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| TEST REPORT IEC 60598-2-1 Luminaires Part 2: Particular requirements Section 1: Fixed general purpose luminaires | |
| Test Report number: SAFEAIRFA210301.00 Tested by (name + signature): Carlos Royo Laboratory Technician Approved by (name + signature): David Latorre Technical Director (Document signed by means of electronic signature) Date of issue: 12-03-2021 Total number of pages: 10 |  |
| Applicant's name: AIRFAL INTERNATIONAL, S.L. Address: C/ Rio Esera, 4. Polígono Industrial San Miquel 50830 Villanueva de Gállego (Zaragoza – Spain) | |
| Testing laboratory: IMQ TECNOCREA, S.L. Address: C/ Sèquia de Benàger, 23. Pol. Ind. Alquería de Moret 46210 Picanya (Valencia – Spain) | |
| Test specifications: Standard: IEC 60598-2-1:1979 (Ed.1) + A1:1987 used in conjunction with IEC 60598-1:2014 (Ed.8) + COR1:2015 + COR2:2015+ COR3:2017 + A1:2017 Test procedure: CE SAFE Non-standard test method: N/A | |
| Test Report Form No: 03IEC60598_2_1E8_GA Test Report Form(s) Originator: Tecnocert Master Test Report Form: Dated 10-2020 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. Testing laboratory accepts no responsibility for the information provided by the applicant. | |
| Test item description: Fixed luminaire Trade mark:  Manufacturer: AIRFAL INTERNATIONAL, S.L. Model/Type reference: ORION / OR123 Ratings: 220-240V. 50-60Hz. Class I. LED. 16W. IP67. | |

The tests marked with * are not covered by the accreditation of ENAC

List of attachments (including a total number of 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 3 pages.

Summary of testing: The luminaire AIRFAL reference OR123 is **accordant** with the clauses analysed in this test report.

Test performed (name of test and/or clause):

- IEC 60598-1:2014 (Ed.8) + COR1:2015 + COR2:2015+ COR3:2017 + A1:2017, IEC 60598-2-1:1979 (Ed.1) + A1:1987
- EN 60598-1:2015 + AC:2015 + AC:2016 + AC:2017-05 + A1:2018, EN 60598-2-1:1989 attachment No. 1
 - Reference OR123 was subjected to clauses (9.2)

Testing location:

IMQ TECNOCREA, S.L.
C/ Sèquia de Benàger, 23
Pol. Ind. Alquería de Moret
46210 Picanya (Valencia – Spain)

Summary of compliance with National Differences:

List of countries addressed: N/A

Copy of marking plate:

Location: Enclosure

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.

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| Test item particulars: | |
| Classification of installation and use | : Suitable for direct mounting on normally flammable surfaces, outdoor/indoor use |
| Supply connection | : Connector |
| Protection class | : Class I |
| Degree of protection..... | : IP67 |
| ta | : 25°C |
| Possible test case verdicts: | |
| - test case does not apply to the test object..... | : N/A |
| - test object dos meet the requirement | : P (Pass) |
| - test object does not meet the requirement | : F (Fail) |
| Testing: | |
| Date of receipt of test item | : 10-03-2021 |
| Date (s) of performance of tests..... | : 10-03-2021 to 12-03-2021 |
| Environmental conditions: | |
| Temperature (min. / max.)..... | : 20°C / 30°C |
| Relative humidity (min. / max)..... | : 30% / 60% |

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| 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. When decision rule for the statement of conformity is not inherent in the standard, then the binary statement for simple acceptance (or reject) rule is applied ($w=0$). In this case, the risk of false acceptance (or false reject) is up to 50%. 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: |
| - References covered in this test report: OR113, OR114, OR123, OR124, OR213, OR214, OR223, OR224, OR313, OR314, OR323 and OR324. |

| IEC 60598-2-1 | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |
| 1.2 + 1.4 (0+2) | CLASSIFICATION OF LUMINAIRES | | — |
| 1.2 (0) | General requirements and tests | | — |
| 1.2 (0.3) | More sections applicable.....: | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | — |
| 1.2 (0.5) | Components | (see Annex 1) | — |
| 1.2 (0.7) | Information for luminaire design in light sources standards | | — |
| 1.2 (0.7.2) | Light source safety standard.....: | IEC/EN 62031 | — |
| | Luminaire design in the light source safety standard | | — |
| 1.4 (2) | Classification of luminaires | | — |
| 1.4 (2.2) | Type of protection | Class I | — |
| 1.4 (2.3) | Degree of protection.....: | IP67 | — |
| 1.4 (2.4) | Luminaire suitable for direct mounting on normally flammable surfaces | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | — |
| 1.4 (2.5) | Luminaire for normal use | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | — |
| | Luminaire for rough service.....: | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | — |

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| 1.13 (9) | RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE | | — |
| (-) | If IP > IP20 the order of tests as specified in clause 1.13 | | — |
| 1.13 (9.2) | Tests for ingress of dust, solid objects and moisture | | — |
| | - classification according to IP.....: | IP67 | — |
| | - mounting position during test.....: | (according Instructions) | — |
| | - fixing screws tightened; torque (Nm) | 2/3 torque | — |
| | - tests according to clauses.....: | 9.2.2 / 9.2.8 | — |
| | - electric strength test afterwards | | P |
| | a) no deposit in dust-proof luminaire | | N/A |
| | b) no talcum in dust-tight luminaire | | P |
| | c) no trace of water on current-carrying parts or on insulation where it could become a hazard | | P |
| | c.1) For luminaires without drain holes – no water entry | | P |
| | c.2) For luminaires with drain holes – no hazardous water entry | | N/A |
| | d) no water in watertight luminaire or pressure watertight luminaire | | P |
| | e) no contact with live parts (IP2X) | | N/A |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| | e) no entry into enclosure (IP3X and IP4X) | | N/A |
| | e) no contact with live parts through drain holes and ventilation slots (IP3X and IP4X) | | N/A |
| | f) no trace of water on part of lamp requiring protection from splashing water | | N/A |
| | g) no damage of protective shield or glass envelope | | P |
| 1.13 (9.3) | Humidity test 48 h | | — |

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| 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 | | | |
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| Differences according to : EN 60598-1:2015 + AC:2015 + AC:2016 + A1:2018 EN 60598-2-1:1989 | | | |
| Attachment No..... : 03EU_GD_IEC60598_2_1E8_EA | | | |
| Attachment originator : Tecnocert | | | |
| Master attachment : Dated 09-2018 | | | |

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| | CENELEC COMMON MODIFICATIONS (EN) | — |
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| 1.6 (4) | CONSTRUCTION | — |
| 1.6 (4.11.6) | Electro-mechanical contact systems | — |

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| 1.10 (5) | EXTERNAL AND INTERNAL WIRING | — |
| 1.10 (5.2.2) | Cables equal to EN 50525 | — |
| | Replace table 5.1 – Supply cord | — |

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| 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 | — |

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| 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 | — |

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| ZC | ANNEX ZC, NATIONAL DEVIATIONS (EN) | — |
| (4 & 5) | FR: Shuttered socket-outlets 10/16A | — |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| | 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 | | — |
| ZZ | ANNEX ZZ, Relationship between this European standard and the safety objectives of Directive 2014/35/EU [2014 OJ OL96] | | — |
| | ZZ.1: Correspondence between this European standard and Annex I of Directive 2014/35/EU [2014 OJ L96] | | — |

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



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



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

