

GEAR & GADGETS

Best in Glow

Energy-efficient LED lightbulbs have plummeted in price recently—but not all cast a flattering light. Our experts weigh in

BY MICHAEL HSU

AS BOTH a personal-technology editor and a new homeowner, I spend a lot of time loitering in Best Buy and Home Depot. After overhearing countless customers' questions and, occasionally, having customers query me (apparently, I give off an air of expertise—or perhaps it's my affinity for blue shirts), I've come to realize that buying an LED lightbulb nowadays has become more bewildering than buying a computer.

Have you seen the box of an LED bulb lately? It's littered with obscure terms and opaque figures. And assuming you do figure out how specs like lumens and color temperature apply to your needs, there's the question of light quality. Some bulbs give your surroundings and your loved ones a beautiful glow. Others tinge the world a sickly yellow or green.

All this complexity is unfortunate because LED bulbs should be mainstream by

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now. They pretty much look like the normal bulbs you grew up with, not weird ones from the future. Nearly every shape of older bulb—from long fluorescent tubes to little flame-shaped candelabra bulbs—is available in an LED version. And many LED bulbs can now be dimmed with the



“color temperature” of these bulbs is often 5,000K.) “Soft white” bulbs, on the other hand, will be warmer, skewing more yellow or orange (with a color temp of around 2,700K).

Color temperature is a matter of personal preference, but lighting designer Linnaea Tillett, whose firm, Linnaea Tillett Design Associates, has illuminated works by architects Maya Lin and Toshiko Mori, suggests sticking to around 3,200K or lower in dining rooms, bedrooms and living rooms. The “soft white” bulbs sold in stores meet that requirement.

Dr. Tillett, who has a Ph.D. in environmental psychology, also recommends using bulbs with different color temperatures—say, a 2,700K and a 3,000K—in the same room. “Otherwise everything starts to look the same,” she said.

3. Play the field

I used to recommend looking up an LED bulb's Color Rendering Index (CRI). This score, usually printed on the bulb's packaging or its manufacturer's website, supposedly indicates how well the light renders colors compared with an incandescent bulb. However, my stance has changed: Just because a bulb has a high CRI (anything above 90 is considered exemplary), doesn't necessarily mean that its light will be superlative. The only way to judge a bulb is to take it home and test it yourself. “You have to be willing to experiment,” said Dr. Tillett, who suggests sampling a few bulbs at a time. “Look at the light falling on the materials in your house.” The variation among bulbs with exactly the same specs can be surprising.

dimers you already have in your home.

Prices have plummeted, too. Just a couple of years ago, run-of-the-mill LEDs were going for \$10 to \$20 a pop; now you can get them, in multipacks, for \$3 to \$5 each. Between the energy savings and the fact that you don't have to replace them for years, upgrading to LED from incandescent or compact-fluorescent is a no-brainer.

Screwing in an LED lightbulb doesn't have to be that

difficult. Below, a step-by-step guide to smart shopping, along with expert picks for bulbs with the very best light quality.

1. I.D. an ideal level of illumination

The brightness of an LED bulb is measured in lumens, but on most packages, the most prominent metric will be something like “40w,” “60w” or “100w,” often followed by the word “replacement” in tiny letters. This is a round-

about way of telling you how bright the bulb is: A 60-watt-replacement LED, for example, puts out roughly as much light as the now-phased-out 60-watt incandescent used to. Standard A19 LED bulbs are widely manufactured in 40-, 60- and 100-watt-equivalents, but 60 watts is the sweet spot: The 40-watt-replacements are rather dim, and the 100-watt-replacements are much more expensive, costing about \$12 each. Another reason to be wary of brighter bulbs: Our

testing found that their light quality isn't always up to snuff at this point.

2. Strike a cool-warm balance

LED bulbs may all look the same, but the color of the light they cast can vary drastically. You'll usually see the words “Daylight” or “Soft White” somewhere on the package. The former indicates that the light will be cool, almost bluish. (If you want to get technical, the

GUIDING LIGHTS // A TEAM OF VERY PICKY ILLUMINATION AFICIONADOS TEST DRIVES 10 WIDELY AVAILABLE LED BULBS

Light quality is largely subjective: One person's “crisp white” may be another's “icy cold.” Biology also plays a part: As we age, our eyes are less able to detect blue wavelengths, making the world seem more yellow.

This is in part why, when we asked lighting designer Linnaea Tillett to evaluate a range of 60-watt-equivalent soft-white LED bulbs, she suggested enlisting her creative team. “A “wine-tasting” of sorts was conducted in the studio, with the following expert panel: Dr. Tillett; studio manager Janet Garwood; senior designer Jeanne Choi; and designer Damian VanCamp.

A few notes: The results that follow focus on 60-watt-equivalent A19 LED bulbs available at major retailers,

but the panel also looked at other bulb types and found that the results for one bulb don't necessarily apply to others from the same manufacturer. The designers' love for the Feit A19 bulb, for example, didn't carry over to the brand's BR30s (both sold at Costco). Similarly, the 100-watt-equivalent bulb from Philips was deemed inferior to the 60-watt-equivalent.

An insider tip: For a quantum leap in light quality, check out the Soraa line. The brand doesn't manufacture omnidirectional A19 bulbs (the sort we tested in depth), only directional ones. However, their light quality is superlative, and Soraa offers a snap-on lens system that allows you to change both the color temperature and the angle of a bulb's beam. The products

are available online at sora.com and from specialty lighting dealers.



Sylvania Some of designers found the light of this bulb, an all-around favorite, to be “a little magenta,” but it was roundly hailed for its “sweeter” glow and the fact that it cast “a truer all-around white” with “less of a color shift” than the others tested. \$9 for three, sylvania.com

Feit Available in Costco stores, this “super warm” bulb elicited oohs and aahs once aglow. Although one expert deemed it to be “a bit orange,” another found “something very comforting about it.” \$15 for four, costco.com

Cree Enthusiasm was more muted for this bulb than those above. Some found the light “really yellow and warm” or too tinged with red. Others saw it as “balanced” with “a little bit less of an edge” than the other options. \$20 for four, cree.com



EcoSmart The reaction to this light was quick and resounding: “No. No. Just no!” one designer exclaimed. The negative sentiment only solidified as the test went on: “It's got so much green in it—your skin, you're going sawlow!”

Utilitech This bulb was judged to be “marginally better than the

EcoSmart,” but critics were still harsh: “Oooof, no. That's nasty.”



The majority of bulbs were judged “acceptable,” including those from **Philips** and **Lighting Science's LSPro** line. Although **GE's Reveal HD** and **Relax HD** are billed as color-enhancing bulbs, the experts weren't especially enthused. (“I wouldn't pay more for it, but I would use it.”) **GE's Bright Stik**—a slim bulb that “looks like a push pop”—was deemed acceptable for fixtures where a standard bulb won't fit. Just be sure to use this bulb with a shade, because “the concentration of brightness is too great” to go without one.