GE
Lighting

WORLDWIDE PARTNER

CSR/CSD Metal Halide

For your best lighting performance

SHOWBIZ®
for stage, studio, film and event lighting

GE imagination at work

Discharge lamps for the world of entertainment

GE's CSR/CSD metal halide lamps can be used in a variety of applications including TV and film, stage, concerts, events, photographic, large screen presentation and colour simulation. They are available in both single and double-ended configurations to meet various fixture and application requirements.

GE has cold restrike versions for moving lights and hot restrike versions to ensure that, when time matters, there is no delay while lighting units cool.

With growing emphasis on UV emissions, GE also offers a UV-Control range.

CSR Turn and Lock (TAL)

The NEW range of GE CSR TAL lamps are now available from 300W to 1500W. These easy release lamps give users the advantage of being able to quickly remove lamps from the rear of the moving light fixture enabling the show to go on.

CSR Double ended

The CSR short double ended range includes a variety of colour temperatures ranging from 6000 - 9000 °K to meet the needs of users who need a range of high colour temperatures.

The shorter types of double ended lamps from 400W to 1500W are primarily for use in moving light applications. The more traditional types are used in film applications and range from 200W to the largest double ended lamp in the market, the NEW 24,000 W, giving over 2 million lumens. This gives the most demanding of lighting directors a large choice of light options in the studio or on the film set.

These are very robust lamps that withstand temperatures as high as 500 °C while ensuring constant performance over the life of the lamp. With arc gaps ranging from 3mm to 7mm and uniform dimensions, these lamps enable top operating performance, better optical control, colour stability, and superior lumen maintenance.

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CSR ultra violet control

With rising awareness of UV emissions on set, GE leads the way with its UV-Control lamps. A specially designed absorbing quartz offers greatly reduced UV emissions over standard products with no compromise to performance. GE offers the largest range of UV-Control lamps from 200 W to 6 kW and the significant reduction in UV is not only safer, but can help extend the useful life of reflectors, wiring, front lenses and fixtures.

The International Commission on Illumination (CIE) defines the UV bands as UV-A (315-400 nm); UV-B (280-315 nm) and UV-C (100-280 mm). We use a UV blocking titanium-cerium doped clear fused quartz for the lamp's outer jacket. This absorbs much of the UV-B and UV-C radiation while maintaining transmittance efficiency in the visible spectrum range.

Performance & colour point

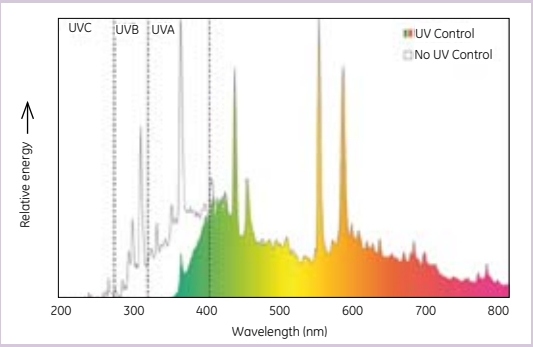
All performance parameters of lamps in the CSR UV-Control line are the same as their standard counterparts, apart from a small shift in colour point/colour temperature. The lumen output is high and colour rendering is 90+. The colour temperature rating of the UV-Control lamps is ca. 5600 °K compared to 6000 °K for the standard products. However, this shift is parallel to the black body line and within the limits of perceptible colour difference. The graph shows a typical shift from non-UV-Control to UV-Control.

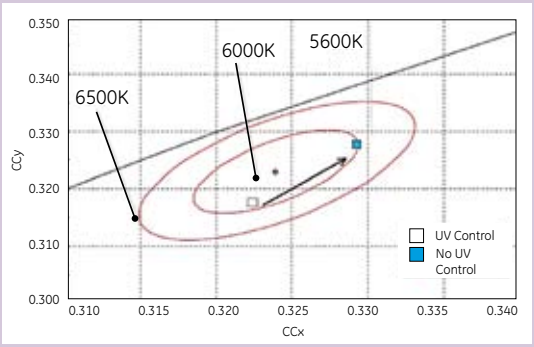
Blue tint of UV-Control lamp

UV-Control lamp identification

GE UV-Control lamps are easy to identify; the outer jacket fluoresces blue under black light. The blue tint in the quartz is also visible under normal lighting conditions, indoor or outdoor. The tint can be seen readily in the pinch area and the lamps are also distinguished by a blue base.

Spectra for CSR575/SE/HR standard and UV-Control lamps.





High temperature seals

GE's chromised seal process on many of its entertainment lighting products ensures maximum life performance. They will withstand up to 500 °C in many applications and so provide fixture manufacturers with flexible design options.

Colour control

The chemical system of GE CSR lamps ensures that colour temperature is stable and constant through the entire life of the lamp.

Lumen maintenance

The CSR line offers excellent lumen maintenance due to specially designed wall cleaning chemistries and with StayBrite(R) quartz technology ensures up to 90% through life

Performance tested, performance proven

>> Single ended hot restrike

Compact, single ended metal halide hot restrike lamps for a variety of applications requiring high luminance, reliability and excellent colour characteristics.

- Excellent colour rendering, Ra>90, and high CCT 5600–6000K with superior colour stability
- Universal burn position with hot restrike capability
- High efficiency with excellent lumen maintenance
- Lamps also available with ultra violet blocking

Applications

Indoor and outdoor TV and film production, stage, concerts, sporting events, photographic studios, overhead & large screen projection and colour simulation.

>> Single ended cold start

Compact, single ended metal halide cold start lamps for a variety of applications requiring high luminance, reliability and excellent colour characteristics.

- Excellent colour rendering Ra from 70–90+ and high CCT 7200–9000K with superior colour stability
- Universal burn position
- Dimmable with stable colour
- High efficiency with excellent lumen maintenance

Applications

Stage, concert, sporting events, and entertainment venues using intelligent and moving lights.

>> Double ended hot restrike

Double ended compact source rare earth metal halide hot restrike lamps from GE can be used in a variety of applications requiring high luminance, reliability and excellent colour characteristics.

- Industry Standard outline with hot restrike capability
- Excellent colour rendering Ra>90 and high CCT (6000K–9000K) with superior colour stability
- Dimmable with stable colour
- High efficiency with excellent lumen maintenance

Applications

Indoor and outdoor TV and film production, stage, concerts, sporting events, photographic studios, overhead and large screen projection and colour simulation.

>> CSR Single Ended Short Arc

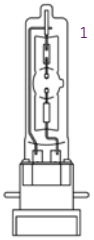
Metal halide short arc lamps. The special chromised seal protection allows an increased maximum operating temperature at the base of 500º C for added reliability and consistent performance.

- Ra 75+
- 5600–7200K
- Dimmable with stable colour
- High efficiency with excellent lumen maintenance

Applications

Moving head & intelligent lighting systems, concerts and stage.

Watts	Design volts	Description	Order code	Pack Qty	Bulb Type	Type Base	Initial design lumens	Colour temp	Colour CRI Index	Arc length	Rated life	CIE Colour		LCL	MOL	Burning Position	Fig no.
							lm	K		mm	h	x	y	mm	mm		
Discharge CSR/CSD (Daylight) Metal Halide, Turn and Lock																	
300	95	CSR300/2/TAL	76160	4		PGJX28	23,000	7800	75+	5	750			67	126	Universal	1
300		CSD300/2/TAL	TBA	4		PGJX28					2000						1
700	70	CSR700/TAL/60/PGJX50	76161	4		PGJX50	59,000	6000	85+	4	750			65	130	Universal	2
700	70	CSR700/TAL/60/PGJX28	78718	4		PGJX28	59,000	6000	85+	4	750			65	130	Universal	3
1500	100	CSR1500/TAL/60/S	74873	4		PGJX50	135,000	6000	85+	5	750			65	130	Universal	2
Discharge CSR/CSD (Daylight) Metal Halide, Single End Cold Start																	
250	94	CSD250/2/SE	27817	10	T7	GY9.5	17,700	9000	75	5	3000	0.287	0.296	55	108	Universal	4
575	97	CSR575/2/T/SE	49492	10	T9	GX9.5	42,000	7500	65+	7	1000	0.301	0.302	65	125	Universal	5
575	97	CSR575/2/SE	15378	10	T9	GX9.5	46,000	7200	65+	7	1000	0.302	0.320	65	125	Universal	5
700	70	CSR700/2/SE	49491	10	T9	G22	55,000	6500	70+	7.5	1000	0.312	0.325	75	155	Universal	6
1200	100	CSR1200/2/SE	49490	6	T12	G22	100,000	7000	70	10	800	0.305	0.315	85	175	Universal	7
Discharge CSR (Daylight) Metal Halide, Single End Short Arc																	
700	70	CSR700/SA	15380	10	G7	GY9.5	58,000	6200	70+	4	500	0.330	0.342	39	85	Universal	8
700	70	CSR700/SA/72	45234	10	G7	GY9.5	58,000	7200	70+	4	500	0.330	0.342	39	85	Universal	8
1200	100	CSR1200/SA	21849	6	G8	GY22	100,000	5800	75+	7	750	0.326	0.330	59	135	Universal	9
1800	100	CSR2000/SA	21801	6	G9	GY22	155,000	6000	75+	7	750	0.323	0.329	59	135	Universal	9
Discharge CSR (Daylight) Metal Halide, Single End Hot Restrike																	
125	80	CSR125/SE/HR	48461	10	T5	GZX9.5	9,800	5400	90	4	200	0.323	0.328	39	75	Universal	10
400	70	CSR400/SE/HR/75	45238	10	T7	GZZ9.5	28,000	7500	70+	5	750	0.323	0.320	60	110	Universal	11
575	95	CSR575/SE/HR	48463	10	T9.5	G22	50,000	5600	88	7	750	0.323	0.328	70	145	Universal	11
1200	100	CSR1200/SE/HR	48464	6	T13	G38	105,000	5600	90+	10	750	0.323	0.328	107	200	Universal	12
2500	115	CSR2500/SE/HR	48465	6	T19.5	G38	220,000	6000	90+	14	500	0.323	0.328	127	240	Universal	13
4000	200	CSR4000/SE/HR	48466	6	T24	G38	370,000	6000	90+	24	500	0.323	0.328	142	260	Universal	13
6000	130	CSR6000/SE/HR	48467	6	T26.5	G38	540,000	5900	90+	26	300	0.323	0.328	210	360	Universal	14
12000	160	CSR12000/SE/HR	48468	4	T32	G38	1,100,000	6000	90+	28	250	0.323	0.328	255	450	Universal	14
1800	225	CSR18000/SE/HR	22496	1	T32	G51	1,650,000	6000	90+	45	250	0.323	0.328	260	470	Universal	14
Discharge CSR (Daylight) Metal Halide, Single End Hot Restrike, UV Control																	
200	70	CSR200/SE/HR/UVC	48462	10	T6	GZY9.5	17,500	5600	95	5	200	0.323	0.328	39	80	Universal	10
400	70	CSR400/SE/HR/UVC	21853	10	T7	GZZ9.5	32,000	6000	85+	6	750	0.323	0.320	60	110	Universal	11
575	95	CSR575/SE/HR/UVC	40460	10	T9.5	G22	48,000	5600	85	7	750	0.330	0.325	70	145	Universal	11
800	95	CSR800/SE/HR/UVC	22495	10	T9.5	G22	64,000	5600	90+	8	750	0.325	0.327	70	145	Universal	11
1200	100	CSR1200/SE/HRUVC	27764	6	T13	G38	110,000	5600	90+	10	750	0.333	0.333	107	200	Universal	13
1800	140	CSR1800/SE/HRUVC	77390	4		G38	165,000	6000	90+	12	750	0.333	0.333	107	200	Universal	13
2500	115	CSR2500/SE/HRUVC	40482	6	T19.5	G38	220,000	5600	90+	14	500	0.330	0.325	124	240	Universal	13
4000	200	CSR4000/SE/HRUVC	27765	6	T24	G38	380,000	5600	90+	24	500	0.330	0.325	142	260	Universal	13
6000	130	CSR6000/SE/HRUVC	40492	6	T26.5	G38	540,000	5600	90+	26	300	0.333	0.333	210	360	Universal	14
Discharge CSR (Daylight) Metal Halide, Linear Double End Hot Restrike																	
200	80	CSR200/DE	48450	10	T4.5	X515	15,000	5600	90+	8	300	0.323	0.325		75	H15	15
400	49	CSR400/S/DE/70	22478	10	T6.5	SFc 10-4 Sl/M4	26,000	7000	70	3	1000	0.305	0.323		138	Universal	16
400	49	CSR400/S/DE/90	45232	10	T6.5	SFc 10-4 Sl/M4	24,000	9000	65+	3	750	0.305	0.323		138	Universal	16
575	95	CSR575/S/DE/70	70979	10	T6.5	SFc 10-4 Sl/M4	40,000	7000	75+	7	750	0.307	0.309		138	Universal	16
575	100	CSR575/SS/DE/75	45231	10	T6.5	SFc 10-4 Sl/M4	44,000	7500	70+	5	500	0.297	0.312		92	H15	16
700	70	CSR700/S/DE/60	22493	10	T6.5	SFc 10-4 Sl/M4	59,000	6000	75+	4	750	0.322	0.332		138	Universal	16
700	70	CSR700/S/DE/72	41357	10	T6.5	SFc 10-4 Sl/M4	51,000	7200	70	4	750	0.322	0.332		138	Universal	16
1200	100	CSR1200/S/DE/60	22494	10	T6.5	SFc 10-4 Sl/M4	110,000	6000	85	7	750	0.323	0.325		138	Universal	16
1200	100	CSR1200/S/DE/72	41361	10	T6.5	SFc 10-4 Sl/M4	103,000	7200	75+	7	750	0.323	0.328		138	Universal	16
1200	100	CSR1200/S/DE/60/STB	96802	10	T6.5	SFc 10-4 Sl/M4	105,000	6000	88	7	750	0.323	0.325		135	Universal	16
1200	100	CSR1200/DE	48453	6	T8.5	SFc 10-5-6 Sl/M6	110,000	6000	85+	10	750	0.323	0.325		220	H15	16
1500	115	CSR1500/S/DE/60/STB	96800	10	T6.5	SFc 10-4 Sl/M4	132,000	6000	85+	7	750	0.326	0.334		138	H15	16
2500	115	CSR2500/DE	48454	6	T9.5	Sta21-12	240,000	6000	90	14	500	0.323	0.325		355	H15	18
4000	200	CSR4000/DE	48455	6	T12	Sta21-12	400,000	6000	95	34	500	0.323	0.325		405	H15	18
6000	125	CSR6000/DE	48456	6	T16	25X51 Cyl 165mm	570,000	6000	90+	22	300	0.323	0.325		450	H15	19
12000	160	CSR12000/DE	48457	4	T22.5	30x70 Cyl 165mm	1,100,000	6000	90+	32	300	0.323	0.325		470	H15	19
18000	225	CSR18000/DE	48459	4	T28	30x70 Cyl 165mm	1,650,000	5600	90+	45	300	0.323	0.325		500	H15	20
24000	270	CSR24000/DE	78710	1		30x70 Cyl 165mm	2,300,000	6000	90+	45	400				500	H15	20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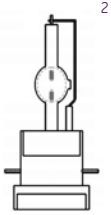
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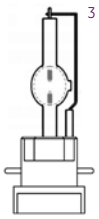
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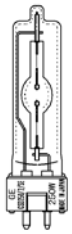
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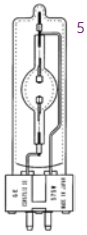
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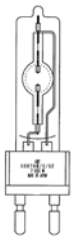
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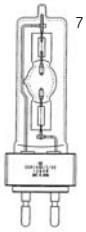
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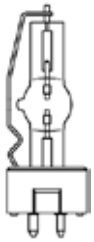
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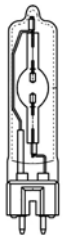
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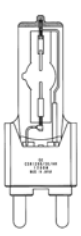
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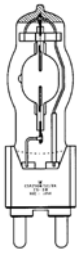
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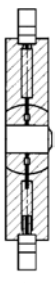
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19+20

Cross reference guide

GE description	GE Order Code	Osram description	Philips description
CSR300/2/TAL	76160		MSR 300/2 MiniFastFit
CSD300/2/TAL	TBA	HSD300W/80/P28	MSD 300/2 MiniFastFit
CSR700/TAL/60/PGJX50	76161	HTI 700W/75/P50	MSR 700 FastFit
CSR700/TAL/60/PGJX28	78718	HTI 700W/75/P28	MSR 700/2 MiniFastFit
CSR1500/TAL/60/S	74873	HTI 1500W/60/P50	MSR 1500 FastFit
Discharge CSR/CSD (Daylight) Metal Halide, Single End Cold Start			
CSD250/2/SE	27817	HSD250/80	MSD250/2
CSR575/2/T/SE	49492		
CSR575/2/SE	15378	HSR575/2	MSR575/2
CSR700/2/SE	49491	HSR700/2	MSR700/2
CSR1200/2/SE	49490	HSR1200/2	MSR1200/2
Discharge CSR (Daylight) Metal Halide, Single End Short Arc			
CSR700/SA	15380	HTI705W/SE	MSR700/SA
CSR700/SA/72	45234		
CSR1200/SA	21849	HTI1200W/SE	MSR1200/SA
CSR2000/SA	21801	HTI1800W/SE	MSR2000/SA
Discharge CSR (Daylight) Metal Halide, Single End Hot Restrike			
CSR125/SE/HR	48461	HMI125W	MSR125/HR
CSR400/SE/HR/75	45238		
CSR575/SE/HR	48463	HMI575W/SE	MSR575/HR
CSR1200/SE/HR	48464	HMI1200W/SE	MSR1200/HR
CSR2500/SE/HR	48465	HMI2500W/SE	MSR2500/HR
CSR4000/SE/HR	48466	HMI4000W/SE	MSR4000/HR
CSR6000/SE/HR	48467	HMI6000W/SE	MSR6000/HR
CSR12000/SE/HR	48468	HMI12000W/SE	MSR12000/HR
CSR18000/SE/HR	22496	HMI18000W/SE	MSR18000/HR
Discharge CSR (Daylight) Metal Halide, Single End Hot Restrike, UV Control			
CSR200/SE/HR/UVC	48462	HMI200W/SE	MSR200/HR
CSR400/SE/HR/UVC	21853	HMI400W/SE	MSR400/HR
CSR575/SE/HR/UVC	40460	HMI575W/SE	MSR575/HR
CSR800/SE/HR/UVC	22495		
CSR1200/SE/HRUVC	27764	HMI1200W/SE	MSR1200/HR
CSR1800/SE/HRUVC	77390	HMI1800W/SE/XS	
CSR2500/SE/HRUVC	40482	HMI2500W/SE	MSR2500/HR
CSR4000/SE/HRUVC	27765	HMI4000W/SE	MSR4000/HR
CSR6000/SE/HRUVC	40492	HMI6000W/SE	MSR6000/HR
Discharge CSR (Daylight) Metal Halide, Linear Double End Hot Restrike			
CSR200/DE	48450	HMI200W	
CSR400/S/DE/70	22478	HTI400W/D3/75	MSR400/SA/2/DE
CSR400/S/DE/90	45232		
CSR575/S/DE/70	70979	HTI575W/D4/75	MSR575/SA/2/DE
CSR575/SS/DE/75	45231		
CSR700/S/DE/60	22493	HTI700W/D4/60	
CSR700/S/DE/72	41357	HTI700W/D4/75	MSR700/SA/2/DE
CSR1200/S/DE/60	22494	HTI1200W/D7/60	MSR1200/SA/DE
CSR1200/S/DE/72	41361	HTI1200W/D7/75	MSR1200/SA/2/DE
CSR1200/S/DE/60/STB	96802		
CSR1200/DE	48453	HMI1200W/GS	MSI1200
CSR1500/S/DE/60/STB	96800	HTI1500 D7/60	
CSR2500/DE	48454	HMI2500W/GS	MSI2500
CSR4000/DE	48455	HMI4000W/GS	MSI4000
CSR6000/DE	48456	HMI6000W	MSI6000
CSR12000/DE	48457	HMI12000W/GS	MSI12000
CSR18000/DE	48459	HMI18000W	
CSR24000/DE	78710	HMI24000W/DXS	

Competitor lamps not UV-C

Lamp lumens is measured under controlled laboratory conditions in a prescribed burning position at rated watts. Initial Lumens refer to the lamp lumen output after 100-hours burning. Mean Lumens refer to the lamp lumen output at the mean lumen point during lamp life. The mean lumen point occurs at 40% rated life for metal halide lamps. All published data represents nominal values. Lamp performance on typical systems under typical service conditions may vary from the lumen ratings published. Lamp performance on actual systems may vary due to lamp orientation, ambient temperatures, ballast variations, and the lighting fixtures' electrical, thermal, and physical characteristics.

WARNING

Risk of electric shock
- Turn power off before inspection, installation or removal
- Do not use lamp directly exposed to water or outdoors without an enclosed fixture

Risk of fire
- Keep combustible materials away from lamp
- Use in fixture rated for this product

A damaged lamp emits UV radiation which may cause eye/skin injury
- Turn power off if glass bulb is broken
- Remove and dispose of lamp

Unexpected lamp rupture may cause injury, fire, or property damage
- Turn lamp off at least once for 15 minutes per week - FAILURE TO COMPLY INCREASES THE RISK OF RUPTURE
- Do not use beyond rated life
- Beyond rated life, light output diminishes while energy consumption and risk of lamp rupture increases
- Do not use lamp if outer glass is scratched or broken
- Do not use lamp where directly exposed to water or outdoors without an enclosed fixture
- Lamps with E-rated ANSI codes must be operated in enclosed fixtures - See Instructions
- Do not store flammable materials near/below S-rated lamp in open fixture
- Use only properly rated ballast
- Do not exceed rated voltage
- Do not turn on lamp until fully installed
- Operate lamp only in specified position
- If used on a dimming system, see instructions

CAUTION

Risk of burn
- Allow lamp to cool before handling
- Do not turn on lamp until fully installed

Lamp may shatter and cause injury if broken
- Wear safety glasses and gloves when handling lamp
- Do not use lamp if outer glass is scratched or broken
- Dispose of lamp in a closed container
- Do not use excessive force when installing

LAMP OPERATING CHARACTERISTICS: This is a discharge lamp and requires some time to restart and come to full brightness after a power interruption.
RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE: Beyond rated life, light output diminishes while energy consumption and risk of lamp rupture increases.
SPECIFIED OPERATING POSITIONS: VBU - Base up ± 15° , VBD - Base down ± 15°, HOR- Horizontal ± 15°, U – Universal. All lamps are rated for enclosed fixtures, except lamps with S-rated ANSI codes operated in vertical position only (Base Up or Base Down), ± 15 degrees, can be used in an open fixture.
MATCH ANSI CODE OF LAMP TO CODE ON BALLAST OR LUMINAIRE: Use in luminaire which comply with UL1598 or IEC 60598. When used, fixture lens/diffuser material must be able to contain fragments of hot quartz or glass (up to 1100oC). For total load, add auxiliary watts to lamp watts.
DIMMING SYSTEMS: Contact your GE Lighting sales representative

Ⓡ **WARNING:** This lamp can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available. This lamp certified to comply with FDA radiation performance standards, 21 CFR Subchapter J. USA: 21 CFR 1040.30 Canada: SOR/80-381

The products listed above conform to ANSI standards for designation listed, including temperature ratings, electrical performance, and physical information unless otherwise noted. Consult GE Lighting for specific details. For definition of terms used in this specifications and additional information refer to the GE Lamp Product Catalog and GE's website, www.gelighting.com. Information provided is subject to change without notice. Please verify all details with your GE Sales representative. All values are design or typical valueswhen measured under laboratory conditions and GE makes no warranty or guarantee, express or implied, that such performance will be obtained under end-user conditions.

Full details of the GE lamp range can be found in the Spectrum Catalogue, the Lamps and Ballasts Catalogue, or the GE website.

www.gelighting.com/eu www.gelighting.com/na

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