

DOCKETED

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Comment Received From: GrowBIGogh, Inc
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CEH Lighting Should Allow 1 point 7 micromole per Joule

Please see attached document

Additional submitted attachment is included below.



March 9, 2021

Submitted via email: info@title24stakeholders.com & www <https://efiling.energy.ca.gov/Ecomment/>

To whom it may concern,

Our company is a retailer & distributor of horticultural equipment and supplies throughout California. We are submitting our own comments on behalf of our clientele and for the benefit of the industry which we serve.

We have read and duly considered the Draft 2022 Energy Code Express Terms document ("Proposed Code") in particular with respect to Horticultural Lighting and Dehumidification for Controlled Environment Horticulture (CEH) Space including Indoor Growing and Greenhouses, Sections 120.6(h)1 and 120.6(h)2 and Sections 120.6(h)5 and 120.6(h)6.

The Proposed Code for Greenhouses permits Luminaires with photosynthetic photon efficiency of 1.7 micromoles per joule @ 400-700nm wavelengths. We believe this is a critical requirement to preserve as the threshold permits High Pressure Sodium Double-Ended ("HPS DE") luminaires to be employed. HPS DE Fixtures produce some heat energy which is beneficial to Greenhouse CEH when supplemental light is switched on (e.g. early mornings, drizzly overcast days...). To pay 4x-5x per fixture for reduced heat output does not compute in Greenhouse CEH. Moreover, the analogue nature of HPS (HID) lighting facilitates wider light spread and penetration than LED 'lasers'; ultimately using fewer fixtures and lower watts per square foot than most, if not all, current LEDs.

With respect to Indoor CEH, the Proposed Code states a 1.9 micromoles per joule requirement. We believe this requirement should be reduced to 1.7 micromoles per joule for the benefit of the Indoor CEH industry. The industry will naturally seek out the most cost-effective solutions to produce its yields and fulfill demand. So if 1000 Watts at 1.7 umol/J (i.e. HPS DE) yields 2.5 units of high quality output, whereas 680 Watts at 2.5 umol/J produces only 1.5 units, the demand is fulfilled at lower total energy output using the 1.7umol/J Luminaire. There are many other factors besides total weight to consider as well, and Indoor CEH should retain the flexibility to choose Luminaires that best suit the industry needs.

To force an LED requirement in any sort of CEH would entail significantly (400-500%) higher CAPEX and may ultimately drive CEH production out of State. In our professional opinion as a supplier of many different types of horticultural lighting, including LED, that the benefits of LED have not been sufficiently proven at this juncture. It is not like leaping from Thomas Edison's incandescent to LED in residential lighting; the horticulture industry has continually evolved since incandescent and halogen to High Pressure Sodium (HPS), Metal Halide (MH), HPS and MH Double-Ended (DE) Luminaires, Light Emitting Diode (LED), Ceramic Metal Halide (CMH) aka Light Emitting Ceramic (LEC), Light Emitting Plasma (LEP) and others. Efficiencies are measured in output per dollar of CAPEX and OPEX, for both the volume and the quality of the output. This has been and will continue to be the case, such that as LED or other technologies demonstrate effectiveness they will be adopted and older, less efficient means will be rapidly phased out by the new innovations.

In summary, we urge the rulemaking body to establish a 1.7 micromoles per joule requirement for all CEH, including both Greenhouse and Indoor.



Thank you for taking the time to read this letter and for the opportunity to be heard.

Respectfully,

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