

# Downlight Lamp Output Comparison

Efficiency Matrix  
Downlight Testing  
results by Mal Boyd  
MSc., EcoMad P/L

On mains Ironcore transformer  
with jig 14.5 VPP 50Hz clipped  
sinusoid - 12V RMS

Downlight	Watts Nominal	Beam Angle	Wattage consumption 240VAC Light + Iron core transformer	Wattage consumption 240VAC + Electronic transformer	Result Angle	Test 1	Test 2	Test 3	Averaged Lux output
<b>Narrow Beam Lamps 38,</b>									
BAB 20W Silver back	20	36	29	21.7					
					0°	827	841	861	843.00
					30°	89	90	110	96.33
LCO 20W BAB chrome back	20	36	29	22.5					
					0°	794	768	829	797.00
					30°	56	65	92	71.00
<b>Wide Beam Lamps 60,</b>									
20W Efficiency Matrix FNV - Silver back	20	60	28.6	21.2					
					0°	617	590	618	608.33
					30°	153	143	160	152.00
35W Efficiency Matrix FNV - Silver back	35	60	48	40.2					
					0°	718	798	791	769.00
					30°	406	412	421	413.00
Philips 30W 12V 60D Masterline ES	35	60	46.5	39.3					
					0°	1262	1341	1310	1,304.33
					30°	404	312	328	348.00
ChromStar 50W FNV	50	60	61.2	53.5					
					0°	1544	1462	1519	1,508.33
					30°	144	163	159	
Crompton Alustar 50W FNV	50	60	60.9	51.9					
					0°	1576	1565	1522	1,554.33
					30°	180	193	170	181.00
GU10 40W Efficiency Matrix - Silver Back	40	60	44	na					
					0°	877	1052	1059	996.00
					30°	240	253	287	260.00

50 W 240V GU10	50	60	61	na					
					0°	832	791	843	822.00
					30°	182	192	126	166.67
5W LED Single ROHS	5	60	11	6 (flickers)					
					0°	81	119	131	110.33
					30°	60	68	67	65.00
<b>CFL Lamps</b>									
CFL Coil Std 240V globe	14	360	14	na					
					0°			90	90.00
					30°			100	100.00
					90°			120	120.00
Nelson CFL Downlight MELGU10R110	11	60	9.36	na					
					0°			43	43.00
					30°			35	35.00
Ecobulb NZ CFL Downlight	15	60	15	na					
					0°			136	136.00
					30°			132	132.00