

# Lighting Levels Per Space

| ROOM TYPE / TASKS                                       | TASK OR AREA | FOOT-CANDLE LEVEL (HORIZ.) | MAX, AVG OR MIN | GLARE RATIO | UNIF. RATIO BASIS (HORIZ.) | FOOT-CANDLE LEVEL (VERT.) | MAX, AVG OR MIN | GLARE RATIO | UNIF. RATIO BASIS (VERT.) | *COLOR TEMPERATURE |
|---|--------------|----------------------------|-----------------|-------------|----------------------------|---------------------------|-----------------|-------------|---------------------------|--------------------|
| <b>CLASSROOMS</b>                                       |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| CLASSROOMS - AV PRESENT. DEDICATED VIEWING              | A            | 5 @ 2.5FT                  | AVG             | 2:1         | AVG:MIN                    | 3 FC @ 4FT                | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| CLASSROOMS - DEDICATED COMPUTER SCREENS                 | A            | 15 @ 2.5FT                 | AVG             | 2:1         | AVG:MIN                    | 5 @ 4FT                   | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| CLASSROOMS - HIGHER ED                                  | A            | 40 @ 2.5FT                 | AVG             | 2:1         | AVG:MIN                    | 15 @ 4FT                  | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| <b>CLASSROOMS (SHOPS)</b>                               |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| DETAILED WORK   | T            | 100 @ TS                   | AVG             | -           | -                          | 50 @ TASK                 | AVG             | -           | -                         | 3500K              |
| <b>HEALTH SCIENCE LAB</b>                               |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| HEALTH SCIENCE LAB - BENCH                              | T            | 50 FC @ 3FT                | AVG             | -           | -                          | 30 FC @ 4.5FT             | -               | -           | -                         | 3500K              |
| HEALTH SCIENCE LAB - DEMO AREA                          | T            | 75 FC @ 3FT                | AVG             | 3:1         | AVG:MIN                    | 50 FC @ 4.5FT             | AVG             | 3:1         | -                         | 3500K              |
| PRIVATE OFFICE  | T            | 40 @ TS                    | AVG             | -           | -                          | 7.5 @ 5FT                 | AVG             | -           | -                         | 3500K              |
| SHARED OFFICE   | T            | 50 @ 2.5FT                 | MAX             | -           | -                          | 50 FC @ 4FT               | AVG             | -           | -                         | 3500K              |
| OPEN WORKSTATION  | T            | 50 @ 2.5FT                 | MAX             | -           | -                          | 50 FC @ 4FT               | AVG             | -           | -                         | 3500K              |
| <b>MEETING ROOM</b>                                     |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| DISCOURSE   | A            | 50 FC @ 3FT                | AVG             | 3:1         | AVG:MIN                    | 50 FC @ 4.5FT             | AVG             | 3:1         | -                         | 3500K              |
| PRESENTATION SURFACES                                   | T            | 50 FC @ 3FT                | AVG             | 3:1         | AVG:MIN                    | 50 FC @ 4.5FT             | AVG             | 3:1         | -                         | 3500K              |
| STUDY HALLS   | A            | 30 @ TS                    | AVG             | 2:1         | AVG:MIN                    | 20 @ TASK                 | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| <b>ADMINISTRATION SPACES (INTERVIEWS, CONSULTATION)</b> |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| CONVERSATIONAL  | A            | 15 @ 2.5FT                 | AVG             | 3:1         | AVG:MIN                    | 7.5 FC @ 4.5FT            | AVG             | 3:1         | AVG:MIN                   | 3500K              |
| FORMAL  | T            | 40 @ 2.5FT                 | AVG             | 3:1         | AVG:MIN                    | 15 FC @ 4.5FT             | AVG             | 3:1         | AVG:MIN                   | 3500K              |
| <b>LIBRARY</b>  |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| GENERAL   | A            | 10 @ 0FT                   | AVG             | 3:1         | AVG:MIN                    | 3 @ 5FT                   | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| READING HARDCOPY  | T            | 30 @ 2.5FT                 | AVG             | 3:1         | AVG:MIN                    | 10 @ 4FT                  | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| GENERAL BOOK STACKS                                     | A            | 20 @ 0FT                   | MIN             | 2:1         | AVG:MIN                    | -                         | -               | -           | -                         | 3500K              |
| SHELVING  | T            | 30 @ 3FT                   | AVG             | 2:1         | AVG:MIN                    | 20 @ TASK                 | AVG             | 8:2:1       | MAX:AVG:MIN               | 3500K              |
| BOOK PROCESSING   | T            | 10 @ 2.5FT                 | AVG             | 2:1         | AVG:MIN                    | 5 @ 5FT                   | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| PUBLIC COMPUTERS  | T            | 30 @ 2.5FT                 | AVG             | 2:1         | AVG:MIN                    | 10 @ 4FT                  | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| COMPUTER TRAINING                                       | T            | 40 @ 2.5FT                 | AVG             | 2:1         | AVG:MIN                    | 20 @ 4FT                  | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| <b>MULTI-PURPOSE ROOM (ASSEMBLY AREAS, AUDIENCE)</b>    |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| AV PRESENTATION WITH USERS TAKING NOTES                 | A            | 5 @ 2.5FT                  | AVG             | 2:1         | AVG:MIN                    | 1.5 @ 4FT                 | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| AV PRESENTATION WITHOUT USERS TAKING NOTES              | A            | 1 @ TS                     | AVG             | 2:1         | AVG:MIN                    | 0.6 @ 4FT                 | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| STUDY, TESTING (PAPER AND/OR LAPTOP)                    | A            | 30 @ TS                    | AVG             | 3:1         | AVG:MIN                    | 10 @ TASK                 | AVG             | 3:1         | AVG:MIN                   | 3500K              |
| <b>MULTI-PURPOSE ROOM (OTHER AREAS, FUNCTIONS)</b>      |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| PRE-EVENT, POST-EVENT, INTERMISSION                     | A            | 15 @ 0FT                   | AVG             | 3:1         | AVG:MIN                    | 7.5 @ 5FT                 | AVG             | 3:1         | AVG:MIN                   | 3500K              |
| EXHIBITION  | A            | 30 @ 2.5FT                 | AVG             | 3:1         | AVG:MIN                    | 10 @ 5FT                  | AVG             | 3:1         | AVG:MIN                   | 3500K              |
| GYMNASIUM, CAFETERIUM                                   | A            | 30 @ 0FT                   | AVG             | -           | -                          | -                         | -               | -           | -                         | 3500K              |
| <b>AUDITORIUMS / LECTURE HALL (AUDIENCE)</b>            |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| AV AND NOTES  | A            | 5 @ 2.5FT                  | AVG             | 2:1         | AVG:MIN                    | 1.5 @ 4FT                 | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| PRESENTATION AND NO NOTES                               | A            | 1 @ 0FT                    | AVG             | 2:1         | AVG:MIN                    | 0.6 @ 4FT                 | AVG             | 2:1         | AVG:MIN                   | 3500K              |

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|--|--------------|----------------------------|-----------------|-------------|----------------------------|---------------------------|-----------------|-------------|---------------------------|--------------------|
| <b>AUDITORIUMS / LECTURE HALL (PRESENTATION AREA)</b>    |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| SPEAKER OR PANEL   | T            | 30 @ 2.5FT                 | AVG             |             | -                          | -                         | -               | -           | -                         | 3500K              |
| FACE(S)  | T            | -                          | -               |             | -                          | 20 @ 5FT                  | MIN             | 2:1         | AVG:MIN                   | 3500K              |
| DEMONSTRATION  | T            | 50 @ 3FT                   | AVG             | 3:1         | AVG:MIN                    | 20 @ 4.5FT                | AVG             | 3:1         | AVG:MIN                   | 3500K              |
| <b>GYMNASIUM</b>   |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| GYMNASIUM  | -            | 150 @ 2.5FT                | AVG             | 1:3:1       | MAX:MIN                    | -                         | -               | -           | -                         | 3500K              |
| EXERCISE AND WEIGHT ROOMS                                | A            | 15 @ 0FT                   | AVG             | 3:1         | AVG:MIN                    | 4 @ TASK                  | AVG             | 3:1         | AVG:MIN                   | 3500K              |
| <b>BREAKROOM</b>   |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| GENERAL AREA   | A            | 10 @ 2.5FT                 | AVG             | 3:1         | AVG:MIN                    | 3 FC @ 4FT                | AVG             | 3:1         | AVG:MIN                   | 3500K              |
| FOOD PREP, SINKS   | T            | 30 @ 2.5FT                 | AVG             | -           |                            | -                         | -               | -           | -                         | 3500K              |
| CLEANUP  | A            | 30 @ 2.5FT                 | MIN             | 3:1         | AVG:MIN                    | 3 FC @ 4.5FT              | AVG             | 3:1         | AVG:MIN                   | 3500K              |
| <b>BACK OF HOUSE</b>                                     |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| RESTROOM   | A            | 10 @ 0FT                   | AVG             | 3:1         | AVG:MIN                    | 3 @ 3.5FT                 | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| LOCKER ROOMS   | A            | 10 @ TS                    | AVG             | 3:1         | AVG:MIN                    | 5 @ TASK                  | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| LACTATION ROOM   | A            | 5 @ 0FT                    | AVG             | 3:1         | AVG:MIN                    | 3 @ 3.5FT                 | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| JANITOR CLOSET   | A            | 10 @ 0FT                   | AVG             | 3:1         | MAX:AVG                    | 4 @ 5FT                   | AVG             | 3:1         | MAX:AVG                   | 3500K              |
| AV CLOSET  | T            | 15 @ 1.5FT                 | AVG             | 2:1         | AVG:MIN                    | 10 @ 4FT                  | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| ELECTRICAL & MECHANICAL ROOMS                            | A            | 30 @ 2.5FT                 | AVG             | -           | -                          | 30 @ 1.5FT                | AVG             | -           | -                         | 3500K              |
| <b>TELECOMMUNICATIONS ROOM</b>                           |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| IT EQUIPMENT ROOM (CPUs SERVERS, SWITCHES)               | A            | 10 @ 0FT                   | AVG             | 2:1         | AVG:MIN                    | 10 @ TASK                 | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| IT EQUIPMENT SERVICE                                     | T            | 50 @ 2.5FT                 | AVG             | 2:1         | AVG:MIN                    | 20 @ TASK                 | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| <b>STORAGE</b>   |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| SMALL ITEMS  | A            | 20 @ 0FT                   | AVG             | 3:1         | AVG:MIN                    | 10 @ 4FT                  | AVG             | 3:1         | AVG:MIN                   | 3500K              |
| MEDIUM ITEMS   | A            | 10 @ 0FT                   | AVG             | 3:1         | AVG:MIN                    | 7.5 @ 4FT                 | AVG             | 3:1         | AVG:MIN                   | 3500K              |
| LARGE ITEMS, INFREQUENT USE                              | A            | 5 @ 0FT                    | AVG             | 3:1         | AVG:MIN                    | 2 @ 4FT                   | AVG             | 3:1         | AVG:MIN                   | 3500K              |
| <b>COPY ROOM, PRINT ROOM</b>                             |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| GENERAL  | A            | 10 @ 0FT                   | AVG             | 3:1         | AVG:MIN                    | 3 @ 5FT                   | AVG             | -           | -                         | 3500K              |
| MACHINES   | T            | 30 @ TS                    | AVG             | 2:1         | AVG:MIN                    | 10 @ TASK                 | AVG             | 3:1         | 3:1                       | 3500K              |
| PRINTED MATERIAL INSPECTION, REVIEW                      | T            | 50 @ TS                    | AVG             | 2:1         | AVG:MIN                    | -                         | -               | -           | -                         | 3500K              |
| <b>MAIL ROOMS</b>  |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| GENERAL  | A            | 10 @ 0FT                   | AVG             | 3:1         | AVG:MIN                    | 4 @ 5FT                   | AVG             | 3:1         | AVG:MIN                   | 3500K              |
| SECURITY INSPECTION                                      | T            | 100 @ 3.5FT                | AVG             | 3:1         | AVG:MIN                    | 30 @ 3.5FT                | AVG             | -           | -                         | 3500K              |
| SORTING  | A            | 30 @ 2.5FT                 | AVG             | 3:1         | AVG:MIN                    | 7.5 @ 4FT                 | AVG             | 3:1         | AVG:MIN                   | 3500K              |
| <b>VESTIBULES, ENTRIES (MAIN BUILDING ENTRANCE)</b>      |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| DAY  | A            | 15 @ 0FT                   | AVG             | 4:1         | AVG:MIN                    | 7.5 @ 5FT                 | AVG             | 4:1         | AVG:MIN                   | 3500K              |
| NIGHT  | A            | 4 @ 0FT                    | AVG             | 4:1         | AVG:MIN                    | 2 @ 5FT                   | AVG             | 4:1         | AVG:MIN                   | 3500K              |
| <b>VESTIBULES, ENTRIES (SECONDARY BUILDING ENTRANCE)</b> |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| DAY  | A            | 10 @ 0FT                   | AVG             | 4:1         | AVG:MIN                    | 5 @ 5FT                   | AVG             | 4:1         | AVG:MIN                   | 3500K              |
| NIGHT  | A            | 5 @ 0FT                    | AVG             | 4:1         | AVG:MIN                    | 3 @ 5FT                   | AVG             | 4:1         | AVG:MIN                   | 3500K              |
| <b>LOBBY (CIRCULATION, ELEVATOR LOBBIES)</b>             |              |                            |                 |             |                            |                           |                 |             |                           |                    |

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|--|--------------|----------------------------|-----------------|-------------|----------------------------|---------------------------|-----------------|-------------|---------------------------|--------------------|
| RECEPTION DESK   | T            | 15 @ 3.5FT                 | AVG             | 4:1         | AVG:MIN                    | 2 @ 3.5FT                 | AVG             | 4:1         | AVG:MIN                   | 3500K              |
| SECURITY SCREENING   | T            | 20 @ 3FT                   | AVG             | 2:1         | AVG:MIN                    | 10 @ 5FT                  | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| <b>LOBBY (LOUNGES)</b>   |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| READING AREAS, WORK AREAS  | T            | 30 @ 2.5FT                 | AVG             | -           | -                          | 15 @ 5FT                  | AVG             | -           | -                         | 3500K              |
| LEISURE READING  | T            | 20 @ 2.5FT                 | AVG             | -           | -                          | 10 @ 2.5FT                | AVG             | -           | -                         | 3500K              |
| SOCIAL, WAITING  | A            | 10 @ 2.5FT                 | AVG             | 3:1         | AVG:MIN                    | 5 @ 2.5FT                 | AVG             | 3:1         | AVG:MIN                   | 3500K              |
| <b>TRANSITIONAL SPACES</b>   |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| CORRIDORS (ENCLOSED PASSAGEWAYS)                                   | A            | 5 @ 0FT                    | AVG             | 3:1         | AVG:MIN                    | 3 @ 5FT                   | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| ELEVATOR THRESHOLD   | T            | 10 @ 0FT                   | AVG             | 2:1         | AVG:MIN                    | -                         | -               | -           | -                         | 3500K              |
| STAIRS   | A            | 10 @ 0FT                   | AVG             | 2:1         | AVG:MIN                    | 5 @ 5FT                   | AVG             | 2:1         | AVG:MIN                   | 3500K              |
| <b>EXTERIOR CORRIDORS (ADJACENT TO BUILDING, EXITS, HARDSCAPE)</b> |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| MINIMUM  | A            | 1 @ 0FT                    | -               | 8:1         | AVG:MIN                    | -                         | -               | -           | -                         | 3500K              |
| MAXIMUM  | A            | 4 @ 0FT                    | -               | 8:1         | AVG:MIN                    | -                         | -               | -           | -                         | 3500K              |
| <b>BUILDING EXTERIOR (GENERAL AND ADJACENT TO LANDSCAPE)</b>       |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| MINIMUM  | A            | 1 @ 0FT                    | -               | 8:1         | AVG:MIN                    | -                         | -               | -           | -                         | 3500K              |
| MAXIMUM  | A            | 3 @ 0FT                    | -               | 8:1         | AVG:MIN                    | -                         | -               | -           | -                         | 3500K              |
| <b>PARKING GARAGE ENTRY ZONE</b>                                   |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| DAYTIME  | -            | 50 @ 0FT                   | MIN             | 10:1        | MAX:MIN                    | 25 @ 5FT                  | MIN             | 10:1        | MAX:MIN                   | 3500K              |
| NIGHTTIME  | -            | 1 @ 0FT                    | MIN             | 10:1        | MAX:MIN                    | 0.5 @ 5FT                 | MIN             | 10:1        | MAX:MIN                   | 3500K              |
| <b>PARKING GARAGE (RAMPS, DRIVE AISLES, PARKING AREAS)</b>         |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| ACTIVE (MOTION SENSED)   | -            | 1 @ 0FT                    | MIN             | 10:1        | MAX:MIN                    | 0.5 @ 5FT                 | MIN             | 10:1        | MAX:MIN                   | 3500K              |
| INACTIVE (NO MOTION DETECTED)                                      | -            | 0.2 @ 0FT                  | MIN             | 10:1        | MAX:MIN                    | 0.1 @ 5FT                 | MIN             | 10:1        | MAX:MIN                   | 3500K              |
| <b>PARKING LOTS (AND TOP FLOOR OF GARAGES)</b>                     |              |                            |                 |             |                            |                           |                 |             |                           |                    |
| GENERAL PRE-CURFEW (PEDESTRIAN & VEHICLE)                          | -            | 1 @ 0FT                    | MIN             | 15:1        | MAX:MIN                    | 0.5 @ 5FT                 | MIN             | 15:1        | MAX:MIN                   | 3500K              |
| GENERAL POST-CURFEW (PEDESTRIAN & VEHICLE)                         | -            | 0.2 @ 0FT                  | MIN             | 15:1        | MAX:MIN                    | 0.1 @ 5FT                 | MIN             | 15:1        | MAX:MIN                   | 3500K              |
| ALL PARKING LOTS (DRIVE AISLES / PARKING AREAS)                    | -            | 0.2 @ 0FT                  | MAX:MIN         | 20:1        | MAX:MIN                    | 0.1 @ 5FT                 | MIN             | 20:1        | MAX:MIN                   | 3500K              |

NOTES:

\*COLOR TEMPERATURE TO BE CONFIRMED IN PPC AND OPR

ROOM TYPE / TASKS: describe locations, task and required visual levels for each task.

UNIFORM RATIO BASIS: Comparison of light levels across space to ensure it is evenly lit.

GLARE RATIO: Ratio between the luminance of the light source and the background to ensure the design doesn't cause discomfort from the light fixtures.

PARKING LOTS PRE&POST CURFEW:

- Pre-curfew: Open to public and official users
- Post-curfew: Official users only