

UNIVERSITY COLLEGE LONDON

University of London

EXAMINATION FOR INTERNAL STUDENTS

For The Following Qualification:-

M.Sc.

ESGL4: Advanced Integrated Lighting Design

COURSE CODE : ENVSGLO4

DATE : 19-MAY-04

TIME : 10.00

TIME ALLOWED : 3 Hours

UNIVERSITY OF LONDON

MSc DEGREE IN BUILT ENVIRONMENT 2004
for Internal Students of University College London

ESGL4: Advanced integrated lighting design

Answer **FOUR** questions.

All questions carry equal marks. Use annotated sketches.

1. One proposal arising from the Millenium celebrations has been to light many existing country churches. Describe the design approach you might take to lighting the church shown in Figure 1. You should aim to enhance the fabric of the building whilst retaining its essential architectural qualities. Use annotated sketches to indicate the lit appearance and the type and position of the lighting equipment.
2. Conservation recommendations have been developed to limit the damaging effect of light in museums and art galleries. What are the recommendations and what is their impact on contemporary lighting design?
3. The urban piazza should be welcoming at night and promote a sense of security. Prepare a sketch design proposal for suitable amenity lighting for the urban square shown in Figure 2. Above the shops are maisonettes. To one side is a restaurant on two levels, spilling tables across the square. You may retain the existing lighting columns or replace them. Use annotated sketches to describe the lit appearance of the space and the conventional or custom lighting equipment employed.
4. Prepare a sketch design proposal for a high-bay industrial luminaire to house elliptical high pressure sodium and metal halide lamps. The elements of the luminaire should be described in detail, including accessories, and an indication of the photometric performance given. Suggest possible application areas.

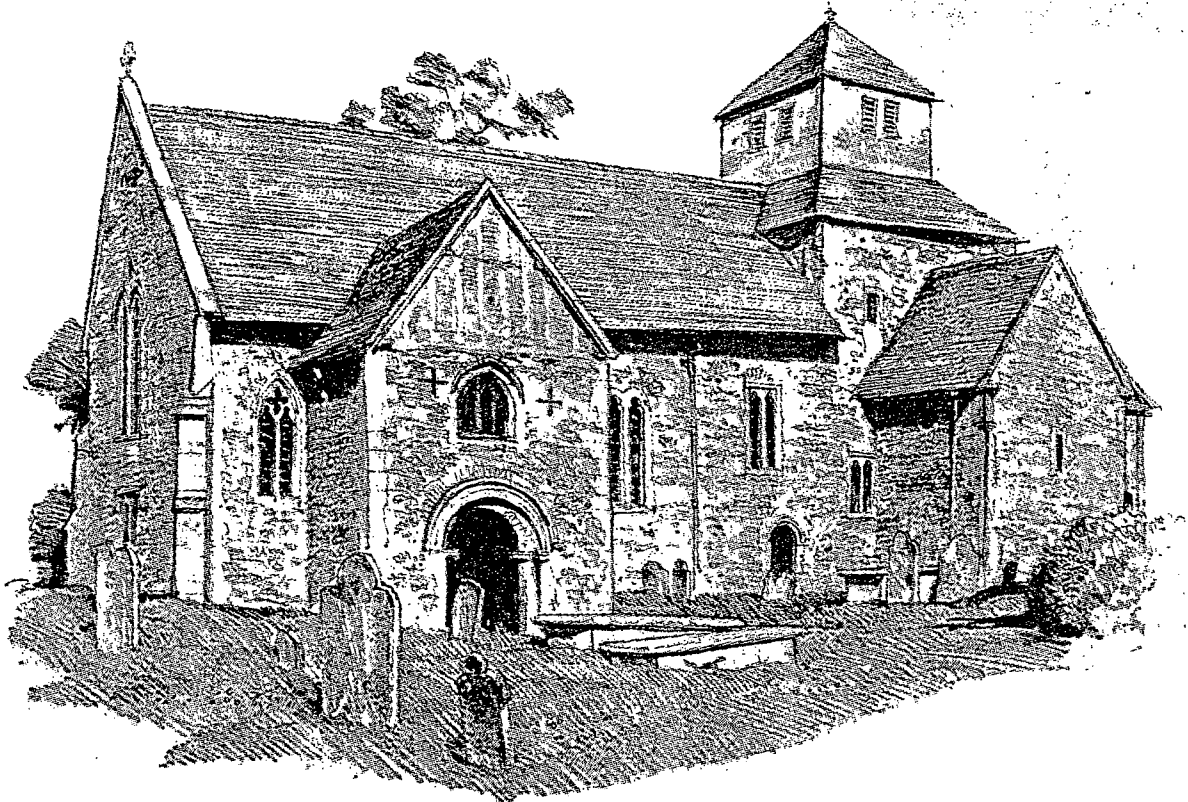
TURN OVER

ESGL4: Advanced integrated lighting design *continued*

5. Using representative buildings and design details, compare the control and manipulation of daylight in the Gothic and the Baroque church.
6. Describe the approach you might take in developing a strategic lighting plan for London in its relationship with the River Thames.
7. Decisions concerning the electric lighting installation are often made at a late stage in the design programme. Show how building floorplate, co-ordination grid, partition layout and mode of daylight provision effectively constrain the lighting options available in the commercial speculative development.
8. Many completing claims are made for the performance of lightshelves in buildings. Consider the design requirements for lightshelves to maximise daylight, minimise glare, improve thermal performance and minimize maintenance requirements.

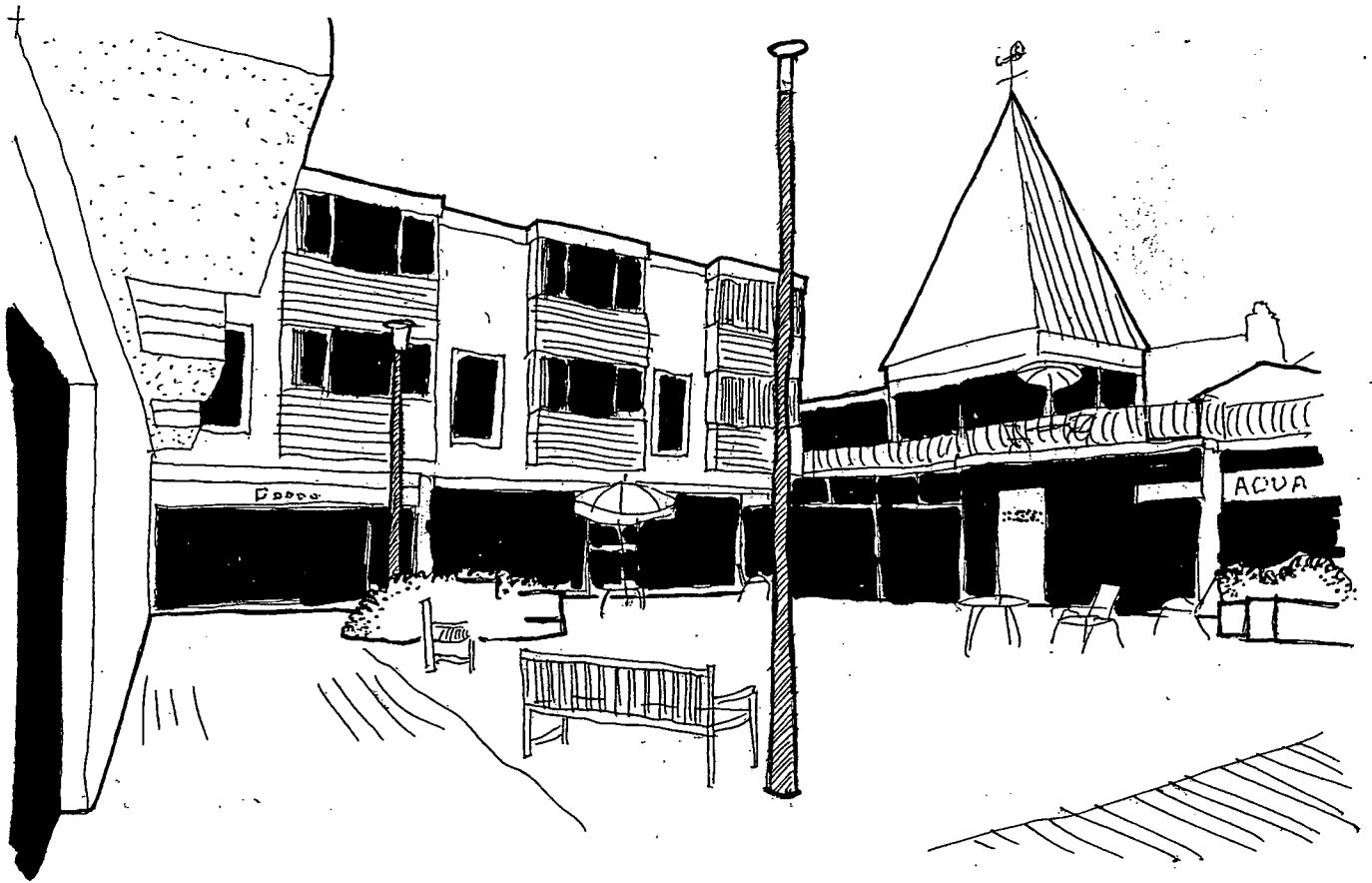
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ATTACHMENT OVERLEAF



TURN OVER

Figure 1 A Country Church



END OF ATTACHMENTS

Figure 2 An Urban Square