

alrouf
LIGHTING TECHNOLOGY CO. Ltd.



شركة الروف
لتقنية الإنارة المحدودة

LUXCORE

LED Street Light



CRAFTED FOR CITIES THAT NEVER SLEEP.



Precision Lighting, Perfect Visibility.

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A Smarter Upgrade for Every City

It is the perfect moment to replace outdated HID luminaires with the advanced AIRouf **LUXCORE** Series LED street lights.

This upgrade delivers immediate savings in energy consumption, maintenance, and long term operational costs, all while reducing environmental impact.

With precision engineered optics, **LUXCORE** provides exceptional visual comfort and uniform light distribution across every roadway.

More than just an energy efficient replacement, the **LUXCORE** Series is designed for the future, offering smart control compatibility that enhances safety, visibility, and the livability of your city.

LUXCORE is more than a retrofit choice.



Complete lighting evolution for modern urban environments.

Sharper Optics, Smarter Illumination



Supporting The Kingdom's Energy Efficiency And Sustainability Ambitions:

Tarshid (The National Energy Services Company) is a key enabler of the Saudi Arabia's energy efficiency and sustainability ambitions, operating as a vital pillar of Saudi Vision 2030 and the broader Saudi Green Initiative (SGI). Wholly owned by the Public Investment Fund (PIF), Tarshid manages and funds projects to reduce energy consumption across the Kingdom's public and private sectors.

CORE ROLE AND AMBITIONS:

Tarshid's primary mission is to foster the national energy services sector by integrating energy efficiency, operational efficiency, and renewable energy solutions. The company targets significant energy and financial savings, with a goal to reduce national energy consumption by SR25 billion (\$6.6 billion) by 2030. These efforts directly support the Kingdom's goals of diversifying its economy, reducing its carbon footprint, and enhancing the quality of life for its citizens.

Saudi Arabia has a national **street lighting retrofit program** that is managed by the National Energy Services Company (Tarshid). This comprehensive initiative aims to enhance energy efficiency across the kingdom and falls under the broader goals of the Saudi Green Initiative and Vision 2030.

Key details of the initiative include (Kingdom-wide retrofit initiative (3M+ poles nationwide):

The objectives of Tarshid (National Energy Services Company) align with the goals of Saudi Vision 2030 and center on **energy efficiency, standardization, and sustainability.**

Tarshid's core objectives include:

- **Energy Reduction:** While an overall specific target for 50-60% across all projects is not explicitly stated in the search results, Tarshid aims for significant energy savings through various programs. Individual projects often target substantial reductions, with specific initiatives aiming for savings upwards of 23% or even over 40% in certain facilities like the Ministry of Municipal, Rural Affairs and Housing headquarters. The company achieved annual energy savings of 7.3 TWh across its various projects from its establishment until Q3 2024.

**Saudi-Made Quality.
Global-Level Performance.**



- **Standardization:** A key objective is to create unified technical specifications across the Kingdom, particularly for locally produced LED streetlights and building retrofits. This involves collaborating with entities like the Saudi Standards, Metrology, and Quality Organization to set consistent standards for energy efficiency measures.
- **Sustainability:** Tarshid's mission is to promote sustainability by integrating energy efficiency, operational efficiency, and clean energy solutions (like solar PV) into the Kingdom's energy sector. This contributes to reducing carbon emissions, preserving natural resources (like barrels of oil equivalent), and aligning with the broader Saudi Green Initiative and circular carbon economy goals.

HPS (Conventional) Vs LED Street Light:

Retrofitting HPS street lights with LEDs provides significant energy savings and improved light quality due to the higher efficiency and directional nature of LED lighting. A lower wattage LED can effectively replace a much higher wattage HPS lamp while maintaining or improving illumination levels.

The following table provides a general guide for the equivalent LED wattage or required lumen output to replace common HPS street lights.

High Pressure Sodium (HPS) Wattage	Approximate HPS Lumens	Equivalent LED Wattage Range	Required LED Lumen Output (approx.)	Energy Saving (%)
70 W	4,600 lm	26 W - 40 W	2,400 - 2,800 lm	>50-70%
100 W	6,800 lm	41 W - 60 W	3,500 - 4,200 lm	>50-70%
150 W	11,400 lm	76 W - 90 W	6,000 - 7,100 lm	>50-70%
200 W	~16,000 lm	133 W	~8,000 - 10,000 lm	>50-70%
250 W	~20,000 - 24,000 lm	90 W - 125 W	~10,000 - 14,000 lm	>50-70%
400 W	~40,000 - 50,000 lm	120 W - 150 W	~18,000 - 20,000 lm	>50-70%

Key Benefits of LED Retrofits:

- **Energy Efficiency:** LED street lights use 40-80% less electricity than HPS fixtures.
- **Improved Visibility:** LEDs offer better color rendering (CRI) and direct light downwards (180-degree spread vs 360-degree omnidirectional HPS), which means less light is wasted and visibility is enhanced at similar light levels.
- **Longer Lifespan:** LEDs can last 3 to 8 times longer than HPS lamps, significantly reducing maintenance and replacement costs.
- **Instant On:** LEDs turn on instantly to full brightness, unlike HPS lights which can take several minutes to warm up.

When performing a retrofit, it is important to check if the specific LED product requires bypassing the existing HPS ballast for proper installation. Many manufacturers provide detailed calculators and guides, such as the one from Access Fixtures, to help determine the exact lumen and wattage needs based on specific road width, pole spacing, and desired color temperature (CCT).

Compliance Matrix with Tarshid / SASO / SEEC (Understanding the Roles):

- **SASO (Saudi Standards, Metrology, and Quality Organization):** The national body responsible for developing and approving national standards for all products and services. They issue the mandatory SASO Certificate of Conformity (CoC) for regulated products entering the market.
- **SEEC (Saudi Energy Efficiency Center):** The primary authority for managing and promoting energy efficiency programs across various sectors (buildings, industry, transport). SEEC develops the specific energy efficiency standards and labels (e.g., EUI Certificate for buildings, fuel economy labels) that SASO enforces.
- **Tarshid (National Energy Services Company):** Focuses on managing and implementing large-scale energy efficiency projects, particularly in the government and street-lighting sectors, by retrofitting infrastructure and ensuring projects meet unified technical specifications.

General Compliance Matrix Structure

To build a compliance matrix for a specific product or project, you would create a table that maps the relevant requirements of these organizations to your product's specifications or project's scope.

Requirement Category	Description	Responsible Entity	Applicable Standard / Regulation	Compliance Status	Evidence / Documentation
Product Certification	Does the product (e.g., HVAC system, LED light) have the mandatory SASO CoC and Energy Efficiency Label?	SASO / SEEC	Specific Saudi Standard (e.g., SASO IEC 60598 for luminaires)	Met	Test reports, CoC certificate
Energy Performance	Does the product / building meet the minimum energy	SEEC	Energy Use Intensity (EUI)	Met	Performance data, simulation results
Project Implementation	Does the project (e.g., streetlight retrofit) adhere to unified technical specifications and program guidelines?	Tarshid / Municipalities	Tarshid Technical Specifications for Street Lighting	Met	Project plan, Bill of Materials, post-implementation audit
Data Submission	Are energy consumption data and implementation plans registered with the SEEC platform?	SEEC	Energy Management Program requirements (ISO 50001 equivalent)		



LUXCORE Series – Light, Reimagined

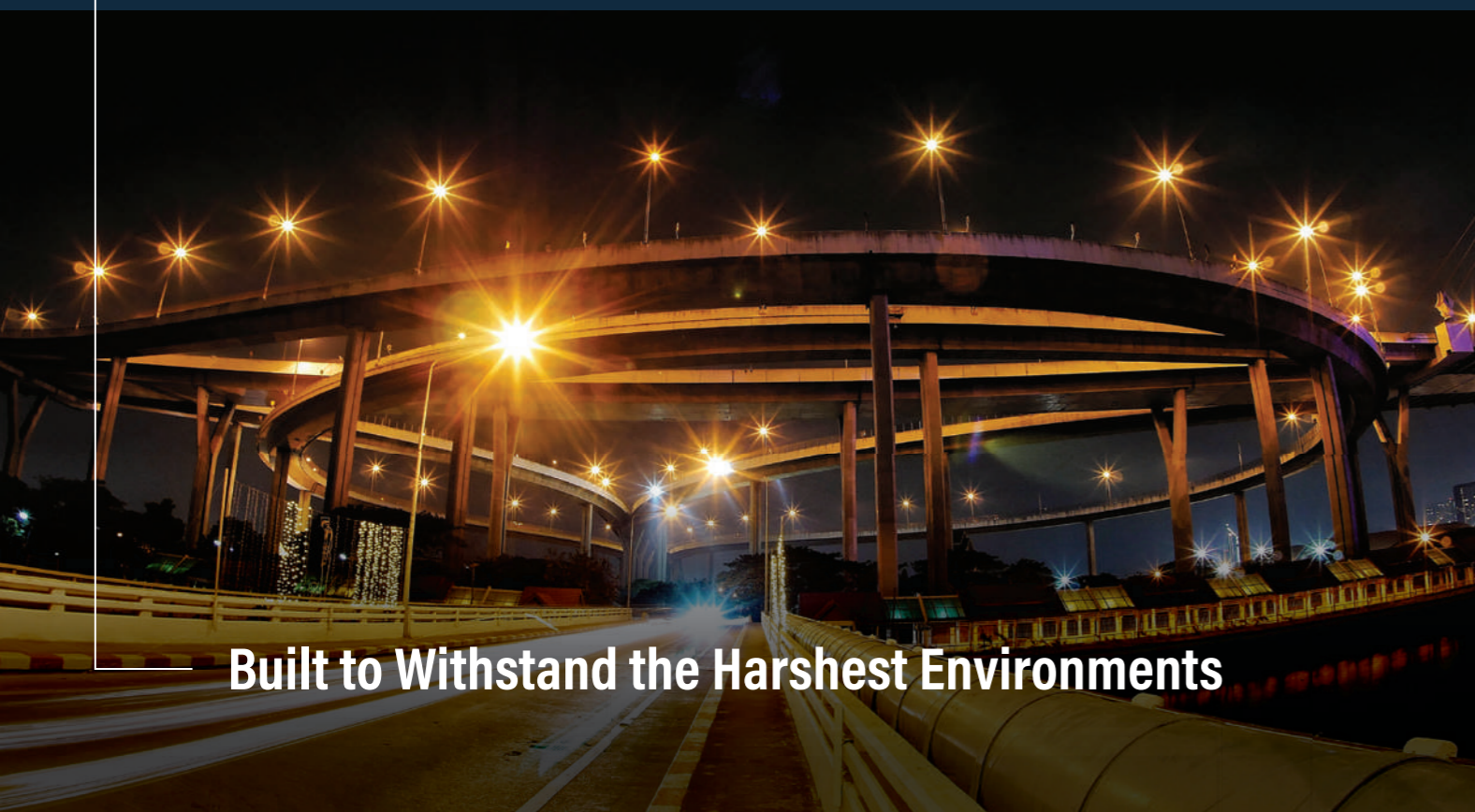
Efficiency That Pays Off

Ingress Protection

LUXCORE Series carries an industry-leading IP66 protection rating, guarding the luminaire against dust, water jets, and tough outdoor conditions.

Whether installed in dusty desert zones or high-humidity coastal areas, **LUXCORE** remains stable, durable, and consistently bright.

Committed to Quality.
Proudly Made in Saudi Arabia.



Built to Withstand the Harshes Environment

Reliability That Lasts for Years

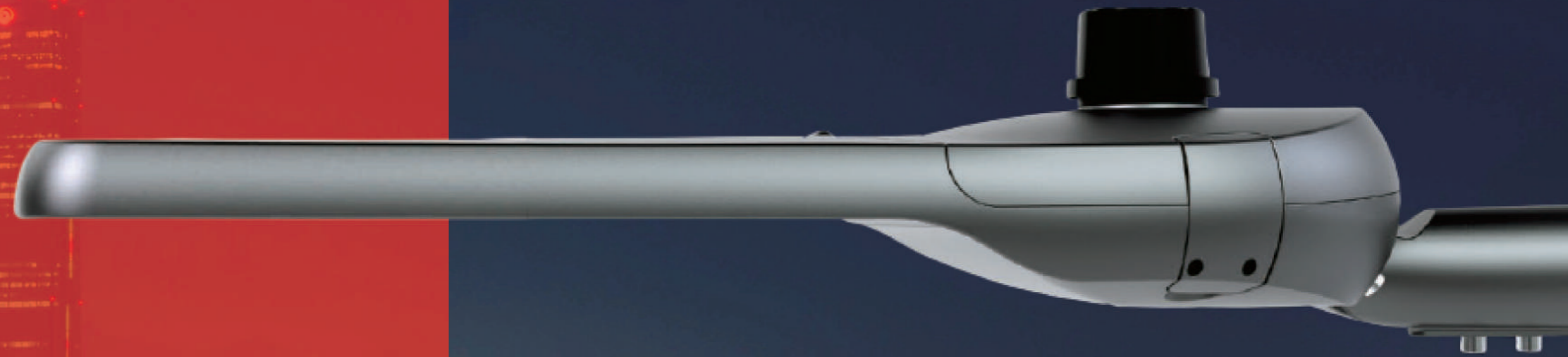


Where **LUXCORE** Belongs

- ✓ Highways & Motorways
- ✓ Urban & Residential Streets
- ✓ Commercial Districts
- ✓ Pedestrian Walkways & Bike Paths
- ✓ Parks & Public Areas
- ✓ Bridges & Interchanges
- ✓ Railway Stations & Metro Surroundings
- ✓ Large Outdoor Spaces & Parking Zones

Strength You Can See

Sustainable Light for a
Sustainable Future



Wherever dependable illumination is required,
LUXCORE is the trusted choice.

The **LUXCORE** Difference

Engineering That Stands the Test of Time

Features

- ✓ High system efficacy up to 160 lumens per watt
- ✓ Rugged die-cast housing with premium finish
- ✓ Multiple optical lens options for Type II and Type III distributions
- ✓ Tool-free access for simplified maintenance
- ✓ IP66 protection against dust and water
- ✓ IK09 impact resistance
- ✓ Certified for 3G vibration environments
- ✓ Lifetime rated L70 above 150,000 hours
- ✓ Five to ten year warranty
- ✓ Ready for photocell or smart control configurations using NEMA or Zhaga interfaces

Engineered to Endure



Crafted from a single-piece die-cast aluminum body with a corrosion-resistant powder-coated finish, **LUXCORE** ensures long-term durability and optimal heat dissipation. Its robust construction makes it ideal for challenging climates and demanding city environments.

Performance at a Glance

	20-290w
	160lm/W
	Philips Lumileds
	AC 220-240V
	0.95 min
	Inventronics
	≥70
	4500~5500K(2500~5500K optional)
	L70>150,000hours
	65x150° / 90x150° / 100x150° / 150°
	IP66
	IK09
	3G Vibration
	Operating Temperature:-30°C to +55°C (-22°F to 131°F) Storing Temperature:-45°C to +80°C (-49°F to 176°F)
 	

Light Designed with Accuracy



Inspired by Performance

Specifications

Model No.	Rating	Size & Weight (mm/kg)	AMB Temp	Lumen efficacy	CCT	IP Rating
AlroufSTL01S-20W-XXX	20W	612x233x115	55	160LM/W	5050 LED 4000K-6500K	IP66
AlroufSTL01S-30W-XXX	30W	612x233x115	55	160LM/W	5050 LED 4000K-6500K	IP66
AlroufSTL01S-40W-XXX	40W	612x233x115	55	160LM/W	5050 LED 4000K-6500K	IP66
AlroufSTL01S-50W-XXX	50W	612x233x115	55	160LM/W	5050 LED 4000K-6500K	IP66
AlroufSTL02-60W-XXX	60W	544x264x132, 4.7	55	160LM/W	5050 LED 4000K-6500K	IP66
AlroufSTL02-80W-XXX	80W	544x264x132, 4.7	55	160LM/W	5050 LED 4000K-6500K	IP66
AlroufSTL01S-97W-XXX	90W	675x260x115	55	160LM/W	5050 LED 4000K-6500K	IP66
AlroufSTL01S-110W-XXX	110W	675x260x115	55	160LM/W	5050 LED 4000K-6500K	IP66
AlroufSTL01S-120W-XXX	120W	775x320x120	55	160LM/W	5050 LED 4000K-6500K	IP66
AlroufSTL01S-160W-XXX	160W	775x320x120	55	160LM/W	5050 LED 4000K-6500K	IP66
AlroufSTL01S-170W-XXX	170W	775x320x120	55	160LM/W	5050 LED 4000K-6500K	IP66
AlroufSTL01S-200W-XXX	200W	968x375x120	55	160LM/W	5050 LED 4000K-6500K	IP66
AlroufSTL03-260W-XXX	260W	762 x290 x143, 8.1	55	160LM/W	5050 LED 4000K-6500K	IP66
AlroufSTL01S-290W-XXX	290W	1016x390x11	55	160LM/W	5050LED 4000K-6500K	IP66
















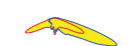














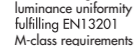

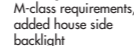

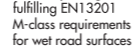
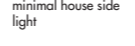
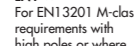
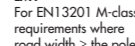
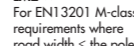
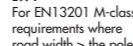

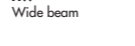



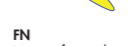





IK10

Precision Built into Every Watt



Elevating Urban Light with **LUXCORE**

Beams For Street Lighting

 T1 IESNA Type I (medium)	 T1-A IESNA Type I (short)	 T1-M IESNA Type I (medium) beam for European P-class standard	 T2 IESNA Type II (medium)	 T2-B IESNA Type II, minimized house side backlight	 T2-C/C2/C3 IESNA Type II, added house side backlight
 A-T Short IESNA Type II	 T2-L IESNA Type II (long)	 T2-M IESNA Type II (medium)	 T2-S IESNA Type II (short)	 T3 IESNA Type III (medium)	 T3B / T3-B IESNA Type III (medium), minimized backlight
 T3-L IESNA Type III (long)	 T3-M IESNA Type III (medium)	 T4 IESNA Type IV	 T4B / T4-B IESNA Type IV, forward throw beam	 VSM IESNA Type V (square)	 SCL Type II/III (long), ideal for pedestrian paths and residential roads
 DWC / T-DWC Universal road lighting (Typ. IESNA Type III Medium)	 DCW-C/DWC2 Universal road lighting (Typ. IESNA Type III Medium)	 DNW Soft wide beam with good illuminance uniformity	 DN / T-DN For area lighting with shorter illumination distances	 DW / T-DW Soft wide beam with good illuminance uniformity	 FW Wide light distribution, residential streets, staggered pole setup
 ME * Excellent longitudinal luminance uniformity fulfilling EN13201 M-class requirements	 ME-N * Designed for high poles, fulfilling EN13201 M-class requirements	 ME-WIDE1 * Fulfilling EN13201 M-class requirements, added house side backlight	 ME-WIDE2 * For staggered pole setups fulfilling EN13201 M-class requirements	 MEW * Extremely low glare fulfilling EN13201 M-class requirements for wet road surfaces in North Europe	 NHS Narrow beam, minimal house side light
 LN1 * For EN13201 M-class requirements with high poles or where road width ≤ the pole height	 LM1 * For EN13201 M-class requirements where road width ≥ the pole height	 LM2 * For EN13201 M-class requirements where road width ≤ the pole height	 LW1 * For EN13201 M-class requirements where road width > the pole height	 ANZ-P Pedestrian lighting in Australia & New Zealand	 XW Wide beam
 DB Floodlight beam for the area between the railway tracks acc. to DB requirements.	 PX Double asym., pedestrian crossings, right side traffic	 PXL Double asym., pedestrian crossings, left side traffic	 FN Narrow forward throw beam for area lighting	 FT Forward throw beam for area lighting	 TF Narrow forward throw beam optimized for European tunnels
 FR Asymmetric spot light beam for floodlighting railway tracks according to Russian normative	 FS Forward throw beam for area lighting	 FS2 For symmetrical tunnel lighting and parking garages, ideal for catenary street lighting	 FS3 Forward throw beam optimized for European tunnels, extremely efficient lighting with counter-beam method	 B2 / B2-STP For area lighting and applications demanding a wide oval beam pattern	 CAT * Catenary street light beam optimized for EN13201 M-classes
 CAT-B * Narrow catenary street light beam optimized for EN13201 M-classes and tilted poles	 C / C-STP For area and street lighting such as parks and pedestrian walkways	 CY For canopy lighting with batwing light distribution, suitable for symmetrical tunnel lighting	* for luminance based road standards		

The New Benchmark in Street Lighting



Lighting Innovation Made in the Kingdom

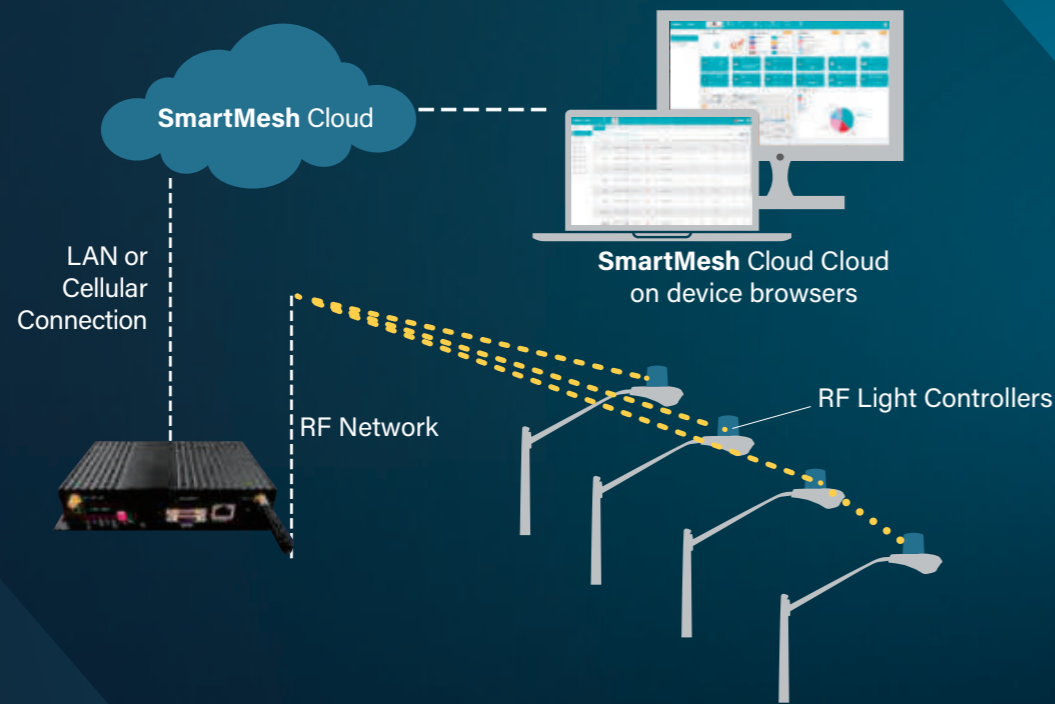
IoT Compatible

With optional NEMA or Zhaga sockets, the **LUXCORE** Series can seamlessly integrate with smart city lighting systems.

Features include:

- ✓ Remote monitoring
- ✓ Real-time performance data
- ✓ Adaptive dimming
- ✓ Fault notifications
- ✓ Motion sensor compatibility

Empower your city with smarter, more efficient lighting.



Intelligence Powered by Light

Innovation That Shines Beyond

System & Hardwares



Automatic Light On/Off & Dimming Control

- By time setting
- On/off or dimming with motion sensor detection
- On/off or dimming with photocell detection

Accurate Operation & Fault Monitor

- Real-time monitor on each light working status
- Accurate report on fault detected
- Provide location of fault, no patrol required
- Collect each light operation data, such as voltage, current, power consumption



Extra I/O Ports for Sensor Expandability

- Environment Monitor
- Traffic Monitor
- Security Surveillance
- Seismic Activities Monitor

Reliable Mesh Network

- Self proprietary wireless control node
- Reliable node to node, gateway to node communication
- Up to 1000 nodes per network
- Max. network diameter 2000m



Easy-to-use Platform

- Easy monitor on each and all lights status
- Support lighting policy remote set-up
- Cloud server accessible from computer or hand held device

Smart control options for LED street lights:

We use a combination of sensors and communication technologies to enable remote monitoring, dynamic dimming, and adaptive lighting based on real-time conditions. These systems allow city managers to optimize energy consumption and reduce maintenance costs.

Control and Dimming Interfaces

Smart LED street lights support various interfaces to enable intelligent control:

- **0-10V/1-10V Dimming:** this common analog dimming method adjusts light intensity by changing the DC voltage signal sent to the LED driver.
- **DALI (Digital Addressable Lighting Interface):** A dedicated digital signal interface for lighting applications that allows for individual control and bidirectional data exchange with each light fixture.
- **PWM (Pulse Width Modulation) Dimming:** A digital method that controls brightness by changing the duty cycle of an electrical pulse.
- **NEMA/Zhaga Sockets:** These standardized physical interfaces (e.g., 7-pin NEMA socket, Zhaga Book 18) provide plug-and-play connectivity for smart controllers and sensors, ensuring interoperability between different manufacturers' products.

Communication Technologies:

Communication modules allow street lights to form a network and send data to a central management system (CMS).

- **RF Mesh Network (e.g., Zigbee):** A short-range, self-configuring, and self-healing network where street lights communicate with each other and a central gateway.
- **RF Star Network (e.g., LoRaWAN):** A low-power wide area network (LPWAN) that allows long-distance communication and requires fewer gateways for a given area compared to mesh networks.
- **Cellular Network (e.g., NB-IoT, LTE Cat M1):** Smart controllers communicate directly with the CMS over a public cellular network, eliminating the need for local gateways.
- **PLC (Power Line Communication):** Uses existing electrical wiring to transmit data, which can be a cost-effective solution as it avoids the need for new communication infrastructure.
- **Motion Sensors (PIR/Microwave):** Detect pedestrian or vehicular movement, allowing lights to brighten when activity is detected and dim during periods of low activity, significantly saving energy.
- **Ambient Light Sensors (Photocells):** Monitor natural light levels to automatically turn lights on at dusk and off at dawn, or adjust brightness accordingly.
- **Timer Dimming/Pre-programmed Schedules:** Automatically adjust the lighting intensity to different levels at specific times of night based on pre-programmed schedules, ensuring optimal illumination for traffic flow and reducing light pollution.
- **Environmental Sensors:** Can be integrated to monitor conditions like air quality, temperature, and weather, providing data for broader smart city applications.
- **Predictive Maintenance:** The system's ability to run self-diagnostics and flag issues proactively, reducing the need for manual inspection and lowering maintenance costs.

What we can achieve from Smart control:

Intelligent control systems incorporate various sensors and software features for dynamic operation:

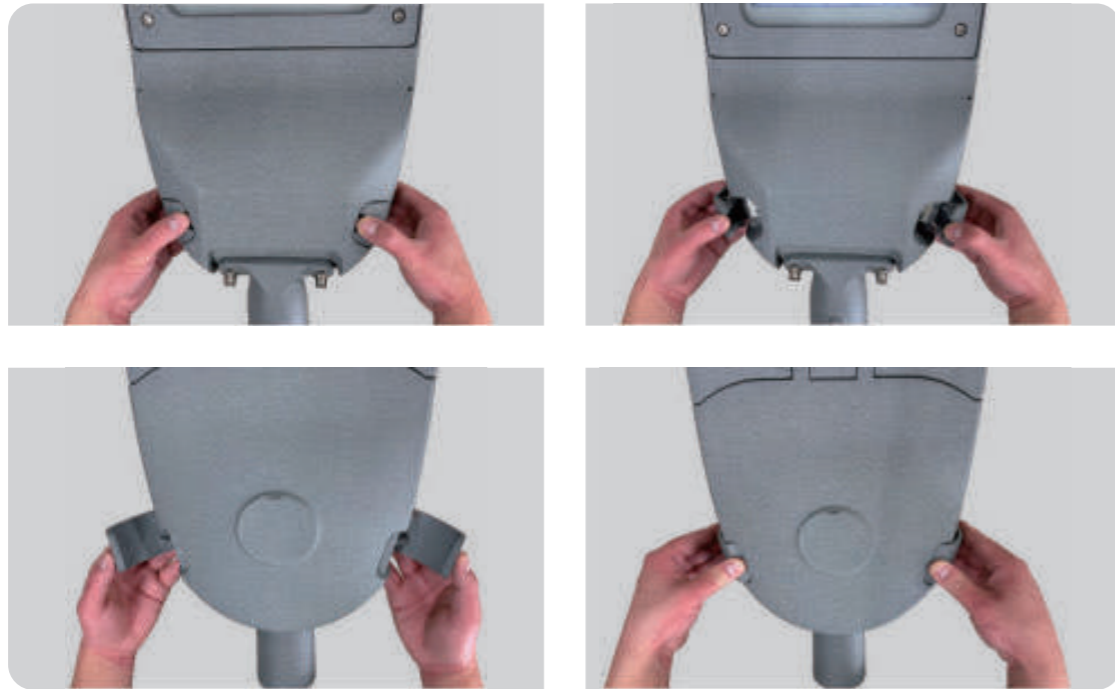
- **Central Management System (CMS):** A software platform (often cloud-hosted) used by operators to monitor performance, track energy use, receive alerts for malfunctions, and set dimming parameters and schedules remotely.



Connected. Efficient. Intelligent.

Maintenance Made Effortless

LUXCORE features a tool-free access design that enables quick installation and simplified high-altitude servicing. This reduces maintenance time, improves technician safety, and minimizes operational downtime.



Flexible Installation and Mounting

- ✓ Slip fitter mounting for versatile pole compatibility
- ✓ Adjustable angle positioning for precise light aiming
- ✓ Convenient access for wiring and connections
- ✓ Stable design for vibration-prone environments

Shaping the Night of Modern Cities

Designed for Easy Deployment



Installation Made Simple

Power & Control Architecture

Field Adjustable Output Module

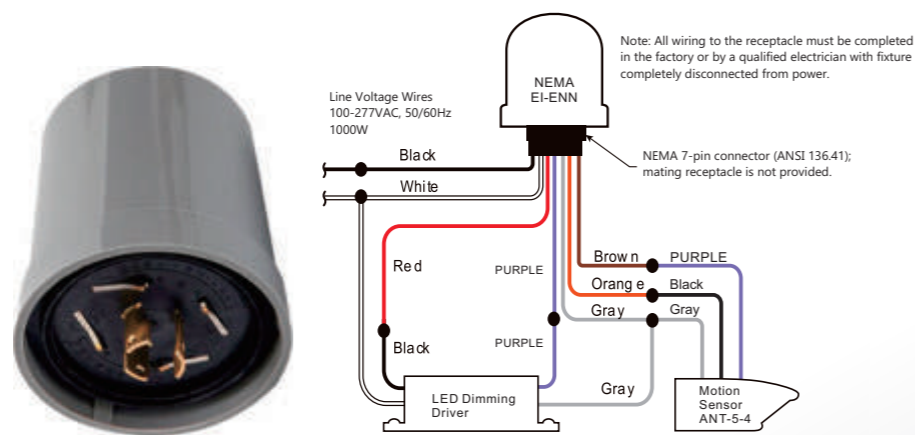
The Field Adjustable Output Module is a factory-installed voltage regulating device that is connected to the gray (-) and violet (+) 0-10V dimming leads of the LED driver.

Manually dialing the switch allows the fixture to be dimmed in the field.



Future Ready NEMA/Zhaga Connection

Ready NEMA or Zhaga socket to enable further control of streetlight from simple photocell to smart city controller node.



Upgrade Your Streets. Elevate Your City



Efficient, Durable, and Smart - All in One Upgrade

Powering the Light with Precision

ROI of HPS vs. LED Street Lights



The superior ROI of LED street lights is driven by significant savings in two main areas: energy and maintenance.

- **Energy Consumption:** LED lights consume 40-80% less electricity than HPS fixtures to provide the same or better illumination because their light is directional and more efficient. A 30W LED can often replace an 80W HPS lamp, and a 250W LED can replace a 400W HPS lamp.
- **Maintenance Costs:** LEDs have a lifespan of 50,000 to 100,000 hours, which is 4 to 8 times longer than HPS lamps (which typically last 1 to 2 years). This longevity drastically reduces the frequency and labor costs associated with replacing bulbs and ballasts.
- **Initial Cost:** HPS lights typically have a lower initial purchase price, but the lifetime cost analysis overwhelmingly favors LEDs due to operational savings.

CO2 Savings

The environmental benefits are substantial. By reducing energy consumption by an average of 55% or more, cities can significantly lower their carbon footprint. The reduction in CO2 emissions directly corresponds to the decrease in electricity generated from fossil fuels. The long lifespan of LEDs also means fewer resources are used in manufacturing replacements.

Brighter Light, Stronger Savings

Case Study

Shuaiba Power Plant Street Lighting Retrofit

Project Overview

Project:

Shuaiba Power Plant – Street Lighting Retrofit

Client:

Saudi Electricity Company (SEC)

Location:

Jeddah, Saudi Arabia

Number of Street Lights Replaced:

1,288 units

Key Figures

- 1,288 street lights converted from conventional to LED
- Approximately 52.6% reduction in annual energy consumption
- SAR 491,183.16 total annual cost savings (energy + maintenance) per year
- Approximately 234 metric tons of CO2 emissions avoided per year
- Simple payback period: 1.8 years

Project Background

Shuaiba Power Plant, located near Jeddah on the Red Sea coast, is one of the largest fossil fuel power plants in the world, with an installed capacity of approximately 5,600 MW and significant desalination capabilities. As part of SEC's drive to improve energy efficiency, reduce operating costs, and lower environmental impact, the plant's conventional street lighting system was selected for an upgrade to LED technology.

Project Objectives

- Reduce annual energy consumption for outdoor lighting.
- Lower maintenance costs and unplanned outages associated with conventional fixtures.
- Contribute to SEC's sustainability and CO2 reduction targets.
- Maintain or improve lighting levels and safety across plant roads and outdoor areas.

Scope of Work

- Replacement of 1,288 conventional street light fixtures with high-efficiency LED luminaires.
- Optimization of wattage and optics to deliver required illumination while minimizing energy use.
- Implementation of the retrofit without interrupting critical power plant operations.

Energy and Cost Savings

Annual Energy Consumption:

- Existing lighting system: 740,512 kWh/year
- New LED lighting system: 350,769 kWh/year
- Annual energy saving: 389,743 kWh/year
- Energy reduction: approximately 52.6% compared to the previous system.

Annual Cost Savings:

- Considering both reduced electricity consumption and lower maintenance requirements, the project delivers total annual cost savings of SAR 491,183.16 per year.

Environmental Impact - CO2 Emission Reduction

To estimate the CO2 emissions avoided due to reduced electricity consumption, a representative emission factor of 0.6 kg CO2 per kWh was used, reflecting typical power generation in the region.

Calculation Methodology:

Formula: Annual Energy Saving (kWh) × CO2 Emission Factor (kg/kWh) = Annual CO2 Saving (kg).

Inputs:

- Annual energy saving: 389,743 kWh/year.
- Emission factor: 0.6 kg CO2/kWh.

Result:

- Annual CO2 saving: 233,845.8 kg CO2/year.
- Equivalent to approximately 233.85 metric tons of CO2 avoided every year.

Note: CO2 savings are based on an assumed grid emission factor of 0.6 kg CO2/kWh. Actual savings may vary depending on the real generation mix and emission factor of the electricity grid.

Financial Performance

Simple payback period: 1.80 years.

With an attractive payback of less than two years, the project represents a financially robust investment, combining significant annual energy and maintenance savings with long system lifetime and reduced need for lamp replacements and interventions. Beyond the payback period, the plant continues to benefit from recurring cost savings throughout the LED system's lifetime.

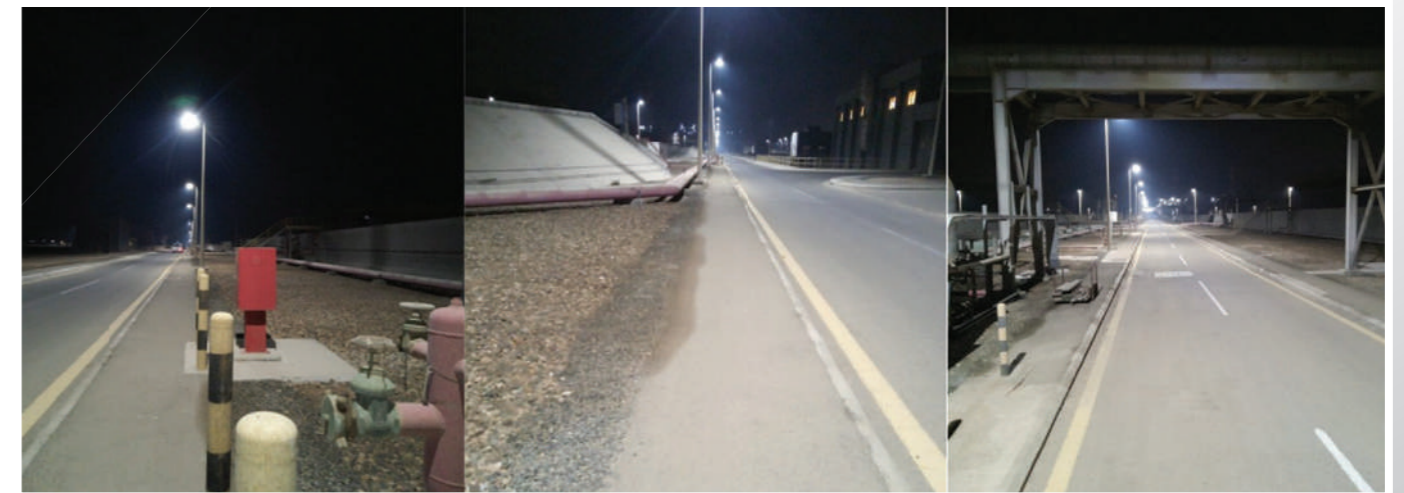
Reduce Costs. Increase Value. Upgrade to LED

Key Outcomes

- Successful conversion of 1,288 street lights from conventional technology to LED.
- Approximately 52.6% reduction in annual energy consumption for street lighting.
- SAR 491,183.16 saved annually in energy and maintenance.
- Approximately 234 metric tons of CO2 emissions avoided every year.
- Enhanced reliability and reduced maintenance for critical plant infrastructure.

Conclusion

The Shuaiba Power Plant street lighting retrofit showcases how switching from conventional fixtures to LED technology can deliver measurable benefits in energy savings, operational costs, and environmental performance—without compromising lighting quality or plant safety. The project provides a scalable reference model for similar efficiency upgrades across other SEC facilities and large industrial sites in the region.



SHOAIBAH PLANT Street light after installation





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