

hydrel™ M9000 series

In-ground lighting fixtures have gained popularity with architects and lighting designers because they emphasise the subject by illumination without the distraction of a visible fixture. The M9000 series is specifically engineered for a wide range of applications and photometric demands. The extensive options offer maximum flexibility in design and performance for any lighting project. Modularity advanced design for in-ground lighting. The challenge of placing in-ground floodlights in hostile environments - in contact with soil, water and chemicals - whilst maintaining efficient cooling, excellent performance and safety is demanding. The complete M9000 series luminaires consists of modular components that have been designed to assist in installation, maintenance, accessibility, interchangeability of components, long life and most importantly safety. Water penetration is not a problem, as all the critical components - lamp, ballast and connectors - are installed as pre-sealed watertight modules.



acralume™ lamp module

The M9000 Series Acralume™ lamp module utilises precision reflectors and optically active lenses. The unit is dry air purged, to prevent condensation, and pre-sealed to IP68.

IP68 sealing

The M9000 Series Acralume™ optic utilises gasket seals originally developed for underwater lighting. The Acralume™ Lamp Module is sealed to IP68 with a set resistant silicone gasket and segmented compression ring ensuring even pressure throughout.

hydreseal gear module

The control gear components are fully encapsulated in a Hydreseal™ heat dissipating resin. This is connected to the junction box and lamp module by underwater cables and connectors. The result is a complete IP68 watertight module that can be fully immersed in water.

rough-in section

The rough-in section is made from a moulded heat-resistant polymeric material that is ultraviolet-resistant and can withstand a variety of corrosive soil conditions, far better than conventional metal housings. Inside the rough in section is a sealed junction box and glanded cable entry for mains connection. The rough-in section is designed to drain, eliminating the concern for water intrusion.

M9700 double lens version



Protective top cover to prevent ingress of dirt during installation



Door



Acralume lamp module IP68 sealing



Lock modular support ring (rotatable)



Hydreseal gear module IP68 sealing



Rough-in section

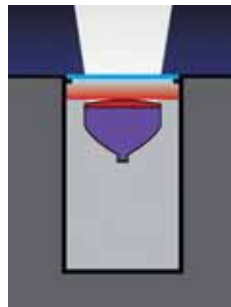
cooler operation

double lens arrangement

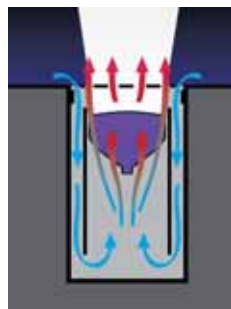
The removal of heat from the luminaire helps protect the life of components whilst ensuring lens temperatures are kept to minimum, an important consideration where the potential exists for human contact. The M9000 Series is unique to other in-ground floodlights by offering double lens optical arrangements. Single lens fixtures have limited applications, due to the higher lens temperatures they produce. The M9000 Series offers a unique double lens option that can reduce lens temperatures by up to 40°C, allowing for a much wider range in applications. The double lens concept works by the initial lens absorbing high percentages of the heat. The area between the two lenses acts as an additional insulating layer, further reducing heat build up on the surface lens. Double lensed models provide an insulating layer of air for additional cooling.

convection cooling

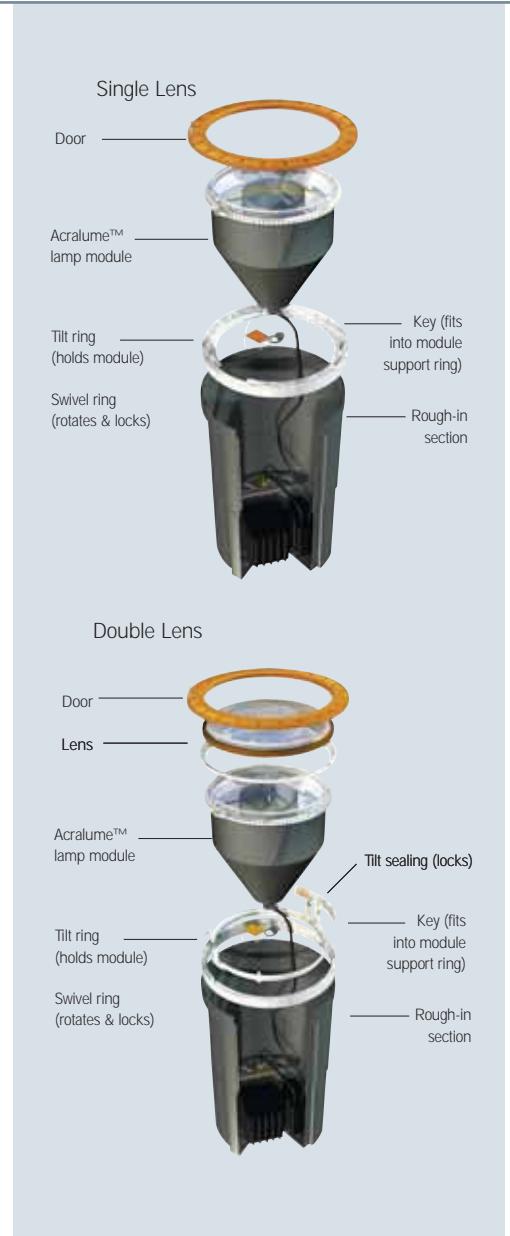
Conventional recessed sealed luminaires are dependant mainly upon conduction and radiation for cooling. The M9000 Series, however, also applies convection for cooling by incorporating chimneys within the rough-in section. This allows better circulation of the air as it is heated. The heated air rises and exits through the door vents, which in turn draws cooler air in through the chimneys, thus cooling the Acralume™



Double Lens Arrangement



Convection Cooling



M9000 Series Load Resistance

Lamp Type	Load Resistance (kg)	Shock Resistance (joules)	
		Standard Flat Lens	Tilt Lens
M9400	1,000	20 J (IK10) IP689	10 J (IK09) IP687
M9460	10,200	20 J (IK10) IP689	N/A
M9700	1,400	20 J (IK10) IP689	10 J (IK09) IP687
M9800	1,700	20 J (IK10) IP689	10 J (IK09) IP687

easy aiming

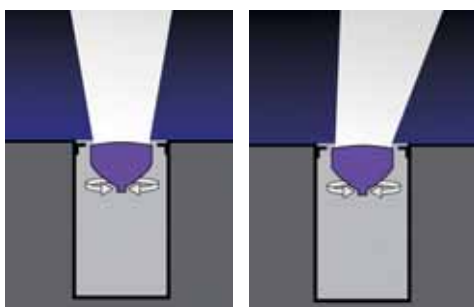
Conventional recessed up-lighters are often restricted when it comes to aiming. This makes it difficult to achieve precise aiming when trying to highlight specific features.

The double lens option can be rotated through 360° with a lockable tilting device allowing $\pm 15^\circ$ tilt movement. This can be combined with optically active lenses to achieve up to 35° beam offset.

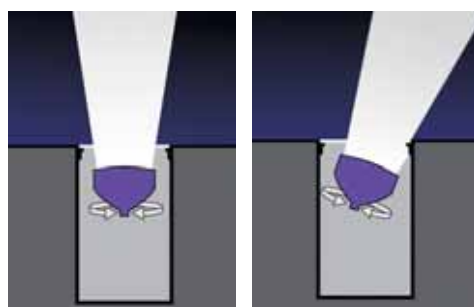
The M9000 offers two lockable aiming options:

Single Lens - Optically aimed active lenses with rotatable Acralume™.

Double Lens - Mechanically aimed tilt and rotatable Acralume™.



Single Lens - Optically Aimed



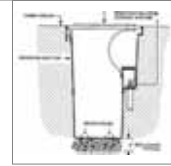
Double Lens - Mechanically Aimed



simple installation

The M9000 Series can facilitate installation by pre-installing the rough-in section prior to the inclusion of any electrical components. The rough-in section can be pre-ordered and installed in advance of the project completion, allowing the critical components to be installed in a much cleaner environment, eliminating damage.

1. Dig hole to appropriate depth allowing for 150mm minimum of pea gravel at bottom of rough-in section for drainage.



2. Place the rough-in section into recess and secure level with surface plane. Note: For pre-installation leave protective cover in place.



3. Terminate incoming mains supply and Hydreseal™ gear within junction box. Add optional potting compound (recommended for installations in areas where flooding is likely to occur.)



4. Remove protective plug and connect lamp module.



5. Lower Acralume™ into the rough-in section ensuring it is aligned and securely positioned.



6. Fit door and lock into position.



easy maintenance



conventional maintenance

Typical re-lamp conditions for conventional in-grounds - dirt, stones and moisture. After years of installation and maintenance, corrosion of the screws is common, making access difficult.

easy maintenance

The M9000 Series has been specifically designed to reduce maintenance times. A common problem with in-ground recessed luminaires is the penetration of foreign matter during maintenance. Conventional in-ground luminaires consist of a gasket seal and a number of fixing screws. Misalignment in the tightening of these screws will jeopardise the IP rating of the luminaire leading to condensation build up. Hydrel M9000 luminaires have a factory-sealed reflector module (Acralume) complete with lamp, so it does not have to be opened on site by the installing contractor. Thanks to its modular construction, with the M9000 Series all maintenance can be conducted away from site in a clean environment.

condensation

A singular grain of stone to the slightest unevenness in gasket compression is all that it takes to cause water ingress leading to condensation. M9000 Series Acralume™ prevents this when maintained correctly.

thermal protection

A build up of leaves, mulch or other such debris can cause heat damage to the electrical components. To prevent this, the M9000 Series incorporates a thermal cut out switch that senses excessive heat, automatically switching the lamp holder off. Please note: If the airducts in the door of the M9000 series are blocked in anyway, the sensor will not be able to detect excessive heat,

soil conditions

Please note that consideration should be given to the site conditions where in-grade luminaires are being specified for example certain soil conditions need to be accounted for areas where fertilisers or chemicals may be used, as this may have a detrimental effect on the luminaire. Please contact Holophane for details.

condensation

conventional maintenance

thermal protection



hydrel™ M9000 series

applications

Building facades
Architectural details
Sculptures
Signs
Monuments
Landscape features

applicable to M9800, M9700, and M9400 ranges.

Hydrel M9800. The largest of the family and the only in-ground fitting to accept up to 400w high intensity discharge lamps mounted in a 460mm diameter housing, the M9800 provides maximum performance with minimal fixture visibility. With three light distributions, two different door finishes and a host of accessories including coloured filters.

Hydrel M9700. The M9700 is the medium sized in-ground modular fitting of the series suitable for high intensity discharge lamps up to 150w and features a variety of distributions plus internal glare control and filtering. With six light distributions, round doors with three different finishes and a host of accessories including coloured filters adding further versatility in appearance and the effects that can be created.

Hydrel M9400. The M9400 is the smallest in-ground modular fitting able to accept ceramic metal halide lamps up to 70w, and compact fluorescent lamps up to 32w mounted in a 230mm diameter housing with five light distributions, round doors with three different finishes, a host of accessories including coloured filters.

Hydrel M9460. The M9460 Marker Lights are multi-purpose units designed for mounting in a variety of substrates or materials to light architectural and landscape features. The M9460 offers a rugged low profile polymer rough-in section housing the thermally protected, sealed lamp module and ballast. It's cast aluminium head makes it suitable for loads of up to 10,200 kg and creates an interesting low level propeller-shaped pattern of light. The modular construction facilitates installation and maintenance, with the individual modules sealed to IP689 to eliminate moisture intrusion. The fixture housing also includes a recessed support flange to absorb shock.

Where cooler lens temperatures are needed in public areas, double lens versions are available.



features & benefits**Modular constructions**

- > easy installation & maintenance, double lens options
- > cooler lens temperatures, suitable for use in public areas.
- > keyed aiming after installation

Vented design

- > allows cooler operations & reduced lens temperatures.

Aim lock

- > re-lamping without re-aiming.

Exceeds drive-over requirements

- > durability.

Pre-sealed IP689 acralume™ module with lamp

- > reduced condensation problems.

Multiple door finishes and shapes

(applicable to the M9400 and M9700 only)

- > flexibility of design

M9800 lamp types included

- 250W - 400W metal halide
- 150W - 400W high pressure sodium

M9700 lamp types included

- 35W - 150W metal halide various
- 50W - 70W high pressure sodium

M9400 lamp types included

- 35W - 70W metal halide various
- 18W - 32W compact fluorescent

M9460 lamp types included

- 35W ceramic metal halide

IP rating

IP rating & approval are applicable to the M9800, M9700 and M9400

IP689  3m 

approvals

Complies with EN60598

CE

 NEMKO



M9400



M9460

specification

M9800. The luminaire shall consist of an injection-moulded polymer rough-in section with integral junction box for mains connection, U.V. stabilised, impact and corrosion resistant and a round cast aluminium or cast bronze door with two stainless steel captive fasteners locking the lamp module into the rough-in section. The rough-in section shall house all electrical components. The lamp module shall be sealed to IP68 and purged of all moisture with a stainless steel clamp band and single fastener. Electrical connection shall be via a submersible plug and socket arrangement with gold plated contacts. The control gear shall be encapsulated in a custom-heat dissipating epoxy resin to ensure IP68 with submersible rated cable and connectors for connection to junction box and lamp module. The luminaires shall be available with single lens or double lens option to ensure cooler lens temperatures and complies with EN60598.

M9400 and M9700. The luminaire shall consist of an injection-moulded polymer rough-in section with integral junction box for mains connection, U.V. stabilised, impact and corrosion resistant and a round or square cast aluminium, cast bronze or stainless steel door with two stainless steel captive fasteners locking the lamp module into the rough-in section. The lamp module shall be sealed to IP689 and purged of all moisture with a stainless steel clamp band and single fastener. Electrical connections shall be via a submersible plug and socket arrangement with gold plated contacts. The control gear shall be encapsulated in a custom-heat dissipating epoxy resin to ensure IP689 with submersible rated cable and connectors for connection to junction box and lamp module. The luminaires shall be available with single lens or double lens option to ensure cooler lens temperatures and and complies with EN60598.

M9460. The luminaire shall consist of a powder-coated cast aluminum head to protect the lamp and an injection-moulded polymer rough-in section with integral junction box for branch wiring, U.V. stabilised, impact and corrosion resistant for use in all types of environments. The rough-in section shall house the ballast, which shall be encapsulated in a custom-heat dissipating epoxy resin to ensure IP689, and the lamp module, which shall be sealed to IP689 and purged of all moisture with silicone gaskets, stainless steel clamp band and single fastener. The luminaire shall be suitable for use with 35W CDM-T lamps, giving a three-way propeller-shaped pattern of light, and and complies with EN60598.



Round aluminium door
(shown with double lens arrangement)



Stainless steel door
(shown with spread lens)



Bronze door
(shown with internal source shield)

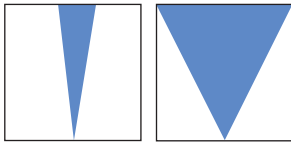


Aluminium door with stainless steel
decorative trim ring

light distributions

M9800

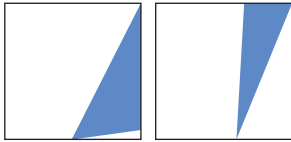
symmetric



Spot
8° beam

Medium flood
51° beam

asymmetric



Wall wash
single lens only

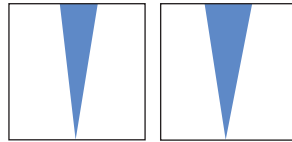
Spot with a 10° tilt
lens, double lens
only



Spot with a 20°
tilt lens, double
lens only

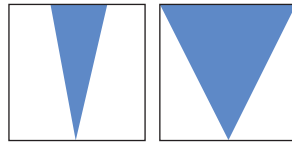
M9700

symmetric



Spot
9° beam

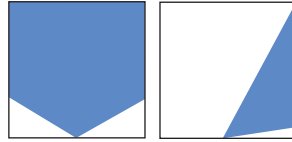
Tight Spot
10° beam



Narrow flood
15° beam

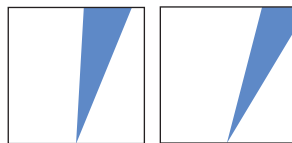
Medium flood
42° beam

asymmetric



Wide flood
92° beam

Wall wash
single lens only

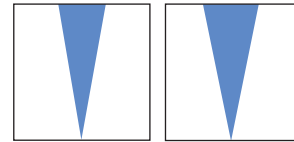


Tight spot
with a 10° tilt lens

Tight spot
with a 20° tilt lens

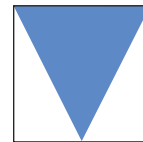
M9400

symmetric

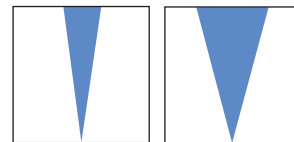


* Narrow spot
12° beam

* Medium flood
19° beam



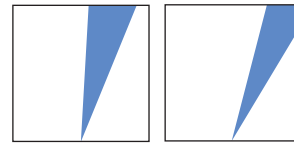
** Medium flood
74° beam



†† MSP
10° beam

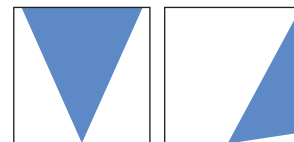
†† 70W MFL
40° beam

asymmetric



† Narrow spot
with a 10° tilt
lens

† Narrow spot
with a 20° tilt lens



** Asymmetric
single lens only

** Wall wash
single lens only

* high intensity discharge

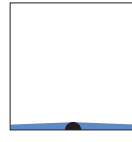
** fluorescent lamp

† tilt lenses

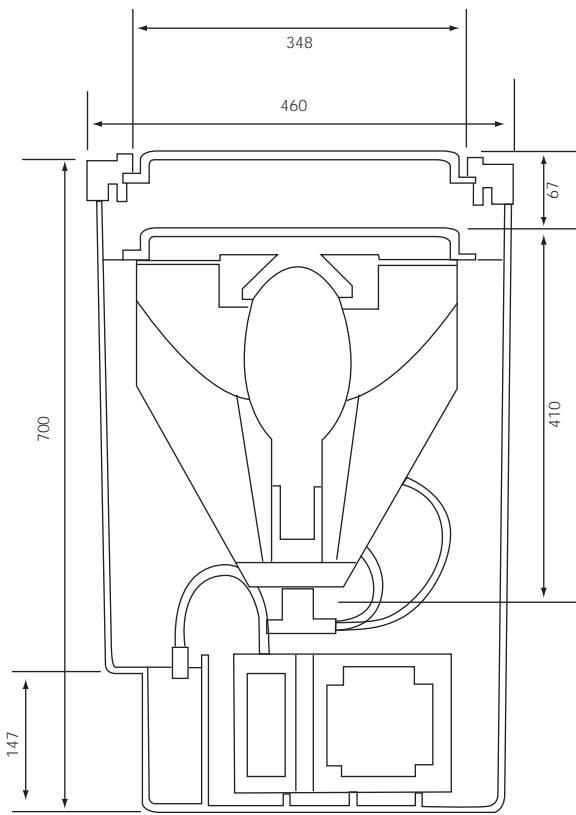
†† PAR lamps

M9460

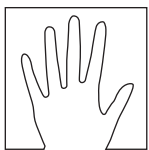
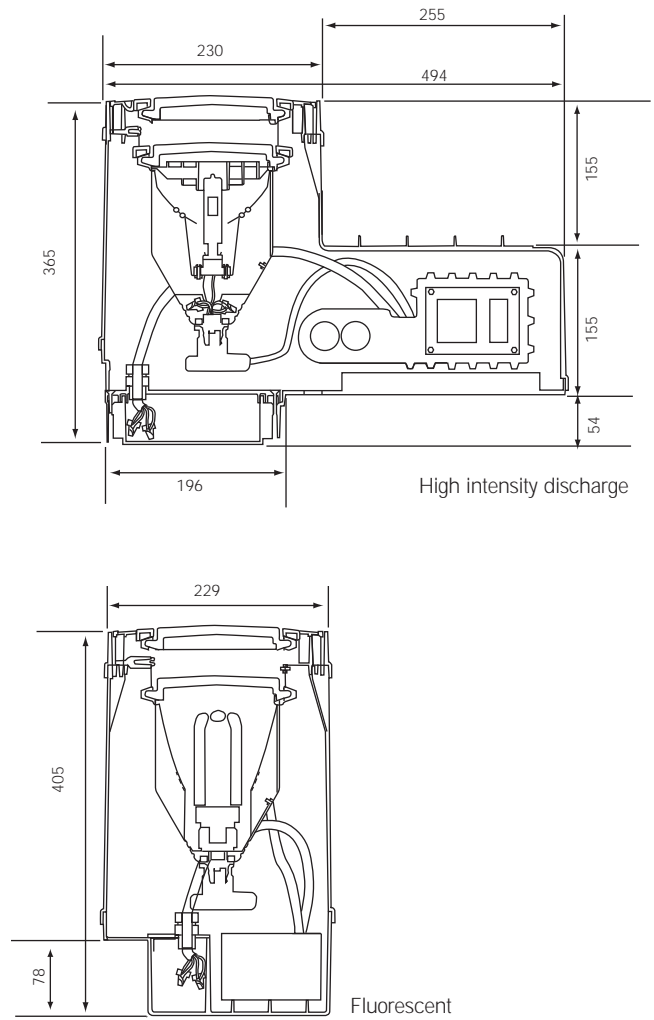
symmetric



hydrel M9800

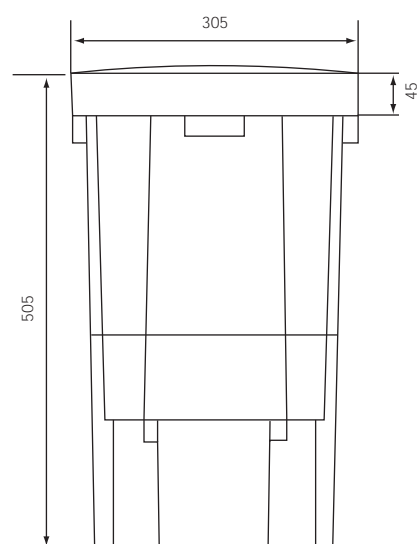


hydrel M9400

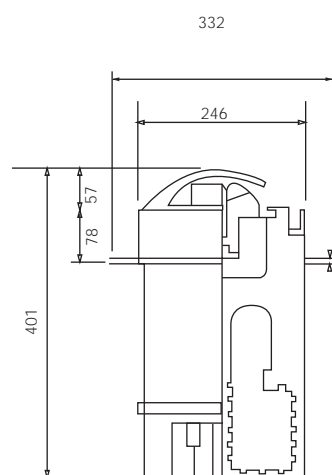


dimension

hydrel M9700



hydrel M9460



performance

M9800 are suitable for large floodlighting applications. M9700 and M9400 small to medium floodlighting applications. The distribution illustrations and tables shown are typical examples of lamp and optical arrangements commonly used for a wide range of applications. A comprehensive lighting design service is available to assist in the design and analysis of virtually any outdoor lighting application. Please contact our lighting design team for details. Email Ldesign@holophane.co.uk

M9800 uplighting trees typical example

Trees	Medium (8-16m)	Large (16 above)
Luminaire Type	*M9800.250MT.MFL **M9800.250MT.S	*M9800.400MT.MFL **M9800.400MT.S
Set Back	MFL 2.4-3m S 1.2-2m	2.4-4m 2.1-5m

M9800 buildings & walls typical example

For light coloured, smooth walls:

Luminaire Type	Height	Spacing	Set Back
M9800.250MT.WWD	6m	3m	1.2m
M9800.400MT.WWD	9m	4m	1.5m

M9800 columns typical example

Luminaire Type	Height	Spacing	Set Back
M9800.250MT.S	12m	3m	0.3-0.6m
M9800.400MT.S	25m	3m	0.3-0.6m

M9700 uplighting trees typical example

Trees	Small (3-6m)	Medium (6-14m)
Luminaire Type	*M9700.35/70MT6. **M9700.35/70MT6.TSP	*MFL 9700.70/150MT6.MFL **M9700.70/150MT6.TSP
Metal Halide Enhances Green		
Luminaire Type	*M9700.50S.MFL **M9700.50S.S	*M9700.70S.MFL **M9700.70S.S
High Pressure Sodium Enhances Yellow		
*Wide Distribution **Tight Distribution		

M9700 columns typical example

Luminaire Type	Height	Spacing	Set Back
M9700.70MT6.NFL	3m	3m	0.3-0.6m
M9700.70/150MT6.NFL	6m	3m	0.3-0.6m
M9700.150MT6.NFL	9m	3m	0.3m

M9400 columns typical example

Luminaire Type	Height	Spacing	Set Back
M9400.35MT6.NSP	3m	3m	0.3-0.6m
M9400.70MT6.NSP	6m	3m	0.3-0.6m
M9400.70MT6.NSP	9m	3m	0.3m

M9400 buildings & walls typical example

For light coloured, smooth walls:

Luminaire Type	Height	Spacing	Set Back
M9400.35MT6.MFL	3m	3m	1m
M9400.70MT6.MFL	6m	4m	1.2m
M9400.70MT6.MFL	9m	5m	1.5m

M9400 uplighting trees typical example

Trees	Small 3-6m
Luminaire type	*M9400.P3070MFL **M9400.P3070MSP
MH - enhances green	
Set back	MFL 1.2m MSP 0.6m

*Wide Distribution **Tight Distribution

M9710 buildings & walls typical example

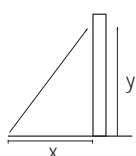
For light coloured, smooth walls:

Luminaire Type	Height	Spacing	Set Back
M9710.A.35MT6.WWD	3m	3m	1m
M9710.A.70MT6.WWD	6m	4m	1.2m
M9710.A.150MT6.WWD	9m	5m	1.5m

spot adjustment ranges

Typical aiming for spot reflector at 10° tilt where:

x = Distance of Setback
y = Height of Object



x = 0.6m	1m	1.5m	2.1m	2.7m	3.2m	3.7m	4.2m
y = 3.5m	7m	9m	12m	15m	18m	21m	25m

signs

For small to medium ground-mounted signs

For ground-mounted signs 1m-1.5m, use wallwash fixtures, i.e. M9400.35/70MT6.WWD, or M9700.35/70MT6.WWD located 0.3m-0.6m from sign, one fixture every 1.2m.

M9400 flags typical example

Flags		Small (3-8m)
Luminaire Type		*M9400.35/70MT6.MFL
		**M9400.35/70MT6.NSP
Set Back	MFL	0.3m-0.6m
	S	0.3m-0.6m

M9700 flags typical example

Flags		Small (3-8m)
Luminaire Type		*M9700.70/150MT6.MFL
		**M9700.70/150MT6.S
Set Back	MFL	0.3m-0.6m
	S	0.3m-0.6m

*Wide Distribution **Tight Distribution







ordering details : luminaire



Code							
M9410	M9400 Series - Single Lens						
M9420	M9400 Series - Double Lens						
Code	Door Finish						
.AD	Aluminium Door						
.BD	Bronze Door						
.SSD	Stainless Steel Door						
Code	Fluorescent Lamps (Single Lens Type Distribution Dependent)						
.18TRT	18W Triple Tube 4000K Compact Fluorescent 4-Pin Lamp (G24 q-2) Base						
.26TRT	26W Triple Tube 4000K Compact Fluorescent 4-Pin Lamp (G24 q-3) Base						
.32TRT	32W Triple Tube 4000K Compact Fluorescent 4-Pin Lamp (G24 q-3) Base						
Code	HID Lamps (Double Lens Only)						
.35MT6	35W Clear CDM-T 3000K Ceramic Metal Halide Lamp (G12) Base						
.70MT6	70W Clear CDM-T 3000K Ceramic Metal Halide Lamp (G12) Base						
.P2035	35W CDM-R PAR 20 Ceramic Metal Halide (E27) Base						
.P3035	35W CDM-R PAR 30 Ceramic Metal Halide (E27) Base						
.P3070	70W CDM-R PAR 30 Ceramic Metal Halide (E27) Base						
Code	Voltage*						
.23050HZ	230 Volt, 50 Hertz						
.24050HZ	240 Volt, 50 Hertz**						
Code	Light Distribution - Fluorescent (Single Lens Only)						
.MFL	Medium Flood (74° Beam)						
.ASY	Asymmetric						
.WWD	Wallwash complete with louvre (FLC5 as standard)						
Code	Light Distribution - MT6 Metal Halide (Double Lens Only)						
.NSP	Narrow Spot (12° Beam)						
.MFL	Medium Flood (19° Beam)						
Code	Light Distribution - PAR Lamps						
.MSP	Medium Spot (10° Beam)						
.MFL	Medium Flood (PAR 20 30° Beam, PAR 30 40° Beam)						
Code	Cable Entry						
.M20	M20 Side Entry Gland						
Code	Options (Factory Fitted)						
.IHL	Internal Honeycomb Louvre (Non-adjustable and not available with ASY and WWD distribution)***						
.ISS	Internal Source Shield (CDM-T Lamps Only)***						
.IHL20	Internal Honeycomb Louvre (PAR-20 lamps only)***						
.IHL30	Internal Honeycomb Louvre (PAR-30 lamps only)***						
.FLC5	5° Axial Tilt Lens						
.FLC10	10° Tilt Lens						
.FLC20	20° Tilt Lens						
.FLCAS	Anti Slip Lens (Not available with WWD)						
.RG	Rock Guard finished to match door finish (Not available with SSD)						
.GS	Glare Shield finished to match door finish (Not available with SSD)						
.TW	Dual M20 Entry Glands Side Entry Through Wiring						
Example	M9420	.AD	.35MT6	.23050HZ	.ASY	.M20	.TW

*Other voltages available on request. **For UK 240V should be used unless site has special circumstances. ***1 per luminaire.

luminaire accessories



.RG - Rock guard



.ISS - Internal source shield



.IHL - Internal honeycomb louvre



94.BTR - Bronze decorative trim ring



94.GS - Glare shield



94.LC - Polycarbonate protective cover



94.BDL - Blue dichroic glass filter



94.STR - Stainless steel decorative trim ring

luminaire accessories

order separately for on site installation by others

Code	9400 Internal Accessories
94.ISS	Internal source shield*
94.IHL	Internal honeycomb louvre (suitable for MT6 and fluorescent lamps in a MFL distribution)*
94.IHL20	Internal honeycomb louvre (suitable for PAR 20 lamps only)*
94.IHL30	Internal honeycomb louvre (suitable for PAR 30 lamps only)*
PC2112	1 Litre bag of Hydrel in-ground potting compound (1 per M9000 luminaire)
Code	9400 External Accessories
94.STR	Stainless steel decorative trim ring (not compatible with SSD)*
94.BTR	Bronze decorative trim ring (not compatible with SSD)*
94.LC	Polycarbonate cover (cannot be used with GS, RG or SSD)
Code	Coloured Glass and Dichroic Filters, Filter Holder & Internal Honeycomb Louvre
94.ADL	Amber dichroic filter
94.ADL.20	Amber dichroic filter (suitable for PAR 20 Lamps)
94.ADL.30	Amber dichroic filter (suitable for PAR 30 Lamps)
94.BDL	Blue dichroic filter
94.BDL.20	Blue dichroic filter (suitable for PAR 20 Lamps)
94.BDL.30	Blue dichroic filter (suitable for PAR 30 Lamps)
94.GDL	Green dichroic filter
94.GDL.20	Green dichroic filter (suitable for PAR 20 Lamps)
94.GDL.30	Green dichroic filter (suitable for PAR 30 Lamps)
94.RDRL	Red dichroic filter
94.RDRL.20	Red dichroic filter (suitable for PAR 20 Lamps)
94.RDRL.30	Red dichroic filter (suitable for PAR 30 Lamps)
94.CCDL	Customer specified dichroic filter & filter holder & internal honeycomb louvre**
94.CCDL.20	Customer specified dichroic filter & filter holder & internal honeycomb louvre (suitable for PAR 20 Lamps)**
94.CCDL.30	Customer specified dichroic filter & filter holder & internal honeycomb louvre (suitable for PAR 30 Lamps)*

*1 per luminaire. **customer specified colour must be LEE filter number.

ordering details : luminaire

**Code**

M9710	M9700 series - single lens
M9720	M9700 series - double lens

Code **Door Finish**

.AD	Aluminium door
.BD	Bronze door
.SSD	Stainless steel door

Code **Lamp Types**

.35MT6	35W Clear CDM-T 3000k ceramic metal halide lamp (G12) base
.70MT6	70W Clear CDM-T 3000k ceramic metal halide lamp (G12) base
.150MT6	150W Clear CDM-T 3000k ceramic metal halide lamp (G12) base

Code **Voltage***

.23050HZ	230volt, 50hertz
.24050HZ	240volt, 50hertz**

Code **Light Distribution**

.TSP	Tight spot 10° beam with ISS
.NFL	Narrow flood 15° beam
.MFL	Medium flood 42° beam
.WFL	Wide flood 92° beam***
.WWD	Wall wash (single lens only)****

Code **Cable Entry**

.M20	M20 side entry gland
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Code **Options** **Factory Fitted**

.IHL	Internal honeycomb louvre (non-adjustable) †
.ISS	Internal source shield †
.FLC5	5° Axial tilt lens
.FLC10	10° Tilt lens
.FLC20	20° Tilt lens
.FLCAS	Anti-slip lens †
.RG	Rock guard finished to match door finish ††
.GS	Glare shield finished to match door finish ††
.TW	Dual M20 entry glands side entry through wiring

Example M9720 .AD .70MT6 .23050HZ .TSP .M20 .IHL

* Other voltages available on request. ** For UK 240V should be used unless site has special circumstances. *** WFL distribution supplied with frosted lens. For tilted lens options 10° and 20° only available on double lens versions. Top lens will be tilted, bottom lens will be frosted. **** For WWD 70W HID and lower frosted 5° axial tilt lens supplied. For 100W HID and higher FLC5 supplied. Complete with Wall Wash Louvre. 1 per luminaire. † not suitable for WWD distribution. †† Not available with SSD.

luminaire accessories



.RG - Rock guard



.ISS - Internal source shield



.IHL - Internal honeycomb louvre



.FLC - Spread lenses



.FLCAS - Anti slip lens



97.GS - Glare shield



97.LC - Polycarbonate protective cover



97.BDL - Blue dichroic glass filter



97.STR - Stainless steel decorative trim ring



97.BTR - Bronze decorative trim ring

luminaire accessories

order separately for on site installation by others

Code	9700 Internal Accessories
97.ISS	Internal source shield (not compatible with WWD distribution)
97.IHL	Internal honeycomb louvre
PC2112	1 Litre bag of Hydrel In-Ground potting compound (1 per M9000 luminaire)

Code	9700 External Accessories
97.STR	Stainless steel decorative trim ring (Not compatible with SSD)
97.BTR	Bronze decorative trim ring (Not compatible with SSD)
97.LC	Polycarbonate cover (Cannot be used with GS, RG or SSD)

Code	Dichroic Filter, Filter Holder & Internal Honeycomb Louvre
97.ADL	Amber dichroic
97.BDL	Blue dichroic
97.GDL	Green dichroic
97.RDRL	Red dichroic
97.CCDL	Customer Specified Dichroic Filter & Filter Holder & Internal Honeycomb Louvre**

** customer specified colour must be LEE filter number

ordering details : luminaire

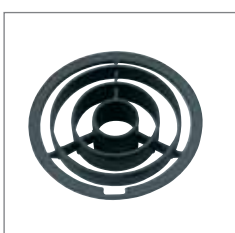


Code

M9820	M9800 Series - Double Lens					
	Code	Door Finish				
	.AD	Aluminium door				
	.BD	Bronze door				
	Code	Lamp Type				
	.250MT	250W Clear 4000K tubular metal halide lamp (E40) base				
	.400MT	400W Clear 4000K tubular metal halide lamp (E40) base				
	.150XT	150W Clear high pressure sodium tubular (E40) base				
	.250XT	250W Clear high pressure sodium tubular (E40) base				
	.400XT	400W Clear high pressure sodium tubular (E40) base				
	Code	Voltage*				
	.23050HZ	230 Volt, 50 Hertz				
	.24050HZ	240 Volt, 50 Hertz**				
	Code	Light Distribution				
	.SP	Narrow Spot (20° Beam)				
	.MFL	Medium Flood (51° Beam)				
	.WWD	Wallwash (FLC5 as standard)				
	Code	Cable Entry				
	.M20	M20 Side entry gland				
	Code	Options (Factory Fitted)				
	.ISS	Internal source shield (not available with WWD)				
	.FLC5	5° Axial Tilt Lens				
	.FLC10	10° Tilt Lens				
	.FLC20	20° Tilt Lens				
	.RG	Rock guard finished to match door finish				
	.GS	Glare Shield finished to match door finish				
	.TW	Dual M20 entry glands side entry through wiring				
Example	M9820	.AD	.400MT	.23050HZ	.WWD	.M20 .TW

* Other voltages available on request. ** For UK 240V should be used unless site has special circumstances.

luminaire accessories

**.RG** - Rock guard**.ISS** - Internal source shield**.IHL** - Internal honeycomb louvre**.FLC** - Spread lenses**98.GS** - Glare shield**98.BDL** - Blue dichroic glass filter**98.STR** - Stainless steel decorative trim ring**98.BTR** - Bronze decorative trim ring

luminaire accessories

order separately for on site installation by others

Code **9800 Internal Accessories**

98.ISS	Internal Source Shield (Not compatible with WWD distribution)
98.IHL	Internal Honeycomb Louvre (Not compatible with WWD distribution)
PC2112	1 Litre Bag of Hydrel In-Ground Potting Compound (1 per M9000 luminaire)

Code **9800 External Accessories**

98.STR	Stainless Steel Decorative Trim Ring
98.BTR	Bronze Decorative Trim Ring

Code **Dichroic Filters**

98.ADL	Amber Dichroic Filter, Filter Holder & Internal Honeycomb Louvre
98.BDL	Blue Dichroic Filter, Filter Holder & Internal Honeycomb Louvre
98.GDL	Green Dichroic Filter, Filter Holder & Internal Honeycomb Louvre
98.RDRL	Red Dichroic Filter, Filter Holder & Internal Honeycomb Louvre
98.CCDL	Customer Specified Dichroic Filter & Filter Holder & Internal Honeycomb Louvre*

*Customer Specified Colour must be Lee Filter Number.

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hydre|™







ordering details : luminaire

Code

M9460	Hydrel M9460			
	Code	Lamp Type		
	.35MT6	35W Clear CDM-T 3000K Ceramic Metal Halide Lamp (G12) Base		
		Code	Voltages*	
		.23050HZ	230V 50Hz Integral Control Gear	
		.24050HZ	240V 50Hz Integral Control Gear**	
			Code	Cable Entry
			.M20	M20 Side Entry Gland
				Code Options
			.TW	Dual M20 Entry Glands Side Entry Through Wiring
Example	M9460	.35MT6	.23050HZ	.M20 .TW

* Other supply voltages available on request. ** For UK 240V should be used unless site has special circumstances.
 Note: All ceramic lamp circuits contain timed ignitors to give high performance

luminaire accessories

order separately for on site installation by others

Code

PC2112	1 Litre Bag of Hydrel In-Ground Potting Compound (suitable for 1 M9000 luminaire)*
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* Recommended for use where flooding is likely to occur or where pea gravel cannot be used.

