Lighting Comfort

Credit 10

Individual Building  Portfolio

Project Name: [name]

Project Number: GS- [####]

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| --- | --- | --- | --- |
| Total Points available: | 2 | Points claimed: | [#] |

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| **No.** | **Type** | **Criteria** | **Description** | **Claimed** |
| **10.1** | **Action** | **Lighting fixture performance** | **1 point** is available wherethere is a process in place during the performance period to manage and verify that all lights are flicker-free, accurately address the perception of colour, and eliminate glare from bare lamps. | [#] |
| **10.2** | **Data** | **General**  **Illuminance** | **1 point** isavailable where lighting levels in regularly occupied primary spaces are appropriate to the tasks performed in each space. | [#] |

# Project-specific technical questions

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| There are no project-specific technical questions for this credit. |  |
| There are project-specific technical questions for this credit and all responses received from the GBCA are attached. |  |

## 10.1 lighting fixture performance

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| --- | --- |
| The project achieved one (1) point in the previous Certification and **no changes** have been made to the building or the ROPS during the performance period the compliance requirements can be considered to be met.  ***No further information is required for this criterion.*** |  |
| The project achieved one (1) point in the previous Certification and **changes** have been made during the performance period to the lighting fixtures.  ***Please complete section 10.1 in full.*** |  |
| One (1) point was not targeted / awarded in the previous Certification.  ***Please complete section 10.1 in full.*** |  |

Describe how lighting fixture performance within regularly occupied primary spaces (ROPS) have been measured and verified to meet the compliance requirements for each of the items below, by referencing supporting evidence attached to the Submission Template.

|  |  |  |
| --- | --- | --- |
| **Requirements** | **Supporting Evidence** | |
| **10.1.1 Frequency of verification**  Show that a verification of lighting performance has taken place at least once during the performance period within normal hours of operation of the lighting systems. |  | |
| **10.1.2 Location of verification**  Show that the verification covers all regularly occupied primary spaces where lighting is provided or maintained by the building owner or operator. |  | |
| **10.1.3 Fixture Performance**  **10.1.3.1** Show that all luminaires have either: | | |
| A minimum Class A2 ballast; or | |  |
| High frequency ballasts for all fluorescent lamps; or | |  |
| Electronic ballasts in High Intensity Discharge (HID) lighting; or | |  |
| Electronic drivers that feature 12-bit or greater resolution for all Light-emitting Diode (LED) lighting. | |  |
| Other flicker free lighting types, please submit a CIR with supporting evidence. | |  |
| **10.1.3.2** Show that all lamps have a minimum Colour Rendering Index (CRI) of 80. Describe any exceptions where the activity is not impeded by a lower CRI.  Note the key lamp types and associated CRIs that cover the majority of ROPS in the building.  Where the CRI is lower than 80, verify that the activity is not impeded and lamp selection complies with the guidance provided in Table 7.2 of AS 1680.1. |  | |
| **10.1.3.3** Show that all bare lamps directing light onto task areas have been fitted with baffles, louvers, translucent diffusers, or other means that directly obscure the lamp from view under typical operating conditions. |  | |

Identify where this information can be found within the supporting documentation provided.

|  |  |
| --- | --- |
| **Supporting Documentation**  (Name / title / description of document) | **Reference**  (Page no. or section) |
| [####] | [####] |
| [####] | [####] |

DISCUSSION

Outline any issues you would like to highlight and clarify with the Certified Assessor(s).

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## 10.2 general illuminance

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| Indicate which compliance option has been selected for this credit criterion and fill in the corresponding section below.  Select one option. | **10.2A** General illuminance levels have been measured, and validated as appropriate; or |  |
| **10.2B** A NABERS Indoor Environment general illuminance rating has been achieved. |  |

## 10.2A General Illuminance Measurements

Describe how lighting levels have been measured to meet the compliance requirements for each of the items below, by referencing supporting evidence attached to the Submission Template.

|  |  |  |
| --- | --- | --- |
| **Requirements** | **Supporting Evidence** | |
| **10.2A.1 Frequency of verification**  Show that the measurement of lighting levels has taken place at least once during the performance period, within the normal hours of operation of the lighting systems. |  | |
| 10.2A.2 Location of verification  Show that measurements have been carried out in all regularly occupied primary spaces where lighting is provided or maintained by the building owner or operator. |  | |
| **10.2A.3 Illuminance levels**  Specify the appropriate lighting levels for each task or each space type, in line with the recommended minimum illuminance listed in Table 10.2A.  Verify the minimum illuminance levels that were measured. |  | |
| 10.2A.4 Specifications for measurement  Confirm that all measurement equipment used meets the measurement requirements as outlined in AS 1680.1. |  | |
| **10.2A.5 Recording and reporting**  10.2A.5.1All results have been input into the Indoor Lighting Comfort Calculator. | |  |
| 10.2A.5.2 Briefly describe the verification measurements included in the calculator, including:   * Space name and/or use; * Average lux results in the horizontal plane; * Description of measuring equipment used, including last calibration date; * Date and time measurements were taken within each space; * Party responsible for taking the measurements, including position and role.   Provide any additional comment on results input into the Indoor Lighting Comfort Calculator. |  | |
| **10.2A.6 Corrective Actions**  For any areas where minimum illuminance level measurements do not comply with the requirements specified in 10.2A.3, describe the corrective actions implemented to improve the performance and meet the criterion outlined. |  | |

Identify where this information can be found within the supporting documentation provided.

|  |  |
| --- | --- |
| **Supporting Documentation**  (Name / title / description of document) | **Reference**  (Page no. or section) |
| *Green Star – Performance Lighting Comfort Calculator* | [####] |
| [####] | [####] |

## 10.2B NABERS Indoor Environment General illuminance

Describe how indoor general illuminance levels have been validated to be at appropriate levels, as demonstrated through a certified NABERS Indoor Environment rating, to meet the compliance requirements for each of the items below, by referencing supporting evidence attached to the Submission Template including a valid NABERS IE report.

|  |  |  |
| --- | --- | --- |
| **Requirements** | **Supporting Evidence** | |
| The NABERS IE rating was completed after January 2015. | |  |
| State the period for which this NABERS IE rating is valid. |  | |
| Confirm that the NABERS IE rating was completed during, or was valid for at least the last three months of, the performance period. | |  |
| Show that the Horizontal Illuminance section of the NABERS Indoor Environment report confirms that greater than 80% of ‘locations sampled’ are in accordance with AS 1680. | |  |

Identify where this information can be found within the supporting documentation provided.

|  |  |
| --- | --- |
| **Supporting Documentation**  (Name / title / description of document) | **Reference**  (Page no. or section) |
| *NABERS IE Report* | [####] |
| [####] | [####] |

DISCUSSION

Outline any issues you would like to highlight and clarify with the Certified Assessor(s).

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DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

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|  |

[Date]