulbs are inexpensive on the front end, dimmable and produce the nice warm light we are familiar with; however, they use the most energy. The older versions of this light bulb are being phased out in favor of more efficient light bulbs.

Continued on page 16-E ▶

# YOUTH TOUR

## Visits Washington

Every year, more than 1,800 youth from across the nation experience our nation's capital like never before. FreeState's 2017 delegates share their unforgettable experiences below.



Sierra Staatz

### Sierra Staatz

After going to Washington, D.C., in June with 35 other Kansas students, the only word that sums up the experience is, "Wow." While I can't fit the entire trip into a short summary, I'll try my best to explain

the impact the trip had on my perspective and my future.

Throughout the trip, our group experienced an enormous number of activities. Highlights for myself included the National Aquarium, Mt. Vernon, where George Washington grew up and the Newseum containing media and publications from 200 years ago!

The trip showed me more than just memorials and exotic adventures, but also perspec-

tives from many people—some from Kansas, others from as far as Hawaii. For example, Kansas seems to have an overabundance of ice cream custards, whereas Washington, D.C., has an unusually large number of angled roads. Not only did the trip open my eyes to all the opportunities available around the country but also those within my own cooperative, where a variety of people and careers make up our own basic electric system.

There are many museums, monuments and activities in Washington, D.C., making it impossible to get through everything in one week. However, the schedule allowed enough time to experience key parts of the city and beyond. The coordinators deserve a large "thank you" for a well-planned Youth Tour. Their efficiency, kindness and skills contributed to the never-ending fun.

This wasn't just a visit to Washington, D.C.; this was experiencing the nation's capital in multiple ways. It was a true experience of a lifetime. I am so thankful for the people I met, the places I went and the memories I will never forget.



The Kansas representatives met with students to answer questions about issues important to rural Americans.



The Kansas-Hawaii Youth Tour delegates visit many museums and memorials in Washington, D.C., including a stop at the Franklin D. Roosevelt memorial.



Allison Williams

### Allison Williams

The Electric Cooperative Youth Tour was definitely a trip of a lifetime. From touring the nation's capital, to visiting famous restaurants and buying from street vendors, there was very little time to breathe, but somewhere in the midst of a full itinerary, lifelong friendships were made and outlooks were changed.

We began the tour in Topeka as strangers, flew to D.C. as acquaintances, traveled to monuments and museums as friends and said goodbye as family. We ate together, learned together, danced together, and laughed and cried together. I was hesitant about going on this trip, as I'm not very sociable with new

people, but as soon as I arrived at Capital Plaza Hotel in Topeka, I was pulled into a conversation with 20 people, out of which I only knew Sierra Staatz. The night tour of the Kansas Capitol was amazing, even though I've been there several times. Around every corner, there was something new that I never seen before. The safety demo at FreeState was impeccable as we further explored many unsung heroes of electric co-ops.

Many of the monuments in D.C. were awe-inspiring. My favorites included the Pentagon, Martin Luther King Jr., and the World War II memorials. Among my favorite museums were the Newseum and the Holocaust Memorial Museum. Each location inspired a sense of longing: a longing for peace, for justice, for remembrance, or for the innocent to be honored. This trip taught me that a bobby pin can create a lasting friendship but more importantly, this trip revealed to me humanity.

Visit [www.freestate.coop](http://www.freestate.coop) to learn more about this year's trip, including videos, photos and mascot Earl Elephant's blog.