

Operation of LED-Retrofit Lamps RaLED Star Reflector MR16 GU5.3 with different Dimmers

Radium

Legend:	green	dimmability very good
	yellow	dimmable
	red	dimmability critical (flickering and/or sound possible, and/or only little change of 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	MR16 20		MR16 35		MR16 50	
					no of lamps	dim range	no of lamps	dim range	no of lamps	dim range
ABB	STD 50-3	230/50Hz	60-500	L	1 - 12	85%-8%	1 - 6	100%-6%	3 - 6	64%-2%
Altenburger Electronic	50.30	230/50Hz	15-350	T			1 - 6	100%-13%	1 - 6	90%-10%
AURORA	DSP 400	230/50Hz	400	L	1 - 12	99%-0%	1 - 6	100%-0%		
Berker	2861	230/50Hz	50-420	T	1 - 12	91%-23%	1 - 6	100%-18%	1 - 6	91%-10%
bticino	NT4402N	230/50Hz	500	R			3 - 6	75%-27%	3 - 6	50%-19%
bticino	L/N/NT 4408	230/50Hz	600	L			2 - 6	100%-0%	1 - 6	97%-0%
bticino	L/N/NT4411N	230/50Hz	400	L	1 - 12	78%-0%	1 - 6	100%-1%	1 - 6	73%-4%
Busch-Jaeger	2250 U	230/50Hz	60-600	L	1 - 12	99%-1%	1 - 6	100%-1%	2 - 6	74%-0%
Busch-Jaeger	6513U-102	230/50Hz	40-420	T					2 - 6	92%-29%
Busch-Jaeger	6526 U	230/50Hz	420	L					1 - 6	92%-35%
Busch-Jaeger	6523 U-102	230/50Hz	100	L			1 - 6	100%-13%		
Busch-Jaeger	2247 U-500	230/50Hz	60-500	T	1 - 12	85%-8%	1 - 6	100%-6%	3 - 6	64%-2%
CENTURY CONTROL	MULTI DIMMER	230/50Hz	60-600	L	1 - 12	88%-3%	2 - 6	100%-0%	3 - 6	92%-0%
DINUY	RE EL1 LE1	230/50Hz	400	L/T			1 - 6	100%-0%	1 - 6	98%-0%
ELKO	315GLE	230/50Hz	20-315	T	1 - 12	73%-15%	1 - 6	100%-13%	1 - 6	83%-1%
ELKO	400GLI	230/50Hz	40-400	T	1 - 12	100%-0%	1 - 6	97%-0%	2 - 6	74%-0%
ELKO	600GLi	230/50Hz	40-600	L			1 - 6	100%-0%	1 - 6	94%-0%
ELKO	1000LRI	230/50Hz	1000	L	1 - 12	100%-0%	3 - 6	100%-0%	1 - 6	100%-0%
ELKO	600GLE/I	230/50Hz	400	L / T			1 - 6	100%-2%	1 - 6	91%-12%
ELKO	420GLE/I	230/50Hz	40-420	U			2 - 6	100%-4%	3 - 6	91%-4%
ELKO	630GLE	230/50Hz	20-630	T			1 - 6	100%-2%	1 - 6	87%-2%
Eltako	EUD61NPN-UC	230/50Hz	5-400	R / L / T			1 - 6	100%-2%	1 - 6	91%-12%
Feller	40600.RC	230/50Hz	20-630	T			1 - 6	100%-2%	1 - 6	87%-2%
Feller	40200.LEDxxx	230/50Hz	252	T	1 - 12	78%-5%	1 - 6	100%-10%	1 - 6	88%-6%
Feller	40600.RL	230/50Hz	40-600	L			1 - 6	100%-0%	1 - 6	94%-0%
Feller	31000	230/50Hz	1000	L	1 - 12	100%-0%	3 - 6	100%-0%	1 - 6	100%-0%
Feller	40600 RLC	230/50Hz	400	L / T			1 - 6	100%-2%	1 - 6	91%-12%
Feller	40420.RLC	230/50Hz	600	L			2 - 6	100%-0%	1 - 6	91%-0%
Gira	030700	230/50Hz	20-525	L	1 - 12	93%-31%	1 - 6	100%-18%	1 - 6	91%-11%
Gira	1224 LEDUDE	230/50Hz		LED	1 - 12	93%-0%	2 - 6	100%-0%	1 - 6	85%-18%
Gira	117600	230/50Hz	50-420	U	1 - 12	100%-21%	1 - 6	100%-18%	1 - 6	82%-10%
Gira	226600	230/50Hz	20-500	L	1 - 12	98%-2%	1 - 6	100%-0%	2 - 6	67%-0%
Gira	217400	230/50Hz	250	T	1 - 12	100%-31%	1 - 6	100%-18%	1 - 6	96%-13%
Hager	WUD87	230/50Hz	400	LED-U	1 - 12	100%-26%	1 - 6	100%-19%	1 - 6	92%-15%
Hamilton	KP1X40	230/50Hz	400	L	1 - 12	92%-0%	3 - 6	100%-0%	3 - 6	91%-0%
Hugo Müller	paladin 872110	230/50Hz	400	L/T			1 - 6	100%-0%	1 - 6	98%-0%
Jung	225 TDE	230/50Hz	20-525	T	1 - 12	93%-31%	1 - 6	100%-18%	1 - 6	91%-11%
Jung	1224 LEDUDE	230/50Hz		LED	1 - 12	93%-0%	1 - 6	100%-0%	1 - 6	85%-18%
Jung	254 UDIE1	230/50Hz	50-420	U	1 - 12	100%-21%	1 - 6	100%-18%	1 - 6	82%-10%
Jung	225 NVDE	230/50Hz	20-500	L	1 - 12	98%-2%	1 - 6	100%-0%	2 - 6	67%-0%
Jung	3904REGHE	230/50Hz	250	T	1 - 12	100%-31%	1 - 6	100%-18%	1 - 6	96%-13%
Legrand	281080	230/50Hz	500	L						
Legrand	770062	230/50Hz	400	T	1 - 12	88%-0%	2 - 6	100%-0%	1 - 6	91%-0%
Legrand	048871	230/50Hz	3-150	LED	3 - 12	82%-26%	3 - 6	100%-33%	2 - 6	94%-24%
Legrand	770061	230/50Hz	400	RL						
Legrand	281084	230/50Hz	500	L	3 - 12	82%-26%	3 - 6	100%-33%	2 - 6	94%-24%
Legrand	78504	230/50Hz	600	L			2 - 6	100%-0%	1 - 6	97%-0%
Legrand	099314	230/50Hz	300	L			2 - 6	100%-0%	1 - 6	97%-0%
Legrand	665114	230/50Hz	400	L	1 - 12	78%-0%	1 - 6	100%-1%	1 - 6	73%-4%
Legrand	078407 / 079207	230/50Hz	400	L	1 - 12	78%-0%	1 - 6	100%-1%	1 - 6	73%-4%
MASTER	DM-2500	230/50Hz	2500	L			1 - 6	100%-1%	1 - 6	97%-1%
MASTER	DM-DGL	230/50Hz	1000	L			1 - 6	100%-0%	1 - 6	99%-0%
Merten	MEG 5170-0300	230/50Hz	10-200	T			3 - 6	70%-19%		
Merten	MEG 5136-0000	230/50Hz	20-315	T	1 - 12	73%-15%	1 - 6	100%-13%	1 - 6	83%-1%
Merten	MEG 5140	230/50Hz	9-100	L	1 - 12	83%-0%	3 - 6	100%-0%	1 - 6	63%-0%

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Manufacturer	Dimmer-Type, Model	Mains/ Power	Load Range [W]	Dimming Method	MR16 20		MR16 35		MR16 50	
					43119044		43119045 43119046 43119047		43119048 43119049 43119050	
					no of lamps	dim range	no of lamps	dim range	no of lamps	dim range
Merten	MEG 5137-0000	230/50Hz	40-420	T			1 - 6	100%-2%	1 - 6	87%-2%
Merten	MEG 5132	230/50Hz	40-400	L	3 - 12	100%-0%	1 - 6	100%-0%	1 - 6	88%-0%
Merten	MEG 5131	230/50Hz	40-400	L	3 - 12	100%-0%	1 - 6	100%-0%	1 - 6	88%-0%
Merten	MEG 5133-0000	230/50Hz	40-600	L			1 - 6	100%-0%	1 - 6	94%-0%
Merten	MEG 5139-0000	230/50Hz	400	L / T			1 - 6	100%-2%	1 - 6	91%-12%
Merten	MEG 5135	230/50Hz	60-1000	L	1 - 12	100%-0%	3 - 6	100%-0%	1 - 6	100%-0%
Merten	MEG 5138-0000	230/50Hz	40-420	U			2 - 6	100%-4%	3 - 6	91%-4%
Merten	MEG 5134	230/50Hz	525	T	1 - 12	78%-5%	1 - 6	100%-10%	1 - 6	88%-6%
MK	K4501	230/50Hz	180	L	3 - 12	89%-17%	1 - 6	100%-3%	1 - 6	82%-2%
NEXUS	881P-01	230/50Hz	400	L	1 - 12	100%-0%	3 - 6	100%-0%	1 - 6	82%-0%
NIKO	310-01900 / 01901	230/50Hz	5-200	L/T	1 - 12	100%-0%	1 - 6	100%-0%	1 - 6	100%-0%
NIKO	330-00700 / 00701	230/50Hz	5-200	L/T	1 - 12	100%-0%	1 - 6	100%-0%	1 - 6	100%-0%
Odace	S520518	230/50Hz	9-100	L	1 - 12	83%-0%	1 - 6	100%-0%	1 - 6	63%-0%
Odace	S520512	230/50Hz	525	T	1 - 12	78%-5%	1 - 6	100%-10%	1 - 6	88%-6%
Odace	S520511	230/50Hz	40-600	U			1 - 6	100%-0%	1 - 6	94%-0%
Odace	S520515	230/50Hz	40-420	T			2 - 6	100%-4%	3 - 6	91%-4%
Osram	HtiDALI 315 DIM	230/50Hz	20-315	DALI T	1 - 12	100%-18%	1 - 6	100%-9%		
PEHA	435 HAN	230/50Hz	60-600	L	1 - 12	76%-7%	1 - 6	100%-6%	3 - 6	59%-2%
Schneider	5170	230/50Hz	10-200	T			3 - 6	70%-19%		
Schneider	SBD315RC	230/50Hz	20-315	T	1 - 12	73%-15%	1 - 6	100%-13%	1 - 6	83%-1%
Schneider	SDB630RC	230/50Hz	20-630	T			1 - 6	100%-2%	1 - 6	87%-2%
Schneider	SBD600RL	230/50Hz	40-600	U			1 - 6	100%-0%	1 - 6	94%-0%
Schneider	SBD400RL	230/50Hz	40-400	L	3 - 12	100%-0%	1 - 6	100%-0%	1 - 6	88%-0%
Schneider	SBDSP	230/50Hz	9-100	L	1 - 12	83%-0%	3 - 6	100%-0%	1 - 6	63%-0%
Schneider	400GLi	230/50Hz	40-400	T	1 - 12	100%-0%	1 - 6	97%-0%	2 - 6	74%-0%
Schneider	SDB600RCRL	230/50Hz	400	L / T			1 - 6	100%-2%	1 - 6	91%-12%
Schneider	ATTD1000RL	230/50Hz	60-1000	L	1 - 12	100%-0%	3 - 6	100%-0%	1 - 6	100%-0%
Schneider	SDB420RCRL	230/50Hz	40-420	T			2 - 6	100%-4%	3 - 6	91%-4%
Schneider	SBD200LED	230/50Hz	525	T	1 - 12	78%-5%	1 - 6	100%-10%	1 - 6	88%-6%
Shuttle	SDIM-T-LED-500W	230/50Hz	2-500	T / LED-T			1 - 6	100%-2%	1 - 6	91%-1%
Siemens	5TC8 284	230/50Hz	20-525	T	3 - 12	100%-50%	2 - 6	100%-25%	2 - 6	88%-18%
Siemens	5WG1-528-1AB31	230/50Hz	500	T	1 - 12	100%-1%	1 - 6	100%-0%	1 - 6	96%-0%
VADSBO	LD 220	230/50Hz	1-200	U					2 - 6	96%-1%
VARILIGHT	JQP401W	230/50Hz	400	T			3 - 6	100%-0%	1 - 6	78%-0%
VARILIGHT	HQ3W	230/50Hz	400	L			1 - 6	100%-11%	1 - 6	74%-7%
Vimar	20135	230/50Hz	100	L / T	1 - 12	100%-4%	1 - 6	100%-4%	1 - 6	100%-2%
ZANO	WH251	230/50Hz	250	L			3 - 6	100%-0%		
ZANO	Z GRID 500	230/50Hz	500	L	1 - 12	100%-0%	3 - 6	100%-0%	1 - 6	81%-0%
ZANO	WH401	230/50Hz	400	L	1 - 12	100%-0%	3 - 6	100%-0%	1 - 6	87%-0%
ZANO	Z GRID 700	230/50Hz	250	LED			3 - 6	100%-1%	1 - 6	79%-0%

Typical values. Test performed with regarded lamps named and transformer HTM70. 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. Installation and operational notes are to be observed.

Due to the big number of electronic components and many other influence factors noise can emerge in unfavourable conditons, 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.