UNIVERSITY OF MINING AND GEOLOGY "Engineering" LTD
Laboratory "Lighting" www.light-bg.eu

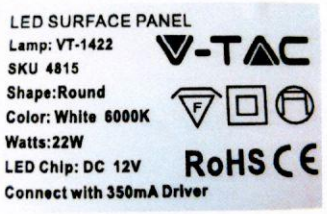
# MEASUREMENT REPORT NUMBER 2014-156/16.05.2014

**testing samples of products**

**Model number or type, referring to the manufacturer: LED luminarie VT-1422 SQ / RD SKU 4815 22W**
**Company identification: V-TAC Europe Ltd., Sofia 1220, 1, Iliansko Shaussee Blvd.**
**Applicant testing: V-TAC Europe Ltd., Sofia 1220, 1, Iliansko Shaussee Blvd.**
**Type of test: control measurements**

**Measurements have been performed:**

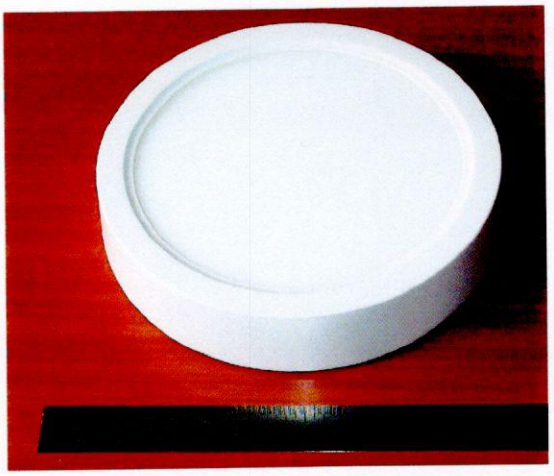
- luxmeter PU 550, ID 263621/2586, calibration certificate of the METRA BLANSKO a.s.№2887/2012, 19.12.2012;
- luxmeter KYORITSU 5202, ID K0017929, calibration certificate of the National Centre of Metrology 181-ОИ/15.12.2012;
- luminance-meter L 1003 of angular field 1°, producer "LMT" Germany, ID 0686191, calibration certificate of the National Centre of Metrology 130-ОИ/20.12.2010;
- Ulbricht photometer with diameter 2м;
- Automated goniophotometer.
- Power Meter HM8115-2 ID 015447345, calibration certificate of the National Centre of Metrology 148-ЕЕИ/14.12.2012;
- Digital thermometer with temperature sensor DS18B20 ID 0000011697CDH, calibration certificate of the National Centre of Metrology 268-ТИ/14.11.2012;
- Ampermeter Д5101 ID 737/1990, calibration certificate of 'ЛК УНИСИСТ' Ltd №733/21.11.2012;
- MEGER UT512 ID 1111074682, calibration certificate of 'ЛК УНИСИСТ' Ltd №732/21.11.2012;
- Laser rangefinder DLE-40
- spectroradiometer MK350 ID HS0313220158, test source MK002, calibration certificate of UPRtek lab № A012001 / 2013/7/5




**Technical specifications of documentation:**
**LED luminarie VT-1422 SQ / RD SKU 4815 22W**
**Optics - opal diffuser**

**tabele**

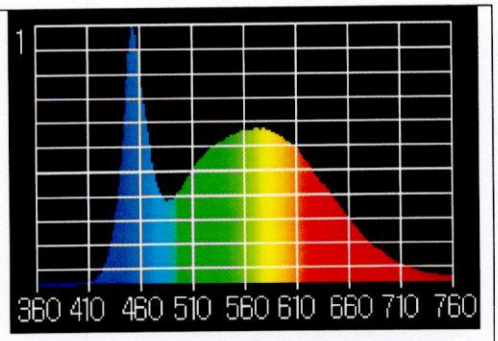
**Luminaire SQ**

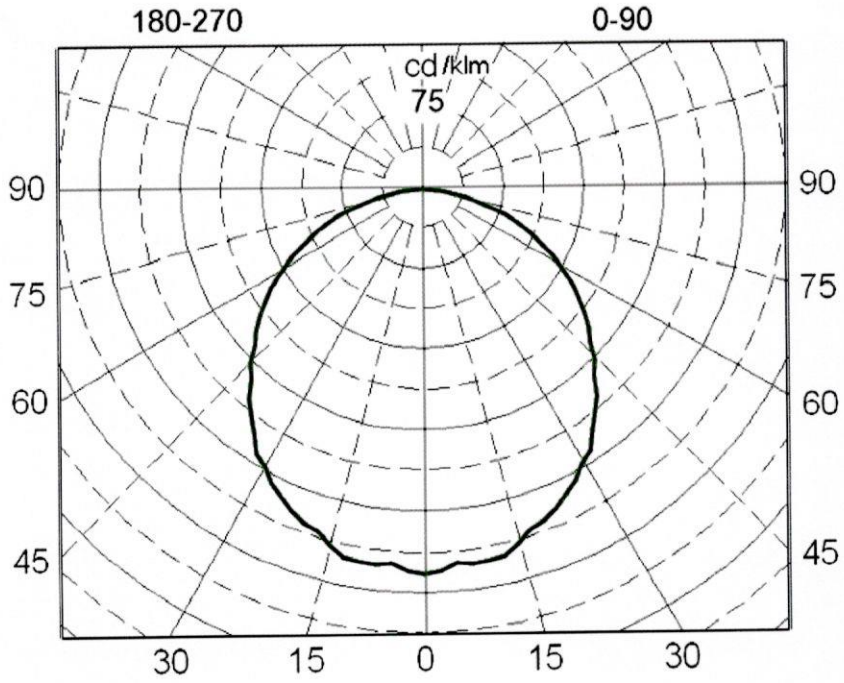


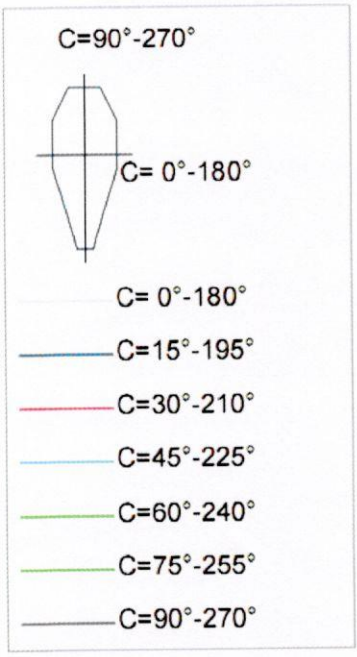
**Luminaire RD**

**Results of test for VT-1422 SQ / RD**

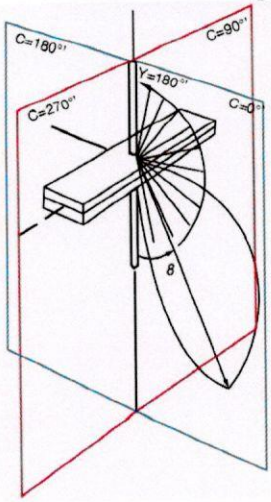
| | |
|---|---|
| Operating voltage | **AC 230V** |
| Operating Current | **AC 0.178A / 0.168A** |
| Wattage including ballast (watts) | **21.3W / 22.0W** |
| Power factor | **0.56** |
| color temperature | **5604K** |
| Color rendering index CRI | **86** |
| color coordinates CIE 1931 | **x=0.3301, y=0.3407** |
| color coordinates CIE 1976 | **u'=0.2054, v'= 0.4770** |
| Luminous flux emitted by a luminaire | **1614 lm / 1661 lm** |
| Light output of the luminaire | **75.8 lm/W / 75.5 lm/W** |

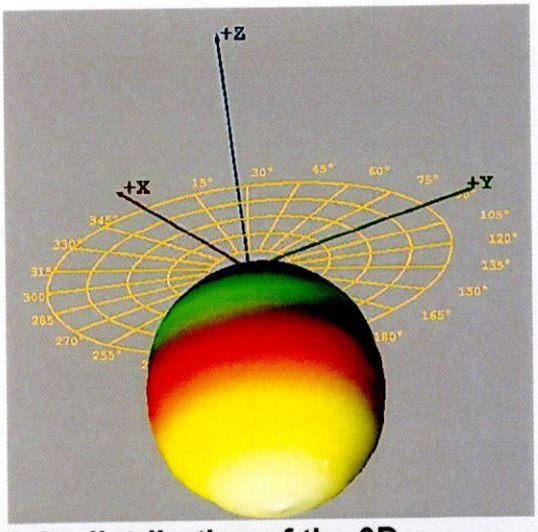



**Luminaire light distribution of polar coordinates in the conditional flux 1000lm**

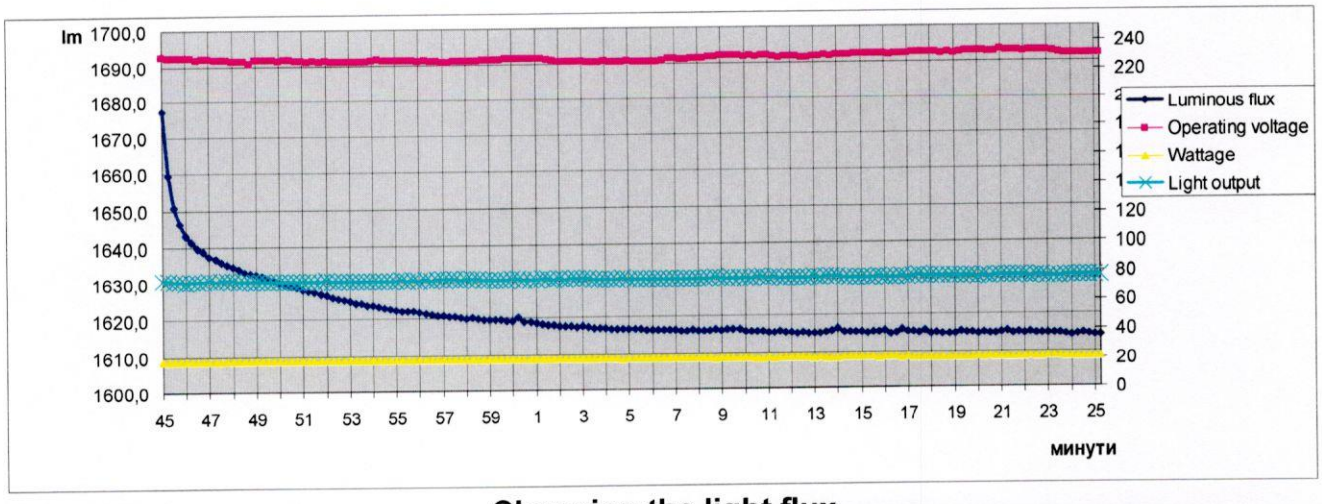


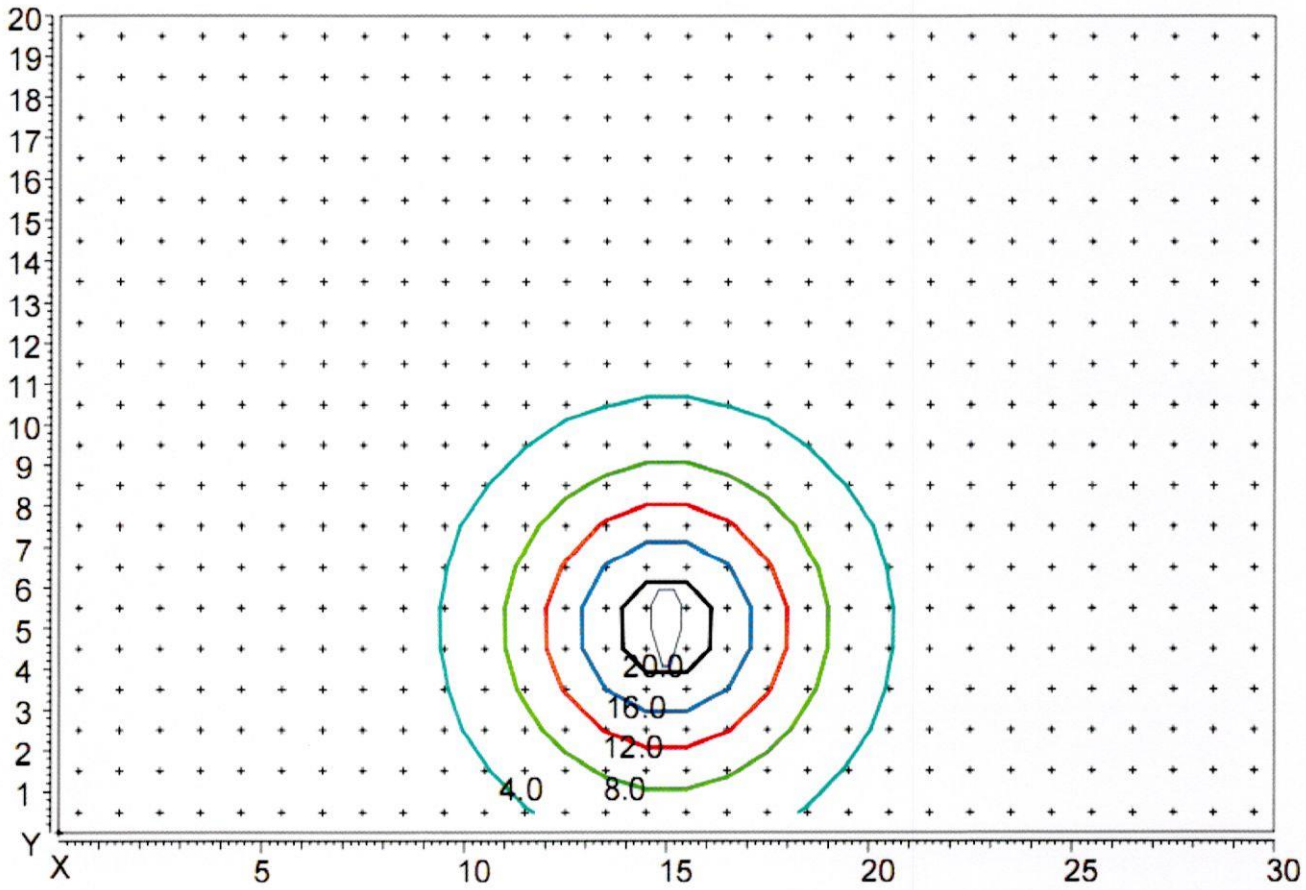

**Luminaire light distribution of the 3D**

**Light distribution of luminaries are in tabular form for conditional luminous flux 1000lm:**

| gm/C | Igm |
|---|---|
| 0.0 | 358 |
| 2.5 | 356 |
| 5.0 | 349 |
| 7.5 | 352 |
| 10.0 | 351 |
| 12.5 | 350 |
| 15.0 | 342 |
| 17.5 | 332 |
| 20.0 | 329 |
| 22.5 | 324 |
| 25.0 | 316 |
| 27.5 | 308 |
| 30.0 | 297 |
| 32.5 | 291 |
| 35.0 | 276 |
| 37.5 | 265 |
| 40.0 | 254 |
| 42.5 | 238 |
| 45.0 | 228 |
| 47.5 | 213 |
| 50.0 | 204 |
| 52.5 | 192 |
| 55.0 | 179 |
| 57.5 | 168 |
| 60.0 | 154 |
| 62.5 | 139 |
| 65.0 | 125 |
| 67.5 | 109 |
| 70.0 | 96 |
| 72.5 | 83 |
| 75.0 | 65 |
| 77.5 | 52 |
| 80.0 | 41 |
| 82.5 | 29 |
| 85.0 | 19 |
| 87.5 | 8 |
| 90.0 | 1 |
| 92.5 | 1 |
| 95.0 | 1 |




**Changing the light flux**




Distribution of illumination in height hanging lamp 5 м
Coordinates of the luminaire X=15m, Y=5m.

Applications:
Files with the EULUMDAT format. Light distribution is captured in γ-C planes with step 2.5° in plane γ (от 0 ° - 95 °) и 5° in plane C (от 0 ° - 360 °) accordance with EN 13032-1 p 4.2.3.
Files with the measured values
- 2014-156a-S.ldt – **VT-1422 SQ**
- 2014-156b-S.ldt – **VT-1422 RD**
(photometric data in a standard format for axel of symmetry) ,
Test results relate only to test samples.

Sofia 16.05.2014

The measurements made:

/assoc. prof. d-r. Krasimir Velinov/

Manager:

/ prof. d-r. L. Totev/