

IEC62471A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62471 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Photobiological safety of lamps and lamps systems			
Differences according to.....: EN 62471:2008			
Attachment Form No.....: EU_GD_IEC62471A			
Attachment Originator IMQ S.p.A.			
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	GENELEC COMMON MODIFICATIONS (EN)		P
4	EXPOSURE LIMITS		P
	Contents of the whole Clause 4 of IEC 62471:2006 moved into a new informative Annex ZB		—
	Clause 4 replaced by the following:		P
	Limits of the Artificial Optical Radiation Directive (2006/25/EC) have been applied instead of those fixed in IEC 62471:2006	See appended Table 6.1	P
4.1	General		P
	First paragraph deleted		—

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Table 6.1	Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC)								P
Risk	Action spectrum	Symbol	Units	Emission Measurement CXA1830-0000-000N00U465F, $\alpha=75$ mrad					
				Exempt		Low risk		Mod risk	
				Limit	Result	Limit	Result	Limit	Result
Actinic UV	$S_{UV}(\lambda)$	E_s	$W \cdot m^{-2}$	0,001	0,0000	-	-	-	-
Near UV		E_{UVA}	$W \cdot m^{-2}$	0,33	0,0000	-	-	-	-
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	6197,37 (161,4 s)	10000	25998,11 (38,5 s)	4000000	67558,60 (14,8 s)
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	0,01*	--	1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	$28000/\alpha$	297976,75	$28000/\alpha$		$71000/\alpha$	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	545000	--				
				$0,0017 \leq \alpha \leq 0,011$					
				$6000/\alpha$	--				
				$0,011 \leq \alpha \leq 0,1$					
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,38	570		3200	

* Small source defined as one with $\alpha < 0,011$ radian. Averaging field of view at 10000 s is 0,1 radian.

** Involves evaluation of non-GLS source

NOTE The action functions: see Table 4.1 and Table 4.2

The applicable aperture diameters: see 4.2.1

The limitations for the angular subtenses: see 4.2.2

The related measurement condition 5.2.3 and the range of acceptance angles: see Table 5.5.

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Table 6.1	Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC)								P
Risk	Action spectrum	Symbol	Units	Emission Measurement CXA1830-0000-000N00U450H, $\alpha=75$ mrad					
				Exempt		Low risk		Mod risk	
				Limit	Result	Limit	Result	Limit	Result
Actinic UV	$S_{UV}(\lambda)$	E_s	$W \cdot m^{-2}$	0,001	0,0000	-	-	-	-
Near UV		E_{UVA}	$W \cdot m^{-2}$	0,33	0,0000	-	-	-	-
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	4401,21 (227,2 s)	10000	19941,02 (50,1 s)	4000000	40507,13 (24,7 s)
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	0,01*	--	1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	$28000/\alpha$	240490,23	$28000/\alpha$		$71000/\alpha$	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	545000	--				
				$0,0017 \leq \alpha \leq 0,011$					
				$6000/\alpha$	--				
				$0,011 \leq \alpha \leq 0,1$					
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,41	570		3200	

* Small source defined as one with $\alpha < 0,011$ radian. Averaging field of view at 10000 s is 0,1 radian.

** Involves evaluation of non-GLS source

NOTE The action functions: see Table 4.1 and Table 4.2

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Table 6.1	Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC)								P
Risk	Action spectrum	Symbol	Units	Emission Measurement CXA1830-0000-000N00T430H, $\alpha=75$ mrad					
				Exempt		Low risk		Mod risk	
				Limit	Result	Limit	Result	Limit	Result
Actinic UV	$S_{UV}(\lambda)$	E_s	$W \cdot m^{-2}$	0,001	0,0000	-	-	-	-
Near UV		E_{UVA}	$W \cdot m^{-2}$	0,33	0,0000	-	-	-	-
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	1813,48 (551,4 s)	10000	7516,14 (133,0 s)	4000000	
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	0,01*	--	1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	$28000/\alpha$	116363,03	$28000/\alpha$		$71000/\alpha$	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	545000	--				
				$0,0017 \leq \alpha \leq 0,011$					
				$6000/\alpha$	--				
				$0,011 \leq \alpha \leq 0,1$					
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,47	570		3200	

* Small source defined as one with $\alpha < 0,011$ radian. Averaging field of view at 10000 s is 0,1 radian.

** Involves evaluation of non-GLS source

NOTE The action functions: see Table 4.1 and Table 4.2

The applicable aperture diameters: see 4.2.1

The limitations for the angular subtenses: see 4.2.2

The related measurement condition 5.2.3 and the range of acceptance angles: see Table 5.5.