| | | | | |
|---|---|---|---|---|
| **Test Report No.:** *Prüfbericht-Nr.:* | **60405539 001** | **Order No.:** *Auftrags-Nr.:* | **252102792** | **Page 1 of 23** *Seite 1 von 23* |
| **Client Reference No.:** *Kunden-Referenz-Nr.:* | **2026827** | **Order date:** *Auftragsdatum:* | **29-Jul-2020** | |
| **Client:** *Auftraggeber:* | **Advanced Lighting Technologies Australia Inc.** 110 Lewis Road, Wantirna South, VIC 3152, Australia | | | |
| **Test item:** *Prüfgegenstand:* | **LED Street Light** | | | |
| **Identification / Type No.:** *Bezeichnung / Typ-Nr.:* | **Refer to page 3 and 4** | | | |
| **Order content.:** *Auftrags-Inhalt:* | **Lamp Circuit Power Measurement (LCP)** | | | |
| **Test specification:** *Prüfgrundlage:* | **Refer to page 4** | | | |

| | | |
|---|---|---|
| **Date of sample receipt:** *Wareneingangsdatum:* | **04-Aug-2020** | **Refer to page 15 for details of photo documentation** |
| **Test sample No.:** *Prüfmuster-Nr.:* | **A002880978-001- A002880978-030** | |
| **Testing period:** *Prüfzeitraum:* | **04-Aug-2020 to 11-Aug-2020** | |
| **Place of testing:** *Ort der Prüfung:* | **TUV Rheinland Australia Pty Ltd** | |
| **Testing laboratory:** *Prüflaboratorium:* | **TUV Rheinland Australia Pty Ltd** | |
| **Test result*:** *Prüfergebnis*:* | **Samples were submitted for measurement only, no compliance limits** | |

| **reviewed by /** *überprüft von*: | | | **authorized by /** *genehmigt von*: | | |
|---|---|---|---|---|---|
| 17-Aug-2020 | Faisal Mahmood / Test Engineer |  | 17-Aug-2020 | Daniel Ngo / Reviewer |  |
| **Date** *Datum* | **Name / Position** *Name / Stellung* | **Signature** *Unterschrift* | **Date** *Datum* | **Name / Position** *Name / Stellung* | **Signature** *Unterschrift* |

**Other /** *Sonstiges*:

Power consumption measurement at rated voltage for AEMO (Australian Energy Market Operator) at lab condition (Ambient (20±5) °C, Relative Humidity (45–75) %)

**Condition of the test item at delivery:** *Zustand des Prüfgegenstandes bei Anlieferung:* **New sample, no damage**

| | | | | |
|---|---|---|---|---|
| * Legend: | P(ass) = passed a.m. test specification(s) | F(ail) = failed a.m. test specification(s) | N/A = not applicable | N/T = not tested |
| *Legende:* | *P(ass) = entspricht o.g. Prüfgrundlage(n)* | *F(ail) = entspricht nicht o.g. Prüfgrundlage(n)* | *N/A = nicht anwendbar* | *N/T = nicht getestet* |

| **Test Report** |
|---|
| **Test item particulars:**<br>Model series **XSPM***A*+24*Q***:<br>Approximate dimension [Length x Width x Height] (mm): 620 x 255 x 98<br>Approximate mass (kg): 6.95<br><br>Model series **XSP***E*+24*Q***:<br>Approximate dimension [Length x Width x Height] (mm): 749 x 347 x 129<br>Approximate mass (kg): 10.40<br><br>Model series **XSP***F*+24*Q9**:<br>Approximate dimension [Length x Width x Height] (mm): 770 x 407 x 96<br>Approximate mass (kg): 13.5 |
| **General remarks:**<br>1.This report shall not be reproduced, except in full.<br>2.Details in test data / test plan no. 252102792.<br>3.Reporting of results herein is in accordance with NATA recommendations taking into account U of M.<br>(a)For minimum limits - Where measurement is on the limit or above the limit it is deemed to comply. Where measurement is below the limit it is deemed not to comply.<br>(b)For maximum limits - Where measurement is on the limit or below the limit it is deemed to comply. Where measurement is above the limit it is deemed not to comply.<br>4.For reporting of results the estimated uncertainty for measurement taken into account at 95% confidence level.<br>5.This test report is based on assessment and tests applied to the specific test item(s) as submitted by the client. TÜV Rheinland Australia disclaims any and all responsibility or obligation for any other item.<br>6. LCP test was conducted on 10 fittings for each model as per requested schemes.<br>7. Tests were conducted on model **XSPME023MEA40K+24BKQ2**, **XSPME023MEA40K+24BKQ6** and **XSPME023MEA40K+24BKQ9** as representative models in **XSPM***A*+24*Q*** series.<br>8. Tests were conducted on model **XSPE023MEE40K+24SVQ3** and **XSPE023MEE40K+24SVQ9** as representative models in **XSP***E*+24*Q*** series.<br>9. Test was conducted on model **XSPE023MEF40K+24BKQ9** as representative model in **XSP***F*+24*Q9** series. |

**Description of the test items:**
Tradename: **Advance Lighting Technologies Australia** / Manufacturer: **CREE**. Model / type number: **XSP***F*+24*Q9**; Rating: 220-240V, 50/60Hz, 128W, IP66, ta= 40ºC. The XSP2 High Output LED Street/Area Luminaire series is a LED street light comprises of double LED modules and a LED driver (brand: PHILIPS; Model: Xitanium 150W1.05A1-10V230VS240sXt; Input: 220-240Vac, 50/60Hz, 0.8-0.67A, 165W; Output: 70-142Vdc 1050mA, 150W; ʌ=0.95, ta= -40ºC to 55ºC; tc=85ºC)

Model **XSP***F*+24*Q9** is represented as below:

The first star ***** represents the version of LEDs. It may up to 1 character.
E – LED Version E

The second star ***** represents the physical mounting of the light. It may be up to 2 characters.
02 - Tenon 60mm
03 - Tenon 76mm

The third star ***** represents the LED optic type. It may be up to 3 characters.
2LG – TYPE II Long
3ME – TYPE III Medium

The fourth star ***** represents CCT of the LEDs. It may be up to 3 characters.
30K – LEDs with CCT 3000K
40K – LEDs with CCT 4000K

The Fifth star ***** represents the colour of the light housing. It may be up to 2 characters.
BK - Black
SV – Silver

Tradename: **Advance Lighting Technologies Australia** / Manufacturer: **CREE**. Model / type number: **XSP***E*+24*Q***; Rating: 220-240V, 50/60Hz, 65W and 94W, IP66, ta= 40ºC. The XSP1 High Output LED Street/Area Luminaire series is a LED street light comprises of single LED module and a LED driver (brand: PHILIPS; Model: XiLP 150W0.5-1.5AS1230VS240sXt; Input: 220-240Vac, 50/60Hz, 0.79-0.65A, 163W; Output: 50-142Vdc 500-1500mA, 150W; ʌ=0.95, ta= -40ºC to 55ºC; tc=90ºC)

Model **XSP***E*+24*Q*** is represented as below:

The first star ***** represents the version of LEDs. It may up to 1 character.
E – LED Version E

The second star ***** represents the physical mounting of the light. It may be up to 2 characters.
02 - Tenon 60mm
03 - Tenon 76mm

The third star ***** represents the LED optic type. It may be up to 3 characters.
2LG – TYPE II Long
3ME – TYPE III Medium

The fourth star ***** represents CCT of the LEDs. It may be up to 3 characters.
30K – LEDs with CCT 3000K
40K – LEDs with CCT 4000K

The Fifth star ***** represents the colour of the light housing. It may be up to 2 characters.
BK - Black
SV – Silver

The Sixth star ***** represents the wattage of the product. It may be up to 1 character.
9 – 94W
3 – 65W

Tradename: **Advance Lighting Technologies Australia** / Manufacturer: **CREE**. Model / type number: **XSPM***A*+24*Q***; Rating: 220-240V, 50/60Hz, 24W, 42W and 58W, IP66, ta= 40°C. The XSPM High Output LED Street/Area Luminaire series is a LED street light comprises of single LED module and a LED driver (brand: PHILIPS; Model: XiLP 75W0.5-1.5AS1230VC133sXt; Input: 220-240Vac, 50/60Hz, 0.4-0.34A, 84W; Output: 25-75Vdc 500-1500mA, 75W; ʌ=0.95, ta= -40°C to 55°C; tc=80°C)

Model **XSPM***A*+24*Q*** is represented as below:

The first star ***** represents the version of LEDs. It may up to 1 character.
E – LED Version E

The second star ***** represents the physical mounting of the light. It may be up to 2 characters.
02 - Tenon 60mm
03 - Tenon 76mm

The third star ***** represents the LED optic type. It may be up to 3 characters.
2LG – TYPE II Long
3ME – TYPE III Medium

The fourth star ***** represents CCT of the LEDs. It may be up to 3 characters.
30K – LEDs with CCT 3000K
40K – LEDs with CCT 4000K

The Fifth star ***** represents the colour of the light housing. It may be up to 2 characters.
BK - Black
SV – Silver

The Sixth star ***** represents the wattage of the product. It may be up to 1 character.
9 - 58W
6 – 42W
2 – 24W

**History of revision:**
N/A

**Options/accessories/ancillary equipment:**
The equipment was tested without any optional accessory installed. Hence, this report does not cover parameters that are influenced by the installation of optional accessory that might affect safety in the meaning of this standard.

**Uncertainty of equipment used:**

| Equipment | Equipment No. | Range used | Uncertainty | Calibration Due Date |
|---|---|---|---|---|
| Digital Power Meter Model: WT310 | MEL-1464 | Voltage: 240V - 300V | ±0.1V | 09-Dec-2020 |
| | | Current: 0.4A – 0.6A | ±0.0005A | |
| | | Power: 230W | ±0.3W | |
| | | Power Factor: 1 | ±0.001pf | |

**Test procedure:**
The submitted test samples (consisted of the supplied lamp and control gear combination, if applicable) for the lamp circuit power consumption measurement were placed in a draught free room and at the laboratory condition (Ambient (20±5)°C, Relative Humidity (45–75) %) for 24 hours before and during the measurement.
The test samples were connected to the power source and supplied with voltage and frequency as listed in "TABLE: Power Measurement". The test samples were operated until the conditions of overall temperature equilibrium were established or at least 4 hours in stabilized operation with the supplied sources. Then the total power consumption measurements have been taken by power meter.

| | Test Item | Supplied Voltage (V) | Frequency (Hz) | Measured Input Power (W) | Measured Input Current (mA) | Power Factor |
|---|---|---|---|---|---|---|
| 1 | **XSPME023MEA40K+24BKQ2** | 250 | 50 | 23.714 | 110.10 | 0.8612 |
| 2 | **XSPME023MEA40K+24BKQ2** | 250 | 50 | 23.996 | 111.23 | 0.8627 |
| 3 | **XSPME023MEA40K+24BKQ2** | 250 | 50 | 24.267 | 111.82 | 0.8663 |
| 4 | **XSPME023MEA40K+24BKQ2** | 250 | 50 | 23.585 | 109.47 | 0.8617 |
| 5 | **XSPME023MEA40K+24BKQ2** | 250 | 50 | 23.795 | 111.03 | 0.8571 |
| 6 | **XSPME023MEA40K+24BKQ2** | 250 | 50 | 24.379 | 111.79 | 0.8722 |
| 7 | **XSPME023MEA40K+24BKQ2** | 250 | 50 | 23.728 | 110.15 | 0.8612 |
| 8 | **XSPME023MEA40K+24BKQ2** | 250 | 50 | 23.937 | 111.08 | 0.8617 |
| 9 | **XSPME023MEA40K+24BKQ2** | 250 | 50 | 23.886 | 110.65 | 0.8653 |
| 10 | **XSPME023MEA40K+24BKQ2** | 250 | 50 | 24.036 | 111.53 | 0.8620 |
| **Average** | | 250 | 50 | 23.932 | 110.89 | 0.8631 |

| | Test Item | Supplied Voltage (V) | Frequency (Hz) | Measured Input Power (W) | Measured Input Current (mA) | Power Factor |
|---|---|---|---|---|---|---|
| 1 | **XSPME023MEA40K+24BKQ6** | 250 | 50 | 41.866 | 178.73 | 0.9372 |
| 2 | **XSPME023MEA40K+24BKQ6** | 250 | 50 | 41.655 | 177.87 | 0.9366 |
| 3 | **XSPME023MEA40K+24BKQ6** | 250 | 50 | 42.684 | 181.73 | 0.9394 |
| 4 | **XSPME023MEA40K+24BKQ6** | 250 | 50 | 41.382 | 176.46 | 0.9378 |
| 5 | **XSPME023MEA40K+24BKQ6** | 250 | 50 | 41.620 | 178.03 | 0.9350 |
| 6 | **XSPME023MEA40K+24BKQ6** | 250 | 50 | 42.456 | 180.07 | 0.9431 |
| 7 | **XSPME023MEA40K+24BKQ6** | 250 | 50 | 41.665 | 177.73 | 0.9376 |
| 8 | **XSPME023MEA40K+24BKQ6** | 250 | 50 | 41.876 | 178.63 | 0.9377 |
| 9 | **XSPME023MEA40K+24BKQ6** | 250 | 50 | 41.862 | 178.54 | 0.9376 |
| 10 | **XSPME023MEA40K+24BKQ6** | 250 | 50 | 42.262 | 180.26 | 0.9378 |
| **Average** | | 250 | 50 | 41.933 | 178.81 | 0.9380 |

| | Test Item | Supplied Voltage (V) | Frequency (Hz) | Measured Input Power (W) | Measured Input Current (mA) | Power Factor |
|---|---|---|---|---|---|---|
| 1 | **XSPME023MEA40K+24BKQ9** | 250 | 50 | 58.031 | 241.44 | 0.9615 |
| 2 | **XSPME023MEA40K+24BKQ9** | 250 | 50 | 57.901 | 240.93 | 0.9612 |
| 3 | **XSPME023MEA40K+24BKQ9** | 250 | 50 | 57.972 | 241.14 | 0.9617 |
| 4 | **XSPME023MEA40K+24BKQ9** | 250 | 50 | 58.258 | 242.14 | 0.9625 |
| 5 | **XSPME023MEA40K+24BKQ9** | 250 | 50 | 56.870 | 237.09 | 0.9594 |
| 6 | **XSPME023MEA40K+24BKQ9** | 250 | 50 | 58.220 | 241.48 | 0.9642 |
| 7 | **XSPME023MEA40K+24BKQ9** | 250 | 50 | 57.867 | 240.80 | 0.9613 |
| 8 | **XSPME023MEA40K+24BKQ9** | 250 | 50 | 57.837 | 240.62 | 0.9616 |
| 9 | **XSPME023MEA40K+24BKQ9** | 250 | 50 | 57.720 | 239.99 | 0.9619 |
| 10 | **XSPME023MEA40K+24BKQ9** | 250 | 50 | 57.899 | 240.89 | 0.9612 |
| **Average** | | 250 | 50 | 57.858 | 240.65 | 0.9617 |

| | Test Item | Supplied Voltage (V) | Frequency (Hz) | Measured Input Power (W) | Measured Input Current (mA) | Power Factor |
|---|---|---|---|---|---|---|
| 1 | **XSPE023MEE40K+24SVQ3** | 250 | 50 | 65.248 | 271.77 | 0.9603 |
| 2 | **XSPE023MEE40K+24SVQ3** | 250 | 50 | 65.480 | 272.60 | 0.9606 |
| 3 | **XSPE023MEE40K+24SVQ3** | 250 | 50 | 65.852 | 274.27 | 0.9605 |
| 4 | **XSPE023MEE40K+24SVQ3** | 250 | 50 | 65.366 | 272.40 | 0.9600 |
| 5 | **XSPE023MEE40K+24SVQ3** | 250 | 50 | 65.676 | 273.13 | 0.9617 |
| 6 | **XSPE023MEE40K+24SVQ3** | 250 | 50 | 65.320 | 271.87 | 0.9610 |
| 7 | **XSPE023MEE40K+24SVQ3** | 250 | 50 | 65.500 | 268.63 | 0.9602 |
| 8 | **XSPE023MEE40K+24SVQ3** | 250 | 50 | 64.899 | 270.24 | 0.9601 |
| 9 | **XSPE023MEE40K+24SVQ3** | 250 | 50 | 65.610 | 272.77 | 0.9615 |
| 10 | **XSPE023MEE40K+24SVQ3** | 250 | 50 | 66.150 | 275.26 | 0.9609 |
| **Average** | | 250 | 50 | 65.510 | 272.29 | 0.9607 |

| | Test Item | Supplied Voltage (V) | Frequency (Hz) | Measured Input Power (W) | Measured Input Current (mA) | Power Factor |
|---|---|---|---|---|---|---|
| 1 | **XSPE023MEE40K+24SVQ9** | 250 | 50 | 96.22 | 393.05 | 0.9789 |
| 2 | **XSPE023MEE40K+24SVQ9** | 250 | 50 | 95.45 | 389.73 | 0.9792 |
| 3 | **XSPE023MEE40K+24SVQ9** | 250 | 50 | 95.23 | 389.09 | 0.9788 |
| 4 | **XSPE023MEE40K+24SVQ9** | 250 | 50 | 94.97 | 387.40 | 0.9789 |
| 5 | **XSPE023MEE40K+24SVQ9** | 250 | 50 | 95.76 | 391.34 | 0.9790 |
| 6 | **XSPE023MEE40K+24SVQ9** | 250 | 50 | 95.53 | 390.24 | 0.9793 |
| 7 | **XSPE023MEE40K+24SVQ9** | 250 | 50 | 95.70 | 391.12 | 0.9786 |
| 8 | **XSPE023MEE40K+24SVQ9** | 250 | 50 | 95.81 | 391.49 | 0.9788 |
| 9 | **XSPE023MEE40K+24SVQ9** | 250 | 50 | 96.01 | 392.21 | 0.9793 |
| 10 | **XSPE023MEE40K+24SVQ9** | 250 | 50 | 96.02 | 392.02 | 0.9794 |
| **Average** | | 250 | 50 | 95.67 | 390.77 | 0.9790 |

| | Test Item | Supplied Voltage (V) | Frequency (Hz) | Measured Input Power (W) | Measured Input Current (mA) | Power Factor |
|---|---|---|---|---|---|---|
| 1 | **XSPE023MEF40K+24BKQ9** | 250 | 50 | 127.64 | 526.07 | 0.9699 |
| 2 | **XSPE023MEF40K+24BKQ9** | 250 | 50 | 128.62 | 530.31 | 0.9698 |
| 3 | **XSPE023MEF40K+24BKQ9** | 250 | 50 | 126.20 | 520.71 | 0.9696 |
| 4 | **XSPE023MEF40K+24BKQ9** | 250 | 50 | 128.83 | 531.04 | 0.9706 |
| 5 | **XSPE023MEF40K+24BKQ9** | 250 | 50 | 129.05 | 531.94 | 0.9701 |
| 6 | **XSPE023MEF40K+24BKQ9** | 250 | 50 | 126.98 | 523.41 | 0.9691 |
| 7 | **XSPE023MEF40K+24BKQ9** | 250 | 50 | 126.94 | 524.17 | 0.9684 |
| 8 | **XSPE023MEF40K+24BKQ9** | 250 | 50 | 127.18 | 525.24 | 0.9684 |
| 9 | **XSPE023MEF40K+24BKQ9** | 250 | 50 | 127.97 | 527.98 | 0.9697 |
| 10 | **XSPE023MEF40K+24BKQ9** | 250 | 50 | 128.24 | 528.63 | 0.9701 |
| **Average** | | 250 | 50 | 127.77 | 526.95 | 0.9696 |

# Markings

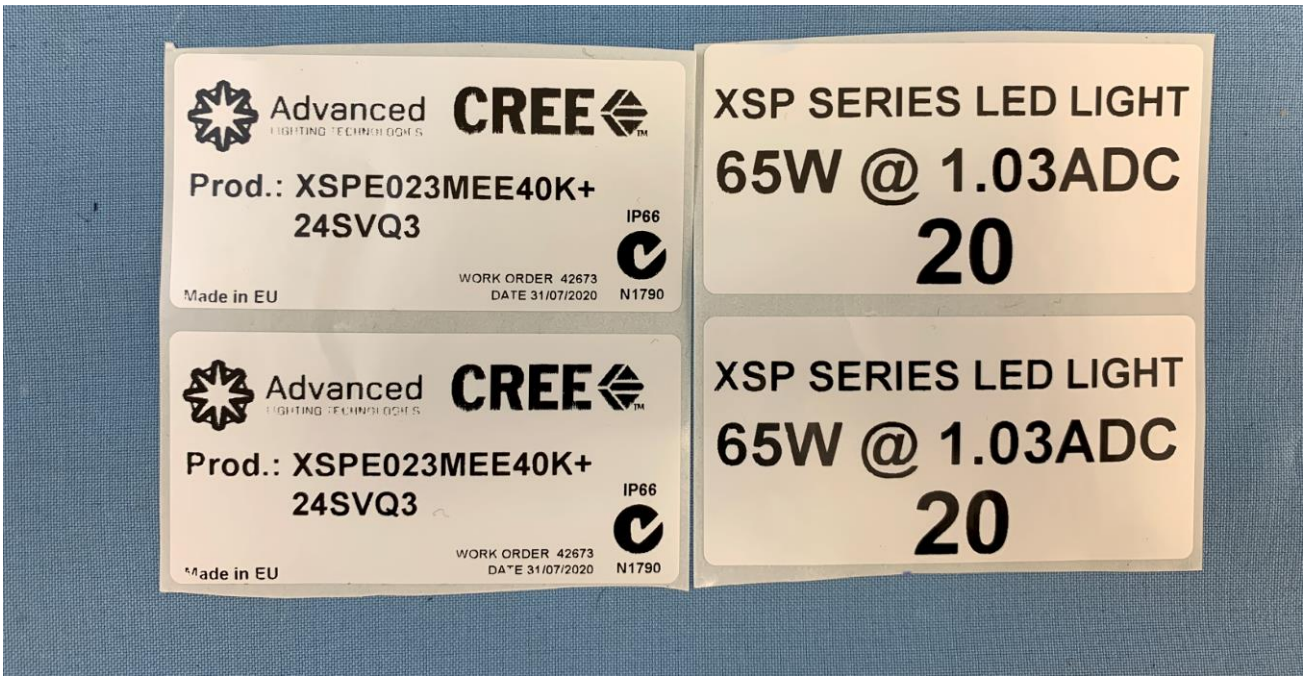

Model **XSPME023MEA40K+24BKQ9** (58W) – Rating label


Model **XSPME023MEA40K+24BKQ6** (42W) – Rating label


Model **XSPME023MEA40K+24BKQ2** (24W) – Rating label


Model **XSPME023MEA40K+24BKQ9; XSPME023MEA40K+24BKQ6**; **XSPME023MEA40K+24BKQ2** – LED control gear marking


Model **XSPE023MEE40K+24SVQ9** (94W) – Rating label



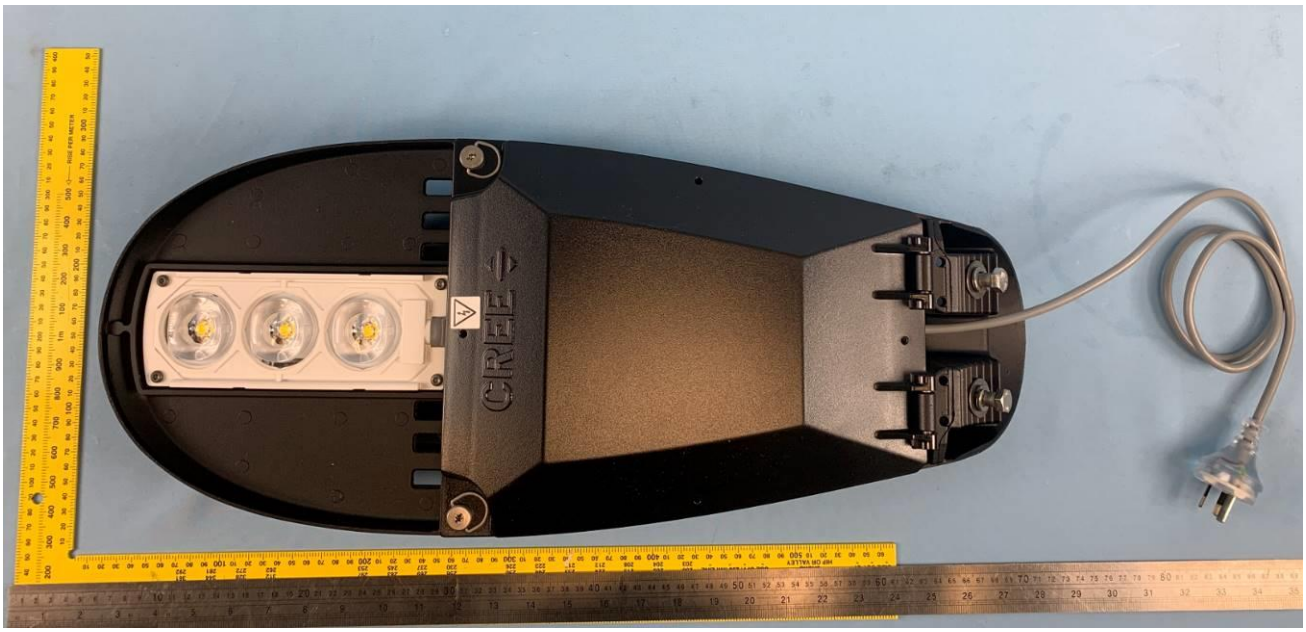

Model **XSPE023MEE40K+24SVQ3** (65W) – Rating label


Model **XSPE023MEE40K+24SVQ9** and **XSPE023MEE40K+24SVQ3** – LED control gear marking


Model **XSPE023MEF40K+24BKQ9** (128W) – Rating label


Model **XSPE023MEF40K+24BKQ9** – LED control gear marking

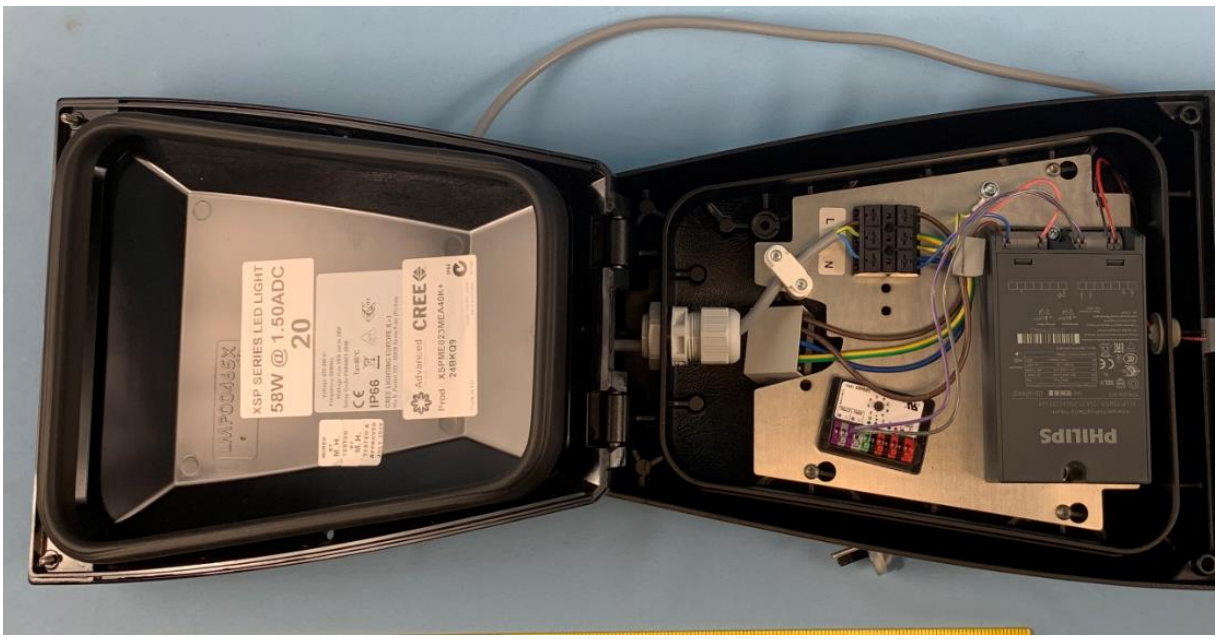
# Photos



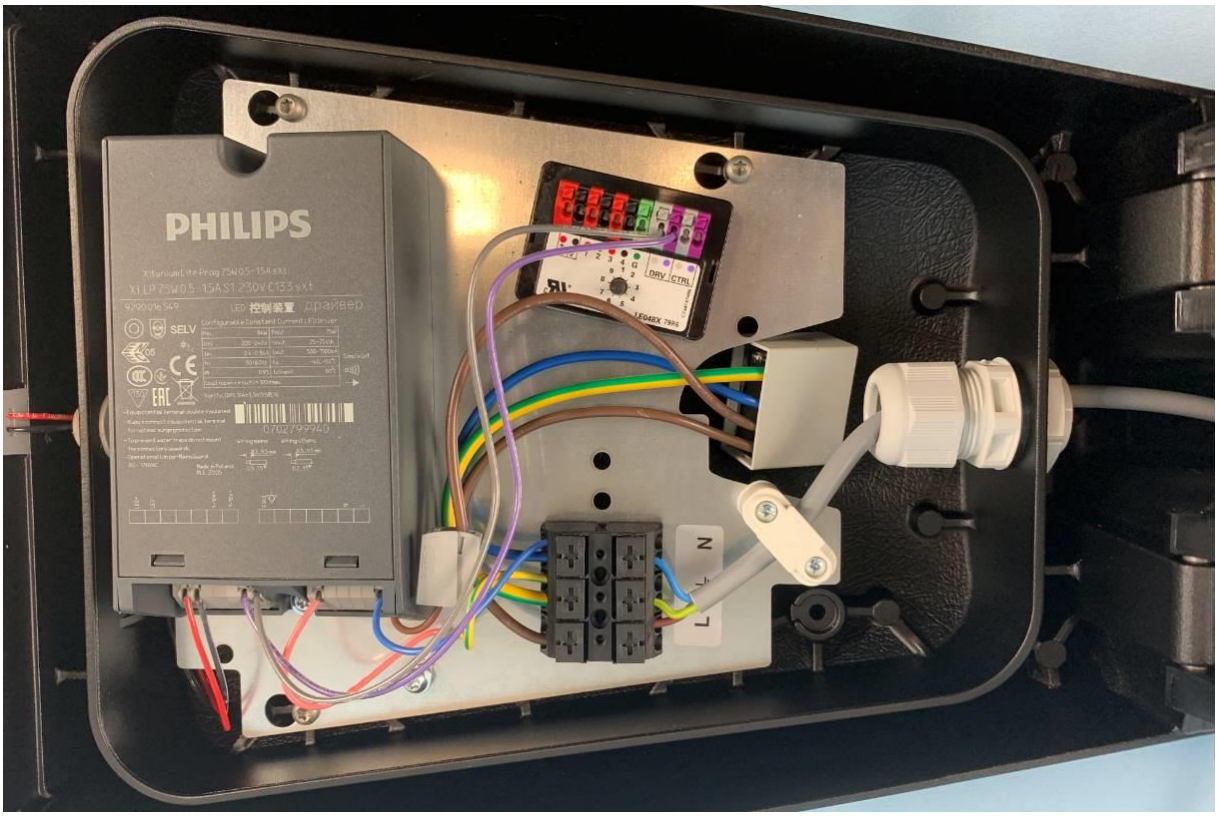

**Model XSPME023MEA40K+24BKQ9; XSPME023MEA40K+24BKQ6; XSPME023MEA40K+24BKQ2 - Product overview**

**Model XSPME023MEA40K+24BKQ9; XSPME023MEA40K+24BKQ6; XSPME023MEA40K+24BKQ2 - Product overview**

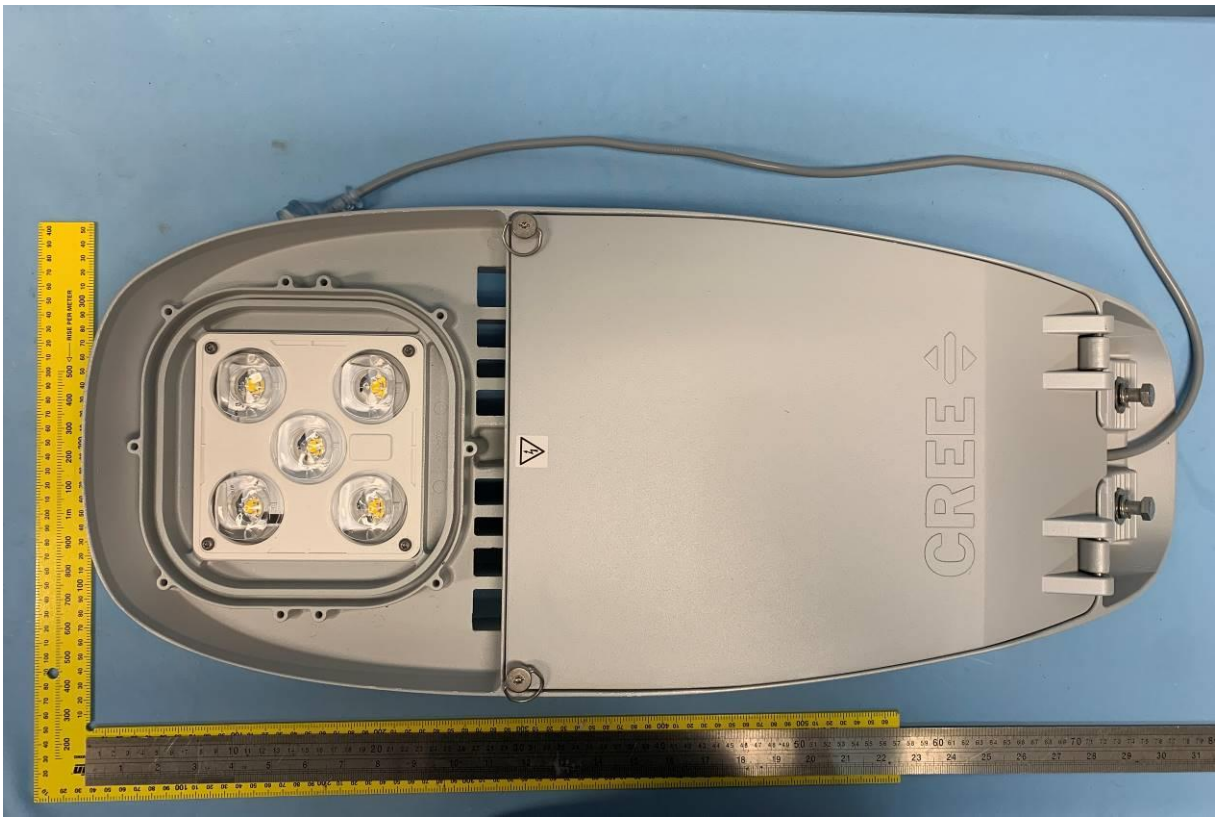

**Model XSPME023MEA40K+24BKQ9; XSPME023MEA40K+24BKQ6; XSPME023MEA40K+24BKQ2 - LEDs overview**




**Model XSPME023MEA40K+24BKQ9; XSPME023MEA40K+24BKQ6; XSPME023MEA40K+24BKQ2 - Internal construction**



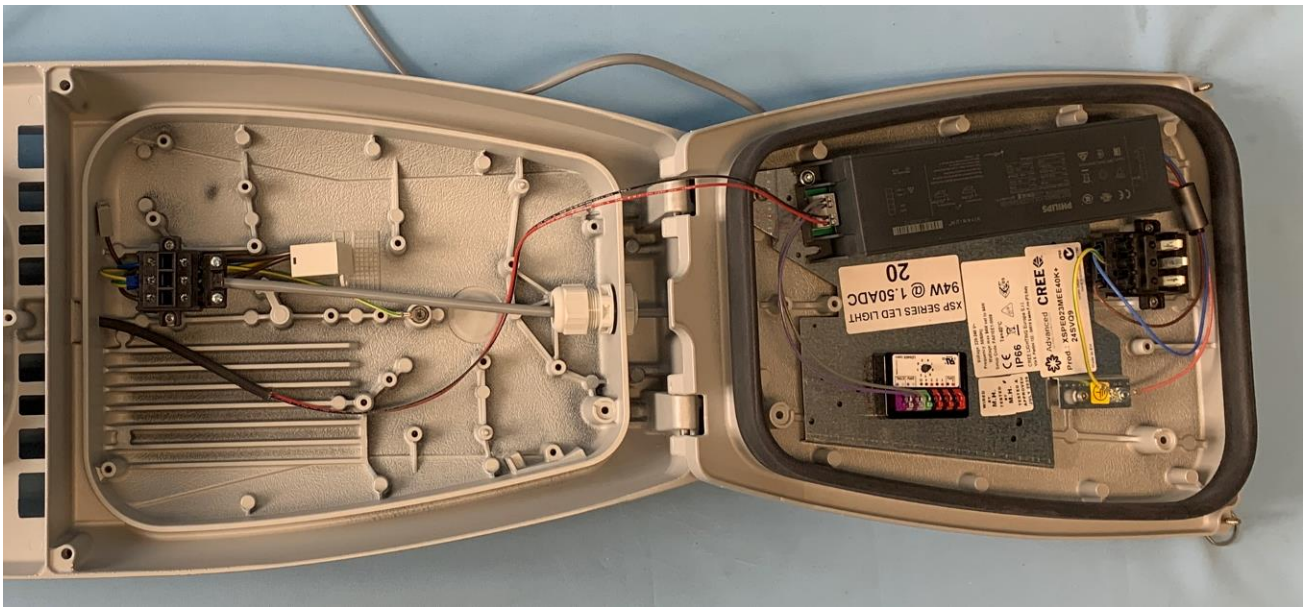

**Model XSPME023MEA40K+24BKQ9; XSPME023MEA40K+24BKQ6; XSPME023MEA40K+24BKQ2 - Control gear compartment**



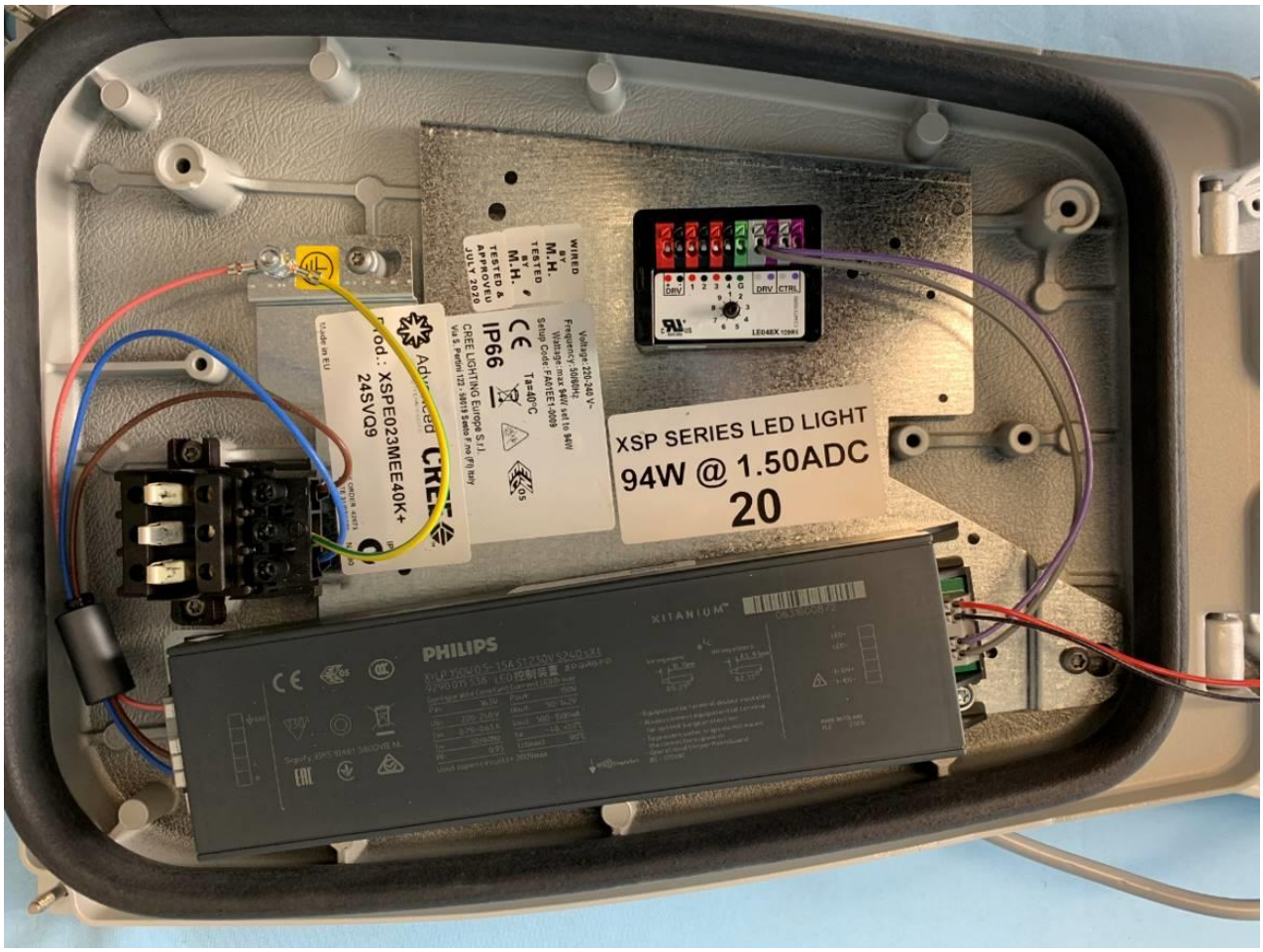

**Model XSPE023MEE40K+24SVQ9 and XSPE023MEE40K+24SVQ3 - Product overview**

**Model XSPE023MEE40K+24SVQ9 and XSPE023MEE40K+24SVQ3 - Product overview**

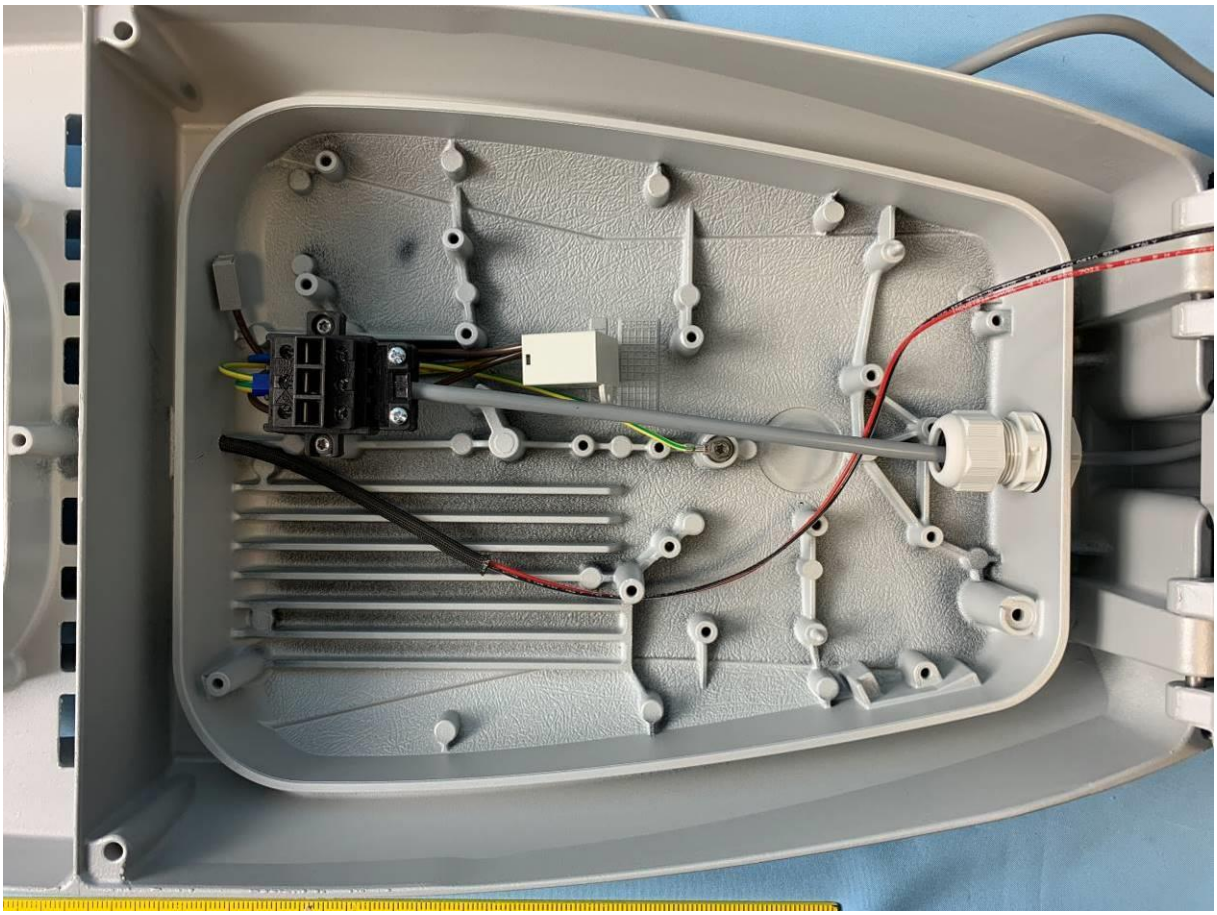
**Model XSPE023MEE40K+24SVQ9 and XSPE023MEE40K+24SVQ3 - LEDs overview**




**Model XSPE023MEE40K+24SVQ9 and XSPE023MEE40K+24SVQ3 – Internal construction**

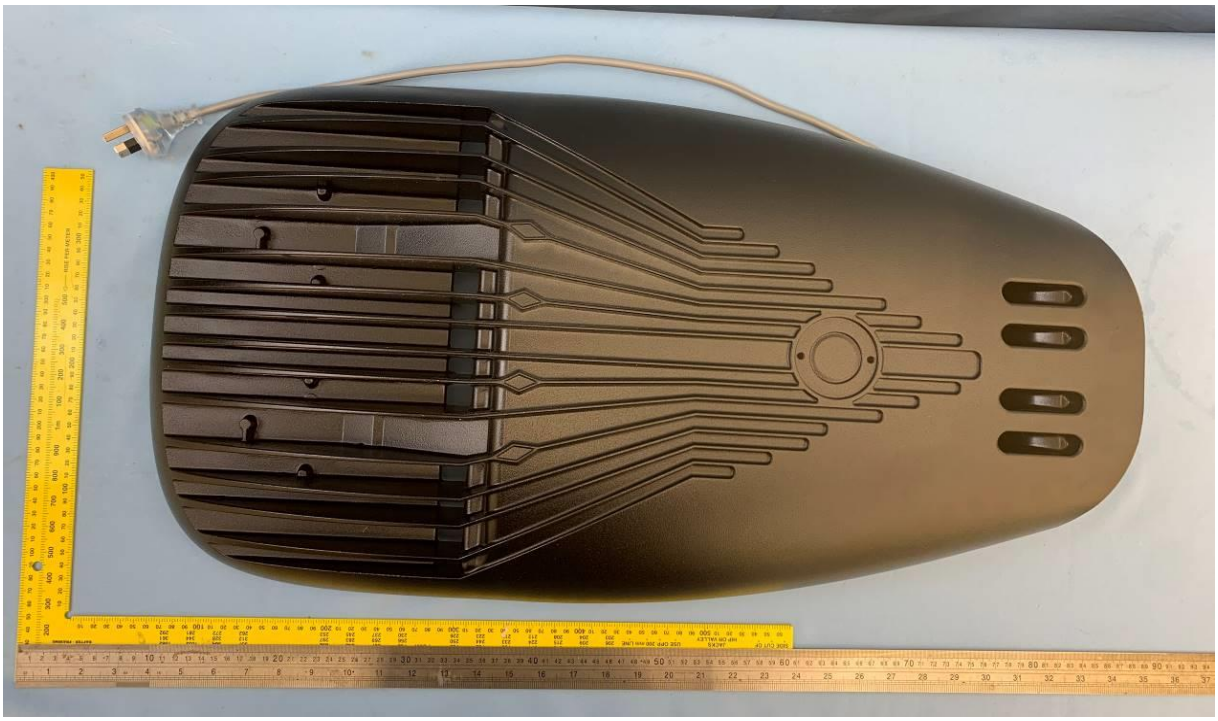



**Model XSPE023MEE40K+24SVQ9 and XSPE023MEE40K+24SVQ3 - Control gear compartment**



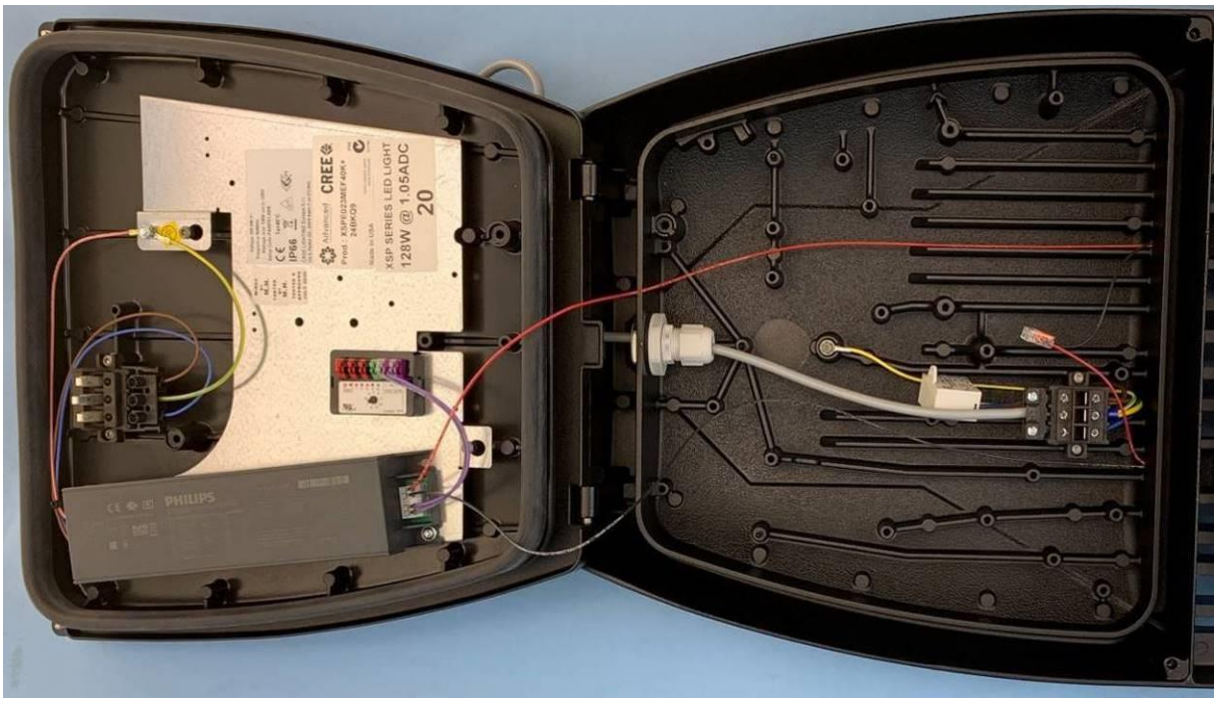
**Model XSPE023MEE40K+24SVQ9 and XSPE023MEE40K+24SVQ3 - Supply connection compartment**


**Model XSPE023MEF40K+24BKQ9 - Product overview**

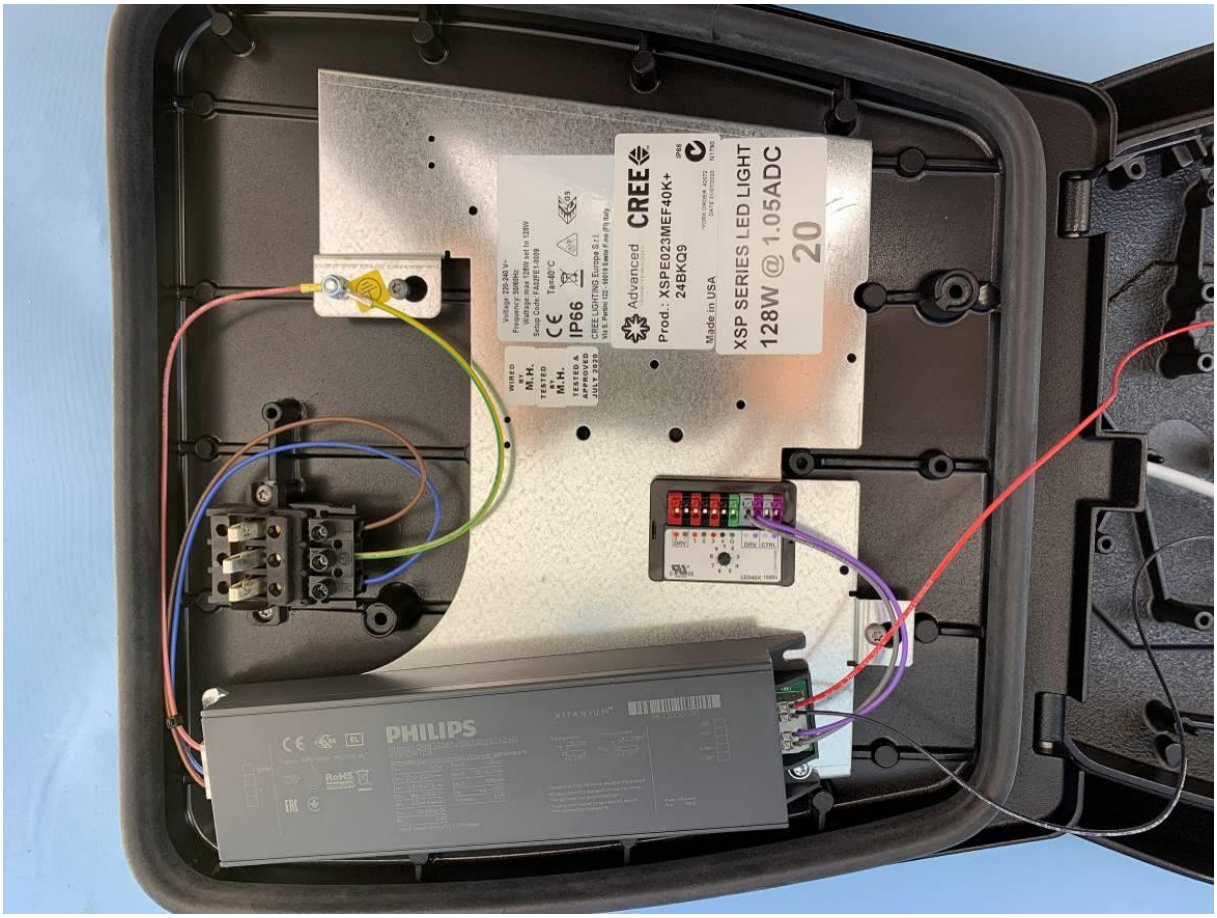


**Model XSPE023MEF40K+24BKQ9 - Product overview**

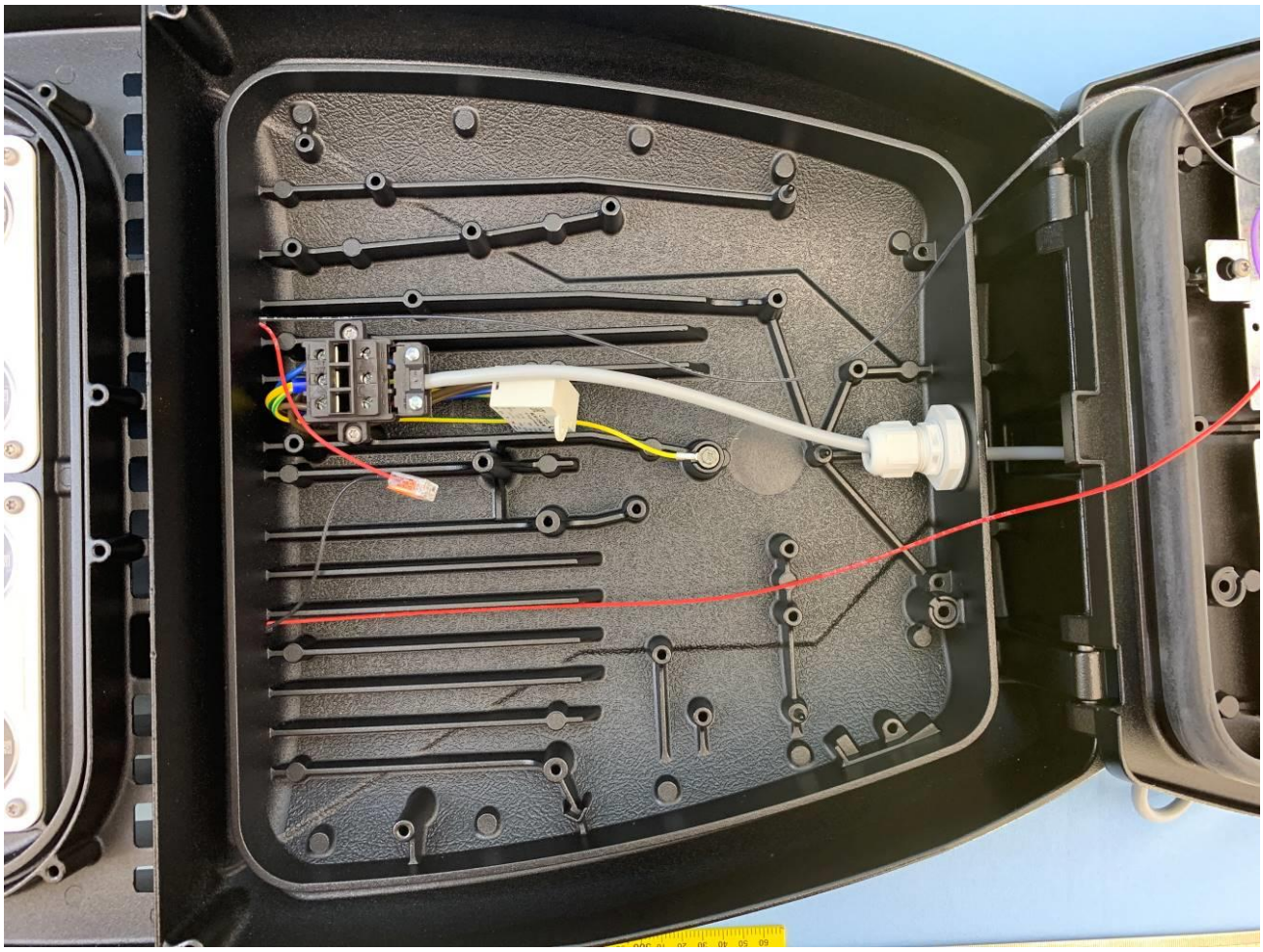
**Model XSPE023MEF40K+24BKQ9 - LEDs overview**




**Model XSPE023MEF40K+24BKQ9 - Internal construction**




**Model XSPE023MEF40K+24BKQ9 - Control gear compartment**



**Model XSPE023MEF40K+24BKQ9 - Supply connection compartment**

**End of Test Report**