

DATASHEET LED FLOODLIGHT

# LED AREA LIGHTING AL-xxx Family Gen6

1375 W – Dimmable and Controllable



## TYPICAL APPLICATIONS

The ALxxx family AAA-LUX LED luminaires are suitable for illuminating large industrial areas on masts of 12 to 60 meters high. The luminaires can be a retrofit replacement for the current 1 to 2 kW Metal Halide or High Pressure Sodium floodlights.

The ALxxx family contains 5 LED luminaire types for the various applications. In this datasheet the AL60, AL90 and AL180series will be described. The AL360series and AL700series will be described in a separate datasheet. These luminaires can be controlled via the wireless proprietary LEDxLINK protocol. This protocol is part of AAA-LUX' Lighting Control Management System. This control system is designed to bring the user ease of use, as it will also bring remote management features.

Typical applications for the ALxxx family are in industrial large areas like:

- Parking places e.g. large parkings at airports
- Port terminals, e.g. coal and container terminals
- Train marshalling yards
- Airport aprons
- Industrial 24/7 plants

Light spill shields are available for harsher light pollution environment.

More information on [www.AAA-LUX-lighting.com](http://www.AAA-LUX-lighting.com)



## FEATURES AND BENEFITS

Feature	Benefit
Better light <ul style="list-style-type: none"> <li>• Superior color rendering</li> <li>• Improved light uniformity</li> </ul>	Improvement of visual tasks <ul style="list-style-type: none"> <li>• Improved safety</li> <li>• Increased productivity</li> </ul>
True retrofit <ul style="list-style-type: none"> <li>• Direct connection to 400 VAC</li> <li>• Same size and weight</li> </ul>	Easy replacement <ul style="list-style-type: none"> <li>• Fits on existing masts</li> <li>• No extra installation costs</li> </ul>
Wireless Lighting Control Management System <ul style="list-style-type: none"> <li>• Central monitoring and control</li> <li>• Freedom of installation of sensor and luminaires</li> </ul>	Easy to control – Flexible <ul style="list-style-type: none"> <li>• Monitor and adjust power consumption</li> <li>• Plan efficient maintenance</li> </ul>
Significant Energy Saving <ul style="list-style-type: none"> <li>• No start-up time needed</li> <li>• Dimming reduces power consumption</li> </ul>	Short ROI <ul style="list-style-type: none"> <li>• Based on power consumption reduction</li> <li>• No relamping costs</li> </ul>
Long lifetime	No relamping costs Increase system up-time
High efficient optics <ul style="list-style-type: none"> <li>• Illuminate what is needed</li> <li>• Increase system efficiency</li> </ul>	Less power needed for same lighting level Reduction of stray light

## DESCRIPTION

The AL90, AL60 and AL180 series are a true retrofit for existing Metal Halide and High Pressure Sodium fixtures. The white light is perceived as daylight, which enhances the safety in the area.

The AAA-LUX propriety Lighting Control Management System (LCMS) can wireless switch and dim the luminaires. In absence of a LCMS, the luminaires switch on at 100%. The product is equipped with high-quality LED's and optics. The 8 light beams are configured such that the surface is uniformly illuminated. The high quality optics produce very little stray light at the same time.

The integrated electronic power supply has a high efficiency (more than 95%), and a power factor (PF) above 0.95.

With the absence of inrush current, the electrical installation can be designed at nominal current, saving significant cabling costs in case of new build installations (EN50525). Or more light can be created with the same power.

All materials used are suitable for outdoor use, even in harsh conditions. The LED luminaire is particularly suitable for container terminals, industrial sites, parking lots, airport terminals and train facilities.

The product has a long lifetime and a high reliability. The significant energy reduction enables a short return on investment period.

## TECHNICAL DATA

### All models

Specification	Min	Type	Max	Unit
Voltage input	370	400*	430	VAC
Power factor @20%-100%	0.90	0.98		
Frequency	45		60	Hz
Standby power		5		W
Color temperature		5200		K
Color rendering index	70	80		
Weight		22		kg
Ingress protection		IP65		
Electrical insulation class		I		
Frontal surface AL60 (tilt)		0.23 (15°) Cw=1		m2
Frontal surface AL90 (tilt)		0.25 (15°) Cw=1		m2
Frontal surface AL180 (tilt)**		0.29 (15°) Cw=1	0.33 (30°) Cw=1	m2
Expected lifetime @ T <sub>amb</sub> =25°C		60 000	100 000	hrs

### Per model

Specification	Min	Type	Max	Unit
Power consumption @100 %				
Standard		1375	1425	W
High Temperature		1200	1250	W
Current		@400VAC	@375VAC	
Standard		3.5	3.9	A
High Temperature		3.2	3.5	A
Operating Temperature***				
Standard - Heavy Duty	-20		40	°C
High Temperature	-20		50	°C
Luminous efficacy				
Standard	103.3	113.1	159.9	lm/W
High Temperature	114.1	117.2	159.9	lm/W

\* 230VAC also available

\*\* Windage on AL180 at 30° is worst case

\*\*\* Absolute maximum temperature is 60°C; at high temperatures automatic dimming can occur to protect the product

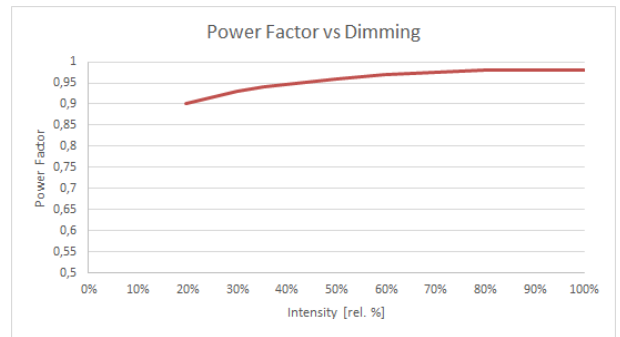
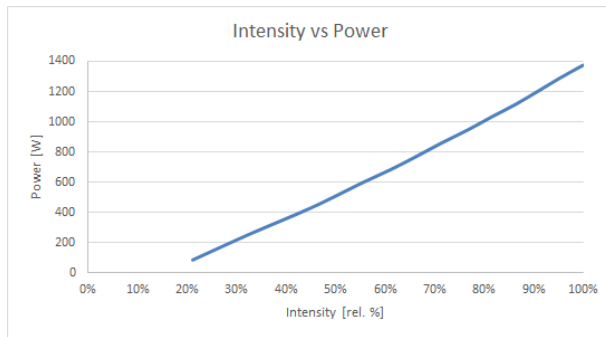
## LIGHT TECHNICAL INFORMATION AND DIMMING-POWER RATIOS

*Polar intensity diagram and dimming-power ratios*

The ALxxx family of products are available in narrow (AL6005), medium (AL9005) and wide beam (AL1805) to accommodate for area size and mast height. For light planners, example light plans are available from AAA-LUX upon request. The lumen output and power consumption ratio of these luminaire types, are as follows.

	LUMINAIRE TYPE	
	STAND	HT
AL6005	149774	136888
AL9005	149774	136888
AL1805	142472	130685

*Luminous flux per type in lm based on DEKRA LM-79 measurement*

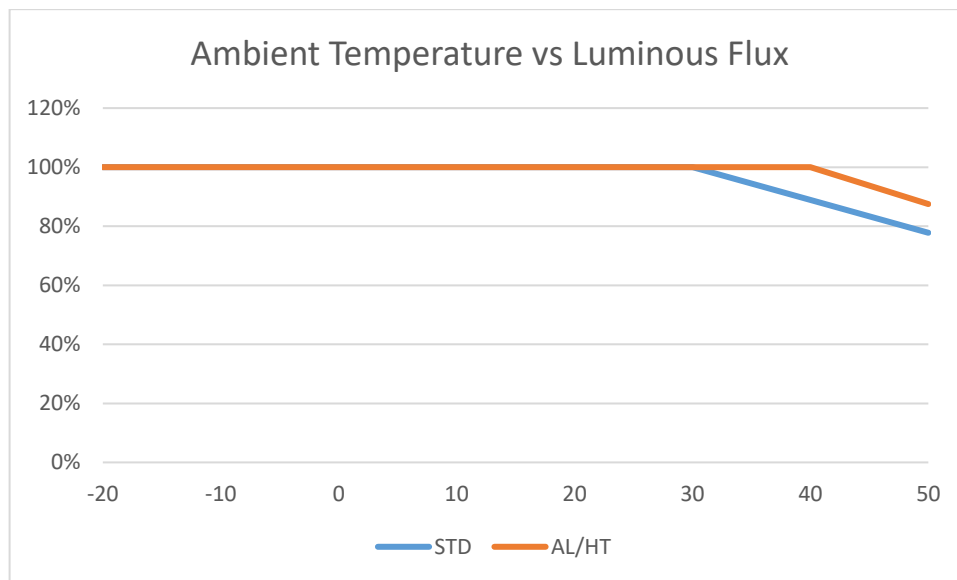


*Power consumption versus dimming ratio and power factor (PF) vs dimming*

## DERATING

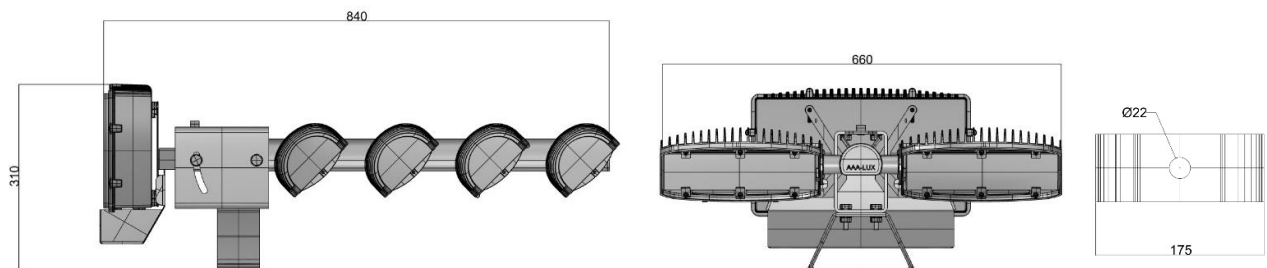
The AAA-LUX Gen.6 is tested according to ANSI/UL1598 ISTM (In Situ Temperature Measurement). The built-in temperature protection dims the luminaire automatically, based on the ambient temperature.

The graph below shows the maximum luminous output for the different products per ambient temperature and wind still weather conditions. When the product is already dimmed with the LCMS control system, the temperature protection dims only when this dim level is lower than the set dim level.



## MECHANICAL

Dimensions for reference: 660 x 310 x 840 (in mm)



CE marking is applicable  
 Gland dimensions incoming supply voltage wire: M25

Cable diameter acceptance 10 – 14mm  
 Underslung mounting possible – see manual

## PRODUCT COLOR

All models have a dark gray powder coating which is as reference RAL7015/Pantone 446C

## ORDERING CODE SYSTEM

Application	Light distribution	Ver.	Input voltage	Option
AL	ALxx	x	- x	xx

Application	Light distribution	Ver.	Input voltage	Option
AL	AL1	6	4 = 400VAC	= standard
	AL2		2 = 230VAC	MP = max. power
	AL3			HT = high temp

## DESCRIPTION OPTIONS

### Standard:

- STD luminaires are designed for an average ambient temperature of 30 degrees. Although the STD can handle high temperature up to 40 degrees, it is recommended to switch to HT version in case during normal operating hours the ambient temperature is regularly above 30 degrees in combination with wind still weather.

Lifetime can only be assured when the system prohibits the luminaires working during daytime (not designed to operate in full sun load).

- All sensitive bolts, nuts, washers and mounting clips are made of Stainless Steel
- Light sources are made of corrosion resistive aluminum with low copper content

### Maximum power:

- Product is optimized for maximum luminous flux (lm) instead of optimal efficacy (lm/W) and cannot be combined with High Temperature option

### High temperature

- Product is designed for high temperature environments and cannot be combined with Maximum Power option.

## ACCESSORIES

Light spill shield	These shields can be used to further reduce light pollution. They can be placed on the individual light beams of the LED luminaire. See TP15.
Aiming visor	The use of the aiming visor is as a tool for the installation of the LED luminaire
All LCMS components like Touchscreen, Control Box, Switchbox, etc.	

#### SAFETY

Before installation read the user manual carefully. Installation is only authorized to trained professionals.

Make sure that everyone working with the product during installation is known with the content of the user manual.

#### PROTECTIONS – TEMPERATURE and VOLTAGE

The LED luminaires contain a sophisticated over-temperature protection. In case of a high ambient temperature and/or sunlight the luminaire automatically dims to a lower light output.

With a supply voltage higher than 440 VAC the LED luminaire will switch off completely.

With a supply voltage lower than 360 VAC the LED luminaire will switch off.

#### MAINTENANCE

Maintenance is not needed throughout the lifetime of the product, except cleaning and safety inspection of the product.

#### 400V ELECTRICAL VOLTAGE

During installation the 400V is connected and disconnected via a connection box, with connections for PE (protective earth) and 2-phases.

See user manual for more details.

The product contains an electronic switch mode power supply.

In case of a non-functioning product, high voltages can still be on the power supply even after being disconnected from mains. Also a, by software, fully dimmed product will not emit any light and still can be connected to 400V.

400V is considered as life threatening voltage and opening of the electronic driver box is only allowed at an AAA-LUX certified repair center. All other situations voids warranty and can cause life threatening situations.

#### PATENTS

The product is protected by European patent(s)

#### COMPLIANCY TO STANDARDS

Safety

IEC 62031:2008 (1st edition) (LED Modules Safety Specifications)

EN 60598-1 and EN 60598-2-1 (Luminaire safety)

EN61000-6-4, EN55015:2008 (Generic Emission)

EN61000-3-2: 2000 (Harmonics)

EN61000-6-2: 2001 (Generic standard immunity)

Corrosion

- DIN 50021 NSS
- DIN 50018 SWF 2.0
- NFT 30.055 2 liter SO2

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The information might be subject to change without prior warning.

*Made in the Netherlands*

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