

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

MEASUREMENT REPORT NUMBER 2014-195/25.06.2014

testing samples of products

Model number or type, referring to the manufacturer: LED luminarie LED PANEL LIGHT VT2200 SKU4833

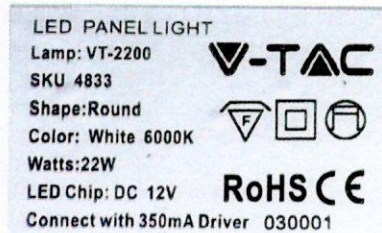
Company identification: V-TAC Europe Ltd., Sofia 1220, 1, Iliansko Shaussee Blvd.

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

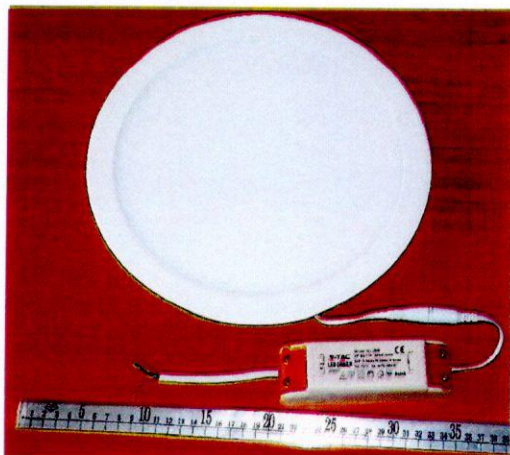


Technical specifications of documentation:

LED luminarie LED PANEL LIGHT VT2200 SKU4833

tabele

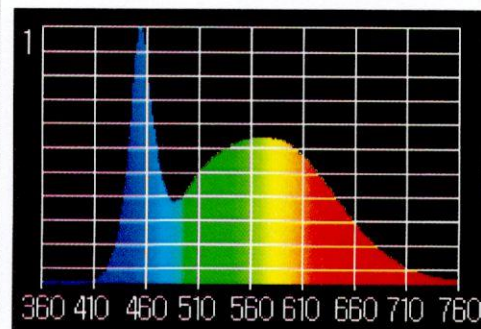
Optics - opal diffuser



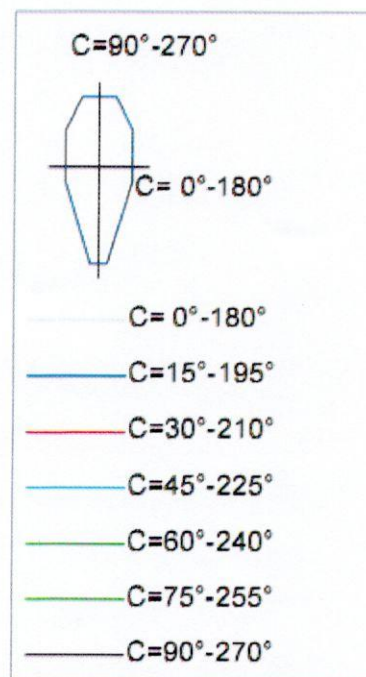
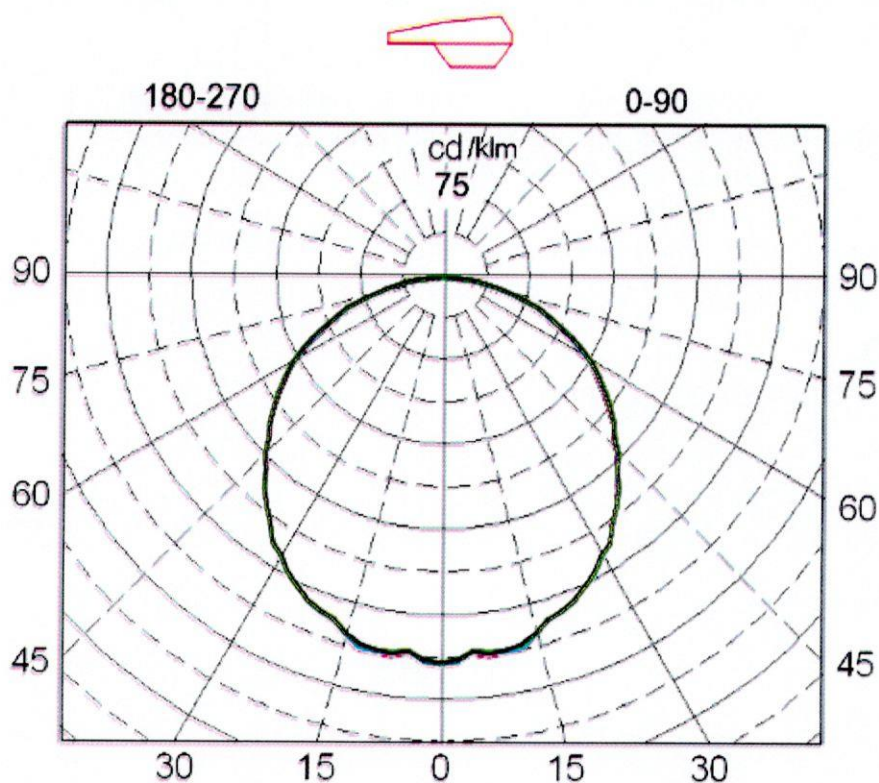
Luminaire

Results of test for LED PANEL LIGHT LP6060

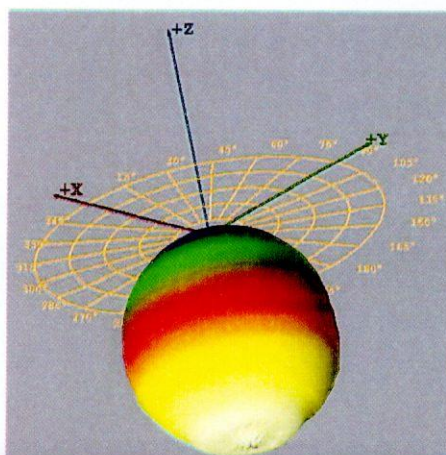
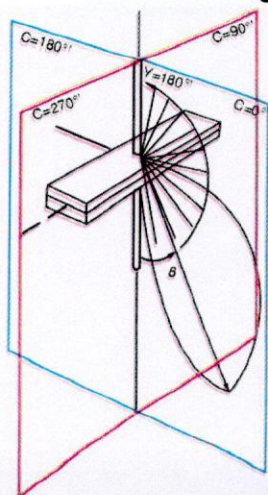
Operating voltage	AC 230V
Operating Current	AC 0.11A
Wattage including ballast (watts)	23.7W
Power factor	0.93
color temperature	5736K
Color rendering index CRI	86
color coordinates CIE 1931	$x=0.3273, y=0.3369$
color coordinates CIE 1976	$u'=0.2049, v'=0.4747$
Luminous flux emitted by a luminaire	1569 lm
Light output of the luminaire	66.2 lm/W



Spectrum of light



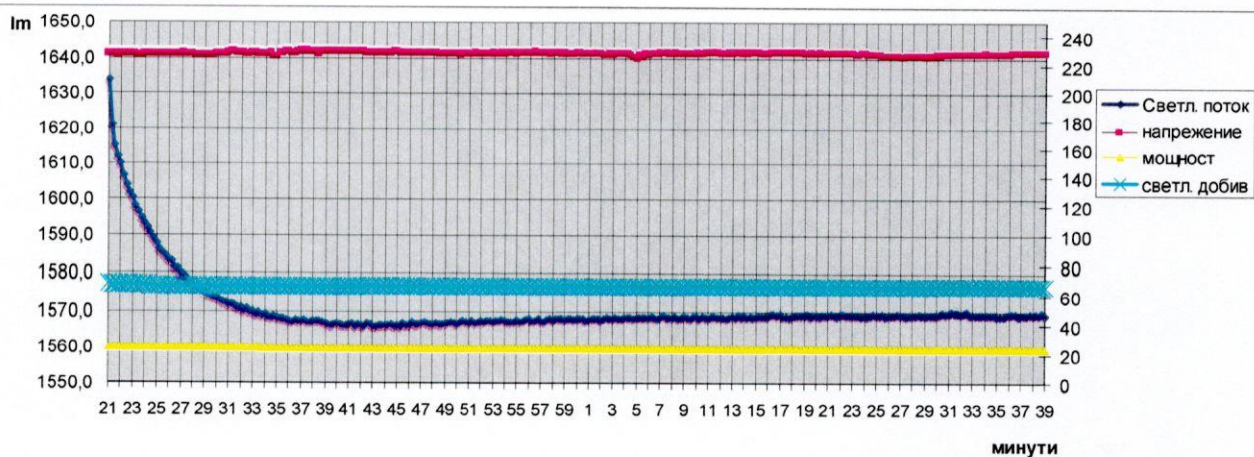
Luminaire light distribution of polar coordinates in the conditional flux 1000lm



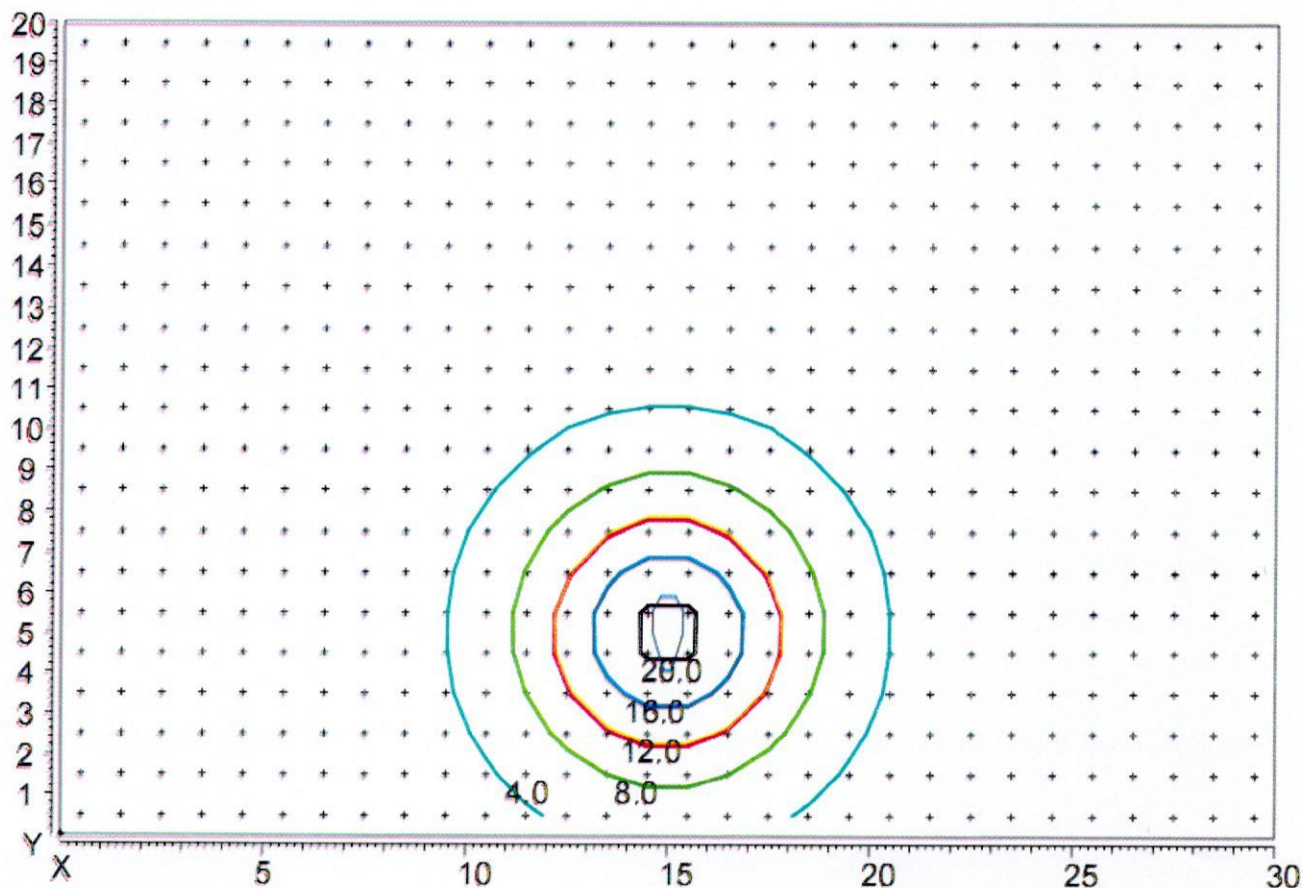
Luminaire light distribution of the 3D

**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	346	345	344	344	344	344	343	344	344	344	344	345	346
2.5	344	343	342	342	342	341	341	341	342	342	342	343	344
5.0	335	334	334	334	334	334	334	334	334	334	334	334	335
7.5	341	338	338	337	337	337	338	337	337	337	338	338	341
10.0	339	338	337	337	337	337	336	337	337	337	337	338	339
12.5	339	338	337	336	336	336	335	336	336	336	337	338	339
15.0	331	330	329	329	329	329	329	329	329	329	329	330	331
17.5	321	319	319	319	319	319	320	319	319	319	319	319	321
20.0	318	317	316	317	316	316	316	316	316	317	316	317	318
22.5	314	312	311	312	312	311	311	311	312	312	311	312	314
25.0	305	304	304	304	304	305	304	305	304	304	304	304	305
27.5	299	298	297	297	297	297	297	297	297	297	297	298	299
30.0	289	288	287	287	287	287	287	287	287	287	287	288	289
32.5	282	281	281	281	281	281	281	281	281	281	281	281	282
35.0	268	267	267	267	268	268	267	268	268	267	267	267	268
37.5	258	257	257	258	258	258	257	258	258	258	257	257	258
40.0	246	246	246	247	247	247	247	247	247	247	246	246	246
42.5	232	232	232	233	233	233	233	233	233	233	232	232	232
45.0	223	223	223	224	224	224	224	224	224	224	223	223	223
47.5	209	209	209	210	210	210	210	210	210	210	209	209	209
50.0	200	200	200	202	202	202	201	202	202	202	200	200	200
52.5	188	189	189	190	190	191	190	191	190	190	189	189	188
55.0	177	177	177	179	179	180	178	180	179	179	177	177	177
57.5	165	165	165	167	167	168	167	168	167	167	165	165	165
60.0	153	153	154	155	156	156	155	156	156	155	154	153	153
62.5	138	139	140	141	141	142	141	142	141	141	140	139	138
65.0	125	126	127	128	129	129	128	129	129	128	127	126	125
67.5	111	112	112	114	114	115	114	115	114	114	112	112	111
70.0	98	99	100	101	102	102	102	102	102	101	100	99	98
72.5	86	87	88	89	90	91	90	91	90	89	88	87	86
75.0	69	70	71	73	73	74	73	74	73	73	71	70	69
77.5	57	57	58	60	60	61	60	61	60	60	58	57	57
80.0	46	47	48	50	51	51	51	51	51	50	48	47	46
82.5	34	35	36	38	39	39	39	39	39	38	36	35	34
85.0	25	26	27	28	29	30	29	30	29	28	27	26	25
87.5	15	15	17	18	18	19	19	19	18	18	17	15	15
90.0	5	6	8	8	9	10	9	10	9	8	8	6	5
92.5	2	2	3	2	2	2	2	2	2	2	3	2	2



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 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

- 2014-195-P2.ltd

(photometric data in a standard format for axel of symmetry),

Test results relate only to test samples.

Sofia 25.06.2014

The measurements made:

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

Manager:



/ prof. d-r. L. Totev/