

TEST REPORT

REPORT NO.: CTNT2607270140101



Product name: Red Light Therapy Panel

Model No.: BioPhoton Max Bi-Tone

Applicant: Vivo Red Light Therapy B.V.

Test procedure: Entrustment Test

Shenzhen Zhongwei Testing Technology Co., Ltd.



TEST REPORT**EN 62471:2008****Photobiological safety of lamps and lamp systems****Report Number**.....: CTNT2607270140101**Date of issue**.....: Aug. 20, 2026**Name of Testing Laboratory****preparing the Report**.....:

Shenzhen Zhongwei Testing Technology Co., Ltd.
 Room 1A106 & 2C230, No.109, Lijia Road, Henggang, Henggang
 Subdistrict, Longgang District, Shenzhen, Guangdong, China
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Applicant's name.....: Vivo Red Light Therapy B.V.**Address**.....: Constructieweg 90-K, 3641 SP, Mijdrecht, The Netherlands**Manufacturer's name**.....: Vivo Red Light Therapy B.V.**Address**.....: Constructieweg 90-K, 3641 SP, Mijdrecht, The Netherlands**Test specification:****Standard**.....: EN 62471:2008**Test procedure**.....: Entrustment Test**Non-standard test method**.....: N/A**Test Report Form No**.....: EN 62471C**Test Report Form(s) Originator**.....: VDE Testing and Certification Institute**Master TRF**.....: Dated 2018-08-16**General disclaimer:**

The test results presented in this report relate only to the object tested.

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The authenticity of this Test Report and its contents can be verified by contacting the CTNT, responsible for this Test Report.

Test item description.....: Red Light Therapy Panel**Trade Mark**.....: Vivo Red Light Therapy**Model/Type reference**.....: BioPhoton Max Bi-Tone, BioPhoton 3.0, BioPhoton+, BioPhoton Go

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Test item particulars.....:		
Tested lamp.....: ☒ continuous wave lamps ☐ pulsed lamps		
Tested lamp system.....: N/A		
Lamp classification group.....: ☒ exempt ☐ risk 1 ☐ risk 2		
Lamp cap.....: N/A		
Bulb.....: N/A		
Ratings.....: Powered by a power adapter, the adapter parameters are as follows: Model: GST160A24 Input: 100-240V~ 50/60Hz 2.0A Output: 24V $\overline{\sim}$ 6.67A 160W MAX		
Furthermore, marking on the lamp.....: N/A		
Seasoning of lamps according IEC standard.....: N/A		
Used measurement instrument.....: Photobiological safety test system		
Temperature by measurement.....: 24.5°C		
Information for safety use.....: N/A		
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
Laboratory Name	Shenzhen Zhongwei Testing Technology Co., Ltd.	
Testing location/ address.....:	Room 114, 2/F., Building C, No.108, Lijia Road, Henggang Street, Longgang District, Shenzhen, Guangdong, China	
Prepared by(Reporting Engineer)	Brandon Li	<i>Brandon Li</i>
Reviewed by(Supervisor).....:	Oliver Long	<i>Oliver Long</i>
Approved by(Chief Engineer).....:	Flight Lee	<i>Flight Lee</i>
List of Attachments (including a total number of pages in each attachment): - Photo document - Test data graph		
Summary of testing:		
Tests performed (name of test and test clause): Determination of the result includes consideration of measurement uncertainty from the test equipment and methods. According to the test of EN 62471:2008 Photobiological safety of lamps and lamp systems. The unit classification is the Exempt Group.	Testing location: Shenzhen Zhongwei Testing Technology Co., Ltd. Room 114, 2/F., Building C, No.108, Lijia Road, Henggang Street, Longgang District, Shenzhen, Guangdong, China Tel: 086-755-28680489 E-mail: admin@cnt-cert.com Web: www.cnt-cert.com	

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Possible test case verdicts:

- test case does not apply to the test object.....: N/A
- test object does meet the requirement.....: P (Pass)
- test object does not meet the requirement.....: F (Fail)

Testing.....:**Date of receipt of test item.....:** Jul. 27, 2026**Date (s) of performance of tests.....:** Aug. 11, 2026**General remarks:**

"(See Enclosure #)" refers to additional information appended to the report.

"(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Other important notes:

1. If you have any objection to the inspection results in this report, please submit a written report to the company within 15 days from the date of receipt of the report.
2. Entrusting test only responsible for the incoming samples, and the test results are used by the entrusting party to understand the quality of the samples.
3. This test report is invalid without the "test stamp".
4. This report may not be reproduced in part without permission to avoid ambiguous interpretation.
5. Test items with "*" are non CNAS authorization items.
6. The remaining samples under test must be collected within three months of receipt of the inspection report. If the samples are not collected within the time limit, the laboratory will handle them by selves.

Company name: Shenzhen Zhongwei Testing Technology Co., Ltd.

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General product information:

1. The product has three working modes, and all three modes are considered in this test. In this test, the standard prescribed acceptance angle test method was used to measure the irradiance and radiance of the target under the most severe conditions, and classification was carried out based on the corresponding hazard assessment results.
2. The BioPhoton Max Bi-Tone, apart from differences in appearance, model designation, LED quantity, and dimensions, shares identical LED specifications, LED chip distribution density, optical structure, and key components with the other models in the series (BioPhoton 3.0, BioPhoton+, and BioPhoton Go). As the model with the highest LED count and the greatest total radiant power within the series, the BioPhoton Max Bi-Tone represents the worst-case condition for photobiological safety. The aforementioned differences do not alter the product's safety protection mechanism; therefore, the test results obtained for this model are applicable to and cover all other models within the series.

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Clause	Requirement + Test	Result - Remark	Verdict
4	EXPOSURE LIMITS		P
4.1	General		P
	The exposure limits in this standard is not less than 0,01 ms and not more than any 8-hour period and should be used as guides in the control of exposure		P
	Detailed spectral data of a light source are generally required only if the luminance of the source exceeds $10^4 \text{ cd}\cdot\text{m}^{-2}$		P
	Limits of The Artificial Optical Radiation Directive (2006/25/EC) have been applied instead of those fixed in IEC 62471:2006	See Test Data	P
4.3	Hazard exposure limits		P
4.3.1	Actinic UV hazard exposure limit for the skin and eye		N/A
	The exposure limit for effective radiant exposure is $30 \text{ J}\cdot\text{m}^{-2}$ within any 8-hour period		N/A
	To protect against injury of the eye or skin from ultraviolet radiation exposure produced by a broadband source, the effective integrated spectral irradiance, E_s , of the light source shall not exceed the levels defined by:		N/A
	$E_s \cdot t = \sum_{200}^{400} \sum_t E_\lambda(\lambda, t) \cdot S_{UV}(\lambda) \cdot \Delta t \cdot \Delta \lambda \leq 30 \quad \text{J}\cdot\text{m}^{-2}$		N/A
	The permissible time for exposure to ultraviolet radiation incident upon the unprotected eye or skin shall be computed by:		N/A
	$t_{\max} = \frac{30}{E_s} \quad \text{s}$		N/A
4.3.2	Near-UV hazard exposure limit for eye		N/A
	For the spectral region 315 nm to 400 nm (UV-A) the total radiant exposure to the eye shall not exceed $10000 \text{ J}\cdot\text{m}^{-2}$ for exposure times less than 1000 s. For exposure times greater than 1000 s (approximately 16 minutes) the UV-A irradiance for the unprotected eye, E_{UVA} , shall not exceed $10 \text{ W}\cdot\text{m}^{-2}$.		N/A
	The permissible time for exposure to ultraviolet radiation incident upon the unprotected eye for time less than 1000 s, shall be computed by:		N/A
	$t_{\max} \leq \frac{10000}{E_{UVA}} \quad \text{s}$		N/A
4.3.3	Retinal blue light hazard exposure limit		P
	To protect against retinal photochemical injury from chronic blue-light exposure, the integrated spectral radiance of the light source weighted against the blue-light hazard function, $B(\lambda)$, i.e., the blue-light weighted radiance, L_B , shall not exceed the levels defined by:		P

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	$L_B \cdot t = \sum_{300}^{700} \sum_t L_\lambda(\lambda, t) \cdot B(\lambda) \cdot \Delta\lambda \leq 10^6 \text{ J} \cdot \text{m}^{-2} \cdot \text{sr}^{-1}$	for $t \leq 10^4 \text{ s}$	N/A
	$L_B = \sum_{300}^{700} \sum_t L_\lambda \cdot B(\lambda) \cdot \Delta\lambda \leq 100 \text{ W} \cdot \text{m}^{-2} \cdot \text{sr}^{-1}$	for $t > 10^4 \text{ s}$	P
4.3.4	Retinal blue light hazard exposure limit - small source		N/A
	Thus the spectral irradiance at the eye E_λ , weighted against the blue-light hazard function $B(\lambda)$ shall not exceed the levels defined by:	see table 4.2	N/A
	$E_B \cdot t = \sum_{300}^{700} \sum_t E_\lambda(\lambda, t) \cdot B(\lambda) \cdot \Delta\lambda \leq 100 \text{ J} \cdot \text{m}^{-2}$	for $t \leq 100 \text{ s}$	N/A
	$E_B = \sum_{300}^{700} E_\lambda \cdot B(\lambda) \cdot \Delta\lambda \leq 1 \text{ W} \cdot \text{m}^{-2}$	for $t > 100 \text{ s}$	N/A
4.3.5	Retinal thermal hazard exposure limit		P
	To protect against retinal thermal injury, the integrated spectral radiance of the light source, L_λ , weighted by the burn hazard weighting function $R(\lambda)$ (from Figure 4.2 and Table 4.2), i.e., the burn hazard weighted radiance, shall not exceed the levels defined by:		P
	$L_R = \sum_{380}^{1400} L_\lambda \cdot R(\lambda) \cdot \Delta\lambda \leq \frac{50000}{\alpha \cdot t^{0.25}} \text{ W} \cdot \text{m}^{-2} \cdot \text{sr}^{-1}$	$(10 \mu\text{s} \leq t \leq 10 \text{ s})$	P
4.3.6	Retinal thermal hazard exposure limit – weak visual stimulus		P
	For an infrared heat lamp or any near-infrared source where a weak visual stimulus is inadequate to activate the aversion response, the near infrared (780 nm to 1400 nm) radiance, L_{IR} , as viewed by the eye for exposure times greater than 10 s shall be limited to:		P
	$L_{IR} = \sum_{780}^{1400} L_\lambda \cdot R(\lambda) \cdot \Delta\lambda \leq \frac{6000}{\alpha} \text{ W} \cdot \text{m}^{-2} \cdot \text{sr}^{-1}$	$t > 10 \text{ s}$	P
4.3.7	Infrared radiation hazard exposure limits for the eye		P
	The avoid thermal injury of the cornea and possible delayed effects upon the lens of the eye (cataract genesis), ocular exposure to infrared radiation, E_{IR} , over the wavelength range 780 nm to 3000 nm, for times less than 1000 s, shall not exceed:		P
	$E_{IR} = \sum_{780}^{3000} E_\lambda \cdot \Delta\lambda \leq 18000 \cdot t^{-0.75} \text{ W} \cdot \text{m}^{-2}$	$t \leq 1000 \text{ s}$	N/A
	For times greater than 1000 s the limit becomes:		P
	$E_{IR} = \sum_{780}^{3000} E_\lambda \cdot \Delta\lambda \leq 100 \text{ W} \cdot \text{m}^{-2}$	$t > 1000 \text{ s}$	P
4.3.8	Thermal hazard exposure limit for the skin		P
	Visible and infrared radiant exposure (380 nm to 3000 nm) of the skin shall be limited to:		P

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	$E_H \cdot t = \sum_{380}^{3000} \sum_t E_\lambda(\lambda, t) \cdot \Delta t \cdot \Delta \lambda \leq 20000 \cdot t^{0.25} \quad \text{J} \cdot \text{m}^{-2}$		P
5	MEASUREMENT OF LAMPS AND LAMP SYSTEMS		P
5.1	Measurement conditions		P
	Measurement conditions shall be reported as part of the evaluation against the exposure limits and the assignment of risk classification.		P
5.1.1	Lamp ageing (seasoning)		N/A
	Seasoning of lamps shall be done as stated in the appropriate IEC lamp standard.		N/A
5.1.2	Test environment		P
	For specific test conditions, see the appropriate IEC lamp standard or in absence of such standards, the appropriate national standards or manufacturer's recommendations.	Temperature maintained at $25 \pm 1^\circ\text{C}$; Relative humidity maintained to less than 65%; Airflow minimized when measuring	P
5.1.3	Extraneous radiation		P
	Careful checks should be made to ensure that extraneous sources of radiation and reflections do not add significantly to the measurement results.		P
5.1.4	Lamp operation		P
	Operation of the test lamp shall be provided in accordance with:		P
	– the appropriate IEC lamp standard, or		N/A
	– the manufacturer's recommendation		P
5.1.5	Lamp system operation		P
	The power source for operation of the test lamp shall be provided in accordance with:		P
	– the appropriate IEC standard, or		N/A
	– the manufacturer's recommendation		P
5.2	Measurement procedure		P
5.2.1	Irradiance measurements		P
	Minimum aperture diameter 7mm.		P
	Maximum aperture diameter 50 mm.		P
	The measurement shall be made in that position of the beam giving the maximum reading.		P
	The measurement instrument is adequate calibrated.		P
5.2.2	Radiance measurements		P
5.2.2.1	Standard method		P
	The measurements made with an optical system.		P
	The instrument shall be calibrated to read in absolute radiant power per unit receiving area and per unit solid		P

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	angle to acceptance averaged over the field of view of the instrument.		
5.2.2.2	Alternative method		N/A
	Alternatively, to an imaging radiance set-up, an irradiance measurement set-up with a circular field stop placed at the source can be used to perform radiance measurements.		N/A
5.2.3	Measurement of source size		P
	The determination of α , the angle subtended by a source, requires the determination of the 50% emission points of the source.	$\alpha=0.1\text{rad}$	P
5.2.4	Pulse width measurement for pulsed sources		N/A
	The determination of Δt , the nominal pulse duration of a source, requires the determination of the time during which the emission is > 50% of its peak value.		N/A
5.3	Analysis methods		P
5.3.1	Weighting curve interpolations		P
	To standardize interpolated values, use linear interpolation on the log of given values to obtain intermediate points at the wavelength intervals desired.		P
5.3.2	Calculations		P
	The calculation of source hazard values shall be performed by weighting the spectral scan by the appropriate function and calculating the total weighted energy.		P
5.3.3	Measurement uncertainty		P
	The quality of all measurement results must be quantified by an analysis of the uncertainty.		P
6	LAMP CLASSIFICATION		P
	For the purposes of this standard, it was decided that the values shall be reported as follows:	see table 6.1	P
	– for lamps intended for general lighting service, the hazard values shall be reported as either irradiance or radiance values at a distance which produces an illuminance of 500 lux, but not at a distance less than 200 mm		N/A
	– for all other light sources, including pulsed lamp sources, the hazard values shall be reported at a distance of 200 mm	200mm	P
6.1	Continuous wave lamps		P
6.1.1	Exempt Group		P
	In the exempt group are lamps, which does not pose any photobiological hazard. The requirement is met by any lamp that does not pose:		P
	– an actinic ultraviolet hazard (E_s) within 8-hours exposure (30000 s), nor		N/A

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	– a near-UV hazard (E_{UVA}) within 1000 s, (about 16 min), nor		N/A
	– a retinal blue-light hazard (L_B) within 10000 s (about 2,8 h), nor	Mixing mode Red light mode	P
	– a retinal thermal hazard (L_R) within 10 s, nor	Mixing mode Red light mode Infrared mode	P
	– an infrared radiation hazard for the eye (E_{IR}) within 1000 s	Mixing mode Infrared mode	P
6.1.2	Risk Group 1 (Low-Risk)		N/A
	In this group are lamps, which exceeds the limits for the exempt group but that does not pose:		N/A
	– an actinic ultraviolet hazard (E_S) within 10000 s, nor		N/A
	– a near ultraviolet hazard (E_{UVA}) within 300 s, nor		N/A
	– a retinal blue-light hazard (L_B) within 100 s, nor		N/A
	– a retinal thermal hazard (L_R) within 10 s, nor		N/A
	– an infrared radiation hazard for the eye (E_{IR}) within 100 s		N/A
	Lamps that emit infrared radiation without a strong visual stimulus and do not pose a near-infrared retinal hazard (L_{IR}), within 100 s are in Risk Group 1.		N/A
6.1.3	Risk Group 2 (Moderate-Risk)		N/A
	This requirement is met by any lamp that exceeds the limits for Risk Group 1, but that does not pose:		N/A
	– an actinic ultraviolet hazard (E_S) within 1000 s exposure, nor		N/A
	– a near ultraviolet hazard (E_{UVA}) within 100 s, nor		N/A
	– a retinal blue-light hazard (L_B) within 0,25 s (aversion response), nor		N/A
	– a retinal thermal hazard (L_R) within 0,25 s (aversion response), nor		N/A
	– an infrared radiation hazard for the eye (E_{IR}) within 10 s		N/A
	Lamps that emit infrared radiation without a strong visual stimulus and do not pose a near-infrared retinal hazard (L_{IR}), within 10 s are in Risk Group 2.		N/A
6.1.4	Risk Group 3 (High-Risk)		N/A
	Lamps which exceed the limits for Risk Group 2 are in Group 3.		N/A
6.2	Pulsed lamps		N/A
	Pulse lamp criteria shall apply to a single pulse and to any group of pulses within 0,25 s.		N/A
	A pulsed lamp shall be evaluated at the highest nominal		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	energy loading as specified by the manufacturer.		
	The risk group determination of the lamp being tested shall be made as follows:		N/A
	– a lamp that exceeds the exposure limit shall be classified as belonging to Risk Group 3 (High-Risk)		N/A
	– for single pulsed lamps, a lamp whose weighted radiant exposure or weighted radiance does is below the EL shall be classified as belonging to the Exempt Group		N/A
	– for repetitively pulsed lamps, a lamp whose weighted radiant exposure or weighted radiance dose is below the EL, shall be evaluated using the continuous wave risk criteria discussed in clause 6.1, using time averaged values of the pulsed emission		N/A

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Table 4.1		Spectral weighting function for assessing ultraviolet hazards for skin and eye	
Wavelength¹ λ, nm	UV hazard function $S_{uv}(\lambda)$	Wavelength λ, nm	UV hazard function $S_{uv}(\lambda)$
200	0,030	313*	0,006
205	0,051	315	0,003
210	0,075	316	0,0024
215	0,095	317	0,0020
220	0,120	318	0,0016
225	0,150	319	0,0012
230	0,190	320	0,0010
235	0,240	322	0,00067
240	0,300	323	0,00054
245	0,360	325	0,00050
250	0,430	328	0,00044
254*	0,500	330	0,00041
255	0,520	333*	0,00037
260	0,650	335	0,00034
265	0,810	340	0,00028
270	1,000	345	0,00024
275	0,960	350	0,00020
280*	0,880	355	0,00016
285	0,770	360	0,00013
290	0,640	365*	0,00011
295	0,540	370	0,000093
297*	0,460	375	0,000077
300	0,300	380	0,000064
303*	0,120	385	0,000053
305	0,060	390	0,000044
308	0,026	395	0,000036
310	0,015	400	0,000030
¹ Wavelengths chosen are representative: other values should be obtained by logarithmic interpolation at intermediate wavelengths. * Emission lines of a mercury discharge spectrum.			

Table 4.2		Spectral weighting functions for assessing retinal hazards from broadband optical sources	
Wavelength nm	Blue-light hazard function B (λ)	Burn hazard function R (λ)	
300	0,01		
305	0,01		
310	0,01		
315	0,01		
320	0,01		
325	0,01		
330	0,01		
335	0,01		
340	0,01		
345	0,01		
350	0,01		
355	0,01		
360	0,01		
365	0,01		
370	0,01		
375	0,01		
380	0,01	0,1	
385	0,013	0,13	
390	0,025	0,25	
395	0,05	0,5	
400	0,10	1,0	
405	0,20	2,0	
410	0,40	4,0	
415	0,80	8,0	
420	0,90	9,0	
425	0,95	9,5	
430	0,98	9,8	
435	1,00	10,0	
440	1,00	10,0	
445	0,97	9,7	
450	0,94	9,4	
455	0,90	9,0	
460	0,80	8,0	
465	0,70	7,0	
470	0,62	6,2	
475	0,55	5,5	
480	0,45	4,5	
485	0,40	4,0	
490	0,22	2,2	
495	0,16	1,6	
500-600	$10^{[(450-\lambda)/50]}$	1,0	
600-700	0,001	1,0	
700-1050		$10^{[(700-\lambda)/500]}$	
1050-1150		0,2	
1150-1200		$0,2 \cdot 10^{0,02(1150-\lambda)}$	
1200-1400		0,02	

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Table 5.4 Summary of the ELs for the surface of the skin or cornea (irradiance-based values)					
Hazard Name	Relevant equation	Wavelength range nm	Exposure duration sec	Limiting aperture rad (deg)	EL in terms of constant irradiance $W \cdot m^{-2}$
Actinic UV skin & eye	$E_S = \sum E_\lambda \cdot S(\lambda) \cdot \Delta\lambda$	200 – 400	< 30000	1,4 (80)	30/t
Eye UV-A	$E_{UVA} = \sum E_\lambda \cdot \Delta\lambda$	315 – 400	≤ 1000 >1000	1,4 (80)	10000/t 10
Blue-light small source	$E_B = \sum E_\lambda \cdot B(\lambda) \cdot \Delta\lambda$	300 – 700	≤ 100 >100	< 0,011	100/t 1,0
Eye IR	$E_{IR} = \sum E_\lambda \cdot \Delta\lambda$	780 – 3000	≤ 1000 >1000	1,4 (80)	18000/t ^{0,75} 100
Skin thermal	$E_H = \sum E_\lambda \cdot \Delta\lambda$	380 – 3000	< 10	2π sr	20000/t ^{0,75}

Table 5.5 Summary of the ELs for the retina (radiance-based values)					
Hazard Name	Relevant equation	Wavelength range nm	Exposure duration sec	Field of view radians	EL in terms of constant radiance $W \cdot m^{-2} \cdot sr^{-1}$
Blue light	$L_B = \sum L_\lambda \cdot B(\lambda) \cdot \Delta\lambda$	300 – 700	0,25 – 10 10-100 100-10000 ≥ 10000	$0,011 \cdot \sqrt{(t/10)}$ 0,011 $0,0011 \cdot \sqrt{t}$ 0,1	$10^6/t$ $10^6/t$ $10^6/t$ 100
Retinal thermal	$L_R = \sum L_\lambda \cdot R(\lambda) \cdot \Delta\lambda$	380 – 1400	< 0,25 0,25 – 10	0,0017 $0,011 \cdot \sqrt{(t/10)}$	$50000/(\alpha \cdot t^{0,25})$ $50000/(\alpha \cdot t^{0,25})$
Retinal thermal (weak visual stimulus)	$L_{IR} = \sum L_\lambda \cdot R(\lambda) \cdot \Delta\lambda$	780 – 1400	> 10	0,011	6000/α

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Table 6.1-1		Emission limits for risk groups of continuous wave lamps (Mixing mode)						P
Risk	Symbol	Units	Emission Measurement					
			Exempt Group		Risk Group 1 (Low-Risk)		Risk Group 2 (Moderate-Risk)	
			EN 62471 Limit	Result	EN 62471 Limit	Result	EN 62471 Limit	Result
Actinic UV	E_s	$W \cdot m^{-2}$	0,001	-	0,003	-	0,03	-
Near UV	E_{UVA}	$W \cdot m^{-2}$	0.35	-	33	-	100	-
Blue light	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	23.17	10000	-	4000000	-
Blue light, small source	E_B	$W \cdot m^{-2}$	-	-	-	-	-	-
Retinal thermal	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	280000	20904.59	280000	-	710000	-
Retinal thermal, weak visual stimulus**	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	60000	3566.60	60000	-	60000	-
IR radiation, eye	E_{IR}	$W \cdot m^{-2}$	100	92.44	570	-	3200	-
Thermal hazard exposure limit for the skin	E_H	$W \cdot m^{-2}$	-	242.86	-	-	-	-
* 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. Evaluation Distance: 200mm. Apparent source size: $(20+20)/2=20$mm, Angular subtense $\alpha=20/200=0.1$rad. Limits of The Artificial Optical Radiation Directive (2006/25/EC) have been applied instead of those fixed in IEC 62471:2006.								

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Table 6.1-2		Emission limits for risk groups of continuous wave lamps (Red light mode)						P
Risk	Symbol	Units	Emission Measurement					
			Exempt Group		Risk Group 1 (Low-Risk)		Risk Group 2 (Moderate-Risk)	
			EN 62471 Limit	Result	EN 62471 Limit	Result	EN 62471 Limit	Result
Actinic UV	E_s	$W \cdot m^{-2}$	0,001	-	0,003	-	0,03	-
Near UV	E_{UVA}	$W \cdot m^{-2}$	0.35	-	33	-	100	-
Blue light	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	25.49	10000	-	4000000	-
Blue light, small source	E_B	$W \cdot m^{-2}$	-	-	-	-	-	-
Retinal thermal	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	280000	19130.62	280000	-	710000	-
Retinal thermal, weak visual stimulus**	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	60000	-	60000	-	60000	-
IR radiation, eye	E_{IR}	$W \cdot m^{-2}$	100	-	570	-	3200	-
Thermal hazard exposure limit for the skin	E_H	$W \cdot m^{-2}$	-	114.41	-	-	-	-
* 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. Evaluation Distance: 200mm. Apparent source size: $(20+20)/2=20$mm, Angular subtense $\alpha=20/200=0.1$rad. Limits of The Artificial Optical Radiation Directive (2006/25/EC) have been applied instead of those fixed in IEC 62471:2006.								

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Table 6.1-3			Emission limits for risk groups of continuous wave lamps (Infrared mode)						P
Risk	Symbol	Units	Emission Measurement						
			Exempt Group		Risk Group 1 (Low-Risk)		Risk Group 2 (Moderate-Risk)		
			EN 62471 Limit	Result	EN 62471 Limit	Result	EN 62471 Limit	Result	
Actinic UV	E _s	W•m ⁻²	0,001	-	0,003	-	0,03	-	
Near UV	E _{UVA}	W•m ⁻²	0.35	-	33	-	100	-	
Blue light	L _B	W•m ⁻² •sr ¹	100	-	10000	-	4000000	-	
Blue light, small source	E _B	W•m ⁻²	-	-	-	-	-	-	
Retinal thermal	L _R	W•m ⁻² •sr ¹	280000	4948.34	280000	-	710000	-	
Retinal thermal, weak visual stimulus**	L _{IR}	W•m ⁻² •sr ¹	60000	4700.34	60000	-	60000	-	
IR radiation, eye	E _{IR}	W•m ⁻²	100	96.38	570	-	3200	-	
Thermal hazard exposure limit for the skin	E _H	W•m ⁻²	-	119.14	-	-	-	-	
* Small source defined as one with α<0,011 radian. Averaging field of view at 10000 s is 0.1 radian. ** Involves evaluation of non-GLS source. Evaluation Distance: 200mm. Apparent source size: (20+20)/2=20mm, Angular subtense α=20/200=0.1rad. Limits of The Artificial Optical Radiation Directive (2006/25/EC) have been applied instead of those fixed in IEC 62471:2006.									

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Test data graph

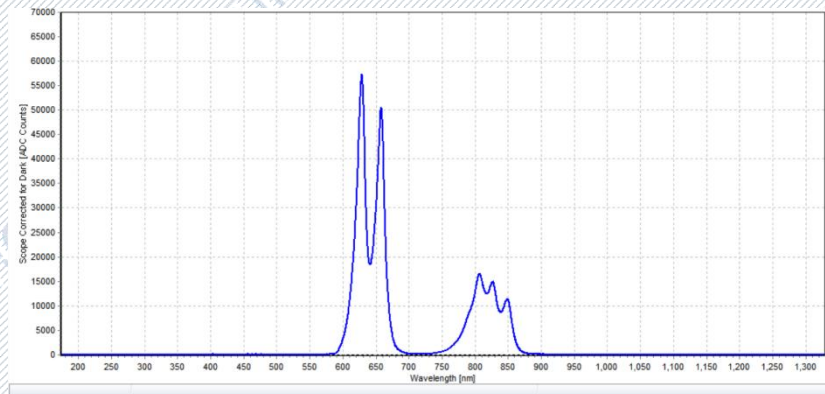


Figure 1: Spectrogram (Mixing mode)

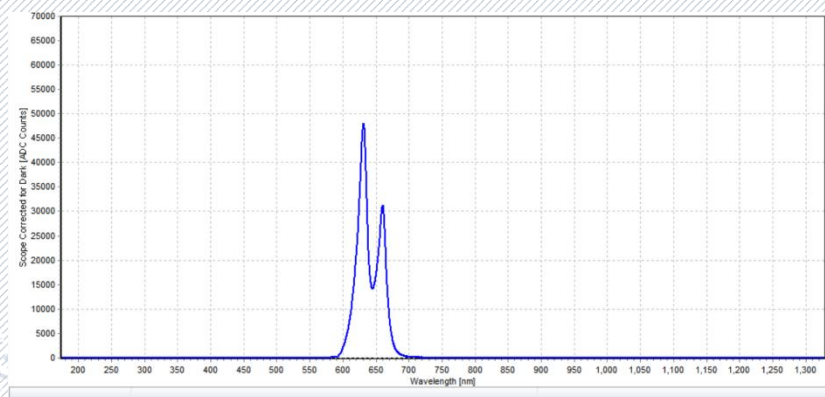


Figure 2: Spectrogram (Red light mode)

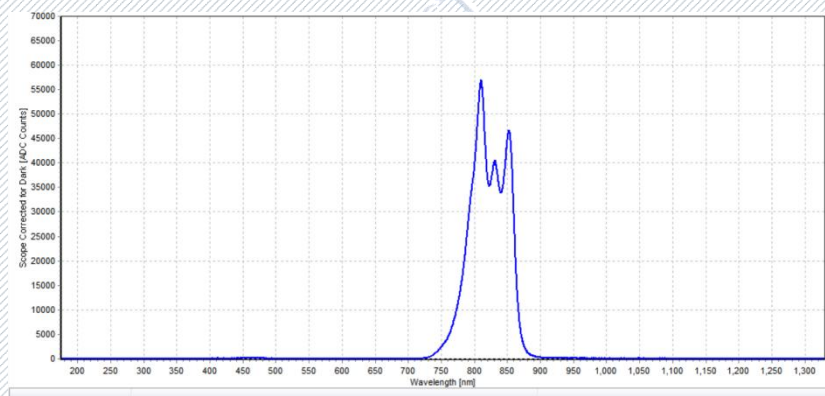


Figure 3: Spectrogram (Infrared mode)

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Photo Document

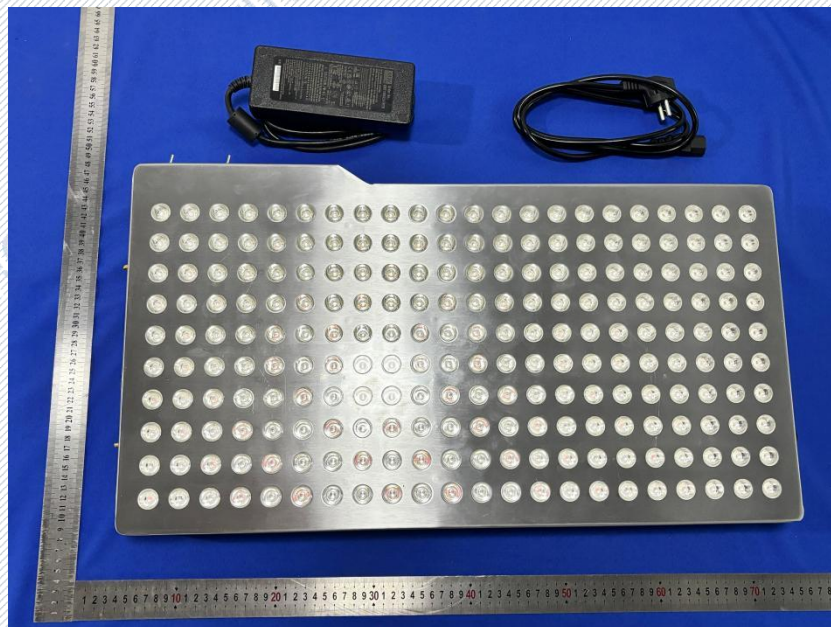


Figure 1: Sample photos

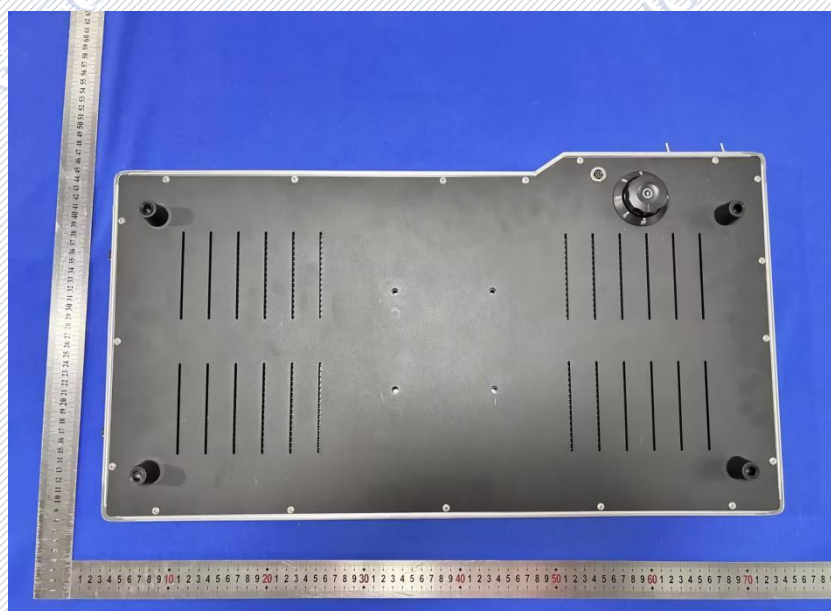


Figure 2: Sample photos

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Test data graph



Figure 3: Sample photos (Power adapter)

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