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New Lighting Standards for 24/7 Workplaces

New API ANSI RP-755 Standard has Implications for Millions of Shiftworkers

For Release: June 6, 2019

STONEHAM, MA ---- The American Petroleum Institute (API) has released new guidelines for nighttime lighting that have wide-ranging implications for millions of shiftworkers. As part of the revised ANSI RP-755 standard for workplace health, safety, and performance, the API is directing 24/7 workplaces to be well-lit and utilize light sources at night that minimize circadian disruption.

Previous API lighting standards had only addressed lighting levels. The API RP-755 panel, comprised of representatives from the major oil companies, unions, and multiple scientific experts, revised the standards to address the growing body of research and warnings from the World Health Organization (WHO), American Medical Association (AMA), and the US National Institute of Health's National Toxicology Program on how exposure to blue-rich light sources at night disrupts the body's biological clock, resulting in an increased risk for a variety of medical conditions, including diabetes, obesity, sleep disruptions, mood disorders and certain forms of cancer.

"The first edition of the RP-755 standard recommended a well-lit work environment to promote shiftworker alertness and safety," explained Dr. Steven Lerman, Chairman of the American Petroleum Institute RP-755 Committee. "The second edition added the requirement that light sources at night should minimize circadian disruption." Well-lit was defined using the ANSI RP-540 standard as 300 – 500 lux in process control centers, 500 lux in offices and laboratories and 300 lux in cafeterias, with lower levels permitted in hallways and warehouses.

"The only practical way to meet the new ANSI requirement of well-lit workplaces that minimize circadian disruption at night is to use white light fixtures that are spectrally-engineered to emit less than 2% blue content at night," explained Dr. Martin Moore-Ede, a former Harvard Medical School professor and advisor to the API Panel. "Dimming the lights at night or using low color temperature (CCT) yellow lighting does not meet the requirement for well-lit workplaces. Conventional fluorescent and LED lights are far too rich in blue content and cause severe circadian disruption at night."

To help identify lights that meet the new API lighting standard, the UL ("Underwriters Laboratory") has issued a new verification mark - "Less than 2% blue light content at night."



Figure 1. The UL Verification Mark that indicates lighting fixtures that minimize circadian disruption at night

“We commend the American Petroleum Institute in being the leader in promoting lighting solutions that directly address the risk of circadian disruption for the millions of Americans that work in the evening and at night. We anticipate many other industries will soon follow suit,” said Martin Moore-Ede M.D., Ph.D., CEO of CIRCADIAN Lighting. “Given all the research on light and circadian disruption, it’s clear that the future of lighting – both in the home and at work – will be spectrally engineered light that provides the right light spectrum at the right time for human health and well-being.”

About CIRCADIAN Light

CIRCADIAN Light www.circadianlight.com has developed and commercialized innovative LED lights that minimize circadian disruption to promote health, safety and productivity. Based on medical research conducted at the University of Toronto’s Mount Sinai Hospital, and the CIRCADIAN Light Medical Research Center in Boston, the CIRCADIAN team, led by Dr. Martin Moore-Ede, used spectral engineering technology to produce a proprietary suite of LED products. Multiple Fortune 500 companies have installed CIRCADIAN Lights to reduce circadian disruption for their employees and minimize the adverse health impacts of blue light in the evening and at night. The results included a reduction in fatigues and human error and improved health.

About American Petroleum Institute

API is the only national trade association representing all facets of the natural gas and oil industry, which supports 10.3 million U.S. jobs and nearly 8 percent of the U.S. economy. API’s more than 600 members include large integrated companies, as well as exploration and production, refining, marketing, pipeline, marine businesses, and service and supply firms. API provides most of the nation’s energy and are backed by a growing grassroots movement of more than 47 million Americans. API was formed in 1919 as a standards-setting organization. In its first 100 years, API has developed more than 700 standards to enhance operational and environmental safety, efficiency and sustainability.

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