4.4 Emergency

Illuminance limits (CEN 1838:1999 and CIE S 020/E:2007)

Description of space	Illuminance limits (lux)	Diversity limits (Imin / Imax)
Escape route	Along centre line ≥ 1.0lx In central band ≥ 0.5lx	0.025 (1:40)
Open area	Across area ≥ 0.5lx	0.025 (1:40)
High risk task area	≥ 10% maintained level but not less than15.0lx	0.1 (1:10)

Disability glare limits (CEN 1838:1999 and CIE S 020/E:2007)

Mounting height above floor level H in m	Escape route and open area (anti panic) lighting maximum luminous intensity I_{max} in cd	High risk task area lighting maximum luminous intensity I_{max} in cd
H < 2.5	500	1000
2.5 ≤ H < 3.0	900	1800
3.0 ≤ H < 3.5	1600	3200
3.5 ≤ H < 4.0	2500	5000
4.0 ≤ H < 4.5	3500	7000
4.5 ≤ H	5000	10000

For escape routes and open areas response times and durations are;

CEN 1838:1999

50% of the required illuminance within 5s, and 100% within 60s with a minimum duration of 1 hour

CIE S 020/E:2007

50% of the required illuminance within 20s, and 100% within 60s (if the visual task or risk to people requires a shorter response time then it should be shortened to 50% of the required illuminance within 5s) with a minimum duration of 1 hour (if the visual task or risk to people requires a longer duration then it should be extended to 3 hours)

For high risk task areas response times and durations are;

CEN 1838:1999

Either 100% required illuminance permanently or within 0.5s, depending upon the application with a minimum duration covering the time the risk exists

CIE S 020/E:2007

Either 100% required illuminance permanently or within 0.5s, depending upon the application with a minimum duration of 1 hour

Note that these values may differ across countries. For example;

UK (CEN 1838:1999)

Escape route	along centre line ≥ 0.2lx in central band ≥ 0.1lx

Escape route and open area duration may be extended from 5s to 15s in premises for the most part likely to be occupied by persons who are familiar with them

France (CEN 1838:1999)

Certified luminaires only may be used

On escape routes maximum spacing of luminaires is 15m

For open areas 5lm/m² (luminaire lumens) is required and luminaires may not be spaced more than 4 times their mounting height apart, with a minimum of 2 luminaires per room

Therefore, whilst these values may be used for guidance local regulations should be consulted.

4.5 Roads

For road lighting the lighting criteria are selected dependant upon the class of road being lit. The class has a range of sub-classes, from the strictest to the most relaxed, and these are chosen dependant upon factors, such as typical speed of users, typical volumes of traffic flow, difficulty of the navigational task, etc. The basic lighting classes are defined as:

ME This class is intended for users of motorised vehicles on traffic routes. In some countries this class also applies to residential roads. Traffic speeds are medium to high. The ME classes go from ME1 to ME6, with ME1 defining the strictest requirements. For wet road conditions the MEW classes go from MEW1 to MEW6.

KEY
Emin - minimum illuminance
Em - maintained average illuminance
Lm - maintained average luminance
Uo - overall uniformity
Ul - longitudinal uniformity
TI - threshold increment
SR - surround ratio

	Luminance			SR	TI
	L_m	U_o	U_l		
ME1	≥ 2.0 cd/m²	≥ 0.40	≥ 0.70	≥ 0.50	≤ 10%
ME2	≥ 1.5 cd/m²	≥ 0.40	≥ 0.70	≥ 0.50	≤ 10%
ME3A	≥ 1.0 cd/m²	≥ 0.40	≥ 0.70	≥ 0.50	≤ 15%
ME3B	≥ 1.0 cd/m²	≥ 0.40	≥ 0.60	≥ 0.50	≤ 15%
ME3C	≥ 1.0 cd/m²	≥ 0.40	≥ 0.50	≥ 0.50	≤ 15%
ME4A	≥ 0.75 cd/m²	≥ 0.40	≥ 0.60	≥ 0.60	≤ 15%
ME4B	≥ 0.75 cd/m²	≥ 0.40	≥ 0.50	≥ 0.50	≤ 15%
ME5	≥ 0.50 cd/m²	≥ 0.35	≥ 0.40	≥ 0.50	≤ 15%
ME6	≥ 0.3 cd/m²	≥ 0.35	≥ 0.40	≥ 0.50	≤ 15%
MEW1D	≥ 2.0 cd/m²	≥ 0.40	≥ 0.60	≥ 0.50	≤ 10%
MEW1W	-	≥ 0.15	-	≥ 0.50	-
MEW2D	≥ 1.5 cd/m²	≥ 0.40	≥ 0.60	≥ 0.50	≤ 10%
MEW2W	-	≥ 0.15	-	≥ 0.50	-
MEW3D	≥ 1.0 cd/m²	≥ 0.40	≥ 0.60	≥ 0.50	≤ 15%
MEW3W	-	≥ 0.15	-	≥ 0.50	-
MEW4D	≥ 0.75 cd/m²	≥ 0.40	-	≥ 0.50	≤ 15%
MEW4W	-	≥ 0.15	-	≥ 0.50	-
MEW5D	≥ 0.5 cd/m²	≥ 0.35	-	≥ 0.50	≤ 15%
MEW5W	-	≥ 0.15	-	≥ 0.50	-