



**ELECTROTECHNICAL TESTING INSTITUTE**  
**Pod Lisem 129**  
**171 02 Praha 8 - Troja**

No. of pages: 26  
No. of annexes/No. of an. pages: 0/0

No. of the Test Report: 701590-01/02

Issued: 4. 8. 2017



## TEST REPORT

**Name of product:** Fixed general purpose luminaires, recessed luminaires

**Type of product:** URBINI LED class II

**Ratings:** 220-240 V, 50/60Hz, 14 W, 20 W, 28 W, 42 W, IK 09, IP 66 Class II

**Serial number:** --

**Manufacturer:** LUG Light Factory Sp. z o.o., ul. Gorzowska 11, 65-127 Zielona Góra, Polsko

**Production site:** LUG Light Factory Sp. z o.o., ul. Gorzowska 11, 65-127 Zielona Góra, Poland

**Ordering firm:** LUG Light Factory Sp. z o.o., ul. Gorzowska 11, 65-127 Zielona Góra, Polsko

**Number of tested samples:** 1, type representative: 130232.5L232.1X1

**Samples submitted on:** 3. 7. 2017

**Location of testing:** EZÚ

**Tested from** 27. 7. 2017 **through** 31. 7. 2017

**Other data:** -

**The product was tested according to:** ČSN EN 55015 ed. 4:14,  
ČSN EN 61547: ed. 2:10,  
ČSN EN 61000-3-3 ed. 3:14,  
ČSN EN 61000-3-2 ed. 4:15

Compiled by: David Nádherný



Approved by: Miroslav Vondra  
Testing laboratory technical manager

Test results stated in the test report apply only to the tested subject and unless specified otherwise in the test report, the tests were performed using the method and under the conditions determined in the test regulations, technical norm, instructions for use and information provided by the manufacturer on the tested subject and using accessories required by the manufacturer.  
Without written consent, this report must not be reproduced in any other way than as a whole.



## 1. Emission

- (ČSN) EN 55015:2013 *Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment*
- (ČSN) EN 61000-3-2:2014 *Electromagnetic compatibility (EMC) - Limits - Limits for harmonic current emission*
- (ČSN) EN 61000-3-3 :2013 *Electromagnetic compatibility (EMC) -Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current  $\leq 16A$  per phase and not subject to conditional connection*

**Product:** Fixed general purpose luminaires, recessed luminaires

**Type:** URBINI LED, class II

Type representative: 130232.5L232.1X1

### Requirements at tests:

| Standard                            | Frequency band                                                            | Allowed values                                                                      | Note               |
|-------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------|
| (ČSN) EN 55015<br>Art. 4.3.3        | f [MHz]<br>0.15 - 0.5<br>0.05 - 30                                        | QP / AV [dB(μV)]<br>84 - 74 / 74 - 64<br>74 / 64                                    | Not applicable *1) |
| (ČSN) EN 55015<br>Art. 4.3.1        | f [MHz]<br>0.009 - 0.05<br>0.05 - 0.15<br>0.15 - 0.5<br>0.5 - 5<br>5 - 30 | QP / AV [dB(μV)]<br>110 / ---<br>90-80 / ---<br>66-56 / 56-46<br>56 / 46<br>60 / 50 | Pass               |
| (ČSN) EN 55015<br>Art. 4.4.1 (d=2m) | f [MHz]<br>0.009 - 0.07<br>0.07 - 0.15<br>0.15 - 3<br>3 - 30              | QP [dB(μA)]<br>88<br>88-58<br>58-22<br>22                                           | Pass               |
| (ČSN) EN 55015<br>Art. 4.4.2        | f [MHz]<br>30 - 230<br>230 - 300                                          | QP [dB(μV/m)]<br>30 d=10m<br>37                                                     | Pass               |
| (ČSN) EN 6100-3-2<br>Art. 7.3       | 0 - 2 kHz                                                                 | Class C                                                                             | Pass               |
| (ČSN) EN 6100-3-3                   | 50 Hz                                                                     | ---                                                                                 | Not applicable *2) |

### Notes:

The results of the tests specified in the protocol relating to device with electronic ballast:  
130232.5L232.1X1: PHILIPS Xi LP 40W 0.3-1.0A SI 230V C123 sXt

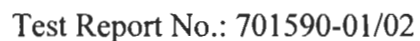
\*1) The luminaire does not contains relevant terminals.

\*2) According to EN 61000-3-3, Art. A2 (LED luminaires with power input  $\leq 200W$ )

**Test result:** Pass

Compiled by: Nádherný

Measured at: EZÚ



**Product:** Fixed general purpose luminaires, recessed luminaires

**Type:** URBINI LED, class II

**Operating conditions:**

230V, 50Hz, minimally 15 minutes in operation

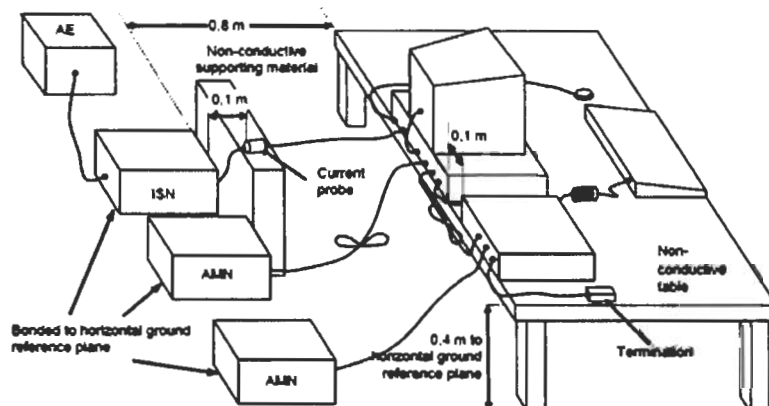
Temperature: 23°C

Rel. humidity: 30 – 45 %

**Applied limits:**

| Band            | Limits dB(μV), quasi-peak/average |
|-----------------|-----------------------------------|
| 9kHz - 50kHz    | 110 /--                           |
| 50kHz - 150kHz  | 90 - 80 /--                       |
| 150kHz - 0,5MHz | 66 - 56 / 56 - 46                 |
| 0,5MHz - 5,0MHz | 56 / 46                           |
| 5,0MHz - 30MHz  | 60 / 50                           |

**Measuring arrangement:**



**Notes:**

For measured values see next page.

**Test result: Pass**

Measured by: Nádherný

Date: 27.7.2017

Measured at: EZÚ

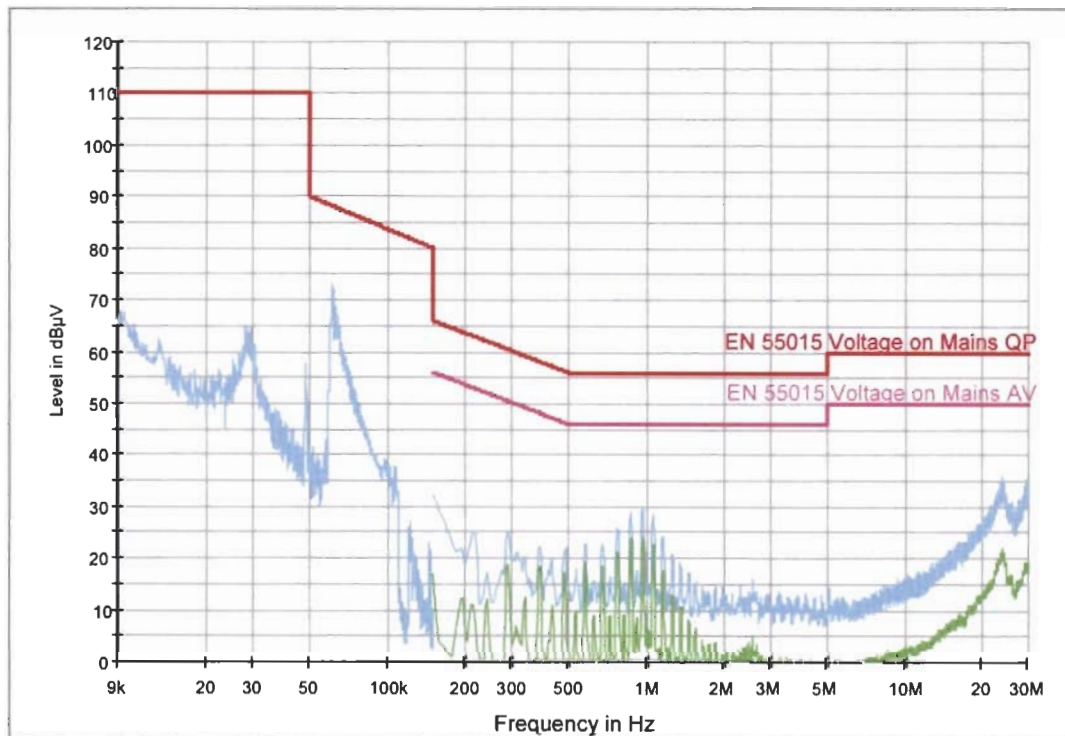


## EMI Measurement

### Common Information

|                       |                                                       |
|-----------------------|-------------------------------------------------------|
| EUT Name:             | Fixed general purpose luminaires, recessed luminaires |
| Type:                 | URBINI LED, class II (130232.5L232.1X1)               |
| Test Description:     | EN 55015                                              |
| Operation Conditions: | 230 V, 50 Hz                                          |
| Operator Name:        | Nadherny                                              |
| Comment 1:            | L, N - Mains                                          |

Voltage EN 55015tab2a





**Measurement of interfering radiation in the 9 kHz - 30 MHz band**  
**According to: (ČSN) EN 55015 - art 4.4.1**

**Product:** Fixed general purpose luminaires, recessed luminaires

**Type:** URBINI LED, class II

**Operating conditions:**

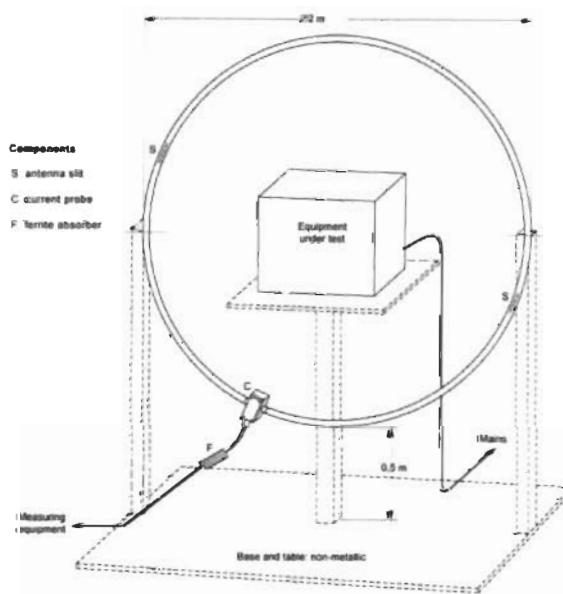
230V, 50Hz, minimally 15 minutes in operation

Temperature: 23°C Rel. humidity: 30 – 45 %

**Applied limits:**

| Band            | Limits dB(μA), quasi-peak |
|-----------------|---------------------------|
| 9 - 70 kHz      | 88                        |
| 70 - 150 kHz    | 88 - 58                   |
| 150 kHz - 3 MHz | 58 - 22                   |
| 3 - 30 MHz      | 22                        |

**Measuring arrangement:**



**Notes:**

For measured values see next pages

**Test result: Pass**

Measured by: Nádherný

Date: 31.7. 2017

Measured at: EZÚ



# EMI Measurement

## Common Information

EUT Name:

Type

Test Description

Operating Conditions

Operator Name:

Comment:

Fixed general purpose luminaires, recessed luminaires

URBINI LED, class II (130232.5L232.1X1)

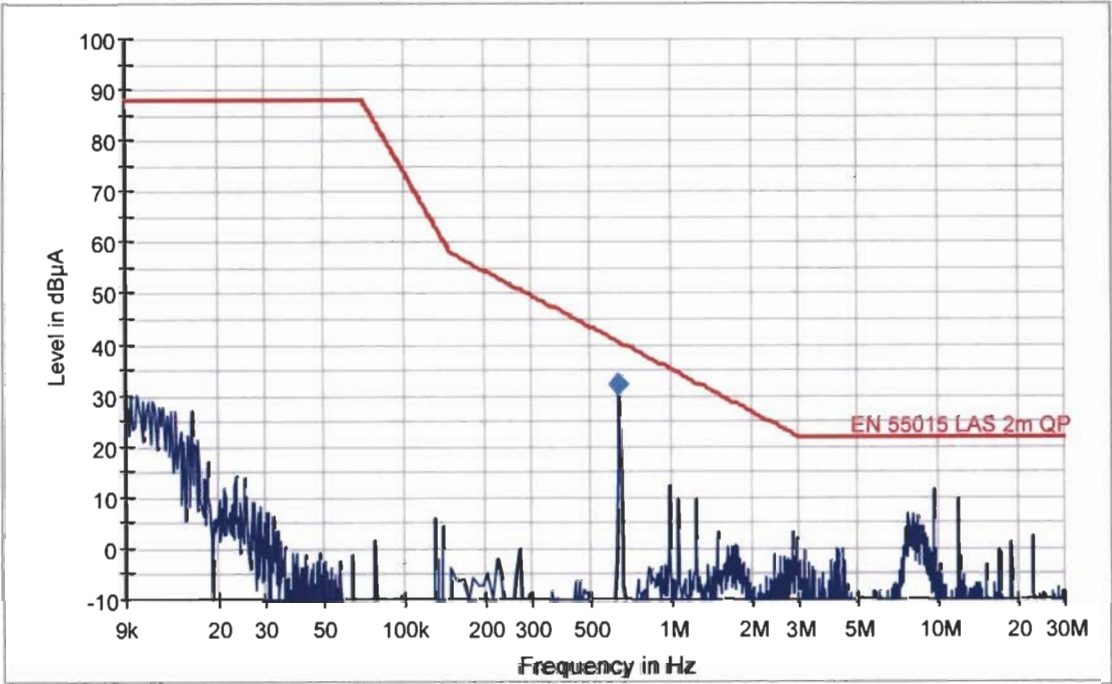
EN 55015

230V, 50Hz

Nadherny

Axis X

EFS with Scans EZU KRUH2M2



## Final Result 1

| Frequency (MHz) | QuasiPeak (dBµA) | Meas. Time (ms) | Bandwidth (kHz) | Corr. (dB) | Margin (dB) | Limit (dBµA) |
|-----------------|------------------|-----------------|-----------------|------------|-------------|--------------|
| 0.638000        | 32.2             | 1000.00         | 9.000           | 1.0        | 8.4         | 40.6         |

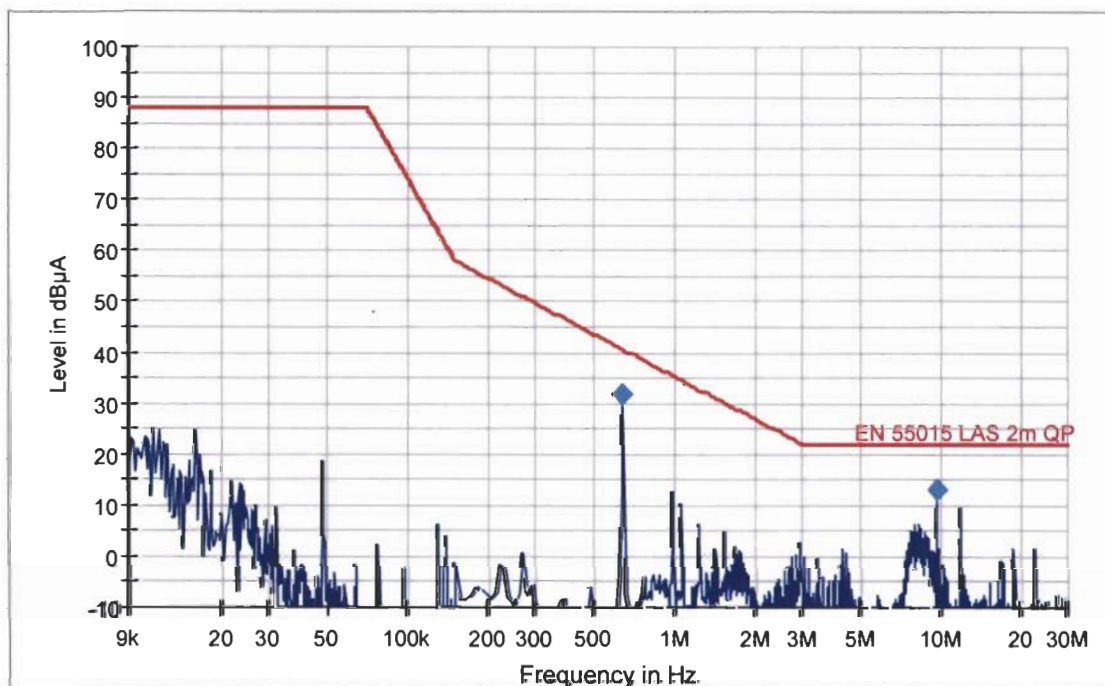


## EMI Measurement

### Common Information

EUT Name: Fixed general purpose luminaires, recessed luminaires  
Type: URBINI LED, class II (130232.5L232.1X1)  
Test Description: EN 55015  
Operating Conditions: 230V, 50Hz  
Operator Name: Nadherny  
Comment: Axis Y

EFS with Scans EZU KRUH2M2



### Final Result 1

| Frequency (MHz) | QuasiPeak (dBµA) | Meas. Time (ms) | Bandwidth (kHz) | Corr. (dB) | Margin (dB) | Limit (dBµA) |
|-----------------|------------------|-----------------|-----------------|------------|-------------|--------------|
| 0.638000        | 31.9             | 1000.00         | 9.000           | 1.0        | 8.7         | 40.6         |
| 9.598000        | 13.1             | 1000.00         | 9.000           | 0.8        | 8.9         | 22.0         |

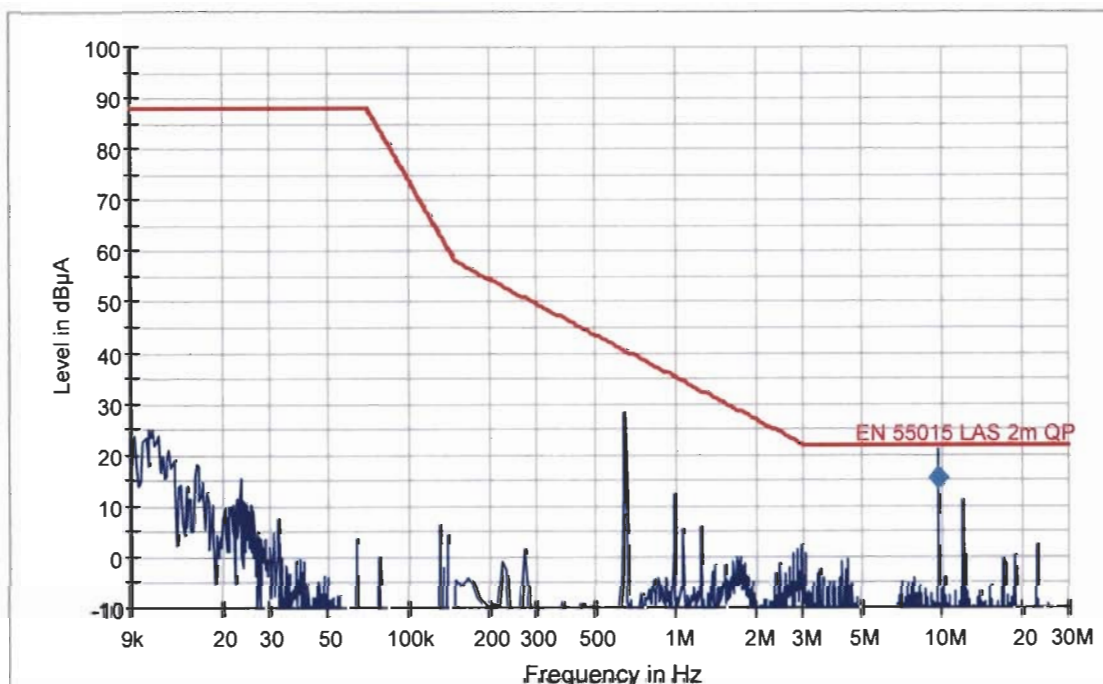


## EMI Measurement

### Common Information

EUT Name: Fixed general purpose luminares, recessed luminares  
Type: URBINI LED, class II (130232.5L232.1X1)  
Test Description: EN 55015  
Operating Conditions: 230V, 50Hz  
Operator Name: Nadherny  
Comment: Axis Z

EFS with Scans EZU KRUH2M2



### Final Result 1

| Frequency (MHz) | QuasiPeak (dBµA) | Meas. Time (ms) | Bandwidth (kHz) | Corr. (dB) | Margin (dB) | Limit (dBµA) |
|-----------------|------------------|-----------------|-----------------|------------|-------------|--------------|
| 9.598000        | 15.4             | 1000.00         | 9.000           | 0.8        | 6.6         | 22.0         |



**Measurement of interfering radiation in the 30 - 300 MHz band  
According to: (ČSN) EN 55015 Art. 4.4.2**

**Product:** Fixed general purpose luminaires, recessed luminaires

**Type:** URBINI LED, class II

**Operating conditions:**

230V, 50Hz, minimally 15 minutes in operation

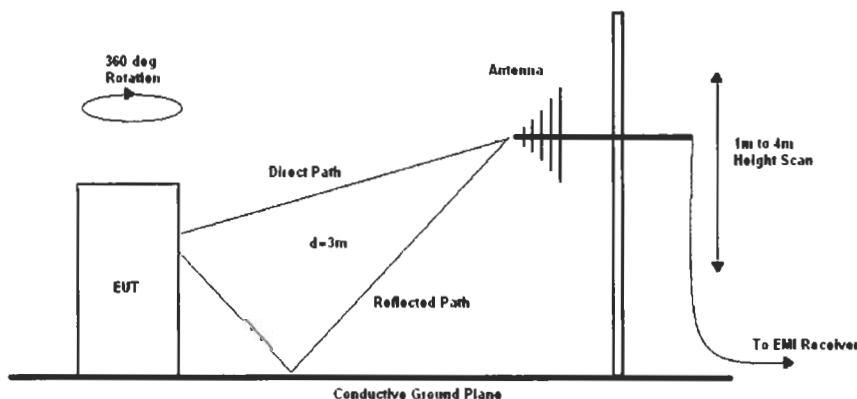
Temperature: 22°C

Rel. humidity: 30 – 45 %

**Applied limits:**

| Band (MHz) | Limits dB( $\mu$ V/m), quasi-peak |    |         |
|------------|-----------------------------------|----|---------|
| 30 - 300   | *)                                | 30 | (d=10m) |
| 230 - 300  | *)                                | 37 | (d=10m) |

**Measuring arrangement:**



**Notes:**

For measured values see next pages

\*) Limits and values converted to 3 m measuring distance

**Test result: Pass**

Measured by: Nádherný

Date: 28.7. 2017

Measured at: EZÚ

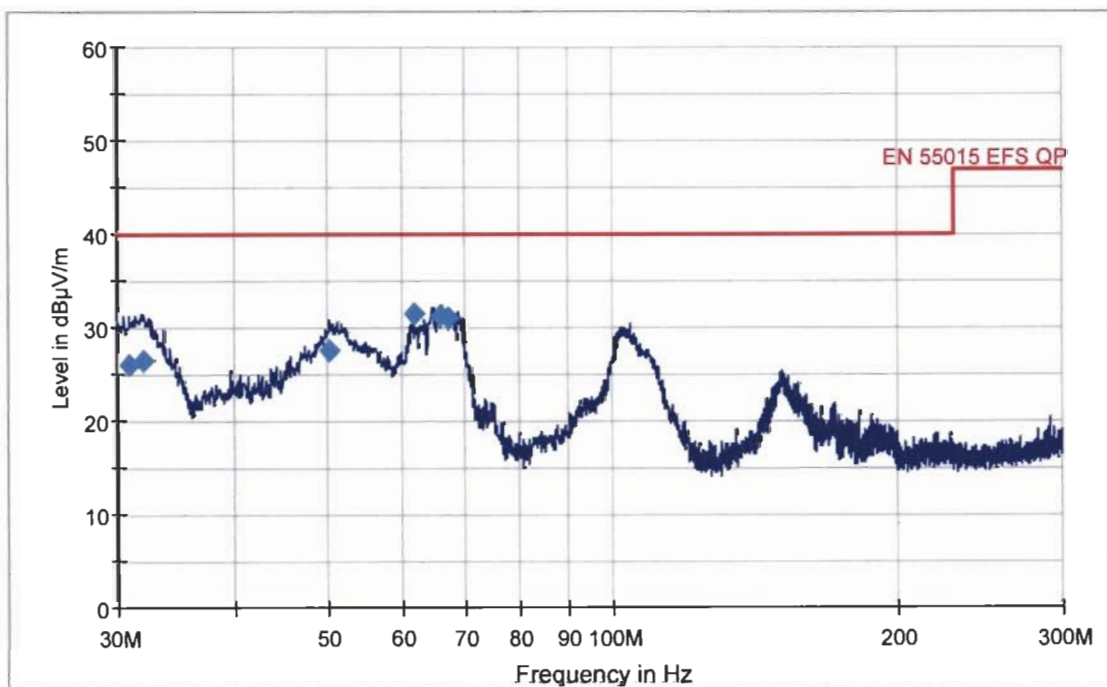


## EMI Measurement

### Common Information

EUT Name: Fixed general purpose luminaires, recessed luminaires  
Type: URBINI LED, class II (130232.5L232.1X1)  
Test Description: EN 55015  
Operating Conditions: 230V, 50Hz  
Operator Name: Nadherny  
Comment: V, H polarization

EFS EZU Luminaire



### Final Result 1

| Frequency (MHz) | QuasiPeak (dBµV/m) | Antenna height (cm) | Polarity | Turntable position (deg) | Corr. (dB) | Margin (dB) | Limit (dBµV/m) |
|-----------------|--------------------|---------------------|----------|--------------------------|------------|-------------|----------------|
| 30.900000       | 26.0               | 174.0               | H        | 204.0                    | 30.2       | 14.0        | 40.0           |
| 32.040000       | 26.5               | 390.0               | H        | 149.0                    | 30.6       | 13.5        | 40.0           |
| 50.400000       | 27.7               | 115.0               | V        | 277.0                    | 19.7       | 12.3        | 40.0           |
| 61.740000       | 31.6               | 215.0               | V        | 33.0                     | 13.7       | 8.4         | 40.0           |
| 66.000000       | 31.3               | 215.0               | V        | 25.0                     | 12.0       | 8.7         | 40.0           |
| 67.200000       | 31.0               | 110.0               | V        | 33.0                     | 11.6       | 9.0         | 40.0           |



**Electromagnetic compatibility (EMC) - Limits -  
Limits for harmonic current emission  
According to: (ČSN) EN 61000-3-2 - art. 7.3**

**Product:** Fixed general purpose luminaires, recessed luminaires

**Type:** URBINI LED, class II

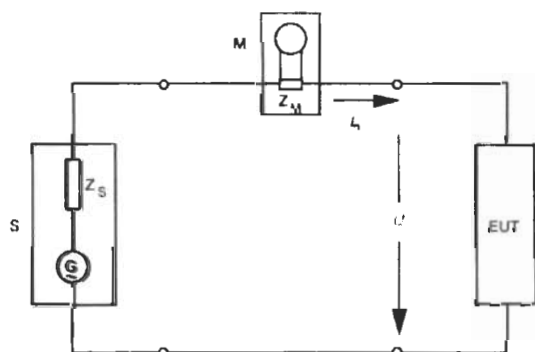
**Operating conditions:**

230V, 50Hz, minimally 15 minutes in operation

Teplota - Temperature: 24°C

Rel. vlhkost - Rel. humidity: 30 – 45 %

**Measuring arrangement:**



S napájecí zdroj - source  
EUT zkoušené zařízení - tested equipment  
M analyzátor harmonických - harmonic analyser  
 $Z_M$  měřicí bočník - measuring shunt  
 $Z_S$  vnitřní impedance napájecího zdroje - internal impedance of source  
 $I_n$  n-té harmonické proudy ve fázovém/středním vodiči -  $n^{\text{th}}$  harmonic component of current in the phase/neutral line

**Applied limits:**

| Order of harmonics   | Limit (%I1)<br>P > 25W |
|----------------------|------------------------|
| 2                    | 2                      |
| 3                    | 30.λ                   |
| 5                    | 10                     |
| 7                    | 7                      |
| 9                    | 5                      |
| n 11 - 39 (only odd) | 3                      |

λ = účinník - power factor

**Notes:**

Equipment class C, In version with rated power P=42W was measured P=28W.  
For measured values see next pages

**Test result: Pass**

Measured by: Nádherný

Date: 28.7. 2017

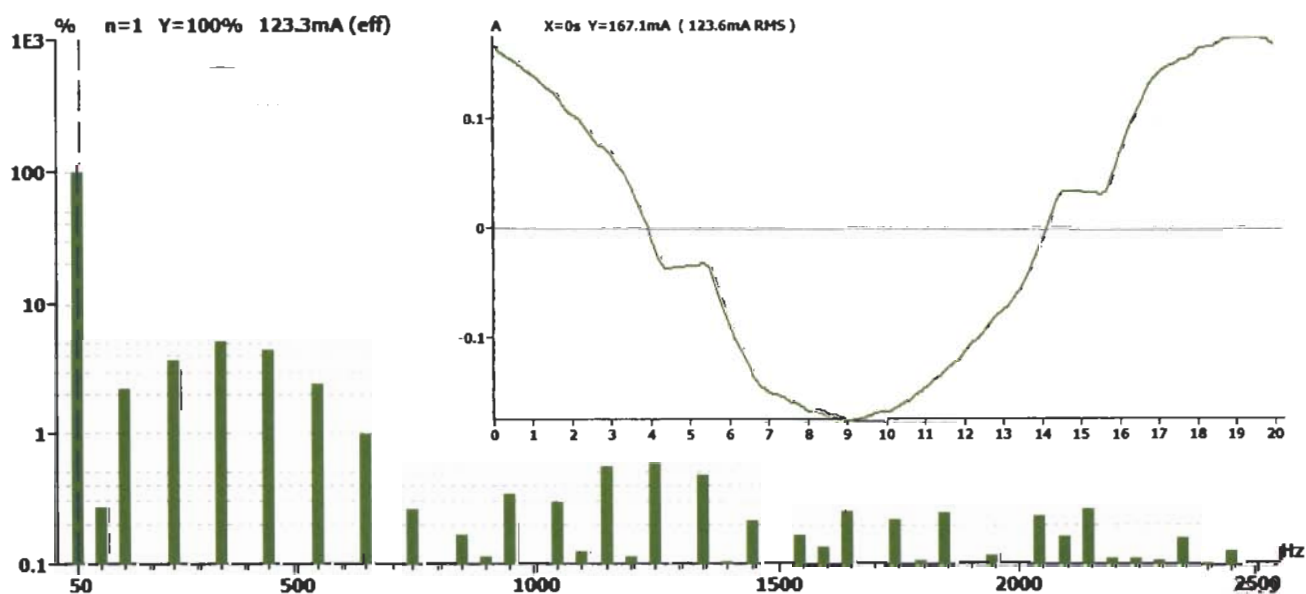
Measured at: EZÚ



|                            |                                                             |
|----------------------------|-------------------------------------------------------------|
| Report title:              | 701590-01/02                                                |
| Company Name:              | EZU                                                         |
| Date of test:              | 11:04 28.Jul 2017                                           |
| Measurement file name:     | Harmonics_3_2_Ed4.rsd                                       |
| Tester:                    | Nadherny                                                    |
| Standard used:             | EN/IEC 61000-3-2 Ed.4 Quasi-stationary<br>Equipment class C |
| Observation time:          | 30s                                                         |
| Windows width:             | 10 periods - (EN/IEC 61000-4-7 Edition 2002 + A1:2008)      |
| Customer:                  | LUG                                                         |
| E. U. T.:                  | URBINI LED, class II (130232.5L232.1X1)                     |
| Temperature :              | 24                                                          |
| Humidity :                 | 40                                                          |
| Comment:                   | 230 V, 50 Hz, 28W                                           |
| Measurement smoothed data: | Fund. Current: 0.123A<br>Power Factor: 0.967                |

**Test Result**

|               |      |
|---------------|------|
| E. U. T.:     | PASS |
| Power Source: | PASS |





## E. U. T. Result

### ***Check harmonics 2..40 [exception odd 21..39]:***

|                                            |      |  |
|--------------------------------------------|------|--|
| <b>Harmonic(s) &gt; 150%:</b>              |      |  |
| Order (n):                                 | None |  |
| <b>Harmonic(s) with average &gt; 100%:</b> |      |  |
| Order (n):                                 | None |  |

### ***Check odd harmonics 21..39:***

|                                                        |      |  |
|--------------------------------------------------------|------|--|
| <b>All Partial Odd Harmonics below partial limits.</b> |      |  |
| <b>Harmonic(s) &gt; 150%:</b>                          |      |  |
| Order (n):                                             | None |  |
| <b>Harmonic(s) with average &gt; 150%:</b>             |      |  |
| Order (n):                                             | None |  |

## Power Source Result

|                                    |      |  |
|------------------------------------|------|--|
| <b>First dataset out of limit:</b> |      |  |
| DS (time):                         | None |  |
| <b>Harmonic(s) out of limit:</b>   |      |  |
| Order (n):                         | None |  |

**Average harmonic current results**

| Hn | I <sub>eff</sub> [A] | I <sub>eff</sub> [%] | Limit [%] | Result |
|----|----------------------|----------------------|-----------|--------|
| 1  | 123.280E-3           | 99.907               |           |        |
| 2  | 324.091E-6           | 0.263                |           | PASS   |
| 3  | 2.813E-3             | 2.280                |           | PASS   |
| 4  | 351.411E-6           | 0.285                |           | PASS   |
| 5  | 4.428E-3             | 3.588                |           | PASS   |
| 6  | 330.102E-6           | 0.268                |           | PASS   |
| 7  | 6.121E-3             | 4.960                | 7.00      | PASS   |
| 8  | 296.798E-6           | 0.241                |           | PASS   |
| 9  | 5.347E-3             | 4.333                | 5.00      | PASS   |
| 10 | 270.946E-6           | 0.220                |           | PASS   |
| 11 | 2.903E-3             | 2.352                |           | PASS   |
| 12 | 313.741E-6           | 0.254                |           | PASS   |
| 13 | 1.257E-3             | 1.019                |           | PASS   |
| 14 | 286.977E-6           | 0.233                |           | PASS   |
| 15 | 400.349E-6           | 0.324                |           | PASS   |
| 16 | 300.614E-6           | 0.244                |           | PASS   |
| 17 | 301.497E-6           | 0.244                |           | PASS   |
| 18 | 301.786E-6           | 0.245                |           | PASS   |
| 19 | 456.361E-6           | 0.370                |           | PASS   |
| 20 | 287.852E-6           | 0.233                |           | PASS   |
| 21 | 469.269E-6           | 0.380                |           | PASS   |
| 22 | 293.163E-6           | 0.238                |           | PASS   |
| 23 | 717.341E-6           | 0.581                |           | PASS   |
| 24 | 351.525E-6           | 0.285                |           | PASS   |
| 25 | 729.527E-6           | 0.591                |           | PASS   |
| 26 | 317.073E-6           | 0.257                |           | PASS   |
| 27 | 635.536E-6           | 0.515                |           | PASS   |
| 28 | 301.578E-6           | 0.244                |           | PASS   |
| 29 | 404.126E-6           | 0.328                |           | PASS   |
| 30 | 282.523E-6           | 0.229                |           | PASS   |
| 31 | 295.819E-6           | 0.240                |           | PASS   |
| 32 | 373.165E-6           | 0.302                |           | PASS   |
| 33 | 415.038E-6           | 0.336                |           | PASS   |
| 34 | 312.305E-6           | 0.253                |           | PASS   |
| 35 | 391.554E-6           | 0.317                |           | PASS   |
| 36 | 332.212E-6           | 0.269                |           | PASS   |
| 37 | 390.578E-6           | 0.317                |           | PASS   |
| 38 | 310.746E-6           | 0.252                |           | PASS   |
| 39 | 326.989E-6           | 0.265                |           | PASS   |
| 40 | 264.810E-6           | 0.215                |           | PASS   |

Harmonic currents less than 0.6% of the input current measured under the test conditions, or less than 5 mA, whichever is greater, are disregarded.

**Maximum harmonic current results**

| Hn | I <sub>eff</sub> [A] | I <sub>eff</sub> [%] | Limit [%] | Result |
|----|----------------------|----------------------|-----------|--------|
| 1  | 123.395E-3           | 100.000              |           |        |
| 2  | 354.338E-6           | 0.287                |           | PASS   |
| 3  | 2.850E-3             | 2.310                |           | PASS   |
| 4  | 393.317E-6           | 0.319                |           | PASS   |
| 5  | 4.474E-3             | 3.625                |           | PASS   |
| 6  | 360.713E-6           | 0.292                |           | PASS   |
| 7  | 6.177E-3             | 5.006                | 10.50     | PASS   |
| 8  | 329.867E-6           | 0.267                |           | PASS   |
| 9  | 5.398E-3             | 4.375                | 7.50      | PASS   |
| 10 | 307.491E-6           | 0.249                |           | PASS   |
| 11 | 2.963E-3             | 2.401                |           | PASS   |
| 12 | 349.753E-6           | 0.283                |           | PASS   |
| 13 | 1.310E-3             | 1.062                |           | PASS   |
| 14 | 322.444E-6           | 0.261                |           | PASS   |
| 15 | 424.791E-6           | 0.344                |           | PASS   |
| 16 | 327.203E-6           | 0.265                |           | PASS   |
| 17 | 323.249E-6           | 0.262                |           | PASS   |
| 18 | 324.346E-6           | 0.263                |           | PASS   |
| 19 | 486.265E-6           | 0.394                |           | PASS   |
| 20 | 313.761E-6           | 0.254                |           | PASS   |
| 21 | 502.098E-6           | 0.407                |           | PASS   |
| 22 | 315.339E-6           | 0.256                |           | PASS   |
| 23 | 754.783E-6           | 0.612                |           | PASS   |
| 24 | 388.131E-6           | 0.315                |           | PASS   |
| 25 | 753.366E-6           | 0.611                |           | PASS   |
| 26 | 335.611E-6           | 0.272                |           | PASS   |
| 27 | 672.644E-6           | 0.545                |           | PASS   |
| 28 | 316.449E-6           | 0.256                |           | PASS   |
| 29 | 429.470E-6           | 0.348                |           | PASS   |
| 30 | 298.605E-6           | 0.242                |           | PASS   |
| 31 | 327.914E-6           | 0.266                |           | PASS   |
| 32 | 402.187E-6           | 0.326                |           | PASS   |
| 33 | 448.208E-6           | 0.363                |           | PASS   |
| 34 | 332.428E-6           | 0.269                |           | PASS   |
| 35 | 418.871E-6           | 0.339                |           | PASS   |
| 36 | 363.314E-6           | 0.294                |           | PASS   |
| 37 | 426.836E-6           | 0.346                |           | PASS   |
| 38 | 343.540E-6           | 0.278                |           | PASS   |
| 39 | 350.165E-6           | 0.284                |           | PASS   |
| 40 | 286.667E-6           | 0.232                |           | PASS   |

Harmonic currents less than 0.6% of the input current measured under the test conditions, or less than 5 mA, whichever is greater, are disregarded.

**Maximum harmonic voltage results**

| Hn | Ueff [V]  | Ueff [%] | Limit [%] | Result |
|----|-----------|----------|-----------|--------|
| 1  | 229.87    | 99.945   |           |        |
| 2  | 92.78E-3  | 0.040    | 0.2       | PASS   |
| 3  | 534.39E-3 | 0.232    | 0.9       | PASS   |
| 4  | 61.35E-3  | 0.027    | 0.2       | PASS   |
| 5  | 56.17E-3  | 0.024    | 0.4       | PASS   |
| 6  | 42.54E-3  | 0.018    | 0.2       | PASS   |
| 7  | 51.58E-3  | 0.022    | 0.3       | PASS   |
| 8  | 34.45E-3  | 0.015    | 0.2       | PASS   |
| 9  | 24.85E-3  | 0.011    | 0.2       | PASS   |
| 10 | 25.33E-3  | 0.011    | 0.2       | PASS   |
| 11 | 18.24E-3  | 0.008    | 0.1       | PASS   |
| 12 | 16.92E-3  | 0.007    | 0.1       | PASS   |
| 13 | 22.04E-3  | 0.010    | 0.1       | PASS   |
| 14 | 20.04E-3  | 0.009    | 0.1       | PASS   |
| 15 | 12.02E-3  | 0.005    | 0.1       | PASS   |
| 16 | 14.85E-3  | 0.006    | 0.1       | PASS   |
| 17 | 13.63E-3  | 0.006    | 0.1       | PASS   |
| 18 | 14.49E-3  | 0.006    | 0.1       | PASS   |
| 19 | 9.76E-3   | 0.004    | 0.1       | PASS   |
| 20 | 16.78E-3  | 0.007    | 0.1       | PASS   |
| 21 | 10.99E-3  | 0.005    | 0.1       | PASS   |
| 22 | 11.70E-3  | 0.005    | 0.1       | PASS   |
| 23 | 9.43E-3   | 0.004    | 0.1       | PASS   |
| 24 | 9.37E-3   | 0.004    | 0.1       | PASS   |
| 25 | 9.53E-3   | 0.004    | 0.1       | PASS   |
| 26 | 10.33E-3  | 0.004    | 0.1       | PASS   |
| 27 | 8.86E-3   | 0.004    | 0.1       | PASS   |
| 28 | 8.98E-3   | 0.004    | 0.1       | PASS   |
| 29 | 9.78E-3   | 0.004    | 0.1       | PASS   |
| 30 | 8.52E-3   | 0.004    | 0.1       | PASS   |
| 31 | 7.32E-3   | 0.003    | 0.1       | PASS   |
| 32 | 10.83E-3  | 0.005    | 0.1       | PASS   |
| 33 | 7.74E-3   | 0.003    | 0.1       | PASS   |
| 34 | 6.01E-3   | 0.003    | 0.1       | PASS   |
| 35 | 6.88E-3   | 0.003    | 0.1       | PASS   |
| 36 | 6.98E-3   | 0.003    | 0.1       | PASS   |
| 37 | 6.83E-3   | 0.003    | 0.1       | PASS   |
| 38 | 6.66E-3   | 0.003    | 0.1       | PASS   |
| 39 | 7.24E-3   | 0.003    | 0.1       | PASS   |
| 40 | 13.87E-3  | 0.006    | 0.1       | PASS   |



## 2. Immunity

(ČSN) EN 61547 *Equipment for general lighting purposes - EMC - immunity requirements*

**Product:** Fixed general purpose luminaires, recessed luminaires

**Type:** URBINI LED, class II

Type representative: 130232.5L232.1X1

### Requirements at tests:

| Generic standard | Level                                                    | Allowed error *1) | Note     |
|------------------|----------------------------------------------------------|-------------------|----------|
| EN61000-4-2      | ±4kV / ±8 kV                                             | B                 | Pass     |
| EN61000-4-3      | 3V/m<br>80 - 1000 MHz                                    | A                 | Pass     |
| EN61000-4-4      | ±1kV AC power,<br>±0,5kV signal lines                    | B                 | Pass     |
| EN61000-4-5      | ±1kV / ±2kV                                              | C                 | Pass     |
| EN61000-4-6      | 3 V<br>0,15 - 80 MHz                                     | A                 | Pass     |
| EN61000-4-8      | 3 A/m                                                    | A                 | *2) Pass |
| EN61000-4-11     | 200 ms / 70% U <sub>T</sub><br>10 ms / 0% U <sub>T</sub> | C<br>B            | Pass     |

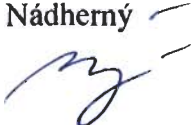
### Notes:

The results of the tests specified in the protocol relating to device with electronic ballast:  
130232.5L232.1X1: PHILIPS Xi LP 40W 0.3-1.0A SI 230V C123 sXt

\*1) Performance criteria according (ČSN) EN 61547, art. 4.2

\*2) Devices do not contain parts sensitive to the magnetic field

**Test result:** Pass

Compiled by: Nádherný 

Measured at: EZÚ



Test Report No.: 701590-01/02

***Test of electric discharge resistance***  
***According to: (ČSN) EN 61000-4-2***

**Product:** Fixed general purpose luminaires, recessed luminaires

**Type:** URBINI LED, class II

**Operating conditions:**

230V, 50Hz, minimally 15 minutes in operation

Temperature: 23°C Rel. humidity: 30 – 45 %

**Allowed criterion:** B

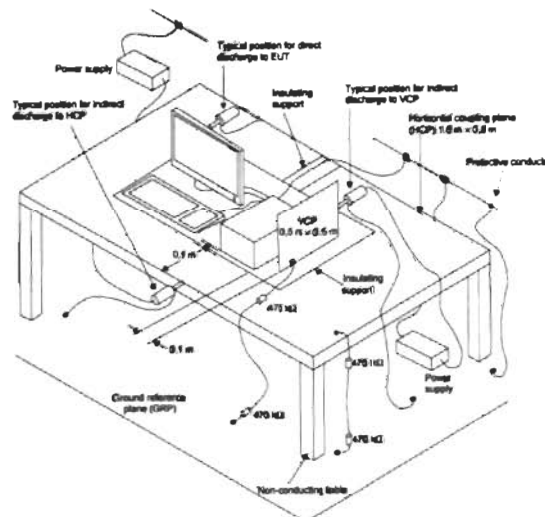
**Number of testing discharges:** 10/10 contact/air discharge to every test-places in each polarity, besides indirect contact discharges into a vertical and horizontal coupling plane

**Tested points:** Contact discharge into the metal parts and to the horizontal and vertical coupling plane. Air discharge into plastic parts. See photodocumentation.

**Testing voltage [kV]:**  $\pm 4$  – contact discharge /  $\pm 8$  - air discharge

**Achieved criterion:** A

**Measuring arrangement:**



**Notes:--**

**Test result:** Pass

Measured by: **Nádherný**

Date: 31.7. 2017

Measured at: EZÚ



Test Report No.: 701590-01/02

***Immunity test - radiated electromagnetic field requirements  
According to: (ČSN) EN 61000-4-3***

**Product:** Fixed general purpose luminaires, recessed luminaires

**Type:** URBINI LED, class II

**Operating conditions:**

230V, 50Hz, minimally 15 minutes in operation

Temperature: 23°C Rel. humidity: 30 – 45 %

**Applied limits:**

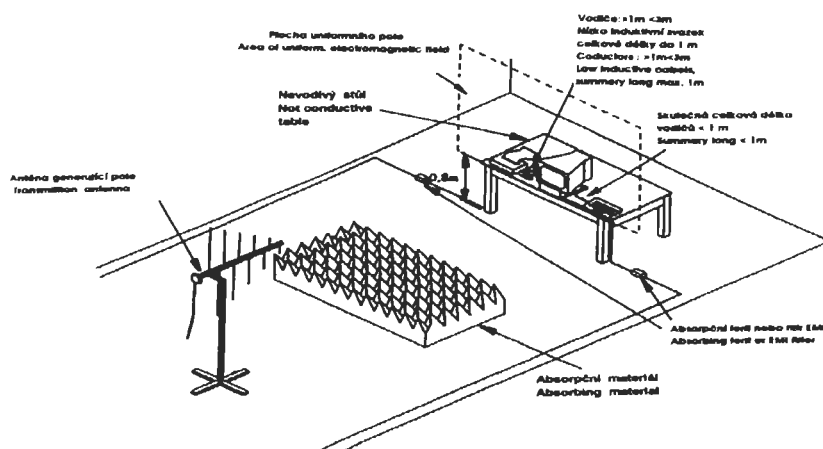
Scan spectrum: 80 - 1000 MHz

Intensity of field: 3 V/m (80% AM, 1kHz)

**Allowed criterion:** A

**Achieved criterion:** A

**Measuring arrangement:**



Notes: --

**Test result:** Pass

Measured by: Nádherný

Date: 31.7. 2017

Measured at: EZÚ



**Test by quick transient burst**  
**According to: (ČSN) EN 61000-4-4**

**Product:** Fixed general purpose luminaires, recessed luminaires

**Type:** URBINI LED, class II

**Operating conditions:**

230V, 50Hz, minimally 15 minutes in operation

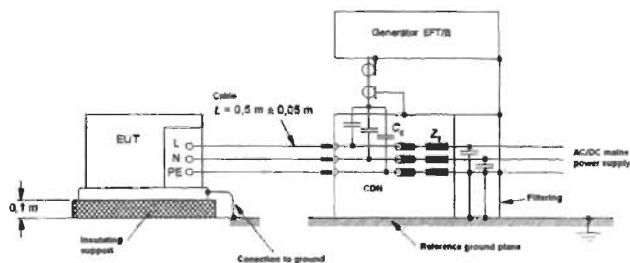
Temperature: 23°C      Rel. humidity: 30 – 45 %

**Allowed criterion:** B

**Testing voltage applied:**

| Applied to | Testing level | Performance criterion | Remark                            |
|------------|---------------|-----------------------|-----------------------------------|
| L,N,L+N    | ±1kV          | A                     | Coupling networks to power supply |
| L+PE       | ±1kV          | --                    |                                   |
| N+PE       | ±1kV          | --                    |                                   |
| L+N+PE     | ±1kV          | --                    |                                   |

**Measuring arrangement:**



**Notes:** --

**Test result:** Pass

Measured by: Nádherný

Date: 31.7. 2017

Measured at: EZÚ



**Surge immunity test**  
**According to: (ČSN) EN 61000-4-5**

**Product:** Fixed general purpose luminaires, recessed luminaires

**Type:** URBINI LED, class II

**Operating conditions:**

230V, 50Hz, minimally 15 minutes in operation

Temperature: 23°C

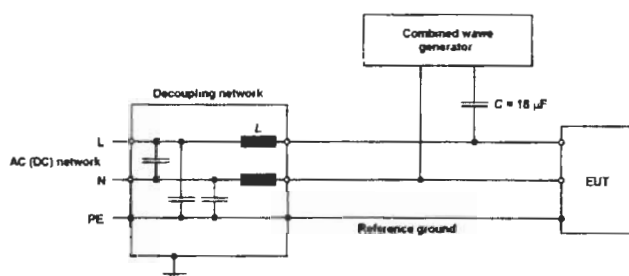
Rel. humidity: 30 – 45 %

**Allowed criterion: C**

**Testing voltage applied:**

| Applied voltage    | Testing level | Performance criterion | Remark      |
|--------------------|---------------|-----------------------|-------------|
| L-N                | ±1kV          | A                     | 90°, 270°   |
| L-PE, N-PE, L+N-PE | ±2kV          | --                    | Not applied |

**Uspořádání při měření - Measuring arrangement:**



**Poznámky - Notes:--**

**Test result: Pass**

Measured by: Nádherný

Date: 31.7. 2017

Measured at: EZÚ



**Immunity test - conducted disturbances induced by radio-frequency fields**  
**According to: (ČSN) EN 61000-4-6**

**Product:** Fixed general purpose luminaires, recessed luminaires

**Type:** URBINI LED, class II

**Operating conditions:**

230V, 50Hz, minimally 15 minutes in operation

Temperature: 24 °C Rel. humidity: 30 – 45 %

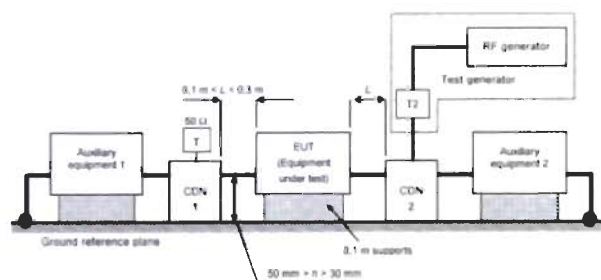
**Allowed criterion:** A

**Testing voltage applied:**

| Frequency band | Testing voltage level    | Note                                 |
|----------------|--------------------------|--------------------------------------|
| 150kHz - 80MHz | 3V (mod. 80% AM / 1 kHz) | Applied by coupling network to mains |

**Achieved criterion:** A

**Measuring arrangement:**



**Notes:--**

**Test result:** Pass

Measured by: Nádherný

Date: 31.7. 2017

Measured at: EZÚ



Test Report No.: 701590-01/02

***Voltage dips, short interruptions and voltage variations***  
***According to: (ČSN) EN 61000-4-11***

**Product:** Fixed general purpose luminaires, recessed luminaires

**Type:** URBINI LED, class II

**Operating conditions:**

230V, 50/60Hz, minimally 15 minutes in operation

Temperature: 22°C Rel. humidity: 30 – 45 %

**Allowed criterion:** C, B

**Tests requirements:**

| Test level [ % ] Ut | Duration<br>50 / 60Hz [ ms ] | Allowed criterion | Achieved criterion |
|---------------------|------------------------------|-------------------|--------------------|
| 0                   | 10 / 8,3                     | B                 | A                  |
| 70                  | 200 / 167                    | C                 | A                  |

**Notes:--**

**Test result: Pass**

Measured by: Nádherný

Date: 31.7. 2017

Measured at: EZÚ

**Measuring equipment used:**

|                                                                        |             |         |         |
|------------------------------------------------------------------------|-------------|---------|---------|
| <input checked="" type="checkbox"/> Test receiver RaS                  | ESC1        | 110213  | 11.2017 |
| <input checked="" type="checkbox"/> Měřicí přijímač- Test receiver RaS | ESIB26      | 110097  | 11.2017 |
| <input checked="" type="checkbox"/> Continuous wave simulator EM Test  | CWS500N1    | 110232  | 03.2019 |
| <input checked="" type="checkbox"/> Harmonic analyzer EM TEST          | DPA503N     | 110272  | 02.2019 |
| <input checked="" type="checkbox"/> Power fail simulator EM Test       | PFS 500     | 98-6040 | 10.2017 |
| <input type="checkbox"/> Ultra Compact Simulator EM Test               | UCS 500N    | 110235  | 02.2019 |
| <input checked="" type="checkbox"/> ESD generator                      | ESD30N      | 110196  | 03.2019 |
| <input type="checkbox"/> ESD generátor                                 | ESD30       | 110090  | 12.2018 |
| <input type="checkbox"/> Artificial mains EMCO                         | 3825/2      | 95-5852 | 07.2019 |
| <input type="checkbox"/> Artificial mains Narda                        | PMM L3-32   | 110250  | 11.2019 |
| <input checked="" type="checkbox"/> Artificial mains ESH               | ESH4-Z5     | 5821/1  | 05.2020 |
| <input checked="" type="checkbox"/> Antenna Frankonia                  | BTA-M       | 00-6321 | 10.2017 |
| <input type="checkbox"/> Antenna Double Ridget                         | HF 907      | 110177  | 08.2017 |
| <input type="checkbox"/> Antenna Double Ridget Advantest               | TR17206     | 5878    | 10.2017 |
| <input checked="" type="checkbox"/> Burst generátor Haefely            | PEFT Junior | 5872    | 12.2018 |
| <input checked="" type="checkbox"/> Surge generator                    | VCS500-M    | 110114  | 03.2018 |
| <input type="checkbox"/> Měřič pole Narda – Field meter Narda          | ELT-400     | 110130  | 11.2018 |
| <input checked="" type="checkbox"/> Current Probe R&S                  | EZ-17       | 110098  | 05.2019 |

**Pomocná zařízení – Auxiliary equipment:**

|                                                                                     |            |           |         |
|-------------------------------------------------------------------------------------|------------|-----------|---------|
| <input checked="" type="checkbox"/> Supply source EM TEST                           | HFS300     | 98-6042   | 02.2019 |
| <input type="checkbox"/> Ref. impedance SCHAFFNER                                   | LR4        | X71773    | 02.2019 |
| <input checked="" type="checkbox"/> Electric Field Probe Narda                      | EP603      | 110273    | 01.2019 |
| <input checked="" type="checkbox"/> Amplifier PRÁNA                                 | AP32 LT225 | 07-110145 |         |
| <input type="checkbox"/> Amplifier MILMEGA                                          | AS0822-100 | 98-6038   |         |
| <input type="checkbox"/> Amplifier MILMEGA                                          | AS0204-125 | 110144    |         |
| <input type="checkbox"/> Amplifier MILMEGA (1.8-6GHz)                               | AS1860-100 | 110219    |         |
| <input checked="" type="checkbox"/> Signal generator RaS                            | SMF100A    | 110167    | 11.2018 |
| <input type="checkbox"/> Signal generator RaS                                       | SMT03      | 96-5874   | 02.2018 |
| <input type="checkbox"/> Multimetr - Multimeter                                     | FLUKE189   | 550049    | 01.2018 |
| <input type="checkbox"/> Probe RFT                                                  | TK12       | 700044    | 06.2020 |
| <input checked="" type="checkbox"/> Coupling/dec. EM TEST                           | CDN M3N    | 552097    | 06.2018 |
| <input checked="" type="checkbox"/> Coupling/dec. EM TEST                           | CDN M2N    | 110233/2  | 11.2019 |
| <input type="checkbox"/> Coupling/SCHAFFNER ISN T4xx                                | ISN T4xx   | 110032    |         |
| <input type="checkbox"/> Capacitive coupling clamp                                  | Haefely    |           |         |
| <input type="checkbox"/> Current probe                                              | P MP-120   |           |         |
| <input type="checkbox"/> Current probe                                              | AM503      | 79-4221   |         |
| <input checked="" type="checkbox"/> Current probe RFT                               | SMZ 11     | 700459    | 06.2018 |
| <input checked="" type="checkbox"/> Elektromag. kleště- Electromag. injection clamp | EM-101     | 110233    | 11.2019 |
| <input type="checkbox"/> Ferite clamp 1-1000 MHz                                    | EZ-24      | 10003     |         |
| <input checked="" type="checkbox"/> Anechoic chamber - Euroshield Oy                | RFMSD-F/A  | 6341      | 02.2020 |
| <input checked="" type="checkbox"/> Notebook Dell                                   | Dell D351  | 551492    |         |
| <input checked="" type="checkbox"/> Multimeter Fluke                                | 289        | 552550    | 06.2018 |
| <input checked="" type="checkbox"/> Ocelové pásmo – Metal meter                     | 5m         | N400014   | 12.2020 |
| <input checked="" type="checkbox"/> Pulse Limiter RaS                               | ESH3-Z2    | 5424      | 01.2019 |

**Kabely - Cables:**

- ☐ K1
- ☒ K22, ESH3-Z2
- ☐ K14, K15a, K16
- ☐ KB01, KB02, KB04
- ☒ KB06
- ☐ K4, K19
- ☐ K23
- ☒ K27
- ☒ K25, K2, K4

**EZU přípravky – EZU equipments:**

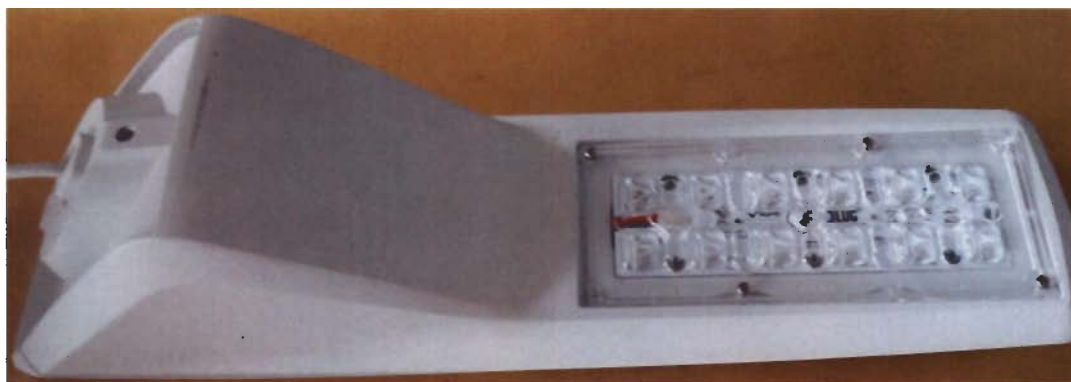
- ☒ PR 51 – EN 61000-4-2 – Vertical coupling plane
- ☐ Dummy lamp: dle - according to EN55015
- ☒ Regulating transformer - ZPA RA20
- ☐ PR-21 - Stabilized power supply BS 525
- ☐ P10 - EN55015 - Spherical cover
- ☐ P11 - EN6100-4-8 - EZÚ test setup
- ☐ P13 – Třífázový přepínač - three-phase switch
- ☒ PR45 - Loop antenna 2m



**Photo-documentation**

**Product:** Fixed general purpose luminaires, recessed luminaires

**Type:** URBINI LED, class II



Overview: 130232.5L232.1X1



Source and LED controller: 130232.5L232.1X1



Name plate 130232.5L232.1X1



Test Report No.: 701590-01/02

Electrostatic discharges – tested points ( → contact discharge → air discharge)

