

TIARA LED

GENERAL FAMILY CARD



PKP

to
193
lm/w



DarkSky



LENA
LIGHTING

TIARA LED

GENERAL FAMILY CARD



TECHNICAL PARAMETERS

Degree of tightness:	IP66
Impact resistance:	IK10
Rated luminaire power [W]*:	3 - 330
Luminaire luminous flux [lm]*:	300 - 51375
Colour temperature [K]:	2200 - 6500*
Colour rendering index (Ra):	CRI 70, CRI 80, CRI 90
Protection class:	I and II
Optics:	More than 80 distributions
Controls:	ON/OFF, 1DIM, 2DIM, ASTRODIM, DALI
Body colour:	Default: RAL9006 gray, optional: any RAL color
Luminous efficacy of luminaire [lm/W]:	to 193lm/W
Energy class:	to A
Body material:	Aluminium injected die-cast, painted powder-coated
Lampshade type:	transparent
Lampshade material:	Tempered glass 5mm
SDCM:	≤5
Socket type:	Optional 1-2 connectors Zhaga, NEMA 5/7 pin

*Refer to DarkSky Approved Ordering Codes for available options

CHARACTERISTIC



TIARA LED is Lena Lighting's flagship family of road luminaires. Its dual-chamber design ensures the optical chamber remains sealed during installation and when the electrical chamber is opened. It offers tool-free access to the electrical components from above, which can be permanently secured with screws or a seal. The upper part of the luminaire is equipped with dedicated hinges and a safety cable to prevent it from falling. Using standard tools, quick and convenient servicing is possible, allowing for the replacement of any component without having to disassemble the entire luminaire or perform soldered connections.

The top surface of the luminaire is completely smooth, with no ribs, recesses, or joints that could accumulate water or dirt due to a lack of drainage. The body, cover, and handle are made of die-cast aluminum, resistant to weather conditions and UV radiation, powder-coated as standard in RAL9006 gray. The housing with the handle, as well as the clips, clamps, hinges, and all other metal structural components, are made of corrosion-resistant materials, while the screws, springs, and washers are made of austenitic stainless steel. The gaskets are made of high-quality materials resistant to aging and the luminaire's operating temperature, permanently housed in separate channels in a manner that prevents any change in their position or shape.

The luminaire's design ensures a very high IP66 protection rating and IK10 impact resistance. The optical system utilizes directional multi-lens arrays made of PMMA, in which each lens has specific optical characteristics, ensuring consistent light distribution over time and repeatable photometric performance. The LED modules are mounted on PCBs, and the LEDs are sourced from renowned global manufacturers, guaranteeing high luminous efficacy and durability.

The luminaire's features include: an ergonomic suspension system for the light module; NTC thermal protection against accidental overheating; a fully programmable DALI driver; constant luminous flux over time (CLO) and autonomous, 5-step power reduction; a SoftStart function limiting inrush current during startup; a filter preventing water vapor condensation; connection terminals; and tool-free access to the electrical compartment.

The luminaire is compatible with control standards 251, 252, and 253, as well as the DALI-2 system, and also features a 24 V power output via a Zhaga connector, NEMA connector, RCR motion sensor; vandal-proof protection with screws or a seal; additional SP10 kV/10 kA surge protection outside the power supply or SP20 kV; on/off power supply without power reduction; knife switch disconnecting power when the electrical compartment is opened; version with an external power cable terminated with a male and female quick-connect connector; painted in any color from the RAL palette; lacquered interior of the optical and electrical compartments; C5-M corrosion-resistant finish with a 1500-hour salt spray test.

The luminaire is certified to CE, RoHS, ENEC, ENEC+, Zhaga D4i, and PKP standards, and includes a PEP environmental declaration, EMC compliance, and a DarkSky certificate for approved configurations.

APPLICATION

Thanks to the use of dedicated optics, it is possible to illuminate objects such as: motorways, motorways, national roads, provincial roads, district roads, municipal roads, city roads, housing estates, area lighting. Optics are also available to illuminate: pedestrian crossings, pavements and cycle paths.

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4000K

Option	LED	LED module	Minimum luminaire power [W]	Maximum luminaire power [W]	Minimum luminous flux [lm]	Maximum luminous flux [lm]	Factor power	Minimum diode current [mA]	Maximum diode current [mA]
TIARA 2 LED XS	16	1	3	54	400	7625	do 0,99	60	525
TIARA 2 LED S	16	1	8	37	1100	5475	do 0,99	80	380
	32	2	16	109	2500	15275	do 0,99	80	525
TIARA 2 LED M	16	1	8	37	1250	5075	do 0,99	80	380
	32	2	14	76	2100	10370	do 0,99	70	390
	48	3	30	110	4750	14950	do 0,99	150	381
	64	4	20	175	3300	22925	do 0,99	50	450
TIARA 2 LED L	128	8	49	330	8750	49575	do 1	80	420

3000K Refer to DarkSky Approved ordering guide on page 7

Option	LED	LED module	Minimum luminaire power [W]	Maximum luminaire power [W]	Minimum luminous flux [lm]	Maximum luminous flux [lm]	Factor power	Minimum diode current [mA]	Maximum diode current [mA]
TIARA 2 LED XS	16	1	3	54	375	7275	do 0,99	60	525
TIARA 2 LED S	16	1	8	37	1050	5250	do 0,99	80	380
	32	2	16	109	2400	14650	do 0,99	80	525
TIARA 2 LED M	16	1	8	37	1200	4875	do 0,99	80	380
	32	2	14	76	2000	9950	do 0,99	70	390
	48	3	30	110	4550	14350	do 0,99	150	381
	64	4	20	175	3175	22000	do 0,99	50	450
TIARA 2 LED L	128	8	49	330	8350	47300	do 1	80	420

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2700K Refer to DarkSky Approved ordering guide on page 7

Option	LED	LED module	Minimum luminaire power [W]	Maximum luminaire power [W]	Minimum luminous flux [lm]	Maximum luminous flux [lm]	Factor power	Minimum diode current [mA]	Maximum diode current [mA]
TIARA 2 LED XS	16	1	3	54	375	6975	do 0,99	60	525
TIARA 2 LED S	16	1	8	37	1000	5025	do 0,99	80	380
	32	2	16	109	2300	14050	do 0,99	80	525
TIARA 2 LED M	16	1	8	37	1150	4675	do 0,99	80	380
	32	2	14	76	1925	9550	do 0,99	70	390
	48	3	30	110	4375	13750	do 0,99	150	381
	64	4	20	175	3025	21100	do 0,99	50	450
TIARA 2 LED L	128	8	49	330	8050	4560	do 1	80	420

OTHER

Temperature colour temperature	Minimum luminaire power [W]	Maximum luminaire power [W]	Minimum luminous flux [lm]	Maximum luminous flux [lm]
5700K	6	330	875	43375
2400K	6	330	770	38170
2200K*	6	330	750	37300

*Refer to DarkSky Approved ordering guide on page 7

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GENERAL DATA

Operating temperature range	-40° to +50°
Electrical protection class	I / II
Colour temperature	2200 - 6500*
CRI	CRI>70, CRI>80, CRI>90
ULOR	0
Lumen maintenance	L95B10
luminous flux over time	100 800h
Guarantee	5 years or more after individual arrangements
Control system	Available as an option
Photobiological risk group	RG1 (low risk)
McAdam steps	<4, <5

MECHANICAL DATA

*DarkSky Approved with 3000K CCT or lower

Mounting	con an arm, on a pole
Mounting height	4 - 15m
Angle adjustment of luminaire mounting	-120° to +120° in 5° increments, +0° to +10° Dark Sky
Luminaire colour	Standard color: RAL 9006 gray, Optional: any RAL color
Housing	Aluminium injection moulded die-cast, powder-coated
Optics	Over 80 available beam patterns
IK	IK10
IP	IP66
Service access	Tool-free access to power supply compartment. Arm or pole mounting.
Luminaire installation	Changing the mounting method without change of assembly without dismantling the luminaire.
Mounting bracket	Φ40 - Φ60, Φ76
Other	Powder coating inside of optical and electric chamber; filter preventing condensation; increased resistance corrosion resistance up to C5-M

ADDITIONAL OPTIONS

Possibility to powder-coat the optical and electrical compartments, can be equipped with a knife-edge connector, equipped with an additional cable with quick-release coupling, anti-vandal version available with stainless steel screws.

*Refer to DarkSky Approved ordering guide on page 7

** Parameter defined by the type of power supply used

ELECTRICAL DATA

Power factor	up to 0.99
Power factor at 50% dimming	up to 0.98 up to 0.93
Rated voltage	230-240VAC
Supply voltage	202-254VAC
AC supply voltage range	186-250VDC
Maximum number of luminaires per protection	up to 42 pcs.
THD	THD <10%**
ESD	8/4kV
EMC	In accordance with harmonised standards : EN 55015, EN 61000-3-2 EN 61000-3-3
Limitation of current	available as an option
SoftStart	
Overvoltage protection	I cl - 10kV II cl - 6kV/10kV additional up to 20kV
Power control	10% - 100%
Other	motion detector; disconnect scissor-type; CLO; NTC thermal protection, overload protection, short-circuit protection, overvoltage protection, 5-stage autonomous power reduction; QR code with application, U6ME2, ICU2

CERTIFICATES AND TESTS

CE mark	Yes
ENEC certification	Yes
ENEC+ certificate	Yes
ROHS	Yes
Zhaga D4i	Yes
Vibration tests	Yes
PN-EN 60598-1:2021	
Salt chamber tests	1500h for version C5-M
EPD	Yes
DarkSky Approved	Yes*
ISO	9001 / 14001 / 45001 / 50001
French law of 27 December 2018	Compatible with types applications a, b, c, d, e, f, g

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ACCESSORIES AVAILABLE

indeks	Name
314049	Wall bracket - galvanised
314056	Wall bracket - grey
812521	BACKSHIELD L Tiara 2 LED M
812514	BACKSHIELD P Tiara 2 LED M
812507	BACKSHIELD T Tiara 2 LED M
813450	BACKSHIELD L Tiara 2 LED S
813443	BACKSHIELD P Tiara 2 LED S
813436	BACKSHIELD T Tiara 2 LED S
813481	BACKSHIELD L Tiara 2 LED XS
813474	BACKSHIELD P Tiara 2 LED XS
813467	BACKSHIELD T Tiara 2 LED XS
804625	Tiara 2 DarkSky adjustable handle



Wall bracket - galvanised (314049)



Wall bracket - grey (314056)



BACKSHIELD L Tiara 2 LED M (812521)



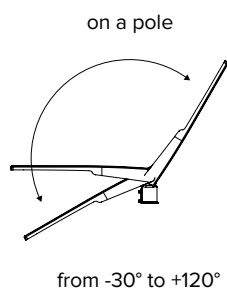
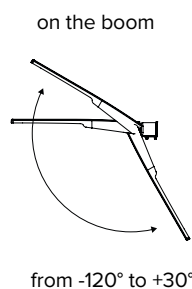
BACKSHIELD P Tiara 2 LED M (812514)



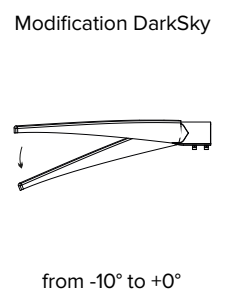
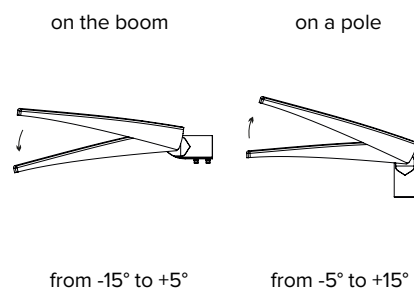
BACKSHIELD T Tiara 2 LED M (812507)

ANGLE ADJUSTMENT

Tiara 2 LED XS Tiara 2 LED S Tiara 2 LED M Tiara 2 LED L



Tiara LED Pro



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TIARA 2 LED XS 13200lm 740 RMW IP66 II kl. DALI NEMA IK10 (109W) RAL7016

Model TIARA 2 LED XS TIARA 2 LED S TIARA 2 LED M TIARA 2 LED L TIARA LED L PRO	Colour RALxxxx PI-lacquered chamber interior
Luminous flux [lm] Value in [lm] in increments of 25	Power [W] Value [W] in increments of 1 W
CRI/C CT 722, 727, 730, 735, 740, 750, 757,765, 822, 827, 830, 835, 840, 850, 857, 865, 922, 927, 930, 935, 940, 950, 957, 965,	Impact resistance IK09, IK10
Optics AS-asymmetric, R-road, P-pedestrian; RP-parking, RMW-wet, N-narrow, M-medium, W-wide, L-left, P-right, 0-99 numbering optics, HE-high performance + LED type II	Connector / Sensor NEMA - NEMA connector NEMA-7P - NEMA 7 Pin connector ZG - Zhaga connector from above ZG-DN - Zhaga connector from below 2xZG - Zhaga connector from top and bottom RCR - Motion and twilight sensor no
IP IP65, IP66	Control no 1DIM 2DIM DALI ON/OFF
Protection class I cl. II cl.	

DARKSKY APPROVED

TIARA 2 LED XS 13200lm 730 RM8+ IP66 II kl. DALI NEMA IK10 (109W) RAL7016

Model TIARA 2 LED XS TIARA 2 LED S TIARA 2 LED M	Colour RALxxxx PI-lacquered chamber interior
Luminous flux [lm] Value in [lm] in increments of 25	Power [W] Value [W] in increments of 1 W
CRI/C CT 722, 727, 730, 822, 827, 830, 922, 927, 930	Impact resistance IK09, IK10
Optics RM7, RM8+, RM19, RM18+, RM7HE, RM78+, RM19HE, RM20, RM3, RM14, RM3HE	Connector / Sensor NEMA - NEMA connector NEMA-7P - NEMA 7 Pin connector ZG - Zhaga connector from above ZG-DN - Zhaga connector from below 2xZG - Zhaga connector from top and bottom RCR - Motion and twilight sensor no
IP IP65, IP66	Control 1DIM 2DIM DALI
Protection class I cl. II cl.	

DIMENSIONS

Tiara 2 LED XS			3,4 kg
Tiara 2 LED S			4,2 kg
Tiara 2 LED M			5,2 kg
Tiara 2 LED L			6,5 kg

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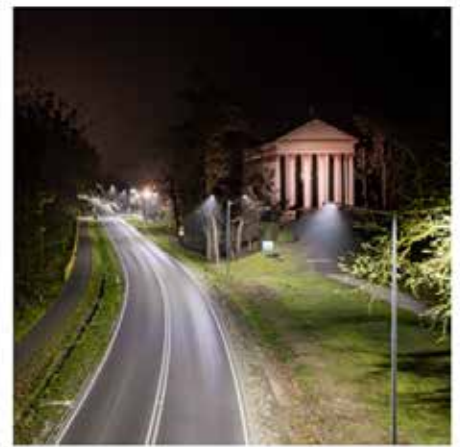
UNIQUE PARAMETERS



Lena C5+

APPLICATION AREAS

- illumination of motorways, motorways, national, provincial, district, municipal and housing estate roads
- illumination of car parks, cycle paths, pedestrian crossings, pavements and other outdoor areas such as squares and private areas
- lighting of non-public estate roads, construction sites and other internal and private areas



AVAILABLE TECHNOLOGIES



The Tiara LED luminaire is compatible with the Zhaga-D4i standard, enabling easy integration with intelligent lighting control systems such as Clue City. The connection to the system offers the possibility to remotely control, monitor and optimise energy consumption. By adjusting brightness and analysing data in real time, it allows the lighting to be adapted to current needs, ensuring efficiency and savings.



The DarkSky Approved is award for companies with outstanding contributions to the development of lighting technologies that reduce light pollution. Dark Sky Approved products are distinguished by conservation-oriented design, innovation and the pursuit of harmony between light and the nightscape.

Lena C5+

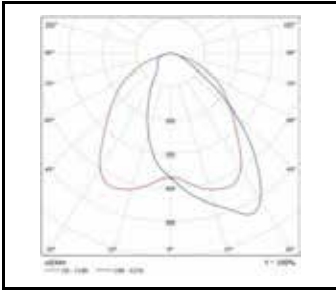
Tiara LED is not just ordinary lighting - it is a powerful answer to the demands of industrial and marine conditions (C5-M). The Lena C5+ not only illuminates its surroundings, but also effectively addresses the challenges of the marine environment. As evidenced by 1,500 hours of testing under harsh environmental conditions according to international standards.



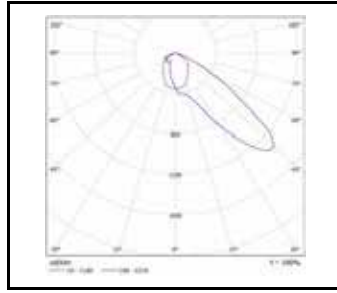
EPD environmental certification, confirming minimal environmental impact. Thanks to the closed-loop trading system and the calculation of the carbon footprint at each stage of the life cycle, the luminaires can be reused. They stand out for their high durability, resistance to external conditions and compatibility with intelligent control systems.

TIARA LED

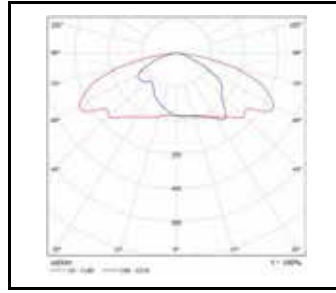
GENERAL FAMILY CARD



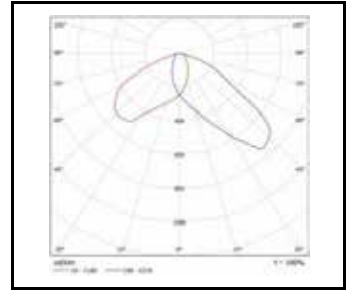
ASM2



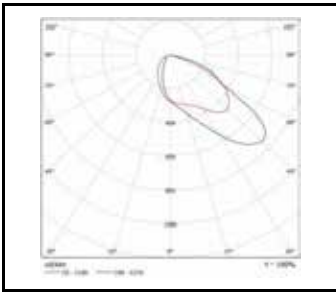
ASN



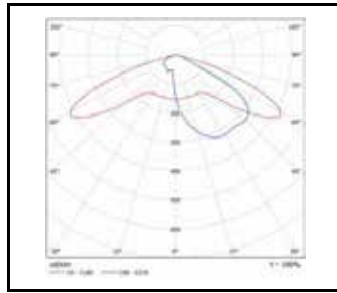
ASW



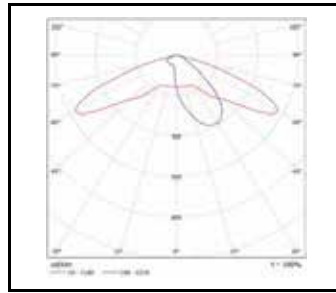
PL1



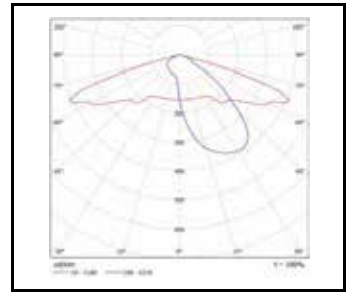
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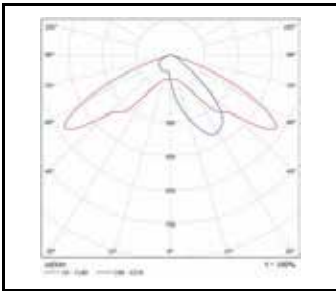
RM10



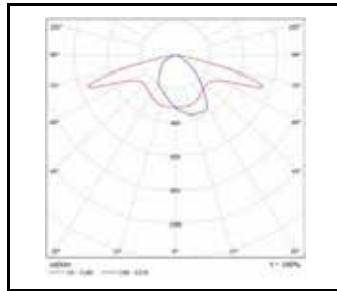
RM11



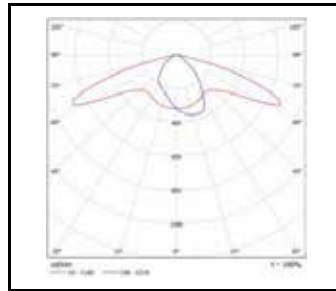
RM11+



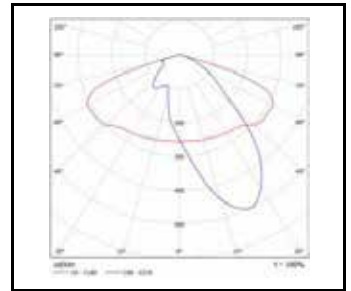
RM11HE



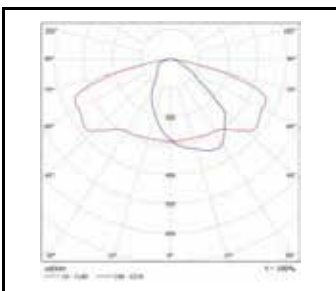
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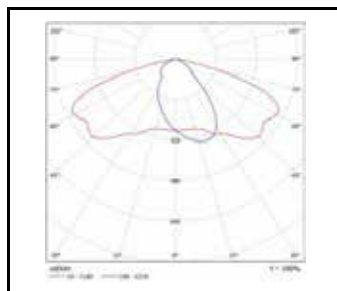
RM12HE



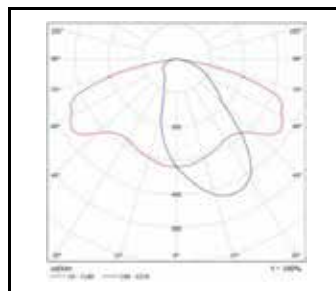
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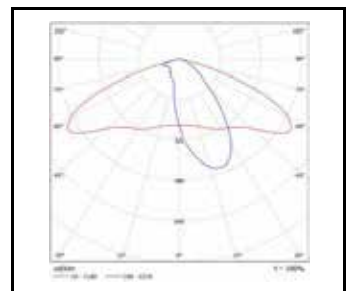
RM14



RM14HE



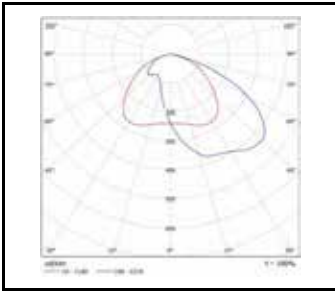
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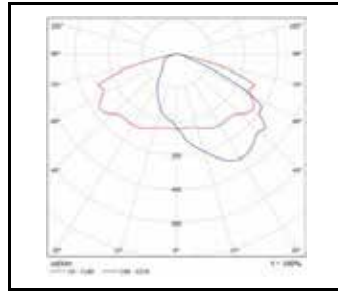
RM16

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RW8



RW9