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PRODUCT CALCULATION SHEET

Brandname	LSC
Product description	LSC Smart Neon Striplight RGBIC+W
EAN Code	8712879157724
Product code	3200654

Lamp type	-
Main/non-mains	Non-mains
Φ_{use}	460
P_{on}	5.0000
P_{ftm}	1.000
CTLS (for Smart)	Yes
CCT (colour tuneable)	3000K
CRI	80

Within directives (EU) 2019/2015 and (EU) 2019/2020 several calculations are required. This document provides the below mentioned calculations are provided:

1. Energy efficiency class calculation
2. Energy consumption calculation
3. Claimed equivalent incandescent lamp power calculation

1. Energy efficiency class calculations

The Energy efficiency class calculations of light sources as set out in Table 1, annex II from Regulation (EU) 2019/2015 on basis of the total mains efficiency η_{TM}, which is calculated by dividing the declared useful luminous flux Φ_{use} (expressed in *lm*) by the declared on-mode power consumption P_{on} (expressed in *W*) and multiplying by the applicable factor F_{TM} of tables 2, annex II from Regulation (EU) 2019/2015.

$$\eta_{TM} = (\Phi_{use}/P_{on}) \times F_{TM} \text{ (lm/W)}$$

η_{TM} = (460/5,00) × 1,000 = 92

The Energy efficiency class = F

Table 1

Energy efficiency classes of light sources

Energy efficiency class	Total mains efficacy η_{TM} (lm/W)
A	$210 \leq \eta_{TM}$
B	$185 \leq \eta_{TM} < 210$
C	$160 \leq \eta_{TM} < 185$
D	$135 \leq \eta_{TM} < 160$
E	$110 \leq \eta_{TM} < 135$
F	$85 \leq \eta_{TM} < 110$
G	$\eta_{TM} < 85$

Table 2

Factors F_{TM} by light source type

Light source type	Factor F_{TM}
Non-directional (NDLS) operating on mains (MLS)	1,000
Non-directional (NDLS) not operating on mains (NMLS)	0,926
Directional (DLS) operating on mains (MLS)	1,176
Directional (DLS) not operating on mains (NMLS)	1,089

2. Calculation of the energy consumption

The weighted energy consumption (Ec) is calculated in kWh/1000h as follows and is rounded up to two decimal places:

$$Ec = (P_{on} \times 1000h) \div 1000$$

Where P_{on} is the power corrected for any control gear losses in accordance with above.

The weighted energy consumption (Ec) as printed on the energy label:

$$5 = (5{,}00 \times 1000) \div 1000$$

3. Claimed equivalent incandescent lamp power

For the non-directional light source, the equivalent wattage with an incandescent lamp is calculated and rounded up to 1W, based on Table 7, annex V from Commission Delegated Regulation (EU) 2019/2015. The intermediate values of both the luminous flux and the claimed incandescent lamp shall be calculated by linear interpolation between the two adjacent values.

The equivalent wattage for this non-directional light source is calculated as follows:

$$25 + (460 - 249) \times ((40 - 25) \div (470 - 249))$$

The equivalent wattage ≈ 40W

Table 7

Equivalence claims for non-directional light sources

Rated light source luminous flux Φ (*lm*)	**Claimed equivalent incandescent light source power (*W*)**
136	15
249	25
470	40
806	60
1 055	75
1 521	100
2 452	150
3 452	200