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".

LM-80 Test Inputs

Description of LED Light Source Tested (manufacturer, model, catalog number)
Dioda: XPG-3 Ta=25C

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):	14112
Tested drive current (mA):	700
Tested case temperature 1 (T_c, ºC):	85
Tested case temperature 2 (T_c, ºC):	105
Tested case temperature 3 (T_c, ºC):	

Test Data for 85ºC Case Temperature		Test Data for 105ºC Case Temperature		Tested Case Temperature 3	
Time (hours)	Lumen Maintenance (%)	Time (hours)	Lumen Maintenance (%)	Time (hours)	Lumen Maintenance (%)
4536	98,88%	4536	97,36%		
5040	98,90%	5040	97,32%		
5544	98,79%	5544	97,05%		
6048	98,88%	6048	97,14%		
6552	98,76%	6552	96,94%		
7056	98,77%	7056	96,91%		
7560	98,70%	7560	96,67%		
8064	98,73%	8064	96,74%		
8568	98,74%	8568	96,63%		
9072	98,51%	9072	96,52%		
9576	98,51%	9576	96,38%		
10080	98,36%	10080	96,36%		
10584	98,79%	10584	96,50%		
11088	98,56%	11088	96,64%		
11592	98,48%	11592	96,51%		
12096	98,68%	12096	96,69%		
12600	98,72%	12600	96,71%		
13104	98,59%				
13608	98,54%				
14112	98,64%				

In-Situ Inputs

Drive current for each LED package/array/module (mA):	700
In-situ case temperature (T_c, ºC):	85
Percentage of initial lumens to project to (e.g. for L_{70}, enter 70):	80

Results

Time (t) at which to estimate lumen maintenance (hours):	140 000
Lumen maintenance at time (t) (%):	96,81%
Calculated L80 (hours):	1 468 000
Reported L80 (hours):	>85000