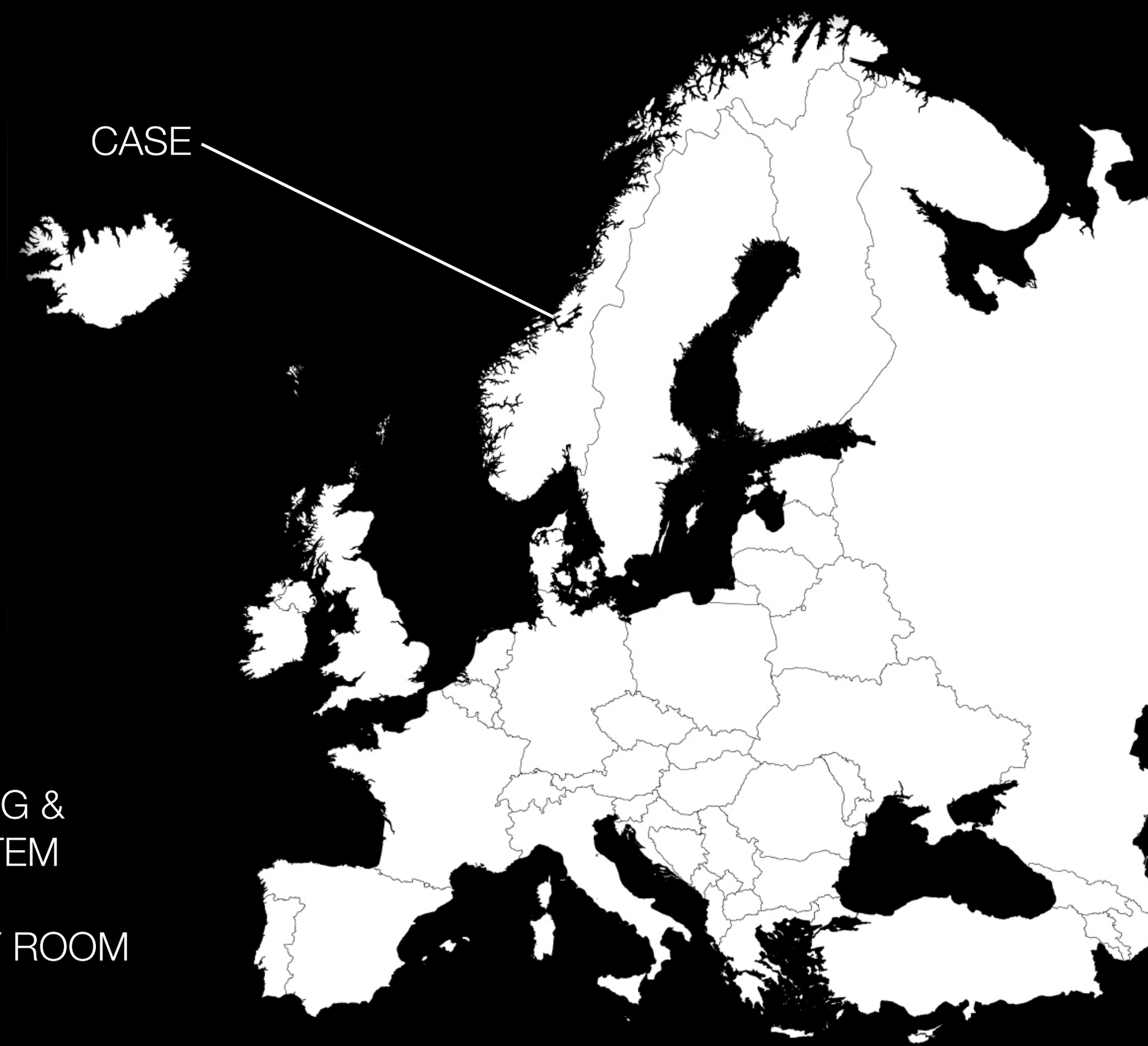


CASE STUDY

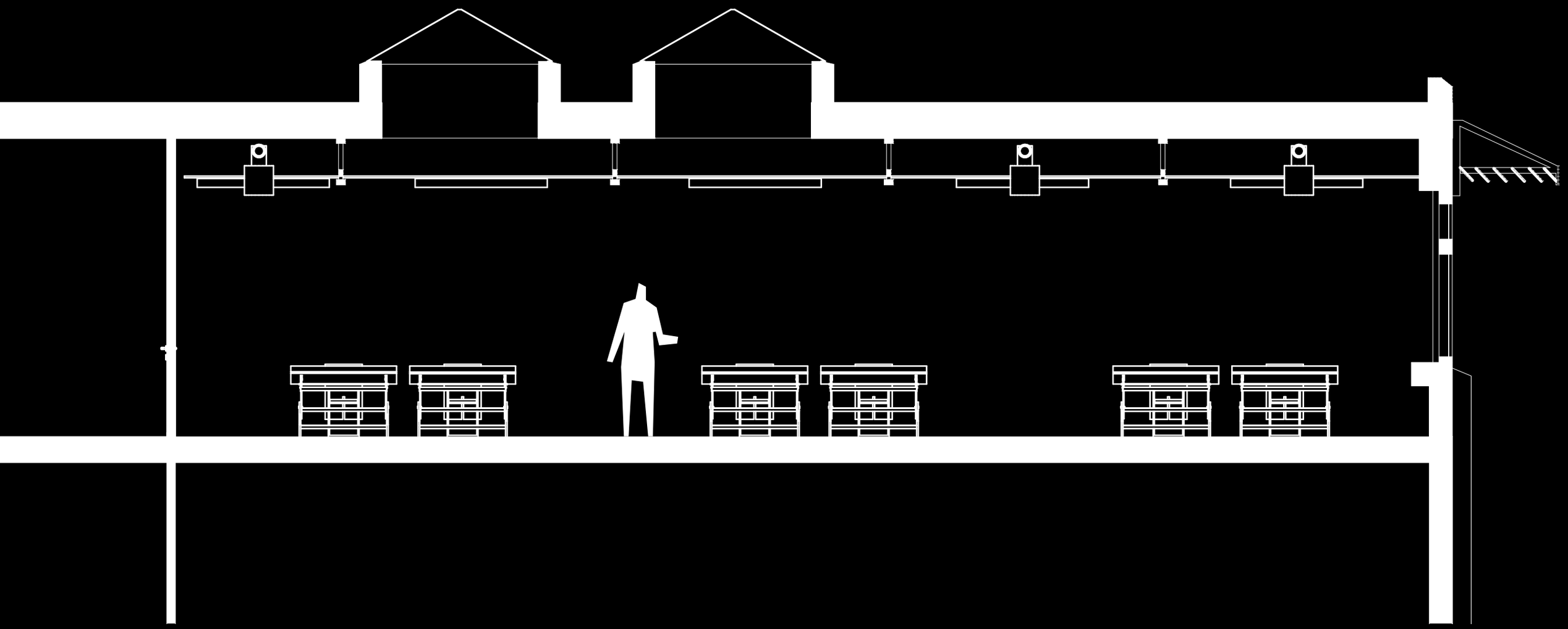
RETROFIT OF
ARTIFICIAL LIGHTING &
DAYLIGHTING SYSTEM

UNIVERSITY STUDY ROOM
TRONDHEIM
NORWAY

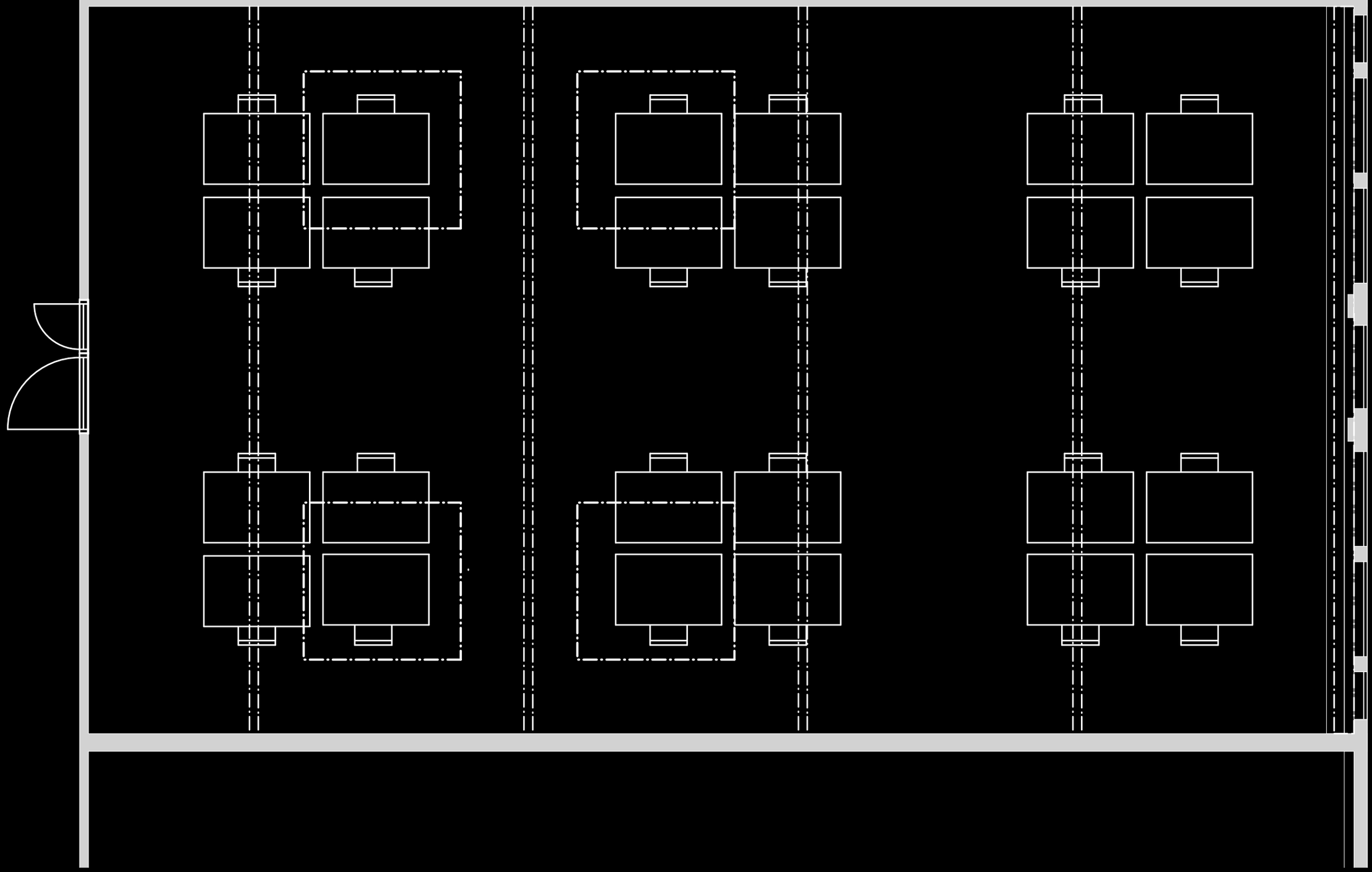
UNIVERSITY SITUATED IN TRONDHEIM

UNIVERSITY CAMPUS

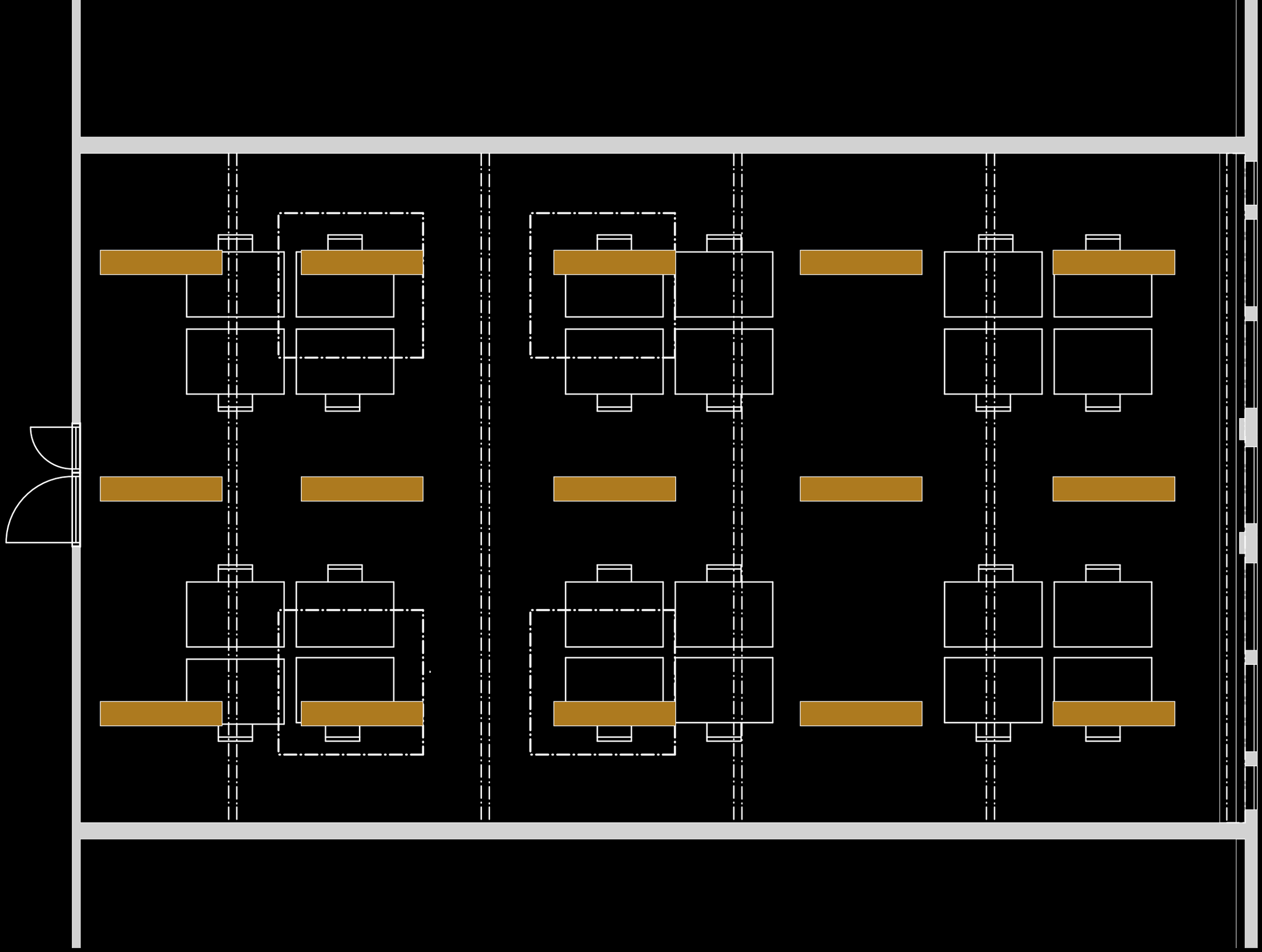
STUDIO FOR STUDENTS OF ARCHITECTURE



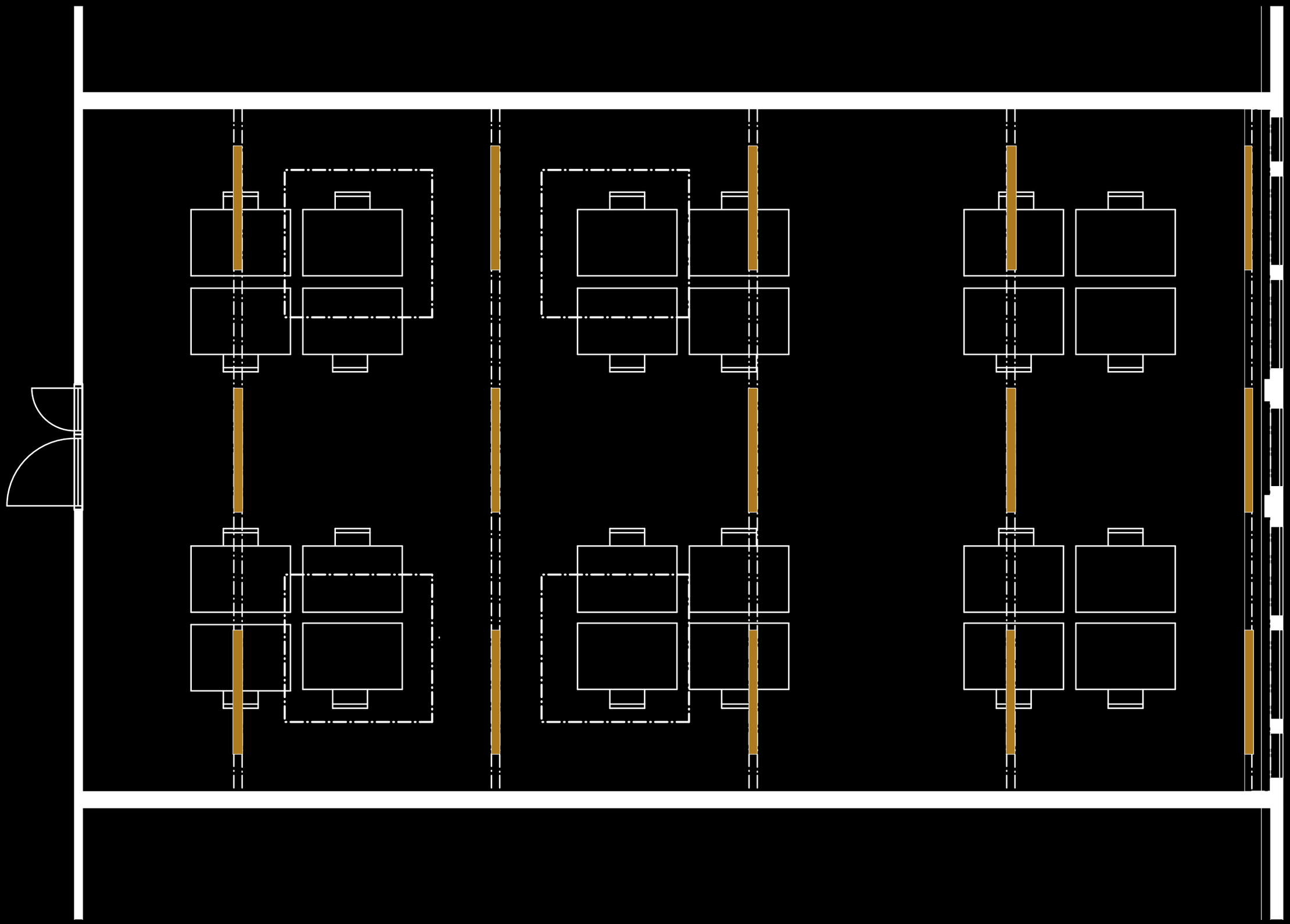
SECTION OF STUDIO



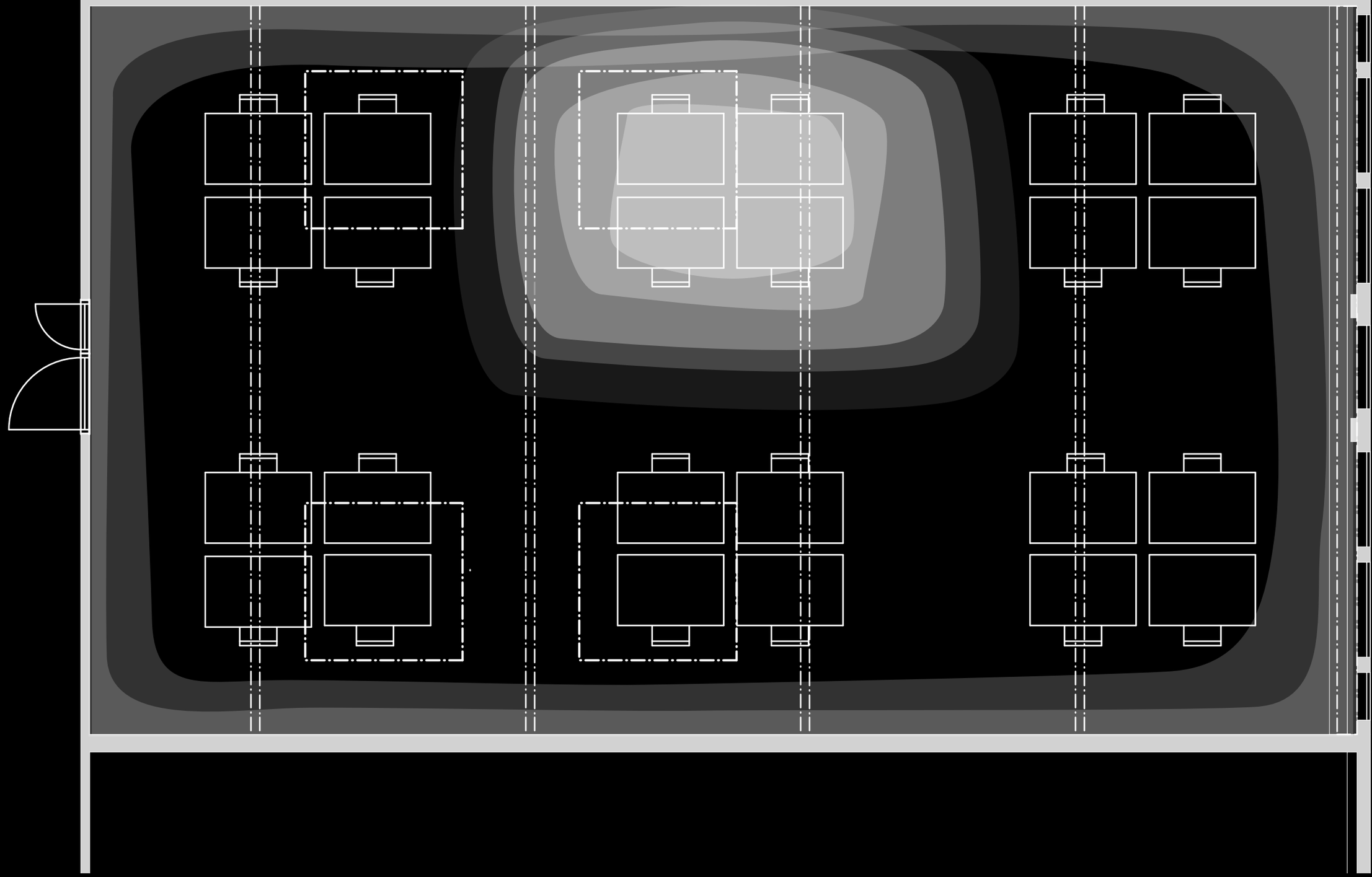
PLAN OF STUDIO



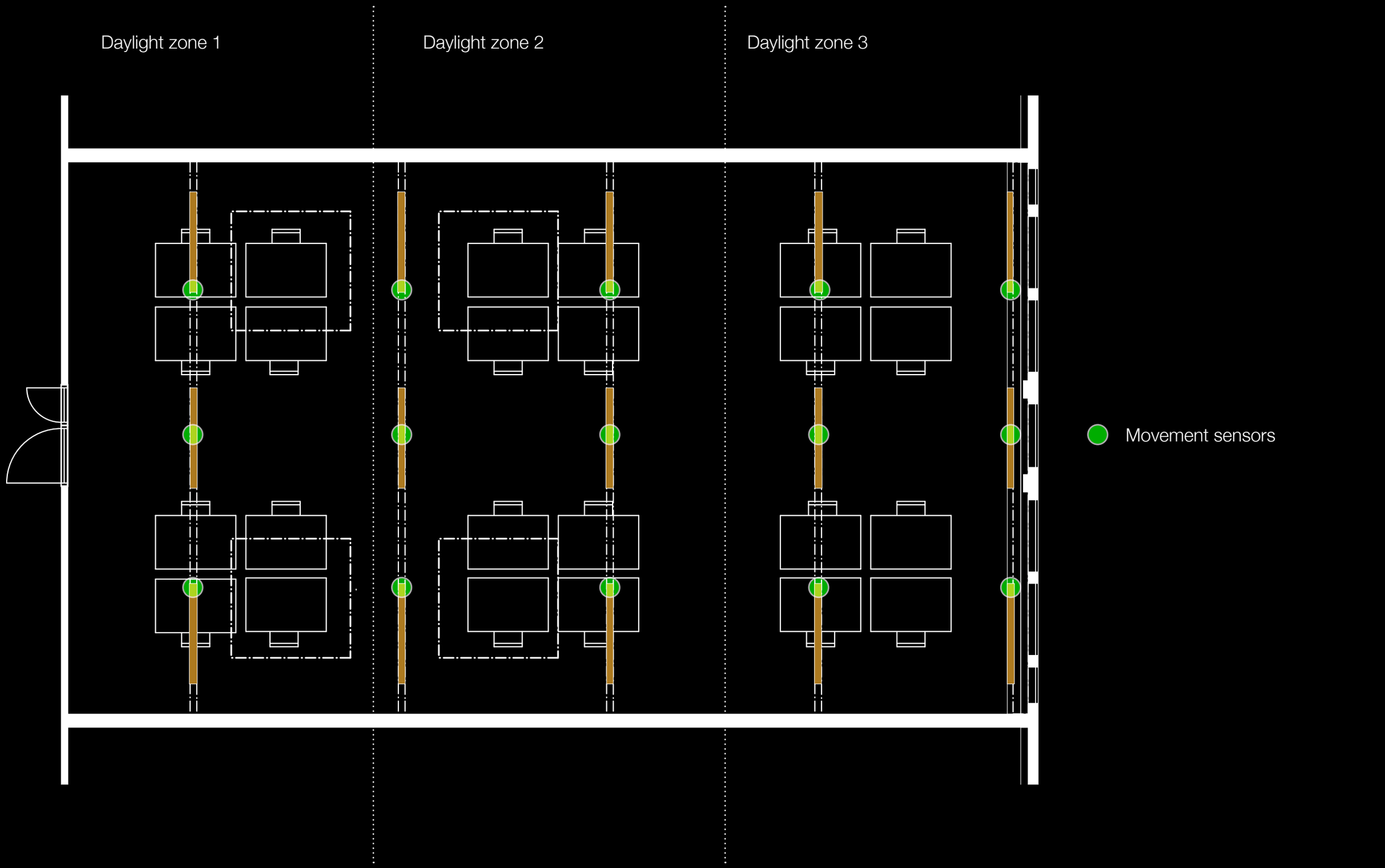
CIELING PLAN OF STUDIO



CONCEPT ARTIFICIAL LIGHTING



CONCEPT LIGHT CONTROL



CONCEPT ARTIFICIAL LIGHTING - SENSORS

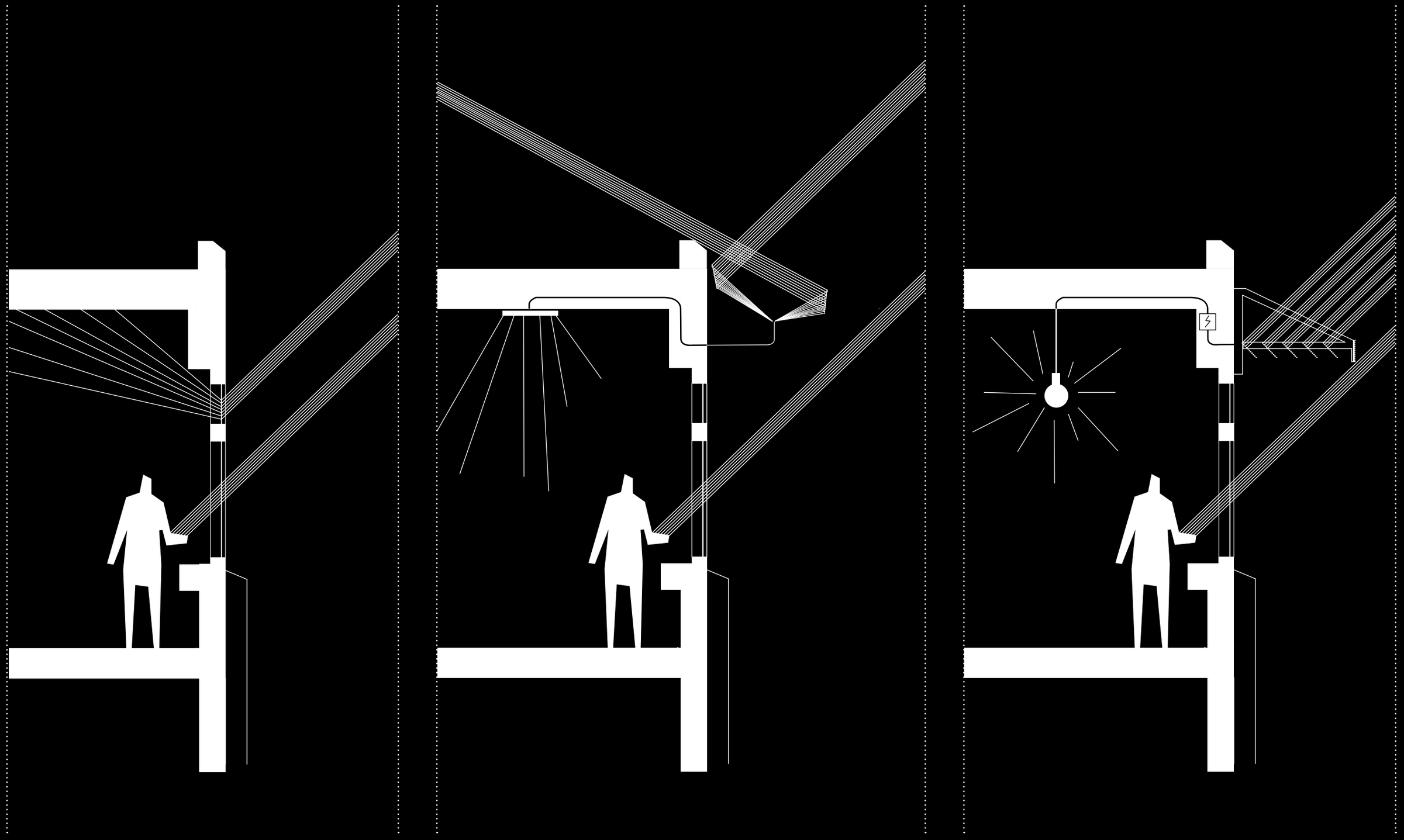
CHALLENGES

DAYLIGHTING EXISTING SITUATION

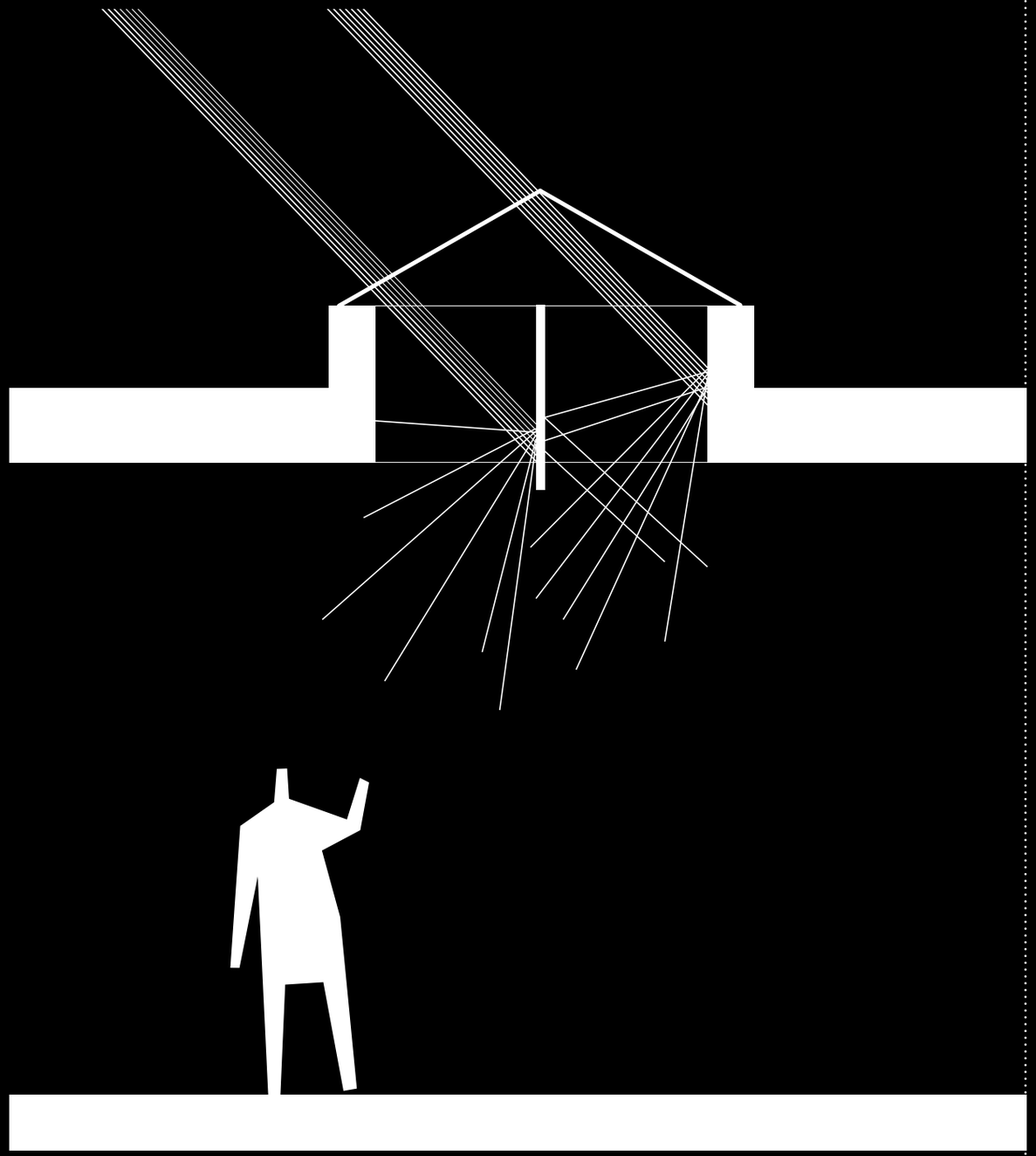
LIGHT REDIRECTING FOIL

OPTICAL FIBRE

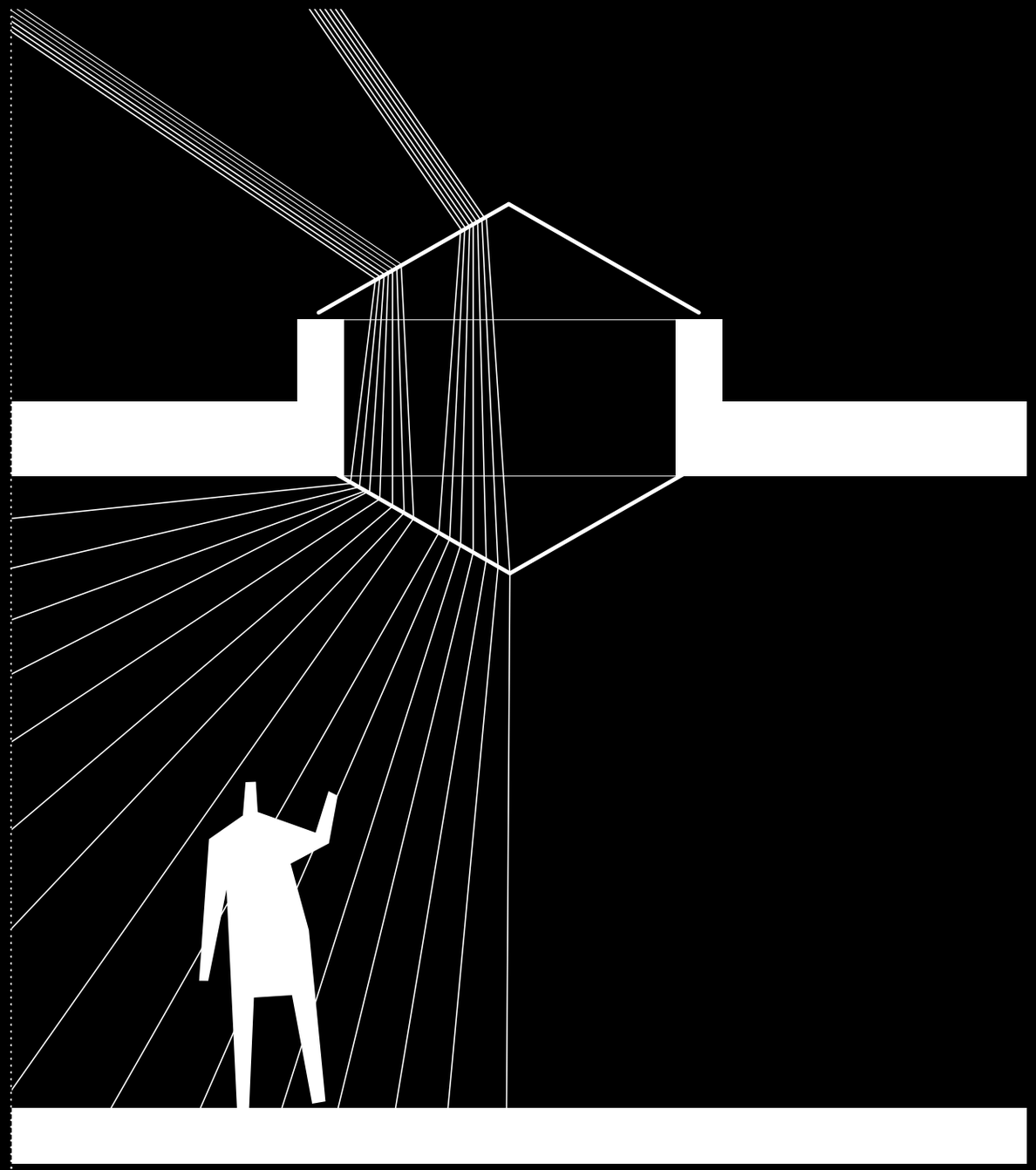
SOLAR PANELS



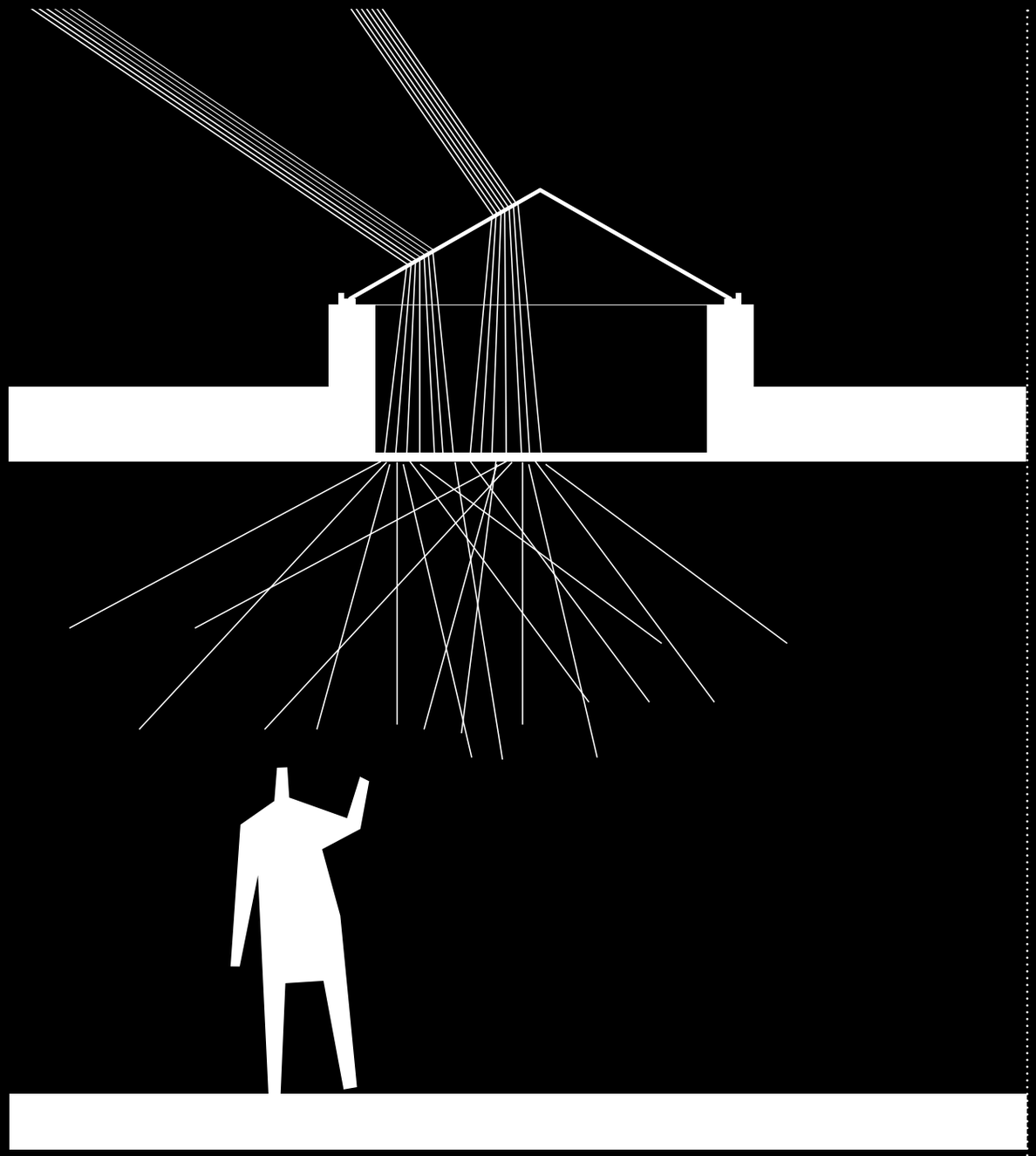
LIGHT-SCATTERING SURFACES



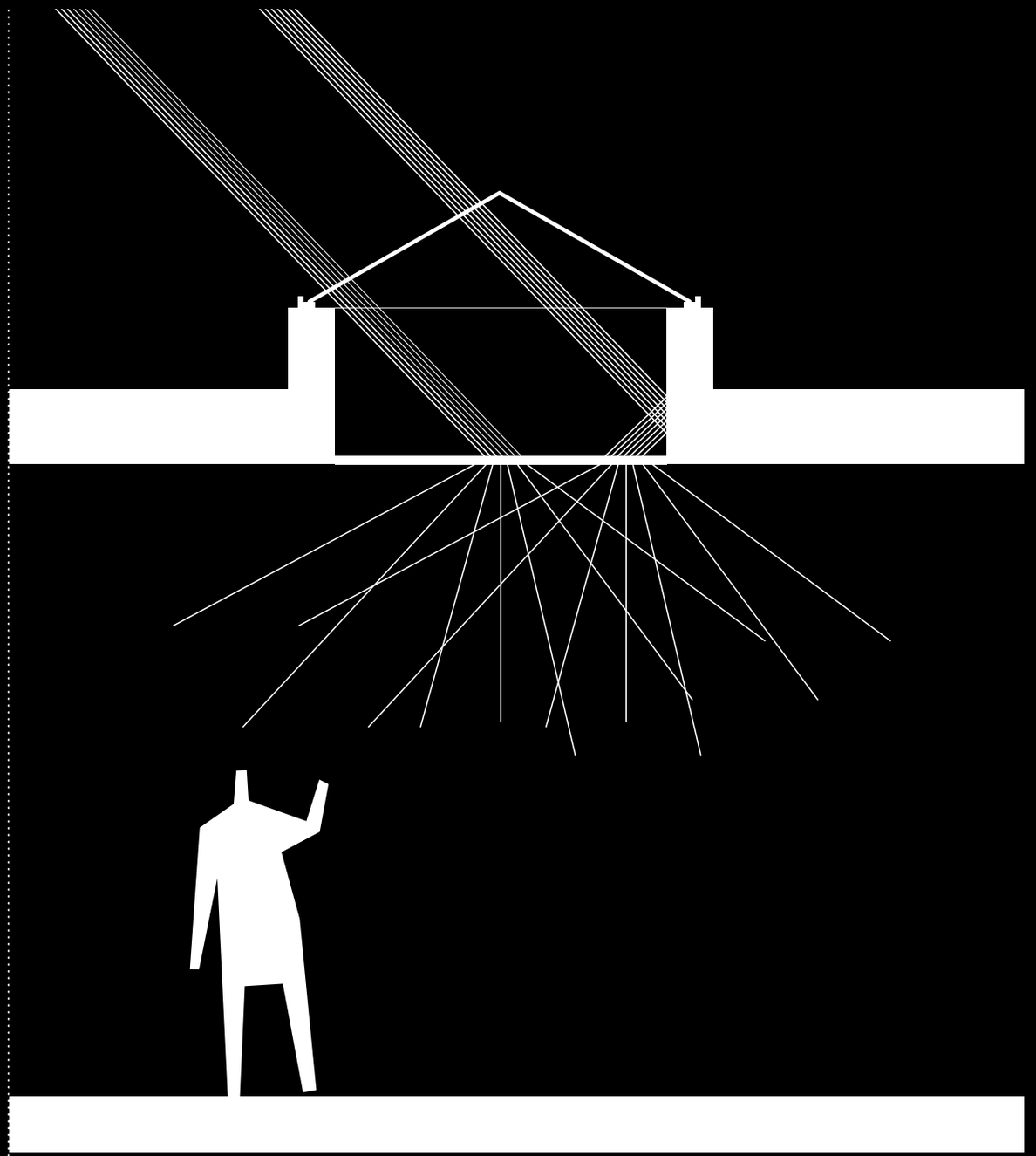
PRISMATIC PANELS

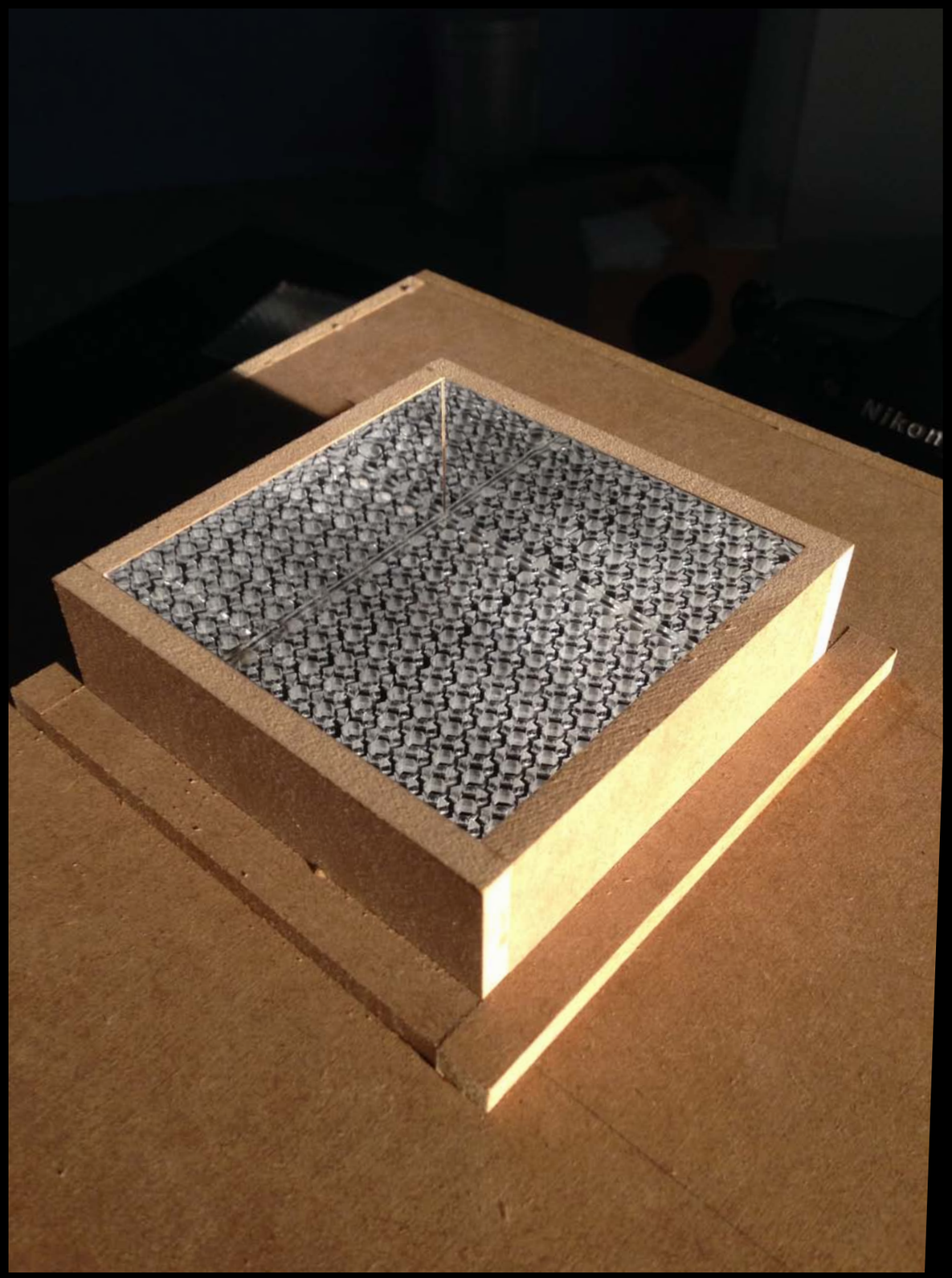


PRISMATIC PANELS+ REVERSE FRESNEL/LASER CUT PANEL

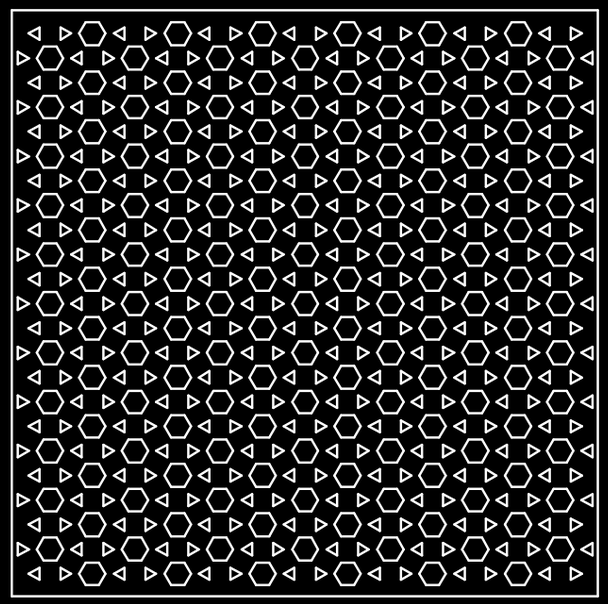
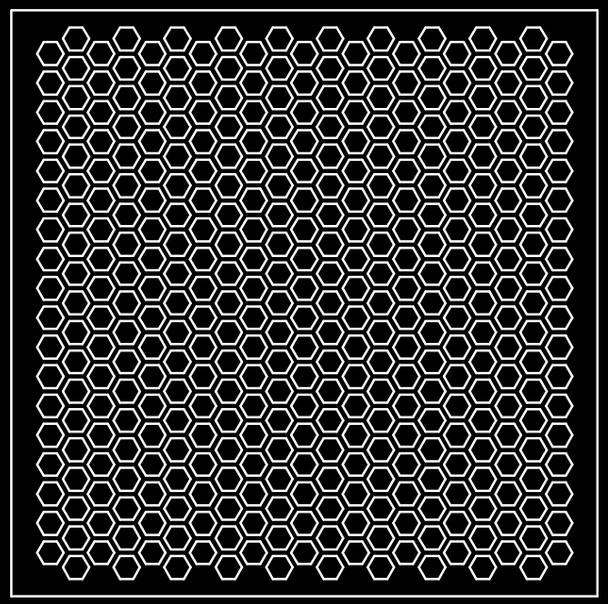
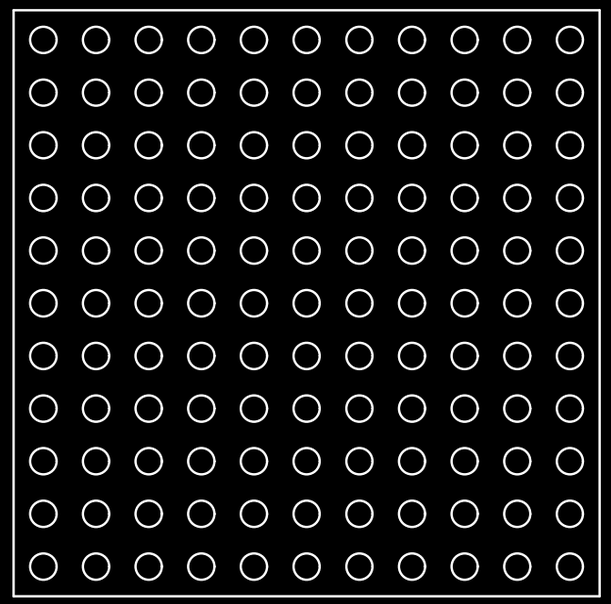
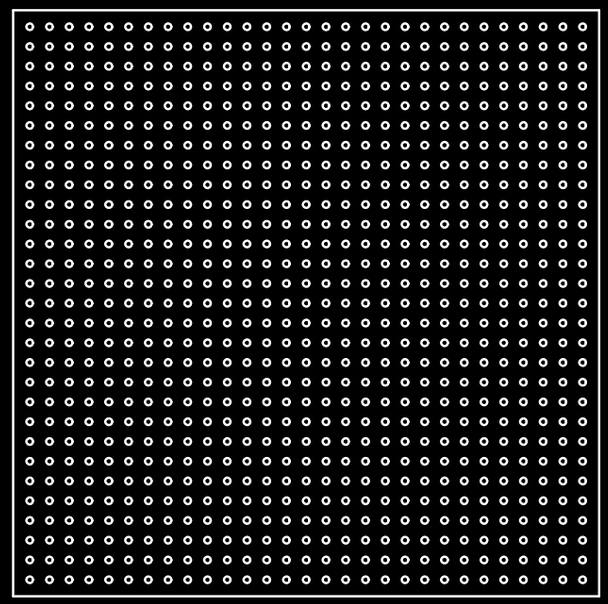
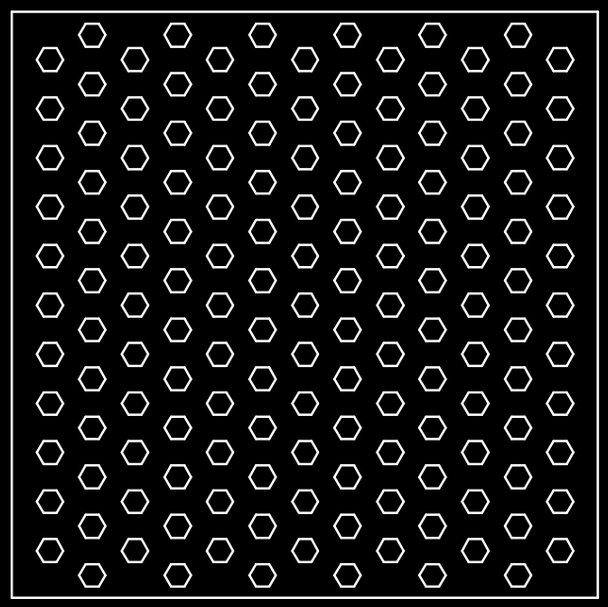
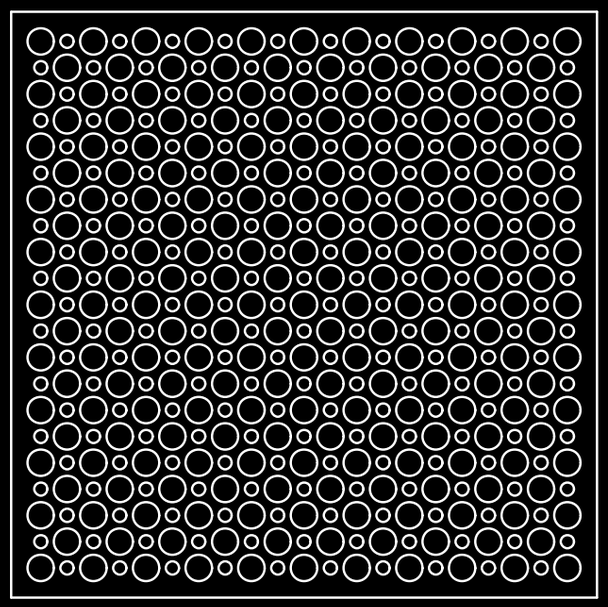
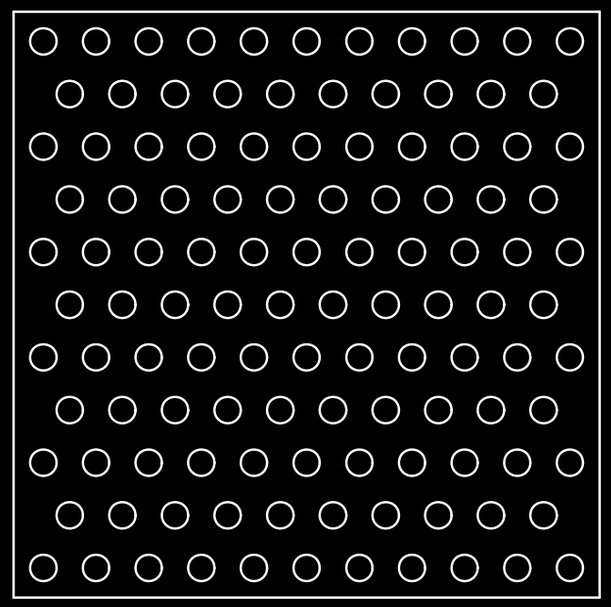
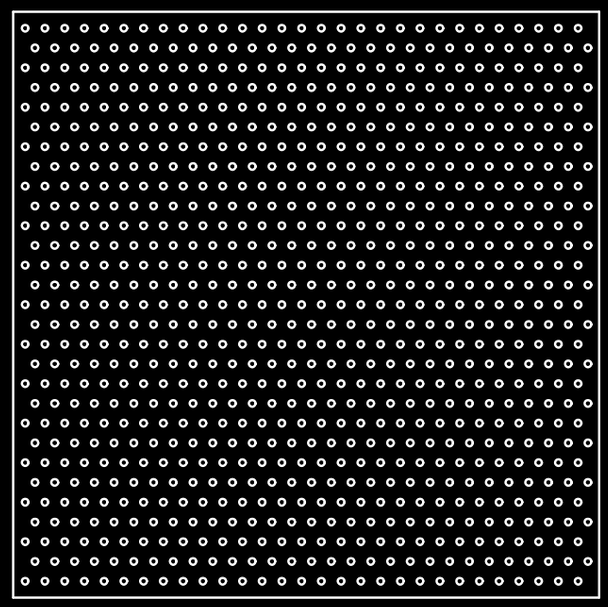


REFLECTIVE FOUL+LASER CUT PANELS





MODEL STUDIES

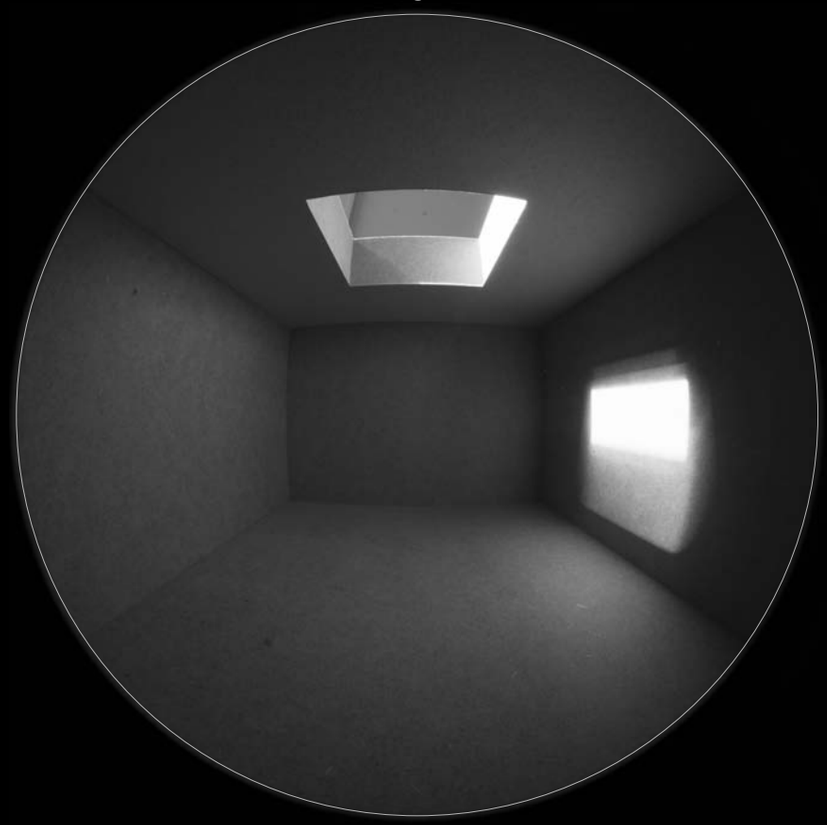









LASER CUT PANELS

15°

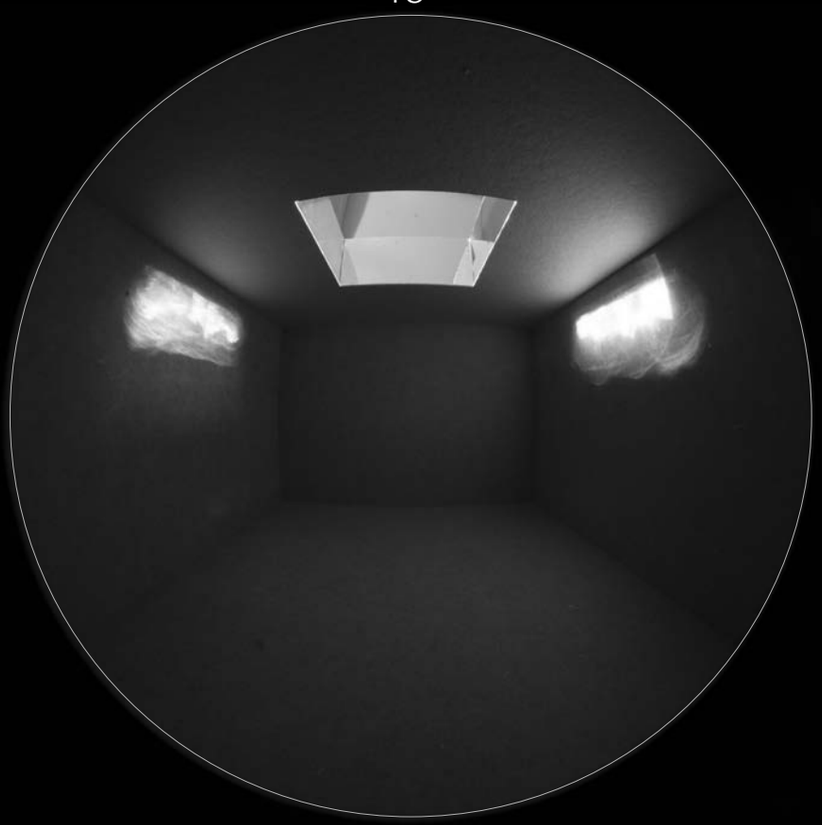
30°

45°



RESULT - RETRO FIT GLASS

15°

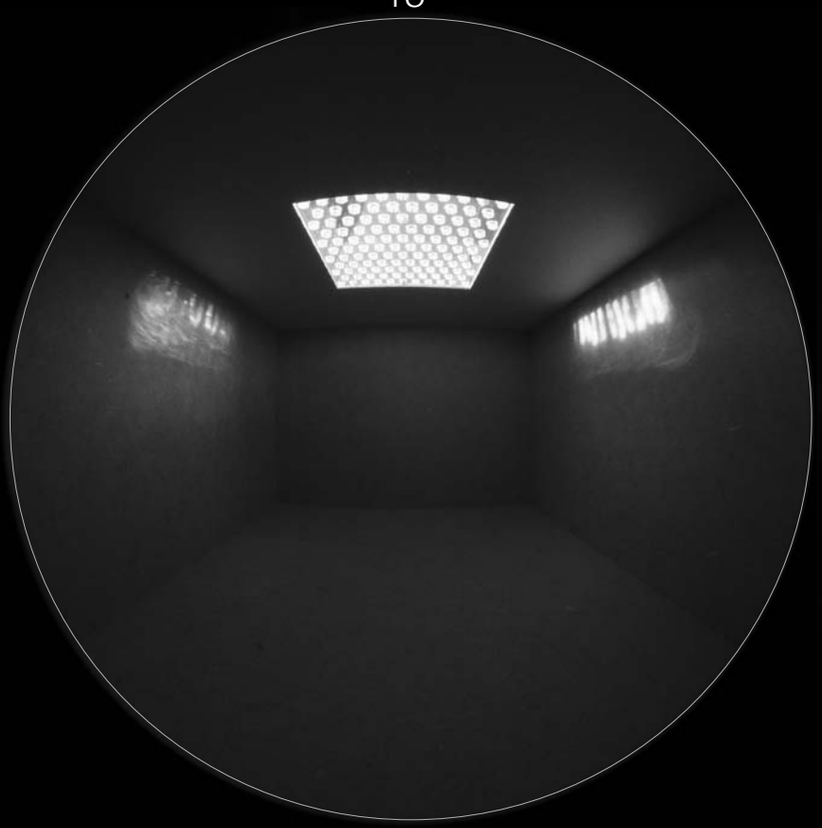


30°

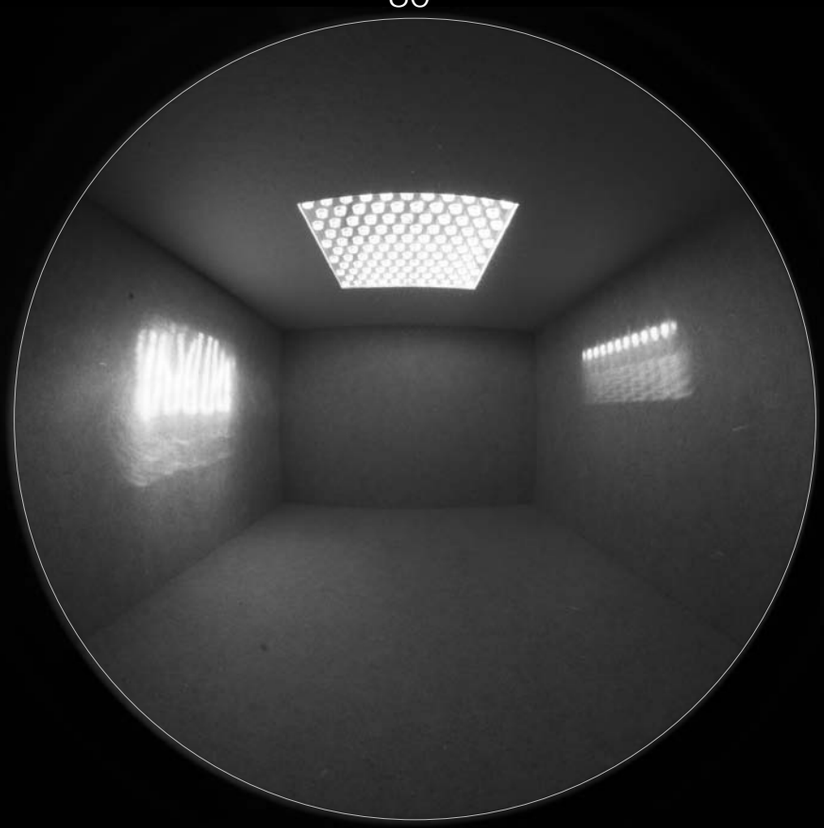
45°

RESULT - RETRO FIT GLASS + SILVER FOIL

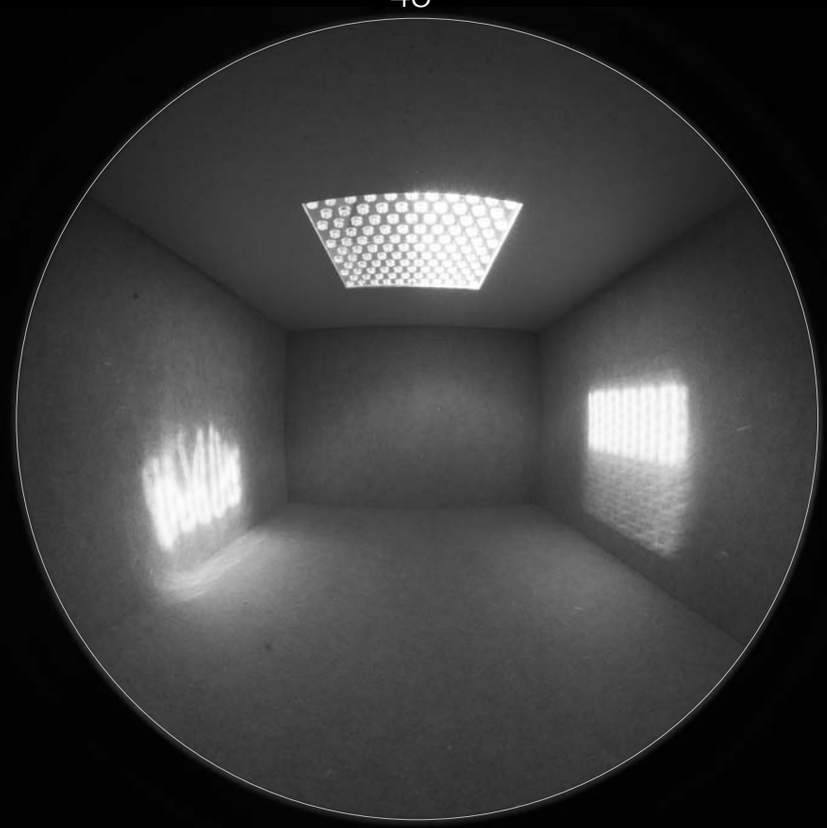
15°



30°

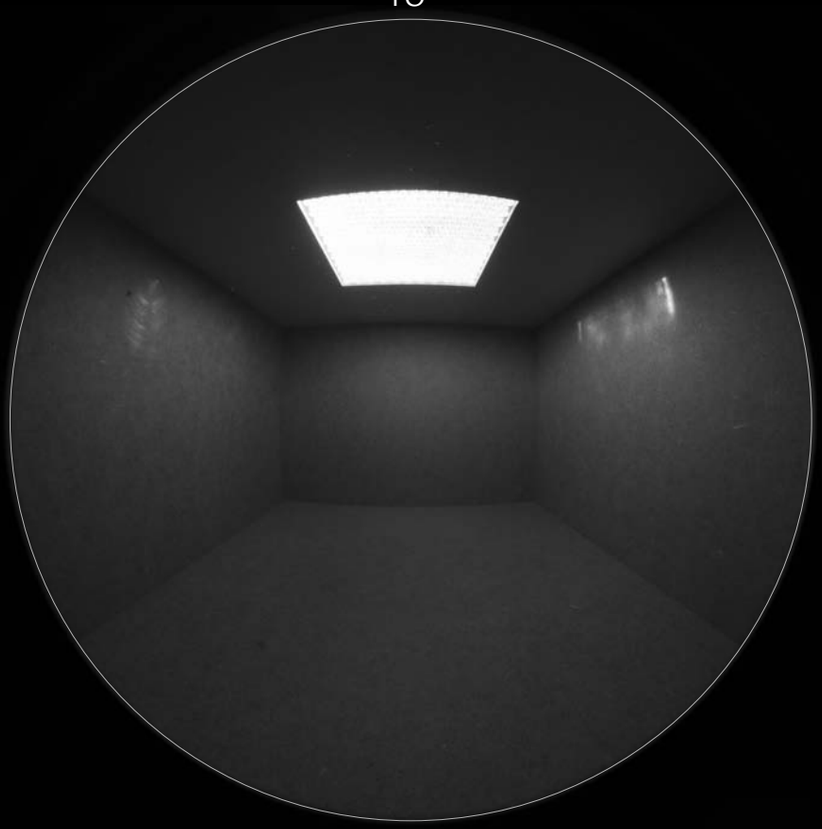


45°

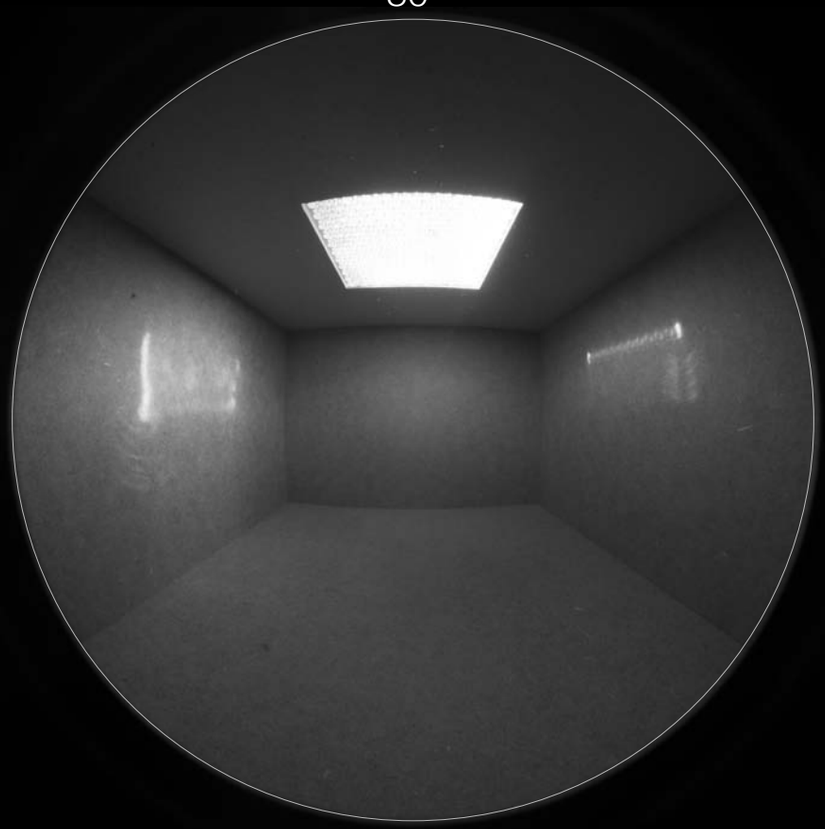


RESULT - RETRO FIT GLASS + SILVER FOIL+LASER CUT PANEL 2

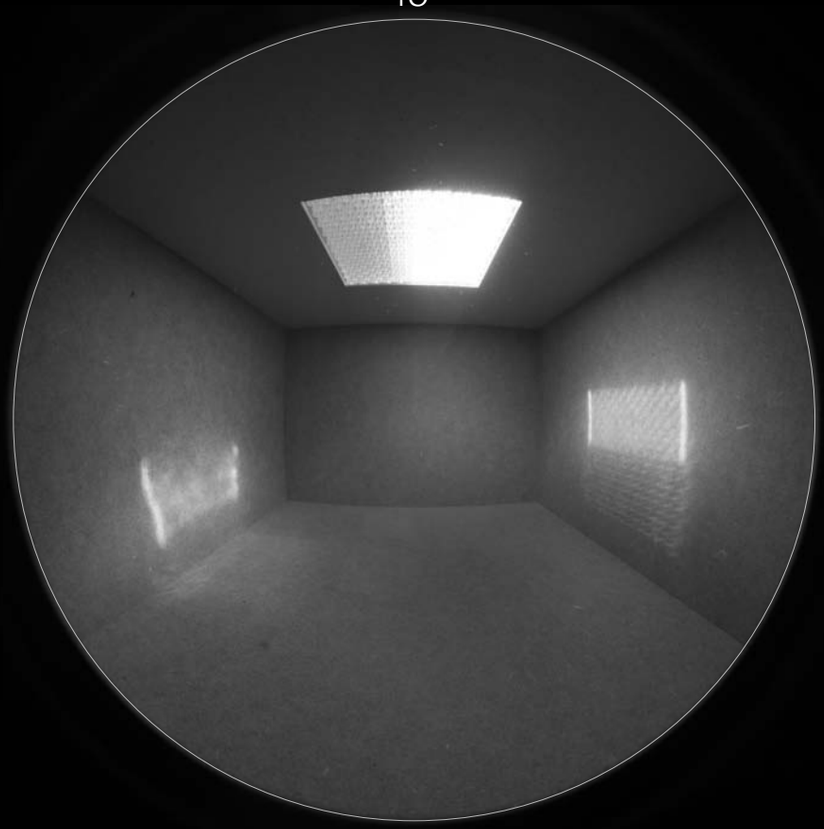
15°



30°



45°



RESULT - RETRO FIT GLASS + SILVER FOIL+LASER CUT PANEL 2

Sun angle

15°

30°

45°

+glass

+silver foil

+laser cut panel large circles

+laser cut panel small circles
+large circles