

TEST REPORT
IEC 60598-2-1
Luminaires
Part 2: Particular requirements
Section 1: Fixed general purpose luminaires

Test Report number. : SAFEAIRFA170301.00

Tested by (name + signature) : Carlos Royo
Laboratory Technician



Approved by (name + signature) : Jorge Hernández
Technical Director
(Document signed by means of electronic signature)

Date of issue. : 28-06-2017

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Applicant's name : AIRFAL INTERNATIONAL, S.L.
Address : Polígono Industrial San Miguel, C/ Rio Esera, 4
50830 Villanueva de Gállego (Zaragoza – Spain)

Testing laboratory : TECNOCREA, S.L.
Address : C/ Colón, 41
46210 Picaña (Valencia – Spain)

Test specifications:

Standard : IEC 60598-2-1:1979 (Ed.1) + A1:1987 used in conjunction with
IEC 60598-1:2014 (Ed.8)

Test procedure : CE SAFE

Non-standard test method : N/A

Test Report Form No. : 03IEC60598_2_1E8_A

Test Report Form(s) Originator : Tecnocert

Master Test Report Form : Dated 02-2017

The reflected results are property of the applicant and without his/her previous authorisation they will not be communicated to a mediator.

Testing laboratory accepts no responsibility for damages resulting for use or improper interpretation of the information contained in this document.

Test item description : Fixed luminaire

Trade mark : 

Manufacturer : AIRFAL INTERNATIONAL, S.L

Model/Type reference : MUSTANG / Q0857T

Ratings : 220-240V. 50-60Hz. Class I. LED. 42W. 5240lm. Convertor.
IP68 2m. IK10. ta 60°C

List of attachments (including a total number pages in each attachment):

Attachment No. 1: European Group Differences and National Differences of EN 60598-1 and EN 60598-2-1, total 2 pages.

Attachment No. 2: Photo document, total 2 pages.

Summary of testing: The appliance AIRFAL reference Q0857T is **accordant** with the sections analysed in this test report.

Test performed (name of test and clause):

- IEC 60598-1:2014 (Ed.8),
IEC 60598-2-1:1979 (Ed.1) + A1:1987
- EN 60598-1:2015 + AC:2015 + AC:2016,
EN 60598-2-1:1989, attachment No. 1
- Q0857T was subjected to the clause 12.4 (tc only)

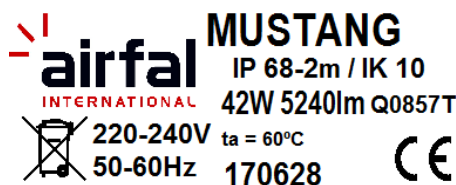
Testing location:

TECNOCREA, S.L.
C/ Colón, 41
46210 Picaña (Valencia – Spain)

Summary of compliance with National Differences:

List of countries addressed

☐ The product fulfils the requirements of _____ (insert standard number and edition and delete the text in parenthesis, leave it blank or delete the whole sentence, if not applicable)

Copy of marking plate

Remark: Height of CE mark at least 5 mm, height of other marks at least 5 mm, height of letters and numbers at least 2 mm.

Test item particulars:

Classification of installation and use : Suitable for direct mounting on normally flammable surfaces. Indoor / outdoor use

Supply connection : Connector

Protection class : Class I

Degree of protection : IP68 2m

ta : 60°C

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 : 27-04-2017

Date (s) of performance of tests : 29-05-2017 / 27-06-2017

Environmental conditions:

Temperature (min. / max.) : 58°C / 60°C

Relative humidity (min. / max) : 41% / 43%

General remarks:

ENAC is signature of EA (European co-operation for Accreditation) Multilateral Agreement on test matters. The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the issuing testing laboratory.

Uncertainties of measurements are calculated and available to the customer.

"(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 is used as the decimal separator.

Clause numbers between parentheses refer to clauses in IEC 60598-1.

According to the EU directives which have been aligned with EN NLF (new legislative framework), the manufacturer or importer's name and postal address shall be affixed on the product or, where that is not possible, on its packaging or in a document accompanying the product before the product is placed on the EU market.

General product information:

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.2 (0)	GENERAL TEST REQUIREMENTS		—
1.2 (0.1)	Information for luminaire design considered	Yes ☒ No ☐	—
1.2 (0.3)	More sections applicable	Yes ☐ No ☒	—

1.4 (2)	CLASSIFICATION		—
1.4 (2.2)	Type of protection	Class I	—
1.4 (2.3)	Degree of protection	IP68 2m	—
1.4 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces	Yes ☒ No ☐	—
1.4 (2.5)	Luminaire for normal use	Yes ☒ No ☐	—
	Luminaire for rough service	Yes ☐ No ☒	—

1.12 (12)	ENDURANCE TEST AND THERMAL TEST		—
1.12 (-)	If IP > IP20 relevant test of (12.4), (12.5) and (12.6) after (9.2) before (9.3) specified in 1.13		—
1.12 (12.3)	Endurance test:		—
	- mounting-position	—	—
	- test temperature (°C)	—	—
	- total duration (h)	—	—
	- supply voltage: Un factor; calculated voltage (V):	—	—
	- lamp used	—	—
1.12 (12.3.2)	After endurance test:		—
	- no part unserviceable		—
	- luminaire not unsafe		—
	- no damage to track system		—
	- marking legible		—
	- no cracks, deformation etc.		—
1.12 (12.4)	Thermal test (normal operation)	(see annex 1)	P
1.12 (12.5)	Thermal test (abnormal operation)	(see annex 1)	—
1.12 (12.6)	Thermal test (failed lamp control gear condition)		N/A
1.12 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A)		—
	- case of abnormal conditions		—
	- electronic lamp control gear		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- measured winding temperature (°C): at 1,1 Un.. :		—
	- measured mounting surface temperature (°C) at 1,1 Un		—
	- calculated mounting surface temperature (°C)... :		—
	- track-mounted luminaires		—
1.12 (12.6.2)	Temperature sensing control		—
	- case of abnormal conditions		—
	- thermal link		—
	- manual reset cut-out		—
	- auto reset cut-out		—
	- measured mounting surface temperature (°C)... :		—
	- track-mounted luminaires		—
1.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
1.12 (12.7.1)	Luminaire without temperature sensing control		N/A
1.12 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70 W		N/A
	Test method 12.7.1.1 or annex W		—
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions		—
	- Ballast failure at supply voltage (V)		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to annex W		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un.. :		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un		—
	- calculated temperature of fixing point/exposed part (°C)		—
	Ball-pressure test.....	See table 1.15 (13.2.1)	N/A
1.12 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70 W, transformer > 10 VA		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un.. :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un		—
	- calculated temperature of fixing point/exposed part (°C)		—
	Ball-pressure test.....	See table 1.15 (13.2.1)	N/A
1.12 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
1.12 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link	Yes ☐ No ☐	—
	- manual reset cut-out.....	Yes ☐ No ☐	—
	- auto reset cut-out	Yes ☐ No ☐	—
	- case of abnormal conditions		—
	- highest measured temperature of fixing point/exposed part (°C)		—
	Ball-pressure test.....	See table 1.15 (13.2.1)	N/A

1.15 (13.2.1)	Table: Ball pressure test of thermoplastic			—
Allowed impression diameter (mm).....:		≤ 2 mm		—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
Supplementary information:				

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
Attachment No. 1	European group differences and national differences		—

ATTACHMENT TO TEST REPORT IEC 60598-2-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Luminaire Part 2: Particular requirements Section 1: Fixed general purpose luminaires			
Differences according to.....: EN 60598-1:2015 + AC:2015 + AC:2016 EN 60598-2-1:1989			
Attachment No.....: 03EU_GD_IEC60598_2_1_00			
Attachment originator: Tecnocert			
Master attachment.....: Dated 07-2016			

	CENELEC COMMON MODIFICATIONS (EN)		—
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1.5 (3)	MARKING		—
1.5 (3.3.101)	For luminaires not supplied with terminal block: Adequate warning on the package		—

1.6 (4)	CONSTRUCTION		—
1.6 (4.11.6)	Electro-mechanical contact systems		—

1.10 (5)	EXTERNAL AND INTERNAL WIRING		—
1.10 (5.2.1)	Connecting leads		—
	- without a means for connection to the supply		—
	- terminal block specified		—
	- relevant information provided		—
	- compliance with 4.6, 4.7.1, 4.7.2, 4.10.1, 11.2, 12 and 13.2 of Part 1		—
1.10 (5.2.2)	Cables equal to EN 50525		—
	Replace table 5.1 – Supply cord		—

1.12 (12)	ENDURANCE TESTS AND THERMAL TESTS		—
1.12 (12.4.2.c)	Thermal test (normal operation), see footnote c to table 12.2 relating to unsleeved fixed wiring		—

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		—
(3.3)	DK: power supply cords of class I luminaires with label		—
(4.5.1)	DK: socket-outlets		—
(5.2.1)	CY, DK, FI, GB: type of plug		—
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		—
(4 & 5)	FR: Shuttered socket-outlets 10/16A		—
	FR: Safety Requirements for high buildings (Arrêté du 30 décembre 2011 portant règlement de sécurité pour la constructions des immeubles de grande hauteur et leur protection contre les risques d'incendie et de panique; Section VIII; Article GH 48, Eclairage) Glow-wire test for outer parts of luminaires:		—
	- 850°C for luminaires in stairways and horizontal travel paths		—
	- 650°C for indoor luminaires		—
	GB: Requirements according to United Kingdom Building Regulation		—

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
Attachment No. 2	Photo document		—



IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

