

Fig. 2. Foot-Candles Meter.

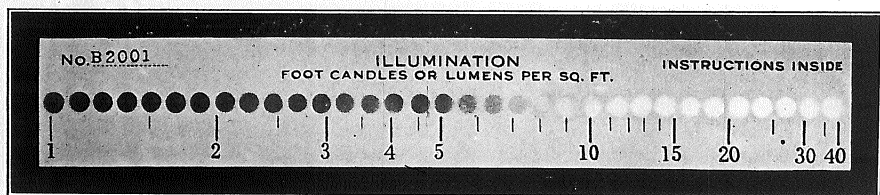


Fig. 3. Detail of Screen, Indicating 9 Foot-Candles.



Fig. 4. Well Lighted Room—Adjacent to Room Shown in Fig. 5.

we all know that a late afternoon tennis match must stop long before the ball, stationary, has become invisible to the players. *More light is required when objects in motion are to be discerned, or conversely, one's quickness of vision depends upon the degree of illumination supplied.* Likewise, if, after an illumination has been reached under which we see both quickly and easily, the quantity of light is continually increased, it is reasonable to suppose that we will eventually come to the point where there is too much light, and where our ability to see is actually diminished thereby.

In reality, however, there is little likelihood of ever getting our general level of artificial illumination too high, particularly in view of the fact that average outdoor illumination on a cloudy day is something like 1,000 foot-candles (units of illumination) and that a snow field does not become uncomfortably bright until

illuminated to perhaps 5,000 foot-candles. Artificial illumination in industrial plants usually falls between one-half and ten foot-candles with a pronounced leaning in the direction of the smaller figure. Good indoor daylight is ordinarily considered to be not less than fifteen foot-candles.

At this point the main thesis of this paper at once suggests itself. How far does it pay to go? How many foot-candles should be supplied for a given operation in order that it may be conducted most economically, taking into account both the cost of the lighting and the possible increase in production and decrease in cost of manufacture which results from the change in lighting? Such positive knowledge of the subject as there is now available may be expressed in a very few words.