

Lotus



The Lotus family of Street & Road lights by Juganu is efficient, lightweight, and reliable.

High system efficacy of up to 160 LPW yields 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.

Lotus provides infrastructure for smart cities and incorporates various pre-installed modules, such as:

- Sophisticated GPS-based wireless communication
- Autonomously-operated cloud-based management and control software
- Accurate power management module
- AC total protection module.

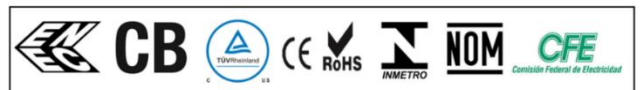
Lotus supports ANSI C136.41 NEMA for remote management systems.

Features

- CCT (Typical) – 2700K - 5000K
- Several types of optics for various road conditions:
 - Lateral distribution: Type II, III
 - Longitudinal distribution: Short, Medium
- Photobiologic IEC62471 Exempt Group compliant
- Blue Light: IEC 62778, IEEE 1789 compliant
- Water Resistance: IP66
- Impact Protection: IK08 rating (IK 10 optional)
- Salt resistance: IAW ISO9227

Benefits

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



Lotus

City & Infrastructure

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

Key Advantages:

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

GENERAL INFORMATION

| | |
|-----------------|---|
| Dimensions (mm) | Various models, see the Mechanical Dimensions page below |
| Weight | Various models, see the Packaging and Weight section below |
| Materials | Body: powder-coated die-cast aluminum Color (RAL): Black or gray (other colors available on request, e.g. dark bronze) Lens: PC for LED array or single LED Protective Glass |

OPERATING AND ELECTRICAL

| | |
|------------------------------|--|
| Power Consumption | 0 to 200 W (other power options available on request) |
| Surge Protection | 10 kV |
| Power Factor | > 0.92, max current THD 15% at 220V |
| System Efficacy | up to 160 LPW (including PS & Optics) |
| Operating Voltage | 110 – 277 VAC |
| Maximum Voltage | 90 – 305 VAC |
| Operating Frequency | 47Hz – 63 Hz |
| Dimming | DALI, factory set, 0 to 10V, wireless control |
| Operating Temperature | –25°C to 50°C (13°F to 122°F) |
| Cooling | Passive cooling |
| Water Resistance (IP Rating) | IP66 (with Salt fog and UV treatment) |
| Impact Protection | 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) | 2700K - 5000K |
| Color Rendering Index (CRI) | >70 |

Lotus

City & Infrastructure

Product Data

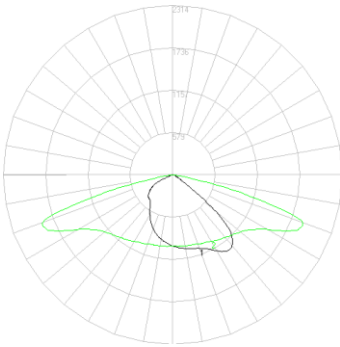
Product Segment: City & Infrastructure
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STANDARDS (additional local standards applicable)

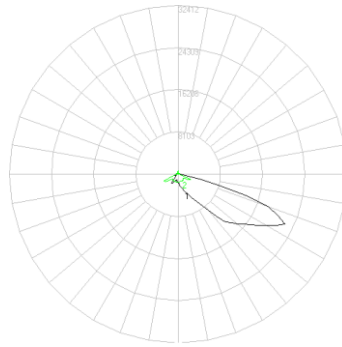
| Group | Standard abbreviation | Description |
|----------------------------|--|--|
| EMC | CISPR 15,22 EM 55015 IEC 61000-3-2,3 | Emission |
| | EN61547 EN 61000-4-2,3,4,5,6,8,11 | Immunity 10kV surges |
| Photometrics | EN 13032-1 IESNA LM-79 – 2008 | Photometric |
| | IEC 62471:2006 IEC62778 and 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 |
| | ASTM G154/2006 | UV (NA for glass cover) |
| | ISO9227, *MIL-STD-810G | Salt fog for 1000h for marine environment |
| 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 (up to 200w) ENEC (up to 200w) Test report ENEC+ (up to 200w) | Europe |
| | cTUVus (up to 200w) | North America |
| | Inmetro (up to 255w) | Brazil |
| | NOM-003/031/058 PAESE (up to 180w) | Mexico |
| | Teken 20 (up to 200w) | Israel SII |
| | | |

Photometric Curves

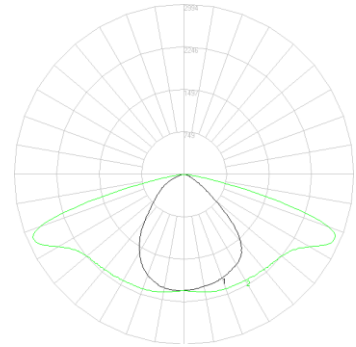
D01 Type II, Medium



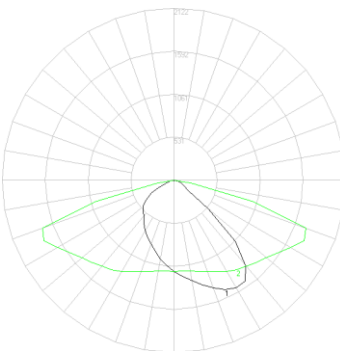
D02 Type IV, Short



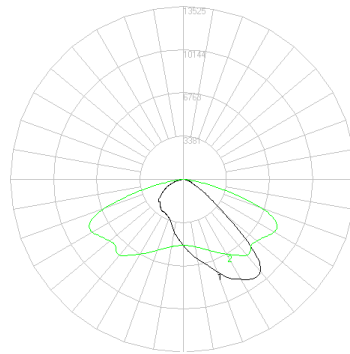
D03 Type II, Medium



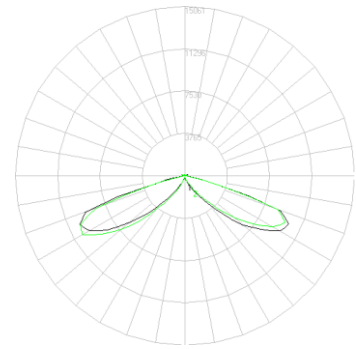
D04 Type II, Short



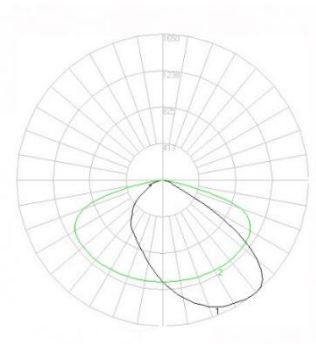
D05 Type II, Short



D06 Type V



D44 Type II, Very Short



P0: Surge Protection Compliance (10kV Protection)

- UL1449 Type 4 Component Assembly
- IEC 61643-11 Class II / EN61643-11 Type 2
- CE Class I & II Installation
- IEEE/ANSI C62.41.2 Guidelines - Protects Line to Neutral, Line to Ground and Neutral to Ground
- 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 42mm to 60mm (1.65 to 2.36 in.) mounting pole
- Wall mounting adapter option available
- Supports addition of 25 mm (1 in.) Adapter
- Inclination: integrated with $\pm 15^\circ$, can be 90° for pole with no arm (post up)

Performance (4000K)

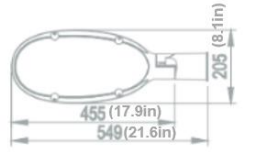
| Power [W] | Typ. efficacy [LPW] | Total lumens [LM] | |
|-----------|---------------------|-------------------|--------|
| | | LP1 | LP2 |
| 30 | 140 LP1, 160 LP2 | 4.200 | 4.800 |
| 50 | 140 LP1, 160 LP2 | 7.000 | 8.000 |
| 80 | 140 LP1, 160 LP2 | 11.200 | 12.800 |
| 100 | 140 LP1, 160 LP2 | 14.000 | 16.000 |
| 120 | 140 LP1, 160 LP2 | 16.800 | 19.200 |
| 150 | 140 LP1, 160 LP2 | 21.000 | 24.000 |
| 180 | 140 LP1, 160 LP2 | 25.200 | 28.800 |
| 200 | 140 LP1, 160 LP2 | 28.000 | 32.000 |

* Luminaire efficacy at 2700K is reduced at a maximum of 15%.

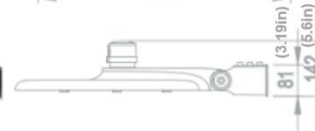
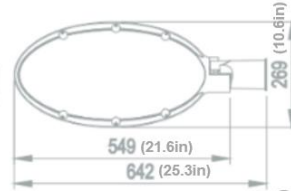
Packaging and Weight

| Group | Power | Lighting Fixtures Dimensions | Packaging Dimensions | Net Weight | Gross Weight |
|-------|-----------|------------------------------------|------------------------------------|--------------------|------------------|
| LP1 | Up to 30W | 549*205*152 mm 21.6*8.1*6.0 in | 608*232*265 mm 24.0*9.2*10.5 in | 7 kg 15.4 lb | 8 kg 17.6 lb |
| | 31W- 60W | 642*269*142 mm 25.3*10.6*5.6 in | 695*222*325 mm 27.4*8.8*12.8 in | 12 kg 26.5 lb | 14 kg 30.9 lb |
| | 61W-120W | 677*294*142 mm 26.7*11.6*5.6 in | 730*222*345 mm 28.8*8.8*13.6 in | 12.2 kg 26.9 lb | 15 kg 33.1 lb |
| | 121W-200W | 802*331*142 mm 31.6*13.1*5.6 in | 855*222*385 mm 33.7*8.8*15.2 in | 14.8 kg 32.6 lb | 18 kg 39.7 lb |
| LP2 | Up to 25W | 549*205*152 mm 21.6*8.1*6.0 in | 608*232*265 mm 24.0*9.2*10.5 in | 7 kg 15.4 lb | 8 kg 17.6 lb |
| | 25W-50W | 642*269*142 mm 25.3*10.6*5.6 in | 695*222*325 mm 27.4*8.8*12.8 in | 12 kg 26.5 lb | 14 kg 30.9 lb |
| | 51W-80W | 677*294*142 mm 26.7*11.6*5.6 in | 730*222*345 mm 28.8*8.8*13.6 in | 12.2 kg 26.9 lb | 15 kg 33.1 lb |
| | 81W-120W | 802*331*142 mm 31.6*13.1*5.6 in | 855*222*385 mm 33.7*8.8*15.2 in | 14.8 kg 32.6 lb | 18 kg 39.7 lb |
| | 121W-200W | 876*354*142 mm 34.5*14.0*5.6 in | 930*222*405 mm 36.7*8.8*16.0 in | 17.4 kg 38.4 lb | 20 kg 44.1 lb |

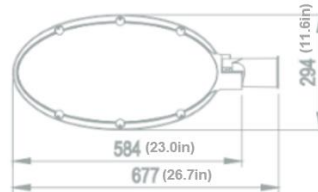
Mechanical Dimensions (LP1=140 lumens per watt, LP2=160 lumens per watt)



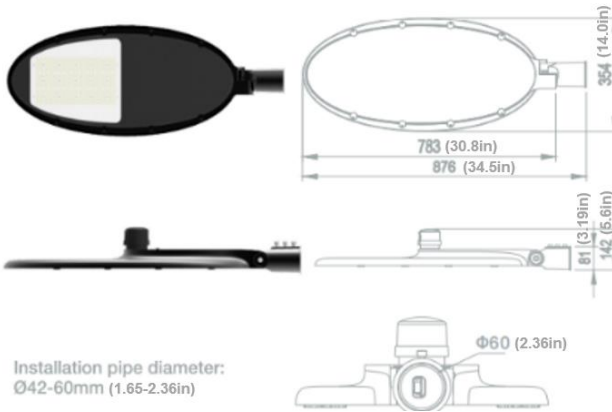
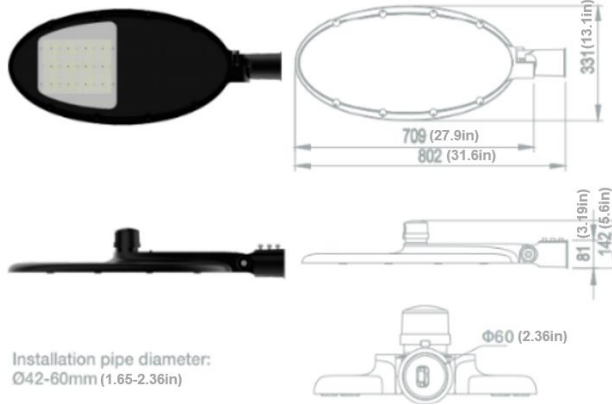
Installation pipe diameter:
Ø42-60mm (1.65-2.36in)



Installation pipe diameter:
Ø42-60mm (1.65-2.36in)



Installation pipe diameter:
Ø42-60mm (1.65-2.36in)



Ordering Information

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

Ordering Options

| | | |
|---|---|----------|
| Power xxxW (custom levels on request) | 30 | |
| | 50 | |
| | 80 | |
| | 100 | |
| | 120 | |
| | 150 | |
| | 180 | |
| | 200 | |
| | XXX – specify custom wattage | |
| CCT (custom levels on request) | 27 – 2700K | |
| | 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 | |
| Px | ND - DALI control NEMA base with shorting cap | |
| | P0 – Standard surge protection (10kV) included | Standard |
| Distribution curves (see Photometric Curves section) | P1 – JACTP (AC total protection module) included | |
| | D01 - Type II, Medium | |
| | D02 - Type IV, Short | |
| | D03 - Type II, Medium | |
| | D04 - Type II, Short | Standard |
| | D05 - Type II, Short | |
| | D06 - Type V | |
| LPx | D44 - Type II, Very Short | |
| | LP1 – 140 lumens per watt | Standard |
| Cx | LP2 – 160 lumens per watt | |
| | C1 - Class I installation | Standard |
| | C2 - Class II installation | |

Ordering Example

JLED-SL-080W-LOTUS-40-W0-NS-P0-D04-LP1-C1

Description

JLED street light of the Lotus family with 80W, 4000K, no communication, 0 to 10V NEMA base with a shorting cap, 10kV, distribution curve D04, 140 lumens per watt, and Class I installation