LG8 - The Museum & Gallery lighting guide

Beautiful objects in beautiful buildings deserve beautiful lighting
Lighting for the built environment

LG8: Lighting for museums and art galleries
LG8 - Content

2. Lighting principles
3. Lighting the interior or display area
4. Lighting the exhibits
5. Material degradation
6. Use and control of daylight
7. Selection and use of electric lighting
8. Showcase lighting
9. Lighting controls
10. Energy efficiency, maintenance and costs
2. Lighting principles

- Viewing conditions
- Visual adaptation
- Contrast ratios
- Colour appearance
- Colour rendering
- Glare
- Modelling/accents
3. Lighting the interior/display area

- Daylight in the space
- Electric light
- Combining daylight and electric
- Access and security; Emergency
- Historic interiors
- Temporary galleries
- Events & corporate entertaining
- The shop and café!
4. Lighting the exhibits

- Locating spotlights in relation to the exhibits
  - Wall mounted
  - Centrally displayed
  - Access for maintenance

- Backgrounds/contrasts

- Experimentation and mock-ups
5.1a Lighting from 30° to eye height on wall

5.1b Lighting from 40° to eye height on wall
5.5 Spacing of spotlights or tracks have to take into account ideal lighting angle onto wall exhibits and on 3D objects in the central part of the space.
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Low partition walls allow glare from lamps to be seen
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5. Material degradation

- Use of light
- Conservation categories
- Light, visibility, illumination & change
- Effects of light on material
- Factors affecting the destructive effects of light
- Reducing the damaging effects of light
## Conservation categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Illuminance (lux)</th>
<th>Exposure (lux--hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irresponsive</td>
<td>no limit*</td>
<td>no limit*</td>
</tr>
<tr>
<td>Low responsivity</td>
<td>200</td>
<td>600,000</td>
</tr>
<tr>
<td>Medium responsivity</td>
<td>50</td>
<td>150,000</td>
</tr>
<tr>
<td>High responsivity</td>
<td>50</td>
<td>15,000</td>
</tr>
</tbody>
</table>

*No conservation limit but there may be adaptation, visibility or heat effects if high light levels are used on irresponsive items.*
UV visible IR

Fluorescent

Warm white LED
6. Use and control of daylight

- Daylight and annual exposure
- Roof lights
- Windows in Gallery walls
- Supplementary electric light
- Daylight evaluation techniques
Selection/use of electric lighting

- Ratio general to exhibition lighting
- Choice of lamp
- Accessories
- Framing projectors
- Track; Alternatives to track
- Wall lighting
- Concealed and indirect
- Fibre optic; Picture lights
7.2 Choice of lamp

- Metal-halide
- Fluorescent
- LED
The LED revolution

National Gallery

National Portrait Gallery
American Museum cases
Merchant Adventurers, York
8. Showcase lighting

- Externally lit cases
  - Single sided
  - Multi-sided
  - Sloping top
  - Flat case
  - Draws

- Internally lit cases
Internal booms
Mirror lids
Just uplit
Just downlight
Mixed media, 50-150 Lux
9. Lighting controls

- General strategy
- Simple controls
- Automatic controls
- Combined control of daylight and electric lighting
- Positioning light cells
- Whole building control
- Linking with audio-visual controls
10. Energy efficiency, maintenance and costs

- Museums and galleries must comply with part L of the Building Regulations!
- You can place lights above 3m!
Out of hours lighting
A1 Recommendations for lighting object categories

- 10 pages of detailed recommendations
  - Your medals are fine but what about the ribbons?
  - The heating effect of the light can be more of a problem for some objects
LG8

The right light
in the right place
aimed in the right way
Other new guides

Out now

- LG10 Daylight 2015
- LG12 Emergency Lighting
- LG7 Offices 2016
- LG6 Outdoor Environment
- LG14 Retail
Presenter

Paul Ruffles of
Lighting Design & Technology (LD&T)

Web: www.ldandt.co.uk
E-mail: paul@ldandt.co.uk
Tel: 01225 310022

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