

soft white incandescent A19 and a value-brand, frosted incandescent A19. The **CALiPER Facts Box** below provides a quick snapshot of the results, revealing that some LED downlights can effectively compete with CFL sources. Also noteworthy is that the SSL retrofit and SSL PAR30 test results met or exceeded the manufacturer performance claims.

Another promising application tested in Round 5 is a 2-ft x 2-ft downlight panel, which achieved an efficacy comparable to the T12 fluorescent lamp tested, and a light output close to that of the 2-lamp T8 troffer tested. Although these integrated panel replacements are not strictly “replacement lamps,” test results to date show great promise for general lighting applications with zero-plenum or drop ceilings.

For more details on CALiPER results, download the quarterly Summary Reports or detailed test reports at www.netl.doe.gov/ssl/comm_testing.htm. Recent results and analysis—covering LED MR16 and A-lamp replacements and more—are available for download.



James Brodrick is the lighting program manager for the U.S. Department of Energy, Building Technologies Program. The Department’s national strategy to guide high-efficiency, high-performance solid-state lighting products from laboratory to market draws on key partnerships with the lighting industry, research community, standards organizations, energy efficiency programs, utilities and many other voices for efficiency.

Beginning in 2012, nearly 10,000 Americans will turn 65 every day, and by 2030, 20 percent of the population will have passed their 65th birthday. If you were born between 1946 and 1964, representing 77 million people, you are included in the Baby Boom which is now reaching retirement age. The graying of America will have a big impact on society, the economy, government, housing, the workforce and yes, the lighting industry. Designers, manufacturers and code officials will have to paddle hard to catch that wave in order to deliver for the “golden years.”

To provide the quality of life and ensure the greatest independence possible for all of us as we age, we must understand the aging process and do what we can to enhance the built environment to ensure healthy aging. As our life span increases, we live longer with age-related disabilities. Sensory loss is common to the normal aging process. Changes to our eyes, in particular, happen so gradually that most people do not realize it until suddenly one day they can no longer read the phone book or they are temporarily unable to see when going from a bright environment to a dark one. Glare, which may be annoying for a younger person, may be blinding to an older person. Much can be done to minimize the impact of age-related vision changes by improving the quantity and quality of light.

What follows are some of the broad demographic trends that will affect lighting design for our aging population.

More Leisure Time. As boomers move from the time-crunch lifestyle to having more leisure time, they will be traveling, taking time for hobbies and educational classes and spending more time as volunteers. These activities will take them into daycare centers and schools, so even facilities that are designed for the young will need to be suitable for older people. Hotels and restaurants would be well advised to consider the sensory loss of the boomers, who may be having trouble reading the menu or may not be so outspoken as the late Julia Child when she exclaimed, “Will someone turn up the lights so that I can see my food.” Yes, greater value contrast would

Changes to our eyes, in particular, happen so gradually that most people do not realize it

do wonders, but many older adults have developed personal coping skills such as carrying a small flashlight. Or, if they don’t want to make a public display of their disability, others take the menu to the restroom where the vanity light provides the much needed additional task light. Aesthetic lighting solutions are possible; we need to demonstrate good examples.

An Aging Workforce. Many boomers have lived the good life too long and have not saved enough money to fund a conventional retirement. With increased healthcare costs as we grow older, the decline in traditional employer-subsidized pensions, a plummeting stock market, a downturn in the housing market and longer life expectancy, millions of people will outlive their money.

Many will need employment just to stay out of poverty. Luckily, this coincides with the Census Bureau's projection of a serious labor shortage in the future, which will increase the demand for older workers.

In 2011, the first boomers will hit the accepted retirement age of 65. By 2016, workers aged 65 and over are expected to account for 6.1 percent of the total labor force, while the number of workers between the ages of 65 and 75-plus is predicted to soar by more than 80 percent. AARP predicts that by 2020, one in three workers will be older than 50. Employers wanting to entice older workers will need to be creative and provide an environment to meet their needs.

Housing—Living in the Community. Just as the boomers in their child-bearing years forced the change from the sterile delivery room to the birthing centers now found in all hospitals, they are starting to make choices about where and how they will live that are greatly different than the options their parents had. Currently, only 6.5 percent of people over the age of 65 live in retirement housing. Aging in place or in the community is now the trend. The

"we-want-it-our-way" generation is turning away from retirement centers, assisted living and nursing homes. The emphasis is to stay connected to their community while living in a home that maximizes independence and well-being by providing for normal age-related disabilities.

THE PETER PAN SYNDROME

Denying the aging process (i.e., the Peter Pan Syndrome) is no substitute for action. So how do we in the IES and the lighting industry do our part to help bring forth a greater understanding of aging vision and stimulate innovative lighting solutions for older people at work, in their homes or out on the town?

The recently published *ANSI/IES RP-28-07 Lighting and the Visual Environment for Senior Living* should not be the only IES document that addresses the needs of older people. A good first step would be for the next edition of the IES Handbook to include a new quantitative model for the illuminance selection procedure that is based on research and addresses the needs of older people. Ignoring age as a factor is especially troubling since energy codes establish allowable lighting power densities without consideration of the needs of older people.

Earlier editions of the Handbook included age as one of the weighing factors in the illuminance selection procedure, but that was deleted in the 2000 9th edition. Unbelievable! Another option would be to add a new category to the IES Illumination Awards (formerly the IIDs) to recognize outstanding lighting design for older people.

One thing about age discrimination is certain: if you live long enough, you'll understand how it feels and suffer the consequences along with everyone else. I offer a new twist to the slogan from the civil rights movement: "Whether or not you are part of the problem, you need to be part of the solution." Your future depends on it. The IES and its members can lead the way toward creating, fostering and implementing appropriate lighting standards for the changing American demographic.



Eunice Noell-Waggoner, LC, is president of the Center of Design for an Aging Society, a not-for-profit organization dedicated to raising awareness of age-related issues and the role of the built environment in maximizing the abilities of older people. She serves on the IES Lighting for Aging and Partially Sighted Committee.