

## VOLTAGE DROP CALCULATIONS

USM - Payson Smith Hall  
Portland, ME

### Circuit 1

Amperage 1.04  
Length of Run 280

Voltage Drop **6.38%**

VDC Applied **18.87**

### Circuit 2

Amperage 0.92  
Length of Run 214

Voltage Drop **4.31%**

VDC Applied **19.37**

### Circuit 3

Amperage 1.01  
Length of Run 195

Voltage Drop **4.31%**

VDC Applied **19.37**

### Circuit 4

Amperage 0.998  
Length of Run 178

Voltage Drop **3.89%**

VDC Applied **19.47**

### Circuit 5

Amperage 1.088  
Length of Run 156

Voltage Drop **3.72%**

VDC Applied **19.51**

### Circuit 6

Amperage 1.08  
Length of Run 168

Voltage Drop **3.98%**

VDC Applied **19.45**

### Circuit 7

Amperage 0.936  
Length of Run 210

Voltage Drop **4.30%**

VDC Applied **19.37**

### Circuit 8

Amperage 0.96  
Length of Run 225

Voltage Drop **4.73%**

VDC Applied **19.27**

Voltage Drop Parameters:  
16 VDC = Minimum Power to any Appliance  
4.4 VDC = Maximum Permissible Voltage Drop in Wiring System  
20.4 VDC = Reduced Battery Potential at End of Life