



TM-21 Inputs

Instructions

Yellow fields are completed by the user. Fields not used should be left blank. Cyan fields are calculated based on user entries.

First, enter a description of the LED light source tested. Then complete the fields labeled "LM-80 Testing Details". Test duration must be at least 6,000 hours. If only one case temperature data set is to be used (no interpolation), complete only "Tested case temperature 1". For only two case temperature data sets, complete 1 and 2.

Next, further to the right, in the corresponding box(es) for each tested case temperature, enter the test data along with the time (in hours) at which each measurement was taken. Data entered must be normalized then averaged measured data (per TM-21 sections 5.2.1 and 5.2.2).

Enter drive current, *in-situ* temperature data and the percentage of initial lumens to project to in the fields labeled "*In-Situ* Inputs".

Results can be tailored to estimate lumen maintenance at a specific time by entering a value (t) in the yellow field.

A complete TM-21 report will appear on the next tab labeled "Report".

Description of LED Light Source Tested (manufacturer, model, catalog number)	
YL-T3528 W-AA-XXK Rev 4.28 as used in RedBird LED Cardinal Linear Lights	

LM-80 Testing Details	
Total number of units tested per case temperature:	25
Number of failures:	0
Number of units measured:	25
Test duration (hours):	6000
Tested drive current (mA):	20
Tested case temperature 1 (T_{c1} , °C):	55
Tested case temperature 2 (T_{c2} , °C):	70
Tested case temperature 3 (T_{c3} , °C):	85

LM-80 Test Inputs

Test Data for 55°C Case Temperature		Test Data for 70°C Case Temperature		Test Data for 85°C Case Temperature	
Time (hours)	Lumen Maintenance (%)	Time (hours)	Lumen Maintenance (%)	Time (hours)	Lumen Maintenance (%)
0	100.00%	0	100.00%	0	100.00%
1000	102.22%	1000	102.35%	1000	101.51%
2000	102.61%	2000	102.32%	2000	101.55%
3000	104.10%	3000	103.37%	3000	102.96%
4000	103.41%	4000	102.54%	4000	101.43%
5000	102.46%	5000	101.39%	5000	100.30%
6000	101.32%	6000	100.01%	6000	99.13%

In-Situ Inputs

Drive current for each LED package/array/module (mA):	18
<i>In-situ</i> case temperature (T_{c} , °C):	42.6
Percentage of initial lumens to project to (e.g. for L ₇₀ , enter 70):	70

Results

Time (t) at which to estimate lumen maintenance (hours):	35,000
Lumen maintenance at time (t) (%):	97.70%
Calculated L70 (hours):	246,000
Reported L70 (hours):	>36000

