UNIVERSITY OF MINING AND GEOLOGY "Engineering" LTD
Laboratory "Lighting"

MEASUREMENT REPORT NUMBER 2013-127/25.04.2013

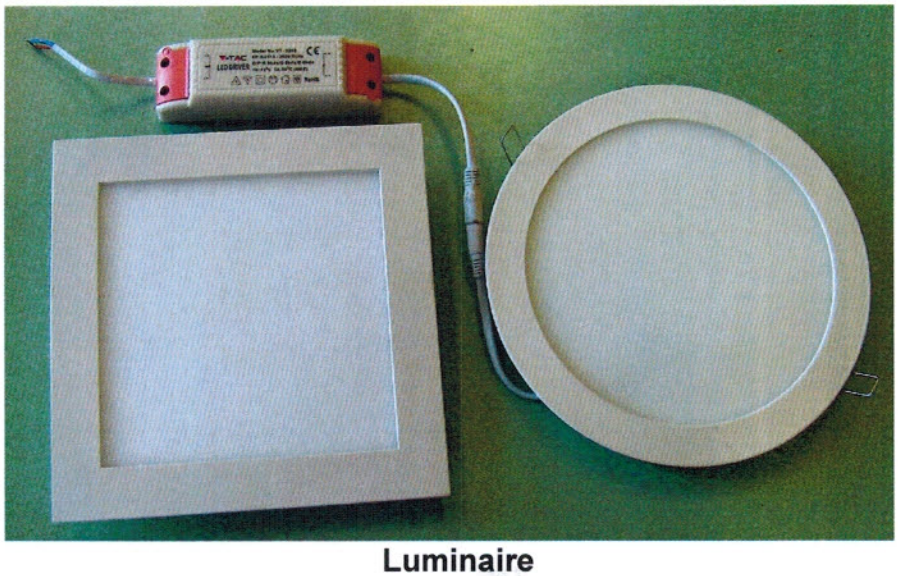
testing samples of products

Model number or type, referring to the manufacturer: LED Street Luminaire VT 2200
Company identification: ВИ-ТЕК ЕВРОПА ООД, София 1220, ул. Илиянско шосе No1.
Applicant testing: ВИ-ТЕК ЕВРОПА ООД, София 1220, ул. Илиянско шосе No 1.
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

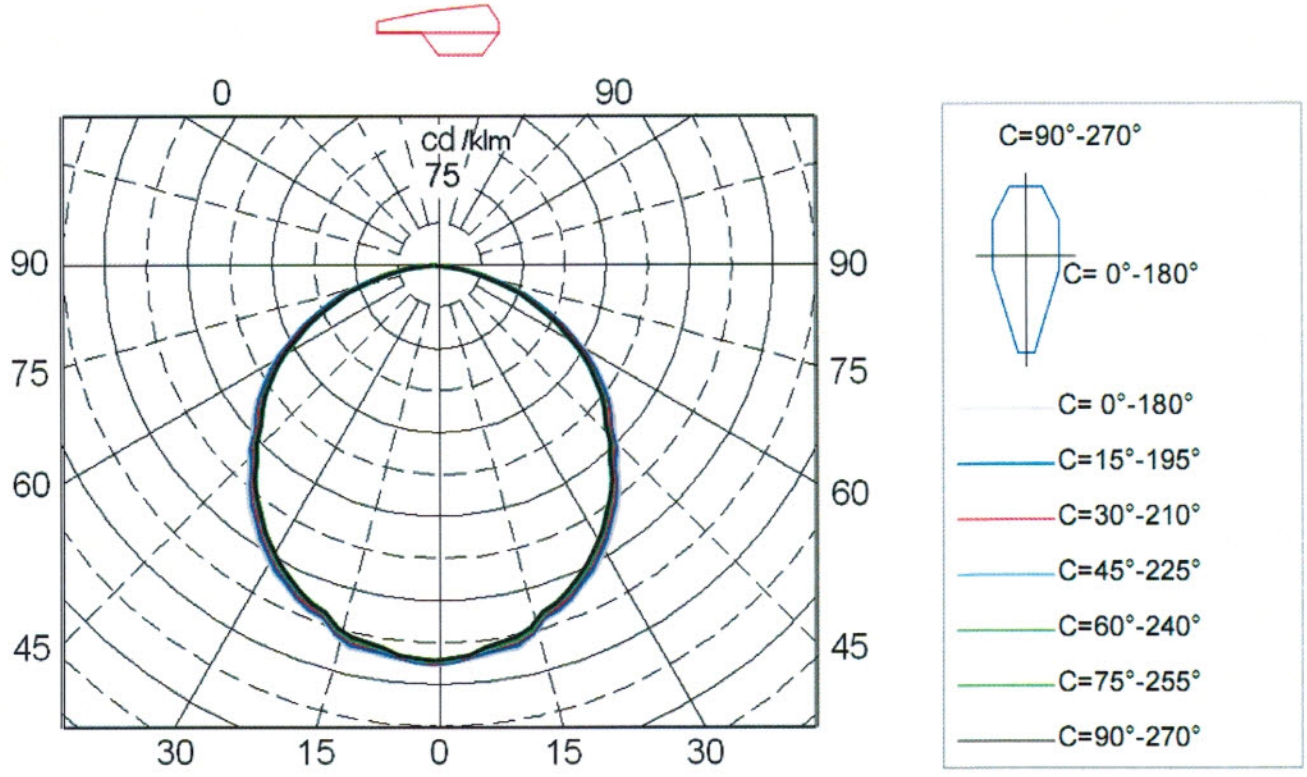
Technical specifications of documentation:
Luminescent luminaries: LED Street Luminaire VT 2200
Optics - matt diffuser **tabele**



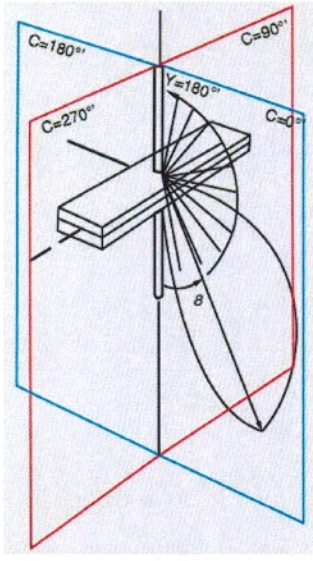
Luminaire

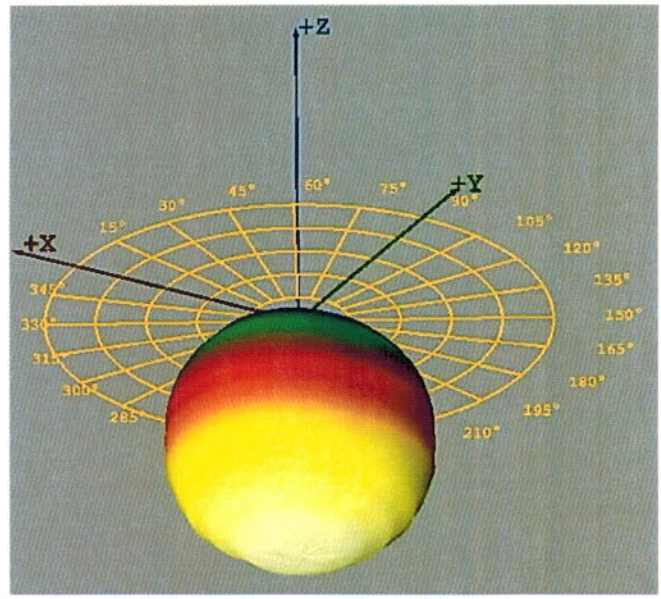
Results of test

	Lamp with power
Operating voltage	**AC 230V**
Operating Current	**AC 0.105A**
Wattage including ballast (watts)	**22.4W**
Power factor	**0.93**
Luminous flux emitted by a luminaire	**1257 lm**
light output	**56.1 lm/W**



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





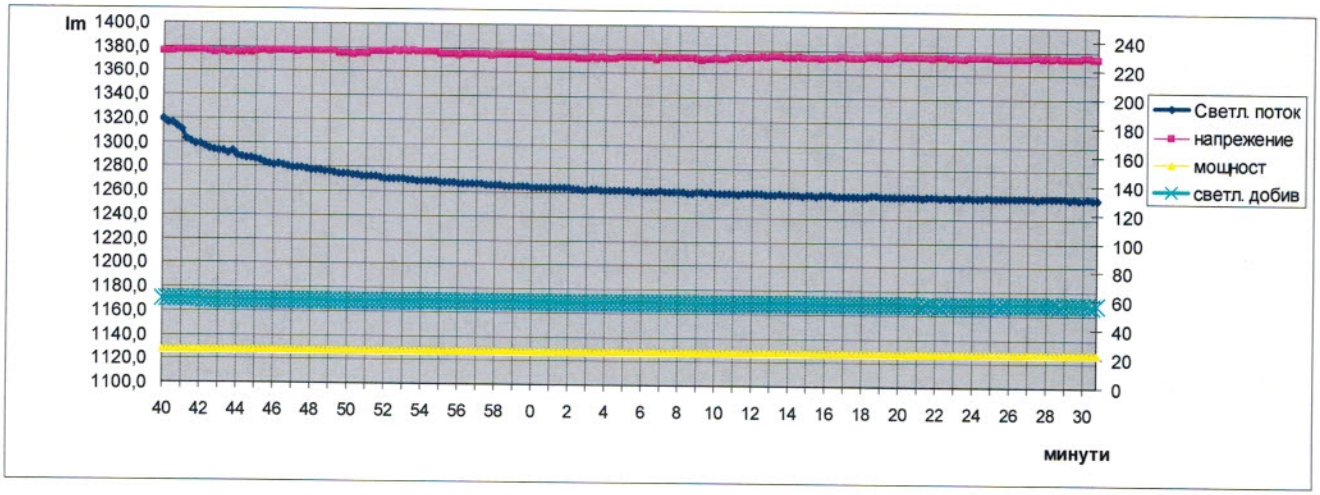
Luminaire light distribution of the 3D

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

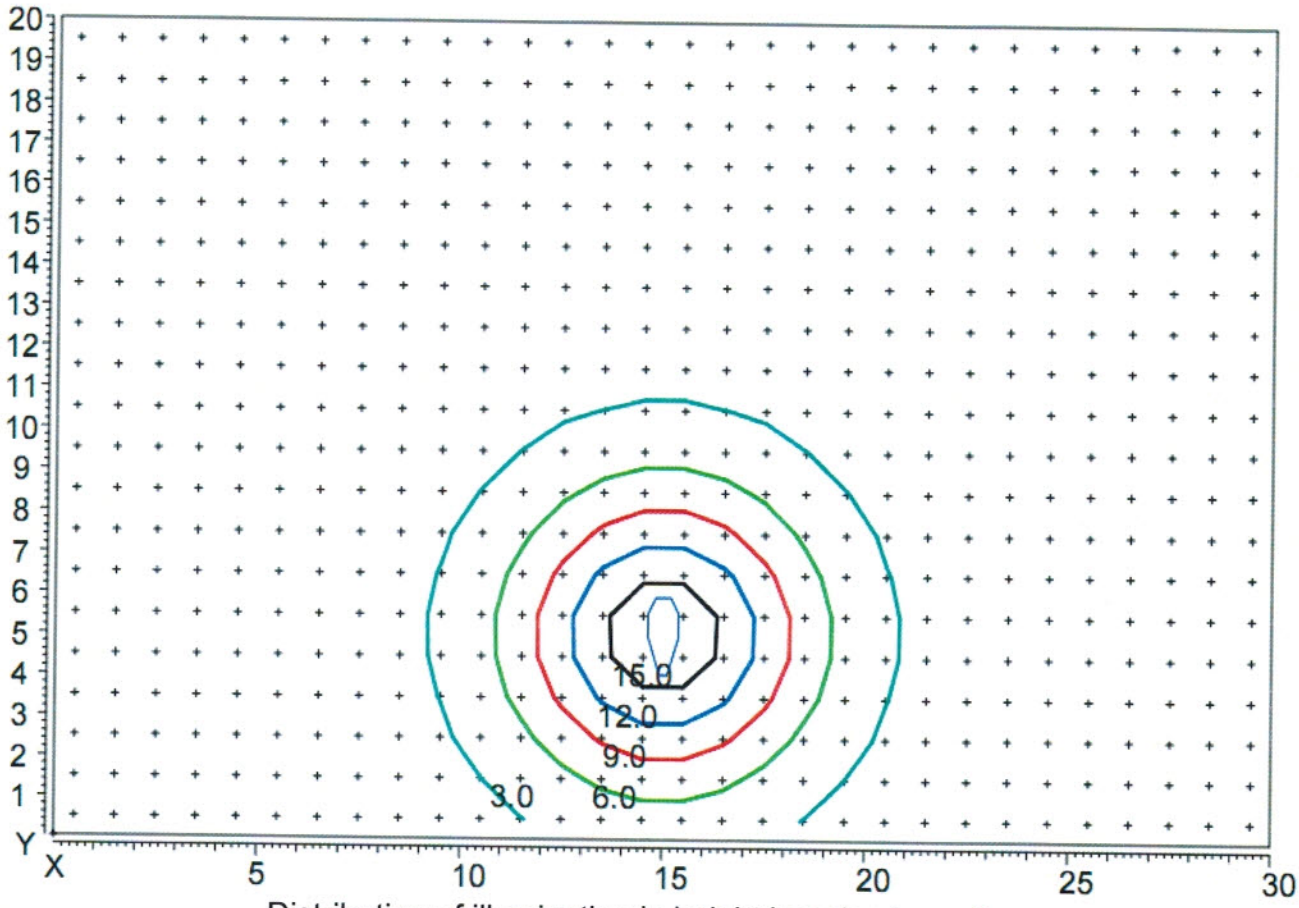
gm/C	0	15	30	45	60	75	90	105	120	135	150	165	180
0.0	361	359	359	358	357	357	356	357	357	358	359	359	361
2.5	359	358	357	356	355	355	355	355	355	356	357	358	359
5.0	357	355	354	353	354	353	353	353	354	353	354	355	357
7.5	355	353	350	350	348	348	348	348	348	350	350	353	355
10.0	353	351	349	347	347	346	345	346	347	347	349	351	353
12.5	353	350	348	346	345	343	343	343	345	346	348	350	353
15.0	347	344	342	340	339	338	338	338	339	340	342	344	347
17.5	335	333	331	329	328	328	328	328	328	329	331	333	335
20.0	332	330	327	325	324	324	324	324	324	325	327	330	332
22.5	327	324	322	319	318	318	317	318	318	319	322	324	327
25.0	319	316	314	312	310	310	310	310	310	312	314	316	319
27.5	313	310	307	305	303	303	302	303	303	305	307	310	313
30.0	304	300	297	295	294	293	293	293	294	295	297	300	304
32.5	295	291	288	286	284	284	284	284	284	286	288	291	295
35.0	284	280	277	274	274	272	273	272	274	274	277	280	284
37.5	274	270	267	265	263	263	263	263	263	265	267	270	274
40.0	262	258	255	252	251	251	252	251	251	252	255	258	262
42.5	247	243	240	237	236	236	236	236	236	237	240	243	247
45.0	237	234	230	228	227	227	226	227	227	228	230	234	237
47.5	222	219	216	213	212	211	211	211	212	213	216	219	222
50.0	213	209	207	204	202	202	202	202	202	204	207	209	213
52.5	203	199	196	194	192	192	192	192	192	194	196	199	203
55.0	190	186	182	180	179	178	179	178	179	180	182	186	190
57.5	178	174	170	168	166	167	167	167	166	168	170	174	178
60.0	164	160	156	154	153	153	153	153	153	154	156	160	164
62.5	148	144	140	138	137	137	138	137	137	138	140	144	148
65.0	134	130	127	124	124	123	124	123	124	124	127	130	134
67.5	118	114	111	109	108	107	108	107	108	109	111	114	118
70.0	103	100	96	95	94	93	94	93	94	95	96	100	103
72.5	90	86	83	82	81	81	82	81	81	82	83	86	90
75.0	71	68	65	64	63	63	64	63	63	64	65	68	71
77.5	57	54	51	50	49	49	50	49	49	50	51	54	57
80.0	45	42	40	39	38	38	39	38	38	39	40	42	45
82.5	32	29	27	26	26	26	26	26	26	26	27	29	32
85.0	22	19	17	16	16	16	17	16	16	16	17	19	22
87.5	11	9	8	7	7	7	8	7	7	7	8	9	11
90.0	2	2	1	1	1	2	2	2	1	1	1	2	2
92.5	1	1	1	1	1	1	1	1	1	1	1	1	1
95.0	1	1	1	1	1	1	1	1	1	1	1	1	1

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

gm/C	180	195	210	225	240	255	270	285	300	315	330	345	360
0.0	361	359	359	358	357	357	356	357	357	358	359	359	361
2.5	359	358	357	356	355	355	355	355	355	356	357	358	359
5.0	357	355	354	353	354	353	353	353	354	353	354	355	357
7.5	355	353	350	350	348	348	348	348	348	350	350	353	355
10.0	353	351	349	347	347	346	345	346	347	347	349	351	353
12.5	353	350	348	346	345	343	343	343	345	346	348	350	353
15.0	347	344	342	340	339	338	338	338	339	340	342	344	347
17.5	335	333	331	329	328	328	328	328	328	329	331	333	335
20.0	332	330	327	325	324	324	324	324	324	325	327	330	332
22.5	327	324	322	319	318	318	317	318	318	319	322	324	327
25.0	319	316	314	312	310	310	310	310	310	312	314	316	319
27.5	313	310	307	305	303	303	302	303	303	305	307	310	313
30.0	304	300	297	295	294	293	293	293	294	295	297	300	304
32.5	295	291	288	286	284	284	284	284	284	286	288	291	295
35.0	284	280	277	274	274	272	273	272	274	274	277	280	284
37.5	274	270	267	265	263	263	263	263	263	265	267	270	274
40.0	262	258	255	252	251	251	252	251	251	252	255	258	262
42.5	247	243	240	237	236	236	236	236	236	237	240	243	247
45.0	237	234	230	228	227	227	226	227	227	228	230	234	237
47.5	222	219	216	213	212	211	211	211	212	213	216	219	222
50.0	213	209	207	204	202	202	202	202	202	204	207	209	213
52.5	203	199	196	194	192	192	192	192	192	194	196	199	203
55.0	190	186	182	180	179	178	179	178	179	180	182	186	190
57.5	178	174	170	168	166	167	167	167	166	168	170	174	178
60.0	164	160	156	154	153	153	153	153	153	154	156	160	164
62.5	148	144	140	138	137	137	138	137	137	138	140	144	148
65.0	134	130	127	124	124	123	124	123	124	124	127	130	134
67.5	118	114	111	109	108	107	108	107	108	109	111	114	118
70.0	103	100	96	95	94	93	94	93	94	95	96	100	103
72.5	90	86	83	82	81	81	82	81	81	82	83	86	90
75.0	71	68	65	64	63	63	64	63	63	64	65	68	71
77.5	57	54	51	50	49	49	50	49	49	50	51	54	57
80.0	45	42	40	39	38	38	39	38	38	39	40	42	45
82.5	32	29	27	26	26	26	26	26	26	26	27	29	32
85.0	22	19	17	16	16	16	17	16	16	16	17	19	22
87.5	11	9	8	7	7	7	8	7	7	7	8	9	11
90.0	2	2	1	1	1	2	2	2	1	1	1	2	2
92.5	1	1	1	1	1	1	1	1	1	1	1	1	1
95.0	1	1	1	1	1	1	1	1	1	1	1	1	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
- 2013-127-P2.ldt - photometric data in a standard format for two plane of symmetry C = 0° - 180° и C = 90° - 270°,
- 2013-127.ocb - complete data in tabular form.
Test results relate only to test samples.

Sofia 25.04.2013

The measurements:

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

Manager:

/ prof. d-r. L. Totev/