



LPA Lighting Systems
Ripley Drive, Normanton,
West Yorkshire. WF6 1QT

Title: 1080 Series T5 LED Tube

Doc. Ref: D04134

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Approved for Manufacture

By:

Date:

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1080 Series LED T5 Fluorescent Lamp Replacement



Product Overview

- ñ Rolling Stock Compliant.
- ñ Replaces T5 Fluorescent lamps.
- ñ High reliability LED and driver technology.
- ñ Built in drive electronics for direct connection to power source.
- ñ Significant energy savings.
- ñ Rotating end-caps.
- ñ Zero maintenance costs.
- ñ Flicker free lighting with instant start.



Safety Specification

The 1080 Series comes equipped with the following protection circuitry:

- ñ DC input voltage reversal (Non destructive).
 - ñ Input transient protection.
 - ñ Under voltage protection.
 - ñ Built in multiple LED circuit redundancy.
- Protected against power supply interruptions (EN50155 Class S2 and C2)

The 1080 series is EN45545 compliant including the Lexan EX9332T polycarbonate diffuser.



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Product Codes

	Warm White	Natural White	Cool White
24V DC White 1449mm T5	10801004	10801000	-
24V DC White 1149mm T6	10801018	10801016	-
24V DC White 849mm T5	10801005	10801001	-
24V DC White 549mm T5	10801015	10801014	-
24V DC White 517mm T5	10801030	-	-
24V DC White 288.3mm T5	10801013	-	-
36V DC White 549mm T5	10801020	10801025	-
36V DC White 849mm T5	10801021	10801026	-
36V DC White 1149mm T5	10821022	10801027	-
36V DC White 1449mm T5	10801023	10801028	-
110V DC White 1449mm T5	10801006	10801002	-
110V DC White 1149mm T5	-	10801010	-
110V DC White 849mm T5	10801007	10801003	-
110V DC White 549mm T5	10801008	10801011	-
110V DC White 517mm T5	-	10801033	-
110V DC White 288.3mm T5	10801009	10801017	-
230V AC White 288.3mm T5	10801012	-	-
230V AC White 549mm T5	-	10801019	-

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Technical Overview (24V DC)

Size	T5 288.3mm	T5 517mm	T5 549mm	T5 849mm	T5 1149mm
Input Voltage Range	16.8-32V DC				
Input Current at Nominal Supply	0.208A	0.375A	0.375A	0.583A	0.792A
Input Power at Nominal Supply	5W	9W	9W	14W	19W
Weight	108g	158g	165g	232g	298g

Technical Overview (24V DC cont)

Size	T5 1449mm				
Input Voltage Range	16.8-32V DC				
Input Current at Nominal Supply	1.00A				
Input Power at Nominal Supply	24W				
Weight	360g				

Technical Overview (36V DC)

Size	T5 288.3mm	T5 549mm	T5 849mm	T5 1149mm	T5 1449mm
Input Voltage Range	X—X V DC				
Input Current at Nominal Supply					
Input Power at Nominal Supply	5W	9W	14W	19W	24W
Weight	108g	165g	232g	298g	360g

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Technical Overview (212414V0VV D D DCCC)

Size	T5 288.3mm	T5 517mm	T5 549mm	T5 849mm	T5 1149mm
Input Voltage Range	67-140V DC				
Input Current at Nominal Supply	0.045A	0.082A	0.082A	0.127A	0.172A
Input Power at Nominal Supply	5W	9W	9W	14W	19W
Weight	108g	158g	165g	232g	298g

Technical Overview (110V DC cont)

Size	T5 1449mm				
Input Voltage Range	67-140V DC				
Input Current at Nominal Supply	0.218A				
Input Power at Nominal Supply	24W				
Weight	360g				

Technical Overview (230V AC)

Size	T5 288.3mm	T5 549mm	T5 849mm	T5 1149mm	T5 1449mm
Input Voltage Range	160-265V AC				
Input Current at Nominal Supply	0.217A				
Input Power at Nominal Supply	5W	9W	14W	19W	24W
Weight	108g	165g	232g	298g	360g

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All

Line Regulation (Percentage Illuminance change oversupply range)		±5%
Colour Temperature	Warm White	3000K ±5%
	Natural White	4000K ±5%
	Cool White	6000K ±5%
CRI		>80
Beam Angle		180°
Operating Temperature Range		-25 to 55°C
Flicker (PstLM)		<0.05
Strobe Effect (SVM)		0
Storage Temperature Range		-40 to 55°C
Operating Humidity Range		10%-80%
Lumen Maintenance (time to 70% of the initial light output)		100,000 hours
MTBF MIL-HDBK-217F (40°C) (hrs)		109,923 hours
Designed Service Life		15 years
Sealing Rating		IP40
Switch Cycles		>100,000 (UIC555)
Connector		2 x G5 bipin. Compliant with EN60081

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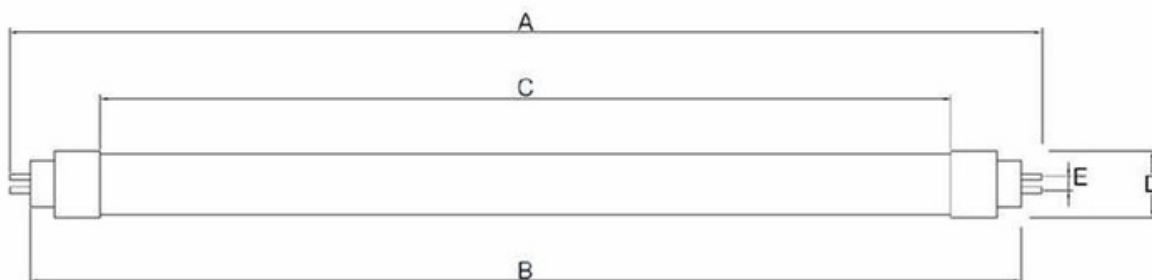
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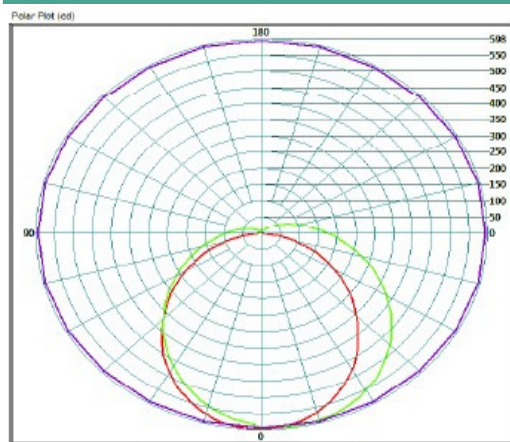
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Mechanical Details



Size	A	B	C	D	E
T5 302.5mm	302.5mm	288.3mm	244.9mm	23mm	4.75mm
T5 531mm	531mm	517mm	475mm	23mm	4.75mm
T5 563mm	563mm	549mm	505.6mm	23mm	4.75mm
T5 863mm	863mm	849mm	805.6mm	23mm	4.75mm
T5 1163mm	1163mm	1149mm	1105.6mm	23mm	4.75mm
T5 1463mm	1463mm	1449mm	1405.6mm	23mm	4.75mm

Photometric Data



Size	Output (Lumens)
288.3mm	600lm
517mm	1080lm
549mm	1080lm
849mm	1680lm
1149mm	2280lm
1449mm	2880lm

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Installation Guide

Fit existing G5 lampholders.

Remove original fitting lighting ballast.

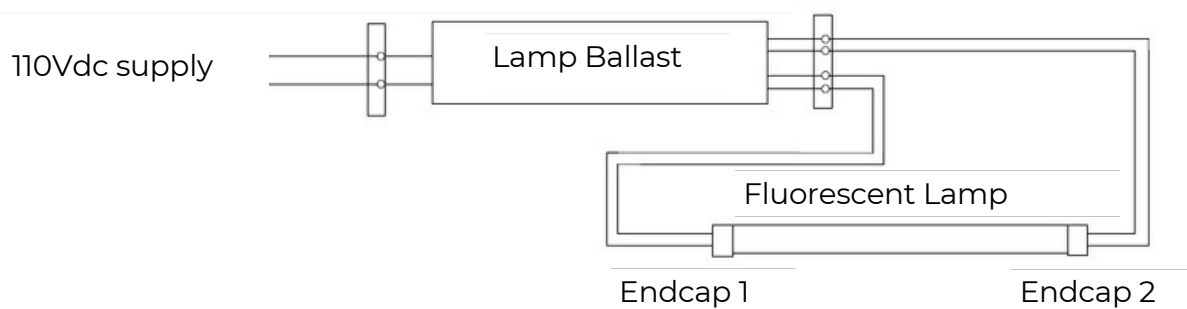
Link supply connections over to lamp holder connections.

Positive (24V DC, 36V DC or 110V DC) and Negative (0V) to endcap 2

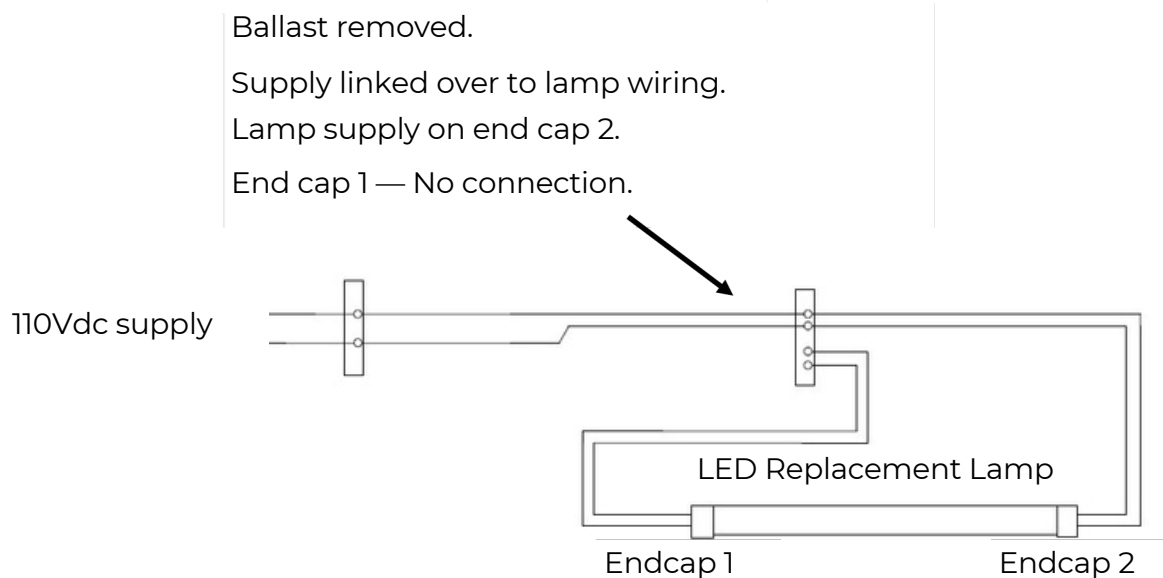
Endcap 1 = No Connection

Unit will operate correctly on either polarity.

ORIGINAL LAMP CONNECTION DETAILS



LED REPLACEMENT LAMP CONNECTION DETAILS



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Compliance

The 1080 Series product complies with the following standards and directives:

ñ	EN61373:2010	Rolling stock equipment. Shock and vibration.
ñ	EN50121-3-2:2016 +A1:2019	Rolling stock equipment. Electromagnetic compatibility.
ñ	EN50155:2021	Electronic equipment used on rolling stock.
ñ	BRB/LUL RIA12	Surge and transient requirements.
ñ	EN45545-2:2013+A1:2015 (HL1, 2 & 3)	Fire protection on railway vehicles.
ñ	EN61347-2-13 with EN61347-1	LED Control Gear
ñ	EN62031 with EN62471:	Photobiological Safety of Lamps.
ñ	RoHS	Restriction of Hazardous Substances.

This is a draft specification, figures may change due to further testing.

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