

How Zumtobel can support you during the certification



	Main Credit Categories			
	SS Sustainable Sites		IEQ Indoor Environmental Quality	
Credit	SS CREDIT 8: Light pollution reduction		IEQ CREDIT 6.1 Controllability of systems – Lighting	IEQ CREDIT 8.1 Daylight and views – Daylight
Intent	To minimize light trespass from the building and site, reduce sky-glow to increase night sky access, improve night-time visibility through glare reduction and reduce development impact from lighting on nocturnal environments.		To provide a high level of lighting system control by individual occupants or groups in multi-occupant spaces (e.g. classrooms and conference areas) and promote their productivity, comfort and well-being.	To provide building occupants with a connection between indoor spaces and the outdoors through the introduction of daylight and views into the regularly occupied areas of the building.
Requirements	<p>Interior Lighting (Option 1 or 2 requisite)</p> <p>OPTION 1: Light pollution reduction by use of automatic controls for lighting.</p> <p>OPTION 2: Light pollution reduction by use of automatic shading devices.</p>	<p>Exterior Lighting (requisite)</p> <p>Lighting Zone classification for project site to be specified by the planner.</p> <p>Calculation of exterior lighting power densities according to ANSI / ASHRAE / IESNA 90.1- 2007 Section 9.</p> <p>Description of light trespass analyses containing manufacturer's luminaire data sheets with lamp lumen levels and photometric data.</p> <p>Photometric site plan or illumination model.</p>	<p>Provide individual lighting controls for 90% (minimum) of the building occupants to enable adjustments to suit individual task needs and preferences.</p> <p>Provide lighting system controls for all shared multi-occupant spaces to enable adjustments that meet group needs and preferences.</p>	<p>Demonstrate compliance through one of these four Options:</p> <p>OPTION 1: Computer simulation to prove sufficient daylight illuminance.</p> <p>OPTION 2: Calculations for visible light transmittance and window-to-floor ratio.</p> <p>OPTION 3: Floor plan with recorded light measurement results.</p> <p>OPTION 4: Any of the above methods may be combined.</p>
Contribution by Zumtobel	<p>Specifications of Zumtobel control devices. Drawings with locations and sequence of operation of Zumtobel controls.</p>	<p>Luminaire data sheet including lamp lumen levels and photometric data (Exterior Lighting) e.g. Zumtobel PAN luminaire.</p> <p>Illumination model / photometric site plan as a special Zumtobel service in coordination with the designer.</p>	<p>Zumtobel free-standing luminaires used in individual workspaces can help to increase the percentage of individual workstations with lighting controls.</p> <p>Floor plans showing the zoning of the lighting along with the location and the type of the lighting controls can be used to document the availability of lighting controls.</p>	<p>A daylight simulation to demonstrate compliance to IEQ Credit 8.1 is a special Zumtobel service in coordination with the lighting designer.</p>
Possible Points	1/26 (Credit / Category)		1/15 (Credit / Category)	1/15 (Credit / Category)

Main Credit Categories

EA Energy & Atmosphere

	EA PREREQUISITE 1: Fundamental commissioning of building energy systems	EA PREREQUISITE 2: Minimum energy performance	EA CREDIT 1: Optimize energy performance	EA CREDIT 3: Enhanced commissioning
	<p>To verify that the project's energy-related systems are installed, calibrated and perform according to the owner's project requirements, basis of design and construction documents. Benefits of commissioning include reduced energy use, lower operating costs, reduced contractor callbacks, better building documentation, improved occupant productivity and verification that the systems perform in accordance with the owner's project requirements.</p>	<p>To establish the minimum level of energy efficiency for the proposed building and systems to reduce environmental and economic impacts associated with excessive energy use.</p>	<p>To achieve increasing levels of energy performance beyond the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use.</p>	<p>To begin the commissioning process early in the design process and execute additional activities after systems performance verification has been completed.</p>
	<p>A commissioning authority (CxA) for the overall project has to be named, which is responsible for overseeing the commissioning activities.</p> <p>The owner's project requirements have to be documented and the CxA must review these documents.</p> <p>A commissioning plan has to be developed and implemented.</p> <p>The installation and performance of the systems must be verified.</p> <p>A commissioning summary report has to be completed.</p>	<p>OPTION 1: Whole Building Energy Simulation. Demonstrate a 10% improvement in the proposed building performance rating compared to a baseline building according to Appendix G Ashrae 90.1. For existing buildings, 5% are sufficient.</p> <p>OPTIONS 2 and 3: In Options 2 and 3, the building has to comply with prescriptive measures in specific design guides. These options are very rarely used in Europe.</p>	<p>All Options: The methods to prove compliance are identical to the EAP2 (Prerequisite). The percentage of energy cost saved in comparison to the baseline building must be demonstrated. The saving is calculated for the complete building, not only for lighting. The number of points depends on the percentage of energy cost saved in comparison to the baseline building. For a 20% saving 5 points are awarded, for a 48% saving even 19 points. For details please refer to the LEED reference guide.</p>	<p>Building on EA Prerequisite 1, this credit requires more detailed and more independent commissioning and verification of the buildings systems.</p>
	<p>Documentation and verification of project requirements as well as installation and performance of the lighting systems are documented in collaboration with a Zumtobel Project Manager and verification can be provided via the Light Performance Platform.</p>	<p>The engineer doing the simulation will require a schedule with the installed load per room or room type together with information regarding controls.</p> <p>Simulations are carried out using simulation software approved by LEED.</p> <p>Daylight-based management and presence detection can be calculated by the simulation software directly. For all other saving potentials via controls a narrative will be required but it can not be guaranteed that arguments regarding additional saving potentials will be accepted.</p>		<p>Zumtobel Services offers additional extended Project Documentation as well as on-site training for facility managers and users if required. In addition, maintenance agreements are offered to ensure the systems' correct functioning.</p>
	0 (Prerequisite)	0 (Prerequisite)	up to 19/35 (Credit / Category)	2/35 (Credit / Category)

	Bonus Credit Categories		
	ID Innovation in design		RP Regional Priority
Credit	ID CREDIT 1: Innovation and Design Process – Specific title	ID CREDIT 2: LEED accredited professional	RP CREDIT 1: Regional priority – Specific title
Intent	To provide design teams and projects with the opportunity to achieve exceptional performance above the requirements set by the LEED Green Building Rating System and/or innovative performance in green building categories not specifically addressed by the LEED Green Building Rating System.	To support and encourage the design integration required by LEED to streamline the application and certification process.	To provide an incentive for the achievement of credits that address geographically specific environmental priorities.
Requirements	<p>PATH 1: Innovation credits provide the opportunity to achieve credit for exceptional performance above the requirements set by LEED or innovative performance in Green Building categories not specifically addressed by the LEED Green Building Rating System. Pilot credits are refined through LEED project evaluations before they complete the balloting process for introduction into LEED. One point is awarded for each innovation up to a maximum of 5.</p> <p>PATH 2: Achieve exemplary performance in an existing prerequisite or credit that allows exemplary performance.</p>	At least 1 principal participant of the project team shall be a LEED Accredited Professional (AP).	<p>Adoptions were made to the following countries: United States, Argentina, Brazil, Chile, China, Colombia, Finland, Hong Kong, Macau, Mexico, Norway, Romania, Spain, Sweden, Turkey</p> <p>For countries without predefined regional priority points there will automatically be awarded one of 4 points each, if you achieve the credits in the categories WEc1, WEc2, WEc3, EAc1, EAc3 or EAc5. Select a version, system, country and zip code to view the available regional priority credits: www.usgbc.org/rcp</p>
Contribution by Zumtobel	<p>Zumtobel products can contribute to meet the requirements for exemplary performance in EAc1 and EAc3.</p> <p>Zumtobel Lighting Solutions may contribute to innovative design schemes under the innovation credit path.</p>	Zumtobel collaborates with LEED Accredited Professionals.	Zumtobel has production sites among others in USA, China and Sweden.
Possible Points	1/5 (Credit / Category)	1/1 (Credit / Category)	4/4 (Credit / Category)

	Pilot Credits			
	SS Sustainable Sites	IEQ Indoor Environmental Quality	MR Material & Resources	
Credit	SS PILOT CREDIT 7: Light pollution reduction	IEQ PILOT CREDIT 22: Interior Lighting – Quality	MR PILOT CREDIT 61: Material disclosure and assessment	MR PILOT CREDIT 63: Whole building life cycle assessment
Intent	To increase night sky access, improve night-time visibility, and reduce the consequences of development for wildlife and people.	Provide comfort for occupants by establishing quality criteria for interior lighting within a space.	To encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts. To reward project teams for selecting products from manufacturers who have verified improved environmental life-cycle impacts.	To increase the use of products and materials with life cycles and ingredients that improve overall environmental, economic and social performance.
Requirements	Meet one of two Options for Requirement 1 (Uplight) and Requirement 2 (Trespass) for New Construction, Core Shell, Schools, Retail and Healthcare projects. OPTION 1: BUG Rating Method Don't exceed maximum luminaire uplight rating, back-light and glare ratings as defined in IESNA TM-15-11, Addendum A OPTION 2: Calculation Method Don't exceed maximum percentage of total lumens emitted above horizon and vertical illuminance levels at the Lighting Boundary.	Meet the requirements of ASHRAE 90.1 Section 9.5 or Section 9.6. They define minimum requirements for energy efficiency either for the complete building or for specific spaces. Additional: Achieve at least 4 out of a list of lighting quality criteria defined in the pilot credit library for at least 90 % of the regularly occupied floor space. If the design is carried out according to EN 12464, most of the criteria should be achieved by default.	OPTION 2: Multi-attribute optimisation Use products that comply with one of the criteria below 50 %, by cost, of the total value of permanently installed products in the project. Products will be valued as below: - Third-party certified products that demonstrate impact reduction below industry average in at least 3 of the following categories are valued at 100 % of their cost for credit achievement calculations - Global warming potential [CO2e] - Depletion of stratospheric ozone layer [kg CFC-11] - Acidification of land and water sources [moles H+] or [kg SO2] - Eutrophication [kg nitrogen] or [kg phosphate] - Formation of tropospheric ozone [kg NOx] or [kg ethene] - Depletion of non-renewable energy resources [MJ] - USGBC-approved program For further details see www.usgbc.org/node/2606895?return=/pilotcredits	OPTION 4: Conduct a life-cycle assessment (LCA) of the project's structure and enclosure that demonstrates a minimum of 10% reduction, compared with a reference building, in at least 3 of the 6 impact measures listed below, (1 must be global warming potential). - Global warming potential [CO2e] - Depletion of the stratospheric ozone layer [kg CFC-11] or [kg SO2] - Acidification of land and water sources [moles H+] or [kg SO2] - Eutrophication [kg nitrogen] or [kg phosphate] - Formation of tropospheric ozone [kg NOx] or [kg ethene] - Depletion of non-renewable energy resources [MJ]
Contribution by Zumtobel	Zumtobel Datasheet	Spreadsheet comparing the installed load for each room type to the allowance of the standard. Alternatively, the full building can be compared. For details refer to ASHRAE standard 90.1, which can be downloaded at: www.ashrae.org Narrative explaining which of the criteria are fulfilled. There is no specific form to the report. Lighting Calculations and / or luminaire Datasheets will be necessary for most criteria.	The Environmental Product Declarations from Zumtobel according to ISO 14025 and EN 15804 are based on the 'Luminaires, lamps and components for luminaires' PCR. Life Cycle Assessment Practitioner is PE INTERNATIONAL.	Zumtobel can adjust the standard service life of an EPD (15 years) up to a service life of 60 years.
Possible Points	1/5 (Credit / Category)	1/5 (Credit / Category)	1/5 (Credit / Category)	1/5 (Credit / Category)