Cree® XLamp® XT-E White LEDs

INFORMATION REQUIRED BY LM-80-08

Cree classifies these LEDs as "LED packages" per Sep 9, 2011 ENERGY STAR guidelines[1].

1. Number of LED light sources tested	*See individual data sets on following pages.*
2. Description of LED light sources	XLamp XT-E White LEDs (Series: XTEAWT) This LM-80 report is applicable to the following order codes: XTEAWT-xx-xxxx-xxxxxxxxx All measurements provided are LED package measurements.
3. Description of auxiliary equipment	Instrument Systems ISP-500 Integrating Sphere Instrument Systems CAS-140 Spectrometer Keithley 2420 Sourcemeter
4. Operating cycle	LED packages are driven at constant current.
5. Ambient conditions	LED packages are operated in environmental control chambers. The temperature of the ambient air around the LED packages is actively controlled by air flowing through the chamber. T_A : *See individual data sets on following pages* RH : < 45% Air flow : 800 CFM
6. Case temperature	*See individual data sets on following pages.*
7. Drive current of the LED light source during lifetime test.	*See individual data sets on following pages.*
8. Initial luminous flux and forward voltage at photometric measurement current	*See individual data sets on following pages.*
9. Lumen maintenance data for each individual LED light source	*See individual data sets on following pages.* Ambient temperature during luminous flux testing set to 25°C ±2°C.
10. Observation of LED light source failures	No failures occurred during testing.
11. LED light source monitoring interval	*See individual data sets on following pages.*
12. Photometric measurement uncertainty	Cree maintains a tolerance of ±2.0% on flux measurements for LM-80 testing.
13. Chromaticity shift reported over the measurement time	*See individual data sets on following pages.* Ambient temperature during chromaticity testing set to 25°C ±2°C.
Test Report Authorization	Amber Abare, Components Reliability Laboratory Manager
Sampling method	Cree uses systematic sampling of production LEDs, with checks to ensure that the behavior of early samples are representative of the behavior of later samples.

1 http://www.energystar.gov/ia/partners/prod_development/new_specs/downloads/luminaires/ENERGY_STAR_Final_Lumen_Maintenance_Guidance.pdf

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REVISION HISTORY

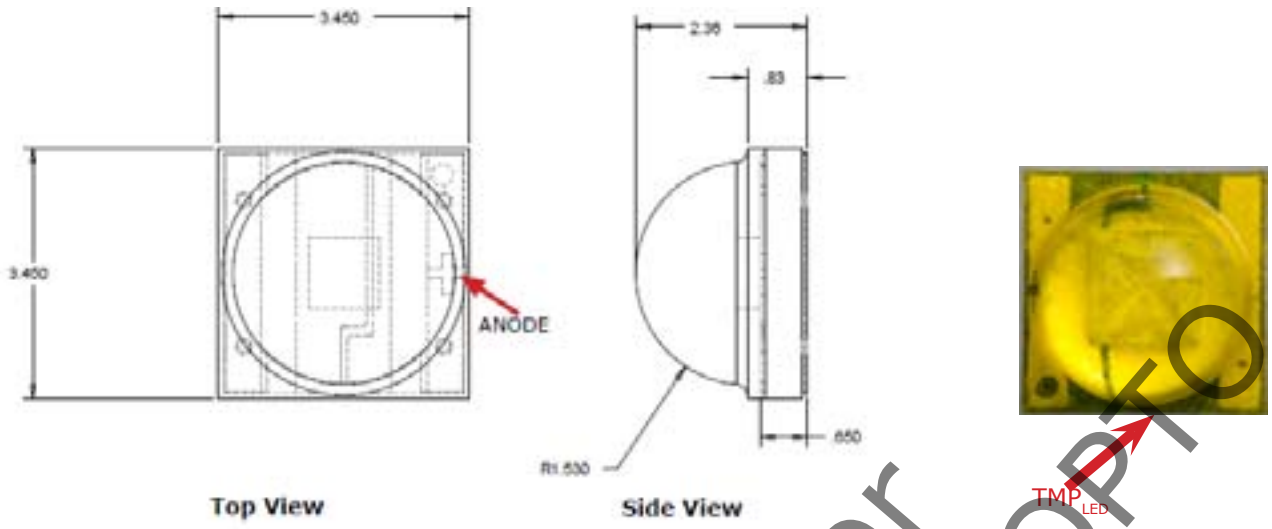
Revision	Date	Change
0	Mar 29, 2012	Date of first issue
1	Sep 27, 2012	Removed successor data set 1. Added data set 2.
2	Oct 23, 2012	Added data set 3.
3	Nov 14, 2012	Added data set 4.
4	Apr 17, 2013	Revised data sets 2 & 4 to add additional test duration. Added data sets 5 & 6.
5	Aug 22, 2013	Revised data sets 2-6 to add additional test duration.
6	Nov 13, 2013	Revised data sets 5 & 6 to add additional test duration.

TEST RESULTS SUMMARY

Data Set	Case Temp. [T_S]	Ambient Temp. [T_A]	Drive Current [I_F]	Average Lumen Maintenance at 6,000 hours	Average Chromaticity Shift (Δu'v') at 6,000 hours	Reported TM-21 Lifetimes
3	55°C	55°C	1000 mA	98.1%	0.0012	L95(12k) > 69,600 hrs L90(12k) > 69,600 hrs L80(12k) > 69,600 hrs L70(12k) > 69,600 hrs
2	85°C	85°C	1000 mA	98.8%	0.0014	L95(11k) > 66,500 hrs L90(11k) > 66,500 hrs L80(11k) > 66,500 hrs L70(11k) > 66,500 hrs
4	105°C	105°C	1000 mA	96.1%	0.0021	L90(10k) > 60,500 hrs L80(10k) > 60,500 hrs L70(10k) > 60,500 hrs
5	55°C	55°C	1250 mA	96.3%	0.0008	L90(9k) > 54,400 hrs L80(9k) > 54,400 hrs L70(9k) > 54,400 hrs
6	85°C	85°C	1250 mA	95.6%	0.0012	L90(9k) = 19,300 hrs L80(9k) = 41,400 hrs L70(9k) > 54,400 hrs

MECHANICAL DIMENSIONS & TEMPERATURE MEASUREMENT POINT

All measurements are ±.13 mm unless otherwise indicated.



The LED temperature measurement point (TMP_{LED}) should be measured on the PCB surface, as close to the LED's thermal pad as possible (shown in the picture above). It is not required to use a solder footprint for the thermal pad that is larger than the LED itself. In testing, Cree has found such a solder pad to have insignificant impact on the resulting temperature measurement.

DATA SET 3: 55°C; 1000 mA

LED Package Series	XLamp XT-E White LEDs (Series: XTEAWT) This LM-80 report is applicable to the following order codes: XTEAWT-xx-xxxx-xxxxxxxxx
Tested Model Number	XTEAWT-00-0000-00000LBE7
Drive Current [I_F]	1000 mA
Testing Initiation Date	December 19, 2011
Case Temperature [T_s]	55°C
Ambient Temperature [T_A]	55°C
Failures observed	None

Lamp #	Initial (0 hrs)				Lumen Maintenance (%)																						
	LF (lm)	V_F (V)	Calc. CCT	ANSI Target	168	1008	1512	2016	2520	3024	3528	4032	4536	5040	5544	6048	6552	7056	7560	8064	8568	9072	9576	10080	10584	11088	11592
1	268.5	3.43	3009	3000	100.7	98.7	99.6	98.7	98.0	98.2	97.5	98.4	98.4	98.1	99.0	99.5	99.6	101.3	98.4	100.1	99.2	98.1	98.5	99.3	98.2	98.8	98.5
2	261.7	3.39	3046	3000	99.4	98.4	98.5	97.3	97.9	97.5	97.8	99.1	98.7	98.5	98.7	98.4	99.2	100.2	99.8	99.7	99.9	99.1	99.7	99.4	99.5	99.2	98.9
3	260.1	3.41	3064	3000	99.8	99.6	99.8	99.1	99.2	98.3	98.8	99.9	99.5	99.4	99.6	99.4	100.3	101.3	100.8	100.9	100.9	100.4	100.6	100.9	100.4	100.0	99.8
4	239.5	3.40	2897	3000	101.4	99.6	100.0	98.9	98.8	97.6	97.7	98.2	98.9	98.6	99.2	100.3	100.9	102.3	99.1	100.6	99.8	98.6	98.4	99.8	97.7	98.8	98.9
5	258.3	3.43	3004	3000	98.3	97.8	98.1	97.6	97.4	96.9	97.2	97.3	97.0	96.9	97.2	97.1	98.1	98.9	98.5	98.6	98.7	98.2	98.6	98.8	98.5	98.2	97.8
6	243.1	3.42	2984	3000	99.9	98.3	98.5	97.9	97.7	97.3	97.5	98.5	98.5	98.3	98.5	98.3	99.2	100.1	99.3	99.7	99.8	99.3	99.5	99.8	98.8	99.0	98.7
7	253.7	3.44	3022	3000	100.1	98.8	99.8	98.4	98.1	97.6	97.5	97.2	98.2	97.9	98.0	99.4	100.3	101.3	97.9	99.5	98.6	97.6	97.2	98.7	96.7	97.3	97.2
8	256.4	3.39	2941	3000	100.9	100.7	101.1	99.9	100.2	99.7	100.0	100.8	100.6	100.3	100.7	100.6	101.6	102.4	102.2	102.0	102.3	101.8	101.9	102.0	102.1	101.4	101.1
9	267.5	3.43	3202	3000	100.9	100.4	100.4	99.3	99.5	98.0	97.9	97.8	99.0	98.5	98.8	100.3	101.3	102.2	99.0	100.4	99.6	98.2	97.9	99.1	98.2	98.6	98.7
10	271.2	3.42	2904	3000	99.8	99.4	98.7	98.4	98.0	98.6	97.6	100.0	99.1	99.2	98.1	98.8	99.9	99.7	99.0	100.1	100.2	99.5	99.2	98.6	99.0	98.2	98.5
11	265.4	3.39	2975	3000	98.1	98.7	98.3	96.7	97.3	97.2	97.3	98.2	97.8	97.3	96.9	97.2	98.0	98.2	98.4	98.4	98.6	97.4	98.4	97.7	98.3	97.8	97.6
12	254.4	3.43	3033	3000	98.8	98.0	98.0	97.9	97.5	97.9	97.7	99.0	98.5	99.0	97.6	97.9	98.0	98.8	98.5	99.5	99.7	98.6	98.5	97.7	97.9	97.5	97.9
13	260.3	3.41	2910	3000	99.2	96.2	96.1	95.6	95.5	95.7	95.6	96.5	96.3	97.2	95.3	95.7	96.0	96.6	95.9	97.0	97.3	95.7	96.1	95.3	96.0	95.5	96.0
14	257.8	3.51	3203	3000	100.0	98.8	98.6	97.4	97.7	97.4	97.6	98.5	98.2	97.3	96.9	97.2	98.0	98.0	98.3	98.6	98.7	98.4	98.7	97.6	98.2	97.7	97.5
15	265.1	3.41	3187	3000	99.7	98.8	98.5	97.2	97.5	97.2	97.1	98.1	98.0	97.6	97.2	97.0	97.7	97.8	98.1	98.3	98.4	98.3	98.3	97.0	97.7	97.3	96.9
16	249.8	3.43	2974	3000	100.0	98.6	98.2	97.3	97.1	96.8	96.0	97.7	97.7	99.0	96.3	96.7	97.3	97.3	97.5	98.1	98.4	97.6	97.2	96.4	96.8	96.4	96.8
17	272.2	3.42	3192	3000	99.2	98.9	99.1	97.9	98.4	98.2	98.2	98.8	98.6	98.3	98.0	97.8	98.6	98.6	99.1	99.2	99.4	99.8	99.1	98.2	99.0	98.5	98.5
18	274.4	3.44	2952	3000	99.4	97.9	97.9	96.5	96.6	96.5	96.1	96.9	97.1	98.1	95.6	95.8	96.4	96.8	96.5	97.1	97.4	97.0	96.3	95.3	96.1	95.6	96.2
19	271.5	3.42	2903	3000	100.3	98.9	98.2	98.0	98.8	98.3	97.5	98.2	98.5	99.6	98.0	97.6	99.6	99.5	98.4	100.0	99.2	98.3	98.3	99.9	98.1	98.4	98.3
20	256.9	3.40	2957	3000	99.8	99.8	99.2	98.3	99.0	98.7	97.8	98.9	99.1	99.1	98.6	98.6	99.9	100.0	99.7	99.3	98.6	99.7	99.6	100.0	99.4	99.2	99.2
21	262.4	3.43	3030	3000	100.0	99.5	99.7	98.1	98.9	98.7	98.3	99.1	99.4	99.4	98.5	98.7	100.1	100.4	100.0	99.3	99.7	99.7	99.6	100.1	98.7	99.1	99.2
22	260.7	3.46	2983	3000	98.5	97.9	97.9	96.4	97.1	96.9	96.2	97.4	97.7	97.2	97.3	96.2	97.5	98.0	97.8	96.6	96.6	97.2	97.7	98.4	96.7	97.5	97.6
23	255.4	3.41	3025	3000	100.8	98.0	99.0	98.2	98.7	98.5	98.1	99.0	99.5	99.0	99.0	98.4	99.7	100.0	99.6	98.7	99.3	97.9	99.6	100.0	98.6	99.1	99.1
24	258.0	3.49	3046	3000	101.1	100.0	98.9	98.2	98.8	98.0	96.5	97.5	98.6	99.0	97.6	96.6	98.7	99.2	98.5	98.7	97.8	98.3	97.5	98.9	98.1	98.2	97.7
25	256.4	3.43	3080	3000	100.7	99.0	98.8	97.7	98.0	97.8	97.9	98.8	99.1	98.7	98.6	98.2	99.4	99.8	99.5	98.5	99.4	97.9	98.8	99.2	98.2	98.5	98.5
n	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Mean	**260.0**	**3.43**			**99.9**	**98.8**	**98.8**	**97.9**	**98.1**	**97.7**	**97.5**	**98.4**	**98.5**	**98.5**	**98.0**	**98.1**	**99.0**	**99.5**	**98.8**	**99.2**	**99.1**	**98.5**	**98.6**	**98.7**	**98.3**	**98.2**	**98.2**
Median	260.1	3.42			99.9	98.8	98.7	97.9	98.0	97.8	97.6	98.4	98.5	98.5	98.0	98.2	99.2	99.7	98.5	99.3	99.2	98.3	98.5	98.9	98.2	98.4	98.5
σ	8.6	0.03			0.87	0.94	1.00	0.96	0.99	0.85	0.93	1.01	0.92	0.88	1.22	1.37	1.42	1.67	1.28	1.25	1.19	1.23	1.27	1.59	1.31	1.26	1.14
Min.	239.5	3.39			98.1	96.2	96.1	95.6	95.5	95.7	95.6	96.5	96.3	96.9	95.3	95.7	96.0	96.6	95.9	96.6	96.6	95.7	96.1	95.3	96.0	95.5	96.0
Max.	274.4	3.51			101.4	100.7	101.1	99.9	100.2	99.7	100.0	100.8	100.6	100.3	100.7	100.5	101.6	102.4	102.2	102.0	102.3	101.8	101.9	102.0	102.1	101.4	101.1

DATA SET 3: 55°C; 1000 mA

LED Package Series	XLamp XT-E White LEDs (Series: XTEAWT) This LM-80 report is applicable to the following order codes: XTEAWT-xx-xxxx-xxxxxxxxx
Tested Model Number	XTEAWT-00-0000-00000LBE7
Drive Current [I_F]	1000 mA
Testing Initiation Date	December 19, 2011
Case Temperature [T_s]	55°C
Ambient Temperature [T_A]	55°C
Failures observed	None

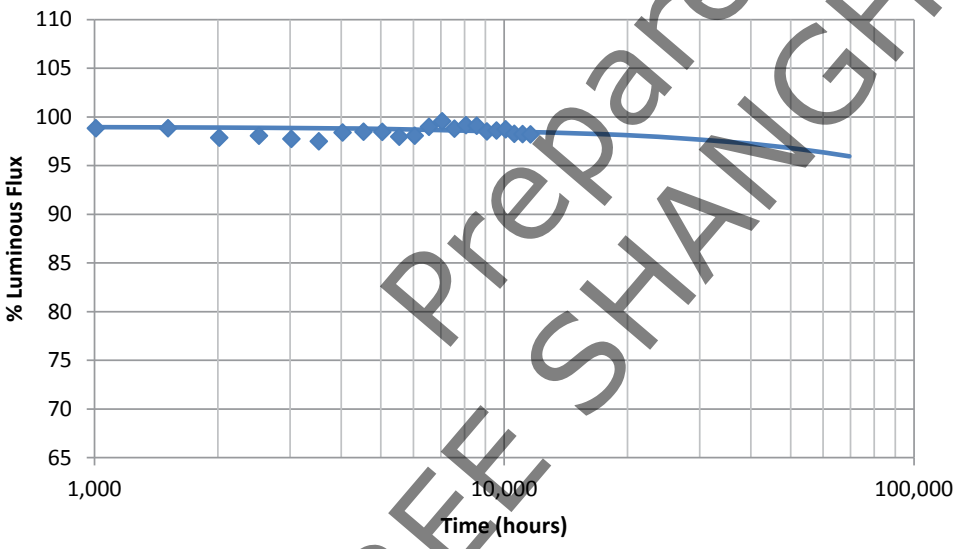
Lamp #	Initial (0 hrs)				Chromaticity Shift (Δu'v')																					
	CCx	CCy	Calc. CCT	ANSI Target	168	1008	1512	2016	2520	3024	3528	4032	4536	5040	5544	6048	6552	7056	7560	8064	8568	9072	9576	10080	10584	11088	11592
1	0.4359	0.4023	3009	3000	0.0004	0.0005	0.0006	0.0007	0.0008	0.0008	0.0009	0.0009	0.0009	0.0008	0.0009	0.0008	0.0010	0.0009	0.0010	0.0010	0.0010	0.0011	0.0011	0.0014	0.0012	0.0015	0.0010
2	0.4320	0.3986	3046	3000	0.0006	0.0011	0.0012	0.0010	0.0014	0.0015	0.0015	0.0017	0.0018	0.0016	0.0019	0.0018	0.0019	0.0019	0.0020	0.0020	0.0020	0.0020	0.0021	0.0024	0.0022	0.0026	0.0026
3	0.4302	0.3969	3064	3000	0.0005	0.0008	0.0008	0.0008	0.0009	0.0009	0.0009	0.0010	0.0010	0.0008	0.0009	0.0008	0.0009	0.0008	0.0008	0.0008	0.0010	0.0009	0.0010	0.0013	0.0010	0.0011	0.0012
4	0.4406	0.3987	2897	3000	0.0005	0.0007	0.0009	0.0009	0.0010	0.0010	0.0012	0.0013	0.0013	0.0013	0.0012	0.0011	0.0014	0.0013	0.0015	0.0014	0.0014	0.0015	0.0014	0.0014	0.0014	0.0016	0.0016
5	0.4293	0.3881	3004	3000	0.0009	0.0009	0.0008	0.0009	0.0008	0.0008	0.0009	0.0010	0.0009	0.0010	0.0007	0.0007	0.0007	0.0006	0.0008	0.0007	0.0007	0.0008	0.0011	0.0010	0.0007	0.0010	0.0010
6	0.4389	0.4055	2984	3000	0.0004	0.0005	0.0005	0.0006	0.0006	0.0005	0.0005	0.0007	0.0007	0.0006	0.0005	0.0005	0.0006	0.0006	0.0006	0.0006	0.0007	0.0007	0.0007	0.0009	0.0007	0.0009	0.0009
7	0.4374	0.4071	3022	3000	0.0006	0.0007	0.0011	0.0011	0.0013	0.0013	0.0013	0.0016	0.0016	0.0016	0.0016	0.0017	0.0018	0.0017	0.0019	0.0019	0.0020	0.0021	0.0021	0.0023	0.0020	0.0023	0.0021
8	0.4392	0.4010	2941	3000	0.0011	0.0011	0.0013	0.0012	0.0013	0.0013	0.0013	0.0015	0.0015	0.0014	0.0013	0.0013	0.0013	0.0012	0.0012	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0014	0.0014
9	0.4280	0.4091	3202	3000	0.0004	0.0007	0.0011	0.0011	0.0012	0.0013	0.0012	0.0014	0.0015	0.0015	0.0015	0.0015	0.0016	0.0017	0.0016	0.0017	0.0018	0.0019	0.0017	0.0019	0.0020	0.0020	0.0022
10	0.4413	0.4009	2904	3000	0.0007	0.0007	0.0007	0.0008	0.0007	0.0007	0.0006	0.0005	0.0005	0.0005	0.0005	0.0006	0.0006	0.0006	0.0005	0.0004	0.0005	0.0006	0.0006	0.0008	0.0008	0.0007	0.0009
11	0.4401	0.4070	2975	3000	0.0002	0.0008	0.0008	0.0007	0.0009	0.0011	0.0012	0.0013	0.0013	0.0014	0.0014	0.0014	0.0016	0.0016	0.0017	0.0017	0.0016	0.0018	0.0014	0.0017	0.0019	0.0020	0.0021	0.0022
12	0.4334	0.4000	3033	3000	0.0004	0.0006	0.0006	0.0007	0.0009	0.0009	0.0009	0.0010	0.0010	0.0009	0.0009	0.0011	0.0011	0.0010	0.0011	0.0010	0.0011	0.0013	0.0012	0.0012	0.0012	0.0012	0.0013
13	0.4381	0.3953	2910	3000	0.0003	0.0003	0.0003	0.0003	0.0006	0.0005	0.0007	0.0005	0.0007	0.0005	0.0006	0.0006	0.0005	0.0006	0.0006	0.0005	0.0005	0.0008	0.0006	0.0006	0.0008	0.0007	0.0007
14	0.4241	0.4001	3203	3000	0.0003	0.0008	0.0008	0.0010	0.0011	0.0013	0.0014	0.0014	0.0013	0.0013	0.0016	0.0016	0.0016	0.0016	0.0016	0.0017	0.0018	0.0017	0.0021	0.0023	0.0021	0.0022	0.0023
15	0.4248	0.3998	3187	3000	0.0003	0.0008	0.0008	0.0009	0.0011	0.0013	0.0012	0.0012	0.0014	0.0014	0.0015	0.0016	0.0015	0.0017	0.0017	0.0017	0.0019	0.0018	0.0020	0.0020	0.0020	0.0023	0.0023
16	0.4399	0.4065	2974	3000	0.0003	0.0006	0.0005	0.0007	0.0008	0.0009	0.0007	0.0009	0.0010	0.0008	0.0008	0.0011	0.0011	0.0009	0.0011	0.0010	0.0011	0.0012	0.0013	0.0012	0.0013	0.0012	0.0012
17	0.4196	0.3883	3192	3000	0.0004	0.0009	0.0009	0.0010	0.0012	0.0013	0.0013	0.0013	0.0013	0.0013	0.0015	0.0016	0.0016	0.0015	0.0017	0.0016	0.0018	0.0018	0.0019	0.0020	0.0020	0.0021	0.0024
18	0.4383	0.4006	2952	3000	0.0003	0.0005	0.0004	0.0005	0.0007	0.0007	0.0008	0.0007	0.0008	0.0008	0.0008	0.0010	0.0009	0.0011	0.0010	0.0011	0.0011	0.0012	0.0013	0.0014	0.0015	0.0016	0.0016
19	0.4432	0.4045	2903	3000	0.0005	0.0008	0.0008	0.0009	0.0010	0.0011	0.0012	0.0013	0.0013	0.0014	0.0011	0.0014	0.0015	0.0016	0.0017	0.0016	0.0018	0.0020	0.0020	0.0019	0.0020	0.0021	0.0021
20	0.4406	0.4057	2957	3000	0.0004	0.0005	0.0005	0.0006	0.0007	0.0008	0.0006	0.0009	0.0009	0.0009	0.0009	0.0010	0.0009	0.0011	0.0011	0.0010	0.0009	0.0012	0.0012	0.0012	0.0011	0.0013	0.0013
21	0.4354	0.4039	3030	3000	0.0002	0.0006	0.0007	0.0007	0.0008	0.0009	0.0008	0.0009	0.0010	0.0009	0.0008	0.0010	0.0009	0.0011	0.0010	0.0009	0.0010	0.0011	0.0011	0.0011	0.0010	0.0011	0.0013
22	0.4353	0.3981	2983	3000	0.0004	0.0008	0.0008	0.0009	0.0010	0.0012	0.0012	0.0012	0.0014	0.0014	0.0014	0.0014	0.0014	0.0017	0.0017	0.0013	0.0013	0.0017	0.0019	0.0020	0.0016	0.0023	0.0023
23	0.4366	0.4058	3025	3000	0.0004	0.0003	0.0005	0.0007	0.0008	0.0010	0.0010	0.0011	0.0011	0.0011	0.0011	0.0012	0.0011	0.0012	0.0013	0.0011	0.0012	0.0012	0.0015	0.0015	0.0013	0.0015	0.0016
24	0.4329	0.4005	3046	3000	0.0004	0.0005	0.0002	0.0004	0.0005	0.0006	0.0002	0.0007	0.0008	0.0007	0.0005	0.0009	0.0009	0.0008	0.0010	0.0009	0.0008	0.0011	0.0011	0.0010	0.0012	0.0011	0.0011
25	0.4371	0.4138	3080	3000	0.0005	0.0007	0.0009	0.0010	0.0010	0.0012	0.0012	0.0014	0.0015	0.0014	0.0014	0.0015	0.0016	0.0016	0.0017	0.0013	0.0017	0.0015	0.0018	0.0019	0.0014	0.0020	0.0020
n	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Mean					**0.0004**	**0.0007**	**0.0007**	**0.0008**	**0.0009**	**0.0010**	**0.0010**	**0.0011**	**0.0011**	**0.0011**	**0.0011**	**0.0012**	**0.0012**	**0.0012**	**0.0013**	**0.0012**	**0.0013**	**0.0013**	**0.0014**	**0.0015**	**0.0014**	**0.0016**	**0.0016**
Median					0.0004	0.0007	0.0008	0.0009	0.0009	0.0010	0.0010	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0012	0.0012	0.0011	0.0012	0.0013	0.0013	0.0014	0.0013	0.0015	0.0016
σ					0.0002	0.0002	0.0003	0.0002	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0004	0.0004	0.0004	0.0004	0.0004	0.0005	0.0005	0.0004	0.0005	0.0005	0.0005	0.0005	0.0006
Min.					0.0002	0.0003	0.0002	0.0003	0.0005	0.0005	0.0002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0006	0.0005	0.0004	0.0005	0.0006	0.0006	0.0006	0.0007	0.0007	0.0007
Max.					0.0011	0.0011	0.0013	0.0012	0.0014	0.0015	0.0015	0.0017	0.0018	0.0016	0.0019	0.0018	0.0019	0.0019	0.0020	0.0020	0.0020	0.0021	0.0021	0.0024	0.0022	0.0026	0.0026

DATA SET 3: 55°C; 1000 mA

LED Package Series	XLamp XT-E White LEDs (Series: XTEAWT) This LM-80 report is applicable to the following order codes: XTEAWT-xx-xxxx-xxxxxxxxx
Tested Model Number	XTEAWT-00-0000-00000LBE7
Drive Current [I_F]	1000 mA
Testing Initiation Date	December 19, 2011
Case Temperature [T_s]	55°C
Ambient Temperature [T_A]	55°C
Failures observed	None

Projection Generated By Cree's Internal TM-21 Calculator:

Test duration	11,592 hours
Test duration used for projection	t=5,544 to t=11,592
α	4.506E-07
β	9.901E-01
Calculated Lifetime	L70(12k) > 209,000 hours
Reported Lifetime	**L70(12k) > 69,600 hours**



LM-80 Data For The Official TM-21 Calculator*

Time (hours)	Lumen Maintenance
0	100.0000%
168	99.8730%
1008	98.8350%
1512	98.8350%
2016	97.8670%
2520	98.0660%
3024	97.7430%
3528	97.4960%
4032	98.3980%
4536	98.4800%
5040	98.4610%
5544	97.9650%
6048	98.0690%
6552	98.9830%
7056	99.5490%
7560	98.7950%
8064	99.1530%
8568	99.0930%
9072	98.5100%
9576	98.6030%
10080	98.7260%
10584	98.2650%
11088	98.2340%
11592	98.2050%

* http://www.energystar.gov/TM-21calculator

Suggestion for exporting the LM-80 data:
1. Copy above table from PDF & paste into Microsoft Word.
2. Copy table out of Word & paste into Microsoft Excel (Match destination formatting)

DATA SET 2: 85°C; 1000 mA

LED Package Series	XLamp XT-E White LEDs (Series: XTEAWT) This LM-80 report is applicable to the following order codes: XTEAWT-xx-xxxx-xxxxxxxxx
Tested Model Number	XTEAWT-00-0000-00000LBE7
Drive Current [I_F]	1000 mA
Testing Initiation Date	November 16, 2011
Case Temperature [T_s]	85°C
Ambient Temperature [T_A]	85°C
Failures observed	None

Lamp #	Initial (0 hrs)				Lumen Maintenance (%)																				
	LF (lm)	V_F (V)	Calc. CCT	ANSI Target	168	1008	1512	2016	2520	3024	3528	4032	4536	5040	5544	6048	6552	7056	7560	8064	8568	9072	9576	10080	10584	11088
1	253.1	3.39	2912	3000	98.8	99.7	98.5	97.8	98.1	97.1	96.6	97.3	97.6	97.2	97.0	96.7	96.3	96.8	96.1	95.7	95.2	95.3	97.3	97.6	97.0	97.2
2	248.1	3.37	3074	3000	97.9	100.2	97.9	98.5	98.0	96.3	96.1	97.0	98.0	97.5	97.9	97.4	96.4	97.1	95.9	94.8	95.3	94.4	97.2	97.5	96.4	97.0
3	245.8	3.41	2981	3000	99.6	100.4	98.9	98.0	98.1	96.6	96.1	96.7	96.6	96.8	97.1	96.4	95.1	95.8	94.6	94.2	93.8	93.5	96.5	96.4	95.6	95.9
4	248.4	3.41	2880	3000	99.2	101.4	100.5	100.4	98.6	98.8	98.7	98.0	98.5	98.5	97.4	97.4	96.3	95.5	96.1	95.6	97.1	94.5	98.4	97.1	96.0	97.7
5	249.4	3.38	3009	3000	98.3	99.6	99.9	98.9	97.7	96.8	97.5	96.9	97.3	97.6	96.7	97.0	96.6	96.0	96.5	95.9	95.9	95.6	97.8	97.8	97.3	97.5
6	255.6	3.39	3017	3000	99.7	98.9	99.3	98.7	97.6	97.5	97.4	96.9	97.8	97.7	97.0	97.2	95.9	96.1	96.0	95.9	95.7	95.2	97.3	97.5	96.8	97.2
7	262.3	3.37	2990	3000	98.9	101.0	98.2	99.3	99.2	97.3	97.5	98.1	98.4	98.2	98.1	97.7	97.1	97.8	97.1	96.6	96.5	96.2	98.2	98.4	98.0	98.1
8	251.9	3.39	2873	3000	98.6	101.9	98.7	99.3	99.0	98.2	98.0	98.5	98.7	98.4	98.8	98.3	97.0	97.9	96.0	95.8	95.7	95.3	98.0	98.2	96.3	97.5
9	240.6	3.45	3015	3000	100.9	101.7	101.4	101.1	99.6	100.4	100.9	99.4	98.5	100.4	100.1	99.0	100.5	98.1	97.4	97.7	96.9	96.5	100.5	100.2	99.4	98.1
10	248.1	3.35	3106	3000	101.8	102.1	102.0	101.7	100.1	100.6	101.9	100.9	99.5	101.7	101.5	100.8	101.6	99.9	99.3	99.3	98.3	98.0	101.8	101.3	100.8	100.1
11	266.6	3.33	3089	3000	100.4	100.4	101.4	101.3	100.0	99.9	100.2	99.9	98.8	100.6	100.6	100.3	99.5	99.4	99.1	98.8	96.4	98.2	100.3	100.7	98.8	100.5
12	247.7	3.36	3149	3000	100.2	102.0	101.8	101.9	100.0	100.4	101.6	100.5	99.0	101.1	100.8	100.1	100.9	99.2	98.9	98.8	96.0	97.7	101.1	100.6	99.9	99.3
13	253.8	3.37	3117	3000	100.3	100.4	101.5	101.2	99.9	99.4	100.2	100.1	99.5	100.7	100.6	100.3	99.6	99.6	99.3	99.0	96.7	98.3	100.0	100.8	99.5	100.5
14	251.1	3.37	3111	3000	100.9	101.8	102.1	102.1	101.7	101.9	102.3	102.2	100.5	102.2	102.2	101.4	101.7	100.5	100.5	100.1	97.3	99.0	102.1	101.9	101.2	100.4
15	257.6	3.36	3183	3000	101.0	101.6	101.5	101.9	100.9	100.7	101.2	101.0	100.4	101.4	101.6	100.9	100.3	100.3	100.0	100.0	97.6	99.3	101.5	101.7	99.4	101.5
16	256.9	3.47	3026	3000	99.8	100.2	100.7	100.7	99.3	99.8	100.1	98.3	99.4	99.8	99.5	99.4	99.3	98.1	97.6	97.8	97.7	97.4	100.7	98.7	100.3	98.1
17	269.4	3.33	3025	3000	98.3	99.2	100.2	99.6	98.8	99.4	99.2	98.6	99.1	99.4	99.5	99.3	98.5	97.3	98.3	98.0	97.7	97.5	100.3	99.8	100.1	99.0
18	255.9	3.34	3012	3000	99.2	101.7	101.5	101.4	99.9	99.1	101.1	99.1	99.6	100.7	100.4	100.1	100.2	98.5	98.9	98.7	98.3	97.7	101.6	99.3	100.3	99.0
19	254.4	3.38	3131	3000	99.0	99.9	100.4	99.5	98.8	99.5	99.1	98.7	99.4	99.4	99.5	99.3	98.6	98.1	98.5	98.0	97.7	97.5	100.3	99.8	99.8	98.9
20	257.5	3.36	3105	3000	100.2	102.1	101.7	100.9	99.9	99.9	100.0	99.6	100.3	100.3	100.4	100.2	99.5	98.9	99.3	98.7	98.3	98.1	100.9	100.4	100.6	99.8
21	252.2	3.37	3198	3000	100.6	102.2	101.8	101.6	101.7	100.8	101.5	100.6	101.0	101.5	101.8	101.4	101.5	100.1	100.6	100.0	99.7	99.0	102.8	100.7	101.4	101.0
22	261.2	3.35	3110	3000	99.8	99.7	99.6	99.1	98.3	98.8	98.5	97.9	98.8	98.8	99.0	98.8	98.2	97.8	98.1	97.6	97.3	97.0	99.7	99.4	99.4	99.0
23	245.9	3.44	2898	3000	98.7	101.5	100.1	99.9	100.1	97.3	96.6	97.5	97.2	97.0	97.9	96.6	95.7	96.3	96.0	95.2	94.3	94.4	97.1	96.8	95.4	96.2
24	233.0	3.34	2875	3000	98.6	99.4	99.1	98.4	98.3	97.3	97.4	96.9	97.6	96.6	96.5	96.0	95.9	96.3	95.9	95.4	95.0	95.0	96.8	97.0	96.6	96.7
25	244.4	3.39	2942	3000	99.0	102.0	102.0	101.3	100.0	98.6	100.1	98.9	98.7	99.3	98.3	98.8	97.8	97.0	97.5	96.7	97.7	96.0	99.9	97.8	96.9	98.8
n	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Mean	**252.4**	**3.38**			**99.6**	**100.8**	**100.4**	**100.2**	**99.3**	**98.9**	**99.2**	**98.8**	**98.8**	**99.3**	**99.2**	**98.8**	**98.4**	**97.9**	**97.7**	**97.4**	**96.7**	**96.7**	**99.5**	**99.1**	**98.5**	**98.6**
Median	252.2	3.37			99.6	101.0	100.5	100.4	99.3	99.1	99.2	98.5	98.8	99.4	99.5	99.0	98.5	97.9	97.6	97.7	96.9	97.0	100.0	99.3	99.4	98.8
σ	8.0	0.03			1.01	1.06	1.33	1.35	1.14	1.55	1.93	1.53	1.11	1.70	1.77	1.67	2.08	1.51	1.67	1.78	1.40	1.67	1.88	1.67	1.93	1.54
Min.	233.0	3.33			97.9	98.9	97.9	97.8	97.6	96.3	96.1	96.7	96.6	96.6	96.5	96.0	95.1	95.5	94.6	94.2	93.8	93.5	96.5	96.4	95.4	95.9
Max.	269.4	3.47			101.8	102.2	102.1	102.1	101.7	101.9	102.3	102.2	101.0	102.2	102.2	101.4	101.7	100.5	100.6	100.1	99.7	99.3	102.8	101.9	101.4	101.5

DATA SET 2: 85°C; 1000 mA

LED Package Series	XLamp XT-E White LEDs (Series: XTEAWT) This LM-80 report is applicable to the following order codes: XTEAWT-xx-xxxx-xxxxxxxxx
Tested Model Number	XTEAWT-00-0000-00000LBE7
Drive Current [I_F]	1000 mA
Testing Initiation Date	November 16, 2011
Case Temperature [T_s]	85°C
Ambient Temperature [T_A]	85°C
Failures observed	None

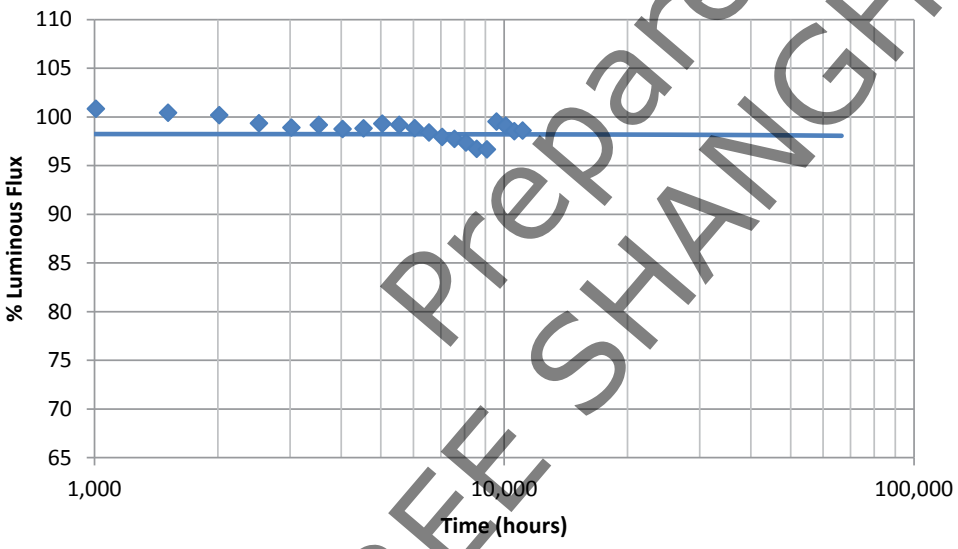
Lamp #	Initial (0 hrs)				Chromaticity Shift (Δu'v')																					
	CCx	CCy	Calc. CCT	ANSI Target	168	1008	1512	2016	2520	3024	3528	4032	4536	5040	5544	6048	6552	7056	7560	8064	8568	9072	9576	10080	10584	11088
1	0.4424	0.4039	2912	3000	0.0007	0.0011	0.0010	0.0011	0.0012	0.0011	0.0012	0.0014	0.0013	0.0013	0.0014	0.0014	0.0014	0.0015	0.0015	0.0016	0.0017	0.0018	0.0017	0.0018	0.0019	0.0019
2	0.4295	0.3967	3074	3000	0.0008	0.0013	0.0010	0.0014	0.0014	0.0014	0.0014	0.0017	0.0015	0.0014	0.0017	0.0015	0.0017	0.0019	0.0018	0.0018	0.0020	0.0021	0.0021	0.0022	0.0022	0.0023
3	0.4370	0.4014	2981	3000	0.0006	0.0013	0.0012	0.0013	0.0013	0.0011	0.0011	0.0014	0.0012	0.0015	0.0015	0.0014	0.0014	0.0016	0.0016	0.0016	0.0017	0.0017	0.0020	0.0020	0.0019	0.0019
4	0.4443	0.4038	2880	3000	0.0008	0.0014	0.0014	0.0016	0.0015	0.0016	0.0016	0.0016	0.0015	0.0017	0.0018	0.0020	0.0020	0.0019	0.0021	0.0022	0.0024	0.0023	0.0026	0.0025	0.0024	0.0028
5	0.4334	0.3971	3009	3000	0.0006	0.0010	0.0010	0.0012	0.0012	0.0012	0.0013	0.0014	0.0013	0.0015	0.0017	0.0015	0.0017	0.0016	0.0018	0.0017	0.0018	0.0019	0.0021	0.0020	0.0020	0.0021
6	0.4334	0.3982	3017	3000	0.0007	0.0012	0.0012	0.0014	0.0014	0.0015	0.0015	0.0015	0.0015	0.0016	0.0016	0.0017	0.0017	0.0019	0.0020	0.0021	0.0021	0.0021	0.0023	0.0023	0.0025	0.0025
7	0.4322	0.3925	2990	3000	0.0010	0.0015	0.0012	0.0017	0.0016	0.0015	0.0016	0.0019	0.0016	0.0015	0.0018	0.0018	0.0019	0.0021	0.0022	0.0021	0.0021	0.0025	0.0026	0.0025	0.0025	0.0029
8	0.4437	0.4018	2873	3000	0.0007	0.0014	0.0007	0.0012	0.0012	0.0011	0.0012	0.0015	0.0013	0.0013	0.0016	0.0015	0.0015	0.0017	0.0016	0.0017	0.0017	0.0019	0.0021	0.0021	0.0021	0.0020
9	0.4362	0.4037	3015	3000	0.0007	0.0012	0.0012	0.0014	0.0013	0.0015	0.0017	0.0016	0.0017	0.0017	0.0018	0.0018	0.0022	0.0019	0.0019	0.0021	0.0019	0.0021	0.0025	0.0024	0.0021	0.0024
10	0.4281	0.3973	3106	3000	0.0006	0.0009	0.0008	0.0009	0.0009	0.0010	0.0011	0.0012	0.0012	0.0011	0.0012	0.0012	0.0013	0.0013	0.0012	0.0011	0.0012	0.0012	0.0013	0.0015	0.0014	0.0016
11	0.4286	0.3965	3089	3000	0.0005	0.0005	0.0008	0.0009	0.0009	0.0010	0.0009	0.0011	0.0010	0.0010	0.0011	0.0011	0.0012	0.0012	0.0012	0.0012	0.0011	0.0013	0.0015	0.0015	0.0010	0.0016
12	0.4240	0.3934	3149	3000	0.0005	0.0008	0.0008	0.0010	0.0010	0.0011	0.0011	0.0012	0.0013	0.0012	0.0012	0.0013	0.0014	0.0014	0.0013	0.0013	0.0013	0.0017	0.0017	0.0019	0.0016	0.0020
13	0.4269	0.3960	3117	3000	0.0004	0.0006	0.0008	0.0010	0.0009	0.0009	0.0010	0.0013	0.0012	0.0012	0.0012	0.0013	0.0014	0.0014	0.0014	0.0012	0.0013	0.0015	0.0018	0.0019	0.0013	0.0018
14	0.4293	0.4005	3111	3000	0.0004	0.0008	0.0008	0.0009	0.0009	0.0011	0.0011	0.0012	0.0013	0.0012	0.0012	0.0013	0.0014	0.0014	0.0014	0.0014	0.0014	0.0016	0.0017	0.0018	0.0014	0.0017
15	0.4242	0.3979	3183	3000	0.0004	0.0008	0.0007	0.0009	0.0008	0.0009	0.0009	0.0010	0.0011	0.0010	0.0010	0.0010	0.0013	0.0012	0.0010	0.0012	0.0012	0.0014	0.0017	0.0016	0.0010	0.0016
16	0.4330	0.3984	3026	3000	0.0003	0.0002	0.0007	0.0008	0.0007	0.0008	0.0009	0.0009	0.0011	0.0009	0.0010	0.0010	0.0012	0.0011	0.0013	0.0014	0.0013	0.0013	0.0014	0.0016	0.0015	0.0013
17	0.4345	0.4015	3025	3000	0.0005	0.0005	0.0009	0.0009	0.0009	0.0010	0.0010	0.0012	0.0011	0.0012	0.0010	0.0012	0.0013	0.0010	0.0013	0.0014	0.0014	0.0014	0.0018	0.0016	0.0017	0.0014
18	0.4341	0.3991	3012	3000	0.0004	0.0007	0.0009	0.0009	0.0008	0.0006	0.0010	0.0010	0.0011	0.0010	0.0010	0.0012	0.0011	0.0012	0.0012	0.0013	0.0013	0.0014	0.0016	0.0016	0.0016	0.0013
19	0.4252	0.3938	3131	3000	0.0005	0.0008	0.0012	0.0012	0.0011	0.0012	0.0013	0.0015	0.0015	0.0014	0.0014	0.0015	0.0018	0.0015	0.0015	0.0017	0.0017	0.0019	0.0020	0.0020	0.0018	0.0017
20	0.4298	0.4009	3105	3000	0.0006	0.0011	0.0011	0.0012	0.0011	0.0011	0.0013	0.0014	0.0015	0.0014	0.0014	0.0014	0.0015	0.0015	0.0017	0.0017	0.0018	0.0018	0.0020	0.0020	0.0020	0.0018
21	0.4249	0.4012	3198	3000	0.0005	0.0007	0.0009	0.0008	0.0007	0.0005	0.0008	0.0010	0.0009	0.0009	0.0010	0.0010	0.0010	0.0011	0.0011	0.0011	0.0011	0.0012	0.0013	0.0014	0.0013	0.0014
22	0.4281	0.3978	3110	3000	0.0004	0.0005	0.0008	0.0008	0.0007	0.0008	0.0009	0.0010	0.0010	0.0010	0.0010	0.0009	0.0011	0.0010	0.0011	0.0011	0.0011	0.0012	0.0014	0.0014	0.0013	0.0010
23	0.4433	0.4040	2898	3000	0.0008	0.0011	0.0010	0.0014	0.0013	0.0012	0.0016	0.0016	0.0017	0.0017	0.0019	0.0019	0.0021	0.0020	0.0022	0.0022	0.0023	0.0024	0.0025	0.0026	0.0026	0.0026
24	0.4435	0.4017	2875	3000	0.0008	0.0011	0.0011	0.0012	0.0012	0.0013	0.0013	0.0014	0.0014	0.0013	0.0015	0.0015	0.0016	0.0017	0.0018	0.0018	0.0020	0.0019	0.0021	0.0022	0.0021	0.0023
25	0.4377	0.3982	2942	3000	0.0008	0.0013	0.0014	0.0015	0.0015	0.0013	0.0018	0.0020	0.0017	0.0019	0.0021	0.0020	0.0021	0.0021	0.0022	0.0024	0.0024	0.0025	0.0026	0.0026	0.0025	0.0026
n	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Mean					**0.0006**	**0.0009**	**0.0010**	**0.0011**	**0.0011**	**0.0011**	**0.0012**	**0.0014**	**0.0013**	**0.0013**	**0.0014**	**0.0014**	**0.0015**	**0.0015**	**0.0016**	**0.0016**	**0.0016**	**0.0018**	**0.0019**	**0.0020**	**0.0018**	**0.0019**
Median					0.0006	0.0010	0.0010	0.0012	0.0011	0.0011	0.0012	0.0014	0.0013	0.0013	0.0014	0.0014	0.0014	0.0015	0.0015	0.0016	0.0017	0.0018	0.0020	0.0020	0.0019	0.0019
σ					0.0002	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0004	0.0003	0.0003	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0005	0.0005
Min.					0.0003	0.0002	0.0007	0.0008	0.0007	0.0005	0.0008	0.0009	0.0009	0.0009	0.0010	0.0009	0.0010	0.0010	0.0010	0.0011	0.0011	0.0012	0.0013	0.0014	0.0010	0.0010
Max.					0.0010	0.0015	0.0014	0.0017	0.0016	0.0016	0.0018	0.0020	0.0017	0.0019	0.0021	0.0020	0.0022	0.0021	0.0022	0.0024	0.0024	0.0025	0.0026	0.0026	0.0026	0.0029

DATA SET 2: 85°C; 1000 mA

LED Package Series	XLamp XT-E White LEDs (Series: XTEAWT) This LM-80 report is applicable to the following order codes: XTEAWT-xx-xxxx-xxxxxxxxx
Tested Model Number	XTEAWT-00-0000-00000LBE7
Drive Current [I_F]	1000 mA
Testing Initiation Date	November 16, 2011
Case Temperature [T_s]	85°C
Ambient Temperature [T_A]	85°C
Failures observed	None

Projection Generated By Cree's Internal TM-21 Calculator:

Test duration	11,088 hours
Test duration used for projection	t=5,544 to t=11,088
α	2.597E-08
β	9.824E-01
Calculated Lifetime	L70(11k) > 200,000 hours
Reported Lifetime	**L70(11k) > 66,500 hours**



LM-80 Data For The Official TM-21 Calculator*

Time (hours)	Lumen Maintenance
0	100.0000%
168	99.5830%
1008	100.8350%
1512	100.4270%
2016	100.1820%
2520	99.3480%
3024	98.9050%
3528	99.1780%
4032	98.7560%
4536	98.8260%
5040	99.3090%
5544	99.1850%
6048	98.8420%
6552	98.4000%
7056	97.9430%
7560	97.7420%
8064	97.3690%
8568	96.7190%
9072	96.6660%
9576	99.5220%
10080	99.1020%
10584	98.5320%
11088	98.5980%

* http://www.energystar.gov/TM-21calculator

Suggestion for exporting the LM-80 data:
1. Copy above table from PDF & paste into Microsoft Word.
2. Copy table out of Word & paste into Microsoft Excel (Match destination formatting)

DATA SET 4: 105°C; 1000 mA

LED Package Series	XLamp XT-E White LEDs (Series: XTEAWT) This LM-80 report is applicable to the following order codes: XTEAWT-xx-xxxx-xxxxxxxxx
Tested Model Number	XTEAWT-00-0000-00000LBE7
Drive Current [I_F]	1000 mA
Testing Initiation Date	December 19, 2011
Case Temperature [T_s]	105°C
Ambient Temperature [T_A]	105°C
Failures observed	None

Lamp #	Initial (0 hrs)				Lumen Maintenance (%)																			
	LF (lm)	V_F (V)	Calc. CCT	ANSI Target	168	1008	1512	2016	2520	3024	3528	4032	4536	5040	5544	6048	6552	7056	7560	8064	8568	9072	9576	10080
1	251.6	3.36	2983	3000	100.1	99.1	97.9	96.1	95.8	95.7	95.6	95.5	95.6	95.1	95.5	95.3	94.6	94.2	94.6	93.4	92.9	93.9	96.0	95.8
2	247.9	3.39	2999	3000	99.4	100.0	100.0	100.0	98.5	97.9	98.8	98.1	97.9	97.5	97.8	97.6	96.5	96.2	96.6	95.1	93.9	96.1	97.1	96.8
3	242.0	3.37	2961	3000	99.0	99.0	98.0	97.0	96.3	95.6	95.7	95.7	95.5	95.0	95.6	95.4	94.8	94.7	94.6	93.4	93.1	93.6	96.1	95.9
4	235.5	3.42	3017	3000	99.5	99.6	99.0	97.6	97.2	96.7	96.4	96.1	96.2	95.2	96.4	95.5	95.1	94.9	94.8	93.7	93.4	93.9	96.3	96.2
5	239.5	3.40	3046	3000	100.0	99.3	97.9	97.3	96.2	95.8	96.1	95.4	95.4	95.2	95.0	94.7	93.9	93.3	93.9	93.0	93.0	93.1	94.8	94.6
6	234.8	3.34	3083	3000	99.8	99.9	99.2	98.6	97.6	97.1	96.7	96.5	96.6	96.1	96.5	95.9	95.6	95.6	95.4	94.1	93.8	94.3	96.8	96.7
7	241.2	3.42	2973	3000	99.6	99.9	98.9	99.3	98.4	98.0	97.2	96.6	97.1	97.2	96.5	96.4	95.6	95.2	95.8	93.7	93.1	93.9	96.1	96.0
8	262.1	3.42	3040	3000	100.5	100.4	100.4	98.9	99.9	98.9	99.0	99.1	98.7	97.6	99.3	99.3	97.7	97.4	97.6	97.8	98.1	97.8	99.5	97.5
9	259.7	3.34	3048	3000	99.6	99.9	99.0	97.1	97.7	96.7	96.5	96.3	96.7	95.9	96.9	96.2	95.7	95.1	95.1	95.0	94.9	96.8	96.7	96.6
10	245.8	3.33	2919	3000	99.8	100.1	99.2	97.9	98.8	97.6	96.7	97.4	97.2	96.2	98.0	97.8	96.3	96.0	96.1	96.3	96.5	96.2	97.2	96.3
11	259.5	3.39	3068	3000	98.6	98.0	97.9	96.5	96.3	96.0	95.6	95.6	95.1	95.2	95.2	94.7	94.1	93.6	93.9	93.8	93.7	95.6	95.7	95.7
12	262.1	3.43	3074	3000	100.2	99.8	99.1	97.4	97.5	97.0	96.3	96.3	96.7	95.9	96.7	96.2	95.7	95.3	95.4	95.4	94.6	96.8	96.8	96.8
13	241.0	3.37	3158	3000	99.8	100.3	99.2	97.8	98.2	97.5	96.4	96.3	96.8	96.0	96.8	96.2	95.6	95.1	95.3	95.3	94.7	96.6	96.4	96.7
14	236.2	3.40	3017	3000	99.9	100.4	100.1	99.3	99.0	98.8	96.4	97.2	97.3	96.3	97.5	97.1	96.1	95.9	96.3	96.4	95.9	96.2	97.2	96.4
15	235.5	3.39	2935	3000	100.1	98.8	98.3	97.2	97.3	96.7	95.0	95.1	95.5	94.9	95.5	94.7	94.4	93.8	93.7	93.7	93.4	95.1	94.6	94.6
16	251.2	3.42	3012	3000	100.6	100.2	99.1	98.1	98.2	97.4	95.1	95.7	96.1	95.1	96.0	95.2	94.4	94.3	94.5	94.5	94.2	94.4	95.4	94.9
17	261.5	3.44	2960	3000	99.6	98.5	99.0	97.9	97.4	96.7	96.1	97.2	96.6	96.8	96.2	95.8	95.7	95.3	94.9	96.0	94.6	98.0	96.1	96.3
18	259.2	3.39	2980	3000	99.6	98.8	99.4	98.1	97.7	96.7	96.3	97.5	96.9	97.2	96.8	96.0	96.0	95.6	94.1	96.4	94.8	96.3	95.9	96.3
19	252.5	3.38	2942	3000	99.2	98.1	97.7	96.1	95.9	95.6	95.5	96.1	95.6	96.0	95.4	95.0	94.8	94.7	93.4	95.0	94.0	96.9	96.1	96.3
20	246.8	3.40	2954	3000	99.0	99.1	98.5	97.1	96.5	96.4	96.1	96.7	96.5	96.4	96.2	95.9	95.6	95.6	93.8	95.8	95.2	97.5	97.1	97.4
21	250.1	3.39	3207	3000	101.0	100.8	100.5	99.7	99.3	98.7	98.7	99.1	98.7	99.9	98.2	97.5	97.6	97.1	94.9	97.6	96.8	99.1	98.3	98.8
22	258.1	3.40	3200	3000	99.0	98.7	98.0	97.6	97.1	96.7	96.6	97.0	96.6	96.9	96.2	95.2	95.4	95.0	93.0	95.5	94.9	96.8	95.9	96.4
23	276.6	3.42	3032	3000	100.3	99.4	99.5	98.9	98.7	97.2	97.2	98.5	97.7	98.1	97.6	96.0	96.2	95.6	93.6	96.4	95.0	96.6	95.9	96.5
24	279.2	3.42	3112	3000	99.4	98.3	97.0	97.3	96.8	96.3	96.8	97.1	97.0	96.4	96.0	95.7	95.6	94.0	93.8	95.6	97.6	97.0	97.2	96.8
25	280.0	3.41	3055	3000	100.7	98.8	97.9	97.9	97.7	96.8	97.3	97.3	97.2	96.9	96.1	96.1	95.9	94.2	94.0	95.8	97.9	97.2	97.4	97.1
n	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Mean	**252.4**	**3.39**			**99.8**	**99.4**	**98.8**	**97.9**	**97.6**	**97.0**	**96.6**	**96.8**	**96.7**	**96.3**	**96.5**	**96.1**	**95.6**	**95.1**	**94.8**	**95.1**	**94.8**	**96.0**	**96.5**	**96.4**
Median	251.2	3.40			99.8	99.4	99.0	97.8	97.6	96.7	96.4	96.6	96.7	96.2	96.4	95.9	95.6	95.1	94.6	95.3	94.6	96.3	96.3	96.4
σ	13.4	0.03			0.58	0.77	0.91	1.04	1.10	0.95	1.05	1.10	0.95	1.05	1.05	1.10	0.93	1.00	1.12	1.31	1.55	1.57	1.04	0.89
Min.	234.8	3.33			98.6	98.0	97.0	96.1	95.8	95.6	95.0	95.1	95.1	94.9	95.0	94.7	93.9	93.3	93.0	93.0	92.9	93.1	94.6	94.6
Max.	280.0	3.44			101.0	100.8	100.5	100.0	99.9	98.9	99.0	99.1	98.7	98.9	99.3	99.3	97.7	97.4	97.6	97.8	98.1	99.1	99.5	98.8

DATA SET 4: 105°C; 1000 mA

LED Package Series	XLamp XT-E White LEDs (Series: XTEAWT) This LM-80 report is applicable to the following order codes: XTEAWT-xx-xxxx-xxxxxxxxx
Tested Model Number	XTEAWT-00-0000-00000LBE7
Drive Current [I_F]	1000 mA
Testing Initiation Date	December 19, 2011
Case Temperature [T_s]	105°C
Ambient Temperature [T_A]	105°C
Failures observed	None

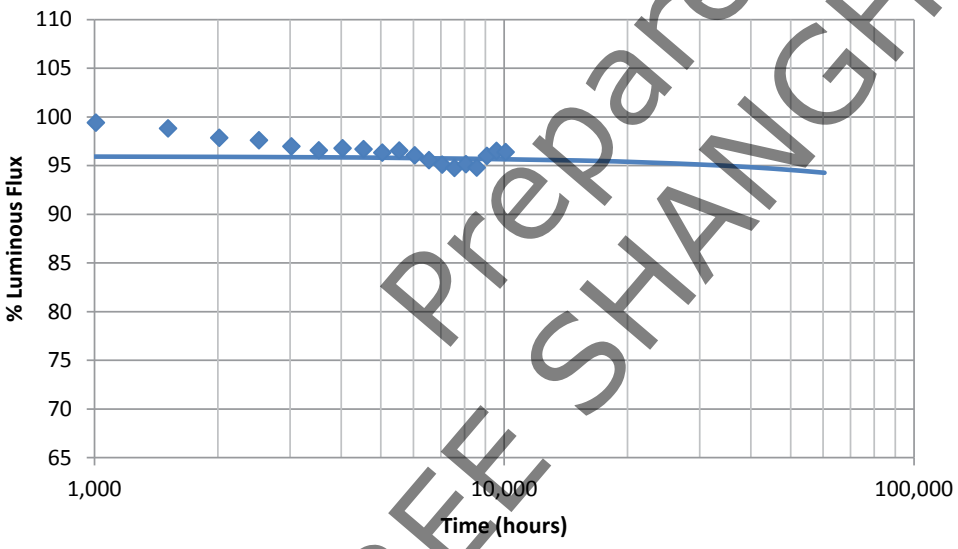
Lamp #	Initial (0 hrs)				Chromaticity Shift (Δu'v')																			
	CCx	CCy	Calc. CCT	ANSI Target	168	1008	1512	2016	2520	3024	3528	4032	4536	5040	5544	6048	6552	7056	7560	8064	8568	9072	9576	10080
1	0.4374	0.4025	2983	3000	0.0010	0.0014	0.0015	0.0011	0.0018	0.0020	0.0021	0.0021	0.0023	0.0018	0.0024	0.0024	0.0025	0.0026	0.0028	0.0026	0.0028	0.0030	0.0029	0.0030
2	0.4378	0.4051	2999	3000	0.0008	0.0008	0.0008	0.0010	0.0011	0.0013	0.0014	0.0013	0.0014	0.0011	0.0013	0.0016	0.0016	0.0016	0.0018	0.0021	0.0017	0.0019	0.0019	0.0021
3	0.4394	0.4038	2961	3000	0.0006	0.0010	0.0010	0.0013	0.0015	0.0017	0.0017	0.0018	0.0018	0.0014	0.0019	0.0019	0.0021	0.0022	0.0022	0.0022	0.0023	0.0023	0.0023	0.0025
4	0.4378	0.4074	3017	3000	0.0009	0.0013	0.0015	0.0016	0.0019	0.0021	0.0021	0.0022	0.0024	0.0022	0.0024	0.0025	0.0026	0.0028	0.0028	0.0029	0.0029	0.0029	0.0028	0.0030
5	0.4353	0.4055	3046	3000	0.0009	0.0006	0.0008	0.0009	0.0011	0.0014	0.0013	0.0014	0.0016	0.0014	0.0016	0.0016	0.0018	0.0018	0.0019	0.0022	0.0021	0.0022	0.0021	0.0022
6	0.4327	0.4046	3083	3000	0.0008	0.0012	0.0010	0.0012	0.0013	0.0015	0.0014	0.0016	0.0017	0.0016	0.0018	0.0018	0.0019	0.0020	0.0019	0.0021	0.0020	0.0021	0.0021	0.0022
7	0.4420	0.4107	2973	3000	0.0007	0.0005	0.0006	0.0008	0.0009	0.0010	0.0010	0.0012	0.0012	0.0013	0.0014	0.0013	0.0015	0.0015	0.0015	0.0019	0.0016	0.0017	0.0016	0.0017
8	0.4347	0.4035	3040	3000	0.0011	0.0014	0.0013	0.0014	0.0016	0.0016	0.0018	0.0019	0.0020	0.0017	0.0021	0.0022	0.0023	0.0024	0.0024	0.0024	0.0026	0.0026	0.0031	0.0029
9	0.4318	0.3985	3048	3000	0.0011	0.0017	0.0018	0.0016	0.0018	0.0021	0.0023	0.0023	0.0024	0.0023	0.0025	0.0027	0.0027	0.0028	0.0029	0.0030	0.0032	0.0033	0.0034	0.0037
10	0.4406	0.4013	2919	3000	0.0010	0.0015	0.0015	0.0017	0.0018	0.0020	0.0021	0.0024	0.0025	0.0022	0.0024	0.0028	0.0029	0.0030	0.0031	0.0032	0.0033	0.0034	0.0035	0.0036
11	0.4292	0.3952	3068	3000	0.0014	0.0016	0.0017	0.0014	0.0017	0.0018	0.0019	0.0021	0.0022	0.0020	0.0022	0.0024	0.0025	0.0026	0.0029	0.0029	0.0029	0.0032	0.0033	0.0034
12	0.4307	0.3992	3074	3000	0.0011	0.0015	0.0016	0.0014	0.0016	0.0017	0.0020	0.0022	0.0023	0.0021	0.0024	0.0026	0.0027	0.0028	0.0031	0.0032	0.0030	0.0034	0.0035	0.0035
13	0.4278	0.4030	3158	3000	0.0010	0.0011	0.0013	0.0010	0.0013	0.0014	0.0017	0.0018	0.0019	0.0017	0.0020	0.0021	0.0022	0.0022	0.0025	0.0026	0.0026	0.0027	0.0025	0.0026
14	0.4369	0.4055	3017	3000	0.0011	0.0014	0.0014	0.0015	0.0016	0.0017	0.0022	0.0024	0.0023	0.0022	0.0024	0.0026	0.0027	0.0028	0.0028	0.0029	0.0029	0.0032	0.0033	0.0032
15	0.4432	0.4083	2935	3000	0.0011	0.0012	0.0015	0.0015	0.0016	0.0019	0.0025	0.0026	0.0027	0.0026	0.0028	0.0028	0.0031	0.0030	0.0031	0.0031	0.0033	0.0033	0.0033	0.0030
16	0.4368	0.4048	3012	3000	0.0011	0.0012	0.0013	0.0016	0.0019	0.0019	0.0024	0.0024	0.0025	0.0022	0.0025	0.0026	0.0028	0.0027	0.0027	0.0027	0.0028	0.0030	0.0030	0.0029
17	0.4393	0.4035	2960	3000	0.0015	0.0016	0.0019	0.0021	0.0021	0.0021	0.0025	0.0024	0.0024	0.0025	0.0025	0.0026	0.0026	0.0027	0.0027	0.0027	0.0028	0.0028	0.0029	0.0030
18	0.4399	0.4072	2980	3000	0.0011	0.0012	0.0016	0.0016	0.0019	0.0018	0.0020	0.0022	0.0020	0.0022	0.0023	0.0023	0.0024	0.0025	0.0026	0.0026	0.0026	0.0026	0.0027	0.0031
19	0.4383	0.3993	2942	3000	0.0003	0.0010	0.0007	0.0008	0.0007	0.0006	0.0005	0.0006	0.0006	0.0007	0.0007	0.0004	0.0006	0.0006	0.0005	0.0007	0.0007	0.0006	0.0006	0.0006
20	0.4413	0.4069	2954	3000	0.0010	0.0011	0.0013	0.0013	0.0015	0.0016	0.0017	0.0019	0.0017	0.0018	0.0021	0.0022	0.0021	0.0023	0.0025	0.0023	0.0025	0.0024	0.0027	0.0028
21	0.4263	0.4057	3207	3000	0.0012	0.0016	0.0017	0.0019	0.0019	0.0020	0.0022	0.0022	0.0023	0.0023	0.0025	0.0026	0.0025	0.0026	0.0030	0.0028	0.0028	0.0029	0.0031	0.0032
22	0.4230	0.3971	3200	3000	0.0008	0.0003	0.0005	0.0006	0.0007	0.0008	0.0009	0.0010	0.0009	0.0011	0.0011	0.0012	0.0012	0.0014	0.0020	0.0014	0.0016	0.0015	0.0017	0.0017
23	0.4334	0.3998	3032	3000	0.0011	0.0010	0.0015	0.0016	0.0018	0.0014	0.0019	0.0020	0.0020	0.0020	0.0021	0.0023	0.0022	0.0023	0.0025	0.0024	0.0026	0.0026	0.0026	0.0029
24	0.4245	0.3901	3112	3000	0.0003	0.0005	0.0007	0.0007	0.0009	0.0010	0.0013	0.0012	0.0013	0.0013	0.0014	0.0015	0.0014	0.0016	0.0014	0.0015	0.0016	0.0015	0.0014	0.0015
25	0.4356	0.4075	3055	3000	0.0003	0.0005	0.0005	0.0006	0.0006	0.0008	0.0008	0.0010	0.0011	0.0010	0.0012	0.0012	0.0013	0.0012	0.0014	0.0017	0.0016	0.0017	0.0018	0.0018
n	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Mean					**0.0009**	**0.0011**	**0.0012**	**0.0013**	**0.0015**	**0.0016**	**0.0018**	**0.0018**	**0.0019**	**0.0018**	**0.0020**	**0.0021**	**0.0022**	**0.0022**	**0.0023**	**0.0024**	**0.0024**	**0.0025**	**0.0026**	**0.0026**
Median					0.0010	0.0012	0.0013	0.0014	0.0016	0.0017	0.0019	0.0020	0.0020	0.0018	0.0021	0.0023	0.0023	0.0024	0.0025	0.0026	0.0026	0.0026	0.0027	0.0029
σ					0.0003	0.0004	0.0004	0.0004	0.0004	0.0004	0.0006	0.0005	0.0006	0.0005	0.0006	0.0006	0.0006	0.0006	0.0007	0.0006	0.0007	0.0007	0.0008	0.0008
Min.					0.0003	0.0003	0.0005	0.0006	0.0006	0.0006	0.0005	0.0006	0.0006	0.0007	0.0007	0.0004	0.0006	0.0006	0.0005	0.0007	0.0007	0.0006	0.0006	0.0006
Max.					0.0015	0.0017	0.0019	0.0021	0.0021	0.0021	0.0025	0.0026	0.0027	0.0026	0.0028	0.0028	0.0031	0.0030	0.0031	0.0032	0.0033	0.0034	0.0035	0.0037

DATA SET 4: 105°C; 1000 mA

LED Package Series	XLamp XT-E White LEDs (Series: XTEAWT) This LM-80 report is applicable to the following order codes: XTEAWT-xx-xxxx-xxxxxxxxx
Tested Model Number	XTEAWT-00-0000-00000LBE7
Drive Current [I_F]	1000 mA
Testing Initiation Date	December 19, 2011
Case Temperature [T_s]	105°C
Ambient Temperature [T_A]	105°C
Failures observed	None

Projection Generated By Cree's Internal TM-21 Calculator:

Test duration	10,080 hours
Test duration used for projection	t=5,040 to t=10,080
α	2.918E-07
β	9.595E-01
Calculated Lifetime	L70(10k) > 181,000 hours
Reported Lifetime	**L70(10k) > 60,500 hours**



LM-80 Data For The Official TM-21 Calculator*

Time (hours)	Lumen Maintenance
0	100.0000%
168	99.7740%
1008	99.4090%
1512	98.8210%
2016	97.8550%
2520	97.6020%
3024	96.9740%
3528	96.5660%
4032	96.7820%
4536	96.6880%
5040	96.3320%
5544	96.5470%
6048	96.0550%
6552	95.5590%
7056	95.1020%
7560	94.7620%
8064	95.1460%
8568	94.7970%
9072	95.9940%
9576	96.5120%
10080	96.3850%

* http://www.energystar.gov/TM-21calculator

Suggestion for exporting the LM-80 data:
1. Copy above table from PDF & paste into Microsoft Word.
2. Copy table out of Word & paste into Microsoft Excel (Match destination formatting)

DATA SET 5: 55°C; 1250 mA

LED Package Series	XLamp XT-E White LEDs (Series: XTEAWT) This LM-80 report is applicable to the following order codes: XTEAWT-xx-xxxx-xxxxxxxxx
Tested Model Number	XTEAWT-00-0000-00000LBE7
Drive Current [I_F]	1250 mA
Testing Initiation Date	January 8, 2012
Case Temperature [T_s]	55°C
Ambient Temperature [T_A]	55°C
Failures observed	None

Lamp #	Initial (0 hrs)				Lumen Maintenance (%)																
	LF (lm)	V_F (V)	Calc. CCT	ANSI Target	168	1008	1512	2016	2520	3024	3528	4032	4536	5040	5544	6048	6552	7056	7560	8064	8568	9072
1	266.7	3.60	2981	3000	96.9	97.5	97.2	96.3	96.8	96.4	96.6	98.3	98.0	96.2	97.4	96.1	97.6	97.9	97.3	96.1	95.3	97.0
2	283.7	3.66	3042	3000	96.4	97.1	97.5	98.0	97.6	97.3	98.8	98.8	98.1	98.1	97.8	97.3	99.2	99.3	98.7	98.4	97.9	98.0
3	262.7	3.57	2979	3000	95.6	96.5	95.8	95.1	95.7	95.3	94.8	95.7	95.4	93.8	94.7	93.5	95.2	95.2	94.8	93.8	93.9	94.6
4	281.7	3.59	3035	3000	97.1	97.5	97.0	96.7	97.2	97.4	98.5	98.4	98.1	97.7	97.8	97.2	98.9	99.3	98.8	98.4	98.0	98.3
5	265.5	3.60	3036	3000	96.5	96.6	96.6	95.2	96.0	95.2	95.4	95.6	95.4	95.3	95.7	94.5	94.8	95.4	94.6	94.0	94.3	94.5
6	287.5	3.66	3070	3000	98.7	97.9	97.5	97.5	97.3	97.5	98.6	98.6	98.0	97.9	97.7	97.1	98.9	99.3	98.8	98.2	97.7	97.9
7	283.8	3.63	3014	3000	98.0	97.6	96.6	96.4	97.1	97.1	98.0	98.0	97.4	97.4	97.0	96.6	98.3	98.6	98.1	97.5	97.3	97.2
8	275.6	3.63	2997	3000	96.0	96.0	96.4	96.0	96.3	96.1	95.4	96.3	95.9	95.4	95.6	94.8	95.9	96.4	95.9	95.6	95.1	95.5
9	262.5	3.55	2911	3000	97.4	98.0	97.1	96.3	96.8	96.2	97.3	98.0	97.0	95.7	97.0	96.8	97.5	97.2	96.7	95.6	95.1	95.7
10	282.5	3.68	3016	3000	99.3	97.7	98.6	98.4	98.1	96.7	98.5	98.1	98.5	97.9	97.1	97.0	98.7	98.5	97.9	98.0	97.3	97.8
11	267.4	3.63	3082	3000	97.3	97.1	96.5	95.7	96.3	95.4	96.0	96.0	95.6	94.9	95.1	95.1	94.9	95.0	94.4	93.7	93.8	94.4
12	295.8	3.56	3004	3000	97.3	96.8	96.9	97.3	97.3	97.4	97.6	97.5	97.4	97.0	97.2	96.7	98.5	98.9	98.5	98.0	97.9	98.0
13	261.7	3.68	2991	3000	96.3	96.7	96.8	96.2	97.0	96.0	96.1	97.6	97.1	96.3	96.6	96.9	96.7	97.4	96.9	96.4	95.7	96.7
14	285.1	3.61	2971	3000	97.3	96.3	96.4	96.3	96.1	96.0	97.0	97.2	96.3	96.5	96.2	95.7	97.1	97.9	97.5	96.9	96.6	96.6
15	269.5	3.64	2995	3000	98.1	97.4	97.2	96.9	97.1	97.1	97.8	97.8	97.3	97.3	97.1	96.6	98.4	98.9	98.5	97.9	97.7	97.6
16	279.2	3.58	2990	3000	98.8	96.9	97.8	97.2	97.6	96.5	96.3	98.2	97.4	96.7	97.1	97.2	97.0	98.0	97.3	96.9	96.5	96.9
17	262.6	3.59	3220	3000	96.8	96.7	97.6	97.3	97.2	95.6	96.7	97.2	96.8	97.3	96.5	96.8	97.7	97.9	97.0	96.1	95.3	96.9
18	288.2	3.60	3156	3000	100.0	100.1	99.0	98.2	97.7	98.6	99.2	99.3	98.7	97.9	98.8	97.9	99.5	100.2	99.2	98.9	98.4	98.5
19	270.7	3.58	3021	3000	97.1	96.5	97.0	97.2	97.1	95.9	96.3	96.8	97.0	96.8	95.8	96.1	97.0	97.2	96.5	95.8	95.1	97.0
20	285.3	3.63	3047	3000	99.2	98.0	97.5	97.2	96.4	96.9	97.7	97.7	97.6	97.4	97.1	96.5	98.2	98.7	97.8	97.5	97.0	97.1
21	261.7	3.60	2943	3000	99.5	97.0	97.5	98.0	98.0	96.8	97.1	97.2	97.7	97.3	96.3	96.3	96.8	97.6	96.6	96.2	95.4	97.9
22	279.1	3.66	3013	3000	99.9	99.2	98.2	98.3	97.5	97.6	98.6	98.5	98.2	98.1	97.5	97.0	98.7	99.2	98.2	97.7	97.4	97.6
23	279.7	3.61	2955	3000	98.8	99.1	98.1	97.8	97.3	97.6	98.6	98.5	98.2	98.2	97.7	97.1	98.8	99.3	98.4	98.0	97.7	97.9
24	271.3	3.67	2977	3000	98.5	96.9	98.0	97.7	97.8	95.7	96.1	96.5	96.8	96.6	95.4	95.2	95.9	96.8	95.9	95.6	94.8	96.3
25	290.9	3.60	3117	3000	99.0	98.2	97.0	97.1	96.2	96.7	97.5	97.4	97.4	97.2	96.9	96.4	98.6	98.6	98.3	97.9	97.7	97.8
n	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Mean	**276.0**	**3.62**			**97.8**	**97.4**	**97.3**	**97.0**	**97.0**	**96.6**	**97.2**	**97.6**	**97.3**	**96.8**	**96.8**	**96.3**	**97.6**	**97.9**	**97.3**	**96.8**	**96.4**	**97.0**
Median	279.1	3.61			97.4	97.1	97.2	97.2	97.1	96.7	97.3	97.7	97.4	97.2	97.0	96.6	97.7	98.0	97.5	96.9	96.6	97.1
σ	10.4	0.04			1.28	0.97	0.74	0.93	0.65	0.86	1.21	0.98	0.95	1.12	0.98	1.04	1.39	1.38	1.37	1.49	1.45	1.19
Min.	261.7	3.55			95.6	96.0	95.8	95.1	95.7	95.2	94.8	95.6	95.4	93.8	94.7	93.5	94.8	95.0	94.4	93.7	93.8	94.4
Max.	295.8	3.68			100.0	100.1	99.0	98.4	98.1	98.6	99.2	99.3	98.7	98.2	98.8	97.9	99.5	100.2	99.2	98.9	98.4	98.5

DATA SET 5: 55°C; 1250 mA

LED Package Series	XLamp XT-E White LEDs (Series: XTEAWT) This LM-80 report is applicable to the following order codes: XTEAWT-xx-xxxx-xxxxxxxxx
Tested Model Number	XTEAWT-00-0000-00000LBE7
Drive Current [I_F]	1250 mA
Testing Initiation Date	January 8, 2012
Case Temperature [T_s]	55°C
Ambient Temperature [T_A]	55°C
Failures observed	None

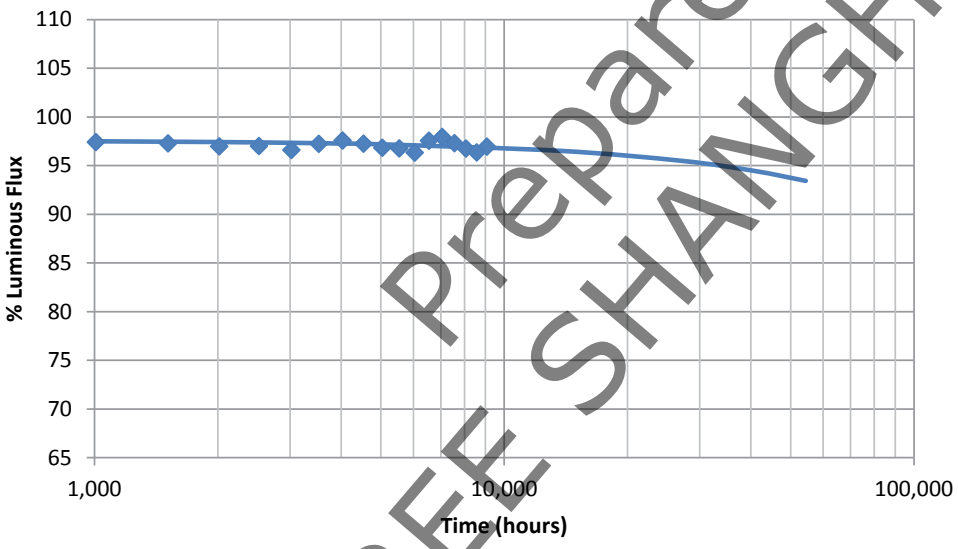
Lamp #	Initial (0 hrs)				Chromaticity Shift (Δu'v')																
	CCx	CCy	Calc. CCT	ANSI Target	168	1008	1512	2016	2520	3024	3528	4032	4536	5040	5544	6048	6552	7056	7560	8064	8568	9072
1	0.4382	0.4039	2981	3000	0.0002	0.0003	0.0004	0.0005	0.0005	0.0006	0.0006	0.0006	0.0006	0.0006	0.0007	0.0006	0.0006	0.0008	0.0007	0.0007	0.0006	0.0008
2	0.4322	0.3985	3042	3000	0.0009	0.0006	0.0005	0.0005	0.0005	0.0005	0.0006	0.0007	0.0008	0.0008	0.0008	0.0009	0.0008	0.0009	0.0009	0.0009	0.0008	0.0008
3	0.4365	0.4000	2979	3000	0.0011	0.0004	0.0006	0.0006	0.0005	0.0006	0.0004	0.0007	0.0007	0.0008	0.0008	0.0008	0.0007	0.0010	0.0009	0.0009	0.0009	0.0011
4	0.4324	0.3982	3035	3000	0.0007	0.0006	0.0004	0.0007	0.0006	0.0006	0.0006	0.0008	0.0009	0.0009	0.0010	0.0009	0.0009	0.0011	0.0012	0.0012	0.0010	0.0011
5	0.4309	0.3951	3036	3000	0.0010	0.0007	0.0008	0.0007	0.0007	0.0009	0.0005	0.0008	0.0009	0.0009	0.0009	0.0009	0.0007	0.0010	0.0011	0.0010	0.0010	0.0011
6	0.4305	0.3983	3070	3000	0.0003	0.0004	0.0004	0.0005	0.0005	0.0005	0.0006	0.0006	0.0006	0.0006	0.0007	0.0006	0.0007	0.0008	0.0009	0.0007	0.0007	0.0007
7	0.4359	0.4030	3014	3000	0.0006	0.0004	0.0006	0.0007	0.0005	0.0005	0.0005	0.0008	0.0008	0.0008	0.0009	0.0008	0.0008	0.0008	0.0008	0.0007	0.0005	0.0004
8	0.4365	0.4021	2997	3000	0.0011	0.0004	0.0005	0.0006	0.0005	0.0005	0.0004	0.0005	0.0006	0.0007	0.0007	0.0007	0.0006	0.0008	0.0008	0.0008	0.0008	0.0009
9	0.4466	0.4122	2911	3000	0.0003	0.0005	0.0005	0.0006	0.0007	0.0008	0.0008	0.0007	0.0007	0.0008	0.0008	0.0007	0.0009	0.0010	0.0010	0.0012	0.0013	0.0011
10	0.4346	0.4007	3016	3000	0.0004	0.0005	0.0004	0.0004	0.0004	0.0006	0.0007	0.0005	0.0006	0.0005	0.0006	0.0006	0.0005	0.0006	0.0006	0.0005	0.0005	0.0007
11	0.4301	0.3989	3082	3000	0.0005	0.0003	0.0002	0.0003	0.0002	0.0003	0.0003	0.0004	0.0005	0.0004	0.0005	0.0005	0.0005	0.0005	0.0006	0.0006	0.0004	0.0005
12	0.4371	0.4043	3004	3000	0.0009	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008	0.0009	0.0009	0.0010	0.0011	0.0009	0.0012	0.0012	0.0011	0.0011	0.0012
13	0.4396	0.4079	2991	3000	0.0006	0.0003	0.0004	0.0004	0.0005	0.0005	0.0005	0.0006	0.0005	0.0005	0.0006	0.0007	0.0005	0.0006	0.0007	0.0006	0.0006	0.0008
14	0.4407	0.4078	2971	3000	0.0002	0.0006	0.0005	0.0007	0.0007	0.0007	0.0008	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008	0.0008	0.0007	0.0008
15	0.4391	0.4074	2995	3000	0.0006	0.0004	0.0003	0.0003	0.0005	0.0004	0.0005	0.0004	0.0005	0.0005	0.0004	0.0004	0.0004	0.0005	0.0006	0.0005	0.0005	0.0005
16	0.4394	0.4072	2990	3000	0.0005	0.0005	0.0004	0.0005	0.0004	0.0005	0.0005	0.0006	0.0007	0.0007	0.0007	0.0009	0.0007	0.0009	0.0009	0.0009	0.0009	0.0010
17	0.4168	0.3849	3220	3000	0.0006	0.0007	0.0006	0.0006	0.0006	0.0007	0.0008	0.0008	0.0009	0.0008	0.0008	0.0010	0.0009	0.0010	0.0010	0.0010	0.0009	0.0013
18	0.4200	0.3852	3156	3000	0.0003	0.0005	0.0005	0.0005	0.0005	0.0007	0.0007	0.0008	0.0008	0.0008	0.0009	0.0011	0.0008	0.0010	0.0011	0.0011	0.0011	0.0013
19	0.4363	0.4048	3021	3000	0.0003	0.0004	0.0006	0.0007	0.0006	0.0007	0.0007	0.0007	0.0007	0.0006	0.0007	0.0007	0.0007	0.0008	0.0008	0.0007	0.0007	0.0008
20	0.4334	0.4018	3047	3000	0.0005	0.0005	0.0006	0.0006	0.0005	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008	0.0009	0.0008	0.0009
21	0.4432	0.4093	2943	3000	0.0005	0.0005	0.0005	0.0005	0.0005	0.0006	0.0005	0.0006	0.0006	0.0007	0.0008	0.0008	0.0007	0.0008	0.0008	0.0008	0.0008	0.0007
22	0.4352	0.4015	3013	3000	0.0005	0.0008	0.0008	0.0010	0.0009	0.0010	0.0010	0.0010	0.0010	0.0009	0.0010	0.0010	0.0012	0.0012	0.0012	0.0013	0.0013	0.0014
23	0.4409	0.4062	2955	3000	0.0002	0.0007	0.0005	0.0005	0.0005	0.0006	0.0006	0.0007	0.0006	0.0006	0.0007	0.0007	0.0006	0.0007	0.0007	0.0007	0.0007	0.0007
24	0.4395	0.4060	2977	3000	0.0005	0.0007	0.0007	0.0007	0.0007	0.0008	0.0007	0.0007	0.0008	0.0008	0.0008	0.0007	0.0008	0.0008	0.0008	0.0009	0.0008	0.0009
25	0.4294	0.4017	3117	3000	0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0004	0.0003	0.0004	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	0.0002
n	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Mean					**0.0005**	**0.0005**	**0.0005**	**0.0006**	**0.0005**	**0.0006**	**0.0006**	**0.0007**	**0.0007**	**0.0007**	**0.0007**	**0.0008**	**0.0007**	**0.0008**	**0.0008**	**0.0008**	**0.0008**	**0.0009**
Median					0.0005	0.0005	0.0005	0.0006	0.0005	0.0006	0.0006	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008	0.0008	0.0008	0.0008
σ					0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003	0.0003
Min.					0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0003	0.0003	0.0004	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	0.0002
Max.					0.0011	0.0008	0.0008	0.0010	0.0009	0.0010	0.0010	0.0010	0.0010	0.0009	0.0010	0.0011	0.0012	0.0012	0.0012	0.0013	0.0013	0.0014

DATA SET 5: 55°C; 1250 mA

LED Package Series	XLamp XT-E White LEDs (Series: XTEAWT) This LM-80 report is applicable to the following order codes: XTEAWT-xx-xxxx-xxxxxxxxx
Tested Model Number	XTEAWT-00-0000-00000LBE7
Drive Current [I_F]	1250 mA
Testing Initiation Date	January 8, 2012
Case Temperature [T_s]	55°C
Ambient Temperature [T_A]	55°C
Failures observed	None

Projection Generated By Cree's Internal TM-21 Calculator:

Test duration	9,072 hours
Test duration used for projection	t=4,032 to t=9,072
α	7.914E-07
β	9.756E-01
Calculated Lifetime	L70(9k) > 163,000 hours
Reported Lifetime	**L70(9k) > 54,400 hours**



LM-80 Data For The Official TM-21 Calculator*

Time (hours)	Lumen Maintenance
0	100.0000%
168	97.8300%
1008	97.4150%
1512	97.2810%
2016	96.9740%
2520	97.0090%
3024	96.6000%
3528	97.2320%
4032	97.5730%
4536	97.2510%
5040	96.8320%
5544	96.7610%
6048	96.3320%
6552	97.5540%
7056	97.9390%
7560	97.3030%
8064	96.7540%
8568	96.3510%
9072	96.9500%

* http://www.energystar.gov/TM-21calculator

Suggestion for exporting the LM-80 data:
1. Copy above table from PDF & paste into Microsoft Word.
2. Copy table out of Word & paste into Microsoft Excel (Match destination formatting)

DATA SET 6: 85°C; 1250 mA

LED Package Series	XLamp XT-E White LEDs (Series: XTEAWT) This LM-80 report is applicable to the following order codes: XTEAWT-xx-xxxx-xxxxxxxxx
Tested Model Number	XTEAWT-00-0000-00000LBE7
Drive Current [I_F]	1250 mA
Testing Initiation Date	January 7, 2012
Case Temperature [T_s]	85°C
Ambient Temperature [T_A]	85°C
Failures observed	None

Lamp #	Initial (0 hrs)				Lumen Maintenance (%)																
	LF (lm)	V_F (V)	Calc. CCT	ANSI Target	168	1008	1512	2016	2520	3024	3528	4032	4536	5040	5544	6048	6552	7056	7560	8064	8568	9072
1	261.9	3.54	3198	3000	99.0	98.6	96.7	97.2	98.9	96.8	97.6	98.0	97.8	97.1	96.2	95.4	97.2	97.1	97.0	95.1	94.7	94.7
2	284.7	3.61	3176	3000	98.8	98.9	98.0	97.9	97.7	97.4	98.6	98.0	98.2	97.7	97.1	96.3	98.8	97.9	97.8	97.2	97.1	96.4
3	269.8	3.51	3193	3000	99.3	99.2	97.6	98.2	98.4	97.4	98.0	98.3	98.1	97.4	96.0	95.8	98.0	98.1	97.3	95.7	95.5	95.7
4	289.7	3.63	3161	3000	99.4	99.8	98.4	98.4	98.3	98.0	99.1	98.8	98.7	98.2	97.5	96.5	98.7	97.7	96.9	95.7	94.9	93.9
5	287.1	3.55	3199	3000	99.2	98.8	97.7	97.5	97.4	96.9	98.1	97.6	97.7	97.1	96.6	95.8	98.2	97.4	96.6	95.7	95.4	94.1
6	271.6	3.58	3207	3000	100.6	99.9	98.2	98.7	98.7	97.9	97.6	97.9	97.6	97.1	96.1	95.2	97.5	97.1	96.5	95.8	95.7	96.0
7	288.6	3.60	3194	3000	98.9	98.6	97.7	97.6	97.3	97.1	98.2	97.7	97.7	97.4	96.6	96.2	98.3	98.1	97.6	97.3	96.4	96.4
8	273.6	3.55	3217	3000	98.1	97.4	97.0	96.1	97.1	96.5	95.9	96.4	96.1	95.3	94.7	94.0	95.8	97.5	95.7	94.2	93.8	93.3
9	287.2	3.70	3206	3000	99.0	98.9	98.0	98.1	97.9	97.4	98.7	98.2	98.2	97.8	96.9	96.5	98.7	98.3	97.1	96.5	95.5	95.2
10	284.0	3.60	3186	3000	99.7	99.1	98.0	97.6	97.7	97.5	98.4	98.1	98.1	97.8	97.0	96.2	98.6	98.7	97.9	97.5	96.3	96.2
11	269.9	3.60	3177	3000	97.6	97.8	97.0	96.8	97.3	96.1	96.2	96.5	96.2	95.5	94.6	93.7	94.6	95.8	93.1	91.9	90.6	91.7
12	257.2	3.54	2989	3000	98.3	99.0	97.1	97.4	98.4	97.3	97.1	97.9	97.6	96.9	96.5	95.6	96.4	97.0	96.0	93.7	95.2	93.8
13	271.7	3.58	2993	3000	98.9	99.1	97.7	97.5	97.6	97.5	98.4	97.7	98.0	97.7	97.0	96.6	98.3	97.9	97.7	97.2	96.9	96.1
14	280.8	3.55	3091	3000	97.7	98.6	97.1	97.2	97.2	97.2	98.3	97.7	97.8	97.4	96.8	96.3	97.9	97.5	97.1	96.2	95.3	94.0
15	254.7	3.55	2929	3000	99.1	99.3	97.8	98.1	98.9	97.4	97.8	98.1	97.7	97.1	96.5	95.6	97.1	97.1	96.3	95.1	96.7	95.4
16	269.8	3.60	2973	3000	98.7	99.4	97.8	97.7	97.7	97.7	98.8	98.1	98.2	97.8	97.0	96.4	98.1	97.9	96.8	95.5	94.4	93.3
17	273.8	3.56	3025	3000	98.7	99.7	98.3	98.1	97.9	98.0	98.8	98.2	98.5	97.8	97.3	96.8	98.5	98.4	97.5	96.9	96.2	94.9
18	259.2	3.59	3074	3000	98.6	99.6	97.3	97.7	98.3	96.9	97.3	97.3	97.1	96.5	95.7	95.1	97.1	96.9	96.2	95.3	96.8	95.6
19	289.0	3.62	3196	3000	98.5	98.5	97.3	97.2	96.8	96.4	98.8	96.2	96.2	95.8	95.1	94.8	97.0	96.5	95.9	95.8	95.3	94.8
20	265.9	3.58	3159	3000	97.3	98.2	96.8	96.8	97.3	96.1	96.8	97.2	96.8	96.0	95.1	94.2	95.9	95.8	94.4	92.3	93.1	92.1
21	288.9	3.65	3179	3000	97.7	97.5	97.2	97.2	97.0	96.5	96.8	96.4	96.1	95.6	94.9	94.4	96.2	95.7	93.9	92.6	91.2	90.2
22	264.5	3.62	2994	3000	98.7	99.1	97.3	97.4	97.9	96.8	97.2	97.4	97.0	96.2	95.5	94.7	96.7	96.6	95.6	94.3	96.2	94.8
23	276.1	3.63	3124	3000	98.6	98.5	97.3	97.2	97.2	96.7	97.9	97.4	97.3	96.8	96.2	95.7	97.7	97.3	96.5	96.0	95.2	94.1
24	281.8	3.64	2996	3000	99.1	99.0	98.1	97.7	97.9	97.5	98.6	98.2	98.2	97.6	97.0	96.4	98.5	98.2	97.4	96.9	96.2	95.1
25	264.4	3.69	2997	3000	98.5	99.6	97.9	98.2	98.5	97.0	97.3	97.4	97.0	96.2	95.5	94.7	96.6	96.0	94.3	93.0	93.9	92.0
n	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Mean	**274.6**	**3.59**			**98.7**	**98.9**	**97.6**	**97.6**	**97.8**	**97.1**	**97.8**	**97.6**	**97.5**	**97.0**	**96.2**	**95.6**	**97.4**	**97.3**	**96.4**	**95.3**	**95.1**	**94.4**
Median	273.6	3.60			98.7	99.0	97.7	97.6	97.7	97.2	97.9	97.7	97.7	97.1	96.5	95.7	97.7	97.4	96.6	95.7	95.4	94.8
σ	11.0	0.05			0.70	0.66	0.49	0.57	0.61	0.55	0.85	0.67	0.76	0.83	0.86	0.90	1.10	0.87	1.28	1.62	1.62	1.61
Min.	254.7	3.51			97.3	97.4	96.7	96.1	96.8	96.1	95.9	96.2	96.1	95.3	94.6	93.7	94.6	95.7	93.1	91.9	90.6	90.2
Max.	289.7	3.70			100.6	99.9	98.4	98.7	98.9	98.0	99.1	98.8	98.7	98.2	97.5	96.8	98.8	98.7	97.9	97.5	97.1	96.4

DATA SET 6: 85°C; 1250 mA

LED Package Series	XLamp XT-E White LEDs (Series: XTEAWT) This LM-80 report is applicable to the following order codes: XTEAWT-xx-xxxx-xxxxxxxxx
Tested Model Number	XTEAWT-00-0000-00000LBE7
Drive Current [I_F]	1250 mA
Testing Initiation Date	January 7, 2012
Case Temperature [T_s]	85°C
Ambient Temperature [T_A]	85°C
Failures observed	None

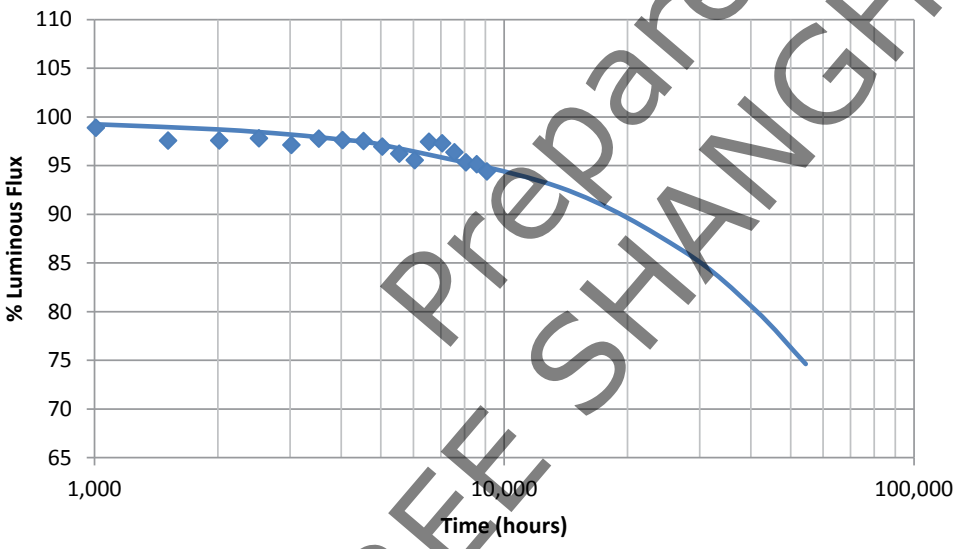
Lamp #	Initial (0 hrs)				Chromaticity Shift (Δu'v')																
	CCx	CCy	Calc. CCT	ANSI Target	168	1008	1512	2016	2520	3024	3528	4032	4536	5040	5544	6048	6552	7056	7560	8064	8568	9072
1	0.4181	0.3856	3198	3000	0.0006	0.0011	0.0010	0.0012	0.0016	0.0013	0.0013	0.0017	0.0016	0.0016	0.0016	0.0017	0.0017	0.0016	0.0019	0.0019	0.0024	0.0028
2	0.4199	0.3871	3176	3000	0.0005	0.0009	0.0009	0.0010	0.0012	0.0013	0.0012	0.0013	0.0013	0.0014	0.0014	0.0015	0.0017	0.0016	0.0019	0.0020	0.0022	0.0026
3	0.4182	0.3851	3193	3000	0.0006	0.0009	0.0008	0.0009	0.0011	0.0010	0.0009	0.0011	0.0010	0.0010	0.0010	0.0011	0.0012	0.0013	0.0014	0.0012	0.0014	0.0019
4	0.4206	0.3869	3161	3000	0.0004	0.0009	0.0008	0.0010	0.0011	0.0012	0.0011	0.0012	0.0012	0.0013	0.0014	0.0015	0.0017	0.0016	0.0021	0.0023	0.0025	0.0024
5	0.4188	0.3872	3199	3000	0.0005	0.0010	0.0009	0.0011	0.0011	0.0013	0.0012	0.0013	0.0014	0.0014	0.0016	0.0016	0.0019	0.0020	0.0026	0.0027	0.0032	0.0036
6	0.4197	0.3903	3207	3000	0.0007	0.0009	0.0009	0.0011	0.0012	0.0011	0.0010	0.0012	0.0010	0.0012	0.0011	0.0012	0.0014	0.0012	0.0014	0.0014	0.0017	0.0021
7	0.4180	0.3849	3194	3000	0.0003	0.0007	0.0007	0.0008	0.0009	0.0010	0.0009	0.0010	0.0010	0.0011	0.0011	0.0012	0.0013	0.0015	0.0019	0.0021	0.0023	0.0027
8	0.4191	0.3901	3217	3000	0.0003	0.0007	0.0005	0.0006	0.0008	0.0007	0.0006	0.0008	0.0008	0.0008	0.0009	0.0010	0.0010	0.0016	0.0017	0.0018	0.0021	0.0021
9	0.4172	0.3844	3206	3000	0.0002	0.0008	0.0007	0.0009	0.0009	0.0011	0.0010	0.0011	0.0012	0.0012	0.0014	0.0016	0.0019	0.0023	0.0028	0.0029	0.0032	0.0031
10	0.4179	0.3836	3186	3000	0.0004	0.0008	0.0007	0.0009	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0009	0.0011	0.0013	0.0014	0.0019	0.0020	0.0024	0.0029
11	0.4222	0.3926	3177	3000	0.0004	0.0007	0.0005	0.0005	0.0007	0.0006	0.0005	0.0007	0.0007	0.0008	0.0008	0.0011	0.0014	0.0019	0.0022	0.0024	0.0024	0.0026
12	0.4372	0.4026	2989	3000	0.0004	0.0006	0.0005	0.0005	0.0007	0.0007	0.0007	0.0006	0.0007	0.0006	0.0007	0.0007	0.0007	0.0011	0.0011	0.0007	0.0005	0.0008
13	0.4374	0.4036	2993	3000	0.0003	0.0005	0.0006	0.0005	0.0006	0.0007	0.0007	0.0007	0.0008	0.0008	0.0007	0.0008	0.0008	0.0007	0.0008	0.0008	0.0009	0.0008
14	0.4282	0.3957	3091	3000	0.0007	0.0004	0.0004	0.0005	0.0006	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008	0.0009	0.0011	0.0008	0.0007	0.0013
15	0.4412	0.4037	2929	3000	0.0004	0.0006	0.0005	0.0006	0.0007	0.0008	0.0007	0.0009	0.0010	0.0010	0.0010	0.0010	0.0009	0.0010	0.0009	0.0010	0.0010	0.0010
16	0.4371	0.4006	2973	3000	0.0004	0.0006	0.0005	0.0007	0.0008	0.0008	0.0008	0.0009	0.0010	0.0010	0.0009	0.0009	0.0009	0.0010	0.0010	0.0013	0.0022	0.0028
17	0.4328	0.3979	3025	3000	0.0004	0.0005	0.0006	0.0007	0.0008	0.0009	0.0009	0.0011	0.0011	0.0010	0.0010	0.0010	0.0009	0.0008	0.0008	0.0008	0.0011	0.0014
18	0.4268	0.3908	3074	3000	0.0003	0.0004	0.0005	0.0006	0.0007	0.0007	0.0008	0.0008	0.0009	0.0009	0.0011	0.0010	0.0010	0.0009	0.0009	0.0009	0.0008	0.0009
19	0.4186	0.3864	3196	3000	0.0003	0.0010	0.0011	0.0013	0.0014	0.0015	0.0015	0.0016	0.0016	0.0016	0.0017	0.0019	0.0019	0.0021	0.0026	0.0028	0.0031	0.0037
20	0.4202	0.3859	3159	3000	0.0011	0.0008	0.0007	0.0008	0.0009	0.0007	0.0009	0.0012	0.0012	0.0012	0.0014	0.0015	0.0017	0.0024	0.0030	0.0031	0.0032	0.0032
21	0.4203	0.3884	3179	3000	0.0006	0.0014	0.0014	0.0017	0.0018	0.0019	0.0019	0.0020	0.0022	0.0023	0.0024	0.0028	0.0030	0.0039	0.0048	0.0048	0.0045	0.0041
22	0.4363	0.4015	2994	3000	0.0004	0.0006	0.0005	0.0005	0.0006	0.0007	0.0006	0.0007	0.0008	0.0008	0.0007	0.0008	0.0008	0.0009	0.0010	0.0010	0.0011	0.0009
23	0.4266	0.3962	3124	3000	0.0003	0.0004	0.0005	0.0006	0.0006	0.0007	0.0007	0.0007	0.0007	0.0006	0.0006	0.0007	0.0006	0.0008	0.0010	0.0009	0.0006	0.0005
24	0.4367	0.4025	2996	3000	0.0003	0.0005	0.0005	0.0005	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008	0.0008	0.0008	0.0008	0.0009	0.0012	0.0011	0.0008	0.0008
25	0.4372	0.4037	2997	3000	0.0003	0.0006	0.0006	0.0006	0.0006	0.0007	0.0008	0.0009	0.0009	0.0009	0.0008	0.0008	0.0007	0.0008	0.0008	0.0011	0.0017	0.0025
n	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Mean					**0.0004**	**0.0007**	**0.0007**	**0.0008**	**0.0009**	**0.0009**	**0.0009**	**0.0010**	**0.0011**	**0.0011**	**0.0011**	**0.0012**	**0.0013**	**0.0014**	**0.0017**	**0.0018**	**0.0019**	**0.0021**
Median					0.0004	0.0007	0.0006	0.0007	0.0008	0.0008	0.0009	0.0009	0.0010	0.0010	0.0010	0.0011	0.0012	0.0013	0.0014	0.0014	0.0021	0.0024
σ					0.0002	0.0002	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0004	0.0004	0.0005	0.0006	0.0007	0.0009	0.0010	0.0010	0.0011
Min.					0.0002	0.0004	0.0004	0.0005	0.0006	0.0006	0.0005	0.0006	0.0007	0.0006	0.0006	0.0007	0.0006	0.0007	0.0008	0.0007	0.0005	0.0005
Max.					0.0011	0.0014	0.0014	0.0017	0.0018	0.0019	0.0019	0.0020	0.0022	0.0023	0.0024	0.0028	0.0030	0.0039	0.0048	0.0048	0.0045	0.0041

DATA SET 6: 85°C; 1250 mA

LED Package Series	XLamp XT-E White LEDs (Series: XTEAWT) This LM-80 report is applicable to the following order codes: XTEAWT-xx-xxxx-xxxxxxxxx
Tested Model Number	XTEAWT-00-0000-00000LBE7
Drive Current [I_F]	1250 mA
Testing Initiation Date	January 7, 2012
Case Temperature [T_s]	85°C
Ambient Temperature [T_A]	85°C
Failures observed	None

Projection Generated By Cree's Internal TM-21 Calculator:

Test duration	9,072 hours
Test duration used for projection	t=4,032 to t=9,072
α	5.337E-06
β	9.977E-01
Calculated Lifetime	L70(9k) = 66,400 hours
Reported Lifetime	**L70(9k) > 54,400 hours**



LM-80 Data For The Official TM-21 Calculator*

Time (hours)	Lumen Maintenance
0	100.0000%
168	98.7210%
1008	98.8860%
1512	97.5710%
2016	97.5830%
2520	97.8050%
3024	97.1220%
3528	97.7670%
4032	97.6190%
4536	97.5230%
5040	96.9520%
5544	96.2220%
6048	95.5560%
6552	97.4500%
7056	97.2900%
7560	96.3690%
8064	95.3350%
8568	95.1430%
9072	94.4000%

* http://www.energystar.gov/TM-21calculator

Suggestion for exporting the LM-80 data:
1. Copy above table from PDF & paste into Microsoft Word.
2. Copy table out of Word & paste into Microsoft Excel (Match destination formatting)