

CMP's Lighting Connection

Bright ideas to improve your bottom line

Central Maine Power Company, 83 Edison Drive, Augusta, Maine 04336

Route to:

Merchandising/Sales

Facilities

Finance

Simple lighting changes offer big benefits

Additional lighting improves staff productivity



Phil Gauvin, Maintenance Supervisor
Brentwood Rehabilitation & Nursing Center
Yarmouth

Prior to lighting change, hallways (with 2-ft fixtures) were dark and spotty, making it difficult for staff to perform their tasks

Hallways with new 4-ft fixtures offer bright and even light. The residents are happier and employees are more productive

At Brentwood Rehabilitation and Nursing Center, in Yarmouth, the nurses felt that the lighting in the hallways was not enough. Phil Gauvin, their Maintenance Supervisor, took action and purchased 21 four-foot fixtures with 3 lamps each to replace the current two-foot fixtures that used U-bulbs and to install additional lighting. At Brentwood, the nurses are happier, and for Phil, that is enough reason to make it a good investment. Phil knows that happy employees are productive employees. And the Brentwood Rehabilitation and Nursing Center project is proof that your lighting project doesn't have to be complex — even simple light changes can dramatically improve the lighting in your facility. ❖

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New lighting improves safety and comfort for residents

Don't sacrifice quality lighting in the name of efficiency — that's what Scarborough Terrace learned. Recently, they embarked on a full-scale project to upgrade to the latest energy-efficient and high-quality lighting technology. As eye muscles age they do not adapt to light level changes as quickly, so the need for smooth light level changes increases. According to Terry Huntley, Executive Director, their efforts have paid off by providing more even lighting with less glare for their staff and elderly residents. ❖



Bob Russell, Maintenance Supervisor, and Terry Huntley, Executive Director, realize that an investment in lighting pays off quickly

"I really like the new lights we added. It's so much brighter, but there is less glare. For higher productivity, health and safety, improving our lighting was the right move! The staff and residents are especially pleased — and we like to hear that."

Pamela Francis, Business Office Manager
Scarborough Terrace, Scarborough



The stairways are well lit for safety of residents and staff

Productivity plummets when lighting is reduced

If an existing lighting system is at least 10 years old, new lighting is likely to boost worker productivity by at least 1 percent.

Many people think that lowering their lighting bill is an easy way to save money. But lighting is not to consume more or less energy — it is there to support human performance. Consider this: if reducing your lighting also reduces your productivity, you could lose a lot more money than you save. After all, the main reasons to turn on the lights at your business is to help your workers work and encourage your customers to buy.

But how can you decide if better lighting will increase productivity and profits for your company? We recently saw some helpful tips from the National Lighting Bureau and wanted to share these with you. Do the math, and you'll start to see how better lighting could lead to a better bottom line at your company!

National Lighting Bureau (NLB) quantifies lighting value

"Measuring the cost of lighting in terms of the energy it consumes misses the point. Lighting is not installed to consume energy. Lighting is for people, to help them perform their visual tasks at optimal efficiency. If the plant has a workforce of 100 people, each averaging about \$25,000 per year, a 1% productivity gain or loss would have a price tag of \$25,000."⁽¹⁾

That's really something to think about, and you can apply the example to your own workforce. What would a 1% reduction in productivity cost you? On the other hand, how much would a 1% increase in productivity add to your bottom line?❖

Calculate your productivity gain

1. Calculate your annual payroll expense. Remember to include benefits, such as health insurance and Social Security taxes.
2. Determine a productivity gain percentage from better lighting.

We've seen 5% as typical improvements. Consider:

- If your lighting system is at least 10 years old, an upgrade will increase productivity by at least 1%
- Better lighting will increase your product/service quality and decrease rejects, returns, and errors
- Better lighting can increase your production rate.

3. Multiply your total payroll by the productivity gain of better lighting to see your total savings

Company XYZ		You try!	
1. Annual Payroll Expense	\$1,000,000	Annual Payroll Expense	\$ <input type="text"/>
2. Productivity Gain	x 1%	Productivity Gain	x 1%
3. Savings	\$10,000	Savings	\$ <input type="text"/>



C A S E S T U D Y

"For Superior Die Set Corporation, Oak Creek, WI, the productivity improvement derived from better lighting was worth \$44,584 annually. Better lighting helped reduce equipment downtime, absenteeism fell because operators were subjected to less glare and, accordingly, had fewer headaches. Security was enhanced as well. The best part was that the total cost of modifications was just \$2,980."⁽²⁾

Imagine yourself in this situation. A consultant says you need to upgrade your lighting system at a cost of \$2,980. You might balk at the expense. But, as the case study shows, an initial expense can quickly pay itself back and actually contribute to your profits over time.❖

Want to make more money? Look to lighting!

As always, we recommend that you work with a lighting professional to get a clear picture of the costs involved in an upgrade — and some specific figures on expected payback. Every company is different, and productivity gains will vary. An expert can also help you make sure your lighting investment works as hard as possible. They'll advise you on the type and location of light for the various functions in your business.

What to expect from a professional lighting consultant

Our lighting experts recommend that you bring in a professional lighting consultant to do a full analysis of your lighting system and its impact on your company's productivity. They should be able to identify several strategies that can deliver benefits from improved lighting — including helping people get their jobs done better, faster, and with fewer errors.

Locate a professional lighting consultant

Seek out a professional who understands the relationship between light and people. There are government sources and associations with excellent publications, contacts and other materials available, at little or no cost. Some NLB sponsors can also provide no- or low-cost design assistance, often through an individual who has earned the coveted LC (Lighting Certified) designation awarded by the National Council for Qualifications in the Lighting Professions (NCQLP), another NLB sponsor.

And give CMP lighting experts a call

The case study on page 2 is for a manufacturing operation. But the facts hold true for any business — from industrial to retail to service. If you'd like more information about lighting, and how to analyze the real cost of your current lighting and the potential benefits of lighting improvements, call us at **1-800-649-1169** today and we'll help you improve your bottom line with quality lighting!❖



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(1) December 1997 issue of the Fabricator. Copyright 1997 by the Croydon Group. Ltd.

(2) June 1998 issue of MAN-Modern Application News.

The National Lighting Bureau is a not-for-profit educational organization funded by private industry, trade organizations and government agencies. They can be contacted at 8811 Colesville Road, Suite G106, Silver Spring, MD 20910; or by telephone at 301/587-9572, or fax at 301/589-2017.

“We looked at lighting and realized that, for our professional healthcare personnel to do the best job, we need both high quality and a high level of light...Our lighting upgrade makes a very big difference.”

Mark Jacobs, CEO
Victorian Villa, Canton

CMP business customers cite lighting as #1 in value for their money

The results are in! CMP business customers give lighting their business the highest value score in comparison to several other operating expenses, such as providing employee health benefits, mailing costs, and telephone expenses.❖



CMP Lighting Tips: Lamp and Fixture Maintenance

As dust and dirt build up on lamps and fixture surfaces, more lighting will be absorbed and, in some cases, directional control will be compromised, resulting in the loss of energy and money. Establish a regular lighting maintenance program today!❖

ASK the LIGHTING EXPERT

Q: *I work in a billing office with nearly fifty workstations, each with PCs under fluorescent lighting. Several of us are getting headaches and think it's a lighting problem. Could this be the case and, if so, what can be done about it?*

A: Glare and flicker from fluorescent lighting could be the problem. My first suggestion is to have your system reviewed and analyzed by a certified lighting professional.

Glare

Glare is a disproportionate reflection of bright light sources — natural or artificial. Windows, unshielded light fixtures, and shiny objects will reflect back to a VDT screen or glossy papers on your desk. Glare from light fixtures can be greatly reduced with parabolic lenses. A parabolic lens has a grill face with louvers that control the light output and help stop the "hot" spot on ceilings that regular flat plastic lenses often create. Another lighting design to consider for this environment is an indirect lighting system, in which the fixtures bounce light off a light-colored, reflective ceiling. Indirect lighting designs are becoming more popular as they produce softer, more defused light. Properly designed, indirect lighting reduces shadows and provides a less harsh, more uniform lighting pattern. Additional items to consider in glare reduction are window shades or drapes, positioning the angle of the

PC monitor away from the glare-causing source, positioning the operator effectively, and use of PC anti-glare monitor screens.

Flicker

The other major contributor of eye fatigue and strain is flicker. Older-style fluorescent ballasts operate at 60 Hertz (Hz) — they are actually shutting on and off 60 times per second. Flicker is the name for this constant shift in the brightness of the lamp and has been well documented to cause eye fatigue and strain. For most people, flicker is not apparent beyond 70 Hz, however, under some circumstances it can be visible upwards of 100 Hz. If this is the source of discomfort, a retrofit of the newer electronic ballasts, which operate over 100 Hz, should eliminate a flicker issue. In considering the new electronic ballasts, a retrofit of T-8 lamps to replace any T-12s will also help to improve an eyestrain problem by improving the color and quality of light in your space. ❖

Contact our Lighting Expert
email: cmpprograms@cmpco.com, or
call (toll-free): 1-800-649-1169

Dick Bacon, a CMP Lighting Expert, has helped over 800 businesses improve their bottom line with better business lighting. Are you next?




CMP's Lighting Connection is provided by CMP as a resource to keep its business customers informed on lighting-related issues. The information provided may include references to particular products, services, and vendors. Such references should in no way be construed as endorsement by CMP of any particular product, service, or vendor that is mentioned in CMP's Lighting Connection.

Looking for a lighting products supplier?
See enclosed insert for more details...



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