

Beehive Centre. Lighting Commentary.

This document has been produced to respond to the comments from planners on the External Lighting Strategy for the Beehive Centre development planning application. The comment return by planners is as follows:

We disagree with the above E4 zone. A SQM of 19.32 is stated within the Institute of Lighting Professionals Guidance Notes for the Reduction of Obtrusive Light – GN01/20 document as E2 – rural – low district brightness (SQM 15 to 20).

The beehive is not a busy night-time environment with most current activities on site closing late evening prior to the 23:00hrs night curfew time.

Table 1 which is referred in the Lighting Strategy and is the focus of the comment, is a little misleading as it offers a narrative description for the different lighting zones and also the SQM figures.

Zone	Surrounding	Lighting environment	Examples
E0	Protected	Dark (SQM 20.5+)	Astronomical Observable dark skies, UNESCO starlight reserves, IDA dark sky places
E1	Natural	Dark (SQM 20 to 20.5)	Relatively uninhabited rural areas, National Parks, Areas of Outstanding Natural Beauty, IDA buffer zones etc.
E2	Rural	Low district brightness (SQM ~15 to 20)	Sparsely inhabited rural areas, village or relatively dark outer suburban locations
E3	Suburban	Medium district brightness	Well inhabited rural and urban settlements, small town centres of suburban locations
E4	Urban	High district brightness	Town / City centres with high levels of night-time activity

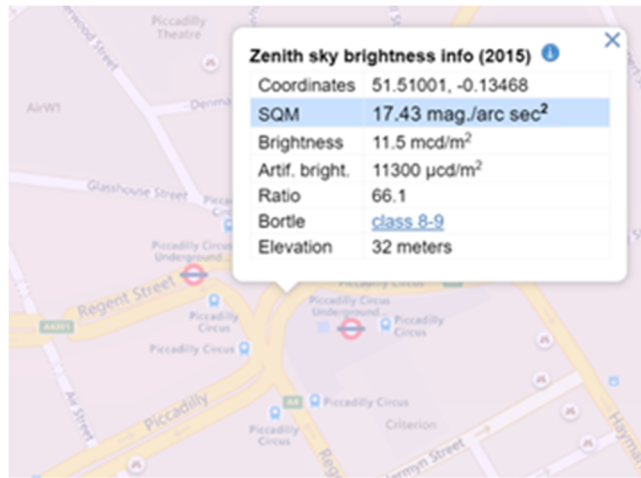
Table 1: Environmental Lighting Zones

You will also note that the CIE equivalent table (extract below) does not state SQM figures as these values are hard to obtain accurately.

Table 1 – Environmental lighting zones

Zone	Lighting Environment	Examples
E0	Intrinsically dark	UNESCO Starlight Reserves, IDA Dark Sky Parks, Major optical observatories
E1	Dark	Relatively uninhabited rural areas
E2	Low district brightness	Sparsely inhabited rural areas
E3	Medium district brightness	Well inhabited rural and urban settlements
E4	High district brightness	Town and city centres and other commercial areas
<p>NOTE Regardless of the level of urban development, the recommendations for Environmental Zone 1 or 0, should be followed for all locations within 100 km of a major optical astronomy observatory. Regardless of the level of urban development, the recommendations for Environmental Zone 2 (or better) should be followed for locations within 30 km of an operating urban optical astronomy observatory, and for locations between 100 km and 300 km from a major optical astronomy observatory.</p>		

The website that is referred to www.lightpollutionmap.info/ does state SQM figures but this metric is questionable. For example, looking at Piccadilly Circus the SQM reading is 17.43 which would be classed as E2 – Sparsely inhabited rural areas, village, or relatively dark outer suburban locations. Which Piccadilly Circus is not.



Taking the descriptions of the areas we would recommend E4 is the most accurate for the area. Town/City centres with high levels of night-time activity, and Town and city centres and other commercial areas.



However, giving consideration to the comment where the beehive is not a busy night-time environment with most activities on site closing prior to the 23:00 night curfew, we would suggest the environmental zoning could be revised to an E3 zone.