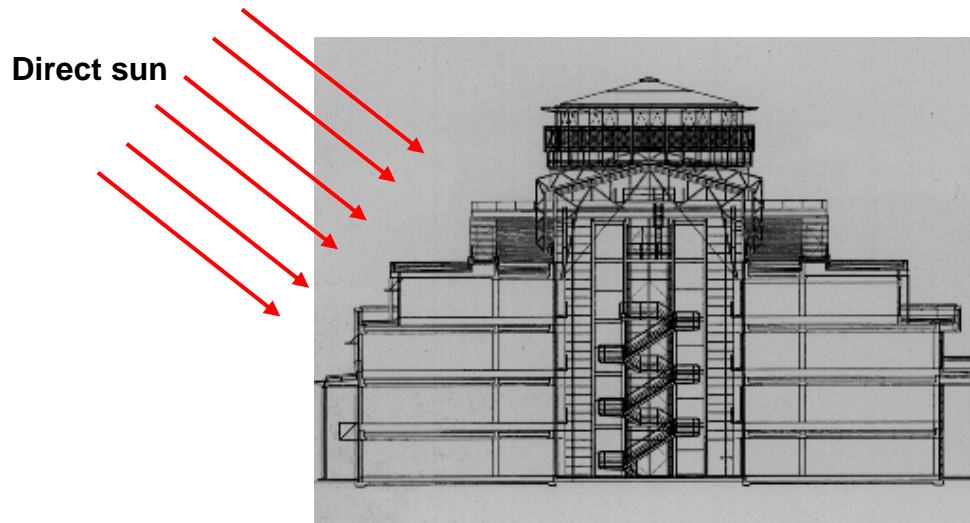


You are to design a 3-story commercial office building with primary consideration given to creating the maximum amount of interior natural lighting (i.e., “daylighting”) for each floor.



**Building Program Requirements:**

- 1) Building ground floor footprint = 4500 ft<sup>2</sup>
- 2) Floor 2 must have between 2200 ft<sup>2</sup> up to 3000 ft<sup>2</sup> “usable” rentable floor area. Floor 3 must have between 1300 ft<sup>2</sup> up to 2200 ft<sup>2</sup> “usable” rentable floor area. Be sure to account for “unusable” areas such as stairs and elevators which do not count towards usable rentable area.
- 3) Direct sunlight assumed for all seasons in Delhi, NY location
- 4) Open-office space for all three floors
- 5) 12'-0" floor-to-floor height
- 6) Design building such that natural lighting reaches all parts of each floor (excluding stairs and elevator shaft).
- 7) Make provisions for sun-blocking to prevent excessive heat gain and glare for all seasons. Examples include operable louvers, overhangs, light shelves, light wells, clerestories, etc.
- 8) Also, make use of toplighting features such as clerestories, atriums, lithiums, suncatchers, etc.

## Submittals:

- 1) Graphics – Create the following pin-up presentation boards to fill at least 11” x 17” pages.
  - a. At least 4 – **3D overall perspective rendered views** of the entire building with “Shade” turned on (two different views for noon June 21<sup>st</sup>, the other two views for noon December 21<sup>st</sup>)
  - b. All 3 presentational perspective **floor plans**. Include dimensions, room labels, etc. Be sure to show stairs and elevator shaft. Preferably to be done in SketchUp, stacked one floor at a time.
  - c. At least 2 – **Building Section views** with “Shade” turned on to be done using AutoCAD. Draw realistic building sections with arrows indicating light paths (similar to pictures shown in Lighting Lectures 2 and 4). Additionally, annotate all design features, and include vertical dimensions.
    - i. One Section drawing at Noon on June 21<sup>st</sup>
    - ii. One Section drawing at Noon on December 21<sup>st</sup>
  
- 2) Prepare a **written narrative** describing IN SPECIFIC DETAIL the design concepts used for achieving the daylighting schemes used in your design. Make written references to your design views. Should be at least 2 – 3 pages in length.

