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# CCI Notes

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# 2/5

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## Using a Camera to Measure Light Levels

### Introduction

Specialized equipment for monitoring light, temperature, and humidity may be borrowed from the Canadian Conservation Institute (see CCI Notes 2/4, *CCI Environmental Monitoring Equipment*). However, for those who do not have immediate access to this specially designed equipment and who are concerned about the level of illumination in display or storage areas (particularly with a sensitive collection), the following procedure will provide an estimate of the light level. The equipment required includes a sheet of white board and a good 35 mm single-lens reflex camera with a built-in light meter.

### Procedure

Place a sheet of white board measuring 30 cm x 40 cm at the position where the light level is to be measured and at the same angle as the artifacts.

Set the camera's ASA/ISO rating at 800. Set the shutter speed at 1/60 second.

Aim the camera at the white board, and position it just close enough so that the field of view is filled by the board. Be sure not to cast a shadow on the board.

Adjust the aperture until the light meter indicates a correct exposure, and note the aperture setting. The approximate level of light in lux (lx) at the white board relates to the aperture setting as follows:

f 4	represents	50 lx
f 5.6	represents	100 lx
f 8	represents	200 lx
f 11	represents	400 lx
f 16	represents	800 lx

Based on the reading obtained, adjust the light level in the display or storage area so that it is appropriate for the materials present.

This technique has the disadvantage of giving only an approximation of the light level. In addition, small "hot spots" of high illumination are difficult to detect. Use of the CCI environmental monitoring equipment is recommended whenever possible.

### Further Reading

Canadian Conservation Institute. *CCI Environmental Monitoring Equipment*. CCI Notes 2/4. Ottawa: Canadian Conservation Institute, 1992.

Lafontaine, Raymond H. *Environmental Norms for Canadian Museums, Art Galleries and Archives*. Technical Bulletin No. 5. Ottawa: Canadian Conservation Institute, 1981.

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Copies are also available in French.

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