

Pickering & Molloy Limited

Electrical & Data Network Cabling Contractors

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External Lighting Statement –

Address: Freetrade Exchange Building, 37 Peter Street, Manchester, M60 2DS

Document Control:

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03/07/2023

Checked By - **Mark Warburton**
05/07/2023

Elevation of External lighting Detail: Freetrade Exchange



01 South Elevation - Peter Street
1:100



02 East Elevation - Southmill Street
1:100



03 North Elevation - Bootle Street
1:100

External Lighting Installation Details:

Peter Street Elevation – Street Level Lighting – IC Ceiling Wall 1 Outdoor (See attached detail)



External wall mounted lighting

Peter Street Elevation – First Floor Level Lighting Uplighters – (See Controls Detail & Lamp MASTERColour CDM-T 70W/942 G12 ICT/12)

- Existing Lighting Refirbuished
- New Internal Control Gear Trays inserted
- New Lamps

Peter Street Elevation – Fifth Floor Level Lighting downlighters – (See Controls Detail & Lamp MASTERColour CDM-T 70W/942 G12 ICT/12)

- Existing Lighting Refirbuished
- New Internal Control Gear Trays inserted
- New Lamps

South Mill Street Elevation – First Floor Level Lighting Uplighters - – (See Controls Detail & Lamp MASTERColour CDM-T 70W/942 G12 ICT/12)

- Existing Lighting Refirbuished
- New Internal Control Gear Trays inserted
- New Lamps

South Mill Street Elevation – Fifth Floor Level Lighting downlighters - – (See Controls Detail & Lamp MASTERColour CDM-T 70W/942 G12 ICT/12)

- Existing Lighting Refirbuished
- New Internal Control Gear Trays inserted
- New Lamps

Bootle Street Elevation – Fire Exit over Door Lighting - Lucca /alucled/b/m3 (See attachment detail)



Bootle Street Elevation – Rear Entrance Door Lighting – IC Ceiling Wall 1 Outdoor (See attached detail)



External wall mounted lighting

Design Criteria & Tested Measured Lux

Design Criteria

External Lighting Levels

Area	Min Average Maintained Illuminance
Building Perimeters	5 Cd/m ²
Main Walkways	10 Cd/m ²
Building Entrance	20 Cd/m ²
Steps / Hazards	50 Cd/m ²

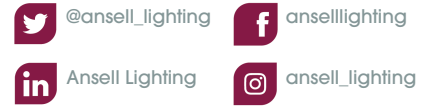
Measured Lux Levels:

- Measurements Carried out at Street Level



Control Philosophy Detail :

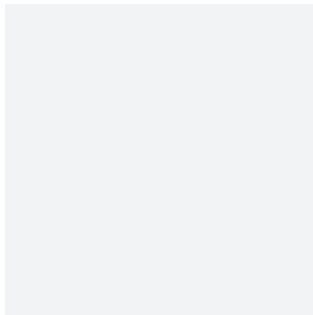
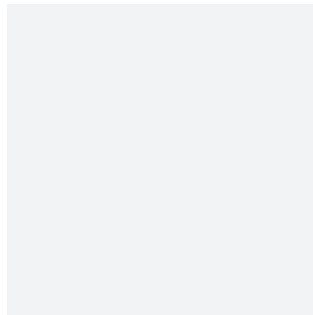
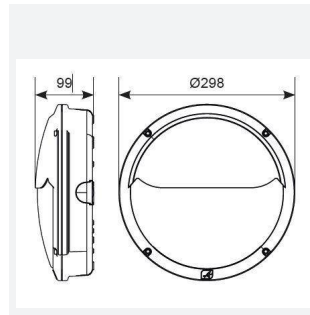
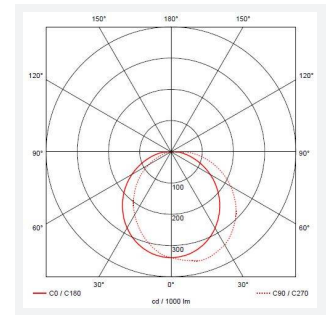
- External Lighting Installation control details have a timeclock and Photocel arrangement.
- Photocel Location Booth Street Elevation
- Timeclock Location Basement Main switch room
- Selected Circuits have the following operation philosophy – Photocel controls the lighting to be off during the day and On at Night. The timeclock will override selected circuits to be off during the night.
- Dedicated override Fish key style switching arrangement will offer a manual override to turn the lighting on or off



Lucca

Lucca CCT Multi Wattage Emergency Black
Code: ALUCLED/B/M3

Category	Bulkheads
Application	Ancillary, Commercial, Education, Healthcare, Hospitality, Industrial, Outdoor, Retail
Specification	Performance



PRODUCT FEATURES

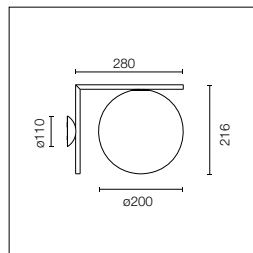
- IP66 rated die-cast aluminium wall light with opal polycarbonate diffuser suitable for education, commercial and industrial applications
- One product with integral switches for multi-wattage and selectable CCT options
- Powered by Tridonic
- Tamper-proof stainless steel allen key screws
- Non-dimmable

GENERAL INFORMATION	
Wattage	18W - 27W
Lumens Delivered	1300lm - 1900lm (4000K)
Lm/W	69lm/W - 71lm/W (4000K)
Beam Angle	105/110
CRI	80
CCT	3000/4000K
Input	220/240V
Operating Temp	-20°C - 25°C
SDCM	5

TECHNICAL INFORMATION	
Light Source	LED
Colour / Finish	Black
IP Rating	IP66
Class Protection	1
Internal / External	External
Surface / Recessed / Suspended	Surface
Lumen Depreciation L70 B50	L70 B50 60,000h
Warranty (Years)	5
CE Mark	Yes
Diameter	298 mm



IC Ceiling Wall 1 Outdoor



Sorgente luminosa esclusa.
Apparecchio di illuminazione
da parete/soffitto a luce diffusa.
Telaio in ottone, spazzolato e
verniciato trasparente o acciaio
cromato. Diffusore opalino di
vetro soffiato.

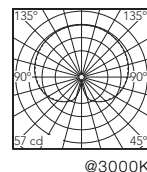
Light source excluded. Optional
LED bulb sold separately. Wall
mounting system contains the
wiring system. Watertight cable
gland included.

Led: max 8W - E14 - 220-240V

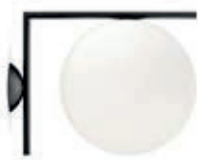
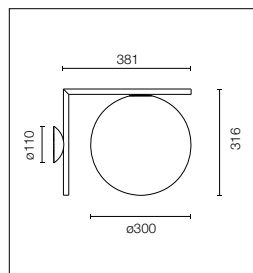
- F012H00C018
- F012H00C030
- F012H00C037
- F012H00C055
- F012H00C059

Accessori / Accessories

1 x LED 8W E14 900lm 3000K cod. RF32291 [e] DIMMER
1 x LED 8W E14 900lm 2700K cod. RF32290 [e] DIMMER



IC Ceiling Wall 2 Outdoor



Sorgente luminosa esclusa.
Apparecchio di illuminazione
da parete/soffitto a luce diffusa.
Telaio in ottone, spazzolato e
verniciato trasparente o acciaio
cromato. Diffusore opalino di
vetro soffiato.

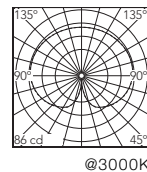
Light source excluded. Optional
LED bulb sold separately. Wall
mounting system contains the
wiring system. Watertight cable
gland included.

Led: max 15W - E27 - 220-240V

- F012J00C018
- F012J00C030
- F012J00C037
- F012J00C055
- F012J00C059

Accessori / Accessories

1 x LED 15W E27 2000lm 2700K cod. RF32288 [e] DIMMER
1 x LED 15W E27 2000lm 3000K cod. RF32289 [e] DIMMER





MASTERColour CDM-T



MASTERColour CDM-T 70W/942 G12 1CT/12

Range of single-ended, compact, high-efficiency, discharge lamps with a stable colour over lifetime and a crisp, sparkling light

Warnings and Safety

- Use only in totally enclosed luminaire, even during testing (IEC61167, IEC 62035, IEC60598)
- The luminaire must be able to contain hot lamp parts if the lamp ruptures
- Control gear must include end-of-life protection (IEC61167, IEC 62035)
- Lamps may use electronic or electromagnetic control gear, except 35W/942 and 20W lamps, which must use electronic control gear.
- A lamp breaking is extremely unlikely to have any impact on your health. If a lamp breaks, ventilate the room for 30 minutes and remove the parts, preferably with gloves. Put them in a sealed plastic bag and take it to your local waste facilities for recycling. Do not use a vacuum cleaner.

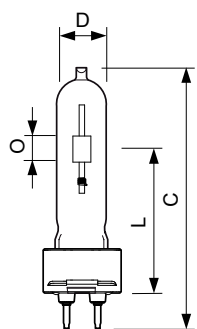
Product data

General information			
Cap base	G12 [G12]	Luminous flux (rated) (nom.)	6200 lm
Operating position	UNIVERSAL [Any/Universal]	Colour designation	Cool White (CW)
Life to 5% failures (nom.)	9000 h	Lumen maintenance 10,000 hours (nom.)	65 %
Life to 10% failures (nom.)	10000 h	Lumen maintenance 2,000 hours (min.)	75 %
Life to 20% failures (nom.)	11000 h	Lumen maintenance 2,000 hours (nom.)	85 %
Life to 50% failures (nom.)	12000 h	Lumen maintenance 5,000 hours (min.)	65 %
ANSI code HID	C139/E	Lumen maintenance 5,000 hours (nom.)	75 %
	Sphere	Chromaticity coordinate X (nom.)	0.371
		Chromaticity coordinate Y (nom.)	0.366
		Correlated Colour Temperature (Nom)	4200 K
		Luminous efficacy (rated) (nom.)	85 lm/W
		Colour rendering index (nom.)	92
Light technical			
Colour Code	942 [CCT of 4,200 K]		
Luminous flux (nom.)	6200 lm		

MASTERColour CDM-T

Operating and electrical	
Power (Rated) (Nom)	73.2 W
Lamp current run-up (max.)	1.4 A
Lamp current (EM) (nom.)	0.98 A
Ignition supply voltage (max.)	198 V
Ignition peak voltage (max.)	5000 V
Ignition supply voltage (min.)	198 V
Ignition peak voltage (min.)	3500 V
Re-ignition time (min.) (max.)	15 min
Ignition time (max.)	30 s
Voltage (Max)	96 V
Voltage (Min)	80 V
Voltage (Nom)	88 V
Controls and dimming	
Dimmable	No
Run-up time 90% (max.)	3 min
Mechanical and housing	
Lamp Finish	Clear
Bulb shape	T19 [T 19mm]
Approval and application	
Energy Efficiency Class	G
Mercury (Hg) content (max.)	6.1 mg
Mercury (Hg) content (nom.)	6.1 mg
Energy consumption kWh/1,000 hours	74 kWh
	473337

Dimensional drawing



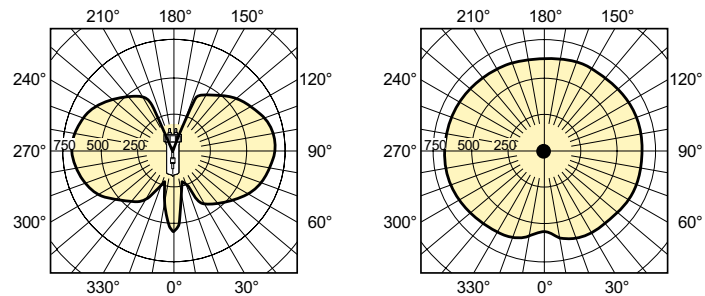
MASTERColour CDM-T 70W/942 G12 1CT/12

UV	
PET (NIOSH) (min.)	8 h/500lx
Damage factor D/fc (max.)	0.4
Luminaire design requirements	
Bulb temperature (max.)	500 °C
Cap-base temperature (max.)	280 °C
Cap-Base Temperature (Max)-DUP(do not use)	536 °F
Pinch temperature (max.)	350 °C
Pinch Temperature (Max)-DUP(do not use)	350 °C
Product data	
Full product code	871150019927015
Order product name	MASTERColour CDM-T 70W/942 G12 1CT/12
EAN/UPC – product	8711500199270
Order code	19927015
Local order code	70CDMT942
SAP numerator – quantity per pack	1
Local code description	8348285
Numerator – packs per outer box	12
SAP material	928084505131
Net Weight (Piece)	0.029 kg
ILCOS code	MT/UB-70/942-H-G12-20/90

Product	D (max)	D	O	L (min)	L (max)	L	C (max)
MASTERColour CDM-T 70W/942 G12 1CT/12	20 mm	0.75 in	6 mm	55 mm	57 mm	56 mm	103 mm

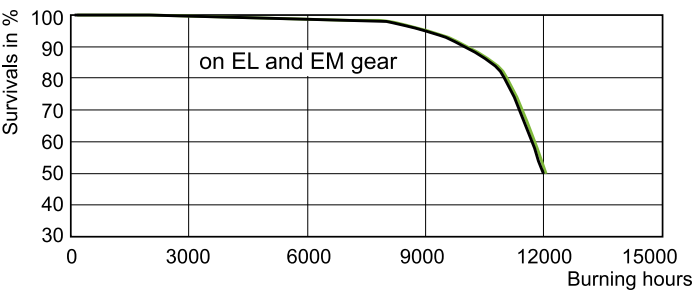
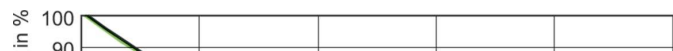
MASTERC colour CDM-T

Photometric data



LDLD_CDM-T_70W_830_942-Light distribution diagram

Lifetime



LDLE_CDM-T_70W_942-Life expectancy diagram



Standard Ballasts for HS and HI Lamps 35 to 70 W

Shape: 53x66 mm

For high pressure sodium lamps (HS),

metal halide lamps (HI) and

ceramic discharge lamps (C-HI)

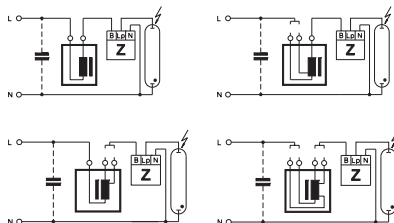
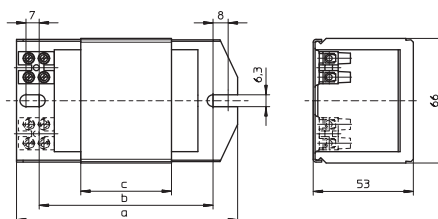
Vacuum-impregnated with polyester resin

Screw terminals: 0.5–2.5 mm²

Protection class I

tw 130

Ballasts for pulse ignition system on request



Lamp			Ballast										Capacitor	
Output W	Type	Current A	Type	Ref. No.	Voltage AC V, Hz	a mm	b mm	c mm	Weight kg	Δt K	Power factor λ	Energy efficiency*	C _p μF	I _N A
35	HS, HI	0.53	NaHJ 35.485	526517	220/230, 50	108	86	28	0.91	60	0.40	EEL=A3	6	0.22/0.21
35	HS, HI	0.53	NaHJ 35.485	161367	230/240, 50	108	86	28	0.91	60	0.40	EEL=A3	6	0.22/0.21
35	HS, HI	0.53	NaHJ 35.638	161371	220, 60	108	86	28	0.91	50	0.41	EEL=A3	5	0.23
50	HS	0.76	NaH 50.486	161379	230/240, 50	108	86	36	1.07	65	0.37	EEL=A3	8	0.30/0.29
50	HS	0.76	NaH 50.654	161399	220, 60	108	86	28	0.91	60	0.36	EEL=A3	8	0.31
50	HS	0.76	NaHJ 70/50.157	160613	230, 50	108	86	42	1.23	55	0.37	EEL=A3	8	0.30
70	HS, HI	0.98								70	0.37	EEL=A3	12	0.38
70	HS, HI	0.98	NaHJ 70.300	174961	220, 50	108	86	36	1.07	75	0.40	EEL=A3	12	0.40
70	HS, HI	0.98	NaHJ 70.128	533568	230, 50	108	86	36	1.07	70	0.36	EEL=A3	12	0.38
70	HS, HI	0.98	NaHJ 70.228	547860	230, 50	108	86	36	1.07	75	0.36	EEL=A3	12	0.38
70	HS, HI	0.98	NaHJ 70.128	539434	230/240, 50	108	86	36	1.07	70/75	0.36	EEL=A3	12	0.38/0.37
70	HS, HI	0.98	NaHJ 70.158	161662	240, 50	108	86	42	1.23	70	0.36	EEL=A3	12	0.37
70	HS, HI	0.98	NaHJ 70.128	538407	240, 50	108	86	36	1.07	75	0.37	EEL=A3	12	0.37
70	HS, HI	0.98	NaHJ 70.653	161392	220, 60	108	86	36	1.07	60	0.42	EEL=A3	10	0.40

* Step 2: EEL = A3, minimum EU energy efficiency requirements as of 2012 | Step 3: A2, minimum EU energy efficiency requirements as of 2017

new

Electronic Superimposed Ignitors for HS Lamps 70 (DE) to 400 W and HI Lamps 35 to 400 W

Standard version or with automatic switch-off
Compact shape

For high pressure sodium lamps (HS),
metal halide lamps (HI) and
ceramic discharge lamps (C-HI)

Ignition voltage: 4–5 kV

Phasing of the ignition voltage:

60–90 °el and 240–270 °el

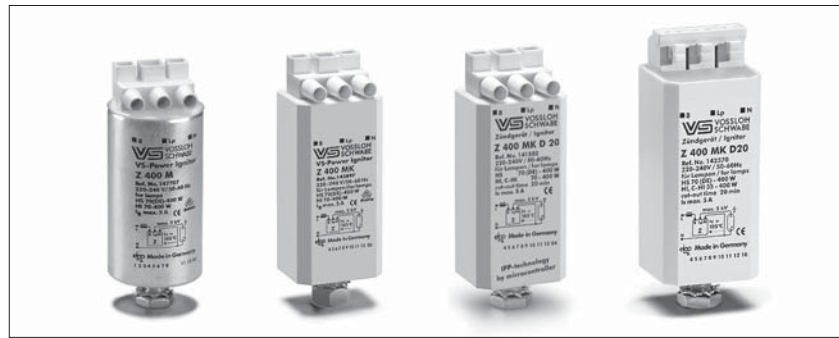
Max. permitted casing temperature: 105 °C

Fastening: male nipple with pre-assembled
washer and nut

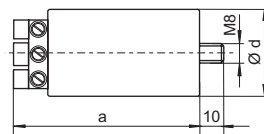
For luminaires of protection class I and II

For luminaires of protection class I

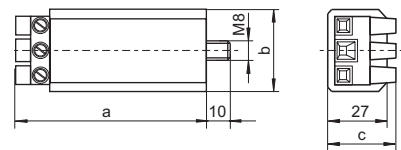
(140594, 147707)



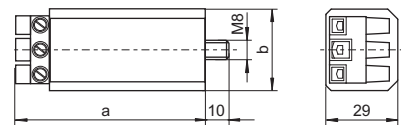
Al casing



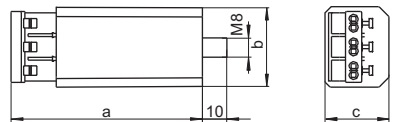
PC casing – K



PC casing – K D20



PC casing – with push-in terminals



Type	Ref. No.	Voltage AC 50–60 Hz V	Max. lamp current A	Internal loss W	Inherent heating K	Ignition voltage kV	Load capacity pF	Switch-off time sec./Hz	Casing d (Ø) mm	a mm	b mm	c mm	Weight g
Aluminium casing (Al) with screw terminals: 0.75–4 mm²													
Z 400 M	140594	220–240	5	< 3	< 35	4–5	20–50	–	35	76	–	–	140
Z 400 M VS-Power	147707**	220–240	5	< 3	< 35	4–5	20–50	–	35	76	–	–	140
Z 400 M S	140693	220–240	5	< 3	< 35	4–5	20–50	–	35	76	–	–	140
Plastic casing (PC) with screw terminals: 0.75–4 mm²													
Z 400 M K	140597	220–240	5	< 3	< 35	4–5	20–50	–	–	78	34	27	130
Z 400 M K VS-Power	142897**	220–240	5	< 3	< 35	4–5	20–50	–	–	78	34	27	130
Z 400 M K D20	141582*	220–240	5	< 3	< 35	4–5	20–50	1216/50–60	–	80	34	30	145
Plastic casing (PC) with push-in terminals: 0.5–2.5 mm²													
Z 400 M K	142360	220–240	5	< 3	< 35	4–5	20–50	–	–	81	34	27	130
Z 400 M K VS-Power	142361**	220–240	5	< 3	< 35	4–5	20–50	–	–	81	34	27	130
Z 400 M K D20	142370*	220–240	5	< 3	< 35	4–5	20–50	1216/50–60	–	83	34	30	145

Recommended for outdoor lighting

* With IPP technology

** Not suitable for C-HI lamps