

When I'm working on a problem,
I never think about beauty. I think
only how to solve the problem. But
when I have finished, if the solution
is not beautiful, I know it is wrong.
Richard Buckminster Fuller

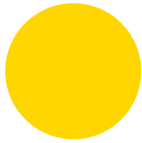
Mechanical Engineering
Lighting Design
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LIGHTING DESIGN

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Design Statement

Sydney, January 14th, 2016
Project No. 167007

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Project Name: Opera Bar
Refurbishment
Stage 2
Document No 167007sr002

Project No: 167007
Revision 01

Subject SEARs for Lower Concourse Shade Cover Improvements
(SSD 7430)

1.0 Background

This design statement has been prepared to provide documentary support to the Sydney Opera House Trust, to provide information on the design intent and design approach for Lighting, particularly in response to "item 5" under "key issues" of the Secretary's Environmental Assessment Requirements noted in SSD7430.

The following summarises the clarifications requested:

- *identify the location, design and luminescence specifications for all lighting proposed onsite.*
- *identify the measures to mitigate light spill and potential impacts on the amenity of sensitive receivers surrounding the site, including the residential and commercial premises at Circular Quay.*

2.0 Lighting Design for Shade Cover Improvements

2.1 Design Intent

Proposed Shade cover improvement is illustrated in HE drawing 2268 DA2-105 03. Lighting design intent for these shading structures is to provide indirect, reflected light that provides a welcoming environment; soft, diffused and comfortable light for the patrons, as well as for the passers-by.

2.2 Design Methodology and Luminaire Locations

The design methodology will use light sources that are located underneath the shading structures. Mounting locations are identified as the structural columns and framing elements for the shading structures that are identified. No lighting elements

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are to be permanently installed in the existing heritage fabric, rather be contained within the shading elements.

2.3 Mitigation of Light Spill

Luminous openings of the lights are to face the shade surfaces, in order to prevent glare or uncontrolled light spill. Shading surfaces provide the physical barrier to block the light reaching the surrounds, nearing properties or impacting on any of the water traffic. The output of these lights instead gets reflected in a non-specular manner to provide sufficient diffusion and avoid light spillage, light pollution, or sharp shadows or contrast.