

UNIVERSITY COLLEGE LONDON

University of London

EXAMINATION FOR INTERNAL STUDENTS

For The Following Qualification:-

M.Sc.

ESGL1: Lighting Fundamentals

COURSE CODE : ENVSGLO1

DATE : 06-MAY-03

TIME : 14.30

TIME ALLOWED : 2 Hours

UNIVERSITY OF LONDON

MSc DEGREE IN BUILT ENVIRONMENT 2003
for Internal Students of University College London

ESGL1: Lighting fundamentals

Answer **TWO** questions.

All questions carry equal marks. Use annotated sketches.

1. Light sources are characterised by their chromaticity co-ordinates x , y . Describe how these are plotted on the Commission Internationale de L'Eclairage (CIE 1931) chromaticity diagram and refer to the use of the chart in defining Correlated Colour Temperature (CCT) and the General Colour Rendering Index (R_a).

2. With reference to the eye-brain pathway, explore what is understood about the way that humans respond to light.

3. Lighting has some associated specific terminology. Define the following terms and describe the context in which they are used:-
 1. brightness and colour contrast
 2. disability and discomfort glare
 3. illuminance uniformity
 4. $V(\lambda)$ correction
 5. light output ratio.

4. Which calculation tools can be used to predict lighting adequacy when dealing with point, line and area sources ? How are these tools developed in the case of a lighting installation consisting of a *regular array* of luminaires ?

END OF PAPER