

Estella

Smart City Fixtures



The Estella family of Street & Road lights by Juganu is efficient, lightweight and reliable. High system efficacy of up to 140 LPW allows significant energy savings of 75%-90% compared to HPS lamps and 30% compared to other LEDs. Negligible reduction of light with time of under 0.5% per year allows stable lighting for many years. Optimized optics direct the light where it is needed, providing uniform illumination, while meeting international standards for Street & Road lights. JLED™* fixtures withstand severe weather conditions, such as tropical rains and proximity to the sea.

Estella provides infrastructure for smart cities and incorporates various pre-installed modules, such as sophisticated wireless communication with GPS and cloud management software, which allows autonomous operation using an accurate power management module and an AC total protection module. Estella is compliant with ANSI C136.41 for remote management systems.

Features

- CCT (Typical) - 3000K - 5000K
- Several types of optics for various road conditions:
 - Lateral distribution: Type I, II, III
 - Longitudinal distribution: Very Short, Short, Medium
- Photo-biologic: IEC62471 compliant, with risk group exempt
- Blue Light: IEC62778, IEEE1789 compliant
- IP66, IK08 rating (IK 10 optional)
- Salt resistance IAW ISO9227
- Tool-less entry, for ease of maintenance

Benefits

- Efficient, uniform and glare-free light
- 75%-90% savings in energy costs
- 95% savings in maintenance costs
- Long Guaranteed operating lifetime
- Easy installation
- Increased safety for drivers, riders and pedestrians



Estella

City & Infrastructure

Product Data

Product Segment: City & Infrastructure
 Product Type: Streets & Roads
 Product Family: Estella

Key Advantages

- Various Optics to maximize uniformity for variant conditions
- Advanced wireless control for single & multiple fixture groups (see JNET1* Documentation)
 * JNET1™ is a proprietary medium-bandwidth network integrated into light fixtures, that uses the sub-GHz unlicensed spectrum. It is designed to address common challenges to Smart City solutions using common IoT protocols.

GENERAL INFORMATION

Dimensions (mm)	Various models, see below
Weight	Various models, see below
Materials	Body: powder-coated die-cast aluminum Lens: PC for LED array or single LED Protective Glass
Warranty	Up to 10 years
MTBF	MTBF > 900,000 hours Telcordia SR-332 (Bellcore)

OPERATING AND ELECTRICAL

Power Consumption	0 to 400 W
Surge Protection	10 kV Protection
Power Factor	> 0.92, max current THD 15% at 220V
System Efficacy	up to 140 LPW (including PS & Optics)
Operating Voltage	110 - 277 VAC
Maximum Voltage	90 - 305 VAC
Operating Frequency	47 - 63 Hz
Dimming	factory set, 0 to 10V, Dali, wireless control
Operating Temperature	-25°C to 50°C
Cooling	Passive Cooling
IP Rating	IP66 (with Salt fog and UV treatment)
Impact Resistance	IK08 (IK10 is optional)

LIGHTING CHARACTERISTICS

Lumen Maintenance	TM21 based on ISTMT and LM80 L90 > 60,000 hours L70 > 140,000 hours
Correlated Color Temperature (CCT)	3000K - 5000K
Color Rendering Index (CRI)	>70

Estella

City & Infrastructure

Product Data

Product Segment: City & Infrastructure
 Product Type: Streets & Roads
 Product Family: Estella

STANDARDS (additional local standards applicable)

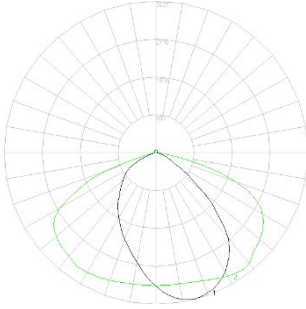
Group	Standard abbreviation	Description
EMC	CISPR 15,22 EM 55015 IEC 61000-3-2,3	Emission
	EN61547 EN 61000-4-2,3,4,5,6,8,11	Immunity 10kV surges
Photometrics	EN 13032-1 IESNA LM-79 - 2008	Photometric
	IEC 62471:2006 IEC62778 and IEEE1789	Photo-biologic, exempt Blue light
Mechanics and Environment	IEC 60529, EN 60529	IP66, Dust and Humidity, Water Jets
	IEC-62262-2002	IK-08 , Impact
	IEC 68-2-6	Vibration in 3 axes
	ISO9227, MIL-STD-810G	Salt fog for 1000h for marine environment
	ASTM G154/2006	UV
Safety	IEC 60598-2-3:2002, AMD1:2011 Used in conjunction with: IEC60598-1:2014, AMD1:2017	Contains: Dielectric strength Insulation resistance Leakage current Protection against electric shock Torque resistance of screws and fittings Weight/wind
	UL 1598:2018 CSA C22.2 No. 250.0-18	UL Standard for Safety of Luminaires for the North America market
	IEC 62031:2008 + A1:2012	Safety of LED board
	EN61347-1, EN61347-2-13, EN62384	LED driver safety
Luminaire Performance Test	EN 62722-1:2016 EN 62722-2-1:2016, EN 62717	Lumens and CRI performance test over 1000 hours
	ISTMT TM-21, LM-80	Temp. of LED, Driver
Certifications	CB ENEC+ Test report ENEC	Europe
	cTUVus	North America
	Inmetro	Brazil
	NOM-003/031/058 PAESE	Mexico
	Teken 20	Israel SII

* Compliance in progress

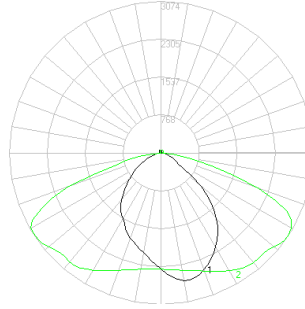
** Can be performed upon request

Photometric Curves

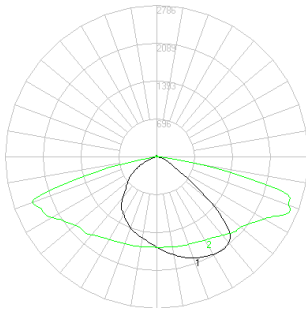
D01 Type II, Very Short



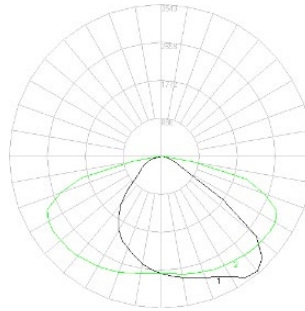
D02 Type II, Short



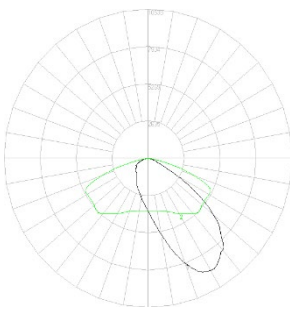
D03 Type II, Short



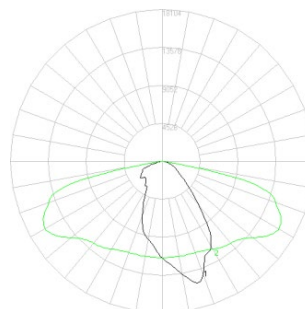
D04 Type II, Short



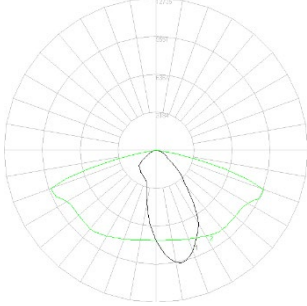
D06 Type II, Short



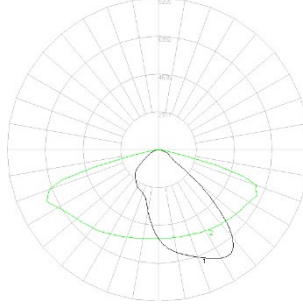
D12 Type II, Short



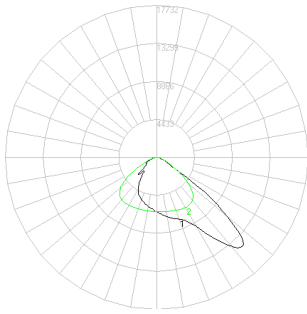
D13 Type I, Medium



D14 Type II, Medium



D15 Type II, Very Short



P0: Surge Protection (10kV Protection)

- Compliance to UL1449 Type 4 Component Assembly
- Compliance to IEC 61643-11 Class II / EN61643-11 Type 2
- Compliance to CE Class I & II Installation
- Protects Line to Neutral, Line to Ground and Neutral to Ground in accordance with IEEE/ANSI C62.41.2 Guidelines
- Compliance to IEC 61000-4-5, Class 5, 10kV @ 1.2/50 μ s, 5KA @ 8/20 μ s using 2ohm Source Impedance
- Pulse Rating @ 8/20 μ s (No. of Strikes @ I):
 - 1 @ 10,000A
 - 1 @ 10,000A
 - 2 @ 6,500A
 - 10 @ 3,000A
 - 1000 @ 1,500A

P1 : JACTP Surge Protection

- 10kV standard SPD
- Over / under voltage momentary serial protection up to 440V
 - Disconnect LED driver from AC grid when AC voltage is under 180V
 - Disconnect LED driver from AC grid when AC voltage over 300V

Mounting

- Integral die cast mounting pole stop feature
- Suitable for 1.65 ÷ 2.36 in. (42mm to 60mm) mounting pole
- Adapter for 1 in. can be added
- Inclination: integrated with $\pm 15^\circ$, can be 90° for pole with no arm (post up)

Performance (4000K)

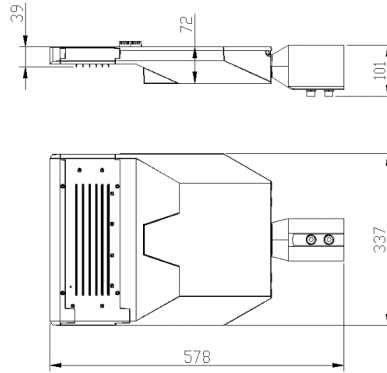
No. of led modules	Power [W]	Typ. efficacy [Lm/W]	Total lumens [Lm]
1	Up to 75	140	10,500
2	Up to 150	140	21,000
3	Up to 225	140	31,500
4	Up to 300	140	42,000
5	Up to 400	140	56,000

Packaging and Weight

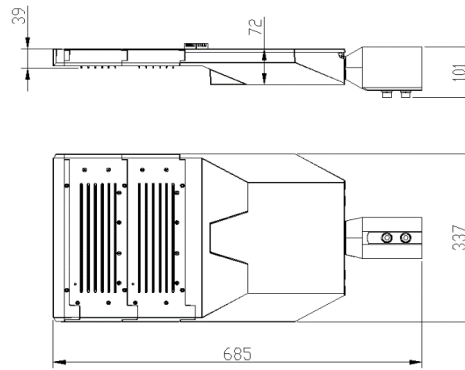
Power	No. of LED modules	Lighting Fixture Dimensions (mm)	Packaging Dimensions (mm)	Net Weight	Gross weight
Up to 75W	1	578*337*101	585*350*120	6.9 kg	8.2 kg
Up to 150W	2	685*337*101	700*350*120	10 kg	10 kg
Up to 225W	3	793*337*101	820*350*120	12 kg	12 kg
Up to 300W	4	900*337*101	920*350*120	12.3kg	14 kg
Up to 400W	5	1008*337*101	1050*350*120	14.3kg	16kg

Mechanical Dimensions

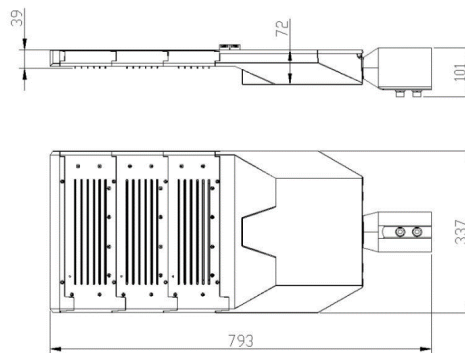
Single Led Module



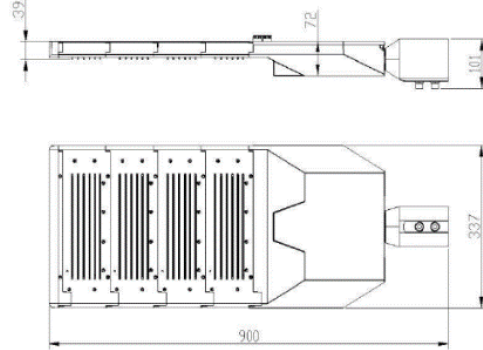
Dual Led Module



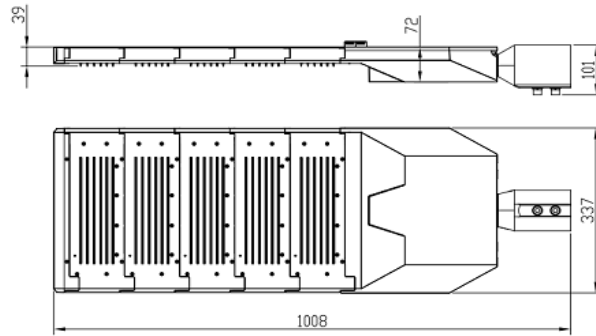
Triple Led Module



Quad Led Module



Pentagon Led Module



Ordering Information

Product	Power	Family	CCT	Wireless (COM)	ANSI C136.41 5 (NEMA)	AC protection unit	Distribution curve	Class
JLED-SL	xxxW	Estella	xx	Wx	Nx	Px	Dxx	Cx

		Default
CCT (other values possible)	30 - 3000K	
	40 - 4000K	Standard
	50 - 5000K	
Wx	W0 - Wireless controller is not integrated	Standard
	WM - JNET1 & JCMS is integrated	
Nx	N0 - NEMA not included	
	NS - 0 to 10V Analog NEMA base with shorting cap	Standard
	NP - NEMA with photocell	
	NWA - NEMA with JNET 1 & JCMS with 0 to 10V, Analog	
	NWD - NEMA with JNET 1 & JCMS with DALI control	
	ND - DALI control NEMA base with shorting cap	
Px	P0 - Standard surge protection (10kV) included	Standard
	P1 - JACTP (<i>AC total protection module</i>) included	
Distribution curves	Dxx - See distribution curves	D04
Cx	C1 - <i>Class I installation</i>	Standard
	C2 - <i>Class II installation</i>	

#

#Ordering Example

JLED-SL-060W-ESTELLA-40-W0-NS-P0- D04-C1

Description

JLED street light of the Estella family with 60W, 4000K, no communication, 0 to 10V NEMA base with a shorting cap, with 10kV, distribution curve of D04, Class I installation