

Utilisation factor table

Room Index k	Reflectances (%) for ceiling, walls and working plane (CIE)											
	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10
0.60	0.44	0.42	0.43	0.42	0.41	0.34	0.32	0.28	0.31	0.27	0.24	0.24
0.80	0.54	0.51	0.53	0.51	0.50	0.42	0.40	0.35	0.39	0.34	0.31	0.31
1.00	0.63	0.58	0.61	0.58	0.57	0.49	0.47	0.42	0.45	0.41	0.37	0.37
1.25	0.71	0.65	0.68	0.66	0.63	0.56	0.54	0.48	0.51	0.47	0.43	0.43
1.50	0.77	0.70	0.74	0.71	0.68	0.61	0.59	0.54	0.56	0.52	0.48	0.48
2.00	0.87	0.77	0.83	0.79	0.75	0.69	0.66	0.62	0.63	0.60	0.55	0.55
2.50	0.93	0.82	0.89	0.84	0.80	0.75	0.71	0.67	0.68	0.65	0.60	0.60
3.00	0.98	0.86	0.94	0.88	0.83	0.79	0.75	0.72	0.72	0.69	0.64	0.64
4.00	1.04	0.90	0.99	0.93	0.88	0.84	0.80	0.77	0.77	0.74	0.69	0.69
5.00	1.08	0.93	1.03	0.96	0.90	0.87	0.83	0.80	0.79	0.77	0.72	0.72

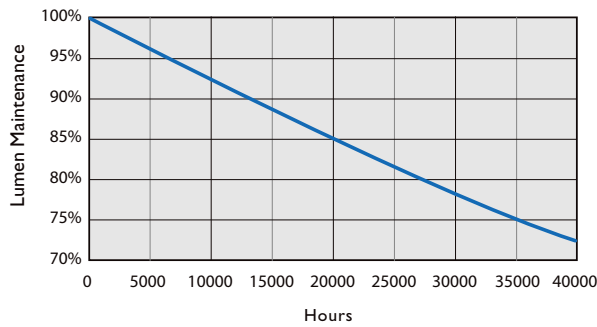
Ceiling mounted

Luminance Table

Plane	0.0	15.0	30.0	45.0	60.0	75.0	90.0
Ceiling							
45.0	9363	9088	9118	9470	10189	11436	13499
50.0	8744	8429	8419	8730	9406	10642	12816
55.0	8108	7773	7740	8027	8621	9789	12001
60.0	7506	7152	7096	7357	7857	8934	11160
65.0	6929	6539	6482	6715	7094	8026	10180
70.0	6389	6009	5915	6125	6563	7308	9107
75.0	5892	5543	5436	5631	5969	6703	7617
80.0	5508	5111	4992	5173	5508	6107	7068
85.0	5120	4720	4598	4776	4919	5479	6318
90.0	4784	4376	4244	4419	4550	5043	5848

(cd/m²)

Lifetime and Lumen Maintenance



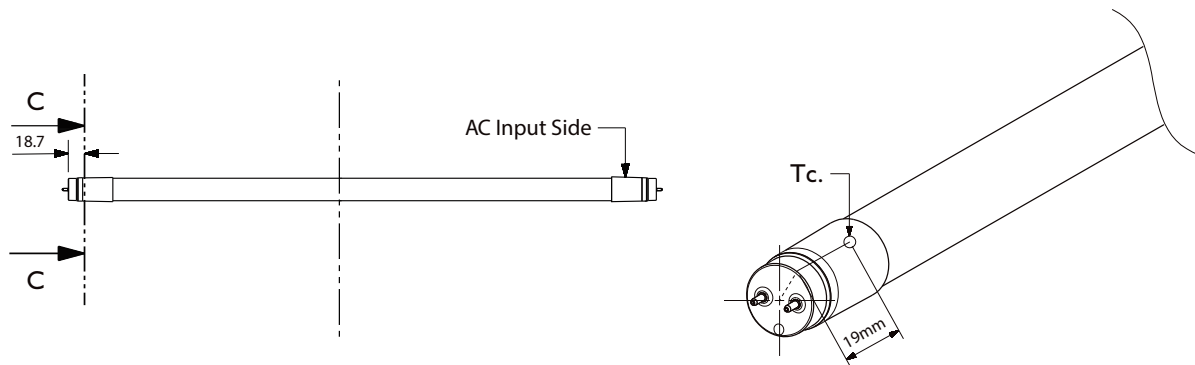
PHILIPS Master LEDtube Standard has a lifetime of 40,000 hours, defined as the number of hours when 50% of a large group of identical lamps below 70% of its initial lumens.

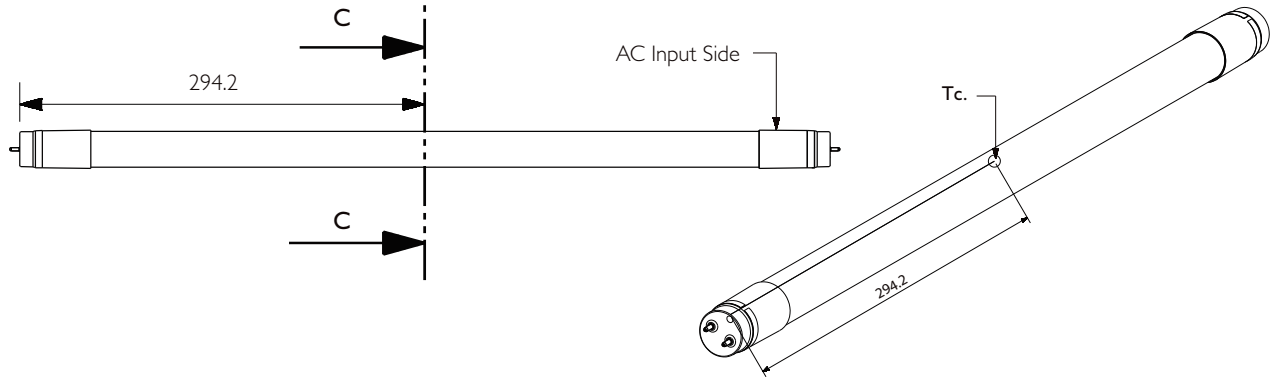
Temperature

Master LEDtube's excellent thermal design ensures low temperature during operating, which brings reliable and stable product performance throughout life time.

Operating temperature	T _{operating}	min -20°C	max +45°C
Storage temperature	T _{storage}	min -40°C	max +65°C
Maximum case temperature of tube at Tamb.=25°C	T _{case}	+55°C	

1200mm_18W (Dimension: mm)





Approbation & Certificates

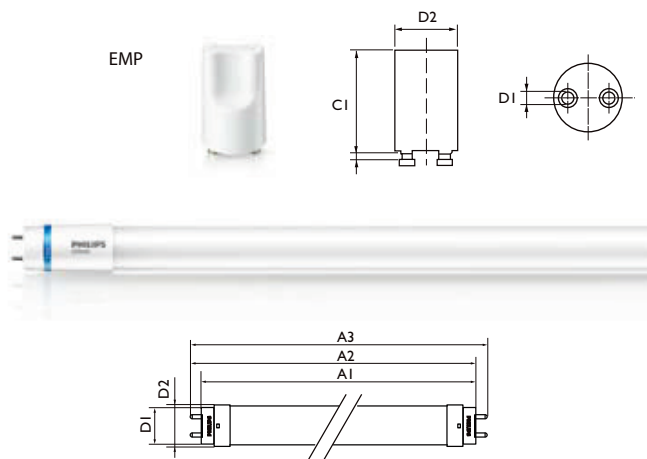
Philips Master LEDtube is designed by strictly following applicable legislation and international standard. The product complies with **CE, KEMA, TISI, RCM, RoHS** and **REACH**.



Technical specification

10NC	Product Description	Wattage	Equivalent Fluorescent Wattage	Voltage	Cap	Length	Beam angle	Lifetime	Lumen output (Typical)	Color Temp	CRI
		(W)	(W)	(V)		(mm)	(°)	(hrs)	(lm)	(K)	(Typical*)
	MAS LEDtube STD 1200mm 20W 830 T8 I										
	MAS LEDtube STD 1200mm 20W 840 T8 I										
929001178714	MAS LEDtube 1200mm 18W865 T8 AP I	18	36	100-240	G13	1200	150	40000	2100	6500	83
929001178744	MAS LEDtube 1200mm 18W865 T8 AP I IN	20	36	100-240	G13	1200	150	40000	1000	6500	83
	MAS LEDtube STD 600mm 10W 840 T8 I										
	MAS LEDtube STD 600mm 10W 865 T8 I										

* Minimum CRI is 80



Accessories

MASTER LEDtube

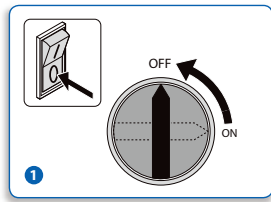
Protector EMP

Dimensions (mm)

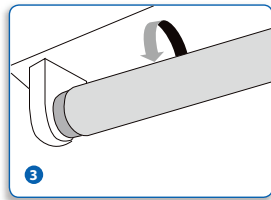
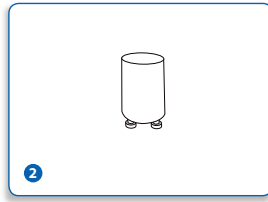
Product	A1	A2	A3	C1	D1	D2
1200mm	1198	1206	1213	-	25.68	28
600mm	589	596	603	-	25.68	28
EMP	-	-	-	34.5	3	21.5

Installation Guide

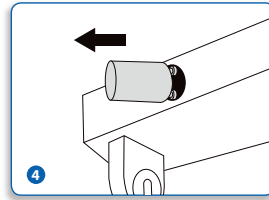
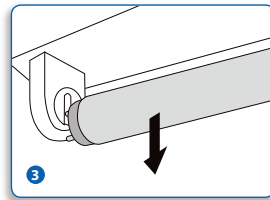
• EM ballast based system



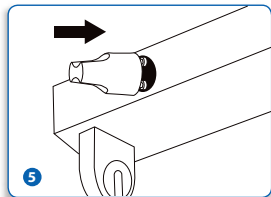
Mains Off



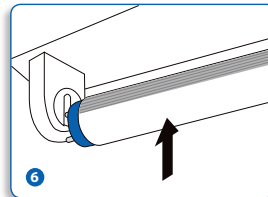
Remove all existing FLUORESCENT TUBES from luminaire



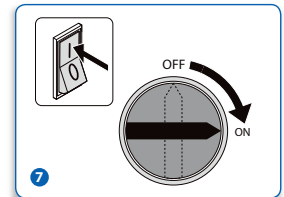
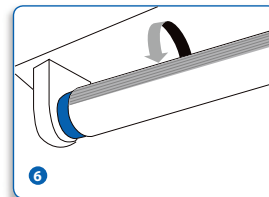
Remove all existing STARTERS from luminaire



Install EMP starter replacement only



Install the MASTER LEDtube

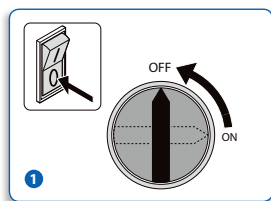


Turn on mains

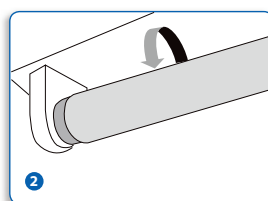
For EM ballast installations please check if a Power Factor Correcting Capacitor is installed in the existing circuit. If yes, please follow the instructions below:

- Please simply remove the capacitor if it is in parallel with the EM Ballast
- Please short circuit the capacitor if it is in series with the EM Ballast
- In case of 2ft/600mm lamps, if there is only one starter in the luminaire for 2 lamps, or 2 starters for 4 lamps, then rewire according to the SAFE rewiring instructions in next section

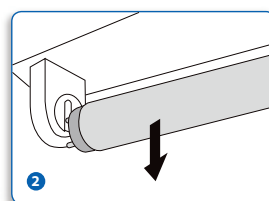
• HF ballast based system



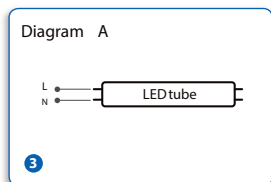
Mains Off



Remove all existing FLUORESCENT TUBES from luminaire

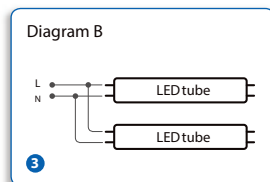


For 3 lamps use diagram A & B



3

For 4 lamps use diagram B & B

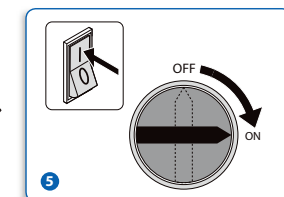


3



Warning sticker

4



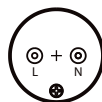
5

Turn on mains

Bypass existing HF BALLAST and rewire according to the following diagrams.

Please check the L/N markings on the lamp end and insert the lamp with AC mains supplied to the corresponding end.

To install the lamp in the wrong direction will lead to malfunction.



The supplied warning sticker must be placed on the luminaire and must be visible during lamp replacement