

# Luce

# 灯光与设计

主题案例: 公园 Case study: Park  
光中文化、乐中古韵  
Feel Culture and History in Light

主题探讨 Topic discussion  
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光的嫁衣  
The Sensation of Light



英国直布罗陀

# 光中文化、乐中古韵

Gibraltar, UK

## Feel culture and history in light



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David Atkinson Lighting Design

在悠闲畅游中，感受历史与古韵

Learn more about the history and archaic rhyme while wandering around the park

图 1a: 凉亭 Picture 1a: Bandstand



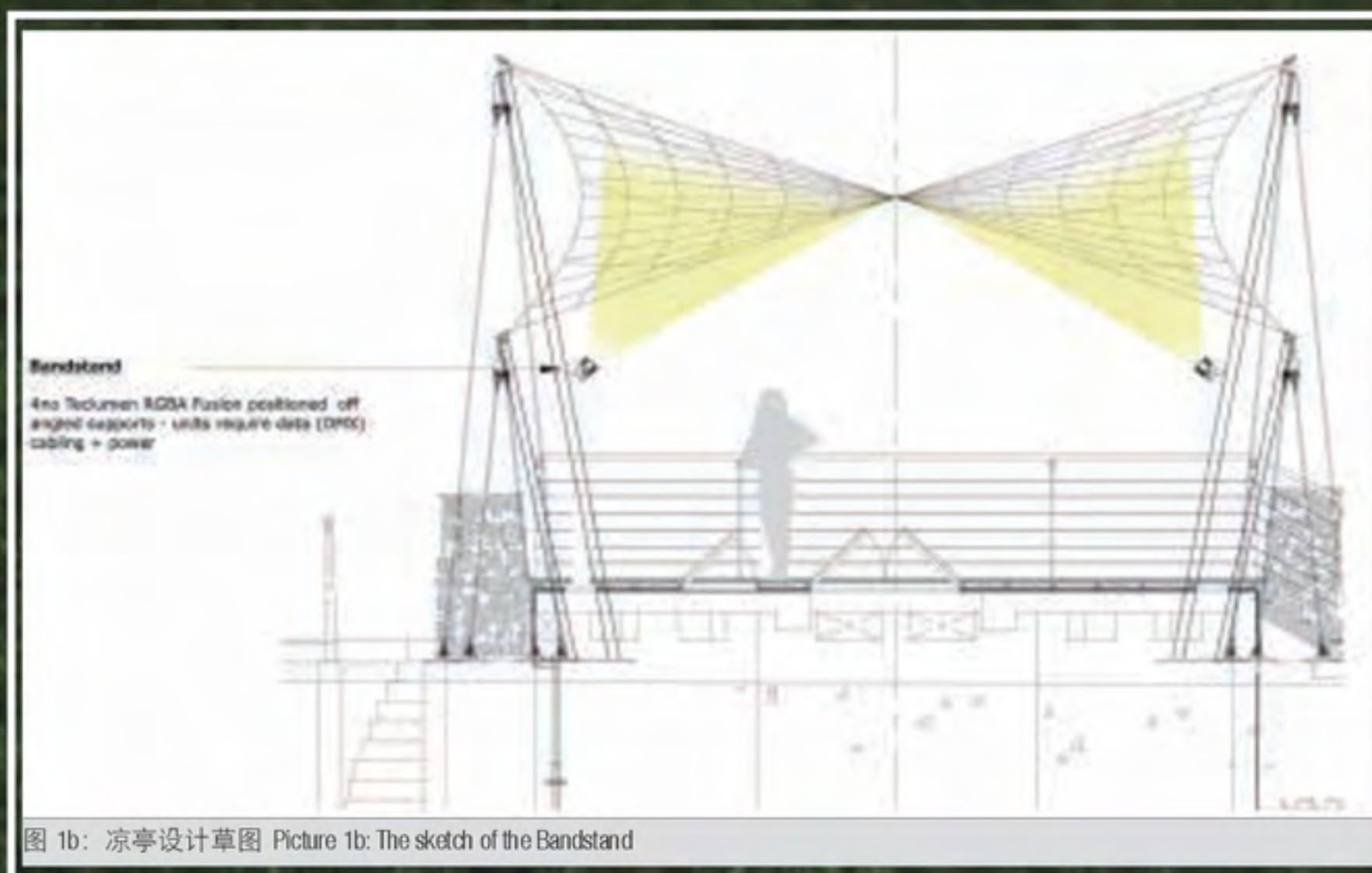


图 1b: 凉亭设计草图 Picture 1b: The sketch of the Bandstand







图 2：灯光营造的月光的照射效果 Picture 2: The moon radiation effect created by light fixtures



图 3：灯光营造的月光的照射效果 Picture 3: The moon radiation effect created by light fixtures

The Commonwealth Park in Gibraltar, a former car park site has been transformed into a sustainable park, upholding traditional British values whilst in a Mediterranean 'cutting edge' style. The park has 135 different trees, as well as lakes, grass mounds and decking areas, with the dramatic historic backdrop of the King's Bastion and City walls. DALD worked closely alongside the Landscape architects, Landform to create an exciting but subtle lighting scheme for the park as well as adhering to conservation requirements, security, energy efficiency and sustainability.

#### Perimeter wall

The historic perimeter walls consist of the curved King's Bastion Wall and City Wall. The curved King's Bastion Wall to the north end of the site is up lit by a series of buried fixtures fitted with a tiltable medium & narrow beam optic, which helps to accentuate the contours of the stone and form. A 4000Kelvin LED light source was chosen to enhance the colour of the grey stone. The angular City Wall linking with the curved King's Bastion wall to the north, east and south elevation is lit by a series of surface mounted high output narrow optic spots which graze the wall with shafts of light. The LED spots are positioned directly below the city wall and lined up with the wall piers.

#### Corridor lighting

The upper terrace above the City Wall is linked to the park via a listed link tunnel, contemporary staircase and lift. To limit any visual impact within the tunnel two internally illuminated handrails allow sufficient light to the floor. The illuminated handrails continue from the tunnel to the external staircase that encompasses the lift shaft. To help give the lift shaft a dynamic appearance a series of RGBW LED sources up light the internal glass shaft with pre programmed hues of colour.

The park has a perimeter roadway/walkway, which is illuminated by compact LED fixtures fitted with 3000Kelvin sources, which are mounted off 3.5m vertical columns. Some of the vertical columns increase in height to 5.5m to accommodate high output LED accent fixtures to illuminate sculptural pieces. A link walkway from the west side of the park is illuminated by semi recessed marker lights, which help to set up an interesting view into the park. As a part of the intrinsic landscape design internal tertiary paths weave through the park. Illumination of the tertiary paths is by minimalistic tubular





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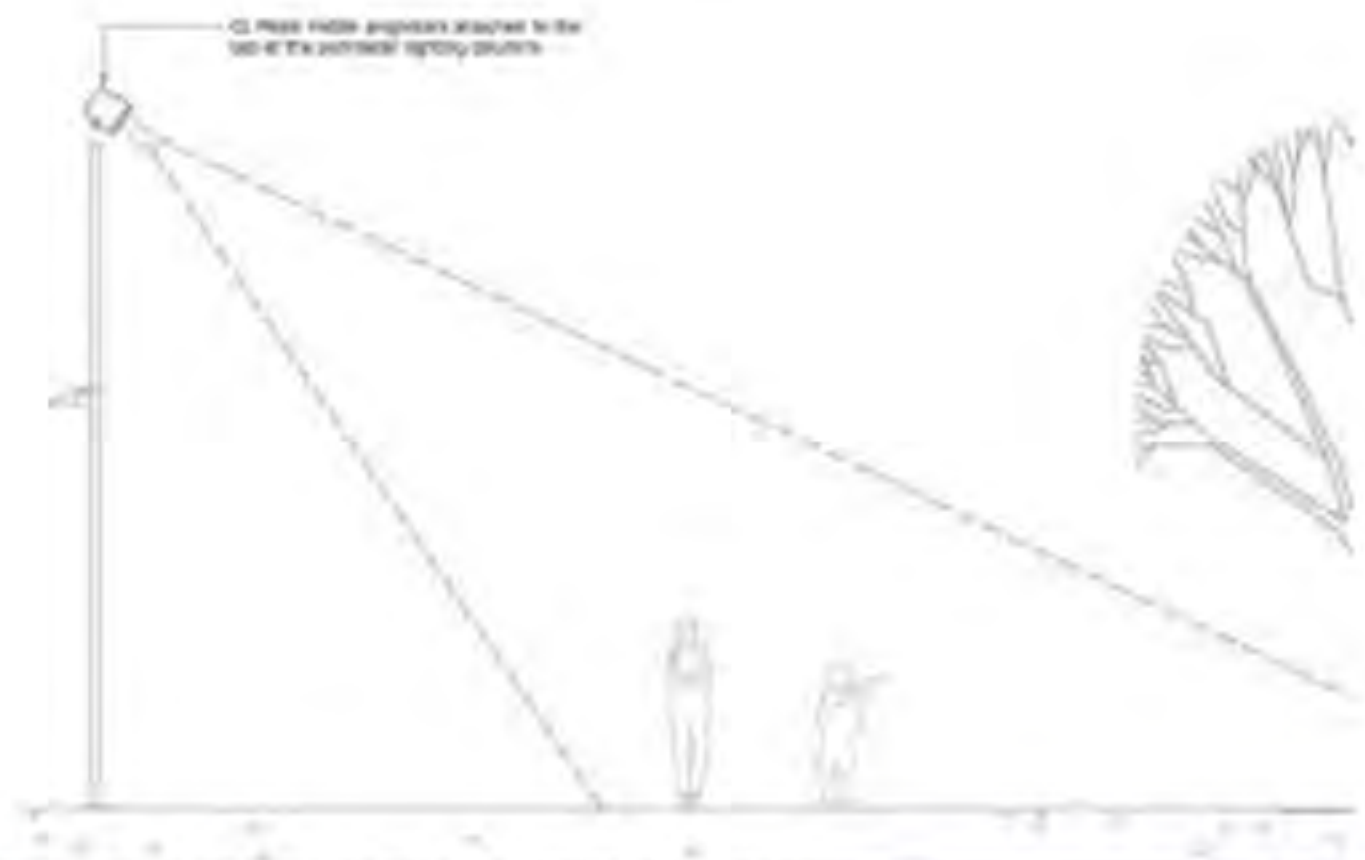


图 4b：草地灯光效果设计图 Picture 4b: The light sketch of the grass



图 4a：灯光营造的月光的照射效果 Picture 4a: The moon radiation effect created by light fixtures

位于直布罗陀的联邦公园从过去的停车场摇身一变，如今，已发展成为一个可持续发展性的公园，既保持着传统的英式风范，又体现出地中海的新锐风格。公园内共有大小 135 处景点，游客可在此参观国王城堡和城墙，感受传奇历史，还可探秘森林、游览湖泊、漫步草丘，同时，公园内亦设有休闲区供游客休息。为更好的向游客呈现公园的魅力与历史文化，来自 David Atkinson 照明设计工作室 (DALD) 的设计师们与景观建筑师紧密合作为公园设计出一套照明方案，该方案从细微之处着手，为公园的美景锦上添花，同时又遵循了环保、安全、节能和可持续发展的要求。

### 围墙

公园的围墙部分包括国王城堡外墙以及城墙。针对此部分的灯具使用，设计师从蜿蜒的国王城堡到公园北端采用的是一系列可旋转、窄光束地埋灯，从而突出石墙的质感和轮廓。同时，设计师采用了色温 4000k 的 LED 光源以增强石墙的颜色。连接国王城堡与公园北端、东端和南端的角城墙上放置了一系列高输出的窄光束射灯，光束照在城墙上，呈现出斑驳苍凉之感，设计师们将 LED 射灯固定在城墙正下方，与墙肢对齐。

### 过道

从城墙的上层平台进入公园，需要先经过隧道、楼梯，再乘坐电梯。为了减少隧道内较暗的环境对视觉产生的影响，设计师在隧道内安装了内照明扶手，可以照亮地面。照明扶手一直延伸到室外的台阶部分。为了使电梯具有流动的光感，设计师还在电梯内部安装了 RGBW LED 灯，并预置了颜色程序。

联邦公园的公园步道则是采用了立柱照明的方式，立柱高 3.5 米，使用色温 3000k 的紧凑型 LED 灯。在一些雕塑旁的立柱还加装了高亮度聚光灯，高度可达 5.5 米。而从公园西侧延伸过来的连接步道则是采用了半嵌入式标志灯，为公园的景色更添意趣。作为景观设





计的一部分，三级道贯穿公园。三级道的照明采用的是极简设计的柱灯（T5灯泡，色温 4000k），每个柱灯的高度根据路的长度进行了调整，使整个景观显现出光影流动的效果。

### 休闲区

公园南侧和北侧的休闲区安装的是可调节嵌入式 LED 灯。灯光从一侧照亮了旁边的灌木丛，色温 3000k 的灯光促使灌木丛与城墙更好地相融。公园的长椅全部采用嵌入式 LED 灯带，在长椅下形成柔和朦胧的光晕。公园的中心区包括外围的植物，长椅和人工水景。每个水景的石柱都装有定制的嵌入式 IP68 LED 灯环，加强了水从灯环中穿过的效果，流光溢彩，美不胜收。此外，水池中也安装了嵌入式 IP68 LED 灯，灯光通过反射和折射映在石柱表面。IP68 LED 还被放置在人工湖下，露出湖面的岩石和水景在幽暗的灯光下若隐若现。横跨人工湖的桥上装有微型嵌入式装饰灯，更加突出了桥的轮廓。湖面还建有一座拱顶凉亭，拱顶上安装了 RGBW LED 灯（内有预置程序），光束的变化与凉亭和湖水的颜色变化相辅相成。设计师在草地周边树起了照明立柱，通过立柱顶端的金属卤素灯，在草地上投射出斑驳的光影，借此模拟月光透过树叶缝隙的效果。



bollards fitted with T5 lamps, with a colour temperature of 4000kelvin. Each bollard is offset along the length of the path which helps define the flowing landscape design.

### Leisure area lighting

To the north & south of the park there are decking areas that incorporate adjustable recessed LED fixtures. The fixtures up light Magnolia Grandiflora shrubs from one side and are fitted with warm white LED (3000K), which help to offset the shrubs against the City Wall. Throughout the park seating benches are under lit by recessed LED strips, which project a soft diffused glow under the benches. The central area within the park consists of perimeter planting, benches and monolithic water feature columns. Each monolithic column is fitted with a recessed custom IP68 LED ring that accentuate the water flow by piping the water through the centre of each fixture. In addition to the integral lighting, recessed IP68 fixtures up light each monolithic column and are positioned within the catchment pool reflecting & refracting light across the column faces. An artificial lake is subtly illuminated by submerged IP68 fixtures, which pick out rock and water features. A link bridge across the lake is lit by miniature recessed decking lights, which help to accentuate the form of the bridge. A contemporary bandstand is built out into the lake and features a tensile roof, which is up lit by RGBW LED sources and programmed in with the lift shaft to reflect dynamic hues of colour across the bandstand and lake.

图 5：立柱照明 Picture 5: Column lighting



图 6：走道照明 Picture 6: Corridor lighting





图 7：湖面照明效果 Picture 7: Lighting effect of the lake surface







图 8a、8b、8c、8d：围墙照明效果 Picture 8a, 8b, 8c, 8d: Lighting effect of the wall



绿化区、灌木丛和林区的照明则采用了许多不同的照明方法。DALD 通过使用少数的光源突出公园的重点区域，在这些区域，设计师在绿化部分使用了单点光源照明。一些乔木和灌木区的照明采用的地埋灯，还有的则是通过外部照明，即在远处绿化部分中安装投光灯。设计师选择了色温在 3000k 的光源来增强植物的颜色，同时中和了植物和国王城堡以及城墙间的色调。

### 结语

园内的照明控制由光电元件触发，转而从控制系统触发照明场景。晚上 12 点，基本照明状态会启动，以提供进出照明、保障安全。通过这样富有创意的组合照明方式，在夜幕降临后，联邦公园更加成为一个有趣、生动、安全的畅游之地。

### 项目信息 Project Information

项目名称 Project Name:	The Commonwealth Park
业主 Client:	Government of Gibraltar
地点 Location:	The Commonwealth Park, Gibraltar
景观建筑设计 Landscape Architects:	Landform
景观设计师 Landscape Designer:	Nilüfer Danyıp
照明顾问 Lighting Consultant:	David Atkinson Lighting Design (DALD)
高级设计师 Senior Designer:	David Atkinson
助理设计师 Assistant Designer:	Pedro Pinto
照明管理 Lighting Management:	Peter Keiderling (PK) at Lighting Assist
图片提供 Image Credits:	David Parody & Moses Anahory

Large expanses of grass are lit by projecting dappled light, which effectively mimics the effect of moonlight through trees. The dappled effect is created by a series of Metal Halide projectors attached to the top of the perimeter lighting columns. The general lighting to planting, shrubs and trees was achieved by a variety of lighting methods. DALD chose a limited number of sources in picking out key areas within the park, with the planting subtly modeled by single point sources. Large trees & shrubs were either up lit by buried LED sources or externally lit from a distance by ground spike mounted projector fittings positioned within the planting. A warm 3000Kelvin colour temperature was chosen to enhance the greenery and off set the planting and trees from the coolness of the King's Bastion & City wall.

### Conclusion

Control of the lighting within the park is triggered via photocells that in turn activate lighting scenes from the control system. A basic lighting state with limited sources is activated at midnight for access and security. Through the combination of creative lighting methods the park is an exciting, dynamic, safe space after dusk.





图 9a: 走道照明 Picture 9a: Corridor lighting



图 9b: 路灯照明设计图 Picture 9b: The light sketch of the roadway



图 10: 公园照明远景 Picture 10: Distant lighting effect of the park