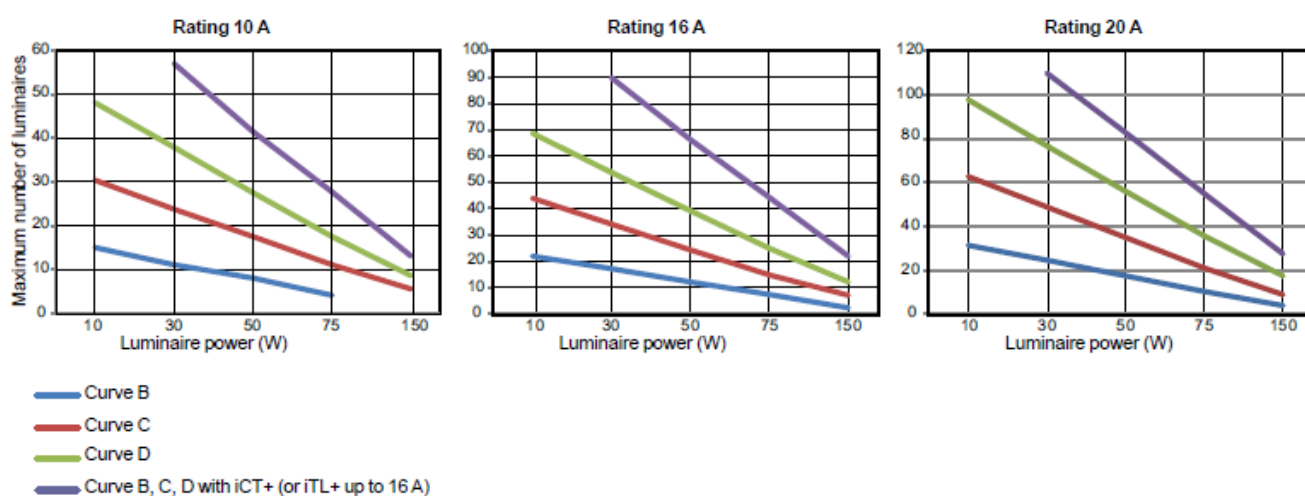


Use of circuit breakers

The new lighting technologies with electronic interfaces (ballasts, drivers) cause a high transient inrush current at power up that can trip the circuit breaker. These phenomena are particularly increased with LED lighting.

Coordination curves between the number of LED luminaires and the circuit breaker rating:



Maximum number of luminaires depending on the circuit breaker rating and curve

Unit power of the luminaire (W)	Circuit breaker rating	10 A				16 A				20 A			
		Curve B	C	D	B, C, D with iCT+ or iTL+	B	C	D	B, C, D with iCT+ or iTL+	B	C	D	B, C, D with iCT+
10		15	30	48	-	22	44	69	-	32	63	98	-
30		11	24	38	57	17	34	54	90	25	49	77	110
50		8	17	27	41	12	25	39	66	18	35	56	83
75		4	11	17	28	7	15	25	44	11	21	36	55
150		-	5	9	13	2	7	12	22	4	9	18	28

According to the control device used, the transient current surge may:

- require the circuit breaker to be derated according to the number of luminaires / circuit breaker rating coordination curves, when using standard control devices: CT, TL (electromechanical control device),
- be reduced by the use of the following technologies:
 - softStart: using a command integrated in the driver or a dimmer switch,
 - controlled contactor (iTL+, iCT+) (closes when the voltage passes through "0", derating is related to the Cos phi of the lighting circuit).

These technologies allow circuit breakers without derating related to the technology of the lamps to be used.

Example:

Circuit rated power = 230 V AC x Circuit breaker rating x Cos phi.