

**MINUTES**

**Tubular Daylighting Devices Task Group**

Monday November 16, 2009

11:00 a.m. – 12:00 p.m.

Chair: *David De Block, ODL Incorporated*

**1. The chair called the meeting to order @ 11:00 am**

- a. Welcome to all attendees
- b. Antitrust reminder
- c. NFRC meeting guidelines
- d. If interested in joining task group, contact chair.

**2. Les Condit appointed recording secretary**

**3. Review and approve agenda**

**4. Unfinished Business**

- a. Overview of ATI Peer Reviewable research report on U-factor – Mike Thoman.
  - Determined that the peer review paper should be submitted to members of Project Monitoring Task Group. When approved Dennis will post to the website.
  - Paul Jaster discussed that only 14” round TDDs could be simulated. All other TDDs must be tested for u factor.
- b. A status report of ongoing tubular  $V_T$  measurements.
  - Ross gave a quick update of work on reference tube and what data is ready, This project will be delayed due to weather in NC.
  - Charlie’s one page RFP clearly stated that TDDs should be excluded for that scope of the research because of the additional complexity of TDDs.
- c. Review available sunlight in the US and how that may help define location of sample NFRC  $V_T$  measurement utilizing complex data from current  $V_T$  measurement work.
  - The chair discussed that the challenge was to determine what measure of  $V_T$  would actually be put on the NFRC label.
  - Paul Jaster proposed that we would follow average values for sun elevation ( $\approx 30^\circ$  from Horizontal), Azimuth ( $\approx 57^\circ$  from South), latitude and longitude as determined by LBNL research.
  - Willie DuPont questioned how this accounted for different diffuse fractions for different locations and conditions
    - Paul Jaster’s response indicated that it should not be a problem and referred to ongoing testing
  - Statement from both Willie DuPont that an annual averaged measurement would be a fairer and more accurate measure for this metric. He desired a way that it was more useful for different locations.
  - Statement from Les Condit supporting measurements averaged over a range and not having measurements at a single point. These measurements would still be averaged into a single value for the label. If a single point measurement would be used, manufacturers would maximize their  $V_T$  at that point and the value would no longer represent any valid measurement of the overall  $V_T$ .

- Chair states that label needs one value and matrix of values could be kept in a separate data matrix.
- Paul Jaster stated that multiple  $V_T$  values would be too confusing to for the generic end user.
- Mike Thoman stated that a annual measure would not have value because it would not be representative of the lighting when the TDD is installed in different locations.
- Willie DuPont stated that none of the suggested measures would give a value that could be used in calculations for lighting levels and energy savings in different locations. A 1-100 scale could be used by the end user to tell how the different product compare to each other.
- There was a statement that a matrix of data would be more useful if broken down zones and test angles. Similar to
- There was a Statement that variations of effects of different variables would affect TDDs in a similar manner to the way they affect skylights, therefore TDDs might be able to used skylight data to help in the analysis of this issue.
- Statement that there is no way to know what locations and time frames are of interest to the end user, therefore we should not try to give ratings for various locations, zones or time frames.
- Steve Selkowitz made a statement that Europe is tending toward averaged annual measurement of  $V_T$ .
- Paul Jaster stated that if there are two ratings, one should be for diffuse and one should be for clear.
- Peter Lyons stated that he understands that it may not happen immediately, but he would like to soon see the situation where the data is able to be fully simulated in available software and accounting for all of the major variables affecting light output of these devices.
- Paul Jaster proposed follow up meeting on this subject and the group set a time of 6:30pm Monday evening for that meeting.

## **5. New Business**

- a. Les Condit asked and will join the TDD Task Group. (Dennis will add to the list)
- b. Discussion over using Ray Trace simulations to determine  $V_T$ 
  - Ross claimed that it is useful for certain cases, but gets more inaccurate as the simulations gets more complicated.
  - Ross discussed that Photopia is tasked with simulations and to determine when simulations breakdown and deviate from actual measurements.
  - Steve S stated that ray trace additions can be performed by window software program.

## **6. Meeting adjourned at 12.10 pm.**