

**CENTER FOR TESTING AND EUROPEAN CERTIFICATION LTD**

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**LABORATORY FOR TESTING OF MACHINERY, EQUIPMENT AND DEVICES**

Certificate of accreditation № 101 ЛИ / 22.11.2019, valid until: 26.11.2022
Issued by EA BAS, in accordance with the requirements of BDS EN ISO/IEC 17025:2018

**TEST REPORT**

№ 2e-21-624 / 28.09.2021

OBJECT TO BE TESTED: Electric and electronic equipment, appliances, devices. Luminaries.
Lighting fixture, Item: LED UFO Professional 200W 6500K
Model representative of serie: LED UFO Professional (see page 2)
(name of object to be tested, type, model, quantity, type and other)

APPLICANT FOR TEST: "Electrostart" JSCo. 3540 Varshets, 2 Republika Blvd.,
Tel.: +359 2 400 7011, fax: + 359 2 400 7012;
Application № 624/ 28.07.2021
(name of the firm – applicant, address, telephone, number and date of the test application)

METHOD OF TEST : BDS EN 60598-1:15+AC:15+AC:16+A1:18 Luminaires - Part 1: General requirements and tests
(number and name of the standards)

DATE OF ACCEPTANCE IN THE TEST LABORATORY: 28.07.2021

CODE OF THE OBJECT: 1 piece, year of production 2021

MANUFACTURER: "Electrostart" JSCo. 3540 Varshets, 2 Republika Blvd.,
Tel.: +359 2 400 7011, fax: + 359 2 400 7012
(firm, trade mark, address)

DECLARED TECHNICAL DATA: Rated voltage – 220-240 V AC
Rated frequency – 50/60 Hz
Rated power – 200 W
Class I
Maximum ambient temperature $t_a=40^\circ\text{C}$
Degree of protection IP65

ELECTRONIC CONTROLGEAR: LED Driver UFO 200W 700-1000 mA $t_c: 90^\circ\text{C}$ Electrostart

TECHNICAL REQUIREMENTS: BDS EN 60598-1:2015+AC:2015+AC:2016+A1:2018 Luminaires –
Part 1: General requirements and tests
BDS EN 60598-2-1:2002 Luminaires –
Part 2-1: Particular requirements – Fixed general purpose luminaires

DATE OF TEST PERFORMANCE: 28.07.2021 – 28.09.2021

THE HEAD OF LABORATORY:
/ T. Hristov /



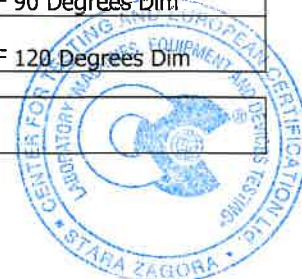
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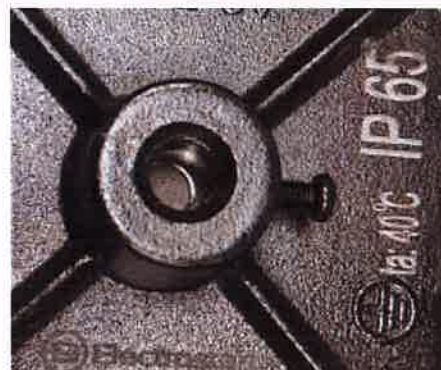
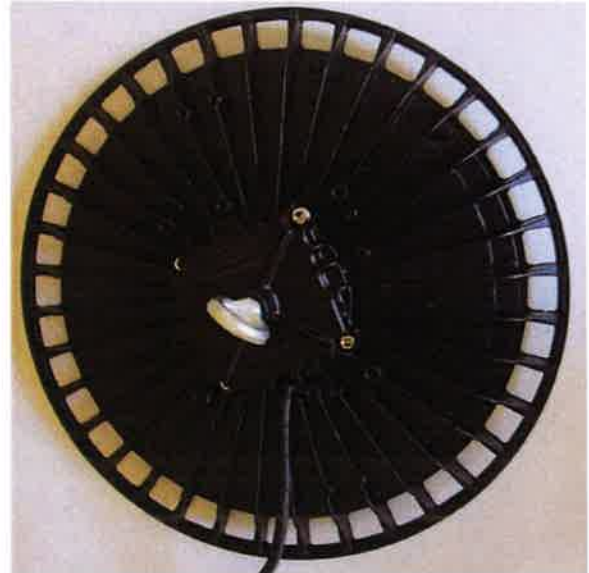
Serie: LED UFO Professional	
LED UFO Professional 100W 3000K FF 60 Degrees	LED UFO Professional 150W 3000K FF 60 Degrees Dim
LED UFO Professional 100W 3000K FF 90 Degrees	LED UFO Professional 150W 3000K FF 90 Degrees Dim
LED UFO Professional 100W 3000K FF 120 Degrees	LED UFO Professional 150W 3000K FF 120 Degrees Dim
LED UFO Professional 100W 4000K FF 60 Degrees	LED UFO Professional 150W 4000K FF 60 Degrees Dim
LED UFO Professional 100W 4000K FF 90 Degrees	LED UFO Professional 150W 4000K FF 90 Degrees Dim
LED UFO Professional 100W 4000K FF 120 Degrees	LED UFO Professional 150W 4000K FF 120 Degrees Dim
LED UFO Professional 100W 6500K FF 60 Degrees	LED UFO Professional 150W 6500K FF 60 Degrees Dim
LED UFO Professional 100W 6500K FF 90 Degrees	LED UFO Professional 150W 6500K FF 90 Degrees Dim
LED UFO Professional 100W 6500K FF 120 Degrees	LED UFO Professional 150W 6500K FF 120 Degrees Dim
LED UFO Professional 100W 3000K FF 60 Degrees Dim	LED UFO Professional 200W 3000K FF 60 Degrees
LED UFO Professional 100W 3000K FF 90 Degrees Dim	LED UFO Professional 200W 3000K FF 90 Degrees
LED UFO Professional 100W 3000K FF 120 Degrees Dim	LED UFO Professional 200W 3000K FF 120 Degrees
LED UFO Professional 100W 4000K FF 60 Degrees Dim	LED UFO Professional 200W 4000K FF 60 Degrees
LED UFO Professional 100W 4000K FF 90 Degrees Dim	LED UFO Professional 200W 4000K FF 90 Degrees
LED UFO Professional 100W 4000K FF 120 Degrees Dim	LED UFO Professional 200W 4000K FF 120 Degrees
LED UFO Professional 100W 6500K FF 60 Degrees Dim	LED UFO Professional 200W 6500K FF 60 Degrees
LED UFO Professional 100W 6500K FF 90 Degrees Dim	LED UFO Professional 200W 6500K FF 90 Degrees
LED UFO Professional 100W 6500K FF 120 Degrees Dim	LED UFO Professional 200W 6500K FF 120 Degrees
LED UFO Professional 150W 3000K FF 60 Degrees	LED UFO Professional 200W 3000K FF 60 Degrees Dim
LED UFO Professional 150W 3000K FF 90 Degrees	LED UFO Professional 200W 3000K FF 90 Degrees Dim
LED UFO Professional 150W 3000K FF 120 Degrees	LED UFO Professional 200W 3000K FF 120 Degrees Dim
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LED UFO Professional 150W 4000K FF 120 Degrees	LED UFO Professional 200W 4000K FF 120 Degrees Dim
LED UFO Professional 150W 6500K FF 60 Degrees	LED UFO Professional 200W 6500K FF 60 Degrees Dim
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Copy of identification table and/or photo of tested object



<p>LED Driver UFO 200W Power: 200W Max. 1.2A Input voltage: 220-240VAC Output voltage: 180-260V Irated: 700-1000mA (CC) Dimmable: No PF: ≥ 0.95 ta: 60°C tc: 90°C For LED modules only</p>	<p> Electrostart STARTS UP THE LIGHT</p> <p>  RoHS CE</p> <p>IP65 </p> <p>Made in BG/EU</p>
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RESULTS OF TESTING:

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№	Factor name	Units	Standard method	№ of sample	Test results (indetermination)	Factor volume and tolerance	Test conditions
1.	Mechanical strength:	-	cl. 4.13	624	-	cl. 4.13	
1.1	Impact tests from spring hammer: - fragile parts - other parts	N.m N.m	cl. 4.13.1	624 624	Withstand 0,20 0,35	cl. 4.13.1 Table 4.3 0,20 0,35	-
2.	Resistance to force and torque:	-	cl. 4.13	624	-	cl. 4.13	
2.1	Mechanical load: - four times the weight - torque 2,5 Nm	min N N.m	cl. 4.14.1	624 624 624	withstand 60 128 2,5	cl. 4.14.1 60 128 2,5	-
2.2	Straight test finger	N	cl. 4.13.3	624	withstand 30	cl. 4.13.3 30	-
2.3	Lampholder	N	cl. 4.4.4 and cl.4.12.4	624	-	d. 4.4.4	1 min
2.4	Screws	N.m	cl.4.12	624	withstand 1,2 N.m for M4 2,5 N.m for M6	cl.4.12 1,2 N.m 2,5 N.m	-
3.	Creepage distances and clearances:	-	cl. 11.2.1	624	-	cl. 11.2	-
3.1	Creepage distances for a.c. (50 Hz) sinusoidal voltages ≤ 250 V	mm	cl. 11.2.1	624	6	Table11.1 Basic insulation ≥ 2,5	-
3.2	Clearances for a.c. (50 Hz) sinusoidal voltages ≤ 250 V	mm	cl. 11.2.1	624	4	Table11.1 Basic insulation ≥ 1,5	-

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Nº	Factor name	Units	Standard method	Nº of sample	Test results (indetermination)	Factor volume and tolerance	Test conditions
4.	Provision for earthing:	-	cl. 7.2	624	-	cl. 7.2	-
4.1	Metal parts in contact with supporting surface	Ω	cl. 7.2.3	624	0,02	cl. 7.2.1 ≤ 0,5	10A 1 min
5.	Resistance to tensile and torsional for power cords:	-	cl. 5.2	624	-	cl. 5.2	-
5.1	Cord anchorage - pull - torque - displacement	N N.m mm	cl. 5.2.10.3	624 624 624	- - --	cl. 5.2.10.1 Table 5.2	-
6.	Protection against electric shock	N	cl. 8.2.5	624	withstand 10	cl. 8.2.1+ cl. 8.2.4 10	-
7.	Protection against residual voltages	V	cl. 8.2.7	624	0	cl. 8.2.7 < 50	1 min
8.	Heating / Temperature /	-	cl. 12	624	-	cl. 12	-
8.1	Normal operation		cl. 12.4.1	624	Maximum temperature with LED P _n = 200 W	cl. 12.4.2 Table 12.1 ; 12.2	t=t _a =40°C U=1,06U _n =254,4 V
	Case of controlgear	°C		624	86	≤ 90	
	Insulation of internal wiring	°C		624	77	≤ 90	
	Terminal blocks	°C		624	74	≤ 120	
	Rubber gasket	°C		624	70	≤ 230	
	Mounting surface	°C		624	57	≤ 90	
8.2	Abnormal operation		cl. 12.5.1	624	-	cl. 12.5.2 Table 12.3	t=t _a =40°C U=1,1 U _n =254,4 V
	Mounting surface	°C		624	57	≤ 130	
9.	Endurance test	h	cl. 12.3.1	624	withstand 240	cl. 12.3.2 240	t= t _a +10=50°C U=1,1 U _n =264 V
10.	Degrees of protection provided by enclosures (IP code)	-	cl. 9.2 BDS EN 60529+A1:04 cl.13.6 cl.14.2.5	624	withstand IP 65	cl. 3.6.1 of BDS EN 60598-2-3:2003 ≥IP 23	-
10.1	Protection against penetration of solid objects and dust	-	cl. 9.2.2 BDS EN 60529+A1:04 cl.13.6	624	withstand IP 6X	IP 6X	2 kPa 2 h
10.2	Protection against penetration of harmful water	-	т. 9.2.6 BDS EN 60529+A1:04 cl.14.2.5	624	withstand IP X5 see cl. 12 , cl.13 of test report	IP X5	15 min. 12,5 l/min
11.	Humidity resistance	h	cl. 9.3.1	624	withstand 48 see cl. 12 , cl.13 of test report	cl. 9.3 48	Rh=95% t=25°C

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№	Factor name	Units	Standard method	№ of sample	Test results (indetermination)	Factor volume and tolerance	Test conditions
12.	Insulation resistance:	-	cl. 10.2.1	624	-	cl. 10.2.1 Table 10.1	-
12.1	Between current-carrying parts of different polarity	MΩ	cl. 10.2.1	624	-	R > 2	1 min , 500 V
12.2	Between life parts and mounting surface	MΩ	cl. 10.2.1	624	R > 999	R > 2	1 min , 500 V
12.3	Between life parts and metal parts of luminaire	MΩ	cl. 10.2.1	624	R > 999	R > 2	1 min , 500 V
12.4	Basic insulation	MΩ	cl. 10.2.1	624	R > 999	R > 2	1 min , 500 V
12.5	Additional insulation	MΩ	cl. 10.2.1	624	-	R > 3	1 min , 500 V
12.6	Double or reinforced insulation	MΩ	cl. 10.2.1	624	-	R > 4	1 min , 500 V

13.	Dielectric strenght of insulation :	-	cl. 10.2.2	624	-	cl. 10.2.2 Table 10.2	-
13.1	Between current-carrying parts of different polarity	V	cl. 10.2.2	624	-	U(perf.) = 1480	1 min , 50 HZ
13.2	Between life parts and mounting surface	V	cl. 10.2.2	624	withstand U = 1480	U(perf.) = 1480	1 min , 50 HZ
13.3	Between life parts and metal parts of luminaire	V	cl. 10.2.2	624	withstand U = 1480	U(perf.) = 1480	1 min , 50 HZ
13.4	Basic insulation	V	cl. 10.2.2	624	withstand U = 1480	U(perf.) = 1480	1 min , 50 HZ
13.5	Additional insulation	V	cl. 10.2.2	624	-	U(perf.) = 1480	1 min , 50 HZ
13.6	Double or reinforced insulation	V	cl. 10.2.2	624	-	U(perf.) = 2960	1 min , 50 HZ

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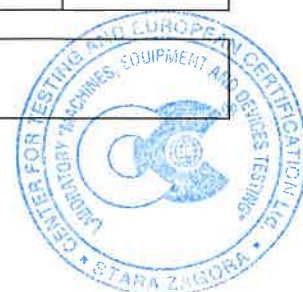


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№	Factor name	Units	Standard method	№ of sample	Test results (indetermination)	Factor volume and tolerance	Test conditions
14.	Touch current, Protective conductor current	mA	cl. 10.3	624	0,68	cl. 10.3 ≤ 0,7	-
		mA		624	0,71	≤ 3,5	
15.	Resistance to heat /Resistance to abnormal heat – Ball pressure test method/	mm	cl. 13.2.1	624	0,8	cl. 13.2 ≤ 2	t=125 °C 60 min
16.	Resistance to flame and ignition	-	cl. 13.3	624	-	cl. 13.3	-
16.1	Needle-flame test method	s	cl. 13.3.1	624	0	cl. 13.3.1 ≤ 30	-
16.2	Glow-wire flammability test method	°C	cl. 13.3.2	624	no ignition at 650 ° C	cl. 13.3.2 glow-wire (650 ± 10) °C for 30s	-
17.	Tracking test	V	cl. 13.4	624	withstand 175 V without ignition and leakage currents > 0,5 A	cl. 13.4 175	50 drops
18.	Peak pulse voltage	V	cl. 4.4.5	624	-	cl. 4.4.5 ≤ 5000 V	-

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Used technical equipments:

№	Designation	Type	Manufacturer	Identification №	Date of last calibration
1.	Appliance multimeter	CA6160	CHAUVIN ARNOUX France	16010173	20.03.2020
2.	Digital multimeter	UNIGOR 390	LEM- Austria	PI 3288	20.03.2020
3.	Microhmmeter	C.A 6250	CHAUVIN ARNOUX France	1811ST030731A	20.03.2020
4.	Climatic chamber	Alpha 990H	Design Environmental England	A3793	-
5.	Multi channel thermometer	MT100TD-16	Bulgaria	0418/2009	09.06.2020
6.	Digital gauge	-	China	090	23.10.2019
7.	Impact spring hammer tester	-	Bulgaria	011	21.07.2020
8.	Termometer-higrometer	177-H1	TESTO Germany	01320300/902	29.04.2021
9.	Testing finger with articulation	-	Bulgaria	№ 006	21.07.2020
10.	Dusting testing chamber	Heraeus VOTSCH	Germany	№ 23870	21.07.2020
11.	Tester for protection against water stream with internal diameter 6,3 mm	-	HI-HMC, Bulgaria	№ 004	21.07.2020

	<p>TEST PERFORMER: 1..... / T. Hristov /</p> <p>2..... / D. Chavalinov /</p> <p>HEAD OF THE LABORATORY:..... / T. Hristov /</p>
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