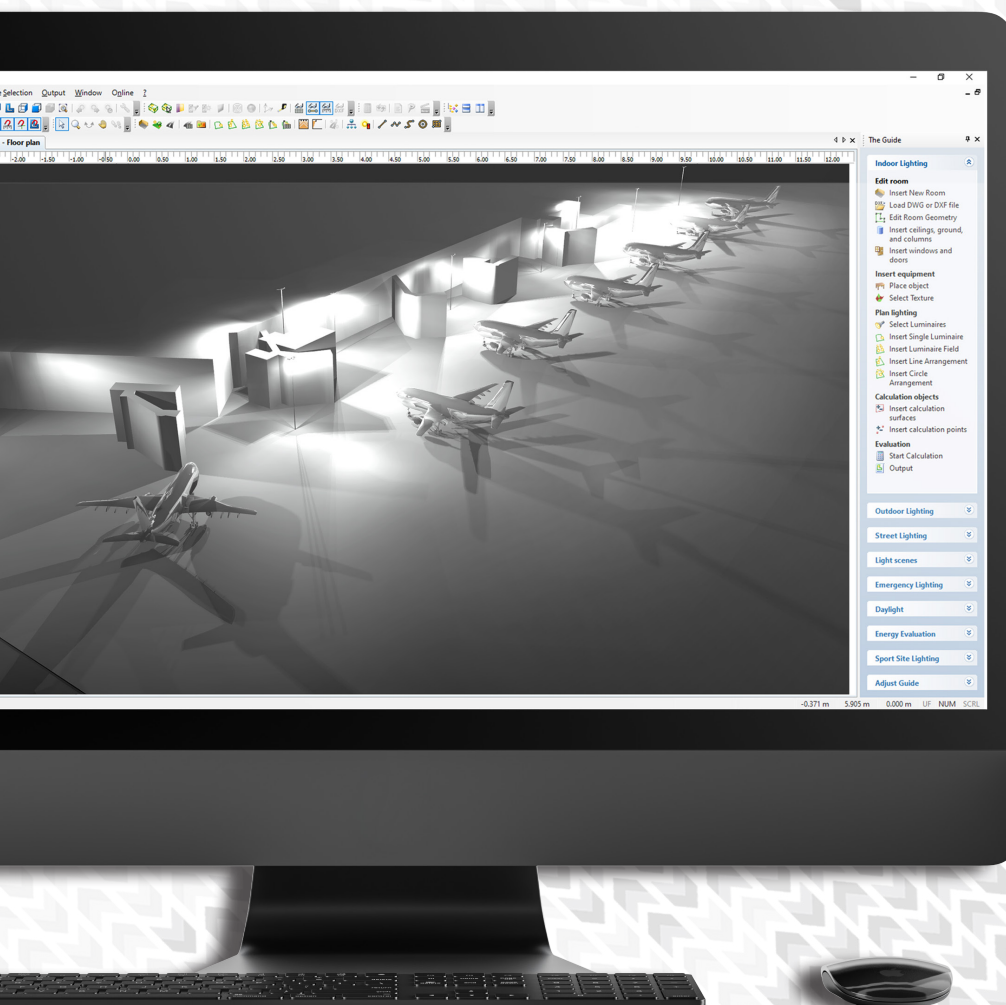


Scotland's Largest Airport Apron Lighting



Kellwood Lighting were tasked with upgrading external apron lighting at Scotland's largest airport.



PROJECT GOALS

- Improved Site Safety
- Reduction of the Airport's Carbon Footprint
- Lowered Operating Costs
- Improved Staff Satisfaction

LIGHTING DESIGN CHALLENGES

<50

Glare

At both ground-level and pilot eye-level

20

Lux Minimum

Minimum vertical and horizontal illuminance >70m away from masts

>0.25

Uniformity

Lighting large areas from pre-existing column locations

<1%

ULR

Upward light spill was to be minimised

LIGHTING DESIGN AND PRODUCT SPECIFICATION

Kellwood Lighting's designs demonstrated the 460W **Ayrton 3 Series** was the right product for the job:

IESNA Type IV Short Optics

provided maximum forward throw, ensuring target lux levels were achieved across the extent of the aprons, while minimising tilt

Observer Points at ground level and pilot eye-level minimised glare

Environmental Temperatures, Operating Hours and Lumen Maintenance (TM21 Calculated L90B10>160,000hrs) were assessed to ensure designs had an application-specific Maintenance Factor

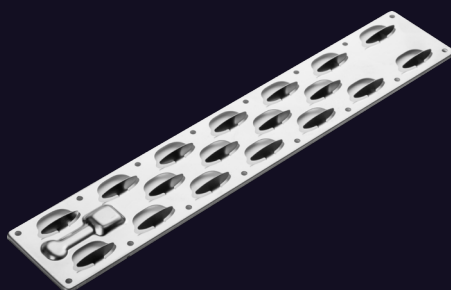
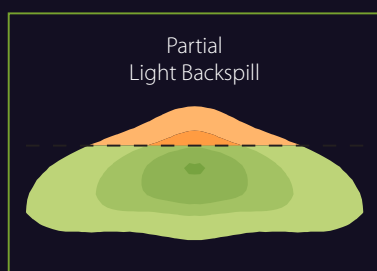


In the unlikely event of overheating, **Driver Safety Features** included a temporary power de-rating ensuring continued operation, rather than a full thermal cut-out

Iterations of Luminaire Tilt and Direction optimised minimum lux levels and uniformity while ensuring upward light ratio (ULR) was within tolerance

Marine Resistant surface-finishes and stainless steel fixings (salt-spray tested in accordance with ISO9227:2012), and an IP67 rating, protects the product *and* the investment

Backspill guards minimise rearward light spill towards the control tower and ground operations buildings





THE RESULTS

On-site lux surveys confirmed the modelling of the new lighting system had been accurate; light levels complied with the project brief.

Perhaps more pleasingly, on-site feedback from staff was positive. Pilots, when taxiing and stationary, as well ground handling staff, felt it was a more comfortable environment to be working in.

The airport will enjoy both environmental and economic benefits from a 40% reduction in energy costs.



Visit our website for more case studies
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