

Street lighting policy -

Appendix 1 - Proposed levels of service and light technical parameters for lighting of roads, pathways and public activity

- Main roads in city centres
- Main arterial roads
- Minor arterial roads
- Collector/intermediate roads
- Pathways in high risk, high brightness areas
- Pathways in low risk, high brightness areas
- Local/residential roads with high traffic
- Local/residential roads with low traffic
- Public activity areas in high risk, high brightness areas
- Public activity areas in high risk, low brightness areas
- Public activity areas in low risk areas
- Notes

Main roads in city centres

| Operating characteristics | Lighting category | Average maintained luminance L | Overall luminance uniformity U _o | Longitudinal luminance uniformity U _l | Average maintained horizontal luminance E _h (ave) | Minimum maintained horizontal illuminance E _h (min) | Horizontal illuminance uniformity U _p |
|--|-------------------|--------------------------------|---|--|--|--|--|
| High/very high vehicle and pedestrian traffic Moderate/low vehicle speeds | V1/V2 | 1.5/1 | 0.33 | 0.3 | N/A | N/A | N/A |

Main arterial roads

| Operating characteristics | Lighting category | Average maintained luminance L | Overall luminance uniformity U _o | Longitudinal luminance uniformity U _l | Average maintained horizontal luminance E _h (ave) | Minimum maintained horizontal illuminance E _h (min) | Horizontal illuminance uniformity U _p |
|---|-------------------|--------------------------------|---|--|--|--|--|
| Moderate/high vehicle speed/traffic High pedestrian volume | V2/V3 | 1/0.75 | 0.33 | 0.3 | N/A | N/A | N/A |

Minor arterial roads

| Operating characteristics | Lighting category | Average maintained luminance L | Overall luminance uniformity U _o | Longitudinal luminance uniformity U _l | Average maintained horizontal luminance E _h (ave) | Minimum maintained horizontal illuminance E _h (min) | Horizontal illuminance uniformity U _p |
|---|-------------------|--------------------------------|---|--|--|--|--|
| Moderate vehicle speed/traffic High/moderate pedestrian volume | V3/V4 | 0.75/0.5 | 0.33 | 0.3 | N/A | N/A | N/A |

Collector/intermediate roads

| Operating characteristics | Lighting category | Average maintained luminance L | Overall luminance uniformity U _o | Longitudinal luminance uniformity U _l | Average maintained horizontal luminance E _h (ave) | Minimum maintained horizontal illuminance E _h (min) | Horizontal illuminance uniformity U _p |
|---|--------------------|--------------------------------|---|--|--|--|--|
| Low/moderate vehicle speed/traffic Low pedestrian volume | V4 (See Note 6) | 0.5 | 0.33 | 0.3 | N/A | N/A | N/A |

Pathways in high risk, high brightness areas

| Operating characteristics | Lighting category | Average maintained luminance L | Overall luminance uniformity U _o | Longitudinal luminance uniformity U _l | Average maintained horizontal luminance E _h (ave) | Minimum maintained horizontal illuminance E _h (min) | Horizontal illuminance uniformity U _p |
|-------------------------------|-------------------|--------------------------------|---|--|--|--|--|
| Pedestrian/cycle traffic only | P1 | N/A | N/A | N/A | 10 (See Note 5) | 2.5 | 6 |

Pathways in low risk, high brightness areas

| Operating characteristics | Lighting category | Average maintained luminance L | Overall luminance uniformity U _o | Longitudinal luminance uniformity U _l | Average maintained horizontal luminance E _h (ave) | Minimum maintained horizontal illuminance E _h (min) | Horizontal illuminance uniformity U _p |
|-------------------------------|-------------------|--------------------------------|---|--|--|--|--|
| Pedestrian/cycle traffic only | P2 | N/A | N/A | N/A | 5 (See Note 5) | 1 | 6 |

Local/residential roads with high traffic

| Operating characteristics | Lighting category | Average maintained luminance L | Overall luminance uniformity U _o | Longitudinal luminance uniformity U _l | Average maintained horizontal luminance E _h (ave) | Minimum maintained horizontal illuminance E _h (min) | Horizontal illuminance uniformity U _p |
|-------------------------------|-------------------|--------------------------------|---|--|--|--|--|
| Pedestrian/cycle traffic only | P3 | N/A | N/A | N/A | 3 (See Note 3) | 0.6 (See Note 3) | 6 |

Local/residential roads with low traffic

| Operating characteristics | Lighting category | Average maintained luminance L | Overall luminance uniformity U _o | Longitudinal luminance uniformity U _l | Average maintained horizontal luminance E _h (ave) | Minimum maintained horizontal illuminance E _h (min) | Horizontal illuminance uniformity U _p |
|-------------------------------|-------------------|--------------------------------|---|--|--|--|--|
| Pedestrian/cycle traffic only | P4 | N/A | N/A | N/A | 1.5 (See Note 3) | 0.2 (See Note 3) | 6 |

Public activity areas in high risk, high brightness areas

| Operating characteristics | Lighting category | Average maintained luminance L | Overall luminance uniformity U _o | Longitudinal luminance uniformity U _l | Average maintained horizontal luminance E _h (ave) | Minimum maintained horizontal illuminance E _h (min) | Horizontal illuminance uniformity U _p |
|------------------------------------|-------------------|--------------------------------|---|--|--|--|--|
| Generally pedestrian movement only | P6 | N/A | N/A | N/A | 21 | 7 | 6 |

Public activity areas in high risk, low brightness areas

| Operating characteristics | Lighting category | Average maintained luminance L | Overall luminance uniformity U _o | Longitudinal luminance uniformity U _l | Average maintained horizontal luminance E _h (ave) | Minimum maintained horizontal illuminance E _h (min) | Horizontal illuminance uniformity U _p |
|------------------------------------|-------------------|--------------------------------|---|--|--|--|--|
| Generally pedestrian movement only | P7 | N/A | N/A | N/A | 14 | 4 | 6 |

Public activity areas in low risk areas

| Operating characteristics | Lighting category | Average maintained luminance L | Overall luminance uniformity U _o | Longitudinal luminance uniformity U _l | Average maintained horizontal luminance E _h (ave) | Minimum maintained horizontal illuminance E _h (min) | Horizontal illuminance uniformity U _p |
|------------------------------------|-------------------|--------------------------------|---|--|--|--|--|
| Generally pedestrian movement only | P7 | N/A | N/A | N/A | 14 | 4 | 6 |

Notes

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|----------------------|---|
| U_o | Minimum/average luminance. |
| U_I | Minimum/maximum luminance. |
| U_p | Maximum/average illuminance. |
| (3) | Recommended objective values - based on values recommended in CIE Publication 115: Road lighting. For luminaires mounted on existing power poles the following reduced values may be applied: For category P3 - Eh (ave) = 2; Eh (min) = 0.2; U _p = 10. For category P4 - Eh (ave) = 1.25; Eh (min) = 0.1; U _p = 10. |
| (5) | Recommended objective values - based on values recommended in CIBSE Lighting guide LG6: 1992: The outdoor environment. |
| (6) | Collector/intermediate roads are essentially residential roads, and when they have a very low average daily traffic (ADT) they will be classified as P3 lighting category. |