

BY EUNICE NOELL-WAGGONER
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THE BOOMERS

“Hey, how do you get out of here?” Ever think about how to exit a building? Finding the entry can be easy, but once inside, where do you go in an emergency? Lighting can present a true emergency for older people due to their slower eye adaption.

You know what it is like walking from bright daylight into a darkened theater or parking garage. For a moment you stop. Why? Because of the excessive contrast, you are momentarily blinded as your eyes adjust to the darker environment. For older people adaption takes a lot longer, so they may be frozen in darkness for a longer period.

The same situation occurs when there is a power failure, or some other emergency, and the normal lighting goes out. There you are, standing in 1 footcandle of light and you need to get out right away. Can you see where to go? A study of emergency lighting found that older people ran into garbage cans and mop buckets left in an egress hallway because they could not see in the code-required 1 fc. Which brings up the question: Can older people see in 1 fc of light?

Emergency lighting codes vary across the country and certainly from country to country. Most say you need 1 fc in the egress path. Some jurisdictions say that it should be a maintained 1 fc; others say an average. Some define the egress path as a narrow evacuation route,

while others say it is the entire space. There is no simple answer, as each state and city can amend the code for their particular need. But the bottom line should be: Can older people see in 1 fc of light in the back stair of a high-rise building?

THE EQUIPMENT

One of the most common means of providing emergency lighting is through the use of unit equipment, commonly called “bug eyes” by design professionals. These low-cost, battery-operated, glare-producing lights can stop older people in their tracks. Instead of helping to light the way to safety, the glare from these adjustable units does the exact opposite. Often their lighting heads are pointed in every direction but the direction of the exit. You

a very long time but as they age, the amount of light diminishes. Currently, there are no systems in place to alert owners that their LED systems need to be replaced.

So, does 1 fc produce enough light to allow people to exit safely? Yes and no. The better question to ask is: Where is the emergency lighting located? Is it near the ceiling or near the floor? We have enough evidence to show that people often have to crawl along the floor to exit buildings. As smoke fills the space, the emergency lighting located at the ceiling or just below no longer works. Findings from the 9/11 tragedy provided enormous insight into how emergency lighting works or does not work. Imagine if you have vision problems or simply cannot walk like you once did. Evidence seems to

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know that old phrase, out of sight out of mind. Well, that statement really applies to bug eyes, which are not maintained; the batteries are not regularly checked and the lights are not aimed correctly.

With the advances in LED technology, we are now seeing these luminaires connected to the emergency system. If the LEDs are part of the general lighting in a space, then we must be concerned with light degradation. LEDs may last

point to lighting at the floor level. Illuminated strips of light, like those found in airplanes, and low level exit signs would help people find their way out if they are close to the floor due to smoke.

Next time you are in a building, even one you know well, follow the exit signs and see if they lead you to exits. Are there items in the way of your egress? Has the egress path become a storage area? Put yourself in the place of a vision-impaired or

EYE ON THE BOOMERS

older person. How do things look?

DOWN AND HOPEFULLY OUT

Exit stairways present an even greater challenge to the safety of an older person and have far greater consequences. Loss of contrast sensitivity is a common problem for older people. In the low light conditions they will have difficulty determining the edge of a step or stair landing, which may result in a fall. Both lighting and non-lighting solutions should be applied to aid in safe exiting. Often, exit stairs do not receive the attention of other public areas; some are not even painted. Requiring wall finishes to have a high light reflectance value would be a good start to maximize the light distribution in the space. Providing a value

contrast at the edge of a step or at the landing would help people locate the edge under low-light conditions. Photoluminescent markings applied to steps, landings, handrails and doorways are better yet. This material gives off a bright glow which can be seen even when smoke is present.

As the Boomer population ages, more people will be challenged by the present emergency lighting codes. Increasing the emergency light levels, especially in stairwells, should be considered in the next edition of the National Fire Protection Association Life Safety Code by other code-making organizations. Incorporating new lighting solutions, such as small LED lighting strips, will make it possible to mount the light source closer to the floor or steps,

thus keeping the light where it is needed to see the exit pathway and below the smoke level.

These don't have to be expensive solutions. But without them, many lives will be lost.



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