ADVANCE by signify

LED Driver

Xitanium SR

XI055C180V054VSJ1

The Advance Xitanium Sensor Ready (SR) LED driver can help reduce complexity and cost of light fixtures used in connected lighting systems in outdoor lighting applications. It's D4i certified and features a standard compliant digital interface to enable direct connection to compatible networked lighting control (NLC) solutions. Functionality that ordinarily would require additional auxiliary components is integrated into the driver. The result is a simple, cost-effective light fixture that can enable every fixture to become a wireless node.

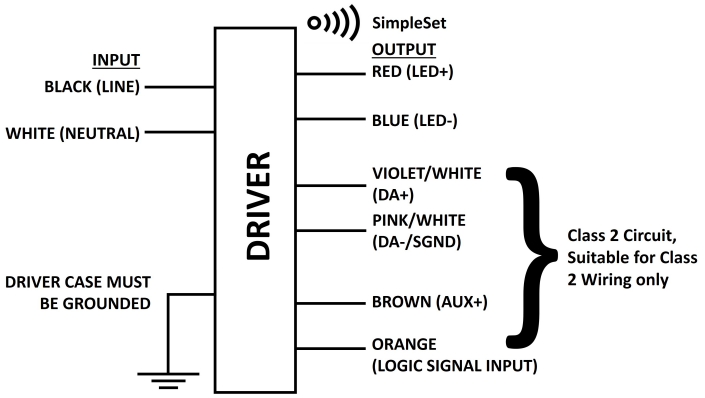
Specifications

Input Voltage (Vac)	Output Power (W)	Output Voltage (V)	Output Current (A)	Efficiency @ Max Load	Max Case Temp. (°C) Life/UL	Input Current (A)	Input Power (W)	THD @ Max Load (%)	Power Factor @ Max Load	Surge Protect (Combi Wave, KV)	Dimming	Dimming Range (%)	Min Dimming Current (mA)	Drive Type
120	55	18-54	0.1-1.8	87.0	85 / 90	0.55	67	<10	>0.95	6	DALI	1-100	7	CC
277				88.0		0.24	67	<15	>0.95					

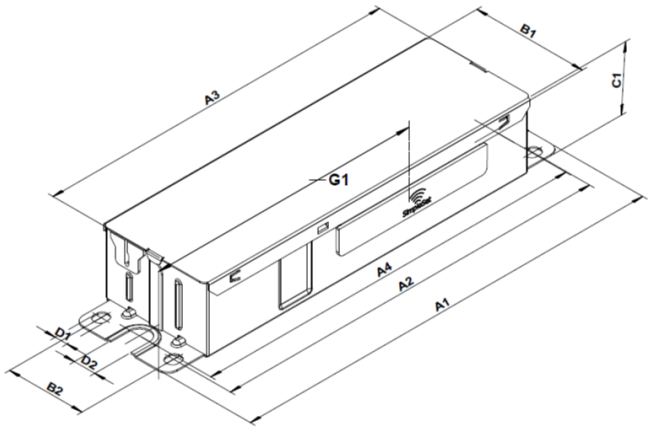
Enclosure

Item	In(mm)	Tolerance (mm)
Overall length (A1)	6.61(168)	+/-0.5
Mounting Length (A2)	6.06(153.8)	+/-0.5
Case Length (A3)	5.5(139.8)	+/-0.5
Case Width (B1)	1.78(45.1)	+/-0.5
Mounting Width (B2)	1.22(31)	+/-0.5
Case Height (C1)	1.11(28.2)	+/-1
Mounting Hole Diameter (D1)	0.2(5)	+/-0.3
Mounting Hole Diameter (D2)	0.35(8.8)	+/-0.3
Center of SimpleSet antenna (G1)	4(101.5)	+/-3

Wiring Diagram



Mechanical Diagram



- Wire Length: 270 mm with 30 mm tolerance.
- Install in accordance with national and local electrical codes.
- The field-wiring leads or push-in terminals shall be fully enclosed.

XI055C180V054VSJ1

Features

- Compatible with SR, DALI certified devices
- Standard-compliant (ANSI C137.4 and DiiA) digital interface including:
- Integrated DALI bus power supply (Part 250)
- Memory Bank 1 extension, Energy Monitoring and Diagnostics (Parts 251, 252, 253)
- 24V Auxiliary power supply for higher power device requirements (Part 150)
- Accurate energy metering
- Logic signal input
- Driver current setting via SimpleSet
- 5-year limited warranty

Benefits

- Enables interoperability with compatible networked lighting control solutions (NLCS) for multiple third-party
- Reduces cost and complexity of outdoor connected lighting systems
- Standardized luminaire data for Asset Management
- 4% metering accuracy meets proposed ANSI standard C136.52
- Can be used with standard motion sensors for local control to complement network control

Application

- Site & area
- Parking garages
- Floodlights
- Roadway
- Industrial warehouses

Logistical data

Specification item	Value
Product name	XI055C180V054VSJ1
EOC	XI055C180V054VSJ1
Logistic code 12NC	9290 027 66213
Product code	XI055C180V054VSJ1M
GTIN	781087170946
Pieces per box	12
Weight	412 gram

All the specifications are typical and at $T_{ambient}$ = 25°C unless specified otherwise

Electrical input data

Specification item	Value	Value	Unit	Condition
Rated input voltage range	108...305		V_{ac}	Performance range
Rated input voltage	120	277	V_{ac}	
Rated input frequency	50...60	50...60	Hz	Performance range
Rated input current	0.55	0.24	A	@ rated output power @ rated input voltage
Rated input power	67.0	67.0	W	@ rated output power @ rated input voltage
Efficiency	87.0	88.0	%	@ rated output power @ rated input voltage

Electrical output data

Specification item	Value	Unit	Condition
Output voltage	18...54	V_{dc}	
Output voltage max.	60	V	Open Circuit Voltage
Output current	100...1800	mA	
Output current min programmable	100	mA	
Min output current	7	mA	
Output current tolerance ±	5	%	within performance window
Output current ripple LF	≤ 15	%	Ripple = peak / average, < 3kHz
Output power	0.1...55.0	W	
Minimum performance output power	18.2	W	Power factor > 0.9 and THD < 20%

XI055C180V054VSJ1

Control interfaces

Specification item	Value	Unit	Condition
Control method	DALI		
Dimming range	1...100	%	
SR Power Supply max voltage.	20	V	
SR Power Supply max current source	60	mA	
SR Power Supply min voltage	12	V	
SR Power Supply min current source	52	mA	
Communication Protocol	DALI-2, D4i, ANSI C137.4		

Isolation
U = Max. input voltage

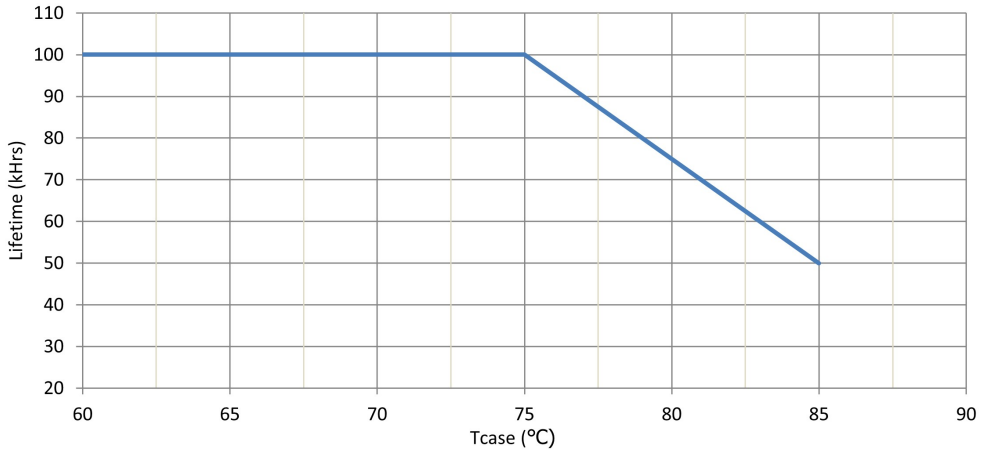
Isolation per UL-8750	Input	Output	DA+, DA-/SGND, Aux, LSI	Enclosure
Input	-	2U + 1kVac	2U + 1kVac	2U + 1kVac
Output	2U + 1kVac	-	2U + 1kVac	500Vac
DA+, DA-/SGND, Aux, LSI	2U + 1kVac	2U + 1kVac	-	2U + 1kVac
Enclosure	2U + 1kVac	500Vac	2U + 1kVac	-

Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+55	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-UL	90	°C	Max. temperature measured at T_{case}-point
Tcase-life	85	°C	C10 = 50000 hours measured at T_c-point

Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	50,000	hours	Measured temperature at Tcase-point is Tcase-life. Maximum failures = 10%



Maximum failures = 10%

Programmable features

Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	NFC, SimpleSet	1050 mA	
Driver Temperature Limit (DTL)	Yes		
Adjustable Light Output (ALO)	Yes		
Adjustable Light Output (ALO) min level	Yes		
Constant Light Output (CLO)	Yes		
Dynadimmer	Yes		
Integrated Dynadimmer	Yes		
Logic Signal Input (LSI)	Yes		
Min Dim Level (%)	Yes		
End Of Life indicator (EOL)	Yes		
OEM Write Protection (OWP)	Yes		
DALI Power Supply (DALI part 250)	Yes		
Luminaire Info (DALI part 251)	Yes		
Luminaire maintenance (DALI part 253)	Yes		

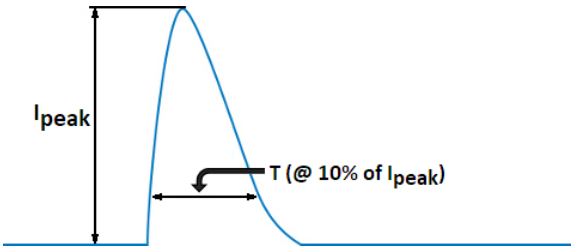
Non-programmable features

Specification item	Value		Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Overtemperature protection	Yes		Automatic recovering
+24V Auxiliary Power Supply	Yes		3W continuous, 6W peak

XI055C180V054VSJ1

Inrush current

Specification item	Value	Unit	Condition
Inrush current	8	A	Input voltage 120V
Inrush current	22	A	Input voltage 277V
Inrush peak width	32	µs	Input voltage 120V, measured at 10% height
Inrush peak width	29	µs	Input voltage 277V, measured at 10% height



Surge immunity

Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	6	kV	ANSI Surge Type 1.2/50us Combination Wave (w/t 2 ohm)
Mains surge immunity (comm. mode)	6	kV	ANSI Surge Type 1.2/50us Combination Wave (w/t 2 ohm)

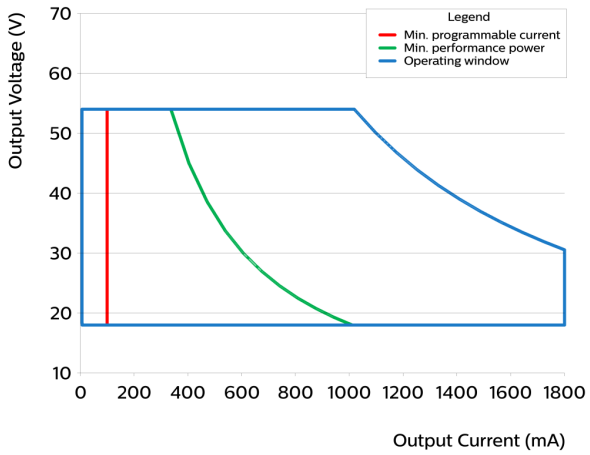
Approbation

Specification item	Value
Approval Marks / Agency Approbations	ClassP(UL cUL) / D4i / NOM / RoHS / SR / UL Listed US & Can
EMI standards	FCC Title 47 Part 15; Class A
Environmental protection rating	UL damp & dry, Type HL

XI055C180V054VSJ1

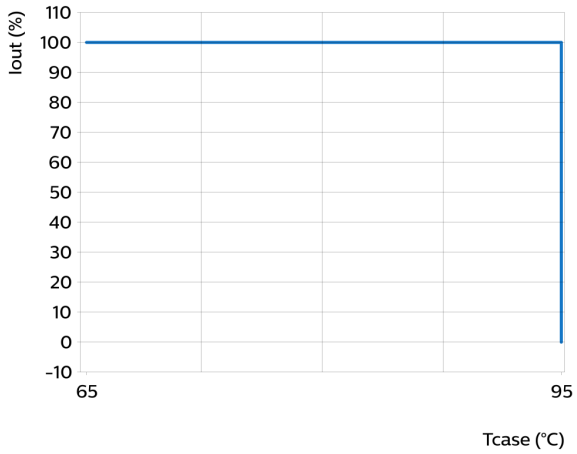
Graphs

Operating window

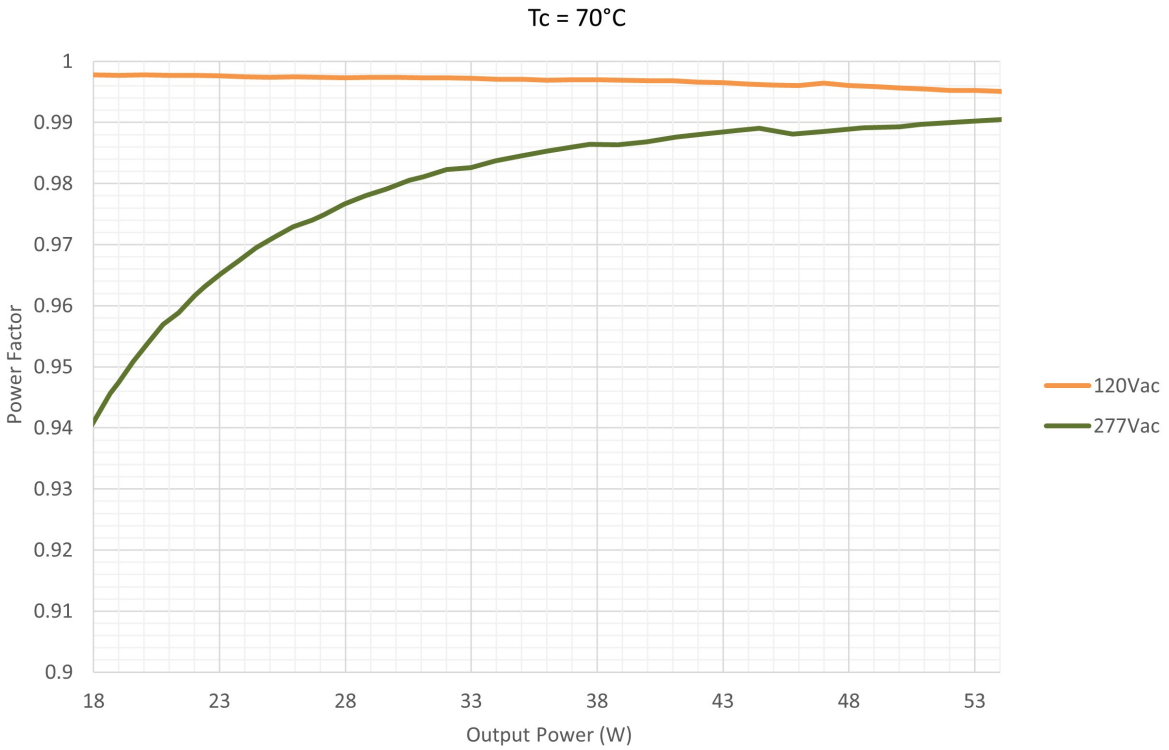


- Factory default output current is 1.05A.
- To get a 100% to 1% dimming range, the output current setting through AOC should be ≥ 0.7A.
- Factory default minimum dimming is 10%. This can be adjusted between 1% and 100% using Advance MultiOne.

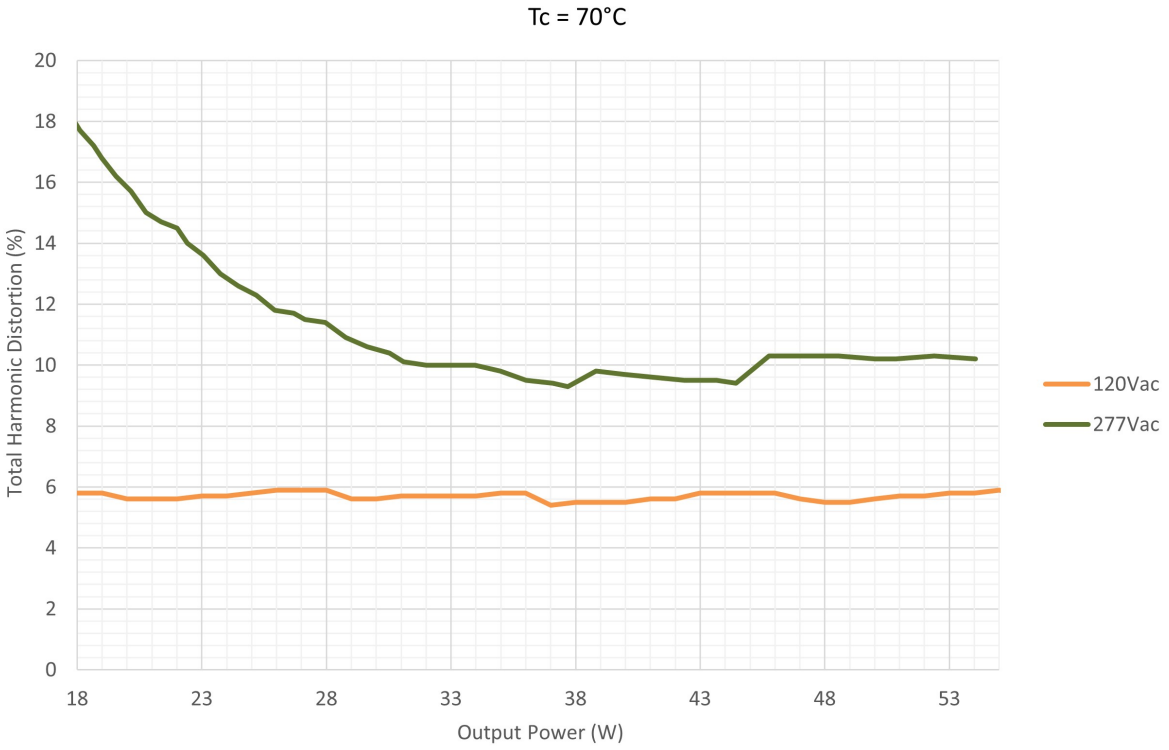
Over Temperature Protection



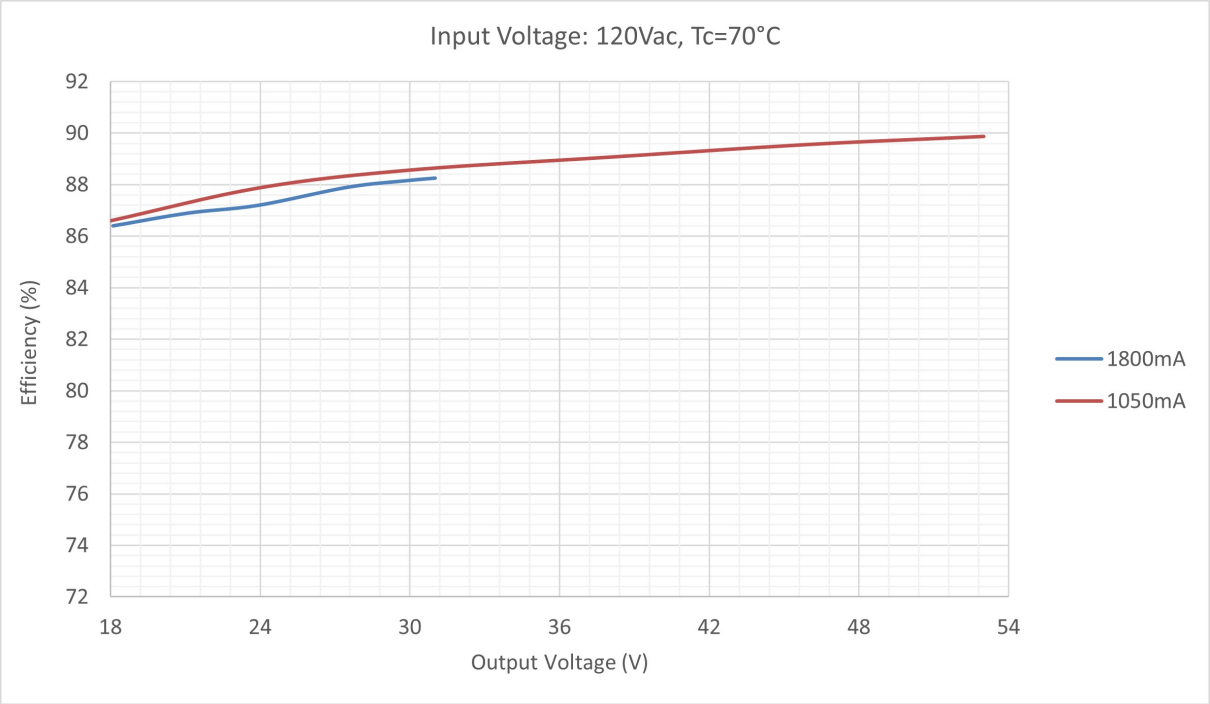
Power factor versus output power

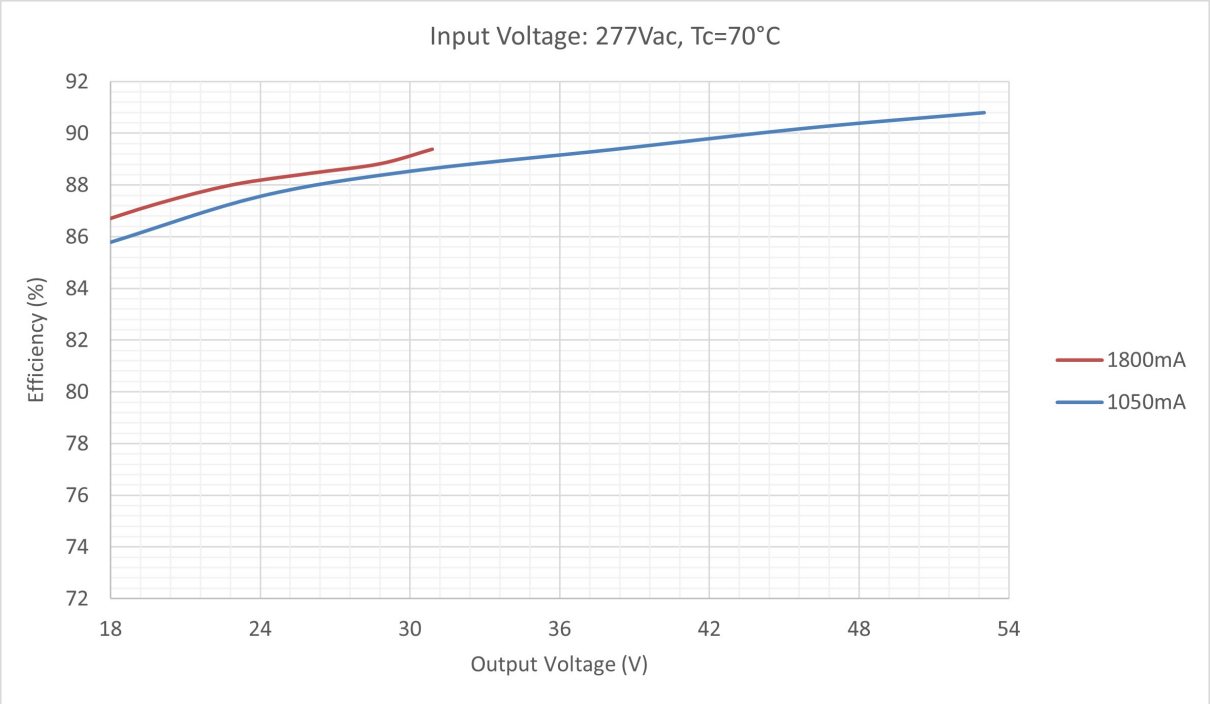


THD versus output power



Efficiency as function of V_{out}

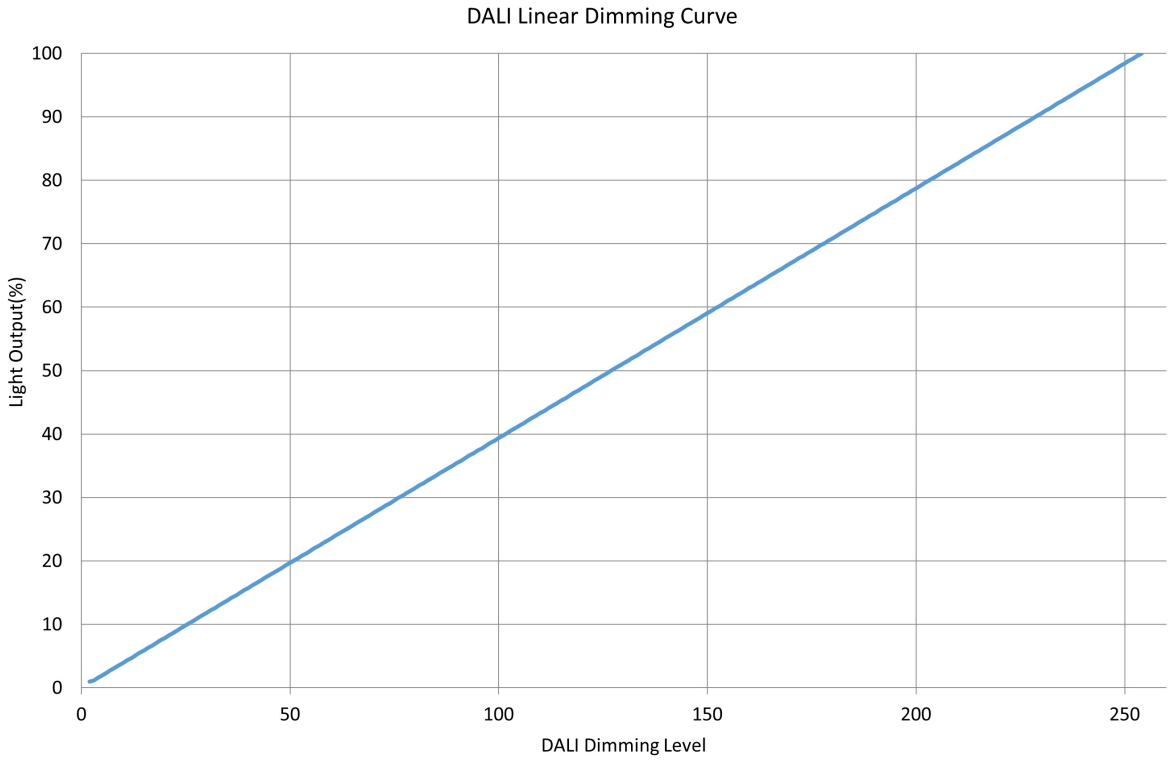


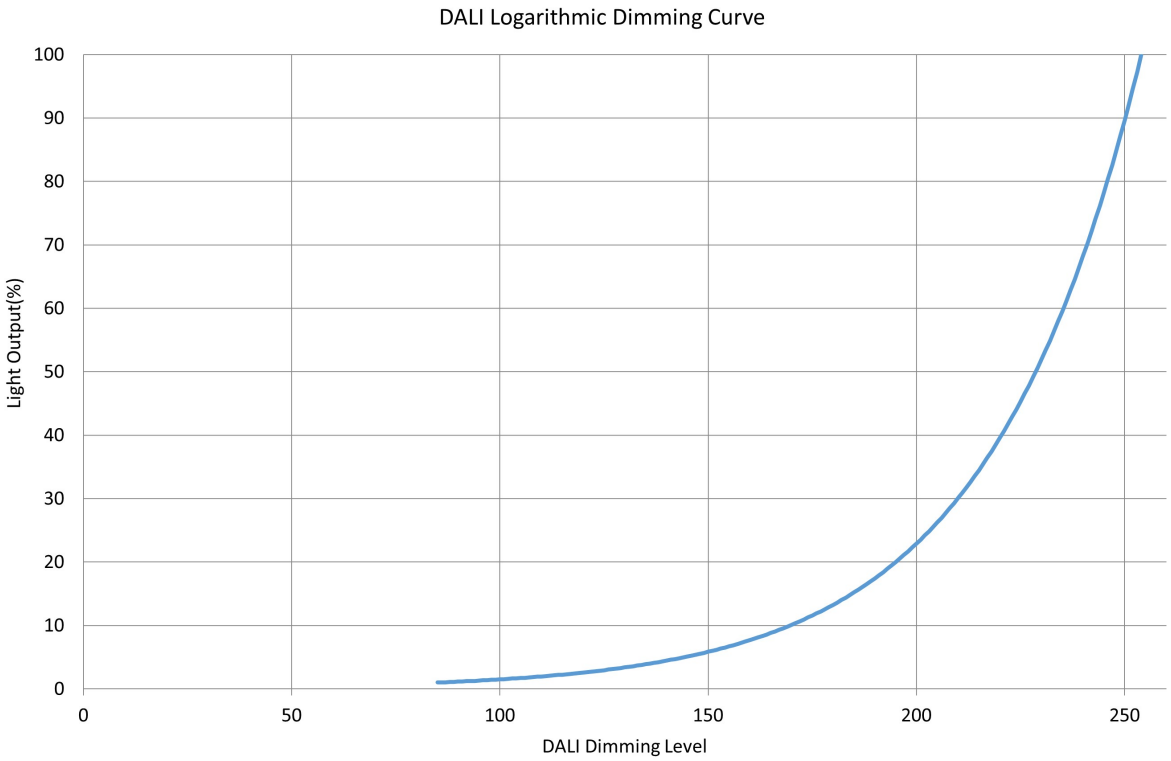


Appendix

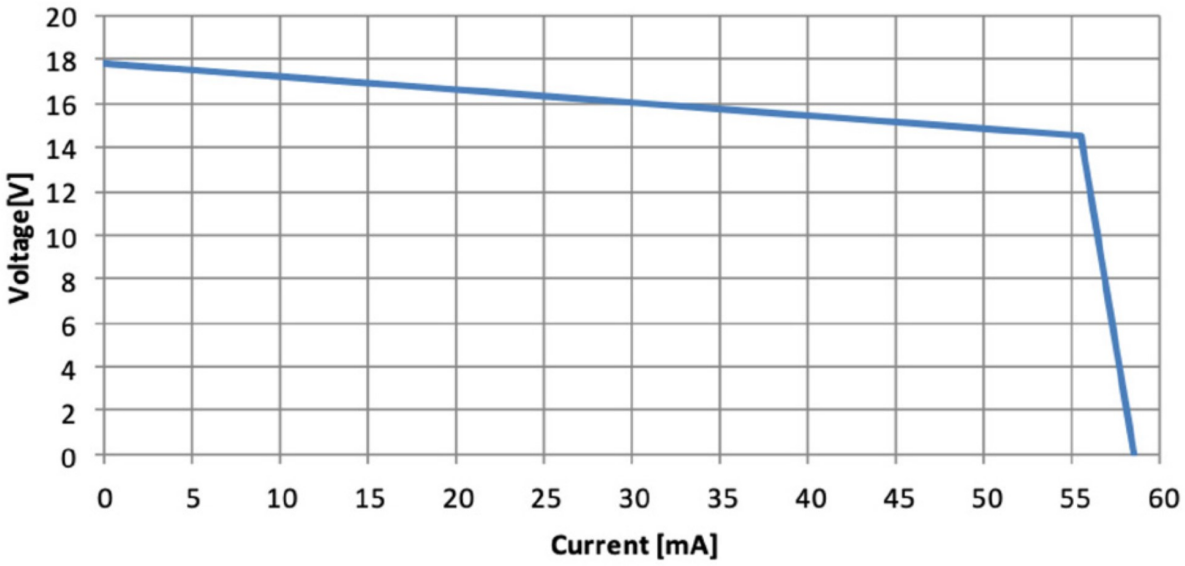
DALI Dimming Characteristics

Dimming is accomplished through the 2-wire DALI connection to the sensor. DALi standard IEC62386_102 Edition 2 defines the logarithmic dimming curve. DALI standard IEC62386_107 Edition 1 defines the linear dimming curve as well as the command for switching between logarithmic and linear curves (Default=Logarithmic).

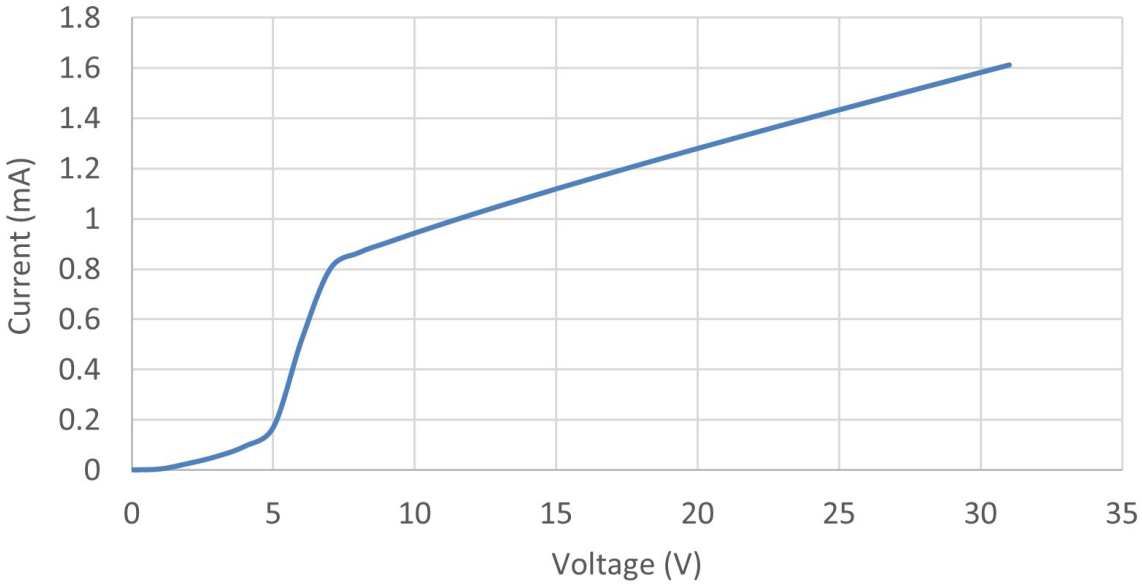

DALI Linear Dimming Curve
Light Output(%)
DALI Dimming Level
0
10
20
30
40
50
60
70
80
90
100
0
50
100
150
200
250


DALI Logarithmic Dimming Curve
Light Output(%)
DALI Dimming Level
0
10
20
30
40
50
60
70
80
90
100
0
50
100
150
200
250

DALI Power Supply Characteristics (Typical)



LSI Current Draw vs. Input Voltage



XI055C180V054VSJ1

© 2025 Signify Holding. All rights reserved. The information provided herein is subject to change, without notice. Signify does not give any representation or warranty as to the accuracy or completeness of the information included herein and shall not be liable for any action in reliance thereon. The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract, unless otherwise agreed by Signify. All trademarks are owned by Signify Holding or their respective owners.

Signify North America Corporation
400 Crossing Blvd, Suite 600,
Bridgewater, NJ 08807
Telephone 855-486-2216

Signify Canada Ltd.
281 Hillmount Road,
Markham, ON
Canada L6C 2S3
Telephone 800-668-9008

www.signify.com/advance