LABORATORY FOR TESTING OF MACHINERY, EQUIPMENT AND DEVICES
CENTER FOR TESTING AND EUROPEAN CERTIFICATION LTD

Center for Testing and European Certification

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ИА "БСА" Рег.№ 101 ЛИ
ЛАБОРАТОРИЯ ЗА ИЗПИТВАНЕ

Accredited certificate
№ 101 ЛИ / 21.06.2013
Valid until: 31.05.2014
of EA BAS, according
EN ISO/IEC 17025

TEST REPORT

№ 2emc-e-13-794 / 18.12.2013

OBJECT TO BE TESTED: Group luminaries – Industrial lighting "Bell reflector" fixture with LED lamp ; Model: **SENA50** with cat. № **98SENA50120**
Representative sample from Bell reflector fixtures group with cat. № **98SENA50120; 98SENA100120; 98ELBA150120; 98ETNA200120**

(name of obejct to be tested , type, model, quantity, type – portable, fixed, for walling in and other)

APPLICANT FOR TEST: "ELMARK INDUSTRIES" SC. 2 Dobrudja Blvd. Dobrich, Bulgaria ,
Tel.: 058 500 055, e-mail: denkov@elmark.bg
Application № 794 / 21.10.2013
(name of the firm – applicant, address, telephone, number and date of the test application)

STANDARD: EN 55015:2006+A1:2007+A2:2009 Limits and methods of measurement of radio disturbance characteristicsof electrical lighting and similar equipment.
(number and name of the standards)

DATE OF ACCEPTANCE IN THE TEST LABORATORY: 21.10.2013

YEAR OF PRODUCTION : 2013
(identification number)

MANIFACTURER: "ELMARK INDUSTRIES" SC. 2 Dobrudja Blvd. Dobrich, Bulgaria ,
Tel.: 058 500 055, e-mail: denkov@elmark.bg
(firm, trade mark, address)

DECLARED TECHNICAL DATA: Rated voltage – 230 V AC
Rated frequency – 50 Hz
Rated power – 50 W
Class I

ELECTRONIC CONTROLGEAR : ELMARK – LEDLine, type: ECXe 1050.021

DATE OF TEST PERFORMANCE: 09.12.2013 - 13.12.2013

LABORATORY CHIEF: ... .
/ T. Hristov /

Emission of Radio disturbance characteristics of electrical lighting and similar equipment

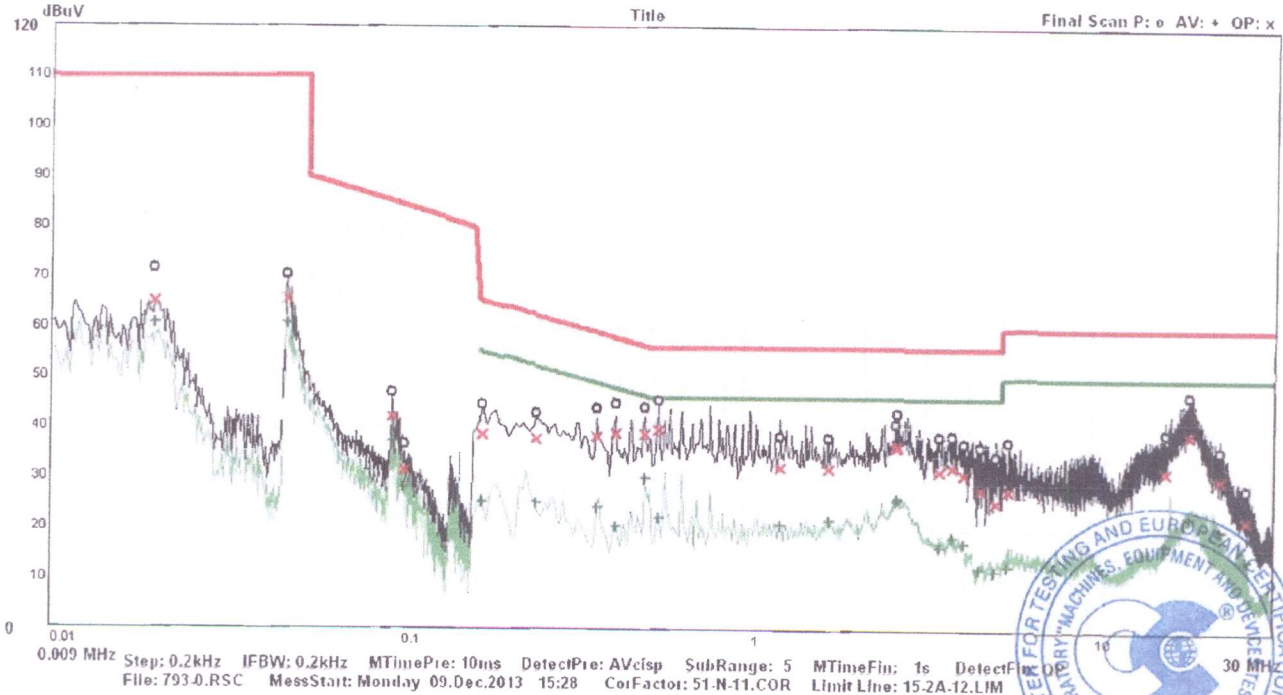
Mains terminal disturbance voltage – 9kHz ÷ 30MHz

EN 55015, cl. 4.3 – Disturbance voltage limits at mains terminals – Table 2a
EN 55015, cl. 5.2.4 – Application of the limits for other luminaires
EN 55015, cl. 6 – Operating conditions for lighting equipment
EN 55015, cl. 6.4 – Ambient temperature: 24 °C; Relative Humidity: 40 %.
EN 55015, cl.8.1 – Measuring arrangement and procedure
EN 55015, cl.8.2 – Measurement of disturbance voltages, at the mains terminals of indoor and outdoor luminaires – Figure 6a.
The test is performed at supply voltage: 230 V

RESULTS OF MEASUREMENT :

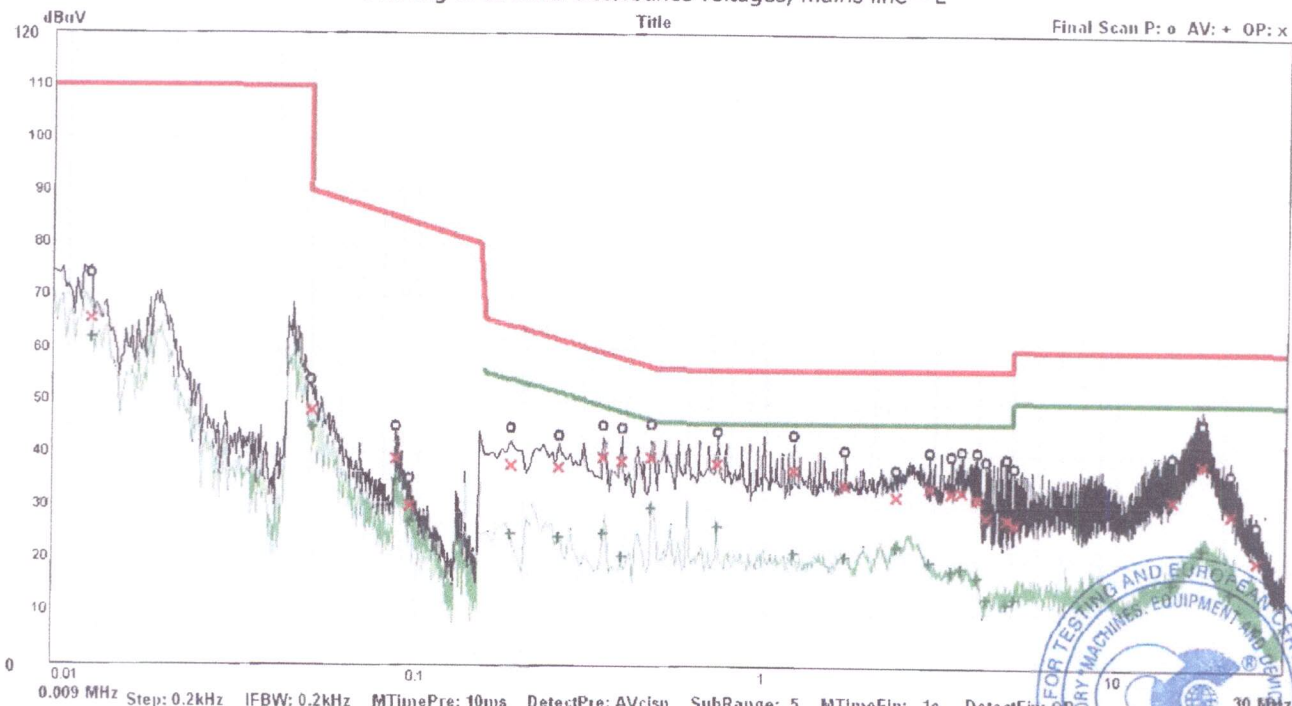
Frequency	Terminal disturbance voltages, mains line – N					
	Quasi peak - QP			Average - AV		
	Measuring	Margin	Limit	Measuring	Margin	Limit
MHz	**dB(μV)**	**dB(μV)**	**dB(μV)**	**dB(μV)**	**dB(μV)**	**dB(μV)**
0,018	65,10	44,90	110,00	60,78	-	-
0,043	65,53	44,47	110,00	60,92	-	-
0,230	37,90	24,55	62,45	25,40	27,05	52,45
0,345	38,44	20,64	59,08	24,27	24,81	49,08
0,390	39,15	18,91	58,06	20,59	27,47	48,06
0,475	38,88	17,54	56,42	30,09	16,33	46,42
0,520	39,94	16,06	56,00	22,20	23,80	46,00
1,160	32,16	23,84	56,00	20,64	25,36	46,00
1,595	31,95	24,05	56,00	21,70	24,30	46,00
2,485	36,25	19,75	56,00	25,69	20,31	46,00
2,525	36,79	19,21	56,00	26,18	19,82	46,00
3,325	31,67	24,33	56,00	16,79	29,21	46,00
3,620	32,54	23,46	56,00	18,59	27,41	46,00
3,905	31,00	25,00	56,00	17,50	28,50	46,00
4,360	28,19	27,81	56,00	12,50	33,50	46,00
17,290	39,16	20,84	60,00	22,91	27,09	50,00

Drawing of terminal disturbance voltages, mains line – N



Frequency	Terminal disturbance voltages, mains line - L					
	Quasi peak - QP			Average - AV		
	Measuring	Margin	Limit	Measuring	Margin	Limit
MHz	dB(μV)	dB(μV)	dB(μV)	dB(μV)	dB(μV)	dB(μV)
0,050	48,34	41,66	90,00	45,13	-	-
0,185	37,86	26,40	64,26	24,52	29,74	54,26
0,255	37,35	24,24	61,59	24,13	27,46	51,59
0,345	39,34	19,74	59,08	24,82	24,26	49,08
0,390	38,72	19,34	58,06	20,46	27,60	48,06
0,475	39,33	17,09	56,42	29,63	16,79	46,42
0,735	38,42	17,58	56,00	26,51	19,49	46,00
1,205	37,17	18,83	56,00	21,48	24,52	46,00
1,680	34,38	21,62	56,00	20,86	25,14	46,00
2,345	32,22	23,78	56,00	22,69	23,31	46,00
2,930	33,87	22,13	56,00	19,75	26,25	46,00
3,390	32,95	23,05	56,00	18,17	27,83	46,00
3,625	33,26	22,74	56,00	18,50	27,50	46,00
4,000	31,64	24,36	56,00	16,95	29,05	46,00
4,230	28,30	27,70	56,00	12,93	33,07	46,00
4,835	27,92	28,08	56,00	11,95	34,05	46,00
14,370	31,78	28,22	60,00	15,93	34,07	50,00
17,520	38,68	21,32	60,00	22,70	27,30	50,00
20,970	29,27	30,73	60,00	14,39	35,61	50,00

Drawing of terminal disturbance voltages, mains line – L



Used technical equipments:

	Appliance	Type	Manufacturer	Identity №	Last calibration date
1.	EMI – receiver 9 kHz ÷ 1000 MHz	SCR 3501	Schaffner Electrotest GmbH, Germany	522	07.07.2011
2.	Line impedance stabilisation networks	NNB 51	TESEQ Switzerland	26458	15.11.2011
3.	Digital multimeter	UNIGOR 390	LEM-Austria	PI 3288	08.07.2011
4.	Termometer-higrometer	177-H1	TESTO Germany	01320300/902	19.04.2012

TEST PERFORMER: 1. .....
/ T. Hristov /

CENTER FOR TESTING AND EUROPEAN CERTIFICATION LTD. LABORATORY "MACHINES, EQUIPMENT AND DEVICES TESTING" STARA ZAGORA

2. .....
/ D. Chavalinov /

CHIEF LABORATORY :.....,
/ T. Hristov /