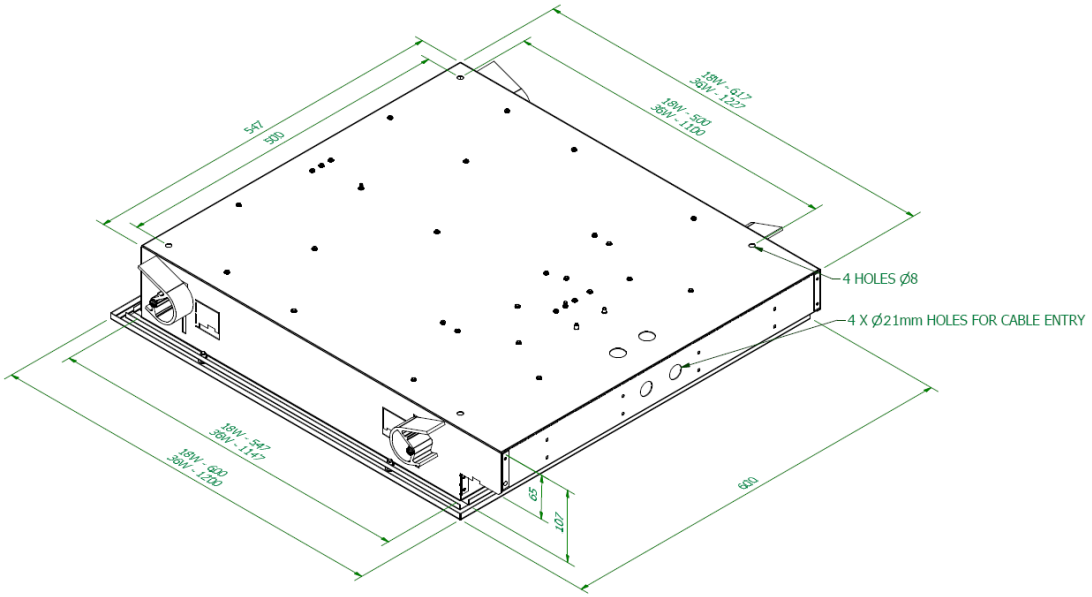
Curie - Recessed Fluorescent Luminaires

Industrial

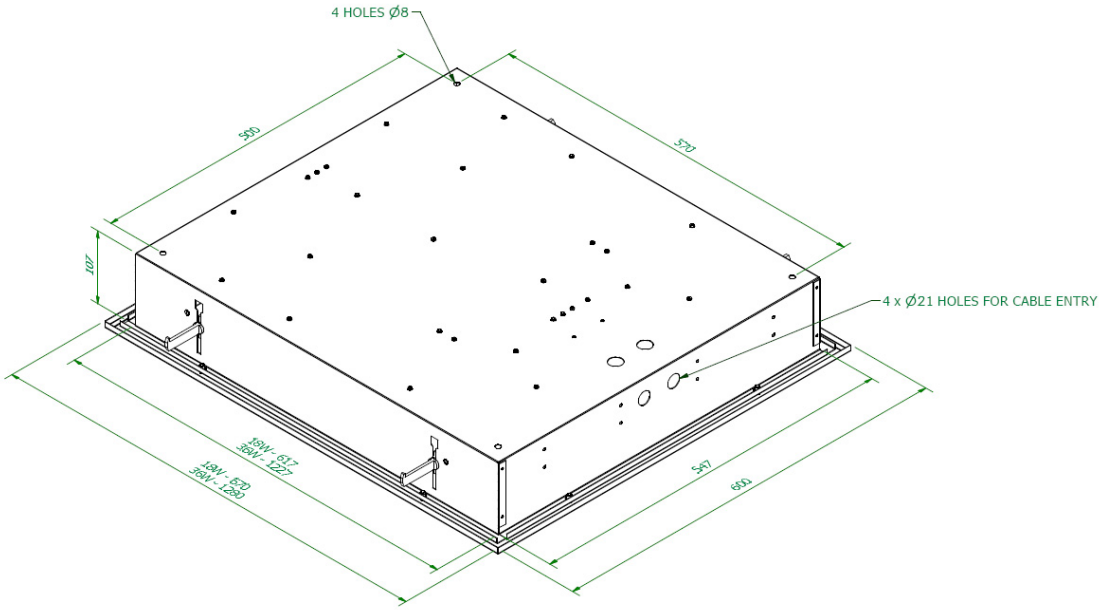
INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

Important: Please read these instructions carefully before installing or maintaining this equipment. Good electrical practices should be followed at all times and this data should be used as a guide only.

Curie Industrial
Modular Exposed 'T' and Spring 'T'(/MES)Ceiling



Curie Industrial
Non-Modular Solid Ceiling



0.0 Specification	
Type of Protection	N/A
Standards	EN 60598-1, EN 60598-2-22
Area Classification	Non- Hazardous
Ambient	-20°C to 40ºC
Ingress Protection	IP20 & IP44 (Front Cover Only) to EN 60529
CE UKCA	The CE marking of this product applies to "The Electrical Equipment (Safety) Regulations 2006", "The Electromagnetic Compatibility Regulations 2004", the "Waste Electrical and Electronic Equipment Regulations 2006". [This legislation is the equivalent in UK law of EU directives 2014/35/EU, 2014/30/EU, 2012/19/EU respectively]. The UKCA marking of this product applies to "The Electrical Equipment (Safety) Regulations 2016", "The Electromagnetic Compatibility Regulations 2016", the "Waste Electrical and Electronic Equipment Regulations 2012 M Poutney Technical Manager

Table 0 Ratings – High Frequency Control Gear Refer to Section : 1.0

No. off Lamp	Lamp Watts	Nominal Circuit Power Watts	Line Current Amp
2	18	36.5	0.16
4	18	73.0	0.31
2	36	72.0	0.31
4	36	142.0	0.63

Emergency luminaire - Battery pack is supplied disconnected. Connect prior to energising circuit.

1.0 Introduction - CURIE Industrial Area Recessible Fluorescent Luminaire

The Curie Industrial series is available as modular and non-modular recessed luminaire for use with fluorescent lamps with the facility of an internal battery back up for emergency use. The non-modular is suitable for cut or prepared aperture ceilings.
Normal operation is mains supply with all lamps on, switching to one lamp on battery back up and having local switching of the mains lamps, the emergency lamp only being energised on mains failure.
The luminaries are available in 2 x 18W, 4 x 18W, 2 x 36W, and 4 x 36W for Modular and Non Modular Ceilings.

Note: Two lamp versions are only available as 600x600mm & 600x1200mm dimensions.

B15 SOLAS The luminaire can be installed to interface with fire resistant ceiling systems to maintain a B15 SOLAS fire rating; the integrity of the ceiling and insulation must be maintained using suitable insulation materials. It is the responsibility of the installer to ensure that the insulation for ceiling and luminaire are procured to maintain the B15 rating of ceiling and components within. The ceiling/fitting and insulation should be continuous (without any gaps) care must be taken to maintain this classification.

2.0 Storage

Luminaires and control gear boxes are to be stored in cool dry conditions preventing ingress of moisture and condensation.
Battery packs in storage should be cycled charged/discharged/charged every 9 months, as per instructions below. **Always disconnect battery plug and socket for storage**.
Any specific instructions concerning emergency luminaires must be complied with.
(Warning: Battery packs not cycled and stored for a year may not be recoverable)

3.0 Installation and Safety

3.1 General

There are no health hazards associated with this product whilst in normal use. However, care should be exercised during the following operations.

Installation should be carried out in accordance with any applicable code of practice or regulations and fitting of specified insulating material is to be adhered too where a specific fire resistance rating is required. In the UK, the requirements of the *"Health & Safety at Work Act 1974"* and *"Electricity at Work Regulations 1989"* must be met. The luminaires are Class 1 and should be effectively earthed.

Application details on the rating plate must be verified against the requirements before installation.

The information in this leaflet is correct at the time of publication. The company reserves the right to make specification changes as required.

3.2 Tools

12mm, 8mm and 4mm flat blade screwdriver and pozi head screwdriver.
Suitable spanners for installing cable glands.
Pliers, knife, wire strippers/cutters.

3.3 Electrical Supplies

Luminaires fitted with electronic control gear are suitable for a rated supply of 220-240V AC 50-60Hz. The safety limits are +10% of this. The supply would normally be expected to lie within +/-6% of rated. The lamp supply is regulated therefore the light output over the range is substantially unchanged.

Some luminaires are available for operation on dc and 110-130V and 254V ac. Operation from dc supply should be checked with the Technical Department before ordering. Electronic gear has integrated power factor correction to >0.95.

Warning: Electronic control gear is assessed and/or tested for EMC requirements. This is based on the disposition of entry cables and, where appropriate, through wiring arrangements as supplied or specified. Users must take care not to introduce wiring into parts of the apparatus materially different to that which could be reasonably inferred from the disposition of fixed supply terminals and specified through wiring.

Luminaires with dimming facility can be sensitive to pulses within the supply system, if UPS units are connected to the same Distribution boards as the lighting circuits, it is advisable to use isolating transformers within the circuit.

For luminaires fitted with conventional control gear, the supply voltage and frequency should be specified when ordering. The safety limits are +10%.

Care is needed connecting to the nominal 230V UK public supply.

The user must determine the actual underlying site supply and purchase or adjust accordingly. Normally luminaires for 230V and 240V, 50Hz rating are supplied with a tap.

If the equipment is located in high or low voltage sections of the system, an appropriate voltage tap should be selected, but care must be taken to log or mark the equipment so that the tapping is re-set if the equipment is re-located. If in doubt, tappings should be set on the high side.

3.4 Lamps

Lamps are bi-pin fluorescent and can have the ratings 18W, 36W (T8) 26mm diameter tubes. The bi-pin lampholder accommodates lamps to IEC81 with G13 cap.

3.5 Mounting

Luminaires should be installed where access for maintenance is practical and in accordance with lighting design information. Refer to the note in 3.1 concerning electrostatic charge.

Where the luminaire is to be part of the ceiling construction, for aesthetic reasons, care is to be taken to ensure that the spacing and height specified by ceiling type is met. Mounting is via diameter 8mm holes for drop rods or directly onto the T grid of the ceiling. When B15 fire rating is a requirement, all conditions stated by the ceiling manufacturer and Chalmit must be met.

Modular Types: Prior to mounting remove front cover by undoing quarter turn fasteners then undo clips strapping cover to body. Place front cover in a safe and clean place so as not to accumulate dust.

Exposed T ceilings: Remove adjacent ceiling tiles from the sides of the luminaire, lift the luminaire into the ceiling aperture and whilst supporting, bend the body cut-outs so that the arms are perpendicular to body. Lower the luminaire until the groove in the arms fits onto Tee brackets. Care should be taken when bending the cut-outs so as not to weaken the joints.

Spring T ceilings: Remove the adjacent tiles from the sides where the ceiling suspension mates. Lift the luminaire into the ceiling aperture and whilst supporting, fit two of the cams on diagonally opposite corners and screw in place. Rest the luminaire onto spring Tee brackets. The luminaire is now temporarily supported and remaining cams may be now fitted.

Non-modular types: Prior to mounting remove front cover by undoing quarter turn fasteners then undo clips strapping cover to body. Place front cover into a safe and clean place so as not to accumulate dust.

Lift the luminaire into the ceiling aperture, position luminaire until the front flange meets the ceiling face. Whilst supporting, fit two brackets diagonally opposite corners through the slots. Adjust and tighten brackets to secure luminaire against ceiling face. Rest the luminaire onto support structure. The luminaire is now temporarily supported and remaining brackets may be now fitted.

Brackets can be mounted with hook-up or hook-down to suit type of mounting directly on to ceiling or on to support structure

3.6 Cabling and Cable Glands

3.6.1 Cables

The temperature conditions of the supply cable entry point are such that 70ºC (ordinary PVC) cable can be used in all luminaires. 300/500 volts cable ratings are adequate and no special internal construction is necessary. The selection of the cable size will be suitable for the fuse rating, which applies to the circuit on the supply side of the control gear. The standard maximum looping size is 4mm^2.

3.6.2 Cable Glands

Cable glands for entry into enclosures, when fitted with any gland to body sealing method and the supply cable, must reliably maintain the IP rating of the enclosure. Four Ø21mm entry holes, two in the rear and two in the side, are provided suitable for 20mm entries. Three of the entry holes have sealed plugs already installed and are suitable for permanent use. The other entry hole has a travelling plug. If cable glands are to be used as earth then care must be taken to ensure suitable earth connections is made as body material is pre-coated steel. Kits are available and an internal earth point is fitted as standard.

3.7 Electrical Connections

Luminaires are supplied suitable for looping. The through current rating is 16A. 4mm² terminals are standard. Mains terminal blocks are marked Lc Ls N Earth. The emergency units can be connected as switched, un-switched or non-maintained units. The switching facility is to allow the luminaire to be switched off whilst still charging the battery. Where switching is required, the un-switched line (Lc) is connected to the continuous mains supply and a switched supply is connected to the Ls. A link is fitted during assembly between Lc and switched line (Ls); this is removed for the switch-able mode. If the link is removed and Ls not supplied, the unit will only operate on emergency.

3.8 Installation

Following the mounting of the apparatus (refer to 3.5) ensure luminaire is isolated from the system before any work is done. The lampholders and terminal block are fitted on body and can now be accessed. Install the conductors in the appropriate terminals. Take care not to cut the conductor insulation excessively, 1mm of bare conductor outside the terminal throat is a maximum. Unused terminal screws should be tightened.

After supply cable is connected the unit can be tested with a high impedance 500 V dc insulation tester to IEC 364 or BS 7671 ***provided all line and neutral connections are solidly connected together*** for the test.

When the unit is ready for operation the mains and the battery connections must be made, the unit is supplied with the battery disconnected. After commissioning, the unit can be shut down for a long period without loss of function. Following cabling, lamps can be fitted (refer to 3.9). New lamps should be used. Before re-fitting the front cover, the cores/cable should be neatly tucked away and a final check made on correct connections.

3.9 Fitting Lamps

Before opening the front cover ensure that the luminaire is isolated from the mains supply. Access for re-lamping is via the front cover. Remove front cover by undoing quarter turn fasteners. Care should be taken opening the cover. The cover is suspended by straps on one side.

Before inserting lamps ensure the correct lamp is selected, and the lamp pins are not damaged or slack in the end cap. Place the lamp in the lampholder and rotate 90º in lampholder. When inserting new lamps ensure the pins and lampholder connection is centralised.

4.0 Inspection and Maintenance

We recommend a visual inspection of lampholders and control gear for discolouration, when re-lamping or during a scheduled maintenance check. On battery models, we recommend that the battery duration is checked periodically.

4.1 Replacement of Electronic Ballast and Inverter Unit *(Where Fitted)*

The electronic ballast and inverter contain no replaceable parts. Should it be found necessary to replace this part, the following procedure should be adopted:

1. Ensure that the luminaire is isolated from both mains and battery supply otherwise a risk of shock may occur. Disconnect the plug and socket battery connection then the leads on the ballast at the terminal block.
2. Undo the ballast securing screws and washers and withdraw the ballast from the body.
3. Replace in reverse order.
4. Replacement of the inverter is identical.

4.2 Battery Check and Replacement

The battery is contained in a tube which is sealed. The battery is detached at the plug and socket. Remove the two screws and washers to release the battery. Re-assembly is in reverse order.

Important: *Isolate the mains supply and disconnect the battery terminal before carrying out any work.*

4.3 Routine Examination

The luminaire must be de-energised before opening. Individual organisations will have their own procedures. What follows are guidelines based on our experience:

1 Ensure lamps are lit when energised by mains supply and emergency lamp on battery pack.
2 Visually check cover front for damage, this should only be cleaned using a damp cloth, to avoid static, and only use recommended detergents for polycarbonates.
3 If the diffuser is discoloured or damaged, a new front cover assembly must be fitted.
4 When de-energised and left to cool, there should be no significant sign of internal moisture. If there are any signs of water ingress, the luminaire should be opened up, dried and any likely ingress points eliminated by replacement of cover assembly.
4 Check cable gland for tightness and nip up if required.
5 Check any external and internal earths.
6 Check all terminations are firmly screwed down, tighten if necessary.
7 Check battery securing screws are tight, when fitted.
8 Check cover quarter turn fasteners are flush with cover front and washers for wear.
9 If it has been suspected that the luminaire has suffered mechanical damage, a stringent workshop check on all components should be made. All components can be removed from the luminaire for inspection.

4.4 Checking of Battery separately

If the battery is to be checked separately, it should be charged using a **constant current charger** at 200/400mA for 30/15 hours for the 4Ah (18W or 36W) or 350/700mA for 30/15 hours for the 7Ah (36W). Discharge measurement is not easy as the current is proportional to the voltage for resistance loads, so it has to be averaged. Discharge the battery at 1 to 2A and multiply current by time. Do not discharge below 1 volt per cell, which is 5V. The capacity should be 75% or more of normal.

5.0 Disposal of Material

The unit is made from combustible materials. The control gear contains plastic parts. All electrical components and the diffuser parts may give off noxious fumes if incinerated. Take care to render these fumes harmless or avoid inhalation. Any local regulations concerning disposal must be complied with. Any disposal must satisfy the requirements of the WEEE directive [2012/19/EU and Regulations 2012] and therefore must not be treated as commercial waste. The unit is mainly made from incombustible materials. The control gear contains plastic, resin and electronic components. All electrical components may give off noxious fumes if incinerated.

5.1 Lamps

Fluorescent lamps in modest quantities are not "special waste". They should be broken up in a container to avoid injury. Avoid inhaling dust.

Important: *Do not incinerate lamps.*

5.2 Battery Disposal

Nickel cadmium batteries are defined as 'controlled waste' under the hazardous waste regulations and the disposer needs to observe a 'duty of care'.

Batteries can be returned to the manufacturers for re-cycling. They must be stored and transported safely and any necessary pollution control forms completed prior to transportation. Take care to fully discharge batteries before transporting or otherwise ensure that there can be no release of stored energy in transit. For further details refer to our Technical Department.

To comply with the Waste Electrical and Electronic Equipment directive 2012/19/EU and Regulations 2012 the apparatus cannot be classified as commercial waste and as such must be disposed of or recycled in such a manner as to reduce the environmental impact.

	EU/UK-Declaration of conformity **UE-Déclaration de conformité** **EU-Konformitätserklärung**		
Manufacturer	Chalmit	Address	388 Hillington Road, Glasgow. G52 4BL Scotland UK
Product	Curie Recessed Fluorescent Industrial		
Catalogue	CURI/***/**/** Example: CURI/218/BI/EM		
Area Classification	Non- Hazardous		
Ingress Protection	IP20 & IP44 (Front Cover Only) to EN 60529		
Ambient	-20°C to +40°C		

Terms of the directive:		Standard & Date Certified to	Standards Date Declared to
2014/30/EU Regulations 2016	Electromagnetic compatibility	EN 55015 : 2019	
2014/30/UE	Compatibilité électromagnétique	EN 61547 : 2009	
2014/30/EU	Elektromagnetische Verträglichkeit	EN 61000-3-2 : 2019	
2014/35/EU Regulations 2016	Low voltage equipment	EN 60598-1 : 2015	
2014/35/UE	Équipements électriques à bas voltage	EN 60598-2-5 : 2015	
2014/35/EU	Niederspannungsgeräte / -systeme	EN 60598-2-22 : 2014	
		EN 60529 : 1992+A2:2013	
Regulations 2012	Waste of electrical and electronic equipment		
2012/19/UE	Déchets d'équipements électriques et électroniques		
2012/19/EU	Entsorgung der elektrischen und elektronischen Geräte / Systeme		
2011/65/EU Regulations 2012	RoHS II Directive		

On behalf of the Chalmit, I declare that, on the date the equipment accompanied by this declaration is placed on the market, the equipment conforms to all technical and regulatory requirements of the above listed directives.

En tant que représentant du fabricant Chalmit, je déclare qu'à la date où les équipements accompagnant cette déclaration sont mis sur le marché, ceux-ci sont conformes à toutes les dispositions réglementaires et techniques des directives énumérées ci-dessus.

Hiermit bestätige ich, im Namen von Chalmit, dass am Tag der Lieferung des Produkts/der Produkte zusammen mit dieser Erklärung das Gerät/die Geräte alle technischen und regulativen Anforderungen der oben aufgeführten Direktiven erfüllt.

Name and Date
Nom et Date
Name und Datum

Mark Poutney 10/10/2021

Technical Manager
Directeur technique
Technischer Leiter

Quality Management System Acreditation: **ISO 9001**
Système de Management Qualité Accréditation:
Qualitätsmanagementsystem Akkreditierung:
Environmental Management System. **ISO 14001**
Système de gestion de l'environnement. by/par/durch
Umwelt kontroll system. **Loyd's Register**
Certificate No./Certificat N°/Zertifikat Nr. **LRQ 4005876**