

Armonia 1

Armonia 2

ARMONIA LED TRIO

MAIN CHARACTERISTICS

Applications	Urban and street lighting.
Optic	STU-M/S: Asymmetrical optic for street lighting (urban). STE-M/S: Asymmetrical optic for street lighting (extraurban). STW: Asymmetrical optic for wide roads and wet asphalts lighting. S05: Asymmetrical optic for urban and street lighting. Colour temperature: 4000K (3000K, 5700K optional) CRI ≥ 70 Photobiological safety class: EXEMPT GROUP LED source efficiency: 168 lm/W @ 525mA, Tj=85°C, 4000K
Insulation class	II, I
Protection degree	IP66 IK08 Total
Tilt angle	0°
Mounting	Installation on brackets MA - MK/S - MP - MG (1/2" GAS)
Gear tray	Removable
LED modules	Removable/Replaceable
Dimensions and weight	Armonia 1: Ø626x227mm – 11Kg Armonia 2: Ø626x334mm – 11.5Kg
Side surface	Armonia 1: 0.9m ² Armonia 2: 0.14m ²
Top surface	0.31m ²
Operating temperature	-40°C / +50°C (525mA), -40°C / +35°C (700mA)
Storage temperature	-40°C / +80°C
Main reference standards	EN 60598-1, EN 60598-2-3, EN 62471 EN 55015, EN 61547, EN 61000-3-2, EN 61000-3-3



ELECTRICAL CHARACTERISTICS

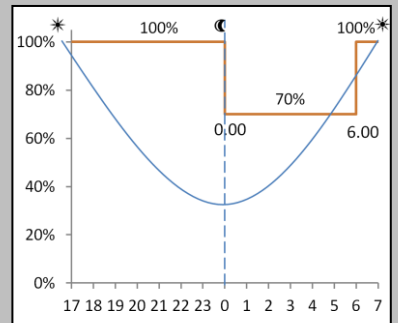
Rated voltage	220÷240V 50/60Hz
LED current	525mA , 700mA
Power factor	>0,9 (at full load)
On-load switch	Included, with integrated cable clamp.
Mains connection	Connector for cables max section 4mm ²
Surge protection	SPD integrated 10kV-10kA, type II, with LED signal and thermo fuse to disconnect load at the end of life.
Control system	F: Fixed power not dimmable. (Base version) DA: Automatic dimming (virtual midnight) with default profile. DAC: Custom DA profile. PLM: Power Line single point communication system.
Optical unit lifetime (Tq=25°C, 700mA)	>100.000hr L90B10 >100.000hr L90, TM-21

MATERIALS

Fixing	Aluminum powder painted.
Body	Aluminum powder painted.
Heatsink	Extruded aluminum.
Lower frame	Die-cast aluminum UNI EN 1706 powder painted.
Optic	99.85% aluminum with a surface finish in 99.95% with vacuum-sealed deposition. Aluminum grade class A+ (DIN EN 16268)
Screen	Flat tempered glass, 4mm thickness high transparency.
Gasket	EPDM
Colour	Graphite (Cod. 01)

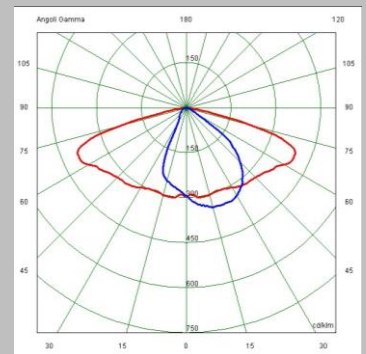
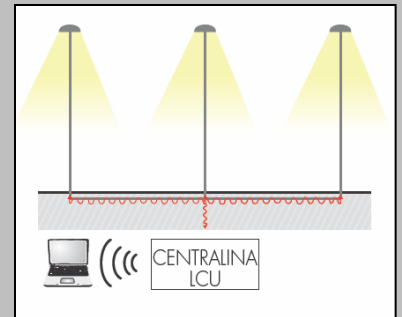


DA Profile



Other dimming profile through DAC version

PLM



STU-M Optic

All the published photometrical data has been obtained according to EN 13032-1





LUMINAIRE	LED Current (mA)	OPTICS	RATED LUMINAIRE FLUX ¹ (Tq=25°C, 4000K, lm)	RATED LUMINAIRE POWER ¹ (Tq=25°C, Vin=230Vac, F / DA / DAC, W)	LUMINAIRE EFFICACY (Tq=25°C, lm/W)	RATED LED FLUX ² (Tj=85°C, 4000K, lm)	RATED LED POWER ² (Tj=85°C, W)
ARMONIA 0F2H1 4.50-1M	525	STU-S STU-M S05	1760	15	117	2074	12
ARMONIA 0F2H1 4.5-2M			3620	30,5	119	4369	26
ARMONIA 0F2H1 4.5-3M			5420	44	123	6553	39
ARMONIA 0F2H1 4.5-4M			7010	57	123	8737	53
ARMONIA 0F2H1 4.7-1M	700	STU-S STU-M S05	2370	21,5	110	2765	18
ARMONIA 0F2H1 4.7-2M			4630	40	116	5530	36
ARMONIA 0F2H1 4.7-3M			6890	58	119	8295	53
ARMONIA 0F2H1 4.7-4M			8810	76	116	11060	71
ARMONIA 0F3 4.50-1M	525	STE-S STE-M STW	2460	20,5	120	2801	17
ARMONIA 0F3 4.5-2M			5060	39	130	5901	35
ARMONIA 0F3 4.5-3M			7340	57	129	8852	53
ARMONIA 0F3 4.5-4M			9750	76	128	11803	70
ARMONIA 0F3 4.7-1M	700	STE-S STE-M STW	3200	28	114	3735	24
ARMONIA 0F3 4.7-2M			6400	52	123	7470	47
ARMONIA 0F3 4.7-3M			9230	76	121	11205	71
ARMONIA 0F3 4.7-4M			12300	102	121	14940	95

The tables above describe the flux and output power of the available versions. These parameters are necessary in order to guarantee a correct comparison of the luminaire performance. In particular, the luminaire efficiency (expressed in lm/W) must be calculated as the ratio between the output luminous flux of the luminaire and the power absorbed by the input power supply unit. For the sake of completeness the tables also show the data of the nominal flux and power of the used LED.

Note: 1: Rated data obtained in laboratory | 2: Rated data extrapolated from LED manufacturer datasheet.

Multiplier to obtain flux and power in function of Tq		
Tq (°C)	Flux multiplier	Power multiplier
50	0,94	0,99
40	0,96	-
25	1	1
15	1,02	-
5	1,05	-
0	1,05	1,01

Multiplier to obtain flux and power in function of Tk		
Tk (K)	Flux multiplier	Power multiplier
3000	0,88	1
4000	1	1
5700	1,02	1
CRI		Power multiplier
70	1	1
80	0,8	1,01

The characteristics of the product listed above are subjected to change without notice. They will have to be confirmed in case of order. Values indicated in this technical sheet are to be considered rated values subject to a tolerance of +/-5%.

LUMINAIRE	LED Current (mA)	OPTICS	INRUSH CURRENT Duration 50%pk (µs)	INRUSH CURRENT Peak (A)	MCB B-Type 10A / 16A / 25A	MCB C-Type 10A / 16A / 25A	SURGE PROTECTION CL.I (CM / DM, kV)	SURGE PROTECTION CL.II (CM / DM, kV)
ARMONIA 0F2H1 4.50-1M	525	STU-S STU-M S05	360	15	14 / 23 / 35	23 / 39 / 59	10 / 10	7 / 10
ARMONIA 0F2H1 4.5-2M			250	30	10 / 17 / 28	17 / 28 / 44	10 / 10	9 / 10
ARMONIA 0F2H1 4.5-3M			230	55	7 / 12 / 20	12 / 20 / 32	10 / 10	9 / 10
ARMONIA 0F2H1 4.5-4M			230	55	7 / 12 / 20	12 / 20 / 32	10 / 10	9 / 10
ARMONIA 0F2H1 4.7-1M	700	STU-S STU-M S05	360	15	14 / 23 / 35	23 / 39 / 59	10 / 10	7 / 10
ARMONIA 0F2H1 4.7-2M			250	30	10 / 17 / 28	17 / 28 / 44	10 / 10	9 / 10
ARMONIA 0F2H1 4.7-3M			230	55	7 / 12 / 20	12 / 20 / 32	10 / 10	9 / 10
ARMONIA 0F2H1 4.7-4M			210	57	7 / 12 / 20	12 / 20 / 32	10 / 10	9 / 10
ARMONIA 0F3 4.50-1M	525	STE-S STE-M STW	360	15	14 / 23 / 35	23 / 39 / 59	10 / 10	7 / 10
ARMONIA 0F3 4.5-2M			230	55	7 / 12 / 20	12 / 20 / 32	10 / 10	9 / 10
ARMONIA 0F3 4.5-3M			230	55	7 / 12 / 20	12 / 20 / 32	10 / 10	9 / 10
ARMONIA 0F3 4.5-4M			210	57	7 / 12 / 20	12 / 20 / 32	10 / 10	9 / 10
ARMONIA 0F3 4.7-1M	700	STE-S STE-M STW	250	30	10 / 17 / 28	17 / 28 / 44	10 / 10	9 / 10
ARMONIA 0F3 4.7-2M			230	55	7 / 12 / 20	12 / 20 / 32	10 / 10	9 / 10
ARMONIA 0F3 4.7-3M			210	57	7 / 12 / 20	12 / 20 / 32	10 / 10	9 / 10
ARMONIA 0F3 4.7-4M			330	62	4 / 8 / 14	8 / 14 / 21	10 / 10	9 / 10

NOTE 1: The number of luminaires under a three-phase MCB is calculated multiplying by 3 the number in the table. These values are based on data declared by power supply manufacturer and tested on worst case MCB model. An inrush current limiter (i.e. Finder SSR 77.11.x.xxx.8250 (15A) or 77.31.x.xxx.8050 model (30A)) can improve the max.number of luminaire under the MCB

NOTE 2: Power supply manufacturer never did any considerations about 50A or 63A MCB. So we can't declare anything about using of MCB higher than 25A.

