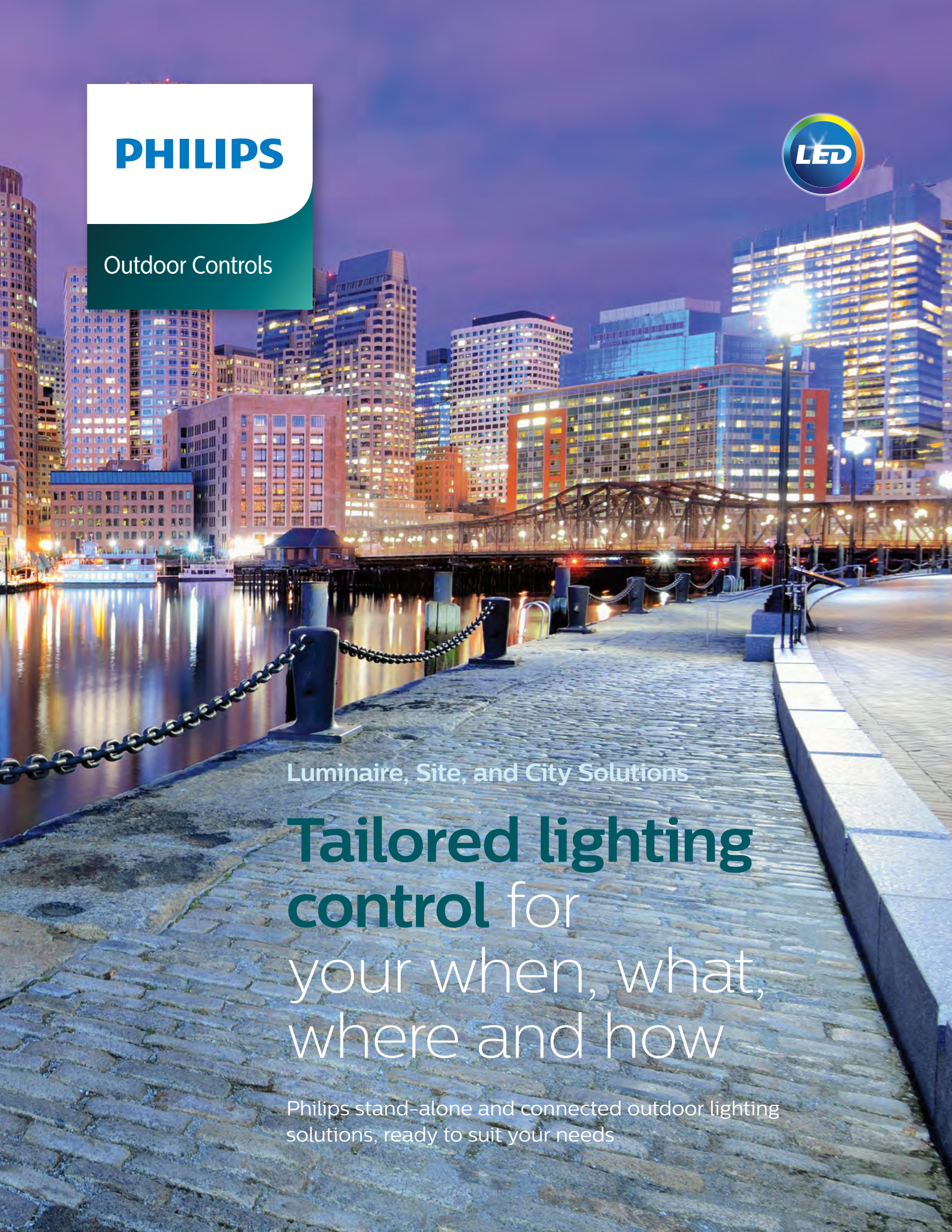


PHILIPS

Outdoor Controls

LED

Luminaire, Site, and City Solutions

Tailored lighting control for your when, what, where and how

Philips stand-alone and connected outdoor lighting solutions, ready to suit your needs

“How can I respond when demands change?”

New opportunities to answer today's outdoor lighting challenges

Public and private sectors are demanding more from outdoor lighting installations. Safety is paramount, yet budget restrictions and environmentally sustainable goals cannot be overlooked. Flexibility and connectability are also increasingly necessary to adapt to varying conditions and future site changes.

Our stand-alone and connected outdoor LED lighting solutions help you to construct well-lit and aesthetic outdoor areas with exceptional energy efficiency and energy saving programming options to meet your sustainability goals, along with low maintenance costs and fast payback through total cost of ownership. And, we offer you a wide range of scalable operational and technological options from basic connectivity to sophisticated multi-site systems. We're here to help you satisfy your lighting challenges.

Which outdoor lighting solution is **right for you?**

Luminaire Solutions

Basic, Autonomous, Affordable

Site Solutions

Intermediate, Informative, Flexible

City Solutions

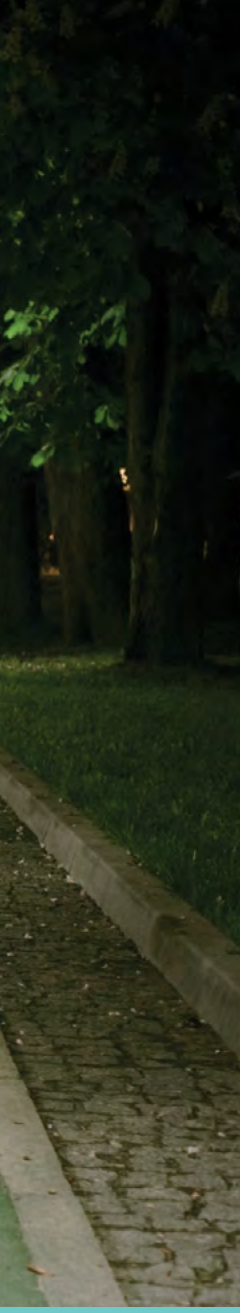
Advanced, Powerful, Extensive

Type	On/off	Dimming	Data reporting	Schedule
Single luminaire	*Yes	Yes	At luminaire	Daily only
Multiple luminaires, single site	Yes	Yes	On site / cloud based	Daily / weekly
Multiple luminaires, multiple sites	Yes	Yes	Cloud based	Daily / weekly / yearly

*Excludes Dynadimmer
Each of our connected lighting systems may be enhanced – see page 29 for details.

Grouping and monitoring	Alarms	Adjustments and programming	Involvement	Startup cost	Services fee
No	No	At luminaire	Basic (electrician)	$	No
Basic	Local, remote	On-site, remote	Intermediate (building owner/ manager)	$$	Yes
Enhanced	Remote, (SMS email)	Remote	High (public works, outsourcing)	$$$	Yes

Luminaire Solutions

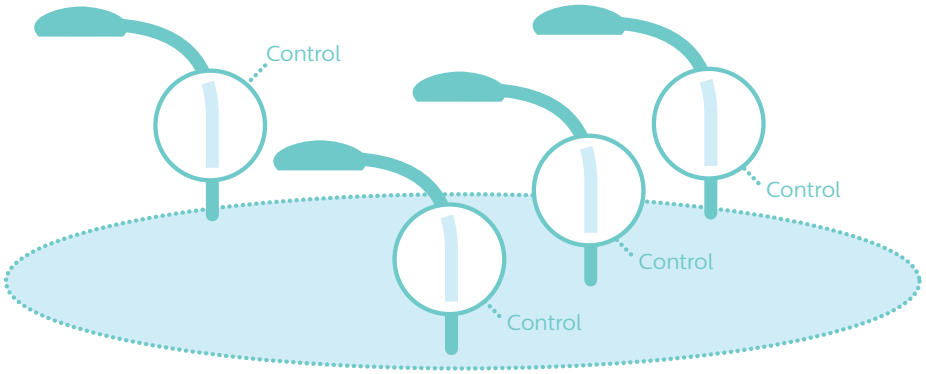


Basic. Autonomous. Affordable.

Are you looking for simple, individual outdoor lighting control without the need for remote access? If so, our stand-alone luminaire managed lighting solutions may suit your needs.

- Individual LED luminaire dimming and management
- Pre-programmed, factory customized and user customized settings
- Low acquisition costs for small quantities
- No recurring costs

Visit www.philips.com/luminaires and select Controls Outdoor for more information on Luminaire Solutions.



Single Site

Dynadimmer Stand-alone Dimming Profile

Your **efficient**, stand-alone dimming solution

Dynadimmer can help you project a green image and save energy while also supporting traffic and pedestrian security efforts and creating a comfortable, inviting nighttime environment. Once easily installed in your outdoor LED luminaire, Dynadimmer changes the luminaire's light output to high, medium or low according to pre-programmed or customized dimming schedules to reduce light pollution and energy consumption without compromise.

The dimming schedules may also prolong the LED luminaire's lifespan for less maintenance and lower costs of ownership, and reduce energy consumption and CO_2 emissions. An override function allows the luminaire to project full light output when triggered by an optional motion sensor, switch or relay, and then automatically return to the programmed schedule.

Technological Criteria

On/off	No
Dimming	Yes
Scheduling	Yes/daily
Monitoring	No
Alarms	No
Grouping	No

Operational Criteria

Involvement of monitoring installation	No or little involvement (e.g. electrician)
Availability of data on lighting installation	No or little information
Flexibility to change parameters as required	Yes, but must be changed at each luminaire
Desired scope of lighting control	Single luminaire
Need for remote control of installation	No
Intended project investment level	Low

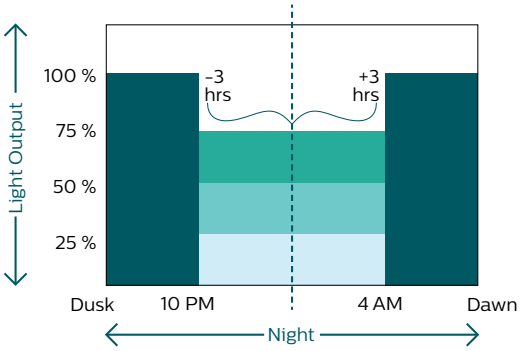
Efficient dimming **when you want it**

For your convenience, Dynadimmer includes pre-programmed dimming schedules for many applications and geographies. These were modeled according to Illuminating Engineering Society (IES) recommended practices to provide comfortable and uniform lighting and support traffic and pedestrian security efforts. Each schedule may be modified, and custom schedules can be created using an optional programming kit or USB cable and free programming software.

Visit www.philips.com/dynadimmerus for more information and to download the software.

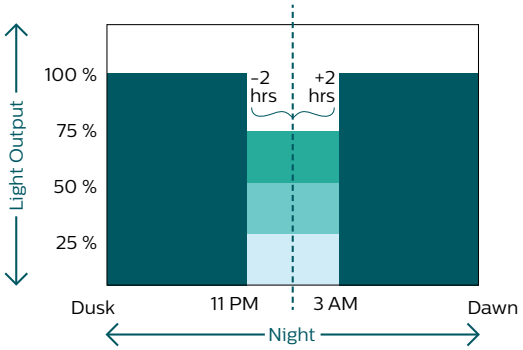
6 hour dimming

Create the ideal balance of illumination and energy savings by dimming nighttime light levels over 6 hours by 25%, 50% or 75%.



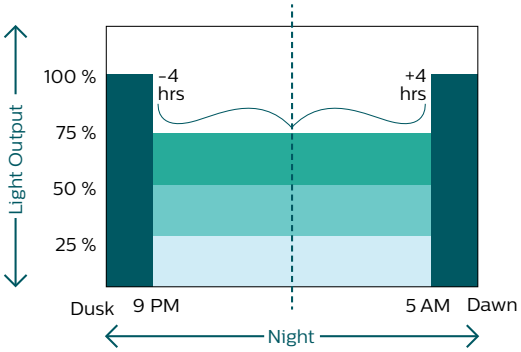
4 hour dimming

Emphasize illumination by dimming nighttime light levels over 4 hours by 25%, 50%,or 75%.



8 hour dimming

Maximize energy savings by dimming nighttime light levels over 8 hours by 25%, 50% or 75%



Programmable Motion Response

Your **reactive**, stand-alone dimming solution

Programmable Motion Response maximizes your outdoor lighting energy savings while supporting security efforts. Upon easy installation, Programmable Motion Response dims your outdoor LED luminaire to a low light output, increases to a high light output only when motion is detected, and returns to the original low output after a defined time.

Motion-based dimming may prolong the LED luminaire and electrical component lifespans, for significant energy and cost savings during unoccupied periods. Pre-programmed or customized settings control light, duration, and sensitivity levels, as well as daylight sensing for even more energy savings. Settings are easily changed at the luminaire with an optional wireless handheld programmer, and custom factory-based programs are also available.

Reactive dimming **when you want it**

Factory Pre-set Program Settings

- **High –** Light output when motion is detected. Preset to 10V or 100%.
- **Low –** Light output once time delay expires and no motion is detected. Preset to 1V or 10%.
- **Time Delay –** Period between HIGH and LOW light outputs when motion is detected. Preset to 10 minutes.
- **Cut Off –** Period of uninterrupted LOW light output before lights are turned OFF. Preset to “none”.
- **Sensitivity –** Response and sensitivity to motion within the coverage area. Preset to “maximum”.
- **Setpoint (Daylight Harvesting) –** Ambient light level to hold the luminaires at LOW when motion is detected. Preset to 1 fc.
- **Ramp Up –** Time to change from LOW to HIGH when motion is detected. Preset to “none”.
- **Fade Down –** Time to change from HIGH to LOW once motion is no longer detected. Preset to “none”.

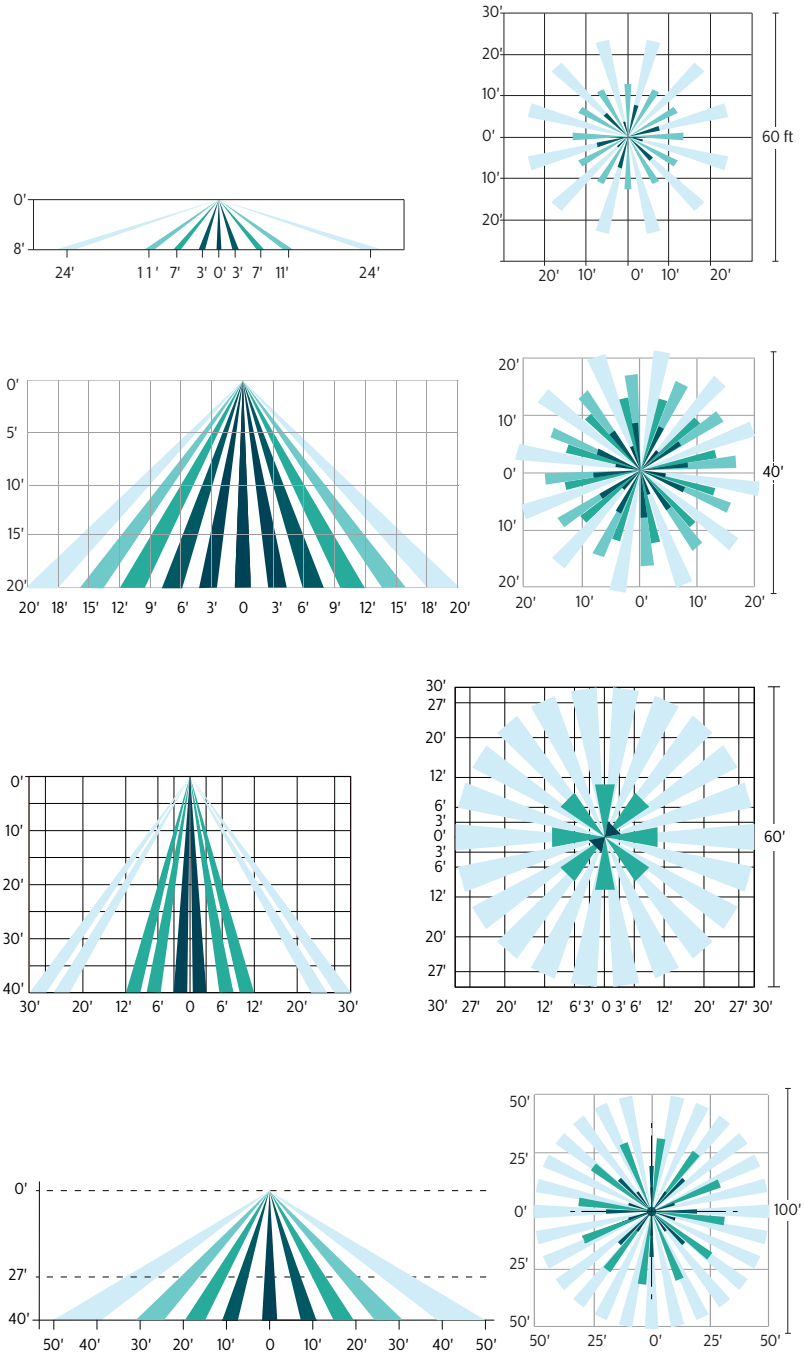
Technological Criteria

On/off	Yes
Dimming	Yes
Scheduling	No
Monitoring	No
Alarms	No
Grouping	No

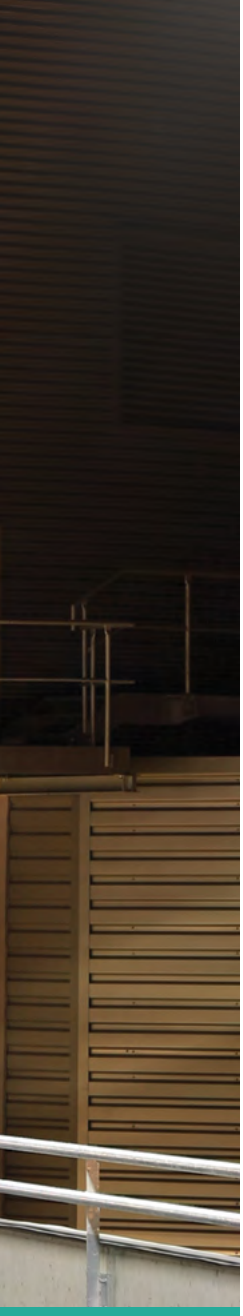
Operational Criteria

Involvement of monitoring installation	No or little involvement (e.g. electrician)
Availability of data on lighting installation	No or little information
Flexibility to change parameters as required	Yes, with a handheld
Desired scope of lighting control	Single luminaire
Need for remote control of installation	No
Intended project investment level	Low

Typical Programmable Motion Response Sensor Coverage Options



Site Solutions

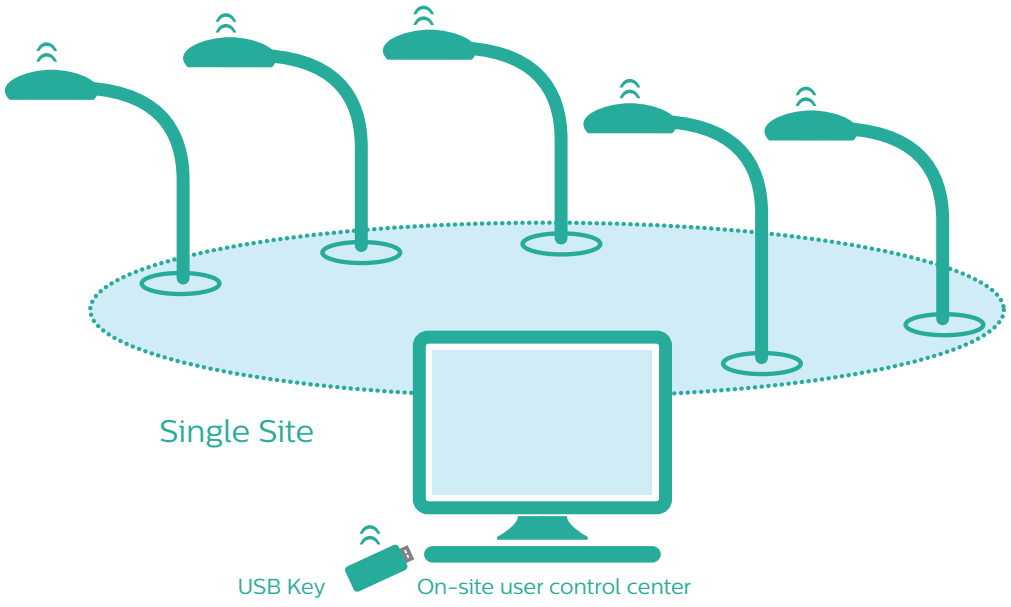


Intermediate. Informative. Flexible.

Are you looking to wirelessly manage your outdoor lighting as a single system or as separate lighting groups within the site? Do you want to monitor and respond to real-time energy usage and track data trends? If so, our web-based site managed connected lighting systems may suit your needs.

- Single-site LED dimming and management
- Coordination of the entire system, lighting groups or individual luminaires
- Daily, weekly, quarterly online report generation
- Wireless, on-site access
- Low recurring web site portal access costs

Visit www.philips.com/luminaires and select Controls Outdoor for more information on Site Solutions.



Wireless Controls

Your **flexible**, web-based lighting management approach

Connected lighting systems integrate wireless site controls with Philips LED luminaires, allowing you to project a green image and save energy across your parking garage and other site/area applications. Built-in flexibility means you can manage the entire site, independent lighting groups or individual luminaires, and using this web-based portal, you can conveniently access and manage your lighting network remotely without downloading software. The LED luminaires are wirelessly linked to each other and the web-based portal through a high density mesh network free of hard-wired zoning systems and added installation costs.

Preset and user-defined schedules provide seamless illumination and dimming, and comply with minimum IES and Commercial Building Energy Alliance (CBEA) requirements.

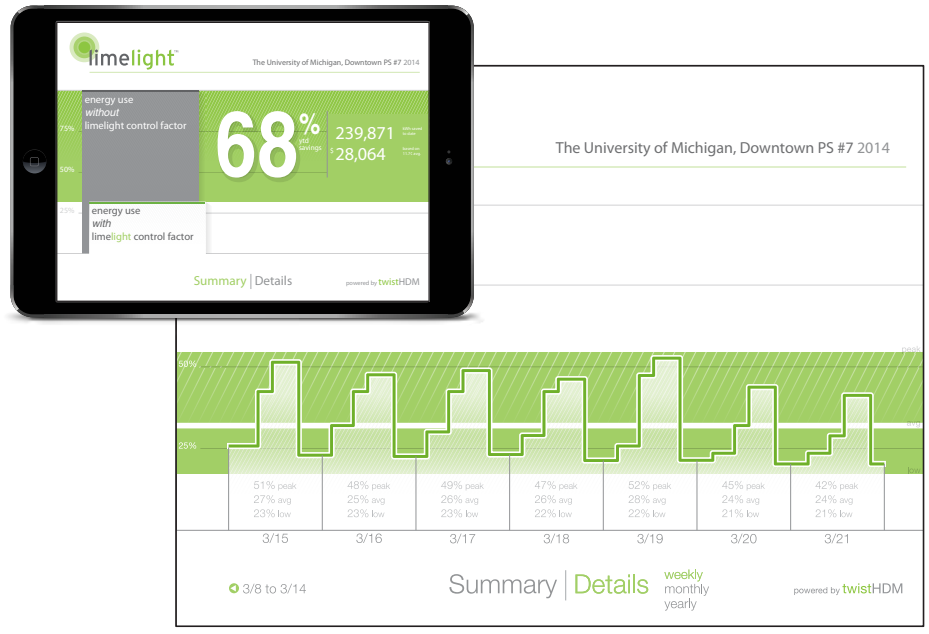
Savings and flexibility, **as you expect**

Technological Criteria

On/off	Yes
Dimming	Yes
Scheduling	Yes, yearly
Monitoring	Yes
Alarms	Yes
Grouping	Yes

Operational Criteria

Involvement of monitoring installation	Average involvement (e.g. owner or building manager)
Availability of data on lighting installation	Annual detailed report
Flexibility to change parameters as required	With ease, worldwide access
Desired scope of lighting control	Single site (multiple capable, consult your sales rep.)
Need for remote control of installation	Yes
Intended project investment level	Significant

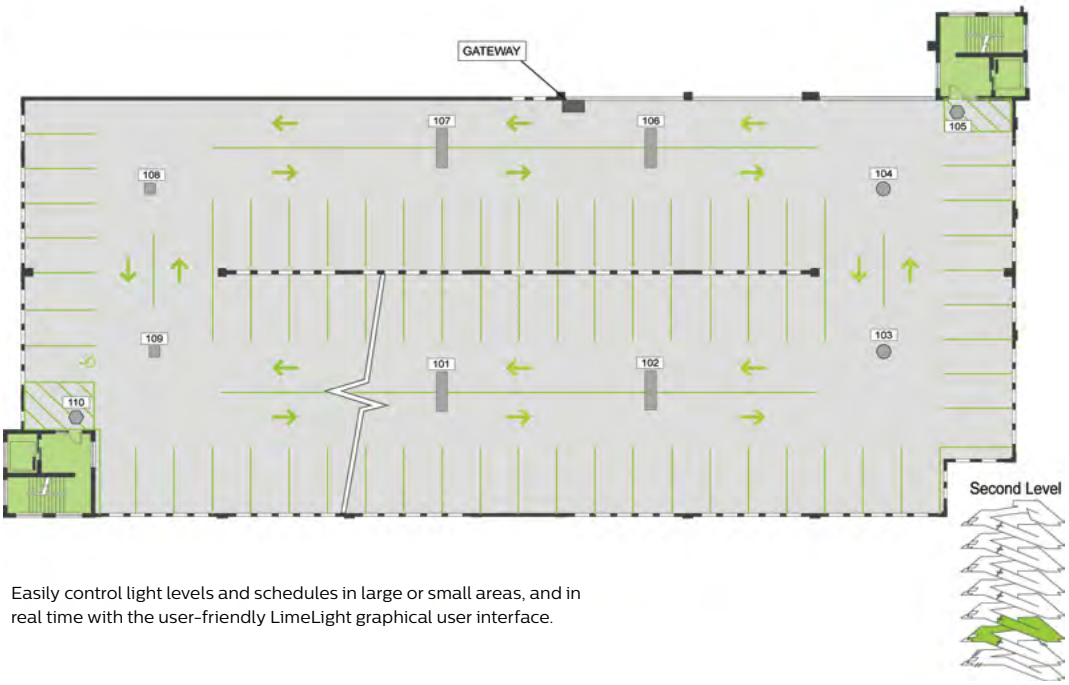


Control **where you want it**

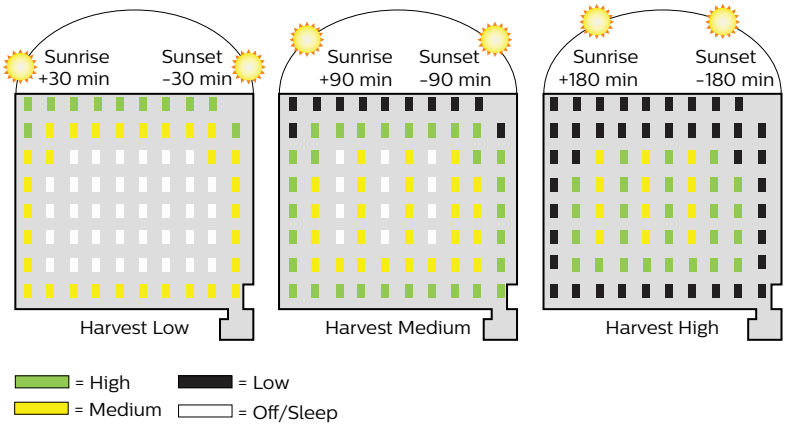
Whether it's overall site, specific area, evening or constant illumination, you can depend on our connected lighting systems to easily satisfy even complex demands. With wireless site controls integrated with your lighting, you can control monitor luminaires individually or in user-defined groups, helping to streamline management, maximize energy savings, and provide a fully-lit, seamless, comfortable environment. Up to 50 luminaire groups per gateway are wirelessly managed and monitored in real time from your computer, and individual luminaires and groups may be changed and updated as needed.

Maintenance, occupancy and special schedules are easily created. The schedules can be overridden to accommodate unanticipated lighting needs, and the normal schedule will automatically resume the next day.

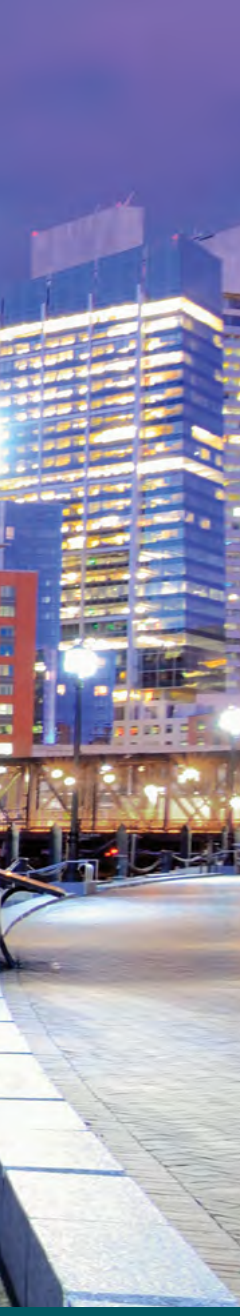
Light **when you need it**



Easily control light levels and schedules in large or small areas, and in real time with the user-friendly LimeLight graphical user interface.



City Solutions

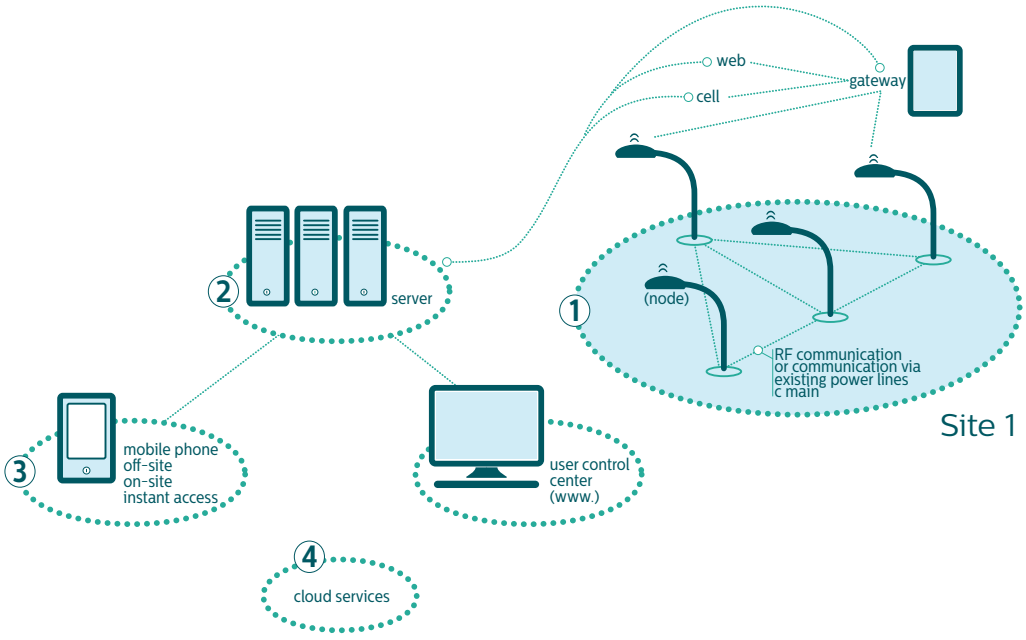


Advanced. Powerful. Extensive.

Do you require widespread or multi-site lighting management with detailed asset management? Are you seeking a lighting solution that can grow along with your needs? If so, our robust remote managed connected lighting systems may suit your needs.

- Coordination of large-scale lighting systems
- Extensive and detailed report generation
- Proactive asset management
- Remote access

Visit www.philips.com/luminaires and select Controls Outdoor for more information on City Solutions.



AmpLight Group Cabinet Management

Your **wide-ranging**, centralized lighting management resource

AmpLight allows you to comfortably and meticulously control and monitor large-scale lighting, including roadways and entire geographic areas, from a single control room. This advanced web-based solution is easily installed or retrofitted into existing systems without new cabling, helping you to monitor and reduce energy consumption and maintenance costs while projecting a high sense of quality and security.

Now you can track and analyze system-wide data, optimize light usage by dimming luminaire groups during off-peak hours, create detailed annual energy reports and pinpoint precise maintenance needs before dispatching crews to reduce unnecessary and costly time delays.

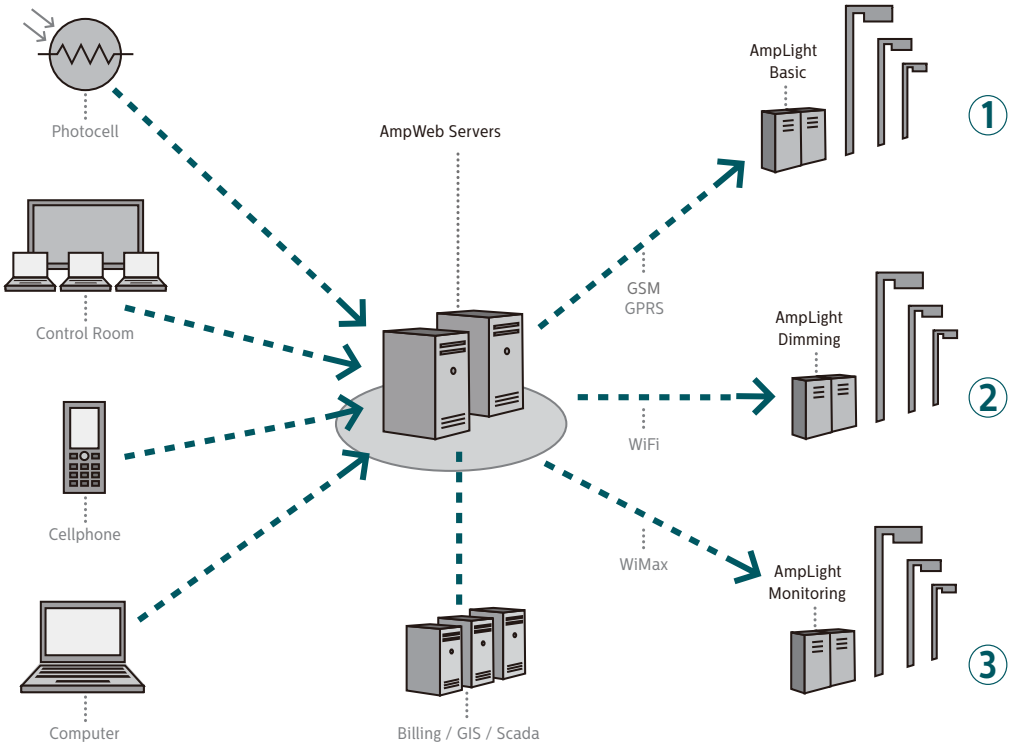
Track and analyze **what you choose**

Technological Criteria

On/off	No
Dimming	Yes
Scheduling	Yes/yearly
Monitoring	Yes
Alarms	Yes
Grouping	Only 1 unique group per cabinet

Operational Criteria

Involvement of monitoring installation	High involvement (Public works or outsourcing)
Availability of data on lighting installation	Annual detailed report
Flexibility to change parameters as required	With ease, worldwide access
Desired scope of lighting control	Multiple site
Need for remote control of installation	Yes
Intended project investment level	Significant



CityTouch Connected Lighting System

Your **powerful**, evolving management resource

CityTouch connected lighting system combines asset and lighting management so that you can easily plan, control and manage your entire lighting infrastructure. In addition to reducing energy consumption and adapting to a variety of lighting needs, CityTouch evolves in response to your future requirements.

CityTouch consists of CityTouch light point lighting asset management software and CityTouch light wave remote lighting management software, and uses tools such as Starsense dimmable lighting control. Together, they create a powerful, robust and growing solution for your large-scale lighting management needs.

Technological Criteria

On/off	Yes
Dimming	Yes
Scheduling	Yes/yearly
Monitoring	Yes
Alarms	Yes
Grouping	Yes, overlapping

Operational Criteria

Involvement of monitoring installation	High involvement (Public works or outsourcing)
Availability of data on lighting installation	Annual detailed report
Flexibility to change parameters as required	With ease, worldwide access
Desired scope of lighting control	Multiple site
Need for remote control of installation	Yes
Intended project investment level	Significant

"How can I **make my city more attractive** without breaking the bank?"

"How can I **improve my lighting management** while simplifying it?"

CityTouch Connected Lighting System with light point lighting asset management software – **manage what you have**

Keep track of your outdoor luminaires with CityTouch light point lighting asset management software. This simple and efficient map-based asset management system enables detailed workflow tracking, inventorying and status for up to millions of luminaires so you can pro-actively maintain your lighting system and identify energy and cost saving potentials. With its user-friendly and intuitive map interface, CityTouch light point lets you view the entire installation, quickly retrieve information and set and maintain planifications.

Existing maps can be uploaded into the software, or let us create a lighting map for you. And for increased convenience and efficiency, asset management may be expanded to accommodate any asset type.

CityTouch Connected Lighting System with light wave remote lighting management software – **how you can interact with your lighting**

You have the power to fully interact with your entire lighting infrastructure, from a single luminaire to the complete system, dynamically and efficiently with CityTouch light wave remote lighting management software. This software tracks highly detailed information per lighting asset, and also provides rapid, detailed search and filtering to help optimize your operations. User defined dimming and special event schedules can be created and managed to maximize energy savings. Multiple alarm levels exist, and when triggered, automatic emails are deployed to designated users, so that detailed and rapid action can be planned.

Your outdoor luminaires are connected to the CityTouch platform via luminaire-based Starsense controllers for two-way communication. This communication allows you to evaluate energy use, calculate savings and compare lighting data across the grid for further optimization. Additionally, optional CityTouch AssetLink allows CityTouch light wave to connect to an existing asset management system.

CityTouch connected lighting system with Starsense Dimmable Lighting Control – **flexibility when you need it**

Starsense controller provides outdoor luminaire on/dim/off control and energy metering, while communicating notifications and data. When integrated with CityTouch light wave remote lighting asset management software, you can easily plan, analyze and manage your entire lighting infrastructure from individual luminaires to entire districts. Starsense uses a highly secure mesh network technology that utilizes a gateway to connect to any lamp type, for added flexibility.

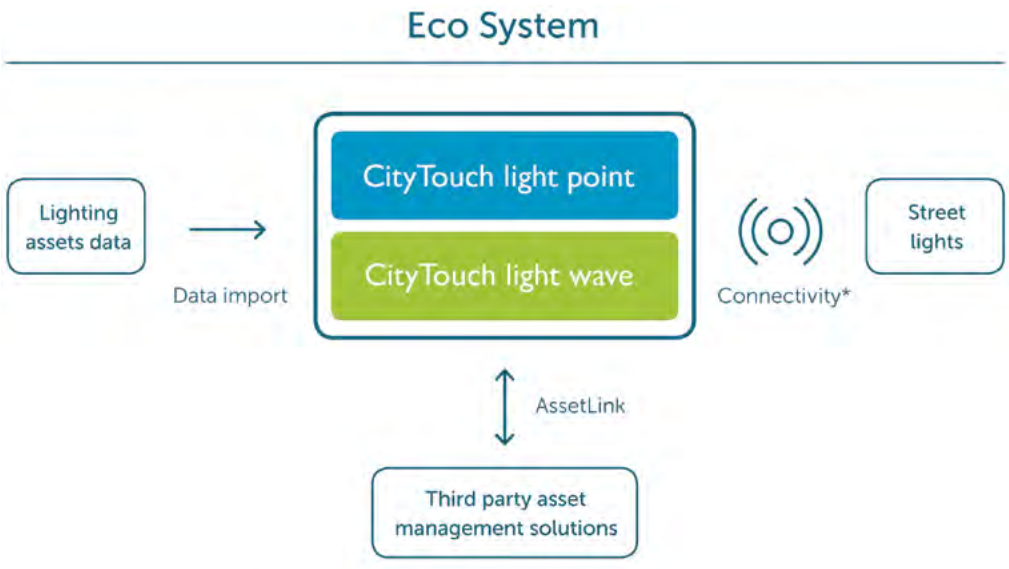
CityTouch **overview**

CityTouch light point – your detailed, scalable lighting asset database. Facilitate your lighting infrastructure planning, management and analyses; and bring transparency to your assets and workflows.

CityTouch Starsense – part of light wave. Your luminaire-based, two-way lighting communicators. Manually or automatically send commands, and receive notifications and data.

CityTouch light wave – your remote city lighting control center. Remotely communicate with various lighting system assets via a public mobile communications network.

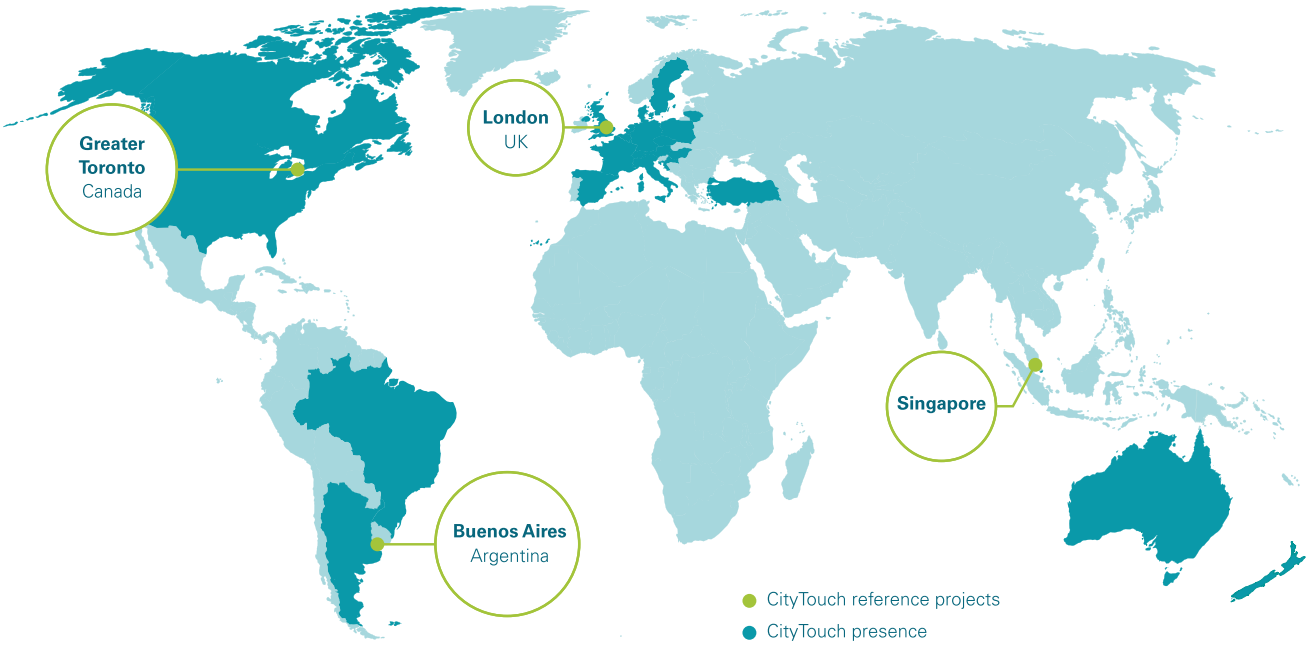
CityTouch AssetLink – your standardized, open integration interface. Link light wave software with third-party asset management systems.



*Only in conjunction with light wave

Is CityTouch right for **your city?**

CityTouch is used around the world, from small towns to mega cities, **to control and manage dynamic, efficient and flexible lighting.**

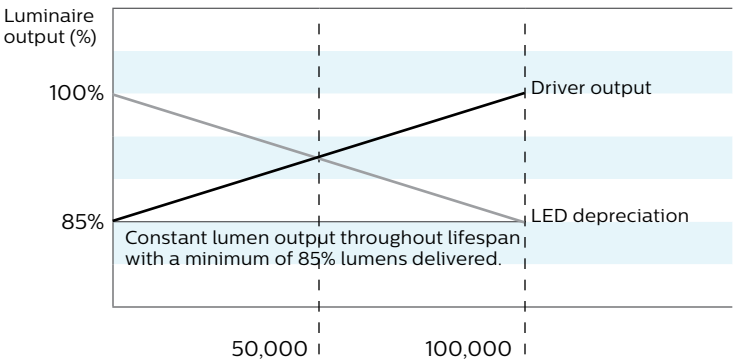


CityTouch is a global player:

CityTouch is in used around the world – on five continents and in more than 20 countries, CityTouch is bringing professionalism into street lighting management to both towns, such as Salobre in Spain and Markham in Canada, and mega cities, such as London and Buenos Aires.

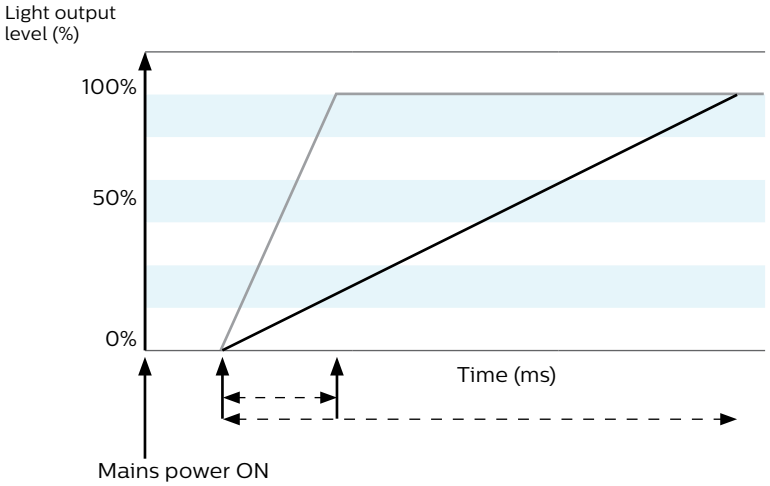
Do you **want more?**

You can enhance any of our connected lighting systems with the options below.



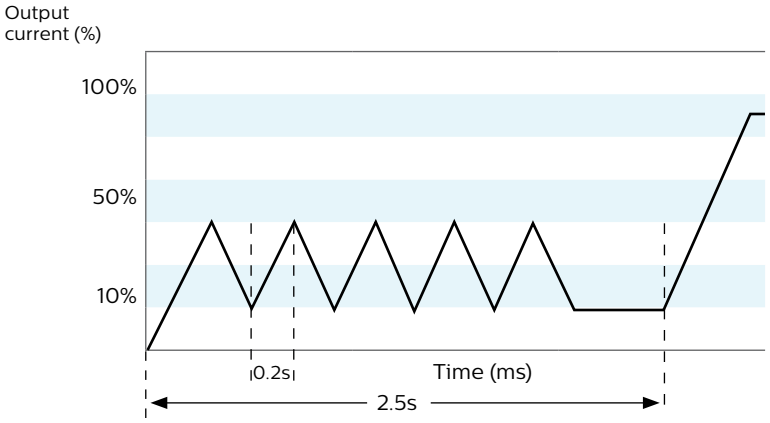
Constant light output (CLO)

CLO ensures equal lighting uniformity and intensity throughout the lumen depreciation period by using the driver to control power to the LED.



Adjustable startup time (AST)

AST helps to avoid the unpleasant effects of instant illumination by progressively ramping the power and lumen output.



Over the life (OTL)

OTL provides LED luminaire end-of-life alerts, enabling a more efficient relamping process.

Looking for a **total lighting solution?**

A Total Lighting Solution

Philips Lighting's One Stop, Comprehensive Solution provides customers with a total 'BEST VALUE' plan. Our plan can be achieved in five strategic steps:

1. Understand your city's objectives, needs and lighting requirements set forth by federal and local jurisdictions.
2. Determine the best product solutions that meet your project's criteria.
3. Collaborate with Philips to customize a competitive financing plan.
4. Work with a Philips representative to set up product delivery dates, installation, and controls commissioning.
5. Survey your customers and analyze your data reports to determine if lighting and controls adjustments are needed.

Recommended Technical References and Guidelines

- IESNA Lighting Handbook 10th Edition
- IES Recommended Practices
- Designlights Consortium (www.designlights.org)
- DOE Municipal Solid-State Street Lighting Consortium Model Specification (www1.eere.energy.gov/buildings/ssl/consortium.html)
- ANSI C136.41
- CEC Title 24
- ASHRAE Standard 90.1-2013
- TALQ Consortium
- LRC

Contact us for answers, **from inspiration to installation.**

Customer Care & Maintenance

- Operational training
- 24/7 customer care
- Responsive maintenance

Identify City's Needs & Requirements

- Project assessment
- Investment grade audit

Total Lighting Solution

Turn-key Installation Services

- Experienced project management
- Cost and time efficient
- Single point of contact

Design Solution

- Measurement and verification
- Efficient design
- Advanced technologies
- Cutting edge lighting products
- State-of-the-art control systems

Customized & Competitive Financing

- Collaborate to customize a competitive financing plan

No matter what type of outdoor lighting control you need, we can help you to find the right solution. Call 855-486-2216 (US) / 800-668-9008 (Canada) or visit www.philips.com/luminaires and select Controls Outdoor for more information.

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