

## Lighting Cheat Sheet

### Foot-candles

- Light level is measured in foot-candles and can be measured with a light meter.
- Measure foot-candles horizontally on work surfaces.
- Measure foot-candles vertically on the face of book stacks.

*Photometric:* Your lighting designer can provide a floor plan with ft.-candles.

- Foot-candles decrease with the distance from the source.
- Foot-candles diminish over time due to degradation of the bulb and dirt on the fixture. The long term light level is called the *maintenance* level.

Equally important to lighting level is:

- Surrounding light
- The direction of the light
- The brightness of objects in the lighted area
- Reflectance or reflectivity of surfaces in the area

Ratio of surround to task lighting is critical (10:3:1)

- Task (10)
- Immediate surround (3)
- General Surround (1)

### Book stack lighting

- Vertical lighting on face of bookstacks (6:1)
- Bottom shelf typically at 6 f.c.
- Maximum of 35 f.c. on any other shelf measured vertically.
- *Parallel:* Works with lower ceiling or as stack mounted; lower operating costs. Tied to the stack organization and may not work with the ceiling grid.
- *Perpendicular:* Right angles at 7' to 9' distances. Coordinates with ceiling; fewer fixtures, but need double lamps. Higher energy costs, but more flexible.
- *Indirect:* Top mounted, need bright color ceiling, fairly low ceiling. Bounces off ceiling; higher energy use, but better overall quality lighting.

### General Lighting Tips

- Minimize the number of lamps
- Get dimmable ballasts
- Low mercury
- Efficient bulbs
- T8 are slimmer and more efficient than the old T12
- Lamp colors range from warm to medium to cool
- Avoid daylight color lamps – not necessary in California and very expensive
- Understand how you will be changing the lamps
- Match city or county standards