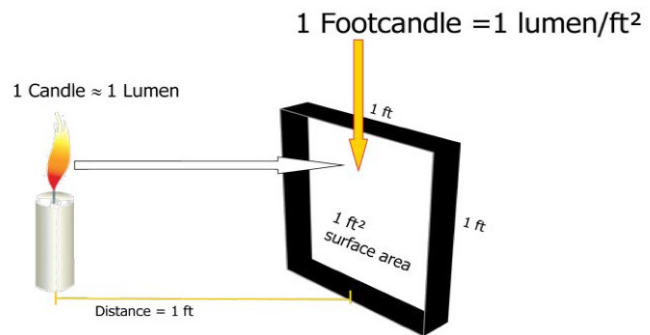


## FOOT-CANDLE:

is a unit of brightness that is equivalent to the light produced by one candle.

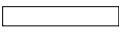


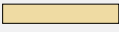





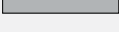

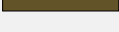

Used to express the intensity of light illuminating a given area. One foot-candle is the intensity of a 1-candle at a distance of one foot. A foot-candle equals 1 lumen per square foot.

For a list of Foot-candles recommended per room type, see next page.



## REFLECTANCE:

Reflectance measures the amount of visible and usable light that reflects from (or absorbs into) a painted surface. Simply put, it measures the percentage of light a paint color reflects. The lighter the colour, the higher the reflectance (%) is.

| COLOUR  | REFLECTANCE |
|---|-------------|
|  WHITE                  | 70 - 90%    |
|  IVORY AND CREAM       | 55 - 71%    |
|  LIGHT YELLOW          | 65 - 70%    |
|  LIGHT BUFF            | 40 - 56%    |
|  LIGHT GREEN           | 40 - 50%    |
|  MEDIUM GREEN          | 15 - 30%    |
|  ORANGE                | 15 - 30%    |
|  MEDIUM BLUE           | 15 - 20%    |
|  DARK BLUE             | 5 - 10%     |
|  MEDIUM GRAY           | 15 - 30%    |
|  RED AND MAROON        | 5 - 18%     |
|  MEDIUM AND DARK BROWN | 3 - 18%     |
|  BLACK                 | 1 - 4%      |

## IES Foot-Candle Recommendations for Different Room Types:

### Airplane Manufacturing

|  |        |
|--|--------|
| Drilling, riveting, screw fastening..... | 75     |
| Final assemble, hangar.....              | 100    |
| Inspection.....                          | 50-200 |
| Welding.....                             | 50     |

### Assembly

|                             |          |
|-----------------------------|----------|
| Rough easy seeing.....      | 20-50    |
| Rough difficult seeing..... | 50-100   |
| Medium.....                 | 100-200  |
| Fine.....                   | 200-500  |
| Extra fine.....             | 500-1000 |

### Auditoriums

|                        |       |
|------------------------|-------|
| Social activities..... | 5-10  |
| Assembly only.....     | 10-20 |
| Exhibitions.....       | 10-20 |

### Automobile Manufacturing

|  |     |
|--|-----|
| Final assembly, finishing, inspecting..... | 200 |
| Body & chassis assembly.....               | 100 |
| Body parts manufacturing.....              | 100 |
| Frame assembly.....                        | 50  |

### Banks

|  |        |
|--|--------|
| Lobby general.....                       | 10-50  |
| Writing areas.....                       | 20-70  |
| Teller stations, posting & keypunch..... | 50-150 |

### Barber Shops

|                     |        |
|---------------------|--------|
| Beauty Parlors..... | 50-100 |
| Chemical Works..... | 30     |

### Clothing Manufacturer

|  |         |
|--|---------|
| Receiving, storing, shipping,<br>winding, measuring..... | 20-50   |
| Pattern making, trimming.....                            | 50-100  |
| Shops, marking.....                                      | 50-200  |
| Cutting, pressing.....                                   | 100-500 |
| Sewing, inspection.....                                  | 200-500 |

### Electrical Equipment Manufacturing

|                                       |        |
|---------------------------------------|--------|
| Impregnating.....                     | 20-50  |
| Insulating coil winding, testing..... | 50-100 |

### Food Service Facilities

|                    |        |
|--------------------|--------|
| Cashier.....       | 20-50  |
| Cleaning.....      | 10-20  |
| Dining.....        | 5-20   |
| Food displays..... | 30-100 |
| Kitchen.....       | 50-100 |

### Foundries

|                         |        |
|-------------------------|--------|
| Annealing furnaces..... | 20-50  |
| Cleaning.....           | 20-50  |
| Core making.....        | 50-200 |

### Inspection

|                       |         |
|-----------------------|---------|
| Fine.....             | 100-500 |
| Medium.....           | 50-100  |
| Molding.....          | 50-200  |
| Pouring, sorting..... | 50-100  |

### Garages-Motor Vehicles

|              |   |
|--------------|---|
| Storage..... | 5 |
|--------------|---|

### Traffic Lanes

|                     |        |
|---------------------|--------|
| Parking garage..... | 10     |
| Service garage..... | 10-20  |
| Entrances.....      | 50     |
| Repair area.....    | 50-100 |

### Gymnasiums

|                                    |    |
|------------------------------------|----|
| Assemblies.....                    | 10 |
| General exercise & recreation..... | 30 |
| Exhibitions, matches.....          | 50 |

### Hospitals

|                      |         |
|----------------------|---------|
| Rooms.....           | 10-30   |
| Corridors.....       | 5-30    |
| Emergency rooms..... | 50-100  |
| Operating rooms..... | 100-200 |

### Hotels

|                                      |        |
|--------------------------------------|--------|
| Bathrooms.....                       | 20-50  |
| Bedrooms for reading.....            | 20-50  |
| Corridors, elevators and stairs..... | 10-20  |
| Front desk.....                      | 50-100 |

### Linen room

|              |         |
|--------------|---------|
| Sewing.....  | 100-200 |
| General..... | 10-20   |

### Lobby

|                                   |       |
|-----------------------------------|-------|
| General lighting.....             | 10-20 |
| Reading and<br>working areas..... | 20-50 |

### Iron & Steel Manufacturing

|  |       |
|--|-------|
| Stock, hot top, checker<br>cellar, calcining.....  | 10-30 |
| Building, slag pits, stripping yard.....           | 20    |
| Control platforms, repairs,<br>mixer building..... | 30    |
| Rolling mills.....                                 | 30-50 |
| Shearing.....                                      | 50    |
| Tin plate.....                                     | 50    |
| Motor room, machine room.....                      | 30    |
| Inspection.....                                    | 100   |

## IES Foot-Candle Recommendations for Different Room Types:

### Laundries

|              |        |
|--------------|--------|
| Washing..... | 20-50  |
| Ironing..... | 20-100 |

### Library

|   |        |
|---|--------|
| Ordinary reading, stacks.....                             | 20-50  |
| Book repair and binding.....                              | 20-50  |
| Study & notes, cataloging,<br>card files, check desk..... | 20-100 |

### Machine Shops

|   |            |
|---|------------|
| Rough bench.....                              | 20-50      |
| Medium bench, rough<br>grinding, buffing..... | 50-100     |
| Fine bench and work.....                      | 200-500(a) |

### Materials Handling

|                                  |       |
|----------------------------------|-------|
| Loading trucking.....            | 10-20 |
| Picking stock classifying.....   | 20-50 |
| Wrapping, packing, labeling..... | 20-50 |

### Offices

|   |        |
|---|--------|
| Accounting.....                               | 50-100 |
| Audio-visual areas.....                       | 20-50  |
| Conference areas.....                         | 20-70  |
| Corridors, stairways.....                     | 20(k)  |
| Drafting.....                                 | 50-200 |
| General and private offices.....              | 50-100 |
| Lobbies, lounges and<br>reception areas.....  | 0-20   |
| Mail sorting.....                             | 50-100 |
| Off-set printing and<br>duplicating area..... | 20-50  |
| Spaces with VDT's.....                        | 75     |

### Paint Shop

|  |        |
|--|--------|
| Spraying, rubbing,<br>hand art, stencil..... | 20-50  |
| Fine hand painting & finishing.....          | 50-100 |

### Paper Manufacturing

|                                     |         |
|-------------------------------------|---------|
| Beaters, grinding.....              | 20-50   |
| Finishing, cutting.....             | 50-100  |
| Hand cutting.....                   | 50-100  |
| Paper machine reel, inspection..... | 100-200 |
| Rewinder.....                       | 100-20  |

### Printing

|  |         |
|--|---------|
| Photo engraving,<br>etching, blocking..... | 20-50   |
| Color inspecting.....                      | 100-200 |
| Presses.....                               | 50-100  |
| Proofreading.....                          | 100-200 |
| Composing room.....                        | 50-100  |

### Schools

|                     |         |
|---------------------|---------|
| Reading.....        | 20-100  |
| Typing.....         | 20-100  |
| Demonstrations..... | 100-200 |
| Sewing.....         | 20-100  |

### Sheet Metal Works

|  |         |
|--|---------|
| General.....                                       | 100     |
| Tin plate inspection,<br>galvanized, scribing..... | 100-200 |

### Stores

|                                  |        |
|----------------------------------|--------|
| Circulation area stockroom.....  | 10-30  |
| Merchandising, serviced.....     | 30-100 |
| Merchandising, self-service..... | 200    |
| Grocery.....                     | 100    |

### Textile Mills

|   |     |
|---|-----|
| Cotton picking, carding,<br>roving, spinning..... | 50  |
| Beaming & slashing.....                           | 150 |
| Drawing.....                                      | 200 |
| Others.....                                       | 100 |

### Warehousing, Storage

|                  |       |
|------------------|-------|
| Inactive.....    | 5-10  |
| Active:          |       |
| Rough bulky..... | 10-20 |
| Medium.....      | 20    |
| Fine.....        | 20-50 |

### Welding

|              |       |
|--------------|-------|
| General..... | 20-50 |
|--------------|-------|

### Woodworking

|  |        |
|--|--------|
| Rough sawing and bench work.....   | 20-50  |
| Sizing, planing, rough sanding,<br>medium quality machine and<br>bench work, gluing,<br>veneer, cooperage..... | 20-50  |
| Fine bench and machine work,<br>fine sanding and finishing.....  | 50-100 |

### Swimming Pools

|                   |     |
|-------------------|-----|
| Exhibitions.....  | 100 |
| Recreational..... | 50  |

### Ice Hockey

|                               |     |
|-------------------------------|-----|
| College and Professional..... | 100 |
| Amateur League.....           | 50  |