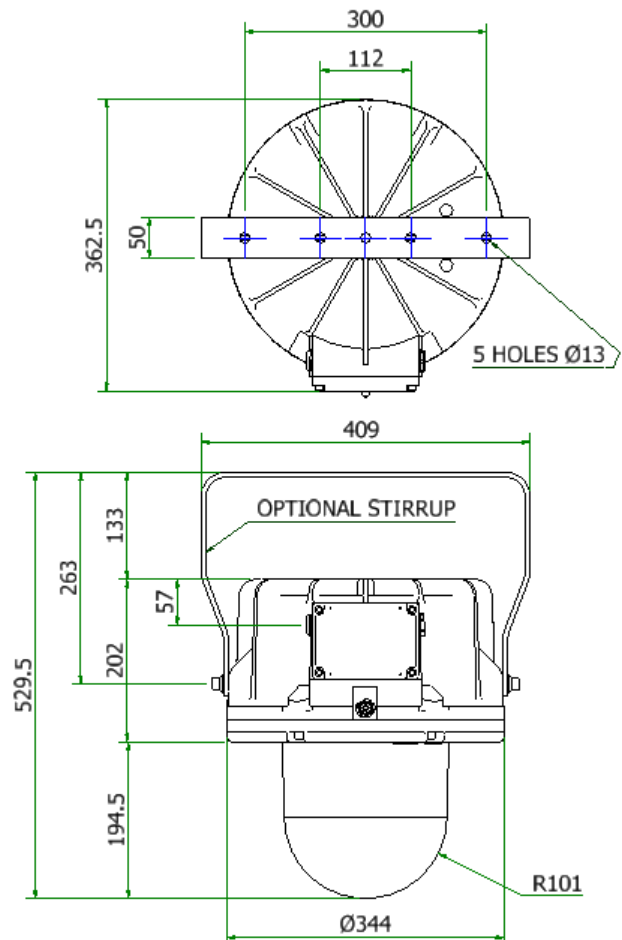
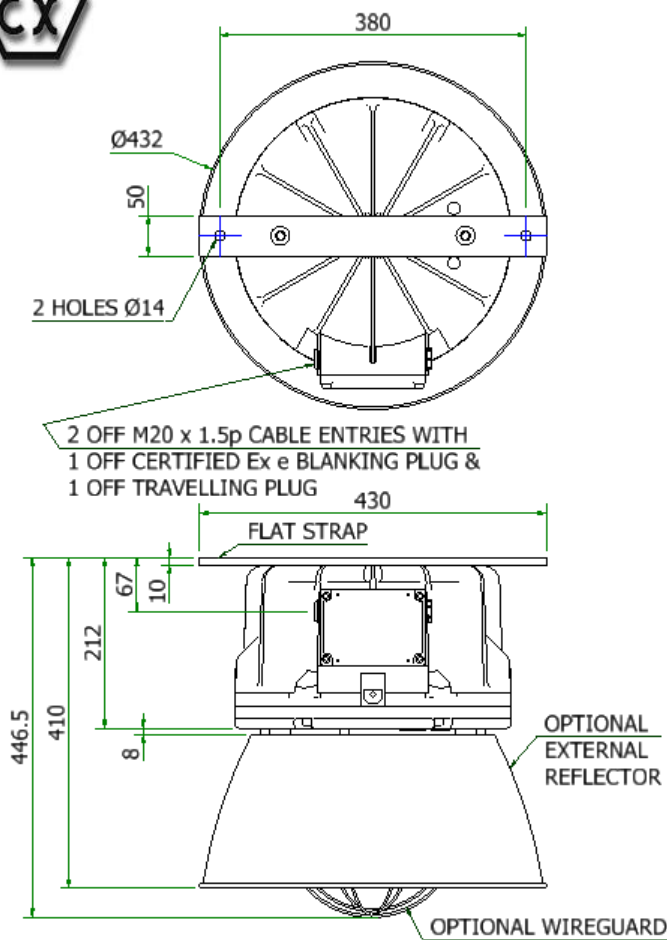


INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

238 - LED Wellglass Luminaires


ATEX & IECEx

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.





0.0 Specification

Type Of Protection	Ex de (flameproof and increased safety), Ex tb (dust), Ex op is (optical radiation)
Protection Standards	(IEC)EN60079-0, (IEC)EN60079-1, (IEC)EN60079-7, (IEC)EN 60079-31, (IEC)EN 60079-28
Area Classification	Zone 1 and Zone 2 areas to (IEC) EN 60079-10 Zone 21 and Zone 22 areas to (IEC) EN 60079-10-2
Installation	(IEC) EN 60079-14
Certificate	IEC certificate of conformity IECEx BAS16.0019X EU type examination certificate Baseefa16ATEX0086X
Equipment Coding	Ex db eb op is IIB T5 Gb -40°C ≤ Ta ≤ +55°C Ex op is tb IIIC T100°C Db IP6X (Surge Protector Option) Ex db eb op is IIB T5 Gb -40°C ≤ Ta ≤ +50°C Ex op is tb IIIC T100°C Db IP6X
ATEX Coding	Ⓜ II 2GD
Ingress Protection	IP66 to EN/IEC 60529
CE Mark 	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" and the "Equipment and Protective Systems intended for use in Explosive Atmospheres Regulations 1996". [This legislation is the equivalent in UK law of EU directives 2014/35/EU, 2014/30/EU, 2012/19/EU and 2014/34/EU respectively]. The Equipment is declared to meet the provisions of the ATEX directive (2014/34/EU) by reason of the EC Type Examination and compliance with the Essential Health and Safety Requirements. M Poutney Technical Manager

SPECIAL CONDITIONS FOR SAFE USE

1. All terminal screws, used and unused, shall be tightened down to between 1.2 Nm and 2Nm.
2. Leads connected to the terminals shall be insulated for the appropriate voltage and the insulation shall extend to within 1 mm of the metal terminal throat.
3. The terminals are designed for 1 conductor per throat.

PLEASE NOTE:

The purchaser should make the manufacturer aware of issues regarding any external effects or aggressive substances.

1.0 Introduction - 238 Wellglass Luminaire.

The type 238 Wellglass Luminaire is designed for all round and high bay applications. An external reflector and wire guard are available.

Power factor ≥ 0.90 at 110Vac-254Vac, 100% Load.

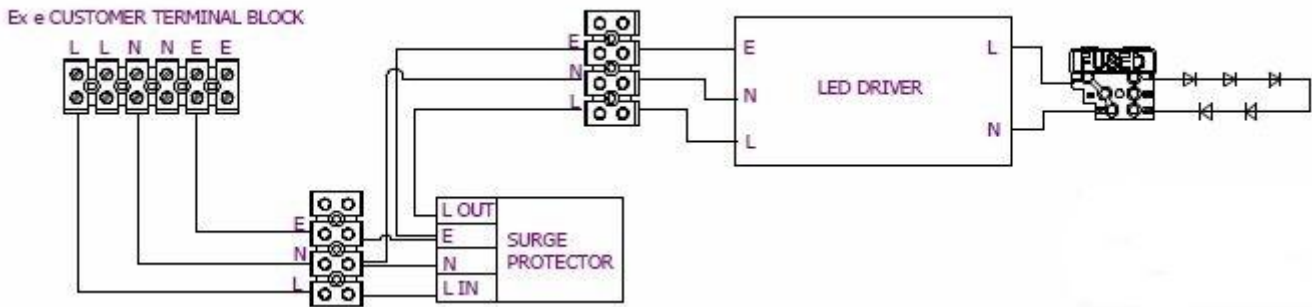
Terminals 6mm² as standard, looping has current limit of 16A.

Tamb Storage -40°C to +80°C

CHALMIT MODEL NUMBER	WATTS	Hz	VOLTS	AMPS	T* CLASS AT +55°C (+50°C SRG)
238/09L/LE/**	70W	50/60	110-254	0.2-0.9	T5
238/09L/LE/SRG/**	70W	50/60	110-254	0.2-0.9	T5

Note: Lamp ranges and temperature ratings are outlined in below TABLE 1. The wellglass is certified down to -40°C.

Fuse and MCB ratings It is recommended that for selection of MCBs users should consult the MCB manufacturer as this unit contains electronic gear. The electronic control gear has a nominal value of inrush current of 60A for 1ms. Below showing surge protected option.



2.0 Storage

Luminaires and control gear boxes are to be stored in cool dry conditions preventing ingress of moisture and condensation. Any specific instructions concerning emergency luminaires must be complied with.

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 *EN/IEC 60079-14* or the local hazardous area code of practice, whichever is appropriate, and fitting of specified insulating material to be adhered to where a specific fire resistance rating is required.

In the UK the requirements of the 'Health and Safety at Work Act' must be met.

Handling and electrical work associated with this product to be in accordance with *the 'Manual Handling Operations Regulations'* and *'Electricity at Work Regulations, 1989'*. Your attention is drawn to the paragraphs

- (i) 'Electrical Supplies',
- (ii) 'Electrical Fault Finding and Replacement' and
- (iii) 'Inspection and Maintenance'.

The luminaires are Class 1 and should be effectively earthed.

The luminaires are quite heavy and suitable means of handling on installation must be provided.

Guards can be supplied with or fitted retrospectively to protect glass if there is a higher than normal risk of mechanical damage.

Though this wellglass luminaire has passed thermal shock testing during certification, it is still advisable to mount the wellglass in locations to reduce the possibility of thermal shock.

Certification details on the rating plate must be verified against the application 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.

3.1.1 Use in Combustible Dust Atmospheres

Where the equipment is used in ignitable dust atmospheres reference must be made to the selection and installation standards in order that the equipment is used correctly. In particular this applies to the de-rating of surface temperature for use where dust clouds may be present. Dust layers should not be allowed to accumulate on the fitting surface and good housekeeping is required for safe operation. Dust in layers has the potential to form ignitable clouds and to burn at lower temperatures. Refer to *EN/IEC 60079-10-2* & *EN/IEC 60079-14* for additional details of selection and installation.

3.1.2 Hybrid Mixtures – Gas and Dust

Where Hybrid mixtures exist as defined in *EN1127* as a potentially explosive atmosphere, consideration should be given to verifying that the maximum surface temperature of the luminaire is below the ignition temperature of the hybrid mixture.

3.2 Tools

8, 6, 5mm A/F socket keys.

3mm and 5mm flat blade screwdriver, 19mm A/F spanner.

Suitable spanners for installing cable glands.

Pliers, knife, wire strippers/cutters.

3.3 Electrical Supplies

A maximum voltage variation of +6%/-6% on the nominal is acceptable.

3.4 Light Source

The luminaire is fitted with LEDS that can last 80,000 hours depending on ambient temperatures. Therefore depending on the functionality of the fitting replacement of LED's will be rare /unnecessary. If the LED assembly needs replaced refer to **3.7 LED Replacement.**

3.5 Mounting

Luminaires should be installed where access for maintenance is practical and in accordance with any lighting design information provided for the installation. This will usually consist of aiming points and aiming angles.

The top mounting or trunnion mounting arrangements should be secured with lock washers or self-locking nuts and bolts.

3.6 Cabling and Cable Glands

3.6.1 Cable Glands

The installer and user take responsibility for the selection of cables, cable glands and seals.

The product is certified for ATEX and to comply with the certification for installation and use within the EU, cable glands and sealing plugs must be ATEX certified. For installation outside the EU, suitable cable glands in accordance with IEC 60079-0 will meet the technical requirements.

Cable glands for entry into Ex e enclosures when fitted with any gland to body sealing method and the supply cable must reliably maintain the IP rating of the enclosure (IP66) with a minimum value of IP54. The cable gland must withstand an impact value of 7Nm or 4Nm where the risk of mechanical damage is low.

Sealing plugs must be similarly rated and a tool must be used for their removal. Where the cable is not reliably clamped externally to the apparatus, the cable gland must clamp the cable against a pull in Newtons of 20x the cable OD in mm for non-armoured cable and 80x the cable OD for armoured cable. Selected metal industrial cable glands may meet this requirement. Plastic cable glands must be Ex certified. Glands for metal covered mineral insulated cables must be Ex e certified. Where brass cable glands are used in a corrosive environment nickel plating should be used. Two tapped cable entries are provided, one with a plug and seal suitable for permanent use, the other has a travelling plug. M20 x 1.5 entries are standard, M25 x 1.5 entries are available on request.

3.6.2 Cable

At maximum rated ambient temperature refer to rating table for minimum cable temperature rating. The luminaire is also rated with the temperature rise at the cable entry. This allows the user to adjust the cable spec. for an **actual** T amb lower than that for which the luminaire is certified. The standard looping conductor size is 6mm².

Internal and external earth points are provided. For luminaires specified for non-standard ambient temperatures refer to the Technical Department.

300/500V cable ratings are adequate and no special internal construction is necessary as the terminations are Ex e. The selection of cable size will be suitable for the fuse rating. Some guidance on this is given below. When MCB's are used, the type with the higher inrush current resistance, as used for motor starting and lighting, should be specified.

3.6.3 Cable Connection

The cable connections are made by removing the terminal chamber cover. The retaining screws are captive and should be re-greased as required. The conductors should be bared back so that they make full contact in the terminals, but the bare conductor should not be more than 1mm beyond the terminal. 1 conductor per terminal throat needed and tightened to a minimum 1.2NM. Unused terminal screws should be tightened. The core must be identified by polarity and connected in accordance with the terminal markings. Before re-fitting the cover, a final check on the correctness of connections should be made. Cover bolt torque 6Nm.

3.7 LED Replacement.

The need and frequency of replacing LED's be dependent on the functionality of the fitting. If it is continually running at high ambient temperatures it will affect the frequency of LED replacement. If it is necessary to replace the LED's, the LED's are mounted on boards that can be replaced individually. (The boards with LED's supplied by Chalmit). Remove cover assembly.

Removal of LED assembly is as follows:

1. Unscrew 2 off screws that secure the board to the sheet metal.
2. Carefully lift the holder plate and disconnect push in wiring.

Replacement of LED assembly is the reverse of the removal.
Replace Front cover and fully tighten all bolts.

3.8 Inspection and Maintenance

Visual inspection should be carried out at a minimum of 12 monthly intervals and more frequently if conditions are severe refer to *EN/IEC 60079-17*. The time between lamp changes could be very infrequent and this is too long a period without inspection.

3.8.1 Routine Examination

The equipment must be de-energised before opening and note taken of the rated opening delay periods alternatively the nameplate may read 'do not open when an explosive gas atmosphere is present'. Individual organisations will have their own procedures. What follows are guidelines based on (*IEC*) *EN 60079-17* and on our experience:

- 1 When de-energised and left to cool there should be no significant sign of internal moisture. If there are signs of water ingress, the luminaire should be opened up, dried out, and any likely ingress points eliminated by re-gasketing*, re-greasing or other replacement.
- 2 Check the terminal chamber bolts for tightness. Torque 6Nm.
- 3 Check the cable gland for tightness and re-tighten if necessary.
- 4 Check any external earthing.
- 5 Examine the wellglass for any signs of sealant damage, cracking or discoloration. If thought necessary, the silicone weather seal can be re-sealed with a proprietary brand of clear RTV silicone, but only if the underlying sealant is in good condition.
- 6 Check all cover bolts for tightness. Torque 16Nm.
- 7 Check for signs of corrosion between the wellglass cover and the main housing. Evaluation of this will be a matter for judgement gained by experience, as there may be little evidence on the outside. If there is any sign of corrosion, remove the cover and wipe the flameproof paths with a clean cloth and non-metallic scraper. Examine the surfaces for pitting; any pitted component should be replaced. A damaged or non-resilient gasket* must be replaced. The cord is 3mmØ. The cover should be re-greased with silicone (Dow Corning 'Molykote III' or similar) or other non-setting grease suitable for high temperatures, and re-fitted with all bolts fully tightened. Any replacement bolts must be identical to the original. All are 18/8 stainless steel ISO262 grade A4-70. With this type of flameproof path all bolts must be in place and tight. The maximum gap for IIB in this case is 0.2mm. It will be unusual for any luminaire to have a gap of more than 0.1mm when tried with a feeler gauge. If 0.1mm is exceeded, check that no foreign bodies or debris at the bottom of the blind tapped holes is keeping the surfaces apart and, if not, a workshop overhaul should be carried out to bring the apparatus to as new condition. Periodically, when the wellglass is removed, the opportunity should be taken to remove the reflector, check the LED connections for signs of over-heating and similarly check the control gear.
- 8 The terminal chamber should be opened periodically and checked for moisture and dirt ingress. The cable connections should be checked for tightness. The gasket* should be checked for cracks or lack of elasticity, and if necessary, replaced. (It may well be practical to also replace the gasket* on each occasion if this is at a 3-year interval). Torque 6Nm.
- 9 If painting operations have taken place around the luminaire, ensure that coatings have not entered the flameproof path or been deposited on the wellglass. If they have, dismantle and clean carefully.
- 10 Check that mountings are secure.
- 11 Cover the bolt heads with silicone grease to prevent corrosion and accumulation of dirt in the screw threads.
- 12 Clean the led glass.
- 13 If there is suspicion that the luminaire has suffered mechanical damage, a stringent workshop check should be made.

Important: Where spares are needed, these must be replaced with manufacturer parts. No modifications should be made without the knowledge and approval of the manufacturer.

*Installation of gasket not to take place below -20°C.

3.9 Electrical Fault Finding and Replacement

The supply must be isolated before opening the luminaire. Any fault finding must be done by a competent electrician and, if carried out with the luminaire in place, under a permit to work.

Individual organisations will have their own procedures for inspection and maintenance. What follows are guidelines based on *EN/IEC 60079-17* and on our experience. Maintenance work and fault finding must be performed by competent personnel under an appropriate permit to work and with the apparatus isolated. Frequency of maintenance will depend on experience and the operating conditions.

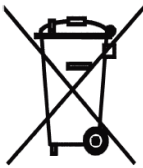
Luminaire should not be opened when an explosive atmosphere is present.

- 1 Check if any LED's have failed (not lit).
- 2 The LEDs are mounted directly onto the heatsink with the aid of a holder, if there is 1 or more LED's out the light output will have dropped to a level where the LED's may need replaced. Refer to **4.2 LED Replacement**.
- 3 Check for mechanical damage/corrosion.
- 4 Check for loose connections including earthing.
- 5 Check for undue accumulations of dust or dirt.
- 6 Verification of tightness of fixing, glands, blanking plugs etc.
- 7 Check for unauthorised modifications.
- 8 Check condition of enclosure gaskets and fastenings.
- 9 Check for any accumulation of moisture.
- 10 Clean the wellglass.
- 11 Check that mountings are secure.
- 12 If there is suspicion that the luminaire has suffered mechanical damage, a stringent workshop check should be made.

Important: Where spares are needed, these must be replaced with manufacturer parts. No modifications should be made without the knowledge and approval of the manufacturer.

4.0 Disposal of Material

The unit is mostly made from incombustible materials. All electrical components 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 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.

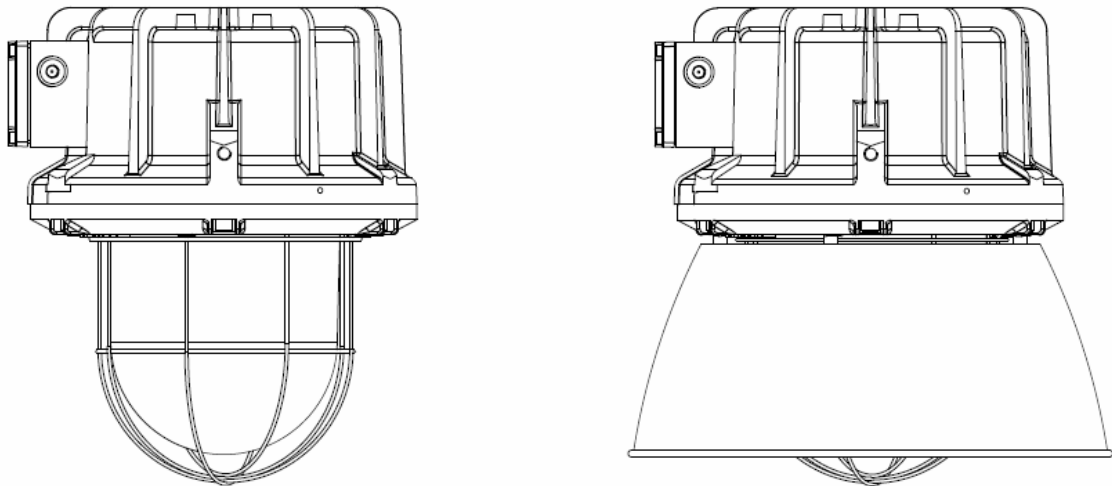


To comply with the Waste Electrical and Electronic Equipment directive 2012/19/EU the apparatus cannot be classified as commercial waste and as such must be disposed of or recycled in such a manner as to reduce the environmental impact.

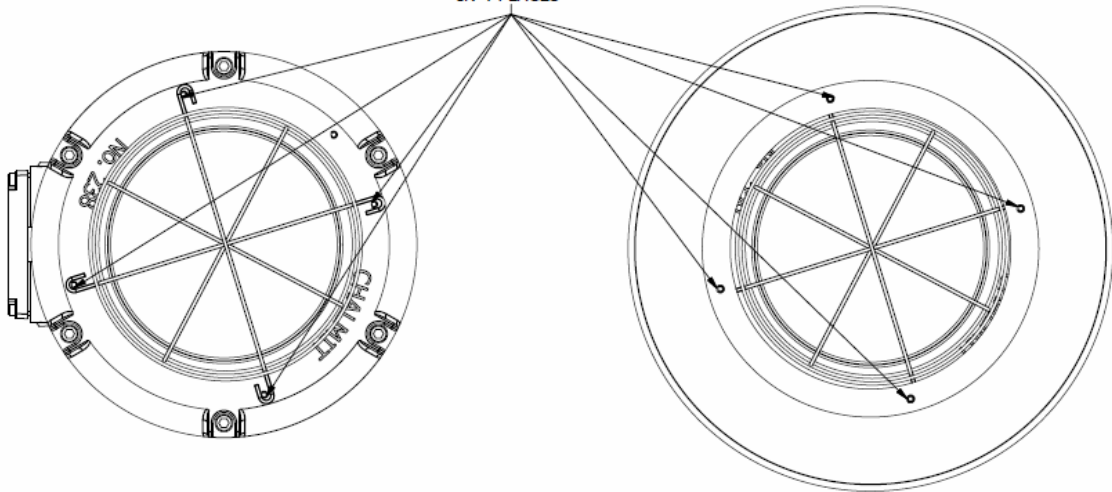
Directions for Installation of Accessories



Note: Reflector and Guard can be used simultaneously

Line up the respective mounting holes with the fixing holes of the body and reflector or wire guard. Along with the M6 bolt you will be provided with a M6 washer and M6 spring washer to be applied when fitting the accessories.



M6 x 16 LONG FOR WIRE GUARD OR REFLECTOR
M6 x 25 LONG FOR WIRE GUARD AND REFLECTOR COMBINATION
IN 4 PLACES



	EU-Declaration of conformity		
	UE-Déclaration de conformité		
	EU-Konformitätserklärung		
Manufacturer	Chalmit	Address	388 Hillington Road, Glasgow. G52 4BL Scotland UK
Product	238 LED Wellglass		
Notified Body	Baseefa 1180		
EU – Type Examination Certificate	Baseefa16ATEX0086X		
ATEX Coding	 II 2 GD	ATEX Classification	Group II Category 2 GD
Equipment Coding	Ex db eb op is IIB T5 Gb -40°C ≤ Ta ≤ +55°C (+50°C SRG OPTION) Ex op is tb IIIC T100°C Db IP6X		
Ingress Protection	IP66		
The technical basis, with respect to equivalence of			
La base technique, en ce qui concerne l'équivalence de			
Die technische Grundlage hinsichtlich der Normen			
Protection Standards EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-28, EN 60079-31			
Area Classification EN 60079-10-1, EN 60079-10-2.			
of compliance with the EHSRs is valid as there are no changes which materially affect the state of technological progress of the product.			
en conformité avec les EESS est valide puisqu'il n'y a aucun changement qui affecte matériellement l'état de l'évolution technologique du produit.			
zur Erfüllung der GSGA ist gegeben, da keine Änderungen erfolgt sind, die einen Einfluss auf den technischen Stand des Produkts haben.			
Terms of the directive:		Standard & Date Certified to	Standards Date Declared to
Prescription de la directive:		Standard & date certifiée à	Normes date Déclaré
Bestimmungen der Richtlinie:		Standard & Datum Zertifiziert nach	Standards Datum erklärt
2014/34/EU	Equipment and protective systems intended for use in potentially explosive atmospheres.	EN 60079-0: 2012 EN 60079-1: 2014 EN 60079-28: 2015 EN 60079-7: 2015	
2014/34/UE	Appareils et les systèmes de protection destinés à être utilisés en atmosphères potentiellement explosibles.	EN 60079-31: 2014	
2014/34/EU	Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsfähigen Bereichen.		
2014/30/EU	Electromagnetic compatibility	EN 55015 : 2013	
2014/30/UE	Compatibilité électromagnétique	EN 61547 : 2009	
2014/30/EU	Elektromagnetische Verträglichkeit	EN 61000-3-2 : 2014	
2014/35/EU	Low voltage equipment	EN 60598-1 : 2015	
2014/35/UE	Équipements électriques à bas voltage	EN 60529 : 1992	
2014/35/EU	Niederspannungsgeräte / -systeme	EN 60598-2-5 : 2015	
2012/19/EU	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	RoHS II Directive		



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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 Mark Poutney 27/06/2016
Nom et Date
Name und Datum

Technical Manager
Directeur technique
Technischer Leiter

Quality Assurance Notification by: **Baseefa Ltd.**
Notification d'assurance qualité par: **1180**
Qualitätssicherungsnotifikation durch:

Quality Management System Accreditation:
Système de Management Qualité Accréditation:
Qualitätsmanagementsystem Akkreditierung:
Environmental Management System.
Système de gestion de l'environnement.
Umwelt kontroll system.
Certificate No./Certificat N°/Zertifikat Nr.

ISO 9001

ISO 14001
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For technical support, please contact: techsupport@chalmit.com

Note: Chalmit Lighting reserves the right to amend characteristics of our products and all data is for guidance only.