




	Test report n.	176-QL19-R02 ver. 0	 <small>LAB N°1235</small> <small>Membro degli Accordi di Mutuo Riconoscimento EA, ILAC 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	Diffuse light source SC_04 (IEN 7121)	

## TEST REPORT Nr. 176-QL19-R02 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 s.r.l. - 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 preparazione rapporto di prova	26/02/2019	
Authorization Autorizzazioni	Ing. Nicola Parolini Test engineer	
	Ing. Michele Peschiera Reviewer	 
Equipment under test EUT (data declared by the applicant) Dispositivo sottoposto a prova EUT (Dati forniti dal richiedente)		
EUT description Descrizione EUT	Diffuse light source	
Type Modello	SC_04 IEN 7121	
Light source: Sorgente luminosa:	-	
Multimeter: Multimetro :	DMM Agilent U1253A S/N MY48430011	
Marking Marcature	-	
Applicable norms Norme applicabili		
	CIE 15:2004 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 not assumes 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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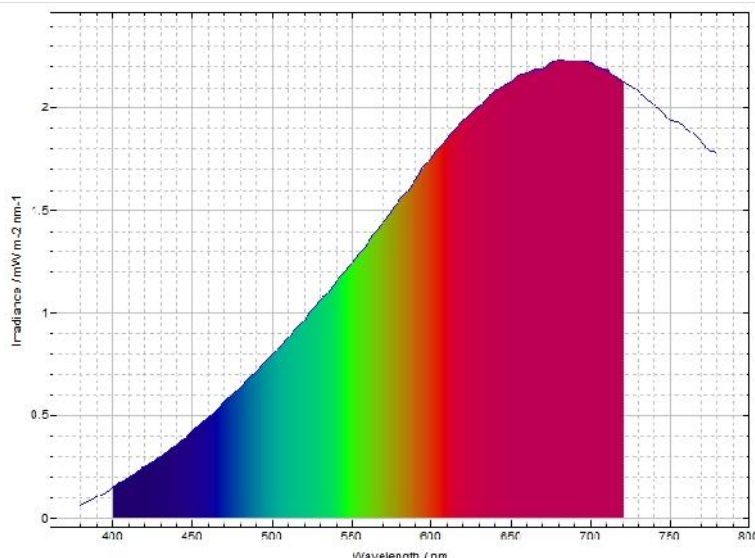
Test Name Identificazione prova	Test Procedure Procedura di prova	Test Requirement Requisito di prova	Test Result Esito Prova
Intensity distribution in [cd] at 10 m distance	The sample was mounted (with the support provided by the manufacturer) on the goniometer and powered with the constant current of 4,000 A; the intensity distribution in 10 m was measured and the maximum intensity was determined	N/A	$I_{\max}[\text{cd}] = 74,1 \text{ cd}$ $0,00^\circ \text{ H}; 1,00^\circ \text{ V}$
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	$CCT = 2858 \text{ K}$ $I_{\text{illuminant A}}[\text{A}] = 4,146 \text{ A}$
Intensity distribution in [cd] at 10 m distance at illuminant A	The sample was mounted on the goniometer; the current to emit standard illuminant A was applied, the maximum intensity was measured	N/A	$I_{\text{illuminant A}}[\text{A}] = 4,146 \text{ A}$ $I_{\max\_A}[\text{cd}] = 91,4 \text{ cd}$

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 (<math>y</math>) and the associated expanded uncertainty (<math>U</math>) represent the interval (<math>y \pm U</math>) which contains the value of the measured quantity with a probability of approximately 95 % and a coverage factor <math>k = 2</math>.</p> <p>The values into the different appendix have the maximum significant figures managed by the measurement software.</p> <p>Il valore misurato (<math>y</math>) e l'incertezza estesa associata (<math>U</math>) rappresentano l'intervallo (<math>y \pm U</math>) che contiene il valore della grandezza misurata con una probabilità di circa il 95 % e un fattore di copertura <math>k = 2</math>.</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.04 – intensity [cd]																																																																				
Norm and applicable points	CIE 70																																																																				
Sample identification	176-QL19-S02																																																																				
Place of testing	QUALILAB s.r.l. - Via Trento, 87 25020 - Capriano del Colle (BS) - Italy																																																																				
Test date	19/02/2019																																																																				
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-181																																																																				
Test procedure	The sample was prepared, stabilized and measured like defined in CIE70																																																																				
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 order to determine the maximum intensity in [cd].</p>																																																																				
TEST RESULT	<table><tr><td>Program:</td><td colspan="3">max I scan 25-25 15-15</td></tr><tr><td colspan="4">max I scan</td></tr><tr><td>Name:</td><td colspan="3">LARES 176-QL19 SC.04 (IEN 7121) max cd 2019 at 4.00 A</td></tr><tr><td>Number:</td><td colspan="3">constant A 4.00 A</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.04</td></tr><tr><td>Lamp flux:</td><td>0 lm</td><td>Operator:</td><td>Qualilab</td></tr><tr><td>Voltage:</td><td>12.640 V</td><td>Date:</td><td>19/02/2019 8.57.04</td></tr><tr><td>Current:</td><td>4,000 A</td><td>File:</td><td>LARES 176-QL19 SC.04 (IEN 7121) max cd 2019 at 4.00 A</td></tr><tr><td>Comment:</td><td colspan="3">constant current 4.00 A measured with: Agilent DMM mod.U1253A Sn MY48430011</td></tr></table> <div>max I scan 25-25 15-15</div> <table><tr><th>Function</th><th>Mean</th><th>Max</th><th>I</th><th>H</th><th>V</th><th>Reaim</th><th>H</th><th>V</th><th>N.O.K.</th></tr><tr><td>25L to 25R - 15D to 15U</td><td>0</td><td>0</td><td>(57,0) 74,1</td><td>(25,00°) 0,00°</td><td>(-) 15,00° 1,00°</td><td></td><td></td><td></td><td></td></tr></table>	Program:	max I scan 25-25 15-15			max I scan				Name:	LARES 176-QL19 SC.04 (IEN 7121) max cd 2019 at 4.00 A			Number:	constant A 4.00 A			Report:				Test no.:				Lamp type:				Lamp no:	SC.04			Lamp flux:	0 lm	Operator:	Qualilab	Voltage:	12.640 V	Date:	19/02/2019 8.57.04	Current:	4,000 A	File:	LARES 176-QL19 SC.04 (IEN 7121) max cd 2019 at 4.00 A	Comment:	constant current 4.00 A measured with: Agilent DMM mod.U1253A Sn MY48430011			Function	Mean	Max	I	H	V	Reaim	H	V	N.O.K.	25L to 25R - 15D to 15U	0	0	(57,0) 74,1	(25,00°) 0,00°	(-) 15,00° 1,00°				
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	EUT/Type	Diffuse light source SC_04 (IEN 7121)	

APPENDIX II	SC.04 – current for standard illuminant A															
Norm and applicable points	CIE 15															
Sample identification	176-QL19-S02															
Place of testing	QUALILAB s.r.l. - Via Trento, 87 25020 - Capriano del Colle (BS) - Italy															
Test date	19/02/2019															
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-181															
Test procedure	The sample was prepared, stabilized and measured like defined in CIE15															
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	<div></div> <table><tr><th colspan="5">SC04 diffuse 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>2856 K</td><td>4,146 A</td><td>0,4490</td><td>0,4103</td></tr></table>	SC04 diffuse lamp LARES						CCT [K]	I [A]	Color point x, y		ill A	2856 K	4,146 A	0,4490	0,4103
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APPENDIX III	SC.04 – intensity [cd] at illuminant A																																																																																
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APPENDIX IV	Photographs
 	