

To:	
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Andrzej Haluszka	KET Laboratory
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Object: RELEASE OF A NEW CASTING MOULD FOR PRODUCTION 442710333051BRP102 HOUSING MALAGA LARGE - UNPAINTED AT BOTAI SUPPLIER, KZ3057 - BRP102 HOUSING MALAGA LARGE – 15Nm. New luminaire for one axle.

Product description:

Brand: Philips

Family name: CORELINE_MALAGA_LED

Family code: BRP102 LED

Led Module or Lamps:

✓ PCB – N/A

Electric Components in Product:

✓ **Driver:** N/A

✓ **SPD:** N/A

✓ **Other:** N/A

Luminaire characteristics:

✓ **Electrical Class:** N/A

✓ **IP Classification:** N/A

✓ **IK Classification:** N/A

✓ **Ta(°C):** N/A

✓ **Un(V):** N/A

✓ **fn (Hz):** N/A

✓ **I LedModule (mA):** N/A

✓ **Luminaire installation:** SIDE ENTRY spigot $\phi 42/60 \Rightarrow$ on the pole $\phi 60$

Tests according to:

☒ QS-006592 Vibrations Test Procedure for the Luminaires v3

Test Equipment:

☒ Shaker UDC type UD SAB30F-S452-16-ST30

Test Results:

☒ **PASS** / ☐ **N/A**

☐ **FAIL**

Tested by:

☐ Lucyna Wolniakowska - Kulas

☐ Dalida Fuks

☐ Michał Szepietowski

☐ Andrzej Kromplewski

☐ Konrad Micinski

☒ Andrzej Haluszka

Approved by:

☒ Dariusz Pierzchanowski

Test date: 07-09.07.2021

Issue date: 09.07.2021

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Reference tightening torques:

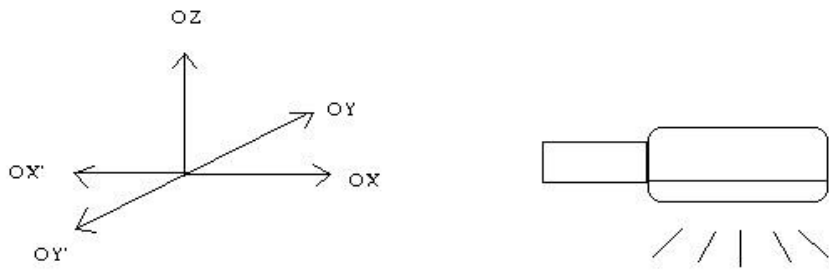
PART	SCREW DIAMETER (mm)	RATED TORQUE (Nm)
SPIGOT ARM SCREW (1)	8	15
SPIGOT ARM SCREW (2)	8	15

Before test execution the product shall be checked according to the following table:

Point of observation	Values	Results
Switch ON test	Luminaire should be ON	PASS
Construction of the luminaire	No visible damage, cracks nor deformation	PASS
Tightening torque(s) between spigot and mast	Initial torque value(s)	PASS
Tightening torque(s) on critical functions (housing, cover, ...)	Initial torque value(s)	PASS
Aim position (where applicable)	Worst case aim direction	PASS

Table 1: Overview of required initial checks.

Luminaires - Street & Road lighting:



DETERMINATION OF MECHANICAL RESONANCE FREQUENCY:

Parameter	Values
Vibration type	Sinusoidal
Vibration frequency range	5Hz – 30Hz;
Axis	X _i
Acceleration amplitude	0.5 g
Duration (sweeps)	1
Control	Single accelerometer
Position of accelerometer	1 in the gravity centre

Table 2: frequency scan test conditions

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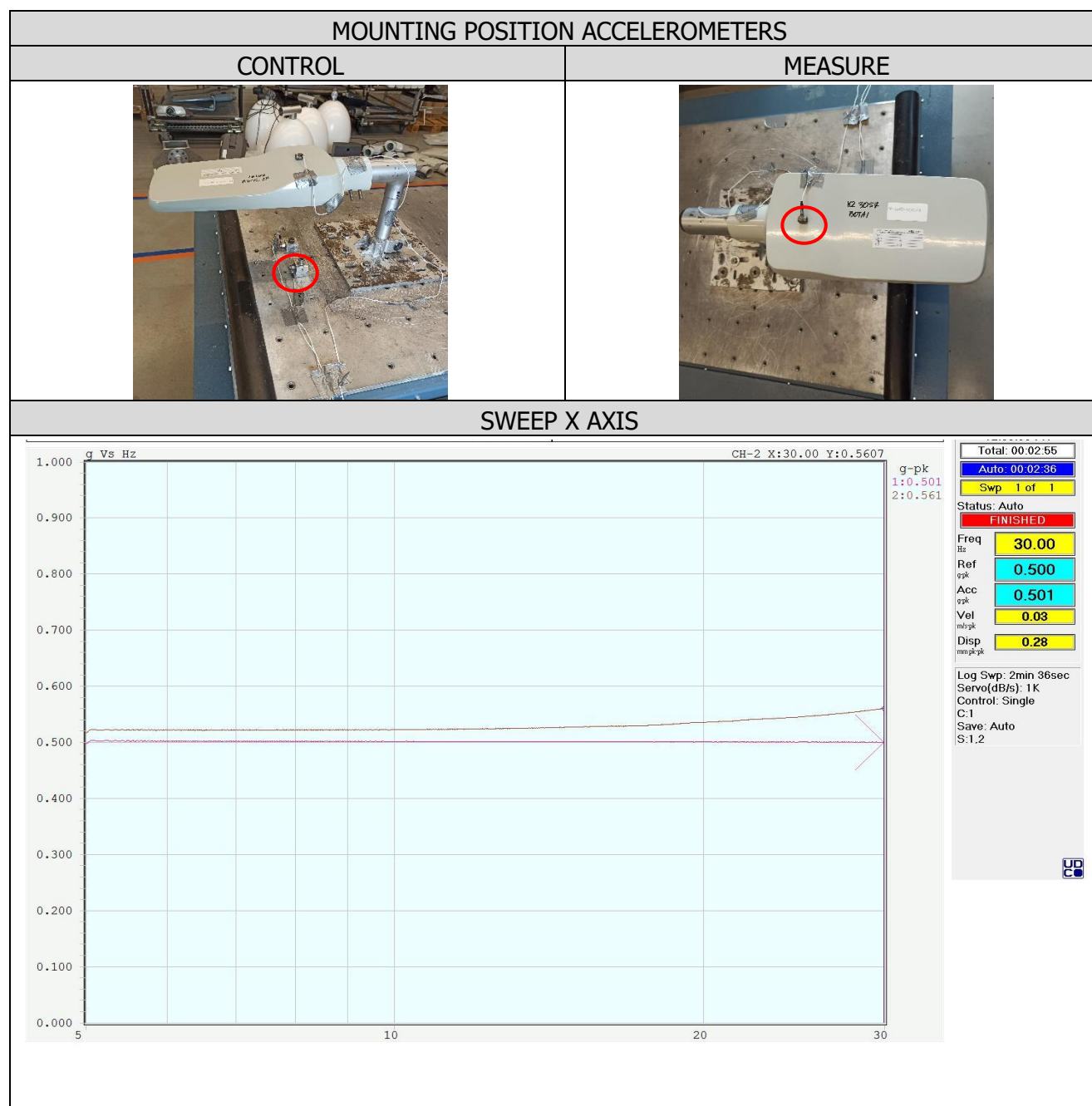
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AXIS OX

Parameter	Values
Axis (X, Y, Z)	X
Resonance frequency f_r	N/A
The half-power bandwidth Δf	N/A
A factor	<2
Input acceleration	0,5
Acceleration at CoG	0,5607

Table 3: Results frequency scan



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2. ENDURANCE VIBRATION TEST X AXIS

Acc luminaire = $6,6 - 0,15 \times 4,00\text{kg} = 6,0$

A = **1,1214** A < 2

Acc table = **5,35g** - response from the sensor – 6,00g

Vibration frequency range: **30Hz**

Parameter	Values
Vibration type	Sinusoidal
Vibration frequency range	30Hz
Acceleration amplitude	5,35g - response from the sensor – 6,00g
Duration (min) (cycles)	60 (109090)
Control	Single accelerometer
Position of accelerometer	1 in the gravity centre

TORQUE CHECK				
PART	SCREW DIAMETER (mm)	MINIMUM TORQUE ALLOWED(Nm)	MEASURED TORQUE (Nm)	RESULT
SPIGOT ARM SCREW (1)	8	10,5	15	PASS
SPIGOT ARM SCREW (2)	8	10,5	14	PASS

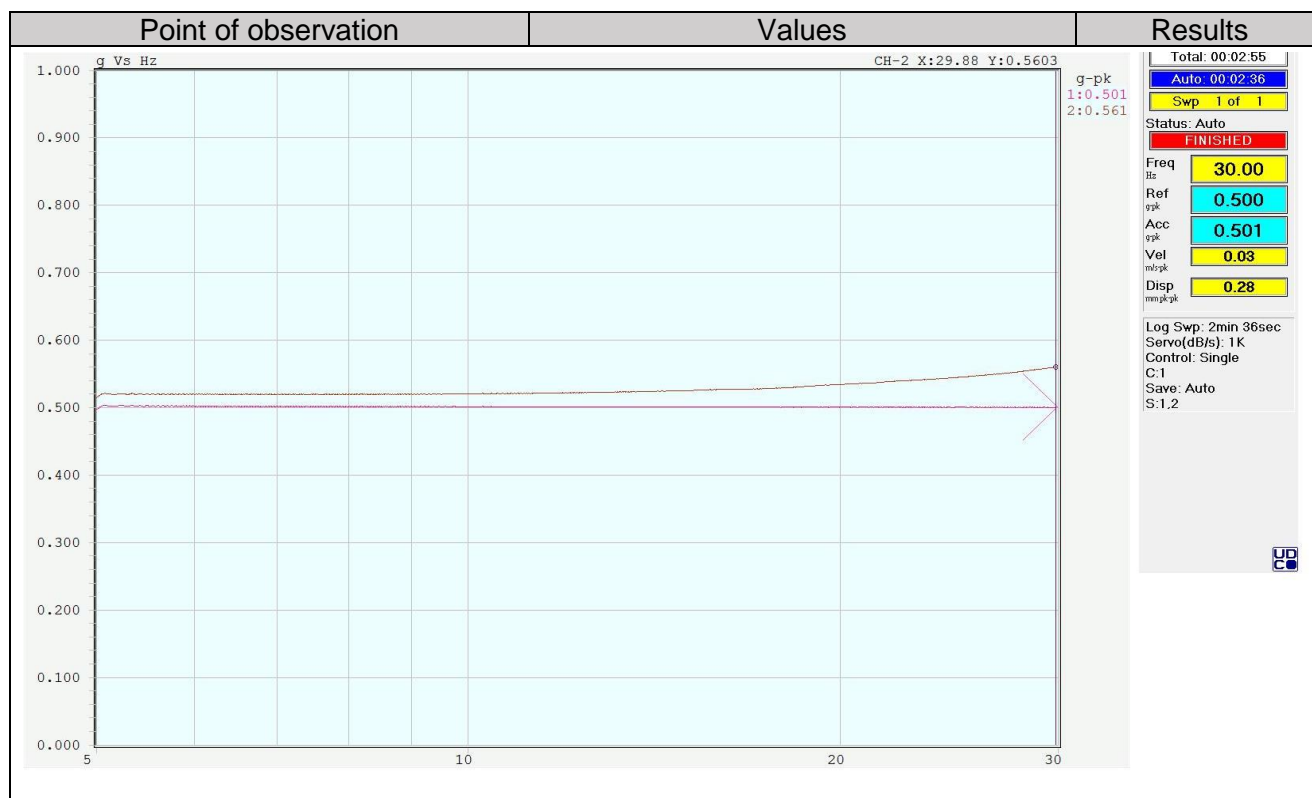
Point of observation	Values	Results
Switch ON test	Luminaire should be ON	PASS
Construction of the luminaire and its components	No visible damage, cracks nor deformation, no thread damage both in luminaire nor in bolts	PASS
Tightening torque(s) between spigot and mast as well as on critical parts (housing, cover, ...)	Remaining torque value at minimum of 70% initial value and above values defined in IEC 60598-1	PASS
Level that constitutes major allowed change in frequency / displacement	+/- 10%	PASS

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CONCLUSION	After the test, no damages or cracks.
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tests results axis X	PASS	FAIL	N/A
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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PHOTOS

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