

## MEASUREMENT REPORT NUMBER 2015-028/23.01.2015

testing samples of products

**Model number or type, referring to the manufacturer: SMD LED FLOODLIGHT 20W, VT-4721, SKU 5626**

**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:

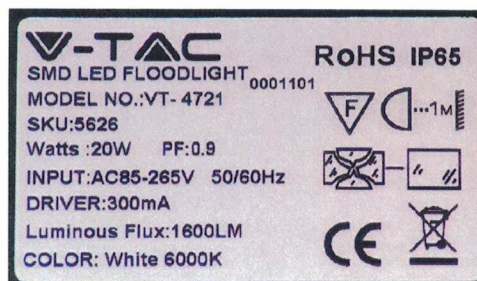
- luxmeter PU 550, ID 263621/2586, calibration certificate of the METRA BLANSKO a.s. №2887/2012, 19.12.2012;
- luxmeter KYORITSU 5202, ID K0017929, calibration certificate of the National Centre of Metrology 181-OИ/15.12.2012;
- luminance-meter L 1003 of angular field 1°, producer "LMT" Germany, ID 0686191, calibration certificate of the National Centre of Metrology 130-OИ/20.12.2010;
- Ulbricht photometer with diameter 2m;
- 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:

**SMD LED FLOODLIGHT 20W, VT-4721, SKU 5626**



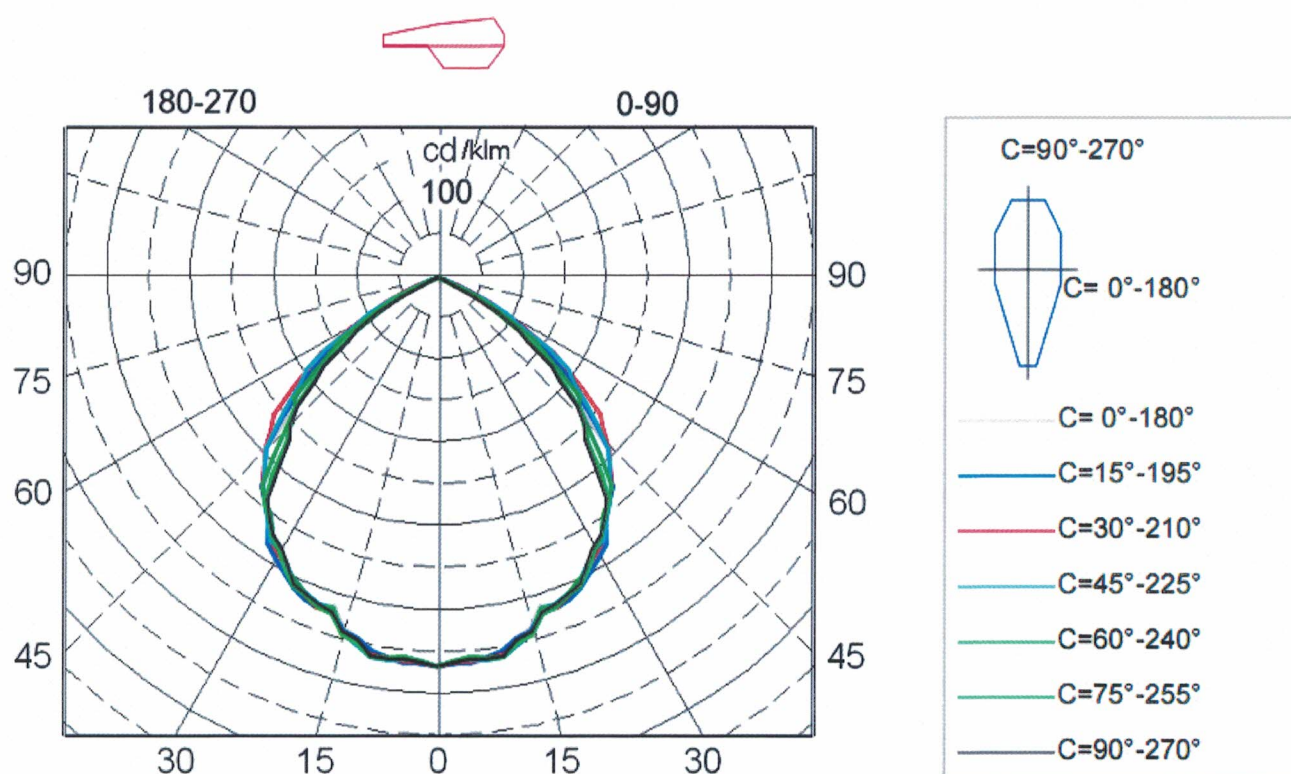
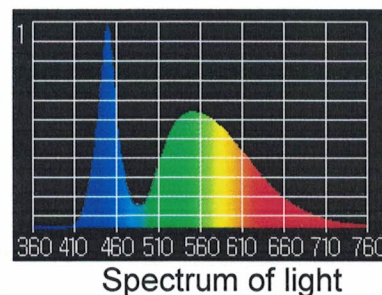
Luminaire



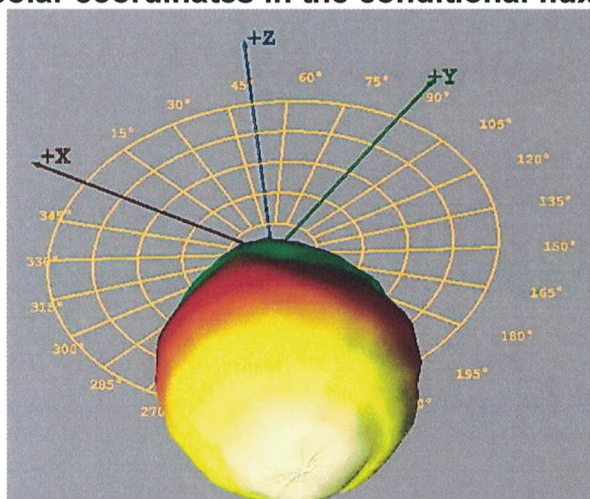
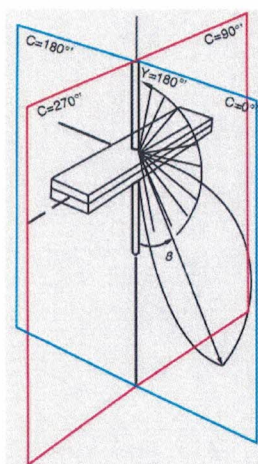
Tabele

## Results of test

|                                      |                        |
|--------------------------------------|------------------------|
| Operating voltage                    | AC 230 V               |
| Operating Current                    | AC 0.078 A             |
| Wattage including ballast (watts)    | 17.1W                  |
| Power factor                         | 0.95                   |
| color temperature                    | 6174 K                 |
| Color rendering index CRI            | 71                     |
| color coordinates CIE 1931           | $x=0.3183, y=0.3354$   |
| color coordinates CIE 1976           | $u'=0.1993, v'=0.4725$ |
| Luminous flux emitted by a luminaire | 1733 lm                |
| Light output of the luminaire        | 101.35 lm /W           |



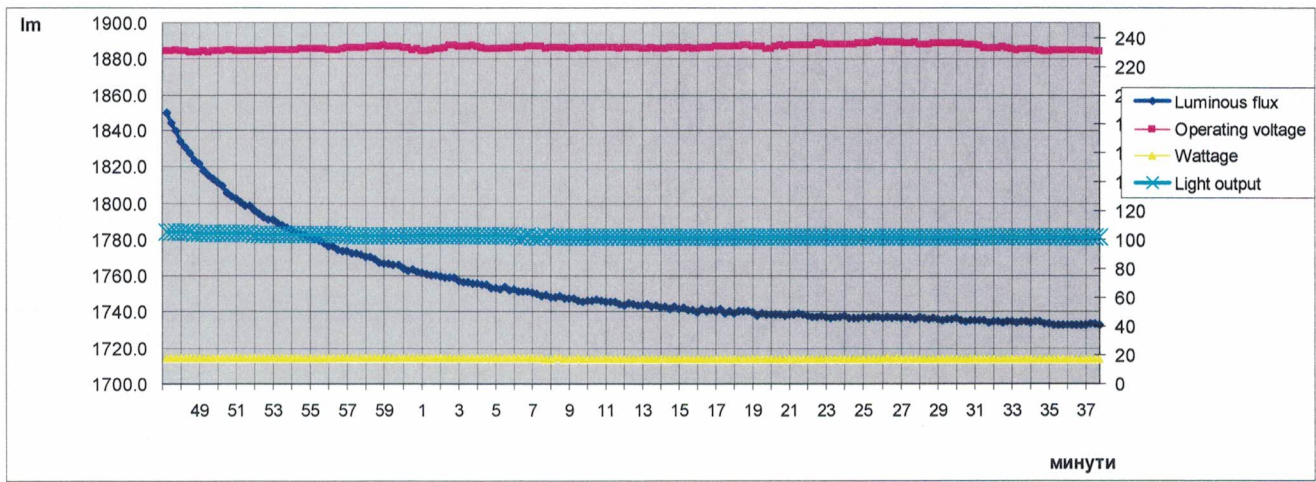
Luminaire light distribution of polar coordinates in the conditional flux 1000lm



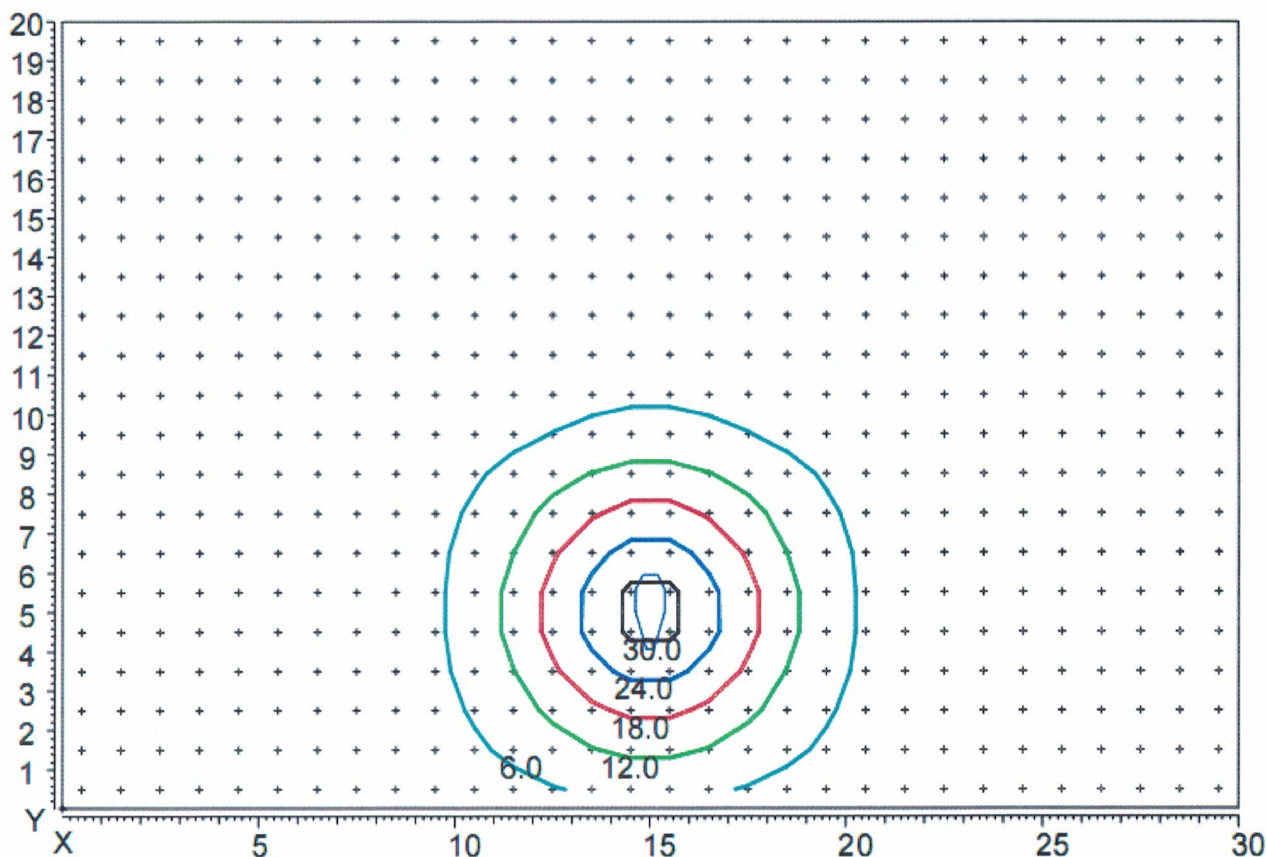
Luminaire light distribution of the 3D

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

|      |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| gm/C | 0   | 15  | 30  | 45  | 60  | 75  | 90  | 105 | 120 | 135 | 150 | 165 | 180 |
| 0.0  | 469 | 469 | 470 | 470 | 469 | 469 | 469 | 469 | 469 | 470 | 470 | 469 | 469 |
| 2.5  | 467 | 467 | 465 | 464 | 464 | 463 | 464 | 463 | 464 | 464 | 465 | 467 | 467 |
| 5.0  | 469 | 466 | 465 | 463 | 460 | 459 | 462 | 459 | 460 | 463 | 465 | 466 | 469 |
| 7.5  | 463 | 462 | 463 | 465 | 464 | 462 | 464 | 462 | 464 | 465 | 463 | 462 | 463 |
| 10.0 | 458 | 457 | 461 | 465 | 465 | 464 | 464 | 464 | 465 | 465 | 461 | 457 | 458 |
| 12.5 | 445 | 446 | 452 | 454 | 452 | 451 | 448 | 451 | 452 | 454 | 452 | 446 | 445 |
| 15.0 | 438 | 441 | 446 | 444 | 445 | 447 | 443 | 447 | 445 | 444 | 446 | 441 | 438 |
| 17.5 | 416 | 422 | 425 | 419 | 419 | 426 | 424 | 426 | 419 | 419 | 425 | 422 | 416 |
| 20.0 | 422 | 424 | 424 | 419 | 422 | 424 | 420 | 424 | 422 | 419 | 424 | 424 | 422 |
| 22.5 | 419 | 420 | 417 | 413 | 414 | 416 | 414 | 416 | 414 | 413 | 417 | 420 | 419 |
| 25.0 | 412 | 413 | 409 | 407 | 404 | 412 | 410 | 412 | 404 | 407 | 409 | 413 | 412 |
| 27.5 | 399 | 402 | 396 | 393 | 397 | 399 | 392 | 399 | 397 | 393 | 396 | 402 | 399 |
| 30.0 | 388 | 392 | 385 | 380 | 382 | 381 | 378 | 381 | 382 | 380 | 385 | 392 | 388 |
| 32.5 | 377 | 382 | 376 | 377 | 370 | 371 | 370 | 371 | 370 | 377 | 376 | 382 | 377 |
| 35.0 | 353 | 357 | 355 | 358 | 351 | 355 | 354 | 355 | 351 | 358 | 355 | 357 | 353 |
| 37.5 | 344 | 343 | 342 | 344 | 342 | 343 | 339 | 343 | 342 | 344 | 342 | 343 | 344 |
| 40.0 | 331 | 330 | 330 | 327 | 330 | 311 | 299 | 311 | 330 | 327 | 330 | 330 | 331 |
| 42.5 | 309 | 309 | 311 | 310 | 294 | 271 | 266 | 271 | 294 | 310 | 311 | 309 | 309 |
| 45.0 | 292 | 294 | 295 | 294 | 260 | 253 | 253 | 253 | 260 | 294 | 295 | 294 | 292 |
| 47.5 | 241 | 260 | 273 | 263 | 233 | 235 | 230 | 235 | 233 | 263 | 273 | 260 | 241 |
| 50.0 | 223 | 224 | 258 | 235 | 226 | 201 | 193 | 201 | 226 | 235 | 258 | 224 | 223 |
| 52.5 | 205 | 207 | 222 | 210 | 190 | 176 | 175 | 176 | 190 | 210 | 222 | 207 | 205 |
| 55.0 | 162 | 174 | 191 | 195 | 161 | 146 | 133 | 146 | 161 | 195 | 191 | 174 | 162 |
| 57.5 | 143 | 146 | 167 | 163 | 140 | 116 | 117 | 116 | 140 | 163 | 167 | 146 | 143 |
| 60.0 | 104 | 120 | 121 | 116 | 102 | 83  | 81  | 83  | 102 | 116 | 121 | 120 | 104 |
| 62.5 | 85  | 88  | 95  | 94  | 71  | 64  | 49  | 64  | 71  | 94  | 95  | 88  | 85  |
| 65.0 | 52  | 60  | 69  | 63  | 51  | 36  | 21  | 36  | 51  | 63  | 69  | 60  | 52  |
| 67.5 | 24  | 35  | 42  | 32  | 19  | 11  | 11  | 11  | 19  | 32  | 42  | 35  | 24  |
| 70.0 | 4   | 16  | 26  | 16  | 6   | 9   | 9   | 9   | 6   | 16  | 26  | 16  | 4   |
| 72.5 | 3   | 3   | 10  | 3   | 5   | 7   | 7   | 7   | 5   | 3   | 10  | 3   | 3   |
| 75.0 | 2   | 3   | 2   | 2   | 3   | 5   | 5   | 5   | 3   | 2   | 2   | 3   | 2   |
| 77.5 | 2   | 2   | 2   | 1   | 2   | 3   | 3   | 3   | 2   | 1   | 2   | 2   | 2   |
| 80.0 | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 1   | 1   | 1   | 1   | 1   |
| 82.5 | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| 85.0 | 1   | 1   | 1   | 0   | 0   | 1   | 1   | 1   | 0   | 0   | 1   | 1   | 1   |
| 87.5 | 1   | 1   | 1   | 0   | 0   | 1   | 1   | 1   | 0   | 0   | 1   | 1   | 1   |
| 90.0 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| 92.5 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| 95.0 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |



Changing the light flux



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

#### Applications:

Files with the EULUMDAT format. Light distribution is captured in  $\gamma$ -C planes with step  $2.5^\circ$  in plane  $\gamma$  (от  $0^\circ$  -  $95^\circ$ ) и  $5^\circ$  in plane C (от  $0^\circ$  -  $360^\circ$ ) accordance with EN 13032-1 p 4.2.3.

Files with the measured values

- 2015-028-P2.ltd - (photometric data in a standard format for two axel of symmetry  $C = 0^\circ - 180^\circ$  и  $C = 90^\circ - 270^\circ$ ),

Test results relate only to test samples.

Sofia 23.01.2015

The measurements made:

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

Manager:

/ prof. d-r. L. Totev/