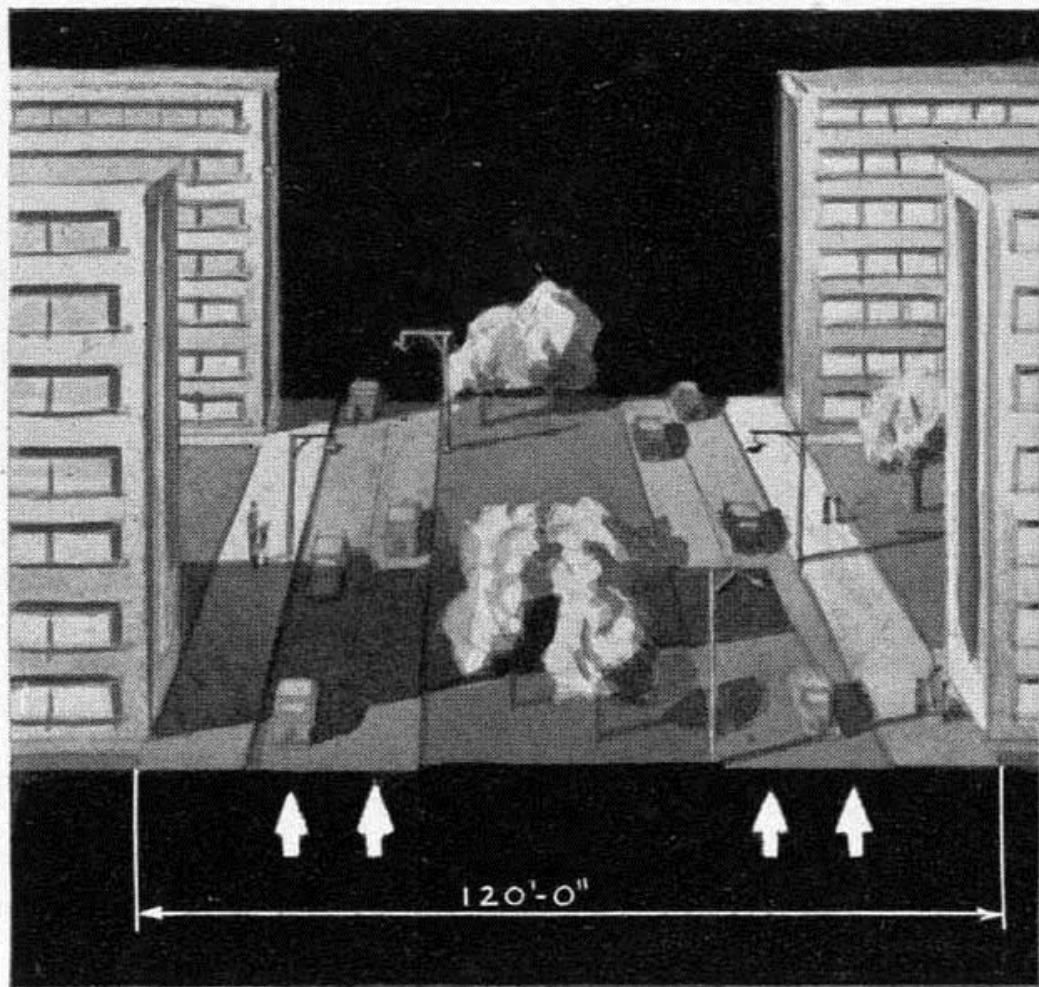


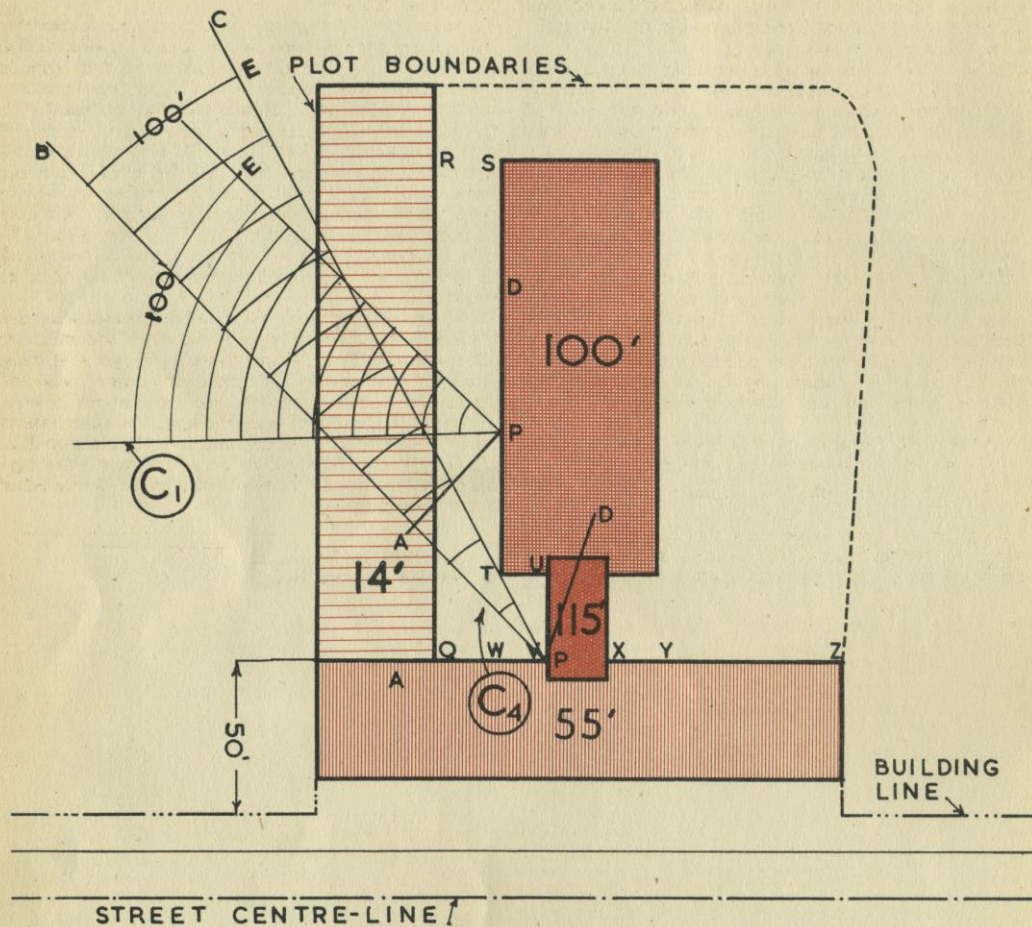
Daylighting Standards:

Some lessons from history

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CITY CIRCLE .



DAYLIGHT TESTS APPLIED TO BUILDINGS ON THE SAME PLOT

Aims

- Were non-statutory daylighting standards, based on the daylight factor, effective in promoting good daylighting in housing in England and Wales?

Methodology

- Archival search
- 11 semi-structured interviews with:
 - architects (6 retired, 1 practising)
 - lighting consultants (1 practising, 2 retired)
 - planning officer (1 retired)

	Year of publication				
	1949	1964	1982	1992	2008
Daylight tables					
Waldram diagrams	mentioned			mentioned	
BRS Protractors	mentioned				
BRS inter-reflection formula/nonograms					
Use of models					
Average daylight factor					

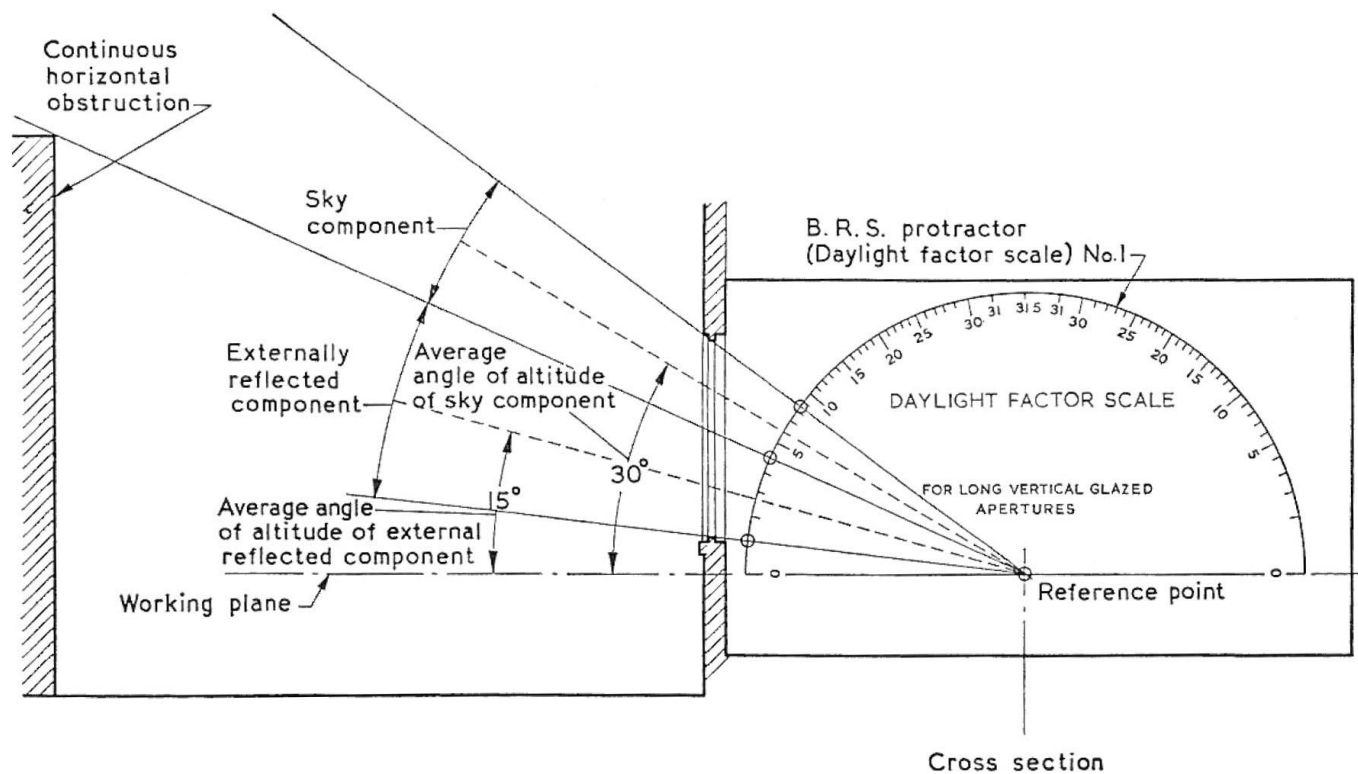
Daylighting prediction methods used in British Standards

	Croghan & Hawkes, 1969 % (Sample size: 82)	Aizlewood & Littlefair, 1994 % (Sample size: 33)
Daylight tables	18	0
Waldram diagrams	3.5	9
BRS Protractors	33	42
BRS inter-reflection formula/nonograms	1	0
Use of models	25.5	9
Average daylight factor	N/A	9
Experience or rule of thumb	73.5	9

Architects' use of daylighting prediction methods (%)

Daylight Factor in Use

- Daylight factor calculations were undertaken when architects were obliged to do so...
 - e.g. by local planning authorities and funding bodies (including Government ministries)
 - ...but there were no statutory requirements for dwellings in England and Wales
 - Scottish Building Regulations did specify daylight factors
- How were standards enforced?





Daylight Factor in Use

- It is possible to design a window without undertaking a calculation
 - “Nobody's going to count dots or mess about with protractors... Life's too short!”

Interviewee no.7

- Even architects with expertise in daylighting rarely calculated daylight factors at the design stage
 - “...in the practice I don't think we ever used a daylight factor protractor...”

Interviewee no.5

Conclusion

- Daylight factor useful in establishing objective standards
- Architects rarely undertook daylight factor calculations:
 - required time and skill
 - regarded as unnecessary
- Familiarity with daylight factors enhanced understanding of the science of daylighting