

ERP1004 – Appendix A

Parameter	Functional requirement	Measured value
Lighting technology used [HL/LFL T5 HE/LFL T5 HO/CFLni/other FL/HPS/MH/other HID/LED/OLED/ mixed/other]		LED
Non-directional or directional [NDLS/DLS]	'Directional light source' (DLS) means a light source having at least 80 % of total luminous flux within a solid angle of π sr (corresponding to a cone with angle of 120°)	NDLS
Mains or non-mains [MLS/NMLS]	Main Light Source = MLS Non-Mains Light Source = NMLS	NMLS
Connected light source (CLS) [yes/no]	Connected via network	No
Colour-tuneable light source [yes/no]	Colour can change	No
Envelope [no/second/non-clear]	Contains removeable light source	No
High luminance light source [yes/no]	Average luminance greater than 30 cd/mm ² in the direction of peak intensity	Yes 58 cd/mm ²
Anti-glare shield [yes/no]	Contains anti-glare shielding	No
Dimmable [yes/only with specific dimmers/no]	Dimmable with all or specific dimmers	Yes
Energy consumption in on-mode (kWh/1000 h)	kWh used per 1000 hours	29.5
Energy efficiency class [A/B/C/D/E/F/G] $\eta_{TM} = (\Phi_{use}/P_{on}) \times FTM$ (lm/W)	A: $210 \leq \eta_{TM}$	-
	B: $185 \leq \eta_{TM} < 210$	-
	C: $160 \leq \eta_{TM} < 185$	-
	D: $135 \leq \eta_{TM} < 160$	138.7
	E: $110 \leq \eta_{TM} < 135$	-
	F: $85 \leq \eta_{TM} < 110$	-
	G: $\eta_{TM} < 85$	-
Useful luminous flux (Φ_{use}) Indicating if it refers to the flux in a sphere (360°), in a wide cone (120°) or in a narrow cone (90°)	Flux in a sphere (360°)	4086
	Flux in a wide cone (120°)	-
	Flux in a narrow cone (90°)	-

ERP1004 – Appendix A

On-mode power (P _{on}) (W)		29.46
Standby power (P _{sb}), (W)	Rounded to the second decimal	-
Networked standby power (P _{net}) for CLS (W)	Rounded to the second decimal	-
Beam angle (average) (°)	Average beam angle of all measured planes	116.6
Beam angle (maximum) (°)	Maximum beam angle of all measured planes	117.7
Correlated colour temperature, rounded to the nearest 100 K, or the range of correlated colour temperatures, rounded to the nearest 100 K, that can be set	CCT =	6000
Colour rendering index, rounded to the nearest integer, or the range of CRI-values that can be set	CRI =	83.6
R9 colour rendering index value		17.08
Spectral power distribution in the range 250 nm to 800 nm, at full-load	<p style="text-align: center;">Polar Diagram</p> <p style="text-align: center;">Spectral flux curve</p>	
Chromaticity coordinates (x and y)	x =	0.3227
	y =	0.3317
Colour consistency for LED and OLED light sources. Variation of chromaticity	MacAdam Steps, SDCM =	3

ERP1004 – Appendix A

coordinates within a six-step MacAdam ellipse or less.		
Parameter for directional light sources	Peak luminous intensity (cd)	-
	Beam angle in degrees, or the range of beam angles that can be set (°)	-
Displacement factor (DF, $\cos \phi_1$) At power input P_{on} for LED and OLED MLS	No limit at $P_{on} \leq 5\text{ W}$	-
	$DF \geq 0.5$ at $5\text{ W} < P_{on} \leq 10\text{ W}$	-
	$DF \geq 0.7$ at $10\text{ W} < P_{on} \leq 25\text{ W}$	-
	$DF \geq 0.9$ at $25\text{ W} < P_{on}$	-
Lumen maintenance factor (for LED and OLED)	Lumen maintenance factor $X_{LMF\%}$ after endurance	5.82
Survival factor (for LED and OLED)	At least 9 out of 10 light sources shall be operation after endurance	10 of 10
Claims that an LED light source replaces a fluorescent light source without integrated ballast of a particular wattage.		-
Flicker for LED and OLED MLS	PstLM value =	-
	Ecodesign requirement:	-
	$Pst\ LM \leq 1.0$ at full-load	-
Stroboscopic effect for LED and OLED MLS	SVM value =	-
	Ecodesign requirement: $SVM \leq 0.4$ at full-load (except Stroboscopic effect for LED and OLED MLS for HID with $\Phi_{use} > 4\text{ klm}$ and for light sources intended for use in outdoor applications, industrial applications or other applications where lighting standards allow a $CRI < 80$)	-
Luminous flux depreciation over test time	<p>The graph plots 'Luminous flux as % of initial luminous flux' on the y-axis (0 to 110) against 'Life (hours)' on the x-axis (-400 to 3600). A solid red line with diamond markers, labeled 'Lumen Maintenance', starts at 100% at 0 hours and remains constant at 100% through 3600 hours. A dashed black line, labeled 'Lower Limit (L70)', is constant at 70% across the entire time range.</p>	