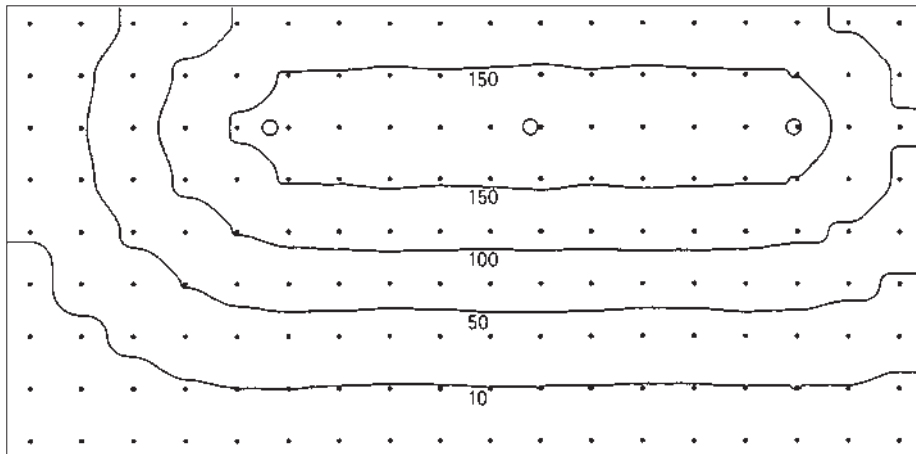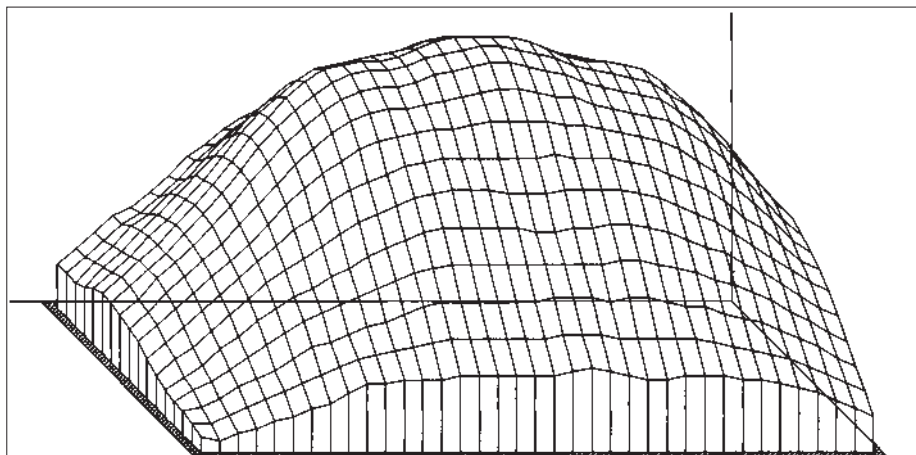Calculation and visua-
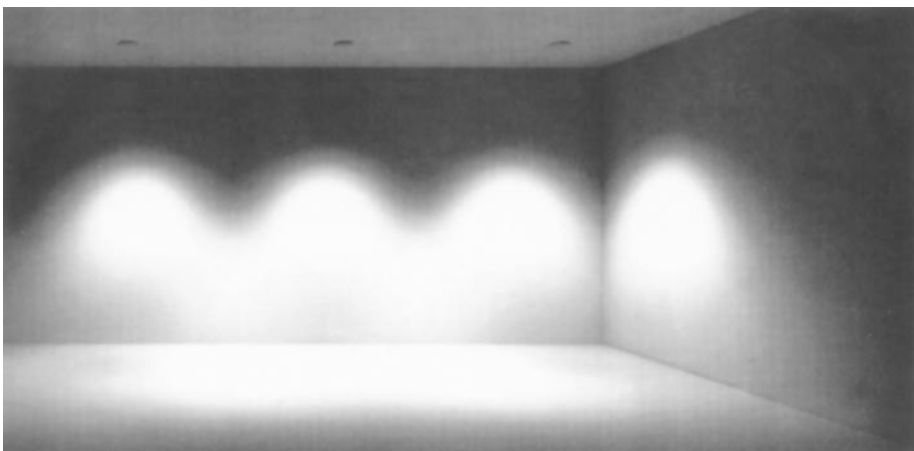lisation of lighting
data using a computer.

Plan of the room with
reflectedceiling plan
and calculation points.
Calculation results re-
presented by curves of
identical illuminance
on the working plane
(isolux curves).

Graphic representation
illustrating illuminance
distribution in the
space by means of an
isometric drawing with
illuminance relief
representation.
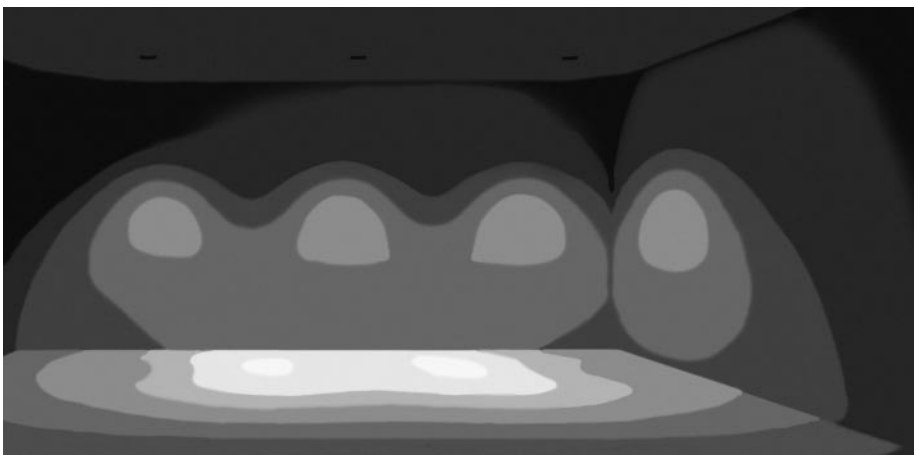
Graphic representation
of illuminance distri-
bution on the room
surfaces by means of
a perspective represen-
tation with isolux
curves illustrated in
shades of grey. Taking
reflectance factors into
account, similar re-
presentations can be
created to indicate
luminance distribution.

Simulation of lighting
effects in the space
based on the spatial
distribution of lumi-
nance. A photo-
realistic luminance
pattern is achieved
through the fine gra-
dation of the lumi-
nance values.
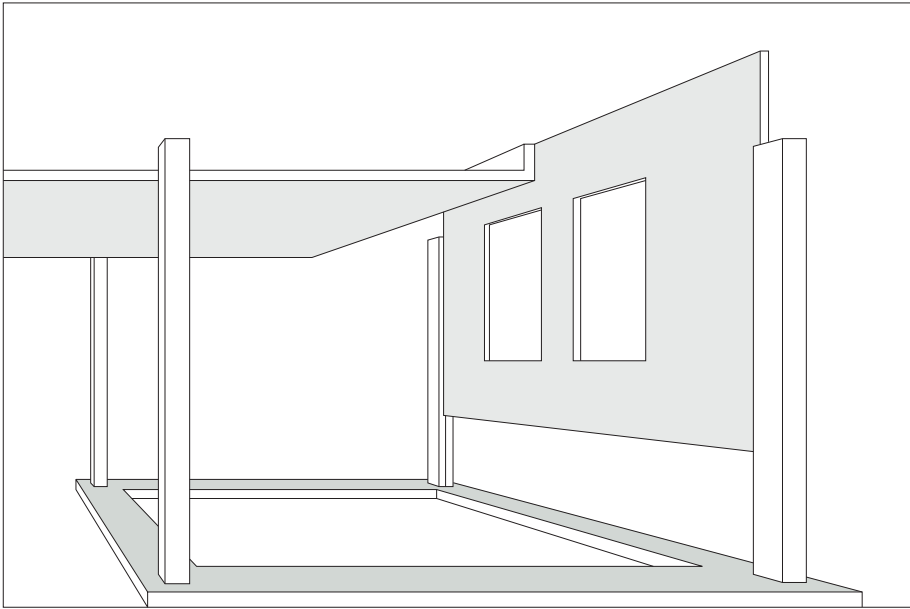
Principle of a modular
system for creating
simulation models with
variable room geome-
try (1:10, 1:20). With
the aid of support pil-
lars ceilings and walls
can be arranged as
required. Models of
this type are used for
daylight simulation
and for the simulation
of artificial lighting.
The base of the model
is open to allow light-
meters, endoscopes
and micro-video came-
ras to be inserted.
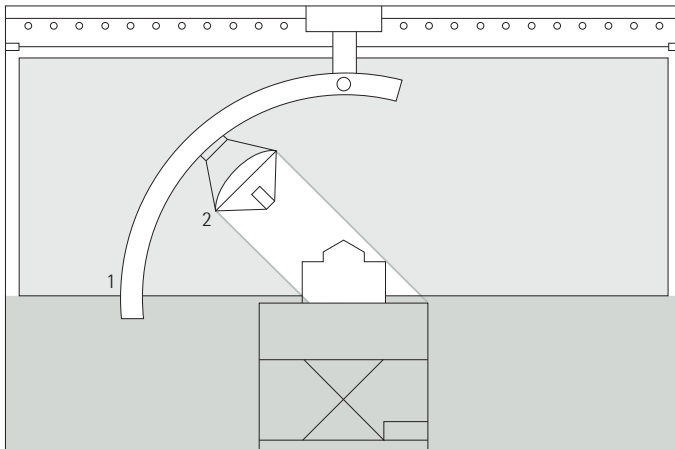
Daylight and sunlight
equipment in ERCO's
lighting laboratory,
simulation takes place
in a 5 x 5 x 3 m space
with a central adjust-
able table. A textile
ceiling illuminated
from behind by fluores-
cent lamps together
with a surrounding
mirrored wall serve to
simulate diffuse day-
light; the illumination
level can be conti-
nuously controlled.
Directed sunlight is
simulated by means of

an adjustable parabolic
halogen projector (2)
attached to a rotating
swivel arm (1), which is
computer-controlled
to take up the position
of the sun for any
location or time of day
or year, or follow the
continuous path of the
sun over the course of
one day at any given
location and time of
year.

Adjustable table (3) for
variable positioning of
models for sunlighting
tests. With the aid of
an integral coordinate
desk (1) luxmeter ele-
ments, endoscopes and
micro-video cameras
(2) can be computer-
controlled to take up
any position and direc-
tion.