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# 3F Manta

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Designed for those who  
work outdoors.  
365 days a year.

# 3F Filippi



# 3F Manta

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3F Manta was created to bring the outstanding lighting technology that our company has been offering for over 60 years inside production facilities, retail areas, and architectural spaces outdoors.

Thanks to the intense activity in its research laboratories, 3F Filippi is launching its first lighting fixture for outdoor work areas, a cutting edge solution dedicated to lighting private areas where vehicles and pedestrians pass through such as parking lots, perimeter areas of production facilities, loading/unloading docks, and other areas that refer to regulation EN 12464-2 "Lighting of outdoor work areas".

3F Manta is the result of precise design covering every facet, from the mechanical elements to the use of cutting-edge technological components.

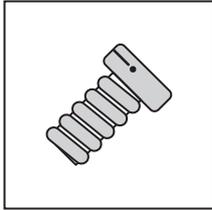
The sum of the individual details makes this fixture the ideal answer to the expectations of those who are looking for perfect, durable outdoor lighting.

3F Manta  
Pole installation



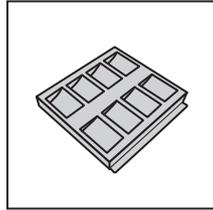
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## Safety and reliability



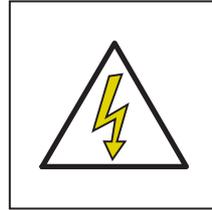
### **Stainless Steel hardware**

They prevent oxidation over time and are also used inside the body, allowing easy access even in severe weather conditions.



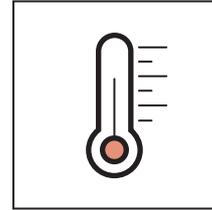
### **Aluminium optics**

They allow the photometric performance to remain constant over time.



### **SPD System**

The SPD (Surge Protective Device) technology ensures adequate protection against atmospheric or electrical surges.



### **NTC System**

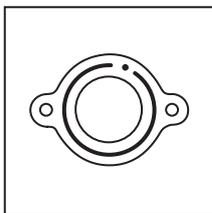
The LED module is equipped with a thermistor to prevent exceeding the expected operating temperatures.

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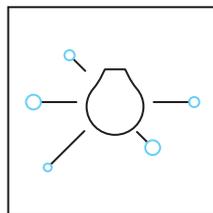
3F Manta is made with top quality components to ensure excellent performance in every aspect.

The cutting-edge technology also make 3F Manta a reliable technical solution that maintains its performance over time.

Since 1952 we have been working to facilitate the work of planners and installers, even through very strict tests that we perform in our CTFs Level 2 certified laboratories under the supervision of a recognised Third Party: 3F Manta followed strict internal protocols to minimise any faults over the longest possible period of time.



**Gasket in polyurethane**  
The watertight seal and IP66 protection rating are also guaranteed by the gaskets made of polyurethane, which is particularly resistant to weather and pollution.



**Nema Socket - Ready (Zhaga Book 18)**  
The upper part of the fixture is made ready for the installation of devices created for the creation of Smart Lighting solutions (sensors, wireless antennas, video cameras, etc.).

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## Installation and maintenance



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The 3F Filippi Team has designed and developed 3F Manta considering many technical and practical aspects.

Among these, our technicians were very attentive to installation and maintenance of the fixture in order to facilitate the installers' work, allowing them to reduce work times and operate with maximum safety.

3F Manta is available in two insulation Classes:

**Class I** - connection to the earth system is necessary and mandatory.

**Class II** - connection to the earth system is prohibited.

This version is simplified for installation in systems without the earthing system.

**Above:**

The bayonet terminal block and the anticlosure block eliminate the risk of accidents when working on the luminaire.

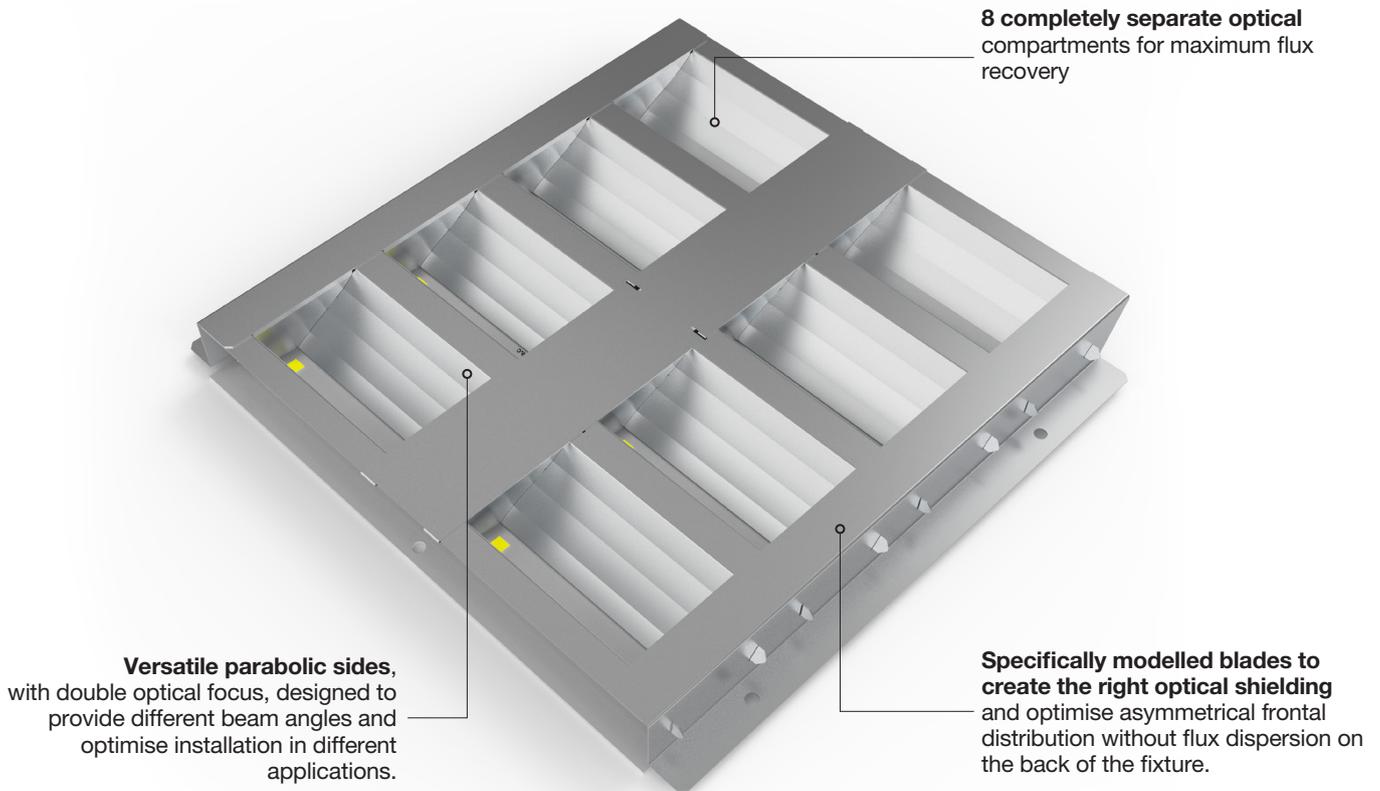
**To the right:**

The wide 40° adjustment angle allows the luminaire to be tilted based on different needs, even after installation is complete.



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## Precision optics



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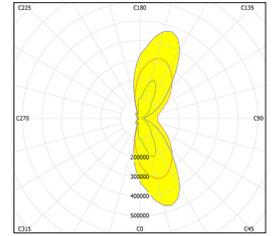
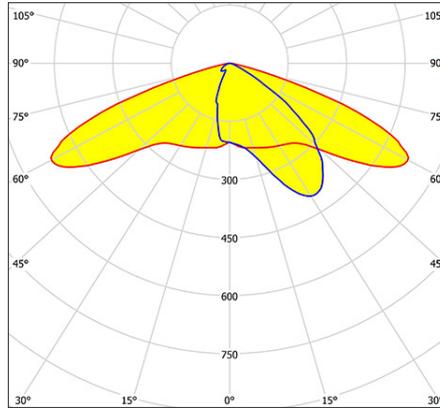
For 3F Manta we developed an ad hoc multifaceted optics, with total luminous flux recovery cells, entirely made of semi-specular high reflection aluminium with titanium and magnesium surface treatment, without iridescence and luminous contrasts.

The aluminium allows the optical performance to be maintained over time, even in the most severe weather conditions, unlike chrome elements.

In designing and creating 3F Manta, special attention was paid to the light distribution, which is perfectly controlled and guarantee the cancellation of light pollution (in compliance with current standards).

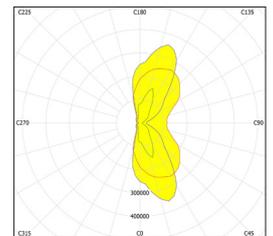
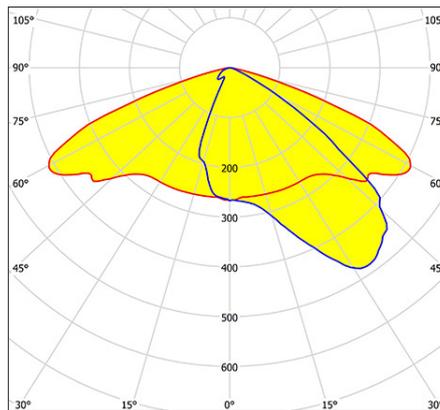
The distributions, with three different optics, are designed for lighting large spaces, meeting the depth or width requirements.

**Wide**



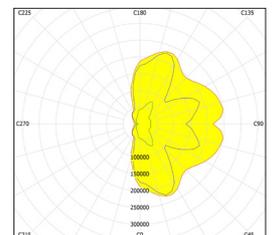
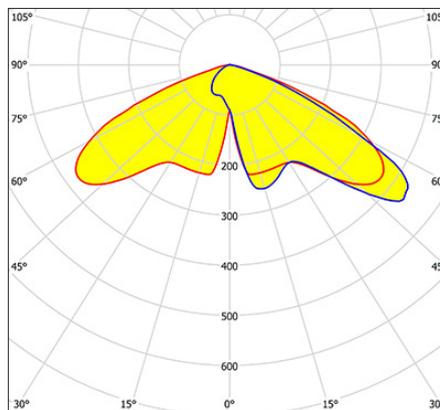
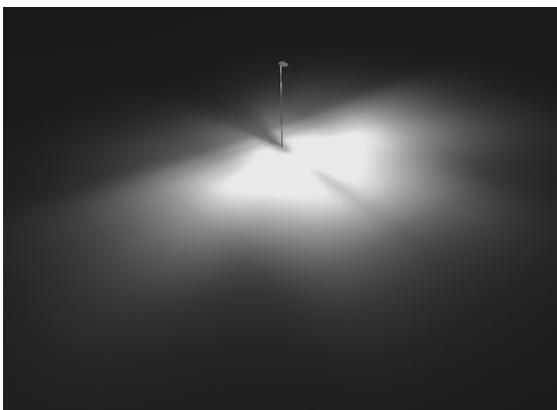
**Asymmetric Optic Front 30° - Side 60°**  
Asymmetric distribution with wide bilateral emission.

**Medium**



**Asymmetric Optic Front 40° - Side 60°**  
Asymmetric distribution with medium bilateral emission.

**Front**



**Asymmetric Optic Front 50° - Side 50°**  
Asymmetric distribution with wide bilateral and front emission.

## Work well at night



During the design phase of 3F Manta fundamental factors to support work in external areas were taken into consideration:

- correct perception of space and objects to identify possible dangers and workers working alone
- maximum light diffusion in work areas and attenuation of shadows and glare to reduce visual adaptation time when moving from lit to dark environments and vice versa

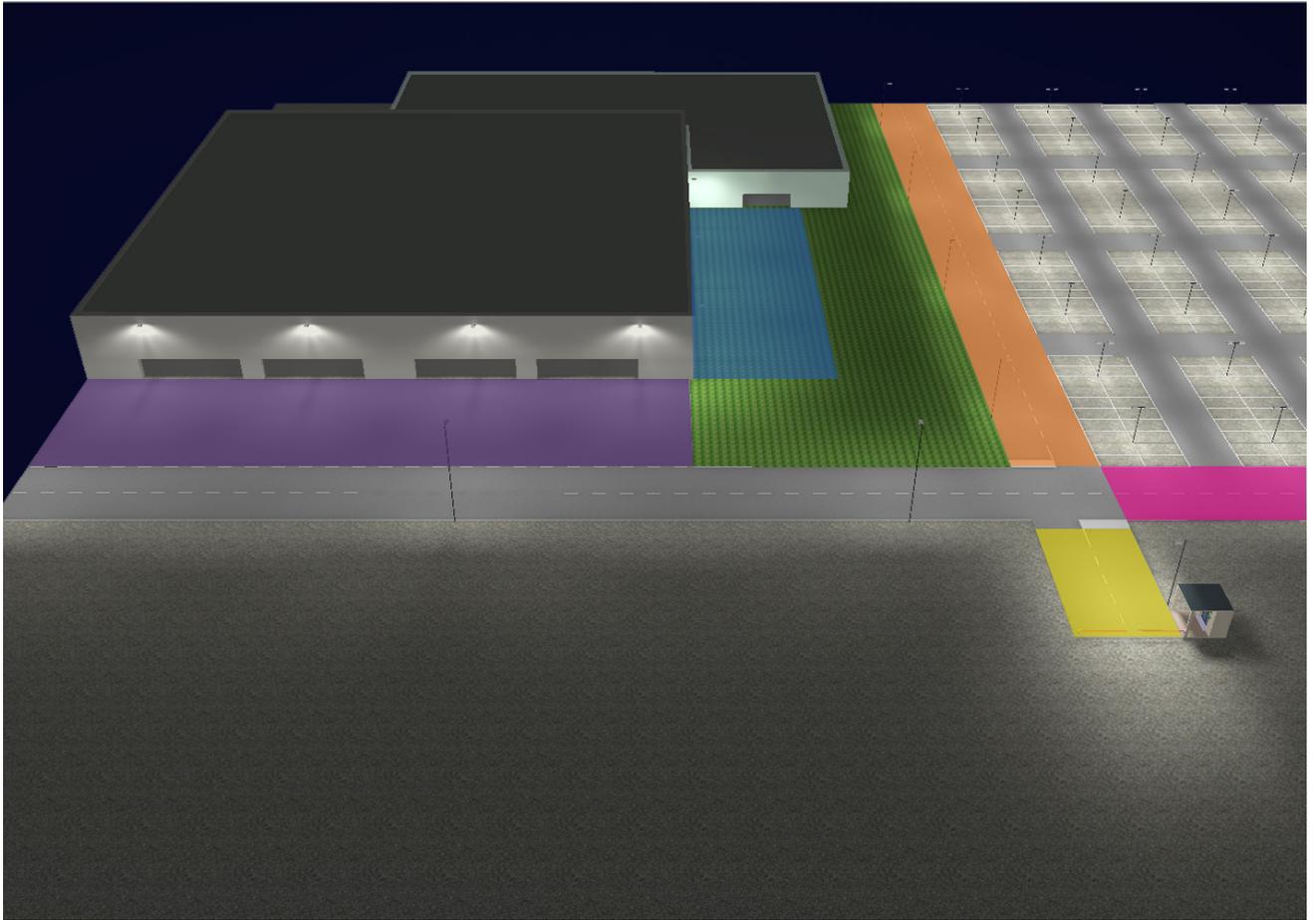
- compliance with regulations on limiting upward dispersion of luminous flux in Zone 1 (UNI 10819) and sources with temperatures of 3000K (to align ourselves with recommendations from main regional regulations)

### Under:

For this reason we equipped our fixtures with the best LED sources available with different colour rendering indexes:

CRI 70	CRI 80
roads	maintenance areas
traffic areas	vehicle loading/unloading areas
open areas	work areas with reading systems and where tools are used
car parks	passenger passage areas
	fruit and vegetable markets
	port and airport areas

## Design examples



### Loading / unloading area

Wall installation

#### **3F Manta 135/830 Wide**

Installation height 8 m

Installation spacing 20 m

Average illumination at the ground 35 lux

### Site perimeter

Pole installation

#### **3F Manta 50/830 Front**

Installation height 8 m

Installation spacing 20 m

Average illumination at the ground 10 lux

### Perimeter road

Pole installation

#### **3F Manta 75/830 Wide**

Installation height 8 m

Installation spacing 32 m

Average illumination at the ground 25 lux

### Input

Pole installation

#### **3F Manta 185/830 Medium**

Installation height 8 m

Average illumination at the ground 50 lux

### Roadway

Pole installation

#### **3F Manta 100/830 Wide**

Installation height 12 m

Installation spacing 48 m

Average illumination at the ground 20 lux

### Parking Lot

Pole installation

#### **3F Manta 50/830 Medium**

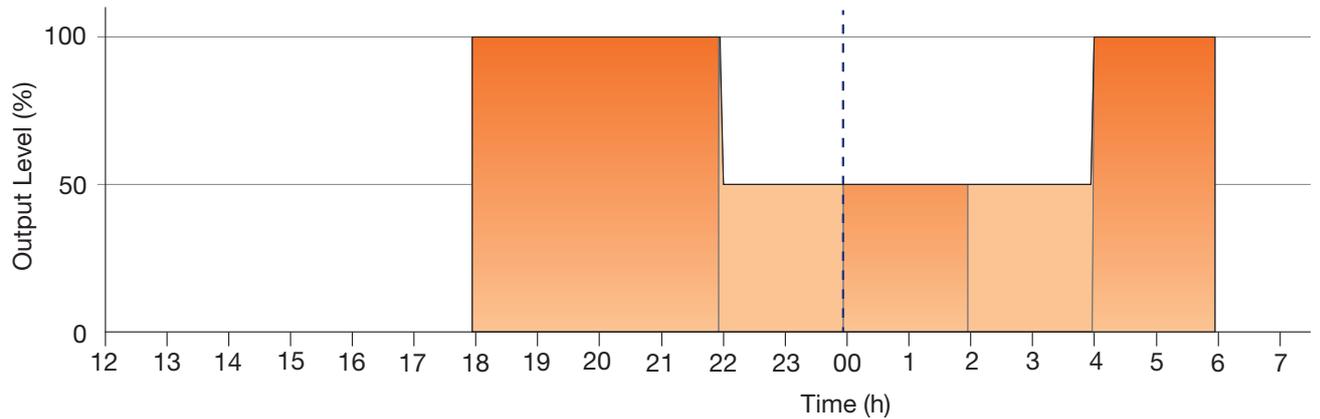
Installation height 5 m

Installation spacing 15 m

Average illumination at the ground 65 lux

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## Virtual midnight



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In order to further increase energy savings when lighting outdoor areas (and others), when the light does not need to be operating at full power, the “virtual midnight” system allows the creation of a stand-alone control of the fixtures without the need for an external control infrastructure or any change to the existing system.

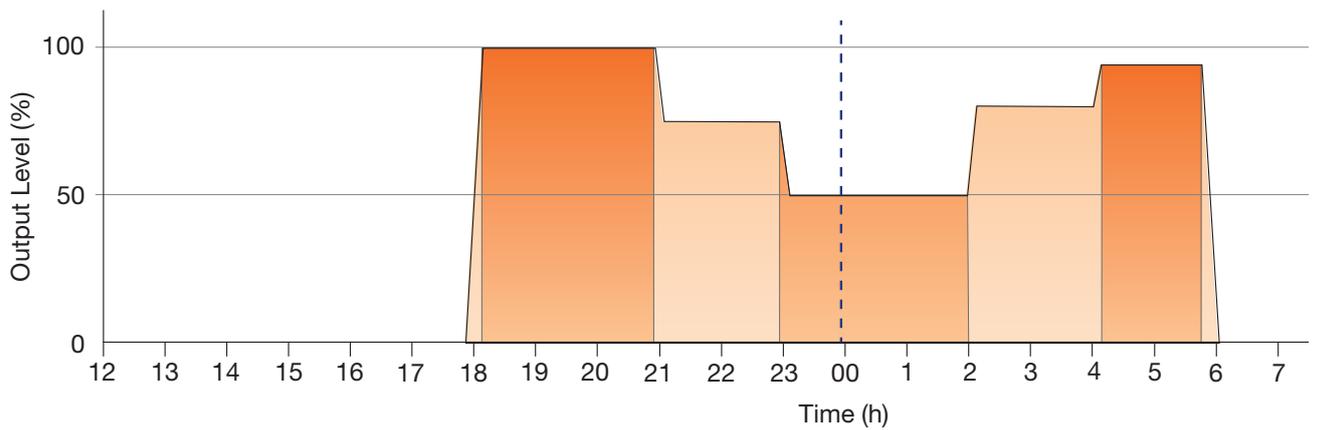
It consists of activating a multi-level power reduction on the luminaire through a self-learning process that, based on previous times when switched on or off, determines the hypothetical “virtual midnight” between when it was switched on (sunset) and off (sunrise).

“Virtual midnight” is the reference point for applying the reduction of the output power according to the selected profile.

The default setting regulates it on two power levels: 100% and 50%.

**Above:**

A microprocessor calculates the reduction time starting from “virtual midnight”. The default setting calls for 2 hours before and 4 hours after “virtual midnight” as follows:



The system allows the implementation of customised adjustment profiles (optionals to be requested specifically during the order process), which allow even greater control flexibility.

In fact, it is possible to:

**1.** Set the output levels in an interval between 10% and 100%, with 1% increases divided over 5 different time intervals.

**2.** Create the passage from one adjustment level to the next by means of a fade with a programmed duration.

**3.** Switch the light on and off through a fade. This function allows further energy savings during the twilight stages.

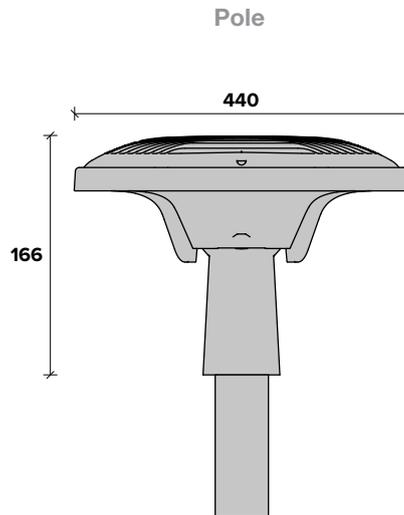
**4.** Activate an adjustments that also takes into account the sunrise and sunset in the location described by the geographic coordinates in order to further optimise the power reduction periods.

**Above:**

The graph below shows an example of a programming profiles that summarizes the possibilities described in points 1, 2, and 3.

### 3F Manta

Pole  
installation



3F HD  
3F HD R  
Direct Emission



Wide



Medium

Insulation classes

Class I | Class II

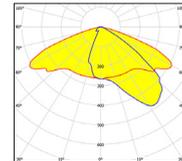
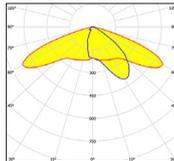
Protection class

IP66

Mechanical strength  
to impact

IK08

Photometric  
distribution

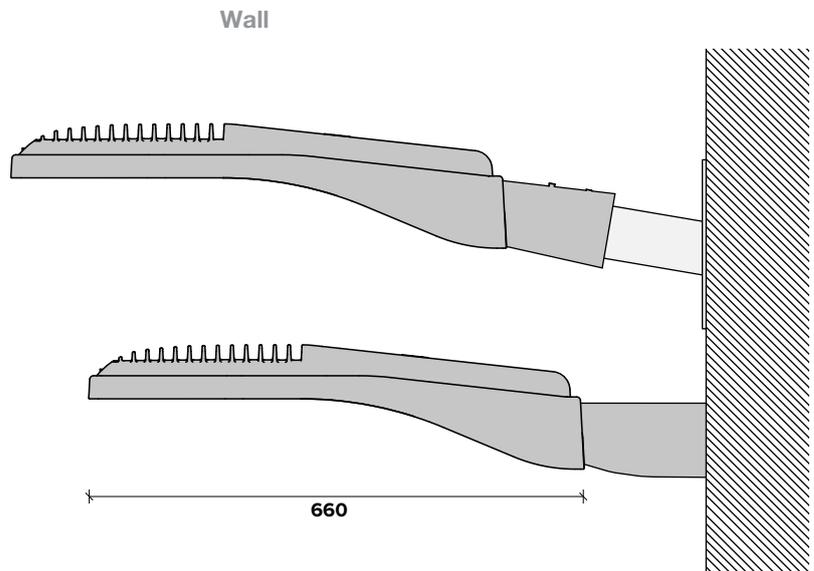


## 3F Manta

Wall  
installation

(Acc. A01479)

(Acc. A01480)



3F HD  
Direct / Indirect  
Emission



Front

Insulation classes

Class I | Class II

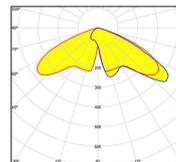
Protection class

IP66

Mechanical strength  
to impact

IK08

Photometric  
distribution





# 3F Manta

## Construction characteristics

### Illuminotechnical characteristics

Asymmetric distribution with frontal, wide or medium bilateral.

No higher ULOR emission.

Lifetime (L93/B10): 30000 h. (tq+25°C)

Lifetime (L90/B10): 50000 h. (tq+25°C)

Lifetime (L85/B10): 80000 h. (tq+25°C)

Lifetime (L80/B10): 100000 h. (tq+25°C)

Photobiological safety in compliance with IEC/TR 62778: RG0 risk exempt, (IEC 62471)

### Mechanical characteristics

Aerodynamically-shaped die-cast aluminium double-shell body for low wind resistance, equipped with fins to optimize the cooling of the internal components.

Shell closure using stainless steel screws on stainless steel bushings, with hinged opening for easy access to the wiring compartment, equipped with system against accidental closure.

Polyester powder coating with degreasing pre-treatment and phosphate layer deposit on the metal, UV stabilised, corrosion resistant, anthracite colour, salt spray resistance ISO 9227 >1000 h.

Parabolic cellular optics with total recovery, entirely made of semi-specular high reflection aluminium with titanium and magnesium surface treatment, to maintain optical performance over time.

Polyurethane foam seals, ecological, anti-aging, installed using a continuous automatic process with no joints.

VT extra transparent tempered glass diffuser, 4 mm thick, non-combustible.

Stainless steel internal and external screws.

### Electrical characteristics

In compliance with EN 60598-1, EN 60598-2-3.

Flicker: <10%.

Safety break switch to shut off the power supply when opening the device.

SPD type 2+3 (combined) device to protect against voltage surges up to 10 kV in common and differential mode.

Thermal protection of the LED module via NTC sensor (Negative Temperature Coefficient).

M20x1.5 IP68 nylon cable gland for feeding input (cables with an min-max diameter 6-13mm).

Pressure compensating valve with anti-condensation effect.

### Source characteristics

- Squared LED module with special protection against aggressive chemically-volatile substances, for standard LED technology.
- Colour initial tolerance (MacAdam): SDCM 5.

## On request

- different power levels, colour rendering indices and colour temperatures
- wiring: DALI, CLO D1-10V, Wireless

- Customised Virtual Midnight up to 5 independent intervals / levels
- watertight socket / plug connectors

## Applications

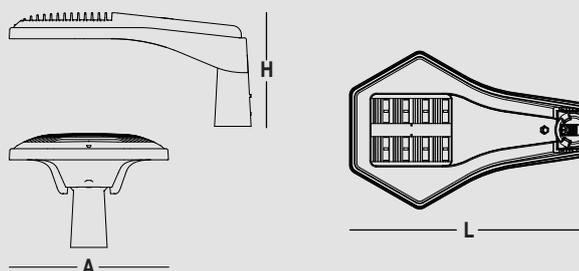
Ambient temperature from -30°C to +45°C. Outdoor environments, general lighting, work and roadway lighting, transit areas and building perimeters, parking lots, trade fairs.

Control of light pollution, in accordance with the legislative requirements in force.

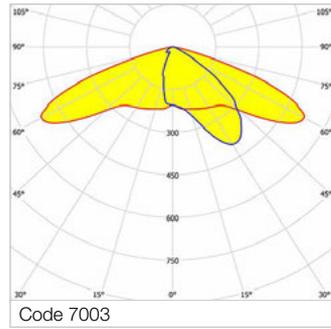
## Installation

Pole or wall mounted using always necessary accessories

Dimensions



## 3F Manta Wide



Asymmetric distribution with wide bilateral.

**This model is available in two different Protection Classes against electric shock**

Code	Item	Absorbed power (W)	Output flux (lm)	CCT (K)	CRI	Dimensions L x A x H
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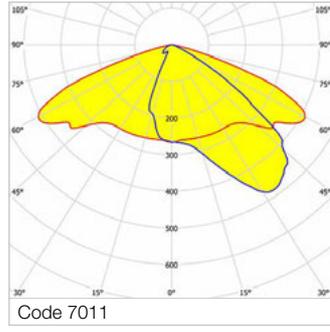
### Class I - ON/OFF electronic wiring 230V-50/60Hz

7001	3F Manta AN 50/730 WIDE	52	6950	3000	>70	660x440x166
7002	3F Manta AN 75/730 WIDE	77	9717	3000	>70	660x440x166
7003	3F Manta AN 100/730 WIDE	101	13101	3000	>70	660x440x166
7004	3F Manta AN 135/730 WIDE	147	17458	3000	>70	660x440x166
7022 <sup>NEW</sup>	3F Manta AN 50/830 WIDE	52	6227	3000	>80	660x440x166
7023 <sup>NEW</sup>	3F Manta AN 75/830 WIDE	77	8707	3000	>80	660x440x166
7024 <sup>NEW</sup>	3F Manta AN 100/830 WIDE	101	11738	3000	>80	660x440x166
7025 <sup>NEW</sup>	3F Manta AN 135/830 WIDE	147	15642	3000	>80	660x440x166

### Class II - ON/OFF electronic wiring 230V-50/60Hz

7026 <sup>NEW</sup>	3F Manta AN 50/730 II WIDE	52	6950	3000	>70	660x440x166
7027 <sup>NEW</sup>	3F Manta AN 75/730 II WIDE	77	9717	3000	>70	660x440x166
7028 <sup>NEW</sup>	3F Manta AN 100/730 II WIDE	101	13101	3000	>70	660x440x166
7029 <sup>NEW</sup>	3F Manta AN 135/730 II WIDE	147	17458	3000	>70	660x440x166
7030 <sup>NEW</sup>	3F Manta AN 50/830 II WIDE	52	6227	3000	>80	660x440x166
7031 <sup>NEW</sup>	3F Manta AN 75/830 II WIDE	77	8707	3000	>80	660x440x166
7032 <sup>NEW</sup>	3F Manta AN 100/830 II WIDE	101	11738	3000	>80	660x440x166
7033 <sup>NEW</sup>	3F Manta AN 135/830 II WIDE	147	15642	3000	>80	660x440x166

# 3F Manta Medium



960°C

IP66

5J

IK08

Asymmetric distribution with medium bilateral.  
**This model is available in two different Protection Classes against electric shock**

Code	Item	Absorbed power (W)	Output flux (lm)	CCT (K)	CRI	Dimensions L x A x H
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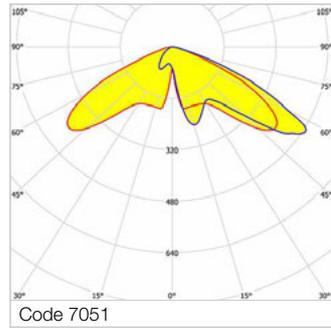
### Class I - ON/OFF electronic wiring 230V-50/60Hz

7009	3F Manta AN 50/730 MEDIUM	52	6912	3000	>70	660x440x166
7010	3F Manta AN 75/730 MEDIUM	77	9663	3000	>70	660x440x166
7011	3F Manta AN 100/730 MEDIUM	101	13028	3000	>70	660x440x166
7012	3F Manta AN 135/730 MEDIUM	147	17360	3000	>70	660x440x166
7020	3F Manta AN 185/730 MEDIUM	195	22451	3000	>70	660x440x166
7035 <sup>NEW</sup>	3F Manta AN 50/830 MEDIUM	52	6193	3000	>80	660x440x166
7036 <sup>NEW</sup>	3F Manta AN 75/830 MEDIUM	77	8658	3000	>80	660x440x166
7037 <sup>NEW</sup>	3F Manta AN 100/830 MEDIUM	101	11673	3000	>80	660x440x166
7038 <sup>NEW</sup>	3F Manta AN 135/830 MEDIUM	147	15555	3000	>80	660x440x166
7039 <sup>NEW</sup>	3F Manta AN 185/830 MEDIUM	195	20116	3000	>80	660x440x166

### Class II - ON/OFF electronic wiring 230V-50/60Hz

7040 <sup>NEW</sup>	3F Manta AN 50/730 II MEDIUM	52	6912	3000	>70	660x440x166
7041 <sup>NEW</sup>	3F Manta AN 75/730 II MEDIUM	77	9663	3000	>70	660x440x166
7042 <sup>NEW</sup>	3F Manta AN 100/730 II MEDIUM	101	13028	3000	>70	660x440x166
7043 <sup>NEW</sup>	3F Manta AN 135/730 II MEDIUM	147	17360	3000	>70	660x440x166
7044 <sup>NEW</sup>	3F Manta AN 185/730 II MEDIUM	195	22451	3000	>70	660x440x166
7045 <sup>NEW</sup>	3F Manta AN 50/830 II MEDIUM	52	6193	3000	>80	660x440x166
7046 <sup>NEW</sup>	3F Manta AN 75/830 II MEDIUM	77	8658	3000	>80	660x440x166
7047 <sup>NEW</sup>	3F Manta AN 100/830 II MEDIUM	101	11673	3000	>80	660x440x166
7048 <sup>NEW</sup>	3F Manta AN 135/830 II MEDIUM	147	15555	3000	>80	660x440x166
7049 <sup>NEW</sup>	3F Manta AN 185/830 II MEDIUM	195	20116	3000	>80	660x440x166

## 3F Manta Front



960°C

IP66

5J

IK08



Asymmetric distribution with deep bilateral.

**This model is available in two different Protection Classes against electric shock**

Code	Item	Absorbed power (W)	Output flux (lm)	CCT (K)	CRI	Dimensions L x A x H
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### Class I - ON/OFF electronic wiring 230V-50/60Hz

7051 <sup>NEW</sup>	3F Manta AN 50/730 FRONT	52	7242	3000	>70	660x440x166
7052 <sup>NEW</sup>	3F Manta AN 75/730 FRONT	77	10266	3000	>70	660x440x166
7053 <sup>NEW</sup>	3F Manta AN 100/730 FRONT	101	12830	3000	>70	660x440x166
7054 <sup>NEW</sup>	3F Manta AN 135/730 FRONT	147	15913	3000	>70	660x440x166
7055 <sup>NEW</sup>	3F Manta AN 50/830 FRONT	52	6474	3000	>80	660x440x166
7056 <sup>NEW</sup>	3F Manta AN 75/830 FRONT	77	9177	3000	>80	660x440x166
7057 <sup>NEW</sup>	3F Manta AN 100/830 FRONT	101	11969	3000	>80	660x440x166
7058 <sup>NEW</sup>	3F Manta AN 135/830 FRONT	147	14226	3000	>80	660x440x166

### Class II - ON/OFF electronic wiring 230V-50/60Hz

7059 <sup>NEW</sup>	3F Manta AN 50/730 II FRONT	52	7242	3000	>70	660x440x166
7060 <sup>NEW</sup>	3F Manta AN 75/730 II FRONT	77	10266	3000	>70	660x440x166
7061 <sup>NEW</sup>	3F Manta AN 100/730 II FRONT	101	12830	3000	>70	660x440x166
7062 <sup>NEW</sup>	3F Manta AN 135/730 II FRONT	147	15913	3000	>70	660x440x166
7063 <sup>NEW</sup>	3F Manta AN 50/830 II FRONT	52	6474	3000	>80	660x440x166
7064 <sup>NEW</sup>	3F Manta AN 75/830 II FRONT	77	9177	3000	>80	660x440x166
7065 <sup>NEW</sup>	3F Manta AN 100/830 II FRONT	101	11969	3000	>80	660x440x166
7066 <sup>NEW</sup>	3F Manta AN 135/830 II FRONT	147	14226	3000	>80	660x440x166

## 3F Manta | Accessories



Pole mount in die-cast aluminium with the same paint treatment as the body (for Ø 60 mm and Ø 76 mm poles) equipped with special teeth for adjusting the inclination on the head of the device by  $\pm 20^\circ$  with an adjustment pitch of  $5^\circ$ . Possibility of installing on vertical pole (pole head) and horizontal pole (arm). Mounting on the device using the supplied stainless steel screws on self-locking stainless steel nuts.

Code	Item
A0439	Pole mounting diameter 60mm
A0440	Pole mounting diameter 76mm

Not suitable for fixing on fibreglass pole.



Reducer in galvanized steel, suitable for poles with a diameter of 76 mm.

Code	Item
A0441 <sup>NEW</sup>	Reducer from 76 mm to 60 mm

To install this accessory, it is always necessary to use the pole connection code A0439.



Galvanized steel bracket for fixing on flat facades. 3 mm thick and 200 mm long arm. Powder coated polyester paint, anthracite colour. This bracket DOES NOT allow adjustment of the inclination of the product.

Code	Item
A01480	Fixed position wall bracket

Options on request: painting in different RAL colour.



Galvanized steel bracket for fixing on flat facades. Arm length 250 mm, diameter 60 mm, inclination of  $15^\circ$ . This bracket allows adjustment of the inclination of the product.

Code	Item
A01479	Wall bracket $15^\circ$ diam 60mm

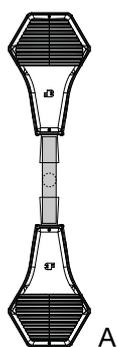
To install this accessory, it is always necessary to use the pole connection code A0439. Options on request: painting in RAL colours / 500 mm outreach / horizontal pole.



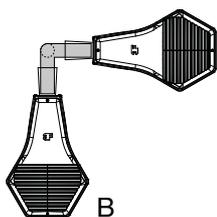
Galvanized steel bracket for fixing on the corner between facades. Arm length 250 mm, diameter 60 mm, inclination of  $15^\circ$ . This bracket allows adjustment of the inclination of the product.

Code	Item
A01481	Corner wall bracket $15^\circ$ diam 60mm

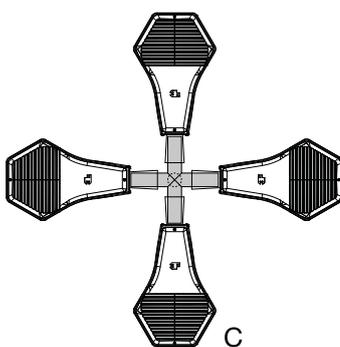
To install this accessory, it is always necessary to use the pole connection code A0439. Options on request: painting in RAL colours / 500 mm outreach / horizontal pole.



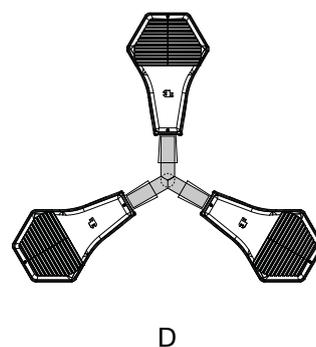
A



B



C



D

If you require more information, do not hesitate to contact our Sales Network or our Technical Offices.

# 3F Filippi

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**Head Office and factory**

Via del Savena, 28  
Zona Industriale "Piastrella"  
Pian di Macina  
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