

Operation of Star LED-Retrofit Lamps Reflector PAR16 GU10
with various Dimmers



Legende:	green	dimmbaility very good (under 25% light)
	yellow	dimmmable (under 40% light)
	red	dimmbaility critical (flickering and/or sound possible, and/or only more than 40% light)
	white	not tested

T: Trailing edge phase dimmer
L: Leading edge phase dimmer
U: Universal dimmer

Manufacturer	Dimmer-Type, Model	Mains/ Power	Load Range [W]	Dimming Method
ABB	STD 50-3	230/50Hz	60-500	L
Altenburger	50,3	230/50Hz		
AURORA	DSP 400	230/50Hz	400	L
Berker	2861	230/50Hz	50-420	U
Bticino	L/N/NT4411NHC/HD/HS4411	230/50Hz		
Bticino	L/N/NT4408HC/HD/HS4408	230/50Hz		
bticino	NT4402N	230/50Hz	500	R
Busch-Jaeger	6513 U-102	230/50Hz	420	T
Busch-Jaeger	6523 U-102	230/50Hz	40-420	T
Busch-Jaeger	2250 U	230/50Hz	60-600	L
Busch-Jaeger	6526 U	230/50Hz		
CENTURY CONTROL	MULTI DIMMER	230/50Hz	60-600	U
DINUY	RE EL1 LE1	230/50Hz	400	LED
Domintell	DimMax 420 SL	230/50Hz	200	L/T
ELKO	400GLI	230/50Hz		
ELKO	315GLE	230/50Hz	20-315	T
ELKO	600GLE/I	230/50Hz		
ELKO	600GLI	230/50Hz	40-600	U
ELKO	420GLE/I	230/50Hz	40-420	U
ELKO	1000LRI	230/50Hz		
ELKO	630GLE	230/50Hz	20-630	U
Eltako	EUD61NPN-UC	230/50Hz	5-400	R / L / C
Feller	40200.LEDxxx	230/50Hz		
Feller	40600 RLC	230/50Hz	20-600	U
Feller	40600.RC	230/50Hz		
Feller	40600.RL	230/50Hz		
Feller	40420.RLC	230/50Hz		
Feller	31000	230/50Hz		
GIRA	226200	230/50Hz		
Gira	030700	230/50Hz	20-525	T
Gira	117600	230/50Hz	50-420	U
Gira	238500	230/50Hz		
Gira	217400	230/50Hz	4X20-250	KNX-U
Hager	WUD87	230/50Hz	400	LED-U
Hamilton	KPX140	230/50Hz	400	
Hugo Müller	paladin 872110 led	230/50Hz		
Jung	225 NVDE	230/50Hz	20-500	L
Jung	225 TDE	230/50Hz		
Jung	254 UDIE1	230/50Hz		
Jung	1224 LEDUDE	230/50Hz		LED
Jung	3904 REGHE	230/50Hz		
Legrand	665114	230/50Hz	400	U
Legrand	574319/574339	230/50Hz	400	U
Legrand	572239/572739	230/50Hz	400	U
Legrand	078407/079207	230/50Hz	400	U
Legrand	048869/048871	230/50Hz	400	U
Legrand	067083/048869	230/50Hz	400	U
Legrand	281084	230/50Hz	500	L
Legrand	617030	230/50Hz	600	L
Legrand	770061	230/50Hz	400	RL
Legrand	099314	230/50Hz	300	RL
Legrand	770062	230/50Hz	400	RLC
Legrand	617031	230/50Hz	1000	L
Legrand	078405	230/50Hz	600	RL
MASTER	DM-DGL	230/50Hz	1000	U / LED
MASTER	DM-2500	230/50Hz	2500	U / LED
Merten	MEG5136-0000	230/50Hz		
Merten	MEG5134-0000	230/50Hz		
Merten	MEG5139-0000	230/50Hz		
Merten	MEG5137-0000	230/50Hz		
Merten	MEG5133-0000	230/50Hz		
Merten	MEG5138-0000	230/50Hz		
Merten	MEG 5170-0300	230/50Hz	10-200	U
Merten	MEG 5131	230/50Hz	40-400	L
Merten	MEG 5132	230/50Hz		
Merten	MEG 5140	230/50Hz	9-100	L
Merten	MEG 5135	230/50Hz	60-1000	L
MK	K4501	230/50Hz	180	L
NEXUS	881P-01	230/50Hz	400	L
NIKO	310-0190001901	230/50Hz	5-200	U
NIKO	330-0070000701	230/50Hz	5-200	U
Odace	S520512	230/50Hz		
Odace	S520511	230/50Hz		
Odace	S520515	230/50Hz		
Odace	S520518	230/50Hz		
Osram	HTI DALI 315 DIM	230/50Hz	20-315	DALI-T
PEHA	435 HAN	230/50Hz	60-600	L
Schneider	400GLI	230/50Hz	40-400	T
Schneider	SBD315RC	230/50Hz		
Schneider	SBD200LED	230/50Hz	400	
Schneider	SBD600RCRL	230/50Hz		
Schneider	SBD630RC	230/50Hz		
Schneider	SBD600RL	230/50Hz		
Schneider	SBD420RCRL	230/50Hz		
Schneider	5170	230/50Hz		
Schneider	SBD400RL	230/50Hz		

PAR16 35 36°		PAR16 50 36°		PAR16 80 36°		PAR16 80 120°	
43519192		43519193		43319519		43519199	
		43519194		43319518		43518457	
		43519195		43519198		43519200	
no of lamps	dim range	no of lamps	dim range	no of lamps	dim range	no of lamps	dim range
1-20	99-2%	1-18	97-1%	1-2	90-27%	1-2	90-27%
1-3	99-0%	1-20	98-0%	1-20	90-16%	1-20	90-16%
1-11	99-0%	1-10	95-0%	1-20	90-26%	1-20	90-26%
1-10	99-0%	1-20	97-0%	1-20	91-30%	1-20	91-30%
1-9	100-0%	1-14	97-0%	1-10	80-9%	1-10	80-9%
1-20	100-0%	1-20	98-0%	2-10	92-0%	2-10	92-0%
				1-5	78-23%	1-5	78-23%
1-20	100-0%	1-20	97-3%	1-20	92-22%	1-20	92-22%
1-4	100-9%	1-7	97-6%				
				1-3	93-21%	1-3	93-21%
1-20	99-20%	1-16	98-24%				
1-4	99-0%	1-9	97-0%	1-7	90-15%	1-7	90-15%
		1-14	96-0%	1-7	99-5%	1-7	99-5%
1-16	100-0%	1-13	97-0%				
1-11	100-0%	1-12	97-0%	1-2	86-2%	1-2	86-2%
1-20	100-0%	1-20	98-0%	1-20	90-26%	1-20	90-26%
1-11	99-1%	1-13	98-5%	1-5	86-0%	1-5	86-0%
1-20	99-0%	1-20	98-0%	1-5	88-26%	1-5	88-26%
1-17	100-0%	1-15	98-0%	1-8	85-7%	1-8	85-7%
1-20	99-0%	1-20	96-0%	1-19	96-0%	1-19	96-0%
1-20	100-7%	1-20	98-1%	1-9	90-15%	1-9	90-15%
1-15	100-0%	1-14	97-0%	1-4	83-3%	1-4	83-3%
1-20	100-1%	1-20	98-1%	1-20	89-25%	1-20	89-25%
1-11	99-1%	1-13	98-5%	1-5	86-0%	1-5	86-0%
1-20	100-7%	1-20	98-1%	1-9	90-15%	1-9	90-15%
1-20	99-0%	1-20	98-0%	1-5	88-26%	1-5	88-26%
1-17	100-0%	1-15	98-0%	1-8	85-7%	1-8	85-7%
1-20	99-0%	1-20	96-0%	1-19	96-0%	1-19	96-0%
1-20	100-0%	1-18	97-0%	1-2	92-13%	1-2	92-13%
1-20	100-0%	1-20	98-0%	1-20	88-23%	1-20	88-23%
1-16	100-7%			2-20	90-29%	2-20	90-29%
				1-20	91-0%	1-20	91-0%
1	99-41%	1-15	96-36%	1-19	94-19%	1-19	94-19%
1-18	100-0%	1-16	98-0%	1-20	91-20%	1-20	91-20%
		1-14	96-0%	1-7	99-5%	1-7	99-5%
1-20	100-0%	1-18	97-0%	1-2	92-13%	1-2	92-13%
1-20	100-0%	1-20	98-0%	1-20	88-23%	1-20	88-23%
1-16	100-7%			2-20	90-29%	2-20	90-29%
				1-20	91-0%	1-20	91-0%
1	99-41%	1-15	96-36%	1-19	94-19%	1-19	94-19%
1-9	100-0%	1-14	97-0%	1-10	80-9%	1-10	80-9%
1-9	100-0%	1-14	97-0%	1-10	80-9%	1-10	80-9%
1-9	100-0%	1-14	97-0%	1-10	80-9%	1-10	80-9%
1-9	100-0%	1-14	97-0%	1-10	80-9%	1-10	80-9%
1-9	100-0%	1-14	97-0%	1-10	80-9%	1-10	80-9%
		1-17	97-0%				
		1-20	97-0%				
1-14	100-0%	1-15	98-0%		91-18%	2-4	91-18%
1-12	100-0%	1-11	98-0%				
1-16	100-0%	1-15	97-0%	1-20	91-0%	1-20	91-0%
1-20	100-3%	1-20	97-1%				
1-20	100-0%	1-20	98-0%	2-10	92-0%	2-10	92-0%
				1	96-3%	1	96-3%
1-20	99-0%	1-20	96-0%				
1-20	100-0%	1-20	98-0%	1-20	90-26%	1-20	90-26%
1-20	100-1%	1-20	98-1%	1-20	89-25%	1-20	89-25%
1-11	99-1%	1-13	98-5%	1-5	86-0%	1-5	86-0%
1-20	100-7%	1-20	98-1%	1-9	90-15%	1-9	90-15%
1-20	99-0%	1-20	98-0%	1-5	88-26%	1-5	88-26%
1-17	100-0%	1-15	98-0%	1-8	85-7%	1-8	85-7%
1-3	100-0%	1-15	98-0%				
1-16	99-0%	1-15	98-0%	1-6	87-0%	1-6	87-0%
1-16	99-0%	1-15	98-0%	1-6	87-0%	1-6	87-0%
1-3	99-0%	1-3	98-0%	1	83-0%	1	83-0%
1-20	99-0%	1-20	96-0%	1-19	96-0%	1-19	96-0%
1-4	99-0%	1-5	97-0%				
1-11	100-0%	1-11	97-0%				
1-6	99-0%	1-7	96-0%	1-14	97-12%	1-14	97-12%
1-5	99-0%	1-7	96-0%	1-3	98-12%	1-3	98-12%
1-20	100-1%	1-20	98-1%	1-20	89-25%	1-20	89-25%
1-20	99-0%	1-20	98-0%	1-5	88-26%	1-5	88-26%
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1-3	99-0%	1-3	98-0%	1	83-0%	1	83-0%
1-2	100-0%	1-20	98-0%	1-15	97-19%	1-15	97-19%
1-20	100-2%	1-20	98-0%	2	84-13%	2	84-13%
1-11	100-0%	1-12	97-0%	1-2	86-2%	1-2	86-2%
1-20	100-0%	1-20	98-0%	1-20	90-26%	1-20	90-26%
1-20	100-1%	1-20	98-1%	1-20	89-25%	1-20	89-25%
1-11	99-1%	1-13	98-5%	1-5	86-0%	1-5	86-0%
1-20	100-7%	1-20	98-1%	1-9	90-15%	1-9	90-15%
1-20	99-0%	1-20	98-0%	1-5	88-26%	1-5	88-26%
1-17	100-0%	1-15	98-0%	1-8	85-7%	1-8	85-7%
1-3	100-0%	1-15	98-0%				
1-16	99-0%	1-15	98-0%	1-6	87-0%	1-6	87-0%

Operation of Star LED-Retrofit Lamps Reflector PAR16 GU10
with various Dimmers



Legende:	green	dimmability very good (under 25% light)
	yellow	dimmable (under 40% light)
	red	dimmability critical (flickering and/or sound possible, and/or only more than 40% light)
	white	not tested

T: Trailing edge phase dimmer
L: Leading edge phase dimmer
U: Universal dimmer

							
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1-20	99-0%	1-20	96-0%	1-19	96-0%	1-19	96-0%
1-20	100-0%	1-20	98-0%	1-20	93-15%	1-20	93-15%
1-20	100-3%	1-2	98-2%	3-20	87-13%	3-20	87-13%
1-20	99-0%	1-20	96-0%	1-20	92-0%	1-20	92-0%
1-16	100-0%	1-14	98-0%	1-15	99-3%	1-15	99-3%
1-20	100-0%	1-20	97-0%	1-8	79-28%	1-8	79-28%
				1-2	92-15%	1-2	92-15%
1-8	100-0%	1-7	98-0%	1-7	90-11%	1-7	90-11%
1-11	100-0%	1-11	97-0%	1-2	92-0%	1-2	92-0%
				1-3	92-0%	1-3	92-0%
		1-18	56-0%	1-19	84-0%	1-19	84-0%
		1-13	97-0%	1-3	92-0%	1-3	92-0%

Typical values. Test performed with regarded lamps named. The test results reflect the measurement of the individual devices that were used in tests.
Radium does not take over any responsibility, warranty or liability that this results can also be achieved by using the devices under other conditions or when using successor models of the tested devices or different models of the same manufacturer. The test results were achieved by using the above mentioned LED-lamp types.
Radium does not take over any responsibility, warranty or liability that these results can also be achieved by using the devices under other conditions or when using other LED-lamp types.

Due to the big number of electronic components and many other influence factors noise can emerge in unfavourable condititons, which may be well audible in the case of resonance.
Generally speaking, employment of trailing edge dimmers is recommended. They require the neutral wire for installation.
Changes, errors and omissions excepted.