

MEASUREMENT REPORT NUMBER 2015-061/13.02.2015

testing samples of products

Model number or type, referring to the manufacturer: LED WATERPROOF FITTING 20W, VT-6020 SMD, SKU 6175

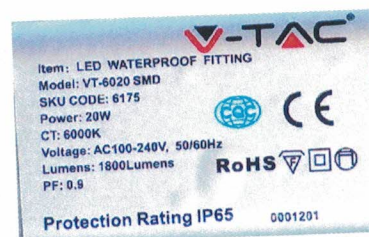
Company identification: V-TAC Europe Ltd., Sofia 1220, 1, Iliansko Shaussee Blvd.

Applicant testing: V-TAC Europe Ltd., Sofia 1220, 1, Iliansko Shaussee Blvd.

Type of test: control measurements

Measurements have been performed:

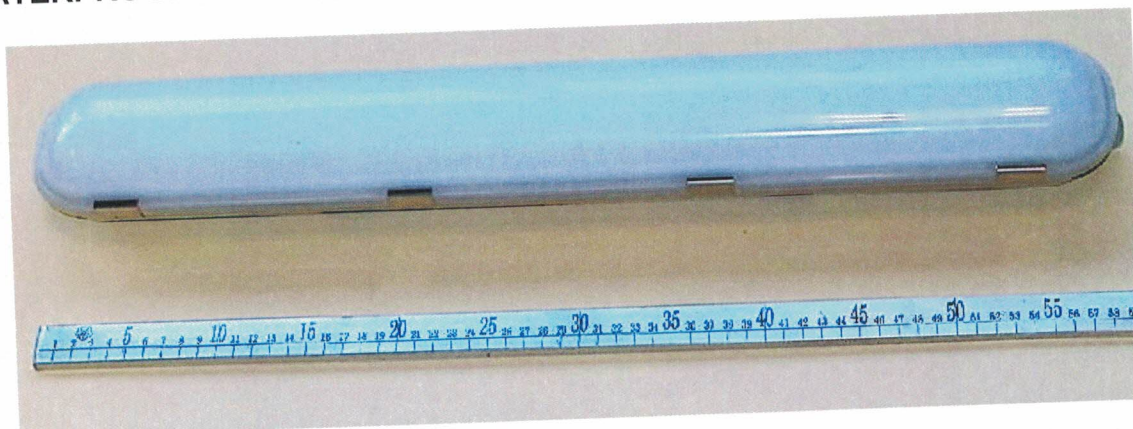
- luxmeter PU 550, ID 263621/2586, calibration certificate of the METRA BLANSKO a.s. №2887/2012, 19.12.2012;
- luxmeter KYORITSU 5202, ID K0017929, calibration certificate of the National Centre of Metrology 181-OИ/15.12.2012;
- luminance-meter L 1003 of angular field 1°, producer "LMT" Germany, ID 0686191,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



Tabele

Technical specifications of documentation:

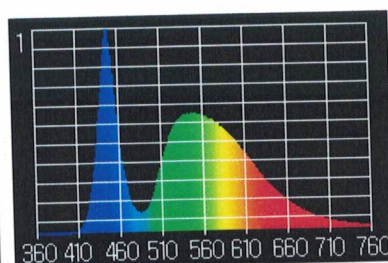
LED WATERPROOF FITTING 20W, VT-6020 SMD, SKU 6175



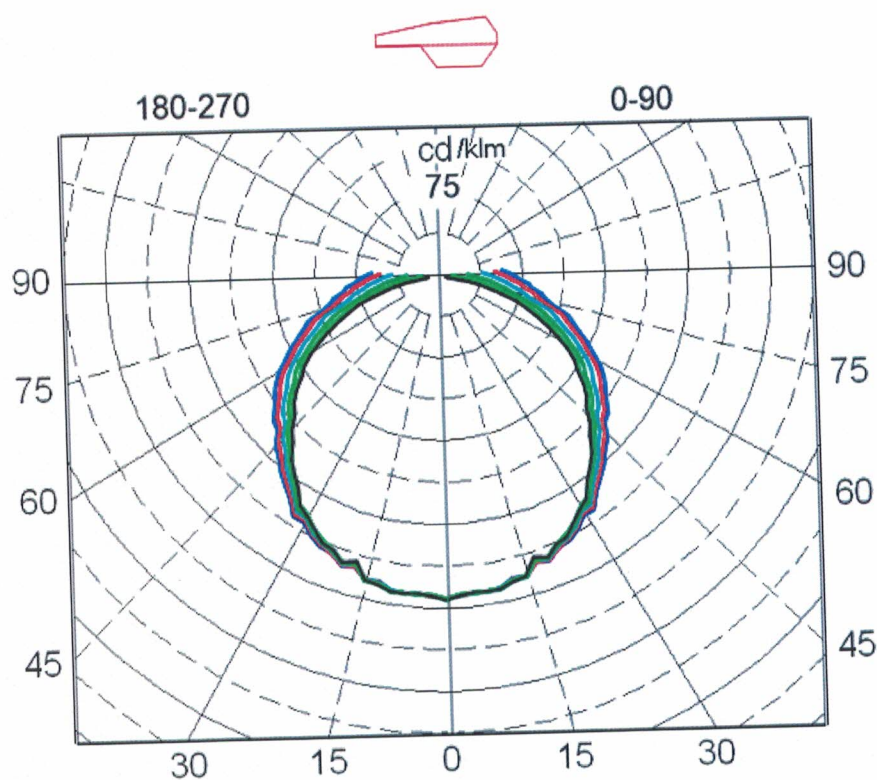
Luminaire

Results of test

Operating voltage	AC 230 V
Operating Current	AC 0.087 A
Wattage including ballast (watts)	18.85 W
Power factor	0.91
color temperature	6131 K
Color rendering index CRI	70
color coordinates CIE 1931	$x=0.3188, y=0.3397$
color coordinates CIE 1976	$u'=0.1980, v'=0.4748$
Luminous flux emitted by a luminaire	1907 lm
Light output of the luminaire	100.9 lm/W



Spectrum of light



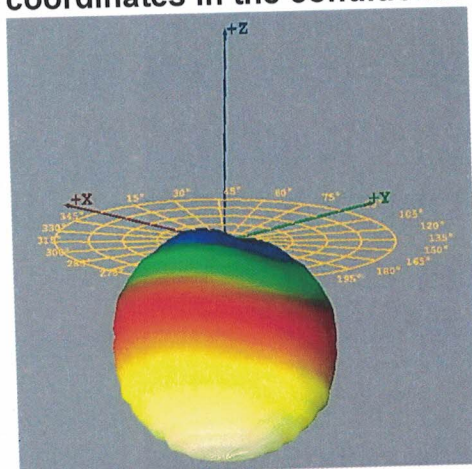
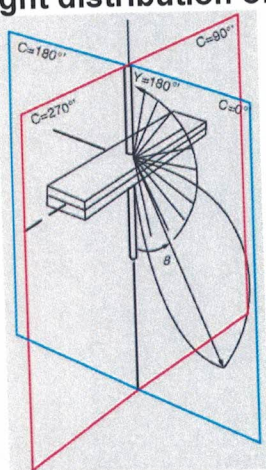
C=90°-270°



C= 0°-180°

- C= 0°-180°
- C=15°-195°
- C=30°-210°
- C=45°-225°
- C=60°-240°
- C=75°-255°
- C=90°-270°

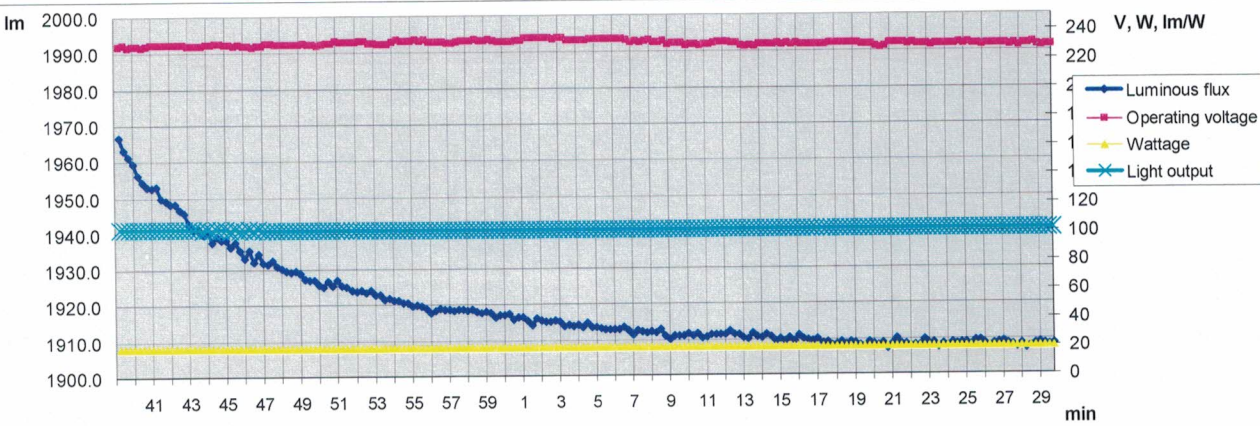
Luminaire light distribution of polar coordinates in the conditional flux 1000lm



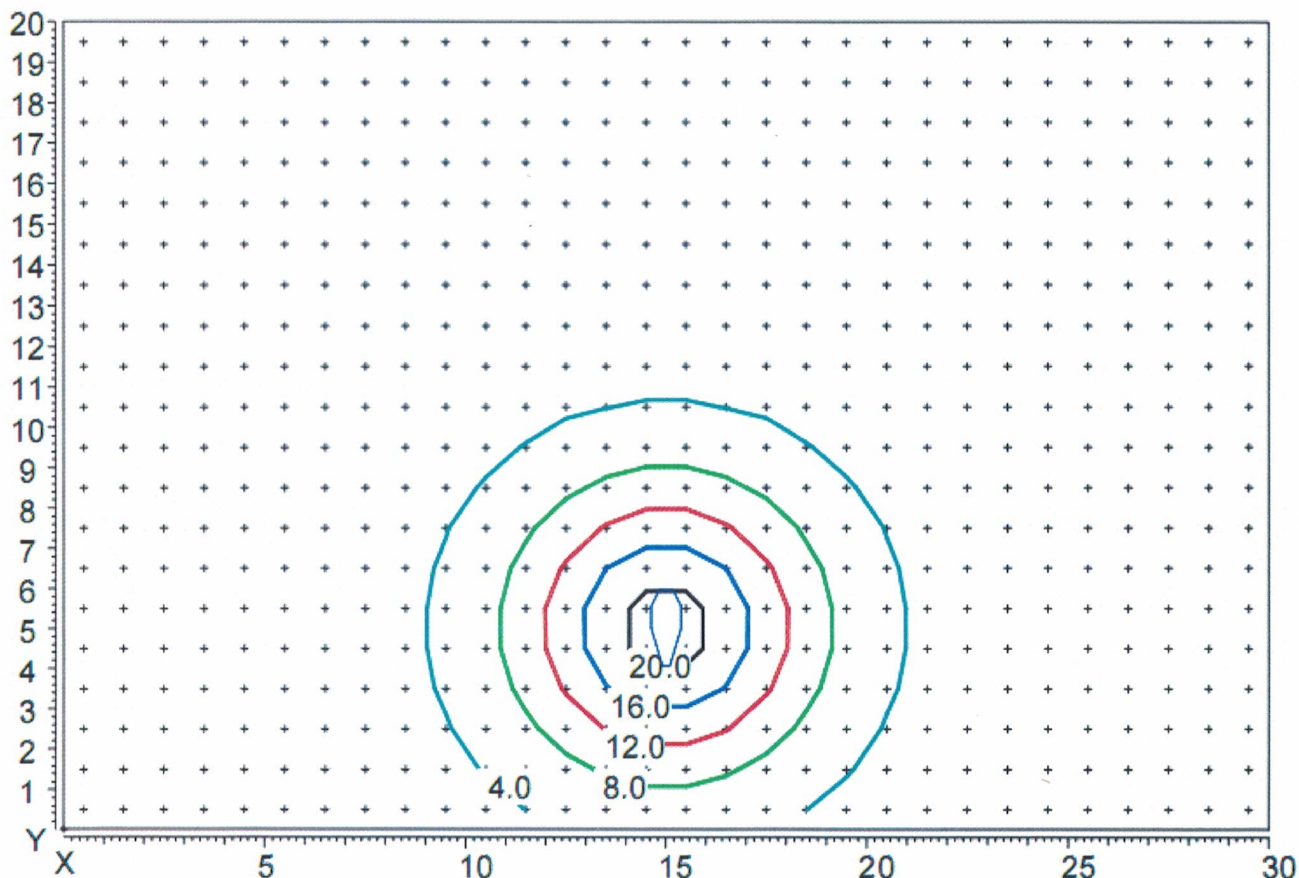
Luminaire light distribution of the 3D

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	292	292	292	292	293	293	293	293	293	292	292	292	292
2.5	290	289	289	289	289	289	289	289	289	289	289	289	290
5.0	289	288	289	289	289	288	288	288	289	289	289	288	289
7.5	288	289	289	289	289	289	289	289	289	289	289	289	288
10.0	288	288	288	288	288	289	288	289	288	288	288	288	288
12.5	280	282	282	283	283	284	284	284	283	283	282	282	280
15.0	282	283	284	284	284	283	282	283	284	284	284	283	282
17.5	275	273	273	272	271	271	268	271	271	272	273	273	275
20.0	276	276	276	275	274	273	273	273	274	275	276	276	276
22.5	269	269	269	268	267	266	265	266	267	268	269	269	269
25.0	266	267	266	264	263	261	263	261	263	264	266	267	266
27.5	261	262	261	259	257	255	255	255	257	259	261	262	261
30.0	254	254	252	250	248	247	247	247	248	250	252	254	254
32.5	254	254	252	249	246	242	242	242	246	249	252	254	254
35.0	243	242	241	237	234	231	229	231	234	237	241	242	243
37.5	235	235	233	229	224	221	221	221	224	229	233	235	235
40.0	228	228	225	221	216	213	212	213	216	221	225	228	228
42.5	219	219	216	210	205	201	200	201	205	210	216	219	219
45.0	213	213	209	204	198	194	192	194	198	204	209	213	213
47.5	202	202	198	192	186	180	180	180	186	192	198	202	202
50.0	199	198	194	187	180	175	174	175	180	187	194	198	199
52.5	190	190	185	179	172	166	164	166	172	179	185	190	190
55.0	184	183	178	170	161	155	153	155	161	170	178	183	184
57.5	178	177	172	164	155	148	146	148	155	164	172	177	178
60.0	169	169	164	155	146	138	135	138	146	155	164	169	169
62.5	159	157	152	144	134	125	122	125	134	144	152	157	159
65.0	150	149	143	135	124	115	110	115	124	135	143	149	150
67.5	140	139	133	124	113	103	98	103	113	124	133	139	140
70.0	132	130	124	115	103	91	86	91	103	115	124	130	132
72.5	125	124	117	107	94	82	76	82	94	107	117	124	125
75.0	110	109	102	92	80	68	60	68	80	92	102	109	110
77.5	101	100	93	82	69	56	48	56	69	82	93	100	101
80.0	97	96	89	77	63	48	39	48	63	77	89	96	97
82.5	88	86	79	68	54	39	28	39	54	68	79	86	88
85.0	84	83	76	63	48	32	20	32	48	63	76	83	84
87.5	76	75	68	56	41	25	13	25	41	56	68	75	76
90.0	72	70	63	51	36	21	10	21	36	51	63	70	72
92.5	66	64	57	46	31	17	9	17	31	46	57	64	66
95.0	61	59	52	41	27	14	8	14	27	41	52	59	61



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

- 2015-061-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 13.02.2015

The measurements made:

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

Manager:



/ prof. d-r. L. Totev/