

TL5

MASTER TL5 High Efficiency Eco



The world's most efficient fluorescent lighting

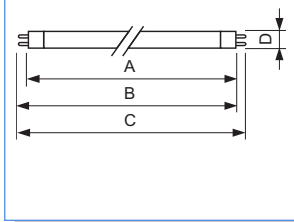
This extremely efficient TL5 lamp (tube diameter 16 mm) saves considerable energy by simple lamp-for-lamp replacement. The TL5 HE Eco lamp offers excellent lumen maintenance and color rendering. Application areas vary from offices and industry to schools and retail environments.

Product Benefits

- Up to 10% energy saving with simply changing the lamp
- The same quality of light as compared with MASTER TL5 HE lamps
- All benefits of regular TL5 lamps

Product Features

- High lamp efficacies up to 114 lm/W



	A	B	C	D
mm	max.	min.	max.	max.
1	549	553.7	556.1	563.2
2	849	853.7	856.1	863.2
3	1149	1153.7	1156.1	1163.2
4	1449	1453.7	1456.1	1463.2

- Up to 10% power reduction in comparison with standard MASTER TL5 HE lamps
- Fluorescent Super 80 light quality

Environment

- Best environmental choice because of highest available energy efficiency for fluorescent lighting
- Less material, packaging, weight, transport and recycling volume due to smallest product dimensions
- This product range is RoHS compliant
- This product range is covered by WEEE

Application

- Ideally suited for recessed, surface-mounted and suspended luminaires e. g. in offices, shops, schools, public buildings and industry (low ceiling), wherever high-quality, energy-efficient lighting is required

Warnings and Safety

- A reduction in energy consumption is only achieved with current-controlled gear.
- The lamps operate perfectly with power-controlled gear, but in that case the light output can be up to 10% higher.
- A lamp breaking is extremely unlikely to have any impact on your health. If a lamp breaks, ventilate the room for 30 minutes and remove the parts, preferably with gloves. Put them in a sealed plastic bag and take it to your local waste facilities for recycling. Do not use a vacuum cleaner.

Type	Wattage/ Colour Code	Pack- ing type	Packing configu- ration		Luminous Flux EL 25°C, Rated (lm)	Colour Tem- perature (K)	Luminous Flux Lamp EL 35°C (lm)	Life to 50% fail Preheat EL, 3h (h)	Energy consumption kWh/1000h (kWh)		mm	Ordering number
MASTER TL5 HE Eco	13=14W/830	ISL	40	G5	1,150	3,000	1,350	25,000	14	A+	1	872790090800801
MASTER TL5 HE Eco	13=14W/830	UNP	40	G5	1,150	3,000	1,350	25,000	14	A+	1	872790088081600
MASTER TL5 HE Eco	13=14W/835	UNP	40	G5	1,150	3,500	1,350	25,000		A	1	872790088082300
MASTER TL5 HE Eco	13=14W/840	ISL	20	G5	1,150	4,000	1,350	25,000	14	A+	1	872790090806000
MASTER TL5 HE Eco	13=14W/840	ISL	40	G5	1,150	4,000	1,350	25,000	14	A+	1	872790090806001
MASTER TL5 HE Eco	13=14W/840	UNP	40	G5	1,150	4,000	1,350	25,000	14	A+	1	872790088083000
MASTER TL5 HE Eco	13=14W/865	ISL	20	G5	1,075	6,500	1,250	25,000	14	A+	1	872790090808400
MASTER TL5 HE Eco	13=14W/865	ISL	40	G5	1,075	6,500	1,250	25,000	14	A+	1	872790090808401
MASTER TL5 HE Eco	19=21W/830	ISL	40	G5	1,800	3,000	2,100	25,000	21	A+	2	872790091812001
MASTER TL5 HE Eco	19=21W/835	UNP	40	G5	1,800	3,500	2,100	25,000		A	2	871829115346700
MASTER TL5 HE Eco	19=21W/840	ISL	20	G5	1,800	4,000	2,100	25,000	21	A+	2	872790091814400
MASTER TL5 HE Eco	19=21W/840	ISL	40	G5	1,800	4,000	2,100	25,000	21	A+	2	872790091814401
MASTER TL5 HE Eco	25=28W/830	ISL	40	G5	2,600	3,000	2,900	25,000	28	A+	3	872790090818301
MASTER TL5 HE Eco	25=28W/830	UNP	40	G5	2,600	3,000	2,900	25,000	28	A+	3	872790082588600
MASTER TL5 HE Eco	25=28W/835	UNP	40	G5	2,600	3,500	2,900	25,000	28	A+	3	871829115350400
MASTER TL5 HE Eco	25=28W/840	ISL	20	G5	2,600	4,000	2,900	25,000	28	A+	3	872790090820600
MASTER TL5 HE Eco	25=28W/840	ISL	40	G5	2,600	4,000	2,900	25,000	28	A+	3	872790090820601
MASTER TL5 HE Eco	25=28W/840	UNP	40	G5	2,600	4,000	2,900	25,000	28	A+	3	872790082589300
MASTER TL5 HE Eco	25=28W/865	ISL	20	G5	2,425	6,500	2,700	25,000	28	A+	3	872790090822000
MASTER TL5 HE Eco	25=28W/865	ISL	40	G5	2,425	6,500	2,700	25,000	28	A+	3	872790090822001
MASTER TL5 HE Eco	25=28W/865	UNP	40	G5	2,425	6,500	2,700	25,000	28	A+	3	872790090056900
MASTER TL5 HE Eco	32=35W/830	ISL	40	G5	3,250	3,000	3,650	25,000	35	A+	4	872790090824401
MASTER TL5 HE Eco	32=35W/830	UNP	40	G5	3,250	3,000	3,650	25,000	35	A+	4	872790082592300
MASTER TL5 HE Eco	32=35W/835	UNP	40	G5	3,250	3,500	3,650	25,000	35	A+	4	871829115353500
MASTER TL5 HE Eco	32=35W/840	ISL	20	G5	3,250	4,000	3,650	25,000	35	A+	4	872790090826800
MASTER TL5 HE Eco	32=35W/840	ISL	40	G5	3,250	4,000	3,650	25,000	35	A+	4	872790090826801
MASTER TL5 HE Eco	32=35W/840	UNP	40	G5	3,250	4,000	3,650	25,000	35	A+	4	872790082593000
MASTER TL5 HE Eco	32=35W/865	ISL	20	G5	3,025	6,500	3,400	25,000	35	A+	4	872790090828200
MASTER TL5 HE Eco	32=35W/865	ISL	40	G5	3,025	6,500	3,400	25,000	35	A+	4	872790090828201

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Additional technical data

Product name	Dimmable	Color Rendering Index (R _a)	Color Code	Color Designation (text)	Energy consumption kWh/1000h (kWh)	Mercury (Hg) Content (mg)	Bulb
MASTER TL5 HE Eco 19=21W/840	yes	82	840	Cool White	21	1.4	T5
MASTER TL5 HE Eco 13=14W/830	yes	82	830	Warm white	14	1.4	T5
MASTER TL5 HE Eco 13=14W/835	yes	82	835	White	-	1.4	T5
MASTER TL5 HE Eco 13=14W/840	yes	82	840	Cool White	14	1.4	T5
MASTER TL5 HE Eco 13=14W/865	yes	82	865	Cool Daylight	14	1.4	T5
MASTER TL5 HE Eco 25=28W/830	yes	82	830	Warm white	28	1.4	T5
MASTER TL5 HE Eco 25=28W/835	yes	82	835	White	28	1.4	T5
MASTER TL5 HE Eco 25=28W/840	yes	82	840	Cool White	28	1.4	T5
MASTER TL5 HE Eco 25=28W/865	yes	82	865	Cool Daylight	28	1.4	T5
MASTER TL5 HE Eco 32=35W/830	yes	82	830	Warm white	35	1.4	T5
MASTER TL5 HE Eco 32=35W/835	yes	82	835	White	35	1.4	T5
MASTER TL5 HE Eco 32=35W/840	yes	82	840	Cool White	35	1.4	T5
MASTER TL5 HE Eco 32=35W/865	yes	82	865	Cool Daylight	35	1.4	T5
MASTER TL5 HE Eco 19=21W/830	yes	82	830	Warm white	21	1.4	T5
MASTER TL5 HE Eco 19=21W/835	yes	82	835	White	-	1.4	T5

2nd additional technical data

Product name	Life to 10% fail Preheat EL,3h (h)	Life to 50% fail Preheat EL,3h (h)
MASTER TL5 HE Eco 19=21W/840	21000	25000
MASTER TL5 HE Eco 13=14W/830	21000	25000
MASTER TL5 HE Eco 13=14W/835	21000	25000
MASTER TL5 HE Eco 13=14W/840	21000	25000
MASTER TL5 HE Eco 13=14W/865	21000	25000
MASTER TL5 HE Eco 25=28W/830	21000	25000
MASTER TL5 HE Eco 25=28W/835	21000	25000
MASTER TL5 HE Eco 25=28W/840	21000	25000
MASTER TL5 HE Eco 25=28W/865	21000	25000
MASTER TL5 HE Eco 32=35W/830	21000	25000
MASTER TL5 HE Eco 32=35W/835	21000	25000
MASTER TL5 HE Eco 32=35W/840	21000	25000
MASTER TL5 HE Eco 32=35W/865	21000	25000
MASTER TL5 HE Eco 19=21W/830	21000	25000
MASTER TL5 HE Eco 19=21W/835	21000	25000

Product name	LSF HF Preheat 2000h Rated,3h (%)	LSF HF Preheat 4000h Rated,3h (%)	LSF HF Preheat 6000h Rated,3h (%)	LSF HF Preheat 8000h Rated,3h (%)	LSF HF Preheat 12000h Rated,3h (%)	LSF HF Preheat 16000h Rated,3h (%)	LSF HF Preheat 20000h Rated,3h (%)
MASTER TL5 HE Eco 19=21W/840	99	99	99	99	99	99	94
MASTER TL5 HE Eco 13=14W/830	99	99	99	99	99	99	94
MASTER TL5 HE Eco 13=14W/835	99	99	99	99	99	99	94
MASTER TL5 HE Eco 13=14W/840	99	99	99	99	99	99	94
MASTER TL5 HE Eco 13=14W/865	99	99	99	99	99	99	94
MASTER TL5 HE Eco 25=28W/830	99	99	99	99	99	99	94
MASTER TL5 HE Eco 25=28W/835	99	99	99	99	99	99	94
MASTER TL5 HE Eco 25=28W/840	99	99	99	99	99	99	94
MASTER TL5 HE Eco 25=28W/865	99	99	99	99	99	99	94
MASTER TL5 HE Eco 32=35W/830	99	99	99	99	99	99	94
MASTER TL5 HE Eco 32=35W/835	99	99	99	99	99	99	94
MASTER TL5 HE Eco 32=35W/840	99	99	99	99	99	99	94
MASTER TL5 HE Eco 32=35W/865	99	99	99	99	99	99	94
MASTER TL5 HE Eco 19=21W/830	99	99	99	99	99	99	94
MASTER TL5 HE Eco 19=21W/835	99	99	99	99	99	99	94

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3rd additional technical data

Product name	LLMF HF 2000h Rated (%)	LLMF HF 4000h Rated (%)	LLMF HF 6000h Rated (%)	LLMF HF 8000h Rated (%)	LLMF HF 12000h Rated (%)	LLMF HF 16000h Rated (%)	LLMF HF 20000h Rated (%)
MASTER TL5 HE Eco 19=21W/840	96	95	94	93	92	91	90
MASTER TL5 HE Eco 13=14W/830	96	95	94	93	92	91	88
MASTER TL5 HE Eco 13=14W/835	96	95	94	93	92	91	90
MASTER TL5 HE Eco 13=14W/840	96	95	94	93	92	91	90
MASTER TL5 HE Eco 13=14W/865	96	95	94	93	92	91	90
MASTER TL5 HE Eco 25=28W/830	96	95	94	93	92	91	90
MASTER TL5 HE Eco 25=28W/835	96	95	94	93	92	91	90
MASTER TL5 HE Eco 25=28W/840	96	95	94	93	92	91	90
MASTER TL5 HE Eco 25=28W/865	96	95	94	93	92	91	90
MASTER TL5 HE Eco 32=35W/830	96	95	94	93	92	91	90
MASTER TL5 HE Eco 32=35W/835	96	95	94	93	92	91	90
MASTER TL5 HE Eco 32=35W/840	96	95	94	93	92	91	90
MASTER TL5 HE Eco 32=35W/865	96	95	94	93	92	91	90
MASTER TL5 HE Eco 19=21W/830	96	95	94	93	92	91	90
MASTER TL5 HE Eco 19=21W/835	96	95	94	93	92	91	90

Logistic data

Product name	Packing type	Packing type description	Packs per outer box	Packing configuration
MASTER TL5 HE Eco 19=21W/840	ISL	I Sleeve Open End	20	20
MASTER TL5 HE Eco 13=14W/830	UNP	Unpacked	40	40
MASTER TL5 HE Eco 13=14W/830	ISL	I Sleeve Open End	40	40
MASTER TL5 HE Eco 13=14W/835	UNP	Unpacked	40	40
MASTER TL5 HE Eco 13=14W/840	ISL	I Sleeve Open End	40	40
MASTER TL5 HE Eco 13=14W/840	UNP	Unpacked	40	40
MASTER TL5 HE Eco 13=14W/840	ISL	I Sleeve Open End	20	20
MASTER TL5 HE Eco 13=14W/865	ISL	I Sleeve Open End	20	20
MASTER TL5 HE Eco 13=14W/865	ISL	I Sleeve Open End	40	40
MASTER TL5 HE Eco 25=28W/830	ISL	I Sleeve Open End	40	40
MASTER TL5 HE Eco 25=28W/830	UNP	Unpacked	40	40
MASTER TL5 HE Eco 25=28W/835	UNP	Unpacked	40	40
MASTER TL5 HE Eco 25=28W/840	ISL	I Sleeve Open End	20	20
MASTER TL5 HE Eco 25=28W/840	ISL	I Sleeve Open End	40	40
MASTER TL5 HE Eco 25=28W/840	UNP	Unpacked	40	40
MASTER TL5 HE Eco 25=28W/865	UNP	Unpacked	40	40
MASTER TL5 HE Eco 25=28W/865	ISL	I Sleeve Open End	20	20
MASTER TL5 HE Eco 25=28W/865	ISL	I Sleeve Open End	40	40
MASTER TL5 HE Eco 32=35W/830	ISL	I Sleeve Open End	40	40
MASTER TL5 HE Eco 32=35W/830	UNP	Unpacked	40	40
MASTER TL5 HE Eco 32=35W/835	UNP	Unpacked	40	40
MASTER TL5 HE Eco 32=35W/840	UNP	Unpacked	40	40
MASTER TL5 HE Eco 32=35W/840	ISL	I Sleeve Open End	40	40
MASTER TL5 HE Eco 32=35W/840	ISL	I Sleeve Open End	20	20
MASTER TL5 HE Eco 32=35W/865	ISL	I Sleeve Open End	20	20
MASTER TL5 HE Eco 32=35W/865	ISL	I Sleeve Open End	40	40
MASTER TL5 HE Eco 19=21W/830	ISL	I Sleeve Open End	40	40
MASTER TL5 HE Eco 19=21W/835	UNP	Unpacked	40	40
MASTER TL5 HE Eco 19=21W/840	ISL	I Sleeve Open End	40	40

Product name	Quantity per pack	Packing length (mm)	Packing width (mm)	Packing height (mm)	Gross weight per piece (g)	Net weight per piece (g)
MASTER TL5 HE Eco 19=21W/840	I	883	106	83	103.80	80.50
MASTER TL5 HE Eco 13=14W/830	I	574	164	102	64.55	53.00
MASTER TL5 HE Eco 13=14W/830	I	574	164	102	67.65	54.00
MASTER TL5 HE Eco 13=14W/835	I	574	164	102	64.55	53.00
MASTER TL5 HE Eco 13=14W/840	I	574	164	102	55.38	40.73
MASTER TL5 HE Eco 13=14W/840	I	574	164	102	64.55	53.00
MASTER TL5 HE Eco 13=14W/840	I	580	106	83	67.00	54.00
MASTER TL5 HE Eco 13=14W/865	I	580	106	83	67.00	54.00
MASTER TL5 HE Eco 13=14W/865	I	574	164	102	55.50	40.85
MASTER TL5 HE Eco 25=28W/830	I	1190	164	102	131.75	96.60
MASTER TL5 HE Eco 25=28W/830	I	1174	164	102	124.00	104.50
MASTER TL5 HE Eco 25=28W/835	I	1174	164	102	124.00	104.50
MASTER TL5 HE Eco 25=28W/840	I	1183	106	83	134.04	104.50
MASTER TL5 HE Eco 25=28W/840	I	1190	164	102	131.75	96.60
MASTER TL5 HE Eco 25=28W/840	I	1174	164	102	124.00	104.50
MASTER TL5 HE Eco 25=28W/865	I	1174	164	102	124.00	104.50
MASTER TL5 HE Eco 25=28W/865	I	1183	106	83	134.04	104.50
MASTER TL5 HE Eco 25=28W/865	I	1190	164	102	131.75	96.60
MASTER TL5 HE Eco 32=35W/830	I	1474	164	102	162.43	128.70

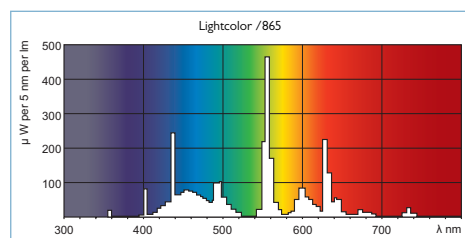
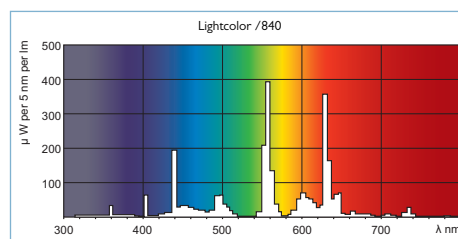
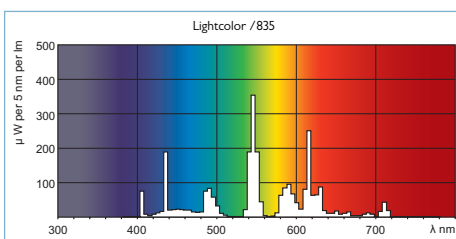
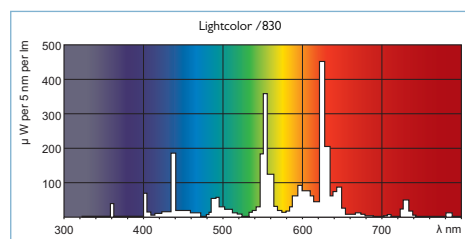
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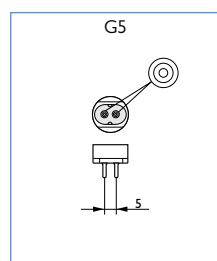
MASTER TL5 High Efficiency Eco



Product name	Quantity per pack	Packing length (mm)	Packing width (mm)	Packing height (mm)	Gross weight per piece (g)	Net weight per piece (g)
MASTER TL5 HE Eco 32=35W/830	I	1474	164	102	151.65	128.70
MASTER TL5 HE Eco 32=35W/835	I	1474	164	102	151.65	128.70
MASTER TL5 HE Eco 32=35W/840	I	1474	164	102	151.65	128.70
MASTER TL5 HE Eco 32=35W/840	I	1474	164	102	162.43	128.70
MASTER TL5 HE Eco 32=35W/840	I	1485	106	83	164.50	128.70
MASTER TL5 HE Eco 32=35W/865	I	1485	106	83	164.50	128.70
MASTER TL5 HE Eco 32=35W/865	I	1474	164	102	162.43	128.70
MASTER TL5 HE Eco 19=21W/830	I	874	164	102	101.30	80.50
MASTER TL5 HE Eco 19=21W/835	I	874	164	102	91.25	80.50
MASTER TL5 HE Eco 19=21W/840	I	874	164	102	101.30	80.50



Cap/base



Additional extended technical data

Product name	Lamp Voltage EL 35°C (V)	Luminance Average EL 25°C (cd/cm²)	Lum Efficacy Rated HF 25°C (lm/W)	Lum Efficacy Rated HF 35°C (lm/W)	Luminous Flux EL 25°C, Rated (lm)	Luminous Flux EL 25°C, Nominal (lm)	Luminous Flux Lamp EL 35°C (lm)	Technical Type	Lamp Current EL 35°C (A)
MASTER TL5 HE Eco 19=21W/840	111	-	96	112	1800	1800	2100	19 = 21W	0.17
MASTER TL5 HE Eco 13=14W/830	75	-	92	108	1150	1150	1350	13 = 14W	0.17
MASTER TL5 HE Eco 13=14W/835	75	-	92	104	1150	1150	1350	13 = 14W	0.17
MASTER TL5 HE Eco 13=14W/840	75	-	92	108	1150	1150	1350	13 = 14W	0.17
MASTER TL5 HE Eco 13=14W/865	75	-	86	100	1075	1075	1250	13 = 14W	0.17
MASTER TL5 HE Eco 25=28W/830	154	-	103	114	2600	2600	2900	25 = 28W	0.17
MASTER TL5 HE Eco 25=28W/835	154	-	103	114	2600	2600	2900	25 = 28W	0.17
MASTER TL5 HE Eco 25=28W/840	154	-	103	114	2600	2600	2900	25 = 28W	0.17
MASTER TL5 HE Eco 25=28W/865	154	-	96	106	2425	2425	2700	25 = 28W	0.17
MASTER TL5 HE Eco 32=35W/830	192	-	103	114	3250	3250	3650	32 = 35W	0.17
MASTER TL5 HE Eco 32=35W/835	192	-	103	111	3250	3250	3650	32 = 35W	0.17
MASTER TL5 HE Eco 32=35W/840	192	1.5	103	114	3250	3250	3650	32 = 35W	0.17
MASTER TL5 HE Eco 32=35W/865	192	-	95	106	3025	3025	3400	32 = 35W	0.17
MASTER TL5 HE Eco 19=21W/830	111	-	96	112	1800	1800	2100	19 = 21W	0.17
MASTER TL5 HE Eco 19=21W/835	111	-	96	110	1800	1800	2100	19 = 21W	0.17

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Product name	Chromaticity Coordinate X	Chromaticity Coordinate Y	Calibration Current (A)	HF Generator Rated Voltage (V)	Resistor (Ω)	ETIM Group
MASTER TL5 HE Eco 19=21W/840	380	380	0.17	234	725	EC000108
MASTER TL5 HE Eco 13=14W/830	440	403	0.17	159	500	EC000108
MASTER TL5 HE Eco 13=14W/835	409	394	0.17	159	500	EC000108
MASTER TL5 HE Eco 13=14W/840	380	380	0.17	159	500	EC000108
MASTER TL5 HE Eco 13=14W/865	313	337	0.17	159	500	EC000108
MASTER TL5 HE Eco 25=28W/830	440	403	0.17	311	950	EC000108
MASTER TL5 HE Eco 25=28W/835	409	394	0.17	311	950	EC000108
MASTER TL5 HE Eco 25=28W/840	380	380	0.17	311	950	EC000108
MASTER TL5 HE Eco 25=28W/865	313	337	0.17	311	950	EC000108
MASTER TL5 HE Eco 32=35W/830	440	403	0.17	392	1200	EC000108
MASTER TL5 HE Eco 32=35W/835	409	394	0.17	392	1200	EC000108
MASTER TL5 HE Eco 32=35W/840	380	380	0.17	392	1200	EC000108
MASTER TL5 HE Eco 32=35W/865	313	337	0.17	392	1200	EC000108
MASTER TL5 HE Eco 19=21W/830	440	403	0.17	234	725	EC000108
MASTER TL5 HE Eco 19=21W/835	409	394	0.17	234	725	EC000108