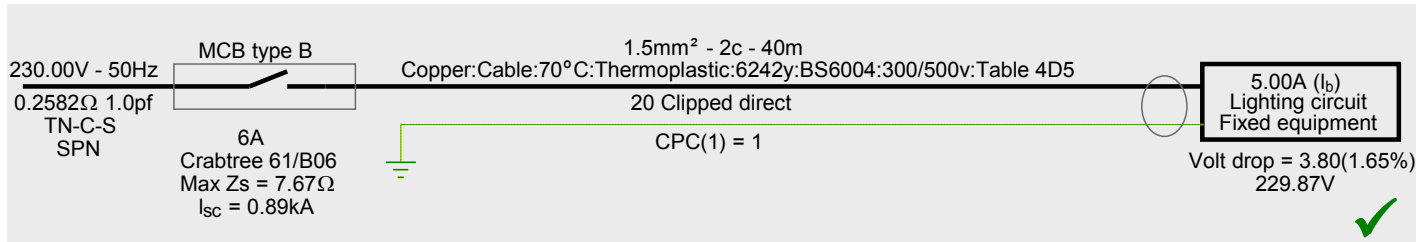


# test

## Lighting - 1

## LIGHTS



Cable Data			1.5mm <sup>2</sup> - 2c - 40m	
Copper: Cable: 70°C: Thermoplastic: 6242y: BS6004: 300/500v: Table 4D5				
Cable Rating I <sub>t</sub> (tabulated)	Table 4D5A Col-4	20A		
Cable Rating I <sub>z</sub> (effective)		20A	I <sub>z</sub> ≥ I <sub>b</sub>	PASS
mV/A/mtr (tabulated)	Table 4D5A Col-7	29mV/A/m (r)		
mV/A/mtr (temperature corrected)	operating 30.10°C	25.143mV/A/m (r)		
Voltage drop (Design)	5.00%	11.50V		
Voltage drop (Calculated)	1.65%	3.80V		PASS

Correction Factors				C (total) = 1.000
Ambient temperature (C <sub>a</sub> )	30°C	C <sub>a</sub> = 1.000	Table 4B1	
Grouping (C <sub>g</sub> )	1 ccts	C <sub>g</sub> = 1.000	Table 4C1	
Thermal Insulation (C <sub>i</sub> )	0mm	C <sub>i</sub> = 1	Table 52.2	

Circuit Protective conductors (cpc)				Total cpc value = 0.7532Ω
Minimum CPC size ( S = √I <sup>2</sup> t/k )	0.38mm <sup>2</sup>	k = 115	t = 0.100 sec	I = 138.08 A
Internal core	1	1	CPC ≥ √I <sup>2</sup> t/k)	PASS

Protective Device Details				
Crabtree 61/B06		6A Type-B 6kA MCB BS EN 60898 [1 module]		
Selected for	Overload and short-circuit protection			
Rating (I <sub>n</sub> )	6		I <sub>n</sub> ≥ I <sub>b</sub>	PASS
Breaking capacity (I <sub>cn</sub> )	6kA	6 ≥ 0.89	I <sub>cn</sub> ≥ I <sub>sc</sub>	PASS
Operating current (I <sub>z</sub> )	9.0A	9.0 ≤ 29.00	I <sub>z</sub> ≤ 1.45I <sub>z</sub>	PASS
Calculated disconnection time	0.100 sec			PASS
Maximum permitted disconnection time	0.4 sec	Table 41.1		
Impedance of device (Z)	7.67Ω			

Earth Fault Data				
Earth fault loop impedance (Z <sub>e</sub> )	0.2582Ω			
Circuit R1 value	0.5036Ω			
Circuit R2 value	0.7532Ω			
Circuit R1+R2 value	1.4075Ω			
Earth loop impedance (Z <sub>s</sub> =Z <sub>e</sub> +R1+R2)	1.6657Ω			
Earth fault current (I <sub>a</sub> =U <sub>o</sub> /Z <sub>s</sub> )	138.08A	U <sub>o</sub> = 230.00V	Z <sub>s</sub> = 1.6657Ω	

Short Circuit Data				
Prospective short circuit current	16 kA			
Short circuit withstand time ( t = k <sup>2</sup> S <sup>2</sup> /I <sup>2</sup> )	1.561 sec	k = 115	S = 1.5mm <sup>2</sup>	I = 138.08 A

## Lighting - 1

## LIGHTS

1.5mm <sup>2</sup> - 2c - 40m								
Section	Load	Load(t)	Distance	Voltdrop	R1+R2	Zs	Isc	Description
1	1	5	20	2.538	0.7102	0.96847	0.237	Lighting 1
2	1	4	5	0.506	0.8847	1.14298	0.201	L2
3	1	3	5	0.378	1.0588	1.31708	0.175	L3
4	1	2	5	0.252	1.2329	1.49119	0.154	L4
5	1	1	5	0.126	1.4075	1.66570	0.138	L5

Total	5.00A	40.00m	3.80V	1.407Ω	1.666Ω
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