

PHILIPS

Puerto de la Cruz

Urban lighting



Preserving the clarity
of the Canary Islands'
night sky



The Canary Islands have the clearest view of the night sky in Europe, and are therefore home to several renowned observatories. The quality of the sky is even protected by Spanish law, which requires municipalities to mitigate light pollution.

An astronomers' paradise

The Canary Islands are not only famous for tourism, but also for a clear night sky which provides excellent opportunities for astronomers. The Teide Observatory in particular, located in the North of Tenerife and operated by the Canary Islands Institute of Astrophysics (IAC), has become one of the major international observatories due to the exceptional clarity of the night skies in this region. This is determined by how much disruption is caused by the Earth's atmosphere to the images of stars seen through a telescope.

Regulations on artificial lighting

The amount and quality of artificial light used in outdoor areas on the islands has always been high on the agenda. Recently, several new measures were put in place by the local government to ensure all outdoor lighting complies with the specifications defined by the IAC. These include guidelines for radiance, wavelength, light spectrum and flat luminaire architecture, meaning a light source can only shine light directly downwards.

“ We worked together with Signify to develop a spectral solution that filters the blue part of the light spectrum. **This, together with the flat glass luminaires they provided, perfectly suited our requirements.**”

Javier Diaz Castro, Chief of Technical Office for the Protection of the Sky Quality, IAC

Some of the conventional lighting solutions were compliant with these specifications, but after the introduction and refinement of LED technology, municipalities have been facing a major dilemma. LED lighting provides significant opportunities to save on energy, operations and maintenance costs, while offering a greater level of control and potential integration with other municipality systems and applications. But many of the available options were not compliant with the Astrophysics Institute specifications.

Helping the city maintain its charm and ambience

The municipality of Puerto de la Cruz faced the same dilemma. In addition, it also wanted to ensure that – while opting for a compliant, highly-efficient and controllable lighting technology –

the color temperature and ambience generated would also be as close to the old solution as possible. This would ensure the city can maintain its existing charm and ambience.

To support locations like the Canary Islands, as well as others who want to take more serious measures against light pollution, we initiated the development of a new optical solution. We worked closely together with key experts from the IAC when defining the final specifications, and the end result was a fully compliant and certified solution, which also meets all the criteria defined by the officials of Puerto de la Cruz. Light spillage is minimized, while the new optics also filter the blue part of the light spectrum, which could interfere with the activities of the observatories.



“ The development and implementation of sky protection policies is a key priority for us. **We want the city to remain attractive for tourism and ensure locals’ comfort and safety, while keeping sustainability in mind as well.**”

Angel Montañez, Councilman of Public services



The installation of the new lighting took place in early 2018 and consisted of several building blocks. Philips Luma and Philips ClassicStreet luminaires using the new optical solutions were installed near the observatory. The same luminaires deliver a warmer color temperature (2700K) in the city center, plus on pedestrian crossings and walking areas, to ensure the ambience remains unchanged.

Fully controlled and ready for the future

The new light points are also wirelessly connected to our Interact City lighting management software, so they can be dimmed and controlled remotely. This can be carried out on group-, cabinet- or individual luminaire level. The latter is typically used in the city center area, where more flexibility is required due the large number of events that take place there. Using these features, the municipality can ensure that light is only used where and when it is required. The system also

supplies automatic default notifications, which means that the municipality can offer better and more proactive public services and even prevent issues before they happen. All this contributes to increasing the quality of life for residents and visitors. Furthermore, the new lighting fixtures feature standard SR (System Ready) connectors, which are also Zhaga Book 16 compliant, and are therefore compatible with existing and new sensor applications. This means the city can also keep its options open and opt in for smart technologies and innovations whenever they become available.

High savings and full compliance

Thanks to the new solution, the municipality of Puerto de la Cruz already benefits from an energy saving of 60 - 65% compared to the previous solution. On top of that, it enjoys full compliance with observatory regulations as well as the benefits of a new lighting management system.



Keeping the sky dark

The new lighting solution, which complies with IAC specifications, helps minimize light pollution in the area, thus ensuring Puerto de la Cruz remains an excellent location for observatory studies.



Safeguarding the charm of the city center

The new technology complements the architecture and ambience of the city, so it remains attractive for tourism and comfortable for residents.



Efficient and future-proof

The municipality is already enjoying 60 - 65% energy savings compared to the previous solution, plus the convenience of remote monitoring and control of light points. In addition, it has the possibility of adding future innovations.



The new lighting solution, together with Interact City, is a significant step towards sustainability, **preserving the clarity of the night sky and improving the quality of service to our citizens.**

Lope Afonso, Mayor of Puerto de la Cruz



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