

4	<b>ENERGY USE</b>	<b>4.2 ENERGY EFFICIENT SYSTEMS</b>	
		<b>EU 5 LIGHTING SYSTEM IN CAR PARKS</b>	
	<b>EXCLUSIONS</b>	Buildings without carpark or carpark area less than 10% CFA.	1
	<b>OBJECTIVE</b>	Encourage the adoption of lighting equipment and controls that will provide for energy conservation.	
	<b>CREDITS ATTAINABLE</b>	2	
	<b>PREREQUISITES</b>	None.	
	<b>CREDIT REQUIREMENT</b>	1 credit for using lamps and, where applicable, ballasts that will consume less electricity than those meeting the zero-credit requirements by 20% or more.  2 credits where the consumption is reduced by 25% or more.	
	<b>ASSESSMENT</b>	<p>The zero credit performance criteria for the interior lighting installations (not including that in public areas in and adjacent to the assessed building) shall be determined based on the following:</p> <ul style="list-style-type: none"> <li>• The use of 40W fluorescent tubes, each with a 10W control gear and producing 2,400 lm; and</li> <li>• The use of the minimum number of lighting fittings with lamps of performance as given above that will allow the required illumination levels in various premises in the building to be achieved.</li> </ul> <p>The illumination levels required in various types of premises in the assessed building shall follow guidance given in relevant lighting design guides, such as the CIBSE Code for interior lighting [1]. Determination of the minimum number of lighting fittings required shall be based on the Lumen formula, based on a utilisation factor (UF) of 0.45 and a light loss factor (LLF) of 0.8.</p> <p>The Client shall submit the following information to demonstrate that the installations will meet the basic requirements and the individual requirements above for the related credits:</p> <ul style="list-style-type: none"> <li>• the criteria adopted in the design of the lighting systems;</li> <li>• If daylight harvesting is adopted, proof must be provided to show associated energy reductions. Recommended car park design lux levels must be maintained in the car park under a 10,000 lux overcast sky condition[2];</li> <li>• the quantity of lighting fittings designed for various premises, the wattage of each fitting and the operation patterns of the lighting systems; and</li> <li>• the energy use predictions for the zero-credit case and the as designed case for the lighting installations.</li> </ul> <p>In addition to the above requirement, the Client is also required to demonstrate that control systems and devices have been provided to switch off or dim the output of lighting installations when and where illumination is not required.</p> <p>Where there is a need to take into account trade-off of performance between the mechanical ventilation and the lighting installations, the submitted calculations shall show that the extra energy used due to non-</p>	<div>2</div> <div>3</div> <div>4</div> <div>5</div> <div>6</div> <div>7</div> <div>8</div> <div>9</div>

1 The Chartered Institution of Building Services Engineers. Code for interior lighting.

2 The Institute of Structural Engineers, Design recommendations for multi-storey and underground car parks (2002), Institute of Structural Engineers, London, U.K.

fulfillment of one criterion has been more than compensated by the extra energy saving due to a better performance over and above the other criterion.



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BEAM Plus EB Version 1.1 & 1.2

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**EU 5 (NB) / EU 4 (EB) Lighting System in Car Parks**

The Circular Letter announces that the exclusion of the captioned credit has been revised as follows:

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1. Building without carpark;
2. Carpark area less than 10% CFA; and
3. Outdoor carpark.

A handwritten signature in blue ink, consisting of a large, stylized 'S' followed by a smaller, more complex mark.

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Mr KM So  
Chairperson of Standards Sub-committee