Lumileds

IESNA LM-80 Test Report

1. Description of LED light sources tested

LUXEON 5050 Square LES with nominal CCT of 2700K (L150-27705030000S0).

2a. Package Pictures

Figure 1. Picture of the LUXEON 5050 Square LES.

2b. Average current density per LED die at max. current tested

400.0 mA/mm^2

2c. Average power density per LED die at max. current tested

12.56 W/mm^2

2d. Average CRI Ra of LED light sources tested at max. current tested

70

2e. Minimum die edge to die edge spacing of LED light sources tested

0.4mm

2f. Total Input Power at max. current tested

6.30 W

3a. Projected L_{70} extrapolations per IESNA TM-21-11 for LUXEON 5050 30V

	If = 50mA	If = 100mA	If = 150mA	If = 200mA
Ts = 105°C	254,557	232,970	84,977	21,007
Ts = 85°C	1,040,906	338,399	323,448	72,642
Ts = 55°C	-1,536,193	5,681,086	362,042	82,002

3b. Reported L_{70} extrapolations per IESNA TM-21-11 for LUXEON 5050 30V

	If = 50mA	If = 100mA	If = 150mA	If = 200mA
Ts = 105°C	> 60,000	> 60,000	> 60,000	21,007
Ts = 85°C	> 60,000	> 60,000	> 60,000	> 60,000
Ts = 55°C	> 60,000	> 60,000	> 60,000	> 60,000

4. Applicable LUXEON® Series part number(s)

This Test Report applies to the following LUXEON part numbers*:

Product Family	Part Number	Color
LUXEON 5050 (Square LES)	L150-AABB50CC000S0	white
LUXEON 5050 (Round LES)	L150-AABB50CC00000	white

For LUXEON 5050 (Square LES): AA designates nominal ANSI CCT (22=2200K, 27=2700K, 30=3000K, 35=3500K, 40=4000K, 50=5000K, 57=5700K, 65=6500K), BB designates minimum CRI (70=70CRI, 80=80CRI, 90=90CRI), CC designates voltage (06=6V, 30=30V).

For LUXEON 5050 (Round LES): AA designates nominal ANSI CCT (22=2200K, 27=2700K, 30=3000K, 35=3500K, 40=4000K, 50=5000K, 57=5700K, 65=6500K), BB designates minimum CRI (70=70CRI, 80=80CRI, 90=90CRI), CC designates voltage (06=6V, 24=24V).

Please note LUXEON 5050 6V (Square LES) parts have an equivalent drive current I_f' that can be determined as follows: $I_f' = I_f*5$.

Please note LUXEON 5050 6V (Round LES) parts have an equivalent drive current I_f' that can be determined as follows: $I_f' = I_f*4$.

5. Number of LED light sources reported

20 units.

6. Dates Tests Started

2019/04/19.

7. Date Report First Issued

2020/01/10.

8. Mechanical Drawing

For detailed mechanical drawings, please see the LUXEON 5050 datasheet.

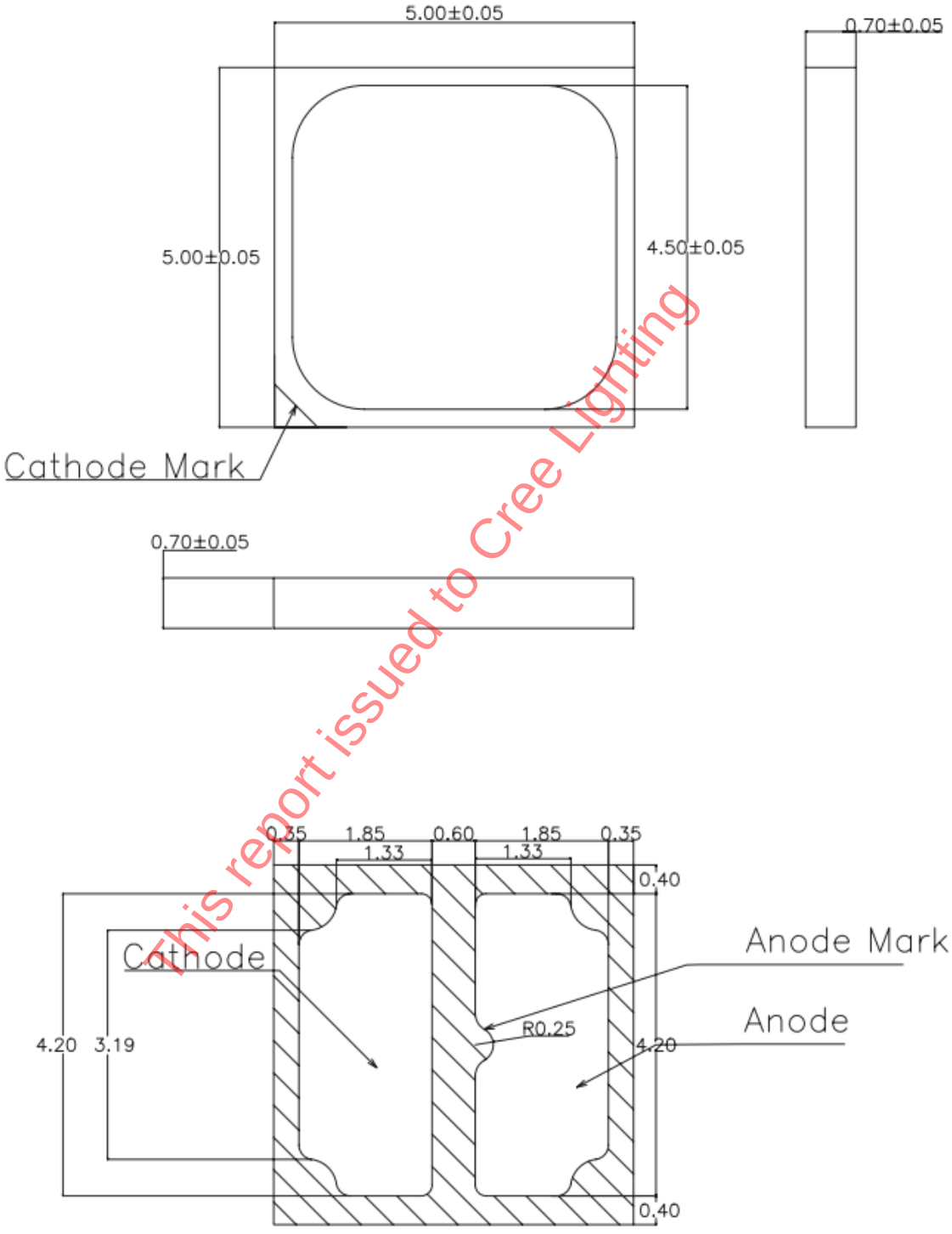


Figure 2. Mechanical drawings for the LUXEON 5050 Square LES (all dimensions in millimeters).

9. T_s Measurement Point

The circular pad in the bottom side of LUXEON 5050 corresponds to the recommended temperature measurement point T_s, see Figure 3.

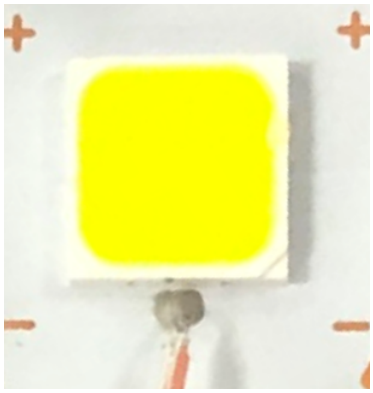


Figure 3. The recommended T_s point is located in the bottom of LUXEON 5050.

For further information on measuring the in-situ T_s, please see LUXEON 5050 Application Brief.

10. Description of auxiliary equipment

Reliability stress boards are mounted in a thermal chamber which provides liquid N2 cooling and has a controlled air temperature.

11. Operating Cycle

LUXEON 5050 LEDs are driven with a constant direct current (DC).

12. Ambient conditions including airflow, temperature, and relative humidity

Case temperature (Ts): controlled to within -2°C

Surrounding air temperature: controlled to within -5°C of Ts

Humidity: < 65 RH, No forced air flow.

13. Case and ambient temperatures

See Section 3.

14. Drive current of the LED light source during lumen maintenance test

See tables.

15. Initial luminous flux and forward voltage at photometric measurement current

See tables.

16. Lumen maintenance for data for each individual light source along with median value, standard deviation, minimum and maximum lumen maintenance value for all of the light sources

See tables.

17. Observation of LED light source failures including the failure conditions and time of failure

No failures observed.

18. LED light source monitoring interval

Units were tested at 0 and every 1000 hours thereafter.

19. Photometric measurement uncertainty

Long-term measurement uncertainty is based on reproducibility tests done over a period of one year, calculated to k = 2 coverage (i.e. 95% coverage)

Uncertainty of light output is U=1.59%. Uncertainy of correlated color temperature is U=21K.

20. Chromaticity shift reported over the measurement time

See tables.

21. Sampling Method/Sample size

LED samples for IESNA LM-80 testing consist of units built from a minimum of three manufacturing lots with each manufacturing lot built from different wafer lots built on non-consecutive days. These manufacturing lots are picked to represent a wide parametric distribution. Each Sample is soldered to all of the reliability stress boards for a given set of IESNA LM-80 tests.

LED sample size is indicated in Section 5 of this report.

22. ISO 17025-2005 Accreditation

Lumileds holds certificate LA-2016-0634-E issued by SAC-SINGLAS under scope of accreditation for IESNA LM-80-15 and LM-80-08.

SINGAPORE LABORATORY ACCREDITATION SCHEME

SINGAPORE ACCREDITATION COUNCIL

Number : **LA-2016-0634-E**

Date of Issue : **14 December 2016**

Date of Expiry: **13 December 2020**

Certificate of Accreditation

This certifies that

Lumileds Malaysia Sdn. Bhd.
Reliability Test Laboratory
No. 3, Lintang Bayan Lepas 8,
Phase 4, Bayan Lepas Industrial Park
11900, Penang, Malaysia

is accredited by the Singapore Accreditation Council to

ISO / IEC 17025 : 2005

for specific scope within the field of

Electrical Testing

as detailed in the attached schedule.

Chairman

This Certificate is awarded subject to the organisation's compliance with the stated criteria and terms and conditions laid down by the Singapore Accreditation Council.

This Certificate may not be reproduced except with the written permission of the Chairman.

Figure 4. Certificate LA-2016-0634-E.

Notes

Data is for reference only and is not an endorsement to exceed the datasheet operating conditions.

The TM-21 extrapolations are based on the IESNA TM-21-11 technical memorandum. The TM-21 lumen maintenance model is based on the flux data normalized to 1 at 0 hours and the use of an exponential model for flux (time):

Flux(time) = B exp[-alpha*time], where normally B ≅ 1, and alpha > 0.

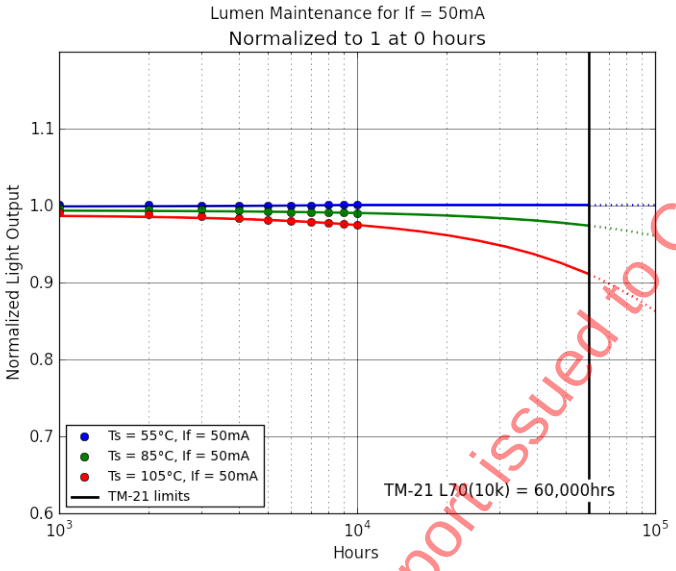
An L70 extrapolation less than 0 means that the model predicts an increasing flux output with time, i.e. alpha < 0 (see graphs). Generally, this means that additional test time is needed to determine the long-term lumen maintenance behavior.

Customer needs to check for all applicable local rules regarding application of LM-80 reports.

Number of LED light sources tested: 24 units.

Normalized Flux Statistics for I_f = 50mA

		0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs	alpha	B	L70
	median =	1.0000	0.9908	0.9879	0.9858	0.9838	0.9817	0.9796	0.9782	0.9773	0.9761	0.9748			
Ts=Tair=105°C	average =	1.0000	0.9911	0.9882	0.9859	0.9838	0.9817	0.9796	0.9783	0.9775	0.9760	0.9747	1.3535e-06	0.9879	254,557
	st dev =	0.0000	0.0016	0.0014	0.0014	0.0013	0.0013	0.0015	0.0014	0.0014	0.0015	0.0016	TM-21 L70(10k) > 60,000hrs		
	min =	1.0000	0.9894	0.9863	0.9841	0.9818	0.9796	0.9771	0.9761	0.9753	0.9733	0.9724			
	max =	1.0000	0.9971	0.9932	0.9909	0.9881	0.9859	0.9842	0.9827	0.9818	0.9802	0.9794			
	median =	1.0000	0.9972	0.9951	0.9947	0.9939	0.9926	0.9916	0.9912	0.9916	0.9909	0.9907			
Ts=Tair=85°C	average =	1.0000	0.9972	0.9951	0.9944	0.9939	0.9924	0.9914	0.9911	0.9914	0.9907	0.9904	3.3662e-07	0.9937	1,040,906
	st dev =	0.0000	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	TM-21 L70(10k) > 60,000hrs		
	min =	1.0000	0.9952	0.9932	0.9919	0.9918	0.9902	0.9889	0.9889	0.9891	0.9885	0.9880			
	max =	1.0000	1.0001	0.9983	0.9978	0.9969	0.9953	0.9945	0.9939	0.9941	0.9936	0.9930			
	median =	1.0000	1.0016	1.0005	1.0002	1.0006	1.0001	0.9997	0.9999	1.0006	1.0010	1.0010			
Ts=Tair=55°C	average =	1.0000	1.0017	1.0007	1.0006	1.0005	1.0002	0.9997	0.9999	1.0007	1.0009	1.0009	-2.3130e-07	0.9986	-1,536,193
	st dev =	0.0000	0.0010	0.0010	0.0011	0.0011	0.0012	0.0012	0.0011	0.0012	0.0011	0.0012	TM-21 L70(10k) = 60,000hrs		
	min =	1.0000	1.0007	0.9995	0.9988	0.9984	0.9983	0.9974	0.9978	0.9986	0.9987	0.9985			
	max =	1.0000	1.0048	1.0035	1.0035	1.0040	1.0035	1.0030	1.0030	1.0041	1.0041	1.0041			

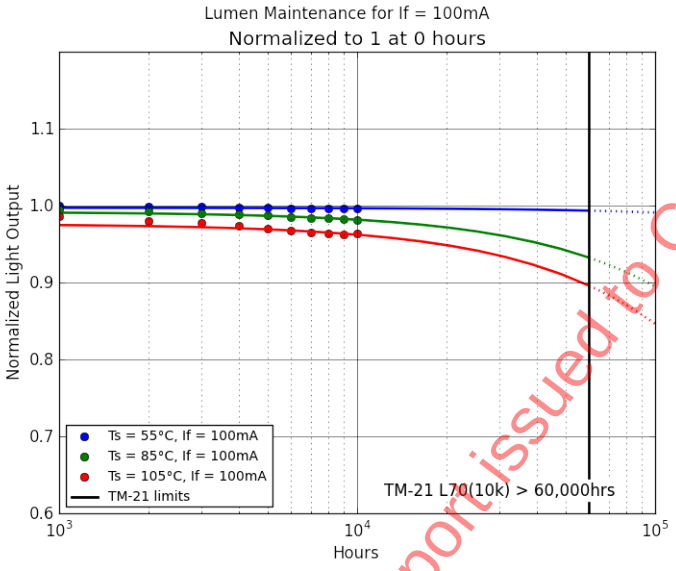


Delta u'v' for I_f = 50mA

		0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
	median =	0.0000	0.0013	0.0016	0.0018	0.0020	0.0021	0.0022	0.0023	0.0024	0.0026	0.0028
Ts=Tair=105°C	average =	0.0000	0.0013	0.0016	0.0018	0.0020	0.0021	0.0022	0.0023	0.0025	0.0026	0.0028
	st dev =	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	min =	0.0000	0.0012	0.0014	0.0016	0.0018	0.0019	0.0021	0.0022	0.0023	0.0024	0.0026
	max =	0.0000	0.0014	0.0017	0.0019	0.0021	0.0022	0.0023	0.0025	0.0026	0.0027	0.0029
	median =	0.0000	0.0009	0.0010	0.0011	0.0012	0.0012	0.0013	0.0014	0.0014	0.0015	0.0016
Ts=Tair=85°C	average =	0.0000	0.0009	0.0010	0.0011	0.0012	0.0012	0.0013	0.0014	0.0014	0.0015	0.0016
	st dev =	0.0000	0.0001	0.0001	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0001
	min =	0.0000	0.0007	0.0009	0.0010	0.0011	0.0012	0.0012	0.0013	0.0013	0.0014	0.0015
	max =	0.0000	0.0010	0.0011	0.0013	0.0014	0.0014	0.0015	0.0015	0.0015	0.0016	0.0018
	median =	0.0000	0.0006	0.0006	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008
Ts=Tair=55°C	average =	0.0000	0.0006	0.0006	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008
	st dev =	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
	min =	0.0000	0.0005	0.0005	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0007	0.0007
	max =	0.0000	0.0006	0.0007	0.0008	0.0007	0.0008	0.0007	0.0008	0.0008	0.0009	0.0009

Normalized Flux Statistics for I_f = 100mA

		0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs	alpha	B	L70
	median =	1.0000	0.9866	0.9804	0.9768	0.9734	0.9703	0.9676	0.9656	0.9646	0.9629	0.9634			
Ts=Tair=105°C	average =	1.0000	0.9866	0.9806	0.9769	0.9735	0.9703	0.9674	0.9653	0.9644	0.9628	0.9636	1.4267e-06	0.9760	232,970
	st dev =	0.0000	0.0013	0.0012	0.0014	0.0014	0.0016	0.0016	0.0017	0.0017	0.0018	0.0021	TM-21 L70(10k) > 60,000hrs		
	min =	1.0000	0.9842	0.9790	0.9746	0.9714	0.9674	0.9651	0.9627	0.9614	0.9597	0.9600			
	max =	1.0000	0.9901	0.9834	0.9800	0.9765	0.9733	0.9703	0.9684	0.9675	0.9662	0.9675			
	median =	1.0000	0.9954	0.9923	0.9906	0.9887	0.9870	0.9853	0.9843	0.9837	0.9828	0.9820			
Ts=Tair=85°C	average =	1.0000	0.9956	0.9925	0.9905	0.9886	0.9872	0.9854	0.9842	0.9836	0.9827	0.9819	1.0297e-06	0.9918	338,399
	st dev =	0.0000	0.0016	0.0015	0.0015	0.0015	0.0016	0.0017	0.0017	0.0017	0.0016	0.0016	TM-21 L70(10k) > 60,000hrs		
	min =	1.0000	0.9925	0.9896	0.9874	0.9856	0.9839	0.9820	0.9803	0.9802	0.9794	0.9790			
	max =	1.0000	0.9988	0.9953	0.9934	0.9911	0.9902	0.9888	0.9873	0.9865	0.9856	0.9846			
	median =	1.0000	1.0003	0.9990	0.9988	0.9982	0.9973	0.9965	0.9968	0.9970	0.9968	0.9968			
Ts=Tair=55°C	average =	1.0000	1.0001	0.9989	0.9986	0.9981	0.9972	0.9964	0.9965	0.9968	0.9966	0.9966	6.2279e-08	0.9971	5,681,086
	st dev =	0.0000	0.0009	0.0009	0.0009	0.0010	0.0011	0.0012	0.0012	0.0011	0.0011	0.0012	TM-21 L70(10k) > 60,000hrs		
	min =	1.0000	0.9978	0.9968	0.9964	0.9950	0.9947	0.9935	0.9936	0.9940	0.9938	0.9936			
	max =	1.0000	1.0014	1.0000	1.0000	0.9995	0.9988	0.9980	0.9980	0.9983	0.9981	0.9982			

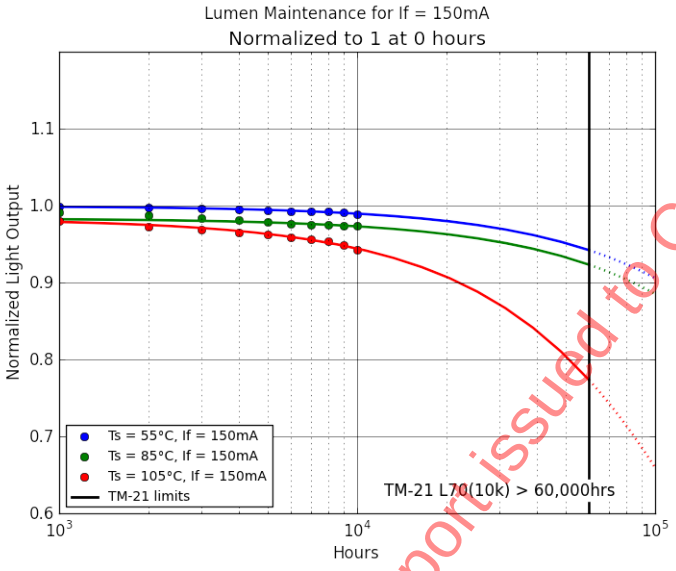


Delta u'v' for I_f = 100mA

		0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
	median =	0.0000	0.0016	0.0019	0.0022	0.0024	0.0026	0.0028	0.0030	0.0032	0.0034	0.0035
Ts=Tair=105°C	average =	0.0000	0.0015	0.0019	0.0022	0.0024	0.0026	0.0028	0.0030	0.0032	0.0033	0.0035
	st dev =	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	min =	0.0000	0.0015	0.0018	0.0021	0.0023	0.0025	0.0027	0.0029	0.0029	0.0031	0.0032
	max =	0.0000	0.0016	0.0020	0.0023	0.0025	0.0027	0.0029	0.0031	0.0033	0.0035	0.0036
	median =	0.0000	0.0010	0.0012	0.0013	0.0014	0.0015	0.0016	0.0017	0.0017	0.0019	0.0019
Ts=Tair=85°C	average =	0.0000	0.0010	0.0012	0.0013	0.0014	0.0015	0.0016	0.0017	0.0017	0.0019	0.0019
	st dev =	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	min =	0.0000	0.0009	0.0011	0.0012	0.0013	0.0014	0.0015	0.0016	0.0017	0.0018	0.0019
	max =	0.0000	0.0011	0.0013	0.0014	0.0016	0.0016	0.0018	0.0018	0.0018	0.0020	0.0021
	median =	0.0000	0.0006	0.0007	0.0007	0.0007	0.0008	0.0008	0.0008	0.0008	0.0008	0.0009
Ts=Tair=55°C	average =	0.0000	0.0006	0.0007	0.0007	0.0007	0.0008	0.0008	0.0008	0.0008	0.0009	0.0009
	st dev =	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0001	0.0000	0.0000
	min =	0.0000	0.0005	0.0006	0.0007	0.0006	0.0007	0.0006	0.0007	0.0007	0.0008	0.0008
	max =	0.0000	0.0007	0.0007	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009

Normalized Flux Statistics for I_f = 150mA

		0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs	alpha	B	L70
	median =	1.0000	0.9800	0.9725	0.9687	0.9656	0.9628	0.9593	0.9570	0.9549	0.9480	0.9423			
Ts=Tair=105°C	average =	1.0000	0.9800	0.9726	0.9687	0.9653	0.9622	0.9587	0.9564	0.9539	0.9483	0.9423	3.9906e-06	0.9826	84,977
	st dev =	0.0000	0.0011	0.0013	0.0014	0.0017	0.0022	0.0025	0.0028	0.0029	0.0032	0.0043	TM-21 L70(10k) > 60,000hrs		
	min =	1.0000	0.9782	0.9704	0.9661	0.9626	0.9584	0.9541	0.9506	0.9475	0.9412	0.9334			
	max =	1.0000	0.9821	0.9753	0.9715	0.9680	0.9659	0.9628	0.9599	0.9588	0.9545	0.9500			
	median =	1.0000	0.9909	0.9870	0.9837	0.9811	0.9790	0.9767	0.9754	0.9748	0.9732	0.9736			
Ts=Tair=85°C	average =	1.0000	0.9912	0.9870	0.9840	0.9812	0.9790	0.9767	0.9753	0.9748	0.9734	0.9739	1.0505e-06	0.9832	323,448
	st dev =	0.0000	0.0011	0.0014	0.0015	0.0015	0.0017	0.0017	0.0017	0.0017	0.0016	0.0019	TM-21 L70(10k) > 60,000hrs		
	min =	1.0000	0.9892	0.9845	0.9815	0.9782	0.9759	0.9731	0.9718	0.9714	0.9702	0.9707			
	max =	1.0000	0.9933	0.9896	0.9871	0.9842	0.9824	0.9798	0.9780	0.9779	0.9763	0.9772			
	median =	1.0000	0.9985	0.9969	0.9963	0.9954	0.9943	0.9931	0.9923	0.9919	0.9908	0.9889			
Ts=Tair=55°C	average =	1.0000	0.9986	0.9971	0.9963	0.9954	0.9944	0.9931	0.9926	0.9920	0.9908	0.9890	9.8328e-07	0.9993	362,042
	st dev =	0.0000	0.0014	0.0013	0.0012	0.0011	0.0013	0.0013	0.0013	0.0014	0.0015	0.0016	TM-21 L70(10k) > 60,000hrs		
	min =	1.0000	0.9949	0.9938	0.9934	0.9928	0.9913	0.9901	0.9894	0.9888	0.9880	0.9868			
	max =	1.0000	1.0015	1.0001	0.9993	0.9982	0.9973	0.9962	0.9950	0.9952	0.9947	0.9931			

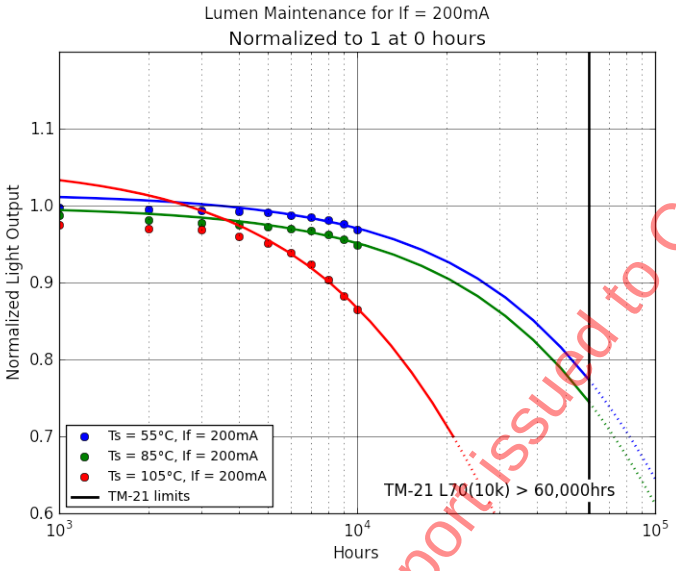


Delta u'v' for I_f = 150mA

		0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
	median =	0.0000	0.0019	0.0024	0.0028	0.0031	0.0034	0.0037	0.0039	0.0039	0.0041	0.0042
Ts=Tair=105°C	average =	0.0000	0.0019	0.0024	0.0028	0.0031	0.0034	0.0037	0.0039	0.0040	0.0041	0.0042
	st dev =	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0003
	min =	0.0000	0.0018	0.0023	0.0027	0.0029	0.0032	0.0034	0.0036	0.0038	0.0037	0.0038
	max =	0.0000	0.0020	0.0025	0.0029	0.0033	0.0036	0.0039	0.0041	0.0043	0.0044	0.0050
	median =	0.0000	0.0012	0.0015	0.0017	0.0018	0.0019	0.0021	0.0022	0.0023	0.0024	0.0024
Ts=Tair=85°C	average =	0.0000	0.0012	0.0015	0.0017	0.0018	0.0019	0.0021	0.0022	0.0022	0.0024	0.0024
	st dev =	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	min =	0.0000	0.0011	0.0013	0.0015	0.0016	0.0018	0.0018	0.0019	0.0020	0.0021	0.0022
	max =	0.0000	0.0013	0.0016	0.0018	0.0020	0.0022	0.0022	0.0024	0.0025	0.0026	0.0027
	median =	0.0000	0.0007	0.0008	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009
Ts=Tair=55°C	average =	0.0000	0.0007	0.0008	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009
	st dev =	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
	min =	0.0000	0.0006	0.0007	0.0008	0.0008	0.0008	0.0008	0.0009	0.0009	0.0009	0.0008
	max =	0.0000	0.0008	0.0009	0.0009	0.0009	0.0010	0.0010	0.0010	0.0010	0.0011	0.0011

Normalized Flux Statistics for I_f = 200mA

		0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs	alpha	B	L70
	median =	1.0000	0.9747	0.9712	0.9678	0.9601	0.9505	0.9404	0.9260	0.9048	0.8844	0.8676			
Ts=Tair=105°C	average =	1.0000	0.9748	0.9705	0.9682	0.9597	0.9508	0.9388	0.9242	0.9037	0.8829	0.8648	1.9452e-05	1.0533	21,007
	st dev =	0.0000	0.0021	0.0025	0.0038	0.0042	0.0054	0.0067	0.0103	0.0112	0.0103	0.0090	TM-21 L70(10k) = 21,007hrs		
	min =	1.0000	0.9683	0.9634	0.9571	0.9463	0.9340	0.9210	0.9041	0.8834	0.8633	0.8467			
	max =	1.0000	0.9787	0.9739	0.9746	0.9654	0.9581	0.9493	0.9433	0.9251	0.9019	0.8794			
	median =	1.0000	0.9873	0.9817	0.9771	0.9748	0.9732	0.9700	0.9672	0.9621	0.9565	0.9489			
Ts=Tair=85°C	average =	1.0000	0.9873	0.9815	0.9770	0.9748	0.9730	0.9698	0.9675	0.9624	0.9566	0.9490	4.8966e-06	0.9990	72,642
	st dev =	0.0000	0.0012	0.0012	0.0016	0.0014	0.0015	0.0015	0.0016	0.0017	0.0019	0.0026	TM-21 L70(10k) > 60,000hrs		
	min =	1.0000	0.9850	0.9795	0.9743	0.9724	0.9701	0.9671	0.9647	0.9595	0.9532	0.9437			
	max =	1.0000	0.9895	0.9838	0.9797	0.9778	0.9755	0.9728	0.9707	0.9663	0.9599	0.9542			
	median =	1.0000	0.9969	0.9949	0.9938	0.9924	0.9907	0.9880	0.9853	0.9812	0.9760	0.9688			
Ts=Tair=55°C	average =	1.0000	0.9971	0.9952	0.9939	0.9926	0.9912	0.9881	0.9855	0.9811	0.9757	0.9684	4.5389e-06	1.0156	82,002
	st dev =	0.0000	0.0011	0.0012	0.0011	0.0011	0.0014	0.0013	0.0012	0.0018	0.0020	0.0023	TM-21 L70(10k) > 60,000hrs		
	min =	1.0000	0.9957	0.9936	0.9922	0.9913	0.9892	0.9862	0.9837	0.9780	0.9717	0.9639			
	max =	1.0000	0.9998	0.9980	0.9959	0.9948	0.9934	0.9901	0.9875	0.9841	0.9795	0.9721			



Delta u'v' for I_f = 200mA

		0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
	median =	0.0000	0.0022	0.0028	0.0030	0.0032	0.0034	0.0039	0.0055	0.0085	0.0110	0.0125
Ts=Tair=105°C	average =	0.0000	0.0022	0.0028	0.0030	0.0032	0.0034	0.0041	0.0057	0.0085	0.0109	0.0121
	st dev =	0.0000	0.0001	0.0001	0.0002	0.0002	0.0002	0.0005	0.0013	0.0017	0.0015	0.0014
	min =	0.0000	0.0020	0.0026	0.0027	0.0028	0.0031	0.0034	0.0034	0.0052	0.0078	0.0095
	max =	0.0000	0.0025	0.0031	0.0033	0.0036	0.0040	0.0054	0.0083	0.0116	0.0135	0.0140
	median =	0.0000	0.0015	0.0018	0.0020	0.0022	0.0023	0.0024	0.0025	0.0025	0.0024	0.0027
Ts=Tair=85°C	average =	0.0000	0.0014	0.0017	0.0020	0.0022	0.0023	0.0024	0.0024	0.0024	0.0025	0.0028
	st dev =	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002
	min =	0.0000	0.0013	0.0016	0.0018	0.0021	0.0022	0.0022	0.0022	0.0022	0.0023	0.0024
	max =	0.0000	0.0015	0.0018	0.0021	0.0023	0.0025	0.0025	0.0026	0.0026	0.0026	0.0031
	median =	0.0000	0.0007	0.0009	0.0009	0.0009	0.0010	0.0010	0.0010	0.0008	0.0009	0.0012
Ts=Tair=55°C	average =	0.0000	0.0007	0.0009	0.0009	0.0009	0.0010	0.0010	0.0010	0.0009	0.0009	0.0012
	st dev =	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001
	min =	0.0000	0.0007	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0008	0.0008	0.0011
	max =	0.0000	0.0008	0.0009	0.0010	0.0010	0.0011	0.0011	0.0011	0.0011	0.0011	0.0014

Luminous Flux [lm] data for tested units

$T_s = T_{air}$ = 55°C, I_f = 50mA; $T_s \geq$ 53°C and $T_{air} \geq$ 50°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2716K	256.458	256.727	256.538	256.353	256.620	256.425	256.315	256.447	256.586	256.685	256.779
2	2708K	254.745	255.962	255.648	255.640	255.760	255.634	255.500	255.509	255.787	255.782	255.789
3	2702K	254.438	254.645	254.549	254.467	254.673	254.450	254.381	254.427	254.597	254.718	254.794
4	2713K	258.656	259.087	258.932	258.874	258.924	258.734	258.659	258.740	258.911	258.929	258.997
5	2713K	256.267	256.533	256.345	256.260	256.354	255.840	256.038	256.092	256.177	256.234	256.307
6	2707K	258.292	258.569	258.376	258.231	258.362	257.921	257.972	257.959	258.151	258.321	258.234
7	2700K	254.088	254.420	253.972	254.075	254.114	254.013	253.887	253.856	254.187	254.188	254.202
8	2705K	257.375	257.766	257.467	257.316	257.262	257.223	256.937	257.085	257.395	257.319	257.314
9	2716K	256.895	257.447	257.102	257.211	257.244	257.151	257.026	257.037	257.317	257.267	257.304
10	2700K	255.484	255.683	255.403	255.506	255.460	255.408	255.342	255.312	255.566	255.626	255.666
11	2703K	254.556	255.054	254.785	254.825	254.817	254.725	254.587	254.617	254.882	254.849	254.803
12	2704K	254.406	254.591	254.427	254.320	254.333	254.309	254.127	254.134	254.525	254.442	254.455
13	2716K	257.682	258.145	257.826	257.849	257.901	257.856	257.664	257.643	257.940	257.996	257.973
14	2711K	255.536	256.431	256.235	256.251	255.779	256.077	255.857	255.929	256.177	256.178	256.189
15	2706K	256.508	257.034	256.810	256.803	256.644	256.688	256.572	256.587	256.808	256.861	256.894
16	2715K	255.648	256.187	256.140	256.010	255.883	255.893	255.730	255.876	256.005	256.045	256.050
17	2718K	258.829	259.028	258.724	258.531	258.425	258.426	258.153	258.266	258.472	258.485	258.450
18	2700K	258.269	258.775	258.416	258.335	258.274	258.290	258.147	258.201	258.346	258.415	258.461
19	2704K	257.045	257.494	257.255	257.310	257.202	257.114	257.000	257.168	257.225	257.323	257.295
20	2704K	254.596	254.859	254.586	254.535	254.466	254.486	254.268	254.291	254.529	254.607	254.461

Normalized Luminous Flux data for tested units

$T_s = T_{air}$ = 55°C, I_f = 50mA; $T_s \geq$ 53°C and $T_{air} \geq$ 50°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2716K	1.0000	1.0010	1.0003	0.9996	1.0006	0.9999	0.9994	1.0000	1.0005	1.0009	1.0013
2	2708K	1.0000	1.0048	1.0035	1.0035	1.0040	1.0035	1.0030	1.0030	1.0041	1.0041	1.0041
3	2702K	1.0000	1.0008	1.0004	1.0001	1.0009	1.0000	0.9998	1.0000	1.0006	1.0011	1.0014
4	2713K	1.0000	1.0017	1.0011	1.0008	1.0010	1.0003	1.0000	1.0003	1.0010	1.0011	1.0013
5	2713K	1.0000	1.0010	1.0003	1.0000	1.0003	0.9983	0.9991	0.9993	0.9996	0.9999	1.0002
6	2707K	1.0000	1.0011	1.0003	0.9998	1.0003	0.9986	0.9988	0.9987	0.9995	1.0001	0.9998
7	2700K	1.0000	1.0013	0.9995	0.9999	1.0001	0.9997	0.9992	0.9991	1.0004	1.0004	1.0004
8	2705K	1.0000	1.0015	1.0004	0.9998	0.9996	0.9994	0.9983	0.9989	1.0001	0.9998	0.9998
9	2716K	1.0000	1.0021	1.0008	1.0012	1.0014	1.0010	1.0005	1.0006	1.0016	1.0015	1.0016
10	2700K	1.0000	1.0008	0.9997	1.0001	0.9999	0.9997	0.9994	0.9993	1.0003	1.0006	1.0007
11	2703K	1.0000	1.0020	1.0009	1.0011	1.0010	1.0007	1.0001	1.0002	1.0013	1.0012	1.0010
12	2704K	1.0000	1.0007	1.0001	0.9997	0.9997	0.9996	0.9989	0.9989	1.0005	1.0001	1.0002
13	2716K	1.0000	1.0018	1.0006	1.0006	1.0008	1.0007	0.9999	0.9998	1.0010	1.0012	1.0011
14	2711K	1.0000	1.0035	1.0027	1.0028	1.0010	1.0021	1.0013	1.0015	1.0025	1.0025	1.0026
15	2706K	1.0000	1.0021	1.0012	1.0012	1.0005	1.0007	1.0003	1.0003	1.0012	1.0014	1.0015
16	2715K	1.0000	1.0021	1.0019	1.0014	1.0009	1.0010	1.0003	1.0009	1.0014	1.0016	1.0016
17	2718K	1.0000	1.0008	0.9996	0.9988	0.9984	0.9984	0.9974	0.9978	0.9986	0.9987	0.9985
18	2700K	1.0000	1.0020	1.0006	1.0003	1.0000	1.0001	0.9995	0.9997	1.0003	1.0006	1.0007
19	2704K	1.0000	1.0017	1.0008	1.0010	1.0006	1.0003	0.9998	1.0005	1.0007	1.0011	1.0010
20	2704K	1.0000	1.0010	1.0000	0.9998	0.9995	0.9996	0.9987	0.9988	0.9997	1.0000	0.9995

CIE 1976 u' data for tested units
$T_s = T_{air}$ = 55°C, I_f = 50mA; $T_s \geq$ 53°C and $T_{air} \geq$ 50°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2716K	0.2618	0.2612	0.2611	0.2611	0.2611	0.2611	0.2611	0.2611	0.2611	0.2610	0.2610
2	2708K	0.2619	0.2614	0.2613	0.2613	0.2613	0.2613	0.2613	0.2613	0.2613	0.2612	0.2612
3	2702K	0.2624	0.2618	0.2618	0.2617	0.2617	0.2617	0.2618	0.2617	0.2617	0.2616	0.2616
4	2713K	0.2617	0.2612	0.2612	0.2611	0.2611	0.2611	0.2611	0.2611	0.2610	0.2610	0.2610
5	2713K	0.2619	0.2613	0.2613	0.2612	0.2613	0.2612	0.2612	0.2612	0.2612	0.2611	0.2611
6	2707K	0.2621	0.2616	0.2616	0.2615	0.2615	0.2615	0.2614	0.2615	0.2615	0.2614	0.2614
7	2700K	0.2625	0.2619	0.2619	0.2619	0.2619	0.2619	0.2619	0.2618	0.2618	0.2618	0.2618
8	2705K	0.2622	0.2615	0.2615	0.2614	0.2614	0.2614	0.2615	0.2614	0.2614	0.2614	0.2613
9	2716K	0.2618	0.2612	0.2612	0.2611	0.2611	0.2611	0.2611	0.2611	0.2611	0.2610	0.2610
10	2700K	0.2624	0.2618	0.2618	0.2617	0.2618	0.2618	0.2618	0.2617	0.2618	0.2617	0.2616
11	2703K	0.2623	0.2618	0.2618	0.2617	0.2617	0.2617	0.2618	0.2617	0.2617	0.2616	0.2616
12	2704K	0.2623	0.2617	0.2617	0.2617	0.2617	0.2616	0.2616	0.2616	0.2616	0.2615	0.2615
13	2716K	0.2618	0.2613	0.2613	0.2612	0.2612	0.2612	0.2612	0.2612	0.2612	0.2611	0.2611
14	2711K	0.2618	0.2613	0.2613	0.2612	0.2612	0.2612	0.2612	0.2612	0.2612	0.2611	0.2612
15	2706K	0.2620	0.2615	0.2614	0.2614	0.2614	0.2614	0.2614	0.2614	0.2614	0.2613	0.2613
16	2715K	0.2618	0.2613	0.2612	0.2611	0.2612	0.2612	0.2612	0.2612	0.2612	0.2611	0.2611
17	2718K	0.2614	0.2608	0.2607	0.2607	0.2608	0.2607	0.2607	0.2606	0.2606	0.2606	0.2606
18	2700K	0.2624	0.2618	0.2618	0.2617	0.2617	0.2617	0.2617	0.2617	0.2617	0.2616	0.2615
19	2704K	0.2622	0.2617	0.2616	0.2615	0.2616	0.2616	0.2616	0.2615	0.2616	0.2615	0.2614
20	2704K	0.2623	0.2618	0.2618	0.2617	0.2617	0.2617	0.2617	0.2617	0.2616	0.2616	0.2616

CIE 1976 v' data for tested units
$T_s = T_{air}$ = 55°C, I_f = 50mA; $T_s \geq$ 53°C and $T_{air} \geq$ 50°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2716K	0.5272	0.5271	0.5270	0.5270	0.5270	0.5270	0.5270	0.5270	0.5270	0.5270	0.5270
2	2708K	0.5282	0.5281	0.5281	0.5281	0.5281	0.5280	0.5280	0.5280	0.5280	0.5280	0.5280
3	2702K	0.5274	0.5273	0.5273	0.5273	0.5273	0.5272	0.5272	0.5272	0.5272	0.5272	0.5272
4	2713K	0.5279	0.5278	0.5278	0.5278	0.5278	0.5277	0.5277	0.5277	0.5277	0.5277	0.5277
5	2713K	0.5273	0.5271	0.5271	0.5271	0.5271	0.5270	0.5270	0.5270	0.5270	0.5270	0.5270
6	2707K	0.5273	0.5272	0.5272	0.5271	0.5271	0.5270	0.5271	0.5271	0.5271	0.5271	0.5271
7	2700K	0.5272	0.5271	0.5271	0.5271	0.5271	0.5271	0.5270	0.5270	0.5271	0.5270	0.5271
8	2705K	0.5278	0.5277	0.5277	0.5276	0.5276	0.5276	0.5276	0.5276	0.5276	0.5276	0.5276
9	2716K	0.5270	0.5268	0.5268	0.5268	0.5268	0.5268	0.5268	0.5268	0.5268	0.5268	0.5268
10	2700K	0.5277	0.5276	0.5276	0.5276	0.5276	0.5275	0.5275	0.5275	0.5275	0.5275	0.5275
11	2703K	0.5272	0.5271	0.5271	0.5271	0.5271	0.5271	0.5271	0.5271	0.5270	0.5271	0.5271
12	2704K	0.5272	0.5270	0.5270	0.5270	0.5270	0.5270	0.5269	0.5270	0.5270	0.5270	0.5270
13	2716K	0.5268	0.5267	0.5267	0.5267	0.5267	0.5266	0.5266	0.5266	0.5266	0.5266	0.5266
14	2711K	0.5278	0.5277	0.5276	0.5277	0.5275	0.5276	0.5275	0.5276	0.5276	0.5276	0.5276
15	2706K	0.5282	0.5280	0.5280	0.5280	0.5279	0.5279	0.5279	0.5279	0.5279	0.5279	0.5279
16	2715K	0.5273	0.5271	0.5271	0.5271	0.5271	0.5271	0.5270	0.5271	0.5270	0.5271	0.5271
17	2718K	0.5284	0.5282	0.5282	0.5282	0.5281	0.5281	0.5281	0.5281	0.5281	0.5281	0.5281
18	2700K	0.5278	0.5277	0.5276	0.5277	0.5276	0.5276	0.5276	0.5275	0.5276	0.5276	0.5276
19	2704K	0.5279	0.5278	0.5277	0.5277	0.5277	0.5277	0.5276	0.5277	0.5277	0.5277	0.5277
20	2704K	0.5272	0.5271	0.5271	0.5270	0.5270	0.5270	0.5269	0.5269	0.5270	0.5270	0.5269

Delta u'v' data for tested units

$T_s = T_{air}$ = 55°C, I_f = 50mA; $T_s \geq$ 53°C and $T_{air} \geq$ 50°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2716K	0.0000	0.0005	0.0006	0.0006	0.0007	0.0007	0.0006	0.0007	0.0007	0.0008	0.0007
2	2708K	0.0000	0.0006	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008
3	2702K	0.0000	0.0005	0.0005	0.0007	0.0007	0.0007	0.0006	0.0007	0.0007	0.0008	0.0008
4	2713K	0.0000	0.0005	0.0006	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008
5	2713K	0.0000	0.0006	0.0006	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008
6	2707K	0.0000	0.0005	0.0006	0.0006	0.0006	0.0006	0.0007	0.0007	0.0007	0.0008	0.0008
7	2700K	0.0000	0.0006	0.0006	0.0006	0.0006	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008
8	2705K	0.0000	0.0006	0.0007	0.0008	0.0007	0.0008	0.0007	0.0008	0.0008	0.0008	0.0009
9	2716K	0.0000	0.0005	0.0006	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008
10	2700K	0.0000	0.0005	0.0006	0.0007	0.0006	0.0006	0.0006	0.0007	0.0007	0.0008	0.0008
11	2703K	0.0000	0.0006	0.0006	0.0006	0.0006	0.0007	0.0006	0.0007	0.0007	0.0007	0.0008
12	2704K	0.0000	0.0006	0.0006	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008
13	2716K	0.0000	0.0006	0.0006	0.0006	0.0006	0.0006	0.0007	0.0006	0.0007	0.0007	0.0007
14	2711K	0.0000	0.0005	0.0005	0.0006	0.0006	0.0007	0.0006	0.0007	0.0007	0.0007	0.0007
15	2706K	0.0000	0.0006	0.0006	0.0006	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008
16	2715K	0.0000	0.0005	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0007	0.0007
17	2718K	0.0000	0.0006	0.0007	0.0007	0.0007	0.0008	0.0007	0.0008	0.0008	0.0009	0.0009
18	2700K	0.0000	0.0006	0.0006	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008	0.0009
19	2704K	0.0000	0.0005	0.0006	0.0007	0.0006	0.0006	0.0006	0.0007	0.0007	0.0007	0.0008
20	2704K	0.0000	0.0006	0.0006	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008

Forward Voltage [V] data for tested units

$T_s = T_{air}$ = 55°C, I_f = 50mA; $T_s \geq$ 53°C and $T_{air} \geq$ 50°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2716K	27.652	27.622	27.624	27.625	27.627	27.628	27.629	27.630	27.630	27.631	27.632
2	2708K	27.608	27.591	27.594	27.595	27.596	27.597	27.598	27.599	27.599	27.600	27.601
3	2702K	27.589	27.580	27.583	27.583	27.585	27.586	27.587	27.587	27.587	27.588	27.589
4	2713K	27.598	27.572	27.575	27.576	27.578	27.579	27.580	27.580	27.581	27.582	27.583
5	2713K	27.610	27.592	27.595	27.596	27.597	27.591	27.599	27.600	27.600	27.601	27.602
6	2707K	27.674	27.638	27.641	27.641	27.643	27.638	27.645	27.645	27.646	27.647	27.649
7	2700K	27.572	27.563	27.565	27.567	27.568	27.569	27.570	27.570	27.571	27.572	27.572
8	2705K	27.675	27.663	27.665	27.666	27.668	27.669	27.669	27.670	27.670	27.671	27.672
9	2716K	27.688	27.675	27.677	27.679	27.681	27.682	27.683	27.683	27.683	27.684	27.685
10	2700K	27.558	27.549	27.551	27.553	27.554	27.555	27.555	27.556	27.556	27.557	27.557
11	2703K	27.605	27.593	27.595	27.597	27.598	27.599	27.600	27.600	27.601	27.601	27.602
12	2704K	27.611	27.602	27.604	27.606	27.607	27.608	27.609	27.609	27.610	27.611	27.612
13	2716K	27.674	27.639	27.641	27.643	27.645	27.646	27.646	27.647	27.648	27.649	27.650
14	2711K	27.639	27.618	27.620	27.621	27.614	27.624	27.624	27.625	27.625	27.626	27.627
15	2706K	27.615	27.592	27.594	27.596	27.598	27.599	27.600	27.598	27.601	27.602	27.603
16	2715K	27.589	27.570	27.572	27.573	27.571	27.576	27.576	27.578	27.577	27.579	27.579
17	2718K	27.655	27.642	27.645	27.646	27.644	27.649	27.650	27.654	27.651	27.652	27.653
18	2700K	27.684	27.648	27.650	27.651	27.650	27.654	27.656	27.657	27.656	27.657	27.658
19	2704K	27.666	27.653	27.655	27.656	27.655	27.659	27.661	27.662	27.660	27.661	27.662
20	2704K	27.652	27.627	27.630	27.631	27.631	27.633	27.634	27.635	27.636	27.637	27.638

Luminous Flux [lm] data for tested units

$T_s = T_{air}$ = 85°C, I_f = 50mA; $T_s \geq$ 83°C and $T_{air} \geq$ 80°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2713K	257.487	257.176	256.598	256.367	256.195	255.830	255.567	255.489	255.564	255.414	255.249
2	2733K	256.147	255.280	254.683	254.545	254.364	254.037	253.757	253.598	253.833	253.580	253.461
3	2695K	257.971	257.407	256.825	256.668	256.407	256.156	255.792	255.821	255.869	255.672	255.621
4	2712K	254.583	253.619	252.981	252.822	252.574	252.107	251.908	251.812	251.804	251.658	251.579
5	2718K	256.133	254.972	254.582	254.450	254.170	253.942	253.670	253.726	253.722	253.525	253.485
6	2714K	256.720	255.510	254.984	254.797	254.669	254.259	254.030	254.023	254.046	253.784	253.761
7	2715K	257.068	255.846	255.325	255.157	254.958	254.649	254.328	254.290	254.377	254.209	254.150
8	2712K	254.499	254.522	254.058	253.947	253.714	253.302	253.106	252.935	253.003	252.869	252.726
9	2696K	255.187	254.849	254.354	254.116	254.048	253.706	253.305	253.314	253.276	253.254	253.171
10	2718K	256.912	256.339	255.880	255.703	255.477	255.132	254.946	254.844	254.861	254.698	254.717
11	2702K	257.181	256.792	256.270	256.061	255.850	255.595	255.343	255.193	255.321	255.234	255.105
12	2711K	257.689	257.055	256.495	256.379	256.132	255.828	255.614	255.449	255.540	255.380	255.369
13	2717K	255.561	254.990	254.374	254.269	254.266	253.805	253.501	253.500	253.469	253.355	253.259
14	2722K	255.794	255.013	254.482	254.494	254.240	253.875	253.639	253.527	253.644	253.464	253.410
15	2715K	256.414	255.587	255.046	254.876	254.809	254.453	254.195	254.141	254.197	254.067	253.960
16	2715K	258.111	257.266	256.653	256.494	256.480	256.051	255.782	255.677	255.821	255.620	255.590
17	2722K	256.471	256.180	255.559	255.245	255.358	254.887	254.587	254.604	254.703	254.509	254.381
18	2700K	254.634	254.029	253.539	253.214	253.242	252.825	252.524	252.437	252.544	252.326	252.256
19	2710K	257.603	256.392	255.848	255.507	255.576	255.090	254.733	254.749	254.846	254.743	254.511
20	2716K	258.063	257.056	256.556	256.312	256.254	255.798	255.558	255.460	255.526	255.341	255.221

Normalized Luminous Flux data for tested units

$T_s = T_{air}$ = 85°C, I_f = 50mA; $T_s \geq$ 83°C and $T_{air} \geq$ 80°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2713K	1.0000	0.9988	0.9965	0.9957	0.9950	0.9936	0.9925	0.9922	0.9925	0.9919	0.9913
2	2733K	1.0000	0.9966	0.9943	0.9937	0.9930	0.9918	0.9907	0.9900	0.9910	0.9900	0.9895
3	2695K	1.0000	0.9978	0.9956	0.9949	0.9939	0.9930	0.9916	0.9917	0.9919	0.9911	0.9909
4	2712K	1.0000	0.9962	0.9937	0.9931	0.9921	0.9903	0.9895	0.9891	0.9891	0.9885	0.9882
5	2718K	1.0000	0.9955	0.9939	0.9934	0.9923	0.9914	0.9904	0.9906	0.9906	0.9898	0.9897
6	2714K	1.0000	0.9953	0.9932	0.9925	0.9920	0.9904	0.9895	0.9895	0.9896	0.9886	0.9885
7	2715K	1.0000	0.9952	0.9932	0.9926	0.9918	0.9906	0.9893	0.9892	0.9895	0.9889	0.9886
8	2712K	1.0000	1.0001	0.9983	0.9978	0.9969	0.9953	0.9945	0.9939	0.9941	0.9936	0.9930
9	2696K	1.0000	0.9987	0.9967	0.9958	0.9955	0.9942	0.9926	0.9927	0.9925	0.9924	0.9921
10	2718K	1.0000	0.9978	0.9960	0.9953	0.9944	0.9931	0.9923	0.9920	0.9920	0.9914	0.9915
11	2702K	1.0000	0.9985	0.9965	0.9956	0.9948	0.9938	0.9929	0.9923	0.9928	0.9924	0.9919
12	2711K	1.0000	0.9975	0.9954	0.9949	0.9940	0.9928	0.9919	0.9913	0.9917	0.9910	0.9910
13	2717K	1.0000	0.9978	0.9954	0.9949	0.9949	0.9931	0.9919	0.9919	0.9918	0.9914	0.9910
14	2722K	1.0000	0.9969	0.9949	0.9949	0.9939	0.9925	0.9916	0.9911	0.9916	0.9909	0.9907
15	2715K	1.0000	0.9968	0.9947	0.9940	0.9937	0.9924	0.9913	0.9911	0.9914	0.9908	0.9904
16	2715K	1.0000	0.9967	0.9944	0.9937	0.9937	0.9920	0.9910	0.9906	0.9911	0.9904	0.9902
17	2722K	1.0000	0.9989	0.9964	0.9952	0.9957	0.9938	0.9927	0.9927	0.9931	0.9923	0.9919
18	2700K	1.0000	0.9976	0.9957	0.9944	0.9945	0.9929	0.9917	0.9914	0.9918	0.9909	0.9907
19	2710K	1.0000	0.9953	0.9932	0.9919	0.9921	0.9902	0.9889	0.9889	0.9893	0.9889	0.9880
20	2716K	1.0000	0.9961	0.9942	0.9932	0.9930	0.9912	0.9903	0.9899	0.9902	0.9894	0.9890

CIE 1976 u' data for tested units
$T_s = T_{air}$ = 85°C, I_f = 50mA; $T_s \geq$ 83°C and $T_{air} \geq$ 80°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2713K	0.2616	0.2609	0.2608	0.2606	0.2606	0.2605	0.2605	0.2604	0.2604	0.2603	0.2602
2	2733K	0.2612	0.2604	0.2603	0.2601	0.2601	0.2601	0.2601	0.2600	0.2599	0.2598	0.2598
3	2695K	0.2627	0.2619	0.2617	0.2616	0.2616	0.2615	0.2615	0.2614	0.2614	0.2613	0.2612
4	2712K	0.2619	0.2611	0.2610	0.2609	0.2607	0.2608	0.2607	0.2606	0.2606	0.2605	0.2605
5	2718K	0.2616	0.2608	0.2606	0.2605	0.2605	0.2605	0.2604	0.2604	0.2603	0.2602	0.2602
6	2714K	0.2617	0.2609	0.2608	0.2607	0.2606	0.2606	0.2606	0.2605	0.2604	0.2604	0.2603
7	2715K	0.2618	0.2611	0.2610	0.2608	0.2607	0.2607	0.2607	0.2606	0.2606	0.2605	0.2604
8	2712K	0.2617	0.2609	0.2608	0.2607	0.2606	0.2606	0.2605	0.2605	0.2604	0.2604	0.2603
9	2696K	0.2625	0.2616	0.2615	0.2614	0.2613	0.2612	0.2612	0.2611	0.2611	0.2610	0.2609
10	2718K	0.2615	0.2607	0.2606	0.2605	0.2604	0.2604	0.2604	0.2603	0.2602	0.2602	0.2601
11	2702K	0.2623	0.2615	0.2613	0.2612	0.2612	0.2611	0.2611	0.2610	0.2610	0.2609	0.2608
12	2711K	0.2617	0.2609	0.2608	0.2606	0.2606	0.2605	0.2605	0.2605	0.2604	0.2603	0.2602
13	2717K	0.2617	0.2609	0.2607	0.2606	0.2606	0.2605	0.2605	0.2605	0.2604	0.2603	0.2602
14	2722K	0.2615	0.2607	0.2606	0.2605	0.2605	0.2604	0.2603	0.2603	0.2603	0.2601	0.2601
15	2715K	0.2617	0.2609	0.2607	0.2606	0.2605	0.2605	0.2604	0.2604	0.2604	0.2603	0.2602
16	2715K	0.2615	0.2607	0.2605	0.2604	0.2603	0.2603	0.2602	0.2602	0.2602	0.2601	0.2600
17	2722K	0.2612	0.2604	0.2603	0.2602	0.2601	0.2600	0.2600	0.2600	0.2599	0.2598	0.2597
18	2700K	0.2624	0.2617	0.2616	0.2614	0.2614	0.2614	0.2613	0.2613	0.2612	0.2611	0.2610
19	2710K	0.2619	0.2611	0.2609	0.2608	0.2608	0.2607	0.2607	0.2606	0.2606	0.2605	0.2604
20	2716K	0.2618	0.2609	0.2608	0.2607	0.2606	0.2606	0.2605	0.2605	0.2604	0.2603	0.2603

CIE 1976 v' data for tested units
$T_s = T_{air}$ = 85°C, I_f = 50mA; $T_s \geq$ 83°C and $T_{air} \geq$ 80°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2713K	0.5286	0.5284	0.5284	0.5283	0.5283	0.5282	0.5281	0.5282	0.5281	0.5281	0.5281
2	2733K	0.5258	0.5255	0.5255	0.5254	0.5253	0.5253	0.5253	0.5252	0.5252	0.5252	0.5251
3	2695K	0.5276	0.5274	0.5273	0.5273	0.5272	0.5272	0.5271	0.5271	0.5271	0.5270	0.5270
4	2712K	0.5273	0.5270	0.5269	0.5269	0.5268	0.5268	0.5267	0.5267	0.5267	0.5266	0.5266
5	2718K	0.5274	0.5271	0.5271	0.5270	0.5270	0.5270	0.5269	0.5269	0.5269	0.5269	0.5268
6	2714K	0.5277	0.5274	0.5274	0.5273	0.5273	0.5272	0.5272	0.5272	0.5272	0.5271	0.5271
7	2715K	0.5270	0.5266	0.5266	0.5266	0.5265	0.5265	0.5264	0.5264	0.5264	0.5264	0.5263
8	2712K	0.5280	0.5278	0.5277	0.5277	0.5276	0.5276	0.5276	0.5275	0.5275	0.5275	0.5275
9	2696K	0.5281	0.5277	0.5277	0.5276	0.5276	0.5276	0.5275	0.5275	0.5274	0.5274	0.5274
10	2718K	0.5277	0.5274	0.5273	0.5273	0.5272	0.5272	0.5271	0.5271	0.5271	0.5271	0.5270
11	2702K	0.5277	0.5274	0.5273	0.5273	0.5272	0.5272	0.5271	0.5271	0.5271	0.5271	0.5270
12	2711K	0.5286	0.5284	0.5283	0.5283	0.5282	0.5282	0.5281	0.5281	0.5281	0.5281	0.5280
13	2717K	0.5273	0.5270	0.5269	0.5269	0.5268	0.5268	0.5268	0.5267	0.5267	0.5266	0.5266
14	2722K	0.5270	0.5267	0.5266	0.5266	0.5265	0.5265	0.5265	0.5264	0.5264	0.5264	0.5263
15	2715K	0.5278	0.5275	0.5275	0.5274	0.5274	0.5274	0.5273	0.5273	0.5273	0.5273	0.5272
16	2715K	0.5288	0.5285	0.5284	0.5284	0.5283	0.5283	0.5283	0.5282	0.5282	0.5282	0.5281
17	2722K	0.5283	0.5281	0.5280	0.5280	0.5279	0.5279	0.5279	0.5278	0.5278	0.5278	0.5277
18	2700K	0.5275	0.5272	0.5271	0.5271	0.5271	0.5270	0.5270	0.5269	0.5269	0.5269	0.5269
19	2710K	0.5280	0.5277	0.5277	0.5276	0.5276	0.5275	0.5275	0.5275	0.5274	0.5274	0.5273
20	2716K	0.5270	0.5267	0.5267	0.5267	0.5266	0.5266	0.5265	0.5264	0.5265	0.5264	0.5264

Delta u'v' data for tested units

$T_s = T_{air} = 85°C$, $I_f = 50mA$; $T_s \geq 83°C$ and $T_{air} \geq 80°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2713K	0.0000	0.0007	0.0009	0.0010	0.0011	0.0012	0.0012	0.0013	0.0013	0.0014	0.0015
2	2733K	0.0000	0.0008	0.0010	0.0011	0.0012	0.0012	0.0012	0.0014	0.0014	0.0015	0.0016
3	2695K	0.0000	0.0008	0.0010	0.0011	0.0012	0.0012	0.0013	0.0014	0.0014	0.0015	0.0016
4	2712K	0.0000	0.0009	0.0010	0.0011	0.0013	0.0013	0.0013	0.0014	0.0014	0.0015	0.0016
5	2718K	0.0000	0.0009	0.0010	0.0011	0.0012	0.0012	0.0013	0.0013	0.0014	0.0015	0.0015
6	2714K	0.0000	0.0009	0.0010	0.0011	0.0012	0.0012	0.0013	0.0013	0.0014	0.0015	0.0016
7	2715K	0.0000	0.0008	0.0009	0.0011	0.0012	0.0012	0.0013	0.0013	0.0013	0.0015	0.0015
8	2712K	0.0000	0.0008	0.0010	0.0011	0.0012	0.0013	0.0013	0.0013	0.0014	0.0015	0.0015
9	2696K	0.0000	0.0010	0.0011	0.0013	0.0014	0.0014	0.0015	0.0015	0.0015	0.0016	0.0018
10	2718K	0.0000	0.0009	0.0010	0.0011	0.0012	0.0013	0.0013	0.0014	0.0015	0.0015	0.0016
11	2702K	0.0000	0.0009	0.0010	0.0011	0.0012	0.0013	0.0013	0.0014	0.0014	0.0015	0.0016
12	2711K	0.0000	0.0009	0.0010	0.0012	0.0012	0.0013	0.0013	0.0013	0.0014	0.0015	0.0016
13	2717K	0.0000	0.0009	0.0011	0.0011	0.0012	0.0012	0.0013	0.0013	0.0014	0.0016	0.0016
14	2722K	0.0000	0.0008	0.0010	0.0010	0.0011	0.0012	0.0012	0.0013	0.0013	0.0015	0.0016
15	2715K	0.0000	0.0009	0.0010	0.0011	0.0012	0.0012	0.0013	0.0014	0.0014	0.0015	0.0016
16	2715K	0.0000	0.0008	0.0010	0.0011	0.0012	0.0013	0.0013	0.0014	0.0014	0.0015	0.0016
17	2722K	0.0000	0.0008	0.0010	0.0011	0.0012	0.0012	0.0013	0.0014	0.0014	0.0015	0.0016
18	2700K	0.0000	0.0008	0.0010	0.0011	0.0011	0.0012	0.0012	0.0013	0.0013	0.0015	0.0015
19	2710K	0.0000	0.0008	0.0010	0.0011	0.0012	0.0013	0.0013	0.0014	0.0014	0.0015	0.0016
20	2716K	0.0000	0.0009	0.0011	0.0011	0.0012	0.0013	0.0013	0.0014	0.0014	0.0016	0.0016

Forward Voltage [V] data for tested units

$T_s = T_{air} = 85°C$, $I_f = 50mA$; $T_s \geq 83°C$ and $T_{air} \geq 80°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2713K	27.611	27.602	27.605	27.607	27.609	27.610	27.611	27.613	27.613	27.614	27.614
2	2733K	27.611	27.589	27.593	27.595	27.597	27.600	27.600	27.601	27.603	27.603	27.604
3	2695K	27.677	27.643	27.647	27.649	27.651	27.652	27.653	27.655	27.655	27.657	27.657
4	2712K	27.559	27.551	27.554	27.556	27.558	27.559	27.560	27.561	27.561	27.562	27.562
5	2718K	27.595	27.572	27.575	27.578	27.580	27.581	27.582	27.584	27.585	27.585	27.586
6	2714K	27.605	27.583	27.586	27.589	27.591	27.592	27.594	27.595	27.596	27.597	27.598
7	2715K	27.602	27.588	27.591	27.594	27.596	27.597	27.598	27.599	27.600	27.601	27.602
8	2712K	27.626	27.616	27.618	27.621	27.622	27.624	27.625	27.627	27.626	27.627	27.628
9	2696K	27.636	27.615	27.619	27.621	27.623	27.625	27.625	27.626	27.628	27.629	27.630
10	2718K	27.613	27.591	27.595	27.598	27.599	27.601	27.605	27.604	27.604	27.605	27.606
11	2702K	27.626	27.603	27.606	27.608	27.610	27.611	27.613	27.613	27.614	27.615	27.616
12	2711K	27.655	27.643	27.646	27.648	27.650	27.651	27.652	27.653	27.654	27.655	27.655
13	2717K	27.613	27.599	27.597	27.604	27.606	27.607	27.608	27.609	27.610	27.610	27.611
14	2722K	27.562	27.541	27.540	27.546	27.548	27.550	27.551	27.552	27.553	27.554	27.555
15	2715K	27.620	27.610	27.611	27.616	27.617	27.618	27.619	27.620	27.620	27.621	27.622
16	2715K	27.651	27.640	27.641	27.645	27.647	27.648	27.649	27.650	27.651	27.652	27.652
17	2722K	27.626	27.614	27.616	27.613	27.622	27.622	27.624	27.624	27.625	27.626	27.627
18	2700K	27.589	27.582	27.587	27.583	27.589	27.591	27.591	27.592	27.592	27.593	27.594
19	2710K	27.594	27.575	27.578	27.577	27.583	27.585	27.586	27.587	27.588	27.589	27.589
20	2716K	27.648	27.618	27.620	27.620	27.625	27.627	27.628	27.630	27.630	27.631	27.633

Luminous Flux [lm] data for tested units

$T_s = T_{air}$ = 105°C, I_f = 50mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2720K	257.225	254.726	254.102	253.579	253.199	252.617	252.162	251.747	251.566	251.118	250.763
2	2718K	255.811	253.348	252.643	252.142	251.703	251.155	250.551	250.246	249.969	249.693	249.353
3	2726K	257.327	254.889	254.172	253.662	253.235	252.611	252.088	251.640	251.482	251.108	250.871
4	2728K	257.258	254.920	254.141	253.668	253.148	252.652	252.101	251.715	251.655	251.357	251.033
5	2718K	256.401	254.224	253.441	252.834	252.292	251.794	251.325	251.002	250.698	250.284	249.985
6	2711K	253.234	252.506	251.515	250.921	250.216	249.669	249.223	248.848	248.636	248.228	248.015
7	2715K	257.277	254.963	254.151	253.581	252.869	252.370	251.845	251.454	251.233	250.796	250.478
8	2702K	255.729	253.470	252.750	252.141	251.554	251.071	250.436	250.096	249.914	249.400	249.000
9	2707K	257.311	254.572	253.803	253.217	252.637	252.061	251.570	251.225	251.070	250.668	250.363
10	2697K	257.921	255.374	254.390	253.828	253.240	252.688	252.024	251.756	251.550	251.044	250.790
11	2721K	256.145	253.714	253.068	252.484	252.046	251.426	250.956	250.608	250.389	250.053	249.681
12	2720K	256.919	254.258	253.685	252.977	252.493	251.947	251.455	251.079	251.035	250.468	250.291
13	2715K	255.961	253.633	252.881	252.330	251.813	251.280	250.741	250.470	250.293	249.903	249.611
14	2703K	257.849	255.437	254.670	254.030	253.421	252.935	252.367	252.085	251.851	251.451	251.105
15	2710K	256.404	254.014	253.245	252.575	252.016	251.343	250.801	250.438	250.232	249.817	249.398
16	2710K	256.521	254.076	253.382	252.891	252.336	251.875	251.336	250.927	250.782	250.484	250.153
17	2722K	257.717	255.373	254.599	253.982	253.468	252.926	252.385	252.083	251.842	251.585	251.139
18	2716K	257.406	255.167	254.558	253.933	253.444	253.022	252.553	252.161	252.045	251.732	251.327
19	2711K	256.548	254.664	253.710	253.101	252.398	251.815	251.337	250.899	250.697	250.305	249.873
20	2711K	256.424	254.421	253.676	253.086	252.605	252.042	251.532	251.241	250.999	250.776	250.368

Normalized Luminous Flux data for tested units

$T_s = T_{air}$ = 105°C, I_f = 50mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2720K	1.0000	0.9903	0.9879	0.9858	0.9844	0.9821	0.9803	0.9787	0.9780	0.9763	0.9749
2	2718K	1.0000	0.9904	0.9876	0.9857	0.9839	0.9818	0.9794	0.9782	0.9772	0.9761	0.9748
3	2726K	1.0000	0.9905	0.9877	0.9858	0.9841	0.9817	0.9796	0.9779	0.9773	0.9758	0.9749
4	2728K	1.0000	0.9909	0.9879	0.9860	0.9840	0.9821	0.9800	0.9785	0.9782	0.9771	0.9758
5	2718K	1.0000	0.9915	0.9885	0.9861	0.9840	0.9820	0.9802	0.9789	0.9778	0.9761	0.9750
6	2711K	1.0000	0.9971	0.9932	0.9909	0.9881	0.9859	0.9842	0.9827	0.9818	0.9802	0.9794
7	2715K	1.0000	0.9910	0.9878	0.9856	0.9829	0.9809	0.9789	0.9774	0.9765	0.9748	0.9736
8	2702K	1.0000	0.9912	0.9883	0.9860	0.9837	0.9818	0.9793	0.9780	0.9773	0.9752	0.9737
9	2707K	1.0000	0.9894	0.9864	0.9841	0.9818	0.9796	0.9777	0.9763	0.9757	0.9742	0.9730
10	2697K	1.0000	0.9901	0.9863	0.9841	0.9819	0.9797	0.9771	0.9761	0.9753	0.9733	0.9724
11	2721K	1.0000	0.9905	0.9880	0.9857	0.9840	0.9816	0.9797	0.9784	0.9775	0.9762	0.9748
12	2720K	1.0000	0.9896	0.9874	0.9847	0.9828	0.9806	0.9787	0.9773	0.9771	0.9749	0.9742
13	2715K	1.0000	0.9909	0.9880	0.9858	0.9838	0.9817	0.9796	0.9785	0.9779	0.9763	0.9752
14	2703K	1.0000	0.9906	0.9877	0.9852	0.9828	0.9809	0.9787	0.9776	0.9767	0.9752	0.9738
15	2710K	1.0000	0.9907	0.9877	0.9851	0.9829	0.9803	0.9781	0.9767	0.9759	0.9743	0.9727
16	2710K	1.0000	0.9905	0.9878	0.9858	0.9837	0.9819	0.9798	0.9782	0.9776	0.9765	0.9752
17	2722K	1.0000	0.9909	0.9879	0.9855	0.9835	0.9814	0.9793	0.9781	0.9772	0.9762	0.9745
18	2716K	1.0000	0.9913	0.9889	0.9865	0.9846	0.9830	0.9811	0.9796	0.9792	0.9780	0.9764
19	2711K	1.0000	0.9927	0.9889	0.9866	0.9838	0.9816	0.9797	0.9780	0.9772	0.9757	0.9740
20	2711K	1.0000	0.9922	0.9893	0.9870	0.9851	0.9829	0.9809	0.9798	0.9788	0.9780	0.9764

CIE 1976 u' data for tested units
$T_s = T_{air}$ = 105°C, I_f = 50mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2720K	0.2614	0.2603	0.2600	0.2598	0.2597	0.2596	0.2595	0.2594	0.2593	0.2591	0.2590
2	2718K	0.2616	0.2604	0.2601	0.2600	0.2599	0.2597	0.2597	0.2595	0.2594	0.2593	0.2591
3	2726K	0.2612	0.2601	0.2598	0.2597	0.2595	0.2594	0.2593	0.2592	0.2591	0.2590	0.2588
4	2728K	0.2613	0.2601	0.2599	0.2597	0.2596	0.2595	0.2594	0.2593	0.2592	0.2590	0.2589
5	2718K	0.2615	0.2603	0.2600	0.2599	0.2597	0.2596	0.2595	0.2593	0.2593	0.2591	0.2589
6	2711K	0.2617	0.2605	0.2602	0.2600	0.2598	0.2598	0.2597	0.2596	0.2594	0.2593	0.2591
7	2715K	0.2615	0.2603	0.2601	0.2599	0.2598	0.2597	0.2596	0.2594	0.2594	0.2592	0.2591
8	2702K	0.2623	0.2611	0.2608	0.2607	0.2605	0.2604	0.2602	0.2602	0.2600	0.2599	0.2598
9	2707K	0.2621	0.2610	0.2607	0.2605	0.2603	0.2603	0.2601	0.2600	0.2599	0.2597	0.2596
10	2697K	0.2623	0.2611	0.2609	0.2606	0.2605	0.2603	0.2602	0.2601	0.2600	0.2599	0.2597
11	2721K	0.2616	0.2604	0.2602	0.2601	0.2599	0.2598	0.2597	0.2596	0.2595	0.2593	0.2592
12	2720K	0.2615	0.2602	0.2600	0.2598	0.2597	0.2596	0.2595	0.2594	0.2592	0.2591	0.2590
13	2715K	0.2617	0.2605	0.2602	0.2601	0.2599	0.2598	0.2597	0.2596	0.2595	0.2594	0.2592
14	2703K	0.2623	0.2610	0.2607	0.2606	0.2604	0.2603	0.2602	0.2601	0.2600	0.2598	0.2597
15	2710K	0.2621	0.2609	0.2606	0.2605	0.2603	0.2602	0.2602	0.2600	0.2599	0.2598	0.2596
16	2710K	0.2621	0.2610	0.2607	0.2605	0.2603	0.2602	0.2602	0.2601	0.2599	0.2598	0.2596
17	2722K	0.2614	0.2602	0.2599	0.2598	0.2596	0.2595	0.2594	0.2593	0.2592	0.2590	0.2589
18	2716K	0.2617	0.2605	0.2603	0.2601	0.2600	0.2599	0.2598	0.2597	0.2596	0.2594	0.2593
19	2711K	0.2620	0.2608	0.2606	0.2604	0.2603	0.2601	0.2600	0.2599	0.2598	0.2597	0.2595
20	2711K	0.2620	0.2608	0.2605	0.2604	0.2602	0.2601	0.2600	0.2599	0.2598	0.2597	0.2596

CIE 1976 v' data for tested units
$T_s = T_{air}$ = 105°C, I_f = 50mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2720K	0.5277	0.5272	0.5271	0.5270	0.5269	0.5268	0.5268	0.5267	0.5266	0.5265	0.5265
2	2718K	0.5275	0.5271	0.5269	0.5268	0.5267	0.5267	0.5266	0.5265	0.5264	0.5264	0.5263
3	2726K	0.5276	0.5272	0.5271	0.5270	0.5269	0.5268	0.5268	0.5266	0.5266	0.5265	0.5265
4	2728K	0.5267	0.5262	0.5261	0.5259	0.5258	0.5258	0.5257	0.5256	0.5256	0.5255	0.5255
5	2718K	0.5281	0.5275	0.5274	0.5273	0.5272	0.5272	0.5271	0.5270	0.5269	0.5269	0.5268
6	2711K	0.5284	0.5279	0.5278	0.5277	0.5276	0.5276	0.5275	0.5274	0.5273	0.5273	0.5273
7	2715K	0.5285	0.5279	0.5278	0.5277	0.5276	0.5276	0.5275	0.5274	0.5273	0.5273	0.5273
8	2702K	0.5279	0.5274	0.5273	0.5272	0.5271	0.5270	0.5270	0.5268	0.5268	0.5268	0.5267
9	2707K	0.5274	0.5269	0.5267	0.5266	0.5264	0.5264	0.5264	0.5263	0.5262	0.5262	0.5261
10	2697K	0.5289	0.5284	0.5283	0.5281	0.5280	0.5280	0.5279	0.5278	0.5277	0.5277	0.5276
11	2721K	0.5267	0.5262	0.5261	0.5260	0.5259	0.5258	0.5257	0.5256	0.5256	0.5256	0.5255
12	2720K	0.5277	0.5271	0.5270	0.5269	0.5268	0.5267	0.5266	0.5266	0.5266	0.5265	0.5264
13	2715K	0.5279	0.5274	0.5273	0.5272	0.5271	0.5271	0.5270	0.5269	0.5269	0.5268	0.5268
14	2703K	0.5276	0.5271	0.5270	0.5269	0.5268	0.5267	0.5267	0.5266	0.5266	0.5265	0.5264
15	2710K	0.5269	0.5264	0.5262	0.5261	0.5260	0.5259	0.5259	0.5258	0.5257	0.5257	0.5256
16	2710K	0.5268	0.5263	0.5261	0.5261	0.5259	0.5259	0.5258	0.5257	0.5257	0.5256	0.5255
17	2722K	0.5275	0.5270	0.5269	0.5268	0.5266	0.5266	0.5265	0.5264	0.5264	0.5264	0.5262
18	2716K	0.5276	0.5272	0.5271	0.5270	0.5269	0.5268	0.5267	0.5266	0.5266	0.5266	0.5265
19	2711K	0.5272	0.5268	0.5266	0.5265	0.5264	0.5263	0.5263	0.5262	0.5261	0.5261	0.5260
20	2711K	0.5273	0.5268	0.5267	0.5266	0.5265	0.5264	0.5263	0.5263	0.5262	0.5262	0.5261

Delta u'v' data for tested units

$T_s = T_{air}$ = 105°C, I_f = 50mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2720K	0.0000	0.0013	0.0016	0.0018	0.0019	0.0021	0.0022	0.0023	0.0025	0.0026	0.0027
2	2718K	0.0000	0.0012	0.0016	0.0018	0.0019	0.0020	0.0021	0.0023	0.0024	0.0026	0.0027
3	2726K	0.0000	0.0012	0.0014	0.0016	0.0018	0.0019	0.0021	0.0022	0.0023	0.0025	0.0026
4	2728K	0.0000	0.0012	0.0015	0.0017	0.0019	0.0020	0.0021	0.0023	0.0024	0.0025	0.0027
5	2718K	0.0000	0.0013	0.0016	0.0018	0.0020	0.0021	0.0022	0.0024	0.0025	0.0027	0.0028
6	2711K	0.0000	0.0013	0.0016	0.0019	0.0020	0.0021	0.0023	0.0024	0.0025	0.0027	0.0029
7	2715K	0.0000	0.0013	0.0015	0.0018	0.0019	0.0020	0.0021	0.0023	0.0024	0.0026	0.0027
8	2702K	0.0000	0.0013	0.0016	0.0018	0.0020	0.0021	0.0023	0.0024	0.0026	0.0027	0.0028
9	2707K	0.0000	0.0013	0.0016	0.0019	0.0021	0.0021	0.0022	0.0024	0.0025	0.0027	0.0029
10	2697K	0.0000	0.0013	0.0016	0.0019	0.0021	0.0022	0.0023	0.0025	0.0026	0.0027	0.0029
11	2721K	0.0000	0.0013	0.0015	0.0017	0.0019	0.0020	0.0022	0.0023	0.0024	0.0026	0.0027
12	2720K	0.0000	0.0014	0.0016	0.0018	0.0020	0.0021	0.0023	0.0024	0.0025	0.0026	0.0028
13	2715K	0.0000	0.0013	0.0016	0.0018	0.0019	0.0020	0.0021	0.0023	0.0024	0.0025	0.0027
14	2703K	0.0000	0.0013	0.0017	0.0018	0.0020	0.0021	0.0023	0.0024	0.0025	0.0027	0.0029
15	2710K	0.0000	0.0013	0.0016	0.0018	0.0020	0.0021	0.0022	0.0024	0.0025	0.0026	0.0028
16	2710K	0.0000	0.0012	0.0016	0.0018	0.0020	0.0021	0.0022	0.0023	0.0024	0.0026	0.0028
17	2722K	0.0000	0.0013	0.0016	0.0018	0.0020	0.0021	0.0022	0.0024	0.0024	0.0026	0.0028
18	2716K	0.0000	0.0013	0.0015	0.0017	0.0019	0.0020	0.0021	0.0022	0.0023	0.0024	0.0026
19	2711K	0.0000	0.0012	0.0015	0.0017	0.0019	0.0021	0.0022	0.0023	0.0024	0.0026	0.0028
20	2711K	0.0000	0.0013	0.0016	0.0018	0.0019	0.0020	0.0022	0.0023	0.0024	0.0025	0.0027

Forward Voltage [V] data for tested units

$T_s = T_{air}$ = 105°C, I_f = 50mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2720K	27.637	27.623	27.634	27.635	27.638	27.640	27.641	27.642	27.643	27.644	27.645
2	2718K	27.577	27.558	27.566	27.569	27.572	27.575	27.577	27.578	27.580	27.581	27.583
3	2726K	27.586	27.568	27.573	27.577	27.580	27.583	27.585	27.586	27.588	27.589	27.591
4	2728K	27.594	27.575	27.581	27.584	27.587	27.589	27.592	27.594	27.595	27.596	27.598
5	2718K	27.571	27.555	27.562	27.565	27.564	27.569	27.571	27.573	27.573	27.576	27.577
6	2711K	27.648	27.641	27.648	27.648	27.647	27.653	27.654	27.655	27.656	27.657	27.657
7	2715K	27.628	27.618	27.621	27.624	27.625	27.630	27.631	27.633	27.635	27.635	27.637
8	2702K	27.655	27.645	27.649	27.652	27.653	27.657	27.659	27.661	27.662	27.663	27.668
9	2707K	27.674	27.650	27.658	27.658	27.660	27.664	27.666	27.668	27.671	27.671	27.676
10	2697K	27.657	27.644	27.651	27.649	27.650	27.654	27.655	27.656	27.657	27.658	27.662
11	2721K	27.601	27.583	27.588	27.593	27.598	27.597	27.599	27.601	27.602	27.604	27.606
12	2720K	27.606	27.590	27.596	27.599	27.602	27.605	27.608	27.609	27.609	27.611	27.613
13	2715K	27.602	27.586	27.592	27.595	27.599	27.601	27.603	27.605	27.606	27.608	27.609
14	2703K	27.670	27.643	27.648	27.651	27.653	27.656	27.658	27.660	27.661	27.663	27.665
15	2710K	27.639	27.626	27.631	27.633	27.636	27.638	27.640	27.641	27.642	27.643	27.644
16	2710K	27.677	27.651	27.656	27.659	27.662	27.664	27.667	27.668	27.670	27.672	27.673
17	2722K	27.609	27.591	27.595	27.599	27.602	27.605	27.608	27.609	27.609	27.611	27.612
18	2716K	27.628	27.609	27.614	27.617	27.620	27.623	27.625	27.627	27.627	27.629	27.630
19	2711K	27.599	27.587	27.591	27.594	27.596	27.598	27.600	27.601	27.602	27.603	27.604
20	2711K	27.608	27.594	27.599	27.602	27.604	27.605	27.607	27.608	27.609	27.610	27.611

Luminous Flux [lm] data for tested units

$T_s = T_{air} = 55°C$, $I_f = 100mA$; $T_s \geq 53°C$ and $T_{air} \geq 50°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2713K	490.971	490.509	490.059	490.089	489.905	489.480	489.396	489.583	489.597	489.385	489.563
2	2711K	489.406	489.184	488.663	488.600	488.354	488.100	487.682	487.802	487.753	487.782	487.731
3	2716K	492.229	492.348	491.721	491.588	491.207	490.552	490.339	490.243	490.323	490.277	490.246
4	2697K	490.451	490.421	489.867	489.941	489.595	489.276	489.091	488.982	489.008	488.976	488.963
5	2699K	491.995	492.669	492.010	492.000	491.766	491.402	491.020	491.031	491.018	490.976	491.029
6	2710K	495.196	495.504	494.878	494.918	494.563	493.277	493.153	493.321	493.514	493.151	493.268
7	2718K	493.699	493.527	493.041	492.845	492.795	492.366	491.966	492.205	492.105	492.067	492.269
8	2692K	495.969	496.213	495.738	495.536	495.384	495.049	494.637	494.791	494.673	494.675	494.785
9	2706K	491.278	491.661	491.233	491.030	490.831	490.553	490.227	490.214	490.340	490.347	490.400
10	2708K	493.585	493.926	493.445	493.215	492.978	492.709	492.343	492.435	492.556	492.351	492.012
11	2704K	488.377	488.667	488.178	487.937	487.605	487.172	487.026	486.962	487.012	486.969	486.825
12	2719K	491.711	492.002	491.652	491.313	490.970	490.389	489.956	489.976	490.330	490.132	490.154
13	2706K	492.311	492.794	492.138	491.957	491.926	491.518	491.216	491.178	491.473	491.260	491.403
14	2711K	493.062	492.861	492.273	492.095	491.770	491.410	490.998	490.785	491.192	490.862	491.009
15	2717K	492.860	492.650	491.899	491.670	491.487	490.950	490.353	490.318	490.490	490.542	490.677
16	2702K	492.622	491.546	491.022	490.863	490.147	490.027	489.406	489.461	489.655	489.589	489.487
17	2699K	493.076	493.230	492.561	492.304	492.138	491.808	491.566	491.545	491.800	491.701	491.687
18	2703K	491.870	491.931	491.300	491.211	491.029	490.583	490.125	490.200	490.325	490.321	490.390
19	2697K	495.113	495.734	494.997	494.734	494.236	493.687	493.146	493.154	493.450	493.227	493.467
20	2708K	493.542	492.936	492.227	491.943	491.727	491.174	490.690	490.666	490.822	490.847	490.659

Normalized Luminous Flux data for tested units

$T_s = T_{air} = 55°C$, $I_f = 100mA$; $T_s \geq 53°C$ and $T_{air} \geq 50°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2713K	1.0000	0.9991	0.9981	0.9982	0.9978	0.9970	0.9968	0.9972	0.9972	0.9968	0.9971
2	2711K	1.0000	0.9995	0.9985	0.9984	0.9979	0.9973	0.9965	0.9967	0.9966	0.9967	0.9966
3	2716K	1.0000	1.0002	0.9990	0.9987	0.9979	0.9966	0.9962	0.9960	0.9961	0.9960	0.9960
4	2697K	1.0000	0.9999	0.9988	0.9990	0.9983	0.9976	0.9972	0.9970	0.9971	0.9970	0.9970
5	2699K	1.0000	1.0014	1.0000	1.0000	0.9995	0.9988	0.9980	0.9980	0.9980	0.9979	0.9980
6	2710K	1.0000	1.0006	0.9994	0.9994	0.9987	0.9961	0.9959	0.9962	0.9966	0.9959	0.9961
7	2718K	1.0000	0.9997	0.9987	0.9983	0.9982	0.9973	0.9965	0.9970	0.9968	0.9967	0.9971
8	2692K	1.0000	1.0005	0.9995	0.9991	0.9988	0.9981	0.9973	0.9976	0.9974	0.9974	0.9976
9	2706K	1.0000	1.0008	0.9999	0.9995	0.9991	0.9985	0.9979	0.9978	0.9981	0.9981	0.9982
10	2708K	1.0000	1.0007	0.9997	0.9993	0.9988	0.9982	0.9975	0.9977	0.9979	0.9975	0.9968
11	2704K	1.0000	1.0006	0.9996	0.9991	0.9984	0.9975	0.9972	0.9971	0.9972	0.9971	0.9968
12	2719K	1.0000	1.0006	0.9999	0.9992	0.9985	0.9973	0.9964	0.9965	0.9972	0.9968	0.9968
13	2706K	1.0000	1.0010	0.9996	0.9993	0.9992	0.9984	0.9978	0.9977	0.9983	0.9979	0.9982
14	2711K	1.0000	0.9996	0.9984	0.9980	0.9974	0.9966	0.9958	0.9954	0.9962	0.9955	0.9958
15	2717K	1.0000	0.9996	0.9981	0.9976	0.9972	0.9961	0.9949	0.9948	0.9952	0.9953	0.9956
16	2702K	1.0000	0.9978	0.9968	0.9964	0.9950	0.9947	0.9935	0.9936	0.9940	0.9938	0.9936
17	2699K	1.0000	1.0003	0.9990	0.9984	0.9981	0.9974	0.9969	0.9969	0.9974	0.9972	0.9972
18	2703K	1.0000	1.0001	0.9988	0.9987	0.9983	0.9974	0.9965	0.9966	0.9969	0.9969	0.9970
19	2697K	1.0000	1.0013	0.9998	0.9992	0.9982	0.9971	0.9960	0.9960	0.9966	0.9962	0.9967
20	2708K	1.0000	0.9988	0.9973	0.9968	0.9963	0.9952	0.9942	0.9942	0.9945	0.9945	0.9942

CIE 1976 u' data for tested units

$T_s = T_{air} = 55°C$, $I_f = 100mA$; $T_s \geq 53°C$ and $T_{air} \geq 50°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2713K	0.2620	0.2615	0.2614	0.2613	0.2613	0.2613	0.2613	0.2612	0.2612	0.2612	0.2612
2	2711K	0.2619	0.2613	0.2613	0.2612	0.2612	0.2612	0.2612	0.2611	0.2612	0.2611	0.2611
3	2716K	0.2617	0.2611	0.2609	0.2609	0.2609	0.2608	0.2609	0.2608	0.2608	0.2608	0.2607
4	2697K	0.2625	0.2619	0.2618	0.2617	0.2617	0.2617	0.2617	0.2616	0.2617	0.2616	0.2617
5	2699K	0.2623	0.2618	0.2617	0.2616	0.2616	0.2616	0.2616	0.2616	0.2616	0.2615	0.2615
6	2710K	0.2618	0.2613	0.2612	0.2611	0.2611	0.2611	0.2610	0.2610	0.2611	0.2610	0.2610
7	2718K	0.2615	0.2609	0.2608	0.2608	0.2608	0.2608	0.2608	0.2608	0.2608	0.2607	0.2607
8	2692K	0.2627	0.2622	0.2621	0.2620	0.2620	0.2620	0.2620	0.2619	0.2619	0.2619	0.2619
9	2706K	0.2620	0.2615	0.2614	0.2614	0.2614	0.2614	0.2614	0.2614	0.2614	0.2613	0.2613
10	2708K	0.2621	0.2615	0.2614	0.2614	0.2614	0.2614	0.2614	0.2613	0.2614	0.2613	0.2612
11	2704K	0.2624	0.2618	0.2618	0.2617	0.2617	0.2617	0.2617	0.2616	0.2617	0.2616	0.2615
12	2719K	0.2615	0.2609	0.2609	0.2608	0.2608	0.2608	0.2608	0.2607	0.2607	0.2607	0.2607
13	2706K	0.2620	0.2615	0.2614	0.2613	0.2613	0.2613	0.2613	0.2613	0.2613	0.2612	0.2612
14	2711K	0.2619	0.2613	0.2613	0.2612	0.2613	0.2612	0.2612	0.2611	0.2612	0.2611	0.2611
15	2717K	0.2616	0.2610	0.2610	0.2609	0.2609	0.2609	0.2609	0.2608	0.2608	0.2608	0.2608
16	2702K	0.2623	0.2618	0.2617	0.2617	0.2616	0.2617	0.2616	0.2616	0.2617	0.2615	0.2615
17	2699K	0.2624	0.2618	0.2618	0.2617	0.2617	0.2617	0.2617	0.2616	0.2617	0.2616	0.2616
18	2703K	0.2624	0.2617	0.2617	0.2617	0.2617	0.2616	0.2616	0.2616	0.2616	0.2615	0.2615
19	2697K	0.2624	0.2618	0.2617	0.2617	0.2617	0.2616	0.2616	0.2616	0.2616	0.2615	0.2615
20	2708K	0.2620	0.2615	0.2614	0.2613	0.2614	0.2613	0.2613	0.2613	0.2613	0.2612	0.2612

CIE 1976 v' data for tested units

$T_s = T_{air} = 55°C$, $I_f = 100mA$; $T_s \geq 53°C$ and $T_{air} \geq 50°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2713K	0.5266	0.5265	0.5265	0.5264	0.5264	0.5264	0.5264	0.5264	0.5264	0.5264	0.5264
2	2711K	0.5273	0.5271	0.5271	0.5271	0.5271	0.5271	0.5271	0.5271	0.5271	0.5271	0.5271
3	2716K	0.5276	0.5274	0.5274	0.5273	0.5273	0.5273	0.5273	0.5273	0.5273	0.5273	0.5273
4	2697K	0.5281	0.5279	0.5279	0.5279	0.5279	0.5279	0.5279	0.5279	0.5279	0.5279	0.5279
5	2699K	0.5283	0.5281	0.5281	0.5281	0.5281	0.5281	0.5280	0.5280	0.5280	0.5280	0.5281
6	2710K	0.5281	0.5280	0.5279	0.5279	0.5279	0.5279	0.5279	0.5279	0.5279	0.5279	0.5279
7	2718K	0.5278	0.5276	0.5276	0.5276	0.5276	0.5275	0.5275	0.5275	0.5276	0.5276	0.5276
8	2692K	0.5280	0.5278	0.5279	0.5278	0.5278	0.5278	0.5278	0.5278	0.5278	0.5278	0.5278
9	2706K	0.5282	0.5280	0.5281	0.5280	0.5280	0.5280	0.5280	0.5280	0.5280	0.5280	0.5281
10	2708K	0.5273	0.5271	0.5271	0.5271	0.5271	0.5271	0.5271	0.5271	0.5271	0.5271	0.5271
11	2704K	0.5267	0.5266	0.5266	0.5266	0.5265	0.5265	0.5265	0.5266	0.5265	0.5266	0.5266
12	2719K	0.5279	0.5277	0.5277	0.5277	0.5276	0.5276	0.5276	0.5276	0.5276	0.5276	0.5276
13	2706K	0.5284	0.5282	0.5282	0.5282	0.5282	0.5282	0.5282	0.5282	0.5282	0.5282	0.5282
14	2711K	0.5276	0.5274	0.5274	0.5274	0.5274	0.5274	0.5273	0.5274	0.5274	0.5274	0.5274
15	2717K	0.5278	0.5277	0.5277	0.5277	0.5276	0.5276	0.5276	0.5276	0.5276	0.5276	0.5276
16	2702K	0.5276	0.5274	0.5275	0.5274	0.5273	0.5274	0.5273	0.5274	0.5274	0.5274	0.5274
17	2699K	0.5280	0.5278	0.5278	0.5278	0.5277	0.5277	0.5277	0.5278	0.5278	0.5278	0.5278
18	2703K	0.5270	0.5268	0.5268	0.5268	0.5267	0.5268	0.5267	0.5268	0.5268	0.5268	0.5268
19	2697K	0.5287	0.5284	0.5285	0.5284	0.5284	0.5284	0.5284	0.5284	0.5284	0.5284	0.5284
20	2708K	0.5277	0.5275	0.5275	0.5275	0.5274	0.5274	0.5274	0.5274	0.5274	0.5274	0.5275

Delta u'v' data for tested units

$T_s = T_{air} = 55°C$, $I_f = 100mA$; $T_s \geq 53°C$ and $T_{air} \geq 50°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2713K	0.0000	0.0006	0.0006	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008	0.0008	0.0008
2	2711K	0.0000	0.0006	0.0007	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0009	0.0009
3	2716K	0.0000	0.0006	0.0007	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009
4	2697K	0.0000	0.0006	0.0007	0.0008	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0009
5	2699K	0.0000	0.0006	0.0007	0.0008	0.0007	0.0008	0.0008	0.0008	0.0008	0.0009	0.0009
6	2710K	0.0000	0.0006	0.0007	0.0008	0.0008	0.0008	0.0008	0.0009	0.0008	0.0009	0.0009
7	2718K	0.0000	0.0006	0.0007	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0009	0.0009
8	2692K	0.0000	0.0006	0.0007	0.0007	0.0008	0.0008	0.0008	0.0008	0.0009	0.0009	0.0009
9	2706K	0.0000	0.0005	0.0006	0.0007	0.0006	0.0007	0.0006	0.0007	0.0007	0.0008	0.0008
10	2708K	0.0000	0.0006	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008	0.0007	0.0008	0.0009
11	2704K	0.0000	0.0006	0.0006	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008	0.0008	0.0009
12	2719K	0.0000	0.0006	0.0006	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008	0.0008	0.0008
13	2706K	0.0000	0.0005	0.0006	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008
14	2711K	0.0000	0.0006	0.0006	0.0007	0.0007	0.0007	0.0008	0.0008	0.0007	0.0008	0.0009
15	2717K	0.0000	0.0006	0.0006	0.0007	0.0007	0.0007	0.0008	0.0008	0.0008	0.0008	0.0008
16	2702K	0.0000	0.0006	0.0006	0.0007	0.0008	0.0007	0.0008	0.0008	0.0007	0.0009	0.0009
17	2699K	0.0000	0.0006	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008	0.0008	0.0008	0.0009
18	2703K	0.0000	0.0007	0.0007	0.0007	0.0008	0.0008	0.0008	0.0008	0.0008	0.0009	0.0009
19	2697K	0.0000	0.0006	0.0007	0.0007	0.0007	0.0008	0.0008	0.0008	0.0008	0.0008	0.0009
20	2708K	0.0000	0.0006	0.0007	0.0007	0.0007	0.0008	0.0008	0.0008	0.0007	0.0008	0.0008

Forward Voltage [V] data for tested units

$T_s = T_{air} = 55°C$, $I_f = 100mA$; $T_s \geq 53°C$ and $T_{air} \geq 50°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2713K	28.918	28.855	28.894	28.864	28.868	28.874	28.872	28.875	28.877	28.877	28.880
2	2711K	28.950	28.930	28.935	28.937	28.941	28.943	28.945	28.947	28.948	28.949	28.951
3	2716K	28.989	28.951	28.957	28.961	28.965	28.968	28.970	28.972	28.973	28.975	28.977
4	2697K	28.938	28.919	28.926	28.928	28.930	28.933	28.934	28.936	28.937	28.938	28.940
5	2699K	29.014	28.998	29.005	29.008	29.010	29.013	29.014	29.016	29.016	29.018	29.019
6	2710K	29.084	29.054	29.060	29.062	29.065	29.067	29.069	29.071	29.072	29.072	29.075
7	2718K	28.947	28.907	28.914	28.918	28.921	28.923	28.927	28.928	28.929	28.930	28.933
8	2692K	29.118	29.084	29.093	29.093	29.095	29.098	29.101	29.102	29.103	29.104	29.106
9	2706K	28.964	28.944	28.949	28.952	28.956	28.957	28.959	28.962	28.963	28.963	28.965
10	2708K	29.034	29.016	29.022	29.025	29.028	29.030	29.031	29.033	29.034	29.035	29.035
11	2704K	28.891	28.876	28.881	28.884	28.887	28.889	28.890	28.892	28.892	28.894	28.896
12	2719K	29.023	28.982	28.988	28.991	28.996	28.999	29.002	29.003	29.003	29.005	29.008
13	2706K	29.019	29.003	29.010	29.013	29.016	29.018	29.021	29.022	29.023	29.023	29.026
14	2711K	28.993	28.952	28.958	28.961	28.965	28.967	28.970	28.972	28.973	28.974	28.977
15	2717K	28.957	28.914	28.920	28.924	28.927	28.930	28.933	28.934	28.936	28.936	28.939
16	2702K	28.973	28.930	28.936	28.940	28.942	28.946	28.949	28.950	28.952	28.953	28.956
17	2699K	29.029	29.010	29.015	29.019	29.023	29.024	29.026	29.028	29.028	29.029	29.031
18	2703K	28.958	28.929	28.934	28.937	28.941	28.943	28.945	28.947	28.947	28.948	28.951
19	2697K	29.021	29.002	29.008	29.011	29.013	29.016	29.018	29.020	29.020	29.021	29.024
20	2708K	28.967	28.930	28.936	28.940	28.943	28.945	28.947	28.949	28.950	28.951	28.954

Luminous Flux [lm] data for tested units

$T_s = T_{air}$ = 85°C, I_f = 100mA; $T_s \geq$ 83°C and $T_{air} \geq$ 80°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2711K	491.220	488.076	486.405	485.419	484.438	483.679	482.782	482.196	481.924	481.555	481.129
2	2713K	491.648	489.108	487.615	486.709	485.745	485.002	484.123	483.585	483.264	482.806	482.331
3	2708K	486.721	485.186	483.989	482.953	482.203	481.350	480.369	479.884	479.629	479.183	478.849
4	2712K	490.490	486.825	485.394	484.306	483.411	482.575	481.663	480.828	480.756	480.379	480.172
5	2693K	493.243	491.562	489.999	489.018	487.708	487.588	486.666	486.167	485.735	485.343	485.097
6	2713K	497.377	494.326	492.817	491.778	490.913	490.118	489.125	488.565	488.171	487.791	487.278
7	2706K	492.034	490.076	488.794	487.731	486.958	486.253	485.357	484.786	484.647	483.999	483.579
8	2702K	491.648	489.415	488.091	487.030	486.267	485.772	484.965	484.318	483.993	483.572	483.155
9	2713K	493.477	491.018	489.813	488.830	488.042	487.253	486.319	485.712	485.521	485.095	484.436
10	2698K	492.765	490.393	488.873	488.104	487.189	486.417	485.084	485.078	484.819	484.618	484.077
11	2684K	492.559	491.992	490.258	489.326	488.169	487.709	487.060	486.321	485.918	485.480	484.986
12	2706K	490.807	488.765	486.825	486.173	484.958	484.415	483.415	482.748	482.524	481.998	481.620
13	2716K	488.449	487.495	485.746	484.870	483.746	483.278	482.584	481.688	481.460	480.918	480.370
14	2713K	488.258	485.725	484.177	483.199	482.081	481.383	480.473	479.900	479.500	478.984	478.488
15	2704K	491.124	488.275	486.856	485.814	485.016	484.489	483.694	483.015	482.437	482.323	481.949
16	2709K	490.803	489.494	488.124	487.171	486.260	485.444	484.600	483.886	483.595	483.129	482.675
17	2688K	486.127	483.567	481.934	481.030	479.976	479.226	478.481	477.861	477.479	476.900	476.624
18	2706K	490.576	488.280	486.530	485.646	484.843	484.018	483.382	482.565	482.398	481.872	481.458
19	2707K	490.468	488.727	486.911	486.029	485.108	484.057	483.248	482.798	482.396	481.961	481.829
20	2707K	488.016	486.502	484.742	483.823	483.084	482.273	481.344	480.848	480.417	480.199	479.748

Normalized Luminous Flux data for tested units

$T_s = T_{air}$ = 85°C, I_f = 100mA; $T_s \geq$ 83°C and $T_{air} \geq$ 80°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2711K	1.0000	0.9936	0.9902	0.9882	0.9862	0.9846	0.9828	0.9816	0.9811	0.9803	0.9795
2	2713K	1.0000	0.9948	0.9918	0.9900	0.9880	0.9865	0.9847	0.9836	0.9829	0.9820	0.9810
3	2708K	1.0000	0.9968	0.9944	0.9923	0.9907	0.9890	0.9869	0.9860	0.9854	0.9845	0.9838
4	2712K	1.0000	0.9925	0.9896	0.9874	0.9856	0.9839	0.9820	0.9803	0.9802	0.9794	0.9790
5	2693K	1.0000	0.9966	0.9934	0.9914	0.9888	0.9885	0.9867	0.9857	0.9848	0.9840	0.9835
6	2713K	1.0000	0.9939	0.9908	0.9887	0.9870	0.9854	0.9834	0.9823	0.9815	0.9807	0.9797
7	2706K	1.0000	0.9960	0.9934	0.9913	0.9897	0.9883	0.9864	0.9853	0.9850	0.9837	0.9828
8	2702K	1.0000	0.9955	0.9928	0.9906	0.9891	0.9880	0.9864	0.9851	0.9844	0.9836	0.9827
9	2713K	1.0000	0.9950	0.9926	0.9906	0.9890	0.9874	0.9855	0.9843	0.9839	0.9830	0.9817
10	2698K	1.0000	0.9952	0.9921	0.9905	0.9887	0.9871	0.9844	0.9844	0.9839	0.9835	0.9824
11	2684K	1.0000	0.9988	0.9953	0.9934	0.9911	0.9902	0.9888	0.9873	0.9865	0.9856	0.9846
12	2706K	1.0000	0.9958	0.9919	0.9906	0.9881	0.9870	0.9849	0.9836	0.9831	0.9821	0.9813
13	2716K	1.0000	0.9980	0.9945	0.9927	0.9904	0.9894	0.9880	0.9862	0.9857	0.9846	0.9835
14	2713K	1.0000	0.9948	0.9916	0.9896	0.9873	0.9859	0.9841	0.9829	0.9821	0.9810	0.9800
15	2704K	1.0000	0.9942	0.9913	0.9892	0.9870	0.9865	0.9849	0.9835	0.9823	0.9821	0.9813
16	2709K	1.0000	0.9973	0.9945	0.9926	0.9907	0.9891	0.9874	0.9859	0.9853	0.9844	0.9834
17	2688K	1.0000	0.9947	0.9914	0.9895	0.9873	0.9858	0.9843	0.9830	0.9822	0.9810	0.9805
18	2706K	1.0000	0.9953	0.9918	0.9900	0.9883	0.9866	0.9853	0.9837	0.9833	0.9823	0.9814
19	2707K	1.0000	0.9965	0.9927	0.9910	0.9891	0.9869	0.9853	0.9844	0.9835	0.9827	0.9824
20	2707K	1.0000	0.9969	0.9933	0.9914	0.9899	0.9882	0.9863	0.9853	0.9844	0.9840	0.9831

CIE 1976 u' data for tested units
$T_s = T_{air}$ = 85°C, I_f = 100mA; $T_s \geq$ 83°C and $T_{air} \geq$ 80°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2711K	0.2618	0.2609	0.2607	0.2606	0.2605	0.2604	0.2603	0.2602	0.2602	0.2601	0.2601
2	2713K	0.2617	0.2607	0.2604	0.2604	0.2603	0.2602	0.2602	0.2600	0.2600	0.2599	0.2599
3	2708K	0.2620	0.2611	0.2609	0.2608	0.2607	0.2606	0.2606	0.2605	0.2605	0.2603	0.2603
4	2712K	0.2620	0.2610	0.2608	0.2607	0.2605	0.2605	0.2604	0.2603	0.2603	0.2601	0.2601
5	2693K	0.2626	0.2617	0.2614	0.2614	0.2613	0.2612	0.2611	0.2610	0.2610	0.2609	0.2608
6	2713K	0.2617	0.2608	0.2606	0.2605	0.2604	0.2604	0.2603	0.2602	0.2601	0.2600	0.2600
7	2706K	0.2619	0.2610	0.2608	0.2607	0.2606	0.2605	0.2605	0.2605	0.2603	0.2602	0.2602
8	2702K	0.2625	0.2616	0.2614	0.2613	0.2612	0.2612	0.2611	0.2610	0.2609	0.2609	0.2608
9	2713K	0.2619	0.2609	0.2607	0.2606	0.2605	0.2604	0.2604	0.2603	0.2603	0.2601	0.2601
10	2698K	0.2626	0.2616	0.2614	0.2613	0.2612	0.2612	0.2611	0.2610	0.2610	0.2608	0.2608
11	2684K	0.2631	0.2621	0.2619	0.2618	0.2617	0.2616	0.2615	0.2615	0.2615	0.2613	0.2612
12	2706K	0.2622	0.2612	0.2610	0.2609	0.2609	0.2608	0.2606	0.2606	0.2606	0.2605	0.2604
13	2716K	0.2617	0.2607	0.2605	0.2604	0.2603	0.2602	0.2601	0.2601	0.2600	0.2599	0.2599
14	2713K	0.2620	0.2610	0.2608	0.2607	0.2606	0.2605	0.2605	0.2603	0.2603	0.2602	0.2601
15	2704K	0.2624	0.2614	0.2612	0.2611	0.2610	0.2609	0.2608	0.2607	0.2608	0.2606	0.2605
16	2709K	0.2618	0.2610	0.2607	0.2606	0.2605	0.2604	0.2603	0.2603	0.2602	0.2601	0.2600
17	2688K	0.2630	0.2621	0.2619	0.2618	0.2617	0.2616	0.2615	0.2615	0.2614	0.2613	0.2612
18	2706K	0.2623	0.2614	0.2612	0.2610	0.2610	0.2609	0.2608	0.2607	0.2607	0.2606	0.2605
19	2707K	0.2622	0.2614	0.2612	0.2611	0.2610	0.2609	0.2608	0.2608	0.2607	0.2606	0.2605
20	2707K	0.2621	0.2612	0.2610	0.2609	0.2607	0.2607	0.2606	0.2605	0.2605	0.2603	0.2603

CIE 1976 v' data for tested units
$T_s = T_{air}$ = 85°C, I_f = 100mA; $T_s \geq$ 83°C and $T_{air} \geq$ 80°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2711K	0.5278	0.5275	0.5274	0.5273	0.5272	0.5272	0.5272	0.5272	0.5271	0.5271	0.5271
2	2713K	0.5280	0.5276	0.5276	0.5275	0.5275	0.5274	0.5274	0.5273	0.5273	0.5273	0.5272
3	2708K	0.5276	0.5273	0.5273	0.5272	0.5272	0.5271	0.5271	0.5270	0.5270	0.5269	0.5269
4	2712K	0.5269	0.5265	0.5265	0.5264	0.5263	0.5263	0.5263	0.5262	0.5262	0.5262	0.5262
5	2693K	0.5284	0.5281	0.5281	0.5280	0.5280	0.5279	0.5279	0.5279	0.5278	0.5278	0.5278
6	2713K	0.5283	0.5279	0.5279	0.5278	0.5278	0.5278	0.5277	0.5277	0.5276	0.5276	0.5276
7	2706K	0.5285	0.5282	0.5281	0.5281	0.5280	0.5280	0.5280	0.5280	0.5279	0.5279	0.5278
8	2702K	0.5267	0.5264	0.5263	0.5263	0.5262	0.5262	0.5261	0.5261	0.5261	0.5260	0.5260
9	2713K	0.5274	0.5271	0.5270	0.5269	0.5269	0.5268	0.5268	0.5268	0.5268	0.5267	0.5267
10	2698K	0.5275	0.5271	0.5271	0.5270	0.5269	0.5269	0.5269	0.5269	0.5268	0.5268	0.5268
11	2684K	0.5280	0.5275	0.5275	0.5275	0.5274	0.5274	0.5273	0.5273	0.5273	0.5272	0.5272
12	2706K	0.5275	0.5271	0.5270	0.5270	0.5269	0.5269	0.5268	0.5268	0.5268	0.5267	0.5267
13	2716K	0.5276	0.5272	0.5272	0.5271	0.5271	0.5270	0.5270	0.5269	0.5269	0.5269	0.5268
14	2713K	0.5269	0.5265	0.5264	0.5263	0.5263	0.5262	0.5262	0.5262	0.5261	0.5261	0.5261
15	2704K	0.5268	0.5264	0.5263	0.5263	0.5262	0.5262	0.5261	0.5260	0.5260	0.5260	0.5259
16	2709K	0.5288	0.5285	0.5284	0.5283	0.5282	0.5282	0.5282	0.5281	0.5281	0.5281	0.5281
17	2688K	0.5277	0.5273	0.5273	0.5272	0.5272	0.5271	0.5271	0.5271	0.5270	0.5270	0.5270
18	2706K	0.5270	0.5266	0.5266	0.5265	0.5265	0.5264	0.5264	0.5263	0.5263	0.5263	0.5263
19	2707K	0.5268	0.5265	0.5265	0.5264	0.5263	0.5263	0.5262	0.5262	0.5261	0.5261	0.5261
20	2707K	0.5276	0.5272	0.5271	0.5271	0.5270	0.5270	0.5269	0.5269	0.5269	0.5268	0.5268

Delta u'v' data for tested units

$T_s = T_{air} = 85°C$, $I_f = 100mA$; $T_s \geq 83°C$ and $T_{air} \geq 80°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2711K	0.0000	0.0010	0.0012	0.0014	0.0014	0.0015	0.0016	0.0017	0.0018	0.0019	0.0019
2	2713K	0.0000	0.0011	0.0013	0.0014	0.0015	0.0016	0.0016	0.0018	0.0018	0.0019	0.0020
3	2708K	0.0000	0.0010	0.0012	0.0013	0.0014	0.0015	0.0016	0.0017	0.0017	0.0018	0.0019
4	2712K	0.0000	0.0011	0.0013	0.0014	0.0016	0.0016	0.0017	0.0018	0.0018	0.0020	0.0021
5	2693K	0.0000	0.0009	0.0012	0.0013	0.0013	0.0015	0.0015	0.0016	0.0017	0.0018	0.0019
6	2713K	0.0000	0.0009	0.0012	0.0013	0.0013	0.0014	0.0015	0.0016	0.0017	0.0018	0.0019
7	2706K	0.0000	0.0010	0.0012	0.0013	0.0014	0.0015	0.0016	0.0016	0.0017	0.0018	0.0019
8	2702K	0.0000	0.0009	0.0011	0.0012	0.0014	0.0014	0.0015	0.0016	0.0017	0.0018	0.0019
9	2713K	0.0000	0.0010	0.0012	0.0013	0.0014	0.0016	0.0016	0.0016	0.0017	0.0019	0.0019
10	2698K	0.0000	0.0010	0.0012	0.0013	0.0014	0.0015	0.0016	0.0017	0.0017	0.0019	0.0019
11	2684K	0.0000	0.0011	0.0013	0.0014	0.0015	0.0016	0.0018	0.0018	0.0018	0.0020	0.0021
12	2706K	0.0000	0.0010	0.0012	0.0014	0.0014	0.0015	0.0016	0.0017	0.0017	0.0019	0.0019
13	2716K	0.0000	0.0010	0.0013	0.0014	0.0015	0.0016	0.0017	0.0018	0.0018	0.0019	0.0020
14	2713K	0.0000	0.0010	0.0013	0.0013	0.0015	0.0016	0.0016	0.0018	0.0018	0.0019	0.0020
15	2704K	0.0000	0.0011	0.0013	0.0014	0.0015	0.0016	0.0017	0.0018	0.0018	0.0020	0.0021
16	2709K	0.0000	0.0009	0.0012	0.0013	0.0014	0.0015	0.0016	0.0016	0.0017	0.0018	0.0019
17	2688K	0.0000	0.0010	0.0012	0.0013	0.0014	0.0015	0.0016	0.0017	0.0017	0.0019	0.0019
18	2706K	0.0000	0.0010	0.0012	0.0013	0.0014	0.0015	0.0016	0.0017	0.0017	0.0018	0.0019
19	2707K	0.0000	0.0009	0.0011	0.0012	0.0014	0.0014	0.0015	0.0016	0.0017	0.0018	0.0019
20	2707K	0.0000	0.0010	0.0012	0.0014	0.0015	0.0015	0.0017	0.0017	0.0017	0.0019	0.0020

Forward Voltage [V] data for tested units

$T_s = T_{air} = 85°C$, $I_f = 100mA$; $T_s \geq 83°C$ and $T_{air} \geq 80°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2711K	28.908	28.882	28.889	28.894	28.900	28.904	28.910	28.910	28.911	28.913	28.916
2	2713K	29.083	29.075	29.080	29.085	29.089	29.093	29.094	29.096	29.097	29.099	29.100
3	2708K	29.067	29.060	29.065	29.069	29.072	29.075	29.077	29.078	29.079	29.080	29.082
4	2712K	28.933	28.913	28.920	28.924	28.927	28.930	28.933	28.935	28.936	28.937	28.940
5	2693K	29.109	29.082	29.088	29.093	29.096	29.100	29.102	29.104	29.105	29.106	29.108
6	2713K	29.011	29.003	29.010	29.014	29.017	29.020	29.023	29.024	29.025	29.026	29.028
7	2706K	29.038	29.024	29.031	29.036	29.039	29.042	29.046	29.047	29.048	29.049	29.051
8	2702K	28.951	28.939	28.945	28.950	28.953	28.956	28.959	28.961	28.962	28.963	28.965
9	2713K	29.025	29.016	29.022	29.027	29.030	29.033	29.036	29.037	29.038	29.040	29.041
10	2698K	29.108	29.082	29.089	29.095	29.099	29.102	29.104	29.107	29.109	29.111	29.112
11	2684K	29.096	29.042	29.050	29.054	29.051	29.060	29.063	29.065	29.066	29.068	29.069
12	2706K	29.014	29.010	29.017	29.021	29.019	29.027	29.029	29.031	29.033	29.034	29.035
13	2716K	28.998	28.972	28.980	28.985	28.985	28.993	28.996	28.998	29.000	29.002	29.004
14	2713K	28.966	28.950	28.957	28.961	28.961	28.968	28.970	28.973	28.974	28.975	28.976
15	2704K	29.073	29.029	29.039	29.044	29.042	29.053	29.058	29.060	29.063	29.065	29.069
16	2709K	29.007	28.996	29.004	29.007	29.008	29.013	29.016	29.017	29.019	29.020	29.023
17	2688K	28.922	28.923	28.929	28.931	28.934	28.937	28.944	28.944	28.946	28.943	28.945
18	2706K	28.971	28.952	28.958	28.961	28.964	28.967	28.975	28.975	28.977	28.975	28.977
19	2707K	29.061	29.017	29.024	29.030	29.034	29.040	29.043	29.047	29.049	29.051	29.053
20	2707K	28.922	28.912	28.918	28.922	28.925	28.929	28.931	28.934	28.935	28.936	28.937

Luminous Flux [lm] data for tested units

$T_s = T_{air}$ = 105°C, I_f = 100mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2696K	492.574	486.214	482.310	481.150	479.422	478.157	476.578	475.503	474.841	474.106	474.427
2	2707K	487.689	481.812	478.556	477.135	475.410	473.862	472.251	471.160	470.542	469.830	470.222
3	2706K	489.471	483.791	480.460	478.794	477.049	475.342	473.972	472.771	472.204	471.269	471.436
4	2713K	491.170	484.601	481.286	479.752	478.007	476.294	474.796	473.506	473.054	472.243	472.378
5	2700K	491.938	487.052	483.767	482.097	480.370	478.800	477.105	476.036	475.938	475.320	475.932
6	2716K	494.042	487.389	484.240	482.489	480.812	479.356	478.034	477.063	476.832	476.152	476.581
7	2711K	493.248	486.767	483.493	481.746	480.051	478.433	476.680	475.636	475.159	474.276	474.705
8	2703K	493.075	486.259	483.504	481.695	480.097	478.474	477.083	476.143	475.496	474.636	474.690
9	2716K	492.560	485.948	482.654	480.863	478.884	477.223	475.529	474.386	474.124	473.287	473.423
10	2707K	493.675	487.324	484.221	482.523	480.863	479.242	477.835	476.795	476.222	475.574	475.881
11	2708K	495.793	488.396	485.555	483.716	482.339	480.542	479.070	478.502	478.273	477.421	478.336
12	2716K	489.204	482.224	479.149	477.048	475.270	473.274	472.111	471.011	470.578	469.803	469.927
13	2718K	490.037	484.190	481.552	479.711	478.041	476.637	475.468	474.542	474.096	473.316	473.867
14	2709K	492.472	485.886	483.888	481.975	480.248	478.819	477.506	476.525	476.091	475.258	475.682
15	2709K	494.331	486.520	484.039	481.761	480.194	478.415	477.061	475.871	475.400	474.403	475.344
16	2701K	488.739	481.509	478.843	476.825	475.073	473.511	471.776	471.145	470.829	469.978	470.399
17	2696K	493.479	486.542	483.976	481.940	480.396	478.817	477.663	476.456	476.019	475.257	475.511
18	2715K	493.117	486.175	483.629	481.837	480.215	478.768	477.568	476.433	476.017	475.429	476.868
19	2699K	494.573	487.999	485.195	483.371	481.947	480.369	479.031	478.083	477.720	476.766	476.987
20	2691K	488.433	481.112	478.185	476.283	474.518	472.935	471.652	470.395	469.603	468.856	469.876

Normalized Luminous Flux data for tested units

$T_s = T_{air}$ = 105°C, I_f = 100mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2696K	1.0000	0.9871	0.9792	0.9768	0.9733	0.9707	0.9675	0.9653	0.9640	0.9625	0.9632
2	2707K	1.0000	0.9879	0.9813	0.9784	0.9748	0.9716	0.9683	0.9661	0.9648	0.9634	0.9642
3	2706K	1.0000	0.9884	0.9816	0.9782	0.9746	0.9711	0.9683	0.9659	0.9647	0.9628	0.9632
4	2713K	1.0000	0.9866	0.9799	0.9768	0.9732	0.9697	0.9667	0.9640	0.9631	0.9615	0.9617
5	2700K	1.0000	0.9901	0.9834	0.9800	0.9765	0.9733	0.9698	0.9677	0.9675	0.9662	0.9675
6	2716K	1.0000	0.9865	0.9802	0.9766	0.9732	0.9703	0.9676	0.9656	0.9652	0.9638	0.9647
7	2711K	1.0000	0.9869	0.9802	0.9767	0.9732	0.9700	0.9664	0.9643	0.9633	0.9615	0.9624
8	2703K	1.0000	0.9862	0.9806	0.9769	0.9737	0.9704	0.9676	0.9657	0.9643	0.9626	0.9627
9	2716K	1.0000	0.9866	0.9799	0.9763	0.9722	0.9689	0.9654	0.9631	0.9626	0.9609	0.9611
10	2707K	1.0000	0.9871	0.9808	0.9774	0.9740	0.9708	0.9679	0.9658	0.9646	0.9633	0.9640
11	2708K	1.0000	0.9851	0.9793	0.9756	0.9729	0.9692	0.9663	0.9651	0.9647	0.9629	0.9648
12	2716K	1.0000	0.9857	0.9794	0.9752	0.9715	0.9674	0.9651	0.9628	0.9619	0.9603	0.9606
13	2718K	1.0000	0.9881	0.9827	0.9789	0.9755	0.9727	0.9703	0.9684	0.9675	0.9659	0.9670
14	2709K	1.0000	0.9866	0.9826	0.9787	0.9752	0.9723	0.9696	0.9676	0.9667	0.9650	0.9659
15	2709K	1.0000	0.9842	0.9792	0.9746	0.9711	0.9678	0.9651	0.9627	0.9617	0.9597	0.9616
16	2701K	1.0000	0.9852	0.9798	0.9756	0.9720	0.9688	0.9653	0.9640	0.9634	0.9616	0.9625
17	2696K	1.0000	0.9859	0.9807	0.9766	0.9735	0.9703	0.9679	0.9655	0.9646	0.9631	0.9636
18	2715K	1.0000	0.9859	0.9808	0.9771	0.9738	0.9709	0.9685	0.9662	0.9653	0.9641	0.9670
19	2699K	1.0000	0.9867	0.9810	0.9773	0.9745	0.9713	0.9686	0.9667	0.9659	0.9640	0.9644
20	2691K	1.0000	0.9850	0.9790	0.9751	0.9715	0.9683	0.9656	0.9631	0.9614	0.9599	0.9600

CIE 1976 u' data for tested units
$T_s = T_{air}$ = 105°C, I_f = 100mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2696K	0.2626	0.2612	0.2609	0.2606	0.2604	0.2602	0.2601	0.2599	0.2598	0.2596	0.2594
2	2707K	0.2623	0.2608	0.2605	0.2602	0.2600	0.2598	0.2597	0.2594	0.2593	0.2591	0.2590
3	2706K	0.2622	0.2608	0.2605	0.2602	0.2600	0.2599	0.2597	0.2595	0.2594	0.2592	0.2590
4	2713K	0.2617	0.2603	0.2600	0.2597	0.2596	0.2594	0.2592	0.2590	0.2589	0.2587	0.2586
5	2700K	0.2624	0.2609	0.2606	0.2604	0.2602	0.2600	0.2598	0.2597	0.2595	0.2593	0.2592
6	2716K	0.2617	0.2603	0.2600	0.2597	0.2595	0.2593	0.2591	0.2590	0.2589	0.2587	0.2586
7	2711K	0.2618	0.2603	0.2600	0.2597	0.2596	0.2594	0.2592	0.2590	0.2589	0.2587	0.2585
8	2703K	0.2621	0.2607	0.2604	0.2601	0.2600	0.2597	0.2596	0.2594	0.2593	0.2591	0.2590
9	2716K	0.2618	0.2605	0.2602	0.2599	0.2597	0.2595	0.2593	0.2592	0.2590	0.2588	0.2586
10	2707K	0.2622	0.2608	0.2605	0.2602	0.2601	0.2598	0.2597	0.2595	0.2593	0.2591	0.2590
11	2708K	0.2621	0.2607	0.2604	0.2601	0.2599	0.2597	0.2596	0.2594	0.2592	0.2590	0.2589
12	2716K	0.2618	0.2604	0.2600	0.2598	0.2595	0.2594	0.2592	0.2590	0.2588	0.2586	0.2585
13	2718K	0.2617	0.2603	0.2600	0.2598	0.2596	0.2594	0.2593	0.2591	0.2590	0.2588	0.2587
14	2709K	0.2620	0.2606	0.2603	0.2601	0.2599	0.2597	0.2595	0.2594	0.2592	0.2591	0.2589
15	2709K	0.2620	0.2606	0.2602	0.2600	0.2597	0.2596	0.2594	0.2592	0.2591	0.2589	0.2588
16	2701K	0.2624	0.2609	0.2606	0.2603	0.2601	0.2599	0.2597	0.2597	0.2595	0.2593	0.2592
17	2696K	0.2626	0.2612	0.2609	0.2607	0.2604	0.2603	0.2601	0.2599	0.2599	0.2597	0.2595
18	2715K	0.2619	0.2605	0.2602	0.2600	0.2598	0.2595	0.2594	0.2593	0.2591	0.2589	0.2589
19	2699K	0.2624	0.2610	0.2607	0.2605	0.2603	0.2601	0.2599	0.2598	0.2597	0.2595	0.2593
20	2691K	0.2628	0.2613	0.2610	0.2608	0.2606	0.2604	0.2602	0.2601	0.2599	0.2598	0.2597

CIE 1976 v' data for tested units
$T_s = T_{air}$ = 105°C, I_f = 100mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2696K	0.5275	0.5269	0.5267	0.5266	0.5265	0.5264	0.5263	0.5262	0.5261	0.5261	0.5261
2	2707K	0.5268	0.5262	0.5260	0.5259	0.5257	0.5256	0.5256	0.5254	0.5253	0.5253	0.5253
3	2706K	0.5276	0.5270	0.5269	0.5267	0.5266	0.5266	0.5264	0.5263	0.5263	0.5262	0.5262
4	2713K	0.5280	0.5274	0.5272	0.5271	0.5270	0.5269	0.5268	0.5267	0.5266	0.5266	0.5265
5	2700K	0.5276	0.5270	0.5268	0.5267	0.5266	0.5265	0.5263	0.5263	0.5262	0.5262	0.5262
6	2716K	0.5273	0.5266	0.5265	0.5263	0.5262	0.5261	0.5260	0.5260	0.5259	0.5259	0.5259
7	2711K	0.5282	0.5276	0.5275	0.5274	0.5272	0.5272	0.5270	0.5270	0.5269	0.5269	0.5269
8	2703K	0.5284	0.5278	0.5277	0.5276	0.5275	0.5274	0.5272	0.5272	0.5272	0.5271	0.5270
9	2716K	0.5266	0.5260	0.5258	0.5257	0.5256	0.5255	0.5253	0.5253	0.5252	0.5251	0.5251
10	2707K	0.5274	0.5267	0.5266	0.5265	0.5263	0.5262	0.5262	0.5261	0.5260	0.5260	0.5260
11	2708K	0.5271	0.5265	0.5263	0.5261	0.5260	0.5259	0.5258	0.5257	0.5257	0.5256	0.5256
12	2716K	0.5270	0.5264	0.5262	0.5261	0.5260	0.5259	0.5258	0.5257	0.5257	0.5256	0.5255
13	2718K	0.5269	0.5264	0.5262	0.5261	0.5260	0.5259	0.5258	0.5257	0.5257	0.5257	0.5256
14	2709K	0.5274	0.5267	0.5266	0.5265	0.5264	0.5263	0.5262	0.5261	0.5261	0.5260	0.5260
15	2709K	0.5276	0.5269	0.5268	0.5267	0.5266	0.5265	0.5263	0.5263	0.5262	0.5261	0.5261
16	2701K	0.5276	0.5270	0.5268	0.5267	0.5266	0.5265	0.5264	0.5264	0.5263	0.5263	0.5262
17	2696K	0.5277	0.5271	0.5270	0.5268	0.5267	0.5266	0.5265	0.5265	0.5265	0.5264	0.5263
18	2715K	0.5264	0.5258	0.5256	0.5255	0.5254	0.5252	0.5252	0.5251	0.5250	0.5250	0.5250
19	2699K	0.5280	0.5275	0.5274	0.5273	0.5271	0.5270	0.5270	0.5269	0.5268	0.5268	0.5267
20	2691K	0.5281	0.5274	0.5273	0.5272	0.5271	0.5270	0.5269	0.5268	0.5268	0.5268	0.5267

Delta u'v' data for tested units

$T_s = T_{air}$ = 105°C, I_f = 100mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2696K	0.0000	0.0016	0.0019	0.0022	0.0024	0.0026	0.0028	0.0030	0.0032	0.0034	0.0035
2	2707K	0.0000	0.0016	0.0020	0.0023	0.0025	0.0027	0.0029	0.0031	0.0033	0.0035	0.0036
3	2706K	0.0000	0.0015	0.0018	0.0021	0.0024	0.0025	0.0028	0.0029	0.0031	0.0033	0.0034
4	2713K	0.0000	0.0015	0.0019	0.0022	0.0024	0.0026	0.0028	0.0030	0.0032	0.0034	0.0035
5	2700K	0.0000	0.0016	0.0020	0.0023	0.0025	0.0027	0.0029	0.0031	0.0032	0.0034	0.0035
6	2716K	0.0000	0.0016	0.0019	0.0022	0.0025	0.0027	0.0029	0.0030	0.0032	0.0034	0.0035
7	2711K	0.0000	0.0016	0.0019	0.0022	0.0024	0.0027	0.0029	0.0030	0.0032	0.0034	0.0035
8	2703K	0.0000	0.0015	0.0019	0.0022	0.0023	0.0026	0.0027	0.0030	0.0031	0.0033	0.0034
9	2716K	0.0000	0.0015	0.0018	0.0021	0.0024	0.0026	0.0028	0.0030	0.0032	0.0034	0.0036
10	2707K	0.0000	0.0015	0.0019	0.0021	0.0023	0.0026	0.0028	0.0030	0.0032	0.0033	0.0034
11	2708K	0.0000	0.0016	0.0020	0.0023	0.0025	0.0027	0.0029	0.0031	0.0033	0.0034	0.0035
12	2716K	0.0000	0.0016	0.0020	0.0022	0.0025	0.0027	0.0029	0.0031	0.0033	0.0035	0.0036
13	2718K	0.0000	0.0015	0.0018	0.0021	0.0023	0.0025	0.0027	0.0029	0.0030	0.0031	0.0032
14	2709K	0.0000	0.0015	0.0019	0.0021	0.0024	0.0026	0.0028	0.0030	0.0031	0.0032	0.0034
15	2709K	0.0000	0.0016	0.0020	0.0022	0.0025	0.0026	0.0029	0.0031	0.0032	0.0034	0.0035
16	2701K	0.0000	0.0016	0.0020	0.0022	0.0025	0.0027	0.0029	0.0030	0.0031	0.0034	0.0035
17	2696K	0.0000	0.0015	0.0019	0.0021	0.0024	0.0026	0.0028	0.0030	0.0030	0.0032	0.0034
18	2715K	0.0000	0.0016	0.0019	0.0022	0.0024	0.0027	0.0029	0.0030	0.0032	0.0033	0.0034
19	2699K	0.0000	0.0015	0.0018	0.0021	0.0023	0.0025	0.0027	0.0029	0.0029	0.0031	0.0033
20	2691K	0.0000	0.0016	0.0019	0.0021	0.0024	0.0026	0.0028	0.0030	0.0031	0.0033	0.0034

Forward Voltage [V] data for tested units

$T_s = T_{air}$ = 105°C, I_f = 100mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2696K	29.017	28.984	29.016	28.997	29.005	29.009	29.015	29.019	29.023	29.028	29.032
2	2707K	29.063	29.026	29.026	29.041	29.049	29.055	29.061	29.066	29.069	29.074	29.079
3	2706K	28.952	28.939	28.941	28.953	28.958	28.962	28.966	28.970	28.972	28.975	28.978
4	2713K	28.962	28.942	28.946	28.960	28.966	28.971	28.977	28.981	28.984	28.988	28.991
5	2700K	29.064	29.035	29.042	29.053	29.059	29.064	29.070	29.073	29.078	29.082	29.085
6	2716K	29.053	29.050	29.053	29.062	29.068	29.070	29.074	29.077	29.079	29.082	29.083
7	2711K	29.015	29.013	29.019	29.027	29.038	29.037	29.039	29.043	29.046	29.049	29.053
8	2703K	29.033	29.028	29.033	29.043	29.046	29.051	29.057	29.057	29.058	29.060	29.062
9	2716K	28.914	28.918	28.923	28.933	28.936	28.940	28.944	28.947	28.950	28.952	28.954
10	2707K	29.039	29.033	29.040	29.049	29.058	29.058	29.061	29.064	29.068	29.070	29.072
11	2708K	29.035	28.999	29.010	29.021	29.032	29.036	29.038	29.043	29.048	29.051	29.055
12	2716K	28.910	28.912	28.922	28.926	28.931	28.934	28.938	28.942	28.944	28.947	28.949
13	2718K	29.042	29.042	29.050	29.055	29.062	29.065	29.069	29.072	29.075	29.081	29.080
14	2709K	29.048	29.030	29.049	29.055	29.062	29.066	29.069	29.073	29.076	29.083	29.082
15	2709K	28.978	28.953	28.971	28.977	28.984	28.990	28.995	28.999	29.003	29.007	29.010
16	2701K	28.904	28.902	28.917	28.921	28.926	28.930	28.933	28.937	28.940	28.943	28.945
17	2696K	29.089	29.071	29.084	29.089	29.093	29.097	29.101	29.105	29.107	29.109	29.112
18	2715K	29.096	29.057	29.072	29.080	29.088	29.094	29.100	29.104	29.108	29.113	29.115
19	2699K	29.002	28.993	29.005	29.010	29.015	29.018	29.022	29.025	29.028	29.031	29.032
20	2691K	28.914	28.914	28.925	28.931	28.936	28.940	28.944	28.947	28.956	28.952	28.955

Luminous Flux [lm] data for tested units

$T_s = T_{air}$ = 55°C, I_f = 150mA; $T_s \geq$ 53°C and $T_{air} \geq$ 50°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2704K	708.040	709.121	708.098	707.530	706.770	706.141	705.319	704.487	704.657	704.294	703.181
2	2710K	706.372	705.485	704.364	704.035	703.298	702.326	701.463	700.869	700.585	700.082	698.488
3	2716K	709.621	708.406	707.337	707.131	706.347	705.542	704.747	704.729	704.097	703.318	702.003
4	2713K	709.544	708.146	706.915	706.477	706.068	705.345	704.526	704.105	703.824	702.750	701.727
5	2725K	705.156	703.400	702.338	702.188	701.459	700.729	699.676	699.339	698.935	697.843	696.546
6	2698K	709.575	708.087	706.836	706.506	705.695	704.643	704.063	703.416	703.076	702.049	700.605
7	2710K	710.963	709.655	708.687	708.211	707.596	706.854	706.056	705.428	705.697	704.729	704.401
8	2710K	706.100	704.233	703.215	702.627	702.012	701.100	700.388	699.910	699.422	698.364	697.046
9	2701K	713.910	710.279	709.495	709.201	708.761	707.696	706.836	706.343	705.910	705.347	704.497
10	2703K	706.756	705.303	704.452	703.949	703.192	702.110	701.173	700.661	700.492	699.415	698.307
11	2715K	704.808	704.371	703.450	702.866	702.500	701.912	701.459	701.061	700.536	700.268	699.125
12	2686K	701.785	701.669	700.367	699.597	698.951	698.235	697.219	697.112	696.532	695.537	694.187
13	2691K	708.206	708.645	707.273	706.752	705.896	705.181	704.199	703.929	703.187	702.506	701.213
14	2713K	710.248	709.550	708.309	707.803	706.943	706.514	705.439	705.387	705.048	703.832	702.544
15	2707K	706.342	705.561	704.265	703.816	703.089	702.375	701.483	701.098	700.410	699.567	697.954
16	2703K	707.202	705.867	704.607	704.099	703.655	702.847	701.821	701.404	700.992	700.159	698.791
17	2714K	709.305	708.566	707.653	707.165	706.346	705.893	705.152	704.942	704.561	703.530	702.320
18	2716K	711.735	711.752	710.586	709.753	709.153	708.585	707.298	707.179	706.413	705.777	703.900
19	2709K	709.788	708.036	707.327	706.525	706.176	705.528	704.542	704.333	703.546	702.892	701.148
20	2694K	717.472	716.710	715.738	714.749	714.293	713.352	712.094	711.789	711.461	710.683	709.020

Normalized Luminous Flux data for tested units

$T_s = T_{air}$ = 55°C, I_f = 150mA; $T_s \geq$ 53°C and $T_{air} \geq$ 50°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2704K	1.0000	1.0015	1.0001	0.9993	0.9982	0.9973	0.9962	0.9950	0.9952	0.9947	0.9931
2	2710K	1.0000	0.9987	0.9972	0.9967	0.9956	0.9943	0.9930	0.9922	0.9918	0.9911	0.9888
3	2716K	1.0000	0.9983	0.9968	0.9965	0.9954	0.9943	0.9931	0.9931	0.9922	0.9911	0.9893
4	2713K	1.0000	0.9980	0.9963	0.9957	0.9951	0.9941	0.9929	0.9923	0.9919	0.9904	0.9890
5	2725K	1.0000	0.9975	0.9960	0.9958	0.9948	0.9937	0.9922	0.9918	0.9912	0.9896	0.9878
6	2698K	1.0000	0.9979	0.9961	0.9957	0.9945	0.9931	0.9922	0.9913	0.9908	0.9894	0.9874
7	2710K	1.0000	0.9982	0.9968	0.9961	0.9953	0.9942	0.9931	0.9922	0.9926	0.9912	0.9908
8	2710K	1.0000	0.9974	0.9959	0.9951	0.9942	0.9929	0.9919	0.9912	0.9905	0.9890	0.9872
9	2701K	1.0000	0.9949	0.9938	0.9934	0.9928	0.9913	0.9901	0.9894	0.9888	0.9880	0.9868
10	2703K	1.0000	0.9979	0.9967	0.9960	0.9950	0.9934	0.9921	0.9914	0.9911	0.9896	0.9880
11	2715K	1.0000	0.9994	0.9981	0.9972	0.9967	0.9959	0.9952	0.9947	0.9939	0.9936	0.9919
12	2686K	1.0000	0.9998	0.9980	0.9969	0.9960	0.9949	0.9935	0.9933	0.9925	0.9911	0.9892
13	2691K	1.0000	1.0006	0.9987	0.9979	0.9967	0.9957	0.9943	0.9940	0.9929	0.9920	0.9901
14	2713K	1.0000	0.9990	0.9973	0.9966	0.9953	0.9947	0.9932	0.9932	0.9927	0.9910	0.9892
15	2707K	1.0000	0.9989	0.9971	0.9964	0.9953	0.9944	0.9931	0.9926	0.9916	0.9904	0.9881
16	2703K	1.0000	0.9981	0.9963	0.9956	0.9950	0.9938	0.9924	0.9918	0.9912	0.9900	0.9881
17	2714K	1.0000	0.9990	0.9977	0.9970	0.9958	0.9952	0.9941	0.9938	0.9933	0.9919	0.9902
18	2716K	1.0000	1.0000	0.9984	0.9972	0.9964	0.9956	0.9938	0.9936	0.9925	0.9916	0.9890
19	2709K	1.0000	0.9975	0.9965	0.9954	0.9949	0.9940	0.9926	0.9923	0.9912	0.9903	0.9878
20	2694K	1.0000	0.9989	0.9976	0.9962	0.9956	0.9943	0.9925	0.9921	0.9916	0.9905	0.9882

CIE 1976 u' data for tested units

$T_s = T_{air} = 55°C$, $I_f = 150mA$; $T_s \geq 53°C$ and $T_{air} \geq 50°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2704K	0.2621	0.2615	0.2614	0.2613	0.2614	0.2613	0.2613	0.2612	0.2612	0.2613	0.2613
2	2710K	0.2620	0.2614	0.2613	0.2613	0.2613	0.2612	0.2612	0.2612	0.2612	0.2611	0.2613
3	2716K	0.2617	0.2610	0.2609	0.2609	0.2609	0.2608	0.2608	0.2608	0.2608	0.2608	0.2609
4	2713K	0.2619	0.2612	0.2612	0.2611	0.2611	0.2610	0.2611	0.2610	0.2610	0.2610	0.2611
5	2725K	0.2614	0.2608	0.2607	0.2606	0.2606	0.2605	0.2605	0.2605	0.2605	0.2606	0.2607
6	2698K	0.2624	0.2617	0.2617	0.2616	0.2616	0.2615	0.2615	0.2615	0.2616	0.2616	0.2617
7	2710K	0.2618	0.2612	0.2611	0.2610	0.2610	0.2609	0.2610	0.2609	0.2609	0.2610	0.2609
8	2710K	0.2621	0.2614	0.2613	0.2613	0.2613	0.2612	0.2612	0.2612	0.2612	0.2612	0.2613
9	2701K	0.2623	0.2617	0.2616	0.2615	0.2615	0.2614	0.2614	0.2614	0.2614	0.2613	0.2613
10	2703K	0.2625	0.2619	0.2618	0.2617	0.2617	0.2617	0.2616	0.2616	0.2616	0.2617	0.2617
11	2715K	0.2619	0.2612	0.2611	0.2610	0.2610	0.2610	0.2610	0.2609	0.2610	0.2610	0.2610
12	2686K	0.2631	0.2625	0.2623	0.2623	0.2623	0.2623	0.2622	0.2622	0.2622	0.2622	0.2623
13	2691K	0.2628	0.2622	0.2621	0.2620	0.2620	0.2620	0.2620	0.2619	0.2620	0.2619	0.2620
14	2713K	0.2620	0.2613	0.2612	0.2612	0.2611	0.2611	0.2611	0.2611	0.2611	0.2611	0.2612
15	2707K	0.2622	0.2616	0.2615	0.2614	0.2614	0.2614	0.2614	0.2613	0.2614	0.2614	0.2615
16	2703K	0.2625	0.2618	0.2617	0.2617	0.2617	0.2617	0.2616	0.2616	0.2616	0.2616	0.2617
17	2714K	0.2617	0.2611	0.2610	0.2610	0.2610	0.2609	0.2609	0.2609	0.2609	0.2609	0.2610
18	2716K	0.2618	0.2612	0.2611	0.2611	0.2611	0.2609	0.2610	0.2609	0.2610	0.2609	0.2610
19	2709K	0.2621	0.2614	0.2613	0.2613	0.2613	0.2612	0.2612	0.2611	0.2611	0.2612	0.2612
20	2694K	0.2626	0.2620	0.2619	0.2619	0.2618	0.2618	0.2618	0.2617	0.2618	0.2618	0.2619

CIE 1976 v' data for tested units

$T_s = T_{air} = 55°C$, $I_f = 150mA$; $T_s \geq 53°C$ and $T_{air} \geq 50°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2704K	0.5281	0.5280	0.5280	0.5279	0.5279	0.5279	0.5279	0.5279	0.5279	0.5279	0.5278
2	2710K	0.5271	0.5268	0.5268	0.5268	0.5268	0.5268	0.5268	0.5268	0.5267	0.5267	0.5266
3	2716K	0.5277	0.5274	0.5275	0.5274	0.5274	0.5274	0.5274	0.5274	0.5274	0.5273	0.5273
4	2713K	0.5270	0.5268	0.5268	0.5267	0.5267	0.5267	0.5267	0.5267	0.5267	0.5266	0.5265
5	2725K	0.5265	0.5263	0.5263	0.5263	0.5262	0.5263	0.5262	0.5263	0.5262	0.5261	0.5260
6	2698K	0.5282	0.5279	0.5279	0.5279	0.5279	0.5279	0.5279	0.5279	0.5278	0.5278	0.5277
7	2710K	0.5283	0.5281	0.5281	0.5280	0.5280	0.5281	0.5280	0.5280	0.5280	0.5280	0.5279
8	2710K	0.5267	0.5265	0.5264	0.5264	0.5264	0.5264	0.5264	0.5264	0.5264	0.5263	0.5263
9	2701K	0.5280	0.5278	0.5278	0.5277	0.5278	0.5277	0.5277	0.5277	0.5276	0.5277	0.5276
10	2703K	0.5266	0.5263	0.5263	0.5262	0.5262	0.5263	0.5262	0.5262	0.5262	0.5261	0.5261
11	2715K	0.5268	0.5266	0.5266	0.5266	0.5265	0.5265	0.5265	0.5266	0.5265	0.5265	0.5264
12	2686K	0.5275	0.5272	0.5272	0.5273	0.5272	0.5272	0.5272	0.5272	0.5271	0.5271	0.5270
13	2691K	0.5279	0.5277	0.5277	0.5277	0.5277	0.5277	0.5277	0.5276	0.5276	0.5276	0.5275
14	2713K	0.5269	0.5266	0.5266	0.5266	0.5265	0.5266	0.5265	0.5265	0.5265	0.5264	0.5263
15	2707K	0.5269	0.5266	0.5265	0.5266	0.5266	0.5265	0.5266	0.5265	0.5265	0.5265	0.5264
16	2703K	0.5266	0.5264	0.5264	0.5264	0.5264	0.5264	0.5264	0.5264	0.5263	0.5263	0.5262
17	2714K	0.5276	0.5274	0.5274	0.5274	0.5274	0.5273	0.5274	0.5274	0.5273	0.5273	0.5272
18	2716K	0.5269	0.5268	0.5267	0.5268	0.5267	0.5267	0.5267	0.5267	0.5266	0.5266	0.5265
19	2709K	0.5272	0.5270	0.5270	0.5270	0.5270	0.5269	0.5269	0.5269	0.5268	0.5268	0.5267
20	2694K	0.5280	0.5278	0.5278	0.5278	0.5277	0.5277	0.5277	0.5277	0.5277	0.5276	0.5276

Delta u'v' data for tested units

$T_s = T_{air} = 55°C$, $I_f = 150mA$; $T_s \geq 53°C$ and $T_{air} \geq 50°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2704K	0.0000	0.0006	0.0007	0.0008	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0009
2	2710K	0.0000	0.0006	0.0008	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0010	0.0009
3	2716K	0.0000	0.0007	0.0008	0.0008	0.0008	0.0009	0.0008	0.0009	0.0009	0.0009	0.0009
4	2713K	0.0000	0.0007	0.0008	0.0009	0.0009	0.0009	0.0009	0.0009	0.0010	0.0010	0.0009
5	2725K	0.0000	0.0007	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0010	0.0009	0.0009
6	2698K	0.0000	0.0007	0.0007	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0009	0.0008
7	2710K	0.0000	0.0007	0.0008	0.0009	0.0008	0.0009	0.0009	0.0009	0.0010	0.0009	0.0010
8	2710K	0.0000	0.0007	0.0008	0.0009	0.0009	0.0009	0.0009	0.0010	0.0009	0.0010	0.0009
9	2701K	0.0000	0.0007	0.0007	0.0008	0.0009	0.0010	0.0010	0.0010	0.0010	0.0011	0.0011
10	2703K	0.0000	0.0007	0.0008	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009
11	2715K	0.0000	0.0007	0.0009	0.0009	0.0009	0.0009	0.0009	0.0010	0.0009	0.0010	0.0009
12	2686K	0.0000	0.0007	0.0008	0.0008	0.0009	0.0009	0.0009	0.0010	0.0010	0.0010	0.0010
13	2691K	0.0000	0.0007	0.0008	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009
14	2713K	0.0000	0.0008	0.0008	0.0008	0.0009	0.0009	0.0010	0.0010	0.0009	0.0010	0.0009
15	2707K	0.0000	0.0007	0.0008	0.0008	0.0009	0.0009	0.0009	0.0010	0.0009	0.0009	0.0009
16	2703K	0.0000	0.0007	0.0008	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009
17	2714K	0.0000	0.0007	0.0008	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0010	0.0009
18	2716K	0.0000	0.0006	0.0007	0.0008	0.0008	0.0009	0.0008	0.0009	0.0009	0.0009	0.0009
19	2709K	0.0000	0.0007	0.0008	0.0008	0.0008	0.0009	0.0009	0.0010	0.0010	0.0010	0.0010
20	2694K	0.0000	0.0007	0.0008	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009

Forward Voltage [V] data for tested units

$T_s = T_{air} = 55°C$, $I_f = 150mA$; $T_s \geq 53°C$ and $T_{air} \geq 50°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2704K	30.247	30.234	30.241	30.252	30.251	30.253	30.255	30.251	30.259	30.260	30.262
2	2710K	30.207	30.156	30.165	30.171	30.176	30.182	30.183	30.193	30.188	30.190	30.194
3	2716K	30.203	30.159	30.163	30.170	30.175	30.180	30.184	30.190	30.188	30.189	30.193
4	2713K	30.147	30.115	30.126	30.131	30.135	30.139	30.141	30.146	30.145	30.151	30.148
5	2725K	30.262	30.222	30.234	30.240	30.246	30.250	30.253	30.257	30.258	30.260	30.262
6	2698K	30.139	30.109	30.125	30.125	30.128	30.132	30.135	30.137	30.139	30.141	30.143
7	2710K	30.294	30.270	30.286	30.288	30.289	30.293	30.298	30.298	30.312	30.302	30.305
8	2710K	30.089	30.079	30.087	30.093	30.095	30.099	30.104	30.103	30.112	30.106	30.107
9	2701K	30.215	30.194	30.203	30.208	30.212	30.214	30.220	30.220	30.221	30.223	30.225
10	2703K	30.111	30.100	30.107	30.114	30.115	30.117	30.125	30.125	30.132	30.129	30.131
11	2715K	29.960	29.950	29.959	29.963	29.965	29.969	29.971	29.972	29.974	29.974	29.976
12	2686K	30.162	30.157	30.165	30.171	30.174	30.180	30.181	30.185	30.185	30.187	30.189
13	2691K	30.257	30.246	30.253	30.259	30.263	30.268	30.269	30.274	30.274	30.281	30.277
14	2713K	30.193	30.165	30.177	30.181	30.185	30.189	30.192	30.195	30.196	30.198	30.200
15	2707K	30.197	30.178	30.188	30.192	30.197	30.201	30.204	30.207	30.208	30.210	30.212
16	2703K	30.151	30.124	30.133	30.138	30.142	30.145	30.149	30.152	30.151	30.154	30.156
17	2714K	30.204	30.156	30.173	30.179	30.177	30.182	30.187	30.189	30.192	30.193	30.195
18	2716K	30.205	30.161	30.172	30.178	30.183	30.186	30.189	30.193	30.195	30.196	30.199
19	2709K	30.152	30.126	30.135	30.141	30.146	30.150	30.153	30.156	30.157	30.159	30.160
20	2694K	30.277	30.265	30.275	30.280	30.285	30.288	30.292	30.294	30.296	30.297	30.299

Luminous Flux [lm] data for tested units

$T_s = T_{air} = 85°C$, $I_f = 150mA$; $T_s \geq 83°C$ and $T_{air} \geq 80°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2701K	717.017	710.194	706.870	704.642	702.329	700.734	698.969	698.041	697.625	696.811	697.455
2	2699K	703.590	698.644	695.309	693.064	691.063	689.316	688.086	686.707	686.374	685.506	685.916
3	2699K	711.735	705.592	702.554	700.426	698.310	696.501	694.888	694.028	693.322	692.444	692.713
4	2715K	706.958	700.162	697.090	694.873	693.120	691.391	689.809	688.918	688.530	687.854	688.029
5	2714K	711.367	704.909	701.631	699.477	697.649	695.702	694.092	693.058	692.893	692.000	691.758
6	2703K	711.871	705.594	701.910	699.913	697.913	695.979	694.261	693.315	692.738	691.955	692.866
7	2710K	706.781	699.119	695.795	693.732	691.381	689.726	687.750	686.869	686.585	685.687	686.090
8	2704K	702.538	697.829	694.715	692.783	690.556	689.089	687.191	686.217	685.865	685.042	685.669
9	2696K	714.706	707.794	704.645	702.829	700.765	698.977	697.342	696.361	696.084	695.046	695.000
10	2702K	713.739	706.390	702.962	700.667	698.879	697.110	695.443	694.687	693.998	693.141	692.872
11	2704K	708.701	703.151	700.594	698.598	696.603	695.516	693.881	693.084	692.616	691.380	691.533
12	2723K	708.216	703.408	700.852	699.045	697.043	695.779	693.936	692.658	692.561	691.420	692.073
13	2718K	705.906	700.506	698.272	696.276	694.480	692.930	691.036	690.335	690.056	688.936	689.826
14	2713K	714.171	707.576	704.846	702.191	700.779	699.420	697.918	696.938	696.288	695.191	695.571
15	2723K	710.193	703.262	700.971	698.810	696.702	695.621	693.920	692.990	692.548	691.543	691.757
16	2703K	710.688	704.101	700.797	698.784	696.542	695.108	693.052	692.422	691.699	690.780	690.930
17	2707K	706.628	700.655	697.752	695.631	693.831	692.542	690.848	689.772	689.308	688.219	688.965
18	2702K	712.643	706.184	703.600	701.607	699.593	698.015	696.498	695.671	695.587	694.579	695.050
19	2687K	716.470	709.660	706.578	704.588	702.350	700.858	699.555	698.421	698.233	697.104	697.360
20	2707K	708.403	702.601	699.835	697.759	695.908	694.397	692.376	691.499	691.034	690.050	690.642

Normalized Luminous Flux data for tested units

$T_s = T_{air} = 85°C$, $I_f = 150mA$; $T_s \geq 83°C$ and $T_{air} \geq 80°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2701K	1.0000	0.9905	0.9858	0.9827	0.9795	0.9773	0.9748	0.9735	0.9730	0.9718	0.9727
2	2699K	1.0000	0.9930	0.9882	0.9850	0.9822	0.9797	0.9780	0.9760	0.9755	0.9743	0.9749
3	2699K	1.0000	0.9914	0.9871	0.9841	0.9811	0.9786	0.9763	0.9751	0.9741	0.9729	0.9733
4	2715K	1.0000	0.9904	0.9860	0.9829	0.9804	0.9780	0.9757	0.9745	0.9739	0.9730	0.9732
5	2714K	1.0000	0.9909	0.9863	0.9833	0.9807	0.9780	0.9757	0.9743	0.9740	0.9728	0.9724
6	2703K	1.0000	0.9912	0.9860	0.9832	0.9804	0.9777	0.9753	0.9739	0.9731	0.9720	0.9733
7	2710K	1.0000	0.9892	0.9845	0.9815	0.9782	0.9759	0.9731	0.9718	0.9714	0.9702	0.9707
8	2704K	1.0000	0.9933	0.9889	0.9861	0.9829	0.9809	0.9782	0.9768	0.9763	0.9751	0.9760
9	2696K	1.0000	0.9903	0.9859	0.9834	0.9805	0.9780	0.9757	0.9743	0.9739	0.9725	0.9724
10	2702K	1.0000	0.9897	0.9849	0.9817	0.9792	0.9767	0.9744	0.9733	0.9723	0.9711	0.9708
11	2704K	1.0000	0.9922	0.9886	0.9857	0.9829	0.9814	0.9791	0.9780	0.9773	0.9756	0.9758
12	2723K	1.0000	0.9932	0.9896	0.9871	0.9842	0.9824	0.9798	0.9780	0.9779	0.9763	0.9772
13	2718K	1.0000	0.9923	0.9892	0.9864	0.9838	0.9816	0.9789	0.9779	0.9775	0.9760	0.9772
14	2713K	1.0000	0.9908	0.9869	0.9832	0.9812	0.9793	0.9772	0.9759	0.9750	0.9734	0.9740
15	2723K	1.0000	0.9902	0.9870	0.9840	0.9813	0.9795	0.9771	0.9758	0.9752	0.9737	0.9740
16	2703K	1.0000	0.9907	0.9861	0.9833	0.9801	0.9781	0.9752	0.9743	0.9733	0.9720	0.9722
17	2707K	1.0000	0.9915	0.9874	0.9844	0.9819	0.9801	0.9777	0.9761	0.9755	0.9739	0.9750
18	2702K	1.0000	0.9909	0.9873	0.9845	0.9817	0.9795	0.9773	0.9762	0.9761	0.9747	0.9753
19	2687K	1.0000	0.9905	0.9862	0.9834	0.9803	0.9782	0.9764	0.9748	0.9745	0.9730	0.9733
20	2707K	1.0000	0.9918	0.9879	0.9850	0.9824	0.9802	0.9774	0.9761	0.9755	0.9741	0.9749

CIE 1976 u' data for tested units

$T_s = T_{air}$ = 85°C, I_f = 150mA; $T_s \geq$ 83°C and $T_{air} \geq$ 80°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2701K	0.2623	0.2611	0.2608	0.2607	0.2606	0.2604	0.2603	0.2602	0.2602	0.2601	0.2600
2	2699K	0.2625	0.2613	0.2610	0.2609	0.2608	0.2606	0.2605	0.2605	0.2604	0.2603	0.2603
3	2699K	0.2625	0.2615	0.2612	0.2610	0.2609	0.2608	0.2607	0.2605	0.2605	0.2604	0.2604
4	2715K	0.2619	0.2607	0.2604	0.2602	0.2601	0.2600	0.2598	0.2597	0.2597	0.2596	0.2596
5	2714K	0.2619	0.2608	0.2605	0.2604	0.2602	0.2601	0.2600	0.2598	0.2598	0.2597	0.2597
6	2703K	0.2621	0.2610	0.2607	0.2606	0.2604	0.2603	0.2602	0.2601	0.2600	0.2599	0.2598
7	2710K	0.2621	0.2610	0.2607	0.2605	0.2603	0.2601	0.2601	0.2600	0.2599	0.2598	0.2597
8	2704K	0.2624	0.2612	0.2610	0.2608	0.2607	0.2605	0.2605	0.2603	0.2603	0.2602	0.2601
9	2696K	0.2625	0.2613	0.2611	0.2609	0.2608	0.2606	0.2605	0.2604	0.2604	0.2603	0.2603
10	2702K	0.2623	0.2612	0.2609	0.2608	0.2606	0.2605	0.2604	0.2603	0.2603	0.2601	0.2602
11	2704K	0.2625	0.2614	0.2612	0.2609	0.2610	0.2608	0.2607	0.2606	0.2606	0.2605	0.2606
12	2723K	0.2614	0.2604	0.2602	0.2600	0.2599	0.2598	0.2597	0.2596	0.2595	0.2594	0.2594
13	2718K	0.2617	0.2606	0.2604	0.2602	0.2602	0.2600	0.2600	0.2599	0.2598	0.2597	0.2596
14	2713K	0.2618	0.2608	0.2606	0.2604	0.2603	0.2602	0.2601	0.2599	0.2599	0.2598	0.2598
15	2723K	0.2613	0.2602	0.2600	0.2598	0.2597	0.2596	0.2595	0.2594	0.2593	0.2592	0.2592
16	2703K	0.2623	0.2612	0.2609	0.2607	0.2607	0.2605	0.2604	0.2603	0.2603	0.2602	0.2602
17	2707K	0.2623	0.2612	0.2610	0.2608	0.2607	0.2605	0.2604	0.2603	0.2603	0.2602	0.2602
18	2702K	0.2622	0.2611	0.2609	0.2607	0.2606	0.2604	0.2604	0.2602	0.2602	0.2601	0.2600
19	2687K	0.2629	0.2617	0.2615	0.2612	0.2611	0.2610	0.2609	0.2607	0.2607	0.2607	0.2607
20	2707K	0.2622	0.2611	0.2609	0.2607	0.2606	0.2604	0.2603	0.2602	0.2602	0.2601	0.2600

CIE 1976 v' data for tested units

$T_s = T_{air}$ = 85°C, I_f = 150mA; $T_s \geq$ 83°C and $T_{air} \geq$ 80°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2701K	0.5281	0.5276	0.5275	0.5275	0.5274	0.5273	0.5273	0.5272	0.5272	0.5271	0.5271
2	2699K	0.5275	0.5271	0.5270	0.5269	0.5268	0.5268	0.5268	0.5267	0.5266	0.5265	0.5265
3	2699K	0.5274	0.5269	0.5268	0.5268	0.5267	0.5266	0.5266	0.5265	0.5265	0.5264	0.5263
4	2715K	0.5268	0.5262	0.5261	0.5261	0.5260	0.5259	0.5259	0.5258	0.5257	0.5257	0.5256
5	2714K	0.5269	0.5264	0.5263	0.5262	0.5262	0.5261	0.5260	0.5260	0.5259	0.5259	0.5258
6	2703K	0.5282	0.5277	0.5277	0.5276	0.5276	0.5274	0.5274	0.5274	0.5273	0.5273	0.5272
7	2710K	0.5266	0.5261	0.5260	0.5259	0.5258	0.5258	0.5257	0.5256	0.5256	0.5255	0.5255
8	2704K	0.5270	0.5265	0.5264	0.5263	0.5262	0.5261	0.5261	0.5260	0.5260	0.5260	0.5258
9	2696K	0.5281	0.5276	0.5275	0.5275	0.5274	0.5274	0.5273	0.5273	0.5272	0.5271	0.5271
10	2702K	0.5276	0.5271	0.5270	0.5270	0.5269	0.5269	0.5268	0.5268	0.5267	0.5267	0.5266
11	2704K	0.5265	0.5260	0.5260	0.5259	0.5258	0.5258	0.5257	0.5257	0.5256	0.5255	0.5255
12	2723K	0.5273	0.5269	0.5268	0.5267	0.5266	0.5266	0.5266	0.5265	0.5265	0.5264	0.5264
13	2718K	0.5270	0.5264	0.5264	0.5263	0.5263	0.5262	0.5261	0.5262	0.5261	0.5260	0.5260
14	2713K	0.5275	0.5270	0.5270	0.5269	0.5268	0.5269	0.5267	0.5267	0.5267	0.5266	0.5265
15	2723K	0.5275	0.5270	0.5270	0.5269	0.5268	0.5268	0.5267	0.5267	0.5266	0.5266	0.5265
16	2703K	0.5275	0.5270	0.5270	0.5269	0.5268	0.5268	0.5267	0.5267	0.5266	0.5265	0.5265
17	2707K	0.5265	0.5259	0.5259	0.5258	0.5257	0.5257	0.5256	0.5256	0.5254	0.5254	0.5254
18	2702K	0.5284	0.5280	0.5279	0.5278	0.5278	0.5277	0.5277	0.5276	0.5276	0.5275	0.5275
19	2687K	0.5284	0.5279	0.5278	0.5277	0.5277	0.5276	0.5276	0.5275	0.5274	0.5274	0.5273
20	2707K	0.5270	0.5265	0.5264	0.5263	0.5262	0.5262	0.5262	0.5261	0.5260	0.5260	0.5259

Delta u'v' data for tested units

$T_s = T_{air} = 85°C$, $I_f = 150mA$; $T_s \geq 83°C$ and $T_{air} \geq 80°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2701K	0.0000	0.0013	0.0015	0.0017	0.0018	0.0020	0.0021	0.0022	0.0023	0.0024	0.0025
2	2699K	0.0000	0.0013	0.0016	0.0017	0.0018	0.0020	0.0021	0.0022	0.0023	0.0024	0.0024
3	2699K	0.0000	0.0012	0.0015	0.0016	0.0018	0.0019	0.0020	0.0022	0.0023	0.0023	0.0024
4	2715K	0.0000	0.0013	0.0016	0.0018	0.0019	0.0021	0.0022	0.0023	0.0024	0.0025	0.0026
5	2714K	0.0000	0.0012	0.0015	0.0017	0.0018	0.0020	0.0021	0.0022	0.0023	0.0024	0.0025
6	2703K	0.0000	0.0012	0.0015	0.0017	0.0019	0.0020	0.0021	0.0022	0.0023	0.0024	0.0025
7	2710K	0.0000	0.0013	0.0015	0.0017	0.0020	0.0022	0.0022	0.0024	0.0025	0.0026	0.0027
8	2704K	0.0000	0.0012	0.0015	0.0017	0.0018	0.0020	0.0021	0.0023	0.0023	0.0024	0.0025
9	2696K	0.0000	0.0013	0.0015	0.0017	0.0018	0.0020	0.0021	0.0022	0.0023	0.0024	0.0024
10	2702K	0.0000	0.0012	0.0015	0.0016	0.0018	0.0019	0.0021	0.0022	0.0022	0.0024	0.0024
11	2704K	0.0000	0.0012	0.0014	0.0016	0.0016	0.0018	0.0019	0.0021	0.0021	0.0022	0.0022
12	2723K	0.0000	0.0011	0.0013	0.0015	0.0016	0.0018	0.0018	0.0019	0.0020	0.0021	0.0022
13	2718K	0.0000	0.0012	0.0014	0.0016	0.0017	0.0018	0.0019	0.0020	0.0021	0.0022	0.0023
14	2713K	0.0000	0.0011	0.0013	0.0016	0.0016	0.0018	0.0019	0.0020	0.0021	0.0022	0.0023
15	2723K	0.0000	0.0012	0.0015	0.0017	0.0018	0.0019	0.0020	0.0021	0.0022	0.0023	0.0023
16	2703K	0.0000	0.0012	0.0015	0.0017	0.0018	0.0019	0.0021	0.0022	0.0022	0.0023	0.0024
17	2707K	0.0000	0.0012	0.0014	0.0017	0.0018	0.0019	0.0020	0.0022	0.0022	0.0023	0.0024
18	2702K	0.0000	0.0012	0.0014	0.0016	0.0018	0.0019	0.0020	0.0021	0.0022	0.0023	0.0023
19	2687K	0.0000	0.0013	0.0016	0.0018	0.0019	0.0020	0.0022	0.0023	0.0024	0.0025	0.0025
20	2707K	0.0000	0.0012	0.0014	0.0016	0.0017	0.0019	0.0020	0.0021	0.0022	0.0023	0.0024

Forward Voltage [V] data for tested units

$T_s = T_{air} = 85°C$, $I_f = 150mA$; $T_s \geq 83°C$ and $T_{air} \geq 80°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2701K	30.212	30.217	30.224	30.232	30.239	30.239	30.252	30.249	30.250	30.252	30.261
2	2699K	30.152	30.135	30.146	30.153	30.159	30.167	30.170	30.174	30.182	30.178	30.185
3	2699K	30.276	30.271	30.285	30.289	30.294	30.301	30.304	30.308	30.315	30.314	30.320
4	2715K	30.089	30.072	30.085	30.090	30.095	30.108	30.107	30.110	30.115	30.119	30.133
5	2714K	30.266	30.265	30.279	30.285	30.290	30.303	30.304	30.304	30.307	30.310	30.323
6	2703K	30.270	30.267	30.277	30.287	30.290	30.300	30.320	30.314	30.307	30.312	30.316
7	2710K	30.059	30.060	30.069	30.077	30.082	30.090	30.109	30.102	30.095	30.101	30.102
8	2704K	30.105	30.107	30.114	30.121	30.128	30.131	30.136	30.141	30.143	30.145	30.148
9	2696K	30.250	30.247	30.257	30.268	30.271	30.280	30.287	30.286	30.286	30.297	30.298
10	2702K	30.226	30.197	30.210	30.222	30.222	30.233	30.240	30.239	30.234	30.242	30.255
11	2704K	30.316	30.266	30.279	30.292	30.296	30.303	30.310	30.313	30.315	30.321	30.323
12	2723K	30.192	30.157	30.172	30.181	30.188	30.195	30.198	30.206	30.212	30.210	30.213
13	2718K	30.155	30.156	30.166	30.172	30.176	30.182	30.186	30.191	30.192	30.200	30.196
14	2713K	30.181	30.147	30.161	30.168	30.178	30.181	30.187	30.190	30.195	30.198	30.200
15	2723K	30.167	30.135	30.147	30.157	30.165	30.171	30.176	30.179	30.184	30.187	30.194
16	2703K	30.169	30.137	30.150	30.159	30.165	30.172	30.177	30.180	30.183	30.186	30.189
17	2707K	30.158	30.137	30.151	30.156	30.160	30.165	30.172	30.177	30.176	30.180	30.183
18	2702K	30.240	30.233	30.243	30.250	30.255	30.268	30.266	30.267	30.271	30.271	30.274
19	2687K	30.360	30.337	30.349	30.355	30.365	30.372	30.377	30.375	30.380	30.381	30.386
20	2707K	30.262	30.258	30.272	30.274	30.282	30.288	30.296	30.291	30.297	30.306	30.311

Luminous Flux [lm] data for tested units

$T_s = T_{air}$ = 105°C, I_f = 150mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2709K	705.918	691.735	686.168	683.069	680.225	677.668	675.066	673.010	670.724	667.160	663.284
2	2712K	712.207	699.030	693.559	690.402	687.910	685.926	683.641	682.981	681.139	678.163	675.598
3	2712K	711.449	698.706	693.853	691.150	688.691	687.212	684.962	682.941	682.130	679.046	675.871
4	2702K	710.951	697.084	691.888	688.695	686.561	684.802	682.660	681.217	679.968	675.420	672.711
5	2721K	710.712	697.551	690.179	689.071	686.882	684.347	681.825	679.821	678.460	674.539	669.556
6	2705K	708.395	694.152	687.871	685.554	682.996	681.055	678.576	677.298	674.253	670.172	664.069
7	2709K	703.689	689.656	683.670	680.607	678.115	675.228	672.504	670.970	669.309	666.541	662.357
8	2698K	704.454	691.249	684.958	683.427	681.317	679.080	676.332	676.159	673.635	670.322	667.200
9	2705K	713.273	699.809	694.088	691.733	689.697	687.836	685.655	684.257	681.958	678.484	674.844
10	2710K	709.807	694.887	688.794	685.715	683.319	680.336	677.684	675.204	672.517	668.047	662.546
11	2696K	711.826	697.635	693.778	690.915	688.586	686.819	684.494	682.537	680.528	676.923	671.082
12	2698K	711.129	695.902	691.632	688.814	686.589	684.328	682.150	680.817	680.388	675.492	671.419
13	2719K	706.457	692.842	688.308	685.383	682.662	680.407	677.381	675.630	673.700	669.437	666.677
14	2715K	712.408	696.906	692.121	689.216	686.361	684.299	681.509	680.329	678.802	674.923	671.086
15	2704K	706.989	692.205	687.505	684.381	681.753	679.710	677.278	675.508	673.254	669.772	666.305
16	2709K	710.784	696.059	690.893	687.621	684.386	681.237	678.165	675.675	675.804	671.319	666.603
17	2706K	712.556	698.790	693.974	691.076	689.100	687.018	684.891	683.659	680.756	675.234	668.207
18	2705K	710.571	695.798	691.286	688.201	686.059	684.135	682.278	680.534	679.040	675.692	671.151
19	2716K	707.842	692.553	687.599	684.195	681.339	679.124	676.416	674.627	672.753	668.180	663.084
20	2671K	717.832	702.931	698.138	695.781	693.820	691.688	689.214	687.327	685.684	680.801	676.102

Normalized Luminous Flux data for tested units

$T_s = T_{air}$ = 105°C, I_f = 150mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2709K	1.0000	0.9799	0.9720	0.9676	0.9636	0.9600	0.9563	0.9534	0.9501	0.9451	0.9396
2	2712K	1.0000	0.9815	0.9738	0.9694	0.9659	0.9631	0.9599	0.9590	0.9564	0.9522	0.9486
3	2712K	1.0000	0.9821	0.9753	0.9715	0.9680	0.9659	0.9628	0.9599	0.9588	0.9545	0.9500
4	2702K	1.0000	0.9805	0.9732	0.9687	0.9657	0.9632	0.9602	0.9582	0.9564	0.9500	0.9462
5	2721K	1.0000	0.9815	0.9711	0.9696	0.9665	0.9629	0.9594	0.9565	0.9546	0.9491	0.9421
6	2705K	1.0000	0.9799	0.9710	0.9678	0.9641	0.9614	0.9579	0.9561	0.9518	0.9460	0.9374
7	2709K	1.0000	0.9801	0.9716	0.9672	0.9637	0.9596	0.9557	0.9535	0.9511	0.9472	0.9413
8	2698K	1.0000	0.9813	0.9723	0.9702	0.9672	0.9640	0.9601	0.9598	0.9563	0.9515	0.9471
9	2705K	1.0000	0.9811	0.9731	0.9698	0.9669	0.9643	0.9613	0.9593	0.9561	0.9512	0.9461
10	2710K	1.0000	0.9790	0.9704	0.9661	0.9627	0.9585	0.9547	0.9513	0.9475	0.9412	0.9334
11	2696K	1.0000	0.9801	0.9746	0.9706	0.9674	0.9649	0.9616	0.9589	0.9560	0.9510	0.9428
12	2698K	1.0000	0.9786	0.9726	0.9686	0.9655	0.9623	0.9592	0.9574	0.9568	0.9499	0.9442
13	2719K	1.0000	0.9807	0.9743	0.9702	0.9663	0.9631	0.9588	0.9564	0.9536	0.9476	0.9437
14	2715K	1.0000	0.9782	0.9715	0.9674	0.9634	0.9605	0.9566	0.9550	0.9528	0.9474	0.9420
15	2704K	1.0000	0.9791	0.9724	0.9680	0.9643	0.9614	0.9580	0.9555	0.9523	0.9474	0.9425
16	2709K	1.0000	0.9793	0.9720	0.9674	0.9629	0.9584	0.9541	0.9506	0.9508	0.9445	0.9378
17	2706K	1.0000	0.9807	0.9739	0.9699	0.9671	0.9642	0.9612	0.9594	0.9554	0.9476	0.9378
18	2705K	1.0000	0.9792	0.9729	0.9685	0.9655	0.9628	0.9602	0.9577	0.9556	0.9509	0.9445
19	2716K	1.0000	0.9784	0.9714	0.9666	0.9626	0.9594	0.9556	0.9531	0.9504	0.9440	0.9368
20	2671K	1.0000	0.9792	0.9726	0.9693	0.9665	0.9636	0.9601	0.9575	0.9552	0.9484	0.9419

CIE 1976 u' data for tested units
$T_s = T_{air} = 105°C$, $I_f = 150mA$; $T_s \geq 103°C$ and $T_{air} \geq 100°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2709K	0.2622	0.2605	0.2599	0.2596	0.2593	0.2590	0.2588	0.2586	0.2585	0.2584	0.2585
2	2712K	0.2620	0.2603	0.2598	0.2595	0.2593	0.2590	0.2588	0.2586	0.2585	0.2585	0.2588
3	2712K	0.2618	0.2600	0.2595	0.2592	0.2590	0.2587	0.2585	0.2583	0.2583	0.2584	0.2587
4	2702K	0.2626	0.2608	0.2603	0.2600	0.2597	0.2594	0.2592	0.2590	0.2590	0.2591	0.2595
5	2721K	0.2616	0.2599	0.2594	0.2591	0.2587	0.2584	0.2582	0.2580	0.2580	0.2580	0.2581
6	2705K	0.2623	0.2606	0.2601	0.2597	0.2594	0.2591	0.2589	0.2588	0.2587	0.2588	0.2588
7	2709K	0.2622	0.2604	0.2599	0.2596	0.2593	0.2590	0.2588	0.2585	0.2584	0.2585	0.2587
8	2698K	0.2626	0.2608	0.2604	0.2601	0.2598	0.2595	0.2593	0.2593	0.2592	0.2594	0.2597
9	2705K	0.2621	0.2604	0.2599	0.2595	0.2593	0.2590	0.2588	0.2586	0.2586	0.2587	0.2590
10	2710K	0.2621	0.2603	0.2598	0.2595	0.2592	0.2589	0.2586	0.2584	0.2583	0.2583	0.2583
11	2696K	0.2627	0.2610	0.2605	0.2602	0.2600	0.2596	0.2594	0.2592	0.2592	0.2593	0.2595
12	2698K	0.2624	0.2606	0.2601	0.2598	0.2595	0.2592	0.2590	0.2588	0.2589	0.2590	0.2592
13	2719K	0.2616	0.2599	0.2595	0.2591	0.2589	0.2586	0.2584	0.2582	0.2581	0.2580	0.2583
14	2715K	0.2618	0.2600	0.2595	0.2592	0.2589	0.2586	0.2584	0.2582	0.2581	0.2581	0.2584
15	2704K	0.2624	0.2607	0.2602	0.2599	0.2597	0.2594	0.2591	0.2590	0.2589	0.2589	0.2591
16	2709K	0.2620	0.2602	0.2598	0.2594	0.2592	0.2588	0.2586	0.2583	0.2585	0.2584	0.2586
17	2706K	0.2622	0.2605	0.2600	0.2597	0.2594	0.2591	0.2589	0.2587	0.2587	0.2587	0.2587
18	2705K	0.2623	0.2607	0.2602	0.2599	0.2597	0.2594	0.2592	0.2590	0.2589	0.2589	0.2591
19	2716K	0.2619	0.2602	0.2597	0.2593	0.2591	0.2588	0.2585	0.2583	0.2582	0.2582	0.2583
20	2671K	0.2636	0.2619	0.2614	0.2611	0.2609	0.2606	0.2603	0.2601	0.2601	0.2601	0.2603

CIE 1976 v' data for tested units
$T_s = T_{air} = 105°C$, $I_f = 150mA$; $T_s \geq 103°C$ and $T_{air} \geq 100°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2709K	0.5267	0.5258	0.5256	0.5255	0.5253	0.5252	0.5251	0.5250	0.5249	0.5247	0.5243
2	2712K	0.5268	0.5260	0.5258	0.5256	0.5255	0.5254	0.5253	0.5252	0.5251	0.5249	0.5246
3	2712K	0.5280	0.5273	0.5271	0.5269	0.5268	0.5268	0.5267	0.5265	0.5264	0.5262	0.5257
4	2702K	0.5265	0.5256	0.5254	0.5252	0.5251	0.5250	0.5248	0.5247	0.5245	0.5242	0.5236
5	2721K	0.5266	0.5257	0.5255	0.5254	0.5252	0.5251	0.5250	0.5249	0.5248	0.5244	0.5236
6	2705K	0.5267	0.5258	0.5256	0.5255	0.5253	0.5253	0.5252	0.5251	0.5249	0.5246	0.5238
7	2709K	0.5265	0.5257	0.5254	0.5252	0.5250	0.5249	0.5248	0.5246	0.5245	0.5243	0.5236
8	2698K	0.5273	0.5265	0.5264	0.5262	0.5261	0.5260	0.5259	0.5258	0.5256	0.5254	0.5246
9	2705K	0.5278	0.5270	0.5268	0.5267	0.5266	0.5265	0.5264	0.5263	0.5262	0.5260	0.5254
10	2710K	0.5268	0.5259	0.5257	0.5256	0.5254	0.5253	0.5252	0.5250	0.5248	0.5245	0.5238
11	2696K	0.5273	0.5266	0.5264	0.5262	0.5261	0.5260	0.5259	0.5258	0.5256	0.5254	0.5247
12	2698K	0.5282	0.5274	0.5272	0.5271	0.5270	0.5269	0.5269	0.5268	0.5267	0.5263	0.5256
13	2719K	0.5271	0.5263	0.5261	0.5259	0.5258	0.5257	0.5256	0.5255	0.5254	0.5251	0.5248
14	2715K	0.5272	0.5264	0.5262	0.5260	0.5259	0.5258	0.5257	0.5256	0.5255	0.5252	0.5248
15	2704K	0.5266	0.5258	0.5256	0.5254	0.5253	0.5252	0.5251	0.5249	0.5248	0.5246	0.5241
16	2709K	0.5275	0.5268	0.5265	0.5264	0.5262	0.5261	0.5260	0.5259	0.5259	0.5256	0.5253
17	2706K	0.5271	0.5263	0.5261	0.5260	0.5258	0.5258	0.5257	0.5256	0.5253	0.5249	0.5236
18	2705K	0.5269	0.5261	0.5260	0.5258	0.5257	0.5256	0.5255	0.5254	0.5252	0.5250	0.5246
19	2716K	0.5265	0.5256	0.5254	0.5253	0.5251	0.5250	0.5249	0.5248	0.5247	0.5244	0.5239
20	2671K	0.5289	0.5281	0.5280	0.5278	0.5277	0.5277	0.5276	0.5275	0.5273	0.5270	0.5264

Delta u'v' data for tested units

$T_s = T_{air}$ = 105°C, I_f = 150mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2709K	0.0000	0.0019	0.0025	0.0028	0.0031	0.0035	0.0037	0.0039	0.0041	0.0043	0.0044
2	2712K	0.0000	0.0019	0.0024	0.0028	0.0030	0.0034	0.0036	0.0037	0.0039	0.0040	0.0039
3	2712K	0.0000	0.0019	0.0024	0.0028	0.0030	0.0033	0.0036	0.0038	0.0039	0.0038	0.0038
4	2702K	0.0000	0.0020	0.0025	0.0029	0.0032	0.0035	0.0037	0.0039	0.0040	0.0042	0.0042
5	2721K	0.0000	0.0019	0.0025	0.0028	0.0032	0.0035	0.0037	0.0040	0.0040	0.0043	0.0046
6	2705K	0.0000	0.0020	0.0025	0.0029	0.0032	0.0035	0.0038	0.0039	0.0040	0.0042	0.0046
7	2709K	0.0000	0.0020	0.0025	0.0029	0.0033	0.0036	0.0039	0.0041	0.0043	0.0044	0.0046
8	2698K	0.0000	0.0019	0.0024	0.0027	0.0030	0.0033	0.0036	0.0036	0.0038	0.0037	0.0039
9	2705K	0.0000	0.0020	0.0025	0.0028	0.0031	0.0034	0.0036	0.0038	0.0039	0.0039	0.0040
10	2710K	0.0000	0.0020	0.0025	0.0029	0.0032	0.0036	0.0038	0.0041	0.0043	0.0044	0.0048
11	2696K	0.0000	0.0018	0.0024	0.0027	0.0030	0.0033	0.0035	0.0038	0.0039	0.0039	0.0041
12	2698K	0.0000	0.0020	0.0025	0.0028	0.0032	0.0034	0.0037	0.0039	0.0038	0.0039	0.0042
13	2719K	0.0000	0.0019	0.0024	0.0027	0.0030	0.0033	0.0036	0.0038	0.0039	0.0041	0.0041
14	2715K	0.0000	0.0019	0.0025	0.0029	0.0032	0.0035	0.0037	0.0039	0.0040	0.0042	0.0042
15	2704K	0.0000	0.0019	0.0024	0.0028	0.0030	0.0033	0.0036	0.0038	0.0039	0.0040	0.0041
16	2709K	0.0000	0.0020	0.0024	0.0028	0.0031	0.0035	0.0038	0.0040	0.0039	0.0041	0.0041
17	2706K	0.0000	0.0019	0.0024	0.0028	0.0031	0.0034	0.0036	0.0038	0.0039	0.0041	0.0050
18	2705K	0.0000	0.0018	0.0023	0.0027	0.0029	0.0032	0.0034	0.0037	0.0038	0.0039	0.0040
19	2716K	0.0000	0.0019	0.0024	0.0028	0.0031	0.0034	0.0037	0.0039	0.0040	0.0042	0.0043
20	2671K	0.0000	0.0018	0.0024	0.0027	0.0029	0.0032	0.0035	0.0037	0.0038	0.0040	0.0042

Forward Voltage [V] data for tested units

$T_s = T_{air}$ = 105°C, I_f = 150mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2709K	29.987	29.999	30.012	30.021	30.032	30.044	30.046	30.052	30.064	30.065	30.073
2	2712K	30.179	30.176	30.191	30.199	30.211	30.220	30.226	30.234	30.240	30.247	30.251
3	2712K	30.248	30.249	30.262	30.272	30.289	30.292	30.299	30.307	30.316	30.320	30.327
4	2702K	30.334	30.296	30.318	30.334	30.347	30.358	30.369	30.379	30.387	30.398	30.400
5	2721K	30.225	30.217	30.222	30.244	30.255	30.264	30.273	30.281	30.288	30.294	30.300
6	2705K	30.119	30.112	30.120	30.138	30.149	30.156	30.166	30.174	30.181	30.187	30.194
7	2709K	30.031	30.041	30.050	30.063	30.078	30.082	30.090	30.099	30.105	30.112	30.118
8	2698K	30.090	30.100	30.107	30.124	30.134	30.142	30.152	30.158	30.165	30.175	30.180
9	2705K	30.317	30.317	30.323	30.338	30.356	30.360	30.368	30.376	30.387	30.388	30.393
10	2710K	30.146	30.140	30.151	30.170	30.180	30.194	30.194	30.201	30.208	30.230	30.233
11	2696K	30.357	30.343	30.361	30.370	30.380	30.387	30.395	30.401	30.408	30.412	30.418
12	2698K	30.251	30.257	30.275	30.284	30.295	30.307	30.313	30.321	30.329	30.342	30.342
13	2719K	30.191	30.173	30.193	30.206	30.219	30.228	30.239	30.244	30.253	30.261	30.268
14	2715K	30.205	30.192	30.213	30.226	30.238	30.250	30.261	30.275	30.278	30.285	30.292
15	2704K	30.169	30.157	30.173	30.183	30.191	30.201	30.209	30.217	30.223	30.228	30.234
16	2709K	30.222	30.206	30.225	30.240	30.253	30.268	30.276	30.287	30.292	30.299	30.306
17	2706K	30.335	30.337	30.352	30.360	30.371	30.378	30.387	30.394	30.402	30.404	30.413
18	2705K	30.136	30.124	30.140	30.148	30.160	30.167	30.181	30.180	30.187	30.192	30.203
19	2716K	30.079	30.091	30.106	30.115	30.126	30.133	30.141	30.148	30.163	30.162	30.167
20	2671K	30.346	30.325	30.339	30.349	30.360	30.368	30.376	30.385	30.399	30.399	30.402

Luminous Flux [lm] data for tested units

$T_s = T_{air} = 55°C$, $I_f = 200mA$; $T_s \geq 53°C$ and $T_{air} \geq 50°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2698K	916.578	914.469	913.215	911.834	910.342	909.968	906.505	903.492	899.715	894.195	887.046
2	2695K	912.467	911.275	909.551	908.591	907.476	906.288	903.282	900.585	896.771	891.476	884.923
3	2719K	904.040	901.789	900.667	900.170	898.243	897.393	894.635	892.505	888.673	883.637	876.724
4	2695K	904.579	904.280	902.761	900.585	899.919	898.642	895.652	893.280	890.216	886.065	879.364
5	2701K	917.325	914.404	912.724	911.987	910.910	909.970	906.540	903.382	898.875	893.303	885.851
6	2705K	914.523	911.902	910.467	909.353	908.493	908.057	905.219	902.595	899.499	894.162	886.456
7	2713K	913.539	910.010	907.948	907.222	905.814	904.198	901.590	899.486	896.192	891.833	886.610
8	2693K	916.532	914.438	912.411	911.296	909.294	907.973	905.426	903.190	900.479	896.558	890.607
9	2705K	915.536	912.328	910.799	909.928	908.805	908.458	905.687	903.097	899.860	894.890	887.978
10	2705K	911.218	907.908	906.408	905.273	904.108	902.815	900.490	898.420	894.837	890.238	883.459
11	2710K	915.125	912.261	910.056	909.572	907.845	906.631	903.948	901.615	898.005	893.423	886.357
12	2700K	910.899	907.605	905.880	904.745	903.209	901.954	898.557	896.056	892.625	887.852	880.632
13	2713K	906.785	906.584	904.278	903.075	902.034	900.368	897.418	895.054	890.542	885.158	878.070
14	2702K	908.121	904.333	902.421	901.015	900.382	898.592	895.608	893.315	888.453	882.422	875.589
15	2721K	908.575	905.704	904.028	902.924	901.811	900.453	897.769	895.380	890.569	885.548	878.704
16	2706K	909.704	906.933	905.348	903.935	902.885	901.192	897.778	895.225	889.716	884.198	876.895
17	2703K	918.131	914.181	912.687	911.534	910.395	908.848	906.335	904.357	899.190	893.773	887.094
18	2722K	916.138	913.280	911.184	910.056	908.774	907.461	904.251	902.115	896.558	892.675	886.290
19	2706K	905.458	901.961	899.664	898.535	897.614	896.161	893.424	891.816	887.876	882.972	877.336
20	2697K	915.754	912.526	910.264	908.940	907.869	905.864	903.573	901.844	898.166	893.643	888.522

Normalized Luminous Flux data for tested units

$T_s = T_{air} = 55°C$, $I_f = 200mA$; $T_s \geq 53°C$ and $T_{air} \geq 50°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2698K	1.0000	0.9977	0.9963	0.9948	0.9932	0.9928	0.9890	0.9857	0.9816	0.9756	0.9678
2	2695K	1.0000	0.9987	0.9968	0.9958	0.9945	0.9932	0.9899	0.9870	0.9828	0.9770	0.9698
3	2719K	1.0000	0.9975	0.9963	0.9957	0.9936	0.9926	0.9896	0.9872	0.9830	0.9774	0.9698
4	2695K	1.0000	0.9997	0.9980	0.9956	0.9948	0.9934	0.9901	0.9875	0.9841	0.9795	0.9721
5	2701K	1.0000	0.9968	0.9950	0.9942	0.9930	0.9920	0.9882	0.9848	0.9799	0.9738	0.9657
6	2705K	1.0000	0.9971	0.9956	0.9943	0.9934	0.9929	0.9898	0.9870	0.9836	0.9777	0.9693
7	2713K	1.0000	0.9961	0.9939	0.9931	0.9915	0.9898	0.9869	0.9846	0.9810	0.9762	0.9705
8	2693K	1.0000	0.9977	0.9955	0.9943	0.9921	0.9907	0.9879	0.9854	0.9825	0.9782	0.9717
9	2705K	1.0000	0.9965	0.9948	0.9939	0.9926	0.9923	0.9892	0.9864	0.9829	0.9774	0.9699
10	2705K	1.0000	0.9964	0.9947	0.9935	0.9922	0.9908	0.9882	0.9860	0.9820	0.9770	0.9695
11	2710K	1.0000	0.9969	0.9945	0.9939	0.9920	0.9907	0.9878	0.9852	0.9813	0.9763	0.9686
12	2700K	1.0000	0.9964	0.9945	0.9932	0.9916	0.9902	0.9865	0.9837	0.9799	0.9747	0.9668
13	2713K	1.0000	0.9998	0.9972	0.9959	0.9948	0.9929	0.9897	0.9871	0.9821	0.9762	0.9683
14	2702K	1.0000	0.9958	0.9937	0.9922	0.9915	0.9895	0.9862	0.9837	0.9783	0.9717	0.9642
15	2721K	1.0000	0.9968	0.9950	0.9938	0.9922	0.9911	0.9881	0.9855	0.9802	0.9747	0.9671
16	2706K	1.0000	0.9970	0.9952	0.9937	0.9925	0.9906	0.9869	0.9841	0.9780	0.9720	0.9639
17	2703K	1.0000	0.9957	0.9941	0.9928	0.9916	0.9899	0.9872	0.9850	0.9794	0.9735	0.9662
18	2722K	1.0000	0.9969	0.9946	0.9934	0.9920	0.9905	0.9870	0.9847	0.9786	0.9744	0.9674
19	2706K	1.0000	0.9961	0.9936	0.9924	0.9913	0.9897	0.9867	0.9849	0.9806	0.9752	0.9689
20	2697K	1.0000	0.9965	0.9940	0.9926	0.9914	0.9892	0.9867	0.9848	0.9808	0.9759	0.9703

CIE 1976 u' data for tested units

$T_s = T_{air} = 55°C$, $I_f = 200mA$; $T_s \geq 53°C$ and $T_{air} \geq 50°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2698K	0.2627	0.2620	0.2619	0.2618	0.2618	0.2618	0.2618	0.2619	0.2622	0.2625	0.2628
2	2695K	0.2628	0.2620	0.2619	0.2619	0.2618	0.2618	0.2618	0.2619	0.2623	0.2625	0.2628
3	2719K	0.2619	0.2613	0.2612	0.2611	0.2611	0.2611	0.2611	0.2611	0.2614	0.2617	0.2621
4	2695K	0.2628	0.2620	0.2619	0.2618	0.2618	0.2618	0.2618	0.2618	0.2620	0.2623	0.2627
5	2701K	0.2626	0.2619	0.2618	0.2617	0.2617	0.2617	0.2618	0.2619	0.2623	0.2626	0.2629
6	2705K	0.2623	0.2616	0.2616	0.2615	0.2614	0.2614	0.2615	0.2615	0.2618	0.2621	0.2624
7	2713K	0.2621	0.2614	0.2613	0.2612	0.2612	0.2611	0.2611	0.2611	0.2614	0.2616	0.2620
8	2693K	0.2629	0.2622	0.2621	0.2620	0.2620	0.2619	0.2619	0.2620	0.2621	0.2623	0.2626
9	2705K	0.2623	0.2616	0.2615	0.2615	0.2614	0.2614	0.2614	0.2615	0.2618	0.2621	0.2624
10	2705K	0.2624	0.2617	0.2617	0.2616	0.2616	0.2615	0.2615	0.2616	0.2618	0.2620	0.2624
11	2710K	0.2621	0.2614	0.2613	0.2612	0.2612	0.2612	0.2612	0.2612	0.2615	0.2617	0.2621
12	2700K	0.2626	0.2620	0.2619	0.2618	0.2618	0.2617	0.2617	0.2618	0.2621	0.2623	0.2627
13	2713K	0.2621	0.2614	0.2613	0.2613	0.2613	0.2613	0.2612	0.2614	0.2617	0.2620	0.2623
14	2702K	0.2624	0.2617	0.2616	0.2615	0.2615	0.2614	0.2615	0.2616	0.2619	0.2622	0.2625
15	2721K	0.2617	0.2610	0.2609	0.2609	0.2608	0.2608	0.2608	0.2610	0.2614	0.2617	0.2620
16	2706K	0.2622	0.2615	0.2614	0.2613	0.2614	0.2613	0.2614	0.2616	0.2619	0.2622	0.2626
17	2703K	0.2623	0.2617	0.2615	0.2615	0.2615	0.2614	0.2615	0.2616	0.2619	0.2622	0.2625
18	2722K	0.2615	0.2608	0.2607	0.2606	0.2606	0.2606	0.2606	0.2607	0.2611	0.2613	0.2616
19	2706K	0.2625	0.2617	0.2617	0.2616	0.2616	0.2615	0.2616	0.2617	0.2618	0.2621	0.2624
20	2697K	0.2628	0.2621	0.2619	0.2619	0.2618	0.2618	0.2618	0.2618	0.2620	0.2623	0.2625

CIE 1976 v' data for tested units

$T_s = T_{air} = 55°C$, $I_f = 200mA$; $T_s \geq 53°C$ and $T_{air} \geq 50°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2698K	0.5267	0.5264	0.5264	0.5264	0.5263	0.5263	0.5262	0.5261	0.5259	0.5257	0.5253
2	2695K	0.5270	0.5267	0.5267	0.5267	0.5266	0.5266	0.5266	0.5265	0.5263	0.5260	0.5257
3	2719K	0.5257	0.5254	0.5254	0.5254	0.5254	0.5253	0.5253	0.5252	0.5250	0.5248	0.5246
4	2695K	0.5269	0.5267	0.5267	0.5267	0.5267	0.5267	0.5266	0.5264	0.5263	0.5261	0.5258
5	2701K	0.5263	0.5260	0.5260	0.5260	0.5260	0.5260	0.5259	0.5257	0.5255	0.5254	0.5250
6	2705K	0.5267	0.5265	0.5264	0.5264	0.5264	0.5264	0.5264	0.5263	0.5261	0.5260	0.5256
7	2713K	0.5260	0.5257	0.5257	0.5257	0.5257	0.5256	0.5256	0.5255	0.5253	0.5252	0.5250
8	2693K	0.5267	0.5265	0.5264	0.5264	0.5264	0.5263	0.5262	0.5261	0.5260	0.5258	0.5255
9	2705K	0.5269	0.5267	0.5267	0.5267	0.5267	0.5267	0.5266	0.5265	0.5263	0.5262	0.5259
10	2705K	0.5263	0.5260	0.5260	0.5260	0.5260	0.5260	0.5259	0.5258	0.5257	0.5255	0.5252
11	2710K	0.5268	0.5265	0.5265	0.5265	0.5265	0.5264	0.5264	0.5263	0.5261	0.5259	0.5256
12	2700K	0.5265	0.5262	0.5262	0.5262	0.5262	0.5262	0.5261	0.5260	0.5258	0.5257	0.5254
13	2713K	0.5260	0.5258	0.5258	0.5257	0.5257	0.5257	0.5256	0.5255	0.5253	0.5251	0.5248
14	2702K	0.5273	0.5270	0.5270	0.5269	0.5270	0.5269	0.5268	0.5267	0.5265	0.5264	0.5260
15	2721K	0.5264	0.5261	0.5261	0.5260	0.5260	0.5260	0.5259	0.5258	0.5256	0.5255	0.5252
16	2706K	0.5273	0.5270	0.5270	0.5270	0.5270	0.5269	0.5269	0.5267	0.5265	0.5264	0.5260
17	2703K	0.5273	0.5270	0.5270	0.5269	0.5269	0.5269	0.5268	0.5268	0.5266	0.5265	0.5261
18	2722K	0.5271	0.5267	0.5267	0.5267	0.5267	0.5267	0.5266	0.5265	0.5263	0.5261	0.5258
19	2706K	0.5259	0.5257	0.5256	0.5255	0.5255	0.5255	0.5254	0.5253	0.5251	0.5249	0.5246
20	2697K	0.5266	0.5263	0.5262	0.5262	0.5262	0.5261	0.5260	0.5259	0.5257	0.5256	0.5253

Delta u'v' data for tested units

$T_s = T_{air} = 55°C$, $I_f = 200mA$; $T_s \geq 53°C$ and $T_{air} \geq 50°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2698K	0.0000	0.0007	0.0008	0.0009	0.0010	0.0010	0.0010	0.0010	0.0009	0.0010	0.0014
2	2695K	0.0000	0.0008	0.0009	0.0010	0.0010	0.0011	0.0010	0.0010	0.0009	0.0010	0.0013
3	2719K	0.0000	0.0007	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0008	0.0009	0.0011
4	2695K	0.0000	0.0008	0.0009	0.0010	0.0010	0.0011	0.0011	0.0011	0.0010	0.0009	0.0012
5	2701K	0.0000	0.0007	0.0008	0.0009	0.0010	0.0010	0.0009	0.0009	0.0008	0.0009	0.0014
6	2705K	0.0000	0.0007	0.0008	0.0009	0.0010	0.0010	0.0009	0.0009	0.0008	0.0008	0.0011
7	2713K	0.0000	0.0008	0.0009	0.0009	0.0009	0.0010	0.0011	0.0011	0.0010	0.0010	0.0011
8	2693K	0.0000	0.0007	0.0009	0.0010	0.0010	0.0011	0.0011	0.0011	0.0011	0.0011	0.0013
9	2705K	0.0000	0.0007	0.0009	0.0009	0.0009	0.0010	0.0010	0.0009	0.0008	0.0008	0.0011
10	2705K	0.0000	0.0008	0.0008	0.0008	0.0009	0.0010	0.0009	0.0009	0.0008	0.0008	0.0011
11	2710K	0.0000	0.0007	0.0008	0.0009	0.0010	0.0010	0.0010	0.0010	0.0009	0.0009	0.0011
12	2700K	0.0000	0.0007	0.0008	0.0009	0.0009	0.0010	0.0010	0.0010	0.0009	0.0009	0.0011
13	2713K	0.0000	0.0007	0.0009	0.0009	0.0009	0.0009	0.0010	0.0009	0.0008	0.0009	0.0012
14	2702K	0.0000	0.0008	0.0009	0.0009	0.0009	0.0010	0.0010	0.0010	0.0009	0.0009	0.0012
15	2721K	0.0000	0.0007	0.0009	0.0009	0.0009	0.0009	0.0010	0.0009	0.0008	0.0009	0.0012
16	2706K	0.0000	0.0007	0.0008	0.0009	0.0009	0.0009	0.0009	0.0009	0.0008	0.0009	0.0013
17	2703K	0.0000	0.0007	0.0009	0.0009	0.0009	0.0010	0.0010	0.0009	0.0008	0.0008	0.0012
18	2722K	0.0000	0.0007	0.0009	0.0009	0.0010	0.0010	0.0010	0.0010	0.0008	0.0010	0.0012
19	2706K	0.0000	0.0008	0.0008	0.0010	0.0010	0.0010	0.0011	0.0010	0.0011	0.0011	0.0013
20	2697K	0.0000	0.0007	0.0009	0.0010	0.0010	0.0011	0.0011	0.0011	0.0011	0.0011	0.0013

Forward Voltage [V] data for tested units

$T_s = T_{air} = 55°C$, $I_f = 200mA$; $T_s \geq 53°C$ and $T_{air} \geq 50°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2698K	31.364	31.282	31.304	31.312	31.321	31.325	31.328	31.332	31.335	31.335	31.344
2	2695K	31.478	31.392	31.413	31.420	31.429	31.433	31.437	31.442	31.444	31.448	31.452
3	2719K	31.413	31.366	31.384	31.391	31.398	31.404	31.407	31.411	31.413	31.417	31.421
4	2695K	31.416	31.365	31.383	31.390	31.397	31.402	31.406	31.411	31.410	31.413	31.416
5	2701K	31.508	31.430	31.448	31.457	31.465	31.469	31.474	31.481	31.480	31.485	31.489
6	2705K	31.444	31.441	31.456	31.463	31.468	31.473	31.476	31.480	31.482	31.484	31.487
7	2713K	31.356	31.308	31.323	31.330	31.338	31.343	31.348	31.352	31.355	31.359	31.361
8	2693K	31.523	31.446	31.464	31.472	31.480	31.486	31.492	31.497	31.500	31.507	31.511
9	2705K	31.473	31.458	31.474	31.480	31.487	31.494	31.495	31.499	31.500	31.503	31.507
10	2705K	31.222	31.219	31.231	31.237	31.245	31.251	31.253	31.256	31.260	31.261	31.264
11	2710K	31.212	31.212	31.225	31.232	31.238	31.242	31.246	31.248	31.253	31.255	31.258
12	2700K	31.279	31.277	31.295	31.298	31.303	31.309	31.311	31.315	31.317	31.322	31.323
13	2713K	31.354	31.210	31.221	31.225	31.237	31.243	31.246	31.254	31.250	31.262	31.267
14	2702K	31.250	31.261	31.269	31.276	31.283	31.286	31.289	31.294	31.295	31.299	31.303
15	2721K	31.346	31.298	31.315	31.319	31.328	31.333	31.334	31.338	31.339	31.345	31.348
16	2706K	31.420	31.381	31.395	31.402	31.410	31.416	31.416	31.423	31.423	31.427	31.430
17	2703K	31.465	31.448	31.459	31.465	31.471	31.476	31.481	31.481	31.484	31.486	31.491
18	2722K	31.380	31.333	31.351	31.355	31.363	31.373	31.370	31.376	31.378	31.381	31.386
19	2706K	31.397	31.356	31.369	31.376	31.385	31.396	31.392	31.397	31.401	31.404	31.409
20	2697K	31.508	31.428	31.447	31.452	31.463	31.467	31.472	31.478	31.483	31.486	31.493

Luminous Flux [lm] data for tested units

$T_s = T_{air} = 85°C$, $I_f = 200mA$; $T_s \geq 83°C$ and $T_{air} \geq 80°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2703K	912.861	902.319	897.226	893.280	891.222	889.836	886.603	885.485	880.949	876.213	868.861
2	2706K	910.197	897.801	892.714	887.174	886.759	884.949	881.837	879.708	874.763	869.546	862.376
3	2711K	911.795	900.366	894.841	890.589	887.470	887.796	884.795	881.867	877.077	871.554	864.079
4	2709K	905.976	894.468	889.354	885.249	882.792	881.517	879.065	876.160	871.360	866.568	860.094
5	2710K	912.345	900.883	895.996	891.611	889.072	887.996	884.839	883.495	879.083	874.445	869.867
6	2711K	915.127	903.312	898.406	894.179	892.422	891.244	888.238	885.626	880.946	875.291	867.473
7	2700K	912.479	900.317	894.955	891.380	889.648	888.473	885.032	882.398	877.748	872.789	863.967
8	2717K	912.608	898.912	893.936	889.640	887.753	885.310	882.978	881.271	876.826	871.724	866.121
9	2703K	916.300	903.031	897.606	893.254	890.976	889.340	886.182	883.951	879.218	873.889	867.335
10	2702K	915.813	904.984	899.349	895.313	893.261	891.085	888.355	886.379	881.621	876.876	870.604
11	2703K	908.560	898.000	892.409	889.041	886.370	884.613	882.225	880.658	876.120	870.351	863.720
12	2706K	908.591	896.635	891.127	885.225	884.748	882.513	879.725	877.853	873.392	867.671	859.856
13	2704K	915.781	905.990	900.247	896.264	893.874	892.128	888.962	885.829	881.228	875.404	868.340
14	2704K	908.584	895.989	891.104	887.071	885.376	883.562	880.697	878.408	873.488	867.297	859.872
15	2718K	912.035	900.424	895.417	891.482	889.568	887.160	884.402	883.357	879.262	875.025	870.256
16	2701K	910.090	897.272	891.652	887.330	885.431	883.382	880.225	878.166	873.722	867.497	858.847
17	2706K	914.315	903.526	898.557	894.832	892.196	890.641	888.248	885.439	880.753	874.739	867.477
18	2707K	918.707	909.059	903.780	900.078	898.320	896.217	893.724	891.750	887.774	881.699	874.780
19	2715K	911.257	900.865	895.499	891.895	889.596	887.761	884.943	882.898	877.795	871.970	864.874
20	2706K	918.928	906.347	901.320	897.746	895.608	893.324	890.472	888.290	883.601	878.846	872.226

Normalized Luminous Flux data for tested units

$T_s = T_{air} = 85°C$, $I_f = 200mA$; $T_s \geq 83°C$ and $T_{air} \geq 80°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2703K	1.0000	0.9885	0.9829	0.9785	0.9763	0.9748	0.9712	0.9700	0.9650	0.9599	0.9518
2	2706K	1.0000	0.9864	0.9808	0.9747	0.9742	0.9723	0.9688	0.9665	0.9611	0.9553	0.9475
3	2711K	1.0000	0.9875	0.9814	0.9767	0.9733	0.9737	0.9704	0.9672	0.9619	0.9559	0.9477
4	2709K	1.0000	0.9873	0.9817	0.9771	0.9744	0.9730	0.9703	0.9671	0.9618	0.9565	0.9494
5	2710K	1.0000	0.9874	0.9821	0.9773	0.9745	0.9733	0.9699	0.9684	0.9635	0.9585	0.9534
6	2711K	1.0000	0.9871	0.9817	0.9771	0.9752	0.9739	0.9706	0.9678	0.9626	0.9565	0.9479
7	2700K	1.0000	0.9867	0.9808	0.9769	0.9750	0.9737	0.9699	0.9670	0.9619	0.9565	0.9468
8	2717K	1.0000	0.9850	0.9795	0.9748	0.9728	0.9701	0.9675	0.9657	0.9608	0.9552	0.9491
9	2703K	1.0000	0.9855	0.9796	0.9748	0.9724	0.9706	0.9671	0.9647	0.9595	0.9537	0.9466
10	2702K	1.0000	0.9882	0.9820	0.9776	0.9754	0.9730	0.9700	0.9679	0.9627	0.9575	0.9506
11	2703K	1.0000	0.9884	0.9822	0.9785	0.9756	0.9736	0.9710	0.9693	0.9643	0.9579	0.9506
12	2706K	1.0000	0.9868	0.9808	0.9743	0.9738	0.9713	0.9682	0.9662	0.9613	0.9550	0.9464
13	2704K	1.0000	0.9893	0.9830	0.9787	0.9761	0.9742	0.9707	0.9673	0.9623	0.9559	0.9482
14	2704K	1.0000	0.9861	0.9808	0.9763	0.9745	0.9725	0.9693	0.9668	0.9614	0.9546	0.9464
15	2718K	1.0000	0.9873	0.9818	0.9775	0.9751	0.9727	0.9697	0.9686	0.9641	0.9594	0.9542
16	2701K	1.0000	0.9859	0.9797	0.9750	0.9729	0.9707	0.9672	0.9649	0.9600	0.9532	0.9437
17	2706K	1.0000	0.9882	0.9828	0.9787	0.9758	0.9741	0.9715	0.9684	0.9633	0.9567	0.9488
18	2707K	1.0000	0.9895	0.9838	0.9797	0.9778	0.9755	0.9728	0.9707	0.9663	0.9597	0.9522
19	2715K	1.0000	0.9886	0.9827	0.9788	0.9762	0.9742	0.9711	0.9689	0.9633	0.9569	0.9491
20	2706K	1.0000	0.9863	0.9808	0.9769	0.9746	0.9721	0.9690	0.9667	0.9616	0.9564	0.9492

CIE 1976 u' data for tested units

$T_s = T_{air} = 85°C$, $I_f = 200mA$; $T_s \geq 83°C$ and $T_{air} \geq 80°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2703K	0.2626	0.2613	0.2611	0.2609	0.2607	0.2607	0.2606	0.2607	0.2609	0.2611	0.2612
2	2706K	0.2623	0.2610	0.2607	0.2605	0.2603	0.2603	0.2602	0.2602	0.2604	0.2606	0.2607
3	2711K	0.2619	0.2606	0.2603	0.2601	0.2600	0.2599	0.2599	0.2599	0.2601	0.2603	0.2604
4	2709K	0.2620	0.2607	0.2605	0.2602	0.2601	0.2600	0.2598	0.2598	0.2600	0.2602	0.2603
5	2710K	0.2619	0.2606	0.2604	0.2602	0.2600	0.2599	0.2599	0.2599	0.2600	0.2601	0.2603
6	2711K	0.2620	0.2608	0.2605	0.2603	0.2601	0.2600	0.2599	0.2600	0.2602	0.2603	0.2604
7	2700K	0.2624	0.2612	0.2609	0.2607	0.2605	0.2604	0.2603	0.2604	0.2606	0.2608	0.2609
8	2717K	0.2618	0.2605	0.2602	0.2600	0.2598	0.2597	0.2596	0.2597	0.2598	0.2600	0.2602
9	2703K	0.2624	0.2610	0.2608	0.2605	0.2603	0.2602	0.2601	0.2601	0.2602	0.2604	0.2606
10	2702K	0.2624	0.2611	0.2608	0.2606	0.2604	0.2603	0.2602	0.2602	0.2604	0.2606	0.2608
11	2703K	0.2625	0.2612	0.2609	0.2607	0.2605	0.2604	0.2603	0.2603	0.2604	0.2606	0.2607
12	2706K	0.2621	0.2607	0.2605	0.2602	0.2600	0.2599	0.2598	0.2598	0.2599	0.2600	0.2602
13	2704K	0.2621	0.2608	0.2605	0.2603	0.2602	0.2600	0.2599	0.2599	0.2600	0.2602	0.2604
14	2704K	0.2625	0.2611	0.2608	0.2605	0.2604	0.2602	0.2602	0.2602	0.2604	0.2605	0.2606
15	2718K	0.2617	0.2604	0.2601	0.2599	0.2597	0.2596	0.2595	0.2595	0.2596	0.2598	0.2600
16	2701K	0.2624	0.2610	0.2607	0.2605	0.2603	0.2602	0.2601	0.2601	0.2602	0.2604	0.2607
17	2706K	0.2623	0.2611	0.2608	0.2605	0.2604	0.2602	0.2602	0.2603	0.2605	0.2607	0.2608
18	2707K	0.2622	0.2610	0.2607	0.2605	0.2603	0.2601	0.2600	0.2601	0.2602	0.2603	0.2604
19	2715K	0.2620	0.2607	0.2604	0.2602	0.2600	0.2598	0.2598	0.2597	0.2600	0.2601	0.2604
20	2706K	0.2624	0.2610	0.2607	0.2605	0.2603	0.2602	0.2601	0.2602	0.2604	0.2606	0.2608

CIE 1976 v' data for tested units

$T_s = T_{air} = 85°C$, $I_f = 200mA$; $T_s \geq 83°C$ and $T_{air} \geq 80°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2703K	0.5258	0.5253	0.5252	0.5251	0.5250	0.5249	0.5249	0.5247	0.5245	0.5241	0.5235
2	2706K	0.5268	0.5262	0.5261	0.5260	0.5260	0.5259	0.5258	0.5257	0.5254	0.5251	0.5245
3	2711K	0.5275	0.5270	0.5269	0.5268	0.5267	0.5267	0.5266	0.5264	0.5262	0.5258	0.5250
4	2709K	0.5274	0.5269	0.5268	0.5268	0.5267	0.5266	0.5266	0.5264	0.5262	0.5259	0.5255
5	2710K	0.5276	0.5270	0.5270	0.5269	0.5268	0.5267	0.5267	0.5265	0.5263	0.5261	0.5258
6	2711K	0.5269	0.5263	0.5263	0.5262	0.5261	0.5261	0.5260	0.5258	0.5257	0.5253	0.5247
7	2700K	0.5277	0.5272	0.5271	0.5270	0.5269	0.5269	0.5268	0.5266	0.5265	0.5261	0.5256
8	2717K	0.5264	0.5259	0.5258	0.5257	0.5256	0.5255	0.5254	0.5253	0.5251	0.5249	0.5246
9	2703K	0.5271	0.5265	0.5264	0.5263	0.5262	0.5262	0.5261	0.5259	0.5257	0.5254	0.5251
10	2702K	0.5270	0.5265	0.5264	0.5262	0.5262	0.5261	0.5260	0.5259	0.5257	0.5253	0.5249
11	2703K	0.5265	0.5259	0.5258	0.5257	0.5257	0.5256	0.5255	0.5254	0.5251	0.5248	0.5242
12	2706K	0.5277	0.5271	0.5271	0.5269	0.5269	0.5268	0.5267	0.5266	0.5264	0.5262	0.5256
13	2704K	0.5280	0.5275	0.5274	0.5273	0.5272	0.5272	0.5271	0.5270	0.5267	0.5265	0.5260
14	2704K	0.5265	0.5259	0.5258	0.5257	0.5256	0.5255	0.5254	0.5253	0.5250	0.5248	0.5241
15	2718K	0.5268	0.5262	0.5261	0.5260	0.5259	0.5259	0.5257	0.5256	0.5254	0.5252	0.5248
16	2701K	0.5275	0.5269	0.5268	0.5268	0.5267	0.5266	0.5266	0.5264	0.5262	0.5259	0.5254
17	2706K	0.5265	0.5259	0.5258	0.5257	0.5256	0.5255	0.5254	0.5252	0.5250	0.5246	0.5238
18	2707K	0.5269	0.5263	0.5262	0.5261	0.5261	0.5260	0.5259	0.5258	0.5257	0.5254	0.5250
19	2715K	0.5259	0.5253	0.5253	0.5251	0.5250	0.5249	0.5249	0.5247	0.5244	0.5241	0.5233
20	2706K	0.5263	0.5257	0.5256	0.5255	0.5253	0.5252	0.5252	0.5250	0.5247	0.5244	0.5238

Delta u'v' data for tested units

$T_s = T_{air} = 85°C$, $I_f = 200mA$; $T_s \geq 83°C$ and $T_{air} \geq 80°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2703K	0.0000	0.0014	0.0016	0.0019	0.0021	0.0022	0.0022	0.0023	0.0022	0.0023	0.0028
2	2706K	0.0000	0.0015	0.0018	0.0019	0.0021	0.0022	0.0023	0.0023	0.0023	0.0024	0.0028
3	2711K	0.0000	0.0015	0.0017	0.0020	0.0021	0.0022	0.0023	0.0023	0.0023	0.0024	0.0029
4	2709K	0.0000	0.0014	0.0017	0.0019	0.0021	0.0022	0.0024	0.0024	0.0024	0.0024	0.0026
5	2710K	0.0000	0.0014	0.0017	0.0018	0.0021	0.0022	0.0023	0.0023	0.0023	0.0023	0.0024
6	2711K	0.0000	0.0014	0.0016	0.0019	0.0021	0.0022	0.0023	0.0023	0.0022	0.0023	0.0027
7	2700K	0.0000	0.0013	0.0017	0.0019	0.0021	0.0022	0.0023	0.0022	0.0022	0.0023	0.0026
8	2717K	0.0000	0.0015	0.0018	0.0020	0.0022	0.0023	0.0024	0.0024	0.0025	0.0024	0.0025
9	2703K	0.0000	0.0015	0.0017	0.0020	0.0022	0.0024	0.0025	0.0025	0.0026	0.0026	0.0027
10	2702K	0.0000	0.0015	0.0018	0.0020	0.0022	0.0023	0.0025	0.0025	0.0025	0.0025	0.0027
11	2703K	0.0000	0.0014	0.0018	0.0020	0.0022	0.0024	0.0025	0.0025	0.0025	0.0026	0.0029
12	2706K	0.0000	0.0015	0.0018	0.0021	0.0023	0.0024	0.0025	0.0026	0.0026	0.0026	0.0028
13	2704K	0.0000	0.0014	0.0018	0.0019	0.0022	0.0024	0.0024	0.0025	0.0025	0.0024	0.0027
14	2704K	0.0000	0.0015	0.0018	0.0021	0.0023	0.0025	0.0025	0.0026	0.0025	0.0026	0.0030
15	2718K	0.0000	0.0015	0.0018	0.0020	0.0022	0.0023	0.0025	0.0026	0.0026	0.0026	0.0027
16	2701K	0.0000	0.0015	0.0018	0.0020	0.0023	0.0024	0.0025	0.0026	0.0025	0.0025	0.0027
17	2706K	0.0000	0.0014	0.0017	0.0020	0.0021	0.0023	0.0024	0.0024	0.0024	0.0025	0.0030
18	2707K	0.0000	0.0014	0.0017	0.0019	0.0021	0.0023	0.0024	0.0024	0.0024	0.0024	0.0026
19	2715K	0.0000	0.0015	0.0018	0.0020	0.0022	0.0024	0.0025	0.0026	0.0025	0.0026	0.0031
20	2706K	0.0000	0.0015	0.0018	0.0021	0.0023	0.0024	0.0025	0.0026	0.0026	0.0026	0.0029

Forward Voltage [V] data for tested units

$T_s = T_{air} = 85°C$, $I_f = 200mA$; $T_s \geq 83°C$ and $T_{air} \geq 80°C$ in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2703K	31.378	31.325	31.347	31.358	31.369	31.376	31.375	31.390	31.397	31.403	31.408
2	2706K	31.375	31.357	31.375	31.372	31.396	31.405	31.412	31.419	31.424	31.436	31.435
3	2711K	31.260	31.251	31.267	31.264	31.269	31.289	31.296	31.299	31.309	31.313	31.312
4	2709K	31.206	31.222	31.239	31.237	31.246	31.263	31.271	31.273	31.284	31.286	31.288
5	2710K	31.304	31.284	31.295	31.300	31.309	31.323	31.329	31.335	31.340	31.345	31.350
6	2711K	31.401	31.413	31.428	31.431	31.442	31.452	31.458	31.463	31.468	31.471	31.475
7	2700K	31.258	31.249	31.265	31.270	31.279	31.287	31.292	31.298	31.303	31.306	31.295
8	2717K	31.363	31.339	31.357	31.364	31.376	31.387	31.394	31.401	31.406	31.411	31.417
9	2703K	31.368	31.343	31.362	31.371	31.383	31.394	31.403	31.410	31.416	31.423	31.433
10	2702K	31.481	31.430	31.450	31.459	31.469	31.481	31.489	31.496	31.499	31.506	31.514
11	2703K	31.293	31.208	31.215	31.223	31.231	31.248	31.262	31.252	31.253	31.286	31.278
12	2706K	31.248	31.275	31.289	31.284	31.308	31.313	31.319	31.327	31.331	31.334	31.337
13	2704K	31.482	31.493	31.510	31.508	31.528	31.537	31.542	31.545	31.551	31.554	31.560
14	2704K	31.278	31.274	31.288	31.290	31.308	31.314	31.319	31.327	31.330	31.337	31.338
15	2718K	31.381	31.367	31.384	31.395	31.408	31.430	31.421	31.429	31.432	31.438	31.440
16	2701K	31.356	31.376	31.389	31.398	31.413	31.427	31.423	31.427	31.436	31.437	31.434
17	2706K	31.505	31.456	31.469	31.484	31.495	31.506	31.511	31.523	31.533	31.532	31.537
18	2707K	31.402	31.411	31.424	31.428	31.443	31.448	31.453	31.463	31.464	31.465	31.466
19	2715K	31.246	31.258	31.270	31.278	31.291	31.300	31.304	31.310	31.317	31.324	31.325
20	2706K	31.493	31.443	31.464	31.474	31.490	31.503	31.508	31.518	31.520	31.530	31.537

Luminous Flux [lm] data for tested units

$T_s = T_{air}$ = 105°C, I_f = 200mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2698K	901.389	878.363	875.376	872.110	863.397	854.634	843.728	829.946	809.807	789.947	771.908
2	2697K	909.887	888.073	886.147	883.580	874.523	864.399	851.486	832.844	812.362	793.053	776.699
3	2709K	914.405	891.481	888.086	887.082	879.083	871.318	862.069	848.851	829.852	810.135	793.580
4	2696K	911.559	886.962	884.410	880.238	871.650	861.160	846.284	825.919	805.903	789.013	775.850
5	2702K	913.883	890.336	887.297	883.521	874.293	867.019	852.346	833.439	814.116	797.245	783.939
6	2707K	914.578	890.040	886.393	884.316	876.688	868.278	857.223	846.677	824.704	805.047	789.100
7	2703K	911.208	888.221	886.133	882.208	872.201	863.147	847.649	829.743	811.038	795.677	782.246
8	2709K	919.486	896.869	894.972	896.167	887.314	879.618	864.973	848.009	829.946	814.118	800.944
9	2712K	914.320	885.307	880.873	875.087	865.175	854.006	842.133	826.618	807.677	789.357	774.173
10	2708K	919.057	896.996	893.089	892.298	885.273	877.780	867.405	857.397	837.957	817.742	799.540
11	2708K	912.183	891.812	888.181	888.545	880.625	873.930	865.917	851.458	836.863	818.940	802.169
12	2706K	913.457	892.135	888.069	885.629	877.476	868.395	857.333	842.581	825.350	807.464	792.650
13	2702K	913.637	890.156	884.184	882.956	877.100	871.307	862.100	854.881	837.268	818.231	800.711
14	2707K	912.969	890.726	885.595	883.033	876.013	867.694	858.574	852.180	834.976	815.009	796.578
15	2706K	912.127	888.922	884.441	881.584	875.760	867.364	857.683	846.065	827.568	808.553	791.584
16	2715K	910.516	888.651	884.407	882.214	875.977	867.625	857.295	848.710	829.009	807.808	791.608
17	2712K	915.610	892.048	889.317	889.948	881.665	877.097	866.448	848.242	828.721	810.128	794.225
18	2706K	913.710	889.045	884.953	882.604	875.456	867.482	859.818	844.714	826.498	805.273	786.689
19	2698K	908.419	885.200	878.410	875.727	869.741	862.648	853.095	841.428	822.658	800.862	781.958
20	2708K	915.676	896.163	889.782	888.404	882.989	875.845	866.756	863.778	847.138	825.838	804.039

Normalized Luminous Flux data for tested units

$T_s = T_{air}$ = 105°C, I_f = 200mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2698K	1.0000	0.9745	0.9711	0.9675	0.9579	0.9481	0.9360	0.9207	0.8984	0.8764	0.8564
2	2697K	1.0000	0.9760	0.9739	0.9711	0.9611	0.9500	0.9358	0.9153	0.8928	0.8716	0.8536
3	2709K	1.0000	0.9749	0.9712	0.9701	0.9614	0.9529	0.9428	0.9283	0.9075	0.8860	0.8679
4	2696K	1.0000	0.9730	0.9702	0.9656	0.9562	0.9447	0.9284	0.9061	0.8841	0.8656	0.8511
5	2702K	1.0000	0.9742	0.9709	0.9668	0.9567	0.9487	0.9327	0.9120	0.8908	0.8724	0.8578
6	2707K	1.0000	0.9732	0.9692	0.9669	0.9586	0.9494	0.9373	0.9258	0.9017	0.8802	0.8628
7	2703K	1.0000	0.9748	0.9725	0.9682	0.9572	0.9473	0.9302	0.9106	0.8901	0.8732	0.8585
8	2709K	1.0000	0.9754	0.9733	0.9746	0.9650	0.9566	0.9407	0.9223	0.9026	0.8854	0.8711
9	2712K	1.0000	0.9683	0.9634	0.9571	0.9463	0.9340	0.9210	0.9041	0.8834	0.8633	0.8467
10	2708K	1.0000	0.9760	0.9717	0.9709	0.9632	0.9551	0.9438	0.9329	0.9118	0.8898	0.8700
11	2708K	1.0000	0.9777	0.9737	0.9741	0.9654	0.9581	0.9493	0.9334	0.9174	0.8978	0.8794
12	2706K	1.0000	0.9767	0.9722	0.9695	0.9606	0.9507	0.9386	0.9224	0.9035	0.8840	0.8677
13	2702K	1.0000	0.9743	0.9678	0.9664	0.9600	0.9537	0.9436	0.9357	0.9164	0.8956	0.8764
14	2707K	1.0000	0.9756	0.9700	0.9672	0.9595	0.9504	0.9404	0.9334	0.9146	0.8927	0.8725
15	2706K	1.0000	0.9746	0.9696	0.9665	0.9601	0.9509	0.9403	0.9276	0.9073	0.8864	0.8678
16	2715K	1.0000	0.9760	0.9713	0.9689	0.9621	0.9529	0.9415	0.9321	0.9105	0.8872	0.8694
17	2712K	1.0000	0.9743	0.9713	0.9720	0.9629	0.9579	0.9463	0.9264	0.9051	0.8848	0.8674
18	2706K	1.0000	0.9730	0.9685	0.9660	0.9581	0.9494	0.9410	0.9245	0.9046	0.8813	0.8610
19	2698K	1.0000	0.9744	0.9670	0.9640	0.9574	0.9496	0.9391	0.9263	0.9056	0.8816	0.8608
20	2708K	1.0000	0.9787	0.9717	0.9702	0.9643	0.9565	0.9466	0.9433	0.9251	0.9019	0.8781

CIE 1976 u' data for tested units
$T_s = T_{air}$ = 105°C, I_f = 200mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2698K	0.2628	0.2609	0.2604	0.2601	0.2600	0.2600	0.2600	0.2595	0.2584	0.2574	0.2566
2	2697K	0.2625	0.2605	0.2600	0.2599	0.2598	0.2598	0.2596	0.2587	0.2576	0.2568	0.2562
3	2709K	0.2620	0.2600	0.2595	0.2593	0.2592	0.2593	0.2593	0.2590	0.2578	0.2569	0.2562
4	2696K	0.2627	0.2607	0.2602	0.2600	0.2600	0.2599	0.2596	0.2584	0.2572	0.2566	0.2562
5	2702K	0.2626	0.2605	0.2600	0.2598	0.2598	0.2599	0.2596	0.2587	0.2576	0.2568	0.2563
6	2707K	0.2623	0.2603	0.2597	0.2595	0.2594	0.2594	0.2593	0.2590	0.2580	0.2570	0.2565
7	2703K	0.2625	0.2605	0.2599	0.2599	0.2599	0.2598	0.2594	0.2584	0.2573	0.2566	0.2561
8	2709K	0.2620	0.2600	0.2596	0.2595	0.2595	0.2595	0.2591	0.2583	0.2572	0.2565	0.2561
9	2712K	0.2621	0.2598	0.2592	0.2590	0.2589	0.2588	0.2586	0.2580	0.2571	0.2562	0.2557
10	2708K	0.2622	0.2601	0.2596	0.2592	0.2591	0.2591	0.2591	0.2590	0.2579	0.2569	0.2562
11	2708K	0.2621	0.2601	0.2595	0.2594	0.2593	0.2593	0.2594	0.2590	0.2583	0.2573	0.2565
12	2706K	0.2622	0.2602	0.2596	0.2594	0.2593	0.2593	0.2593	0.2586	0.2576	0.2568	0.2562
13	2702K	0.2625	0.2605	0.2600	0.2596	0.2594	0.2593	0.2594	0.2594	0.2586	0.2577	0.2570
14	2707K	0.2621	0.2601	0.2595	0.2593	0.2591	0.2591	0.2591	0.2593	0.2583	0.2573	0.2566
15	2706K	0.2623	0.2603	0.2598	0.2595	0.2593	0.2592	0.2592	0.2590	0.2580	0.2569	0.2562
16	2715K	0.2620	0.2600	0.2595	0.2592	0.2591	0.2590	0.2591	0.2592	0.2582	0.2572	0.2566
17	2712K	0.2621	0.2600	0.2594	0.2593	0.2592	0.2595	0.2594	0.2587	0.2576	0.2565	0.2559
18	2706K	0.2624	0.2602	0.2597	0.2594	0.2592	0.2592	0.2594	0.2592	0.2584	0.2575	0.2567
19	2698K	0.2627	0.2607	0.2601	0.2598	0.2595	0.2594	0.2594	0.2593	0.2584	0.2573	0.2565
20	2708K	0.2622	0.2603	0.2598	0.2595	0.2593	0.2592	0.2592	0.2598	0.2592	0.2582	0.2572

CIE 1976 v' data for tested units
$T_s = T_{air}$ = 105°C, I_f = 200mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2698K	0.5263	0.5255	0.5254	0.5253	0.5250	0.5245	0.5237	0.5217	0.5187	0.5162	0.5144
2	2697K	0.5278	0.5269	0.5268	0.5268	0.5265	0.5260	0.5249	0.5224	0.5196	0.5178	0.5169
3	2709K	0.5274	0.5265	0.5264	0.5263	0.5261	0.5257	0.5251	0.5233	0.5205	0.5181	0.5165
4	2696K	0.5268	0.5259	0.5258	0.5256	0.5254	0.5246	0.5230	0.5197	0.5166	0.5148	0.5145
5	2702K	0.5264	0.5255	0.5254	0.5252	0.5249	0.5243	0.5228	0.5202	0.5170	0.5150	0.5140
6	2707K	0.5262	0.5252	0.5251	0.5250	0.5247	0.5243	0.5233	0.5212	0.5183	0.5165	0.5166
7	2703K	0.5266	0.5256	0.5256	0.5254	0.5250	0.5241	0.5222	0.5194	0.5166	0.5148	0.5142
8	2709K	0.5273	0.5265	0.5264	0.5264	0.5261	0.5256	0.5238	0.5214	0.5191	0.5178	0.5177
9	2712K	0.5265	0.5255	0.5253	0.5251	0.5248	0.5242	0.5231	0.5210	0.5184	0.5163	0.5147
10	2708K	0.5268	0.5259	0.5257	0.5257	0.5255	0.5251	0.5244	0.5226	0.5200	0.5179	0.5177
11	2708K	0.5274	0.5265	0.5264	0.5264	0.5262	0.5259	0.5253	0.5239	0.5219	0.5197	0.5180
12	2706K	0.5272	0.5263	0.5262	0.5260	0.5257	0.5253	0.5244	0.5222	0.5194	0.5170	0.5158
13	2702K	0.5265	0.5256	0.5254	0.5254	0.5252	0.5249	0.5243	0.5232	0.5208	0.5188	0.5175
14	2707K	0.5275	0.5266	0.5265	0.5264	0.5262	0.5259	0.5254	0.5245	0.5221	0.5197	0.5181
15	2706K	0.5265	0.5256	0.5255	0.5254	0.5252	0.5248	0.5242	0.5227	0.5196	0.5169	0.5150
16	2715K	0.5260	0.5250	0.5249	0.5248	0.5246	0.5242	0.5235	0.5220	0.5194	0.5172	0.5170
17	2712K	0.5264	0.5254	0.5253	0.5253	0.5250	0.5247	0.5237	0.5213	0.5180	0.5154	0.5143
18	2706K	0.5264	0.5254	0.5252	0.5251	0.5249	0.5247	0.5243	0.5229	0.5205	0.5180	0.5166
19	2698K	0.5268	0.5258	0.5256	0.5256	0.5253	0.5251	0.5246	0.5235	0.5207	0.5179	0.5159
20	2708K	0.5270	0.5261	0.5260	0.5259	0.5257	0.5254	0.5251	0.5245	0.5227	0.5203	0.5189

Delta u'v' data for tested units

$T_s = T_{air}$ = 105°C, I_f = 200mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2698K	0.0000	0.0021	0.0026	0.0029	0.0031	0.0033	0.0038	0.0057	0.0088	0.0115	0.0134
2	2697K	0.0000	0.0022	0.0027	0.0028	0.0030	0.0033	0.0042	0.0066	0.0096	0.0115	0.0125
3	2709K	0.0000	0.0022	0.0027	0.0029	0.0031	0.0032	0.0036	0.0051	0.0080	0.0106	0.0124
4	2696K	0.0000	0.0022	0.0028	0.0030	0.0031	0.0036	0.0050	0.0083	0.0116	0.0135	0.0139
5	2702K	0.0000	0.0022	0.0027	0.0030	0.0032	0.0034	0.0046	0.0073	0.0106	0.0128	0.0139
6	2707K	0.0000	0.0022	0.0028	0.0031	0.0033	0.0035	0.0042	0.0060	0.0090	0.0110	0.0112
7	2703K	0.0000	0.0022	0.0028	0.0029	0.0031	0.0036	0.0054	0.0083	0.0113	0.0132	0.0140
8	2709K	0.0000	0.0022	0.0027	0.0027	0.0028	0.0031	0.0046	0.0070	0.0095	0.0111	0.0114
9	2712K	0.0000	0.0025	0.0031	0.0033	0.0036	0.0040	0.0048	0.0068	0.0095	0.0117	0.0134
10	2708K	0.0000	0.0023	0.0028	0.0032	0.0034	0.0035	0.0040	0.0053	0.0081	0.0104	0.0109
11	2708K	0.0000	0.0022	0.0027	0.0029	0.0031	0.0032	0.0034	0.0047	0.0067	0.0091	0.0110
12	2706K	0.0000	0.0022	0.0028	0.0030	0.0032	0.0034	0.0041	0.0061	0.0091	0.0115	0.0129
13	2702K	0.0000	0.0022	0.0028	0.0031	0.0034	0.0036	0.0039	0.0046	0.0069	0.0092	0.0106
14	2707K	0.0000	0.0022	0.0027	0.0030	0.0032	0.0034	0.0036	0.0041	0.0066	0.0091	0.0109
15	2706K	0.0000	0.0022	0.0027	0.0031	0.0034	0.0035	0.0038	0.0050	0.0081	0.0110	0.0130
16	2715K	0.0000	0.0022	0.0027	0.0030	0.0033	0.0035	0.0038	0.0048	0.0076	0.0100	0.0105
17	2712K	0.0000	0.0023	0.0028	0.0029	0.0032	0.0031	0.0038	0.0061	0.0096	0.0123	0.0136
18	2706K	0.0000	0.0024	0.0030	0.0033	0.0035	0.0036	0.0037	0.0048	0.0071	0.0097	0.0113
19	2698K	0.0000	0.0022	0.0028	0.0031	0.0035	0.0037	0.0039	0.0047	0.0075	0.0104	0.0126
20	2708K	0.0000	0.0020	0.0026	0.0028	0.0031	0.0033	0.0035	0.0034	0.0052	0.0078	0.0095

Forward Voltage [V] data for tested units

$T_s = T_{air}$ = 105°C, I_f = 200mA; $T_s \geq$ 103°C and $T_{air} \geq$ 100°C in compliance with LM-80-15

	CCT (t=0)	0hrs	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	2698K	31.216	31.146	31.174	31.184	31.198	31.210	31.223	31.235	31.242	31.249	31.258
2	2697K	31.261	31.264	31.293	31.304	31.324	31.336	31.349	31.363	31.371	31.382	31.396
3	2709K	31.380	31.375	31.405	31.422	31.444	31.458	31.469	31.483	31.492	31.503	31.519
4	2696K	31.276	31.276	31.300	31.314	31.330	31.349	31.358	31.368	31.375	31.384	31.394
5	2702K	31.363	31.363	31.388	31.406	31.429	31.437	31.451	31.464	31.477	31.487	31.500
6	2707K	31.210	31.231	31.255	31.271	31.290	31.305	31.315	31.329	31.339	31.350	31.371
7	2703K	31.350	31.342	31.372	31.386	31.403	31.423	31.431	31.442	31.453	31.470	31.477
8	2709K	31.441	31.455	31.480	31.497	31.517	31.534	31.543	31.554	31.567	31.582	31.597
9	2712K	31.318	31.324	31.358	31.379	31.404	31.420	31.437	31.452	31.465	31.476	31.491
10	2708K	31.371	31.293	31.325	31.329	31.341	31.358	31.369	31.380	31.425	31.404	31.414
11	2708K	31.477	31.507	31.521	31.544	31.569	31.602	31.613	31.635	31.622	31.623	31.690
12	2706K	31.479	31.471	31.493	31.530	31.552	31.596	31.591	31.611	31.603	31.601	31.669
13	2702K	31.179	31.208	31.225	31.248	31.267	31.327	31.273	31.292	31.294	31.301	31.332
14	2707K	31.307	31.306	31.334	31.353	31.369	31.381	31.398	31.419	31.428	31.430	31.457
15	2706K	31.279	31.282	31.303	31.321	31.335	31.346	31.359	31.375	31.403	31.402	31.415
16	2715K	31.362	31.354	31.386	31.408	31.420	31.435	31.446	31.464	31.502	31.500	31.515
17	2712K	31.525	31.514	31.542	31.564	31.581	31.596	31.612	31.615	31.638	31.649	31.659
18	2706K	31.299	31.315	31.343	31.363	31.383	31.402	31.408	31.418	31.435	31.451	31.454
19	2698K	31.253	31.282	31.312	31.314	31.337	31.344	31.357	31.365	31.376	31.391	31.408
20	2708K	31.426	31.424	31.459	31.470	31.489	31.495	31.516	31.524	31.537	31.552	31.573

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Company Information

Lumileds is a leading provider of power LEDs for everyday lighting applications. The company's records for light output, efficacy and thermal management are direct results of the ongoing commitment to advancing solid-state lighting technology and enabling lighting solutions that are more environmentally friendly, help reduce CO2 emissions and reduce the need for power plant expansion. Lumileds LUXEON LEDs are enabling never before possible applications in outdoor lighting, shop lighting, home lighting, digital imaging, display and automotive lighting.

Lumileds is a fully integrated supplier, producing core LED material in all three base colors, (red, green, blue) and white. Lumileds has R & D centers in San Jose, California and in the Netherlands, and production capabilities in San Jose, Singapore and Penang, Malaysia. Founded in 1999, Lumileds is the high flux LED technology leader and is dedicated to bridging the gap between solid-state technology and the lighting world. More information about the company's LUXEON LED products and solid-state lighting technologies can be found at www.lumileds.com.

Appendix: Additional Projected Extrapolations per IESNA TM-21-11

Projected L_{75} extrapolations per IESNA TM-21-11

	If = 50mA	If = 100mA	If = 150mA	If = 200mA
Ts = 105°C	203,584	184,612	67,688	17,460
Ts = 85°C	835,950	271,394	257,771	58,552
Ts = 55°C	-1,237,909	4,573,289	291,876	66,801

Projected L_{80} extrapolations per IESNA TM-21-11

	If = 50mA	If = 100mA	If = 150mA	If = 200mA
Ts = 105°C	155,901	139,376	51,515	14,143
Ts = 85°C	644,227	208,715	196,334	45,372
Ts = 55°C	-958,883	3,537,015	226,239	52,582

Projected L_{85} extrapolations per IESNA TM-21-11

	If = 50mA	If = 100mA	If = 150mA	If = 200mA
Ts = 105°C	111,111	96,883	36,323	11,026
Ts = 85°C	464,131	149,838	138,622	32,991
Ts = 55°C	-696,779	2,563,585	164,583	39,226

Projected L_{90} extrapolations per IESNA TM-21-11

	If = 50mA	If = 100mA	If = 150mA	If = 200mA
Ts = 105°C	68,881	56,820	21,999	8,176
Ts = 85°C	294,331	94,326	84,210	21,318
Ts = 55°C	-449,660	1,645,810	106,453	26,633