

This exacting environment has clearly identifiable key issues;

HYGIENE

Any surface within the preparation and process areas provides potential for the build-up of dirt and bacteria. This includes the lighting fittings, and it is therefore essential that luminaire design avoids ledges and upward facing surfaces which could act as perfect platforms for just such hygiene problems to occur.

Just as importantly, the surface finish of the materials selected must inhibit bacterial accumulation as well as withstand the harshest of cleaning regimes.

CONTAMINATION

In preparation and process areas, luminaires must not cause contamination of the food product concerned.

The luminaire design therefore, has to ensure that as well as the obvious risk from the glass in the lamp or tube, items such as flaking paint, plastic clips, screws and other internal parts will not come loose during maintenance and end up in the food itself.

MAINTENANCE

In all industries, the issue of luminaire maintenance is seen as a necessary irritation.

However in Food and Beverage processing not only does maintenance impact on the vital production, it increases the risk of contamination.

Luminaires which reduce maintenance to a minimum, and allow it to be performed outside the production area, would therefore be highly beneficial.

CORROSION

The very nature of the processes in the industry and the associated aggressive cleaning regimes, combine to make corrosion a major issue. Oils, fats, yeasts and ammonia, amongst many others, all contribute to corrosion. Onerous environments containing brine, hydrogen peroxide or chlorine similarly pose severe threats.

Luminaire design and construction has to take corrosion into consideration and must provide both a range of materials along with a degree of Ingress Protection which together can successfully withstand these environments.

These luminaires have been designed to be truly fit for purpose in the Food and Beverages industry.

COLD STORES

With temperatures ranging from -18° C to -45° C, Cold Stores represent an extreme environment. So hostile is this environment that a relatively unique set of demands are placed on the design of luminaires.

Within the industry we have identified some of the most demanding environments and developed products around these.

In order to change lamps, maintenance staff are often lifted in a cage on a fork lift at average temperatures of -30° C. Access has to be gained to the isolated luminaire before lamps can be changed and wheel fittings are wired in rows, this can also mean that maintenance is done with inadequate artificial illumination. This raises issues of safety of personnel as well as time and cost.

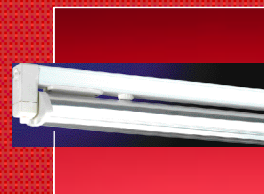
Products for this unique environment are labelled as Arctic.



D-MOUNT
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LOW TEMPERATURE PROCESSING AREAS HIGH TEMPERATURE PROCESSING AREAS

In lower temperature food processing areas, such as meat or fish, where the typical operating temperatures are between 10° C and 14° C, all points of exposure to the atmosphere of food products are designated as critical.

Layout of machinery and equipment can also make cleaning and maintenance very difficult.

Products for this demanding environment are labelled as Extreme.

In processing areas operating at higher temperatures, such as canning, crisps and baking, the existence of foods exposed to the atmosphere are considered as in lower critical areas as in lower temperature areas but additional constraints are also encountered.

The ever present risk of micro-biological contamination continues to need guarding against. Unique to higher temperature processes however, are areas which can operate at anything up to 60°C.

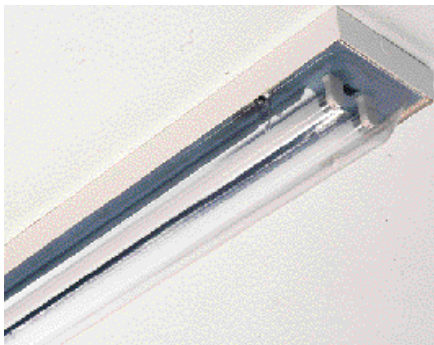
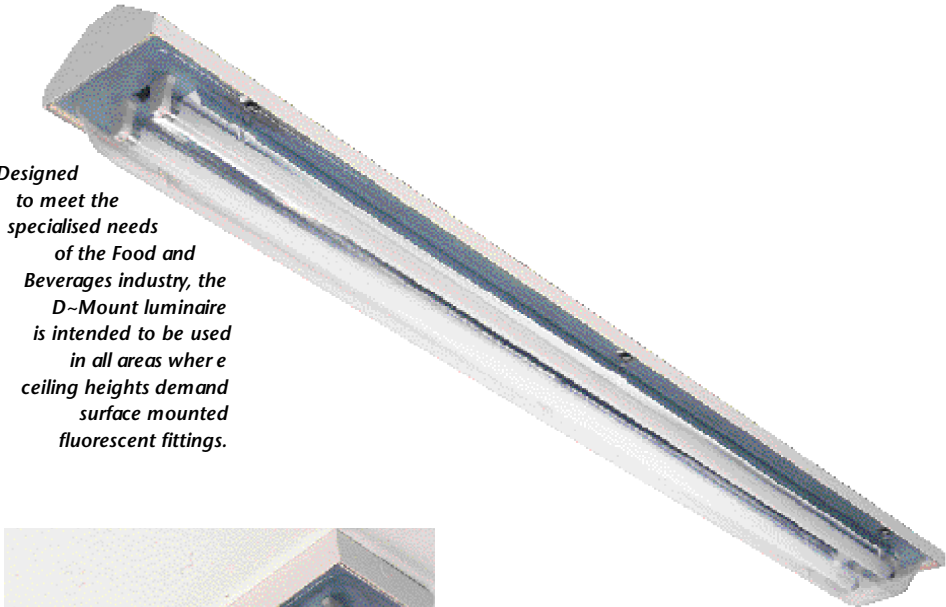
At these temperatures, where increased levels of humidity can occur deterioration of the luminaire is more likely

Cleaning regimes at higher temperatures are also likely to cause rapid corrosion and degradation of luminaires causing ingress of moisture and subsequent corrosion. Material selection and high ingress protection design are critical therefore, in these areas.

Products for this exacting environment are labelled as Atlantic.

D~Mount

Designed to meet the specialised needs of the Food and Beverages industry, the D~Mount luminaire is intended to be used in all areas where ceiling heights demand surface mounted fluorescent fittings.



DMH258CW

DMH158TW

Available with two alternative body designs for either direct ceiling mounting or drop rods/trunking mounting, the material options range from Zinc coated sheet steel through to special Stainless Steels to minimise pitting and crevice corrosion so as to combat bacterial build-up and to withstand the harshest of cleaning regimes.

Moreover, the polycarbonate diffuser provides a smooth profile that avoids ledges or upward facing surfaces where dirt or bacteria could accumulate.

D~Mount also has an ingress protection rating of IP66.

Ease of maintenance is also a key feature of D~Mount The quick-release fasteners enable the complete unit, less the ceiling or trunking plate, to be demounted and taken outside the risk area for completely safe lamp changing and maintenance. An optional blanking plate is available which seals the ceiling plate mechanically and electrically whilst the main unit is being maintained.

The Arctic version is designed for use in Cold Stores, whilst the Extreme model is intended for Low Temperature Process Areas and the Atlantic for High Temperature Process Areas.

Benefits include:~

- Versions for Cold Stores, Low Temperature and High Temperature process areas.
- Smooth profile for ease of cleaning.
- Maintenance and lamp changing can be done outside the process area eradicating the possibility of contamination from the luminaire.
- No nooks and crannies, ledges or upward facing surfaces where dirt and bacteria can accumulate.
- Choice of body materials specifically designed for the Food and Beverages industry and the harshest of its cleaning regimes.
- Ingress Protection of IP66.
- Wide or narrow distributions allow D~Mount to be used throughout the plant.

SPECIFICATION

- Ceiling mounting and suspended versions.
- Body in various materials from Zinc coated steel through to specialist stainless steels to meet all environmental challenges.
- High Frequency ballast as standard.
- Switchstart option.
- Emergency version.
- Narrow distribution in single fitting and wide beam distribution in single and twin luminaires.

OPTIONS

Other versions add suffix:~

- AR Arctic version
- EX Extreme version
- AL Atlantic version
- S Stainless steel grade 304*

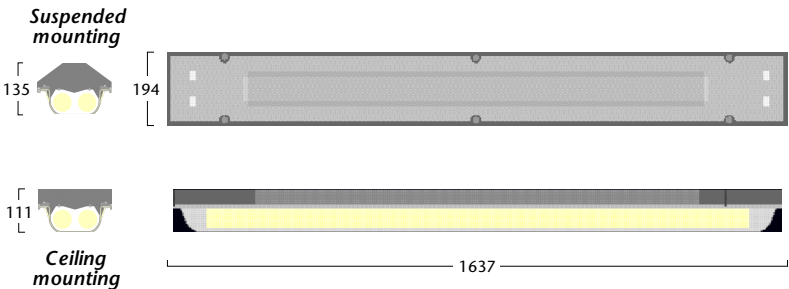
* Please contact the Whitecroft Lighting Sales Department where more sophisticated grades are required.

Narrow beam replace W within order code with:~

- N Narrow beam distribution (single lamp version only)

Ballast replace H in code with:~

- S Switchstart



FEATURES				
ORDER CODES	Lamps	Mounting	Body	Beam distribution
DMH158CW	1 x 58W	Ceiling	Zinc coated steel	Wide
DMH258CW	2 x 58W	Ceiling	Zinc coated steel	Wide
DMH158TW	1 x 58W	Suspended	Zinc coated steel	Wide
DMH258TW	2 x 58W	Suspended	Zinc coated steel	Wide

Proline

Proline is designed to be used in all areas within the Food and Beverage industry.

The extruded glass reinforced polyester body design allows for either direct ceiling mounting or suspending without the risk of dust or bacterial build-up, facilitating use in all environments.

Additionally, the diffuser provides a smooth profile that allows very simple cleaning.

Proline has an Ingress Protection rating of IP65.

The Arctic version of Proline is designed for use in Cold Stores, as low as -50° C when the additional tube sleeve is used, whilst the Extreme model is intended for Low Temperature Process Areas and the Atlantic for High Temperature Process Areas.

The directional reflector system, which is available in methacrylate or high impact polycarbonate versions, offers either medium beam distribution for general area and task lighting whilst the concentrated beam version allows Proline to be used at higher mounting heights including areas such as warehouses and stores.

Benefits include:~

- High efficiency reflector systems.
- Corrosion resistant GRP extruded body with IP65 rating.
- Low loss ballast as standard.
- Stainless steel, variable centre quick fix system.

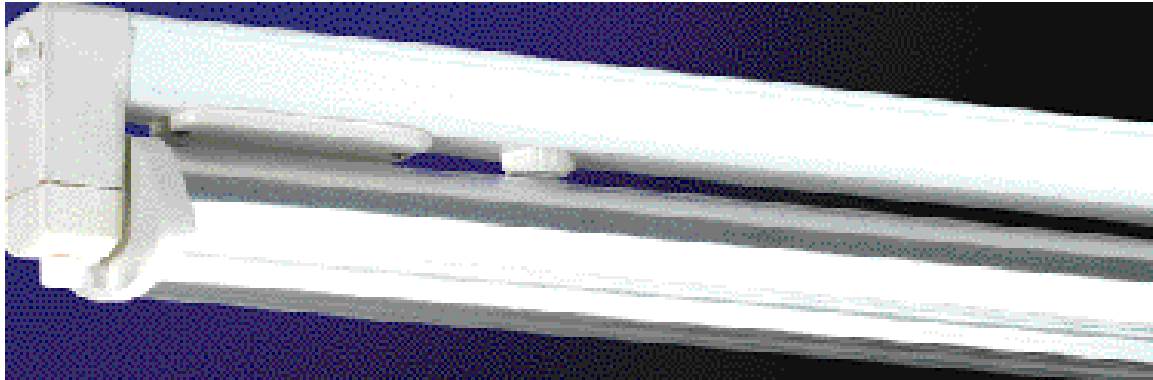
SPECIFICATION

- Medium or narrow beam reflectors in methacrylate or polycarbonate.
- Polycarbonate overtube.
- Single and twin lamp up to 58W.

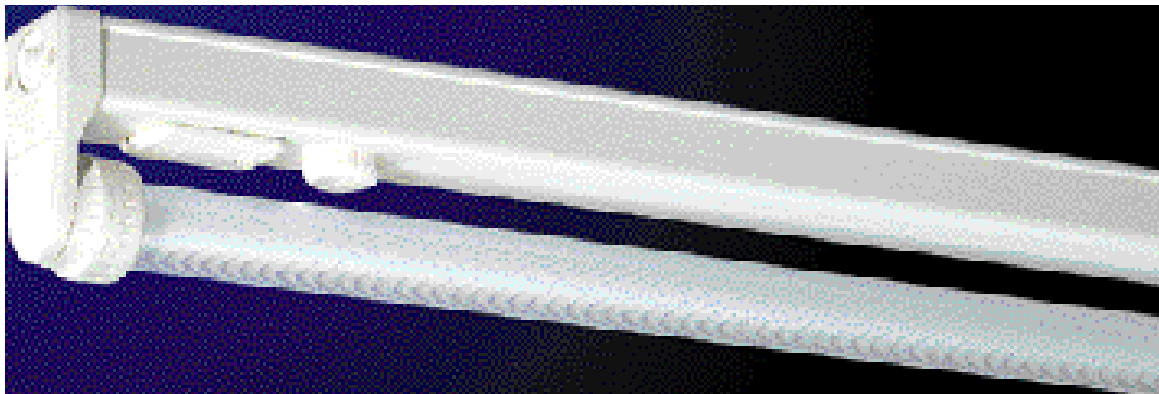
OPTIONS

Reflectors add suffix to order code:~

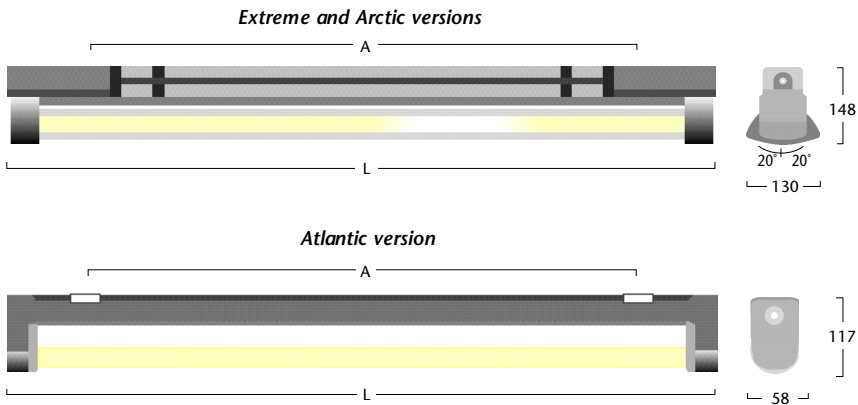
- | | |
|----|-------------------------------------|
| MM | Methacrylate medium beam reflector |
| MP | Polycarbonate medium beam reflector |
| NM | Methacrylate narrow beam reflector |
| NP | Polycarbonate narrow beam reflector |



PL136EXMM



PL136AL



FEATURES

			Beam	Dimensions mm		Weight
ORDER CODES	Lamps	Reflector	distribution	A	L	Kg
Atlantic version						
PL118AL*	1 × 18W	-	-	510	627	1.2
PL218AL	2 × 18W	-	-	510	627	1.5
PL136AL	1 × 36W	-	-	1070	1237	2.0
PL236AL	2 × 36W	-	-	1070	1237	3.0
PL158AL	1 × 58W	-	-	1370	1537	2.5
PL258AL	2 × 58W	-	-	1370	1537	3.6
Extreme version						
PL136EXMM	1 × 36W	Methacrylate	Medium	980	1251	3.2
PL158EXMM	1 × 56W	Methacrylate	Medium	1280	1551	4.1
Arctic version						
PL158ARMM	1 × 58W	Methacrylate	Medium	1040	1560	5.7

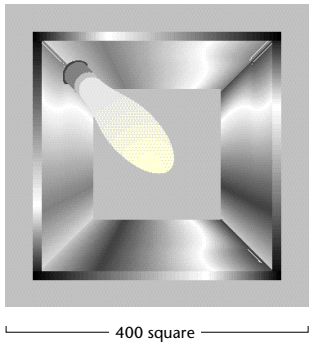
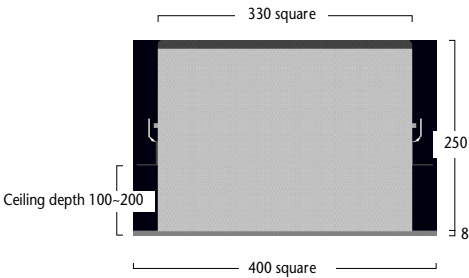
* Polycarbonate overtube

HiCare



HC150HFA

Rear access version (only)



HiCare is a product designed specifically for the stringent requirements of lower temperature process areas and chill stores.

HiCare is a compact Metal Halide fitting that is fully recessed into the insulating ceiling panel which provides no opportunity for the build up of dirt or bacteria.

Additionally, the stainless steel front face of the luminaire is totally sealed with an Ingress Protection rating of IP66 making it ideal for the harshest cleaning regime.

For walk-on type ceilings a Top-Access version is available, allowing all maintenance and lamp replacement to be carried out away from the risk area.

Where building constraints do not allow this type of ceiling, a Front-Access version is available which has a ceiling cassette preventing the passage of dust from the ceiling void into the process area.

The lamp is positioned diagonally across the reflector which achieves a very efficient performance with a 'square footprint' allowing use of fewer fittings when compared with conventional types.

SPECIFICATION

- Recessed for easy cleaning.
- Front or rear access versions.
- Use of efficient Metal Halide lamps.
- HiCare does not compromise the fire resistance of ceilings designed to contain fire.
- Polycarbonate front face.
- Stainless steel IP66 front face for maximum hygiene.

ORDER CODES

HC150HFA 150W	Metal Halide, front access
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OPTIONS

Rear access	replace FA with suffix:~
RA	Rear access

Coldbay

Coldbay is a highly innovative product which provides distinctive solutions to key issues in Cold Store lighting and, in particular, to the task of maintenance.

Through meticulous design and exhaustive independent testing, Coldbay eliminates the need to carry out relamping and maintenance inside the Cold Store itself.

This has been achieved by creating a semi-recessed fitting where the optical unit is within the Cold Store but the rest of the luminaire is located above the insulating ceiling panels. Access to the lamp and electrical components is made from the ceiling void rather than in temperatures in the Cold Store, typically, of -30° C, thereby greatly simplifying the task of maintenance.

In addition to the maintenance advantages, Coldbay also relocates the electrical components from within the Cold Store to the ceiling void, removing a source of heat from the Cold Store which is costly to compensate for with conventional surface mounted fittings.

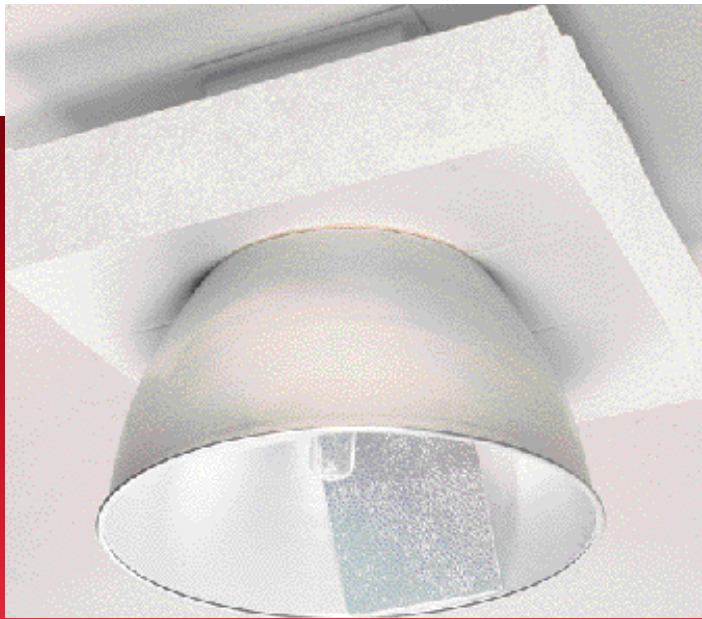
The Flamewall™ ceiling panel lining unit requires only a 200mm square aperture to be cut in the ceiling panel and its design allows for reasonable tolerance in the aperture without any diminution in performance. Once installed, Coldbay demonstrates excellent thermal transmission properties as well as negating the migration of moisture from 'above to below' by creating an effective seal on the upper and lower surfaces of the ceiling panel.

The mechanical fix between the gear box and optical unit is effected by stainless steel rods which not only help to stop panel delamination in fire conditions but, unlike nylon rods, will not allow the optical unit to drop from the ceiling in the event of fire.

Available with a variety of depths of Flamewall™ ceiling panel lining units, Coldbay also offers a selection of highly efficient distribution patterns and lamp options.

SPECIFICATION

- All luminaire maintenance and lamp changing can be carried out from above the Cold Store.
- Heat producing electrical components are removed from the Cold Store.
- The 3 part construction, including Flamewall™ ceiling panel lining unit, does not compromise the fire resistance of ceilings designed to contain fire.
- The completely sealed optical unit is rated IP54 and utilises a tough Polycarbonate visor which is permanently bonded to the reflector.
- Alternative lighting distributions for differing applications.
- Optical Unit ~ IP54 protection.
- Gear Box ~ IP66/54 protection.



CB250SM200

OPTIONS

Reflectors replace M with:~

N Narrow distribution reflector

Flamewall™ lining units replace 200 with:~

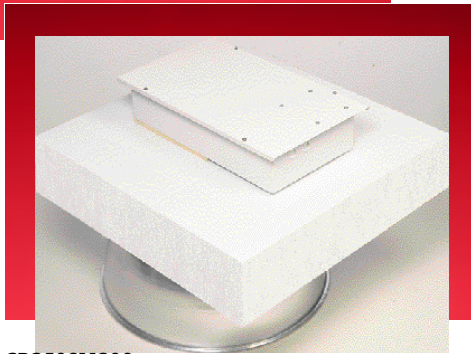
225 225mm lining unit

250 250mm lining unit

Other depths to special order.

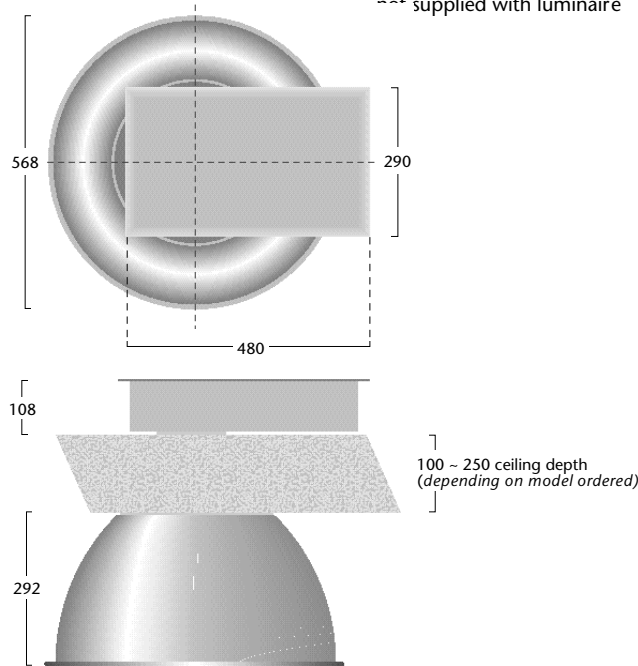
Auxiliary lamp add suffix:~

X Auxiliary lamp sensor



CB250SM200

The insulating panel shown in these photographs is not supplied with luminaire



FEATURES

ORDER CODES	Lamps	Lining unit	Beam distribution
CB250SM200	250W SON	200mm Flamewall™	Medium
CB400SM200	400W SON	200mm Flamewall™	Medium



Forecourt



**CANOPY MASTER
CM30
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**CANOPY MASTER
CM49
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**CANOPY MASTER
CM34 & CM55
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**CANOPY MASTER
CM60
PAGE 243**



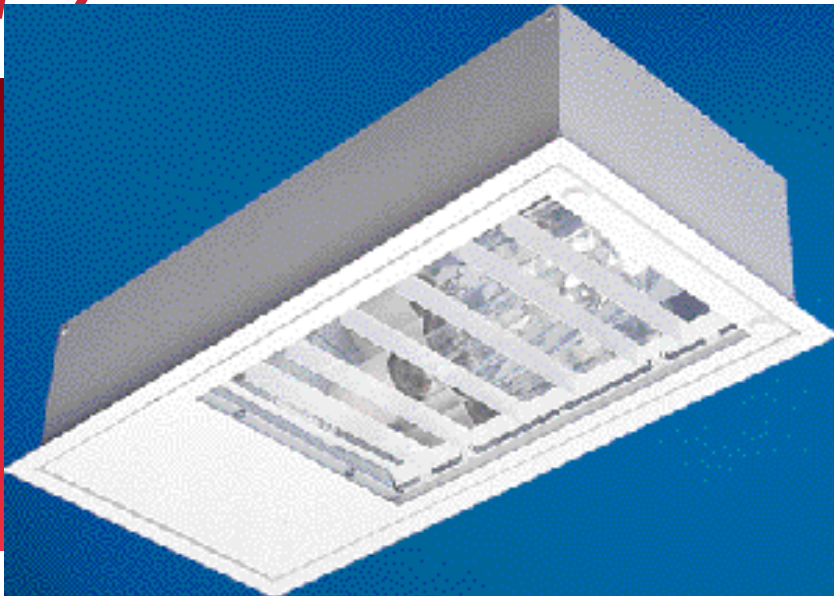
**CANOPY MASTER
CM40
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Light attracts the eye and good lighting attracts people. This principle has been adopted extensively in interior spaces, especially in the retail sector. It is not surprising therefore that these principles are now being applied to exterior spaces and, in particular, forecourts. Proper selection of lighting levels and the use of white light sources contribute to atmosphere and a welcoming environment. In addition the contrast in lighting between the forecourts and convenience stores gives a strong retail feel to the site.



Canopy MasterCM30

Where a compact, high performance luminaire is required for recessed, interior, semi-exposed or indeed exterior undercanopy lighting, Canopy Master CM30 fits the bill.



A variety of lighting effects can be achieved by the choice of asymmetric or bi-directional distribution options and the high IP rating of the front face means that it can be used in weather exposed environments with complete confidence.

Benefits include:~

- Perfect choice for semi-exposed and interior areas.
- Compact trim lines provide a visually pleasing installation.
- Excellent colour rendition through the use of metal halide lamps.
- Long life, corrosion resistant aluminium construction.

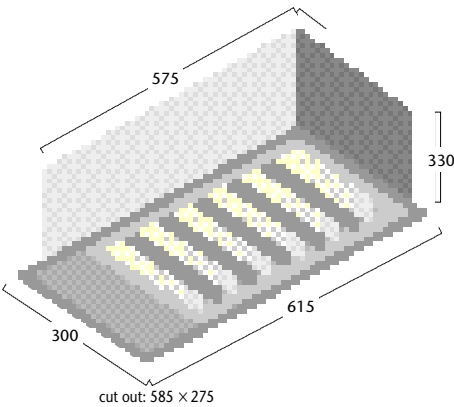
SPECIFICATION

- Compact, high performance, all aluminium recessed undercanopy luminaire for 300mm wide underlining, with choice of asymmetric or bi-directional distribution and rated IP65 on the front face, IP54 on the rear.

OPTIONS

- Anti-glare louvre.
- Various metal halide lamp brands accepted.

ORDER CODES				
USE THE BOLD CHARACTERS WITHIN EACH COLUMN TO MAKE UP A CM30 CODE				
Model	Distribution	Lamp	Options	Cover finish
		ON=S MBI=H		
CM30	A	250S	0	W
	Asymmetric	400S	1	No louvre
			2	No louvre left handed
	D	250H	3	No louvre right handed
Di-symmetric		400H	4	Louvre left handed
				Louvre right handed



EXAMPLE

Using the the bold suffixes from each column the following Canopy Master CM30 was specified:~

CM30A250H3W

Canopy Master CM30 in aluminium with asymmetric distribution and clear glass lens

The lamp type is metal halide MBI-T rated at 250W

A louvre is fitted for left handed orientation

NOTES

Handing is only applicable for asymmetric versions



CanopyMaster CM34 & 55

Where an attractive, high performance, low glare luminaire is required for recessed, interior, semi-exposed or indeed exterior undercanopy lighting, Canopy Master CM34 and CM55 fit the bill.



Designed particularly with covered pedestrian walkways and shopping facilities in mind, the variety of lamp sources, in combination with acrylic or vandal resistant polycarbonate refractors, provide efficient light distributions and avoid the gloomy feeling created by alternative recessed downlights.

Benefits include:~

- Perfect choice for semi-exposed and interior areas.
- Square light distribution with some upward light provide a visually pleasing installation.
- Attractive trim and refractor design.
- Long life, corrosion resistant aluminium construction.

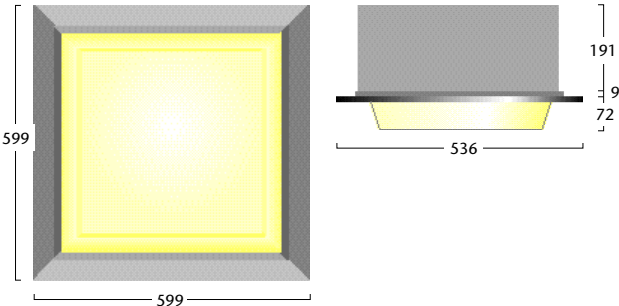
SPECIFICATION

- Mitred aluminium body and cover frame.
- Hinged cover for easy access.
- Polyester powder paint finish.
- IP Suitability ~IP54 lens.

OPTIONS

- Alternative acrylic or polycarbonate refractors.
- Variety of light sources.

ORDER CODES		
USE THE BOLD CHARACTERS WITHIN EACH COLUMN TO MAKE UP A CM34 & CM55 CODE		
Lamp	Refractor	Model
	<i>MBI-H SON-S</i>	
CM34	070S	A Acrylic
CM55	150S	P Polycarbonate
	250S <i>CM55 only</i>	
	070H	
	150H	
	250H <i>CM55 only</i>	



EXAMPLE

Using the the bold suffixes from each column the following Canopy Master CM34 was specified:~

CM34150SA

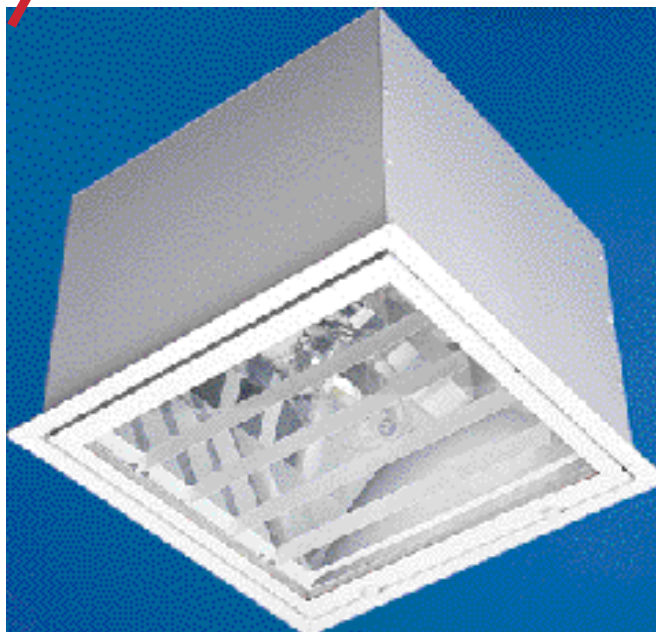
Canopy Master CM34 in aluminium with square distribution and Acrylic drop lens refractor

The lamp is SON-T rated at 150W

Canopy MasterCM40

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CM40 offers all the benefits of CM30 but enables the designer to use the more conventional square shape where it is appropriate.



CM40 has a very narrow flange in order to allow the lighting effect to be appreciated without drawing attention to the luminaire itself and still retains a high level of ingress protection.

As well as accepting standard tubular metal halide lamps, high output, long life, colour stable light sources can also be accommodated.

Benefits include:~

- Long life, corrosion resistant all aluminium construction.
- High ingress protection on the front face makes it suitable for exposed areas.
- Varying lighting effects through asymmetric and bi-directional distributions.
- Lightweight.

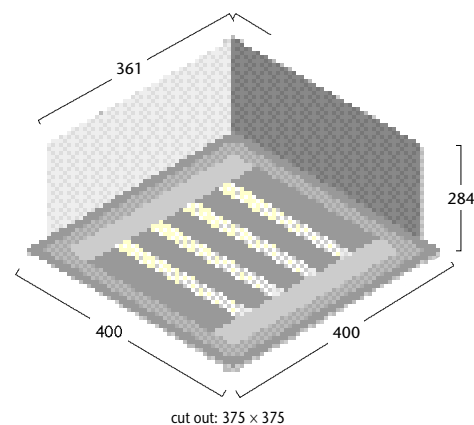
SPECIFICATION

- All aluminium, narrow flange recessed undercanopy luminaire for 400mm wide underlining.
- Asymmetric or bi-directional light distribution.
- IP65 Rating on front face.
- IP54 Rating on rear.

OPTIONS

- Anti-glare louvre.

ORDER CODES				
USE THE BOLD CHARACTERS WITHIN EACH COLUMN TO MAKE UP A CANOPY MASTER CM40 CODE				
Model	Distribution	Lamp	Options	Cover finish
		SON=S MBI=H MBI (high output)=E		
CM40	A	250S	0	W
	 Asymmetric	400S	5	White
	D	250H		
	 Di-symmetric	400H		
		250E		
		400E		



EXAMPLE

Using the the bold suffixes from each column the following Canopy Master CM40 was specified:~

CM40A250H5W

Canopy Master CM40 in aluminium with asymmetric distribution and clear glass lens fitted with anti-glare louvre

The lamp type is metal halide MBI-T rated at 250W

The cover is finished in white

Canopy MasterCM49

In those installations where the canopy underlining is of a corrugated profile, Canopy Master CM49 is designed to suit such underlinings perfectly.



The CM49 has all the ingress protection benefits of the other products in the range but it also has a generous flange width to mask any voids which may show as a result of the corrugation profile.

Benefits include:~

- The perfect choice for corrugated underlining.
- Completely resistant to the ingress of moisture and insects.
- Corrosion resistant Zintec construction.
- Differing lighting effects through the use of asymmetric and bi-directional distributions.

SPECIFICATION

- High quality, wide flange recessed undercanopy luminaire with choice of stainless steel or white painted hinged lid.
- Asymmetric or bi-directional distribution.
- IP65 Rating on front face.
- IP54 Rating on rear.

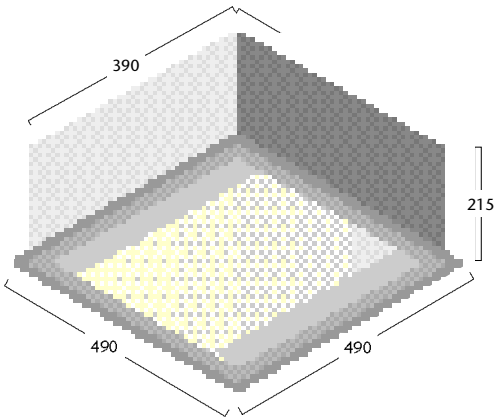
OPTIONS

- White painted hinged lid.
- Stainless steel hinged lid.

ORDER CODES

USE THE BOLD CHARACTERS WITHIN EACH COLUMN TO MAKE UP A CANOPY MASTER CM49 CODE

Model	Distribution	Lamp	Options	Cover finish
		SON=S MBI=H MBI (high output)=E		
CM49	A	250S	0	W
	 Asymmetric	400S	5	S
	D	250H		
	 Di-symmetric	400H		
		250E		
		400E		



EXAMPLE

Using the bold suffixes from each column the following Canopy Master CM49 was specified:~

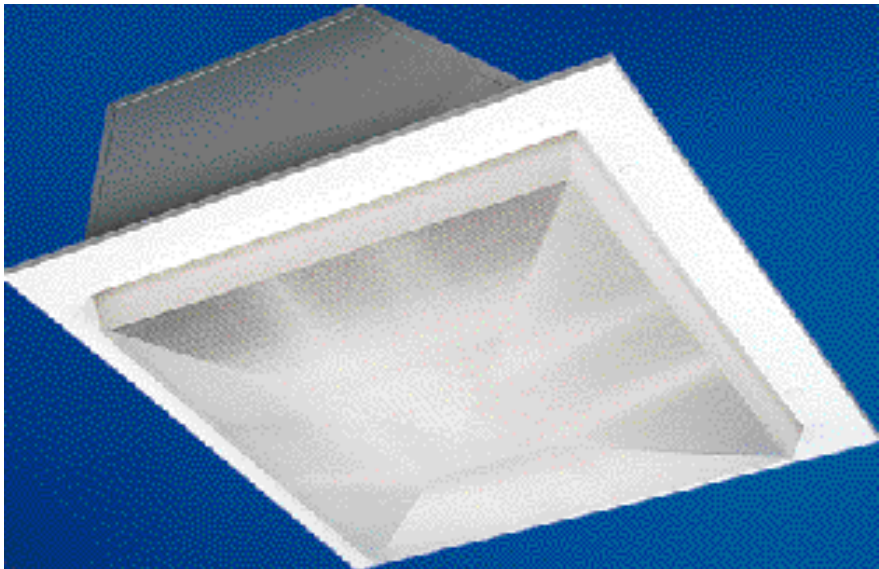
CM49A250H5S

Canopy Master CM49 in zintec with asymmetric distribution and clear glass lens fitted with anti-glare louvre
The lamp type is metal halide MBI-T rated at 250W
The glazing frame assembly is stainless steel with natural finish



Canopy MasterCM60

An important member of the Canopy Master range CM60 is specifically designed for new or refurbishment projects where 600mm square apertures already exist.



CM60 offers all the excellent benefits of the other undercanopy fittings and allows the designer to incorporate those benefits into existing buildings.

Benefits include:-

- Resistant to weather and the ingress of moisture and insects.
- Various lighting effects can be achieved through the use of the wide range of attachments.
- Housing size gives excellent ambient temperature operation.

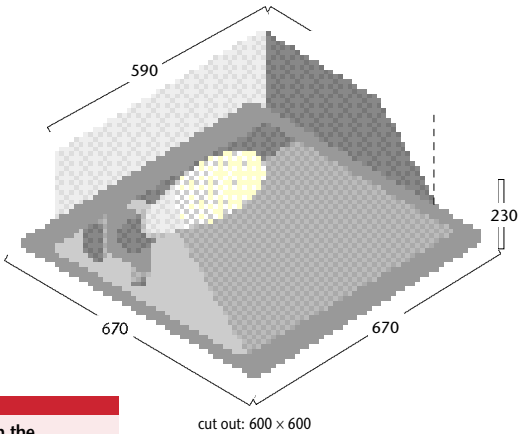
SPECIFICATION

- High quality recessed undercanopy luminaire for 600mm square apertures.
- Choice of attachments for varied lighting distributions.
- IP54 Rating.

OPTIONS

- Clear or frosted glass.
- Polycarbonate prismatic lens.
- Auxiliary lamp.

ORDER CODES				
USE THE BOLD CHARACTERS WITHIN EACH COLUMN TO MAKE UP A CANOPY MASTER CM60 CODE				
Model	Distribution	Lamp	Visor	Options
		SON=S MBI=H MBF=M MBI (high output)E		
CM60	D  Di-symmetric	250S	T Pyramid lens 	X Auxiliary lamp
		400S		N Standard
	N  Di-symmetric no reflector	250H	C Clear glass 	
		400H		
		250M	L Louve and glass 	
		400M		
		250E	F Frosted glass 	
		400E		



EXAMPLE

Using the the bold suffixes from each column the following Canopy Master CM60 was specified:-

CM60D400ECN

Canopy Master CM60 in zintec with di-symmetric distribution and clear glass lens

The lamp type is Venture high output metal halide Euro ~ Lamp rated at 400W

