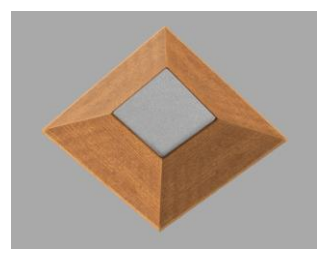
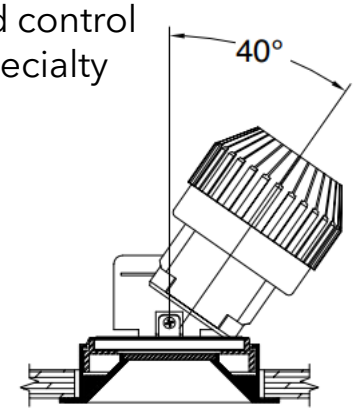
Dimming Profiles and Settings with Vantage Controls

Great lighting deserves great controls. This guide contains dimming profiles for popular Vantage connected control systems with Graffiti and Specialty Lighting products





Introduction

With the dizzying array of LED sources, drivers, control protocols and control systems, physical testing provides rock solid data to assure you know the exact performance of the system in your space. Specialty Lighting and its most popular family, Graffiti, have rigorously tested our product options with a connected Vantage control system. This data provides the Vantage installers all the requisite settings for smooth, deep dimming with Specialty Lighting products.

Testing was performed on a combination of our sources (5 light engines per source type) with our range of appropriate driver offerings (see Table 1). The sample size was tested to evaluate "popcorning", linearity, smoothness and flicker.

Devices Under Test

Device	Specialty order code	vendor	type/protocol	Notes
LED	C (CZ)14	Citizen	Static White	3000 CCT
LED	A (AD)14	Ambient Dim	Warm Dim	Range - 3000k to 1850k
Driver	C1/C2	ERP	Phase + 0-10	Reverse and Forward Phase
Driver	E1	EldoLED	0-10 log	Programed to 350mA
Driver	E3	EldoLED	0-10 Linear	Programed to 350mA

Table 1

Fixtures Qualified

Graffiti Lighting

- All products with CZ14/CZ20 Citizen sources
- All products with AD14/AD20 in all ranges of Ambient Dim
- All Products with EldoLED and C1/C2 (ERP) Drivers

Specialty Lighting

- All Products with Citizen and Ambient Dim sources
- All Products with EldoLED and C1/C2 (ERP) drivers.
- Families Include:
  - **Scope** – **Rivet** – **InRelief 4"**
  - **Core** – **Jazz** – **The Plains**

Controls Qualified legrand®

Vantage Connected Controls

- **SDM12-EM** – Standard Dimmer Module (enclosure-based, forward phase only)
- **ScenePoint** – Standard Dimmer Station (in-wall-based, forward phase only)
- **UDM-Fwd** / UDM-Rev – Universal Dimmer Module (enclosure-based, adaptive phase)
- **UDS-F / UDS-R** – Universal Dimmer Station (in-wall-based, adaptive phase)
- **0-10V – LVOS Station** (enclosure or DIN mount)

For more information about testing go to Test Report Guide

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Summary of Profiles

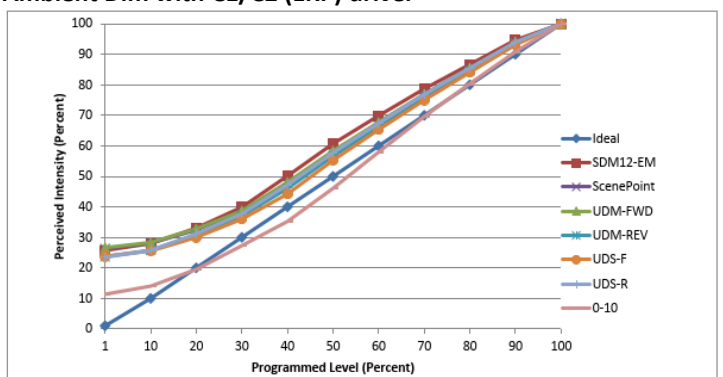
Below is a summary of all the tested combinations. Each curve represents the dimming profile of the test products and best fit dimming as defined by Legrand. The subsequent pages have all the setting details to achieve these dimming curves. The values are displayed as perceived light output and the associated measured light output is listed in the table below the chart.

Observed	100	90	80	70	60	50	40	30	20	10
Measured	100	81	64	49	36	25	16	9	4	1

Table 2 – Numbers expressed as percent (%)

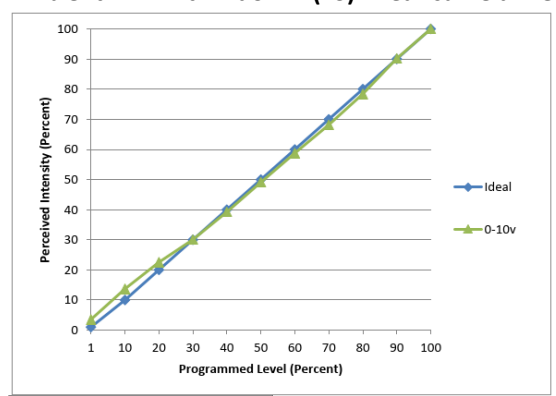
As a reminder, table 2 shows the relationship between measured and perceived (observed) light output.

Ambient Dim with C1/C2 (ERP) driver



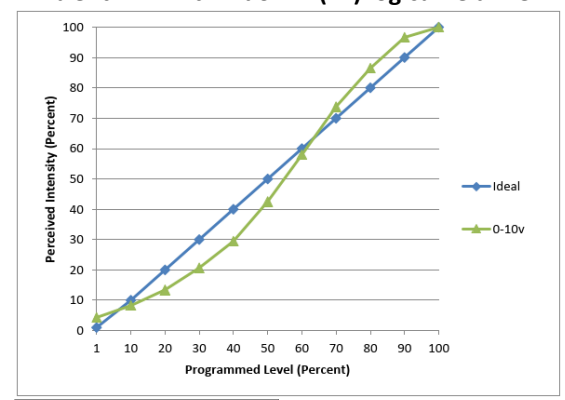
Dimmer Tested Against / Light Output Range (vs non-dimmed)	SDM12-EM	ScenePoint	UDM-FWD	UDM-REV	UDS-F	UDS-R	0-10
Maximum (Percieved), 120V	95.1%	95.2%	94.8%	94.9%	94.9%	95.1%	95.0%
Minimum (Percieved)	24.5%	25.0%	25.3%	22.5%	22.6%	22.4%	10.8%
Minimum (Measured)	6.0%	6.3%	6.4%	5.1%	5.1%	5.0%	1.2%

Ambient Dim with EldoLED (E3) linear curve driver



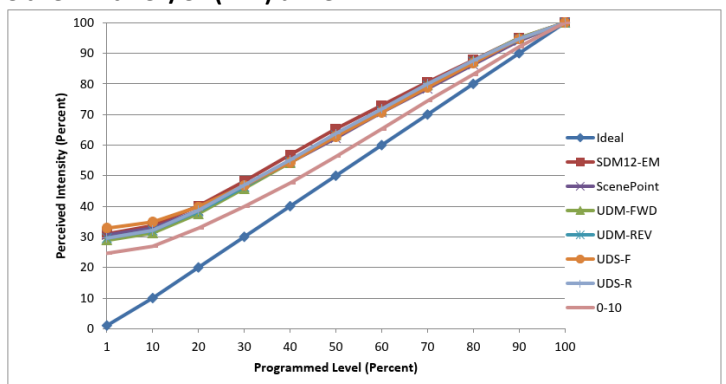
Dimmer Tested Against / Light Output Range (vs non-dimmed)	0-10
Maximum (Percieved), 120V	94.9%
Minimum (Percieved)	3.4%
Minimum (Measured)	0.1%

Ambient Dim with EldoLED (E1) log curve driver



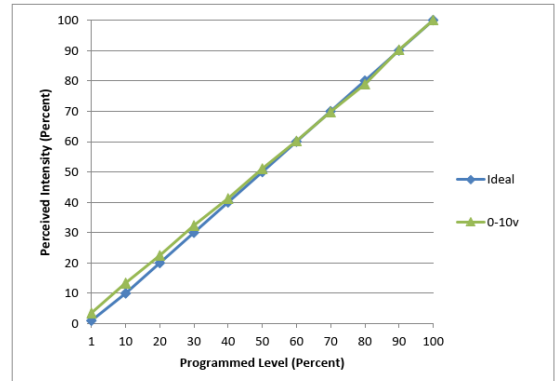
Dimmer Tested Against / Light Output Range (vs non-dimmed)	0-10
Maximum (Percieved), 120V	95.2%
Minimum (Percieved)	4.1%
Minimum (Measured)	0.2%

Citizen with C1/C2 (ERP) driver



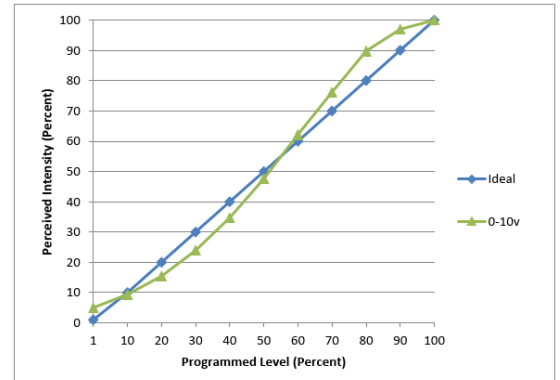
Dimmer Tested Against / Light Output Range (vs non-dimmed)	SDM12-EM	ScenePoint	UDM-FWD	UDM-REV	UDS-F	UDS-R	0-10
Maximum (Percieved), 120V	98.4%	95.1%	95.2%	95.2%	95.0%	94.9%	94.9%
Minimum (Percieved)	29.4%	29.1%	27.5%	28.2%	31.2%	28.1%	23.4%
Minimum (Measured)	8.6%	805.0%	7.5%	7.9%	9.7%	7.9%	5.5%

Citizen with EldoLED (E3) linear curve driver



Dimmer Tested Against / Light Output Range (vs non-dimmed)	0-10
Maximum (Percieved), 120V	94.9%
Minimum (Percieved)	3.4%
Minimum (Measured)	0.1%

Citizen with EldoLED (E1) log curve driver



Dimmer Tested Against / Light Output Range (vs non-dimmed)	0-10
Maximum (Percieved), 120V	94.7%
Minimum (Percieved)	4.7%
Minimum (Measured)	0.2%

Commentary

For sure all drivers, control system and protocols are not created equal. When looking at depth of dimming, the 0-10 systems significantly outperform the phase cut systems. As expected, the EldoLED option achieves the deepest dimming. Also noteworthy, Vantage 0-10 systems have linear dimming profiles. EldoLED recommends using a log curve with a linear control system. This testing clearly shows the EldoLED linear dimming curve performs almost perfectly with the Vantage system provided the settings are programed correctly. See following pages for measured values and programing details.

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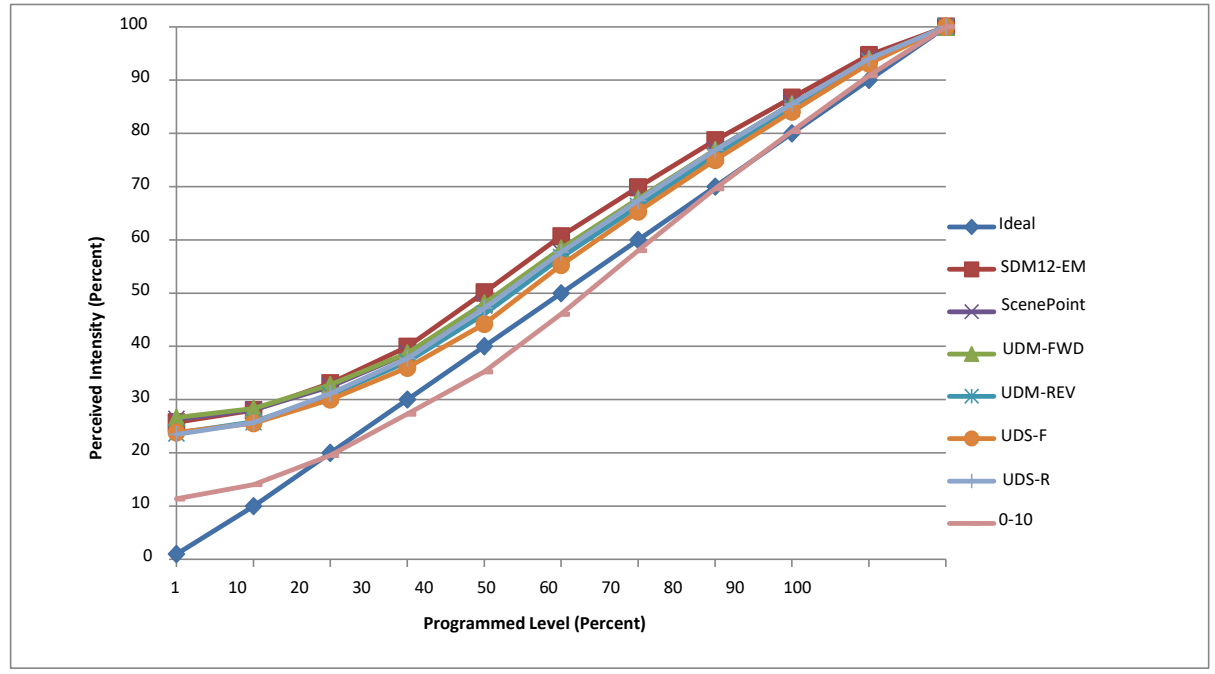
Ambient Dim and ERP (C1/C2) Driver

Manufacturer	Specialty Lighting Industries
Model	GRO-xx-AD14-F-30-NF-C1-C2-xx-xx
Description	Specialty products with A (Ambient Dim) source and C1/C2 driver selection
Driver	ESS015-0350
Nominal Power (W)	14.7
Dimming Control	Forward, Reverse, and 0-10
Product Range	Specialty Lighting product families - Core, Scope, Rivet, Graffiti, Jazz
Test Date	2 February, 2023

Dimmer Tested Against:	**SDM12-EM**	**ScenePoint**	**UDM-FWD**	**UDM-REV**	**UDS-F**	**UDS-R**	**0-10**
Commercial Pass/Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Residential Pass/Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Best-Fit Power Profile:							
Minimum ON	3.7	6.5	5.7	6	7.3	5	0.2
Maximum ON	61	67.5	65.4	67	69	64.5	7.83
Adjust	100	100	100	100	100	100	100
Light Output Range (vs. non-dimmed)							
Maximum (Perceived), 120V	95.1%	95.2%	94.8%	94.9%	94.9%	95.1%	95.0%
Minimum (Perceived)	24.5%	25.0%	25.3%	22.5%	22.6%	22.4%	10.8%
Minimum (Measured)	6.0%	6.3%	6.4%	5.1%	5.1%	5.0%	1.2%

Ambient Dim with C1/C2 (ERP) driver



jwm

Observations: Test performed in five-unit configuration.

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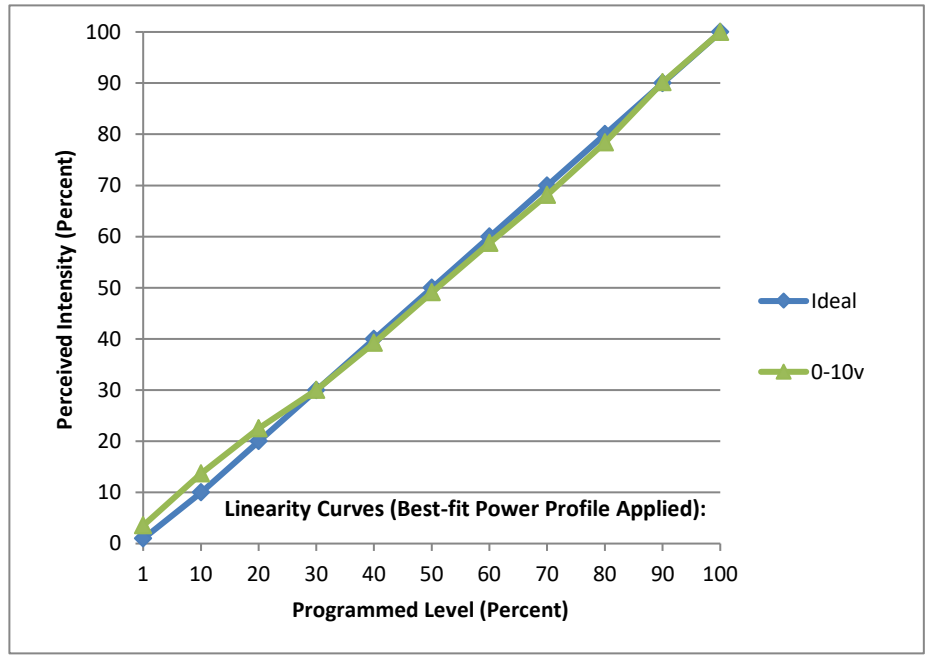
Ambient Dim with EldoLED linear (E3) Driver

Manufacturer	Specialty Lighting Industries
Model	GRO-xx-AD14-F-30-NF-E3-xx-xx
Description	Specialty products with A (Ambient Dim) source and E3 (linear) driver selection
Driver	SOLOdrive 361/S
Nominal Power (W)	14.7
Control Current	350 mA
Dimming Control	0-10v
Product Range	Specialty Lighting product families - Core, Scope, Rivet, Graffiti, Jazz
Test Date	6 February, 2023

Dimmer Tested Against:	**0-10v**
Commercial Pass/Fail	Pass
Residential Pass/Fail	Pass
Best-Fit Power Profile:	
Minimum ON	1.4
Maximum ON	8.05
Adjust	80
Light Output Range (vs. non-dimmed)	
Maximum (Perceived)	94.9%
Minimum (Perceived)	3.4%
Minimum (Measured)	0.1%

Ambient Dim with EldoLED Linear (E3) driver



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Observations: Test performed in five-unit configuration.

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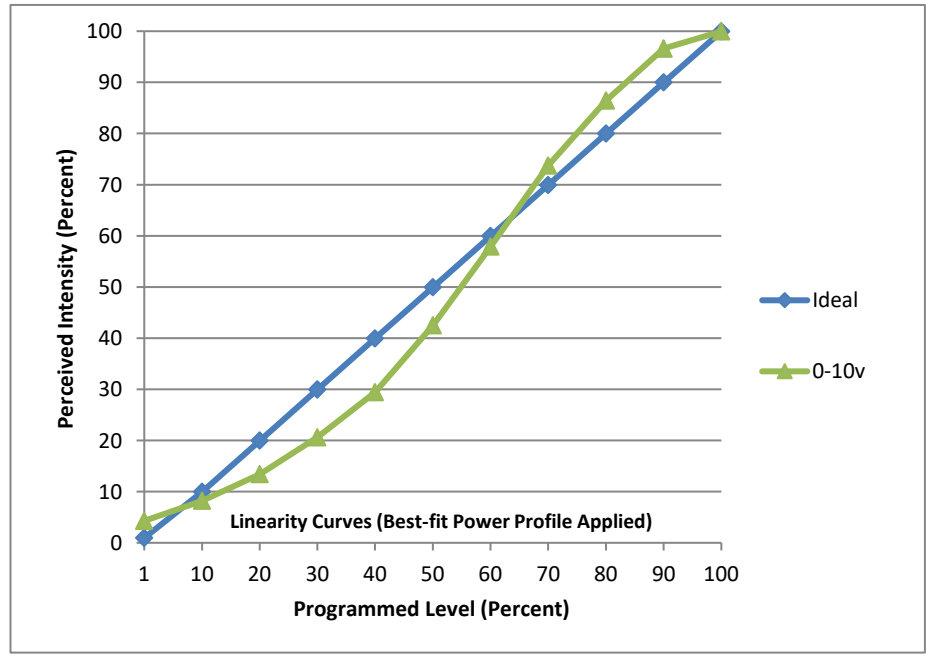
Ambient Dim with EldoLED log (E1) Driver

Manufacturer	Specialty Lighting Industries
Model	GRO-xx-AD14-F-30-NF-E1-xx-xx
Description	Specialty products with A (ambient dim) source and E1 (log) driver selection
Driver	SOLOdrive 361/S
Nominal Power (W)	14.7
Control Current	350 mA
Dimming Control	0-10v
Product Range	Specialty Lighting product families - Core, Scope, Rivet, Graffiti, Jazz
Test Date	7 February, 2023

Dimmer Tested Against:	**0-10v**
Commercial Pass/Fail	Pass
Residential Pass/Fail	Pass
Best-Fit Power Profile:	
Minimum ON	2.5
Maximum ON	8.56
Adjust	-100
Light Output Range (vs. non-dimmed)	
Maximum (Perceived)	95.2%
Minimum (Perceived)	4.1%
Minimum (Measured)	0.2%

Ambient Dim with EldoLED Log (E1) driver



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Observations: Test performed in five-unit configuration.

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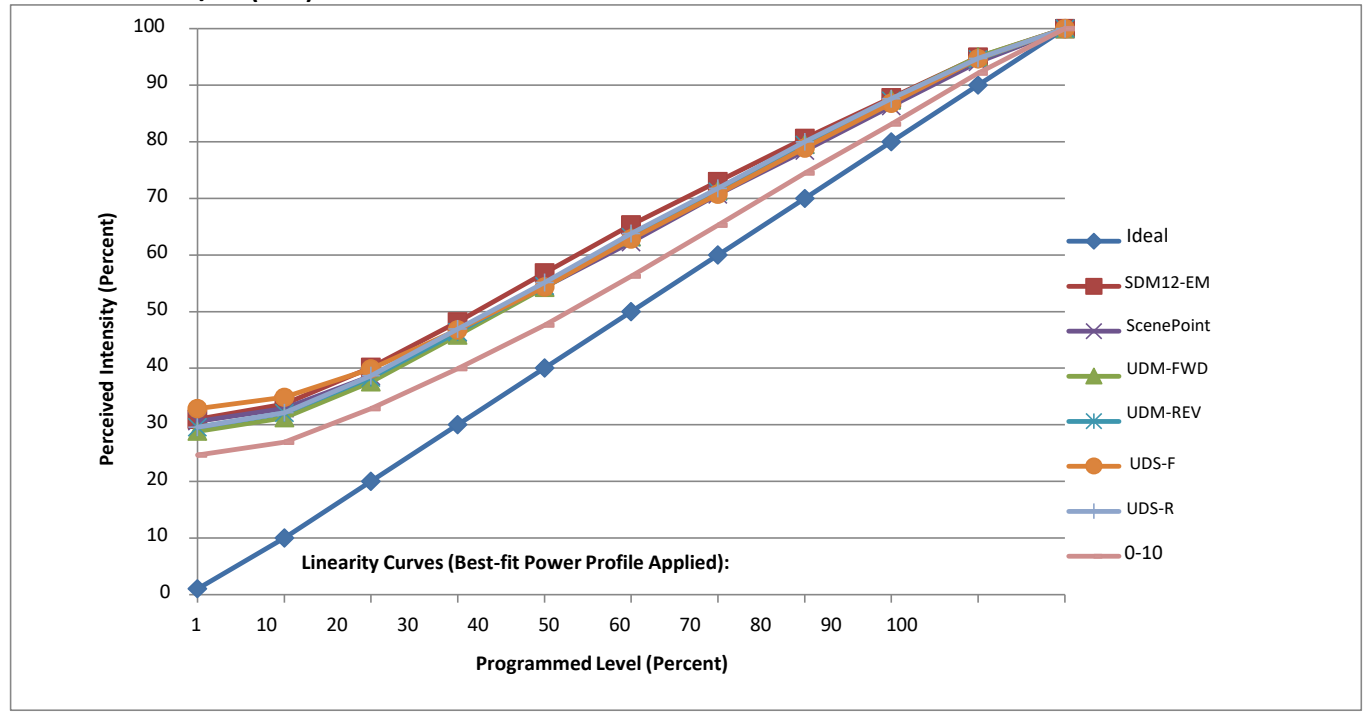
GRAFFITI LIGHTING

Ambient Dim and ERP (C1/C2) Driver

Manufacturer	Specialty Lighting Industries
Model	GRO-xx-CZ14-F-30-NF-C1-C2-xx-xx
Description	Specialty products with C (citizen) source and C1/C2 driver selection
Driver	ESS015-0350
Nominal Power (W)	14.7
Dimming Control	Forward, Reverse, and 0-10
Product Range	Specialty Lighting product families - Core, Scope, Rivet, Graffiti, Jazz
Test Date	2 February, 2023

Dimmer Tested Against:	**SDM12-EM**	**ScenePoint**	**UDM-FWD**	**UDM-REV**	**UDS-F**	**UDS-R**	**0-10**
Commercial Pass/Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Residential Pass/Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Best-Fit Power Profile:							
Minimum ON	4	6.5	5.3	5.5	7.5	5	0.5
Maximum ON	62.3	70	66.5	67.5	69	64.2	7.49
Adjust	100	100	100	100	100	100	100
Light Output Range (vs. non-dimmed)							
Maximum (Perceived), 120V	94.8%	95.1%	95.2%	95.2%	95.0%	94.9%	94.9%
Minimum (Perceived)	29.4%	29.1%	27.5%	28.2%	31.2%	28.1%	23.4%
Minimum (Measured)	8.6%	8.5%	7.5%	7.9%	9.7%	7.9%	5.5%

Citizen with C1/C2 (ERP) driver



Observations: Test performed in five-unit configuration.

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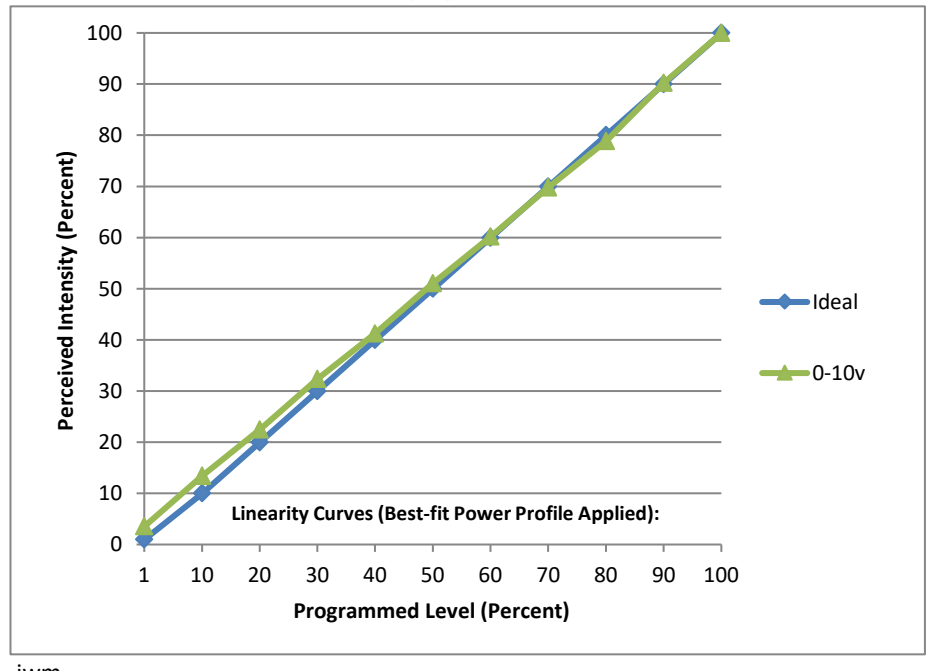
Citizen with EldoLED linear (E3) Driver

Manufacturer	Specialty Lighting Industries
Model	GRO-xx-CZ14-F-30-NF-E3-xx-xx
Description	Specialty products with C (citizen) source and E3 (linear) driver selection
Driver	SOLOdrive 361/S
Nominal Power (W)	14.7
Control Current	350 mA
Dimming Control	0-10v
Product Range	Specialty Lighting product families - Core, Scope, Rivet, Graffiti, Jazz
Test Date	6 February, 2023

Dimmer Tested Against:	**0-10v**
Commercial Pass/Fail	Pass
Residential Pass/Fail	Pass
Best-Fit Power Profile:	
Minimum ON	1.4
Maximum ON	8.07
Adjust	90
Light Output Range (vs. non-dimmed)	
Maximum (Perceived)	94.9%
Minimum (Perceived)	3.4%
Minimum (Measured)	0.1%

Citizen Dim with EldoLED Linear (E3) driver



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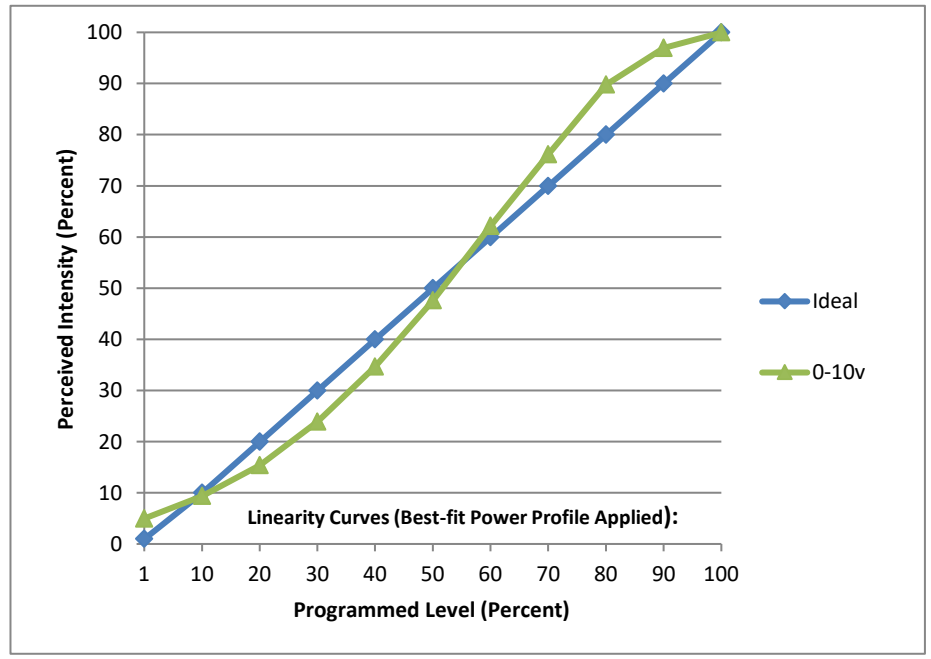
Citizen with EldoLED log (E1) Driver

Manufacturer	Specialty Lighting Industries
Model	GRO-xx-CZ14-F-30-NF-E1-xx-xx
Description	Specialty products with C (citizen) source and E1 (log) driver selection
Driver	SOLOdrive 361/S
Nominal Power (W)	14.7
Control Current	350 mA
Dimming Control	0-10v
Product Range	Specialty Lighting product families - Core, Scope, Rivet, Graffiti, Jazz
Test Date	7 February, 2023

Dimmer Tested Against:	**0-10v**
Commercial Pass/Fail	Pass
Residential Pass/Fail	Pass
Best-Fit Power Profile:	
Minimum ON	2.5
Maximum ON	8.57
Adjust	-100
Light Output Range (vs. non-dimmed)	
Maximum (Perceived)	94.7%
Minimum (Perceived)	4.7%
Minimum (Measured)	0.2%

Citizen with EldoLED Log (E1) driver



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