

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST  
CERTIFICATES FOR ELECTRICAL EQUIPMENT  
(IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE  
CERTIFICATS D'ESSAIS DES EQUIPEMENTS  
ELECTRIQUES (IECEE) METHODE OC

## CB TEST CERTIFICATE

Product  
Produit

Name and address of the applicant  
Nom et adresse du demandeur

Name and address of the manufacturer  
Nom et adresse du fabricant

Name and address of the factory  
Nom et adresse de l'usine

Note: When more than one factory, please report on page 2  
Note: Lorsque il y a plus d'une usine, veuillez utiliser la 2<sup>ème</sup> page

Ratings and principal characteristics  
Valeurs nominales et caractéristiques principales

Trademark (if any)  
Marque de fabrique (si elle existe)

Type of Manufacturer's Testing Laboratories used  
Type de programme du laboratoire d'essais constructeur

Model / Type Ref.  
Ref. De type

Additional information (if necessary may also be reported on page 2)  
Les informations complémentaires (si nécessaire,, peuvent être indiqués sur la 2<sup>ème</sup> page

A sample of the product was tested and found to be in conformity with  
Un échantillon de ce produit a été essayé et a été considéré conforme à la

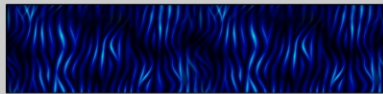
As shown in the Test Report Ref. No. which forms part of this Certificate  
Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat

## CERTIFICAT D'ESSAI OC

Built-in LED Module

Philips Lighting B.V.  
High Tech Campus 45  
Eindhoven, 5656 AE Netherlands

Philips Lighting B.V.  
High Tech Campus 45  
Eindhoven, 5656 AE Netherlands



☒ Additional Information on page 2

I<sub>max</sub>: 1,05 A V<sub>max</sub>: 55 V  $\overline{\text{---}}$  t<sub>c</sub>: 85 °C  
See Page 2

**PHILIPS**

Fortimo FastFlex LED board NxK / zcc vv Gg a  
See Page 2

☒ Additional Information on page 2

IEC 62031(ed.1), IEC 62031(ed.1);am1, IEC 62031(ed.1);am2

4787284852-2 issued on 2016-05-13

This CB Test Certificate is issued by the National Certification Body  
Ce Certificat d'essai OC est établi par l'Organisme **National de Certification**



- ☐ UL (US), 333 Pfingsten Rd IL 60062, Northbrook, USA
- ☒ UL (Denmark), Borupvang 5A DK-2750 Ballerup, DENMARK
- ☐ UL (JP), Marunouchi Trust Tower Main Building 6F, 1-8-3 Marunouchi, Chiyoda-ku, Tokyo 100-0005, JAPAN
- ☐ UL (CA), 7 Underwriters Road, Toronto, M1R 3B4 Ontario, CANADA

Date: 2016-05-16  
Original Issue Date: 2016-03-02

Signature:

*Jan Erik Storgaard*  
Jan-Erik Storgaard

For full legal entity names see [www.ul.com/ncbnames](http://www.ul.com/ncbnames)

Model Details:

Product Key:

Fortimo FastFlex LED board NxK I zcc vv Gg a

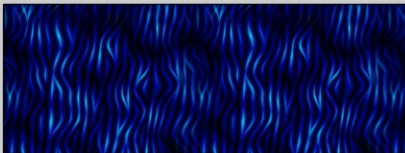
Where:

- N = Number of LEDs in width (one digit, may be a value between 1 and 2);  
K = Number of LEDs in length (one digit, may be a value between 1 and 8);  
z = CRI of LED divided by 10 (one digit, may be "7" or "8");  
cc = Color temperature of LED divided by 100 (two digits, may be between 30 and 57);  
vv = Alphanumeric version indication of module (may be "DA" or "DS" or blank);  
g = Number of LED module's generation (one digit, may be "3");  
a = Alphanumeric commercial suffix for commercial purposes (optional)

Maximum ratings:

Field vv on the Product Key	DC Current [A]	Power [W]	t <sub>c</sub> [°C]	Maximum working voltage for basic insulation to mounting surface [Vdc]	With Secondary Optics
Blank	1,05	55	85	680	Yes
DA	1,05	55	85	400	No
DS	1,05	55	85	200	No

Factories:



Additional Information:

- The customer is obligated to add an appropriated cooling system to the LED module in order to not exceed t<sub>c</sub> value and the maximum temperatures of the module's components. Temperature test shall be performed on the final product to verify the effectiveness of this cooling system.
- M3 fixing screws with diameter of their heads not exceeding 6,3 mm shall be used (if in metallic material).
- The insulation between active parts of LED module and accessible conductive parts (metal mounting surface) is tested for basic insulation related to 680 V for modules having Field vv on the Product Key = blank, 400 V for modules having Field vv on the Product Key = "DA" and 200 V for modules having Field vv on the Product Key = "DS".
- Module having Field vv on the Product Key = "DA" can be used with an insulating washer (or plastic optic) having 2 mm minimum thickness, with the internal hole suitable for only M3 screws and with the external hole with diameter not less than 6,3 mm. In this case the module complies with 680 V of insulation between active parts of LED module and accessible conductive parts.
- The modules can be supplied only by electronic LED controlgears separately approved according to IEC/EN 61347-2-13 and protected against output short-circuit and overload. The maximum working voltage U<sub>out</sub> (r.m.s.) of LED controlgear shall not exceed U<sub>out</sub> = 350 V (200 V for modules having Field vv on the Product Key = "DS").
- According to technical documentation NTC circuit is a temperature sensing circuit that the customer shall use only for lifetime warranty reasons; it has been considered not isolated to the LED's circuit.
- The modules have been also evaluated according to IEC TR 62778: 2014 (Second Edition): Modules are classified as RISK GROUP 2 (E<sub>thr</sub> = 847 lx for modules with Lumileds Luxeon T LEDs, E<sub>thr</sub> = 773 lx for modules with Cree XP-G2 LEDs). Modules provided with secondary optics having CCT equal to 4000 K or less and having rated current equal to 550 mA or less are classified as RISK GROUP 1 UNLIMITED. See also photobiological test report number 4787284852-4 for more information. See also photobiological test report number 4787284852-4 for more information.

Also investigated to: EN 62031:2008/A1:2013/A2:2015

National Differences specified in the CB Test Report

The original Test Report was modified to include the following changes/additions:

- Increase of maximum working voltage for basic insulation of "DA" models when they are used with secondary plastic optic

Additional information (if necessary)

Information complémentaire (si nécessaire)



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