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SAS AU CAPITAL DE 662 811 Euros
SIREN : 538206509 RCS Lyon
N° TVA INTRACOMMUNAUTAIRE : FR25538206509

Test Report - Photobiological Safety Assessment

R-LAB-974-1 V2

CUSTOMER INFORMATION	
Customer	HYDROMEAS SA Avenue de Longemalle 11 Switzerland - 1020 - Renems
Order followed by	M. Georges Georgatos
Customer reference	GFA on quotation from the 27/09/2022
PISEO LABORATORY INFORMATION	
Test Laboratory	PISEO SAS, Parc Lyon Sud, 4 Rue de l'Arsenal, F-69200 VENISSIEUX
TEST EQUIPMENT	
Laboratory Equipment	Everfine OST-300 bench - Asset N°065 Yokogawa WT3000 Asset N°011 AC Power Supply Chroma 6408 Asset N°119 Pt100, SF50-10-4-PB-1-6-50 - Asset N°146 Relative humidity probe EE061-F61 - Asset N°136 NI 9219 datalogger - Asset N°140
Quote Reference / Service	PIS-974 - Photobiological Risk Assessment
Report version and date	V2 on 10/13/2022 cancel and replace V1
Date of tests	October 4 th , 2022
Applicable standards	EN 62471: December 2008 Photobiological safety of lamps and systems using lamps
Ambient laboratory temperature	25.0°C +/- 1.0°C and relative humidity < 65.0 %
Stabilization time	0 minutes (cold Start)
PRODUCT INFORMATION	
Product	LUMA_X-UV (malfunction mode)
Manufacturer	Hydromea SA
Type	Wireless optical modem
Identification / Serial number	/
Light source designation	UV LED CUN96A1G/Seoulviosys
Light source technology	<input checked="" type="checkbox"/> LED <input type="checkbox"/> Fluo <input type="checkbox"/> Halogène <input checked="" type="checkbox"/> Autres: <input type="text"/>
Ballast / Driver	Integrated
Date and sampling method	Supplied by customer
Power supply	230.0 VAC 50.0 Hz
PISEO sample ID	E-LAB-974-1
REMARKS	
<ul style="list-style-type: none"> - Traceability and standard(s) photometrical and colorimetric calibration certificates references can be provided upon request. - The current test report is based on tests performed on one specimen, or sample. It does not prejudice conformity of the whole manufactured products. It is not permitted to transfer the results on other systems or configurations. - Reproduction in any form, in whole or in part, without the express written consent of PISEO is strictly prohibited. - Temperature and relative humidity records during measurement and stabilization phases are available on request. - The test results do not take uncertainties into account. They are available upon request. - The test results are rounded off. The rule is available upon request. - Measurement characteristics with "#" sign are not performed under COFRAC accreditation. - All data below are provided by the customer. PISEO disclaims any responsibility for wrong data. - The data preceded by « ✕ » are not given by the customer, but recorded by PISEO. - V2 : modification of picture 	

PICTURE(S) OF THE DUT



RISK GROUP CLASSIFICATION
Risk Group 0 (No Risk)

TEST CONDITIONS	
Ageing	N/A (LED)
GLS / non GLS consideration	<input type="checkbox"/> GLS*** (500 lx) <input checked="" type="checkbox"/> Non-GLS (200 mm distance)
System electrical power consumption	32.4 W
# Power factor	# 0.517
Measurement distance	200 mm


***GLS : General Lighting Service (according to standard definition)

RISK GROUP LIMIT VALUES TABLE FOR LUMINAIRES IN STEADY CYCLE

Hazard	Spectrum	Symbol	Group risk limit values						Uncertainty values (k=2) %
			GR0		GR1		GR2		
			No Risk	Result	Low Risk	Result	Moderate Risk	Result	
UV actinic UV	$S_{UV}(\lambda)$	$E_S (W.m^{-2})$	0.001	1.7e-04	0.003	-	0.03	-	18,7
Near UVA		$E_{UVA} (W.m^{-2})$	10	5.1	33	-	100	-	18,7
Blue Light	$B(\lambda)$	$L_B (W.m^{-2}.sr^{-1})$	100	77	10000	-	4000000	-	20,8
Blue Light for small source	$B(\lambda)$	$E_B (W.m^{-2})$	0.01*	-	1.0	-	400	-	12,2
Thermal Retinal	$R(\lambda)$	$L_R (W.m^{-2}.sr^{-1})$	28000/a	3.5e04	28000/a	-	71000/a	-	16,5
Thermal Retinal, weak visual stimulus **	$R(\lambda)$	$L_{IR} (W.m^{-2}.sr^{-1})$	6000/a	3.3e01	6000/a	-	6000/a	-	17,4
Infrared for eye		$E_{IR} (W.m^{-2})$	100	1.0e-02	570	-	3200	-	15,6

* Small source defined by $\alpha < 0.011$ radian. The averaged FOV (Field Of View) at 10000s is 0.1 radian

** Implies non-GLS source assesment

Report page number	4 report pages
Test and Measurement Operator	Mr Thibault LOISON
Approved by	Mme Anaïs PONS
Signature	<p style="text-align: right;">13/10/2022</p> <p style="text-align: center;">X </p> <hr/> <p style="text-align: center;">Signé par : Anaïs PONS</p>
Vénissieux, October 7, 2022	

End of the accredited COFRAC report