

It's a fact...

Your computer workstation should receive appropriate lighting and guard against glare.

Lighting

The lighting you need in your work area depends on the task you're performing. Bright lights are important when you're working with printed materials. However, bright lights can cause the following problems when you're working on a computer screen:

- ◆ Annoying reflections.
- ◆ Bright spots in your field of vision.
- ◆ Eye strain as you try to focus on the less bright screen.



You must consider both natural and electric lighting and the objects in the space that reflect their light.

This is no simple task, because almost all objects in a work area are reflective—the floor, ceiling, walls, partitions, equipment, furniture, and furnishings. Their finishes, such as paint, lacquer, glass, fabric, or carpeting, determine the amount and nature of their reflectivity. Even the clothing you wear may produce unwanted reflections. If possible, you should wear medium to dark colored clothing above your waist if reflections from your clothes are a problem.

Because there are so many factors that affect the lighting in your work area, it is important that your workstation lighting is both adjustable and under your control. Whether it's lowering a blind or turning off a bright overhead light, you must be able to adjust the lighting for the task at hand.

If you use a task light, it should:

- ◆ Be directed at your work, not diffused.
- ◆ Not focus on a small area.
- ◆ Not be in your line of sight.

Glare

Glare is a difficult lighting problem to eliminate. *Direct glare* occurs when a light source (the sun, overhead lights, etc.) enters the eye directly. *Reflective glare* occurs when a light source bounces off a surface (walls, the monitor, etc.) then enters the eye. Both can cause discomfort and interfere with a visual task. Even a low level of glare can cause enough eyestrain to impair your performance, but you *can* control glare:

- ◆ Turn off some lights. If you are viewing the monitor screen by itself, you can reduce glare (and you will not strain your eyes) by turning off all other lights and reading by the light emitting from the screen.
- ◆ Make sure your workstation has matte or nonglare surfaces.
- ◆ Install blinds on windows near your computer.
- ◆ Install grid or parabolic diffusers on overhead lights to soften the light.
- ◆ Adjust brightness and contrast on your display screen.
- ◆ Cover the screen with glare filters.
- ◆ Tilt your monitor.
- ◆ Rearrange the workstation so you are at a reasonable distance from the window and not directly below overhead lights.
- ◆ Wear medium to dark clothing.

Hood and Filters

- ◆ Hoods offer a simple and inexpensive solution to screen glare. Although available from manufacturers, they can be easily constructed out of cardboard and tape—black cardboard with a matte finish is best.
- ◆ Glare filters are made of either a hard glass or plastic or a loosely woven mesh. Most filters increase your screen's contrast by reducing the reflected glare more than the emitted light.
 - Hard filters reduce glare through anti-reflective coatings and tint or polarization application. Because the attachment of a hard filter often leaves a gap between the filter and screen, they can trap dust, and some create more reflection problems than they solve. Generally, the closer they are mounted to the screen, the better.
 - Mesh filters are particularly effective when there is a bright light reflecting directly off the screen. Unfortunately, they also partially obscure the screen image.



This fact sheet is a product of the DoD Ergonomics Working Group, was adapted from their June 2000 publication, *Creating the Ideal Computer Workstation: A Step-by-Step Guide*, and supersedes USACHPPM Fact Sheet 88-006-0599.

Written for both supervisors and workers, the fact sheet provides basic information on ergonomics. For more information, visit the working group's Web site at <http://chppm-www.apgea.army.mil/ergowg/product.htm>.

Lighting and Glare Evaluation Checklist

If you answer **NO** to any of the following questions, you have a potential problem.

Yes No

Lighting

- | | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | 1. Is your task lighting directed rather than diffused? |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. Is your light source out of your line of sight? |
| <input type="checkbox"/> | <input type="checkbox"/> | 3. Is your light source moderate, not overpowering your computer screen? |
| <input type="checkbox"/> | <input type="checkbox"/> | 4. Is your computer screen free of annoying reflections? |

Glare

- | | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | 5. Is your workstation, especially your monitor screen, free from glare? |
| <input type="checkbox"/> | <input type="checkbox"/> | 6. Does your workstation have matte or nonglare surfaces? |
| <input type="checkbox"/> | <input type="checkbox"/> | 7. Do you have blinds on the windows near your computer? |
| <input type="checkbox"/> | <input type="checkbox"/> | 8. Do you have grid or parabolic diffusers on overhead lights to soften the light? |
| <input type="checkbox"/> | <input type="checkbox"/> | 9. Is your workstation arranged so you are a reasonable distance from the window and not directly below overhead lights? |
| <input type="checkbox"/> | <input type="checkbox"/> | 10. Do you use hoods or glare filters to reduce glare? |
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