

MEASUREMENT REPORT NUMBER 2014-445/11.12.2014

testing samples of products

Model number or type, referring to the manufacturer: SMD LED STREET LIGHT 50W, VT-5001 ST SKU: 5429

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-OI/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-OI/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-EEI/14.12.2012;
- Digital thermometer with temperature sensor DS18B20 ID 0000011697CDH, calibration certificate of the National Centre of Metrology 268-TI/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 STREET LIGHT 50W, VT-5001 ST SKU: 5429

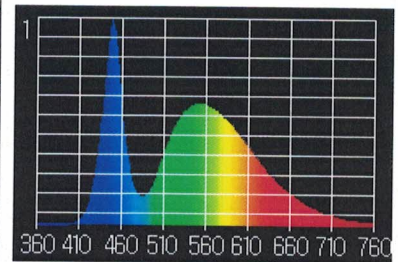
tabele



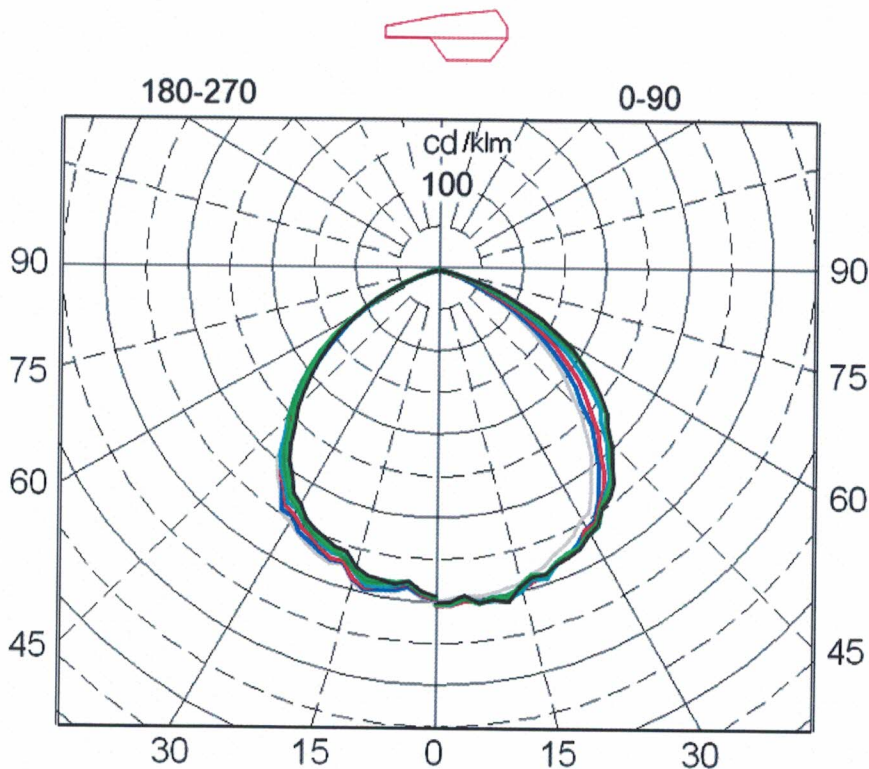
Luminaire

Results of test

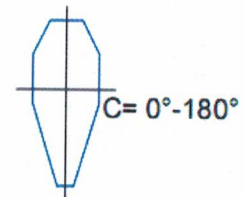
Operating voltage	AC 230V
Operating Current	AC 0.213 A
Wattage including ballast (watts)	47.5W
Power factor	0.97
color temperature	6229 K
Color rendering index CRI	72
color coordinates CIE 1931	$x=0.3170, y=0.3372$
color coordinates CIE 1976	$u'=0.1977, v'=0.4733$
Luminous flux emitted by a luminaire	4925 lm
Light output of the luminaire	103.7 lm /W



Spectrum of light



C=90°-270°



C=0°-180°

C=15°-195°

C=30°-210°

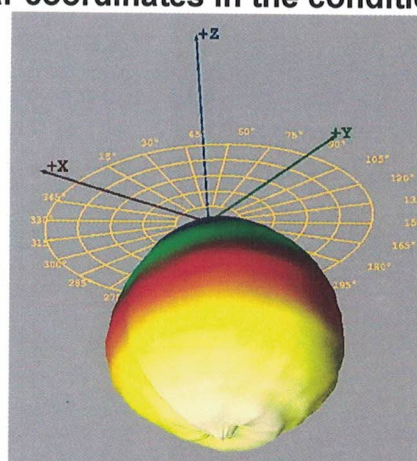
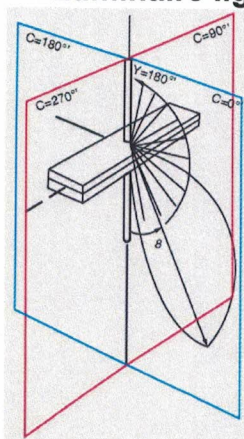
C=45°-225°

C=60°-240°

C=75°-255°

C=90°-270°

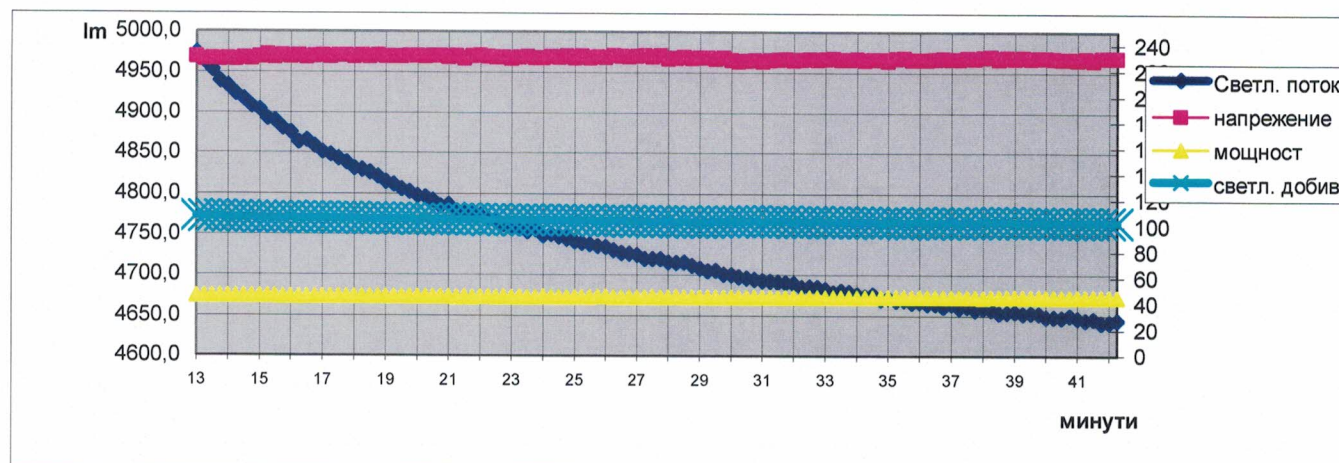
Luminaire light distribution of polar coordinates in the conditional flux 1000lm



Luminaire light distribution of the 3D

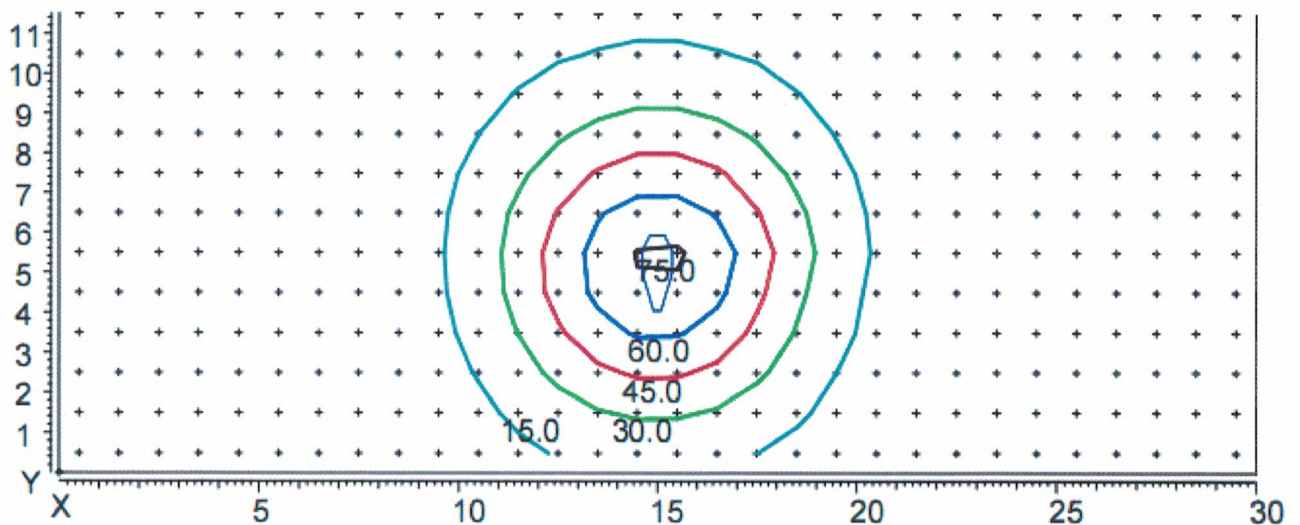
**Light distribution of luminaries are in tabular form
for conditional luminous flux 1000lm:**

gm/C	0	15	30	45	60	75	90	105	120	135	150	165	180
0.0	430	426	424	422	421	421	420	421	421	422	424	426	430
2.5	429	423	422	420	418	419	418	419	418	420	422	423	429
5.0	421	416	415	412	409	406	406	406	409	412	415	416	421
7.5	422	418	416	416	416	415	414	415	416	416	416	418	422
10.0	418	414	413	411	411	413	412	413	411	411	413	414	418
12.5	413	410	412	411	410	412	413	412	410	411	412	410	413
15.0	408	404	400	397	397	399	401	399	397	397	400	404	408
17.5	398	395	392	387	385	386	388	386	385	387	392	395	398
20.0	397	394	389	388	385	386	390	386	385	388	389	394	397
22.5	386	383	385	382	381	382	385	382	381	382	385	383	386
25.0	378	376	373	376	376	374	375	374	376	376	373	376	378
27.5	370	367	366	366	367	367	367	367	367	366	366	367	370
30.0	354	353	354	356	356	356	354	356	356	356	354	353	354
32.5	345	343	343	349	351	347	344	347	351	349	343	343	345
35.0	328	325	326	330	332	328	325	328	332	330	326	325	328
37.5	318	316	317	319	318	315	311	315	318	319	317	316	318
40.0	305	303	305	307	304	300	296	300	304	307	305	303	305
42.5	287	284	285	287	284	280	276	280	284	287	285	284	287
45.0	267	269	273	271	267	265	260	265	267	271	273	269	267
47.5	237	235	253	252	249	247	242	247	249	252	253	235	237
50.0	227	225	229	242	238	235	228	235	238	242	229	225	227
52.5	196	198	212	225	220	210	201	210	220	225	212	198	196
55.0	182	179	191	195	203	182	172	182	203	195	191	179	182
57.5	153	154	166	177	175	154	141	154	175	177	166	154	153
60.0	138	136	144	158	148	125	113	125	148	158	144	136	138
62.5	109	107	120	124	108	95	84	95	108	124	120	107	109
65.0	85	84	94	94	79	66	55	66	79	94	94	84	85
67.5	63	62	71	64	52	38	28	38	52	64	71	62	63
70.0	44	44	51	43	30	16	7	16	30	43	51	44	44
72.5	24	25	32	25	11	4	4	4	11	25	32	25	24
75.0	9	10	14	9	4	3	3	3	4	9	14	10	9
77.5	4	4	4	4	3	3	3	3	4	4	4	4	4
80.0	2	2	2	2	2	2	2	2	2	2	2	2	2
82.5	1	1	1	1	1	1	1	1	1	1	1	1	1
85.0	1	1	1	1	1	1	1	1	1	1	1	1	1
87.5	1	1	1	1	1	1	1	1	1	1	1	1	1
90.0	1	1	1	1	1	1	1	1	1	1	1	1	1
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

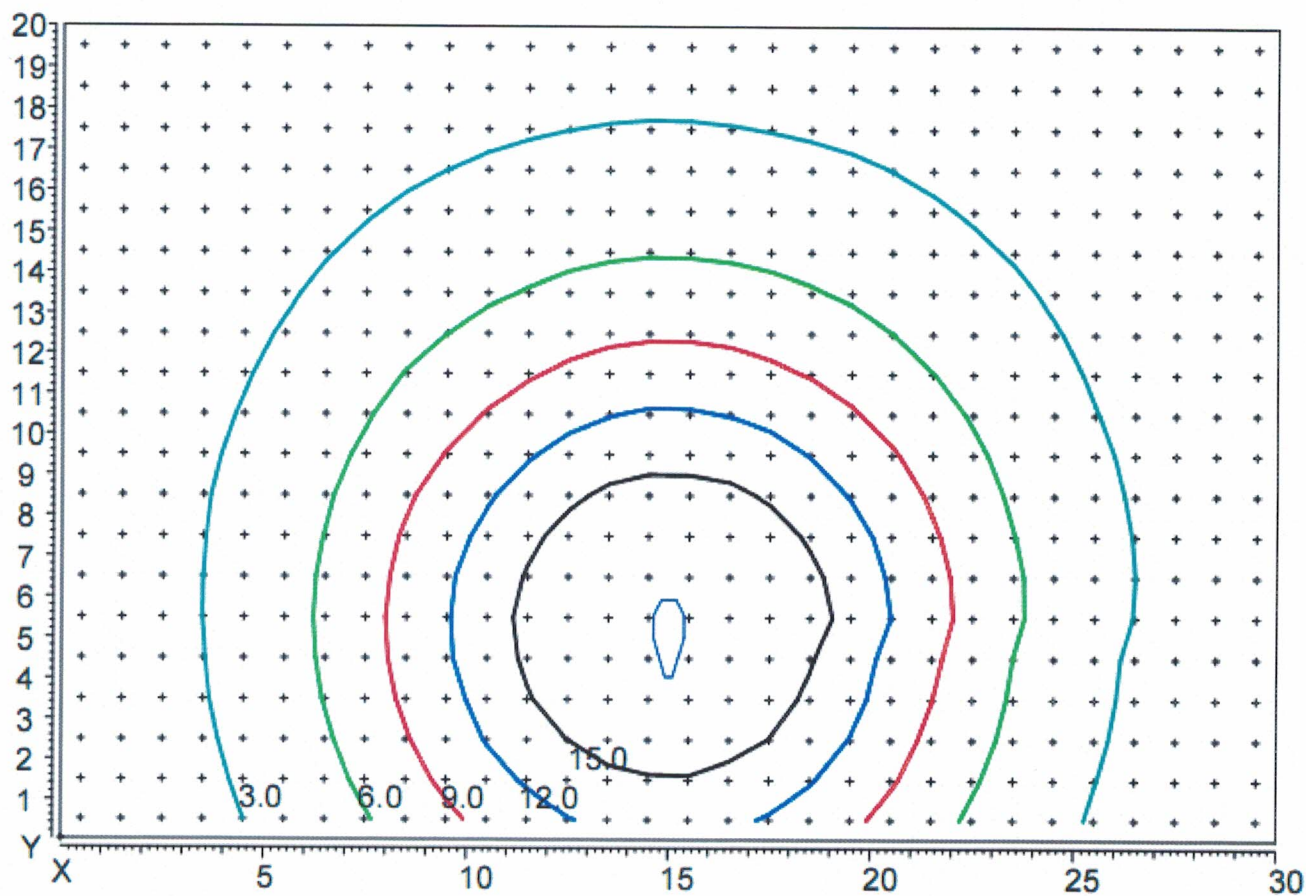


**Light distribution of luminaries are in tabular form
for conditional luminous flux 1000lm:**

gm/C	180	195	210	225	240	255	270	285	300	315	330	345	360
0.0	399	398	397	396	396	396	394	395	394	394	394	393	400
2.5	396	393	392	390	390	389	388	390	388	388	386	386	397
5.0	385	383	381	380	378	378	377	381	382	385	384	387	394
7.5	391	389	386	384	381	380	382	383	381	382	383	384	396
10.0	393	392	389	388	384	380	380	381	379	377	382	383	395
12.5	397	395	393	390	386	381	378	376	374	376	380	381	392
15.0	390	387	386	378	377	372	371	371	369	374	378	378	391
17.5	372	371	369	364	365	359	357	361	362	364	368	372	383
20.0	376	372	371	364	361	360	356	357	361	362	364	369	380
22.5	373	368	364	360	356	354	351	349	353	354	356	358	371
25.0	367	362	356	352	352	348	346	344	347	350	350	357	366
27.5	360	357	351	346	344	340	340	340	342	341	344	344	359
30.0	352	345	342	335	334	331	327	328	330	328	331	333	348
32.5	348	345	337	333	327	324	321	320	326	325	327	328	344
35.0	328	325	321	318	313	309	303	304	309	311	310	310	326
37.5	315	307	309	307	302	294	291	290	295	297	295	294	306
40.0	298	293	287	293	286	280	274	274	278	280	281	277	291
42.5	273	269	268	269	266	257	253	253	257	260	257	253	268
45.0	253	247	250	254	253	243	238	238	242	246	240	233	246
47.5	229	221	228	232	234	223	218	216	220	220	214	209	220
50.0	207	201	206	212	215	207	198	198	202	198	193	187	200
52.5	181	180	186	189	193	186	179	177	184	181	173	167	178
55.0	162	158	160	168	172	168	160	160	158	155	147	143	154
57.5	141	135	143	143	147	151	141	138	139	133	128	124	134
60.0	124	119	115	119	124	122	117	116	113	108	102	100	110
62.5	95	92	97	98	98	100	97	93	90	86	81	80	89
65.0	80	79	71	71	76	76	75	71	67	63	60	58	67
67.5	53	51	55	56	55	52	51	49	45	43	41	40	46
70.0	43	40	39	38	39	38	36	33	32	30	29	27	32
72.5	27	26	29	25	26	24	23	22	20	18	18	17	20
75.0	17	16	19	16	14	14	13	12	11	11	10	10	11
77.5	10	10	10	9	8	7	7	6	6	5	5	6	7
80.0	5	5	5	4	4	4	4	3	3	3	3	4	5
82.5	4	4	3	3	2	2	2	2	2	2	2	3	4
85.0	4	3	3	2	2	2	2	2	2	2	2	3	4
87.5	3	3	2	2	2	2	2	2	2	2	2	2	3
90.0	2	2	2	2	1	1	1	1	1	1	1	1	2
92.5	2	2	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



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



Distribution of illumination in height hanging lamp 10 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

- 2014-445.ltd (photometric data in a standard format),

Test results relate only to test samples.

Sofia 11.12.2014

The measurements made:

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

Manager:

/prof. d-r. L. Totev/