

Report Number:

20170811020

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Test Request By:	LED Lamp Group Philips Lighting GBU LED System Hassan. Hussain Building 9, Lane 888, Tianlin Road, Shanghai		
Tested Product Name:	LED Lamp	Date of Received:	2017-08-11
Type Designation:	CorePro LED Tube, 4000K, 1200mm, T8, 14.5W, 1600lm, 220-240V, 50/60Hz, 70mA, Model Name: 9290013388 CorePro LED Tube, 4000K, 1500mm, T8, 20W, 2200lm, 220-240V, 50/60Hz, 96mA, Model Name: 9290013379	Serial No:	EL170325
Test Specification:	Test According to Test Request numbered 20170811020.A1.		
Test Place:	Philips Lighting (China) Investment Co., Ltd. LTC (Lighting Testing Center) No. 2 Building, No. 9, Lane 888, Tian Lin Road, Shanghai, P.R. China, 200233		
Test Result:	These tests only provide the test data.		
Test By:	Cathy.Li <i>Cathy.Li</i>	Review By:	Tianyu.Zhu <i>18.08.2017</i>
Date:	8/18/2017	Date:	8/18/2017
<p>Others:</p> <p>The test voltages in this report is 210V/50Hz, 220V/50Hz, 230V/50Hz, 240V/50Hz, 250V/50Hz.</p> <p>Test methods are based on IEC61000-3-2-2014.</p> <p>The test QTY is based on the requirement of test requestor.</p>			

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TEST SUMMARIES

5.1.1 TEST RESULT OF IRMS, VRMS, POWER AND PF @ 210 VOLT, 50 Hz (NUMBER 4 IN TEST PLAN)

Test Result:

Test Data

5.1.2 TEST RESULT OF IRMS, VRMS, POWER AND PF @ 220 VOLT, 50 Hz (NUMBER 1 IN TEST PLAN)

Test Result:

Test Data

5.1.3 TEST RESULT OF IRMS, VRMS, POWER AND PF @ 230 VOLT, 50 Hz (NUMBER 2 IN TEST PLAN)

Test Result:

Test Data

5.1.4 TEST RESULT OF IRMS, VRMS, POWER AND PF @ 240 VOLT, 50 Hz (NUMBER 3 IN TEST PLAN)

Test Result:

Test Data

5.1.5 TEST RESULT OF IRMS, VRMS, POWER AND PF @ 250 VOLT, 50 Hz (NUMBER 5 IN TEST PLAN)

Test Result:

Test Data

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1. Purpose

The test is to test the product power base on test request numbered 20170811020.A1.

Test methods are based on IEC61000-3-2-2014.

The test QTY is based on the requirement of test requestor.

2. Test Equipment

Philips Lighting (China) Investment Co., Ltd.

LTC (Lighting Testing Center)

No. 2 Building, No. 9, Lane 888, Tian Lin Road, Shanghai, P.R. China, 200233

Equipment	Type	Manufacturer	S/N	Calibrated until
Harmonics and Flicker Test System	PACS-1/1251RP	Californiainstruments	SSL-0082	2018-06-20

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3. General Product Information

3.1. Test product information

Type Designation	Rating voltage	Rating frequency	Power	Quantity	Sample No.
CorePro LED Tube, 4000K, 1200mm, T8, 1600lm, 70mA,	220V-240V	50/60Hz	14.5W	5	EL170325-1~5
CorePro LED Tube, 4000K, 1500mm, T8, 2200lm, 96mA,	220V-240V	50/60Hz	20W	5	EL170325-6~10

4. Test Set-up and Operation Modes

4.1. General conditions

Measurements shall be made in a draught-free atmosphere and at an ambient temperature within the range from 20 °C to 27 °C. During measurement the temperature shall not vary by more than 1 K.

4.2. Power Measurement

Power measurement is according to IEC 61000-3-2-2014.

The circuit power factor is the ratio of the measured active input power to the product of the supply voltage (r.m.s.) and the supply current (r.m.s.)

Active power is mean value, taken over one period, of the instantaneous power.

The active input power is the active power measured at the input supply terminals of the equipment under test.

The value of the input power to be used for the calculation of limits shall be determined as follows:

- measure the 1,5 s smoothed active input power in each DFT time window;
- determine the maximum of the measured values of power from the DFT time windows over the entire duration of the test.

NOTE: The active input power supplied to the smoothing section of the measuring instrument as defined in 61000-3-2-2014 Annex B is the active input power in each DFT time window

4.3. Test Set-up for lighting equipment

The sample is placed on the test table in horizontal position and powered by Harmonics and Flicker Test System and conditioned 210V/220V/230V/240V/250V, 50Hz.

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5. Test Result

5.1. Test Result for Power measurement

Test according to test plan attached numbered 20170811020.A1, and test method are fully according to IEC61000-3-2 related standard requirement.

5.1.1 Test Result of Irms, Vrms, Power and PF @ 210 Volt, 50 Hz (Number 4 in Test Plan)

Test Result:

Test Data

Test Date	Temperature when testing: °C	Humidity when testing %
2017-08-14	24.2	59.2
2017-08-15	24.7	57.8

Table 1 Power measurement on @ 210 Volt, 50 Hz

Stabilization time: at least 15min

Lamp NO.	Irms	V	P	PF	VA
Unit:	A	V	W		
CorePro LED Tube, 4000K, 1200mm, T8(Model Name: 9290013388)					
EL170325-1	0.069	211.4	13.8	0.949	14.5
EL170325-2	0.070	211.4	14.0	0.950	14.7
EL170325-3	0.069	211.4	13.8	0.950	14.5
EL170325-4	0.069	211.4	14.0	0.955	14.7
EL170325-5	0.069	211.4	14.0	0.953	14.7
CorePro LED Tube, 4000K, 1500mm, T8(Model Name: 9290013379)					
EL170325-6	0.098	211.4	20.1	0.967	20.8
EL170325-7	0.098	211.4	20.1	0.967	20.8
EL170325-8	0.096	211.4	19.7	0.967	20.4
EL170325-9	0.099	211.4	20.2	0.967	20.9
EL170325-10	0.096	211.4	19.7	0.967	20.4

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5.1.2 Test Result of Irms, Vrms, Power and PF @ 220 Volt, 50 Hz (Number 1 in Test Plan)

Test Result:

Test Data

Test Date	Temperature when testing: °C	Humidity when testing %
2017-08-14	24.2	59.2
2017-08-15	24.7	57.8

Table 2 Power measurement on @ 220 Volt, 50 Hz

Stabilization time: at least 15min

Lamp NO.	Irms	V	P	PF	VA
Unit:	A	V	W		
CorePro LED Tube, 4000K, 1200mm, T8(Model Name: 9290013388)					
EL170325-1	0.066	221.6	13.8	0.947	14.6
EL170325-2	0.067	221.6	14.0	0.951	14.7
EL170325-3	0.066	221.6	13.9	0.947	14.6
EL170325-4	0.066	221.6	14.0	0.955	14.7
EL170325-5	0.067	221.6	14.0	0.950	14.7
CorePro LED Tube, 4000K, 1500mm, T8(Model Name: 9290013379)					
EL170325-6	0.094	221.6	20.1	0.965	20.9
EL170325-7	0.094	221.6	20.1	0.966	20.8
EL170325-8	0.095	221.6	20.2	0.966	21.0
EL170325-9	0.094	221.6	20.2	0.965	20.9
EL170325-10	0.092	221.6	19.7	0.965	20.4

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5.1.3 Test Result of Irms, Vrms, Power and PF @ 230 Volt, 50 Hz (Number 2 in Test Plan)

Test Result:

Test Data

Test Date	Temperature when testing: °C	Humidity when testing %
2017-08-14	24.2	59.2
2017-08-15	24.7	57.8

Table 3 Power measurement on @ 230 Volt, 50 Hz

Stabilization time: at least 15min

Lamp NO.	Irms	V	P	PF	VA
Unit:	A	V	W		
CorePro LED Tube, 4000K, 1200mm, T8(Model Name: 9290013388)					
EL170325-1	0.063	231.8	13.8	0.943	14.7
EL170325-2	0.064	231.8	14.0	0.948	14.8
EL170325-3	0.063	231.8	13.8	0.944	14.7
EL170325-4	0.064	231.8	14.1	0.951	14.8
EL170325-5	0.064	231.8	14.1	0.949	14.8
CorePro LED Tube, 4000K, 1500mm, T8(Model Name: 9290013379)					
EL170325-6	0.090	231.8	20.1	0.963	20.9
EL170325-7	0.090	231.8	20.1	0.963	20.9
EL170325-8	0.091	231.8	20.3	0.963	21.0
EL170325-9	0.091	231.8	20.2	0.963	21.0
EL170325-10	0.089	231.8	19.8	0.962	20.5

5.1.4 Test Result of Irms, Vrms, Power and PF @ 240 Volt, 50 Hz (Number 3 in Test Plan)

Test Result:

Test Data

Test Date	Temperature when testing: °C	Humidity when testing %
2017-08-14	24.2	59.2
2017-08-15	24.7	57.8

Table 4 Power measurement on @ 240 Volt, 50 Hz

Stabilization time: at least 15min

Lamp NO.	Irms	V	P	PF	VA
Unit:	A	V	W		
CorePro LED Tube, 4000K, 1200mm, T8(Model Name: 9290013388)					
EL170325-1	0.061	242.0	13.8	0.940	14.7
EL170325-2	0.061	242.0	14.0	0.943	14.9
EL170325-3	0.061	242.0	13.9	0.940	14.8
EL170325-4	0.061	242.0	14.1	0.947	14.9
EL170325-5	0.062	242.0	14.1	0.946	14.9
CorePro LED Tube, 4000K, 1500mm, T8(Model Name: 9290013379)					
EL170325-6	0.087	242.0	20.2	0.960	21.1
EL170325-7	0.087	242.0	20.2	0.961	21.0
EL170325-8	0.087	242.0	20.3	0.961	21.2
EL170325-9	0.087	242.0	20.2	0.960	21.1
EL170325-10	0.085	242.0	19.8	0.959	20.7

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5.1.5 Test Result of Irms, Vrms, Power and PF @ 250 Volt, 50 Hz (Number 5 in Test Plan)

Test Result:

Test Data

Test Date	Temperature when testing: °C	Humidity when testing %
2017-08-14	24.2	59.2
2017-08-15	24.7	57.8

Table 5 Power measurement on @ 250 Volt, 50 Hz

Stabilization time: at least 15min

Lamp NO.	Irms	V	P	PF	VA
Unit:	A	V	W		
CorePro LED Tube, 4000K, 1200mm, T8(Model Name: 9290013388)					
EL170325-1	0.059	252.3	13.9	0.935	14.9
EL170325-2	0.059	252.2	14.1	0.939	15.0
EL170325-3	0.059	252.2	14.0	0.935	14.9
EL170325-4	0.059	252.2	14.2	0.943	15.0
EL170325-5	0.059	252.2	14.2	0.944	15.0
CorePro LED Tube, 4000K, 1500mm, T8(Model Name: 9290013379)					
EL170325-6	0.084	252.2	20.2	0.957	21.2
EL170325-7	0.084	252.2	20.2	0.957	21.1
EL170325-8	0.085	252.2	20.4	0.958	21.3
EL170325-9	0.084	252.2	20.3	0.957	21.2
EL170325-10	0.082	252.2	19.8	0.956	20.7

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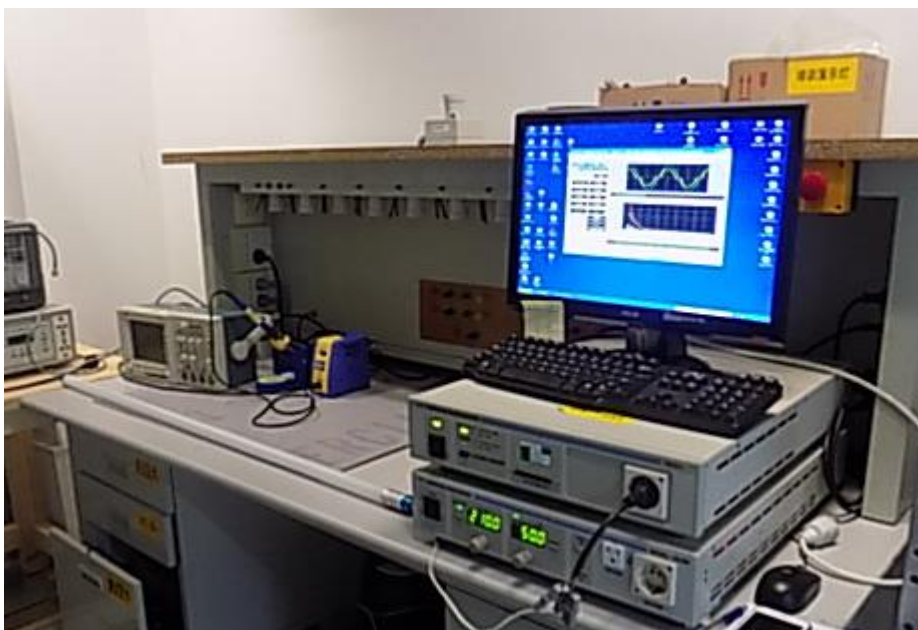
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6. Test Photo

Photograph 1, Test Sample



Photograph 2, Test Setup on Power Measurement



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Test Plan

Attachment

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No.	Group	Test Item	According to	Type Designation	Tested By	QTY	Test Specification	acceptable Value/Range
1	1	Power Measurement	IEC61000-3-2&LV237-108-012-D-E007	9290013388 9290013379	LTC	5 sample each	Test method according to IEC61000-3-2, 220VAC/50Hz, test the Active Power, VA and PF	ref
2	1	Power Measurement	IEC61000-3-2&LV237-108-012-D-E007	9290013388 9290013379	LTC	5 sample each	Test method according to IEC61000-3-2, 230VAC/50Hz, test the Active Power, VA and PF	ref
3	1	Power Measurement	IEC61000-3-2&LV237-108-012-D-E007	9290013388 9290013379	LTC	5 sample each	Test method according to IEC61000-3-2, 240VAC/50Hz, test the Active Power, VA and PF	ref
4	1	Power Measurement	IEC61000-3-2&LV237-108-012-D-E007	9290013388 9290013379	LTC	5 sample each	Test method according to IEC61000-3-2, 210VAC/50Hz, test the Active Power, VA and PF	ref
5	1	Power Measurement	IEC61000-3-2&LV237-108-012-D-E007	9290013388 9290013379	LTC	5 sample each	Test method according to IEC61000-3-2, 250VAC/50Hz, test the Active Power, VA and PF	ref

The test results presented in this report relate only to the item tested.

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