

Lumen Maintenance Package for LUXEON 5050

(published: Oct 30, 2023)

**Section 1 - Model Description, Models Covered,
Energy Star LM-80 Cover Sheet and TM-21-11
Results**

Section 2 - LM-80 Test Reports

Section 1

1.1 Models Description

LUXEON 5050 Square LES with model number L150-4070503000050 (nominal CCT 4000K, 30V) was used in this LM-80 testing. Figure 1 shows the overall mechanical dimension of this product in mm.

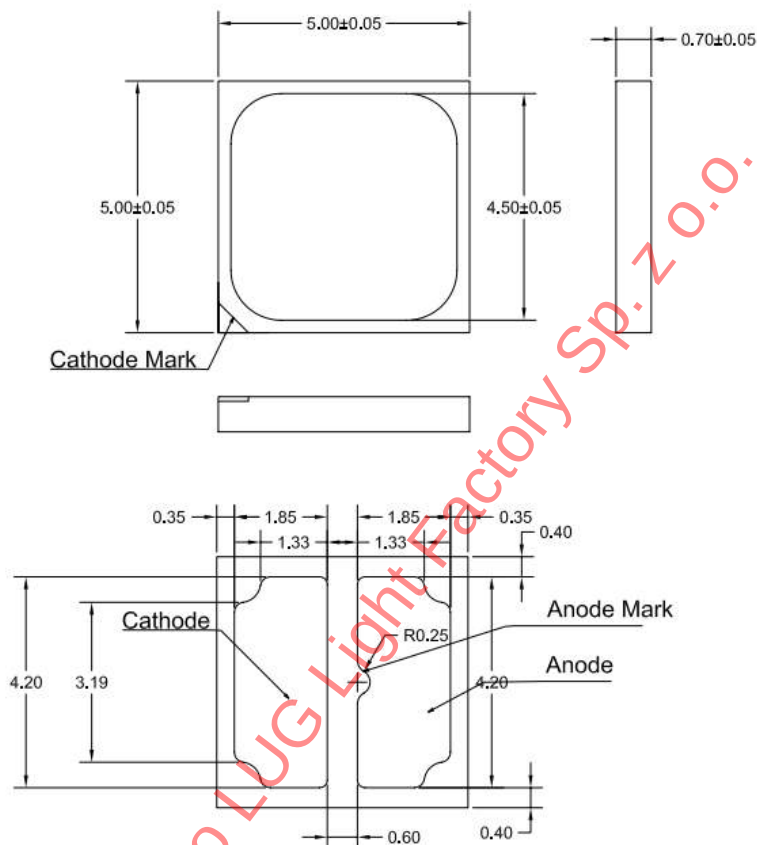


Figure 1. Mechanical drawing for LUXEON 5050 Square LES

1.2 Additional Models Covered

The LM-80 test result here can be applied to the following part numbers:

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

For LUXEON 5050 (Square LES): AA designates nominal ANSI CCT (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 (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 (Square LES) 6V parts have an equivalent drive current I_f' that can be determined as follows: $I_f' = I_f \times 5$.

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

This report issued to LUG Light Factory Sp. z o.o.

1.3 ENERGY STAR® Cover Sheet

ENERGY STAR® LM-80 Cover Sheet

Administrative Information

Tested subcomponent series: LUXEON 5050 Square

Tested subcomponent model number: L150-40705030000S0
(4000K)

Report issue date: Oct 30, 2023 (see Section 2 for details)

Report revision date (if applicable): n/a

Testing start date: Apr 19, 2019

Testing completion date: Feb 27, 2022

DUT sampling method: 36 samples per test condition (see Section 2 for details)

DUT Identification

DUT manufacturer's name: Lumileds LLC

DUT identification, e.g., model number: L150-40705030000S0

Description of DUT, including if the DUT is an LED package or module: LED package

DUT Characteristics

Total input power (W): 4.55 W initial average power at max maintenance current

Average current density per LED die (mA/mm²): 300 mA/mm² at max current

Average power density per LED die (W/mm²): 9.07 W/mm² at max current

Representative CRI (R_a) of the tested sample set: 70 minimum

(Indicate whether the reported value is the mean
or median value of the sample set, or per unit)

Minimum die edge to die edge spacing: 0.4 mm

1.4 TM-21-11 Data

Lumen maintenance L_{70} lifetimes are calculated according to IESNA TM-21-11 method with 17,000 hrs of maintenance data with sample size of 36 per test condition.

Test Conditions	alpha	B	Reported L_{70} (hrs)
70mA 55°C	1.9887E-07	1.0124	102,000
70mA 85°C	4.2484E-07	1.0072	102,000
70mA 105°C	5.2323E-09	0.9921	102,000

Additional Projection per TM-21-11:

Projected L_{70}

If = 70mA	
Ts = 55°C	1,855,724
Ts = 85°C	856,403
Ts = 105°C	66,644,632

Projected L_{80}

If = 70mA	
Ts = 55°C	1,184,263
Ts = 85°C	542,094
Ts = 105°C	41,124,019

Projected L_{90}

If = 70mA	
Ts = 55°C	591,992
Ts = 85°C	264,854
Ts = 105°C	18,613,243

Section 2 LM-80 Test Report

Report Reference No.	Current	Ts Temperature
LUMI012-B1-180	70mA	55°C
	70mA	85°C
	70mA	105°C

This report issued to LUG Light Factory Sp. z o.o.

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This report issued to LUG Light Factory Sp. z o.o.



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LM-80 17000 Hour Interval Test Report

IES LM-80-15 Approved Method for Measuring Lumen Maintenance of LED Light Sources

CSA Group Report: LUMI012-B1-180

May 19, 2021

Manufacturer: **LUMILEDS**
Models tested: **L150-40705030000S0**
LUXEON 5050
Test conditions: 36 devices @ 55.0 C, 0.070 A
36 devices @ 85.0 C, 0.070 A
36 devices @ 105.0 C, 0.070 A

Prepared for:
Lumileds Lighting Company, LLC
370 W. Trimble Road
San Jose, CA 95131

Attn:

Test report prepared by:

Gabriel Trippel

Project Engineer,
Test and Measurement Services

Testing performed by:
CSA Group Seattle
14833 NE 87th St
Redmond, WA 98052
425-605-8500
www.csagroupseattle.org

Test report approved by:

KC Fletcher

Project Manager,
Test and Measurement Services

1.0 Statement of test conditions, summary of results, and reporting requirements:

Part number: L150-40705030000S0					
Life test conditions				Summary of results	
Test condition	Drive current (A)	Case temperature (°C)	Elapsed life test time (hrs)	Average lumen maintenance (%)	Average chromaticity shift ($\Delta u'v'$)
TC1	0.070	55	17000	100.8	0.0007
TC2	0.070	85	17000	100.0	0.0017
TC3	0.070	105	17000	99.2	0.0027
LM-80-15 Reporting requirements					
1. Number of samples tested:			36 per test condition		
2. Description of LED light sources			LED Package ¹		
3. Description of auxiliary equipment			see section 6.1 below		
4. Operating cycle			LED packages are driven at constant current for life test and are pulsed for photometric test.		
5. Ambient conditions, airflow, relative humidity			LED's are operated on controlled thermal plates in an environment that complies with the requirements given in Section 4.4 of LM-80-15. Case temperature (Ts): controlled to within -2°C, Surrounding air temp: controlled to within -5°C of Ts, Humidity: < 65 RH, No forced air flow		
6. Case temperature (test point temperature)			See summary table above for test conditions. The temperature measurement point is shown in Sec. 6.3.		
7. Drive current during life test			see summary table above		
8. Initial luminous flux and forward voltage			see data tables for individual test conditions		
9. Lumen maintenance data for each individual LED light source			see data tables for individual test conditions		
10. Observation of LED light source failures			see data tables for individual test conditions		
11. LED light source monitoring intervals			see data tables for individual test conditions		
12. Photometric measurement uncertainty			k=2 expanded measurement uncertainty for relative luminous flux measurements is $\pm 2.0\%$		
13. Chromaticity shift reported over the measurement time			see data tables for individual test conditions		
14. Test start date			July 15, 2019		
15. ANSI target and calculated CCT values			see data tables		

Notes:

- per ANSI/IESNA RP-16-05 Addendum b, *Nomenclature and Definitions for Illuminating Engineering*

TABLE 1.1 - Initial ANSI Target & Calculated CCT Results

L150-40705030000S0

Load board ID	Device number	Zero hour measurements	
		ANSI Target* CCT (K)	Initial Calculated CCT (K)
24000010766031C	D1	3985±275	3958
	D2	3985±275	3936
	D3	3985±275	3969
	D4	3985±275	3969
	D5	3985±275	3953
	D6	3985±275	3949
	D7	3985±275	3954
	D8	3985±275	3966
	D9	3985±275	3950
	D10	3985±275	3949
	D11	3985±275	3955
	D12	3985±275	3959
2A0000107ECA031C	D1	3985±275	3953
	D2	3985±275	3965
	D3	3985±275	3954
	D4	3985±275	3953
	D5	3985±275	3962
	D6	3985±275	3959
	D7	3985±275	3959
	D8	3985±275	3963
	D9	3985±275	3938
	D10	3985±275	3948
	D11	3985±275	3942
	D12	3985±275	3976
710000108415031C	D1	3985±275	3927
	D2	3985±275	3963
	D3	3985±275	3961
	D4	3985±275	3947
	D5	3985±275	3934
	D6	3985±275	3970
	D7	3985±275	3956
	D8	3985±275	3963
	D9	3985±275	3928
	D10	3985±275	3970
	D11	3985±275	3946
	D12	3985±275	3950
E000001078AF031C	D1	3985±275	3971
	D2	3985±275	3959
	D3	3985±275	3960
	D4	3985±275	3944
	D5	3985±275	3936
	D6	3985±275	3977
	D7	3985±275	3975
	D8	3985±275	3961
	D9	3985±275	3948
	D10	3985±275	3952
	D11	3985±275	3932
	D12	3985±275	3962
020000107325031C	D1	3985±275	3962
	D2	3985±275	3969
	D3	3985±275	3973
	D4	3985±275	3957
	D5	3985±275	3969
	D6	3985±275	3959
	D7	3985±275	3951
	D8	3985±275	3929
	D9	3985±275	3943
	D10	3985±275	3992
	D11	3985±275	3931
	D12	3985±275	3945
C400001082AC031C	D1	3985±275	3949
	D2	3985±275	3953
	D3	3985±275	3941
	D4	3985±275	3958
	D5	3985±275	3957
	D6	3985±275	3947
	D7	3985±275	3952
	D8	3985±275	3981
	D9	3985±275	3944
	D10	3985±275	3957
	D11	3985±275	3958
	D12	3985±275	3979

* target CCT as defined in ANSI C78.377-2008

Load board ID	Device number	Zero hour measurements	
		ANSI Target* CCT (K)	Initial Calculated CCT (K)
8E0000107E45031C	D1	3985±275	3927
	D2	3985±275	3947
	D3	3985±275	3940
	D4	3985±275	3957
	D5	3985±275	3942
	D6	3985±275	3958
	D7	3985±275	3947
	D8	3985±275	3952
	D9	3985±275	3953
	D10	3985±275	3947
	D11	3985±275	3950
	D12	3985±275	3969

Load board ID	Device number	Zero hour measurements	
		ANSI Target* CCT (K)	Initial Calculated CCT (K)
F000001076E2031C	D1	3985±275	3957
	D2	3985±275	3963
	D3	3985±275	3966
	D4	3985±275	3950
	D5	3985±275	3947
	D6	3985±275	3934
	D7	3985±275	3941
	D8	3985±275	3934
	D9	3985±275	3937
	D10	3985±275	3952
	D11	3985±275	3957
	D12	3985±275	3947

Load board ID	Device number	Zero hour measurements	
		ANSI Target* CCT (K)	Initial Calculated CCT (K)
DE0000107720031C	D1	3985±275	3950
	D2	3985±275	3943
	D3	3985±275	3947
	D4	3985±275	3957
	D5	3985±275	3954
	D6	3985±275	3942
	D7	3985±275	3954
	D8	3985±275	3945
	D9	3985±275	3963
	D10	3985±275	3959
	D11	3985±275	3938
	D12	3985±275	3950

* target CCT as defined in ANSI C78.377-2008

Test Condition 1 55 °C 0.070 A														
TABLE 2.0 - LUMEN MAINTENANCE RESULTS														
Test Condition 1 55 °C 0.070 A														
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		Flux (lm)	Vf (V)	Lumen Maintenance (%)										
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
24000010766031C	D1	373.53	28.13	101.1	101.2	101.3	101.4	101.3	101.4	101.4	101.5	101.5	101.4	101.4
	D2	375.40	28.24	100.9	101.0	101.0	101.1	101.0	101.1	101.1	101.1	101.2	101.2	101.2
	D3	372.60	28.16	100.9	100.9	101.0	101.1	101.0	101.1	101.1	101.1	101.2	101.1	101.1
	D4	373.75	28.24	100.8	100.8	100.9	101.0	100.9	100.9	100.9	101.0	101.0	101.0	101.0
	D5	375.25	28.15	100.7	100.7	100.8	100.9	100.9	100.9	100.9	100.9	101.0	101.0	101.0
	D6	372.07	28.20	100.8	100.8	100.9	101.0	100.9	100.9	101.0	101.1	101.1	101.1	101.0
	D7	373.63	28.14	100.7	100.7	100.8	100.9	100.8	100.8	100.8	100.9	100.9	100.9	100.9
	D8	375.16	28.17	100.7	100.7	100.8	100.9	100.9	100.9	100.9	100.9	101.0	100.9	100.9
	D9	373.28	28.18	100.7	100.8	100.9	101.0	100.9	100.9	101.0	101.0	101.1	101.1	101.1
	D10	375.56	28.18	100.5	100.6	100.6	100.7	100.7	100.7	100.7	100.8	100.8	100.8	100.8
	D11	374.85	28.17	100.6	100.6	100.6	100.8	100.7	100.7	100.7	100.8	100.8	100.8	100.8
	D12	375.93	28.18	100.6	100.6	100.7	100.7	100.7	100.6	100.6	100.7	100.7	100.7	100.7
2A0000107ECA031C	D1	375.38	28.16	100.8	100.8	100.9	101.1	100.9	101.0	100.9	101.1	101.0	101.1	101.1
	D2	374.74	28.16	100.9	101.0	101.0	101.2	101.1	101.1	101.1	101.2	101.2	101.2	101.2
	D3	371.34	28.27	100.9	100.9	101.0	101.1	100.9	100.9	100.9	101.0	101.0	101.1	101.1
	D4	373.48	28.19	100.7	100.8	100.9	101.0	100.9	100.8	100.8	100.9	100.9	100.9	100.9
	D5	373.92	28.18	100.8	100.7	100.9	101.1	100.9	101.0	101.0	101.0	101.0	101.1	101.1
	D6	374.34	28.25	100.8	100.8	100.9	101.1	100.9	101.0	101.0	101.1	101.1	101.1	101.1
	D7	373.71	28.18	100.8	100.9	100.9	101.1	101.0	101.0	101.0	101.1	101.1	101.1	101.1
	D8	371.30	28.22	100.7	100.8	100.9	101.1	101.0	101.0	101.0	101.1	101.1	101.0	101.1
	D9	372.06	28.20	100.7	100.7	100.8	101.0	100.9	100.9	100.9	101.0	101.0	101.1	101.0
	D10	377.80	28.20	100.7	100.7	100.8	101.0	100.8	100.8	100.8	100.9	100.9	101.0	101.0
	D11	374.08	28.18	100.7	100.8	100.8	101.0	100.9	100.9	100.9	101.0	101.0	101.1	101.0
	D12	374.55	28.27	100.6	100.7	100.8	101.0	100.8	100.9	100.8	100.9	101.0	101.0	100.9

TABLE 2.0 - LUMEN MAINTENANCE RESULTS

L150-40705030000S0

Test Condition 1 55 °C 0.070 A

Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		Flux (lm)	Vf (V)	Lumen Maintenance (%)										
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
8E0000107E45031C	D1	375.33	28.18	100.8	100.7	100.9	101.0	100.9	100.9	100.9	101.0	101.1	101.0	101.0
	D2	374.22	28.18	100.9	101.0	101.0	101.2	101.1	101.1	101.1	101.2	101.2	101.2	101.2
	D3	374.17	28.17	100.9	101.0	101.1	101.2	101.1	101.0	101.0	101.1	101.2	101.1	101.1
	D4	374.00	28.19	100.9	100.8	100.9	101.0	100.9	100.9	100.9	101.0	101.0	101.0	101.0
	D5	374.23	28.26	100.7	100.8	100.8	101.0	100.9	101.0	101.0	101.0	101.1	101.1	101.1
	D6	369.23	28.22	100.9	100.9	101.0	101.2	101.1	101.1	101.1	101.2	101.3	101.3	101.3
	D7	376.42	28.24	100.7	100.7	100.8	101.0	100.8	100.9	100.8	100.9	101.0	100.9	100.9
	D8	375.35	28.18	100.6	100.6	100.6	100.8	100.7	100.7	100.7	100.8	100.8	100.8	100.8
	D9	373.95	28.14	100.8	100.8	100.9	101.0	100.9	100.9	100.9	101.0	101.1	101.0	101.0
	D10	371.80	28.16	101.1	101.1	101.2	101.3	101.2	101.2	101.2	101.3	101.4	101.3	101.3
	D11	373.85	28.19	100.6	100.6	100.7	100.9	100.7	100.7	100.7	100.8	100.8	100.8	100.8
	D12	374.23	28.20	100.7	100.8	100.8	100.9	100.7	100.7	100.7	100.8	100.9	100.8	100.8
n				36	36	36	36	36	36	36	36	36	36	36
mean				100.8	100.8	100.9	101.0	100.9	100.9	100.9	101.0	101.0	101.0	101.0
median				100.7	100.8	100.9	101.0	100.9	100.9	100.9	101.0	101.0	101.0	101.0
std. dev.				0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2
min				100.5	100.6	100.6	100.7	100.7	100.6	100.6	100.7	100.7	100.7	100.7
max				101.1	101.2	101.3	101.4	101.3	101.4	101.4	101.5	101.5	101.4	101.4

Test Condition 155 °C0.070 A													
TABLE 2.0 - LUMEN MAINTENANCE RESULTS													
Test Condition 155 °C0.070 A													
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none									
		Flux (lm)	Vf (V)	Lumen Maintenance (%)									
				12000	13000	14000	15000	16000	17000				
240000107666031C	D1	373.53	28.13	101.4	101.3	101.4	101.3	101.2	101.1				
	D2	375.40	28.24	101.1	101.1	101.2	101.2	101.1	101.0				
	D3	372.60	28.16	101.1	101.0	101.1	101.1	101.0	100.9				
	D4	373.75	28.24	100.9	100.9	101.0	100.9	100.9	100.8				
	D5	375.25	28.15	100.9	100.9	101.1	101.0	101.0	100.8				
	D6	372.07	28.20	101.1	101.0	101.2	101.1	101.1	101.0				
	D7	373.63	28.14	100.9	100.8	100.9	100.8	100.8	100.7				
	D8	375.16	28.17	100.9	100.9	101.0	100.9	100.9	100.8				
	D9	373.28	28.18	101.0	101.0	101.1	101.1	101.0	101.0				
	D10	375.56	28.18	100.8	100.7	100.9	100.8	100.7	100.7				
	D11	374.85	28.17	100.7	100.7	100.8	100.8	100.7	100.6				
	D12	375.93	28.18	100.7	100.6	100.7	100.7	100.6	100.6				
2A0000107ECA031C	D1	375.38	28.16	101.1	101.0	101.1	101.1	101.0	100.9				
	D2	374.74	28.16	101.2	101.1	101.2	101.2	101.1	101.0				
	D3	371.34	28.27	101.0	101.0	101.1	101.0	101.0	100.9				
	D4	373.48	28.19	100.9	100.9	100.9	100.9	100.9	100.7				
	D5	373.92	28.18	101.1	101.0	101.1	101.1	101.0	100.9				
	D6	374.34	28.25	101.1	101.1	101.1	101.1	101.1	101.0				
	D7	373.71	28.18	101.1	101.1	101.2	101.1	101.1	100.9				
	D8	371.30	28.22	101.1	101.1	101.1	101.1	101.1	101.0				
	D9	372.06	28.20	101.0	101.0	101.1	101.0	100.8	100.9				
	D10	377.80	28.20	100.9	100.9	100.9	100.9	100.8	100.7				
	D11	374.08	28.18	101.0	100.9	101.0	100.9	100.9	100.8				
	D12	374.55	28.27	100.9	100.9	101.0	100.9	100.9	100.8				

TABLE 2.0 - LUMEN MAINTENANCE RESULTS

L150-40705030000S0

Test Condition 1 55 °C 0.070 A

Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none									
		Flux (lm)	Vf (V)	Lumen Maintenance (%)									
				12000	13000	14000	15000	16000	17000				
8E0000107E45031C	D1	375.33	28.18	101.0	101.0	101.1	101.0	101.0	100.9				
	D2	374.22	28.18	101.2	101.2	101.2	101.2	101.1	101.0				
	D3	374.17	28.17	101.1	101.1	101.1	101.0	101.0	100.9				
	D4	374.00	28.19	100.9	100.9	100.9	100.9	100.8	100.7				
	D5	374.23	28.26	101.1	101.1	101.1	101.1	101.1	101.0				
	D6	369.23	28.22	101.2	101.2	101.3	101.2	101.2	101.1				
	D7	376.42	28.24	100.8	100.8	100.9	100.9	100.8	100.7				
	D8	375.35	28.18	100.7	100.7	100.7	100.7	100.6	100.5				
	D9	373.95	28.14	101.0	101.0	101.0	101.0	101.0	100.9				
	D10	371.80	28.16	101.2	101.2	101.2	101.2	101.2	101.0				
	D11	373.85	28.19	100.7	100.7	100.8	100.7	100.7	100.6				
	D12	374.23	28.20	100.7	100.7	100.8	100.7	100.7	100.6				
n				36	36	36	36	36	36				
mean				101.0	101.0	101.0	101.0	100.9	100.8				
median				101.0	101.0	101.1	101.0	101.0	100.9				
std. dev.				0.2	0.2	0.2	0.2	0.2	0.2				
min				100.7	100.6	100.7	100.7	100.6	100.5				
max				101.4	101.3	101.4	101.3	101.2	101.1				

Test Condition 155 °C0.070 A														
TABLE 2.1 - PHOTOSYNTHETIC PHOTON FLUX MAINTENANCE RESULTS														
Test Condition 155 °C0.070 A														
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		PPF (μmol/s)	VF (V)	Photosynthetic Photon Flux Maintenance (%)										
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
240000107666031C	D1	4.90	28.13	101.0	101.0	101.1	101.3	101.2	101.2	101.3	101.3	101.3	101.3	101.3
	D2	4.91	28.24	100.8	100.8	100.8	101.0	100.9	101.0	101.0	101.0	101.1	101.1	101.1
	D3	4.90	28.16	100.7	100.8	100.8	101.0	100.9	101.0	101.0	101.1	101.1	101.0	101.0
	D4	4.90	28.24	100.7	100.7	100.7	100.9	100.8	100.9	100.9	100.9	101.0	100.9	100.9
	D5	4.92	28.15	100.6	100.6	100.7	100.8	100.8	100.8	100.8	100.9	100.9	100.9	100.9
	D6	4.88	28.20	100.7	100.7	100.8	100.9	100.8	100.9	100.9	101.0	101.0	101.0	101.0
	D7	4.90	28.14	100.6	100.6	100.7	100.8	100.7	100.7	100.8	100.8	100.8	100.8	100.8
	D8	4.91	28.17	100.6	100.6	100.7	100.8	100.8	100.8	100.8	100.9	100.9	100.9	100.8
	D9	4.89	28.18	100.6	100.7	100.7	100.9	100.8	100.8	100.9	100.9	101.0	101.0	101.0
	D10	4.92	28.18	100.4	100.4	100.5	100.7	100.6	100.6	100.7	100.7	100.7	100.7	100.7
	D11	4.92	28.17	100.5	100.5	100.5	100.7	100.6	100.6	100.6	100.7	100.7	100.7	100.7
	D12	4.92	28.18	100.5	100.5	100.6	100.6	100.6	100.6	100.6	100.6	100.7	100.7	100.6
2A0000107ECA031C	D1	4.91	28.16	100.6	100.7	100.7	101.0	100.8	100.9	100.9	101.0	101.0	101.0	101.0
	D2	4.90	28.16	100.8	100.9	100.9	101.1	101.0	101.0	101.0	101.1	101.1	101.1	101.1
	D3	4.87	28.27	100.7	100.7	100.8	101.0	100.8	100.8	100.8	101.0	100.9	101.0	101.0
	D4	4.89	28.19	100.6	100.6	100.7	100.9	100.7	100.7	100.7	100.8	100.8	100.8	100.8
	D5	4.90	28.18	100.6	100.6	100.7	101.0	100.8	100.9	100.9	101.0	101.0	101.0	101.0
	D6	4.89	28.25	100.7	100.7	100.8	101.0	100.8	100.9	100.9	101.0	101.0	101.0	101.0
	D7	4.90	28.18	100.7	100.7	100.8	101.0	100.9	100.9	100.9	101.0	101.0	101.0	101.1
	D8	4.86	28.22	100.6	100.7	100.7	101.0	100.9	100.9	100.9	101.0	101.0	100.9	101.0
	D9	4.87	28.20	100.6	100.6	100.7	100.9	100.8	100.8	100.8	100.9	100.9	101.0	100.9
	D10	4.95	28.20	100.6	100.6	100.6	100.9	100.7	100.7	100.7	100.8	100.8	100.9	100.9
	D11	4.91	28.18	100.6	100.6	100.7	100.9	100.8	100.8	100.8	100.9	100.9	101.0	100.9
	D12	4.92	28.27	100.5	100.6	100.7	100.9	100.7	100.8	100.7	100.8	100.9	100.9	100.9

TABLE 2.1 - PHOTOSYNTHETIC PHOTON FLUX MAINTENANCE RESULTS

L150-40705030000S0

Test Condition 1				55 °C 0.070 A										
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		PPF (μmol/s)	VF (V)	Photosynthetic Photon Flux Maintenance (%)										
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
8E0000107E45031C	D1	4.92	28.18	100.7	100.6	100.7	100.9	100.8	100.9	100.9	101.0	101.0	101.0	101.0
	D2	4.88	28.18	100.8	100.8	100.9	101.0	101.0	101.0	101.0	101.1	101.1	101.1	101.1
	D3	4.89	28.17	100.8	100.8	100.9	101.1	100.9	101.0	100.9	101.0	101.1	101.0	101.0
	D4	4.91	28.19	100.8	100.7	100.7	100.9	100.8	100.8	100.8	100.9	100.9	100.9	100.9
	D5	4.89	28.26	100.6	100.7	100.7	100.9	100.8	100.9	100.9	101.0	101.0	101.0	101.0
	D6	4.85	28.22	100.8	100.8	100.9	101.1	101.0	101.0	101.0	101.1	101.2	101.2	101.2
	D7	4.93	28.24	100.6	100.6	100.7	100.9	100.7	100.8	100.8	100.9	100.9	100.8	100.8
	D8	4.92	28.18	100.5	100.5	100.5	100.7	100.6	100.6	100.6	100.7	100.7	100.7	100.7
	D9	4.90	28.14	100.7	100.7	100.7	100.9	100.8	100.8	100.8	100.9	101.0	100.9	101.0
	D10	4.88	28.16	101.0	101.0	101.0	101.2	101.1	101.1	101.1	101.2	101.2	101.2	101.2
	D11	4.90	28.19	100.5	100.5	100.5	100.8	100.6	100.6	100.6	100.7	100.7	100.7	100.8
	D12	4.91	28.20	100.7	100.6	100.7	100.8	100.7	100.7	100.6	100.7	100.8	100.7	100.8
n				36	36	36	36	36	36	36	36	36	36	36
mean				100.7	100.7	100.7	100.9	100.8	100.8	100.8	100.9	100.9	100.9	100.9
median				100.6	100.7	100.7	100.9	100.8	100.8	100.8	100.9	101.0	101.0	101.0
std. dev.				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
min				100.4	100.4	100.5	100.6	100.6	100.6	100.6	100.6	100.7	100.7	100.6
max				101.0	101.0	101.1	101.3	101.2	101.2	101.3	101.3	101.3	101.3	101.3

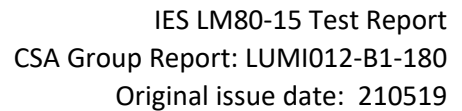
Test Condition 155 °C0.070 A													
TABLE 2.1 - PHOTOSYNTHETIC PHOTON FLUX MAINTENANCE RESULTS													
Test Condition 155 °C0.070 A													
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none									
		PPF (μmol/s)	VF (V)	Photosynthetic Photon Flux Maintenance (%)									
				12000	13000	14000	15000	16000	17000				
240000107666031C	D1	4.90	28.13	101.2	101.2	101.3	101.2	101.1	101.0				
	D2	4.91	28.24	101.1	101.0	101.1	101.1	101.0	100.9				
	D3	4.90	28.16	101.0	101.0	101.1	101.0	101.0	100.8				
	D4	4.90	28.24	100.9	100.8	100.9	100.8	100.8	100.7				
	D5	4.92	28.15	100.9	100.9	101.0	100.9	100.9	100.8				
	D6	4.88	28.20	101.0	101.0	101.1	101.0	101.0	100.9				
	D7	4.90	28.14	100.8	100.8	100.8	100.7	100.8	100.6				
	D8	4.91	28.17	100.9	100.8	100.9	100.8	100.8	100.8				
	D9	4.89	28.18	100.9	101.0	101.0	101.0	100.9	100.9				
	D10	4.92	28.18	100.7	100.7	100.8	100.7	100.7	100.6				
	D11	4.92	28.17	100.7	100.7	100.8	100.7	100.7	100.6				
	D12	4.92	28.18	100.6	100.6	100.7	100.6	100.6	100.5				
2A0000107ECA031C	D1	4.91	28.16	101.0	101.0	101.0	101.0	100.9	100.8				
	D2	4.90	28.16	101.1	101.1	101.1	101.1	101.1	100.9				
	D3	4.87	28.27	101.0	100.9	101.0	100.9	100.9	100.8				
	D4	4.89	28.19	100.8	100.8	100.8	100.8	100.8	100.6				
	D5	4.90	28.18	101.0	101.0	101.0	101.0	100.9	100.8				
	D6	4.89	28.25	101.0	101.0	101.1	101.0	101.0	100.9				
	D7	4.90	28.18	101.0	101.1	101.1	101.0	101.0	100.9				
	D8	4.86	28.22	101.0	101.0	101.1	101.1	101.0	100.9				
	D9	4.87	28.20	100.9	101.0	101.0	101.0	100.8	100.8				
	D10	4.95	28.20	100.8	100.8	100.9	100.8	100.7	100.7				
	D11	4.91	28.18	100.9	100.9	100.9	100.9	100.8	100.7				
	D12	4.92	28.27	100.8	100.9	100.9	100.8	100.8	100.8				

TABLE 2.1 - PHOTOSYNTHETIC PHOTON FLUX MAINTENANCE RESULTS

L150-40705030000S0

Test Condition 1			55 °C	0.070 A											
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A											
		PPF (μmol/s)	VF (V)	Photometric test ambient temperature: 25 ± 2 °C											
				Failures observed: none											
				Photosynthetic Photon Flux Maintenance (%)											
				12000	13000	14000	15000	16000	17000						
8E0000107E45031C	D1	4.92	28.18	101.0	101.0	101.0	100.9	101.0	100.8						
	D2	4.88	28.18	101.1	101.1	101.1	101.1	101.1	100.9						
	D3	4.89	28.17	101.0	101.0	101.0	101.0	100.9	100.8						
	D4	4.91	28.19	100.8	100.8	100.8	100.8	100.8	100.6						
	D5	4.89	28.26	101.0	101.0	101.0	101.0	101.0	100.9						
	D6	4.85	28.22	101.2	101.2	101.2	101.1	101.2	101.0						
	D7	4.93	28.24	100.8	100.8	100.8	100.8	100.8	100.6						
	D8	4.92	28.18	100.6	100.6	100.6	100.6	100.5	100.4						
	D9	4.90	28.14	100.9	101.0	101.0	100.9	100.9	100.9						
	D10	4.88	28.16	101.1	101.1	101.1	101.1	101.1	101.0						
	D11	4.90	28.19	100.7	100.7	100.7	100.7	100.6	100.6						
	D12	4.91	28.20	100.7	100.7	100.7	100.6	100.6	100.5						
				n	36	36	36	36	36	36					
				mean	100.9	100.9	101.0	100.9	100.9	100.8					
				median	100.9	101.0	101.0	100.9	100.9	100.8					
				std. dev.	0.1	0.2	0.2	0.2	0.2	0.1					
				min	100.6	100.6	100.6	100.6	100.5	100.4					
				max	101.2	101.2	101.3	101.2	101.2	101.0					

Test Condition 1 55 °C 0.070 A														
TABLE 2.2 - PHOTON FLUX, FAR RED MAINTENANCE RESULTS														
Test Condition 1 55 °C 0.070 A														
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		PF _{FR} (μmol/s)	VF (V)	Photon Flux Far Red Maintenance, 700-800nm (%)										
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
24000010766031C	D1	0.14	28.13	100.6	100.7	101.0	101.3	101.4	101.3	101.6	101.7	101.6	101.7	102.0
	D2	0.15	28.24	100.4	100.6	100.7	100.9	101.5	101.3	101.2	101.5	101.5	101.7	101.8
	D3	0.14	28.16	100.7	100.7	100.9	101.3	101.3	101.3	101.5	101.7	101.6	101.8	101.8
	D4	0.14	28.24	100.5	100.7	100.8	101.0	101.2	101.5	101.5	101.5	101.6	101.6	101.9
	D5	0.15	28.15	100.2	100.2	100.7	100.7	100.8	101.0	100.8	101.2	101.2	101.2	101.4
	D6	0.14	28.20	100.4	100.3	100.7	100.7	100.9	101.2	101.1	101.5	101.4	101.4	101.6
	D7	0.14	28.14	100.2	100.3	100.6	101.0	101.0	101.1	101.4	101.3	101.4	101.5	101.5
	D8	0.14	28.17	100.2	100.3	100.6	100.8	100.9	101.0	101.3	101.2	101.3	101.5	101.4
	D9	0.14	28.18	100.5	100.5	100.7	101.0	101.2	101.4	101.5	101.6	101.8	101.6	101.8
	D10	0.14	28.18	100.1	100.4	100.8	100.8	101.0	101.0	101.3	101.3	101.2	101.4	101.6
	D11	0.14	28.17	100.2	100.3	100.4	100.6	100.8	101.1	101.1	101.3	101.1	101.5	101.5
	D12	0.14	28.18	100.0	100.3	100.4	100.7	100.8	100.8	101.0	101.0	100.9	101.0	101.0
2A0000107ECA031C	D1	0.14	28.16	100.5	100.7	100.8	101.3	101.1	101.5	101.3	101.5	101.7	101.8	101.8
	D2	0.14	28.16	100.6	100.9	100.9	101.4	101.3	101.4	101.6	101.4	101.7	101.7	101.9
	D3	0.14	28.27	100.7	100.8	101.1	101.4	101.4	101.5	101.5	101.8	101.6	101.6	101.9
	D4	0.14	28.19	100.3	100.5	100.6	101.0	101.1	101.1	101.1	101.1	101.4	101.4	101.7
	D5	0.14	28.18	100.5	100.7	101.0	101.1	101.3	101.4	101.7	101.5	101.5	101.8	101.8
	D6	0.14	28.25	100.6	100.8	101.2	101.4	101.3	101.5	101.6	101.5	101.5	101.9	102.0
	D7	0.14	28.18	100.7	100.8	100.7	101.1	101.3	101.7	101.6	101.5	101.5	101.6	102.0
	D8	0.14	28.22	100.3	100.8	100.8	101.2	101.2	101.3	101.6	101.5	101.5	101.7	102.0
	D9	0.14	28.20	100.3	100.5	100.9	101.0	101.0	101.3	101.4	101.4	101.5	101.7	101.7
	D10	0.15	28.20	100.4	100.6	100.9	101.0	101.0	101.0	101.2	101.2	101.3	101.5	101.9
	D11	0.14	28.18	100.6	100.7	100.9	101.4	101.0	101.4	101.5	101.5	101.4	101.7	101.9
	D12	0.14	28.27	100.5	100.8	101.1	101.2	101.3	101.4	101.3	101.5	101.6	101.6	101.8



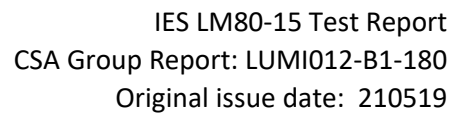
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0.070 A

15	28.18	100.6	100.5	100.8	101.1	101.2	101.1	101.3	101.3
14	28.18	100.4	100.2	100.5	101.0	101.1	101.0	101.0	101.2
14	28.17	100.5	100.7	101.1	101.1	101.3	101.2	101.0	101.5
14	28.19	100.2	100.2	100.5	100.7	100.8	100.8	100.8	101.1
14	28.26	100.5	100.6	100.9	101.1	101.3	101.3	101.3	101.5
14	28.22	100.7	100.3	100.6	101.2	101.1	101.2	101.1	101.4
14	28.24	100.5	100.5	100.6	100.6	100.8	101.1	100.9	101.1
14	28.18	100.6	100.6	100.5	100.9	100.8	101.0	100.8	100.9
14	28.14	100.5	100.4	100.5	100.9	101.1	101.0	101.1	101.1
14	28.16	100.9	100.5	100.8	100.9	101.4	101.3	101.3	101.2
14	28.19	100.3	100.5	100.4	100.8	101.1	100.9	100.9	101.2
14	28.20	100.6	100.5	100.7	101.0	101.1	101.1	101.0	101.4
n		36	36	36	36	36	36	36	36
mean		100.5	100.5	100.7	101.0	101.1	101.2	101.3	101.4
median		100.5	100.5	100.8	101.0	101.1	101.2	101.3	101.4
std. dev.		0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2
min		100.0	100.2	100.4	100.6	100.8	100.8	100.8	100.9

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Test Condition 155 °C0.070 A													
TABLE 2.2 - PHOTON FLUX, FAR RED MAINTENANCE RESULTS													
Test Condition 155 °C0.070 A													
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none									
		PF _{FR} (μmol/s)	VF (V)	Photon Flux Far Red Maintenance, 700-800nm (%)									
				12000	13000	14000	15000	16000	17000				
240000107666031C	D1	0.14	28.13	101.8	101.8	101.9	101.9	101.9	101.5				
	D2	0.15	28.24	101.8	101.6	102.0	101.8	101.8	101.6				
	D3	0.14	28.16	102.1	102.0	101.9	101.9	101.8	101.9				
	D4	0.14	28.24	101.8	102.1	101.9	102.0	101.8	101.7				
	D5	0.15	28.15	101.4	101.8	101.7	101.6	101.4	101.5				
	D6	0.14	28.20	101.7	101.8	101.6	101.7	101.6	101.5				
	D7	0.14	28.14	101.6	101.4	101.7	101.5	101.5	101.2				
	D8	0.14	28.17	101.7	101.4	101.6	101.6	101.5	101.5				
	D9	0.14	28.18	101.8	101.6	101.9	102.0	101.8	101.8				
	D10	0.14	28.18	101.3	101.5	101.5	101.7	101.6	101.4				
	D11	0.14	28.17	101.4	101.5	101.2	101.4	101.3	101.3				
	D12	0.14	28.18	101.3	101.4	101.5	101.2	101.2	101.2				
2A0000107ECA031C	D1	0.14	28.16	101.8	102.0	101.8	101.6	102.0	101.8				
	D2	0.14	28.16	101.8	102.1	101.8	102.0	101.8	101.9				
	D3	0.14	28.27	101.8	102.1	101.9	101.9	101.8	101.9				
	D4	0.14	28.19	101.5	101.6	101.6	101.3	101.6	101.3				
	D5	0.14	28.18	101.7	102.0	101.7	101.8	101.8	101.9				
	D6	0.14	28.25	101.9	102.1	102.0	101.9	101.9	101.9				
	D7	0.14	28.18	101.7	102.1	102.2	101.8	102.0	102.0				
	D8	0.14	28.22	101.8	102.1	101.9	101.8	102.0	101.8				
	D9	0.14	28.20	101.9	101.9	102.0	101.9	101.9	101.7				
	D10	0.15	28.20	101.8	101.8	101.7	101.5	101.6	101.8				
	D11	0.14	28.18	101.8	101.9	101.8	101.6	101.9	101.9				
	D12	0.14	28.27	101.6	101.9	101.8	101.7	101.6	101.8				



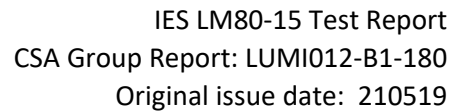
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0.070 A

15	28.18	101.7	101.9	101.8	101.7	101.6	101.7		
14	28.18	101.5	101.6	101.3	101.6	101.3	101.6		
14	28.17	101.6	101.9	101.7	101.8	101.7	101.7		
14	28.19	101.5	101.2	101.3	101.2	101.3	101.1		
14	28.26	101.5	101.9	101.9	101.9	101.6	101.8		
14	28.22	101.8	101.9	101.9	101.7	101.9	101.7		
14	28.24	101.5	101.5	101.3	101.3	101.3	101.4		
14	28.18	101.2	101.5	101.4	101.3	101.0	101.3		
14	28.14	101.9	101.6	101.6	101.6	101.5	101.6		
14	28.16	101.6	101.8	101.6	101.5	101.3	101.6		
14	28.19	101.2	101.4	101.4	101.2	101.3	101.5		
14	28.20	101.3	101.5	101.3	101.4	101.3	101.4		
n		36	36	36	36	36	36		
mean		101.6	101.7	101.7	101.6	101.6	101.6		
median		101.7	101.8	101.7	101.7	101.6	101.6		
std. dev.		0.2	0.3	0.2	0.2	0.3	0.2		
min		101.2	101.2	101.2	101.2	101.0	101.1		

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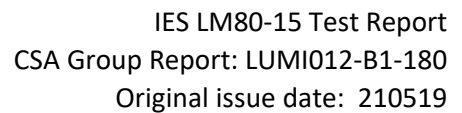
Test Condition 1 55 °C 0.070 A															
TABLE 2.3 - CHROMATICITY SHIFT RESULTS															
Test Condition 1 55 °C 0.070 A															
Load board ID	Device number	Zero hour measurements			Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		u'	v'		Chromaticity shift ($\Delta u'v'$)										
					1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
24000010766031C	D1	0.2247	0.5050		0.0005	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
	D2	0.2249	0.5058		0.0005	0.0006	0.0005	0.0006	0.0006	0.0005	0.0005	0.0005	0.0006	0.0006	0.0006
	D3	0.2247	0.5042		0.0005	0.0005	0.0005	0.0005	0.0005	0.0006	0.0005	0.0005	0.0006	0.0006	0.0006
	D4	0.2243	0.5051		0.0005	0.0005	0.0006	0.0005	0.0005	0.0005	0.0005	0.0006	0.0006	0.0006	0.0006
	D5	0.2246	0.5054		0.0005	0.0005	0.0006	0.0005	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
	D6	0.2248	0.5053		0.0005	0.0005	0.0006	0.0005	0.0005	0.0005	0.0005	0.0006	0.0006	0.0006	0.0005
	D7	0.2247	0.5051		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
	D8	0.2243	0.5054		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0006	0.0005	0.0005
	D9	0.2245	0.5059		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0006	0.0006	0.0005
	D10	0.2249	0.5051		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0006	0.0005	0.0005
	D11	0.2247	0.5051		0.0005	0.0005	0.0005	0.0005	0.0006	0.0006	0.0005	0.0006	0.0006	0.0005	0.0005
	D12	0.2244	0.5057		0.0005	0.0005	0.0005	0.0005	0.0006	0.0006	0.0005	0.0006	0.0006	0.0006	0.0006
2A0000107ECA031C	D1	0.2245	0.5058		0.0005	0.0005	0.0005	0.0006	0.0005	0.0005	0.0006	0.0006	0.0006	0.0006	0.0005
	D2	0.2241	0.5060		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0006	0.0006	0.0006	0.0006	0.0006
	D3	0.2248	0.5049		0.0004	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0006	0.0006	0.0005
	D4	0.2246	0.5054		0.0004	0.0005	0.0006	0.0006	0.0005	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
	D5	0.2246	0.5050		0.0005	0.0005	0.0006	0.0005	0.0005	0.0006	0.0005	0.0005	0.0005	0.0006	0.0005
	D6	0.2242	0.5059		0.0005	0.0005	0.0005	0.0006	0.0005	0.0005	0.0006	0.0005	0.0006	0.0006	0.0006
	D7	0.2247	0.5049		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0006	0.0005	0.0005	0.0006	0.0005
	D8	0.2243	0.5055		0.0005	0.0005	0.0006	0.0006	0.0005	0.0006	0.0005	0.0005	0.0005	0.0006	0.0005
	D9	0.2249	0.5057		0.0005	0.0006	0.0006	0.0006	0.0006	0.0005	0.0006	0.0005	0.0006	0.0006	0.0006
	D10	0.2247	0.5056		0.0005	0.0005	0.0005	0.0006	0.0005	0.0006	0.0006	0.0005	0.0006	0.0006	0.0006
	D11	0.2251	0.5050		0.0004	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0006	0.0005
	D12	0.2245	0.5044		0.0004	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005



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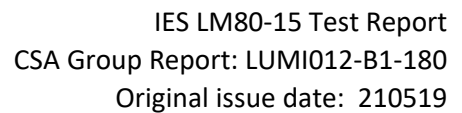
Test Condition 155 °C0.070 A															
TABLE 2.3 - CHROMATICITY SHIFT RESULTS															
Test Condition 155 °C0.070 AL150-40705030000S0															
Load board ID	Device number	Zero hour measurements			Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		u'	v'		Chromaticity shift (Δu'v')										
					12000	13000	14000	15000	16000	17000					
240000107666031C	D1	0.2247	0.5050		0.0006	0.0006	0.0006	0.0007	0.0007	0.0007					
	D2	0.2249	0.5058		0.0006	0.0005	0.0006	0.0007	0.0007	0.0007					
	D3	0.2247	0.5042		0.0006	0.0006	0.0006	0.0007	0.0007	0.0006					
	D4	0.2243	0.5051		0.0006	0.0006	0.0006	0.0006	0.0007	0.0007					
	D5	0.2246	0.5054		0.0006	0.0006	0.0007	0.0007	0.0007	0.0007					
	D6	0.2248	0.5053		0.0006	0.0006	0.0006	0.0006	0.0007	0.0006					
	D7	0.2247	0.5051		0.0006	0.0005	0.0006	0.0006	0.0006	0.0006					
	D8	0.2243	0.5054		0.0006	0.0006	0.0006	0.0006	0.0006	0.0006					
	D9	0.2245	0.5059		0.0006	0.0006	0.0006	0.0006	0.0006	0.0007					
	D10	0.2249	0.5051		0.0006	0.0006	0.0006	0.0006	0.0006	0.0006					
	D11	0.2247	0.5051		0.0006	0.0006	0.0006	0.0006	0.0006	0.0006					
	D12	0.2244	0.5057		0.0006	0.0006	0.0006	0.0007	0.0007	0.0007					
2A0000107ECA031C	D1	0.2245	0.5058		0.0006	0.0006	0.0006	0.0006	0.0006	0.0007					
	D2	0.2241	0.5060		0.0006	0.0006	0.0006	0.0006	0.0006	0.0006					
	D3	0.2248	0.5049		0.0006	0.0006	0.0006	0.0006	0.0006	0.0006					
	D4	0.2246	0.5054		0.0006	0.0006	0.0006	0.0007	0.0007	0.0007					
	D5	0.2246	0.5050		0.0006	0.0006	0.0006	0.0006	0.0006	0.0006					
	D6	0.2242	0.5059		0.0006	0.0006	0.0006	0.0006	0.0007	0.0007					
	D7	0.2247	0.5049		0.0006	0.0005	0.0006	0.0006	0.0007	0.0006					
	D8	0.2243	0.5055		0.0006	0.0006	0.0006	0.0007	0.0006	0.0007					
	D9	0.2249	0.5057		0.0006	0.0006	0.0006	0.0006	0.0007	0.0006					
	D10	0.2247	0.5056		0.0006	0.0006	0.0006	0.0006	0.0007	0.0007					
	D11	0.2251	0.5050		0.0006	0.0005	0.0006	0.0006	0.0006	0.0006					
	D12	0.2245	0.5044		0.0005	0.0005	0.0005	0.0006	0.0006	0.0006					



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Load board ID	Device number	Zero hour measurements			Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		u'	v'		Chromaticity shift (Δu'v')										
					12000	13000	14000	15000	16000	17000					
8E0000107E45031C	D1	0.2252	0.5057		0.0007	0.0006	0.0007	0.0007	0.0007	0.0007					
	D2	0.2242	0.5067		0.0006	0.0006	0.0006	0.0006	0.0007	0.0006					
	D3	0.2246	0.5062		0.0006	0.0006	0.0007	0.0007	0.0007	0.0007					
	D4	0.2248	0.5048		0.0007	0.0006	0.0006	0.0007	0.0007	0.0007					
	D5	0.2246	0.5063		0.0006	0.0006	0.0006	0.0007	0.0007	0.0007					
	D6	0.2248	0.5048		0.0006	0.0006	0.0007	0.0007	0.0007	0.0007					
	D7	0.2247	0.5057		0.0007	0.0006	0.0007	0.0007	0.0007	0.0007					
	D8	0.2247	0.5053		0.0007	0.0006	0.0007	0.0007	0.0007	0.0007					
	D9	0.2246	0.5055		0.0006	0.0006	0.0006	0.0007	0.0007	0.0006					
	D10	0.2250	0.5049		0.0007	0.0006	0.0007	0.0007	0.0007	0.0007					
	D11	0.2246	0.5056		0.0007	0.0006	0.0007	0.0007	0.0007	0.0007					
	D12	0.2245	0.5047		0.0006	0.0006	0.0006	0.0006	0.0007	0.0007					
n					36	36	36	36	36	36					
	mean				0.0006	0.0006	0.0006	0.0006	0.0007	0.0007					
	median				0.0006	0.0006	0.0006	0.0006	0.0007	0.0007					
	std. dev.				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000					
	min				0.0005	0.0005	0.0005	0.0006	0.0006	0.0006					
	max				0.0007	0.0006	0.0007	0.0007	0.0007	0.0007					

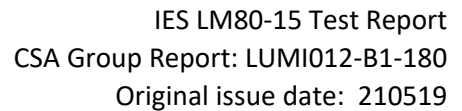
Test Condition 155 °C0.070 A														
TABLE 2.4 - FORWARD VOLTAGE MAINTENANCE RESULTS														
Test Condition 155 °C0.070 A														
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		Vf (V)		Forward Voltage Maintainence (%)										
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
240000107666031C	D1		28.13	100.01	100.03	100.04	100.06	100.06	100.07	100.07	100.07	100.07	100.08	100.08
	D2		28.24	99.99	100.00	100.01	100.03	100.03	100.04	100.04	100.04	100.05	100.05	100.05
	D3		28.16	100.01	100.03	100.04	100.05	100.06	100.06	100.07	100.07	100.07	100.08	100.08
	D4		28.24	100.00	100.02	100.04	100.04	100.05	100.06	100.06	100.07	100.07	100.07	100.07
	D5		28.15	100.00	100.02	100.03	100.04	100.04	100.05	100.05	100.05	100.06	100.06	100.06
	D6		28.20	99.98	100.00	100.01	100.02	100.03	100.04	100.04	100.04	100.05	100.05	100.05
	D7		28.14	100.01	100.03	100.04	100.05	100.05	100.06	100.06	100.07	100.07	100.07	100.08
	D8		28.17	100.01	100.03	100.04	100.05	100.06	100.07	100.07	100.07	100.07	100.08	100.08
	D9		28.18	100.01	100.03	100.04	100.05	100.06	100.07	100.07	100.07	100.07	100.08	100.08
	D10		28.18	100.00	100.02	100.03	100.04	100.05	100.05	100.06	100.06	100.06	100.07	100.07
	D11		28.17	99.99	100.01	100.02	100.04	100.04	100.05	100.05	100.06	100.06	100.06	100.07
	D12		28.18	100.00	100.01	100.03	100.04	100.05	100.05	100.05	100.06	100.06	100.06	100.07
2A0000107ECA031C	D1		28.16	99.98	100.00	100.01	100.02	100.02	100.03	100.03	100.04	100.04	100.05	100.04
	D2		28.16	100.01	100.02	100.04	100.05	100.05	100.06	100.07	100.07	100.07	100.08	100.08
	D3		28.27	100.00	100.01	100.02	100.04	100.04	100.05	100.05	100.06	100.06	100.07	100.07
	D4		28.19	99.99	100.00	100.02	100.03	100.03	100.04	100.04	100.05	100.05	100.06	100.06
	D5		28.18	100.01	100.03	100.04	100.05	100.05	100.06	100.06	100.07	100.07	100.07	100.08
	D6		28.25	99.99	100.02	100.02	100.04	100.04	100.05	100.05	100.06	100.06	100.06	100.07
	D7		28.18	100.01	100.03	100.04	100.05	100.05	100.06	100.07	100.07	100.07	100.08	100.08
	D8		28.22	100.00	100.02	100.04	100.05	100.05	100.06	100.06	100.07	100.07	100.08	100.08
	D9		28.20	99.97	99.99	100.00	100.01	100.02	100.03	100.03	100.04	100.04	100.04	100.04
	D10		28.20	99.98	100.00	100.01	100.02	100.02	100.03	100.03	100.04	100.04	100.04	100.04
	D11		28.18	99.99	100.01	100.02	100.04	100.04	100.05	100.05	100.06	100.06	100.06	100.06
	D12		28.27	99.97	99.99	99.99	100.01	100.01	100.02	100.02	100.03	100.03	100.03	100.03



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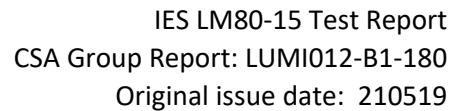
Test Condition 155 °C0.070 A													
TABLE 2.4 - FORWARD VOLTAGE MAINTENANCE RESULTS													
Test Condition 155 °C0.070 A													
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none									
		Vf (V)		Forward Voltage Maintainence (%)									
				12000	13000	14000	15000	16000	17000				
240000107666031C	D1		28.13	100.08	100.08	100.09	100.10	100.09	100.10				
	D2		28.24	100.05	100.05	100.06	100.07	100.06	100.07				
	D3		28.16	100.08	100.08	100.09	100.10	100.09	100.10				
	D4		28.24	100.07	100.08	100.08	100.09	100.08	100.09				
	D5		28.15	100.06	100.07	100.07	100.08	100.07	100.08				
	D6		28.20	100.05	100.06	100.06	100.07	100.06	100.07				
	D7		28.14	100.07	100.08	100.08	100.09	100.08	100.09				
	D8		28.17	100.08	100.08	100.09	100.09	100.09	100.10				
	D9		28.18	100.08	100.08	100.09	100.09	100.09	100.10				
	D10		28.18	100.07	100.07	100.08	100.08	100.08	100.08				
	D11		28.17	100.07	100.07	100.08	100.08	100.07	100.08				
	D12		28.18	100.08	100.07	100.08	100.08	100.07	100.08				
2A0000107ECA031C	D1		28.16	100.04	100.05	100.05	100.06	100.05	100.06				
	D2		28.16	100.07	100.08	100.08	100.09	100.09	100.09				
	D3		28.27	100.06	100.07	100.07	100.08	100.08	100.08				
	D4		28.19	100.05	100.06	100.06	100.07	100.07	100.07				
	D5		28.18	100.07	100.08	100.08	100.09	100.08	100.09				
	D6		28.25	100.07	100.07	100.07	100.08	100.08	100.08				
	D7		28.18	100.08	100.08	100.09	100.09	100.09	100.09				
	D8		28.22	100.08	100.08	100.09	100.10	100.09	100.10				
	D9		28.20	100.04	100.04	100.05	100.06	99.98	100.06				
	D10		28.20	100.04	100.04	100.05	100.05	100.02	100.06				
	D11		28.18	100.06	100.07	100.07	100.08	100.08	100.08				
	D12		28.27	100.04	100.04	100.04	100.05	100.06	100.05				



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Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none									
		Vf (V)	Forward Voltage Maintenance (%)										
			12000	13000	14000	15000	16000	17000					
8E0000107E45031C	D1		28.18	100.06	100.06	100.07	100.07	100.07	100.08				
	D2		28.18	100.08	100.08	100.09	100.09	100.09	100.10				
	D3		28.17	100.07	100.07	100.08	100.08	100.08	100.08				
	D4		28.19	100.07	100.07	100.08	100.08	100.08	100.08				
	D5		28.26	100.05	100.05	100.05	100.06	100.06	100.07				
	D6		28.22	100.05	100.05	100.06	100.07	100.06	100.07				
	D7		28.24	100.05	100.05	100.06	100.06	100.06	100.06				
	D8		28.18	100.07	100.07	100.08	100.09	100.08	100.09				
	D9		28.14	100.07	100.07	100.08	100.08	100.08	100.09				
	D10		28.16	100.07	100.08	100.08	100.09	100.08	100.09				
	D11		28.19	100.06	100.07	100.07	100.08	100.07	100.08				
	D12		28.20	100.05	100.06	100.07	100.07	100.06	100.07				
n			36	36	36	36	36	36					
	mean		100.1	100.1	100.1	100.1	100.1	100.1					
	median		100.1	100.1	100.1	100.1	100.1	100.1					
	std. dev.		0.0	0.0	0.0	0.0	0.0	0.0					
	min		100.0	100.0	100.0	100.1	100.0	100.1					
	max		100.1	100.1	100.1	100.1	100.1	100.1					

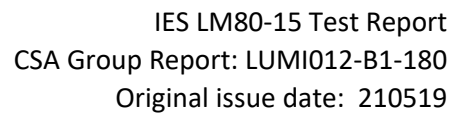
Test Condition 2 85 °C 0.070 A														
TABLE 3.0 - LUMEN MAINTENANCE RESULTS														
Test Condition 2 85 °C 0.070 A														
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		Flux (lm)	Vf (V)	Lumen Maintenance (%)										
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
710000108415031C	D1	376.39	28.17	100.6	100.7	100.6	100.6	100.5	100.3	100.3	100.3	100.3	100.2	100.2
	D2	375.42	28.18	100.4	100.4	100.4	100.4	100.2	100.1	100.0	100.0	99.9	99.9	99.8
	D3	374.92	28.23	100.8	100.8	100.7	100.7	100.6	100.5	100.4	100.4	100.4	100.3	100.3
	D4	368.57	28.20	100.6	100.6	100.6	100.6	100.5	100.4	100.3	100.3	100.3	100.2	100.2
	D5	376.31	28.19	100.5	100.5	100.5	100.4	100.3	100.2	100.1	100.1	100.0	100.0	99.9
	D6	374.73	28.17	100.6	100.7	100.6	100.6	100.5	100.4	100.4	100.3	100.3	100.3	100.2
	D7	374.02	28.15	100.8	100.8	100.7	100.7	100.6	100.5	100.4	100.4	100.4	100.3	100.3
	D8	372.14	28.17	100.8	100.8	100.7	100.7	100.6	100.5	100.4	100.4	100.4	100.3	100.3
	D9	374.71	28.22	100.7	100.7	100.7	100.6	100.5	100.4	100.3	100.3	100.3	100.2	100.2
	D10	375.09	28.18	100.8	100.7	100.7	100.7	100.5	100.5	100.4	100.4	100.4	100.3	100.3
	D11	374.75	28.16	100.5	100.5	100.5	100.4	100.3	100.2	100.1	100.1	100.1	100.1	100.0
	D12	375.76	28.29	100.7	100.7	100.7	100.6	100.5	100.4	100.3	100.4	100.3	100.3	100.2
E000001078AF031C	D1	370.42	28.18	100.8	100.8	100.8	100.7	100.6	100.5	100.5	100.5	100.5	100.5	100.2
	D2	373.94	28.17	100.7	100.8	100.7	100.6	100.6	100.5	100.4	100.5	100.4	100.4	100.3
	D3	374.31	28.21	100.8	100.8	100.7	100.6	100.5	100.5	100.4	100.4	100.3	100.3	100.2
	D4	371.14	28.21	100.8	100.8	100.8	100.8	100.6	100.5	100.4	100.5	100.5	100.4	100.4
	D5	374.92	28.25	100.6	100.6	100.6	100.5	100.4	100.3	100.2	100.2	100.1	100.1	100.0
	D6	373.16	28.28	100.8	100.8	100.8	100.7	100.6	100.6	100.5	100.5	100.4	100.5	100.4
	D7	372.21	28.18	100.9	100.9	100.8	100.7	100.6	100.5	100.4	100.4	100.4	100.4	100.4
	D8	372.69	28.30	100.8	100.8	100.8	100.7	100.6	100.5	100.5	100.5	100.5	100.5	100.4
	D9	373.48	28.26	100.7	100.7	100.7	100.6	100.5	100.5	100.4	100.4	100.3	100.3	100.3
	D10	374.77	28.25	100.8	100.8	100.8	100.7	100.7	100.6	100.5	100.6	100.5	100.5	100.4
	D11	376.33	28.13	100.7	100.7	100.7	100.6	100.4	100.4	100.3	100.3	100.2	100.2	100.2
	D12	374.70	28.20	100.8	100.9	100.8	100.7	100.6	100.5	100.5	100.5	100.4	100.5	100.4



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Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		Flux (lm)	Vf (V)	Lumen Maintenance (%)										
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
F000001076E2031C	D1	374.00	28.13	100.8	100.8	100.8	100.7	100.6	100.5	100.5	100.5	100.5	100.5	100.4
	D2	372.56	28.26	101.0	100.9	101.0	100.9	100.8	100.7	100.7	100.7	100.6	100.6	100.6
	D3	372.04	28.16	101.0	100.9	101.0	100.9	100.8	100.7	100.6	100.6	100.6	100.6	100.5
	D4	373.07	28.23	100.7	100.7	100.7	100.6	100.5	100.4	100.3	100.4	100.3	100.3	100.2
	D5	372.70	28.20	100.7	100.7	100.7	100.6	100.5	100.4	100.3	100.3	100.3	100.3	100.2
	D6	372.70	28.19	100.8	100.7	100.7	100.7	100.6	100.5	100.4	100.4	100.4	100.3	100.3
	D7	374.67	28.27	100.7	100.7	100.7	100.7	100.6	100.5	100.4	100.5	100.4	100.4	100.4
	D8	372.85	28.17	100.7	100.7	100.7	100.6	100.5	100.4	100.4	100.4	100.3	100.3	100.3
	D9	369.39	28.16	101.2	101.2	101.2	101.1	101.0	100.9	100.8	100.8	100.7	100.6	100.6
	D10	371.41	28.23	100.5	100.5	100.5	100.5	100.4	100.2	100.2	100.1	100.1	100.0	100.0
	D11	375.89	28.12	100.5	100.5	100.5	100.5	100.3	100.2	100.2	100.2	100.1	100.1	100.0
	D12	372.40	28.19	100.6	100.6	100.5	100.5	100.4	100.3	100.2	100.2	100.2	100.2	100.1
	n			36	36	36	36	36	36	36	36	36	36	36
	mean			100.7	100.7	100.7	100.6	100.5	100.4	100.4	100.4	100.3	100.3	100.2
	median			100.7	100.7	100.7	100.6	100.5	100.5	100.4	100.4	100.3	100.3	100.3
	std. dev.			0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
	min			100.4	100.4	100.4	100.4	100.2	100.1	100.0	100.0	99.9	99.9	99.8
	max			101.2	101.2	101.2	101.1	101.0	100.9	100.8	100.8	100.7	100.6	100.6

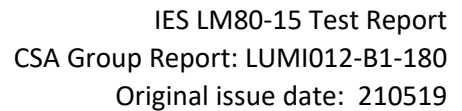
Test Condition 285 °C0.070 A													
TABLE 3.0 - LUMEN MAINTENANCE RESULTS													
Test Condition 285 °C0.070 AL150-40705030000S0													
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none									
		Flux (lm)	Vf (V)	Lumen Maintenance (%)									
				12000	13000	14000	15000	16000	17000				
710000108415031C	D1	376.39	28.17	100.1	100.1	100.1	100.0	99.8	99.9				
	D2	375.42	28.18	99.7	99.7	99.7	99.6	99.6	99.5				
	D3	374.92	28.23	100.2	100.1	100.1	100.0	100.0	99.9				
	D4	368.57	28.20	100.1	100.0	100.0	100.0	99.9	99.8				
	D5	376.31	28.19	99.8	99.8	99.8	99.7	99.7	99.6				
	D6	374.73	28.17	100.1	100.1	100.1	100.1	100.1	100.0				
	D7	374.02	28.15	100.2	100.2	100.2	100.2	100.2	100.1				
	D8	372.14	28.17	100.2	100.2	100.2	100.2	100.1	100.1				
	D9	374.71	28.22	100.1	100.0	100.1	100.1	100.1	100.0				
	D10	375.09	28.18	100.2	100.2	100.2	100.2	100.2	100.1				
	D11	374.75	28.16	99.9	99.9	99.9	99.9	99.8	99.7				
	D12	375.76	28.29	100.1	100.1	100.1	100.0	100.0	99.9				
E000001078AF031C	D1	370.42	28.18	100.4	100.4	100.4	100.4	100.3	100.2				
	D2	373.94	28.17	100.3	100.2	100.2	100.2	100.2	100.0				
	D3	374.31	28.21	100.2	100.0	100.1	100.1	100.0	99.8				
	D4	371.14	28.21	100.3	100.3	100.2	100.3	100.2	100.1				
	D5	374.92	28.25	100.0	99.9	99.9	99.9	99.9	99.7				
	D6	373.16	28.28	100.4	100.3	100.3	100.3	100.3	100.2				
	D7	372.21	28.18	100.3	100.2	100.2	100.3	100.2	100.1				
	D8	372.69	28.30	100.4	100.3	100.3	100.3	100.3	100.2				
	D9	373.48	28.26	100.2	100.2	100.2	100.2	100.1	100.0				
	D10	374.77	28.25	100.4	100.3	100.4	100.4	100.3	100.2				
	D11	376.33	28.13	100.1	100.0	100.1	100.0	100.0	99.8				
	D12	374.70	28.20	100.4	100.3	100.3	100.3	100.2	100.2				



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Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		Flux (lm)	Vf (V)	Lumen Maintenance (%)										
				12000	13000	14000	15000	16000	17000					
F000001076E2031C	D1	374.00	28.13	100.4	100.3	100.4	100.3	100.3	100.2					
	D2	372.56	28.26	100.5	100.5	100.5	100.4	100.5	100.4					
	D3	372.04	28.16	100.5	100.4	100.4	100.3	100.3	100.2					
	D4	373.07	28.23	100.1	100.1	100.1	100.0	100.0	99.9					
	D5	372.70	28.20	100.1	100.1	100.1	100.0	100.0	99.9					
	D6	372.70	28.19	100.2	100.1	100.2	100.1	100.1	99.9					
	D7	374.67	28.27	100.3	100.2	100.3	100.2	100.2	100.0					
	D8	372.85	28.17	100.2	100.2	100.2	100.1	100.1	100.0					
	D9	369.39	28.16	100.4	100.3	100.3	100.1	100.0	99.9					
	D10	371.41	28.23	99.9	99.9	99.9	99.8	99.8	99.7					
	D11	375.89	28.12	99.9	99.9	100.0	99.9	99.8	99.7					
	D12	372.40	28.19	100.0	99.9	100.0	99.9	99.8	99.7					
	n			36	36	36	36	36	36					
	mean			100.2	100.1	100.2	100.1	100.1	100.0					
	median			100.2	100.1	100.2	100.1	100.1	100.0					
	std. dev.			0.2	0.2	0.2	0.2	0.2	0.2					
	min			99.7	99.7	99.7	99.6	99.6	99.5					
	max			100.5	100.5	100.5	100.4	100.5	100.4					

Test Condition 2				85 °C		0.070 A										
TABLE 3.1 - PHOTOSYNTHETIC PHOTON FLUX MAINTENANCE RESULTS															L150-40705030000S0	
Test Condition 2				85 °C		0.070 A										
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none												
		PPF (μmol/s)	VF (V)	Photosynthetic Photon Flux Maintenance (%)												
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000		
710000108415031C	D1	4.92	28.17	100.6	100.6	100.6	100.6	100.5	100.4	100.4	100.4	100.4	100.4	100.3		
	D2	4.91	28.18	100.4	100.5	100.4	100.4	100.3	100.2	100.2	100.2	100.1	100.1	100.0		
	D3	4.91	28.23	100.7	100.8	100.7	100.7	100.6	100.5	100.5	100.5	100.5	100.4	100.4		
	D4	4.84	28.20	100.6	100.6	100.6	100.6	100.5	100.4	100.4	100.5	100.4	100.4	100.3		
	D5	4.92	28.19	100.5	100.5	100.5	100.5	100.4	100.3	100.2	100.3	100.2	100.2	100.1		
	D6	4.90	28.17	100.6	100.7	100.6	100.6	100.5	100.5	100.5	100.5	100.4	100.4	100.4		
	D7	4.89	28.15	100.7	100.7	100.7	100.7	100.6	100.6	100.5	100.6	100.5	100.5	100.5		
	D8	4.89	28.17	100.8	100.8	100.7	100.8	100.6	100.6	100.5	100.6	100.5	100.5	100.5		
	D9	4.89	28.22	100.7	100.7	100.7	100.6	100.5	100.5	100.4	100.5	100.4	100.4	100.3		
	D10	4.90	28.18	100.7	100.7	100.7	100.7	100.6	100.5	100.5	100.5	100.5	100.5	100.4		
	D11	4.90	28.16	100.5	100.5	100.5	100.5	100.4	100.3	100.2	100.3	100.3	100.2	100.2		
	D12	4.92	28.29	100.7	100.7	100.7	100.7	100.6	100.5	100.5	100.5	100.4	100.4	100.4		
E000001078AF031C	D1	4.86	28.18	100.7	100.7	100.8	100.7	100.7	100.6	100.6	100.6	100.6	100.6	100.4		
	D2	4.89	28.17	100.7	100.7	100.7	100.7	100.6	100.6	100.5	100.6	100.5	100.5	100.5		
	D3	4.90	28.21	100.8	100.8	100.7	100.7	100.6	100.5	100.5	100.5	100.4	100.4	100.3		
	D4	4.86	28.21	100.8	100.8	100.8	100.8	100.7	100.6	100.6	100.6	100.6	100.6	100.5		
	D5	4.90	28.25	100.6	100.6	100.6	100.5	100.4	100.4	100.3	100.3	100.3	100.3	100.2		
	D6	4.89	28.28	100.8	100.8	100.8	100.8	100.7	100.6	100.6	100.6	100.6	100.6	100.6		
	D7	4.87	28.18	100.8	100.8	100.8	100.7	100.6	100.6	100.5	100.5	100.5	100.5	100.5		
	D8	4.89	28.30	100.8	100.8	100.8	100.8	100.7	100.6	100.6	100.6	100.6	100.6	100.6		
	D9	4.89	28.26	100.7	100.7	100.7	100.7	100.6	100.6	100.5	100.5	100.5	100.5	100.5		
	D10	4.91	28.25	100.8	100.8	100.8	100.8	100.7	100.7	100.6	100.7	100.6	100.6	100.6		
	D11	4.92	28.13	100.7	100.6	100.7	100.6	100.5	100.5	100.4	100.5	100.4	100.4	100.4		
	D12	4.90	28.20	100.8	100.8	100.8	100.8	100.7	100.6	100.6	100.6	100.6	100.6	100.6		



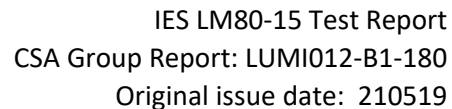
L150-40705030000S0

0.070 A

		1000	2000	3000	4000	5000	6000	7000	8000
89	28.13	100.8	100.8	100.8	100.7	100.7	100.6	100.6	100.7
89	28.26	100.9	100.9	101.0	100.9	100.9	100.8	100.8	100.8
87	28.16	100.9	100.9	100.9	100.9	100.8	100.8	100.7	100.7
89	28.23	100.6	100.7	100.7	100.6	100.6	100.5	100.4	100.5
88	28.20	100.7	100.7	100.7	100.7	100.6	100.5	100.4	100.5
89	28.19	100.7	100.7	100.7	100.7	100.6	100.5	100.5	100.5
90	28.27	100.7	100.7	100.8	100.7	100.6	100.5	100.5	100.6
87	28.17	100.6	100.7	100.7	100.7	100.6	100.5	100.5	100.5
85	28.16	101.1	101.1	101.1	101.1	101.0	100.9	100.8	100.9
87	28.23	100.5	100.5	100.6	100.5	100.4	100.3	100.3	100.3
92	28.12	100.5	100.5	100.6	100.5	100.4	100.3	100.3	100.3
88	28.19	100.6	100.6	100.6	100.6	100.5	100.4	100.3	100.4
n		36	36	36	36	36	36	36	36
mean		100.7	100.7	100.7	100.7	100.6	100.5	100.5	100.5
median		100.7	100.7	100.7	100.7	100.6	100.5	100.5	100.5
std. dev.		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
min		100.4	100.5	100.4	100.4	100.3	100.3	100.3	100.3

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Test Condition 285 °C0.070 A													
TABLE 3.1 - PHOTOSYNTHETIC PHOTON FLUX MAINTENANCE RESULTS													
Test Condition 285 °C0.070 A													
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none									
		PPF (μmol/s)	VF (V)	Photosynthetic Photon Flux Maintenance (%)									
				12000	13000	14000	15000	16000	17000				
710000108415031C	D1	4.92	28.17	100.3	100.3	100.3	100.2	100.0	100.1				
	D2	4.91	28.18	99.9	99.9	100.0	99.9	99.8	99.8				
	D3	4.91	28.23	100.3	100.3	100.3	100.2	100.2	100.1				
	D4	4.84	28.20	100.3	100.2	100.2	100.2	100.2	100.1				
	D5	4.92	28.19	100.0	100.0	100.0	100.0	99.9	99.9				
	D6	4.90	28.17	100.3	100.3	100.3	100.3	100.3	100.2				
	D7	4.89	28.15	100.4	100.4	100.4	100.4	100.4	100.3				
	D8	4.89	28.17	100.4	100.4	100.4	100.4	100.3	100.3				
	D9	4.89	28.22	100.3	100.2	100.3	100.3	100.3	100.2				
	D10	4.90	28.18	100.4	100.4	100.4	100.4	100.4	100.3				
	D11	4.90	28.16	100.1	100.1	100.1	100.1	100.1	100.0				
	D12	4.92	28.29	100.3	100.3	100.3	100.2	100.3	100.2				
E000001078AF031C	D1	4.86	28.18	100.5	100.5	100.6	100.5	100.5	100.4				
	D2	4.89	28.17	100.5	100.4	100.4	100.4	100.4	100.2				
	D3	4.90	28.21	100.3	100.2	100.2	100.2	100.1	100.0				
	D4	4.86	28.21	100.5	100.4	100.4	100.4	100.4	100.3				
	D5	4.90	28.25	100.2	100.2	100.2	100.1	100.1	100.0				
	D6	4.89	28.28	100.5	100.6	100.5	100.5	100.5	100.4				
	D7	4.87	28.18	100.4	100.4	100.4	100.4	100.4	100.3				
	D8	4.89	28.30	100.5	100.5	100.5	100.5	100.5	100.4				
	D9	4.89	28.26	100.4	100.4	100.4	100.4	100.3	100.2				
	D10	4.91	28.25	100.5	100.5	100.5	100.5	100.5	100.4				
	D11	4.92	28.13	100.3	100.3	100.3	100.2	100.2	100.1				
	D12	4.90	28.20	100.5	100.5	100.5	100.5	100.5	100.4				



L150-40705030000S0

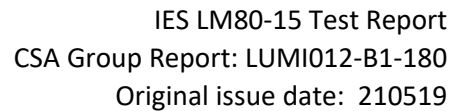
0.070 A

89	28.13	100.5	100.5	100.5	100.5	100.5	100.4		
89	28.26	100.7	100.7	100.7	100.7	100.7	100.6		
87	28.16	100.6	100.6	100.6	100.5	100.5	100.4		
89	28.23	100.3	100.3	100.3	100.2	100.2	100.1		
88	28.20	100.3	100.3	100.3	100.2	100.2	100.1		
89	28.19	100.3	100.3	100.3	100.2	100.2	100.1		
90	28.27	100.4	100.4	100.4	100.4	100.4	100.2		
87	28.17	100.4	100.3	100.4	100.3	100.3	100.2		
85	28.16	100.5	100.5	100.4	100.3	100.2	100.1		
87	28.23	100.1	100.1	100.1	100.0	100.0	99.9		
92	28.12	100.1	100.1	100.2	100.1	100.0	100.0		
88	28.19	100.2	100.1	100.2	100.1	100.0	99.9		
n		36	36	36	36	36	36		
mean		100.4	100.3	100.3	100.3	100.3	100.2		
median		100.4	100.3	100.4	100.3	100.3	100.2		
std. dev.		0.2	0.2	0.2	0.2	0.2	0.2		
min		99.9	99.9	100.0	99.9	99.8	99.8		

CSA Group Seattle
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425-605-8500
www.csagroupseattle.org

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Test Condition 285 °C0.070 A														
TABLE 3.2 - PHOTON FLUX, FAR RED MAINTENANCE RESULTS														
L150-40705030000S0														
Test Condition 285 °C0.070 A														
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		PF _{FR} (μmol/s)	VF (V)	Photon Flux Far Red Maintenance, 700-800nm (%)										
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
710000108415031C	D1	0.15	28.17	101.7	102.3	102.5	102.7	102.9	103.2	103.4	103.6	103.4	103.6	103.8
	D2	0.14	28.18	101.6	101.9	102.3	102.6	102.6	103.0	102.9	103.1	102.9	103.3	103.4
	D3	0.14	28.23	101.9	102.2	102.7	103.0	103.1	103.4	103.2	103.6	103.4	103.4	103.7
	D4	0.14	28.20	101.7	102.0	102.3	102.7	102.8	103.2	103.2	103.5	103.4	103.4	103.6
	D5	0.14	28.19	101.7	102.0	102.2	102.6	103.0	102.8	103.0	103.1	103.1	103.1	103.4
	D6	0.14	28.17	101.9	102.1	102.5	102.9	103.1	103.4	103.3	103.9	103.5	103.6	103.8
	D7	0.14	28.15	101.5	102.0	102.5	102.7	102.9	103.1	103.1	103.2	103.2	103.5	103.8
	D8	0.14	28.17	101.7	102.1	102.4	102.8	102.9	103.3	103.4	103.2	103.3	103.5	103.6
	D9	0.14	28.22	101.9	102.4	102.6	102.8	102.9	103.1	103.2	103.5	103.4	103.4	103.6
	D10	0.14	28.18	101.8	102.3	102.5	103.0	102.9	103.1	103.2	103.6	103.7	103.6	103.9
	D11	0.14	28.16	101.5	101.8	102.4	102.6	102.7	102.9	102.9	103.1	103.3	103.3	103.6
	D12	0.14	28.29	101.9	102.2	102.5	102.8	103.0	103.2	103.4	103.6	103.4	103.6	103.8
E000001078AF031C	D1	0.14	28.18	101.8	102.4	102.7	102.9	103.0	103.2	103.4	103.6	103.4	103.6	103.9
	D2	0.14	28.17	102.0	102.0	102.7	102.8	103.2	103.1	103.5	103.6	103.6	103.6	104.1
	D3	0.14	28.21	102.3	102.5	103.0	103.0	103.1	103.4	103.5	103.5	103.6	103.7	103.8
	D4	0.14	28.21	101.9	102.3	102.8	103.0	103.1	103.3	103.3	103.8	103.6	103.6	104.0
	D5	0.14	28.25	102.0	101.9	102.8	102.8	102.8	102.9	102.9	103.4	103.2	103.4	103.4
	D6	0.14	28.28	101.9	102.3	102.7	102.8	103.2	103.3	103.5	103.5	103.6	103.6	103.8
	D7	0.14	28.18	101.8	102.3	102.8	102.9	103.2	103.2	103.4	103.4	103.5	103.5	103.8
	D8	0.14	28.30	101.9	102.4	103.0	103.1	103.4	103.3	103.6	103.8	103.7	103.8	104.1
	D9	0.14	28.26	101.8	102.4	102.5	102.8	103.1	103.0	103.1	103.4	103.5	103.6	103.7
	D10	0.14	28.25	101.8	102.3	102.8	102.9	103.2	102.9	103.5	103.5	103.5	103.7	103.9
	D11	0.14	28.13	102.0	102.3	102.5	103.1	103.1	103.2	103.4	103.4	103.3	103.5	103.7
	D12	0.14	28.20	101.8	102.1	102.4	102.8	103.0	102.9	103.0	103.2	103.2	103.3	103.5



L150-40705030000S0

0.070 A

		1000	2000	3000	4000	5000	6000	7000	8000
14	28.13	102.0	102.4	102.5	102.9	103.0	103.2	103.3	103.9
14	28.26	102.0	102.4	102.5	102.7	103.1	103.3	103.4	103.7
14	28.16	102.1	102.4	102.8	103.1	103.3	103.2	103.5	103.8
14	28.23	101.4	102.3	102.5	102.7	102.8	103.1	103.1	103.5
14	28.20	101.8	102.2	102.5	102.7	103.1	103.0	103.3	103.7
14	28.19	102.1	102.6	102.6	103.2	103.3	103.4	103.5	103.8
14	28.27	102.0	102.5	102.6	103.0	103.2	103.2	103.4	103.9
14	28.17	102.1	102.8	103.0	103.4	103.4	103.3	103.8	104.1
14	28.16	102.0	102.6	102.7	103.1	103.1	103.2	103.2	103.6
14	28.23	101.7	102.4	102.7	103.0	102.8	103.1	103.3	103.4
14	28.12	101.6	102.0	102.2	102.8	102.8	102.6	103.0	103.3
14	28.19	101.5	102.3	102.2	102.7	102.8	103.0	103.2	103.7
n		36	36	36	36	36	36	36	36
mean		101.8	102.3	102.6	102.9	103.0	103.1	103.3	103.5
median		101.9	102.3	102.5	102.8	103.1	103.2	103.3	103.5
std. dev.		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
min.		101.4	101.8	102.2	102.6	102.6	102.6	102.8	103.2

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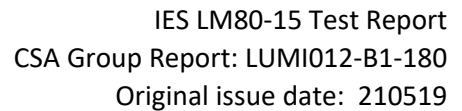
Test Condition 2				85 °C		0.070 A											
TABLE 3.2 - PHOTON FLUX, FAR RED MAINTENANCE RESULTS														L150-40705030000S0			
Test Condition 2				85 °C		0.070 A											
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none													
		PF _{FR} (μmol/s)	VF (V)	Photon Flux Far Red Maintenance, 700-800nm (%)													
				12000	13000	14000	15000	16000	17000								
710000108415031C	D1	0.15	28.17	103.7	104.0	103.9	104.0	104.1	103.9								
	D2	0.14	28.18	103.4	103.4	103.5	103.4	103.4	103.4								
	D3	0.14	28.23	103.7	103.7	103.9	103.9	103.7	103.7								
	D4	0.14	28.20	103.7	103.8	103.8	103.9	103.7	103.8								
	D5	0.14	28.19	103.3	103.4	103.4	103.6	103.8	103.5								
	D6	0.14	28.17	104.0	104.1	104.2	104.2	104.1	104.1								
	D7	0.14	28.15	103.6	103.8	103.7	103.8	103.8	103.9								
	D8	0.14	28.17	103.7	103.7	103.7	103.9	103.9	104.0								
	D9	0.14	28.22	103.8	103.6	103.8	104.0	103.9	103.9								
	D10	0.14	28.18	103.8	104.1	103.8	103.9	104.1	103.8								
	D11	0.14	28.16	103.5	103.7	103.7	103.8	103.7	103.8								
	D12	0.14	28.29	103.8	103.7	103.8	103.8	103.9	103.8								
E000001078AF031C	D1	0.14	28.18	104.1	104.0	104.0	104.2	104.1	103.9								
	D2	0.14	28.17	104.1	104.3	104.0	104.0	104.0	104.2								
	D3	0.14	28.21	103.7	104.0	104.2	104.0	104.2	104.0								
	D4	0.14	28.21	104.2	104.1	104.1	104.1	104.2	104.2								
	D5	0.14	28.25	103.6	103.5	103.7	103.6	103.7	103.7								
	D6	0.14	28.28	103.8	104.1	104.1	103.9	104.0	104.1								
	D7	0.14	28.18	104.1	104.3	104.0	103.9	104.2	104.0								
	D8	0.14	28.30	104.1	104.5	104.2	104.3	104.3	104.3								
	D9	0.14	28.26	103.7	103.8	103.9	103.9	104.0	103.8								
	D10	0.14	28.25	104.0	103.9	104.1	104.0	104.2	104.1								
	D11	0.14	28.13	103.7	103.8	103.9	104.1	103.9	104.1								
	D12	0.14	28.20	103.6	103.6	103.6	103.7	103.9	103.9								

TABLE 3.2 - PHOTON FLUX, FAR RED MAINTENANCE RESULTS

L150-40705030000S0

Test Condition 2			85 °C	0.070 A											
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A											
				Photometric test ambient temperature: 25 ± 2 °C											
				Failures observed: none											
		PF _{FR} (μmol/s)	VF (V)	Photon Flux Far Red Maintenance, 700-800nm (%)											
				12000	13000	14000	15000	16000	17000						
F000001076E2031C	D1	0.14	28.13	104.1	104.1	104.0	104.0	104.3	103.9						
	D2	0.14	28.26	104.0	104.0	104.2	103.7	104.2	104.0						
	D3	0.14	28.16	104.0	104.1	104.2	104.1	104.1	103.9						
	D4	0.14	28.23	103.6	103.7	103.7	103.7	103.7	103.7						
	D5	0.14	28.20	103.8	103.9	103.8	103.8	103.9	103.8						
	D6	0.14	28.19	104.2	104.1	104.3	104.2	104.4	104.0						
	D7	0.14	28.27	104.0	104.2	104.3	104.1	104.1	104.2						
	D8	0.14	28.17	104.3	104.4	104.4	104.4	104.3	104.4						
	D9	0.14	28.16	103.5	103.6	103.6	103.3	103.4	103.3						
	D10	0.14	28.23	103.6	103.6	103.7	104.0	103.7	103.8						
	D11	0.14	28.12	103.5	103.7	103.8	103.8	103.7	103.8						
	D12	0.14	28.19	103.6	103.7	103.8	103.8	103.7	103.9						
			n	36	36	36	36	36	36						
			mean	103.8	103.9	103.9	103.9	103.9	103.9						
			median	103.7	103.9	103.9	103.9	103.9	103.9						
			std. dev.	0.3	0.3	0.2	0.2	0.3	0.2						
			min	103.3	103.4	103.4	103.3	103.4	103.3						
			max	104.3	104.5	104.4	104.4	104.4	104.4						

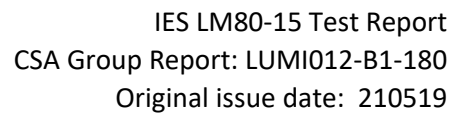
Test Condition 285 °C0.070 A															
TABLE 3.3 - CHROMATICITY SHIFT RESULTS															
Test Condition 285 °C0.070 AL150-40705030000S0															
Load board ID	Device number	Zero hour measurements			Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		u'	v'		Chromaticity shift (Δu'v')										
					1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
710000108415031C	D1	0.2248	0.5066		0.0007	0.0008	0.0008	0.0009	0.0010	0.0010	0.0011	0.0011	0.0012	0.0013	0.0013
	D2	0.2242	0.5057		0.0007	0.0008	0.0009	0.0009	0.0010	0.0011	0.0011	0.0012	0.0013	0.0014	0.0014
	D3	0.2246	0.5051		0.0006	0.0007	0.0008	0.0009	0.0009	0.0009	0.0010	0.0011	0.0012	0.0012	0.0012
	D4	0.2250	0.5050		0.0006	0.0008	0.0008	0.0008	0.0009	0.0009	0.0010	0.0010	0.0011	0.0012	0.0012
	D5	0.2248	0.5062		0.0007	0.0008	0.0009	0.0009	0.0010	0.0011	0.0011	0.0012	0.0013	0.0014	0.0014
	D6	0.2241	0.5055		0.0006	0.0008	0.0008	0.0009	0.0010	0.0010	0.0011	0.0011	0.0012	0.0013	0.0013
	D7	0.2242	0.5062		0.0006	0.0008	0.0008	0.0009	0.0010	0.0011	0.0011	0.0012	0.0013	0.0014	0.0014
	D8	0.2247	0.5046		0.0006	0.0008	0.0008	0.0009	0.0010	0.0010	0.0011	0.0012	0.0012	0.0013	0.0013
	D9	0.2248	0.5065		0.0007	0.0008	0.0009	0.0009	0.0010	0.0010	0.0011	0.0012	0.0013	0.0013	0.0014
	D10	0.2240	0.5057		0.0006	0.0007	0.0008	0.0009	0.0009	0.0010	0.0010	0.0011	0.0012	0.0012	0.0013
	D11	0.2246	0.5061		0.0007	0.0008	0.0009	0.0010	0.0010	0.0011	0.0011	0.0012	0.0013	0.0013	0.0014
	D12	0.2246	0.5056		0.0006	0.0008	0.0008	0.0009	0.0009	0.0011	0.0011	0.0012	0.0013	0.0013	0.0014
E000001078AF031C	D1	0.2246	0.5045		0.0006	0.0007	0.0008	0.0008	0.0009	0.0010	0.0010	0.0011	0.0012	0.0012	0.0013
	D2	0.2243	0.5057		0.0006	0.0007	0.0008	0.0009	0.0009	0.0010	0.0011	0.0012	0.0012	0.0012	0.0013
	D3	0.2244	0.5054		0.0006	0.0007	0.0008	0.0008	0.0009	0.0010	0.0011	0.0011	0.0011	0.0012	0.0013
	D4	0.2248	0.5055		0.0006	0.0008	0.0008	0.0009	0.0009	0.0010	0.0011	0.0011	0.0011	0.0012	0.0012
	D5	0.2248	0.5061		0.0007	0.0008	0.0009	0.0010	0.0011	0.0012	0.0013	0.0013	0.0014	0.0015	0.0015
	D6	0.2243	0.5048		0.0006	0.0007	0.0008	0.0009	0.0010	0.0010	0.0011	0.0011	0.0012	0.0013	0.0013
	D7	0.2241	0.5054		0.0007	0.0008	0.0009	0.0009	0.0010	0.0011	0.0011	0.0011	0.0012	0.0013	0.0013
	D8	0.2247	0.5048		0.0006	0.0007	0.0008	0.0008	0.0009	0.0010	0.0010	0.0011	0.0012	0.0012	0.0012
	D9	0.2246	0.5057		0.0007	0.0008	0.0008	0.0009	0.0010	0.0011	0.0011	0.0012	0.0012	0.0013	0.0013
	D10	0.2247	0.5053		0.0007	0.0008	0.0008	0.0009	0.0010	0.0010	0.0011	0.0011	0.0012	0.0012	0.0013
	D11	0.2249	0.5061		0.0007	0.0008	0.0009	0.0009	0.0011	0.0011	0.0011	0.0012	0.0013	0.0013	0.0014
	D12	0.2243	0.5055		0.0007	0.0008	0.0009	0.0009	0.0010	0.0011	0.0012	0.0012	0.0013	0.0014	0.0014



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Load board ID	Device number	Zero hour measurements			Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		u'	v'		Chromaticity shift (Δu'v')										
					1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
F000001076E2031C	D1	0.2243	0.5060		0.0006	0.0007	0.0008	0.0008	0.0009	0.0009	0.0010	0.0011	0.0011	0.0012	0.0012
	D2	0.2247	0.5047		0.0006	0.0007	0.0008	0.0009	0.0010	0.0010	0.0011	0.0012	0.0012	0.0013	0.0013
	D3	0.2242	0.5057		0.0006	0.0006	0.0007	0.0008	0.0008	0.0009	0.0009	0.0010	0.0010	0.0011	0.0011
	D4	0.2248	0.5054		0.0007	0.0008	0.0009	0.0010	0.0010	0.0011	0.0011	0.0012	0.0012	0.0013	0.0014
	D5	0.2246	0.5059		0.0007	0.0008	0.0008	0.0009	0.0010	0.0010	0.0011	0.0011	0.0012	0.0013	0.0013
	D6	0.2252	0.5053		0.0007	0.0008	0.0009	0.0009	0.0010	0.0010	0.0011	0.0011	0.0012	0.0012	0.0013
	D7	0.2247	0.5059		0.0006	0.0007	0.0007	0.0008	0.0009	0.0009	0.0010	0.0011	0.0011	0.0012	0.0012
	D8	0.2248	0.5063		0.0006	0.0007	0.0008	0.0008	0.0009	0.0009	0.0010	0.0010	0.0011	0.0011	0.0011
	D9	0.2251	0.5053		0.0006	0.0007	0.0008	0.0008	0.0009	0.0009	0.0010	0.0010	0.0011	0.0012	0.0013
	D10	0.2247	0.5053		0.0006	0.0008	0.0008	0.0009	0.0010	0.0010	0.0012	0.0012	0.0013	0.0014	0.0014
	D11	0.2244	0.5058		0.0007	0.0008	0.0009	0.0009	0.0010	0.0010	0.0011	0.0011	0.0012	0.0013	0.0013
	D12	0.2247	0.5056		0.0006	0.0007	0.0008	0.0008	0.0009	0.0009	0.0009	0.0010	0.0011	0.0011	0.0011
n					36	36	36	36	36	36	36	36	36	36	36
	mean				0.0006	0.0008	0.0008	0.0009	0.0010	0.0010	0.0011	0.0011	0.0012	0.0013	0.0013
	median				0.0006	0.0008	0.0008	0.0009	0.0010	0.0010	0.0011	0.0011	0.0012	0.0013	0.0013
	std. dev.				0.0000	0.0001	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	min				0.0006	0.0006	0.0007	0.0008	0.0008	0.0009	0.0009	0.0010	0.0010	0.0011	0.0011
	max				0.0007	0.0008	0.0009	0.0010	0.0011	0.0012	0.0013	0.0013	0.0014	0.0015	0.0015

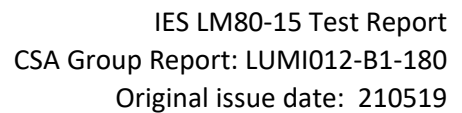
Test Condition 285 °C0.070 A														
TABLE 3.3 - CHROMATICITY SHIFT RESULTS														
Test Condition 285 °C0.070 A														
Load board ID	Device number	Zero hour measurements			Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none									
		u'	v'		Chromaticity shift (Δu'v')									
					12000	13000	14000	15000	16000	17000				
710000108415031C	D1	0.2248	0.5066		0.0014	0.0014	0.0015	0.0015	0.0016	0.0017				
	D2	0.2242	0.5057		0.0015	0.0015	0.0016	0.0017	0.0017	0.0018				
	D3	0.2246	0.5051		0.0013	0.0014	0.0015	0.0015	0.0016	0.0017				
	D4	0.2250	0.5050		0.0012	0.0013	0.0014	0.0015	0.0015	0.0016				
	D5	0.2248	0.5062		0.0015	0.0015	0.0016	0.0017	0.0017	0.0018				
	D6	0.2241	0.5055		0.0014	0.0014	0.0015	0.0015	0.0016	0.0017				
	D7	0.2242	0.5062		0.0014	0.0015	0.0016	0.0017	0.0017	0.0018				
	D8	0.2247	0.5046		0.0014	0.0015	0.0015	0.0016	0.0016	0.0017				
	D9	0.2248	0.5065		0.0014	0.0015	0.0016	0.0016	0.0017	0.0017				
	D10	0.2240	0.5057		0.0013	0.0014	0.0015	0.0015	0.0016	0.0016				
	D11	0.2246	0.5061		0.0014	0.0015	0.0016	0.0016	0.0016	0.0018				
	D12	0.2246	0.5056		0.0014	0.0015	0.0016	0.0017	0.0017	0.0018				
E000001078AF031C	D1	0.2246	0.5045		0.0013	0.0013	0.0014	0.0015	0.0015	0.0016				
	D2	0.2243	0.5057		0.0013	0.0014	0.0014	0.0015	0.0016	0.0016				
	D3	0.2244	0.5054		0.0014	0.0014	0.0015	0.0015	0.0016	0.0016				
	D4	0.2248	0.5055		0.0013	0.0014	0.0014	0.0015	0.0015	0.0016				
	D5	0.2248	0.5061		0.0016	0.0016	0.0017	0.0018	0.0019	0.0019				
	D6	0.2243	0.5048		0.0014	0.0015	0.0015	0.0016	0.0016	0.0017				
	D7	0.2241	0.5054		0.0014	0.0014	0.0015	0.0016	0.0016	0.0017				
	D8	0.2247	0.5048		0.0013	0.0014	0.0014	0.0015	0.0015	0.0016				
	D9	0.2246	0.5057		0.0014	0.0015	0.0015	0.0016	0.0017	0.0017				
	D10	0.2247	0.5053		0.0013	0.0014	0.0015	0.0015	0.0015	0.0016				
	D11	0.2249	0.5061		0.0015	0.0016	0.0016	0.0017	0.0017	0.0018				
	D12	0.2243	0.5055		0.0015	0.0015	0.0016	0.0017	0.0017	0.0018				



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Load board ID	Device number	Zero hour measurements			Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		u'	v'		Chromaticity shift (Δu'v')										
					12000	13000	14000	15000	16000	17000					
F000001076E2031C	D1	0.2243	0.5060		0.0013	0.0013	0.0014	0.0014	0.0015	0.0015					
	D2	0.2247	0.5047		0.0014	0.0015	0.0015	0.0016	0.0016	0.0017					
	D3	0.2242	0.5057		0.0012	0.0013	0.0013	0.0014	0.0014	0.0015					
	D4	0.2248	0.5054		0.0014	0.0015	0.0016	0.0016	0.0017	0.0017					
	D5	0.2246	0.5059		0.0014	0.0014	0.0015	0.0016	0.0016	0.0016					
	D6	0.2252	0.5053		0.0013	0.0014	0.0015	0.0015	0.0016	0.0016					
	D7	0.2247	0.5059		0.0013	0.0013	0.0014	0.0014	0.0015	0.0016					
	D8	0.2248	0.5063		0.0012	0.0012	0.0013	0.0014	0.0014	0.0015					
	D9	0.2251	0.5053		0.0013	0.0014	0.0015	0.0016	0.0017	0.0018					
	D10	0.2247	0.5053		0.0015	0.0016	0.0016	0.0018	0.0018	0.0019					
	D11	0.2244	0.5058		0.0014	0.0014	0.0015	0.0016	0.0016	0.0017					
	D12	0.2247	0.5056		0.0013	0.0013	0.0013	0.0014	0.0014	0.0015					
n					36	36	36	36	36	36					
	mean				0.0014	0.0014	0.0015	0.0016	0.0016	0.0017					
	median				0.0014	0.0014	0.0015	0.0016	0.0016	0.0017					
	std. dev.				0.0001	0.0001	0.0001	0.0001	0.0001	0.0001					
	min				0.0012	0.0012	0.0013	0.0014	0.0014	0.0015					
	max				0.0016	0.0016	0.0017	0.0018	0.0019	0.0019					

Test Condition 285 °C0.070 A														
TABLE 3.4 - FORWARD VOLTAGE MAINTENANCE RESULTS														
Test Condition 285 °C0.070 A														
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		Vf (V)		Forward Voltage Maintainence (%)										
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
710000108415031C	D1		28.17	99.99	100.01	100.02	100.03	100.03	100.04	100.04	100.04	100.04	100.05	100.05
	D2		28.18	100.00	100.03	100.04	100.05	100.05	100.06	100.06	100.06	100.07	100.07	100.07
	D3		28.23	99.99	100.01	100.02	100.03	100.04	100.04	100.05	100.05	100.05	100.05	100.05
	D4		28.20	99.99	100.01	100.02	100.03	100.04	100.04	100.05	100.05	100.05	100.05	100.05
	D5		28.19	100.00	100.02	100.03	100.04	100.05	100.05	100.06	100.06	100.06	100.07	100.07
	D6		28.17	100.02	100.04	100.05	100.06	100.07	100.07	100.08	100.08	100.08	100.08	100.09
	D7		28.15	100.01	100.03	100.03	100.04	100.05	100.05	100.06	100.06	100.06	100.07	100.07
	D8		28.17	100.01	100.03	100.04	100.05	100.05	100.07	100.06	100.06	100.07	100.07	100.07
	D9		28.22	99.99	100.01	100.02	100.03	100.03	100.04	100.05	100.05	100.05	100.05	100.06
	D10		28.18	100.01	100.03	100.04	100.06	100.06	100.07	100.07	100.08	100.08	100.08	100.08
	D11		28.16	100.00	100.02	100.03	100.04	100.04	100.05	100.05	100.06	100.06	100.06	100.06
	D12		28.29	99.98	100.00	100.01	100.02	100.02	100.03	100.03	100.04	100.04	100.04	100.05
E000001078AF031C	D1		28.18	100.02	100.05	100.06	100.07	100.08	100.08	100.09	100.09	100.09	100.10	100.08
	D2		28.17	100.02	100.04	100.05	100.06	100.07	100.07	100.08	100.08	100.08	100.09	100.06
	D3		28.21	99.99	100.01	100.02	100.03	100.04	100.04	100.04	100.05	100.05	100.05	100.04
	D4		28.21	100.02	100.04	100.05	100.06	100.07	100.07	100.08	100.08	100.09	100.09	100.10
	D5		28.25	99.98	100.00	100.01	100.02	100.03	100.03	100.03	100.04	100.04	100.04	100.05
	D6		28.28	99.97	99.99	99.99	100.00	100.01	100.02	100.02	100.02	100.03	100.03	100.04
	D7		28.18	100.01	100.03	100.05	100.05	100.06	100.07	100.07	100.08	100.08	100.08	100.08
	D8		28.30	99.96	99.98	99.99	99.99	100.00	100.01	100.01	100.02	100.02	100.02	100.02
	D9		28.26	99.98	100.00	100.00	100.01	100.02	100.03	100.03	100.03	100.04	100.04	100.04
	D10		28.25	99.97	99.99	100.00	100.01	100.02	100.02	100.03	100.03	100.03	100.04	100.04
	D11		28.13	100.00	100.02	100.03	100.04	100.05	100.05	100.06	100.06	100.06	100.06	100.06
	D12		28.20	99.99	100.01	100.02	100.03	100.04	100.05	100.05	100.05	100.05	100.06	100.06



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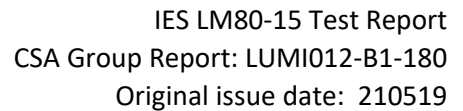
Test Condition 285 °C0.070 A													
TABLE 3.4 - FORWARD VOLTAGE MAINTENANCE RESULTS												L150-40705030000S0	
Test Condition 285 °C0.070 A													
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none									
		Vf (V)	Forward Voltage Maintainence (%)										
			12000	13000	14000	15000	16000	17000					
710000108415031C	D1		28.17	100.04	100.05	100.06	100.07	100.05	100.07				
	D2		28.18	100.07	100.08	100.08	100.08	100.08	100.09				
	D3		28.23	100.05	100.06	100.07	100.07	100.08	100.08				
	D4		28.20	100.05	100.06	100.07	100.07	100.09	100.07				
	D5		28.19	100.07	100.07	100.08	100.09	100.10	100.09				
	D6		28.17	100.09	100.09	100.10	100.10	100.11	100.11				
	D7		28.15	100.07	100.07	100.08	100.08	100.08	100.09				
	D8		28.17	100.07	100.08	100.08	100.09	100.08	100.09				
	D9		28.22	100.05	100.06	100.07	100.07	100.07	100.08				
	D10		28.18	100.08	100.09	100.10	100.10	100.10	100.11				
	D11		28.16	100.06	100.07	100.08	100.08	100.07	100.08				
	D12		28.29	100.04	100.05	100.06	100.07	100.06	100.07				
E000001078AF031C	D1		28.18	100.10	100.11	100.12	100.12	100.12	100.13				
	D2		28.17	100.09	100.10	100.10	100.11	100.10	100.11				
	D3		28.21	100.05	100.06	100.07	100.07	100.06	100.07				
	D4		28.21	100.09	100.10	100.11	100.11	100.11	100.11				
	D5		28.25	100.04	100.05	100.05	100.06	100.05	100.06				
	D6		28.28	100.03	100.04	100.04	100.05	100.05	100.05				
	D7		28.18	100.08	100.09	100.09	100.10	100.10	100.10				
	D8		28.30	100.03	100.03	100.04	100.04	100.04	100.05				
	D9		28.26	100.04	100.04	100.05	100.06	100.05	100.06				
	D10		28.25	100.04	100.05	100.05	100.06	100.05	100.06				
	D11		28.13	100.06	100.07	100.07	100.08	100.07	100.08				
	D12		28.20	100.06	100.07	100.07	100.07	100.07	100.08				

TABLE 3.4 - FORWARD VOLTAGE MAINTENANCE RESULTS

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Test Condition 2			85 °C	0.070 A											
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none											
		Vf (V)	Forward Voltage Maintenance (%)												
			12000	13000	14000	15000	16000	17000							
F000001076E2031C	D1		28.13	100.05	100.06	100.07	100.07	100.07	100.07						
	D2		28.26	100.06	100.07	100.08	100.08	100.08	100.08						
	D3		28.16	100.10	100.11	100.12	100.12	100.12	100.13						
	D4		28.23	100.05	100.07	100.07	100.07	100.07	100.08						
	D5		28.20	100.08	100.09	100.10	100.10	100.10	100.11						
	D6		28.19	100.07	100.08	100.09	100.09	100.09	100.10						
	D7		28.27	100.07	100.08	100.09	100.09	100.09	100.10						
	D8		28.17	100.09	100.10	100.10	100.11	100.10	100.11						
	D9		28.16	100.07	100.08	100.08	100.09	100.09	100.09						
	D10		28.23	100.05	100.06	100.07	100.07	100.07	100.08						
	D11		28.12	100.07	100.08	100.08	100.09	100.08	100.09						
	D12		28.19	100.06	100.07	100.08	100.08	100.08	100.09						
n				36	36	36	36	36	36						
	mean			100.1	100.1	100.1	100.1	100.1	100.1						
	median			100.1	100.1	100.1	100.1	100.1	100.1						
	std. dev.			0.0	0.0	0.0	0.0	0.0	0.0						
	min			100.0	100.0	100.0	100.0	100.0	100.0						
	max			100.1	100.1	100.1	100.1	100.1	100.1						

Test Condition 3				105 °C		0.070 A										
TABLE 4.0 - LUMEN MAINTENANCE RESULTS															L150-40705030000S0	
Test Condition 3				105 °C		0.070 A										
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none												
		Flux (lm)	Vf (V)	Lumen Maintenance (%)												
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000		
020000107325031C	D1	373.05	28.18	100.3	100.1	99.9	99.7	99.7	99.5	99.4	99.3	99.3	99.3	99.3		
	D2	370.11	28.19	100.5	100.3	100.1	99.9	99.9	99.6	99.5	99.4	99.3	99.5	99.5		
	D3	370.39	28.20	100.4	100.3	100.1	100.0	99.9	99.7	99.6	99.6	99.5	99.7	99.6		
	D4	373.03	28.20	100.4	100.3	100.0	99.9	99.9	99.6	99.5	99.5	99.4	99.5	99.4		
	D5	373.04	28.19	100.7	100.6	100.4	100.2	100.2	99.9	99.8	99.8	99.7	99.7	99.6		
	D6	370.88	28.17	100.4	100.2	100.0	99.9	99.9	99.6	99.6	99.6	99.5	99.7	99.7		
	D7	369.71	28.19	100.6	100.3	100.1	100.0	100.0	99.9	99.8	99.8	99.7	99.7	99.7		
	D8	374.65	28.18	100.2	100.0	99.8	99.7	99.6	99.3	99.1	99.0	98.9	98.9	98.8		
	D9	376.18	28.28	100.4	100.3	100.1	100.0	99.9	99.7	99.6	99.5	99.4	99.5	99.4		
	D10	372.16	28.29	100.5	100.4	100.3	100.1	100.2	99.9	99.8	99.8	99.7	99.8	99.7		
	D11	376.11	28.27	100.4	100.2	100.0	99.8	99.8	99.4	99.4	99.3	99.1	99.2	99.1		
	D12	377.56	28.19	100.1	99.9	99.7	99.6	99.5	99.2	99.1	99.0	98.9	99.0	98.9		
C400001082AC031C	D1	369.84	28.15	100.3	100.2	99.9	99.8	99.6	99.5	99.4	99.3	99.2	99.3	99.1		
	D2	371.61	28.19	100.3	100.1	99.9	99.9	99.7	99.5	99.4	99.4	99.3	99.3	99.1		
	D3	373.95	28.18	100.5	100.4	100.2	100.1	99.9	99.7	99.6	99.5	99.4	99.3	99.1		
	D4	372.81	28.23	100.4	100.3	100.1	99.9	99.8	99.6	99.5	99.4	99.3	99.3	99.2		
	D5	373.88	28.17	100.4	100.2	100.0	99.9	99.7	99.5	99.4	99.4	99.3	99.4	99.3		
	D6	373.39	28.30	100.4	100.2	100.0	99.9	99.8	99.5	99.5	99.5	99.4	99.4	99.3		
	D7	372.32	28.21	100.4	100.3	100.0	99.9	99.7	99.5	99.4	99.3	99.2	99.2	99.1		
	D8	375.33	28.28	100.3	100.2	100.0	99.9	99.7	99.6	99.5	99.6	99.5	99.7	99.7		
	D9	373.72	28.22	100.3	100.1	100.0	99.8	99.7	99.6	99.5	99.5	99.4	99.4	99.3		
	D10	375.02	28.15	100.2	100.1	99.9	99.8	99.6	99.4	99.3	99.3	99.1	99.1	99.0		
	D11	376.29	28.12	100.2	100.0	99.8	99.7	99.5	99.3	99.1	99.0	98.8	98.7	98.4		
	D12	374.51	28.16	100.3	100.1	99.9	99.8	99.5	99.3	99.2	99.2	99.1	99.1	99.0		



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Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		Flux (lm)	Vf (V)	Lumen Maintenance (%)										
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
DE0000107720031C	D1	374.28	28.12	100.3	100.0	99.9	99.7	99.4	99.3	99.2	99.2	99.1	99.2	99.1
	D2	374.85	28.17	100.3	100.1	99.9	99.7	99.5	99.4	99.2	99.3	99.1	99.2	99.1
	D3	370.53	28.21	100.5	100.5	100.5	100.3	100.1	100.0	99.9	100.0	99.9	99.9	99.8
	D4	369.54	28.18	100.4	100.4	100.3	100.0	99.9	99.7	99.6	99.6	99.4	99.4	99.3
	D5	373.27	28.19	100.3	100.2	100.0	99.8	99.6	99.5	99.4	99.4	99.2	99.3	99.2
	D6	374.95	28.21	100.2	100.1	99.9	99.7	99.5	99.2	99.1	99.1	98.9	98.9	98.7
	D7	374.70	28.24	100.3	100.2	100.0	99.8	99.6	99.5	99.3	99.3	99.2	99.2	99.0
	D8	375.46	28.20	100.2	100.2	100.1	99.9	99.7	99.5	99.4	99.4	99.3	99.4	99.3
	D9	374.52	28.23	100.4	100.3	100.1	99.9	99.7	99.5	99.4	99.3	99.2	99.2	99.0
	D10	375.40	28.22	100.4	100.3	100.2	100.0	99.8	99.6	99.5	99.5	99.3	99.3	99.2
	D11	377.02	28.17	100.3	100.1	100.0	99.7	99.5	99.3	99.2	99.1	98.9	98.9	98.8
	D12	377.01	28.19	100.4	100.2	100.0	99.9	99.6	99.4	99.3	99.3	99.2	99.3	99.2
	n			36	36	36	36	36	36	36	36	36	36	36
	mean			100.4	100.2	100.0	99.9	99.7	99.5	99.4	99.4	99.3	99.3	99.2
	median			100.4	100.2	100.0	99.9	99.7	99.5	99.4	99.4	99.3	99.3	99.2
	std. dev.			0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
	min			100.1	99.9	99.7	99.6	99.4	99.2	99.1	99.0	98.8	98.7	98.4
	max			100.7	100.6	100.5	100.3	100.2	100.0	99.9	100.0	99.9	99.9	99.8

Test Condition 3				105 °C		0.070 A									
TABLE 4.0 - LUMEN MAINTENANCE RESULTS														L150-40705030000S0	
Test Condition 3				105 °C		0.070 A									
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none											
		Flux (lm)	Vf (V)	Lumen Maintenance (%)											
				12000	13000	14000	15000	16000	17000						
020000107325031C	D1	373.05	28.18	99.3	99.2	99.3	99.5	99.7	99.6						
	D2	370.11	28.19	99.4	99.3	99.2	99.3	99.4	99.2						
	D3	370.39	28.20	99.5	99.5	99.5	99.8	99.9	99.8						
	D4	373.03	28.20	99.3	99.2	99.2	99.5	99.5	99.3						
	D5	373.04	28.19	99.6	99.5	99.4	99.5	99.6	99.4						
	D6	370.88	28.17	99.6	99.7	99.7	100.0	100.1	99.9						
	D7	369.71	28.19	99.6	99.5	99.5	99.7	99.9	99.7						
	D8	374.65	28.18	98.6	98.5	98.4	98.5	98.5	98.3						
	D9	376.18	28.28	99.4	99.4	99.4	99.8	100.0	99.8						
	D10	372.16	28.29	99.7	99.6	99.7	99.9	100.2	100.0						
	D11	376.11	28.27	98.9	98.9	98.8	98.9	98.9	98.7						
	D12	377.56	28.19	98.8	98.8	98.9	99.2	99.3	99.2						
C400001082AC031C	D1	369.84	28.15	99.1	99.0	99.1	99.4	99.4	99.2						
	D2	371.61	28.19	99.0	98.9	98.9	99.1	99.0	98.8						
	D3	373.95	28.18	98.9	98.6	98.5	98.6	98.5	98.2						
	D4	372.81	28.23	99.1	99.1	99.1	99.2	99.2	99.1						
	D5	373.88	28.17	99.2	99.2	99.2	99.3	99.3	99.1						
	D6	373.39	28.30	99.2	99.2	99.1	99.4	99.4	99.2						
	D7	372.32	28.21	99.0	98.8	98.8	98.8	98.8	98.6						
	D8	375.33	28.28	99.6	99.5	99.7	100.4	100.4	100.1						
	D9	373.72	28.22	99.2	99.2	99.3	99.6	99.7	99.6						
	D10	375.02	28.15	98.8	98.6	98.5	98.6	98.5	98.3						
	D11	376.29	28.12	98.2	97.4	97.6	97.7	97.6	97.3						
	D12	374.51	28.16	99.0	98.9	98.8	99.2	99.2	99.0						

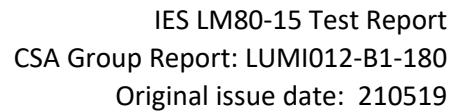
TABLE 4.0 - LUMEN MAINTENANCE RESULTS

L150-40705030000S0

Test Condition 3 105 °C 0.070 A

Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none									
		Flux (lm)	Vf (V)	Lumen Maintenance (%)									
				12000	13000	14000	15000	16000	17000				
DE0000107720031C	D1	374.28	28.12	99.0	99.1	99.0	99.5	99.5	99.3				
	D2	374.85	28.17	99.0	99.1	99.0	99.6	99.6	99.5				
	D3	370.53	28.21	99.8	99.8	99.9	100.2	100.3	100.1				
	D4	369.54	28.18	99.2	99.2	99.2	99.5	99.5	99.4				
	D5	373.27	28.19	99.2	99.2	99.2	99.4	99.5	99.4				
	D6	374.95	28.21	98.6	98.5	98.4	98.5	98.4	98.2				
	D7	374.70	28.24	98.9	98.9	98.9	99.1	99.1	98.8				
	D8	375.46	28.20	99.3	99.3	99.3	99.6	99.9	99.7				
	D9	374.52	28.23	98.9	98.9	98.8	99.0	99.0	98.8				
	D10	375.40	28.22	99.0	99.0	98.9	99.4	99.3	99.2				
	D11	377.02	28.17	98.7	98.7	98.6	98.8	98.8	98.6				
	D12	377.01	28.19	99.1	99.1	99.1	99.4	99.4	99.4				
n				36	36	36	36	36	36				
mean				99.1	99.1	99.1	99.3	99.3	99.2				
median				99.1	99.1	99.1	99.4	99.4	99.2				
std. dev.				0.4	0.4	0.4	0.5	0.6	0.6				
min				98.2	97.4	97.6	97.7	97.6	97.3				
max				99.8	99.8	99.9	100.4	100.4	100.1				

Test Condition 3 105 °C 0.070 A														
TABLE 4.1 - PHOTOSYNTHETIC PHOTON FLUX MAINTENANCE RESULTS														
Test Condition 3 105 °C 0.070 A														
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		PPF (μmol/s)	VF (V)	Photosynthetic Photon Flux Maintenance (%)										
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
020000107325031C	D1	4.88	28.18	100.3	100.2	100.1	100.0	100.0	99.8	99.7	99.7	99.6	99.7	99.7
	D2	4.86	28.19	100.6	100.4	100.3	100.2	100.2	99.9	99.9	99.8	99.7	99.9	99.9
	D3	4.85	28.20	100.5	100.4	100.3	100.2	100.2	100.0	99.9	99.9	99.9	100.0	100.0
	D4	4.89	28.20	100.4	100.4	100.2	100.1	100.2	99.9	99.9	99.9	99.8	99.9	99.8
	D5	4.89	28.19	100.8	100.6	100.5	100.5	100.5	100.2	100.1	100.1	100.0	100.1	100.0
	D6	4.87	28.17	100.4	100.3	100.2	100.2	100.2	99.9	99.9	100.0	99.9	100.1	100.1
	D7	4.85	28.19	100.6	100.4	100.3	100.2	100.3	100.2	100.1	100.1	100.0	100.1	100.1
	D8	4.91	28.18	100.3	100.2	100.0	100.0	99.9	99.6	99.5	99.4	99.3	99.3	99.2
	D9	4.91	28.28	100.5	100.4	100.3	100.2	100.2	100.0	99.9	99.9	99.8	99.9	99.9
	D10	4.89	28.29	100.6	100.5	100.4	100.4	100.4	100.2	100.1	100.2	100.1	100.2	100.1
	D11	4.93	28.27	100.4	100.3	100.2	100.1	100.1	99.8	99.7	99.6	99.5	99.6	99.5
	D12	4.93	28.19	100.2	100.1	99.9	99.8	99.8	99.5	99.4	99.4	99.3	99.4	99.3
C400001082AC031C	D1	4.85	28.15	100.4	100.3	100.1	100.0	99.9	99.8	99.7	99.7	99.6	99.6	99.5
	D2	4.87	28.19	100.3	100.2	100.1	100.1	99.9	99.8	99.7	99.7	99.6	99.6	99.6
	D3	4.88	28.18	100.6	100.5	100.3	100.2	100.1	100.0	99.9	99.8	99.7	99.7	99.5
	D4	4.89	28.23	100.5	100.4	100.2	100.2	100.0	99.9	99.8	99.8	99.7	99.7	99.6
	D5	4.91	28.17	100.4	100.3	100.2	100.1	100.0	99.8	99.8	99.7	99.7	99.8	99.7
	D6	4.89	28.30	100.5	100.4	100.2	100.1	100.0	99.9	99.8	99.8	99.8	99.8	99.8
	D7	4.88	28.21	100.5	100.4	100.2	100.1	100.0	99.8	99.7	99.7	99.6	99.7	99.6
	D8	4.92	28.28	100.4	100.3	100.2	100.1	100.0	99.9	99.9	99.9	99.9	100.1	100.1
	D9	4.89	28.22	100.3	100.2	100.2	100.1	100.0	99.9	99.8	99.8	99.8	99.8	99.8
	D10	4.91	28.15	100.3	100.2	100.1	100.0	99.9	99.7	99.7	99.6	99.5	99.5	99.4
	D11	4.91	28.12	100.3	100.1	100.0	99.9	99.7	99.6	99.4	99.4	99.2	99.1	98.9
	D12	4.91	28.16	100.4	100.3	100.1	100.0	99.8	99.7	99.6	99.6	99.5	99.6	99.5



L150-40705030000S0

0.070 A

		1000	2000	3000	4000	5000	6000	7000	8000
90	28.12	100.3	100.2	100.1	99.9	99.7	99.6	99.5	99.5
90	28.17	100.4	100.2	100.1	100.0	99.8	99.7	99.6	99.6
85	28.21	100.6	100.6	100.6	100.5	100.4	100.3	100.2	100.3
85	28.18	100.5	100.5	100.4	100.3	100.1	100.0	99.9	99.9
89	28.19	100.4	100.3	100.2	100.1	99.9	99.8	99.7	99.8
91	28.21	100.3	100.2	100.1	99.9	99.7	99.6	99.5	99.5
91	28.24	100.4	100.3	100.2	100.1	99.9	99.8	99.7	99.7
90	28.20	100.2	100.3	100.2	100.1	99.9	99.8	99.7	99.8
91	28.23	100.4	100.4	100.3	100.2	100.0	99.9	99.7	99.7
92	28.22	100.5	100.4	100.3	100.2	100.0	99.9	99.8	99.8
93	28.17	100.3	100.2	100.1	99.9	99.8	99.6	99.5	99.5
93	28.19	100.4	100.3	100.2	100.1	99.9	99.8	99.7	99.7
n		36	36	36	36	36	36	36	36
mean		100.4	100.3	100.2	100.1	100.0	99.8	99.8	99.8
median		100.4	100.3	100.2	100.1	100.0	99.8	99.7	99.8
std. dev.		0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
min		100.3	100.4	100.6	100.5	100.4	100.3	100.2	100.4

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Test Condition 3				105 °C		0.070 A									
TABLE 4.1 - PHOTOSYNTHETIC PHOTON FLUX MAINTENANCE RESULTS														L150-40705030000S0	
Test Condition 3				105 °C		0.070 A									
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none											
		PPF (μmol/s)	VF (V)	Photosynthetic Photon Flux Maintenance (%)											
				12000	13000	14000	15000	16000	17000						
020000107325031C	D1	4.88	28.18	99.7	99.7	99.7	99.9	100.1	99.9						
	D2	4.86	28.19	99.8	99.7	99.7	99.7	99.9	99.6						
	D3	4.85	28.20	99.9	99.9	99.9	100.1	100.3	100.1						
	D4	4.89	28.20	99.7	99.7	99.7	99.9	99.9	99.8						
	D5	4.89	28.19	99.9	99.9	99.8	99.9	100.0	99.8						
	D6	4.87	28.17	100.0	100.1	100.2	100.4	100.4	100.3						
	D7	4.85	28.19	100.0	100.0	100.0	100.1	100.3	100.1						
	D8	4.91	28.18	99.1	99.0	98.9	98.9	99.0	98.8						
	D9	4.91	28.28	99.8	99.9	99.9	100.2	100.4	100.3						
	D10	4.89	28.29	100.1	100.1	100.1	100.3	100.5	100.4						
	D11	4.93	28.27	99.4	99.3	99.3	99.3	99.3	99.1						
	D12	4.93	28.19	99.3	99.3	99.3	99.6	99.7	99.6						
C400001082AC031C	D1	4.85	28.15	99.5	99.4	99.5	99.7	99.8	99.5						
	D2	4.87	28.19	99.4	99.3	99.3	99.5	99.4	99.1						
	D3	4.88	28.18	99.3	99.1	99.0	99.0	98.9	98.7						
	D4	4.89	28.23	99.6	99.5	99.5	99.7	99.7	99.6						
	D5	4.91	28.17	99.7	99.6	99.7	99.7	99.7	99.6						
	D6	4.89	28.30	99.6	99.6	99.6	99.8	99.8	99.6						
	D7	4.88	28.21	99.4	99.3	99.3	99.3	99.2	99.1						
	D8	4.92	28.28	100.0	100.0	100.1	100.8	100.8	100.6						
	D9	4.89	28.22	99.7	99.7	99.8	100.0	100.1	100.0						
	D10	4.91	28.15	99.2	99.1	99.0	99.0	99.0	98.8						
	D11	4.91	28.12	98.6	97.9	98.2	98.2	98.1	97.8						
	D12	4.91	28.16	99.4	99.4	99.3	99.6	99.7	99.5						

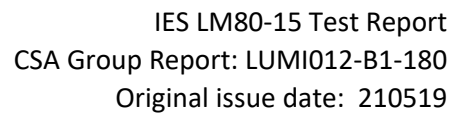
TABLE 4.1 - PHOTOSYNTHETIC PHOTON FLUX MAINTENANCE RESULTS

L150-40705030000S0

Test Condition 3 105 °C 0.070 A

Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none									
		PPF (μmol/s)	VF (V)	Photosynthetic Photon Flux Maintenance (%)									
				12000	13000	14000	15000	16000	17000				
DE0000107720031C	D1	4.90	28.12	99.4	99.5	99.5	99.9	99.9	99.7				
	D2	4.90	28.17	99.5	99.5	99.5	100.0	100.0	99.9				
	D3	4.85	28.21	100.2	100.3	100.3	100.5	100.7	100.5				
	D4	4.85	28.18	99.6	99.7	99.6	99.9	99.9	99.8				
	D5	4.89	28.19	99.6	99.7	99.6	99.8	99.9	99.8				
	D6	4.91	28.21	99.0	99.0	98.8	98.9	98.9	98.7				
	D7	4.91	28.24	99.4	99.4	99.4	99.5	99.5	99.3				
	D8	4.90	28.20	99.7	99.7	99.7	99.9	100.2	100.0				
	D9	4.91	28.23	99.4	99.4	99.3	99.5	99.4	99.3				
	D10	4.92	28.22	99.5	99.5	99.4	99.7	99.7	99.6				
	D11	4.93	28.17	99.1	99.1	99.1	99.2	99.2	99.0				
	D12	4.93	28.19	99.5	99.5	99.5	99.8	99.8	99.7				
n				36	36	36	36	36	36				
mean				99.6	99.5	99.5	99.7	99.7	99.6				
median				99.5	99.5	99.5	99.8	99.8	99.6				
std. dev.				0.3	0.4	0.4	0.5	0.6	0.6				
min				98.6	97.9	98.2	98.2	98.1	97.8				
max				100.2	100.3	100.3	100.8	100.8	100.6				

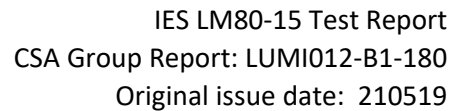
Test Condition 3				105 °C		0.070 A										
TABLE 4.2 - PHOTON FLUX, FAR RED MAINTENANCE RESULTS															L150-40705030000S0	
Test Condition 3				105 °C		0.070 A										
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none												
		PF _{FR} (μmol/s)	VF (V)	Photon Flux Far Red Maintenance, 700-800nm (%)												
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000		
020000107325031C	D1	0.14	28.18	103.2	103.8	104.5	104.7	105.2	105.4	105.4	105.7	106.0	106.0	106.1		
	D2	0.14	28.19	103.6	104.3	104.8	105.2	105.7	105.8	106.0	106.0	106.0	106.3	106.4		
	D3	0.14	28.20	103.4	103.9	104.8	105.0	105.4	105.5	105.7	106.0	106.0	106.5	106.7		
	D4	0.14	28.20	103.4	104.0	104.7	105.0	105.4	105.7	105.7	105.9	106.2	106.2	106.5		
	D5	0.14	28.19	103.2	103.9	104.5	105.0	105.1	105.4	105.7	105.7	105.8	105.9	106.3		
	D6	0.14	28.17	103.3	104.2	104.6	105.2	105.5	105.9	105.8	106.3	106.4	106.7	106.7		
	D7	0.14	28.19	103.5	104.0	104.8	104.9	105.7	105.5	106.1	106.1	106.4	106.5	106.8		
	D8	0.15	28.18	103.2	103.7	104.2	104.7	105.0	104.9	105.2	105.2	105.5	105.5	105.5		
	D9	0.14	28.28	103.2	104.0	104.5	104.9	105.1	105.4	105.7	105.7	106.1	106.1	106.1		
	D10	0.14	28.29	103.4	104.1	104.8	105.3	105.4	105.7	105.8	105.9	106.2	106.4	106.4		
	D11	0.15	28.27	103.2	103.8	104.5	105.0	105.2	105.4	105.4	105.6	105.7	105.8	105.8		
	D12	0.14	28.19	103.0	103.7	104.1	104.5	105.0	104.9	105.1	105.6	105.4	105.7	105.7		
C400001082AC031C	D1	0.14	28.15	103.5	104.3	104.9	105.2	105.3	105.3	105.8	105.9	106.2	106.1	106.5		
	D2	0.14	28.19	103.6	104.2	104.8	105.2	105.4	105.5	105.7	105.9	106.2	106.0	106.5		
	D3	0.14	28.18	103.4	104.3	104.8	105.2	105.2	105.5	105.5	105.7	105.9	106.1	106.1		
	D4	0.14	28.23	103.6	104.4	104.9	105.3	105.7	105.7	105.9	106.1	106.5	106.5	106.7		
	D5	0.14	28.17	103.6	104.4	104.9	105.4	105.5	105.5	106.0	105.9	106.2	106.3	106.9		
	D6	0.14	28.30	103.3	104.3	105.0	105.5	105.5	105.6	105.9	106.5	106.4	106.5	106.9		
	D7	0.14	28.21	103.4	104.2	104.7	105.1	105.2	105.5	105.6	105.9	105.9	106.2	106.3		
	D8	0.14	28.28	103.5	104.3	104.8	105.3	105.4	105.5	105.8	106.2	106.1	106.6	107.0		
	D9	0.14	28.22	103.4	104.4	104.9	105.3	105.3	105.6	105.8	106.1	106.3	106.3	106.8		
	D10	0.14	28.15	103.0	103.9	104.5	105.2	105.3	105.5	105.6	105.9	105.9	106.0	106.2		
	D11	0.14	28.12	103.3	104.2	104.8	105.3	105.3	105.3	105.7	105.6	105.7	105.8	105.8		
	D12	0.14	28.16	103.4	104.2	104.8	105.1	105.1	105.3	105.4	105.7	105.7	106.2	106.4		



L150-40705030000S0

Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		PF _{FR} (μmol/s)	VF (V)	Photon Flux Far Red Maintenance, 700-800nm (%)										
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
DE0000107720031C	D1	0.14	28.12	103.1	103.6	104.2	104.8	104.6	104.9	105.0	105.2	105.6	105.7	106.0
	D2	0.14	28.17	102.8	103.6	104.1	104.4	104.6	104.8	105.2	105.4	105.5	105.7	106.0
	D3	0.14	28.21	103.3	103.8	104.5	104.8	104.9	105.3	105.3	106.0	105.9	106.3	106.5
	D4	0.14	28.18	103.6	104.0	104.7	105.2	105.0	105.4	105.4	105.7	105.6	106.0	106.2
	D5	0.14	28.19	103.0	103.9	104.3	104.7	104.8	105.0	105.4	105.7	105.7	106.0	106.1
	D6	0.14	28.21	103.2	104.1	104.2	104.9	104.9	105.2	105.5	105.6	105.6	105.7	105.8
	D7	0.14	28.24	103.2	103.8	104.3	104.8	104.9	105.3	105.3	105.8	105.8	105.9	106.0
	D8	0.14	28.20	103.0	103.7	104.4	104.9	104.9	105.1	105.4	105.8	105.8	106.1	106.4
	D9	0.14	28.23	103.4	104.3	104.6	105.0	105.2	105.2	105.5	105.6	105.6	106.0	106.0
	D10	0.14	28.22	103.1	103.8	104.3	104.6	104.8	104.8	105.3	105.4	105.4	105.8	105.8
	D11	0.15	28.17	103.3	103.9	104.3	104.9	104.7	104.8	105.3	105.4	105.2	105.6	105.8
	D12	0.15	28.19	103.1	103.7	104.3	104.7	104.5	104.9	105.1	105.1	105.3	105.6	105.9
	n			36	36	36	36	36	36	36	36	36	36	36
	mean			103.3	104.0	104.6	105.0	105.2	105.3	105.6	105.8	105.9	106.1	106.3
	median			103.3	104.0	104.6	105.0	105.2	105.4	105.6	105.7	105.9	106.0	106.3
	std. dev.			0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4
	min			102.8	103.6	104.1	104.4	104.5	104.8	105.0	105.1	105.2	105.5	105.5
	max			103.6	104.4	105.0	105.5	105.7	105.9	106.1	106.5	106.5	106.7	107.0

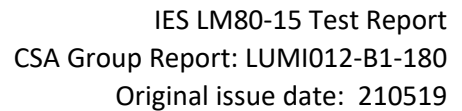
Test Condition 3 105 °C 0.070 A													
TABLE 4.2 - PHOTON FLUX, FAR RED MAINTENANCE RESULTS												L150-40705030000S0	
Test Condition 3 105 °C 0.070 A													
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none									
		PF _{FR} (μmol/s)	VF (V)	Photon Flux Far Red Maintenance, 700-800nm (%)									
				12000	13000	14000	15000	16000	17000				
020000107325031C	D1	0.14	28.18	106.4	106.6	106.7	106.8	107.2	107.1				
	D2	0.14	28.19	106.8	106.9	106.6	106.9	107.3	107.1				
	D3	0.14	28.20	106.9	106.8	106.9	107.7	108.0	107.6				
	D4	0.14	28.20	106.6	106.8	106.8	107.1	107.4	107.5				
	D5	0.14	28.19	106.5	106.7	106.5	106.8	106.9	107.1				
	D6	0.14	28.17	107.3	107.2	107.4	107.4	108.1	108.1				
	D7	0.14	28.19	107.0	107.0	107.0	107.2	107.7	107.8				
	D8	0.15	28.18	105.8	105.9	105.6	105.7	106.1	105.9				
	D9	0.14	28.28	106.5	106.9	106.7	107.1	107.8	107.9				
	D10	0.14	28.29	106.9	107.0	107.0	107.5	107.7	107.9				
	D11	0.15	28.27	106.0	106.0	106.1	106.3	106.5	106.4				
	D12	0.14	28.19	105.7	105.9	106.0	106.3	106.7	106.7				
C400001082AC031C	D1	0.14	28.15	106.3	106.6	106.7	107.3	107.4	107.3				
	D2	0.14	28.19	106.3	106.5	106.6	106.7	106.9	106.8				
	D3	0.14	28.18	105.9	105.7	105.8	105.7	105.9	105.8				
	D4	0.14	28.23	106.7	107.1	106.9	107.2	107.3	107.3				
	D5	0.14	28.17	106.9	106.7	106.9	107.1	107.3	107.4				
	D6	0.14	28.30	106.7	107.1	106.9	107.3	107.7	107.6				
	D7	0.14	28.21	106.4	106.6	106.4	106.5	106.6	106.7				
	D8	0.14	28.28	107.0	107.1	107.1	108.0	108.3	108.4				
	D9	0.14	28.22	106.8	107.1	107.0	107.5	107.8	108.1				
	D10	0.14	28.15	106.1	106.1	106.0	106.0	106.1	106.3				
	D11	0.14	28.12	105.6	104.9	105.0	105.0	105.3	105.2				
	D12	0.14	28.16	106.3	106.5	106.4	106.8	107.1	107.2				



L150-40705030000S0

Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		PF _{FR} (μmol/s)	VF (V)	Photon Flux Far Red Maintenance, 700-800nm (%)										
				12000	13000	14000	15000	16000	17000					
DE0000107720031C	D1	0.14	28.12	106.2	106.0	106.2	106.9	107.0	107.2					
	D2	0.14	28.17	106.0	106.1	106.1	106.9	107.1	107.0					
	D3	0.14	28.21	106.5	106.7	106.7	107.4	107.4	107.5					
	D4	0.14	28.18	106.0	106.4	106.4	106.8	106.8	106.9					
	D5	0.14	28.19	106.3	106.5	106.4	106.9	107.1	107.1					
	D6	0.14	28.21	105.8	106.0	105.6	106.1	106.0	105.9					
	D7	0.14	28.24	105.9	106.2	106.3	106.5	106.5	106.4					
	D8	0.14	28.20	106.3	106.3	106.4	107.2	107.4	107.5					
	D9	0.14	28.23	105.8	106.0	106.1	106.5	106.3	106.4					
	D10	0.14	28.22	105.6	105.8	105.8	106.4	106.5	106.5					
	D11	0.15	28.17	105.6	105.9	105.7	106.0	106.3	106.3					
	D12	0.15	28.19	105.8	106.0	106.0	106.7	107.0	106.8					
	n			36	36	36	36	36	36					
	mean			106.3	106.4	106.4	106.8	107.0	107.0					
	median			106.3	106.5	106.4	106.8	107.1	107.1					
	std. dev.			0.5	0.5	0.5	0.6	0.7	0.7					
	min			105.6	104.9	105.0	105.0	105.3	105.2					
	max			107.3	107.2	107.4	108.0	108.3	108.4					

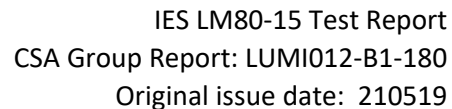
Test Condition 3 105 °C 0.070 A															
TABLE 4.3 - CHROMATICITY SHIFT RESULTS															
L150-40705030000S0															
Test Condition 3 105 °C 0.070 A															
Load board ID	Device number	Zero hour measurements			Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		u'	v'		Chromaticity shift (Δu'v')										
					1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
020000107325031C	D1	0.2243	0.5056		0.0010	0.0012	0.0014	0.0016	0.0018	0.0020	0.0021	0.0022	0.0023	0.0024	0.0025
	D2	0.2246	0.5046		0.0009	0.0012	0.0014	0.0016	0.0018	0.0020	0.0021	0.0022	0.0023	0.0023	0.0024
	D3	0.2243	0.5049		0.0009	0.0012	0.0014	0.0016	0.0017	0.0019	0.0020	0.0021	0.0023	0.0023	0.0024
	D4	0.2246	0.5052		0.0009	0.0012	0.0014	0.0016	0.0018	0.0019	0.0020	0.0022	0.0023	0.0023	0.0024
	D5	0.2243	0.5051		0.0008	0.0011	0.0012	0.0014	0.0016	0.0018	0.0019	0.0020	0.0021	0.0022	0.0023
	D6	0.2248	0.5048		0.0010	0.0012	0.0014	0.0016	0.0017	0.0019	0.0020	0.0021	0.0023	0.0022	0.0024
	D7	0.2250	0.5048		0.0009	0.0011	0.0013	0.0015	0.0016	0.0018	0.0019	0.0020	0.0022	0.0023	0.0023
	D8	0.2252	0.5057		0.0010	0.0012	0.0014	0.0016	0.0018	0.0020	0.0021	0.0022	0.0024	0.0025	0.0026
	D9	0.2246	0.5062		0.0010	0.0012	0.0014	0.0016	0.0018	0.0020	0.0021	0.0022	0.0023	0.0024	0.0025
	D10	0.2244	0.5037		0.0009	0.0012	0.0014	0.0016	0.0017	0.0019	0.0020	0.0021	0.0023	0.0023	0.0025
	D11	0.2252	0.5056		0.0009	0.0012	0.0014	0.0015	0.0017	0.0019	0.0020	0.0021	0.0023	0.0024	0.0025
	D12	0.2245	0.5063		0.0009	0.0012	0.0014	0.0015	0.0018	0.0019	0.0021	0.0022	0.0023	0.0024	0.0025
C400001082AC031C	D1	0.2250	0.5049		0.0009	0.0011	0.0013	0.0014	0.0016	0.0018	0.0019	0.0020	0.0022	0.0022	0.0023
	D2	0.2248	0.5051		0.0009	0.0011	0.0013	0.0015	0.0016	0.0018	0.0019	0.0020	0.0022	0.0023	0.0024
	D3	0.2244	0.5067		0.0009	0.0011	0.0012	0.0014	0.0016	0.0017	0.0019	0.0020	0.0021	0.0023	0.0024
	D4	0.2247	0.5050		0.0008	0.0010	0.0012	0.0014	0.0016	0.0017	0.0019	0.0020	0.0022	0.0022	0.0024
	D5	0.2247	0.5050		0.0009	0.0011	0.0014	0.0015	0.0018	0.0019	0.0020	0.0021	0.0023	0.0024	0.0025
	D6	0.2248	0.5054		0.0009	0.0011	0.0013	0.0015	0.0017	0.0018	0.0019	0.0020	0.0022	0.0023	0.0024
	D7	0.2248	0.5051		0.0009	0.0011	0.0013	0.0016	0.0017	0.0019	0.0020	0.0021	0.0023	0.0024	0.0025
	D8	0.2243	0.5045		0.0010	0.0012	0.0014	0.0017	0.0019	0.0020	0.0022	0.0022	0.0023	0.0024	0.0025
	D9	0.2248	0.5056		0.0009	0.0012	0.0014	0.0016	0.0017	0.0019	0.0020	0.0021	0.0022	0.0023	0.0024
	D10	0.2246	0.5052		0.0009	0.0011	0.0013	0.0015	0.0016	0.0018	0.0019	0.0020	0.0022	0.0023	0.0024
	D11	0.2241	0.5063		0.0009	0.0011	0.0014	0.0015	0.0017	0.0019	0.0021	0.0022	0.0024	0.0025	0.0027
	D12	0.2243	0.5045		0.0009	0.0011	0.0013	0.0015	0.0017	0.0019	0.0021	0.0022	0.0023	0.0024	0.0026



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Load board ID	Device number	Zero hour measurements			Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none										
		u'	v'		Chromaticity shift (Δu'v')										
					1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000
DE0000107720031C	D1	0.2247	0.5054		0.0009	0.0012	0.0014	0.0016	0.0017	0.0019	0.0021	0.0022	0.0023	0.0024	0.0025
	D2	0.2246	0.5061		0.0009	0.0012	0.0013	0.0016	0.0018	0.0019	0.0021	0.0022	0.0024	0.0025	0.0026
	D3	0.2247	0.5056		0.0009	0.0011	0.0013	0.0015	0.0017	0.0018	0.0019	0.0021	0.0022	0.0023	0.0024
	D4	0.2248	0.5047		0.0010	0.0011	0.0014	0.0016	0.0017	0.0019	0.0020	0.0022	0.0023	0.0025	0.0025
	D5	0.2246	0.5054		0.0009	0.0011	0.0013	0.0016	0.0017	0.0019	0.0020	0.0022	0.0023	0.0024	0.0025
	D6	0.2249	0.5055		0.0009	0.0011	0.0013	0.0015	0.0017	0.0019	0.0020	0.0021	0.0023	0.0024	0.0026
	D7	0.2246	0.5054		0.0009	0.0012	0.0014	0.0016	0.0018	0.0019	0.0021	0.0022	0.0024	0.0024	0.0026
	D8	0.2244	0.5064		0.0010	0.0012	0.0014	0.0016	0.0017	0.0019	0.0021	0.0021	0.0023	0.0024	0.0024
	D9	0.2246	0.5050		0.0009	0.0011	0.0013	0.0015	0.0017	0.0019	0.0021	0.0022	0.0024	0.0025	0.0026
	D10	0.2247	0.5049		0.0009	0.0011	0.0013	0.0015	0.0016	0.0018	0.0019	0.0021	0.0022	0.0023	0.0025
	D11	0.2248	0.5060		0.0010	0.0012	0.0014	0.0016	0.0017	0.0019	0.0021	0.0022	0.0024	0.0025	0.0026
	D12	0.2246	0.5058		0.0008	0.0010	0.0013	0.0015	0.0016	0.0018	0.0020	0.0021	0.0022	0.0023	0.0025
n					36	36	36	36	36	36	36	36	36	36	36
	mean				0.0009	0.0011	0.0013	0.0015	0.0017	0.0019	0.0020	0.0021	0.0023	0.0024	0.0025
	median				0.0009	0.0011	0.0014	0.0016	0.0017	0.0019	0.0020	0.0021	0.0023	0.0024	0.0025
	std. dev.				0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	min				0.0008	0.0010	0.0012	0.0014	0.0016	0.0017	0.0019	0.0020	0.0021	0.0022	0.0023
	max				0.0010	0.0012	0.0014	0.0017	0.0019	0.0020	0.0022	0.0022	0.0024	0.0025	0.0027

Test Condition 3 105 °C 0.070 A														
TABLE 4.3 - CHROMATICITY SHIFT RESULTS														
Test Condition 3 105 °C 0.070 A														
Load board ID	Device number	Zero hour measurements			Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none									
		u'	v'		Chromaticity shift (Δu'v')									
					12000	13000	14000	15000	16000	17000				
020000107325031C	D1	0.2243	0.5056		0.0026	0.0027	0.0028	0.0028	0.0028	0.0027				
	D2	0.2246	0.5046		0.0026	0.0027	0.0028	0.0028	0.0027	0.0027				
	D3	0.2243	0.5049		0.0025	0.0025	0.0026	0.0024	0.0024	0.0023				
	D4	0.2246	0.5052		0.0025	0.0027	0.0027	0.0026	0.0026	0.0026				
	D5	0.2243	0.5051		0.0024	0.0026	0.0026	0.0026	0.0026	0.0025				
	D6	0.2248	0.5048		0.0025	0.0025	0.0026	0.0026	0.0027	0.0027				
	D7	0.2250	0.5048		0.0025	0.0025	0.0027	0.0027	0.0026	0.0026				
	D8	0.2252	0.5057		0.0028	0.0029	0.0030	0.0031	0.0031	0.0031				
	D9	0.2246	0.5062		0.0026	0.0026	0.0027	0.0026	0.0025	0.0026				
	D10	0.2244	0.5037		0.0025	0.0026	0.0027	0.0027	0.0027	0.0027				
	D11	0.2252	0.5056		0.0027	0.0028	0.0029	0.0028	0.0028	0.0028				
	D12	0.2245	0.5063		0.0026	0.0027	0.0028	0.0027	0.0028	0.0028				
C400001082AC031C	D1	0.2250	0.5049		0.0024	0.0025	0.0026	0.0025	0.0025	0.0024				
	D2	0.2248	0.5051		0.0025	0.0026	0.0027	0.0026	0.0026	0.0025				
	D3	0.2244	0.5067		0.0025	0.0027	0.0029	0.0028	0.0029	0.0029				
	D4	0.2247	0.5050		0.0025	0.0025	0.0027	0.0026	0.0027	0.0027				
	D5	0.2247	0.5050		0.0025	0.0026	0.0028	0.0027	0.0028	0.0028				
	D6	0.2248	0.5054		0.0025	0.0025	0.0027	0.0026	0.0026	0.0026				
	D7	0.2248	0.5051		0.0026	0.0027	0.0029	0.0028	0.0028	0.0027				
	D8	0.2243	0.5045		0.0026	0.0027	0.0028	0.0025	0.0026	0.0027				
	D9	0.2248	0.5056		0.0025	0.0026	0.0027	0.0026	0.0025	0.0025				
	D10	0.2246	0.5052		0.0025	0.0027	0.0028	0.0028	0.0028	0.0028				
	D11	0.2241	0.5063		0.0028	0.0030	0.0032	0.0032	0.0032	0.0032				
	D12	0.2243	0.5045		0.0026	0.0027	0.0029	0.0028	0.0028	0.0027				



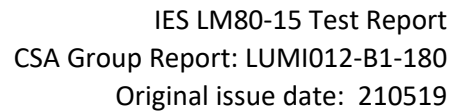
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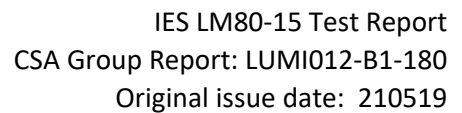
Test Condition 3				105 °C		0.070 A									
TABLE 4.4 - FORWARD VOLTAGE MAINTENANCE RESULTS														L150-40705030000S0	
Test Condition 3				105 °C		0.070 A									
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none											
		Vf (V)		Forward Voltage Maintainence (%)											
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	
020000107325031C	D1		28.18	100.02	100.05	100.06	100.07	100.09	100.09	100.10	100.10	100.10	100.11	100.11	
	D2		28.19	100.01	100.03	100.05	100.06	100.07	100.08	100.10	100.09	100.09	100.10	100.10	
	D3		28.20	100.00	100.02	100.04	100.05	100.06	100.06	100.08	100.08	100.08	100.08	100.08	
	D4		28.20	100.00	100.03	100.04	100.05	100.07	100.07	100.08	100.08	100.08	100.09	100.09	
	D5		28.19	100.01	100.03	100.04	100.05	100.07	100.06	100.07	100.07	100.08	100.08	100.08	
	D6		28.17	100.02	100.04	100.05	100.07	100.09	100.08	100.09	100.09	100.10	100.10	100.10	
	D7		28.19	100.01	100.03	100.04	100.05	100.06	100.07	100.07	100.07	100.08	100.08	100.09	
	D8		28.18	100.01	100.03	100.04	100.05	100.05	100.07	100.06	100.07	100.07	100.08	100.08	
	D9		28.28	99.99	100.01	100.03	100.04	100.05	100.06	100.07	100.08	100.08	100.08	100.09	
	D10		28.29	99.98	100.00	100.01	100.03	100.04	100.05	100.05	100.07	100.07	100.07	100.07	
	D11		28.27	99.98	100.00	100.01	100.03	100.04	100.04	100.04	100.05	100.05	100.05	100.06	
	D12		28.19	100.00	100.02	100.03	100.05	100.06	100.06	100.06	100.07	100.07	100.07	100.08	
C400001082AC031C	D1		28.15	100.02	100.04	100.04	100.06	100.07	100.07	100.10	100.11	100.09	100.10	100.11	
	D2		28.19	100.00	100.03	100.02	100.05	100.06	100.06	100.07	100.08	100.08	100.08	100.08	
	D3		28.18	99.99	100.02	100.01	100.04	100.05	100.05	100.06	100.06	100.07	100.07	100.07	
	D4		28.23	99.99	100.01	100.01	100.04	100.05	100.06	100.06	100.07	100.08	100.08	100.08	
	D5		28.17	100.01	100.03	100.04	100.06	100.07	100.08	100.09	100.08	100.08	100.09	100.09	
	D6		28.30	99.98	100.01	100.02	100.04	100.06	100.07	100.07	100.07	100.08	100.09	100.09	
	D7		28.21	100.00	100.03	100.04	100.05	100.06	100.07	100.08	100.09	100.09	100.09	100.10	
	D8		28.28	99.98	100.01	100.02	100.03	100.04	100.06	100.07	100.07	100.07	100.09	100.08	
	D9		28.22	100.01	100.03	100.04	100.06	100.07	100.07	100.08	100.09	100.09	100.12	100.10	
	D10		28.15	100.01	100.03	100.03	100.05	100.06	100.06	100.07	100.07	100.07	100.08	100.08	
	D11		28.12	100.01	100.03	100.03	100.05	100.06	100.06	100.07	100.07	100.08	100.08	100.08	
	D12		28.16	100.02	100.04	100.05	100.06	100.07	100.08	100.09	100.09	100.09	100.10	100.10	



L150-40705030000S0

[illegible]

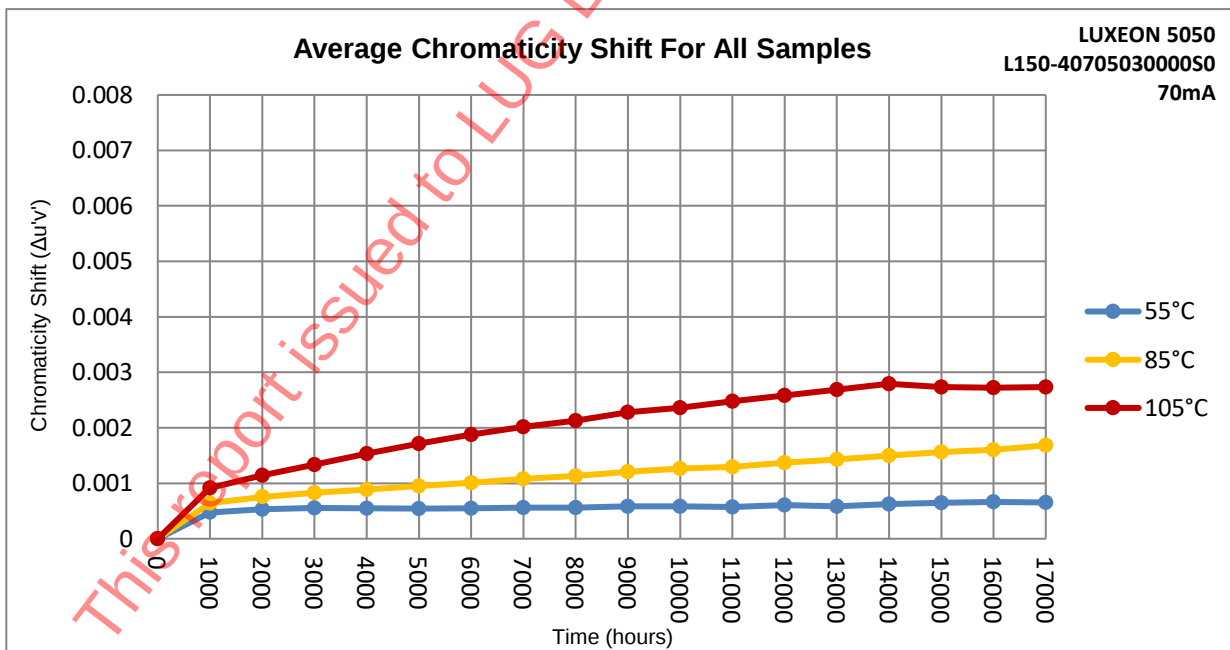
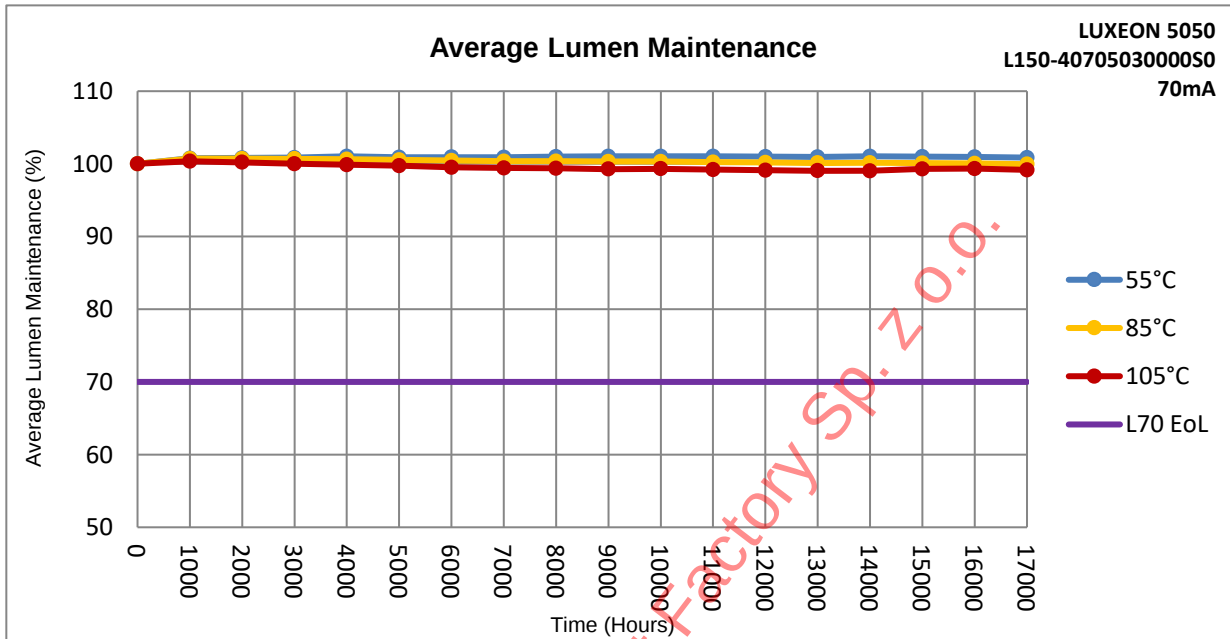
Test Condition 3				105 °C		0.070 A									
TABLE 4.4 - FORWARD VOLTAGE MAINTENANCE RESULTS														L150-40705030000S0	
Test Condition 3				105 °C		0.070 A									
Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none											
		Vf (V)		Forward Voltage Maintainence (%)											
				12000	13000	14000	15000	16000	17000						
020000107325031C	D1		28.18	100.11	100.14	100.14	100.14	100.15	100.16						
	D2		28.19	100.10	100.12	100.13	100.13	100.14	100.14						
	D3		28.20	100.08	100.10	100.10	100.11	100.11	100.13						
	D4		28.20	100.09	100.10	100.11	100.11	100.12	100.13						
	D5		28.19	100.08	100.10	100.10	100.11	100.11	100.12						
	D6		28.17	100.10	100.12	100.12	100.13	100.14	100.15						
	D7		28.19	100.09	100.10	100.11	100.11	100.11	100.12						
	D8		28.18	100.08	100.09	100.10	100.10	100.10	100.11						
	D9		28.28	100.09	100.11	100.12	100.13	100.14	100.15						
	D10		28.29	100.07	100.09	100.10	100.11	100.12	100.12						
	D11		28.27	100.06	100.07	100.09	100.09	100.08	100.10						
	D12		28.19	100.08	100.08	100.10	100.10	100.10	100.11						
C400001082AC031C	D1		28.15	100.10	100.12	100.12	100.15	100.15	100.14						
	D2		28.19	100.09	100.10	100.11	100.13	100.12	100.12						
	D3		28.18	100.07	100.09	100.09	100.10	100.10	100.10						
	D4		28.23	100.08	100.13	100.11	100.13	100.13	100.13						
	D5		28.17	100.09	100.11	100.12	100.12	100.13	100.13						
	D6		28.30	100.09	100.11	100.12	100.14	100.14	100.14						
	D7		28.21	100.12	100.12	100.12	100.13	100.14	100.14						
	D8		28.28	100.10	100.10	100.11	100.11	100.12	100.12						
	D9		28.22	100.10	100.11	100.14	100.14	100.15	100.14						
	D10		28.15	100.08	100.09	100.11	100.11	100.11	100.11						
	D11		28.12	100.08	100.09	100.10	100.11	100.11	100.12						
	D12		28.16	100.10	100.12	100.12	100.13	100.13	100.14						



L150-40705030000S0

Load board ID	Device number	Zero hour measurements		Photometric test drive current: 0.070 A Photometric test ambient temperature: 25 ± 2 °C Failures observed: none									
		Vf (V)	Forward Voltage Maintenance (%)										
			12000	13000	14000	15000	16000	17000					
DE0000107720031C	D1		28.12	100.08	100.10	100.11	100.12	100.12	100.12				
	D2		28.17	100.10	100.11	100.12	100.13	100.14	100.14				
	D3		28.21	100.08	100.09	100.10	100.11	100.11	100.12				
	D4		28.18	100.09	100.11	100.11	100.12	100.15	100.13				
	D5		28.19	100.09	100.10	100.11	100.11	100.11	100.12				
	D6		28.21	100.07	100.08	100.09	100.10	100.10	100.10				
	D7		28.24	100.06	100.08	100.08	100.09	100.09	100.10				
	D8		28.20	100.10	100.11	100.12	100.13	100.13	100.13				
	D9		28.23	100.06	100.08	100.09	100.09	100.10	100.14				
	D10		28.22	100.06	100.08	100.08	100.09	100.09	100.13				
	D11		28.17	100.08	100.09	100.09	100.10	100.10	100.11				
	D12		28.19	100.07	100.09	100.09	100.10	100.10	100.11				
n			36	36	36	36	36	36					
	mean		100.1	100.1	100.1	100.1	100.1	100.1					
	median		100.1	100.1	100.1	100.1	100.1	100.1					
	std. dev.		0.0	0.0	0.0	0.0	0.0	0.0					
	min		100.1	100.1	100.1	100.1	100.1	100.1					
	max		100.1	100.1	100.1	100.1	100.2	100.2					

5.0 Charts:



6.0 Additional Information

6.1 Auxiliary Equipment

Lifetest thermal chamber:	Orb Optronix Thermal Platform - resistive heating, liquid cooling, no forced air flow
Lifetest current source:	Orb Optronix 12-Channel Driver
Photometric test current source:	Keithley 2425
Photometric test thermal control:	Orb Optronix TEC-100
Spectrometer:	Instrument Systems, CAS 140CT
Integrating Sphere:	Gamma Scientific 20"
Photometric reference standards:	LabSphere SCL-50

6.2 Additional Test Information

6.3 Photographs



Fig. 1 LUMI012, LUXEON 5050 L150-40705030000S0 load board example.

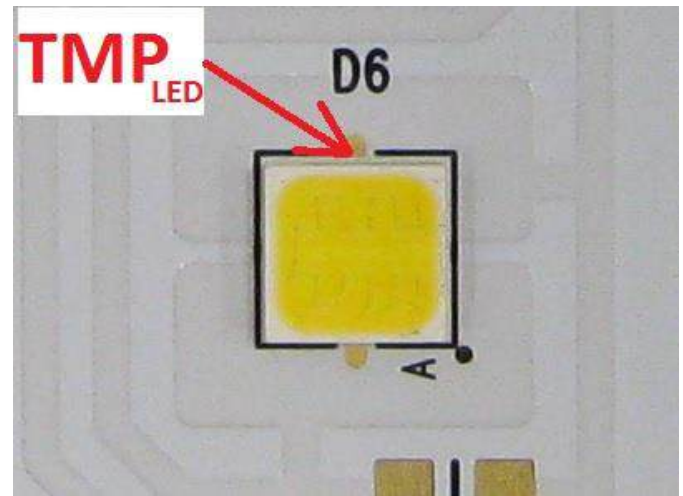


Fig. 2 LUXEON 5050 L150-40705030000S0 model LED and temperature measurement point.

6.4 Dimensional Drawing*

* all dimension in millimeters

This report issued to LUG Light Factory Sp. z o.o.

This report alone may not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the Federal Government.

- END OF REPORT -