Title	**Apply knowledge of lighting installation, testing, repair, and disposal**		
Level	**3**	**Credits**	**5**

Purpose	This unit standard covers the application of electric lighting knowledge for electricians and related trades. People credited with this unit standard are able to: – demonstrate knowledge of lighting control circuits – plan installation of lights to meet given specifications – install, connect, and test luminaires, lights, and light control circuitry to meet given requirements – demonstrate knowledge of fault-finding, repair, and re-commission an electric lighting system – demonstrate knowledge of lighting requirements for explosive atmospheres.

Classification	Electrical Engineering > Electrical Installation and Maintenance

Available grade	Achieved

Guidance Information

1 This unit standard has been developed for learning and assessment off-job or on-job.

2 Definitions
Industry practice – those practices that competent practitioners within the industry recognise as current industry best practice.
LED – light emitting diode.
Safe and sound practice – as it relates to the installation of electrical equipment is defined in AS/NZS 3000 (version as cited in the Electricity (Safety) Regulations), *Electrical Installations (known as the Australian/New Zealand Wiring Rules).*

3 Range
a Candidates may refer to current legislation and Standards during assessment.
b Demonstration of safe working practices and installation in accordance with *safe and sound practice* are essential components of assessment of this unit standard.
c All activities and evidence presented for all outcomes and performance criteria in this unit standard must be in accordance with:
i legislation
ii policies and procedures
iii ethical codes
iv Standards – may include but are not limited to those listed in Schedule 2 of the Electricity (Safety) Regulations 2010
v applicable site, enterprise, and industry practice
vi where appropriate, manufacturers' instructions, specifications, and data sheets.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of lighting control circuits.

Performance criteria

1.1 With the aid of diagrams describe single, double, three-way and multi-way light switching.

1.2 With the aid of diagrams describe two lighting control methods.

Outcome 2

Plan installation of lights to meet given specifications.

Range one inside installation of 20 square meters and one outside installation of 20 square meters.

Performance criteria

2.1 Outline the minimum requirements for the two different lighting installations.

2.2 Determine lighting requirements to meet specifications with consideration of the most suitable lighting arrangement for the application.

Range colour temperature, lighting type, application, Lux levels, energy efficiency, health and safety aspects.

2.3 Produce a location diagram showing the numbers and positions of light fittings and switches.

Outcome 3

Install, connect, and test luminaires, lights, and light control circuitry to meet given requirements.

Performance criteria

3.1 Install light circuit cabling.

3.2 Install all fittings, luminaires, lights, and switches.

3.3 Position and connect lights and light fittings in accordance with the location diagram.

3.4 Test light circuits and fittings for safety and check for conformity.

3.5 Explain the operation of the installed lighting system.

Outcome 4

Demonstrate knowledge of fault-finding, repair, and re-commission an electric lighting system.

Performance criteria

4.1 Explain logical techniques to analyse symptoms and take measurements where necessary to locate the fault and identify faulty components.

4.2 From given information assess viability of repair in terms of component availability, cost and time of repair, and cost of replacement.

Outcome 5

Demonstrate knowledge of lighting requirements for explosive atmospheres.

Performance criteria

5.1 Outline the competency requirements for working and certifying work in explosive atmospheres.

5.2 Outline possible consequences of using incorrect luminaires in gas, dust, and explosive vapour installations.

Replacement information	This unit standard and unit standard 29472 replaced unit standard 1710.

Planned review date	31 December 2025

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	21 July 2016	N/A
Rollover and Revision	2	25 May 2023	N/A

Consent and Moderation Requirements (CMR) reference	0003

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Comments on this unit standard

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council qualifications@WaihangaAraRau.nz if you wish to suggest changes to the content of this unit standard.