TEST REPORT

ErP verification of Ecodesign and Energy labelling requirement for Light Source Implementation measure (EU) 2019/2020 and (EU) 2019/2015

Report Number. .....:	ZTL609K0105229R
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Approved by (+ signature) .....:	Bovey Yang / Technical Director
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Applicant's name.....:	BRAYTRON S.R.L
Address .....:	B.DUL IULIU MANIU, NR.616, CORP B, ETAJ 1 SECTOR 6, 061129,BUCHAREST,ROMANIA
Test specification:	
Standard .....:	(EU) 2019/2020:2019-10-01 with Corrigendum; (EU) 2019/2015:2019-03-11; (EU) 2021/341:2021-02-23; (EU) 2021/340:2020-12-17
Test procedure .....:	ErP verification test
Non-standard test method.:	N/A
This test report is specially limited to the above client company and product model only. It may not be duplicated without prior written consent of ZTL Test.	
Manufacturer .....:	DEMGRUP INTERNATIONAL LIGHTING LIMITED
Address .....:	FLAT/RM2223 22/F YAN'S TOWER 25-27 WONG CHUK HANG ROAD,ABERDEEN,HK
Factory ……..:	DEMGRUP INTERNATIONAL LIGHTING LIMITED
Address……..:	FLAT/RM2223 22/F YAN'S TOWER 25-27 WONG CHUK HANG ROAD,ABERDEEN,HK
Test item description……:	LED Strip Light
Model name ..... :	See model list
Trade Mark .....:	N/A
Ratings .....:	See model list

Test item particulars:	
Light source type:	
- Containing product is a light source	☐
- LED (Light Emitting Diode)	☑
- OLED (Organic Light Emitting Diode)	☐
- Incandescent Lamp	☐
- CFL (Compact Fluorescent Lamp)	☐
- CFLni (Compact Fluorescent Lamp without integrated ballast)	☐
- HL (Halogen Lamp)	☐
- FL (Fluorescent Lamp, including circular, U-shape, etc.)	☐
- LFL (Linear Fluorescent Lamp)	☐
- Magnetic induction light source	☐
- HID (High-intensity Discharge lamp, including metal halide, high-pressure sodium and mercury vapour type)	☐
Use of light source:	
- Indoor	☑
- Outdoor	☐
- Industry	☐
Envelope:	
- No	☑
- Second envelope	☐
- Non-clear envelope	☐
Light source characteristic:	
- NDLS (non-directional light source)	☑
- DLS (directional light source)	☐
- MLS (mains light source)	☐
- NMLS (non-mains light source)	☑
- CTLS (colour-tuneable light source)	☐
- CLS (connected light source)	☐
- Dimmable	☐
- Programmable	☐
- With standby mode	☐
- With networked standby mode	☐
- With anti-glare shield	☐
	☐
Useful luminous flux (φuse) type:	
- Narrow cone (90°)	☐
- Wide cone (120°)	☐
- Sphere (360°)	☑
Lamp cap installed:	N/A

Summary of testing:

For Ecodesign requirement:

The product meets the energy efficiency, functional & information requirement as specified in following details.

Copy of marking plate

Not provided by Applicant

Possible test case verdicts:

- test case does not apply to the test object..... : N (not applicable)
- test object does meet the requirement..... : P (Pass)
- test object does not meet the requirement ..... : F (Fail)

Testing..... :

Date of receipt of test item..... : Nov.1, 2025

Date(s) of performance of tests ..... : Nov.2, 2025 to April 5, 2026

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a comma / ☒ point is used as the decimal separator.

General product information:

1. The product covered in this report is LED Strip Light for indoor use only.
2. See model list below for details.
3. According to client's requirement, the products were chosen for full testing.

See below model list for details:

Model name	Input voltage and frequency	Rated power(W)	Rated useful luminous flux(lm)	CCT	Ra	Rated life time
BS01-030X0-12V	DC12V	5.0	525	3000K	80	20000h
BS01-030X1-12V	DC12V	5.0	525	4000K	80	20000h
BS01-030X3-12V	DC12V	5.0	525	6500K	80	20000h
BS01-030X0-24V	DC24V	5.0	525	3000K	80	20000h
BS01-030X1-24V	DC24V	5.0	525	4000K	80	20000h
BS01-030X3-24V	DC24V	5.0	525	6500K	80	20000h

Note: X=1-9, means different packing

(EU) 2019/2020 - Ecodesign requirement:			
0	Measurement methods		P
	Recognised state of art measurement methods incl. the one published in the Official Journal taking into account the measurement methods of (EU) 2019/2020	EN 62612:2013+A1:2017+ A11:2017+A2:2018 EN 13032-4:2015+A1:2019 EU 2019/2020 Annex V	P
1.	Sample		P
	Number of sample used for test ……:		P
2.	Energy efficiency requirements (Annex II, clause 1 of EU 2019/2020)		P
2.1	Maximum allowed power P_{onmax} of light source (Annex II, clause 1, (a) of EU 2019/2020)		P
	From 1 September 2021, the declared power consumption of a light source P_{on} shall not exceed the maximum allowed power P_{onmax} (in W), defined as a function of the declared useful luminous flux Φ_{use} (in lm) and the declared colour rendering index CRI (-) as follows	P_{on}: see table 1 $P_{on} \leq P_{onmax}$	P
	Ponmax = C × (L + Φuse/(F × η)) × R	BS01-030X0-12V Ponmax: 5.88w BS01-030X1-12V Ponmax: 5.88w BS01-030X3-12V Ponmax: 5.88w BS01-030X0-24V Ponmax: 5.88w BS01-030X1-24V Ponmax: 5.88w BS01-030X3-24V Ponmax: 5.88w	P
	where:		P
	-The values for threshold efficacy (η in lm/W) and end loss factor (L in W) are specified in Table 1 of EU 2019/2020, depending on the light source type. They are constants used for computations and do not reflect true parameters of light sources. The threshold efficacy is not the minimum required efficacy; the latter can be computed by dividing the useful luminous flux by the computed maximum allowed power	η: 120 L: 1.5	P

Table 1 of EU 2019/2020

Threshold efficacy (η) and end loss factor (L)

Light source description	η [lm/W]	L [W]
LFL T5-HE	98,8	1,9
LFL T5-HO, 4 000 ≤ Φ ≤ 5 000 lm	83,0	1,9
LFL T5-HO, other lm output	79,0	1,9
FL T5 circular	79,0	1,9
FL T8 (including FL T8 U-shaped)	89,7	4,5
From 1 September 2023, for FL T8 of 2-, 4- and 5-foot	120,0	1,5
Magnetic induction light source, any length/flux	70,2	2,3
CFLni	70,2	2,3
FL T9 circular	71,5	6,2
HPS single-ended	88,0	50,0
HPS double-ended	78,0	47,7
MH ≤ 405 W single-ended	84,5	7,7
MH > 405 W single-ended	79,3	12,3
MH ceramic double-ended	84,5	7,7
MH quartz double-ended	79,3	12,3
Organic light-emitting diode (OLED)	65,0	1,5
Until 1 September 2023: HL G9, G4 and GY6.35	19,5	7,7
HL R7s ≤ 2 700 lm	26,0	13,0
Other light sources in scope not mentioned above	120,0	1,5 (*)
(*) For connected light sources (CLS) a factor L = 2,0 shall be applied.		

P

	-Basic values for correction factor (C) depending on light source type, and additions to C for special light source features are specified in Table 2 of EU 2019/2020	C: 1.00	P

Table 2 of EU 2019/2020

Correction factor C depending on light source characteristics

Light source type	Basic C value
Non-directional (NDLS) not operating on mains (NMLS)	1,00
Non-directional (NDLS) operating on mains (MLS)	1,08
Directional (DLS) not operating on mains (NMLS)	1,15
Directional (DLS) operating on mains (MLS)	1,23
Special light source feature	Bonus on C
FL or HID with CCT > 5 000 K	+0,10
FL with CRI > 90	+0,10
HID with second envelope	+0,10
MH NDLS > 405 W with non-clear envelope	+0,10
DLS with anti-glare shield	+0,20
Colour-tuneable light source (CTLS)	+0,10
High luminance light sources (HLLS)	+0,0058 • Luminance-HLLS - 0,0167

P

	Where applicable, bonuses on correction factor C are cumulative		N
	The bonus for HLLS shall not be combined with the basic C-value for DLS (basic C-value for NDLS shall be used for HLLS)		N
	-Efficacy factor (F) is:		P
	1,00 for non-directional light sources (NDLS, using total flux)	F: 1.0	P
	0,85 for directional light sources (DLS, using flux in a cone)	F:	N
	-CRI factor (R) is:		P
	0,65 for CRI ≤ 25	R:	N
	(CRI+80)/160 for CRI > 25, rounded to two decimals	R: 1.0	P
	Light sources that allow the end-user to adapt the spectrum and/or the beam angle of the emitted light, thus changing the values for useful luminous flux, colour rendering index (CRI) and/or correlated colour temperature (CCT), and/or changing the directional/non-directional status of the light source, shall be evaluated using the reference control settings.		P
	Standby power P_{sb} and networked standby power P_{net} of light source		N
	The standby power P_{sb} of a light source shall not exceed 0,5 W	P_{sb}:	N
	The networked standby power P_{net} of a connected light source shall not exceed 0,5 W	P_{net}:	N
	The allowable values for P_{sb} and P_{net} shall not be		N

	added together		
	CLS and CSCG designed and marketed specifically for scene-lighting use in film-studios, TV-studios and locations, and photographic studios and locations, or for stage-lighting use in theatres, discos and during concerts or other entertainment events, for connection to high speed control networks (utilising signalling rates of 250 000 bits per second and higher) in always-listening mode, shall be exempt from the requirements on standby (Psb) and on networked standby (Pnet) of points 1(a) and 1(b) of Annex II		N
3	Functional requirements (Annex II, clause 2 of EU 2019/2020)		P
	From 1 September 2021, the functional requirements should apply for **light sources** (Annex II, clause 2, table 4 of EU 2019/2020)		P
3.1	Colour rendering		P
	CRI ≥ 80	CRI: Details see table 1	P
	except for HID with Φuse > 4 klm and for light sources intended for use in outdoor applications, industrial applications or other applications where lighting standards allow a CRI< 80, when a clear indication to this effect is shown on the light source packaging and in all relevant printed and electronic documentation	CRI:	N
3.2	Displacement factor (DF, cos φ_1) at power input P_{on} for LED and OLED MLS		P
	No limit at $P_{on} \leq 5$ W	P_{on}:	N
	DF ≥ 0,5 at 5 W < $P_{on} \leq 10$ W	P_{on}: Details see table 2 DF: Details see table 1	P
	DF ≥ 0,7 at 10 W < $P_{on} \leq 25$ W	P_{on}: Details see table 2 DF: Details see table 1	P
	DF ≥ 0,9 at 25 W < P_{on}	P_{on}: Details see table 2 DF: Details see table 1	P
3.3	Lumen maintenance factor (for LED and OLED)		P
	The lumen maintenance factor X_{LMF}% after endurance testing shall be at least $X_{LMF,MIN}$ % calculated as follows		P
	$X_{LMF,MIN}\% = 100 \times e^{\frac{(3000 \times \ln(0.7))}{L_{70}}}$ where L_{70} is the declared $L_{70}B_{50}$ lifetime (in hours)	L_{70}: 20000h	P
	If the calculated value for $X_{LMF,MIN}$ exceeds 96,0 %, an $X_{LMF,MIN}$ value of 96,0 % shall be used	$X_{LMF,MIN}$%=94.8%	P
3.4	Survival factor (SF) (for LED and OLED)		P
	At least 9 light sources of the 10 test samples must be operational after completing the endurance testing	10 pcs light sources are operational after endurance testing	P
3.5	Colour consistency for LED and OLED light sources		P
	Variation of chromaticity coordinates within a six-step MacAdam ellipse or less.		P
3.6	Flicker for LED and OLED MLS		P
	P_{st} LM ≤ 1,0 at full-load		P
3.7	Stroboscopic effect for LED and OLED MLS		P

	SVM ≤ 0,9 at full-load		P
	From 1 September 2024: SVM ≤ 0,4 at full-load		P
	except for light sources intended for use in outdoor applications, industrial applications or other applications where lighting standards allow a CRI < 80		N
4	Information requirements (Annex II, clause 3 of EU 2019/2020)		P
	From 1 September 2021 the following information requirements shall apply:		P
4.1	Information to be displayed on the light source itself		P
	For all light sources, except CTLS, LFL, CFLni, other FL, and HID, the value and physical unit of the useful luminous flux (lm) and correlated colour temperature (K) shall be displayed in a legible font on the surface if, after the inclusion of safety-related information, there is sufficient space available for it without unduly obstructing the light emission		P
	For directional light sources, the beam angle (°) shall also be indicated		N
	If there is room for only two values, the useful luminous flux and the correlated colour temperature shall be displayed		N
	If there is room for only one value, the useful luminous flux shall be displayed		N
4.2	Information to be visibly displayed on the packaging		N
4.2.1	Light source placed on the market, not in a containing product		N
	If a light source is placed on the market, not in a containing product, in a packaging containing information to be visibly displayed at a point-of-sale prior to its purchase, the following information shall be clearly and prominently displayed on the packaging:		N
(a)	the useful luminous flux (Φ_{use}) in a font at least twice as large as the display of the on-mode power (P_{on}), clearly indicating if it refers to the flux in a sphere (360°), in a wide cone (120°) or in a narrow cone (90°)		N
(b)	the correlated colour temperature, rounded to the nearest 100 K, also expressed graphically or in words, or the range of correlated colour temperatures that can be set		N
(c)	the beam angle in degrees (for directional light sources), or the range of beam angles that can be set		N
(d)	electrical interface details, e.g. cap- or connector-type, type of power supply (e.g. 230 V AC 50 Hz, 12 V DC)		N
(e)	the $L_{70}B_{50}$ lifetime for LED and OLED light sources, expressed in hours		N
(f)	the on-mode power (P_{on}), expressed in W		N
(g)	the standby power (P_{sb}), expressed in W and rounded to the second decimal. If the value is zero, it may be omitted from the packaging		N
(h)	the networked standby power (P_{net}) for CLS, expressed in W and rounded to the second decimal. If the value is zero, it may be omitted from the packaging		N
(i)	the colour rendering index, rounded to the nearest integer, or the range of CRI-values that can be set		N
(j)	if CRI< 80, and the light source is intended for use in outdoor applications, industrial applications or other applications where lighting standards allow a CRI< 80, a clear indication to this effect. For HID light sources with useful luminous flux > 4 000 lm,		N

	this indication is not mandatory		
(k)	if the light source is designed for optimum use in non-standard conditions (such as ambient temperature Ta≠ 25 °C or specific thermal management is necessary): information on those conditions		N
(l)	a warning if the light source cannot be dimmed or can be dimmed only with specific dimmers or with specific wired or wireless dimming methods. In the latter cases a list of compatible dimmers and/or methods shall be provided on the manufacturer's website		N
(m)	if the light source contains mercury: a warning of this, including the mercury content in mg rounded to the first decimal place		N
(n)	if the light source is within the scope of Directive 2012/19/EU, without prejudice to marking obligations pursuant to Article 14(4) of Directive 2012/19/EU, or contains mercury: a warning that it shall not be disposed of as unsorted municipal waste		N
	Items (a) to (d) shall be displayed on the packaging in the direction meant to face prospective buyer; for other items this is also recommended, if space permits		N
	For light sources that can be set to emit light with different characteristics, the information shall be reported for the **reference control settings**. In addition, a range of obtainable values may be indicated		N
	The information does not need to use the exact wording on the list above. Alternatively, it may be displayed in the form of graphs, drawings or symbols		N
5	Removal of light sources and separate control gears (Article 4 of EU 2019/2020)		P
5.1	Manufacturers, importers or authorised representatives of containing products shall ensure that light sources and separate control gears can be replaced with the use of common available tools and without permanent damage to the containing product, unless a technical justification related to the functionality of the containing product is provided in the technical documentation explaining why the replacement of light sources and separate control gear is not appropriate		P
	The technical documentation shall also provide instructions on how light sources and separate control gears can be removed without being permanently damaged for verification purposes by market surveillance authorities		P
5.2	Manufacturers, importers or authorized representatives of containing products shall provide information about the replaceability or non-replaceability of light sources and control gears by end-users or qualified persons without permanent damage to the containing product. Such information shall be available on a free-access website. For products sold directly to end-users, this information shall be on the packaging, at least in the form of a pictogram, and in the user instructions		P
5.3	Manufacturers, importers or authorised representatives of containing products shall		P

	ensure that light sources and separate control gears can be dismantled from containing products at end of life. Dismantling instructions shall be available on a free access website		

Table 1: Test data										**Model: BS01-030X0-12V**		
Voltage (V):		**DC12V**			**Frequency (Hz):**					**DC**		
Φ_{use} measured at:		**total luminous flux**			**Ambient (T/rh) (°C / %)**					**25 / 58**		
Test item	**Measured Value**										**Average**	**Limit**
Sample:	1	2	3	4	5	6	7	8	9	10	-	-
U (V) [1)]	DC12	DC12	DC12	DC12	DC12	DC12	DC12	DC12	DC12	DC12	DC12	-
P (W) [1)]	5.04	5.01	5.07	4.98	5.1	5.04	5.06	5	5.08	5.03	5.04	≤ 5.88W
cos φ1 [1)2)7)]	1	1	1	1	1	1	1	1	1	1	1.00	≥ 0.5
Φ_{use} (lm) [1)]	528.4	529.1	531.2	527.8	533.5	530.4	526.9	532.1	529.7	530.9	530.00	≥ 525lm
CCT (K) [1)]	2869	2845	2892	2828	2910	2860	2881	2852	2901	2874	2871	-
CRI [1)2)]	80.9	80.5	81.2	80.1	81.5	80.8	81	80.6	81.3	80.7	81	≥ 80 [3)]
Color consistency [1)2)]	4.2	4.1	4.3	4	4.4	4.2	4.1	4.3	4.2	4.1	4.2	≤ 6-step
SF @ 3600h [2)5)8)]	S	S	S	S	S	S	S	S	S	S	SF:	≥90%
Φ_{use}, @ 3600h[8)](lm)	515.8	515.3	519.5	513	522.1	517.7	513.7	517.8	518	518.6	517.15	-
X_{LMF} @ 3600h[2) 8)6)]	97.6	97.4	97.8	97.2	97.9	97.6	97.5	97.3	97.8	97.6	97.6	≥XLMF,MIN%
Flicker (P_{st} LM)[1)2)]	0.117	0.114	0.12	0.116	0.121	0.118	0.115	0.119	0.117	0.116	0.12	Pst LM ≤ 1,0 at full-load
Stroboscopic effect (SVM)[1)2)]	0.075	0.073	0.077	0.074	0.078	0.076	0.072	0.075	0.077	0.074	0.08	SVM ≤ 0,4 at full-load3)
Beam angle (°)	-	-	-	-	-	-	-	-	-	-	-	-
Peak intensity (cd)	-	-	-	-	-	-	-	-	-	-	-	-

Supplementary information:

[1)] initial measurement value after aging of: 45 min

[2)] for LED and OLED

[3)] except for HID with Φuse > 4 klm and for light sources intended for use in outdoor applications, industrial applications or other applicationswhere lighting standards allow a CRI< 80

[4)] means the colour rendering index for a red coloured object as defined in standards

[5)] 'survival factor' (SF) means the defined fraction of the total number of light sources that continue to operate at a given time under defined conditions and switching frequency

[6)] 'lumen maintenance factor' (X_{LMF}) means the ratio of the luminous flux emitted by a light source at a given time in its life to the initial luminous flux

[7)]'displacement factor (DF) (cos φ1)' means the cosine of the phase angle φ1 between the fundamental harmonic of the mains supply voltage and the fundamental harmonic of the mains current. It is used for mains light sources using LED- or OLED-technology. The displacement factor is measured at full-load, for the reference control settings where applicable, with any lighting control parts in control mode and non-lighting parts disconnected, switched off or set to minimum power consumption according to the manufacturer's instructions

[8] '3600h' referes to (EU)2019/2020 Annex V, the total test time is 3600h (1200 cycle of 150min 'ON' and 30min 'OFF'), the actual operation time is 3000h

Table 1: Test data										**Model: BS01-030X1-12V**		
Voltage (V):		**DC12V**			**Frequency (Hz):**					**DC**		
Φ_{use} measured at:		**total luminous flux**			**Ambient (T/rh) (°C / %)**					**25 / 58**		
Test item	**Measured Value**										**Average**	**Limit**
Sample:	1	2	3	4	5	6	7	8	9	10	-	-
U (V) [1]	DC12	DC12	DC12	DC12	DC12	DC12	DC12	DC12	DC12	DC12	DC12	-
P (W) [1]	5.60	5.56	5.64	5.52	5.68	5.61	5.49	5.66	5.58	5.63	5.60	≤ 5.88W
cos φ1 [1)2)7)]	1	1	1	1	1	1	1	1	1	1	1.00	≥ 0.5
Φ_{use} (lm) [1]	587.5	582.8	590.4	585.7	593.2	588.6	580.9	591.7	586.3	589.1	587.62	≥ 525lm
CCT (K) [1]	4019	3996	4042	3988	4061	4010	3967	4050	4004	4031	4017	-
CRI [1)2)]	81.1	80.8	81.4	80.6	81.7	81	80.5	81.5	80.9	81.3	81	≥ 80 [3)]
Color consistency [1)2)]	1	1.5	1.2	1.9	1.4	1.1	1.2	1.1	1.4	1.2	1.3	≤ 6-step
SF @ 3600h [2)5)8)]	S	S	S	S	S	S	S	S	S	S	SF:	≥90%
Φ_{use}, @ 3600h[8)](lm)	570.0	564.2	573.9	567.5	577.2	571.5	561.7	576.3	568.1	572.6	570.30	-
X_{LMF} @ 3600h[2) 8)6)]	97.0	96.8	97.2	96.9	97.3	97.1	96.7	97.4	96.9	97.2	97.1	≥XLMF,MIN%
Flicker (P_{st} LM)[1)2)]	0.097	0.095	0.099	0.096	0.100	0.098	0.094	0.101	0.097	0.096	0.097	Pst LM ≤ 1,0 at full-load
Stroboscopic effect (SVM)[1)2)]	0.069	0.067	0.070	0.068	0.071	0.069	0.066	0.072	0.068	0.070	0.069	SVM ≤ 0,4 at full-load3)
Beam angle (°)	/	/	/	/	/	/	/	/	/	/	/	-
Peak intensity (cd)	/	/	/	/	/	/	/	/	/	/	/	-

Supplementary information:

[1)] initial measurement value after aging of: 45 min

[2)] for LED and OLED

[3)] except for HID with Φuse > 4 klm and for light sources intended for use in outdoor applications, industrial applications or other applicationswhere lighting standards allow a CRI< 80

[4)] means the colour rendering index for a red coloured object as defined in standards

[5)] 'survival factor' (SF) means the defined fraction of the total number of light sources that continue to operate at a given time under defined conditions and switching frequency

[6)] 'lumen maintenance factor' (X_{LMF}) means the ratio of the luminous flux emitted by a light source at a given time in its life to the initial luminous flux

[7)]'displacement factor (DF) (cos φ1)' means the cosine of the phase angle φ1 between the fundamental harmonic of the mains supply voltage and the fundamental harmonic of the mains current. It is used for mains light sources using LED- or OLED-technology. The displacement factor is measured at full-load, for the reference control settings

where applicable, with any lighting control parts in control mode and non-lighting parts disconnected, switched off or set to minimum power consumption according to the manufacturer's instructions

8) '3600h' referes to (EU)2019/2020 Annex V, the total test time is 3600h (1200 cycle of 150min 'ON' and 30min 'OFF'), the actual operation time is 3000h

Table 1: Test data										**Model: BS01-030X3-12V**		
Voltage (V):		**DC12V**			**Frequency (Hz):**					**DC**		
Φ_{use} measured at:		**total luminous flux**			**Ambient (T/rh) (°C / %)**					**25 / 58**		
Test item	**Measured Value**										**Average**	**Limit**
Sample:	1	2	3	4	5	6	7	8	9	10	-	-
U (V) 1)	DC12	DC12	DC12	DC12	DC12	DC12	DC12	DC12	DC12	DC12	DC12	-
P (W) 1)	5.32	5.28	5.36	5.3	5.39	5.33	5.26	5.37	5.31	5.35	5.33	≤ 5.88W
cos φ1 1)2)7)	4.7	4.66	4.73	4.68	4.75	4.71	4.64	4.74	4.69	4.72	4.70	≥ 0.5
Φ_{use} (lm) 1)	630.1	626.8	634.2	628.5	636.1	631.4	624.9	633	629.6	632.3	630.69	≥ 525lm
CCT (K) 1)	6219	6186	6254	6168	6278	6207	6149	6261	6194	6236	6215	-
CRI 1)2)	81.1	80.8	81.4	80.7	81.6	81	80.6	81.5	80.9	81.3	81	≥ 80 3)
Color consistency 1)2)	4.2	4.1	4.3	4	4.4	4.2	4.1	4.3	4.2	4.1	4.2	≤ 6-step
SF @ 3600h 2)5)8)	S	S	S	S	S	S	S	S	S	S	SF:	≥90%
Φ_{use}, @ 3600h8)(lm)	615	610.5	620.2	611.5	622.7	616.2	607.4	618.4	613.9	617.1	615.29	-
X_{LMF} @ 3600h2) 8)6)	97.6	97.4	97.8	97.3	97.9	97.6	97.2	97.7	97.5	97.6	97.6	≥XLMF,MIN%
Flicker (P_{st} LM)1)2)	0.101	0.099	0.103	0.100	0.104	0.102	0.098	0.103	0.100	0.101	0.101	Pst LM ≤ 1,0 at full-load
Stroboscopic effect (SVM)1)2)	0.071	0.069	0.073	0.070	0.074	0.072	0.068	0.073	0.070	0.071	0.071	SVM ≤ 0,4 at full-load3)
Beam angle (°)	/	/	/	/	/	/	/	/	/	/	/	-
Peak intensity (cd)	/	/	/	/	/	/	/	/	/	/	/	-

Supplementary information:

1) initial measurement value after aging of: 45 min

2) for LED and OLED

3) except for HID with Φuse > 4 klm and for light sources intended for use in outdoor applications, industrial applications or other applicationswhere lighting standards allow a CRI< 80

4) means the colour rendering index for a red coloured object as defined in standards

5) 'survival factor' (SF) means the defined fraction of the total number of light sources that continue to operate at a given time under defined conditions and switching frequency

6) 'lumen maintenance factor' (X_{LMF}) means the ratio of the luminous flux emitted by a light source at a given time in its life to the initial luminous flux

7)'displacement factor (DF) (cos φ1)' means the cosine of the phase angle φ1 between the fundamental harmonic of the mains supply voltage and the fundamental harmonic

of the mains current. It is used for mains light sources using LED- or OLED-technology. The displacement factor is measured at full-load, for the reference control settings where applicable, with any lighting control parts in control mode and non-lighting parts disconnected, switched off or set to minimum power consumption according to the manufacturer's instructions

[8] '3600h' referes to (EU)2019/2020 Annex V, the total test time is 3600h (1200 cycle of 150min 'ON' and 30min 'OFF'), the actual operation time is 3000h

Table 1: Test data										**Model: BS01-030X0-24V**		
Voltage (V):	**DC24V**			**Frequency (Hz):**			**DC**					
Φ_{use} measured at:	**total luminous flux**			**Ambient (T/rh) (°C / %)**			**25 / 58**					
Test item	**Measured Value**										**Average**	**Limit**
Sample:	1	2	3	4	5	6	7	8	9	10	-	-
U (V) [1]	DC24	DC24	DC24	DC24	DC24	DC24	DC24	DC24	DC24	DC24	DC24	-
P (W) [1]	5.01	4.98	5.04	5	5.07	5.02	4.96	5.05	4.99	5.03	5.015	≤ 5.88W
cos φ1 [1)2)7)]	1	1	1	1	1	1	1	1	1	1	1	≥ 0.5
Φ_{use} (lm) [1]	532.7	528.9	535.4	531.6	537.2	533.1	527.8	536	530.5	534.2	532.74	≥ 525lm
CCT (K) [1]	2872	2854	2891	2866	2903	2878	2847	2897	2861	2884	2875.3	-
CRI [1)2)]	81.1	80.8	81.4	81	81.6	81.2	80.7	81.5	80.9	81.3	81.15	≥ 80 [3]
Color consistency [1)2)]	2.7	2.6	2.8	2.7	2.8	2.7	2.6	2.8	2.6	2.7	2.7	≤ 6-step
SF @ 3600h [2)5)8)]	S	S	S	S	S	S	S	S	S	S	SF:	≥90%
Φ_{use}, @ 3600h[8)](lm)	518.5	513.6	521.5	516.7	524.3	518.7	512.5	522.1	515.6	520.8	518.43	-
X_{LMF} @ 3600h[2) 8)6)]	97.3	97.1	97.4	97.2	97.6	97.3	97.1	97.4	97.2	97.5	97.31	≥XLMF,MIN%
Flicker (P_{st} LM)[1)2)]	0.097	0.095	0.099	0.096	0.1	0.098	0.094	0.101	0.097	0.096	0.0973	Pst LM ≤ 1,0 at full-load
Stroboscopic effect (SVM)[1)2)]	0.072	0.07	0.074	0.071	0.075	0.073	0.069	0.075	0.071	0.072	0.0722	SVM ≤ 0,4 at full-load3)
Beam angle (°)	/	/	/	/	/	/	/	/	/	/	/	-
Peak intensity (cd)	/	/	/	/	/	/	/	/	/	/	/	-

Supplementary information:

[1] initial measurement value after aging of: 45 min

[2] for LED and OLED

[3] except for HID with Φuse > 4 klm and for light sources intended for use in outdoor applications, industrial applications or other applicationswhere lighting standards allow a CRI< 80

[4] means the colour rendering index for a red coloured object as defined in standards

[5] 'survival factor' (SF) means the defined fraction of the total number of light sources that continue to operate at a given time under defined conditions and switching frequency

[6] 'lumen maintenance factor' (X_{LMF}) means the ratio of the luminous flux emitted by a light source at a given time in its life to the initial luminous flux

[7]'displacement factor (DF) (cos φ1)' means the cosine of the phase angle φ1 between the fundamental harmonic of the mains supply voltage and the fundamental harmonic of the mains current. It is used for mains light sources using LED- or OLED-technology. The displacement factor is measured at full-load, for the reference control settings where applicable, with any lighting control parts in control mode and non-lighting parts disconnected, switched off or set to minimum power consumption according to the manufacturer's instructions

[8] '3600h' referes to (EU)2019/2020 Annex V, the total test time is 3600h (1200 cycle of 150min 'ON' and 30min 'OFF'), the actual operation time is 3000h

Table 1: Test data										**Model: BS01-030X1-24V**		
Voltage (V):		**DC24V**			**Frequency (Hz):**			**DC**				
Φ_{use} measured at:		**total luminous flux**			**Ambient (T/rh) (°C / %)**			**25 / 58**				
Test item	**Measured Value**										**Average**	**Limit**
Sample:	1	2	3	4	5	6	7	8	9	10	-	-
U (V) [1]	DC24	DC24	DC24	DC24	DC24	DC24	DC24	DC24	DC24	DC24	DC24	-
P (W) [1]	5.09	5.05	5.12	5.08	5.15	5.1	5.03	5.13	5.07	5.11	5.093	≤ 5.88W
cos φ1 [1)2)7)]	1	1	1	1	1	1	1	1	1	1	1	≥ 0.5
Φ_{use} (lm) [1]	537	533.4	540.8	536.2	542.1	538.6	531.9	541.3	535.1	539.5	537.59	≥ 525lm
CCT (K) [1]	3992	3971	4018	3985	4030	4001	3964	4022	3980	4008	3997.1	-
CRI [1)2)]	81.7	81.4	82.0	81.6	82.2	81.8	81.3	82.1	81.5	81.9	81.75	≥ 80 [3)]
Color consistency [1)2)]	1.6	1.5	1.7	1.6	1.7	1.6	1.5	1.7	1.6	1.5	1.6	≤ 6-step
SF @ 3600h [2)5)8)]	S	S	S	S	S	S	S	S	S	S	SF:	≥90%
Φ_{use}, @ 3600h[8)](lm)	522.1	517.4	526.7	520.7	528.5	524.1	515.4	527.2	519.6	524.9	522.66	-
X_{LMF} @ 3600h[2) 8)6)]	97.2	97	97.4	97.1	97.5	97.3	96.9	97.4	97.1	97.3	97.22	≥XLMF,MIN%
Flicker (P_{st} LM)[1)2)]	0.102	0.1	0.104	0.101	0.105	0.103	0.099	0.104	0.101	0.102	0.1021	Pst LM ≤ 1,0 at full-load
Stroboscopic effect (SVM)[1)2)]	0.079	0.077	0.081	0.078	0.082	0.08	0.076	0.081	0.078	0.079	0.0791	SVM ≤ 0,4 at full-load3)
Beam angle (°)	/	/	/	/	/	/	/	/	/	/	/	-
Peak intensity (cd)	/	/	/	/	/	/	/	/	/	/	/	-

Supplementary information:

[1] initial measurement value after aging of: 45 min

[2] for LED and OLED

[3] except for HID with Φuse > 4 klm and for light sources intended for use in outdoor applications, industrial applications or other applicationswhere lighting standards allow a CRI< 80

[4] means the colour rendering index for a red coloured object as defined in standards

[5] 'survival factor' (SF) means the defined fraction of the total number of light sources that continue to operate at a given time under defined conditions and switching frequency

6) 'lumen maintenance factor' (X_{LMF}) means the ratio of the luminous flux emitted by a light source at a given time in its life to the initial luminous flux
7)'displacement factor (DF) (cos φ1)' means the cosine of the phase angle φ1 between the fundamental harmonic of the mains supply voltage and the fundamental harmonic of the mains current. It is used for mains light sources using LED- or OLED-technology. The displacement factor is measured at full-load, for the reference control settings where applicable, with any lighting control parts in control mode and non-lighting parts disconnected, switched off or set to minimum power consumption according to the manufacturer's instructions
8) '3600h' referes to (EU)2019/2020 Annex V, the total test time is 3600h (1200 cycle of 150min 'ON' and 30min 'OFF'), the actual operation time is 3000h

Table 1: Test data										**Model: BS01-030X3-24V**		
Voltage (V):		**DC24V**			**Frequency (Hz):**			**DC**				
Φ_{use} measured at:		**total luminous flux**			**Ambient (T/rh) (°C / %)**			**25 / 58**				
Test item	**Measured Value**										**Average**	**Limit**
Sample:	1	2	3	4	5	6	7	8	9	10	-	-
U (V) 1)	DC24	DC24	DC24	DC24	DC24	DC24	DC24	DC24	DC24	DC24	DC24	-
P (W) 1)	5.49	5.45	5.52	5.48	5.55	5.5	5.43	5.53	5.47	5.51	5.49	≤ 5.88W
cos φ1 1)2)7)	1	1	1	1	1	1	1	1	1	1	1.00	≥ 0.5
Φ_{use} (lm) 1)	551.7	548.6	554.2	550.4	556.1	552.8	547.5	555	549.7	553.4	551.94	≥ 525lm
CCT (K) 1)	6243	6208	6271	6225	6294	6251	6189	6282	6217	6260	6244	-
CRI 1)2)	84.4	84.1	84.7	84.3	84.8	84.5	84	84.6	84.2	84.5	84	≥ 80 3)
Color consistency 1)2)	2.4	2.3	2.5	2.4	2.5	2.4	2.3	2.5	2.4	2.4	2.4	≤ 6-step
SF @ 3600h 2)5)8)	S	S	S	S	S	S	S	S	S	S	SF:	≥90%
Φ_{use}, @ 3600h8)(lm)	540	536	543.1	538.3	545.5	541.2	534.4	543.9	537.6	541.8	540.18	-
X_{LMF} @ 3600h2) 8)6)	97.9	97.7	98	97.8	98.1	97.9	97.6	98	97.8	97.9	97.9	≥XLMF,MIN%
Flicker (P_{st} LM)1)2)	0.112	0.11	0.114	0.111	0.115	0.113	0.109	0.114	0.111	0.112	0.11	Pst LM ≤ 1,0 at full-load
Stroboscopic effect (SVM)1)2)	0.077	0.075	0.079	0.076	0.08	0.078	0.074	0.079	0.076	0.077	0.08	SVM ≤ 0,4 at full-load3)
Beam angle (°)	/	/	/	/	/	/	/	/	/	/	/	-
Peak intensity (cd)	/	/	/	/	/	/	/	/	/	/	/	-

Supplementary information:
1) initial measurement value after aging of: 45 min
2) for LED and OLED
3) except for HID with Φuse > 4 klm and for light sources intended for use in outdoor applications, industrial applications or other applicationswhere lighting standards allow a CRI< 80
4) means the colour rendering index for a red coloured object as defined in standards
5) 'survival factor' (SF) means the defined fraction of the total number of light sources that continue to operate at a given time under defined conditions and switching

frequency

[6] 'lumen maintenance factor' (X_{LMF}) means the ratio of the luminous flux emitted by a light source at a given time in its life to the initial luminous flux

[7]'displacement factor (DF) (cos φ1)' means the cosine of the phase angle φ1 between the fundamental harmonic of the mains supply voltage and the fundamental harmonic of the mains current. It is used for mains light sources using LED- or OLED-technology. The displacement factor is measured at full-load, for the reference control settings where applicable, with any lighting control parts in control mode and non-lighting parts disconnected, switched off or set to minimum power consumption according to the manufacturer's instructions

[8] '3600h' referes to (EU)2019/2020 Annex V, the total test time is 3600h (1200 cycle of 150min 'ON' and 30min 'OFF'), the actual operation time is 3000h

Table 2	The energy efficiency class
Model: BS01-030X0-12V	
Item	**Rated value**
Φ_{use} (lm)	525 lm
P_{on} (W)	5W
η_{TM}	97.23
Energy efficiency class	F
E_C (kWh/1000h)	5
Remarks: -	

Table 2	The energy efficiency class
Model: BS01-030X1-12V	
Item	**Rated value**
Φ_{use} (lm)	525 lm
P_{on} (W)	5W
η_{TM}	97.23
Energy efficiency class	F
E_C (kWh/1000h)	5
Remarks: -	

Table 2	The energy efficiency class
Model: BS01-030X3-12V	
Item	**Rated value**
Φ_{use} (lm)	525 lm
P_{on} (W)	5W
η_{TM}	97.23
Energy efficiency class	F
E_C (kWh/1000h)	5
Remarks: -	

Table 2	The energy efficiency class
Model: BS01-030X0-24V	
Item	**Rated value**
Φ_{use} (lm)	525 lm
P_{on} (W)	5W
η_{TM}	97.23
Energy efficiency class	F
E_C (kWh/1000h)	5
Remarks: -	

Table 2	The energy efficiency class
Model: BS01-030X1-24V	
Item	**Rated value**
Φ_{use} (lm)	525 lm
P_{on} (W)	5W
η_{TM}	97.23
Energy efficiency class	F
E_C (kWh/1000h)	5
Remarks: -	

Table 2	The energy efficiency class
Model: BS01-030X3-24V	
Item	**Rated value**
Φ_{use} (lm)	525 lm
P_{on} (W)	5W
η_{TM}	97.23
Energy efficiency class	F
E_C (kWh/1000h)	5
Remarks: -	

Table 3	**Product information sheet**		
Supplier's name or trade mark:	DEMGRUP INTERNATIONAL LIGHTING LIMITED		
Supplier's address:	FLAT/RM2223 22/F YAN'S TOWER 25-27 WONG CHUK HANG ROAD,ABERDEEN,HK		
Model identifier:	**BS01-030X0-12V**		
Type of light source:	LED module		
Lighting technology used:	☐ HL ☐ LFL T5 HE ☐ LFL T5 HO ☐ CFLni ☐ other FL ☐ HPS ☐ MH ☐ other HID ☒ LED ☐ OLED ☐ mixed ☐ other	Non-directional or directional:	☒ NDLS ☐ DLS
Light source cap-type (or other electric interface)			
Mains or non-mains:	☐ MLS ☒ NMLS	Connected light source (CLS):	☐ yes ☒ no
Colour-tuneable light source:	☐ yes ☒ no	Envelope:	☒ no ☐ second ☐ non-clear
High luminance light source:	☐ yes ☒ no		
Anti-glare shield:	☐ yes ☒ no	Dimmable:	☐ yes ☐ only with specific dimmers ☒ no
Product parameters			
Parameter	Value	Parameter	Value
General product parameters:			
Energy consumption in on-mode (kWh/1 000 h), **rounded up to the nearest integer**	5	Energy efficiency class	☐ A ☐ B ☐ C ☐ D ☐ E ☒ F ☐ G
Useful luminous flux (Φ_{use}), indicating if it refers to the flux in a sphere (360°), in a wide cone (120°) or in a narrow cone (90°)	525 lm in a sphere (360°)	Correlated colour temperature, rounded to the nearest 100 K, or the range of correlated colour temperatures, rounded to the nearest 100 K, that can be set	3000K
On-mode power (P_{on}), expressed in W	5W	Standby power (P_{sb}), expressed in W and rounded to the second decimal	-
Networked standby power	-	Colour rendering	80

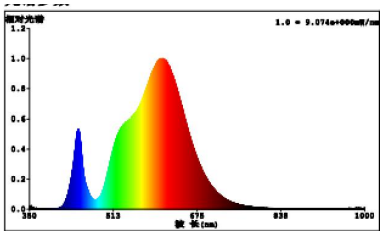
(P_{net}) for CLS, expressed in W and rounded to the second decimal			index, rounded to the nearest integer, or the range of CRI values that can be set	
Outer dimensions without separate control gear, lighting control parts and nonlighting control parts, if any (millimetre)	Height	1.5mm	Spectral power distribution in the range 250 nm to 800 nm, at full-load	
	Width	8mm		
	Depth	500mm		
Claim of equivalent power		☐ yes ☒ -	If yes, equivalent power (W)	-
			Chromaticity coordinates (x and y)	3000K: 0.4482 and 0.4102
Parameters for directional light sources:				
Peak luminous intensity (cd)		-	Beam angle in degrees, or the range of beam angles that can be set	-
Parameters for LED and OLED light sources:				
R9 colour rendering index value		0	Survival factor	0.9
the lumen maintenance factor		0.948		
Parameters for LED and OLED mains light sources:				
displacement factor (cos φ1)		0.5	Colour consistency in McAdam ellipses	6
Claims that an LED light source replaces a fluorescent light source without integrated ballast of a particular wattage.		☐ yes ☒ -	If yes then replacement claim (W)	-
Flicker metric (P_{st} LM)		1.0	Stroboscopic effect metric (SVM)	0.4

Table 3	**Product information sheet**		
Supplier's name or trade mark:	DEMGRUP INTERNATIONAL LIGHTING LIMITED		
Supplier's address:	FLAT/RM2223 22/F YAN'S TOWER 25-27 WONG CHUK HANG ROAD,ABERDEEN,HK		
Model identifier:	**BS01-030X1-12V**		
Type of light source:	LED module		
Lighting technology used:	☐ HL ☐ LFL T5 HE ☐ LFL T5 HO ☐ CFLni ☐ other FL ☐ HPS ☐ MH ☐ other HID ☒ LED ☐ OLED ☐ mixed ☐ other	Non-directional or directional:	☒ NDLS ☐ DLS
Light source cap-type (or other electric interface)			
Mains or non-mains:	☐ MLS ☒ NMLS	Connected light source (CLS):	☐ yes ☒ no
Colour-tuneable light source:	☐ yes ☒ no	Envelope:	☒ no ☐ second ☐ non-clear
High luminance light source:	☐ yes ☒ no		
Anti-glare shield:	☐ yes ☒ no	Dimmable:	☐ yes ☐ only with specific dimmers ☒ no
Product parameters			
Parameter	Value	Parameter	Value
General product parameters:			
Energy consumption in on-mode (kWh/1 000 h), **rounded up to the nearest integer**	5	Energy efficiency class	☐ A ☐ B ☐ C ☐ D ☐ E ☒ F ☐ G
Useful luminous flux (Φ_{use}), indicating if it refers to the flux in a sphere (360°), in a wide cone (120°) or in a narrow cone (90°)	525 lm in a sphere (360°)	Correlated colour temperature, rounded to the nearest 100 K, or the range of correlated colour temperatures, rounded to the nearest 100 K, that can be set	4000K
On-mode power (P_{on}), expressed in W	5W	Standby power (P_{sb}), expressed in W and rounded to the second decimal	-
Networked standby power	-	Colour rendering	80

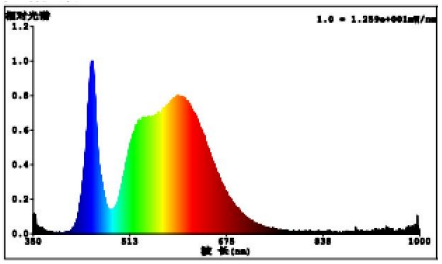
(P_{net}) for CLS, expressed in W and rounded to the second decimal			index, rounded to the nearest integer, or the range of CRI values that can be set	
Outer dimensions without separate control gear, lighting control parts and nonlighting control parts, if any (millimetre)	Height	1.5mm	Spectral power distribution in the range 250 nm to 800 nm, at full-load	
	Width	8mm		
	Depth	500mm		
Claim of equivalent power		☐ yes ☒ -	If yes, equivalent power (W)	-
			Chromaticity coordinates (x and y)	4000K: 0.3801 and 0.3782
Parameters for directional light sources:				
Peak luminous intensity (cd)		-	Beam angle in degrees, or the range of beam angles that can be set	-
Parameters for LED and OLED light sources:				
R9 colour rendering index value		0	Survival factor	0.9
the lumen maintenance factor		0.948		
Parameters for LED and OLED mains light sources:				
displacement factor (cos φ1)		0.5	Colour consistency in McAdam ellipses	6
Claims that an LED light source replaces a fluorescent light source without integrated ballast of a particular wattage.		☐ yes ☒ -	If yes then replacement claim (W)	-
Flicker metric (P_{st} LM)		1.0	Stroboscopic effect metric (SVM)	0.4

Table 3	**Product information sheet**		
Supplier's name or trade mark:	DEMGRUP INTERNATIONAL LIGHTING LIMITED		
Supplier's address:	FLAT/RM2223 22/F YAN'S TOWER 25-27 WONG CHUK HANG ROAD,ABERDEEN,HK		
Model identifier:	**BS01-030X3-12V**		
Type of light source:	LED module		
Lighting technology used:	☐ HL ☐ LFL T5 HE ☐ LFL T5 HO ☐ CFLni ☐ other FL ☐ HPS ☐ MH ☐ other HID ☒ LED ☐ OLED ☐ mixed ☐ other	Non-directional or directional:	☒ NDLS ☐ DLS
Light source cap-type (or other electric interface)			
Mains or non-mains:	☐ MLS ☒ NMLS	Connected light source (CLS):	☐ yes ☒ no
Colour-tuneable light source:	☐ yes ☒ no	Envelope:	☒ no ☐ second ☐ non-clear
High luminance light source:	☐ yes ☒ no		
Anti-glare shield:	☐ yes ☒ no	Dimmable:	☐ yes ☐ only with specific dimmers ☒ no
Product parameters			
Parameter	Value	Parameter	Value
General product parameters:			
Energy consumption in on-mode (kWh/1 000 h), **rounded up to the nearest integer**	5	Energy efficiency class	☐ A ☐ B ☐ C ☐ D ☐ E ☒ F ☐ G
Useful luminous flux (Φ_{use}), indicating if it refers to the flux in a sphere (360°), in a wide cone (120°) or in a narrow cone (90°)	525 lm in a sphere (360°)	Correlated colour temperature, rounded to the nearest 100 K, or the range of correlated colour temperatures, rounded to the nearest 100 K, that can be set	6500K
On-mode power (P_{on}), expressed in W	5W	Standby power (P_{sb}), expressed in W and rounded to the second decimal	-

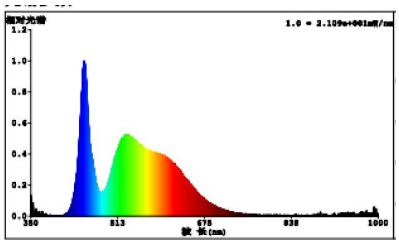
Networked standby power (P_{net}) for CLS, expressed in W and rounded to the second decimal		-	Colour rendering index, rounded to the nearest integer, or the range of CRI values that can be set	80
Outer dimensions without separate control gear, lighting control parts and nonlighting control parts, if any (millimetre)	Height	1.5mm	Spectral power distribution in the range 250 nm to 800 nm, at full-load	
	Width	8mm		
	Depth	500mm		
Claim of equivalent power		☐ yes ☒ -	If yes, equivalent power (W)	-
			Chromaticity coordinates (x and y)	6500K: 0.3163 and 0.3461
Parameters for directional light sources:				
Peak luminous intensity (cd)		-	Beam angle in degrees, or the range of beam angles that can be set	-
Parameters for LED and OLED light sources:				
R9 colour rendering index value		0	Survival factor	0.9
the lumen maintenance factor		0.948		
Parameters for LED and OLED mains light sources:				
displacement factor (cos φ1)		0.7	Colour consistency in McAdam ellipses	6
Claims that an LED light source replaces a fluorescent light source without integrated ballast of a particular wattage.		☐ yes ☒ -	If yes then replacement claim (W)	-
Flicker metric (P_{st} LM)		1.0	Stroboscopic effect metric (SVM)	0.4

Table 3	**Product information sheet**		
Supplier's name or trade mark:	DEMGRUP INTERNATIONAL LIGHTING LIMITED		
Supplier's address:	FLAT/RM2223 22/F YAN'S TOWER 25-27 WONG CHUK HANG ROAD,ABERDEEN,HK		
Model identifier:	**BS01-030X0-24V**		
Type of light source:	LED module		
Lighting technology used:	☐ HL ☐ LFL T5 HE ☐ LFL T5 HO ☐ CFLni ☐ other FL ☐ HPS ☐ MH ☐ other HID ☒ LED ☐ OLED ☐ mixed ☐ other	Non-directional or directional:	☒ NDLS ☐ DLS
Light source cap-type (or other electric interface)			
Mains or non-mains:	☐ MLS ☒ NMLS	Connected light source (CLS):	☐ yes ☒ no
Colour-tuneable light source:	☐ yes ☒ no	Envelope:	☒ no ☐ second ☐ non-clear
High luminance light source:	☐ yes ☒ no		
Anti-glare shield:	☐ yes ☒ no	Dimmable:	☐ yes ☐ only with specific dimmers ☒ no
Product parameters			
Parameter	Value	Parameter	Value
General product parameters:			
Energy consumption in on-mode (kWh/1 000 h), **rounded up to the nearest integer**	5	Energy efficiency class	☐ A ☐ B ☐ C ☐ D ☐ E ☒ F ☐ G
Useful luminous flux (Φ_{use}), indicating if it refers to the flux in a sphere (360°), in a wide cone (120°) or in a narrow cone (90°)	525 lm in a sphere (360°)	Correlated colour temperature, rounded to the nearest 100 K, or the range of correlated colour temperatures, rounded to the nearest 100 K, that can be set	3000K
On-mode power (P_{on}), expressed in W	5W	Standby power (P_{sb}), expressed in W and rounded to the second decimal	-

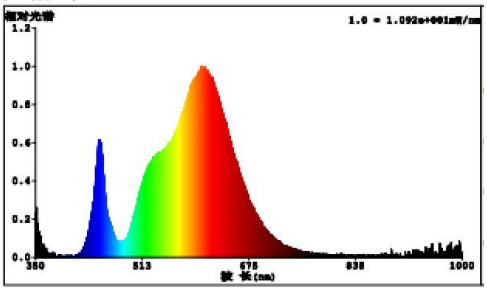
Networked standby power (P_{net}) for CLS, expressed in W and rounded to the second decimal		-	Colour rendering index, rounded to the nearest integer, or the range of CRI values that can be set	80
Outer dimensions without separate control gear, lighting control parts and nonlighting control parts, if any (millimetre)	Height	1.5mm	Spectral power distribution in the range 250 nm to 800 nm, at full-load	
	Width	8mm		
	Depth	500mm		
Claim of equivalent power		☐ yes ☒ -	If yes, equivalent power (W)	-
			Chromaticity coordinates (x and y)	3000K: 0.4435 and 0.4016
Parameters for directional light sources:				
Peak luminous intensity (cd)		-	Beam angle in degrees, or the range of beam angles that can be set	-
Parameters for LED and OLED light sources:				
R9 colour rendering index value		0	Survival factor	0.9
the lumen maintenance factor		0.948		
Parameters for LED and OLED mains light sources:				
displacement factor (cos φ1)		0.7	Colour consistency in McAdam ellipses	6
Claims that an LED light source replaces a fluorescent light source without integrated ballast of a particular wattage.		☐ yes ☒ -	If yes then replacement claim (W)	-
Flicker metric (P_{st} LM)		1.0	Stroboscopic effect metric (SVM)	0.4

Table 3	**Product information sheet**		
Supplier's name or trade mark:	DEMGRUP INTERNATIONAL LIGHTING LIMITED		
Supplier's address:	FLAT/RM2223 22/F YAN'S TOWER 25-27 WONG CHUK HANG ROAD,ABERDEEN,HK		
Model identifier:	**BS01-030X1-24V**		
Type of light source:	LED module		
Lighting technology used:	☐ HL ☐ LFL T5 HE ☐ LFL T5 HO ☐ CFLni ☐ other FL ☐ HPS ☐ MH ☐ other HID ☒ LED ☐ OLED ☐ mixed ☐ other	Non-directional or directional:	☒ NDLS ☐ DLS
Light source cap-type (or other electric interface)			
Mains or non-mains:	☐ MLS ☒ NMLS	Connected light source (CLS):	☐ yes ☒ no
Colour-tuneable light source:	☐ yes ☒ no	Envelope:	☒ no ☐ second ☐ non-clear
High luminance light source:	☐ yes ☒ no		
Anti-glare shield:	☐ yes ☒ no	Dimmable:	☐ yes ☐ only with specific dimmers ☒ no
Product parameters			
Parameter	Value	Parameter	Value
General product parameters:			
Energy consumption in on-mode (kWh/1 000 h), **rounded up to the nearest integer**	5	Energy efficiency class	☐ A ☐ B ☐ C ☐ D ☐ E ☒ F ☐ G
Useful luminous flux (Φ_{use}), indicating if it refers to the flux in a sphere (360°), in a wide cone (120°) or in a narrow cone (90°)	525 lm in a sphere (360°)	Correlated colour temperature, rounded to the nearest 100 K, or the range of correlated colour temperatures, rounded to the nearest 100 K, that can be set	4000K
On-mode power (P_{on}), expressed in W	5W	Standby power (P_{sb}), expressed in W	-

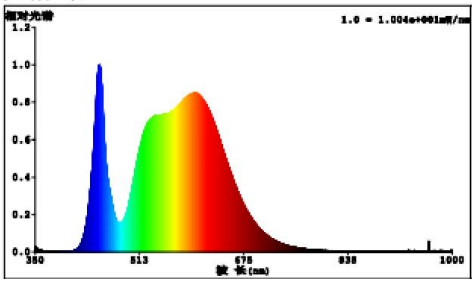
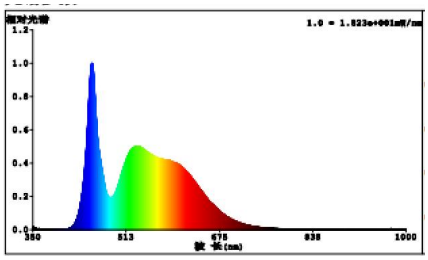
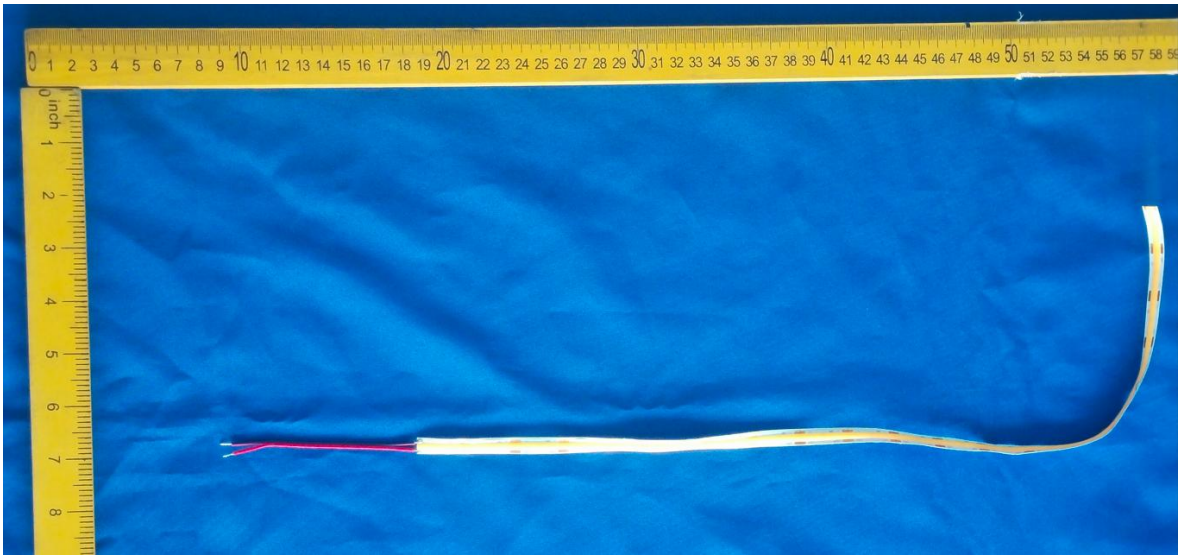
			and rounded to the second decimal	
Networked standby power (P_{net}) for CLS, expressed in W and rounded to the second decimal		-	Colour rendering index, rounded to the nearest integer, or the range of CRI values that can be set	80
Outer dimensions without separate control gear, lighting control parts and nonlighting control parts, if any (millimetre)	Height	1.5mm	Spectral power distribution in the range 250 nm to 800 nm, at full-load	
	Width	8mm		
	Depth	500mm		
Claim of equivalent power		☐ yes ☒ -	If yes, equivalent power (W)	-
			Chromaticity coordinates (x and y)	4000K: 0.3828 and 0.3843
Parameters for directional light sources:				
Peak luminous intensity (cd)		-	Beam angle in degrees, or the range of beam angles that can be set	-
Parameters for LED and OLED light sources:				
R9 colour rendering index value		0	Survival factor	0.9
the lumen maintenance factor		0.948		
Parameters for LED and OLED mains light sources:				
displacement factor (cos φ1)		0.7	Colour consistency in McAdam ellipses	6
Claims that an LED light source replaces a fluorescent light source without integrated ballast of a particular wattage.		☐ yes ☒ -	If yes then replacement claim (W)	-
Flicker metric (P_{st} LM)		1.0	Stroboscopic effect metric (SVM)	0.4

Table 3	**Product information sheet**		
Supplier's name or trade mark:	DEMGRUP INTERNATIONAL LIGHTING LIMITED		
Supplier's address:	FLAT/RM2223 22/F YAN'S TOWER 25-27 WONG CHUK HANG ROAD,ABERDEEN,HK		
Model identifier:	**BS01-030X3-24V**		
Type of light source:	LED module		
Lighting technology used:	☐ HL ☐ LFL T5 HE ☐ LFL T5 HO ☐ CFLni ☐ other FL ☐ HPS ☐ MH ☐ other HID ☒ LED ☐ OLED ☐ mixed ☐ other	Non-directional or directional:	☒ NDLS ☐ DLS
Light source cap-type (or other electric interface)			
Mains or non-mains:	☐ MLS ☒ NMLS	Connected light source (CLS):	☐ yes ☒ no
Colour-tuneable light source:	☐ yes ☒ no	Envelope:	☒ no ☐ second ☐ non-clear
High luminance light source:	☐ yes ☒ no		
Anti-glare shield:	☐ yes ☒ no	Dimmable:	☐ yes ☐ only with specific dimmers ☒ no
Product parameters			
Parameter	Value	Parameter	Value
General product parameters:			
Energy consumption in on-mode (kWh/1 000 h), **rounded up to the nearest integer**	5	Energy efficiency class	☐ A ☐ B ☐ C ☐ D ☐ E ☒ F ☐ G
Useful luminous flux (Φ_{use}), indicating if it refers to the flux in a sphere (360°), in a wide cone (120°) or in a narrow cone (90°)	525 lm in a sphere (360°)	Correlated colour temperature, rounded to the nearest 100 K, or the range of correlated colour temperatures, rounded to the nearest 100 K, that can be set	6500K
On-mode power (P_{on}), expressed in W	5W	Standby power (P_{sb}), expressed in W and rounded to the second decimal	-

Networked standby power (P_{net}) for CLS, expressed in W and rounded to the second decimal		-	Colour rendering index, rounded to the nearest integer, or the range of CRI values that can be set	80
Outer dimensions without separate control gear, lighting control parts and nonlighting control parts, if any (millimetre)	Height	1.5mm	Spectral power distribution in the range 250 nm to 800 nm, at full-load	
	Width	8mm		
	Depth	500mm		
Claim of equivalent power		☐ yes ☒ -	If yes, equivalent power (W)	-
			Chromaticity coordinates (x and y)	6500K: 0.3164 and 0.3402
Parameters for directional light sources:				
Peak luminous intensity (cd)		-	Beam angle in degrees, or the range of beam angles that can be set	-
Parameters for LED and OLED light sources:				
R9 colour rendering index value		0	Survival factor	0.9
the lumen maintenance factor		0.948		
Parameters for LED and OLED mains light sources:				
displacement factor (cos φ1)		0.7	Colour consistency in McAdam ellipses	6
Claims that an LED light source replaces a fluorescent light source without integrated ballast of a particular wattage.		☐ yes ☒ -	If yes then replacement claim (W)	-
Flicker metric (P_{st} LM)		1.0	Stroboscopic effect metric (SVM)	0.4

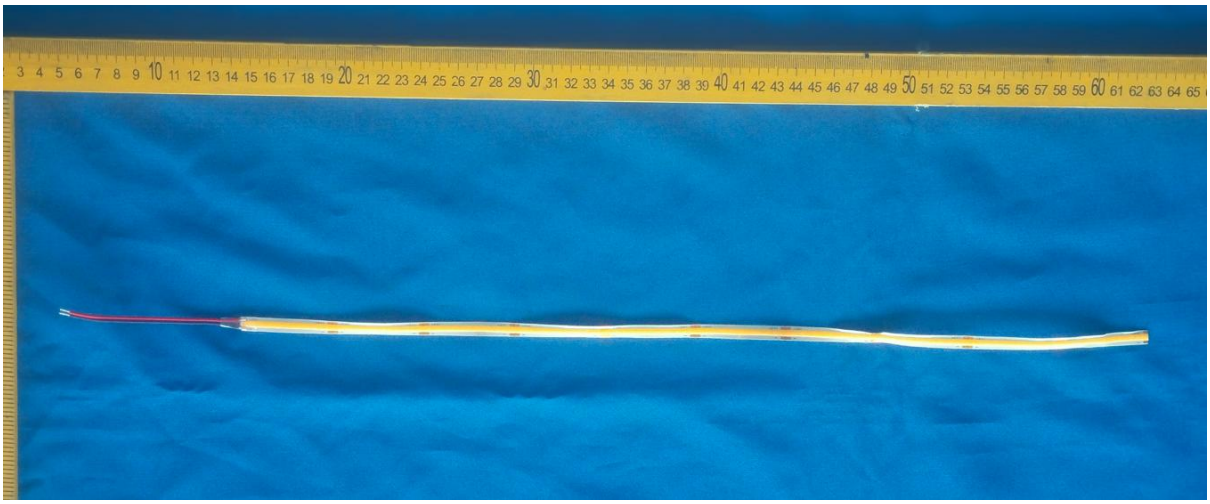
Product photograph



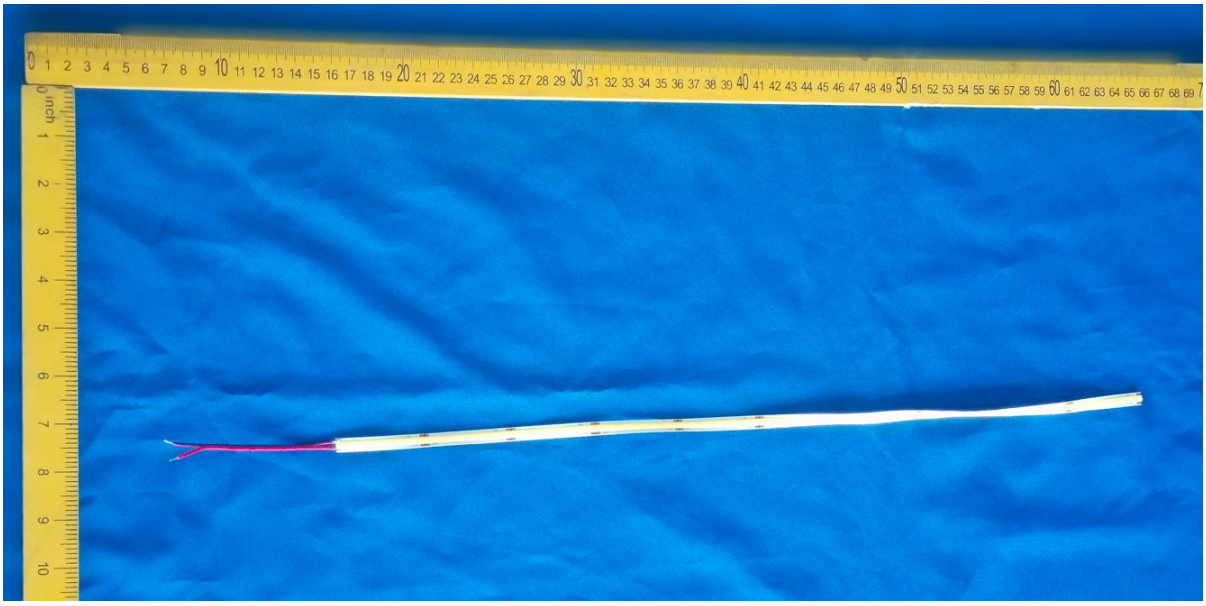
BS01-030X0-12V

BS01-030X1-12V

BS01-030X3-12V



BS01-030X0-24V



BS01-030X1-24V

BS01-030X3-24V

------End of Report------