

Philips Color Kinetics

Vaya Configuration Calculator

V1.0

Table of Contents

Table of Contents	2
1 Introduction	3
2 General Procedure	3
3 User Input Selection	5
3.1 Fixture	5
3.2 Model	5
3.3 Version	5
3.4 Voltage Input	6
3.5 Circuit Breaker	6
3.6 Leader Cable Length	7
3.7 Jumper Cable Length	7
3.8 Reset	7
3.9 Calculate Maximum Run Length	8
3.10 Export report	8

1 Introduction

The Vaya Configuration Calculator is a software application that automates the calculation of the run length limitations for Philips Color Kinetics Vaya lighting fixtures. There are many combinations of the fixture, leader and jumper cable lengths which makes calculating run length limits complex and prone to errors. Until now calculations were manual and required that R&D calculate the run length limits for each scenario. This application aims to facilitate these calculations for application engineers and our customers which could save time and improve accuracy.

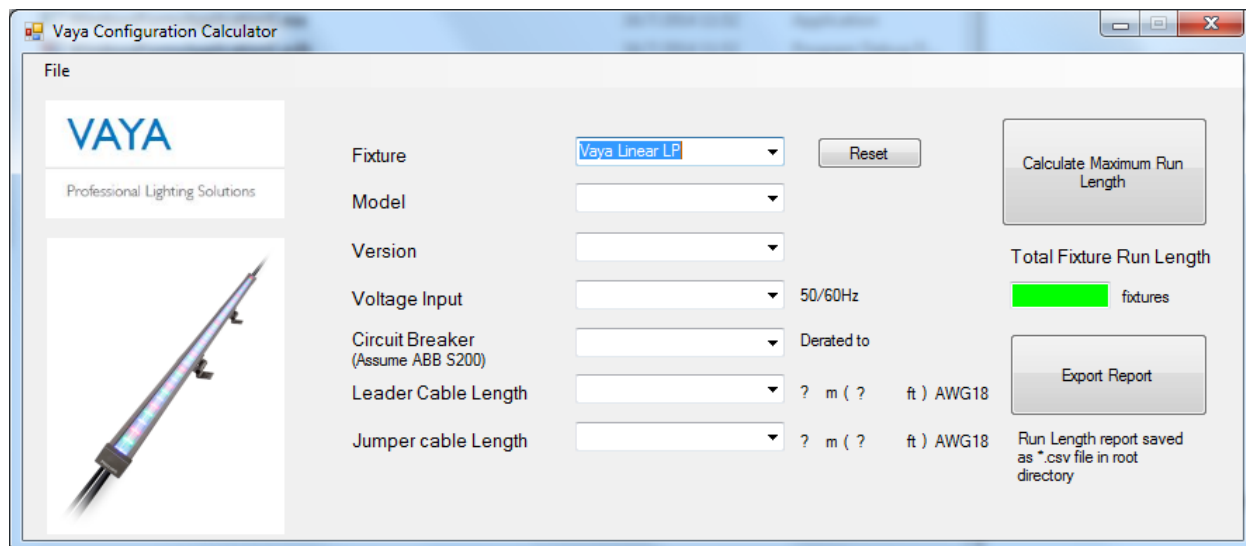


Figure 1 – User interface of Vaya Configuration Calculator

2 General Procedure

1. Users need to input all the parameters inside the combo box from the top to bottom in sequential order

Fixture	Vaya Linear LP	Reset
Model	RGB, 1.2m (4ft)	
Version	UL/CE	with connectors
Voltage Input	100	50/60Hz
Circuit Breaker (Assume ABB S200)	N/A	Derated to
Leader Cable Length	Standard 15m (50ft)	? m (? ft) AWG18
Jumper cable Length	No jumper	? m (? ft) AWG18

Figure 2 – Input parameters

- After entering all the parameters, click on the button “Calculate Maximum Run Length” on the right hand side. The Total Fixture Run Length number will be displayed inside the green text box for that specific fixtures parameters.

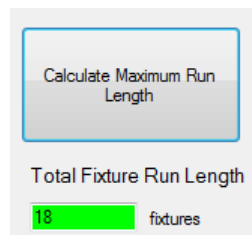
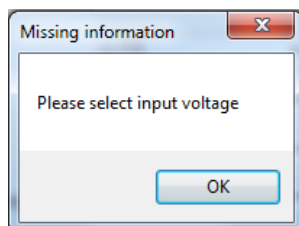


Figure 4 – Calculation button and Run length result

- Error message will prompt if users forget to input some parameters when they click on the calculation button



Fixture	Vaya Linear LP	Reset
Model	RGB, 1.2m (4ft)	
Version	UL/CE	with connectors
Voltage Input		50/60Hz
Circuit Breaker (Assume ABB S200)	N/A	Derated to
Leader Cable Length	Standard 15m (50ft)	? m (? ft) AWG18
Jumper cable Length	No jumper	? m (? ft) AWG18

Figure 5 – Error message for missing information

- Users can generate report in CSV format after calculation is done. The report is located under the same directory as the SW application.

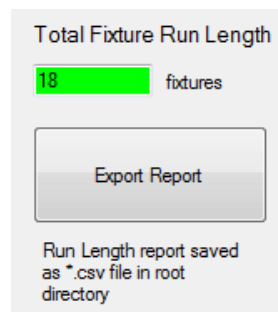
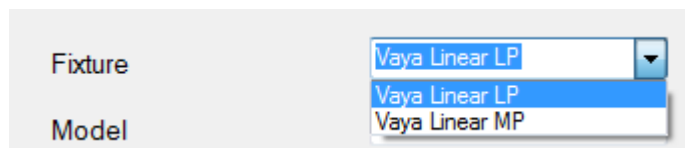


Figure 6 – Report generation

3 User Input Selection

3.1 Fixture

First, select the fixture type for their site installation

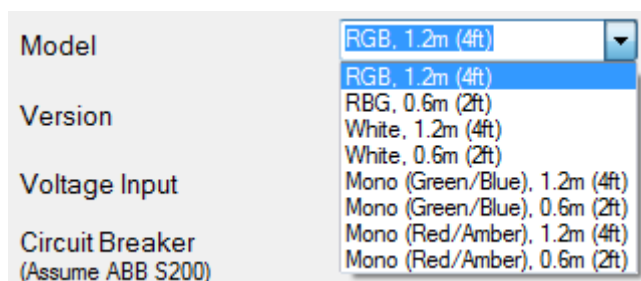


The screenshot shows a form with two labels: 'Fixture' and 'Model'. The 'Fixture' dropdown menu is open, displaying three options: 'Vaya Linear LP', 'Vaya Linear LP', and 'Vaya Linear MP'. The first 'Vaya Linear LP' option is highlighted in blue.

Figure 7 – Fixture type selection

3.2 Model

Then, select the model of the Vaya fixture. The model list will automatically populate based on the fixture type selected.

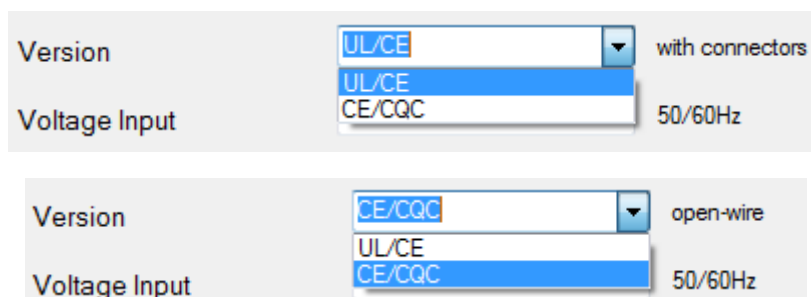


The screenshot shows a form with labels: 'Model', 'Version', 'Voltage Input', and 'Circuit Breaker (Assume ABB S200)'. The 'Model' dropdown menu is open, displaying a list of options: 'RGB, 1.2m (4ft)', 'RGB, 1.2m (4ft)', 'RGB, 0.6m (2ft)', 'White, 1.2m (4ft)', 'White, 0.6m (2ft)', 'Mono (Green/Blue), 1.2m (4ft)', 'Mono (Green/Blue), 0.6m (2ft)', 'Mono (Red/Amber), 1.2m (4ft)', and 'Mono (Red/Amber), 0.6m (2ft)'. The first 'RGB, 1.2m (4ft)' option is highlighted in blue.

Figure 8 – Model Selection

3.3 Version

Users then need to enter the appropriate version for the Vaya fixture: UL/CE or CE/CQC. Generally UL/CE versions come with connectors, CE/CQC versions with open-wires (flying leads) and will require connections using junction boxes.



The screenshot shows two sections of the form. The top section has labels 'Version' and 'Voltage Input'. The 'Version' dropdown menu is open, displaying two options: 'UL/CE' and 'CE/CQC'. The 'UL/CE' option is highlighted in blue. To the right of the dropdown, the text 'with connectors' is displayed. The 'Voltage Input' field is set to '50/60Hz'. The bottom section has labels 'Version' and 'Voltage Input'. The 'Version' dropdown menu is open, displaying two options: 'UL/CE' and 'CE/CQC'. The 'CE/CQC' option is highlighted in blue. To the right of the dropdown, the text 'open-wire' is displayed. The 'Voltage Input' field is set to '50/60Hz'.

Figure 9 – Version Selection

3.4 Voltage Input

Next, select the input voltage range, either 100-240V or 100-277V, depending on the fixture type selected.

Voltage Input	100	50/60Hz
Circuit Breaker (Assume ABB S200)	100	Derated to
Leader Cable Length	120	? m (?
	220	
	230	
	240	

Voltage Input		50/60Hz
Circuit Breaker (Assume ABB S200)	100	Derated to
Leader Cable Length	120	? m (?
	220	
	230	
	240	
	277	

Figure 10 – Voltage Input Selection

3.5 Circuit Breaker

Next, select the Circuit Breaker type. The Circuit Breaker inrush model is based on ABB's S200 series. Please be aware that it is just for user reference, different brands of circuit breakers may result in different run length limitations. "N/A" means that no circuit breaker limitation is being considered. Type B, Type C, Type D and 10A, 16A, 20A circuit breaker selections are to choose from. There is a 20% derating for circuit breaker current limits.

Circuit Breaker (Assume ABB S200)		Derated to
Leader Cable Length	N/A	? m (?
	Type B 10A	
	Type B 16A	
	Type B 20A	
Jumper cable Length	Type C 10A	? m (?
	Type C 16A	
	Type C 20A	
	Type D 10A	
	Type D 16A	
	Type D 20A	

Figure 11 – Circuit Breaker Selection

3.6 Leader Cable Length

Users can choose standard 15m (50ft) or custom cable length. If users choose “Custom”, a dialog will prompt to allow users to input custom leader cable length. Only whole (integer) numbers are allowed, no decimal places. An error message will prompt if users enter numbers with decimals, letters, or other symbols.

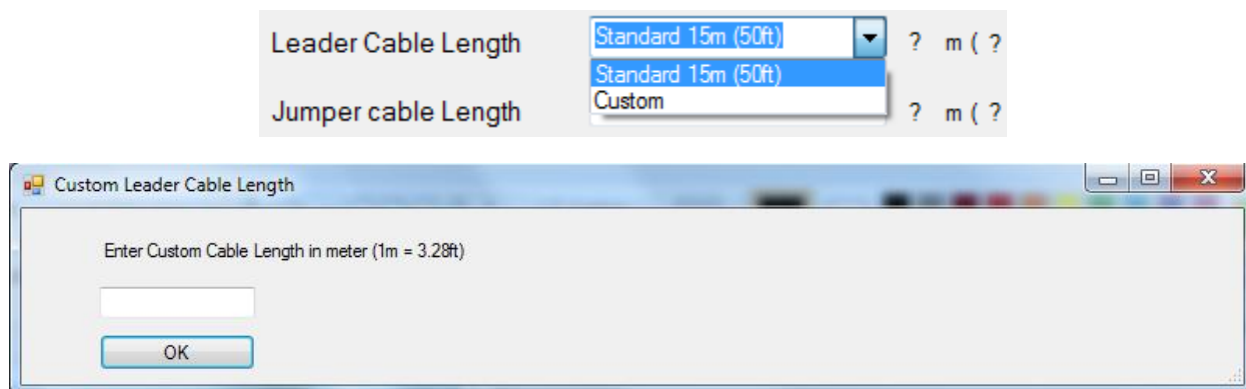


Figure 12 – Leader Cable Length Selection and Custom Cable Length dialog

3.7 Jumper Cable Length

Users can choose standard 15m (5ft) or custom cable length. If users choose “Custom”, a dialog will prompt to allow users to input custom jumper cable length. Only whole (integer) numbers are allowed, no decimal places. An error message will prompt if users enter numbers with decimals, letters, or other symbols.

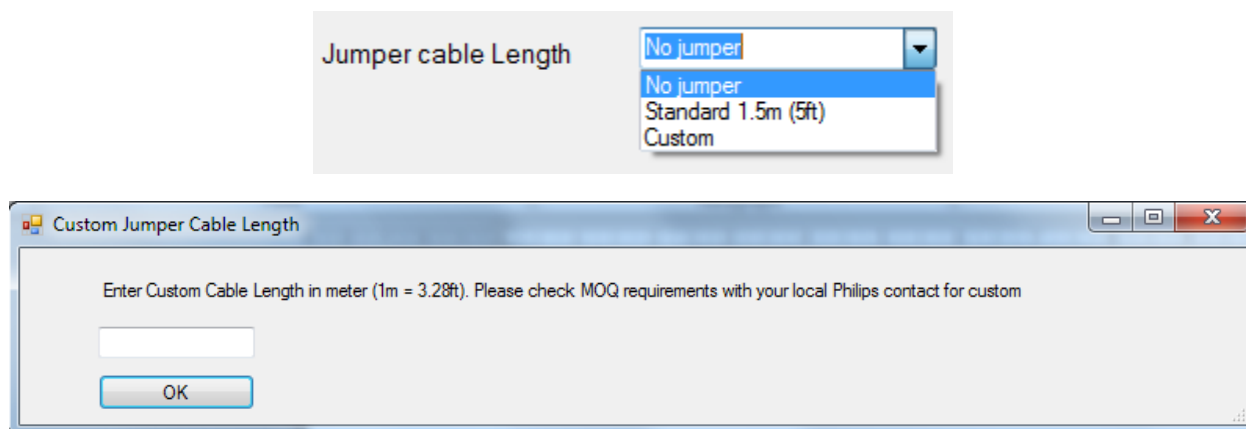


Figure 13 – Jumper Cable Length Selection and Custom Cable Length dialog

3.8 Reset

Users can reset all the input selection to blank after click the “Reset” button.



Figure 14 – Reset all input parameters

3.9 Calculate Maximum Run Length

After users select all the input parameters, click this button and Total Fixture Run length will be displayed in the green text box.

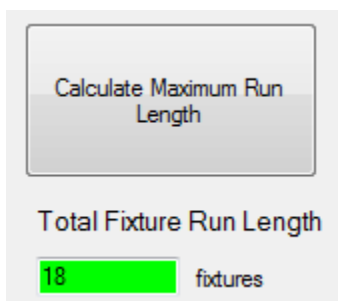


Figure 15 – Calculation Button

3.10 Export Report

Users can generate report in CSV format after calculation. The report is located in the same directory as the SW application.

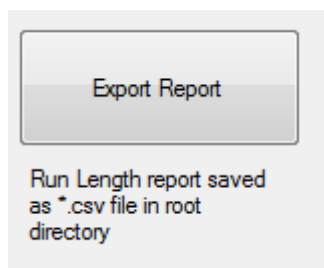


Figure 16 – Export Report