Tube Lamp - IntelliDim series

INTERNAL DOCUMENT

Family : Indoor / Retrofit / Tubes / TLI

TM-21-11 (Calculated life expectancy)

Product Code	Dimensions Length x Width x height	Electrical (DC)			Chips				Reported Life			Calculated Life		
		Input voltage	Input current (max.)	Lamp power (max.)	Type	Qty.	Max. Power	Junction Temp. @ max. power @ta=25°C	L90	L80	L70	L90	L80	L70
TLI-02015-840-T01	600 x Ø25mm	45 V	300 mA	13.5 W	2835	90 pcs	0.15 W	74.6°C	>41k hrs	>54k hrs	>54k hrs	>41k hrs	>87k hrs	>139k hrs
TLI-04024-840-T01	1,200 x Ø25mm	45 V	480 mA	21.6 W	2835	180 pcs	0.12 W	<75 °C	>41k hrs	>54k hrs	>54k hrs	>41k hrs	>87k hrs	>139k hrs
TLI-05024-840-T01	1,500 x Ø25mm	45 V	480 mA	21.6 W	2835	195 pcs	0.11 W	<75 °C	>41k hrs	>54k hrs	>54k hrs	>41k hrs	>87k hrs	>139k hrs

- Tested Model were selected with the highest stress environment on the LED chips among the family, all other products within the family are deemed to have better performances;

- All measurements taken with 4000K CRI Chips, 2700K and 6000K have identical performance according the Chips manufacturer

Test Sample

Product Code	TLI-02015-840-T01
Luminaire Max. Power	15.4 W
Lamp Power	13.8 W
No. of Chips	90 pcs
LED Chip Power	0.15 W
Ambient Temperature	25 °C
Junction Temperature	74.6 °C (after 2 hrs)

Chips Reference *(refer to file DACOL SMD 2835 LM-80 9000hrs)*

Chips Test Power (150mA x 3V) 0.45 W

Junction Temperature	55 °C
6,000 hrs	99.15%
9,000 hrs	98.50%
α	2.085E-06
β	1.004

Junction Temperature	85 °C
6,000 hrs	98.44%
9,000 hrs	97.81%
α	2.557E-06
β	1.000

Junction Temperature	105 °C
6,000 hrs	97.94%
9,000 hrs	97.25%
α	3.018E-06
β	0.999

Reported Lumen Maintenance (as allowed by TM-21)		L70	54,000 hrs
		L80	54,000 hrs
		L90	54,000 hrs
Calculated Lumen Maintenance (from Fit to Data) $L = \alpha \times \exp(-\beta \times T)$	55 °C	L70	172,982 hrs
		L80	108,938 hrs
		L90	52,447 hrs
	85 °C	L70	139,490 hrs
		L80	87,268 hrs
		L90	41,205 hrs
	105 °C	L70	117,851 hrs
		L80	73,606 hrs
		L90	34,579 hrs

Test Sample Category