

# Recommended Revisions to A2 Draft Lighting Ordinance (v. 5/08/20)

from A2 Lighting Ordinance Joint Working Group

Recommendations Provided By the Joint Energy/Planning Commission Working Group: Sally Oey (U-M Astronomy, Michigan Dark Skies), John Mirsky (Energy Commission), Erica Briggs (Planning Commission), Sarah Mills (Planning Commission).

We greatly appreciate the work of City staff in preparing the revised draft Lighting Ordinance to be considered for inclusion in the Unified Development Code. Below are some comments and suggested modifications to address issues revealed by the revision.

For reference, 1 Foot-Candle is the illumination on a surface by a candle at a distance of 1 foot. It is also roughly equivalent to 100x the illumination by the full moon, or the light of twilight.

5.25.3.A: We note that the parcel lumen limit applies **only** to commercially installed lighting that moreover, is not compliant with shielding and light trespass specs in 5.25.4.B.1 – 4.

5.25.4.B.1, 8: We realized that the 8 FC light trespass limit in D1/D2 is based on our measurements facing **upward** at the property line taken three feet above the ground; whereas for other zones, it is based on measurements **facing the luminaire**, at any height, at the property line. It is undesirable to make the measurement method consistent due to the respective needs of the different zones. Thus, the different measuring methods need to be clarified. This also revealed an issue with canopy lighting in D1/D2, which can extend beyond the property line, but which would obviously cause gross violation of the 8 FC limit. To resolve these issues, we suggest the following changes:

- B.1.b, add: ~~, except for under-canopy lighting, which shall comply with Section 5.25.4.B.8.~~

- B.1.d, modify to:

In D1 Downtown Core and D2 Downtown Interface districts, the Illuminance shall be measured facing up, at a distance three feet above the ground. In any other district, the illuminance shall be measured facing the luminaire and measured at any point...

- 5.25.4.B.8, modify to:

Except in D1 Downtown Core and D2 Downtown Interface districts, the average maintained horizontal Illumination in the area directly below the canopy shall not exceed 20 Foot-Candles, with no value exceeding 30 Foot-Candles. In the D1 and D2 districts, the average horizontal Illumination shall not exceed 80 Foot-Candles.

- 5.25.4.B.5: Re facade lighting, to address the point about buildings possibly being closer than 10 feet, we note that the light trespass requirement is the limiting factor (0.1 FC for residential and 2 FC commercial) for buildings on an adjacent property. In D1/D2, the light trespass limit probably also limits façade lighting, and we suggest allowing an exception to this spec. Finally, for close buildings on a single parcel, we also suggest an exception:

If a building façade is more than 10 feet from the property line, the maximum average Illuminance on the facade shall be 1 Foot-Candle on any property in a Residential Zoning District or zoned PL Public Land, and 3 Foot-Candles on any property in any other zoning district, as measured at a distance of 10 feet from the facade, provided that the Illuminance does not violate the light trespass limit specified above in Section 5.25.4.B.1. The measurement shall be made facing the facade. Facade illumination from above, rather than below, is strongly encouraged and must be shielded from Glare as specified above in Section 5.25.5.B.3. If a façade is less than 10 feet from the property line, then the provisions in Section 5.25.4.B.1 shall apply to façade lighting. Facades in D1 and D2 districts, and facades situated less than 10 feet from a building on the same parcel are exempt from this Section 5.25.4.B.5.

- 5.37.2: There are some technical issues regarding revisions to definitions of some terms that we have communicated to staff.