
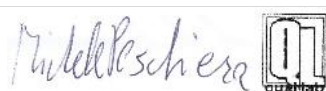



	Test report n.	191-QL20-R01 ver. 0	 <small>LAB N° 1235</small> <small>Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC</small> <small>Signatory of EA, IAF and ILAC Mutual Recognition Agreements</small>
	Applicant	LARES di Claudio Lerici Regione Viazzi, 6 15010 - Castelletto d'Erro (AL) - Italy	
	EUT/Type	Spot light source SC_02 (IEN 5587)	

TEST REPORT Nr. 191-QL20-R01 ver. 0

Addresses Indirizzi		
Applicant Richiedente	LARES di Claudio Lerici - Regione Viazzi, 6 - 15010 - Castelletto d'Erro (AL) - Italy	
Manufacturer Produttore	Same as applicant/Come il richiedente	
Test laboratory Laboratorio di prova	Qualilab Srl - Via Trento, 87 - 25020 - Capriano del Colle (BS) - Italy	
Dates and authorization Date e autorizzazioni		
EUT acceptance date Data accettazione campioni	Simultaneously with the beginning of the test. Contestualmente all'inizio delle prove.	
Report Date Data emissione rapporto di prova	06/02/2020	
Authorization Autorizzazioni	Ing. Nicola Parolini Test engineer	
	Ing. Michele Peschiera Reviewer	 
Equipment under test EUT (data declared by the applicant and under applicant's responsibility) Dispositivo sottoposto a prova EUT (Dati forniti dal richiedente e sotto la sua responsabilità)		
EUT description Descrizione EUT	Spot light source	
Type Modello	SC_02 (IEN 5587)	
Light source: Sorgente luminosa:	Philips Holland 12 V 55 W	
Multimeter: Multimetro :	DMM Agilent U1253A S/N MY48430011	
Marking Marcature	-	
Applicable norms Norme applicabili		
	CIE 15:2018 Colorimetry and CIE 70:1987 Measurement of absolute luminous intensity distribution	

The test results and observations indicated in this test report refer exclusively to the samples tested. It is not permitted to transfer the results to other systems or configurations. The publication or duplication of this test report with enclosures, or Part of this test report or enclosures, without a written consent of the test laboratory is not permitted. The test laboratory does not assume any liability to any party for any loss, expense or damage occasioned by the use of this report. Any use of the laboratories name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by the test laboratory. In case of a multilingual test report, the English version is the only official version.

I risultati e le osservazioni indicate in questo rapporto di prova sono riferite esclusivamente ai campioni testati. Non è permesso utilizzare i risultati e le osservazioni di questo rapporto di prova per altri sistemi o configurazioni. Non è permessa la pubblicazione o la duplicazione completa o parziale di questo rapporto di prova e dei suoi allegati senza un consenso scritto da parte del laboratorio di prova. Il laboratorio di prova non si assume responsabilità nei confronti di terzi per danni o eventuali costi derivanti dall'utilizzo dei dati presenti in questo rapporto di prova. Ogni uso del nome del laboratorio di prova e dei suoi marchi per la vendita o per pubblicizzare il prodotto testato deve essere prima approvato in forma scritta dal laboratorio di prova. In caso di rapporti di prova con più lingue, la versione inglese è da considerarsi quella ufficiale.

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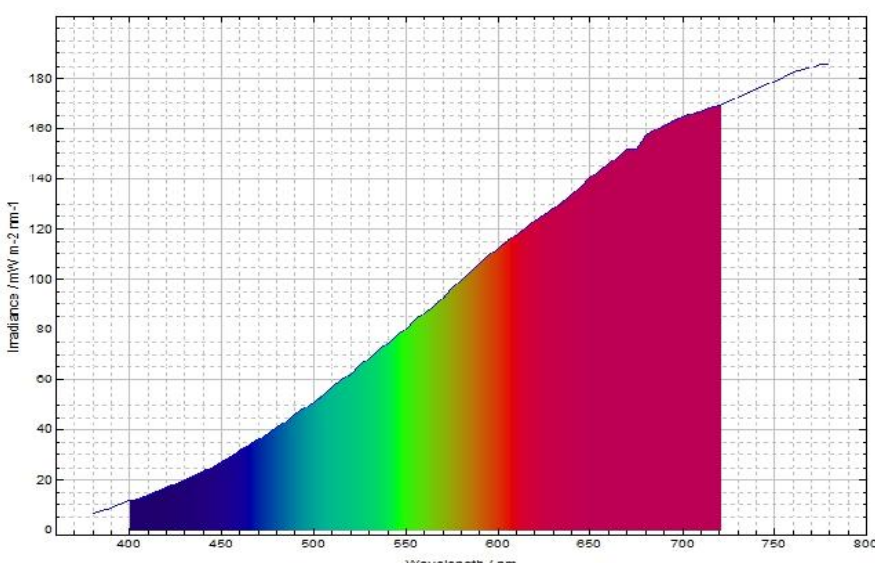
Test Name Identificazione prova	Test Procedure Procedura di prova	Test Requirement Requisito di prova	Test Result Esito Prova
Illuminance distribution in [lx] at 25 m distance	The sample was mounted (with the support provided by the manufacturer) on the goniometer and powered with the constant current of 4,000 A; the illuminance distribution in 25 m was measured and the maximum illuminance was determined	N/A	$E_{\max} = 144,734 \text{ lx}$ $0,00^\circ \text{ H}; -1,00^\circ \text{ V}$
Calibration to standard illuminant A	The sample was mounted on the goniometer; the current to emit standard illuminant A in the optical axis was determined	N/A	$CCT = 2857 \text{ K}$ $I_{\text{illuminant A}} = 3,493 \text{ A}$
Illuminance distribution in [lx] at 25 m distance at illuminant A	The sample was mounted on the goniometer; the current to emit standard illuminant A was applied, the maximum illuminance was measured	N/A	$I_{\text{illuminant A}} = 3,493 \text{ A}$ $E_{\max_A} = 65,270 \text{ lx}$

Uncertainty Incertezza	
Photometric parameter Parametri fotometrici	Luminous intensity, illuminance: 1,8 % Intensità luminosa, illuminamento
Correlated colour temperature Temperatura colore	$\pm 21 \text{ K}$
Statement Dichiarazione	<p>The measured value (y) and the associated expanded uncertainty (U) represent the interval ($y \pm U$) which contains the value of the measured quantity with a probability of approximately 95 % and a coverage factor $k = 2$.</p> <p>The values into the different appendix have the maximum significant figures managed by the measurement software.</p> <p>Il valore misurato (y) e l'incertezza estesa associata (U) rappresentano l'intervallo ($y \pm U$) che contiene il valore della grandezza misurata con una probabilità di circa il 95 % e un fattore di copertura $k = 2$.</p> <p>I valori negli appendici sono riportati con il massimo numero di cifre significative gestite dal software della strumentazione.</p>

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APPENDIX I	SC.02 – illuminance [lx] 25 m																																																																																
Norm and applicable points	CIE 70:1987																																																																																
Sample identification	191-QL20-S01																																																																																
Place of testing	Qualilab Srl - Via Trento, 87 - 25020 - Capriano del Colle (BS) - Italy																																																																																
Test date	From 03/02/2020 to 04/02/2020																																																																																
Environmental conditions	Temperature 23 °C ± 3 °C																																																																																
Instruments	Goniometer LMT GOH1200 QL-IN-002 DMM Agilent U1253A S/N MY48430011 Datalogger TESTO 174H QL-IN-018																																																																																
Test procedure	The sample was prepared, stabilized and measured like defined in CIE70:1987																																																																																
Test requirements	n.a.																																																																																
Test measurement	<p>The sample was mounted onto the test stand, provided by the manufacturer. The sample was set into the pivot point of the goniometer and the optical axis was installed perpendicular to the photometer head.</p> <p>The DMM was connected in series to the bulb circuit to measure the current during the test.</p> <p>The sample was powered with a constant current of 4,000 A and the distribution was measured in 25 m in order to determine the maximum illuminance in [lx].</p>																																																																																
TEST RESULT	<table><tr><td>Program:</td><td colspan="3"></td><td>max E scan</td></tr><tr><td colspan="5">max E scan</td></tr><tr><td>Name:</td><td colspan="4">LARES 191-QL20 SC.02 (IEN 5587) max E 2020 4.0A</td></tr><tr><td>Number:</td><td colspan="4">constant A 4.0A</td></tr><tr><td>Report:</td><td colspan="4"></td></tr><tr><td>Test no.:</td><td colspan="4"></td></tr><tr><td>Lamp type:</td><td colspan="4"></td></tr><tr><td>Lamp no:</td><td colspan="4">SC.02</td></tr><tr><td>Lamp flux:</td><td>0 lm</td><td>Operator:</td><td colspan="2">Qualilab</td></tr><tr><td>Voltage:</td><td>0.000 V</td><td>Date:</td><td colspan="2">04/02/2020 9.14.15</td></tr><tr><td>Current:</td><td>4,000 A</td><td>File:</td><td colspan="2">LARES 191-QL20 SC.02 (IEN 5587) max E 2020 4.0A</td></tr><tr><td>Comment:</td><td colspan="4">constant current 4.0A measured with: Agilent DMM mod.U1253A Sn MY48430011</td></tr></table> <div>max E scan</div> <table><tr><th>Function</th><th>Mean</th><th>Max</th><th>E</th><th>H</th><th>V</th><th>Reaim</th><th>H</th><th>V</th><th>N.O.K.</th></tr><tr><td>15L to 15R - 5D to 5U (0.10)</td><td>0</td><td>0</td><td>144,734</td><td>0,00°</td><td>-1,00°</td><td></td><td></td><td></td><td></td></tr></table>	Program:				max E scan	max E scan					Name:	LARES 191-QL20 SC.02 (IEN 5587) max E 2020 4.0A				Number:	constant A 4.0A				Report:					Test no.:					Lamp type:					Lamp no:	SC.02				Lamp flux:	0 lm	Operator:	Qualilab		Voltage:	0.000 V	Date:	04/02/2020 9.14.15		Current:	4,000 A	File:	LARES 191-QL20 SC.02 (IEN 5587) max E 2020 4.0A		Comment:	constant current 4.0A measured with: Agilent DMM mod.U1253A Sn MY48430011				Function	Mean	Max	E	H	V	Reaim	H	V	N.O.K.	15L to 15R - 5D to 5U (0.10)	0	0	144,734	0,00°	-1,00°				
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	EUT/Type	Spot light source SC_02 (IEN 5587)	

APPENDIX II	SC.02 – current for standard illuminant A															
Norm and applicable points	CIE 15:2018															
Sample identification	191-QL20-S01															
Place of testing	Qualilab Srl - Via Trento, 87 - 25020 - Capriano del Colle (BS) - Italy															
Test date	From 03/02/2020 to 04/02/2020															
Environmental conditions	Temperature 23 °C ± 3 °C															
Instruments	Goniometer LMT GOH1200 QL-IN-002 Spectrometer BENTHAM IDR3000-PSL QL-IN-009 DMM Agilent U1253A S/N MY48430011 Datalogger TESTO 174H QL-IN-021															
Test procedure	The sample was prepared, stabilized and measured like defined in CIE15:2018															
Test requirements	n.a.															
Test measurement	The sample was mounted onto the test stand, provided by the manufacturer. The sample was set into the pivot point of the goniometer and the optical axis was installed perpendicular to the spectrometer head. The DMM was connected in series to the bulb circuit to measure the current during the test. The constant current to emit standard illuminant A was determined.															
TEST RESULT	<table><tr><th colspan="5">SC.02 spot lamp LARES</th></tr><tr><th></th><th>CCT [K]</th><th>I [A]</th><th colspan="2">Color point x, y</th></tr><tr><td>Ill. A</td><td>2857</td><td>3,493</td><td>0,4490</td><td>0,4104</td></tr></table> 	SC.02 spot lamp LARES						CCT [K]	I [A]	Color point x, y		Ill. A	2857	3,493	0,4490	0,4104
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Ill. A	2857	3,493	0,4490	0,4104												

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APPENDIX III	SC.02 – illuminance [lx] 25 m at illuminant A																																																																				
Norm and applicable points	CIE 70:1987																																																																				
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TEST RESULT	<table><tr><td>Program:</td><td colspan="3">max E scan</td></tr><tr><td colspan="4">max E scan</td></tr><tr><td>Name:</td><td colspan="3">LARES 191-QL20 SC.02 (IEN 5587) max E 2020 illA</td></tr><tr><td>Number:</td><td colspan="3">constant A 3.493A</td></tr><tr><td>Report:</td><td colspan="3"></td></tr><tr><td>Test no.:</td><td colspan="3"></td></tr><tr><td>Lamp type:</td><td colspan="3"></td></tr><tr><td>Lamp no:</td><td colspan="3">SC.02</td></tr><tr><td>Lamp flux:</td><td>0 lm</td><td>Operator:</td><td>Qualilab</td></tr><tr><td>Voltage:</td><td>0.000 V</td><td>Date:</td><td>04/02/2020 9.33.09</td></tr><tr><td>Current:</td><td>3,493 A</td><td>File:</td><td>LARES 191-QL20 SC.02 (IEN 5587) max E 2020 illA</td></tr><tr><td>Comment:</td><td colspan="3">constant current 3.493A sta ill A measured with: Agilent DMM mod.U1253A Sn MY48430011</td></tr></table> <p>max E scan</p> <table><tr><th>Function</th><th>Mean</th><th>Max</th><th>E</th><th>H</th><th>V</th><th>Reaim</th><th>H</th><th>V</th><th>N.O.K.</th></tr><tr><td>15L to 15R - 5D to 5U (0.10)</td><td>0</td><td>0</td><td>65,270</td><td>-0,05°</td><td>-1,00°</td><td></td><td></td><td></td><td></td></tr></table>	Program:	max E scan			max E scan				Name:	LARES 191-QL20 SC.02 (IEN 5587) max E 2020 illA			Number:	constant A 3.493A			Report:				Test no.:				Lamp type:				Lamp no:	SC.02			Lamp flux:	0 lm	Operator:	Qualilab	Voltage:	0.000 V	Date:	04/02/2020 9.33.09	Current:	3,493 A	File:	LARES 191-QL20 SC.02 (IEN 5587) max E 2020 illA	Comment:	constant current 3.493A sta ill A measured with: Agilent DMM mod.U1253A Sn MY48430011			Function	Mean	Max	E	H	V	Reaim	H	V	N.O.K.	15L to 15R - 5D to 5U (0.10)	0	0	65,270	-0,05°	-1,00°				
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APPENDIX IV	Photographs
 	