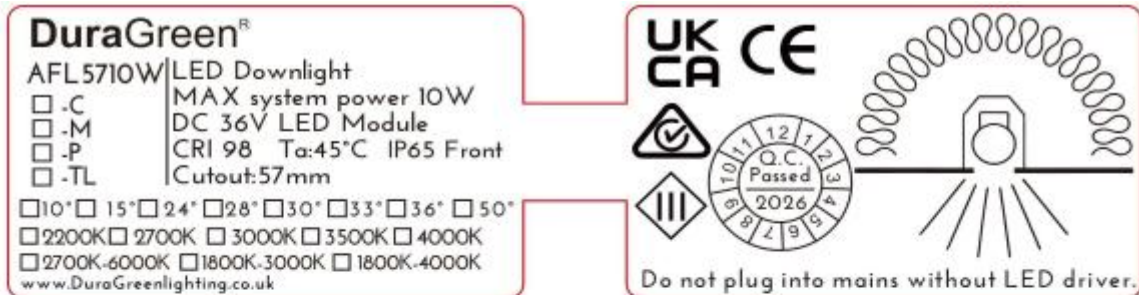


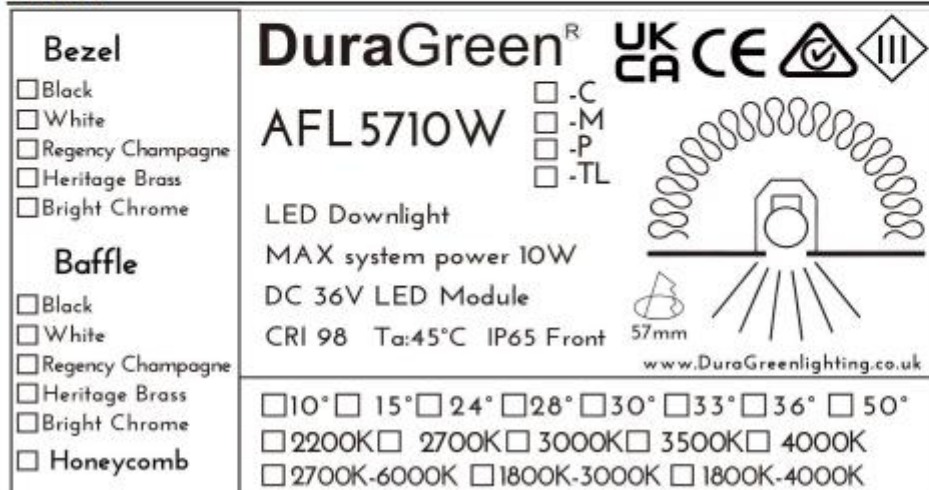
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### Copy of marking plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



### Box Label



### Marking Label for Model AFL5710W Dura Green Downlight

#### ACT NZ Limited trading as Auckland Lab

Address: 1066E Great South Road, Mount Wellington Auckland 1060, New Zealand  
 Tel: +64-9-9720866 / 9720865 Email: [service@aucklandlab.co.nz](mailto:service@aucklandlab.co.nz)

Website: [www.aucklandlab.co.nz](http://www.aucklandlab.co.nz)

TRF No. ACT-TRF-60598\_2\_2 ZZ Revision 3.0

|                                                     |                                                                                       |
|-----------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Test item particulars .....</b>                  | Recessed Downlights                                                                   |
| <b>Classification of installation and use .....</b> | Intended to be connected to fixed wiring via independent AS/NZS approved control gear |
| <b>Supply Connection.....</b>                       | Supply leads                                                                          |

|                                                     |          |
|-----------------------------------------------------|----------|
| <b>Possible test case verdicts:</b>                 |          |
| - 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) |
| - object for information or notification only ..... | Noted    |

|                                               |                        |
|-----------------------------------------------|------------------------|
| <b>Testing.....</b>                           |                        |
| <b>Date of receipt of test item .....</b>     | 03/07/2026             |
| <b>Date (s) of performance of tests .....</b> | 03/07/2026– 29/07/2026 |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>General remarks:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
| <p>The test results presented in this report relate only to the object tested.<br/>         This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.<br/>         "(see Enclosure #)" refers to additional information appended to the report.<br/>         "(see appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p> <p>All our IECEE testing equipment met the accuracy requirements in accordance with IECEE OD-5014:2019. if required, it is available in the ACT NZ LTD Testing laboratory at customer's request. Determination of the test results from IEC standards in CB scheme includes consideration of measurement uncertainty from the accuracy of these test equipment. For these testing standards which are outside the scope of IEC CB Scheme, the decision rule regarding measurement uncertainty is not taken into account when making compliance decisions.</p> |  |

## Technical Notes:

### DuraGreen ACME 57 Models

#### LED Engine Tag

**DuraGreen<sup>®</sup>**  
AFL5710W LED Downlight

☐ -C MAX system power 10W  
☐ -M DC 36V LED Module  
☐ -P CRI 98 Ta:45°C IP65 Front  
☐ -TL Cutout:57mm

☐ 10° ☐ 15° ☐ 24° ☐ 28° ☐ 30° ☐ 33° ☐ 36° ☐ 50°  
☐ 2200K ☐ 2700K ☐ 3000K ☐ 3500K ☐ 4000K  
☐ 2700K-6000K ☐ 1800K-3000K ☐ 1800K-4000K  
[www.DuraGreenlighting.co.uk](http://www.DuraGreenlighting.co.uk)

Do not plug into mains without LED driver.



#### Box Label

**Bezel**

☐ Black  
☐ White  
☐ Regency Champagne  
☐ Heritage Brass  
☐ Bright Chrome

**Baffle**

☐ Black  
☐ White  
☐ Regency Champagne  
☐ Heritage Brass  
☐ Bright Chrome  
☐ Honeycomb

**DuraGreen<sup>®</sup>**  
AFL5710W

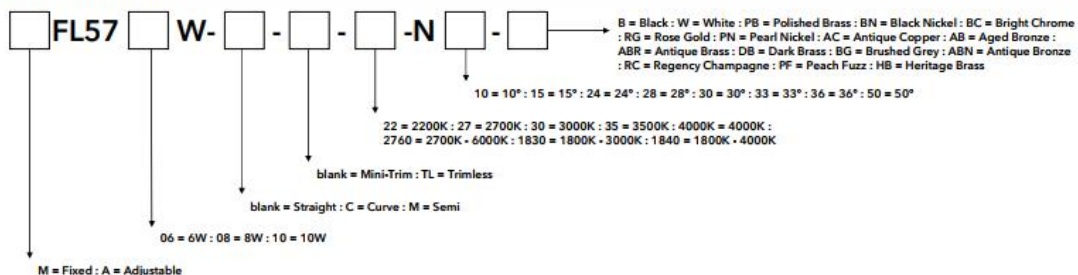
☐ -C  
☐ -M  
☐ -P  
☐ -TL

LED Downlight  
MAX system power 10W  
DC 36V LED Module  
CRI 98 Ta:45°C IP65 Front 57mm

☐ 10° ☐ 15° ☐ 24° ☐ 28° ☐ 30° ☐ 33° ☐ 36° ☐ 50°  
☐ 2200K ☐ 2700K ☐ 3000K ☐ 3500K ☐ 4000K  
☐ 2700K-6000K ☐ 1800K-3000K ☐ 1800K-4000K

[www.DuraGreenlighting.co.uk](http://www.DuraGreenlighting.co.uk)

#### Product Code Structure



-The information provided by the client shows the LED engine label, box label, and product code structure for the DuraGreen ACME 57 LED downlight series.

-The models vary in wattage, shape, trim type, colour temperature, beam angle, and bezel/baffle finish.

-The highest-power model AFL5710W was selected for testing and is considered representative of the other models in the series.

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TRF No. ACT-TRF-60598\_2\_2 ZZ Revision 3.0

**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause     | Requirement - Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Result - Remark | Verdict      |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------|
| <b>ZZ1</b> | <b>SCOPE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 | <b>P</b>     |
|            | This Appendix sets out variations to IEC 60598-2-2, Ed. 3.0 (2011) for Australia and New Zealand, including additional requirements to cover issues not addressed by the International Standard. These variations indicate national variations for the purpose of the IECEE CB Scheme and will be published in the IECEE CB Bulletin                                                                                                                                                                 |                 | Noted        |
| <b>ZZ2</b> | <b>VARIATIONS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 | <b>P</b>     |
| <b>2.1</b> | <b>SCOPE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 | <b>P</b>     |
|            | At the end of 2.1, add the following text                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 | Noted        |
|            | This part also specifies the safety requirements for recessed luminaires to provide adequate protection in respect of the fire risk associated with the combination of recessed luminaires with flammable building elements, flammable debris and building insulation.<br>This Standard is to be read in conjunction with AS/NZS 60598.1. Luminaires within the scope of IEC 60598-2-13, Luminaires, Part 2-13: Particular requirements—Ground recessed luminaires, are excluded from this Standard. |                 | Noted        |
| <b>2.2</b> | <b>NORMATIVE REFERENCES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 | <b>Noted</b> |
|            | Add the following new normative references                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 | Noted        |
|            | AS 60529, Degrees of protection provided by enclosures (IP Code)                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 | Noted        |
|            | AS/NZS 4859.1, Materials for the thermal insulation of buildings — General criteria and technical provisions                                                                                                                                                                                                                                                                                                                                                                                         |                 | Noted        |
|            | AS/NZS 61347 (all parts), Lamp controlgear                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 | Noted        |
|            | IEC 60730-1, Automatic electrical controls — Part 1: General requirements                                                                                                                                                                                                                                                                                                                                                                                                                            |                 | Noted        |
|            | IEC 60730-2 (all parts), Automatic electrical controls for household and similar use                                                                                                                                                                                                                                                                                                                                                                                                                 |                 | Noted        |
|            | IEC 61032, Protection of persons and equipment by enclosures — Probes for verification                                                                                                                                                                                                                                                                                                                                                                                                               |                 | Noted        |

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TRF No. ACT-TRF-60598\_2\_2 ZZ Revision 3.0

**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause  | Requirement - Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Result - Remark                                             | Verdict |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|---------|-----------|---|---------------------------------------------------|--------------------------------|---|----------------------------------------------------------------------------------------|--------------------------------|---|-------------------------------------------------------------------------------------|--------------------------------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---|-------------------------------------------------|--------------------------------|----|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--|-------|
|         | IEC 62733, Programmable components in electronic lamp controlgear — General and safety requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                             | Noted   |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |
| 2.3 (0) | GENERAL TEST REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                             | P       |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |
|         | Delete existing text and replace with the following                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                             | Noted   |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |
|         | The provisions of Section 0 of AS/NZS 60598.1 apply.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                             | P       |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |
|         | The tests specified in each appropriate section of AS/NZS 60598.1 shall be carried out in the order listed in this part for all luminaires other than those with an IP rating greater than IP2X and those classified as CA90, CA135, IC and IC-4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | IC rated luminaires.<br><br>Refer to marking plate section. | N/A     |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |
|         | For luminaires with an IP classification greater than IP2X, and those classified as CA90, CA135, IC and IC-4, the tests specified in each appropriate section of AS/NZS 60598.1 shall be carried out in the order listed in this part, except for the tests listed in Table ZZ1, which shall be performed in the order listed in Table ZZ1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                             | Noted   |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |
|         | <div>Table ZZ1 — Order of tests of Sections 2.13, 2.14 and 2.15 for luminaires with an IP classification greater than IP2X, or those classified as CA90, CA135, IC or IC-4</div> <table><tr><th>Order</th><th>Test</th><th>Reference</th></tr><tr><td>1</td><td>Endurance test of Section 12.3 of AS/NZS 60598.1.</td><td>Section 2.13 of this Standard.</td></tr><tr><td>2</td><td>Test for ingress of dust, solid objects and moisture of Section 9.2 of AS/NZS 60598.1.</td><td>Section 2.14 of this Standard.</td></tr><tr><td>3</td><td>Ingress test (for the appropriate classification) of Section 2.14 of this Standard.</td><td>Section 2.14 of this Standard.</td></tr><tr><td>4</td><td>Thermal test (normal operation) of Section 12.4 of AS/NZS 60598.1 and normal operation test (for the appropriate classification) of Section 2.13 of this Standard.<br/>NOTE Apply these tests together as one test.</td><td>Section 2.13 of this Standard.</td></tr><tr><td>5</td><td>Thermal test (abnormal operation) of Section 12.5 of AS/NZS 60598.1.<br/>NOTE Conditions 12.5.1 a) 1), 2), 3) and 4) are applied as appropriate.</td><td>Section 2.13 of this Standard.</td></tr><tr><td>6</td><td>Abnormal operation test (for the appropriate classification) of Section 2.13 of this Standard.<br/>NOTE Classifications IC and IC-4 do not have this abnormal operation test as their normal test conditions are the same as the abnormal test conditions for other classifications.</td><td>Section 2.13 of this Standard.</td></tr><tr><td>7</td><td>Thermal test (failed windings in lamp controlgear) of Section 12.6 of AS/NZS 60598.1.<br/>NOTE Apply test as appropriate, if applicable.</td><td>Section 2.13 of this Standard.</td></tr><tr><td>8</td><td>Thermal test in regard to fault conditions in lamp controlgear or electronic devices incorporated in thermoplastic luminaires of Section 12.7 of AS/NZS 60598.1.<br/>NOTE Apply test as appropriate, if applicable.</td><td>Section 2.13 of this Standard.</td></tr><tr><td>9</td><td>Humidity test of Section 9.3 of AS/NZS 60598.1.</td><td>Section 2.14 of this Standard.</td></tr><tr><td>10</td><td>Insulation resistance and electric strength, touch current and protective conductor current tests of Section 10 of AS/NZS 60598.1.</td><td>Section 2.15 of this Standard.</td></tr></table> <div>NOTE 1 For luminaires of classifications other than those specified in Table ZZ1, the order of tests is as set out in Sections 2.13 to 2.15 of this Standard. For devices not covered by this table, the order of tests in Section 2.13 applies.<br/>NOTE 2 For the tests of AS/NZS 60598.1, 12.3, 12.4, 12.5 conditions 12.5.1 a) 1), 2), 3) and 4), 12.6 and 12.7:<br/>– The appropriate test box of this Standard's normal operation test is used.<br/>– Other test conditions are applied as specified in the requirements listed in the particular AS/NZS 60598.1 section and, for 12.4 tests, taking into account the modifications to Section 12.4 of this Standard.</div> | Order                                                       | Test    | Reference | 1 | Endurance test of Section 12.3 of AS/NZS 60598.1. | Section 2.13 of this Standard. | 2 | Test for ingress of dust, solid objects and moisture of Section 9.2 of AS/NZS 60598.1. | Section 2.14 of this Standard. | 3 | Ingress test (for the appropriate classification) of Section 2.14 of this Standard. | Section 2.14 of this Standard. | 4 | Thermal test (normal operation) of Section 12.4 of AS/NZS 60598.1 and normal operation test (for the appropriate classification) of Section 2.13 of this Standard.<br>NOTE Apply these tests together as one test. | Section 2.13 of this Standard. | 5 | Thermal test (abnormal operation) of Section 12.5 of AS/NZS 60598.1.<br>NOTE Conditions 12.5.1 a) 1), 2), 3) and 4) are applied as appropriate. | Section 2.13 of this Standard. | 6 | Abnormal operation test (for the appropriate classification) of Section 2.13 of this Standard.<br>NOTE Classifications IC and IC-4 do not have this abnormal operation test as their normal test conditions are the same as the abnormal test conditions for other classifications. | Section 2.13 of this Standard. | 7 | Thermal test (failed windings in lamp controlgear) of Section 12.6 of AS/NZS 60598.1.<br>NOTE Apply test as appropriate, if applicable. | Section 2.13 of this Standard. | 8 | Thermal test in regard to fault conditions in lamp controlgear or electronic devices incorporated in thermoplastic luminaires of Section 12.7 of AS/NZS 60598.1.<br>NOTE Apply test as appropriate, if applicable. | Section 2.13 of this Standard. | 9 | Humidity test of Section 9.3 of AS/NZS 60598.1. | Section 2.14 of this Standard. | 10 | Insulation resistance and electric strength, touch current and protective conductor current tests of Section 10 of AS/NZS 60598.1. | Section 2.15 of this Standard. |  | Noted |
| Order   | Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Reference                                                   |         |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |
| 1       | Endurance test of Section 12.3 of AS/NZS 60598.1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Section 2.13 of this Standard.                              |         |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |
| 2       | Test for ingress of dust, solid objects and moisture of Section 9.2 of AS/NZS 60598.1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Section 2.14 of this Standard.                              |         |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |
| 3       | Ingress test (for the appropriate classification) of Section 2.14 of this Standard.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Section 2.14 of this Standard.                              |         |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |
| 4       | Thermal test (normal operation) of Section 12.4 of AS/NZS 60598.1 and normal operation test (for the appropriate classification) of Section 2.13 of this Standard.<br>NOTE Apply these tests together as one test.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Section 2.13 of this Standard.                              |         |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |
| 5       | Thermal test (abnormal operation) of Section 12.5 of AS/NZS 60598.1.<br>NOTE Conditions 12.5.1 a) 1), 2), 3) and 4) are applied as appropriate.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Section 2.13 of this Standard.                              |         |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |
| 6       | Abnormal operation test (for the appropriate classification) of Section 2.13 of this Standard.<br>NOTE Classifications IC and IC-4 do not have this abnormal operation test as their normal test conditions are the same as the abnormal test conditions for other classifications.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Section 2.13 of this Standard.                              |         |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |
| 7       | Thermal test (failed windings in lamp controlgear) of Section 12.6 of AS/NZS 60598.1.<br>NOTE Apply test as appropriate, if applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Section 2.13 of this Standard.                              |         |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |
| 8       | Thermal test in regard to fault conditions in lamp controlgear or electronic devices incorporated in thermoplastic luminaires of Section 12.7 of AS/NZS 60598.1.<br>NOTE Apply test as appropriate, if applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Section 2.13 of this Standard.                              |         |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |
| 9       | Humidity test of Section 9.3 of AS/NZS 60598.1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Section 2.14 of this Standard.                              |         |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |
| 10      | Insulation resistance and electric strength, touch current and protective conductor current tests of Section 10 of AS/NZS 60598.1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Section 2.15 of this Standard.                              |         |           |   |                                                   |                                |   |                                                                                        |                                |   |                                                                                     |                                |   |                                                                                                                                                                                                                    |                                |   |                                                                                                                                                 |                                |   |                                                                                                                                                                                                                                                                                     |                                |   |                                                                                                                                         |                                |   |                                                                                                                                                                                                                    |                                |   |                                                 |                                |    |                                                                                                                                    |                                |  |       |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause | Requirement - Test | Result - Remark | Verdict |
|--------|--------------------|-----------------|---------|
|--------|--------------------|-----------------|---------|

|  |                                                                                                                                     |  |       |
|--|-------------------------------------------------------------------------------------------------------------------------------------|--|-------|
|  | Controlgear that complies separately with a relevant standard shall, in addition, be assessed to the requirements of this Standard. |  | Noted |
|  | A procedure for measuring ambient temperature in an installation is given in Annex A.                                               |  | Noted |

|                |                                                                                                                                                                                                                                                                                                                        |  |              |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------|
| <b>2.4 (1)</b> | <b>DEFINITIONS</b>                                                                                                                                                                                                                                                                                                     |  | <b>Noted</b> |
|                | Delete existing text and replace with the following                                                                                                                                                                                                                                                                    |  | Noted        |
|                | For the purposes of this document, the definitions of Section 1 of AS/NZS 60598.1 apply, along with the following                                                                                                                                                                                                      |  | Noted        |
|                | 2.4.101 Non-IC luminaire<br>a recessed luminaire that cannot be abutted against or covered by normally flammable materials or used in installations where building insulation or debris is, or may be, present in normal use                                                                                           |  | Noted        |
|                | 2.4.102 Do-not-cover luminaire<br>a recessed luminaire that can be used where normally flammable materials, including building insulation, are or may be present, but cannot be abutted against any material and cannot be covered in normal use.                                                                      |  | Noted        |
|                | 2.4.103.1 CA90 luminaire<br>a recessed luminaire that can be abutted against normally flammable materials, including building insulation but cannot be covered in normal use. Building elements, building insulation or debris have limited access (see 2.4.106) to the heated parts of the luminaire                  |  | Noted        |
|                | 2.4.103.2 CA135 luminaire (New Zealand only)<br>a recessed luminaire that can be abutted against normally flammable materials, including building insulation but cannot be covered in normal use. Building elements, building insulation or debris have some access (see 2.4.107) to the heated parts of the luminaire |  | Noted        |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause | Requirement - Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Result - Remark | Verdict |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
|        | 2.4.104.1 IC luminaire<br>a recessed luminaire that can be abutted against normally flammable materials, including building insulation, and can be covered in normal use. Building elements, building insulation or debris have limited access (see 2.4.106) to the heated parts of the luminaire                                                                                                                                                                                                                                              |                 | Noted   |
|        | 2.4.104.2 IC-4 luminaire<br>a recessed luminaire that can be abutted against normally flammable materials, including building insulation, and can be covered in normal use. Building elements, building insulation or debris have restricted access (see 2.4.108) to the heated parts of the luminaire. This classification of recessed luminaire is effectively a sealed unit that has a restricted flow of air between the habitable room the luminaire emits light into and the void/space where the main body of the luminaire is located. |                 | Noted   |
|        | 2.4.105 outside surface of the luminaire                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 | Noted   |
|        | the surface of the luminaire that can be accessed by the probe specified for the classification of the luminaire                                                                                                                                                                                                                                                                                                                                                                                                                               |                 | Noted   |
|        | 2.4.106 limited access                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 | Noted   |
|        | parts accessible to a 5.6 mm diameter probe are not permitted to have surface temperatures exceeding 90 °C under normal operating conditions, excluding the access face                                                                                                                                                                                                                                                                                                                                                                        |                 | Noted   |
|        | 2.4.107 some access                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 | Noted   |
|        | parts accessible to a 50 mm diameter probe are not permitted to have surface temperatures exceeding 135 °C in normal operation, excluding the access face.                                                                                                                                                                                                                                                                                                                                                                                     |                 | Noted   |
|        | 2.4.108 restricted access                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 | Noted   |
|        | parts accessible to an AS 60529 IP4X probe are not permitted to have surface temperatures exceeding 90 °C in normal operation, including the access face.                                                                                                                                                                                                                                                                                                                                                                                      |                 | Noted   |
|        | 2.4.109 recessed luminaire                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 | Noted   |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause | Requirement - Test                                                                                                                                                                                                                                                                                                                                                                                           | Result - Remark | Verdict |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
|        | a luminaire designed to be recessed into a ceiling, wall, floor or similar surface with an access face which, when installed on a mounting surface, emits light into one area, while the body of the luminaire is located in a separate area on the other side of the mounting surface to the access face. Includes a light source and any components of the luminaire required for the luminaire to operate |                 | Noted   |
|        | NOTE 1 Components may include individual components, such as controlgear that is supplied with the luminaire                                                                                                                                                                                                                                                                                                 |                 | Noted   |
|        | NOTE 2 Figure ZC1 in Appendix ZC shows the general parts of a recessed luminaire. Appendix ZC also provides examples of recessed luminaire configurations                                                                                                                                                                                                                                                    |                 | Noted   |
|        | 2.4.110 access face                                                                                                                                                                                                                                                                                                                                                                                          |                 | Noted   |
|        | the surface of the luminaire that emits light into the habitable room, i.e. the surface of the luminaire located in the space representative of the underside of a ceiling or, for wall-mounted luminaires, the visible wall face                                                                                                                                                                            |                 | Noted   |

|                |                                                                                                                                                                                                                                         |  |          |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------|
| <b>2.5 (2)</b> | <b>CLASSIFICATION OF LUMINARIES</b>                                                                                                                                                                                                     |  | <b>P</b> |
|                | Delete existing text and replace with the following                                                                                                                                                                                     |  | Noted    |
| 2.5.101        | Luminaires shall be classified in accordance with the provisions of Section 2 of AS/NZS 60598.1, along with the following.                                                                                                              |  | Noted    |
|                | Luminaires shall be classified according to their suitability for use near, or being covered with, building elements or thermal insulation, or both, in accordance with Clause 2.5.102 for Australia or Clause 2.5.103 for New Zealand. |  | P        |
|                | NOTE Appendix ZD provides information and guidance on the classifications, symbols, applications and general restrictions on recessed luminaires.                                                                                       |  | Noted    |
| 2.5.102        | Australian classifications                                                                                                                                                                                                              |  | P        |
|                | Luminaires shall be classified as one of the following:                                                                                                                                                                                 |  | P        |
|                | a). Non-IC                                                                                                                                                                                                                              |  | N/A      |

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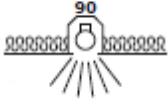
| Clause         | Requirement - Test                                                                                                                                                      | Result - Remark                                                 | Verdict  |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|----------|
|                | b). Do-not-cover                                                                                                                                                        |                                                                 | N/A      |
|                | c). CA90                                                                                                                                                                |                                                                 | N/A      |
|                | d). IC                                                                                                                                                                  | <i>Model AFL5710W</i><br><i>Refer to Marking Plate Section.</i> | P        |
|                | e). IC-4                                                                                                                                                                |                                                                 | N/A      |
| 2.5.103        | New Zealand classifications                                                                                                                                             |                                                                 | P        |
|                | Luminaires shall be classified as one of the following:                                                                                                                 |                                                                 | P        |
|                | a). Non-IC                                                                                                                                                              |                                                                 | N/A      |
|                | b). Do-not-cover                                                                                                                                                        |                                                                 | N/A      |
|                | c). CA90                                                                                                                                                                |                                                                 |          |
|                | d). CA135                                                                                                                                                               |                                                                 |          |
|                | e). IC                                                                                                                                                                  | <i>Model AFL5710W</i><br><i>Refer to Marking Plate Section.</i> | P        |
|                | f). IC-4                                                                                                                                                                |                                                                 | N/A      |
| <b>2.6 (3)</b> | <b>MARKING</b>                                                                                                                                                          |                                                                 | <b>P</b> |
| 2.6.101        | General                                                                                                                                                                 |                                                                 | P        |
|                | The provisions of Clause 3 of AS/NZS 60598.1 apply, along with the following:                                                                                           |                                                                 | P        |
|                | – Clause 3.2.21 of AS/NZS 60598.1 is replaced by Clause 2.6.102.                                                                                                        |                                                                 | Noted    |
|                | – The additional requirements of Clause 2.6.103 and Clause 2.6.104 apply, as applicable.                                                                                |                                                                 | Noted    |
| 2.6.102        | Luminaire symbol marking                                                                                                                                                |                                                                 | P        |
|                | Recessed luminaires shall be marked with the symbol shown in the appropriate figure of this Clause, corresponding to their classification in accordance with Clause 2.5 |                                                                 | P        |
|                | Non-IC luminaires shall be marked with the symbol shown in Figure 101.<br>           | <i>Not this type of luminaire.</i>                              | N/A      |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause | Requirement - Test                                                                                                                                                                                                                                                                                                                                                                                  | Result - Remark                    | Verdict |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------|
|        | <p>Exception: For 24 months from the date of publication of this Standard, Non-IC luminaires may be marked with the symbol shown in Figure 201 in lieu of the symbol shown in Figure 101. Permitted exception symbol for NON-IC Luminaires</p>                                                                     |                                    | N/A     |
|        | <p>Do-not-cover luminaires shall be marked with the symbol shown in Figure 102.</p>                                                                                                                                                                                                                                | <i>Not this type of luminaire.</i> | N/A     |
|        | <p>CA90 luminaires shall be marked with the symbol shown in Figure 103.</p>                                                                                                                                                                                                                                      |                                    | N/A     |
|        | <p>Exception: For 24 months from the date of publication of this Standard, luminaires that comply with the requirements for CA80 luminaires in accordance with AS/NZS 60598.2.2: 2001, New Zealand only Amendment A, may be marked with the symbol shown in Figure 202 in lieu of the symbol shown in Figure 103. Such CA80 luminaires are deemed to meet the requirements for CA90 luminaires.</p> |                                    | N/A     |
|        | <p>24 months from the date of publication of this standard, this exception will cease to apply.</p>                                                                                                                                                                                                                                                                                                 |                                    | N/A     |
|        | <p>Permitted exception symbol for CA90 luminaires (for luminaires that comply with CA80 requirements of NEW ZEALAND only Amendment A of AS/NZS 60598.2.2.2001)</p>                                                                                                                                               |                                    | N/A     |

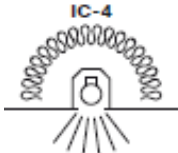
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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause | Requirement - Test                                                                                                                                                                                                                                                                                                                                                         | Result - Remark                                                               | Verdict |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|---------|
|        | In New Zealand, CA135 luminaires shall be marked with the symbol shown in Figure 104.                                                                                                                                                                                                                                                                                      |                                                                               | N/A     |
|        |                                                                                                                                                                                                                                                                                           |                                                                               | N/A     |
|        | <p>Exception: For 24 months from the date of publication of this Standard, CA135 luminaires may be marked with the symbol shown in Figure 203 in lieu of the symbol shown Figure 104. 24 months from the date of publication of this Standard, this exception will cease to apply.</p>   |                                                                               | N/A     |
|        | <p>IC luminaires shall be marked with the symbol shown in Figure 105.</p>                                                                                                                                                                                                               | <p><i>IC Symbol marked.</i></p> <p><i>Refer to marking plate section.</i></p> | P       |
|        | <p>Exception: For 24 months from the date of publication of this Standard, IC luminaires may be marked with the symbol shown in Figure 204 in lieu of the symbol shown in Figure 105. 24 months from the date of publication of this Standard, this exception will cease to apply.</p>  |                                                                               | N/A     |
|        | <p>IC-4 luminaires shall be marked with the symbol shown in Figure 106.</p>                                                                                                                                                                                                             |                                                                               | N/A     |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause    | Requirement - Test                                                                                                                                                                                                                                                                                                                                                        | Result - Remark                                                           | Verdict |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------|
|           | Exception: For 24 months from the date of publication of this Standard, IC-4 luminaires may be marked with the symbol shown in Figure 205 in lieu of the symbol shown in Figure 106.<br>24 months from the date of publication of this Standard, this exception will cease to apply.<br> |                                                                           | N/A     |
| 2.6.103   | Location and durability of marking                                                                                                                                                                                                                                                                                                                                        |                                                                           | P       |
|           | The marking required by Clause 2.6.102 shall be—                                                                                                                                                                                                                                                                                                                          |                                                                           | P       |
|           | a) legible, durable and visible when the luminaire is installed and viewed from behind;                                                                                                                                                                                                                                                                                   |                                                                           | P       |
|           | b) a minimum size of 25 mm × 25 mm; and                                                                                                                                                                                                                                                                                                                                   |                                                                           | P       |
|           | c) permanently marked on the luminaire or on a durable swing tag permanently connected to the luminaire.                                                                                                                                                                                                                                                                  |                                                                           | P       |
|           | The marking shall comply with the durability test requirements of AS/NZS 60598.1.                                                                                                                                                                                                                                                                                         |                                                                           | P       |
| 2.6.104   | Additional information to be supplied with the luminaire                                                                                                                                                                                                                                                                                                                  |                                                                           | P       |
| 2.6.104.1 | General                                                                                                                                                                                                                                                                                                                                                                   |                                                                           | P       |
|           | All recessed luminaires shall be supplied with installation instructions containing the following information:                                                                                                                                                                                                                                                            | <i>Refer to instruction manual.<br/>IC rated:<br/>HCB=MIC=SCB=SCI=0mm</i> | P       |
|           | a) The minimum clearance distance from the top of the luminaire to any normally flammable building element.                                                                                                                                                                                                                                                               |                                                                           | P       |
|           | b) The minimum clearance distance from the top of the luminaire to any building insulation                                                                                                                                                                                                                                                                                |                                                                           | P       |
|           | c) The minimum clearance distance from the side of the luminaire to any normally flammable building element.                                                                                                                                                                                                                                                              |                                                                           | P       |
|           | d) The minimum clearance distance from the side of the luminaire to any building insulation.                                                                                                                                                                                                                                                                              |                                                                           | P       |

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| Clause | Requirement - Test                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Result - Remark | Verdict |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
|        | If the minimum clearance distances from each side of the luminaire are different, or there are different minimum clearance distances for various types of normally flammable building element or building insulation, then each minimum clearance distance shall be stated separately.                                                                                                                                                                                     |                 | N/A     |
|        | NOTE 1 See Appendix ZB for examples of methods satisfying the requirements for the supply of information on minimum clearance distances.                                                                                                                                                                                                                                                                                                                                   |                 | Noted   |
|        | if the luminaire is suitable for installing in a non-combustible enclosed space or non combustibile premade enclosure, and the minimum clearance distances required for installation in that space are different from the distances stated in accordance with the above, the minimum clearance distances for the installation, or premade enclosure details, shall be included in the instructions.                                                                        |                 | N/A     |
|        | NOTE 2 Installation in a non-combustible enclosed space may include installation in a rebate in a concrete slab, ceiling or wall.                                                                                                                                                                                                                                                                                                                                          |                 | Noted   |
|        | In the section of the instructions where the minimum clearance distances are stated, the following warning shall be included:                                                                                                                                                                                                                                                                                                                                              |                 | P       |
|        | WARNING — RISK OF OVERHEATING OR FIRE IF THE CLEARANCE DISTANCES ARE COMPROMISED.                                                                                                                                                                                                                                                                                                                                                                                          |                 | P       |
|        | NOTE 3 In some classifications of luminaire, the minimum clearance distance from the top or sides of the luminaire to building elements or insulation, or both, may actually be 0 mm (i.e. the material may abut the luminaire on the sides or the top). In these instances, a wording such as 'building insulation may abut the sides of the luminaire' is a suitable alternative to 'the minimum distance from the side of the luminaire to building insulation is 0 mm. |                 | Noted   |
|        | Luminaires with classification CA135 shall have the additional following warning included:                                                                                                                                                                                                                                                                                                                                                                                 |                 | N/A     |

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TRF No. ACT-TRF-60598\_2\_2 ZZ Revision 3.0

**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause      | Requirement - Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Result - Remark                    | Verdict |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------|
|             | WARNING — RISK OF FIRE: THIS LUMINAIRE CANNOT BE INSTALLED ABUTTING THERMAL INSULATION OR OTHER BUILDING ELEMENTS THAT ARE NOT SUITABLE FOR EXPOSURE TO CONSTANT TEMPERATURES OF 135 °C.                                                                                                                                                                                                                                                                                                                                                              |                                    | N/A     |
|             | Where a recessed luminaire is required to be mounted on a specific surface or has additional installation requirements to ensure adequate sealing to maintain its IP rating, the relevant information shall be supplied with the luminaire.                                                                                                                                                                                                                                                                                                           |                                    | N/A     |
| 2.6.104.2   | Additional warning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                    | N/A     |
| 2.6.104.2.1 | General                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                    | N/A     |
|             | Luminaires shall have additional warnings in accordance with 2.6.104.2.2 for Australia and 2.6.104.2.3 for New Zealand.                                                                                                                                                                                                                                                                                                                                                                                                                               |                                    | N/A     |
| 2.6.104.2.2 | Australia additional warning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                    | N/A     |
|             | Non-IC luminaires shall be supplied with installation instructions containing the following warning:                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                    | N/A     |
|             | WARNING — THIS LUMINAIRE IS NOT SUITABLE FOR INSTALLATION IN LOCATIONS WHERE THERMAL INSULATION IS PRESENT, OR MAY REASONABLY BE EXPECTED TO BE INSTALLED IN THE FUTURE, OR WHERE THERE IS A LIKELIHOOD OF OTHER COMBUSTIBLE MATERIAL, E.G. LEAVES OR VERMIN DEBRIS, ETC. COLLECTING ON OR AROUND THE LUMINAIRE. IT IS NOT SUITABLE FOR DOMESTIC INSTALLATIONS OR INSTALLATION IN RESIDENTIAL AREAS OF NON-DOMESTIC INSTALLATIONS (RESIDENTIAL INSTITUTIONS, HOTELS, BOARDING HOUSES, HOSPITALS, ACCOMMODATION HOUSES, MOTELS, HOSTELS AND THE LIKE). |                                    | N/A     |
| 2.6.204.2.3 | New Zealand additional warning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                    | N/A     |
|             | Non-IC luminaires and Do-Not-Cover luminaires shall be supplied with installation instructions containing the following warning:                                                                                                                                                                                                                                                                                                                                                                                                                      | <i>Not this type of luminaire.</i> | N/A     |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause  | Requirement - Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Result - Remark                                                    | Verdict |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|---------|
|         | WARNING — THIS LUMINAIRE IS NOT SUITABLE FOR INSTALLATION IN LOCATIONS WHERE THERMAL INSULATION IS PRESENT, OR MAY REASONABLY BE EXPECTED TO BE INSTALLED IN THE FUTURE, OR WHERE THERE IS A LIKELIHOOD OF OTHER COMBUSTIBLE MATERIAL, E.G. LEAVES OR VERMIN DEBRIS, ETC. COLLECTING ON OR AROUND THE LUMINAIRE. IT IS NOT SUITABLE FOR DOMESTIC INSTALLATIONS OR INSTALLATION IN RESIDENTIAL AREAS OF NON-DOMESTIC INSTALLATIONS (RESIDENTIAL INSTITUTIONS, HOTELS, BOARDING HOUSES, HOSPITALS, ACCOMMODATION HOUSES, MOTELS, HOSTELS AND THE LIKE). |                                                                    | N/A     |
| 2.6.105 | Luminaires intended for use with independent controlgear                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                    | P       |
|         | For luminaires intended for use with independent controlgear, pictorial diagrams showing all dimensions for safe installation of the independent controlgear shall be included in the installation instructions.                                                                                                                                                                                                                                                                                                                                      |                                                                    | P       |
|         | For luminaires not supplied with, but intended for use with, independent controlgear, the instructions supplied with the recessed luminaire shall specify the brand(s) and model(s) of independent controlgear that may be used.                                                                                                                                                                                                                                                                                                                      |                                                                    | P       |
|         | For luminaires that may be used with supplied independent controlgear or other independent controlgear, the instructions supplied with the recessed luminaire shall specify the brand(s) and model(s) of any other independent controlgear that may be used.                                                                                                                                                                                                                                                                                          | <i>Controlgears submitted for the aid of testing purpose only.</i> | P       |
|         | The information on brand(s) and model(s) shall be in the instructions supplied with the luminaire or on a website referenced in the instructions supplied with the luminaire.                                                                                                                                                                                                                                                                                                                                                                         |                                                                    | Noted   |
| 2.6.106 | Compliance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                    | P       |
|         | Compliance with Clauses 2.6.101 to 2.6.105 is checked by inspection and the relevant tests of AS/NZS 60598.1.                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                    | P       |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause         | Requirement - Test                                                                                                                                                                                                                                                         | Result - Remark | Verdict  |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------|
| <b>2.7 (4)</b> | <b>CONSTRUCTION</b>                                                                                                                                                                                                                                                        |                 | <b>P</b> |
| 2.7.101        | General                                                                                                                                                                                                                                                                    |                 | P        |
|                | The provisions of Section 4 of AS/NZS 60598.1 apply, along with the following                                                                                                                                                                                              |                 | P        |
| 2.7.102        | Thermal protection devices                                                                                                                                                                                                                                                 |                 | N/A      |
|                | Thermal protection devices that operate to enable the luminaire to comply with the requirements of this Standard shall be integral to, or permanently attached immediately adjacent to, the luminaire light source enclosure.                                              |                 | N/A      |
|                | Thermal protection devices that operate to enable the luminaire to comply with the requirements of this Standard shall not be separate devices or in independent controlgear.:                                                                                             |                 | N/A      |
|                | NOTE Thermal protection devices are also known as 'thermal cut-outs'.                                                                                                                                                                                                      |                 | N/A      |
|                | Single operation non-self-resetting thermal protection devices that are user replaceable are not permitted.                                                                                                                                                                |                 | N/A      |
|                | Electronic controls that regulate the light output during abnormal operation tests to enable the luminaire to comply with the requirements of this Standard shall comply with Clause 2.7.103.                                                                              |                 | N/A      |
|                | Thermal protection devices, excluding electronic controls complying with Clause 2.7.103, that operate to enable the luminaire to comply with requirements of this Standard shall comply with IEC 60730-1, in conjunction with the relevant part of the IEC 60730-2 series. |                 | N/A      |
|                | The number of cycles of operation declared in accordance with IEC 60730-1:2013 (see Clause 6.10 and 6.11 of that Standard) shall not be less than the following:                                                                                                           |                 | N/A      |
|                | a). self-resetting thermal cut-outs-----10,000                                                                                                                                                                                                                             |                 | N/A      |
|                | b). voltage maintained non-self-resetting thermal cut-outs ----- 1,000                                                                                                                                                                                                     |                 | N/A      |
|                | C). other non-self-resetting thermal cut-outs -- 30                                                                                                                                                                                                                        |                 | N/A      |
| 2.7.103        | Electronic controls                                                                                                                                                                                                                                                        |                 | N/A      |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause  | Requirement - Test                                                                                                                                                                                                                                                                                                                                                                                                                            | Result - Remark                                                   | Verdict |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|---------|
|         | The operation, or malfunction, of electronic controls that are used to regulate the operation of the light source to enable the luminaire to comply with requirements of this Standard (either during normal or abnormal operation) shall not result in a safety hazard.                                                                                                                                                                      |                                                                   | N/A     |
|         | Such electronic controls are required to comply with a), b), c) or d) below:                                                                                                                                                                                                                                                                                                                                                                  |                                                                   | N/A     |
|         | a). Electronic controls that operate during any test of this Standard and fully turn off the light source shall incorporate the operation of a thermal protection device component that complies with IEC 60730-1 with the number of cycles of operation declared in accordance with Clause 2.7.102.                                                                                                                                          |                                                                   | N/A     |
|         | b). Electronic controls that operate during any test of this Standard and do not fully turn off the light source shall be bypassed and the relevant test shall be repeated. The luminaire shall comply with the requirements of the relevant test with the electronic control bypassed and any remaining device that operates shall comply with IEC 60730-1 with the number of cycles of operation declared in accordance with Clause 2.7.102 |                                                                   | N/A     |
|         | NOTE This does not mean that any device has to operate to enable compliance with the relevant test.                                                                                                                                                                                                                                                                                                                                           |                                                                   | Noted   |
|         | a). Electronic controls shall comply with the appropriate part of the AS/NZS 61347 series and incorporate a thermal protective device that has been tested to the number of cycles of operation declared in accordance with Clause 2.7.102.                                                                                                                                                                                                   |                                                                   | N/A     |
|         | b). Electronic controls with programmable components (including embedded software) shall comply with IEC 62733, unless the luminaire complies with the requirements of this Standard with the electronic controls bypassed.                                                                                                                                                                                                                   |                                                                   | N/A     |
| 2.7.104 | Controlgear                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                   | P       |
|         | All controlgear (including controlgear that is a component part and all independent controlgear) that is supplied with, or.                                                                                                                                                                                                                                                                                                                   | <i>Controlgear submitted for the aid of testing purpose only.</i> | P       |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause           | Requirement - Test                                                                                                                                                                                                              | Result - Remark                     | Verdict  |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------|
|                  | specified in, the instructions supplied with the luminaire for use with the luminaire shall be assessed with the luminaire to this Standard and shall, in addition, comply with the appropriate part of the AS/NZS 61347 series |                                     | P        |
|                  | Manufacturers shall specify types and/or characteristics of insulation that are safe for use with the luminaire.                                                                                                                |                                     | Noted    |
| <b>2.13 (12)</b> | <b>ENDURANCE TESTS AND THERMAL TESTS</b>                                                                                                                                                                                        |                                     | <b>P</b> |
| 2.13             | Delete existing text and replace with the following                                                                                                                                                                             |                                     | Noted    |
| 2.13.101         | General                                                                                                                                                                                                                         |                                     | P        |
|                  | The provisions of section 12 of AS/NZS 60598.1 apply together with the requirements of this clause (clause 2.13)                                                                                                                |                                     | P        |
|                  | Clause 12.4 and 12.5 of AS/NZS 60598.1 are applied in conjunction with the following:                                                                                                                                           |                                     | P        |
|                  | a). For Non-IC and Do-not-cover luminaires, the requirements of Clauses 12.4 and 12.5 of AS/NZS 60598.1 are modified by Clause 2.13.102.                                                                                        | <i>Not this type of luminaire</i>   | N/A      |
|                  | b). For CA90 and CA135 luminaires, the requirements of Clauses 12.4 and 12.5 of AS/NZS 60598.1 are modified by Clause 2.13.103.                                                                                                 |                                     | N/A      |
|                  | c). For IC and IC-4 luminaires, the requirements of Clauses 12.4 and 12.5 of AS/NZS 60598.1 and modified by Clause 2.13.104                                                                                                     |                                     | P        |
| 2.13.102.1       | Thermal tests for Non-IC and Do-not-cover luminaires                                                                                                                                                                            | <i>Not this type of luminaires.</i> | N/A      |
|                  | Non-IC and Do-not-cover luminaires shall be tested in accordance with the requirements of Paragraph ZA3 in Appendix ZA.                                                                                                         |                                     | N/A      |
|                  | When the luminaire is tested in accordance with Paragraph ZA3, no temperature shall exceed—                                                                                                                                     |                                     | N/A      |
|                  | a) 90 °C on the luminaire mounting surface, or on any of the internal surfaces of the side and top of the test box, or on the surface of any building element installed in accordance with the manufacturer's instructions;     |                                     | N/A      |

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| Clause     | Requirement - Test                                                                                                                                                                                                                                            | Result - Remark                    | Verdict |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------|
|            | b) for Do-not-cover luminaires only—90 °C on the surface of any simulated building element or insulation; and                                                                                                                                                 |                                    | N/A     |
|            | c) for other parts, the appropriate values given in Tables 12.1 and 12.2 of AS/NZS 60598.1.                                                                                                                                                                   |                                    | N/A     |
|            | There shall be no damage to the luminaire such as scorching, deformation or melting. During the test, no thermal protection device or electronic control that fully turns off the light source within the luminaire or independent controlgear shall operate. |                                    | N/A     |
| 2.13.102.2 | Abnormal operation test for Do-not-cover luminaires                                                                                                                                                                                                           | <i>Not this type of luminaire.</i> | N/A     |
|            | Do-not-cover luminaires shall be tested in accordance with the requirements of Paragraph ZA5.                                                                                                                                                                 |                                    | N/A     |
|            | When the luminaire is tested in accordance with Paragraph ZA5, no temperature shall exceed—                                                                                                                                                                   |                                    | N/A     |
|            | a) 90 °C on the luminaire mounting surface; and                                                                                                                                                                                                               |                                    | N/A     |
|            | b) 130 °C on the surface of insulation.                                                                                                                                                                                                                       |                                    | N/A     |
|            | There shall be no damage to the luminaire such as scorching, deformation or melting.                                                                                                                                                                          |                                    | N/A     |
|            | During the test, thermal protective devices or electronic controls within the luminaire may operate, however, the thermal protection devices of any independent controlgear shall not operate to limit temperatures                                           |                                    | N/A     |
| 2.13.103   | Thermal tests for CA90 and CA135 luminaires                                                                                                                                                                                                                   |                                    | N/A     |
| 2.13.103.1 | Normal operation test for CA90 and CA135 luminaires                                                                                                                                                                                                           |                                    | N/A     |
|            | CA90 and CA135 luminaires shall be tested in accordance with the requirements of Paragraph ZA4.                                                                                                                                                               |                                    | N/A     |
|            | When the luminaire is tested in accordance with Paragraph ZA4, no temperature shall exceed—                                                                                                                                                                   |                                    | P       |
|            | For Type IC-F, IC, CA 80 and CA 135 recessed luminaires the requirements of Annex ZA also apply.                                                                                                                                                              | <i>(Refer to Annex ZA)</i>         | P       |
|            | a) 90 °C on the luminaire mounting surface, or on any of the internal surfaces of the side and top of the test box, or on the surface of any building element installed in accordance with the manufacturer's instructions;                                   |                                    | P       |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause     | Requirement - Test                                                                                                                                                                                                                                                                                        | Result - Remark                  | Verdict |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------|
|            | b) for CA90 luminaires—90 °C on the outside surface of the luminaire accessible to the relevant test probe of Clause 2.14;                                                                                                                                                                                |                                  | N/A     |
|            | c) for CA135 luminaires—135 °C on the outside surface of the luminaire accessible to the relevant test probe of Clause 2.14; and                                                                                                                                                                          |                                  | N/A     |
|            | d) for other parts, the appropriate values given in Tables 12.1 and 12.2 of AS/NZS 60598.1.                                                                                                                                                                                                               |                                  | P       |
|            | There shall be no damage to the luminaire such as scorching, deformation or melting. During the test, no thermal protection device or electronic control that fully turns off the light source within the luminaire or independent controlgear shall operate.                                             | <i>No damage after the test.</i> | P       |
| 2.13.103.2 | Abnormal operation test for CA90 and CA135 luminaires                                                                                                                                                                                                                                                     |                                  | N/A     |
|            | CA90 and CA135 luminaires shall be tested in accordance with the requirements of Paragraph ZA5.                                                                                                                                                                                                           |                                  | N/A     |
|            | When the luminaire is tested in accordance with Paragraph ZA5, no temperature shall exceed—                                                                                                                                                                                                               |                                  | N/A     |
|            | a) 90 °C on the luminaire mounting surface;                                                                                                                                                                                                                                                               |                                  | N/A     |
|            | b) for CA90 luminaires—130 °C on the outside surface of the luminaire accessible to the relevant test probe of Clause 2.14; and                                                                                                                                                                           |                                  | N/A     |
|            | c) for CA135 luminaires—150 °C on the outside surface of the luminaire accessible to the relevant test probe of Clause 2.14.                                                                                                                                                                              |                                  | N/A     |
|            | There shall be no damage to the luminaire such as scorching, deformation or melting. During the test, thermal protection devices or electronic controls within the luminaire may operate, however, the thermal protection devices of any independent controlgear shall not operate to limit temperatures. |                                  | N/A     |
| 2.13.103   | Thermal tests for IC and IC-4 luminaires                                                                                                                                                                                                                                                                  | <i>IC rated.</i>                 | P       |
|            | IC and IC-4 luminaires shall be tested in accordance with the requirements of Paragraph ZA6.                                                                                                                                                                                                              |                                  | P       |
|            | When the luminaire is tested in accordance with Paragraph ZA6, no temperature shall exceed—                                                                                                                                                                                                               |                                  | P       |
|            | a) 90 °C on the luminaire mounting surface;                                                                                                                                                                                                                                                               |                                  | P       |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause | Requirement - Test                                                                                                                                                                                                                                             | Result - Remark   | Verdict |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------|
|        | b) 90 °C on the outside surface of the luminaire accessible to the relevant test probe of Clause 2.14; and                                                                                                                                                     |                   | P       |
|        | b) 90 °C on the outside surface of the luminaire accessible to the relevant test probe of Clause 2.14; and                                                                                                                                                     |                   | P       |
|        | There shall be no damage to the luminaire such as scorching, deformation or melting. During the test, no thermal protection device, or electronic control that fully turns off the light source, within the luminaire or independent controlgear shall operate | <i>No damage.</i> | P       |

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                             |          |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|----------|
| <b>2.14 (9)</b> | <b>Resistance to dust and moisture</b>                                                                                                                                                                                                                                                                                                                                                                                                     |                                                             | <b>P</b> |
| 2.14.101        | Delete existing text and replace with the following:                                                                                                                                                                                                                                                                                                                                                                                       |                                                             | Noted    |
| 2.14.101        | General                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                             | P        |
|                 | The provisions of Section 9 of AS/NZS 60598.1 apply, along with the following                                                                                                                                                                                                                                                                                                                                                              |                                                             | P        |
|                 | For luminaires with an IP classification greater than IP20, and for CA90, CA135, IC and IC-4 luminaires, the order of the tests specified in Section 9 of AS/NZS 60598.1 shall be as specified in Clause 2.3 of this Standard.                                                                                                                                                                                                             |                                                             | Noted    |
| 2.14.102        | Ingress test for CA90 and IC luminaires                                                                                                                                                                                                                                                                                                                                                                                                    | <i>IC rated luminaires. Refer to marking plate section.</i> | P        |
|                 | Solid foreign objects shall have limited access to the hot surfaces of CA90 and IC luminaires.                                                                                                                                                                                                                                                                                                                                             |                                                             | P        |
|                 | Test probe 19 of IEC 61032 shall be applied without appreciable force to all external surfaces and any opening of the luminaire. Test probe 19 shall not be applied to the access face.                                                                                                                                                                                                                                                    |                                                             | P        |
|                 | The 5.6 mm diameter of the probe shall not enter into an area where the temperature of any surface (including parts of the luminaire or the lamp) exceeds the temperature limit for 'mounting surface: normally flammable surface' of AS/NZS 60598.1, when the surface is measured while the luminaire is operated in accordance with the thermal test conditions of Paragraph ZA4 for CA90 luminaires and Paragraph ZA6 for IC luminaires |                                                             | P        |

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| Clause     | Requirement - Test                                                                                                                                                                                                                                                                                                                                                               | Result - Remark                    | Verdict |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------|
| 2.14.103   | Ingress test for CA135 luminaires—New Zealand only                                                                                                                                                                                                                                                                                                                               |                                    | N/A     |
| 2.14.103.1 | Solid foreign objects shall have some access to the hot surfaces of CA135 luminaires.                                                                                                                                                                                                                                                                                            |                                    | N/A     |
|            | Compliance is verified in accordance with Clauses 2.14.103.2 and 2.14.103.3.                                                                                                                                                                                                                                                                                                     |                                    | N/A     |
| 2.14.103.2 | Test probe 1 of IEC 61032 shall be applied without appreciable force to all external surfaces and any opening of the luminaire. Test probe 1 is not applied to the access face.                                                                                                                                                                                                  |                                    | N/A     |
|            | The 50mm diameter of the probe shall not enter into an area where the temperature of any surface (including parts of the luminaire or the lamp) exceeds a value of 135 °C, when the surface is measured while the luminaire is operated in accordance with the thermal test conditions of paragraph ZA4                                                                          |                                    | N/A     |
| 2.14.103.3 | The total area of all openings in the luminaire body that allows airflow through the luminaire (i.e. airflow between the ceiling/wall space and the illuminated area), excluding openings in the access face, shall be no more than 5 % of the area of the opening in the mounting surface (opening in mounting surface as required by the manufacturer to insert the luminaire) |                                    | N/A     |
| 2.14.104   | Ingress test for IC-4 luminaires                                                                                                                                                                                                                                                                                                                                                 | <i>Not this type of luminaire.</i> | N/A     |
|            | Solid foreign objects shall have restricted access to the hot surfaces of IC-4 luminaires and restricted access to the open area that allows airflow through the luminaire (i.e. between the area that the body of the luminaire is located in and the area that the light source illuminates).                                                                                  |                                    | N/A     |
|            | The IP4X probes of AS 60529 shall be applied to the complete luminaire and any opening of the luminaire including the access face                                                                                                                                                                                                                                                |                                    | N/A     |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause      | Requirement - Test                                                                                                                                                                                                                                                                                                                                                                                                                         | Result - Remark | Verdict |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
|             | The IP4X probes of AS 60529 shall be applied without appreciable force and shall not enter any area of the luminaire where the temperature of any surface (including parts of the luminaire or the lamp) exceeds the temperature limit for 'mounting surface: normally flammable surface' of AS/NZS 60598.1, when the surface is measured while the luminaire is operated in accordance with the thermal test conditions of Paragraph ZA6. |                 | N/A     |
|             | With the luminaire installed in accordance with the manufacturer's instructions, the IP4X probes of AS 60529 shall not be able to pass from the illuminated area into the area where the body of the luminaire is situated.                                                                                                                                                                                                                |                 | N/A     |
| Appendix ZZ | After Appendix ZZ, add new Appendices ZA, ZB, ZC and ZD.                                                                                                                                                                                                                                                                                                                                                                                   |                 | Noted   |

| <b>Appendix ZA (Normative)</b><br><b>Thermal Test Procedures for Recessed Luminaires</b> |                                                                                                                                                                                                                              |                                                                    |          |
|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------|
| <b>ZA1</b>                                                                               | <b>GENERAL</b>                                                                                                                                                                                                               |                                                                    | <b>P</b> |
|                                                                                          | For the purposes of this Appendix, the requirements of Clause 12 of AS/NZS 60598.1 apply, with the following modifications and additions:                                                                                    |                                                                    | P        |
|                                                                                          | (a) A luminaire with a filament light source is energized at 1.05 times the rated wattage. Luminaires with other light sources are energized at 0.94 or 1.06 times the rated voltage, whichever produces higher temperatures |                                                                    | N/A      |
|                                                                                          | (b) Light sources controlled by independent controlgear have this gear energized at 0.94 or 1.06 times the rated voltage, whichever produces higher temperatures                                                             | <i>Tested at<br/>220x0.94 = 206.8 V and<br/>240x1.06 = 254.4 V</i> | P        |
|                                                                                          | (c) The test is run until temperatures have stabilized or 8 h have elapsed.                                                                                                                                                  | <i>Tested as specified.</i>                                        | P        |
|                                                                                          | (d) The test box shall be positioned in a draught-proof thermal room at a temperature of 25 °C ±5 °C, or at the ta rating of the luminaire ±5 °C, if the luminaire is marked with a ta rating, whichever is the greater.     |                                                                    | P        |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause | Requirement - Test                                                                                                                                                                                                                                                                                                                        | Result - Remark                   | Verdict |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|---------|
|        | (e) Any luminaire independent controlgear shall be installed in accordance with the installation instructions.                                                                                                                                                                                                                            | <i>As per instruction manual.</i> | P       |
|        | (f) Where a recessed luminaire consists of a light source part supplied with another separate component part (for example, a driver or ballast or control device) connected by an interconnecting cord, then additional tests may be required so as to ensure the highest temperatures for all parts during all tests have been obtained. |                                   | Noted   |
|        | Such combinations of tests may include, but are not limited to, the following:                                                                                                                                                                                                                                                            |                                   | N/A     |
|        | (i) the separate component part placed under insulation in the test box;                                                                                                                                                                                                                                                                  |                                   | N/A     |
|        | (ii) the separate component part placed on insulation in the test box;                                                                                                                                                                                                                                                                    |                                   | N/A     |
|        | (iii) the separate component part placed above insulation in the test box;                                                                                                                                                                                                                                                                |                                   | P       |
|        | (iv) the separate component part placed outside the test box (where the tests involve the test box being filled with insulation)                                                                                                                                                                                                          |                                   | N/A     |
|        | (g) If the instructions for installation indicate that multiple building elements or thermal insulation, or both, may be installed, the tests are conducted with the worst case combination of either building elements or thermal insulation, or both, in place. This may require multiple tests to be conducted                         |                                   | N/A     |
|        | NOTE: It is intended that recessed luminaires be tested for normal operation in accordance with this Standard in conjunction with the requirements of AS/NZS 60598.1. It is not intended that separate normal operation tests for this Standard and AS/NZS 60598.1 be conducted.                                                          |                                   | Noted   |
|        | Temperature measurements are conducted in accordance with Annex K of AS/NZS 60598.1 on the hottest points.                                                                                                                                                                                                                                |                                   | P       |
|        | NOTE: To enable the tests of Clause 2.16 to be properly conducted, the temperatures of insulating material referred to in Clause 2.16 are required to be measured during these tests of Clause 12.                                                                                                                                        |                                   | Noted   |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause     | Requirement - Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Result - Remark                    | Verdict    |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------|
| <b>ZA2</b> | <b>TEST BOX</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                    | <b>P</b>   |
|            | A test box, consisting of a mounting surface on top of which is a rectangular box with vertical sides and a top, shall be constructed in accordance with the following:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                    | P          |
|            | (a) The mounting surface shall be made of 15–20 mm thick porous wood fibre board.<br>(b) The vertical sides and top of the test box shall be made of 15–20 mm thick porous wood fibre board.<br>(c) The dimensions of the test box shall be 450 mm wide □□450 mm long □□300 mm high.<br>(d) The minimum horizontal distance from the side of the luminaire to the side of the test box shall be 75 mm and the minimum vertical distance from the top of the luminaire to the underside of the test box top shall be 75 mm.<br>(e) Where these side and vertical distances cannot be met due the size of the luminaire, the test box dimensions may be increased the minimum amount necessary to meet the 75 mm clearance dimensions.<br>(f) The internal surfaces shall be painted matt black |                                    | P          |
|            | For the tests, the test box shall be supported or suspended in a draught-proof enclosure in accordance with AS/NZS 60598.1, Annex D.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                    | Noted      |
|            | Refer to Figure ZA1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                    | Noted      |
| <b>ZA3</b> | <b>TEST PROCEDURE FOR NON-IC AND DO-NOT-COVER LUMINAIRES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <i>Not this type of luminaire.</i> | <b>N/A</b> |
| ZA3.1      | General                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                    | N/A        |
|            | This procedure includes assessing the suitable proximity of—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                    | N/A        |
|            | (a) Non-IC and Do-not-cover luminaires to normally flammable building elements; and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                    | N/A        |
|            | (b) Do-not-cover luminaires to any thermal insulation specified by the manufacturer in the installation instructions (see Clause 2.6.104).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <i>Not this type of luminaire.</i> | N/A        |
| ZA3.2      | Test set-up                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    | N/A        |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause  | Requirement - Test                                                                                                                                                                                                                                                                                                                  | Result - Remark                    | Verdict |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------|
|         | The luminaire under test is placed in the centre of the test box, as shown in Figure ZA1.                                                                                                                                                                                                                                           |                                    | N/A     |
|         | If the installation instructions specify clearances from normally flammable building elements, then a simulated building element of nominal dimensions 150 mm × 40 mm is added to the test box at the clearance from the luminaire specified in the manufacturer's instructions, as shown in Figure ZA2                             |                                    | N/A     |
|         | The simulated building element is constructed of porous wood fibreboard pieces, placed together to create the correct thickness and painted matt black.                                                                                                                                                                             |                                    | N/A     |
|         | If the installation instructions specify a distance from the top of the luminaire to any building element that is less than the clearance to the top of the test box, then a false ceiling shall be added to the test box at the clearance from the luminaire specified in the manufacturer's instructions, as shown in Figure ZA3. |                                    | N/A     |
|         | The false ceiling shall be made of same material as the test box.                                                                                                                                                                                                                                                                   |                                    | N/A     |
| ZA3.2.2 | Non-IC luminaires                                                                                                                                                                                                                                                                                                                   | <i>Not this type of luminaire.</i> | N/A     |
|         | For Non-IC luminaires, the test box specified in Paragraph ZA2 shall be used with the dimensions specified in Paragraph ZA2 or the dimensions stated in the manufacturer's instructions, whichever gives the smaller clearances.                                                                                                    |                                    | N/A     |
| ZA3.2.3 | Do-not-cover luminaires                                                                                                                                                                                                                                                                                                             |                                    | N/A     |
|         | For Do-not-cover luminaires, the test box specified in Paragraph ZA2 shall be used with the dimensions specified in Paragraph ZA2 or the dimensions stated in the manufacturer's instructions, whichever gives the smaller clearances.                                                                                              |                                    | N/A     |
| Amd.2   | Thermal insulation to a height of 200 mm is added to the test box with the clearance specified in the installation instructions maintained from the luminaire. The type of thermal insulation is formed insulation where 200 mm is equivalent to an R 4.0 classification in accordance with AS/NZS 4859.1                           |                                    | N/A     |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause     | Requirement - Test                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Result - Remark                    | Verdict |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------|
|            | The test set-up shall have the thermocouples attached in the most unfavourable positions.                                                                                                                                                                                                                                                                                                                                                                                     |                                    | N/A     |
|            | The test box shall have its top added and sealed.                                                                                                                                                                                                                                                                                                                                                                                                                             |                                    | N/A     |
|            | The test set-up is shown in Figure ZA4.                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                    | N/A     |
| ZA3.2.4    | Test requirements and procedure                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                    | N/A     |
|            | The testing requirements and procedure shall be in accordance with Paragraph ZA1.                                                                                                                                                                                                                                                                                                                                                                                             |                                    | N/A     |
| <b>ZA4</b> | <b>TEST PROCEDURE FOR CA90 AND CA135 LUMINAIRES</b>                                                                                                                                                                                                                                                                                                                                                                                                                           | <i>Not this type of luminaire.</i> | N/A     |
| ZA4.1      | General                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                    | N/A     |
|            | This test procedure is for CA90 and CA135 luminaires, for assessing the suitability of the luminaire to abut normally flammable materials, as specified in the installation instructions.                                                                                                                                                                                                                                                                                     |                                    | N/A     |
| ZA4.2      | Test set-up                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    | N/A     |
|            | The luminaire under test is placed in the centre of the test box as shown in Figure ZA1.                                                                                                                                                                                                                                                                                                                                                                                      |                                    | Noted   |
|            | If the installation instructions indicate that the luminaire can abut normally flammable building elements, then a simulated building element, the same as that specified in Paragraph ZA3.2, is added to the test box to abut the luminaire, as shown in Figure ZA2.                                                                                                                                                                                                         |                                    | Noted   |
|            | If the instructions for installation indicate a distance from the top of the luminaire to any building element that is less than the distance from the top of the luminaire to the top of the test box, then the top of the test box is lowered or a false ceiling of the same material as the test box is placed inside at the required distance.                                                                                                                            |                                    | N/A     |
|            | Thermal insulation to a height of 200 mm is then added to the test box, placed so as to fill the remaining space between the side of the test box and the luminaire, and to abut the sides of the luminaire. The insulation is pushed around the luminaire to form a close fit to the sides of the luminaire without compression. The type of thermal insulation is formed insulation where 200 mm is equivalent to an R 4.0 classification in accordance with AS/NZS 4859.1. |                                    | N/A     |
|            | The test set-up shall have thermocouples attached in the most unfavourable positions.                                                                                                                                                                                                                                                                                                                                                                                         |                                    | N/A     |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause     | Requirement - Test                                                                                                                                                                                                                                                                                                                                        | Result - Remark                    | Verdict |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------|
|            | The test box shall have its top added and sealed.                                                                                                                                                                                                                                                                                                         |                                    | N/A     |
|            | The test set-up is shown in Figure ZA5.                                                                                                                                                                                                                                                                                                                   |                                    | N/A     |
| ZA4.3      | Test requirements and procedure                                                                                                                                                                                                                                                                                                                           |                                    | N/A     |
|            | The testing requirements and procedure shall be in accordance with Paragraph ZA1.                                                                                                                                                                                                                                                                         |                                    | N/A     |
| <b>ZA5</b> | <b>TEST PROCEDURE FOR ABNORMAL OPERATION—DO-NOT COVER, CA90 AND CA135 LUMINAIRES</b>                                                                                                                                                                                                                                                                      | <i>Not this type of luminaire.</i> | N/A     |
| ZA5.1      | General                                                                                                                                                                                                                                                                                                                                                   |                                    | N/A     |
|            | This test procedure is for Do-not-cover, CA90 and CA135 luminaires, for assessing the suitability of abnormal operation.                                                                                                                                                                                                                                  |                                    | N/A     |
| ZA5.2      | Test set-up                                                                                                                                                                                                                                                                                                                                               |                                    | Noted   |
|            | The luminaire under test is placed in the centre of the test box as shown in Figure ZA1                                                                                                                                                                                                                                                                   |                                    | Noted   |
| Amdt.2     | Thermal insulation is then added to the test box to completely fill the test box. The insulation is pushed around the luminaire to form a close fit to the sides and top of the luminaire without compression. The type of thermal insulation is formed insulation where 200 mm is equivalent to an R4.0 classification in accordance with AS/NZS 4859.1. |                                    | P       |
|            | The test set-up shall have thermocouples attached to the luminaire (on accessible surfaces, in accordance with the specified classification and access probe), the luminaire mounting surface, and any thermal insulation in the most unfavourable positions.                                                                                             |                                    | P       |
|            | NOTE: Simulated building elements do not need to be added for this test set-up, even if manufacturer's instructions indicate distances to building elements, as the thermal insulation fully enclosing the luminaire is considered to be worst case.                                                                                                      |                                    | Noted   |
|            | The test box shall have its top added and sealed.                                                                                                                                                                                                                                                                                                         |                                    | Noted   |
|            | The test set-up is shown in Figure ZA6.                                                                                                                                                                                                                                                                                                                   |                                    | Noted   |
| ZA5.3      | Test requirements and procedure                                                                                                                                                                                                                                                                                                                           |                                    | Noted   |
|            | The testing requirements and procedure shall be in accordance with Paragraph ZA1.                                                                                                                                                                                                                                                                         |                                    | Noted   |

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause     | Requirement - Test                                                                                                                                                                                                                                                                                                                                         | Result - Remark                                             | Verdict  |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|----------|
| <b>ZA6</b> | <b>TEST PROCEDURE FOR NORMAL OPERATION—IC AND IC-4 LUMINAIRES</b>                                                                                                                                                                                                                                                                                          | <i>IC rated luminaires. Refer to marking plate section.</i> | <b>P</b> |
| ZA6.1      | Test set-up                                                                                                                                                                                                                                                                                                                                                |                                                             | P        |
|            | The luminaire under test is placed in the centre of the test box as shown in Figure ZA1.                                                                                                                                                                                                                                                                   |                                                             | Noted    |
| Amdt. 2    | Thermal insulation is then added to the test box to completely fill the test box. The insulation is pushed around the luminaire to form a close fit to the sides and top of the luminaire without compression. The type of thermal insulation is formed insulation where 200 mm is equivalent to an R 4.0 classification in accordance with AS/NZS 4859.1. | <i>Testes as specified.</i>                                 | P        |
|            | The test set-up shall have thermocouples attached to the luminaire (on accessible surfaces, in accordance with the specified classification and access probe), luminaire mounting surface, and any thermal insulation in the most unfavourable positions.                                                                                                  |                                                             | P        |
|            | NOTE: Simulated building elements do not need to be added for this test set-up, even if manufacturer's instructions indicate distances to building elements, as the thermal insulation fully enclosing the luminaire is considered to be worst case.                                                                                                       |                                                             | Noted    |
|            | The test box shall have its top added and sealed.                                                                                                                                                                                                                                                                                                          |                                                             | Noted    |
|            | The test set-up is shown in Figure ZA6.                                                                                                                                                                                                                                                                                                                    |                                                             | Noted    |
| ZA6.2      | Test requirements and procedure                                                                                                                                                                                                                                                                                                                            |                                                             | Noted    |
|            | The testing requirements and procedure shall be in accordance with Paragraph ZA1.                                                                                                                                                                                                                                                                          |                                                             | P        |

| <b>APPENDIX ZB (Informative)</b>                                                                                    |                                                                                                                                                          |  |       |
|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------|
| <b>EXAMPLES OF METHODS SATISFYING THE REQUIREMENTS FOR THE SUPPLY OF INFORMATION ON MINIMUM CLEARANCE DISTANCES</b> |                                                                                                                                                          |  |       |
|                                                                                                                     | This Appendix provides examples of methods that satisfy the requirements of Clause 2.6.103 for the supply of information on minimum clearance distances. |  | Noted |

**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause | Requirement - Test                                                                                                       | Result - Remark | Verdict |
|--------|--------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
|        | These methods are examples only and do not preclude the use of other methods to meet the requirements of Clause 2.6.103. |                 | Noted   |
|        | For Australia and New Zealand                                                                                            |                 | Noted   |
|        | For New Zealand                                                                                                          |                 | Noted   |
|        | The information on minimum clearance distances could then be provided in the instructions                                |                 | Noted   |
|        | For Do-not-cover luminaires,-warning                                                                                     |                 | Noted   |
|        | For Non-IC luminaires, the warning could be as follows                                                                   |                 | Noted   |

**APPENDIX ZC (Informative)  
EXAMPLES OF RECESSED LUMINAIRES**

|  |                                                                                                                                |  |       |
|--|--------------------------------------------------------------------------------------------------------------------------------|--|-------|
|  | Figure ZC1 shows the general parts of a recessed luminaire. Figures ZC2 to ZC7 show various recessed luminaire configurations. |  | Noted |
|  | FIGURE ZC1 GENERAL PARTS OF A RECESSED LUMINAIRE                                                                               |  | Noted |
|  | FIGURE ZC2 RECESSED LUMINAIRE WITH INDEPENDENT CONTROLGEAR (CONTROLGEAR NOT SUPPLIED WITH LUMINAIRE)                           |  | Noted |
|  | FIGURE ZC3 RECESSED LUMINAIRE WITH SUPPLIED COMPONENT PART CONTROLGEAR CONNECTED BY INTERCONNECTING CORD TO LIGHT SOURCE       |  | Noted |
|  | FIGURE ZC4 RECESSED LUMINAIRE WITH SUPPLIED COMPONENT PART CONTROLGEAR PHYSICALLY ATTACHED TO LIGHT SOURCE                     |  | Noted |
|  | FIGURE ZC5 RECESSED LUMINAIRE WITH SUPPLIED COMPONENT PART CONTROLGEAR WITHIN ENCLOSURE OF LIGHT SOURCE                        |  | Noted |
|  | FIGURE ZC6 RECESSED LUMINAIRE NOT RELIANT ON ANY CONTROLGEAR                                                                   |  | Noted |

**APPENDIX ZD (Informative)  
GUIDANCE ON CLASSIFICATIONS**

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**AS/NZS 60598.2.2: 2016 + A1:2017 + A2:2021 (Appendix ZZ)**

| Clause | Requirement - Test                                                                                                                             | Result - Remark | Verdict |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
|        | This Appendix provides information and guidance on the classifications, symbols, applications and general restrictions on recessed luminaires. |                 | Noted   |
|        | TABLE ZD1                                                                                                                                      |                 | Noted   |

### TABLES OF RESULTS

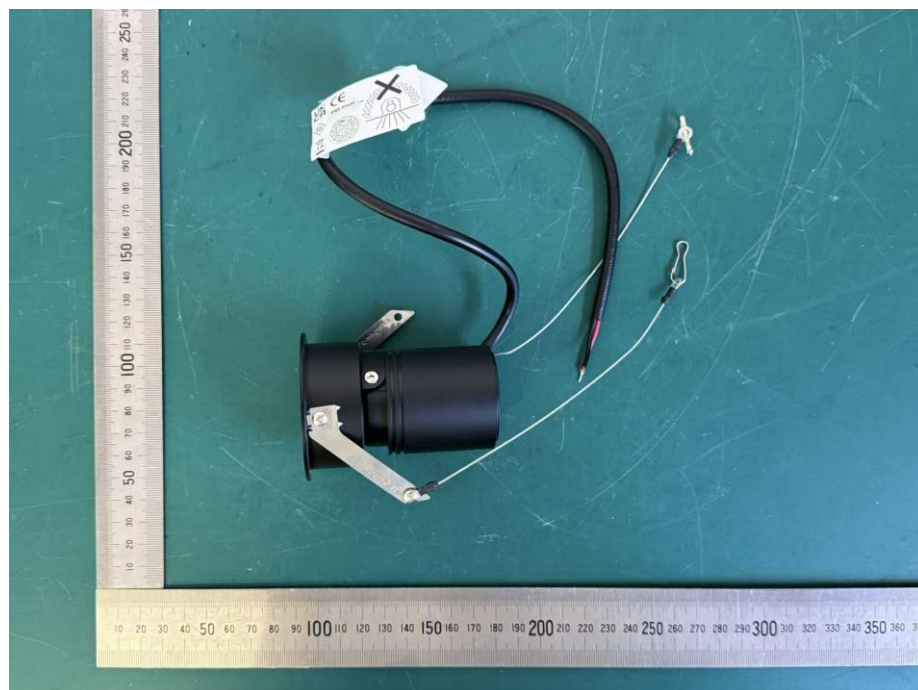
| 2.13 (ZA6)                                                                                                | TABLE: Normal test (IC Classification) |                                                             | P                 |
|-----------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------------------------------|-------------------|
|                                                                                                           | Test voltage (V) .....                 | 254.4V (1.06X240V) maximum rated voltage of the controlgear | —                 |
|                                                                                                           | Test wattage (W) .....                 | 9.5                                                         | —                 |
|                                                                                                           | Initial ambient (°C) .....             | 24.6                                                        | —                 |
|                                                                                                           | Final ambient (°C) .....               | 45.0                                                        | —                 |
| Thermocouple locations                                                                                    |                                        | Measured (°C)                                               | Max. allowed (°C) |
| Outer surface abutted by insulation (Top)                                                                 |                                        | 76.5                                                        | 90                |
| Outer surface abutted by insulation (Side)                                                                |                                        | 75.2                                                        | 90                |
| Mounting ring                                                                                             |                                        | 64.9                                                        | 90                |
| Ceiling                                                                                                   |                                        | 30.1                                                        | 90                |
| Side wall                                                                                                 |                                        | 24.5                                                        | 90                |
| Diffuser                                                                                                  |                                        | 83.3                                                        | Ref.              |
| Lighted object 0.1 m away                                                                                 |                                        | 19.9                                                        | 90                |
| Supplementary Information:                                                                                |                                        |                                                             |                   |
| - Tested at 206.8V (0.94x220 V) and 254.4V (1.06x240V) basis and most onerous test results were recorded. |                                        |                                                             |                   |
| - The controlgear submitted with the luminaire only for the aid of testing purpose.                       |                                        |                                                             |                   |

| TABLE: Components information  |                         |              |                        |                         | P                                   |
|--------------------------------|-------------------------|--------------|------------------------|-------------------------|-------------------------------------|
| Object / part No.              | Manufacturer/ trademark | Type / model | Technical data         | Standard                | Mark(s) of conformity <sup>1)</sup> |
| LED Module                     | DG                      | —            | —                      | —                       | Tested with Luminor                 |
| Diffuser                       | —                       | —            | —                      | —                       | Tested with Luminor                 |
| Supply leads                   | Jiangmen Gomentech      | H03VVF       | 2x0.75 mm <sup>2</sup> | AS/NZS IEC 60227.5:2019 | SAA-203236-EA                       |
| Supplementary information: N/A |                         |              |                        |                         |                                     |

## Photographs DuraGreen Model AFL5710W Recessed Downlight



**Complete View with accessory  
(Controlgear provided for the aid of testing purpose only)**



**Overview**

### **ACT NZ Limited trading as Auckland Lab**

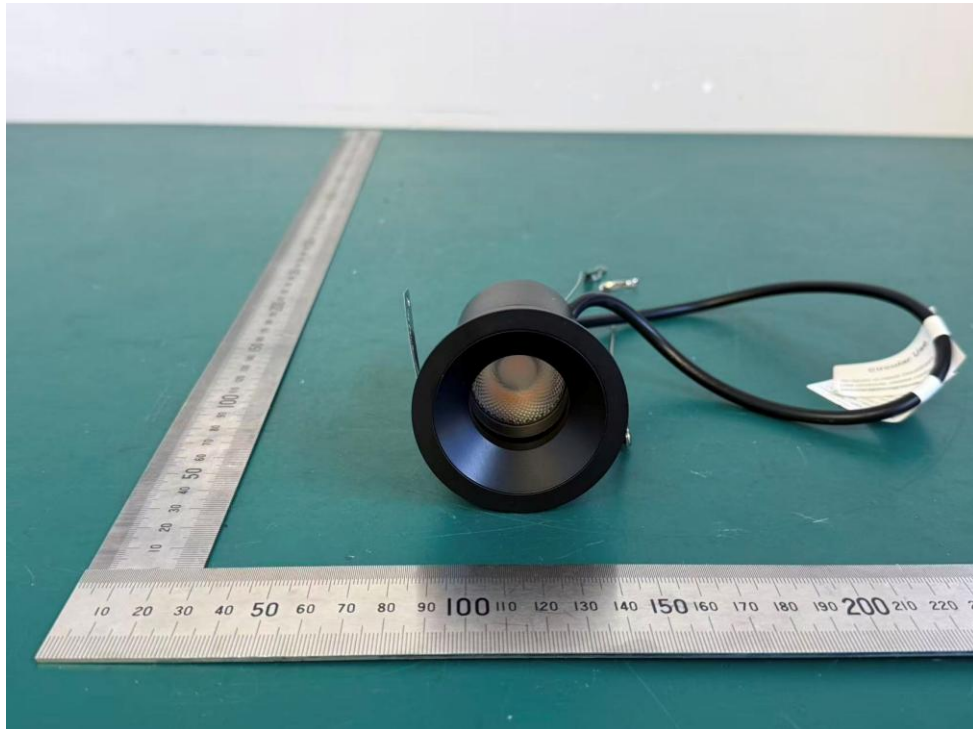
Address: 1066E Great South Road, Mount Wellington Auckland 1060, New Zealand

Tel: +64-9-9720866 / 9720865

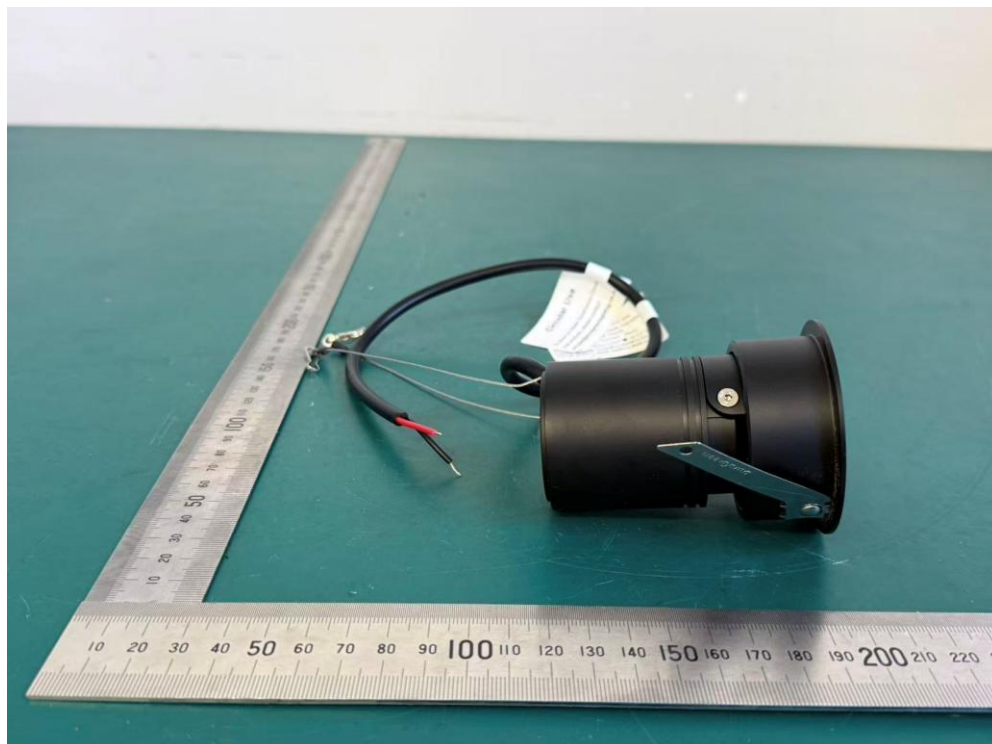
Email: [service@aucklandlab.co.nz](mailto:service@aucklandlab.co.nz)

Website: [www.aucklandlab.co.nz](http://www.aucklandlab.co.nz)

TRF No. ACT-TRF-60598\_2\_2 ZZ Revision 3.0



**Front View**



**Side View**

**ACT NZ Limited trading as Auckland Lab**

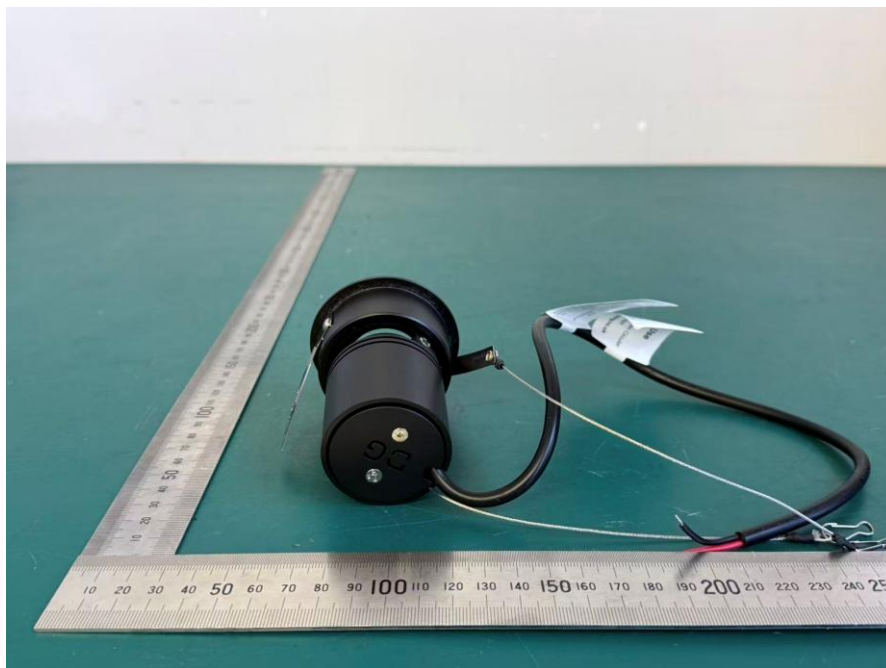
Address: 1066E Great South Road, Mount Wellington Auckland 1060, New Zealand

Tel: +64-9-9720866 / 9720865

Email: [service@aucklandlab.co.nz](mailto:service@aucklandlab.co.nz)

Website: [www.aucklandlab.co.nz](http://www.aucklandlab.co.nz)

TRF No. ACT-TRF-60598\_2\_2 ZZ Revision 3.0



**Rear View**



**Internal View**

**End of Report ACTE202607030**

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TRF No. ACT-TRF-60598\_2\_2 ZZ Revision 3.0

## DuraGreen ACME 57 Models



### LED Engine Tag

**DuraGreen<sup>®</sup>**  
**AFL5710W** LED Downlight  
☐ -C MAX system power 10W  
☐ -M DC 36V LED Module  
☐ -P CRI 98 Ta:45°C IP65 Front  
☐ -TL Cutout:57mm

☐ 10° ☐ 15° ☐ 24° ☐ 28° ☐ 30° ☐ 33° ☐ 36° ☐ 50°  
☐ 2200K ☐ 2700K ☐ 3000K ☐ 3500K ☐ 4000K  
☐ 2700K-6000K ☐ 1800K-3000K ☐ 1800K-4000K  
[www.DuraGreenlighting.co.uk](http://www.DuraGreenlighting.co.uk)

**UK CA CE**

Q.C Passed  
2026

Do not plug into mains without LED driver.

### Box Label

**Bezel**

☐ Black  
☐ White  
☐ Regency Champagne  
☐ Heritage Brass  
☐ Bright Chrome

**Baffle**

☐ Black  
☐ White  
☐ Regency Champagne  
☐ Heritage Brass  
☐ Bright Chrome  
☐ Honeycomb

**DuraGreen<sup>®</sup>** **UK CA CE**

**AFL5710W**

LED Downlight  
 MAX system power 10W  
 DC 36V LED Module  
 CRI 98 Ta:45°C IP65 Front

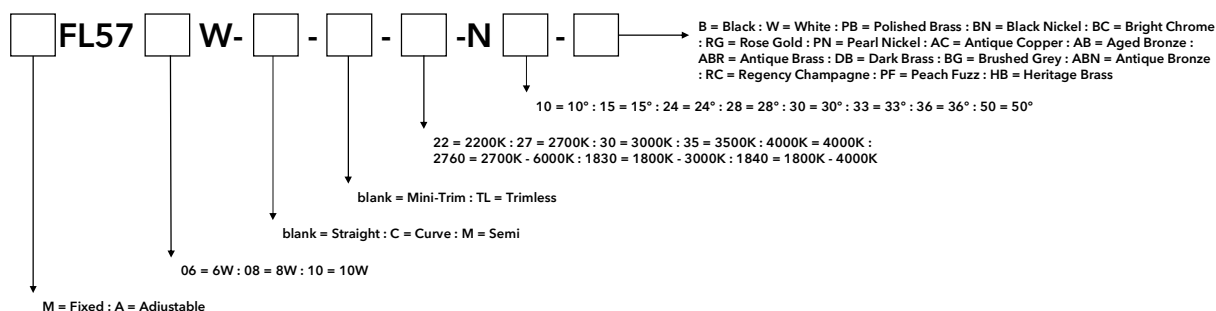
57mm

[www.DuraGreenlighting.co.uk](http://www.DuraGreenlighting.co.uk)

☐ 10° ☐ 15° ☐ 24° ☐ 28° ☐ 30° ☐ 33° ☐ 36° ☐ 50°  
☐ 2200K ☐ 2700K ☐ 3000K ☐ 3500K ☐ 4000K  
☐ 2700K-6000K ☐ 1800K-3000K ☐ 1800K-4000K

**UK CA CE**

### Product Code Structure

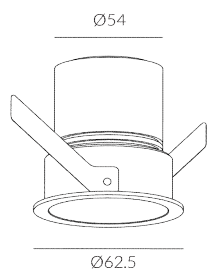


### Examples

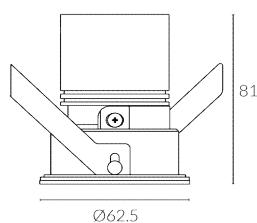
| Code                    | Trim      | Baffle   | Adjustable? | Wattage | CCT           | Beam Angle | Finish         |
|-------------------------|-----------|----------|-------------|---------|---------------|------------|----------------|
| MFL5706W-C-27N15-B      | Mini-Trim | Curve    | Fixed       | 6W      | 2700K         | 15°        | Black          |
| MFL5710W-C-TL-22N15-ABN | Trimless  | Curve    | Fixed       | 10W     | 2200K         | 15°        | Antique Bronze |
| AFL5708W-C-40N50-PF     | Mini-Trim | Curve    | Adjustable  | 8W      | 4000K         | 50°        | Peach Fuzz     |
| AFL5710W-TL-2760N36-BG  | Trimless  | Straight | Adjustable  | 10W     | 2700K - 6000K | 36°        | Brushed Grey   |
| AFL5706W-M-1830N24-RG   | Mini-Trim | Semi     | Adjustable  | 6W      | 1800K - 3000K | 24°        | Rose Gold      |

### Visuals

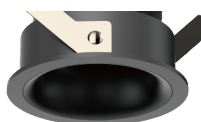
#### Fixed



#### Adjustable



#### Mini-Trim



#### Trimless



Straight



Curve



Semi

