

POWERBALL® HCI®-TT

Technical Information

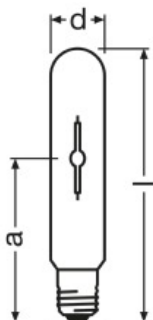


POWERBALL® HCI®-TT
for enclosed fixtures

General product description

- High intensity discharge lamps
- Metal halide lamps with ceramic burner
- UV-filter technology
- For luminaires with protective shield only
- Direct replacement of NAV lamps possible, Ignition Voltage according to IEC 60662

Basic technical description



Product reference	Nominal lamp wattage [W]	Cap	Correlated colour temperature [K]	Light colour code	Length max. (l) [mm]	Diameter (d) [mm]	Weight per piece [g]	Light centre length (a) [mm]	Typical lamp voltage ¹ [V]	Typical lamp current ¹ [A]
HCI-TT 50W/830 WDL PB	50	E27	3000	830	155	32	50	102	88	0.80
HCI-TT 70W/830 WDL PB	70	E27	3000	830	155	32	50	102	100	0.93
HCI-TT 100W/830 WDL PB	100	E40	3000	830	210	47	130	132	100	1.18
HCI-TT 150W/830 WDL PB	150	E40	3000	830	210	47	130	132	95	1.80
HCI-TT 250W/830 WDL PB	250	E40	3000	830	226	47	140	158	104	2.87

Performance specification¹

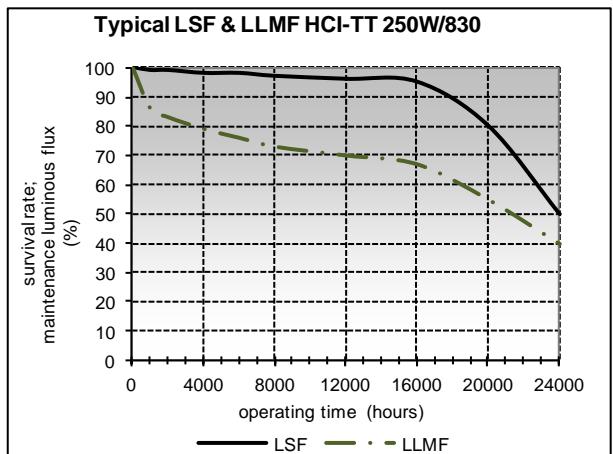
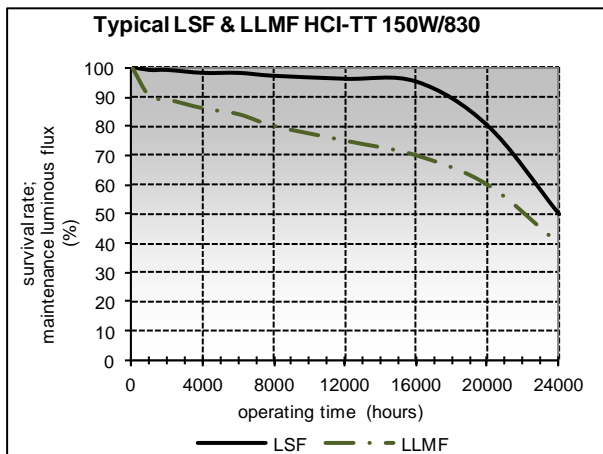
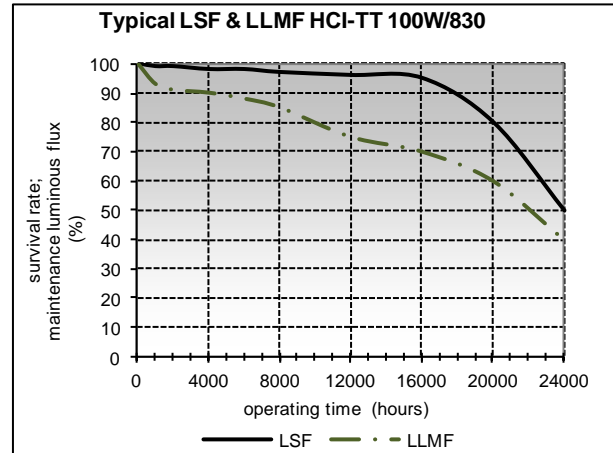
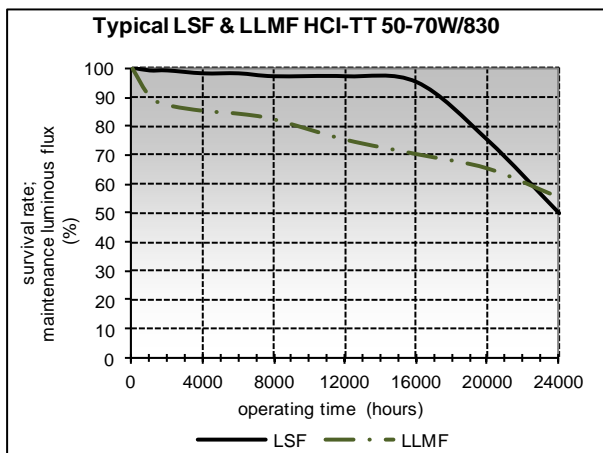
Product reference	Rated lamp wattage ² CCG/ECG [W]	Rated system wattage ² CCG/ECG [W]	Rated Luminous flux [lm]	Rated Luminous efficacy [lm/W]	Colour rendering index Ra	B5 [h]	B10 [h]	Average life (B50) [h]
HCI-TT 50W/830 WDL PB	54 / 50	66 / 55	5350	99	≥80	16000	18000	24000
HCI-TT 70W/830 WDL PB	74 / 72	86 / 80	7200	97	≥80	16000	18000	24000
HCI-TT 100W/830 WDL PB	98 / 100	118 / 106	10600	108	≥80	16000	18000	24000
HCI-TT 150W/830 WDL PB	146 / 147	166 / 160	15700	108	≥80	16000	18000	24000
HCI-TT 250W/830 WDL PB	252 / -	280 / -	27700	110	≥80	16000	18000	24000

¹ Refers to operation with a reference electromagnetic ballast (IEC 60923), the specified values refer to operation with electronic control gear at rated wattage, unless otherwise specified. They refer to horizontal burning position. Other burning positions may result in differing values.

² ECG values with OSRAM POWERTRONIC PTo, PTi

Product reference	Lamp lumen maintenance factor ³ (LLMF) vs. operation hours							
	2000h	4000h	6000h	8000h	12000h	16000h	20000h	24000h
HCI-TT 50W/830 WDL	87%	85%	84%	82%	75%	70%	65%	55%
HCI-TT 70W/830 WDL	87%	85%	84%	82%	75%	70%	65%	55%
HCI-TT 100W/830 WDL	87%	85%	82%	81%	78%	75%	68%	62%
HCI-TT 150W/830 WDL	89%	86%	84%	80%	75%	70%	60%	40%
HCI-TT 250W/830 WDL	83%	79%	76%	73%	70%	67%	55%	40%

Product reference	Lamp survival factor ⁴ (LSF) vs. operation hours							
	2000h	4000h	6000h	8000h	12000h	16000h	20000h	24000h
HCI-TT 50W/830 WDL	99%	99%	98%	97%	97%	95%	75%	50%
HCI-TT 70W/830 WDL	99%	99%	98%	97%	97%	95%	75%	50%
HCI-TT 100W/830 WDL	99%	99%	98%	97%	97%	95%	80%	50%
HCI-TT 150W/830 WDL	99%	99%	98%	97%	97%	95%	80%	50%
HCI-TT 250W/830 WDL	99%	99%	98%	97%	97%	95%	80%	50%



³ Indicates the percentage of luminous flux after a given period of operation time relative to the 100h values

⁴ Indicates the percentage of operational lamps after a given period of operation time.

Edition August 28, 2013; replaces edition February 13, 2013. Subject to change without notice. Errors and omissions excepted. Make sure to use the most recent edition.

Operation conditions

Product reference	Burning position	Max. permitted outer bulb temperature [°C]	Max. permitted base temperature [°C]	Ignition voltage min. ⁵ /max. ⁶ [kV]	Required control gear ⁷	Suitable OSRAM electronic control gear	Dimming
HCI-TT 50W/830 WDL PB	universal	350	210	1.8 / 5.0	ECG, CCG	PTo	Yes
HCI-TT 70W/830 WDL PB	universal	350	210	1.8 / 5.0	ECG, CCG	PTo	Yes
HCI-TT 100W/830 WDL PB	universal	450	210	3.3 / 5.0	ECG, CCG	PTo	Yes
HCI-TT 150W/830 WDL PB	universal	450	210	3.3 / 5.0	ECG, CCG	PTo	Yes
HCI-TT 250W/830 WDL PB	universal	500	250	3.3 / 5.0	ECG, CCG	-	Yes

Safety, materials and environment

Product description	Typical specific effective radiant UV power [mW/1000 lm]	Typical mercury content [mg]
HCI-TT 50W/830 WDL PB	≤ 2.0	5.6
HCI-TT 70W/830 WDL PB	≤ 2.0	5.6
HCI-TT 100W/830 WDL PB	≤ 2.0	8.2
HCI-TT 150W/830 WDL PB	≤ 2.0	24.0
HCI-TT 250W/830 WDL PB	≤ 2.0	21.3

- Compliant with safety specifications according to EN 62035
- Compliant with RoHS.
- Only for luminaires with protective shield according to IEC 60598-1
- For operation with an electromagnetic ballast⁸ a protection against rectifying effect at end-of-life required
- Staring to operating light source to be avoided because of high brightness

Energy labelling⁹

Product description	Energy efficiency class	Weighted energy consumption E _c [kWh/1000h]
HCI-TT 50W/830 WDL PB	A+	60
HCI-TT 70W/830 WDL PB	A+	82
HCI-TT 100W/830 WDL PB	A+	108
HCI-TT 150W/830 WDL PB	A+	161
HCI-TT 250W/830 WDL PB	A+	278

⁵ Minimum Ignition voltage according to IEC 60662

⁶ Maximum ignition voltage for the lamp

⁷ ECG stands for low frequency square wave electronic ballast, CCG stands for electromagnetic ballast according to IEC 61347

⁸ See IEC 61347.

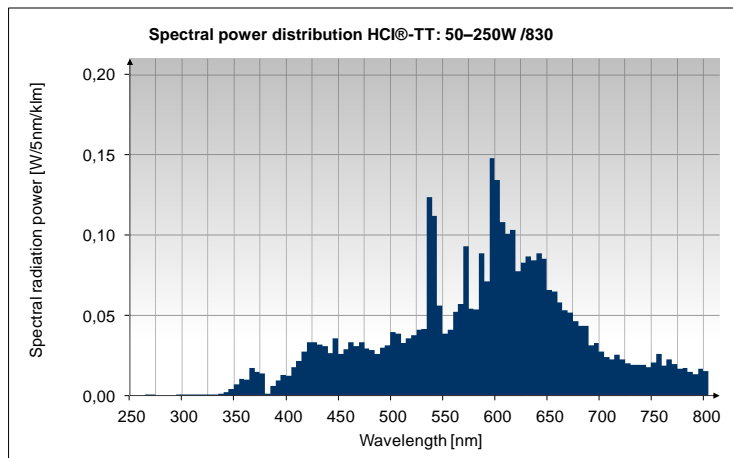
⁹ According to Regulation (EU) No 874/2012 of July 12, 2012

Edition August 28, 2013; replaces edition February 13, 2013. Subject to change without notice. Errors and omissions excepted. Make sure to use the most recent edition.

Logistics data

Product description	ILCOS	EAN 10	EAN 40	Standard pack quantity
HCI-TT 50W/830 WDL PB	MT/UB-50/30/1B-H-E27-32/150	4008321688873	4008321688880	12
HCI-TT 70W/830 WDL PB	MT/UB-70/30/1B-H-E27-32/155	4008321688897	4008321688903	12
HCI-TT 100W/830 WDL PB	MT/UB-100/30/1B-H-E40-47/204	4008321688910	4008321688927	12
HCI-TT 150W/830 WDL PB	MT/UB-150/30/1B-H-E40-47/210	4008321688934	4008321688941	12
HCI-TT 250W/830 WDL PB	MT/UB-250/30/1B-H-E40-47/226	4008321688958	4008321688965	12

Typical spectral power distribution



References

Reference	Location
Brochure "Metal halide lamps. Instructions for the use and application"	www.osram.com
Brochure "High Intensity Discharge lamps. Technical information on reducing the wattage"	www.osram.com
Ray data (e.g. ASAP, SPEOS, LightTools)	available on request
3D data (e.g. Parasolid, STEP)	available on request
System+ guarantee	level 3C, see www.osram.com