

WORKING CONDITIONS COMMITTEE

FLUORESCENT LIGHTING

Peggy Smith

In my four years as an office worker, I have become sensitive to the fact that my work undermines my health. I leave work drained and tired, often with a headache, my shoulders and neck tied in knots and my back aching. Minor complaints, familiar complaints. So what else is new? My sense of well-being is something I have to preserve. I've begun to look into possible sources of these complaints.

Fluorescent lighting may be one of the sources, the cool white glare that illuminates almost all commercial buildings and institutions and is certainly predominant at U.B.C. Three factors seem to come into account when examining the detrimental aspects of fluorescent lighting: deficiency in radiation in the ultraviolet part of the spectrum (see chart), flicker and the actual level of lighting.

Various experiments connected with colour-corrected ("irradiated") light shows a shorter reaction time to light and sound, less eye strain and improved working capacity than under fluorescent light. One experiment conducted in the Soviet Union found that workers under colour-corrected light got fewer colds. There has also been a correlation between calcium absorption and ultraviolet light, that ultraviolet light is necessary for proper absorption of calcium - a factor to consider when so many workers spend so many hours under artificial lighting conditions.

Flicker is the rise and fall in brightness in a lamp because it is connected to an alternating supply of current. In fluorescent lamps, the flicker occurs 120 times per second. High frequency light signals cause an extra loading of the nervous system leading to early fatigue.

Since 1940 the average level of light has increased from 35 to 125 foot-candles. (A footcandle is equal to the light cast by one candle at the distance of one foot.) The standards for light levels are set by the Illuminating Engineering Society (IES) in the States. Canada follows the 1970 IES recommendations. 80% of IES members are engineers, architects and lighting-equipment experts, all with a vested interest in the "the more light the better" philosophy.

Workers in Woodward Library have long complained of irritation because of lighting in that building - walking into Woodward from outside is like entering another dimension, the atmosphere seems to be made of another substance. Formal complaints were filed with the Administration and the Workers' Compensation Board resulting in the installation sometime this week of baffles to cut the glare at the circulation desk. This is a short term measure that may help to alleviate the problem but I think there should be further consideration of the quality and level of lighting in all buildings and possible alternatives to the present use of fluorescent lighting. For those people in smaller offices, you may wish to experiment with a desk lamp as opposed to using the overhead fluorescent lights.

If anyone has information on, experience with fluorescent lighting or would like to take part in the research, please call Peggy at [REDACTED] or [REDACTED].

February 6, 1975

Dear Peggy,

I thought you might be interested in my short story regarding fluorescent lights.

In August 1974 the Arch. Reading Room was renovated. As part of the renovation a bank of four (4) fluorescent fixtures were placed in my small office adjacent to the Reading Room. This office is approximately 11' x 18'. This lighting, at first was, sensational as previously the room had been rather dark - there is no window.

All during the fall, I have been extremely tired, headachey, and blah by the end of the day. I had thought that personal problems were bothering me so never considered the lighting.

Last week - an artist and lighting expert visited the Reading Room and asked about the excessive (to him) lighting. Two boys from the School loosened several of the tubes over my desk and since then I am not tired or headachey etc. I am now convinced it was the lighting and not my problems which were distressing to me.

I can not say who could have made the decision to put so much lighting in this room. The preliminary drawings which I have seen called for just two fixtures, but we have ended up with four and each one of those has 4 tubes.

Anyway I feel much better and the glare is definitely better and I think I should ask to have two of the fixtures removed as I was told by the artist if I tripped and asked compensation that it would not be considered as I have several lights not going that are in the room.

Natalie Hall
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