

invisibLED

QUALITY eco lighting system for retail shops
零售店舖專用之優質環保照明系統
exclusively for showcase 飾櫃專用



... Adopting LED, the most popular lighting system, as the light source with the application of freeform reflectors; applied in the display of jewellery or other middle to high end products; achieving bright and more even lighting as well as sophisticated product demonstrations; increasing the competitiveness of products along with energy saving.

... 採用現今最為流行的LED作為照明光源，結合獨特設計的多自由曲面反光杯，運用於珠寶首飾等中高檔商品陳列櫃，達到更為均勻光亮的照明及商品展示效果，提升商品市場競爭力的同時，更大幅降低能源成本。



Problems of lighting design in existing jewellery retails 現時珠寶店舖光線運用上之問題

High electricity cost

電費昂貴

High temperature in shops

店內溫度高，容易使顧客不適

Short life span of lighting systems

照明系統耗損較快



Benefits of invisibLED for jewellery retails invisibLED對珠寶零售之優點

Save electricity cost 節省電力

Reduce heat distribution in shops 保持店舖溫度適中

Elegant lighting design 照明設計典雅

Modular concept 模組概念

Longevity 耐用可靠



Performance comparison of lighting systems 傳統鹵素燈及LED照明系統表現比較

Characteristics 特性

Heat radiation 熱輻射
Heat dissipation 散熱性
Utilisation of light source 光源使用度
Energy consumption 耗能程度
Life span 產品壽命

Halogen Lamp 鹵素燈

High 高
Poor 差
10% with lamp-house 加燈罩後只有百分之十
High 高
Short - up to 3000 hrs 只有三千小時

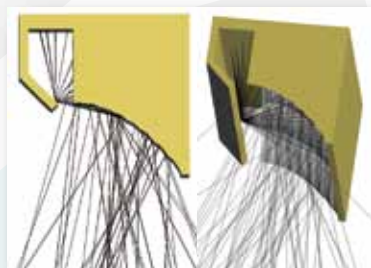
LED

Low 低
Good 良好
Fully utilised 可充分利用
Low 低
Long - up to 30000 hrs 可長達三萬小時

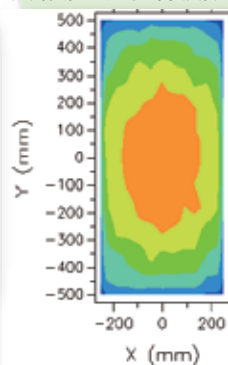
Development of invisibLED invisibLED之研發

The trend is, LED lighting has been replacing the traditional halogen lamp lighting. However, the glare of LED still exists and needs improvement. 近年來，LED逐漸取代傳統的鹵素燈。可是現有LED照明仍然存在光源過於炫目的問題，若直視LED會有十分刺眼的感覺，因此必須對目前應用於產品陳列之LED照明進行改良。

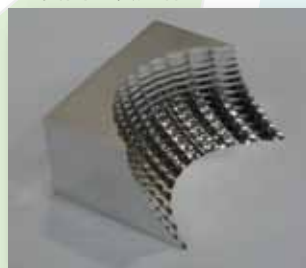
Design model 設計模型



Light distribution by CAE simulation 照射平面光分佈模擬圖



Reflector special design 自由曲面反光杯



Showcase design 飾櫃設計草圖



Adopting constant current control, invisibLED is capable to moderate the light intensity and energy consumption of LED with the aid of freeform reflectors. LED light source reflected is even and free of glare, achieving the best demonstration of products, thus enhancing successful commodity transactions. The market potential in middle to high-end product display is affirmative.

invisibLED的設計採用恒流控制，以穩定地控制LED光度及功耗，同時結合多個自由曲面組成的反光杯設計，使LED光源經反光杯反射後，均勻照射，同時避免眩光，達到最佳的商品展示效果，並且間接提高商品交易成功率。若推廣至所有中高檔商品展示，相信將會有巨大的潛在市場。

Common LED (with glare) 一般LED (有眩光)



Finished product (without glare) 製成品 (沒有眩光)



Benefits of invisibLED invisibLED之優點

Promote corporate image and social responsibility

以照明改善企業形象及推廣社會責任

Save cost on electricity in long term (>85%)

大幅節省耗電量多於百分之八十五

Saves costs on maintenance and replacement of lights

降低照明系統保養及更換費用

Payback period: around one and a half years

回本期只需約年半