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POWERSTAR® HQI®-E

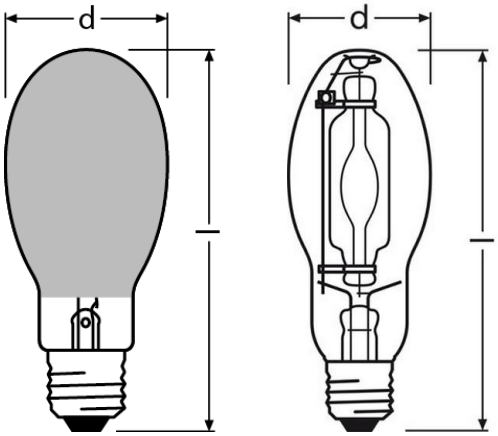
Technical Information

POWERSTAR® HQI®-E

General product description

- Metal halid lamp POWERSTAR® HQI® with quartz technology
- Approved for only use in enclosed fixtures
- Neutral white NDL and daylight D
- UV filter technology

Basic technical description



Product reference	Nominal lamp wattage [W]	Cap	Correlated colour temp. [K]	Comp. Cap. @50hz, cos φ ≈0.9 [µF]	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]
HQI-E 250W/D/PRO	250	E40	5200	32	952	226	90	170.0	n.a.	105	3.0
HQI-E 400W/N clear	400	E40	4000	45	640	290	120	249.2	198	127	3.8
HQI-E 400W/N coated	400	E40	4100	45	641	290	120		n.a.	127	3.8
HQI-E 400W/D/PRO	400	E40	5200	45	952	290	120	240.0	n.a.	115	4.0
HQI-E 1000W/N	1000	E40	3700	85	637	380	165	395.1	n.a.	125	9.5

Performance specification[2]

Product reference	Rated lamp wattage [W]	Rated system wattage[3] [W]	Luminous flux [lm]	Luminous efficacy [lm/W]	Colour rendering index Ra	Colour rendering level	Average life (B50) [h]
HQI-E 250W/D/PRO	250.0	n.a.	18000	72	92	1A	12000
HQI-E 400W/N clear	442.0	n.a.	42000	95	62	2B	12000
HQI-E 400W/N coated	444.0	n.a.	40000	90	62	2B	9000
HQI-E 400W/D/PRO	420.0	n.a.	34000	81	92	1A	16000
HQI-E 1000W/N	1065.0	n.a.	100000	94	62	2B	10000

[1] Refers to operation with a conventional ballast (IEC 60923).
[2] The specified values refer to operation with magnetic control gear at 50Hz and rated wattage, unless otherwise stated. They refer to base-up burning position, in line with IEC 61167. Other burning positions may result in differing values.
[3] With OSRAM POWERTRONIC PTi, PT-FIT or PTo

Product reference	Lamp lumen maintenance factor (LLMF) vs. operation hours					
	2000h	4000h	6000h	8000h	12000h	16000h
HQI-E 250W/D/PRO	84%	76%	74%	72%	68%	
HQI-E 400W/N clear	87%	80%	75%	70%	60%	
HQI-E 400W/N coated	87%	80%	72%	68%		
HQI-E 400W/D/PRO	83%	76%	70%	65%	55%	50%
HQI-E 1000W/N	85%	76%	67%	63%		

Product reference	Lamp survival factor[4] (LSF) vs. operation hours					
	2000h	4000h	6000h	8000h	12000h	16000h
HQI-E 250W/D/PRO	95%	90%	80%	70%	50%	
HQI-E 400W/N clear	99%	98%	93%	83%	50%	
HQI-E 400W/N coated	99%	95%	82%	62%		
HQI-E 400W/D/PRO	99%	98%	95%	90%	80%	50%
HQI-E 1000W/N	99%	98%	92%	77%		

Operation conditions

Product reference	Burning position	Max. permitted outer bulb temperature [°C]	Max. permitted base edge temperature [°C]	Ignition voltage min.[5] / max.[6] [kV]	Required control gear[7]	Suitable OSRAM electronic control gear	Dimming
HQI-E 250W/D/PRO	universal	400	250	4 / 5	CCG		not allowed
HQI-E 400W/N clear	h45	500	250	4 / 5	CCG		not allowed
HQI-E 400W/N coated	h45	500	250	4 / 5	CCG		not allowed
HQI-E 400W/D/PRO	universal	400	250	4 / 5	CCG		not allowed
HQI-E 1000W/N	h45	500	250	4 / 5	CCG		not allowed

[4] Indicates the percentage of operational lamps after a given period of operation time.
[5] For superimposed ignition with square wave electronic ballast 3.0 kV are sufficient.
[6] This limit is for safety reasons.
[7] ECG stands for low frequency square wave electronic ballast. See the respective lamp data sheet in IEC 61167 and Annexes G and H, therein.
CCG stands for electromagnetic ballast (see IEC 61347).

Safety, materials and environment

Product description	Typical specific effective radiant UV power [mW/1000 lm]	Typical mercury content [mg]
HQI-E 250W/D/PRO	<2	18.0
HQI-E 400W/N clear	<2	52.0
HQI-E 400W/N coated	<2	52.0
HQI-E 400W/D/PRO	<2	64.0
HQI-E 1000W/N	<2	132.0

- 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 ballast[8] a protection against rectifying effect at end-of-life required
- Staring to operating light source to be avoided because of high brightness

Energy labelling[9]

Product description	Energy efficiency class	Weighted energy consumption E_C [kWh/1000h]
HQI-E 250W/D/PRO	A	275
HQI-E 400W/N clear	A+	495
HQI-E 400W/N coated	A+	484
HQI-E 400W/D/PRO	A	462
HQI-E 1000W/N	A+	1172

Logistics data

Product description	ILCOS	EAN 10	EAN 40	Standard pack quantity
HQI-E 250W/D/PRO	ME/UB-250/952-H/E/SL-E40-91/226	4008321677907	4008321677914	12
HQI-E 400W/N clear	MC/UB-400/640-H/E/SL-E40-120/290	4008321526700	4008321526717	12
HQI-E 400W/N coated	ME/UB-400/641-H/E/SL-E40-120/290	4008321526724	4008321526731	12
HQI-E 400W/D/PRO	ME/UB-400/952-H/E/SL-E40-120/290	4008321677884	4008321677891	12
HQI-E 1000W/N	ME/UB-1000/637-H/E/SL-E40-165/380/V	4008321528261	4008321528278	6

[8] See IEC 61347.
[9] According to Regulation (EU) No 874/2012 of July 12, 2012

Typical spectral power distribution

Light colour code	Fig. no.
D/PRO 952	1
N clear 740	2
1000/N 738	3

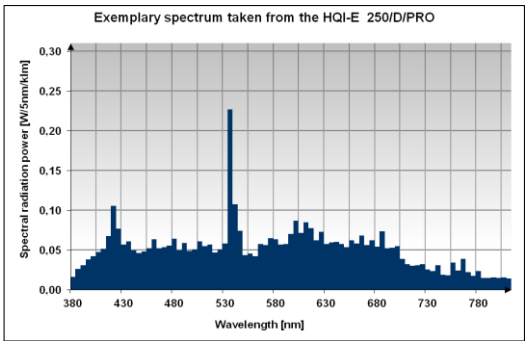


Fig 1

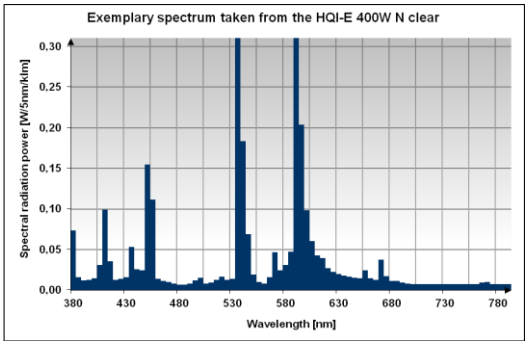


Fig 2

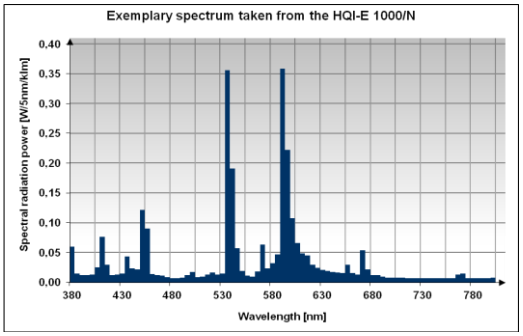


Fig 3

References

Reference	
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